FREE HOMEOWNER GUIDE

Why does my AFCI breaker keep tripping?

Real fault or nuisance trip

An arc-fault breaker (AFCI) that keeps tripping is either catching a genuine arcing fault in your wiring or nuisance-tripping on a harmless load, and telling those two apart is the entire job. Reset it once. If it trips again and again, especially with a burning smell or always on the same circuit, treat it as a real fault until proven otherwise.

An AFCI does something a regular breaker cannot: it listens for the erratic electrical signature of an arc, the small sparking from a damaged cord, a pinched wire, or a loose connection, and cuts power before that arc can start a fire. The trouble is that some ordinary things, certain motors and electronics, can produce a signature the breaker mistakes for an arc. For the full picture of what an AFCI is and how it differs from a GFCI, see our AFCI, GFCI, and surge protection guide.

What causes nuisance trips

Nuisance trips are common, and in older Portland homes one cause stands out: shared neutrals. When a home was wired before AFCIs, circuits sometimes share a neutral wire in a way that confuses an arc-fault breaker, and it trips even though nothing is wrong. Certain appliances set them off too.

- ☐ Motor loads: vacuums, treadmills, power tools, some furnace blowers
- ☐ Older electronics and some LED drivers or dimmers with noisy power supplies
- ☐ Shared or crossed neutrals from pre-AFCI wiring, a frequent culprit in older homes
- ☐ A slightly incompatible pairing of a specific AFCI breaker and a specific device

What a real arc fault looks like

A true arc fault is the reason the breaker exists, and it is what you do not want to dismiss as a nuisance. These point at actual damage inside the wiring, and they should be found and fixed, not worked around by swapping in a regular breaker.

- ☐ A burning or hot-plastic smell anywhere on the circuit
- ☐ Warm or discolored outlets or switch plates
- ☐ Trips that started after a nail, screw, or a recent remodel that could have pinched a wire
- ☐ A backstabbed or loose connection at a device on that circuit

How to narrow it down

You can safely do some of the isolating yourself before calling. This tells the electrician a lot and sometimes solves it outright.

- [ ] Unplug everything on the circuit, reset the breaker, and see if it holds with nothing connected
- [ ] Add devices back one at a time until it trips, which fingers the culprit appliance
- [ ] Note the AFCI's trip-indicator: many blink a code that distinguishes a series arc, a parallel arc, or an overload
- [ ] If it trips with the whole circuit unplugged, the fault is in the wiring, not a device, and that is an electrician's call

When to call, and the fix

If the breaker trips with nothing plugged in, if you smell burning, or if you cannot pin it to one appliance, have a licensed electrician trace it. The fix depends on the cause: correcting a shared neutral or a loose connection, repairing damaged wiring, or in a genuine compatibility case, fitting the right AFCI. What we do not do is defeat the protection by dropping in a standard breaker, because that removes the fire protection the code put there. This is bread-and-butter electrical repair, and often it is a wiring correction at the panel.

Frequently asked questions

Why does my AFCI breaker trip when a regular breaker didn't?

An AFCI watches for the erratic signature of an arc, which a standard breaker ignores. So it catches damaged cords, pinched wires, and loose connections a regular breaker never would, and it can also nuisance-trip on some motors, electronics, and older shared-neutral wiring. The job is telling a real arc fault from a nuisance trip, which is why isolating the cause matters.

Can I replace an AFCI breaker with a regular one to stop the tripping?

No. AFCI protection is required by code in most living areas, and swapping in a standard breaker removes the fire protection and hides a possible arcing fault instead of fixing it. If the AFCI is nuisance-tripping, the answer is finding the cause, often a shared neutral or a specific device, not defeating the breaker.

How do I know if it's a real arc fault or a nuisance trip?

Unplug everything on the circuit and reset the breaker. If it holds, add devices back one at a time to find the trigger, which usually means a nuisance trip from an appliance. If it trips with nothing plugged in, or you notice a burning smell or warm outlets, treat it as a real fault in the wiring and call a licensed electrician.

Why do older homes have more AFCI nuisance trips?

Homes wired before AFCIs became standard sometimes share neutral wires between circuits in a way that confuses an arc-fault breaker, so it trips even when nothing is wrong. Correcting the neutral arrangement usually resolves it. An electrician can identify a shared neutral and separate the circuits properly.

Sources

1. Q & A: Arc Fault Circuit Interrupters, Electrical Safety Foundation International (ESFI). https://www.esfi.org/q-a-arc-fault-circuit-interrupters/
2. Arc Fault Circuit Interrupter (AFCI): Advanced Electrical Fire Protection for the Home, Electrical Safety Foundation International (ESFI). https://www.esfi.org/arc-fault-circuit-interrupter-afci-advanced-electrical-fire-protection-for-the-home/

> **Need a licensed electrician in the Portland area?**
> Call Smiley Electric at (503) 484-7556 (Mon–Sat, 7am–5pm) or visit smileyelectric.net/contact. For sparks, smoke, a burning smell or a hot panel, turn off the power if it is safe and call right away.

Reviewed by Joshua Smiley, owner & master electrician, Smiley Electric. Last reviewed November 13, 2026. Online version: smileyelectric.net/help/afci-breaker-keeps-tripping/. General information, not a substitute for an on-site inspection.

Cite this page: Smiley Electric. “Why does my AFCI breaker keep tripping?” smileyelectric.net/help/afci-breaker-keeps-tripping/. Last reviewed November 13, 2026. You are welcome to quote, print or share this page with credit to Smiley Electric and a link to smileyelectric.net/help/afci-breaker-keeps-tripping/.