INSTALLATION INSTRUCTIONS

Original Issue Date: **3/11**
Model: **KGS/KGP Bypass/Isolation Switches, 600 Volt Only**
Market: **ATS**
Subject: **Surge Suppressor Kit GM80089**

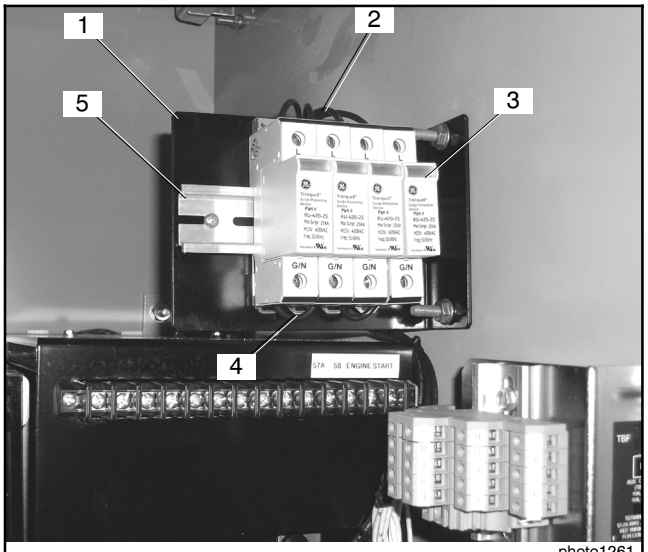
Introduction

Surge suppressor kit GM80089 protects the transfer switch components from harmful voltage spikes. Install the SPD kit on 600 volt Model KGS and KGP automatic transfer bypass/isolation switches only.

The surge suppressor kit includes surge protective devices (SPDs), a DIN rail, and a mounting bracket. Leads and mounting hardware (screws, nuts, and washers as required) must be supplied by the installer.

The mounting locations for the kit will vary. Identify a mounting location inside the enclosure as close as possible to the bypass control board. See Figure 1 for a typical installed kit.

Read the entire installation procedure and obtain the required customer-supplied leads and mounting hardware before beginning installation. Perform the steps in the order shown.



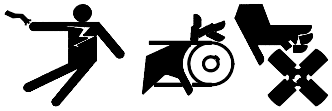
1. Bracket (provided in kit)
2. Connections to JP1 (customer-supplied leads, qty. 4)
3. Surge protector (provided in kit, qty. 4)
4. Jumper leads (customer-supplied, qty. 2)
5. DIN rail (provided in kit)

Figure 1 Installed Surge Suppressor Kit (typical)

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.

⚠ DANGER

Hazardous voltage.
Will cause severe injury or death.

Disconnect all power sources before opening the enclosure.

Servicing the transfer switch. Hazardous voltage can cause severe injury or death. Deenergize all power sources before servicing. Turn off the main circuit breakers of all transfer switch power sources and disable all generator sets as follows: (1) Move all generator set master controller switches to the OFF position. (2) Disconnect power to all battery chargers. (3) Disconnect all battery cables, negative (-) leads first. Reconnect negative (-) leads last when reconnecting the battery cables after servicing. Follow these precautions to prevent the starting of generator sets by an automatic transfer switch, remote start/stop switch, or engine start command from a remote computer. Before servicing any components inside the enclosure: (1) Remove all jewelry. (2) Stand on a dry, approved electrically insulated mat. (3) Test circuits with a voltmeter to verify that they are deenergized.

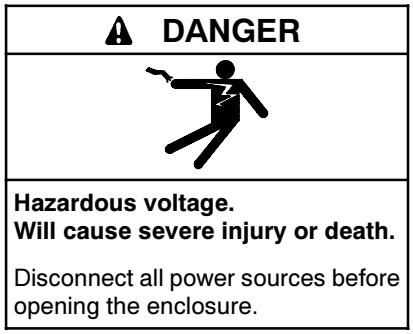
NOTICE

Foreign material contamination. Cover the transfer switch during installation to keep dirt, grit, metal drill chips, and other debris out of the components. Cover the solenoid mechanism during installation. After installation, use the manual operating handle to cycle the contactor to verify that it operates freely. Do not use a screwdriver to force the contactor mechanism.

Installation Procedure

Note: Refer to Figure 2 during the installation procedure.

1. Turn off the generator set.
2. Disconnect the power to the battery charger, if equipped.
3. Disconnect the generator set engine starting battery(ies), negative (-) lead first.
4. Disconnect power to the transfer switch.



Note: Do not drill holes through the outside of a NEMA 3R enclosure that is installed outdoors.

5. Find a location for the surge suppressor kit as close as possible to the bypass control board. See Figure 2 for a typical installation. Cover the transfer switch mechanism and drill mounting holes as required to attach the mounting bracket. Use a brush or vacuum to remove any debris from the enclosure.
6. Attach the DIN rail and bracket to the transfer switch enclosure. Use customer-supplied mounting hardware as required.
7. Mount the surge protective devices (SPDs) onto the DIN rail. See Figure 1.
8. Use customer-supplied #6 to #14 AWG wire to connect the L1 and L2 terminals on the SPDs to terminal strip JP1 on the transformer board. See Figure 2. Keep the leads as short as possible. Lead lengths of 4 to 5 inches are recommended.
9. Connect jumper leads across the G/N terminals on the two Normal SPDs and the two Emergency SPDs as shown in Figure 2.

   Note: Do not connect the surge protective devices to ground.

10. Close and lock the enclosure door.
11. Reconnect power to the transfer switch.
12. Check that the generator set is off.
13. Reconnect the generator set engine starting battery, negative (-) lead last.
14. Reconnect power to the battery charger, if equipped.

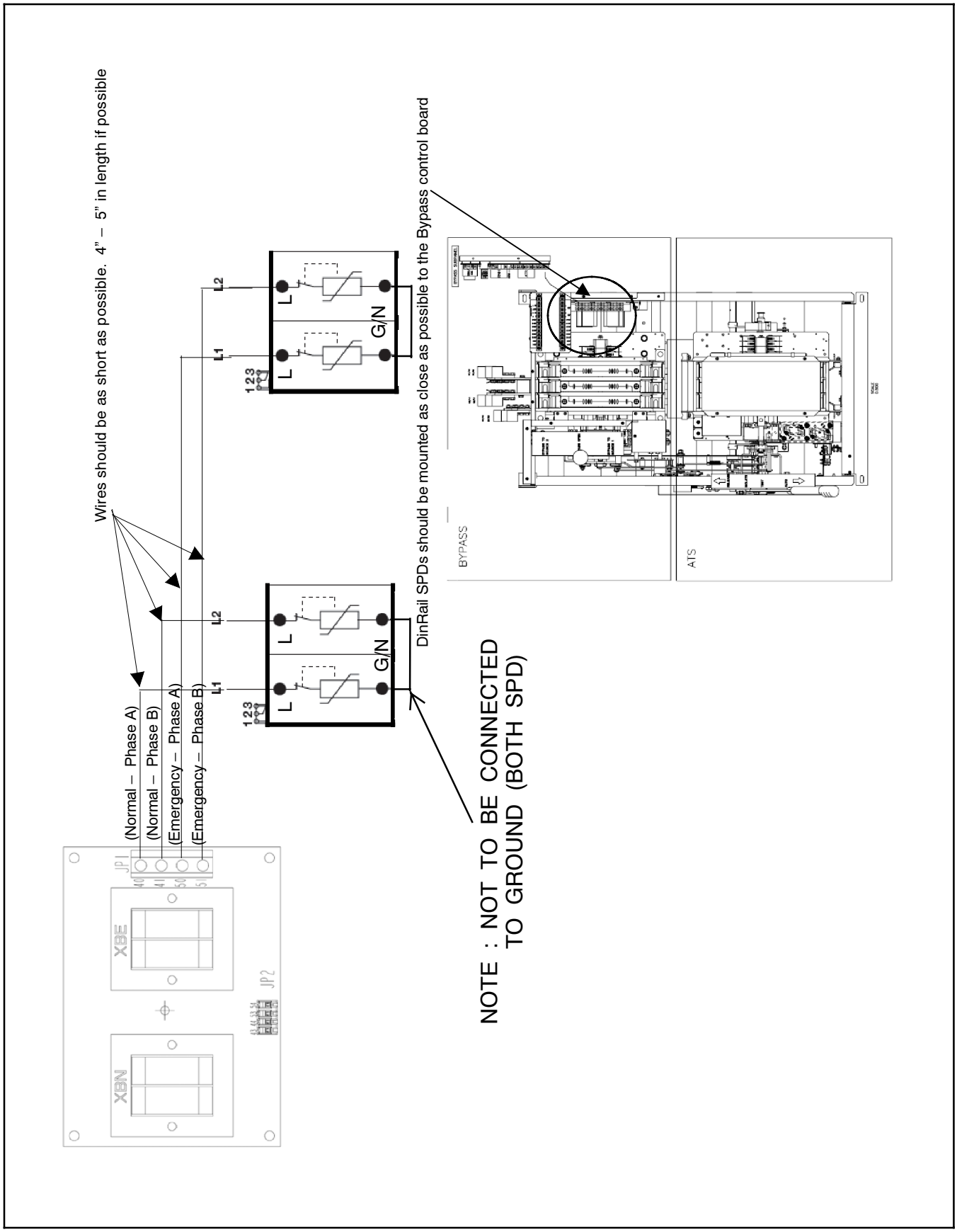


Figure 2 Surge Protective Device (SPD) Connection

Parts List

KGS/KGP 600 Volt Surge Suppressor Kit

Kit: GM80089		
Qty.	**Description**	**Part Number**
1	SPD Assembly	GM80090
1	Installation Instructions	TT-1570