INSTALLATION INSTRUCTIONS

Original Issue Date: **6/95**
Model: **ATS Controller Assembly**
Market: **Industrial**
Subject: **Controller Assembly Field Service and Programming Kits 346060 and 346061**

The controller assembly field service and programming kit enables replacement of the automatic transfer switch controller assembly. The installation involves transferring the original controller assembly accessories, shunt jumpered features, and index programming. Observe the following safety precautions while installing the kit.

⚠ DANGER

Hazardous voltage.
Will cause severe injury or death.

Disconnect power sources before servicing. Barrier must be installed after adjustments, maintenance, or servicing.

(600 Volt and above)

⚠ WARNING

Hazardous voltage.
Can cause severe injury or death.

Disconnect power sources before servicing. Barrier must be installed after adjustments, maintenance, or servicing.

(under 600 Volt)

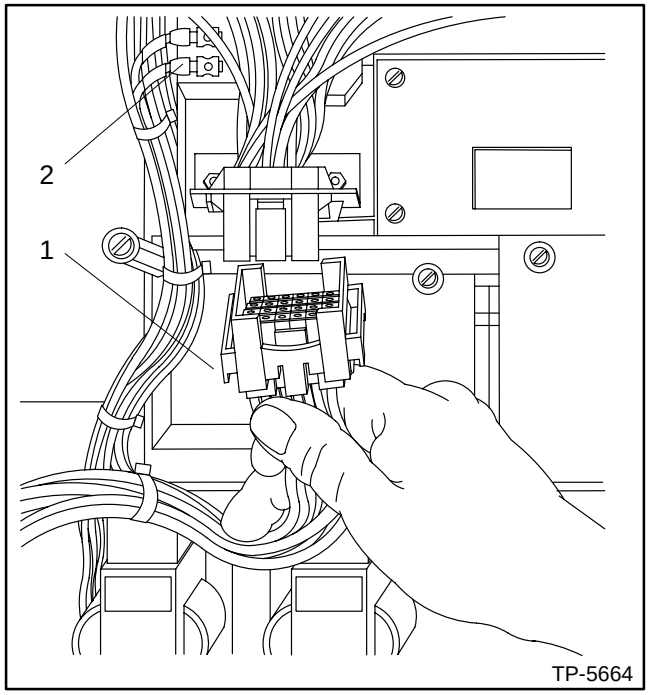
Hazardous voltage can cause severe injury or death. Whenever electricity is present, there is the hazard of electrocution. Open main circuit breaker on all power sources before servicing equipment. Electrically ground the generator set and electrical circuits when in use. Never come into contact with electrical leads or appliances when standing in water or on wet ground, as the chance of electrocution is increased under such conditions.

Hazardous voltage can cause severe injury or death. Short circuits can cause bodily injury and/or equipment damage**.** Do not contact electrical connections with tools or jewelry while adjustments are made. Remove wristwatch, rings, and jewelry that can cause short circuits.

Hazardous voltage can cause severe injury or death. De-energize both normal and emergency power sources before proceeding. Move generator set master switch on controller to OFF position and disconnect battery negative (–) before working on transfer switch! Turn the transfer switch selector switch to the OFF position.

Installation

1. Record installed controller assembly set points from all indexes if possible.
2. Disconnect utility and emergency power sources to the transfer switch.
3. Disconnect all plugs and wires connected to the original controller assembly. Mark leads so they can be reconnected on the new controller assembly in the same locations. See Figure 1.



1. In-line Disconnect Plug
2. Leads

Figure 1. In-line Disconnect Plug.

4. Remove hardware securing controller assembly to the transfer switch door. Remove controller assembly from the door.
5. Verify that the replacement controller is the same type as the original controller by checking that the transformer assembly base part numbers match. If they do not, contact the factory to receive the correct controller. Do not connect the incorrect controller to the ATS.
6. Locate the lot number on top of the power board. Record the lot number so it can be entered later.
7. Remove shunt jumpers from JP1 on the old main logic board and install them on the new main logic board JP1 in the same locations. If the controller assembly is equipped with three-phase sensing, remove three-phase sensing assembly from circuit board to expose JP1. See Figure 2

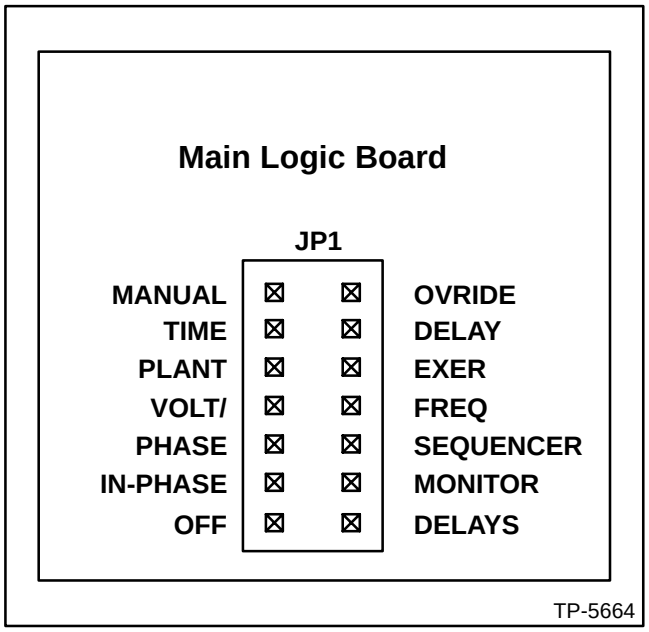


Figure 2. Logic Board Accessory Programming Shunts (typical).

8. Remove any factory installed accessories from the controller assembly, i.e., three-phase sensing and modem, and install them on the new controller assembly.
9. Install new controller assembly. Secure controller assembly to the transfer switch door with hardware removed in step 4.
10. Reconnect leads to controller assembly and in-line plug(s) disconnected in step 2. Use extra care not to bend pins when connecting plug(s).
11. Reconnect power to transfer switch.
12. Turn the programming mode switch on the front of the controller to the local position.
13. Upon application of power to the transfer switch, the liquid crystal display (LCD) will flash SET TIME AND DATE. Set time and date following instructions on front panel.

14. Access the factory initialization menu using the following procedure. Steps not common to the M_ _ _ and M_ _ _+ controllers are so noted.
    a. Press the RESET MENU key.
    b. Press 20 and then the MENU DOWN key.
    c. (M_ _ _) Press the MENU DOWN key three times.
       (M_ _ _+) Press the MENU DOWN key once.
    d. Record clock# displayed.
    e. Press MENU RIGHT once. Enter the clock # recorded in step d.
    f. Press the ENTER key.
       (M_ _ _) The LCD will display TIME E-N.
       (M_ _ _+) The LCD will display DATE.
    g. (M_ _ _ only) Press the MENU DOWN key twice.
    h. Enter today's date (00-00-00) and press ENTER.
    i. Press the MENU DOWN key. The LCD will display CLOCK#.
    j. Enter 1234 and press ENTER.
    k. Press the MENU DOWN key. The LCD will display SERIAL K000000.
    l. Enter the serial number from the transfer switch door and press ENTER.
    m. Press the MENU DOWN key. The LCD will display CONTROL C000000.
    n. Enter the lot number recorded in step 5 and press ENTER.
    o. (M_ _ _+ only) Press the MENU DOWN key. Press MENU RIGHT key until correct contactor type is displayed.
    p. (M_ _ _+ only) Press YES then ENTER.
    q. Press the MENU Down key twice. The LCD will display OPTIONS LOCK? NO.
    r. Press YES then ENTER.
       (M_ _ _) The LCD will display TIME-EN after the entry has been accepted.
       (M_ _ _+) The LCD will display DATE after the entry has been accepted.
    s. Store these settings by pressing RESET MENU then ENTER.
15. Check the transfer switch voltage with a meter across the lugs. Record the meter reading.
    a. Access index 1 and compare the meter reading with what index 1 shows.
    b. Access index 2 and compare the meter reading with what index 2 shows.
    c. Controller calibration must be within ±2% of the meter reading. If calibration is not within ±2%, access index 12 following the procedure in the transfer switch service manual.
16. Access the following indexes and input the necessary information following the procedures listed in the operation and installation manual. Use information and set points recorded in step 1.
    a. Index 11—Installed Control Options. Index shows which shunt-enabled options/features are installed. These options/features are hard wired and cannot be enabled or disabled from the keyboard. Use the transfer switch operation and installation manual for programming procedures.
    b. Index 5—Time Delays.
    c. Index 6—Normal-Source Voltage, Frequency Settings, and Set Points.
    d. Index 7—Emergency-Source Voltage, Frequency Settings, and Set Points.
    e. Index 8—Plant Exerciser Settings.
    f. Index 9—Load-Shed Settings, if equipped.
    g. Index 12—Voltage-Sensing Calibration Settings. Access only if index 1 and 2 do not read within ±2% nominal voltage as measured with a meter.
    h. Index 13—Remote Control and Monitoring Settings, if equipped for remote communication.
17. Turn the programming mode switch to the OFF position.

Notes