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-conductive surface, such as a wood floor.

2. The GFCI’s features

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.

2. **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.

3. **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-conductive surface, such as a wood floor.

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.

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 4 wires (not including the grounding wires) or b) 2 or 3 wires (not including the grounding wires).

- **Procedure:** box with two cables (4-6 wires)
  (a) Detach one cable’s white 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 the 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:**
   Service Panel
   \[ A \quad \text{LINE} \quad \text{LOAD} \quad B \quad \text{LINE} \quad \text{LOAD} \quad C \quad \text{LINE} \quad \text{LOAD} \]

   **Placement in circuit:**
   The GFCI’s place in the circuit determines if it protects other receptacles in the circuit.

   **Procedure:** box with two cables (4-6 wires)
   (a) Detach one cable’s white 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 the 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.

   **Procedure:** box with two cables (4-6 wires)
   (a) Detach one cable’s white 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 the 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.

   **CAUTION**
   - To prevent severe shock or electrocution, always turn the power OFF at the service panel before working with wiring.
   - Use this GFCI receptacle with copper or copper-clad wire. Do not use it with aluminum wire.
   - Do not install this GFCI receptacle on a circuit that powers life support equipment because if the GFCI trips it will shut down the equipment.
   - For installation in wet locations, protect the GFCI receptacle with a weatherproof cover that will keep both the receptacle and any plugs dry.
   - Must be installed in accordance with national and local electrical codes.

   **Testing a GFCI**
   Please read this leaflet completely before getting started.

   **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.

   **2. The GFCI’s features**
   - Are prepared to take a few minutes to test your work, making sure that you have wired the GFCI receptacle correctly.
   - Have circuit wiring experience
   - Can interpret wiring diagrams
   - Must be installed in accordance with national and local electrical codes.

   **3. Should you install it?**
   Installing a GFCI receptacle can be more complicated than installing a conventional receptacle.

   **4. LINE vs. LOAD**
   A cable consists of 2 or 3 wires.

   **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 4 wires (not including the grounding wires) or b) 2 or 3 wires (not including the grounding wires).

   - **Procedure:** box with two cables (4-6 wires)
     (a) Detach one cable’s white 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 the 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:**
   Service Panel
   \[ A \quad \text{LINE} \quad \text{LOAD} \quad B \quad \text{LINE} \quad \text{LOAD} \quad C \quad \text{LINE} \quad \text{LOAD} \]

   **Placement in circuit:**
   The GFCI’s place in the circuit determines if it protects other receptacles in the circuit.

   **Procedure:** box with two cables (4-6 wires)
   (a) Detach one cable’s white 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 the 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.

   **Procedure:** box with two cables (4-6 wires)
   (a) Detach one cable’s white 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 the 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.

   **Procedure:** box with two cables (4-6 wires)
   (a) Detach one cable’s white 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 the 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.

   **Procedure:** box with two cables (4-6 wires)
   (a) Detach one cable’s white 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 the 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.

   **Procedure:** box with two cables (4-6 wires)
   (a) Detach one cable’s white 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 the 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.
7. Connect the wires (choose A or B) ... only after reading other side completely

A: One cable (2 or 3 wires) entering the box

**Grounding connection to box (if box has a grounding terminal)**

- **Grounding connection to box (if box has a grounding terminal)**
- **Grounding connection to box (if box has a grounding terminal)**

**LNE cable brings power to the GFCI**

- **Wire Connector**
- **Electrical box**
- **Yellow sticker remains in place to cover the LOAD terminals**

**About wire connections:**

- **Clockwise, 2/3 of the way around screw**
- **Clockwise, 2/3 of the way around screw**

- **Insert bare end fully**
- **Insert bare end fully**

- **Tighten screw firmly**
- **Tighten screw firmly**

**Backwire**

**Electrical box**

**About wire connections:**

- **Wire Connector**
- **Electrical box**
- **Yellow sticker remains in place to cover the LOAD terminals**

**About wire connections:**

- **Clockwise, 2/3 of the way around screw**
- **Clockwise, 2/3 of the way around screw**

- **Insert bare end fully**
- **Insert bare end fully**

- **Tighten screw firmly**
- **Tighten screw firmly**

**Backwire**

**Electrical box**

**Connect the LNE cable wires to the LINE terminals:**

- **The white wire connects to the White terminal (Silver)**
- **The black wire connects to the Hot terminal (Brass)**

**Connect the ground wire (only if there is a grounding wire):**

- **For a box with no grounding terminal (diagram not shown): Connect the LNE and LOAD connections if necessary.**
- **Start the test from the beginning of step 8 if you need to review any connections to the GFCI.**

Complete the installation:

- **Fold the wires into the box, keeping the grounding wire away from the White and Hot terminals. Screw the receptacle to the box and attach the faceplate.**
- **Go to step 8.**

**General Information**

**GFCI ratings:**

- **15A-125V AC Duplex Receptacle**
- **20A-125V AC Duplex Receptacle**
- **20A-125V AC Blank Face**
- **All rated 20A fed-through 125V Class A**

8. Test your work

**Why perform this test?**

- **If you miswire the GFCI, it may not prevent personal injury or death due to a ground fault (electric shock).**

Upon initial installation, if you mistakenly connect the LNE wires to the LOAD terminals, the Eaton GFCI will not be able to perform its job, and will therefore not provide power to its receptacle face or load terminals.

**Procedure:**

(a) Turn the power ON at the service panel. Press the RESET button fully. Plug a lamp or radio into the GFCI (and leave it plugged-in) to verify that the power is ON. If there is no power, go to Troubleshooting.

(b) Press the TEST button in order to trip the device. This should stop the flow of alternating current to the radio or lamp GFCI and the yellow Correct Wiring/Trip Indicator come on. To restore power, press the RESET button.

- **Correct wiring/Trip Indicator**

   (b) For a box with no grounding terminal (diagram not shown): last power when you press the TEST button. Do not plug life saving devices into any receptacles that lost power. Place a “GFCI Protected” sticker on every receptacle that lost power.

- **Correct wiring/Trip Indicator**

   (d) Press the TEST button (then RESET button) every month to ensure proper operation. Make sure that the load terminals are in the correct position.

   (e) Note that this Eaton GFCI is shipped in the Tripped state and cannot be Reset until it is wired correctly and powered from it’s LNE terminals.

   (f) Note that the RESET button will pop-out. If the power goes OFF and the correct wiring indicator stays on, you have installed the GFCI receptacle correctly.

   (g) LINE/LOAD reversal will be indicated by the reset button not staying in after being pressed. Such LINE/LOAD reversal will also be indicated by failure of the Correct Wiring/Trip Indicator to be on while the GFCI is tripped.

**Troubleshooting**

Turn the power OFF and check the wire connections against the appropriate wiring diagram in step 1A or 1B. Make sure that there are no loose wires or loose connections. Any loose connections will create the LNE and LOAD connections. Reverse the LINE and LOAD connections if necessary. Start the test from the beginning of step 8 if you need to review any connections to the GFCI.

**NOTE:** If this Eaton GFCI has tripped and no longer can be reset, it has reached its “End of Life” and will no longer provide power. Replace with the same model Eaton GFCI to continue to provide ground fault protection.

**General Information**

**GFCI ratings:**

- **15A-125V AC Duplex Receptacle**
- **20A-125V AC Duplex Receptacle**
- **20A-125V AC Blank Face**
- **All rated 20A fed-through 125V Class A**