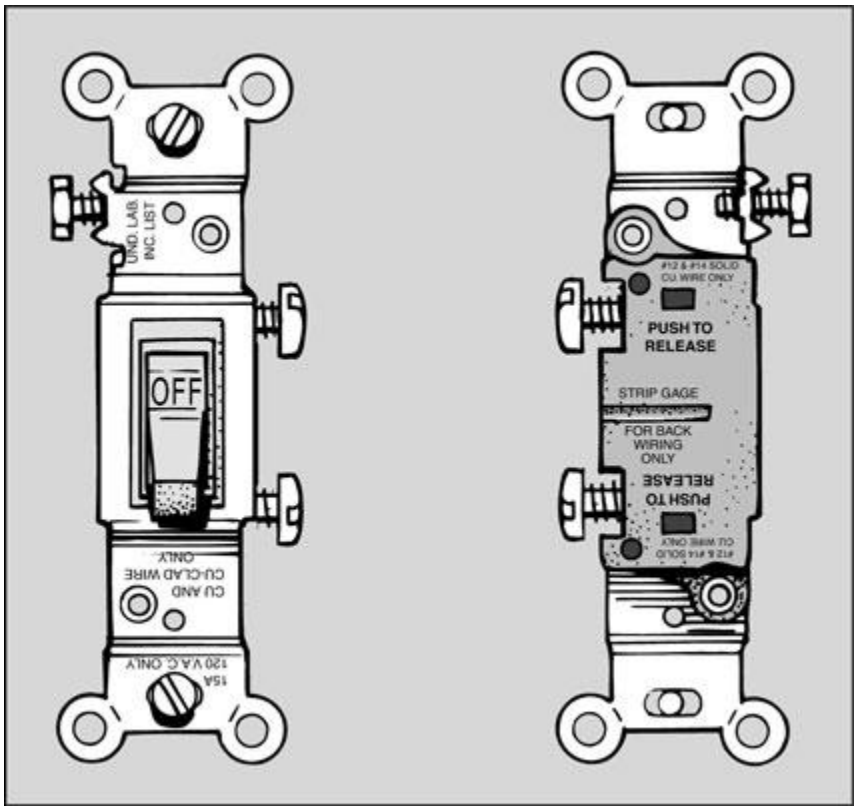
How to Replace a Light Switch

Most modern switches have screw terminals on each side with holes in the back to accept the end of the wire. You can easily loosen the screws on the side of the device with a standard screwdriver (turning counterclockwise), but you may find getting the wires out of the back of the device tricky.



To remove these wires, insert the blade of a small screwdriver into the slot under the hole into which the wire is inserted and push in as you pull the wire loose. Pushing the blade of the screwdriver into the slot releases the grip on the inserted wire. Here are some descriptions of each wire and where they go:

- The white (neutral) wire connects to the silver screw, or you place it in the back wire hole on the same side of the device as the silver screw.

- The black (hot) wire goes to the brass screw or into the hole in the back of the device on the same side as the brass screw. This wire is sometimes red.

- The green or bare copper (ground) wire, if the device has one, attaches to the green screw terminal on the switch or to the electrical box.

Although plug-in connections may be more convenient, they are less reliable than those with screw terminals, so don't use them!

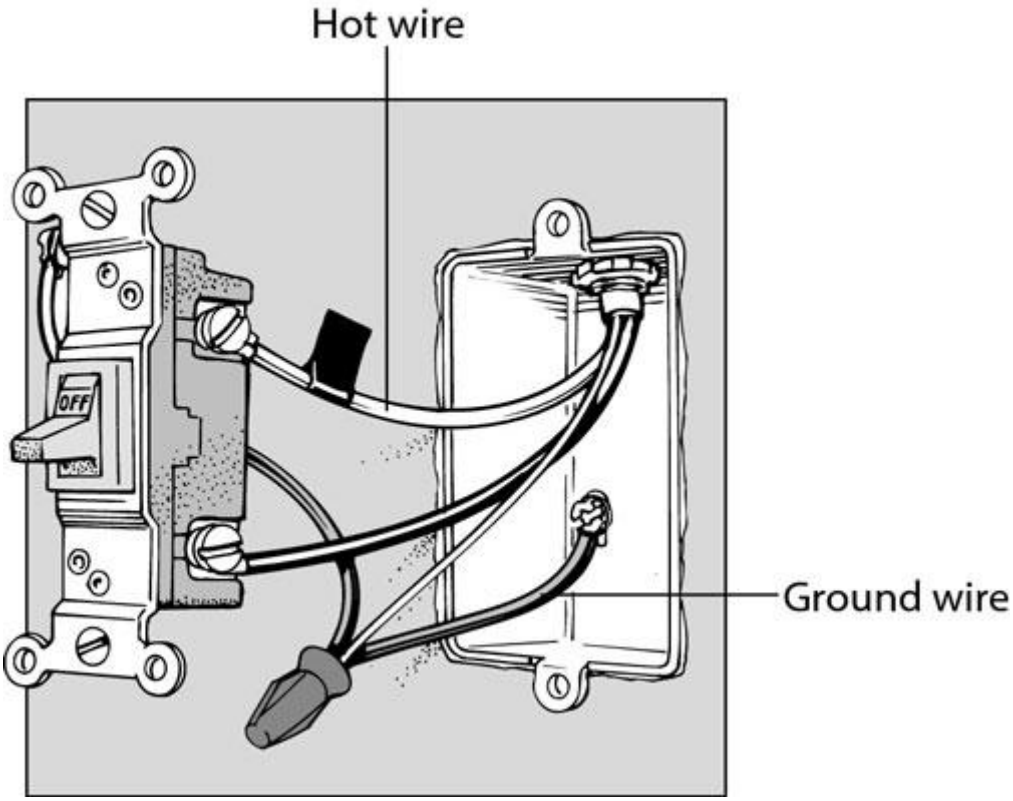
Replacing single-pole light switches

If the switch has On and Off embossed on its body and it's the only switch that controls lights or receptacles, it's a single-pole switch. To replace this kind of switch, follow these steps:

1. Turn off the power to the switch at the main circuit breaker or fuse panel.

2. Unscrew and remove the switch plate; then use a voltage tester to make sure that the circuit is dead.

3. Unscrew the switch from the electrical box and pull it out with the wires still attached.



Two or three wires will be attached to the switch: an incoming hot wire, which is black; a return wire, which carries the load to the fixture and may be black, red, or any other color except green; and sometimes a grounding wire, which is green or bare copper. There

may be other wires in the box, but you are only dealing with the ones connected directly to the switch.

You may find a white wire that has black tape on it connected to the switch. This tape indicates that the white wire is being used as a black or colored wire in the switch leg, so it's not neutral.

4. Compare your new switch with the one you're replacing to find the corresponding locations for the electrical screw connectors.

   Because the power is off, you can match up the connectors the easy way: Instead of disconnecting all the wires at once and possibly getting confused, unscrew and connect one wire at a time.

5. Attach the first wire you unscrew to the same-colored screw on the new switch as it was on the old; do the same with the second.

   To connect a wire to a terminal, strip off about 1/2 inch of insulation, using a wire stripper, and twist the end into a clockwise loop with long-nose pliers. The loop must wrap at least two-thirds but no more than three-quarters of the way around the terminal screw. Hook the wire clockwise around the screw so when you tighten the screw with a screwdriver, the clockwise force of the tightening screw makes the loop wrap tighter around the screw.

6. Gently push the new, wired switch back into the electrical box and screw it in place.

7. Screw on the switch plate and turn on the power.

Replacing three-way light switches

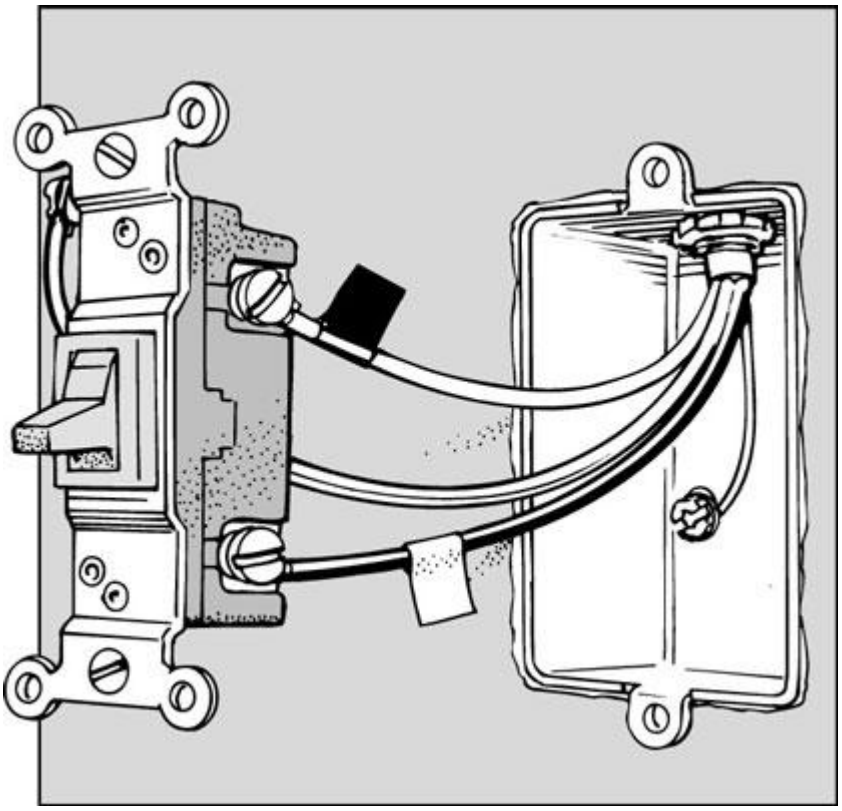
A three-way switch is a handy convenience to control a light from two locations, such as at the top and bottom of a staircase. If the words On and Off aren't embossed on the switch and it's one of two switches that control a single light or receptacle, you have a three-way switch. Seems like it should be called a two-way switch, right? The name refers to the fact that these switches have three terminal screws.

To replace a three-way switch, follow these steps:

1. Turn off the power to the switch at the circuit or fuse panel.

2. Unscrew and remove the switch plate; then use a voltage tester to make sure that the circuit is dead.

3. Unscrew the switch from the electrical box and pull it out with the wires still attached.



A three-way switch has at least three wires, and possibly four, depending on whether it has a ground wire. Two wires attach to brass screw terminals, which are usually at the top of the switch, and an additional wire attaches to a dark-colored (not green) screw terminal, which is usually at the bottom of the switch. Mark this third wire with a piece of tape and mark the wire on the same side of the switch directly above it with a piece of different-colored tape.

The new switch may have the electrical screw connectors in slightly different locations than the switch you're replacing. Most switches have a pair of terminals on opposite sides of the switch top and a single terminal at the bottom.

4. Remove the wires from the switch.

5. Attach the tagged wires to the corresponding terminals of the new switch.

Alternatively, you may choose to transfer one wire at a time from the old switch to the new switch.

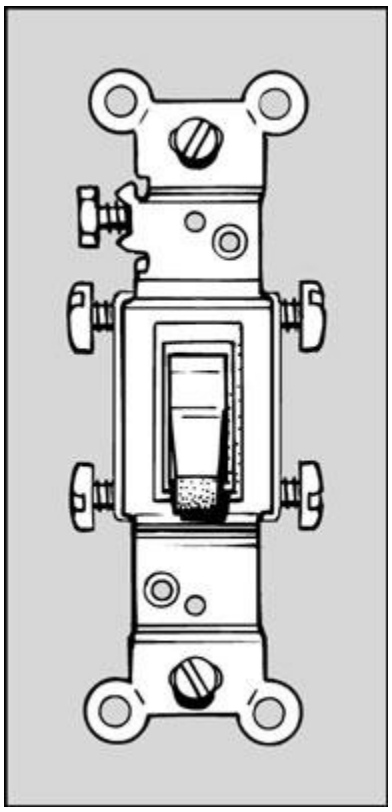
6. If the existing switch has a green ground wire, attach the wire to the green screw terminal on the new switch or to the electrical box.

7. Push the new, wired switch back into the electrical box and screw it in place.

8. Screw on the switch plate and turn on the power.

Replacing four-way light switches

If the switch doesn't have the words On and Off embossed on its body and it's the center switch of three switches that control a single light or receptacle, it's a four-way switch. To replace a four-way switch, follow these steps:



1. Turn off the power to the switch at the circuit panel or fuse box.

2. Unscrew and remove the switch plate; then use a voltage tester to make sure that the circuit is dead.

3. Unscrew the switch from the electrical box and pull it out with the wires still attached.

   This switch has at least four screw terminals. It may also have a fifth, ground terminal

(green).

4. Mark the location of the four wires with tape so that you can replace them on the new switch; then remove the wires from the switch.

   Alternatively, you may choose to transfer one wire at a time from the old switch to the new switch.

5. Attach the wires to the corresponding terminals of the new switch.

   If the existing switch has a green ground wire, attach it to the green terminal on the new switch or to the electrical box.

6. Push the new, wired switch back into the electrical box and screw it in place.

7. Screw on the switch plate and turn on the power.

Replacing light switches with a dimmer

Replacing a standard single-pole or three-way switch with a dimmer switch is no different than replacing a standard switch. Remember: Dimmer switches don't work on most fluorescent fixtures, and low-voltage lighting requires special low-voltage dimmers.

Check the rating of the dimmer switch you purchase. Most dimmer switches can handle 600 watts of power. Count the number of light bulbs that the switch controls and add up the maximum wattage bulb allowed for the fixture. For example, if the switch controls a light fixture that accommodates up to two 100-watt bulbs (200 watts total) a 600-watt dimmer will have no problem, but a string of seven recessed lights could overload the dimmer.

To replace a standard switch with a dimmer switch, follow these steps:

1. Turn off the power to the switch at the circuit or fuse panel.

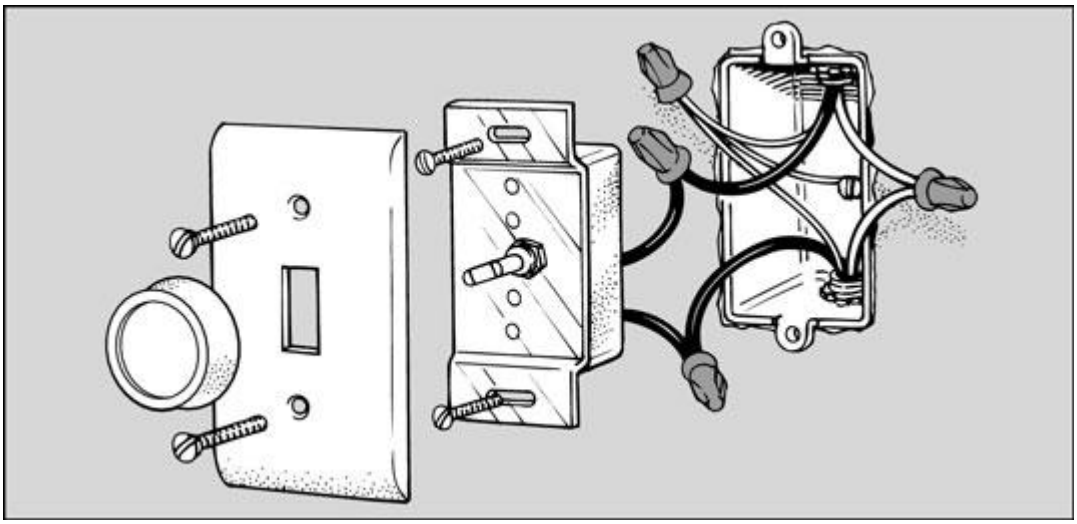
2. Unscrew and remove the switch plate; then use a voltage tester to make sure that the circuit is dead.

3. Unscrew the switch from the electrical box and pull it out with the wires still attached.

4. Remove the wires from the old switch.

   Dimmer switches are usually connected to the house wiring by short lengths of wire coming out of the switch body rather than by screw terminals.

5. Use the connectors (wire nuts) supplied with the fixture to attach the black wires coming out of the dimmer switch to the colored wires that were attached to the terminals on the old switch.



First, twist the wires together, and then screw on the wire nut.

6. Push the new switch back into the electrical box and screw it in place.

   The body of a dimmer is larger than the switch being replaced. Don't just force it in. Often, you need to reposition or better organize the wires first to make room for it.

7. Screw on the switch plate.

8. Push the control knob, if there is one, onto the shaft protruding from the switch.

9. Turn on the power.