

GFCI

1. Task

Working with GFCI's.

2. Hazards

Electrical hazards, working in wet conditions, vehicular hazards (severing cords), equipment hazards (damaged tools).

3. Controls

Pre-Job Safety Assessment (PSA). CSA/ANSI approved equipment, installation by trained competent worker, inspection by competent worker.

- ❖ Ground Fault Circuit Interrupters are fast acting circuit breakers that sense small imbalances in an electrical circuit caused by the electrical current leaking to ground. Once the imbalance occurs the GFCI shuts off electricity practically instantaneously.
- ❖ Use only CSA/ANSI approved GFCI's.
- ❖ Always test and maintain GFCI's as per the manufacturer's specifications/instructions.
- ❖ To test a GFCI protected outlet, use a 3 prong GFCI tester or perform the following steps:
 - 1) Plug a light into the GFCI protected outlet.
 - 2) Turn on the light and verify the bulb is lit.
 - 3) 3) Push the "test" button on the GFCI. The "reset" button should pop out.
 - 4) 4) Push the "reset" button to restore the power to the outlet.
 - 5) 5) If steps 1-4 work, the GFCI protected outlet is functioning and no further action is needed.

**If the "reset" button does not pop out, the GFCI is defective and should be replaced. If the "reset" button pops out but the light does not go out, the GFCI has been improperly wired. Contact a licensed electrician.

- ❖ Inspect tools and cords regularly for visible damage, and ensure they are in good working condition.
- ❖ GFCI's must be used in wet or outdoor environments. Temporary power panels for construction must be equipped with GFCI's and serviced by a qualified electrician only.
- ❖ A wet connection can cause hazardous current leakage to the grounding conductor, and to anyone who can provide a path to ground.
- ❖ Failure in the insulation or grounding protection of your tools or cords could result in ground faults.
- ❖ Three types of GFCI's: A GFCI receptacle, a portable GFCI, and a GFCI circuit breaker. These all function in different ways, and one of these should always be used in a wet area or outdoors.
- ❖ To prevent GFCI's from tripping, the following is recommended:
 - a) GFCI receptacles and circuit breakers must be mounted in dry locations or use rain proof rated types.
 - b) One power tool per each GFCI, unless otherwise specified by manufacturer.
 - c) Store power tools and extension cords in a dry place, and when not in use, cover them to protect from rain and moisture.
 - d) Do not use extension cords longer than 45 metres.
- ❖ Be aware that unusually warm or hot outlets may be a sign that unsafe wiring conditions exist.