SKILLSIGNAL™
Construction Safety & Compliance

TOOLBOX TALK

GFCIs: The Five-Millisecond Difference Between a Shock and a Death

TOPIC NO.	DURATION	AUDIENCE
TBT 14	10 to 15 min	All Crew

OSHA REFERENCE 29 CFR 1926.404(b)(1) · 29 CFR 1910 Subpart S · GFCI / Ground-Fault Protection

PROJECT / JOBSITE	DATE	PRESENTED BY

01 THE HOOK

START HERE

A normal household receptacle is built to deliver power. It does not check whether that power is making it to your tool, or making it to you instead. A GFCI is the small device that watches every flow of current and yanks the power the moment something looks wrong. On a wet jobsite, with damp gloves and a cracked tool casing, the GFCI is the only thing standing between a survivable shock and a fatal one. Which is why OSHA doesn't leave it optional, and why you don't leave it untested.

02 WHAT OSHA ACTUALLY REQUIRES

Under **29 CFR 1926.404(b)(1)**, the employer must provide ground-fault protection for employees on construction sites. There are two ways to do it: (1) use **GFCI protection** on every 120-volt, single-phase, 15- and 20-amp receptacle that's not part of the building's permanent wiring, or (2) run a written **Assured Equipment Grounding Conductor Program (AEGCP)** with a designated competent person and documented inspections.

Most contractors choose the GFCI option because it's simpler. Either way, this protection is **in addition to** normal equipment grounding, not a replacement for it.

03 HOW A GFCI WORKS

TRIP THRESHOLD

5

MILLIAMPS

IN 1/40 SECOND

HOW IT WORKS

A GFCI compares the current going OUT on the hot wire to the current coming BACK on the neutral wire. They should match exactly. If they differ by even **5 milliamps** (5 thousandths of an amp), it means current is leaking somewhere. Probably through a person. The GFCI cuts power in as little as **1/40 of a second**, which is fast enough to prevent a fatal shock.

A GFCI doesn't care about voltage or wattage. It only watches the difference between current going out

and current coming back. Even a *tiny imbalance* means current is escaping the circuit somewhere it shouldn't be. The GFCI assumes that escape route is a person, and it cuts power before that current can stop a heart.

04 THREE TYPES YOU'LL SEE

TYPE 01	TYPE 02	TYPE 03
GFCI Receptacle	**GFCI Breaker**	**Portable GFCI**
Built into the outlet itself. Has "TEST" and "RESET" buttons in the center. Common on temp power poles, in mixing areas, in bathrooms, on rooftops.	Installed in the panel. Protects every receptacle on that circuit. Look in the panel for breakers with their own "TEST" button.	Plug-in device that sits between a non-protected receptacle and your tool. Yellow boxes, in-line cord adapters, or quad-receptacle units.

Important detail on receptacles: if multiple receptacles are wired together on one circuit and one of them is a GFCI, it protects **everything wired downstream** of it (everything "behind" it on the circuit) but ***not*** anything wired upstream ("in front of" it). Don't assume a single GFCI receptacle on the wall is covering the entire run.

05 DAILY TEST (REQUIRED)

GFCIs wear out. Internal components fail. A GFCI that doesn't trip looks identical to one that does. The only way to know is to test it. OSHA expects daily testing using the GFCI's built-in test button (handheld testers can give false readings):

STEP 1

PRESS THE TEST BUTTON

On the receptacle, breaker, or portable GFCI, push the button marked "TEST". You should hear or feel a faint **click** as the device trips. The reset button typically pops out.

STEP 2

CONFIRM POWER IS OFF

Plug a known-working tool (a drill works fine) into the receptacle and pull the trigger. If the tool runs, the GFCI **did not actually trip**. Tag it out and report it. If the tool does not run, the GFCI is doing its job.

STEP 3

PRESS RESET TO RESTORE

Once you've confirmed the trip worked, firmly push the "RESET" button until you feel it click and stay in. The receptacle is now live again and ready for the shift.

06 WHEN A GFCI FAILS THE TEST

⚠ TAG IT OUT, DON'T USE IT

If a GFCI doesn't trip when you press TEST, or won't reset, or trips repeatedly when nothing's plugged in: do not use it. Apply a danger tag, pull it from service, and notify your supervisor or safety rep. A failed GFCI gets repaired or replaced by a qualified electrician. Never wire around a tripping GFCI just to keep working. The GFCI is tripping for a reason.

07 WHY IT MATTERS

[JOBSITE]	[INDIVIDUAL]	[HOME]
FOR THE CREW	**FOR YOU**	**FOR LIFE OFF-SITE**
Most construction electrocutions happen on damp ground with cord-and-plug tools. A working GFCI catches the fault before it reaches your heart. A failed GFCI doesn't. The 30-second daily test is the most cost-effective safety check on the site.	You'll never feel a GFCI save your life because it cuts the power before you feel anything. The only proof it works is the test button. If you skip the test, you're trusting equipment you haven't verified.	GFCIs in your kitchen, bathroom, garage, and outdoor outlets need the same monthly test (most manufacturers recommend monthly at home). Press TEST. Plug in a lamp. Confirm. Reset. 30 seconds.

08 TODAY'S DRILL

TODAY'S DRILL **WALK AND TEST**

Before you pick up a tool today, find every GFCI receptacle, breaker, and portable unit feeding your work area. Press TEST on each. Verify trip with a tool. Press RESET. Anything that fails gets tagged out before lunch. The whole sweep takes 5 minutes and tells you whether your safety net actually works today.

09 CREW DISCUSSION

Take 2 minutes. Pick one.

1. When was the last time you actually pressed TEST on a GFCI before using it? Honest answer.
2. Do you know which GFCIs feed your work area today? Receptacles, breakers, or portables?
3. Has a GFCI ever tripped on you while you were working? What did you do? Did you investigate why, or just hit reset?

10 ATTENDANCE & SIGN-OFF

All attendees confirm they participated in this Toolbox Talk and understand the content covered.

NAME (PRINT)	SIGNATURE

SUPERVISOR SIGNATURE

_____ Date: _____