



Install a Dimmer Switch

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Replacing a simple on-off light switch with a dimmer makes your lighting more adaptable to changing needs. Buy a *single-pole* dimmer for a circuit with an outlet controlled from only one location and a *three-way* dimmer for a circuit with an outlet controlled from two switch locations.

Tools & Materials Checklist

- Standard screwdriver
- Wire cutter/stripper
- Neon circuit tester
- Wire connectors
- Tape (if needed)
- Switch cover (if needed)
- Single-pole or three-way dimmer switch



Tip: Choosing the Correct Switch

Make sure that the total maximum wattage allowed for all the light fixtures that will be controlled by a single dimmer does not exceed the maximum wattage rating on the dimmer. For example, if you have six lights, each rated for a maximum 100W lamp, you will need at least a 600W dimmer. Incidentally, low-voltage lighting requires low-voltage controls, and most fluorescent lights cannot be controlled by dimmers. Once you know the right capacity, you need to choose from the various types of controls -- push-on/push-off, rotate-on/rotate-off, knob, slide, touch-activated, toggle switch with slide, or other methods.

Step 1. Turn off the Power

At your main electric panel, shut off the circuit breaker (or remove the fuse) for the circuit that feeds the switch.



Caution:

If there are others in the house that might turn it back on, place a piece of tape over the breaker or door as a reminder.

Step 2. Remove the Switch

Remove the screws that secure the switch plate and the switch. Pull the switch out of the box. To verify that power has indeed been shut off, touch one probe of a neon circuit tester to one of the terminal screws and the other to the metal outlet box, a white neutral wire, or a bare (or green) ground wire. Repeat, moving the probe to the other switch terminal.



Caution:

It is dangerous and illegal to overcrowd a switch box. The size of the box, the gauges of the wires, the number of devices, and other factors determine the number of wires allowed. Consult a licensed electrician or electrical inspector if you have any doubts.

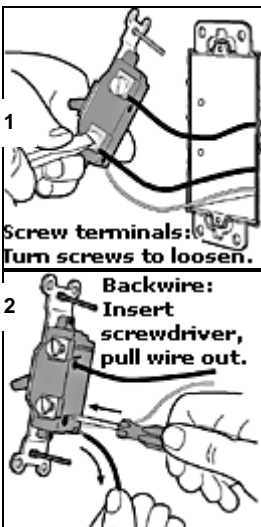


Fig. 1

Screw terminals:
Turn screws to loosen.

Fig. 2

Backwire:
Insert
screwdriver,
pull wire out.

Step 3. Disconnect Wires

From a single-pole switch:

Disconnect both black wires and the bare or green ground wire from the switch. Either loosen the terminal screws (Fig.1) or insert a small screwdriver into the rectangular hole adjacent to the wire (Fig. 2), depending on where the connections are made.

From a three-way switch:

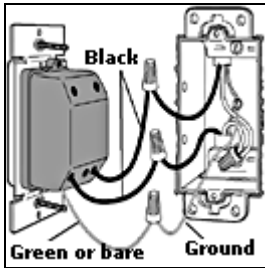
One of the wires is connected under a different colored screw or is plugged into a hole in the rear of the switch labeled "Common." Tag this wire with a piece of tape.

Steps 4 – 7 on back

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Step 4. Prepare the Wires

Cut off the exposed portion of each wire and use a wire stripper to remove the correct amount of insulation, which varies according to wire gauge. (Remove 3/8 inch for 14-gauge and 1/2 inch for 10- or 12-gauge.) The switch wires should already be stripped, but if not, prepare them the same way.

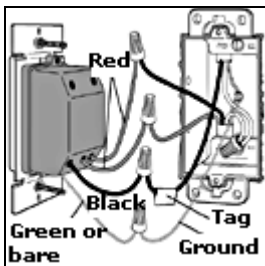


Single-pole circuit

Step 5. Wire the Dimmer

a. For a single-pole circuit:

If there is a green ground wire on the switch, connect it to the green or bare wire from the outlet box. Connect one of the dimmer wires to each of the wires that you removed from the switch. Twist on wire connectors until they are tight and so no bare wire is exposed at the base of the connectors.



Three-way circuit

b. For a three-way circuit:

If there is a green ground wire on the switch, connect it to the green or bare wire from the outlet. Connect the black dimmer wire to the wire that you taped. Connect each of the red dimmer wires to one of the wires removed from the old switch.

Step 6. Secure the Switch

Gently bend the wires as needed to install the switch in the outlet box. Secure the switch to the box with the two screws provided. Adjust the switch so it is plumb (straight up and down) and centered in the box before the final screw tightening.

Step 7. Cover and Test

Install the switch cover and restore power in order to test how the dimmer operates. Depending upon the style of the new switch, you may need to replace the cover with one that suits the new dimmer.

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