

# Repairing Light Fixtures

Light fixtures are attached permanently to ceilings or walls. They include wall-hung sconces, ceiling-hung globe fixtures, recessed light fixtures, and chandeliers. Most light fixtures are easy to repair using basic tools and inexpensive parts.

If a light fixture fails, always make sure the light bulb is screwed in tightly and is not burned out. A faulty light bulb is the most common cause of light fixture failure. If the light fixture is controlled by a wall switch, also check the switch as a possible source of problems.

Light fixtures can fail because the sockets or built-in switches wear out. Some fixtures have sockets and switches that can be removed for minor repairs. These parts are held to the base of the fixture with mounting screws or clips. Other fixtures have sockets and switches that are joined permanently to the base. If this type of fixture fails, purchase and install a new light fixture.

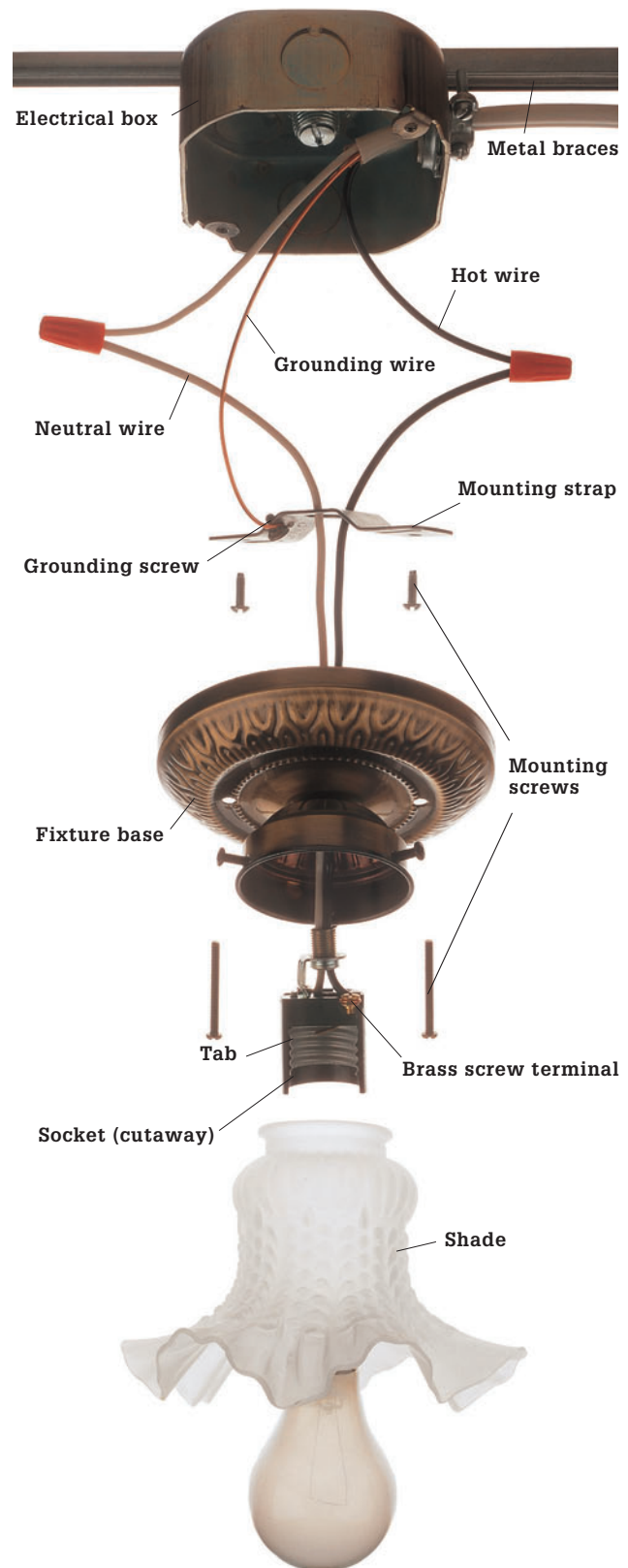
Damage to light fixtures often occurs because homeowners install light bulbs with wattage ratings that are too high. Prevent overheating and light fixture failures by using only light bulbs that match the wattage ratings printed on the fixtures.

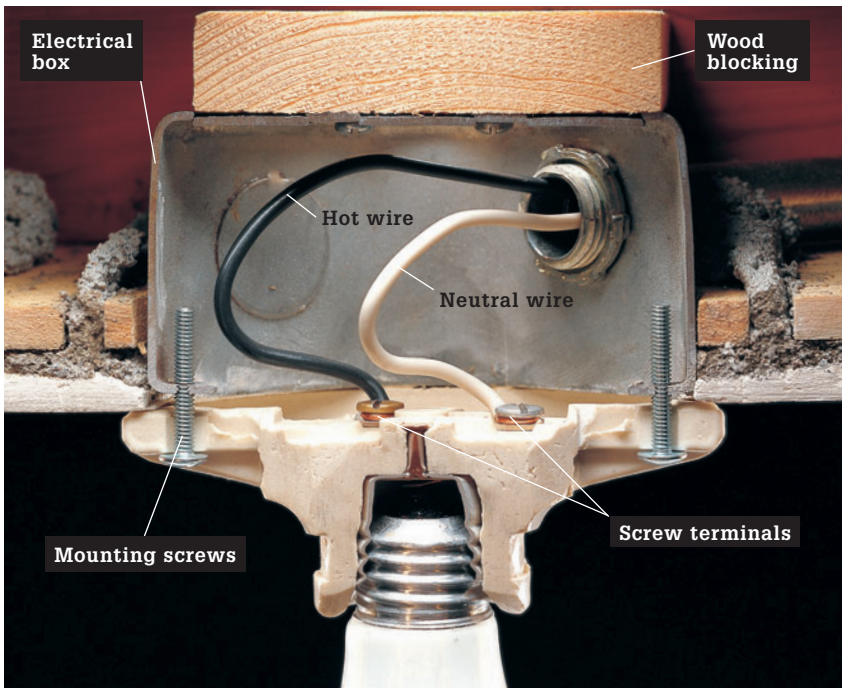
Techniques for repairing fluorescent lights are different from those for incandescent lights. Refer to pages 288 to 293 to repair or replace a fluorescent light fixture.

## Tools & Materials ▶

Circuit tester	Combination tool
Screwdriver	Replacement parts, as needed
Continuity tester	

**In a typical incandescent light fixture,** a black hot wire is connected to a brass screw terminal on the socket. Power flows to a small tab at the bottom of the metal socket and through a metal filament inside the bulb. The power heats the filament and causes it to glow. The current then flows through the threaded portion of the socket and through the white neutral wire back to the main service panel.





**Before 1959**, incandescent light fixtures (shown cutaway) often were mounted directly to an electrical box or to plaster lath. Electrical codes now require that fixtures be attached to mounting straps that are anchored to the electrical boxes. If you have a light fixture attached to plaster lath, install an approved electrical box with a mounting strap to support the fixture.

### Problem

### Repair

Wall- or ceiling-mounted fixture flickers or does not light.

1. Check for faulty light bulb.
2. Check wall switch and repair or replace, if needed.
3. Check for loose wire connections in electrical box.
4. Test socket and replace, if needed (pages 280 to 281).
5. Replace light fixture.

Built-in switch on fixture does not work.

1. Check for faulty light bulb.
2. Check for loose wire connections on switch.
3. Replace switch.
4. Replace light fixture.

Chandelier flickers or does not light.

1. Check for faulty light bulb.
2. Check wall switch and repair or replace, if needed.
3. Check for loose wire connections in electrical box.
4. Test sockets and fixture wires, and replace, if needed.

Recessed fixture flickers or does not light.

1. Check for faulty light bulb.
2. Check wall switch and repair or replace, if needed.
3. Check for loose wire connections in electrical box.
4. Test fixture and replace, if needed.



## How to Remove a Light Fixture & Test a Socket



**1** Turn off the power to the light fixture at the main service panel. Remove the light bulb and any shade or globe, then remove the mounting screws holding the fixture base to the electrical box or mounting strap. Carefully pull the fixture base away from the box.



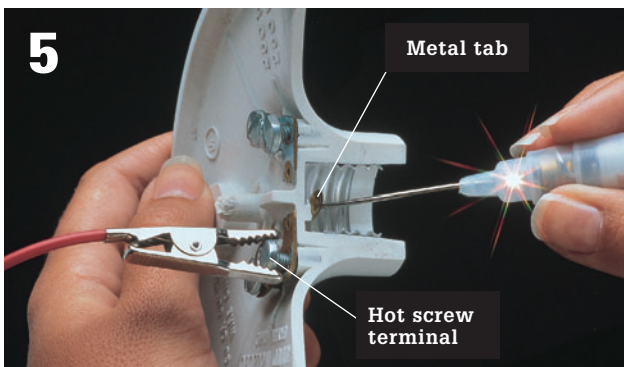
**2** Test for power by touching one probe of a circuit tester to the green grounding screw, then inserting the other probe into each wire connector. Tester should not glow. If it does, there is still power entering the box. Return to the service panel and turn off power to the correct circuit.



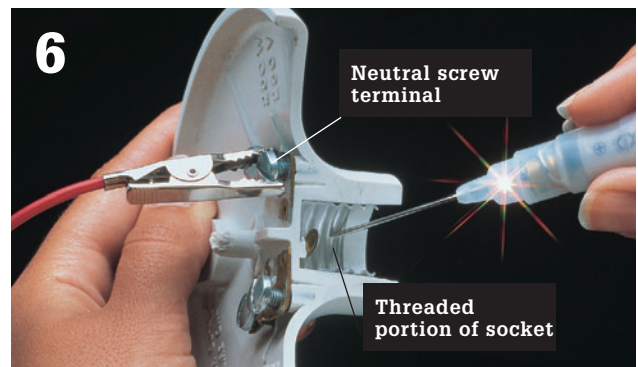
**3** Disconnect the light fixture base by loosening the screw terminals. If fixture has wire leads instead of screw terminals, remove the light fixture base by unscrewing the wire connectors.



**4** Adjust the metal tab at the bottom of the fixture socket by prying it up slightly with a small screwdriver. This adjustment will improve the contact between the socket and the light bulb.



**5** Test the socket (shown cutaway) by attaching the clip of a continuity tester to the hot screw terminal (or black wire lead) and touching probe of tester to metal tab in bottom of socket. Tester should glow. If not, socket is faulty and must be replaced.



**6** Attach tester clip to neutral screw terminal (or white wire lead), and touch probe to threaded portion of socket. Tester should glow. If not, socket is faulty and must be replaced. If socket is permanently attached, replace the fixture.

## How to Replace a Socket



**1 Remove the old light fixture.** Remove the socket from the fixture. The socket may be held by a screw, clip, or retaining ring. Disconnect wires attached to the socket.

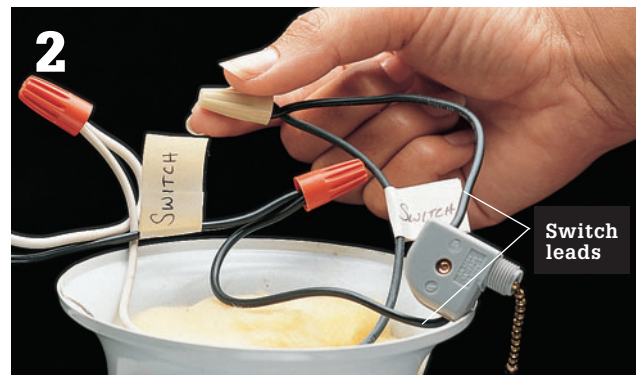


**2 Purchase an identical replacement socket.** Connect the white wire to the silver screw terminal on the socket, and connect the black wire to the brass screw terminal. Attach the socket to the fixture base, and reinstall the fixture.

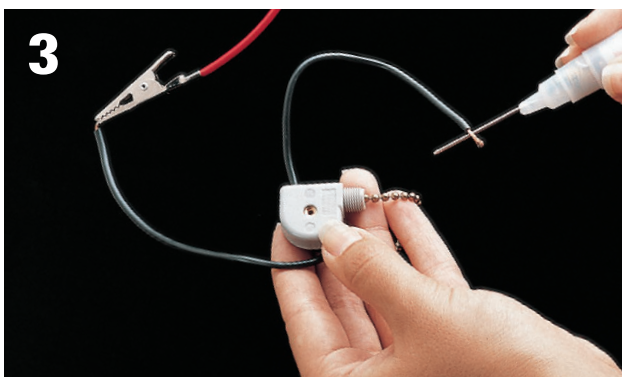
## How to Test & Replace a Built-in Light Switch



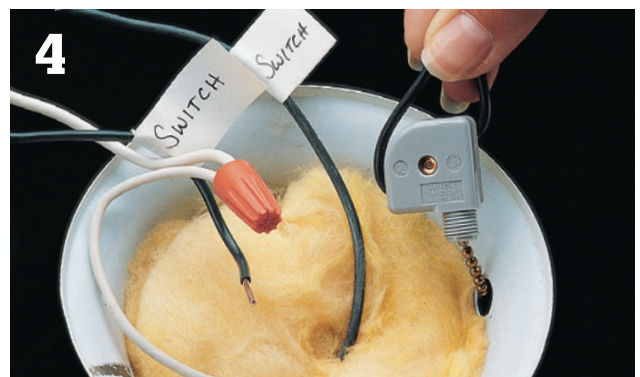
**1 Remove the light fixture.** Unscrew the retaining ring holding the switch.



**2 Label the wires connected to the switch leads.** Disconnect the switch leads and remove the switch.



**3 Test the switch** by attaching the clip of the continuity tester to one of the switch leads and holding the tester probe to the other lead. Operate the switch control. If the switch is good, the tester will glow when the switch is in one position, but not both.



**4 If the switch is faulty,** purchase and install an exact duplicate switch. Remount the light fixture, and turn on the power at the main service panel.

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