

INSTALLATION INSTRUCTIONS

Original Issue Date: 2/11

Model: **20-200 kW Generator Sets (with Fast-Response™ X Alternators)**

Market: **Industrial and Marine**

Subject: **Generator Strip Heater Kits GM79104-KP1 and GM79104-KP2**

Introduction

The generator strip heater kit heats the unit in cold climates and helps prevent condensation from forming in the alternator.

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

Always observe applicable local and national electrical codes.

Special Tools and Equipment

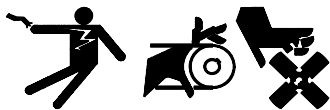
The following items are necessary for installing the kit.

- 110–120-volt or 220–240-volt, 50/60 Hz, 15-amp utility power supply outlet or electrical box in close proximity to the generator set.
- Permabond® MM-128 (red) thread adhesive or equivalent.

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.

(Decision-Maker® 550 Controller)

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.

(Decision-Maker® 3000 and 6000 Controllers)

DANGER



**Hazardous voltage.
Will cause severe injury or death.**

Disconnect all power sources before opening the enclosure.

WARNING



**Hazardous voltage. Moving parts.
Can cause severe injury or death.**

Operate the generator set only when all guards and electrical enclosures are in place.

Grounding electrical equipment. Hazardous voltage can cause severe injury or death. Electrocutation is possible whenever electricity is present. Ensure you comply with all applicable codes and standards. Electrically ground the generator set and related equipment and electrical circuits. Turn off the main circuit breakers of all power sources before servicing the equipment. Never contact electrical leads or appliances when standing in water or on wet ground because these conditions increase the risk of electrocution.

Connecting the battery and the battery charger. Hazardous voltage can cause severe injury or death. Reconnect the battery correctly, positive to positive and negative to negative, to avoid electrical shock and damage to the battery charger and battery(ies). Have a qualified electrician install the battery(ies).

Short circuits. Hazardous voltage/current 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 making adjustments or repairs. Remove all jewelry before servicing the equipment.

Installation Procedure

1. Remove the generator set from service.

- 1.1 Place the generator set master switch to the OFF/RESET position (Decision-Maker® 550).

OR

Press the generator set master control OFF/RESET button (Decision-Maker® 3000 or 6000).

- 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. Install the heater kit.

- 2.1 Remove enclosure panels as needed to access generator set.
- 2.2 Remove the junction box panels as needed to access the alternator end bracket and stator.
- 2.3 Disconnect generator set from load by opening line circuit breaker or disconnecting output leads from the transfer switch and heavily taping lead ends.
- 2.4 Connect installer-supplied AC leads to strip heaters. Installation must conform to applicable local and national electrical codes. Position lead terminals perpendicular to strip heater. See Figure 1.

- 2.5 Place one flat washer (M125A-05-80) onto each screw (M933-05020-60).

- 2.6 Apply general purpose thread adhesive to screw threads. Use PermaBond® MM-128 (red) or equivalent.

- 2.7 Assemble the screws (M933-05020-60), flat washers (M125A-05-80), and strip heaters (GM79574 or GM85733) to the existing holes in the stator shell as shown in Figure 1. Position the strip heaters with the AC terminals closest to the end bracket. Torque the screws to 5.8 Nm (4.3 in. lbs.). Do not over-tighten the hardware.

- 2.8 Use a rag to wipe up any excess thread adhesive.

- 2.9 Open circuit breaker to AC power source. With installer-supplied leads and terminals, connect strip heaters to AC voltage source using appropriate wiring diagram in Figure 2. Installation must conform to applicable local and national electrical codes.

- 2.10 Replace junction box side panels.

- 2.11 Replace enclosure panels as needed.

- 2.12 Close circuit breaker to AC power source.

- 2.13 Reconnect generator set to load by closing line circuit breaker or reconnecting output leads to transfer switch.

3. Restore power to the generator set.

- 3.1 Place the generator set master switch to the OFF/RESET position (Decision-Maker® 550 only).

- 3.2 Reconnect the generator set engine starting battery, negative (-) lead last.

- 3.3 Reconnect power to the battery charger, if equipped.

Parts List

Strip Heater Kits

Kits:		GM79104-KP1	GM79104-KP2
Qty.	Description	Part Number	Part Number
2	Heater, strip	GM79574 (100 W each)	GM85733 (85 W each)
4	Screw, M5 x 20	M933-05020-60	M933-05020-60
4	Washer, M5	M125A-05-80	M125A-05-80

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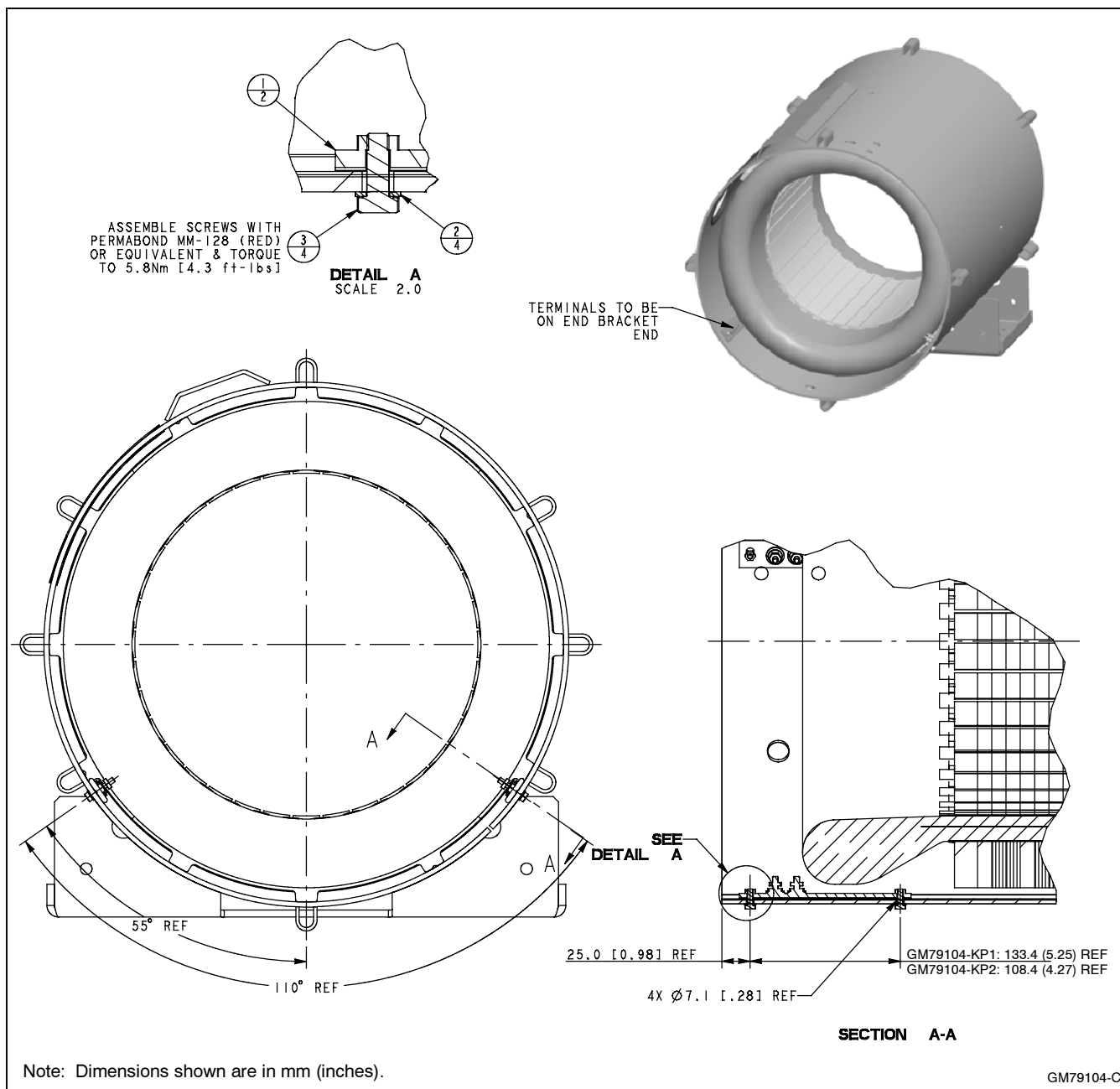


Figure 1 Heater Kit Installation

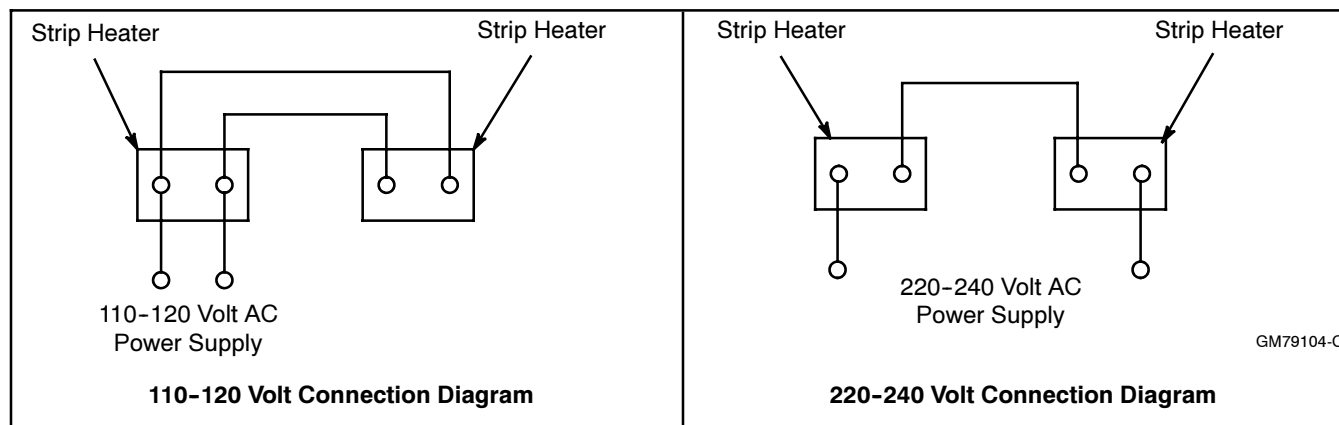


Figure 2 Heater Kit Wiring Diagrams