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XSERIES G4 ELECTRONIC BOARD AND ENGINE CARD REPLACEMENT

PRODUCT LINE TOTALFLOW®	LEVEL 3			TOTALFLOW Products				
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XSeries G4 Main Board and CPU Card Replacement

Application Information

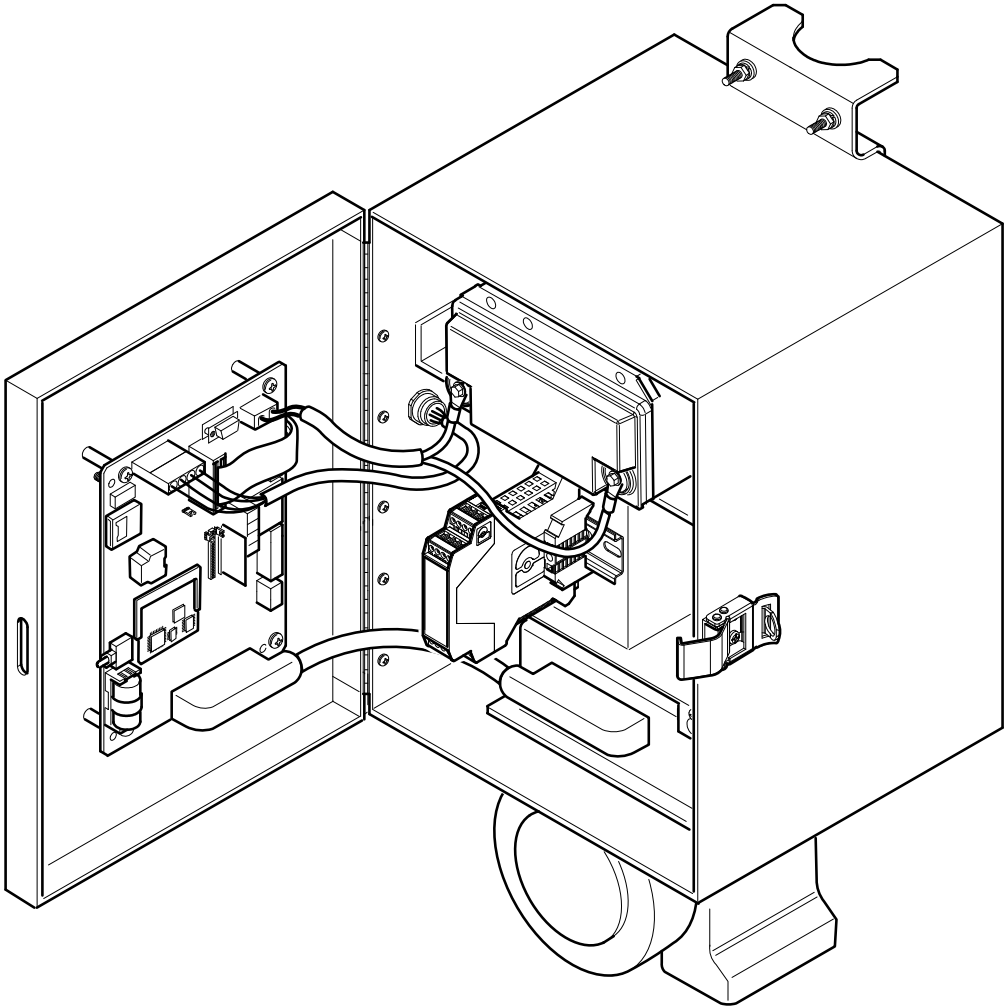


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1.0 OVERVIEW

The following instructions are designed to aid the technician in replacing an XSeries^{G4} electronic board and/or CPU engine card.

These instructions cover two possible scenarios:

- Replacement of the main electronic board, but using existing engine card.
- Replacement of the main electronic board with a new board containing a new engine card.

CAUTION: Before handling any electronic boards, you should have a ground strap attached to your body and connected to a good earth ground. This will discharge any electrical static buildup in your body to ground instead of the electronic board.

2.0 MAIN ELECTRONIC BOARD ONLY REPLACEMENT

- 1) If used, disconnect the external charging source; J5 on the XFC^{G4} board (see Figure 1) or J17 on the XRC^{G4} board (see Figure 2).
- 2) Disconnect the main power, J1 on the XFC^{G4} board or J16 on the XRC^{G4} board.

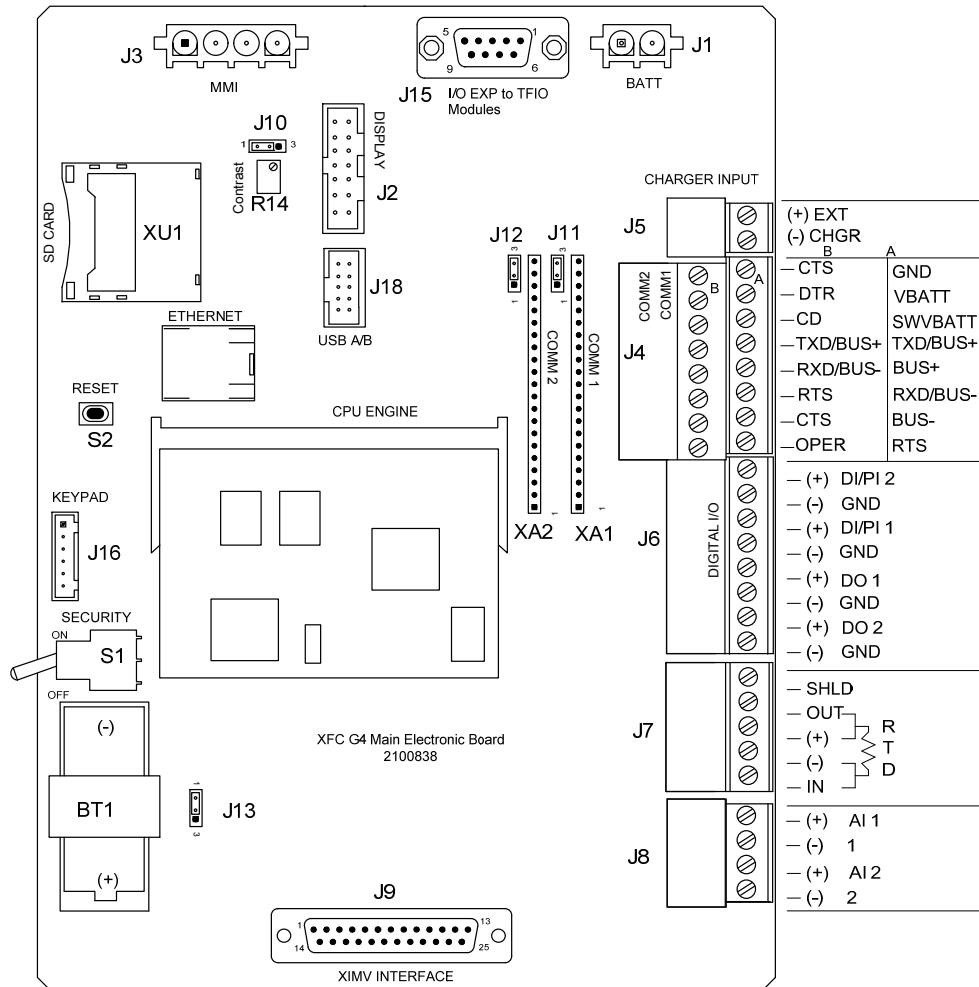


Figure 1 XFC^{G4} Main Electronic Board

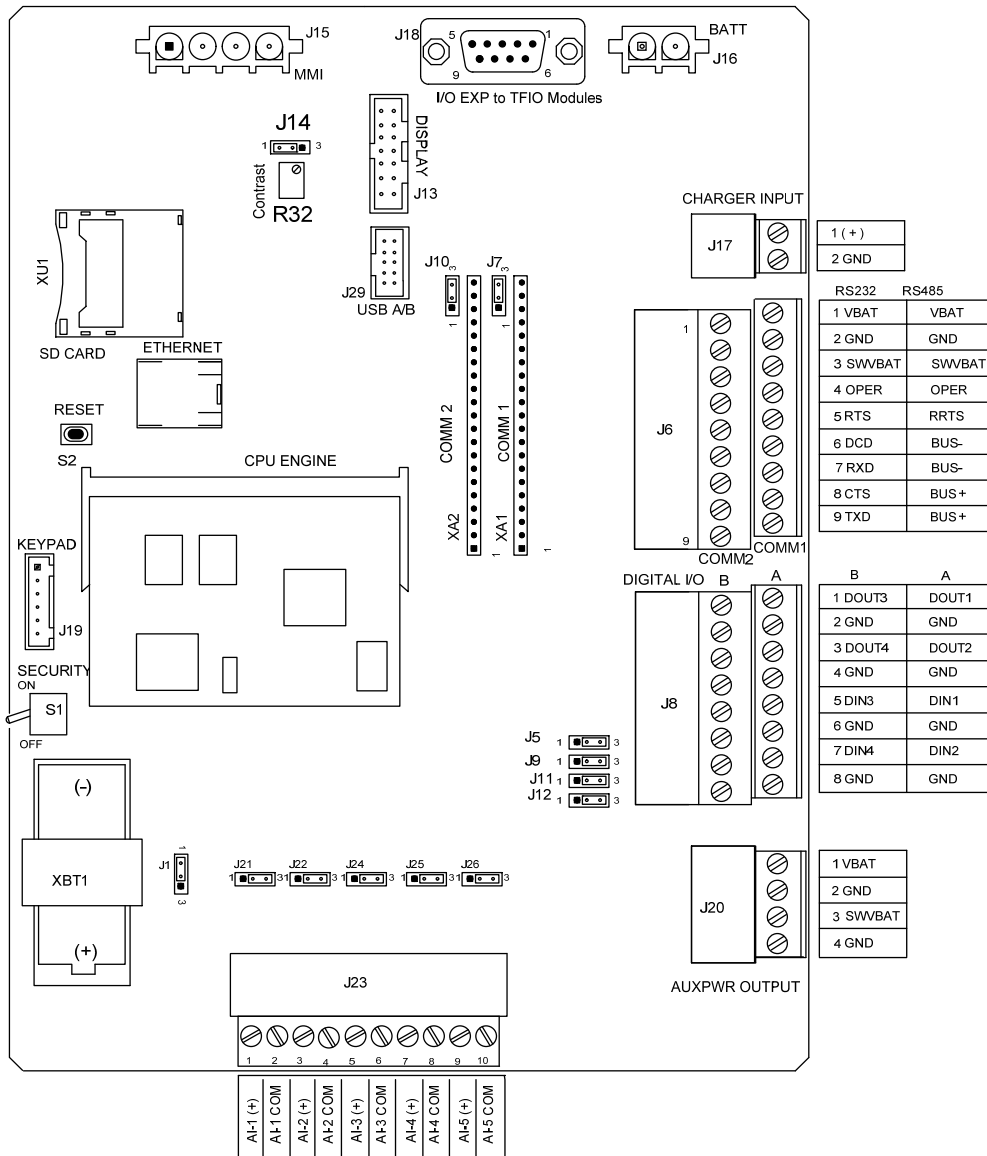


Figure 2 XRC^{G4} Main Electronic Board

- 3) Remove all connectors containing wiring or cabling. Many of the connectors are unique in type or size, but some of the green phoenix connectors are the same so you may need to mark them. Also, if using Comm1 and/or Comm2 communications, be sure to remove the communication modules from connectors XA1 and XA2. These can be difficult to remove, so be patient. If they are different (RS232 or RS485), make sure to put them back in their correct place on the new board.
- 4) Remove the phillips head screw holding the ground wire at the bottom right corner of the board and then remove the hex standoff that held the screw.
- 5) Remove the three remaining screws from the three remaining corners and remove the board.
- 6) Reinstall the new board by performing Steps 3 thru 5 in reverse order (5 thru 3).
- 7) On the uninstalled board, use your thumbs as shown in Figure 3, push the engine card retainers outward until the bottom of the engine card pops out.

- 8) Using one hand, grasp the outside edges of the engine card between the thumb and fore finger (see Figure 3) and very carefully pull down to remove the card. The card should almost fall out of the connector.
- 9) On the replacement board, grasp the engine card between the thumb and fore finger and at approximately 20 – 30 degrees (see Figure 4), carefully slide the card up into the engine card connector until the gold contacts disappear into the connector.
- 10) While applying a slight upward pressure, push the bottom of the engine card toward the main board unit it snaps into place.

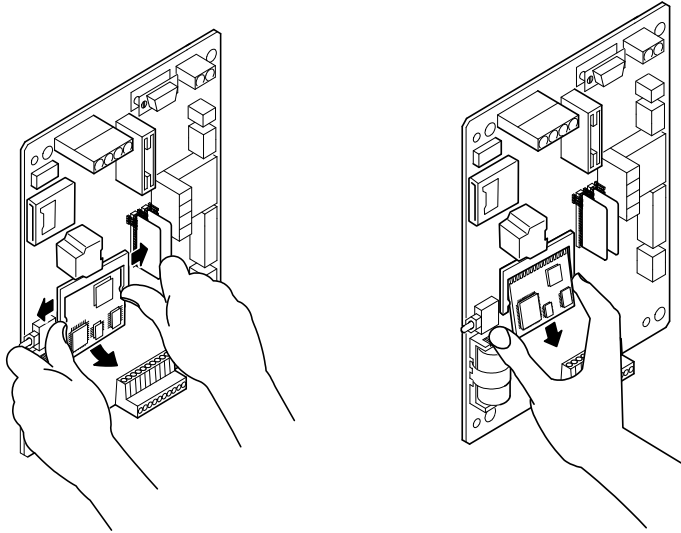


Figure 3 Engine Card Removal

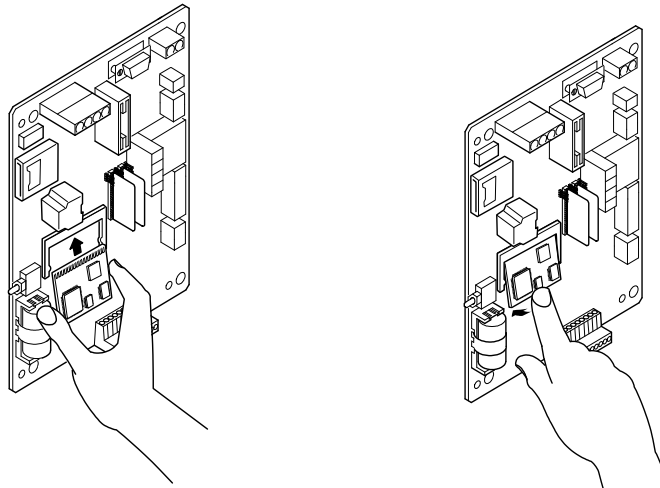


Figure 4 Engine Card Replacement

- 11) Reinstall connectors or modules removed in Step 3.
- 12) Reinstall the main power, J1 on the XFC^{G4} board or J16 on the XRC^{G4} board.

The display should go quickly through the startup routine then start scrolling through the default display items. If screen does not display as expected, perform the following steps:

FYI



- Ensure display is properly plugged into main electronic board.
- Remove power then reapply power by unplugging the battery power from the board, J1 (XFC) or J16 (XRC).
- Press the RESET button located at S2 on the XSeries board.
- Readjust the contrast potentiometer R14 (XFC) or R32 (XRC) by slowly turning the screw clockwise or counter-clockwise. Counter-clockwise will darken the entire screen and clockwise will lighten the entire screen. Text should appear at some point between these two extremes.

If text does not display at any point, contact Totalflow Technical support.

- 13) If used, reinstall the charging source; J5 on the XFC^{G4} board and J17 on the XRC^{G4} board.

3.0 MAIN ELECTRONIC BOARD AND ENGINE CARD REPLACEMENT

FYI



You may have ordered the replacement board with the original configuration files, however if the unit is functional enough to run the *Save and Restore* utility; run the *Save Station Files* option so that you have the latest configuration for the device. You can then do the *Restore Station Files* option after completion of the board replacement.

- 1) If used, disconnect the external charging source; J5 on the XFC^{G4} board (see Figure 1) or J17 on the XRC^{G4} board (see Figure 2).
- 2) Disconnect the main power, J1 on the XFC^{G4} board or J16 on the XRC^{G4} board.
- 3) Remove all connectors containing wiring or cabling. Many of the connectors are unique in type or size, but some of the green phoenix connectors are the same so you may need to mark them. Also, if using Comm1 and/or Comm2 communications, be sure to remove the communication modules from connectors XA1 and XA2. These can be difficult to remove, so be patient. If they are different (RS232 or RS485), make sure to put them back in their correct place on the new board.
- 4) Remove the phillips head screw holding the ground wire at the bottom right corner of the board and then remove the hex standoff that held the screw.
- 5) Remove the three remaining screws from the three remaining corners and remove the board.
- 6) Reinstall the new board by performing Steps 1 thru 5 in reverse order (5 thru 1).
- 7) Do the *Restore Station Files* if previously saved. You will then need to do a *Cold Start* for the new files to be copied into the operating memory.

The display should go quickly through the startup routine then start scrolling through the default display items. If screen does not display as expected, perform the following steps:

FYI



- Ensure display is properly plugged into main electronic board.
- Remove power then reapply power by unplugging the battery power from the board, J1 (XFC) or J16 (XRC).
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