

INSTALLATION INSTRUCTIONS

Original Issue Date: 3/11

Model: **20RES(L), 20RESA(L), 20RESB, 20RESC(L), and 20RESD Generator Sets**

Market: **Residential/Commercial**

Subject: **Fuel Regulator Heater Kits GM79141-KP1-QS, GM79141-KP2-QS, GM79141-KP3-QS, and GM79141-S**

Introduction

The fuel regulator heater kits listed above are designed for the following generator set models:

- 20RES and 20RESL
- 20RESA and 20RESAL
- 20RESB
- 20RESC and 20RESCL
- 20RESD

The regulator heater kit is recommended for reliable engine starting in temperatures from -18°C to -29°C (0°F to -20°F). See Figure 1 for heater specifications. Note that kits are rated for 120 VAC or 240 VAC as shown in Figure 1.

The fuel regulator heater is a 127 mm (5 in.) diameter round heating pad with a snap action thermostat and a power cord. Figure 2 shows the 120 VAC heater. Follow the instructions in this document to install the heater on the fuel regulator, which is located on the air intake side of the generator set.

The fuel regulator heater requires a source of AC power. Verify that AC power is connected to the generator set as described in the generator set Installation Manual. The circuit must be backed up by the generator set to provide power at all times. If multiple AC accessories are installed, use an adapter to connect more than one accessory to the AC receptacle.

240 volt heater kits use a 3-pin power connector. Generator sets built after 10/9/2013 with serial numbers SGM327VFJ or later have a knockout under the controller for the 240 VAC power connector. 240 volt fuel regulator heater kits include an adapter harness to allow connection of two AC accessories. Refer to the Installation Procedure for instructions to connect power.

Read the entire installation procedure and compare the kit parts with the parts list on the last page before beginning installation. Perform the steps in the order shown.

Kit Number	GM79141-KP1-QS, GM79141-KP3-QS, and GM79141-S	GM79141-KP2-QS
Heater rating	120 VAC, 60 W	240 VAC, 100 W
Thermostat	4°C/13°C (40°F/55°F) Snap action	
Pad diameter	127 mm (5 in.)	
Cord length	914 mm (36 in.)	

Figure 1 Regulator Heater Kit Specifications

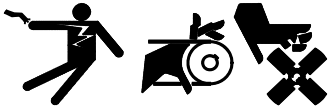


Figure 2 120 VAC Fuel Regulator Heater

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 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.

CAUTION



Hot surfaces.

Servicing the engine heater. Hot parts can cause minor personal injury or property damage. Install the heater before connecting it to power. Operating the heater before installation can cause burns and component damage. Disconnect power to the heater and allow it to cool before servicing the heater or nearby parts.

Installation Procedure

1. Disconnect the AC power that supplies the generator set's battery charger and AC receptacle(s) by opening the circuit breaker in the main distribution panel.
2. Open the enclosure roof.
3. Press the OFF button on the generator set controller.
4. Remove the air intake panel to access the fuel regulator. See Figure 3 or Figure 4.

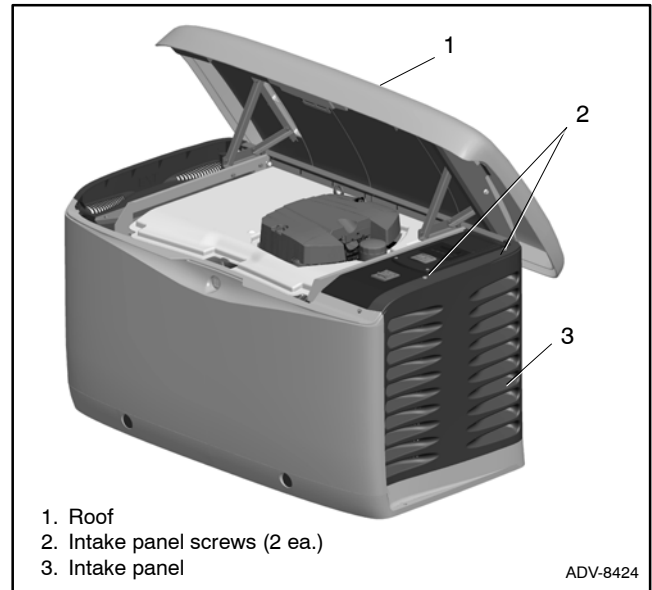


Figure 3 Removing Air Intake Panel, Composite Enclosures

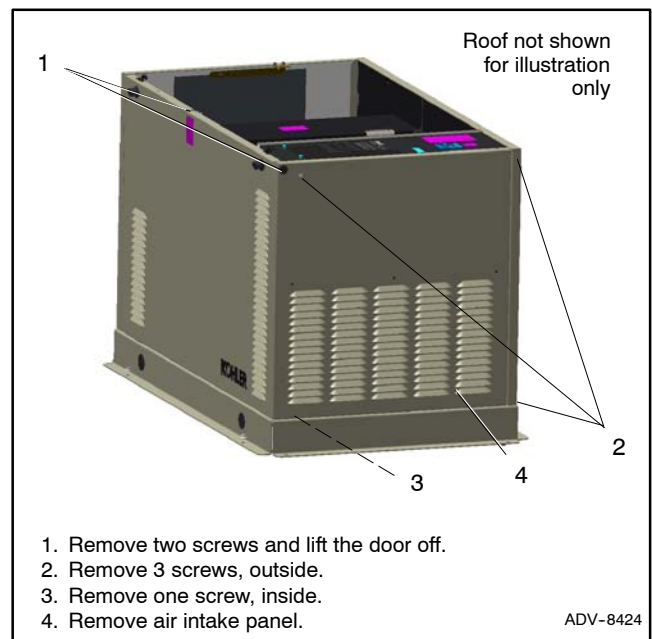


Figure 4 Removing Air Intake Panel, Metal Enclosures

5. 20RES/RESL: Unplug the battery charger.
6. Disconnect the generator set engine starting battery(ies), negative (-) lead first.
7. See Figure 5 through Figure 9 and select the illustration for your application. Remove and discard the screw(s) and nut(s) that secure the fuel regulator to the mounting bracket.
8. Before attaching heater pad GM79142 or GM89838 to the regulator, hold the pad and regulator in place as shown in the installation drawing for your model (Figure 5 through Figure 9). Rotate the heater pad, if necessary, to ensure that the power cord reaches the power receptacle without rubbing against any sharp edges.
9. Remove the backing from the mounting adhesive on the heater pad and press the heater pad onto the fuel regulator.
10. Reinstall the fuel regulator onto the mounting bracket using the screw(s) M933-06040-60, nut(s) M6293-06-80, and spacer(s) 265861 provided with the heater kit. Install the spacer(s) between the fuel regulator and the mounting bracket.

Note: 20RESA/RESAL and 20RESC/RESCL: Discard the extra screw and spacer provided with the kit.
 20RESB and 20RESL: Discard the nuts provided with the kit.

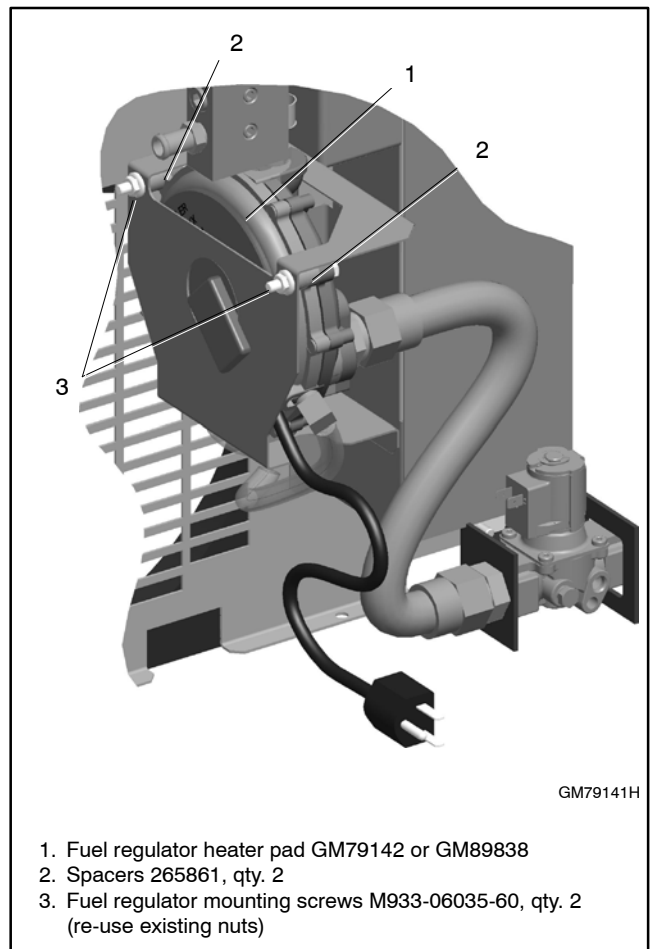


Figure 5 Fuel Regulator Heater Installation, Model 20RES/RESL

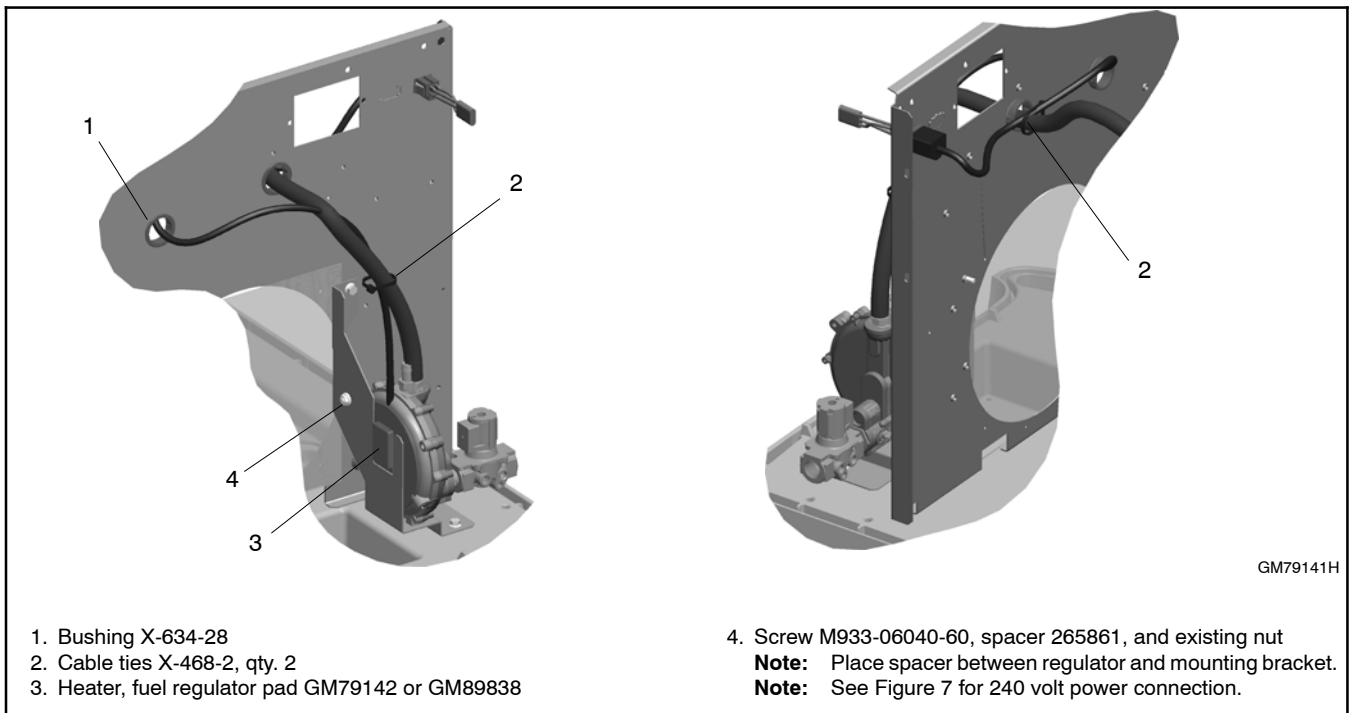


Figure 6 Fuel Regulator Heater Installation, Model 20RESA/RESAL and 20RESC/RESCL

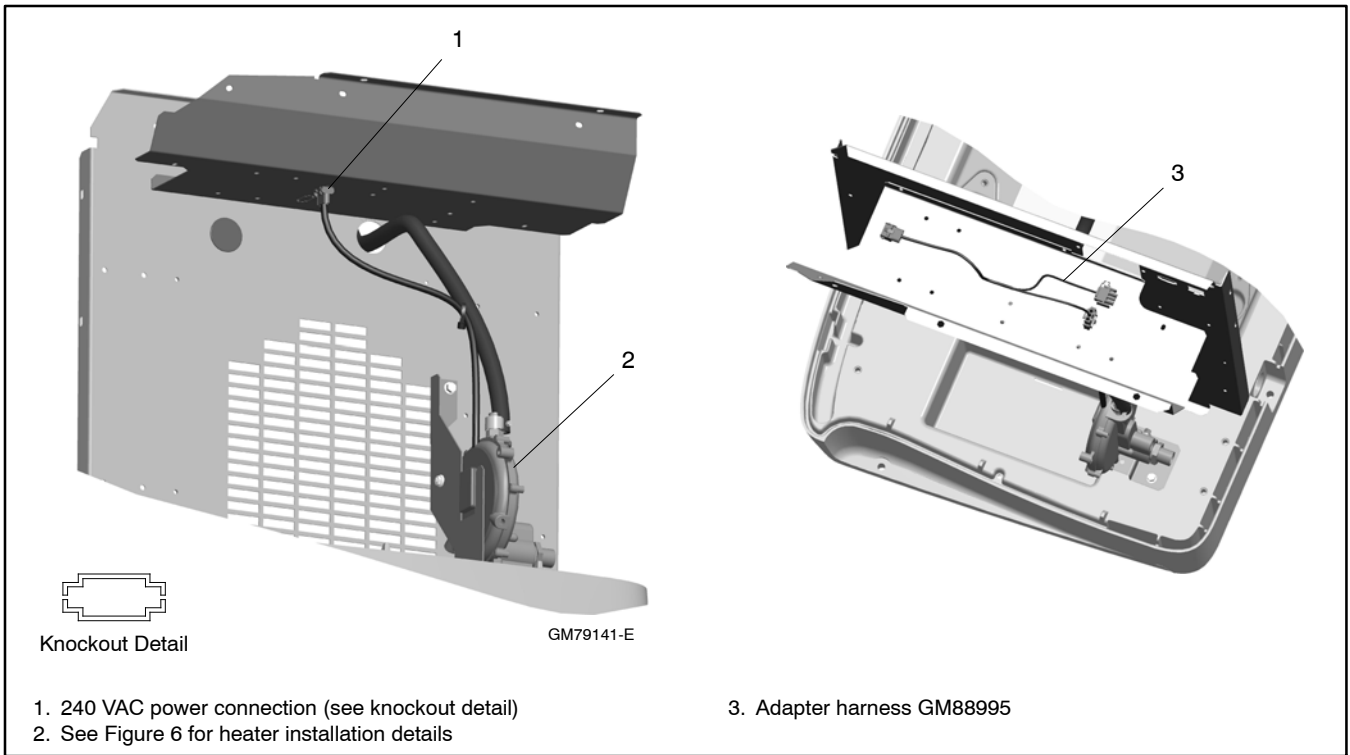


Figure 7 Model 20RESA/RESAL and 20RESC/RESCL 240 Volt Kit Power Connection

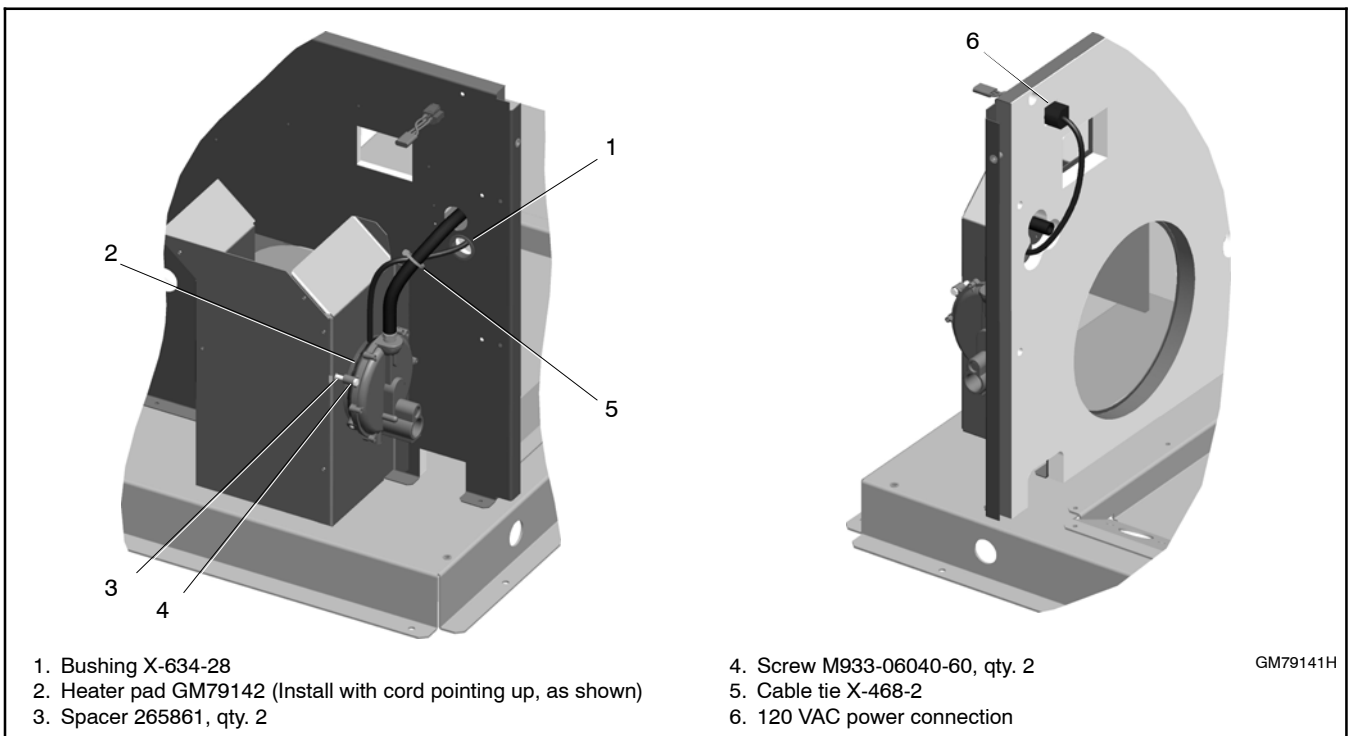


Figure 8 Fuel Regulator Heater Installation, 20RESB and 20RESD, 120 VAC

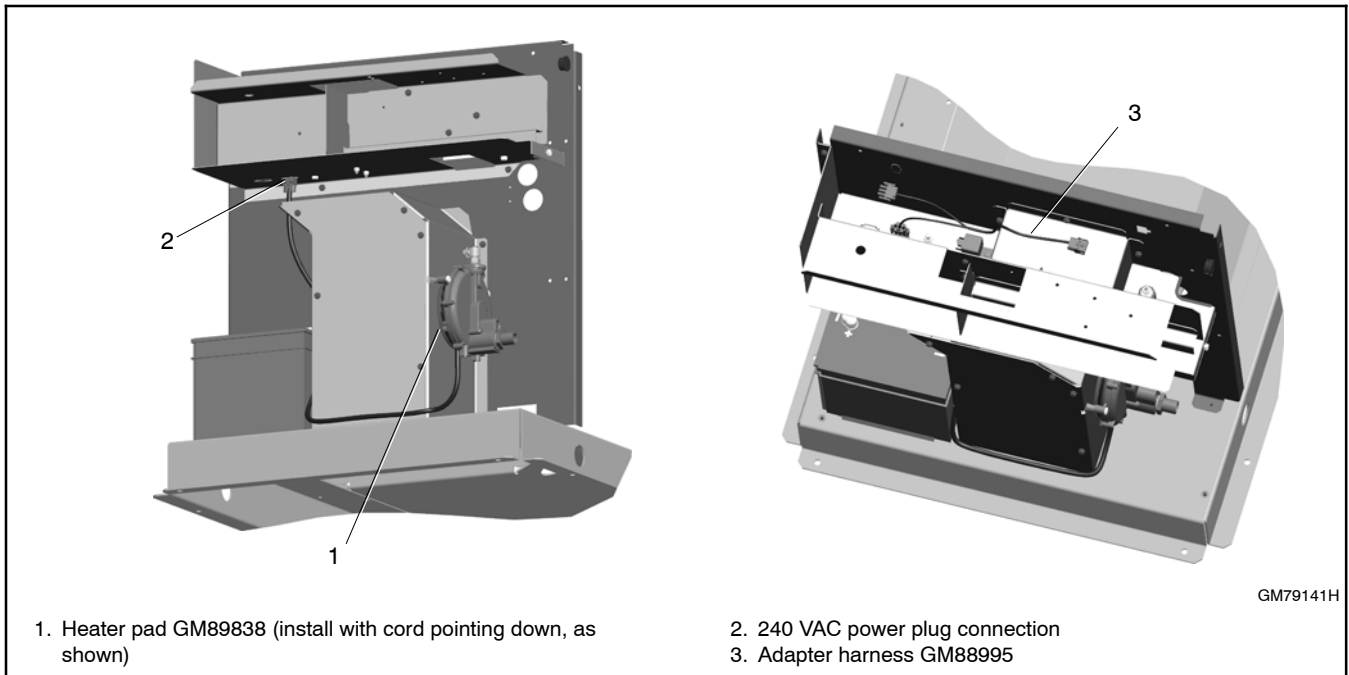


Figure 9 Fuel Regulator Heater Installation, 20RESB and 20RESD, 240 VAC

Power Cord Routing and Connection, 120 VAC Kits

Note: For 240 VAC kits, proceed to step 15.

Refer to Figure 6 for composite enclosures or Figure 8 for metal enclosures during this procedure.

11. Model 20RESA/RESAL and 20RESC/RESCL: Remove and discard the existing plug from the opening in the bulkhead. Insert bushing X-634-28.
12. Route the power cord to avoid contact with any sharp edges. Use the cable ties X-468-2, provided with the kit, to secure the power cord.
13. Plug the heater's power cord into the 120 VAC receptacle. If other AC accessories are installed on the generator set, use an adapter to plug in multiple items.
14. Go to step 22.

Power Cord Routing and Connection, 240 VAC Kits

Refer to Figure 7 for composite enclosures or Figure 9 for metal enclosures during this procedure.

15. Remove two screws that secure the controller. Lift the controller carefully to access the wiring and the

inside of the controller junction box. Do not disconnect the wiring to the controller.

16. Generator sets built after 10/9/2013 with serial numbers SGM327VFJ or later have a knockout under the controller for the 240 VAC power connector. Remove a knockout in the bottom of the controller box. See Figure 7.
17. Insert the heater's power cord connector into the knockout opening. See Figure 7. Confirm that the connector clicks securely in place.
18. Locate the 3-pin power connection to the 120 VAC receptacle. Disconnect the power at the 3-pin Mate-N-Lock connector.

Note: The 120 VAC receptacle now has no power connected.
19. If the fuel regulator heater is the only 240 VAC accessory installed on the generator, connect the 3-pin power connector directly to the regulator heater power cord connector that was installed in step 17. Then go to step 21.

If more than one 240 VAC accessory is used, proceed to step 20.

20. To connect two 240 VAC accessories (typically the fuel regulator heater and a carburetor heater), use adapter harness GM88995.

Note: If three 240 VAC accessories are used (i.e. the fuel regulator heater, a carburetor heater, and a battery heater), use the adapter harness provided with the battery heater to connect power for all three accessories.

- a. Connect P1 of adapter harness GM88995 to the 3-pin power connector. See Figure 10.
- b. Connect P2 of harness GM88995 to the fuel regulator heater power cord connector that was installed in step 17.
- c. Connect P3 of the adapter harness to the other 240 VAC accessory (i.e. the carburetor heater).

21. Carefully reinstall the controller and secure with two screws.

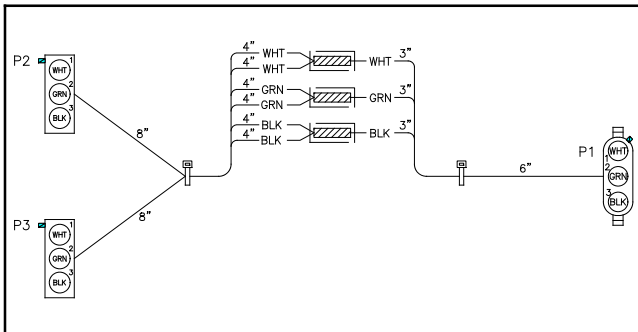


Figure 10 Adapter Harness GM88995 for two 240 Volt Accessories

For All Kits

22. Reconnect the engine starting battery, negative (-) lead last.
23. 20RES/RESL: Plug the battery charger’s power cord into a receptacle or receptacle adapter.
24. Replace the air intake end panel and secure with two screws.

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.

25. Reconnect the AC power to the generator set by closing the circuit breaker(s).

26. Press the AUTO button on the generator set controller to put the system into automatic mode.

27. Close the roof and lock the enclosure.

Parts List

Fuel Regulator Heater Kit, 120 V

Kit: GM79141-KP1-QS and GM79141-S		
Qty.	Description	Part Number
2	Spacer, .281 x .500 x .375 steel	265861
1	Adapter, receptacle, 3-wire	GM84773
1	Heater, regulator pad	GM79142
2	Nut, Hex 6mm	M6923-06-80
2	Screw, hex cap	M933-06040-60
2	Tie, cable	X-468-2
1	Bushing	X-634-28
1	Installation Instructions	TT-1569

Fuel Regulator Heater Kit, 240 V

Kit: GM79141-KP2-QS		
Qty.	Description	Part Number
2	Spacer, .281 X .500 X .375 Steel	265861
1	Harness, Adapter	GM88995
1	Heater, Regulator Pad	GM89838
2	Nut, Hex 6mm	M6923-06-80
2	Screw, hex cap	M933-06040-60
2	Cable Tie	X-468-2
1	Bushing	X-634-28
1	Installation Instructions	TT-1569

Fuel Regulator Heater Kit, 120 V

Kit: GM79141-KP3-QS		
Qty.	Description	Part Number
2	Spacer, .281 x .500 x .375 steel	265861
1	Heater, regulator pad	GM79142
2	Nut, Hex 6mm	M6923-06-80
2	Screw, hex cap	M933-06040-60
2	Tie, cable	X-468-2
1	Bushing	X-634-28
1	Installation Instructions	TT-1569