
INSTALLATION INSTRUCTIONS

Original Issue Date: 2/00

Model: **Generator Set Controller—digital**

Market: **Industrial**

Subject: **Vacuum Florescent Display Circuit Board Installation Kit GM13616**

Introduction

This kit covers the installation of the vacuum florescent display circuit board.

Install this kit prior to generator set start up.

Read the entire installation procedure and compare the kit parts with the parts list at the end of this publication before beginning installation. Perform the steps in the order shown.

See Figure 1 for an illustration of the installed kit.

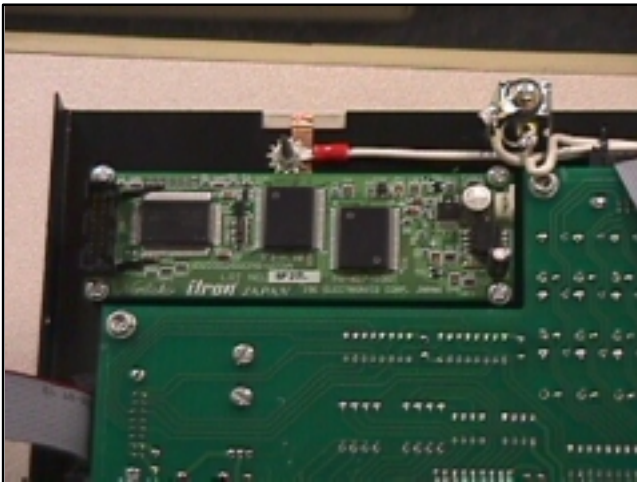


Figure 1 Vacuum Florescent Display Circuit Board

Safety Precautions

Observe the following safety precautions while installing the kit.

⚠ WARNING



Accidental starting.
Can cause severe injury or death.

Disconnect the battery cables before working on the generator set. Remove the negative (-) lead first when disconnecting the battery. Reconnect the negative (-) lead last when reconnecting the battery.

Disabling the generator set. Accidental starting can cause severe injury or death. Before working on the generator set or connected equipment, disable the generator set as follows: (1) Move the generator set master switch to the OFF position. (2) Disconnect the power to the battery charger. (3) Remove the battery cables, negative (-) lead first. Reconnect the negative (-) lead last when reconnecting the battery. Follow these precautions to prevent starting of the generator set by an automatic transfer switch, remote start/stop switch, or engine start command from a remote computer.

Electrostatic discharge damage. Electrostatic discharge (ESD) damages electronic circuit boards. Prevent electrostatic discharge damage by wearing an approved grounding wrist strap when handling electronic circuit boards or integrated circuits. An approved grounding wrist strap provides a high resistance (about 1 megohm), *not a direct short*, to ground.

Installation Procedure

Improper removal, installation, transportation, or storage can damage circuit boards containing sensitive electronic components. Observe the following guidelines when working with circuit boards or electronic components to avoid damage.

Circuit Board and Electronic Component Handling

- Store circuit boards or electronic components until installation in the anti-static, cushioned factory packaging in a clean environment away from moisture, vibration, static electricity, corrosive chemicals, solvents, and fumes.
- Disconnect all power sources to the controller before removing or installing circuit boards or electronic components.
- Wear an approved, grounded, anti-static wrist strap when handling circuit boards or electronic components.
- Carefully hold the circuit board by its edges and not by any of its components or electrical contacts.
- Do not bend or drop the circuit board or electronic components. Do not bend electronic components or leads.
- Do not strike the circuit board or electronic components with or against a hard object.
- Clean a dusty or dirty circuit board with a vacuum cleaner or soft brush.
- Except for the replacement of plug-in service parts, never attempt circuit board repairs or modifications.

1 Remove the Generator Set from Service

- 1.1 Place the generator set master switch in the OFF position.
- 1.2 Disconnect the power to the battery charger, if equipped.
- 1.3 Disconnect the generator set engine starting battery(ies), negative (-) lead first.

2 Access the Panel

- 2.1 Remove the five screws holding the top cover of the controller. Remove the cover.

- 2.2 Remove the upper screws (2) on each side of the controller that hold the front panel to the controller.
- 2.3 Remove the bottom-center screw holding the front panel to the bottom of the controller.
- 2.4 Loosen the remaining screws (2) on each side of the controller to allow the panel to tip away from the controller for the display board installation. See Figure 2.



Figure 2 Front Panel Access

3 Install the Vacuum Florescent Display Board

- 3.1 Locate the four threaded standoffs (mounting studs or posts) in the upper right corner of the front panel. Remove the screws, metal washers, and insulating rubber washers used to mount the display board.
- 3.2 Place the display board with the ribbon cable connection port located toward the outside edge of the front panel. See Figure 1.
- 3.3 Align the slotted holes in the display board with the threaded standoffs.
- 3.4 Install the four screws with the metal washer placed on the screw first and then the insulating rubber washer second so that when the screw is installed, the rubber washer will make contact with the display board.
- 3.5 Tighten the four display board screws.

4 Connect the Display Board Cable

- 4.1 The ribbon cable runs from the indicator board to the display board. Locate the ribbon cable connector used for the display board and insert the ribbon cable connector to the connector port on the display board.

Note: The connector is keyed so that it will only fit in the connector port one way.

- 4.2 Press down on the ribbon cable connector until it is seated into the connector port.
- 4.3 Rotate the hold-down clips up to secure the ribbon cable connector to the display board.

5 Reinstall the Panels

- 5.1 Position the front panel to its normal location and secure it by installing and tightening all of the front panel screws.
- 5.2 Place the cover on the controller and fasten it in place with the five cover screws.

6 Restore the Generator Set to Service

- 6.1 Check that the generator set master switch is in the OFF position.
- 6.2 Reconnect the generator set engine starting battery, negative (-) lead last.
- 6.3 Reconnect power to the battery charger, if equipped.
- 6.4 Verify that the display is operational and continue with the generator set startup procedure.

Parts List

Vacuum Florescent Display Circuit Board Kit

Parts List		
Kit: GM13616		
Qty.	Description	Part Number
1	Vacuum florescent display board	352225

