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.

**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.

6. Identify cables/wires

**Important:**
DO NOT install the GFCI receptacle in an electrical box containing (a) more than four (4) wires (not including the 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.

If you are replacing an old receptacle, pull it out of the electrical box without disconnecting the wires.

- If you see one cable (2-3 wires), it is the LINE cable. The receptacle is probably in position C (see diagram to the right). Remove the receptacle and go to step 7A.
- If you see two cables (4-6 wires), the receptacle is probably in position A or B (see diagram to the right). Follow steps a-e of the procedure to the right.

7. 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.

(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 will also provide 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. 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:**
GFCI’s 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 connections.
- The GFCI cannot pass its internal test, indicating that it may not be able to provide protection in the event of a ground fault.

9. The GFCI’s features

- **Outlet:**
- **Self-Ground Clamp:
- **Bracket:**
- **Green/Red Status Indicator Light:**
- **Front View:**
- **Back View:**
- **Bracket Mounting:**

CAUTION:
- Do not install this GFCI receptacle on a surface, such as a wood floor.
- Bare wires while standing on a non-conducting surface, such as a wood floor.
- Always turn the power OFF at the service panel or fuse box before installing a GFCI receptacle.

Definitions of a ground fault:
- A ground fault is a short circuit that disconnects the circuit that powers life support equipment. A GFCI will trip and quickly stop the flow of electricity to prevent serious injury.
- A GFCI protects against ground faults, a GFCI will trip and quickly stop the flow of electricity to prevent serious injury.
- A conventional GFCI receptacle can cause a ground fault.
- A GFCI receptacle does NOT protect against circuit overloads, short circuits, or shocks.
- A GFCI receptacle does NOT provide protection to "load side" receptacles B and C.
**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) to turn 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 or continuously blinks Red, or the GFCI cannot be reset, 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 power to the GFCI. Lost power causes the GFCI to trip. When you press the GFCI test button, place a "GFCI PROTECTED OUTLET" sticker on every receptacle that lost power, press the RESET button to resume power to these devices into plug in like 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 device connections. If the Status Indicator Light is not ON and the device unable to reset this could be a result of no power available. Start the test from the beginning of step 7 if you rewired any connections to the GFCI.

**Selt-Test Operation**
- A Self-Test GFCI receptacle has all the features of a conventional GFCI receptacle. In addition, this receptacle tests itself periodically to confirm ground fault protection to your appliances. The Status Indicator Light will light Green if the GFCI is installed correctly. If the Status Indicator Light does not light Green, press the TEST button and the GFCI will trip. Press the TEST button to reset the GFCI. If the Status Indicator Light still does not light Green, repeat step 7B (if you can) and step 7C (if you cannot) until the GFCI is reset.

**FCC Statement**
This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:
- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that of the receiver.
- If these measures do not eliminate the interference, consult the dealer or an experienced radio/TV technician for help.

- IC Compliance**
This device complies with Industry Canada licence-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 Technical Assistance Call: 1-800-824-3005 (U.S.A. Only) 1 800 405-5320 (Canada Only) www.leviton.com

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**Technical Assistance:**
Go to step 8.

- If you mistakenly connect the LINE wires to the LOAD terminals, the GFCI will not reset and will cause overload to the circuit.
- If you miswired the GFCI it may not prevent personal injury or death due to a ground fault (electrical shock).

**Connect the LINE cable wires to the LINE terminals:**
- The black wire connects to the HOT terminal (Silver or Black)
- The white wire connects to the WHITE terminal (Silver)
- Connect the black line cable wires to the LOAD terminals.
- Connect the white line cable to the HOT terminal (Silver or Black)
- Connect the grounding wires (only if there is a grounding wire).

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