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TOOLBOX TALK

GFCI Protection

WHY THIS MATTERS

Electrocution is one of OSHA's Fatal Four hazards in construction. On average, 150 workers die from electrical contact every year (BLS/ESFI), and 74% of those deaths involve non-electrical workers. A GFCI can shut off power in as little as 1/40 of a second when it detects a ground fault of just 5 milliamps — fast enough to prevent a fatal shock.

150
Average annual electrical fatalities (BLS/ESFI)

5 mA
Current imbalance that trips a GFCI

1/40 s
GFCI response time to shut off power

5 Rules for GFCI Protection

Every worker using power tools or temporary wiring must follow these rules:

1. **USE GFCI ON ALL TEMPORARY POWER**
   OSHA 1926.404(b)(1) requires GFCI on all 120V, 15- and 20-amp construction receptacles.
2. **TEST BEFORE EACH USE**
   Press TEST then RESET on every GFCI before each day's work — it takes 5 seconds.
3. **NEVER BYPASS A TRIPPED GFCI**
   A trip means a fault exists — find and fix the cause before re-energizing.
4. **INSPECT CORDS AND PLUGS**
   Damaged cords, missing ground pins and cracked plugs defeat GFCI protection.
5. **KEEP IT DRY**
   Use weather-rated GFCIs outdoors. Water increases ground-fault risk dramatically.

Before You Start — Quick Checklist

- ☐ Is every outlet on temporary power GFCI protected?
- ☐ Are all extension cords free of cuts and damage?
- ☐ Are outdoor receptacles weather-rated?
- ☐ Have you tested every GFCI with the TEST button?
- ☐ Are ground pins intact on every plug?
- ☐ Do you know where the panel/breaker is?

Free to download and distribute

GFCI Types & How They Work

How It Works: Compares outgoing and returning current — if they differ by 5 mA, power is cut in 1/40 second.

Receptacle Type: Built into the outlet — common in kitchens, bathrooms and permanent installations.

Portable Type: Plug-in device for construction sites — protects everything downstream on that cord.

Cord-Connected: Built into the plug of the cord set — protects the cord and attached equipment.

Circuit Breaker: Installed in the electrical panel — protects the entire branch circuit from ground faults.

Limitation: GFCIs do NOT protect against line-to-line contact (holding two hot wires simultaneously).

Common Mistakes That Kill

✗ Bypassing a tripped GFCI with tape or a jumper — the fault is still there
✗ Using a tool with a missing or bent ground pin — eliminates backup protection
✗ Ignoring repeated trips — "it's just the weather" hides real wiring faults
✗ Running unprotected extension cords in wet areas — water is a conductor

Safety Tips to Remember

✓ Test every GFCI before first use each day — press TEST, confirm power off, then RESET
✓ Replace any GFCI that fails the test button — do not continue using it
✓ Report damaged cords immediately — a frayed cord can energize you
✓ 74% of electrical deaths are non-electrical workers — GFCI protects everyone on site

Discussion Questions for Your Team

1. Where is the nearest GFCI-protected outlet on our job site?
2. When was the last time you tested a GFCI before using it?
3. Have you ever seen someone bypass a tripped GFCI? What happened?
4. Do all of our extension cords have intact ground pins?
5. What would you do if a GFCI kept tripping repeatedly?

TOOLBOX TALK SIGN-OFF

Date: _____ Supervisor: _____

Project: _____ Location: _____

Attendance sheet attached: [ ] Yes

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