How to Install a New Electrical Outlet

By See Jane Drill™

Objective

The learner will be able to safely remove a household electrical outlet, and install a new outlet, following these instructions and the accompanying video at seejanedrill.com.

Electrical Safety Precautions

The power of electricity should be respected. Electricians take basic safety precautions when working with electricity, and so should every do-it-yourselfer, to keep yourself and your family safe.

Before proceeding with the job, read and observe the following safety guidelines.

- Always shut off the power to the circuit on which you will be working. If you are unsure, shut off the power at the main breaker.
- Post a warning sign on the breaker box to let others in the house know that you are working on the electricity, and to not touch the box. Lock the box if possible. Make sure that children and pets are not present in the working area.
- Test all the wires in the open box to be sure they are dead, not just the ones you will be working on. Never assume that a box contains just one circuit. The best way to check this is with a voltage tester.
- Even after turning off the power, work as if the wires are live. Work in a methodical manner and double check the security of all connections before restoring the power.
- Wear protective shoes and clothing. Always wear rubber-soled shoes. Never work with wet feet or while standing on a wet surface. Avoid jewelry, a watch, or clothing items that might get snagged while you are working.
- Don't touch any metal while working. Make sure you grab tools by the handle (rubber-gripped tools are best). If you need to use a ladder, use a fiberglass or wooden one, NOT aluminum.

- **Special Note**: It is dangerous and is against code to connect copper to aluminum wire.

Resources Needed to Complete Job

- Tools & Equipment
  - Needle-nose Pliers
  - Wire stripping tool
  - Phillips and flathead screwdriver
  - Multi-purpose tool or utility knife
  - Voltage indicator (*Tip: To find out if your voltage indicator is working properly, try it out on a circuit that you know to be live*)
  - Receptacle or outlet Tester
  - A new outlet
- General Supplies
  - Electrical tape
  - Flashlight (1 or 2)
  - Wire Connectors (may need)
- Access
  - Access to the breaker panel and the ability to turn off the power at the breaker panel. This is done by flipping the circuit breaker to the "off" position, or, completely unscrewing the fuse.

Steps to Complete Job

Part 1 – Remove Existing Outlet

1. **The very first step is to take the appropriate safety precautions and turn off the power. If you have not already done so, review and observe the safety precautions listed in detail on page 1.**

2. **Disconnect and remove the existing outlet**:
    a. Remove the cover plate.
    b. Using the voltage tester, double-check inside the box to be sure that there is no power.
    c. Remove the top and bottom screws that are bolting the outlet to the wall.
    d. Gently pull the outlet slightly out of the box, so that the terminals and wires are exposed, being careful to not disturb the wires too much.
    e. **Note:** The outlet shown in the video is an "end-of-run" outlet, which means that there is just one white or neutral wire, and one black or hot wire. If you are installing what is called a "middle-of-the-run" outlet, you will have two white wires and two black wires.

    f. Disconnect the ground, which is a bare copper or green-sheathed wire attached to a green terminal. You will do this by loosening the terminal or grounding screw, and lifting out the wire.

Ground and neutral on the existing outlet

    g. Next, disconnect the neutral wire, which is a white wire attached to a silver terminal.

    h. Next, disconnect the hot wire, attached to a brass terminals.

i. Remove outlet.

Part 2 – Install New Outlet

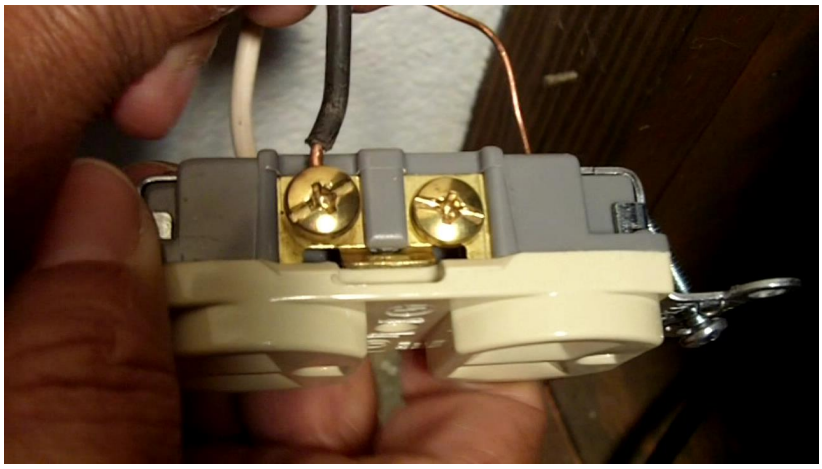
1. **Ensure that the 3 wires are prepared for the new outlet.** There should be enough bare exposed wire to fit around the terminals of the new outlet, and they should be formed into loops that look somewhat like a question mark. You may need to strip them with your wire strippers and/or re-form them with your needle-nose pliers. If you have any questions about how to do this, please refer to the See Jane Drill video "How to Strip Wire and Wire a Single-Pole Switch".

3. **Attach the ground wire:** Loop the copper (or green-sheathed) wire around the green terminal. Tighten with a screwdriver.

4. **Attach the neutral wire.** Loop the white wire around the silver terminal. Tighten with a screwdriver.

Attaching the neutral wire

5. **Attach the hot wire:** Attach the black wire to the brass terminal. Tighten with a screwdriver.



Attaching the hot wire

Handy Tip from Leah: Whenever you are attaching wire to a terminal, you want to be sure that it is looping "on" to the terminal. What this means is that when you tighten the terminal screw, the wire will tighten in to the screw, not away from the screw.

6. Place the outlet back in the wall and secure it to the box by tightening the top and bottom screws.

Attaching the new outlet to the wall

7. Attach the cover plate.

8. Turn the power back on at the breaker, and test the outlet with the receptacle tester, to be sure that it is wired correctly, per the instructions or chart.

Correctly wired outlet

And that is it. You did it! You have just replaced an electrical outlet.

For further information about the task described in this worksheet and the tools and materials needed to complete this job, refer to **www.seejanedrill.com**

Note: It is the intention of See Jane Drill to educate and empower people to perform their own home repairs. However, if, after viewing the video and reading the safety precautions and instructions, you still feel uncomfortable with performing an electrical job, you may want to call an electrician. Safety is the number one priority.

See Jane Drill is dedicated to providing accurate and helpful do-it-yourself information. We welcome your questions, input and feedback about the information provided on this website.