1. What is a GFCI?

A GFCI receptacle is different from conventional receptacles. In the event of a ground fault, a GFCI will trip and quickly stop the flow of electricity to prevent serious injury.

Definition of a ground fault:
Instead of following its normal safe path, electricity passes through a person’s body to reach the ground. For example, a defective appliance can cause a ground fault.

A GFCI receptacle does NOT protect against circuit overloads, short circuits, or shocks. For example, you can still be shocked if you touch bare wires while standing on a non-conducting surface, such as a wood floor.

NOTE:
GFCIs contain a lockout feature that will prevent RESET if:
• There is no power being supplied to the GFCI.
• The GFCI is miswired due to reversal of the LINE and LOAD leads.
• The GFCI cannot pass its internal test, indicating that it may not be able to provide protection in the event of a ground fault.

2. The GFCI’s features

The LOAD terminals are under the yellow sticker. A yellow sticker covers the LOAD leads. DO NOT remove the sticker at this time.

LOAD Hot lead: Connection for the LOAD cable’s Neutral wire
LOAD Hot lead: Connection for the LOAD cable’s Hot wire
GROUNDING Lead (Green): Connection for bare copper or green wire
LINE Hot lead: Connection for the LINE cable’s Neutral wire

3. Should you install it?

Installing a GFCI receptacle can be more complicated than installing a conventional receptacle.

Make sure that you:
• Understand basic wiring principles and techniques.
• Can interpret wiring diagrams.
• Have circuit wiring experience.
• Are prepared to take a few minutes to test your work, making sure that you have wired the GFCI receptacle correctly.

4. LINE vs. LOAD

A cable consists of 2 or 3 wires.

Cable | Wires
---|---
LINE cable | Delivers power from the service panel (breaker panel or fuse box) to the GFCI. If there is only one cable entering the electrical box, it is the LINE cable. This cable should be connected to the GFCI’s LINE terminals only.
LOAD cable | Delivers power from the GFCI to another receptacle in the circuit. This cable should be connected to the GFCI’s LOAD terminals only. The LOAD terminals are under the yellow sticker. DO NOT remove the sticker at this time.

5. Turn the power OFF

Plug an electrical device, such as a lamp or radio, into the receptacle on which you are working. Turn the lamp or radio ON. Then, go to the service panel. Find the breaker or fuse that protects that receptacle. Place the breaker in the OFF position or completely remove the fuse. The lamp or radio must turn OFF.

Next, plug in and turn ON the lamp or radio at the receptacle’s other outlet to make sure the power is OFF at both outlets. If the power is not OFF, stop work and call an electrician to complete the installation.

6. Identify cables/wires

Important:
DO NOT install the GFCI receptacle in an electrical box containing (a) more than four (4) wires (not including grounding wires) or (b) cables with more than two (2) wires (not including the grounding wire). Contact a qualified electrician if either (a) or (b) are true.

Procedure: box with two (2) cables (4-6 wires):
(a) Detach one cable’s white wire and hot wires from the receptacle and cap each one separately with a wire connector. Make sure that they are from the same cable.
(b) Re-install the receptacle in the electrical box, attach faceplate, then turn the power ON at the service panel.
(c) Determine if power is flowing to the receptacle. If so, the capped wires are the LOAD wires. If not, the capped wires are the LINE wires.
(d) Turn the power OFF at the service panel, label the LINE and LOAD wires, then remove the receptacle.
(e) Go to step 7B.

Sample circuit:
Placing the GFCI in position A also provides protection to “load side” receptacles B and C. On the other hand, placing the GFCI in position C will not provide protection to receptacles A or B. Remember that receptacles A, B, and C can be in different rooms.
8. Test your work
Why perform this test?
• If you missed wiring the GFCI it may not prevent personal injury or death due to a ground fault (electrical shock).
• If you mistakenly connect the LOAD wires to the LOAD terminals, the GFCI will not reset and will not provide power to either the GFCI receptacle face or any receptacles fed from the GFCI.

Procedure:
(a) This GFCI is shipped from the factory in the tripped condition and cannot be reset until it is wired correctly and power is supplied to the device. Plug a lamp or radio into the GFCI (and leave it plugged in). Turn the power ON at the service panel. Ensure that the GFCI is still in the tripped condition by pressing the TEST button. If the lamp or radio is OFF, and the GFCI will not reset, go to the Troubleshooting section as the Line and Load connections are reversed.
(b) Press the RESET button fully and release. If the Status Indicator Light turns green and the lamp or radio is ON, the GFCI has been installed correctly. If the Status Indicator Light turns continuously, blinks red, or goes off, the GFCI cannot be tested. Go to the Self Test Operation section.
(c) If you installed your GFCI using step 7B, plug a lamp or radio into surrounding receptacles to see which one(s), in addition to the GFCI, lose power when you press the GFCI TEST button. Place a "GFCI PROTECTED OUTLET" sticker on each receptacle that lost power, then press the RESET button to try to reset the GFCI. DO NOT plug life saving devices into any of the receptacles that lost power.
(d) Press the TEST button (then RESET button every month) to assure proper operation. If the Status Indicator Light does not turn green when the RESET button is depressed and then released, or the GFCI cannot be reset, it must be replaced.

TROUBLESHOOTING:
Turn the power OFF and check the wire connections against the appropriate wiring diagram in step 7A or 7B. Make sure that there are no loose wires or loose connections. If the Status Indicator Light is ON and the device is unable to reset this could be a result of no power loss. Start the test from the beginning of step 7A if you rewired any connections to the GFCI.

For Technical Assistance Call: 1-800-824-3005 (U.S.A. Only) 1 800 405-5320 (Canada Only) www.leviton.com

FOC STATEMENT
This equipment has been tested and found to comply with the limits of a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense. Any changes or modifications not expressly approved by the manufacturer may void the warranty and the user’s authority to operate the equipment.

IC STATEMENT
This device complies with Industry Canada license-exempt RSS standards. Operation is subject to the following two conditions: (1) this device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation of the device.

For warranty information and product return policies, residents of Canada should contact Leviton in writing at Leviton Manufacturing of Canada Ltd to the attention of the Quality Assurance Department, 165 Hymus Blvd, Pointe-Claire (Quebec), Canada H9R 1E9

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(a) This GFCI is shipped from the factory in the tripped condition and cannot be reset until it is wired correctly and power is supplied to the device. Plug a lamp or radio into the GFCI (and leave it plugged in). Turn the power ON at the service panel. Ensure that the GFCI is still in the tripped condition by pressing the TEST button. If the lamp or radio is OFF, and the GFCI will not reset, go to the Troubleshooting section as the Line and Load connections are reversed.
(b) Press the RESET button fully and release. If the Status Indicator Light turns green and the lamp or radio is ON, the GFCI has been installed correctly. If the Status Indicator Light turns continuously, blinks red, or goes off, the GFCI cannot be tested. Go to the Self Test Operation section.
(c) If you installed your GFCI using step 7B, plug a lamp or radio into surrounding receptacles to see which one(s), in addition to the GFCI, lose power when you press the GFCI TEST button. Place a "GFCI PROTECTED OUTLET" sticker on each receptacle that lost power, then press the RESET button to try to reset the GFCI. DO NOT plug life saving devices into any of the receptacles that lost power.
(d) Press the TEST button (then RESET button every month) to assure proper operation. If the Status Indicator Light does not turn green when the RESET button is depressed and then released, or the GFCI cannot be reset, it must be replaced.

TROUBLESHOOTING:
Turn the power OFF and check the wire connections against the appropriate wiring diagram in step 7A or 7B. Make sure that there are no loose wires or loose connections. If the Status Indicator Light is ON and the device is unable to reset this could be a result of no power loss. Start the test from the beginning of step 7A if you rewired any connections to the GFCI.

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This equipment has been tested and found to comply with the limits of a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense. Any changes or modifications not expressly approved by the manufacturer may void the warranty and the user’s authority to operate the equipment.

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