
INSTALLATION INSTRUCTIONS

Original Issue Date: 11/14

Model: **Generator Connection Box**

Market: **ATS**

Subject: **Generator Connection Box GM88999-KP1**

Introduction

This document contains instructions for the installation, operation, and maintenance of the Generator Connection Box. The purchaser's engineering, installation, and operating staff supervisors should familiarize themselves with this bulletin and become acquainted with the appearance and characteristics of the Generator Connection Box.

The Generator Connection Box is designed to function as a permanently-installed, inlet-style assembly rated 600 V or less. The Generator Connection Box complies with standard UL 1008 Supplement SB - Requirements for Inlet Assemblies for Transfer Switch Equipment.

The tap box is intended to feed the **transition equipment**.

Note: The Generator Connection Box does not include any interlocking equipment to prevent an operator from inadvertently energizing multiple power sources on the same panelboard. This condition could result in extensive equipment damage and serious personal injury.



Any system that includes multiple sources of power should be designed to ensure that the system can be safely transitioned between sources.






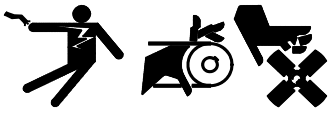
Figure 1 Generator Connection Box

Safety Precautions

Observe the following safety precautions while performing this procedure. All instructions in this bulletin assume that the customer has taken these measures before performing maintenance or testing.

 DANGER

Hazardous voltage. Will cause severe injury or death. This equipment must be installed and serviced by qualified electrical personnel.

 DANGER

Hazardous voltage. Will cause severe injury or death. Disconnect all power sources before opening the enclosure.

 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 equipment connected to the set, disable the generator set as follows: (1) Press the generator set off/reset button to shut down the generator set. (2) Disconnect the power to the battery charger, if equipped. (3) Remove the battery cables, negative (-) lead first. Reconnect the negative (-) lead last when reconnecting the battery. Follow these precautions to prevent the starting of the generator set by the remote start/stop switch.

Electrical backfeed to the utility. Hazardous backfeed voltage can cause severe injury or death. Install a transfer switch in standby power installations to prevent the connection of standby and other sources of power. Electrical backfeed into a utility electrical system can cause severe injury or death to utility personnel working on power lines.

- Apply appropriate personal protective equipment (PPE) and follow safe electrical work practices. See NFPA 70E.
- This equipment must be installed and serviced only by qualified personnel.
- Turn off all power supplying this equipment before working on or inside equipment.
- Always use a properly rated voltage sensing device to confirm power is off.
- Do not connect or disconnect under load.
- Replace all covers after field wiring connections are completed before turning on power to this equipment.
- Before performing visual inspections, tests, or maintenance on this equipment, disconnect all sources of electric power. Assume all circuits are live until they are completely de-energized, tested, and tagged. Pay particular attention to the design of the power system. Consider all sources of power, including the possibility of backfeeding.
- Handle this equipment carefully and install, operate, and maintain it correctly in order for it to function properly. Neglecting fundamental installation and maintenance requirements may lead to personal injury, as well as damage to equipment or other property.
- Carefully inspect your work area and remove any tools and objects left inside the equipment.

UL

UL (Underwriters Laboratories) are listed by the American Federal Occupational Safety and Health Administration (OSHA) under NRTL (Nationally Recognized Testing Laboratory) program. This equipment complies with standard UL 1008 Supplement SB – Requirements for Inlet Assemblies for Transfer Switch Equipment.

Inspection and Packing

Every Generator Connection Box is carefully inspected and packaged at the assembly plant. Construction of the Generator Connection Box is checked, both structurally and electrically, for compliance with all specifications, codes, and standards. After a complete inspection, the Generator Connection Box is prepared for shipment.

Receiving

Upon receipt, immediately inspect the Generator Connection Box for any damage that may have occurred in transit.

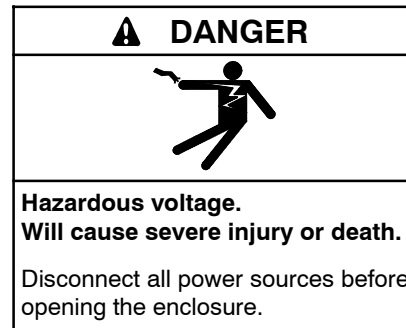
Storing

If the Generator Connection Box is not installed immediately, store it in a clean, dry space with a consistent temperature to prevent condensation. Preferably, store it in a heated building with adequate air circulation and protect it from dirt, fumes, water, and physical damage.

Location

Find the designated area on the building plan where the Generator Connection Box will be installed. The Generator Connection Box is designed to be mounted in a NEMA 3R environment. The location chosen for installation should provide working clearances complying with Section 110-26 of the National Electrical Code® (NEC®).

General Installation



- Use the Generator Connection Box only for connection of a towable or non-stationary generator set to the source terminals of a transfer switch, such that the inlets are only energized from the generator.
- Apply appropriate personal protective equipment (PPE) and follow safe electrical work practices. See NFPA 70E.
- Do not connect or disconnect under load.

Correct installation of the Generator Connection Box is essential for proper operation. Study the associated instructions and all drawings carefully.

Note: Do not use the top of the enclosure to support the weight of the installer.

For all installations, mount the Generator Connection Box to a flat surface of sufficient strength to support the weight of the Generator Connection Box. Install the Generator Connection Box so that the top of the enclosure is level.

Use fasteners that are suitable for fastening to the mounting surface material and strong enough to support the weight of the Generator Connection Box. The Generator Connection Box weighs 73 kg (160 lbs.).

See Figure 2 for installation dimensions.

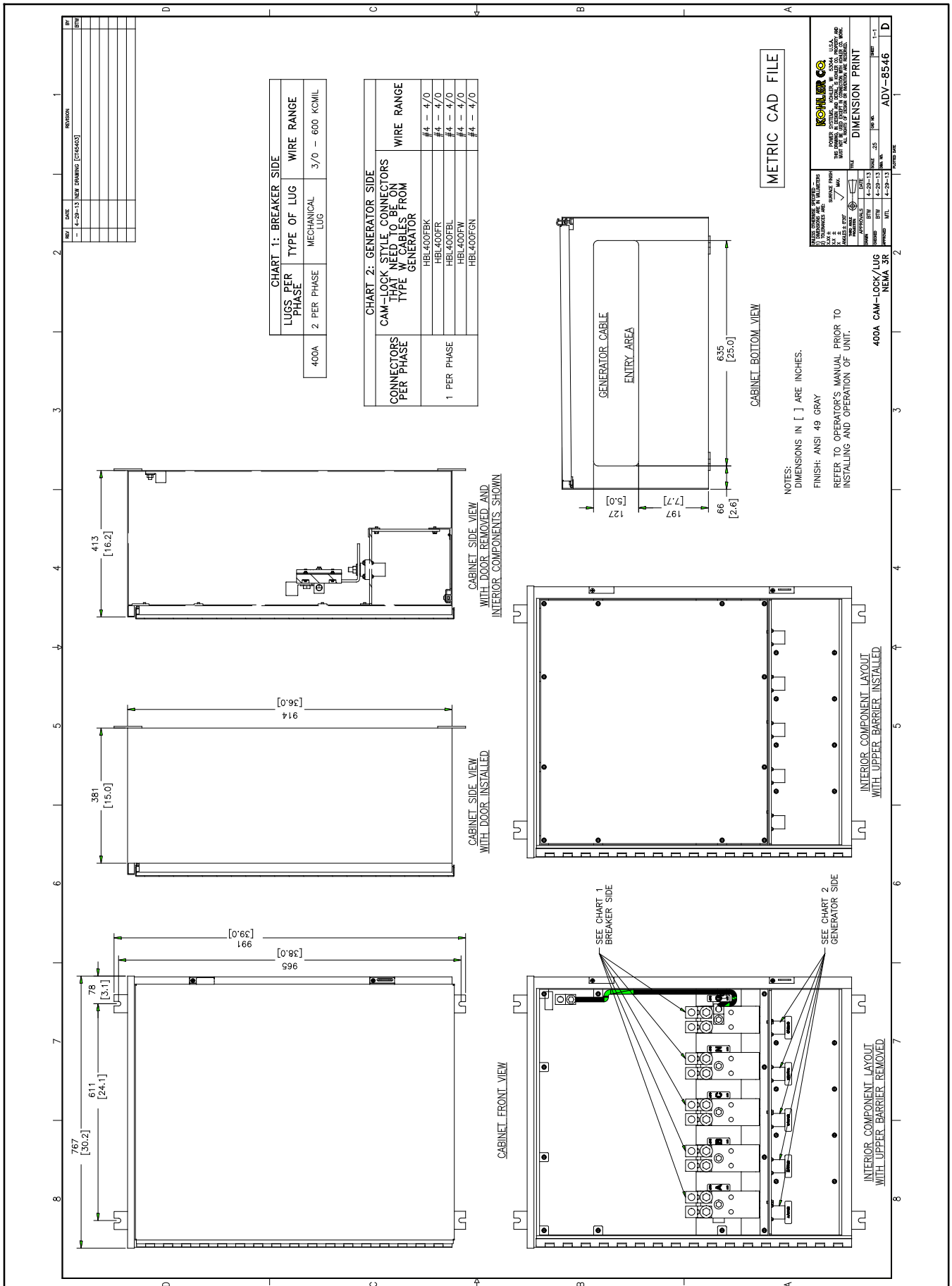


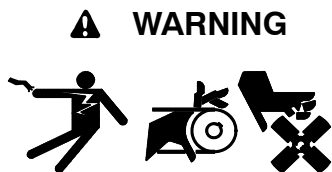


Figure 2 ADV-8546 Dimension Drawing

Accessing Field Wiring Terminals

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Remove the upper cover for access to the field wiring terminals. See Figure 3.

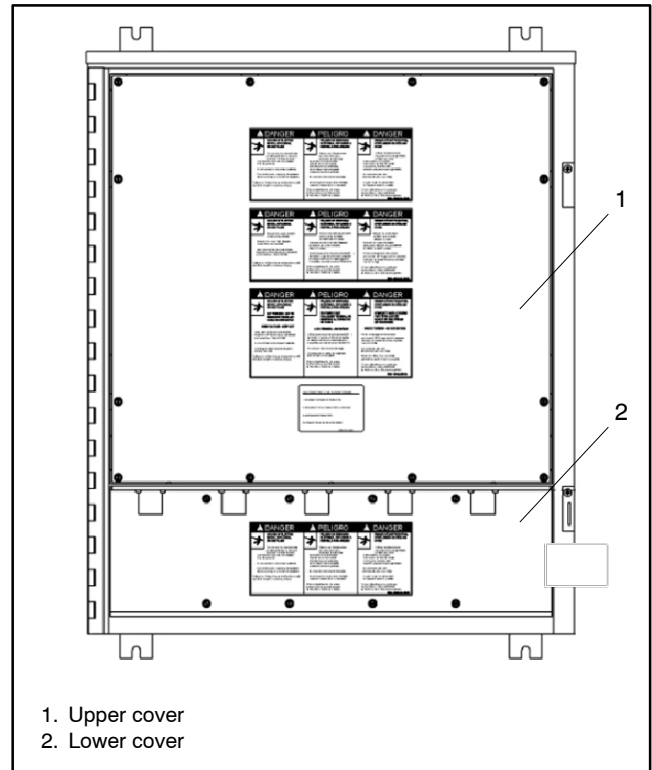


Figure 3 Upper Cover Installed

Field Wiring Details for Load Conductors

Connect the lugs in the upper part of the Generator Connection Box to the transfer switch load side. See Figure 2 for the lug connection wire size range. See Figure 4 and Figure 5 for field wiring details.

Replace the upper cover after field wiring connections are completed. See Figure 3.

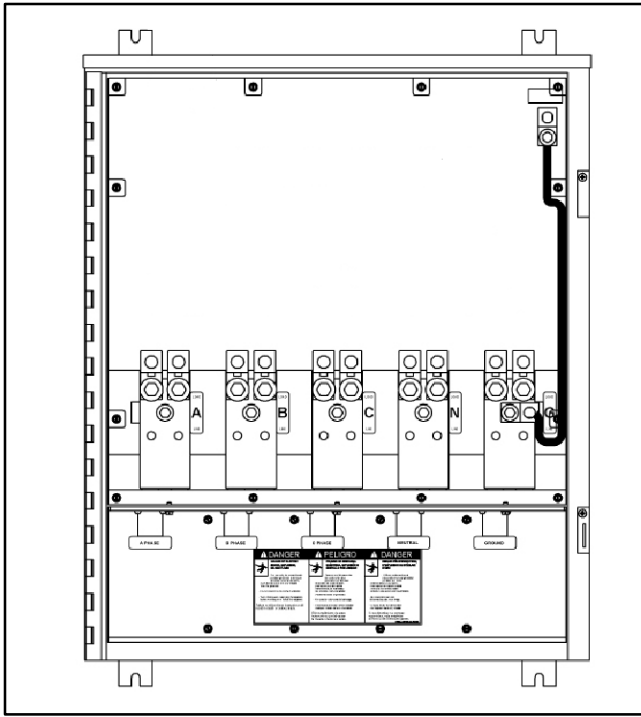
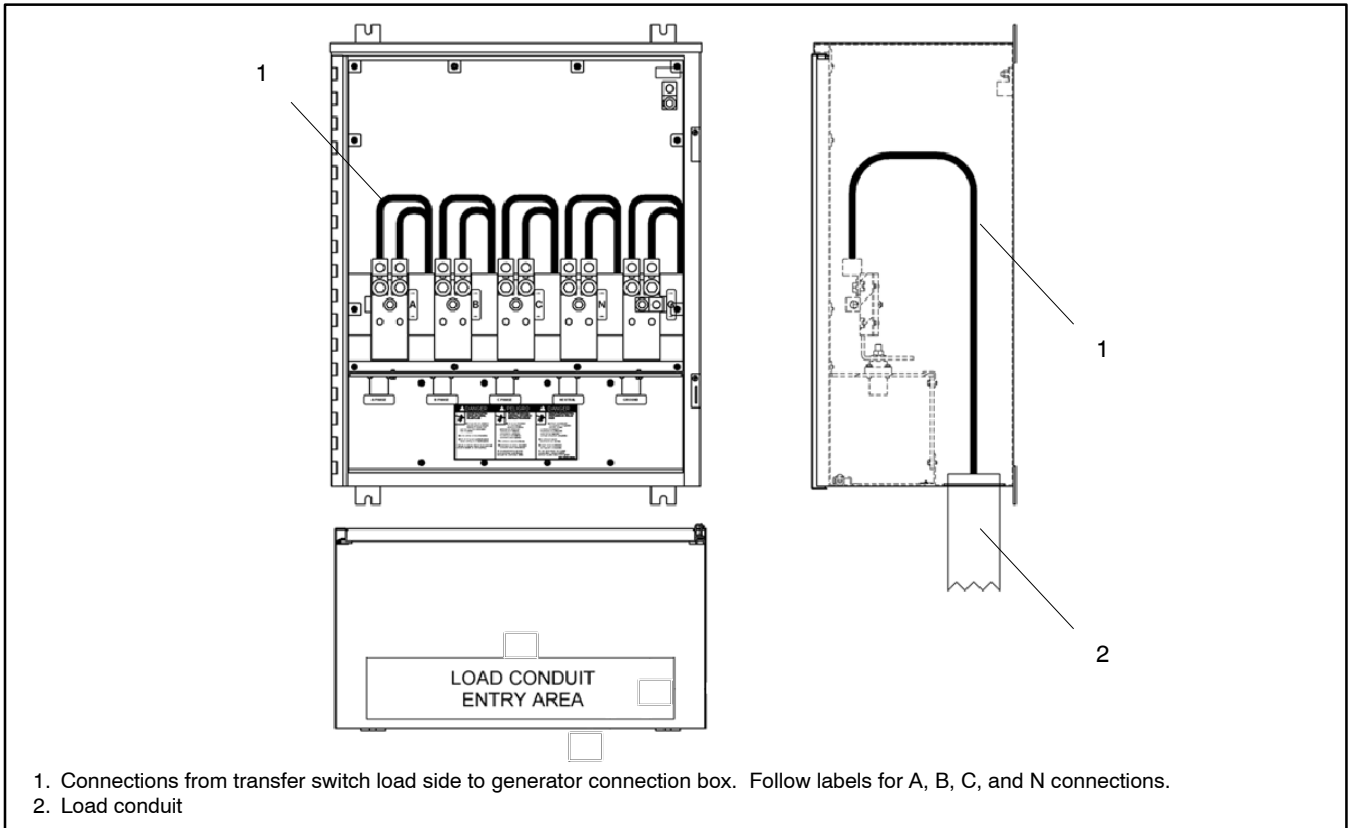



Figure 4 Interior View for Field Wiring with Upper Cover Removed




1. Connections from transfer switch load side to generator connection box. Follow labels for A, B, C, and N connections.
2. Load conduit

Figure 5 Interior View with Load Connections to Transfer Switch

Checkout Procedure

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Conduct a complete inspection before the Generator Connection Box is energized to ensure that all components function and operate properly. Complete

every step of the check list below before energizing the Generator Connection Box.

1. Check all accessible connections for tightness.
2. Check the Generator Connection Box enclosure for dents or other damage that reduces electrical clearances inside the Generator Connection Box.
3. Inspect all cables to ensure the insulation has not been damaged.
4. Verify that all connections are correctly grounded.
5. Verify that all proper field wiring is installed.
6. Vacuum to remove any dust, scrap wire, or other debris.

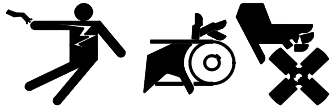
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Generator Connection

See Figure 6, Generator Cable Entry and Connection, and Figure 7, Standby Power Electrical Schematic.

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Generator Set Connection and Operation

1. Open all distribution circuit breakers.
2. Open the main breaker. Lock out the breaker to prevent closing during the generator set connection and operation.
3. Open the circuit breaker on the generator set.
4. Open the Generator Connection Box outer hinged door to access the generator receptacles.
5. Open the lower generator cable access area by removing the screws, allowing generator cables to be brought into the tap box for temporary power.
6. Connect generator cables to the receptacles in the following sequence:
 - a. Equipment grounding conductor.
 - b. Grounded circuit conductors (if provided).
 - c. Ungrounded conductors.
7. Verify proper phase and voltage connection.
8. Close the Generator Connection Box outer hinged door.
9. Start the generator.
10. Use a properly rated voltage sensing device with insulated probes to verify proper voltage L-L and L-N and proper phase rotation.
11. Close the generator circuit breaker and close appropriate distribution breakers.

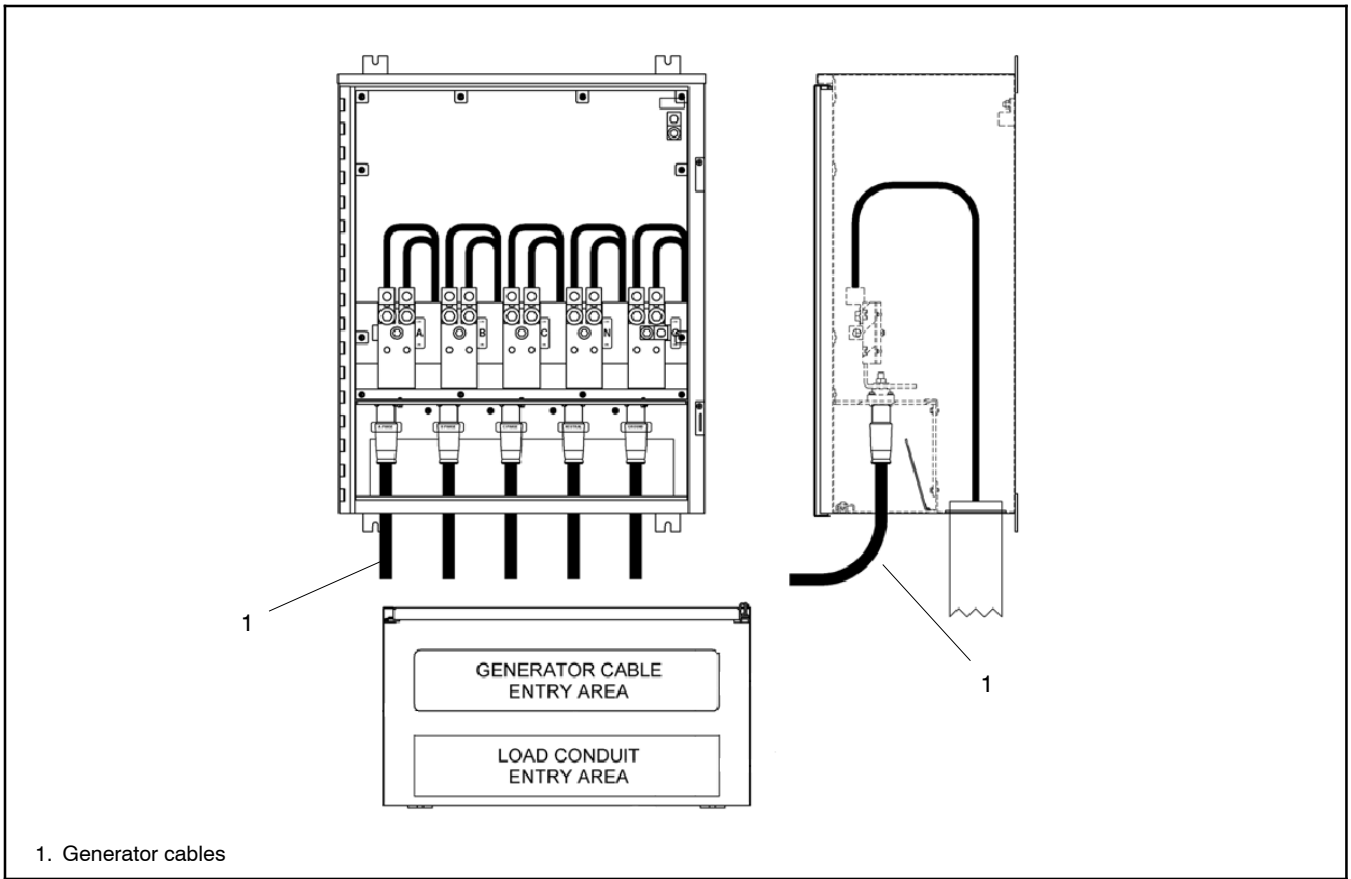


Figure 6 Generator Cable Entry and Connection

Return of Utility Power and Generator Set Disconnection

1. Open all distribution circuit breakers.
2. Open the generator breaker.
3. Shut down the generator.
4. Disconnect generator cables in the following sequence:
 - a. Ungrounded conductors.
 - b. Grounded circuit conductors (if provided).
 - c. Equipment grounding conductor.
5. Open the Generator Connection Box outer hinged door to access the generator receptacles. Disconnect the generator cables.
6. Remove cables from the tap box and close lower access area by reinstalling the screws, fastening the lower generator cable access shut.
7. Close the Generator Connection Box outer hinged door.

8. Replace all covers.
9. Close the main breaker.
10. Close all distribution breakers.

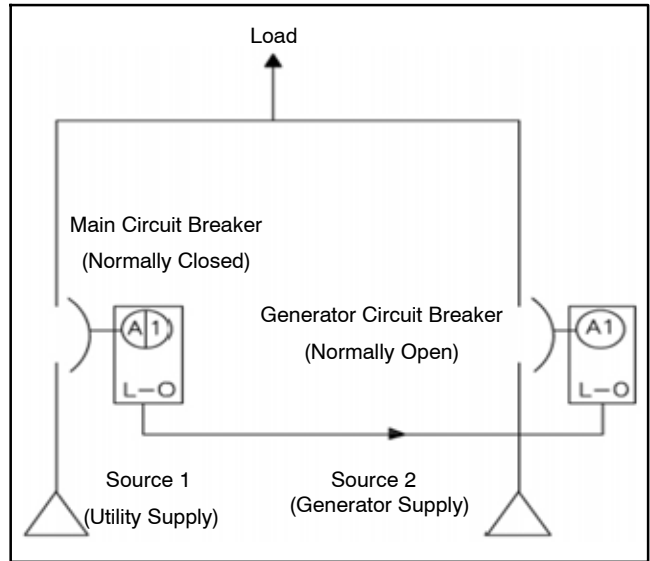




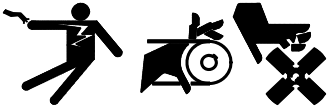
Figure 7 Standby Power Electrical Schematic

Maintaining the Product

Periodic maintenance of the Generator Connection Box includes cleaning component parts. The interval between maintenance checks can vary depending upon the amount of usage and environmental conditions of each installation. The maximum recommended inspection interval is one year. This definition for periodic maintenance applies throughout this bulletin, unless otherwise noted.

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- Apply appropriate personal protective equipment (PPE) and follow safe electrical work practices. See NFPA 70E.
- Always practice lock-out/tag-out procedures according to OSHA requirements.
- Inspect and perform preventive maintenance only on equipment to which power has been turned to the OFF position, disconnected, and electrically isolated (unless otherwise specified) so that no accidental contact can be made with energized parts.

General Inspection and Cleaning

1. Turn off all power supplying this equipment before working on or inside equipment.
2. Always practice lock-out/tag-out procedures according to OSHA requirements.
3. Always use a properly rated voltage sensing device to confirm all power is off.
4. Vacuum the Generator Connection Box interior to remove any dirt or dust deposits. Wipe all components, insulators, cables, etc., with a clean, dry, lint-free cloth.
5. Check the Generator Connection Box interior carefully for moisture, condensation buildup, or signs of any previous moisture buildup. Moisture can cause insulation failures and rapid oxidation of current-carrying parts. Inspect all conduit entrances and cracks between the enclosure panels for dripping leaks. Condensation in conduits may be a source of moisture and must not be allowed to drip onto live parts or insulating material. Take necessary steps to eliminate the moisture and seal off the leaks.

6. Inspect the Generator Connection Box for any signs of overheating. Discoloration, flaking, and cracking of insulation or metal parts are indications of overheating.

Note: If overheating occurs, be sure that all conditions that caused the overheating have been corrected. Loose or contaminated connections can cause overheating.

7. Check for signs of rodent nesting in the Generator Connection Box. If required, use a good exterminating technique in the general area of the Generator Connection Box.

Note: Do not place or use extermination substances and chemicals inside the Generator Connection Box. Some of these products attract rodents.

8. Carefully inspect all devices for any visibly worn-out, cracked, or missing parts.

Adverse Circumstances

This section includes, but is not limited to, all components of the Generator Connection Box.

Water-Soaked Equipment

Do not clean or repair a Generator Connection Box that has been exposed to large volumes of water or submerged at any time. Current carrying parts, insulation systems, and electrical components may be damaged beyond repair. Do not energize the Generator Connection Box.

Parts List

Kit: GM88999-KP1		
Qty.	Description	Part Number
1	Box, Generator Connection	GM88829
1	Installation Instructions	TT-1608

Availability is subject to change without notice. Kohler Co. reserves the right to change the design or specifications without notice and without any obligation or liability whatsoever. Contact your local Kohler® generator set distributor for availability.

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