

INSTALLATION INSTRUCTIONS

Original Issue Date: 4/11

Model: **14RES, 14RESL, 20RES, and 20RESL**

Market: **Residential/Commercial**

Subject: **Ethernet Option Board Kits GM62465-KP1 and GM62465-KP2-QS for OnCue® and OnCue® Plus**

Introduction

The Ethernet option board allows connection of model 14RES/RESL and 20RES/RESL generator sets equipped with the RDC or DC controller to a network. The Ethernet option board allows the use of Kohler® OnCue® Software or OnCue® Plus to monitor and control your generator set with a personal computer.

Have a Kohler authorized distributor or dealer perform the kit installation and setup described in this instruction sheet. Install one Ethernet option board on each RDC or DC controller that will connect to the network. Also use Kohler® SiteTech™, OnCue® software, or the USB Utility to update the controller firmware.

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

See Figure 1 for the Ethernet option board.

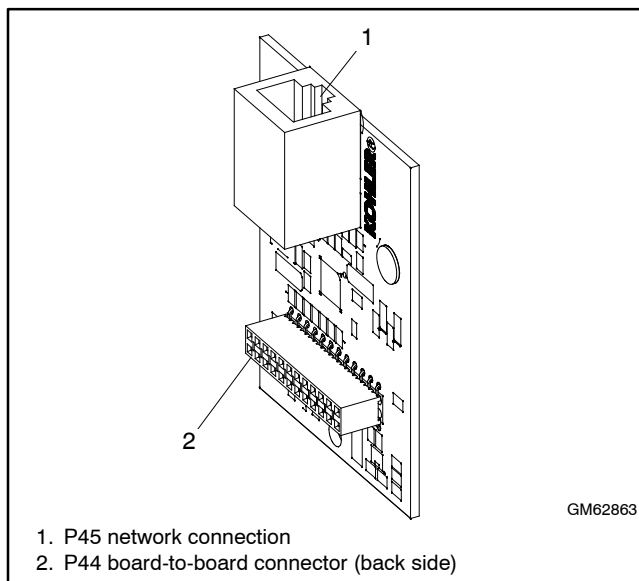


Figure 1 Ethernet Board GM60385

Microsoft® Windows® and Windows Vista® are registered trademarks of Microsoft Corporation.

Customer-Supplied Equipment

The following equipment must be supplied by the customer:

- Personal computer (PC) with the following:
 - Microsoft® Windows® 7, Windows Vista®, or Windows® XP
 - Kohler® OnCue® software (version 2.0 or higher)
 - 1 GB of RAM
 - Up to 500 MB of available hard disk space may be required
- Always-on Internet access (for example, cable or DSL Internet service)
- One available Ethernet port on the customer's switch, router, or modem (UPS backup recommended)
- Category 5E network cable to connect the generator set to the customer's Internet switch, router, or modem. If the network cable is longer than 100 meters (328 ft.), use a repeater or switch.
- USB cable with a mini-B connector for controller firmware upgrade

Firewalls

When the OnCue Ethernet Option Board is connected to an intranet network behind a firewall, for example in a commercial or industrial setting, it may be necessary to configure the firewall to open port 5253 to permit an outbound connection. Contact your network administrator for assistance if necessary.

RDC/DC Controller Firmware

RDC/DC controller firmware version 3.0 or higher is required for network communication. Distributors and dealers can download the firmware from the Kohler Power Resource Center. End users can download the firmware from www.kohlerpower.com/oncue or www.kohlergenerators.com/usb.

Follow the instructions in this document and in the OnCue manual, SiteTech manual, or USB Utility instruction sheet to download the latest version of firmware and install it onto the controller.

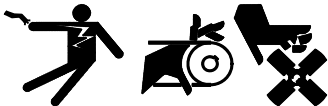
Related Literature

Document Title	Part Number
Operation Manual, 14/20RES/L Generator Set	TP-6734
Operation Manual, OnCue Software	TP-6796
Operation Manual, OnCue Plus	TP-6928
Operation Manual, SiteTech Software	TP-6701
Instructions, USB Utility	TT-1636

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.

NOTICE

Electrostatic discharge damage. Electrostatic discharge (ESD) damages electronic circuit boards. Prevent electrostatic discharge damage by wearing an approved grounding wrist strap when handling electronic circuit boards or integrated circuits. An approved grounding wrist strap provides a high resistance (about 1 megohm), *not a direct short*, to ground.

Circuit Board Handling

Improper removal, installation, transportation, storage, or service can damage sensitive electronic components. Observe the following guidelines to prevent damage when working with circuit boards or electronic components.

Circuit Board and Electronic Component Handling

- Keep circuit boards or electronic components inside the antistatic, cushioned factory packaging until installation.
- Store circuit boards or electronic components in a clean environment away from moisture, vibration, static electricity, corrosive chemicals, and solvents.
- Disconnect all power sources before removing or installing circuit boards or electronic components.
- Wear an approved, grounded, antistatic wrist strap when handling circuit boards or electronic components.
- Carefully hold the circuit board by its edges and not by any of its components or electrical contacts.
- Do not drop the circuit board or electronic components.
- Do not bend the circuit board, electronic components, or electronic component leads.
- Do not strike the circuit board or electronic components using or against a hard object.
- Clean dusty or dirty circuit boards with a vacuum cleaner or soft, dry brush.
- Never attempt circuit board repairs, adjustments, or modifications other than replacing plug-in service parts or performing manufacturer-approved installation or service procedures.

t:ta:001:001:a

Installation Procedure

1. Open the enclosure roof. See Figure 2.
2. Remove fuse F3, located in the controller's service access area, to remove power from the RDC controller. See Figure 5 for the fuse location.
3. Go to the electrical sub-panel and locate the circuit breaker that supplies power to the generator set accessories. Open the circuit breaker to disconnect the utility power to the generator set. Verify that the power to the generator set is disconnected before proceeding.
4. Remove two (2) screws on the intake panel and remove the panel. See Figure 2.
5. Unplug the battery charger's power cord.
6. Disconnect the generator set engine starting battery, negative (-) lead first.

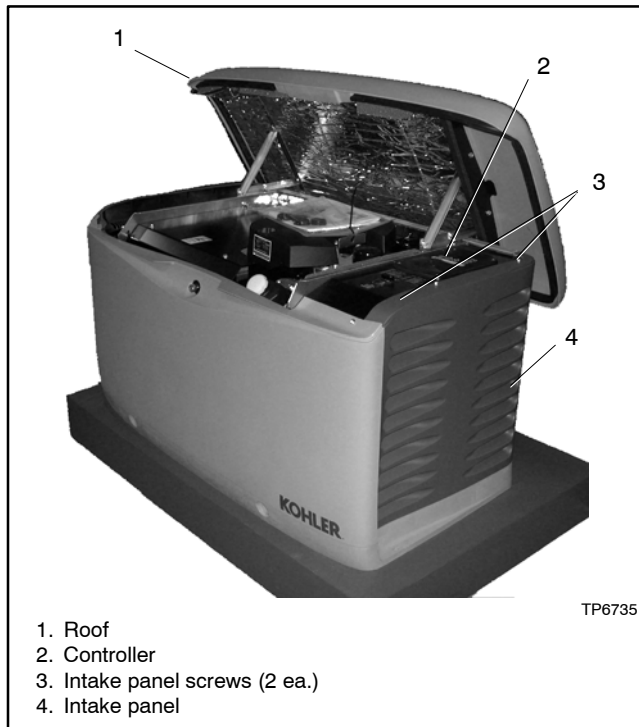


Figure 2 Enclosure Roof and Air Intake Panel

7. Remove the four (4) screws securing the controller and *carefully* lift the controller. See Figure 3.

Note: Be careful of the leads and harness connected to the controller.

8. Note the connections on the back of the controller, and then disconnect, if necessary.

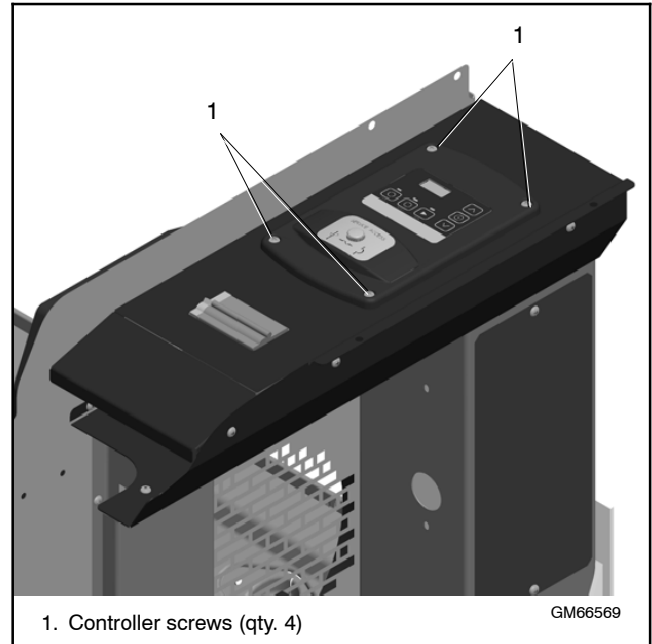


Figure 3 Controller Mounting Screws

9. Insert board-to-board connector GM60410 into P44 of Ethernet option board GM60385-1. See Figure 4.
10. Position the Ethernet option board with the network connector P45 pointing toward the top of the controller as shown in Figure 4.
11. Align board-to-board connector GM60410 with P7 on the controller circuit board.
12. Align the two standoffs GM60405 with the corresponding mounting holes on the controller circuit board.
13. Press the Ethernet board firmly until the standoffs click into place and connector GM60410 is seated.
14. Secure the Ethernet board with plastic screw GM23307.
15. Reconnect any plugs or leads that were disconnected from the controller.
16. Mount the controller assembly onto the junction box using the four (4) screws removed in step 7.

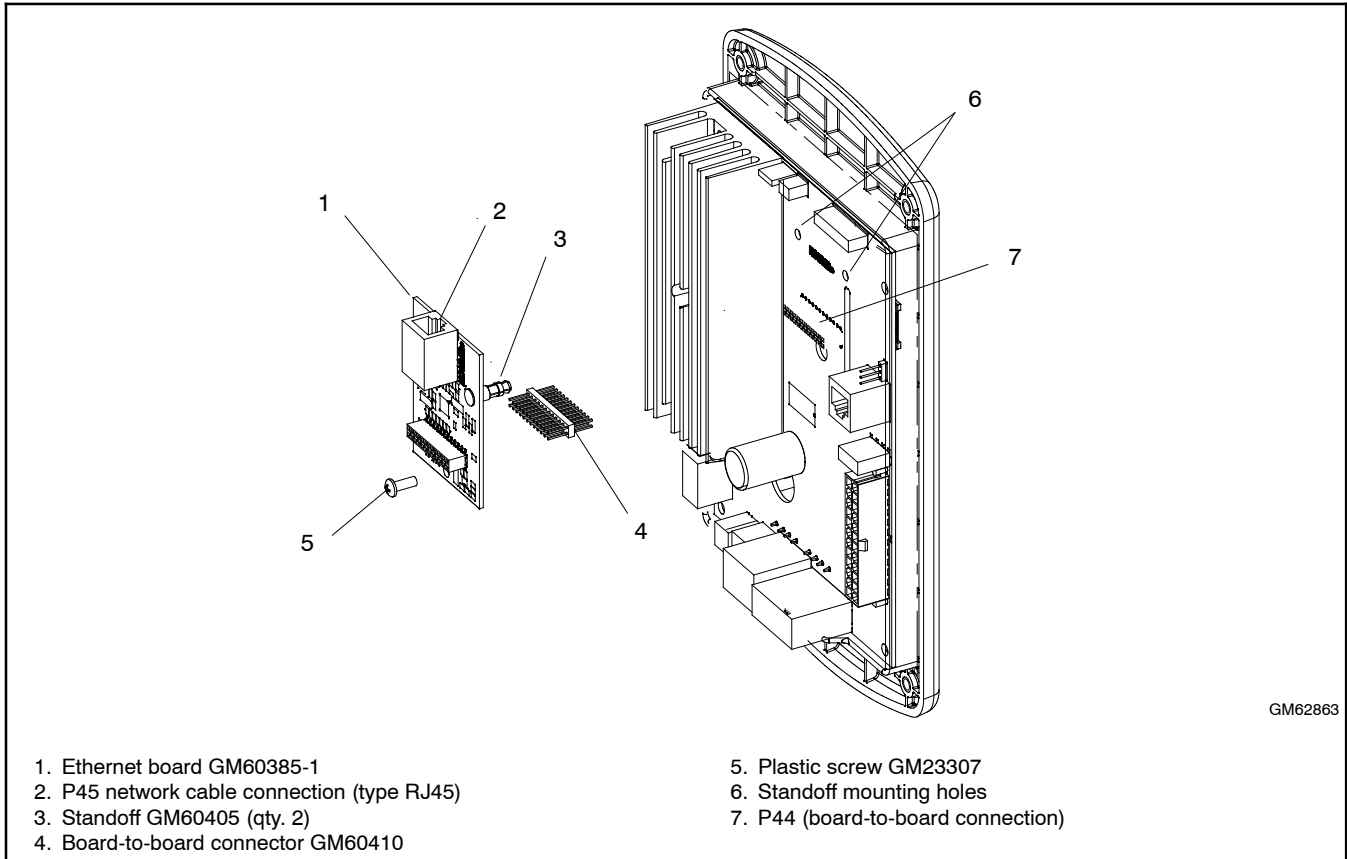


Figure 4 Ethernet Option Board Installation

17. Reconnect the engine starting battery, negative (-) lead last.
18. Reconnect the utility power to the generator set by closing the circuit breaker in the subpanel.
19. Plug the battery charger cord into the receptacle on the generator set.
20. Reinstall controller fuse F3.
21. Follow these steps to set and record the controller password, which is required for communication using OnCue or OnCue Plus.

Note: The password changes each time this procedure is performed.

- a. Press the OFF button to place the controller into OFF mode.
- b. Press the down arrow button (RDC) or exercise button (DC) 5 times. See Figure 5.
- c. Write down the the four-digit code displayed on the controller. This is the controller password, which is required for OnCue and OnCue Plus. Figure 6 provides a place to record information required for communication.

- d. Press OFF to clear the display.
22. Press the AUTO button on the RDC or DC controller. Verify that the AUTO LED is on.
 23. Connect the customer-supplied network cable to the customer's router and route the cable to the generator set location. If the network cable is longer than 100 meters (328 ft.), install a repeater or switch.
 24. Recommended: Use a laptop computer to verify the network connection before connecting it to the controller.
 - a. Check for and turn OFF any wireless connections to the laptop.
 - b. Connect the network cable to the laptop.
 - c. Verify the Internet connection by opening your web browser and going to www.KOHLERPower.com or another website.
 - d. After verifying the connection through the network cable, disconnect the network cable from the laptop and turn the laptop wireless connections back on.

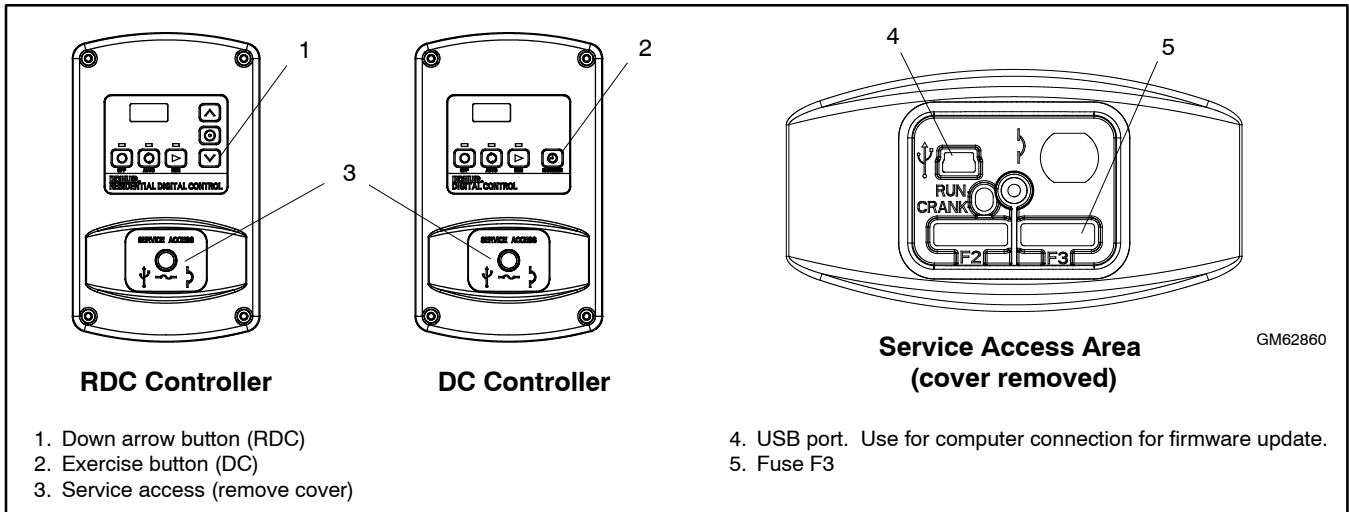


Figure 5 RDC and DC Controllers

Record generator set information below:	
Generator set serial number (OnCue) *	
Generator set serial number (nameplate) *	
Controller password (step 21)	
* Serial numbers should match. Use Kohler® SiteTech™ software to enter the serial number from the nameplate into the controller, if necessary. Contact a Kohler-authorized distributor/dealer.	

Figure 6 Record Information for OnCue

25. Connect the network cable to P45 on the Ethernet board. See Figure 4.
26. Replace the air intake end panel and secure with two screws.
27. Update the controller firmware. Use a USB cable to connect the controller directly to a computer. See Figure 5. Use OnCue software, SiteTech software, or the USB Utility to update the controller firmware. See Controller Firmware Update in this document. Also see the OnCue Software Operation Manual, the SiteTech Software Operation Manual, or the USB Utility instruction sheet for instructions, if necessary.
28. With the USB cable still connected, find and record the generator set serial number displayed by OnCue. Refer to the OnCue Software or OnCue Plus Operation Manual for more detailed instructions, if necessary.
 - a. Go to the Devices view.
 - b. Open the Genset Info group.
 - c. Find and record the Genset Serial number. Figure 6 provides a place to record information required for OnCue communication.
29. Compare the genset serial number shown in OnCue with the serial number found on the generator set nameplate. The serial numbers should be the same.
30. Disconnect the USB cable from the controller.
31. Check the controller display to verify connection to the Kohler OnCue server. A dot in the lower right corner of the controller display lights up when the controller is connected to the Kohler server. See Figure 7.
32. Set the exerciser on the day and time that the generator set should run its weekly exercise. See the generator Operation Manual, TP-6734, for instructions.

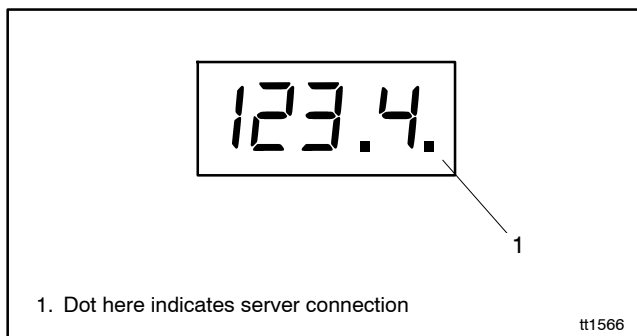


Figure 7 Controller Display with Server Connection

If the serial number on the nameplate does *not* match the serial number displayed in OnCue, use Kohler® SiteTech™ software to change the serial number programmed into the controller to match the generator set nameplate.

Note: SiteTech software is only available to Kohler-authorized distributors and dealers. Contact an authorized distributor/dealer, if necessary.

Controller Password

The controller password is required for OnCue or OnCue Plus operation. Follow the instructions in step 21 of the installation procedure to set the controller password. Record the password for entry into the OnCue or OnCue Plus later.

Note: The password changes each time the procedure in step 21 is performed. If the controller is connected to OnCue or OnCue Plus and the procedure is performed again, the connection will be lost.

Pressing the down arrow or exercise button with the controller OFF during the password setting procedure does not change the exercise setting.

After OnCue has connected to the controller, the software allows you to change the password to any alphanumeric code of your choice. See the OnCue Software Operation Manual or the OnCue Plus Operation Manual for instructions to change the password using your PC.

The controller only sends the password to OnCue or OnCue Plus at initial connection or controller power-up. After changing the password, you will need to do one of the following to send the new password to OnCue or OnCue Plus:

- Cycle power to the controller by removing the fuse and then replacing it; or
- Reload the firmware onto the controller. For instructions to load the firmware, see TP-6796, OnCue Software Operation Manual; TP-6701, SiteTech Software Operation manual; or TT-1636, USB Utility Instructions.

Controller Firmware

Controller firmware version 3.0 or higher is required.

Note: Firmware version 3.18 or higher for the RDC/DC controller is only compatible with OnCue Plus. Earlier firmware versions are compatible with OnCue.

The firmware version number is displayed by OnCue in the Devices view, Identity group of OnCue and in the Parameters view of OnCue Plus. To check the firmware version number using the controller display (optional):

RDC controllers: Press and hold the Select and UP arrow buttons simultaneously for about 5 seconds, until the firmware version number (for example, v3.00) appears on the controller display.

DC Controllers: The firmware version number is displayed during the first 2 seconds of the engine crank cycle.

Use Kohler® OnCue (version 2.0 or higher), SiteTech™ software, or the USB Utility to update the controller firmware. Download software and the latest version of the RDC/DC controller firmware from one of the following sites:

- The Kohler Power Resource Center
- www.kohlerpower.com/oncue
- www.kohlergenerators.com/usb

Connect the controller to the PC or laptop computer using a USB cable connected to the USB port on the controller. See Figure 5. For instructions to load the firmware, see TP-6796, OnCue Software Operation Manual; TP-6701, SiteTech Software Operation manual; or TT-1636, USB Utility Instructions.

Parts Lists

OnCue, RDC/DC Controller, 14/20RES/RESL

Kit: GM62465-KP1		
Qty.	Description	Part Number
1	Screw, Plastic Tapping, 6-19 x 0.375	GM23307
1	PCB Assy, Ethernet Option	GM60385-1
1	Header, PCB Pin	GM60410
1	OnCue Software Operation Manual	TP-6796
1	Installation Instructions	TT-1566

OnCue Plus, RDC/DC, 14/20RES/RESL

Kit: GM62465-KP2-QS		
Qty.	Description	Part Number
1	OnCue Plus Welcome Letter, Res/Com	G18-246
1	OnCue App Quick Start Guide	G18-247
1	Screw, Plastic Tapping, 6-19 x 0.375	GM23307
1	PCB Assy, Ethernet Option	GM60385-1
1	Header, PCB Pin	GM60410
1	Dwg, Assy	GM62863
1	O/M OnCue Plus Res/Coml	TP-6928
1	Installation Instructions	TT-1566

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.

© 2013, 2015 by Kohler Co. All rights reserved.