Ground Fault Circuit Interrupters (GFCI)

Common Questions and Recommendations

What is a Ground Fault Circuit Interrupter (GFCI)?



A “ground-fault” is an unintentional flow of electricity between a source of electrical current and a grounded surface. Without protection, electrical shock can occur if a person comes into contact with an energized part. For example, if a person is holding a damaged electrical cord from a hair dryer and touches a plumbing fixture, they could be electrocuted. They would certainly get a painful shock.

A GFCI receptacle constantly monitors an electrical circuit. If it detects even a slight flow of electricity to a grounded item, it immediately shuts off the flow of electricity. This protects people from electrocution. It is particularly important to protect people where they could come in contact with exposed grounded items such as plumbing fixtures.

Is there a difference between GFI and GFCI?

GFI stands for “ground-fault interrupter”. GFCI stands for “ground-fault circuit interrupter”. They are the same thing.

How is a GFCI different from a regular circuit breaker or fuse?

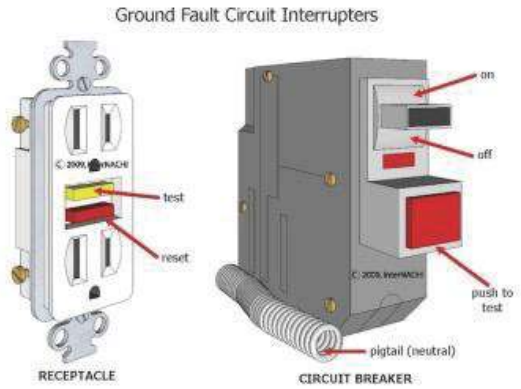
If too much electricity flows through a wire, it will get hot. Sometimes it can get hot enough to start a fire inside the walls of a house. Traditional circuit breakers protect your house from fires by shutting off the flow of electricity to a wire when there is too much demand for electricity. This can happen when too many items are plugged into a circuit. Circuit breakers do not protect people from electrocution. Their purpose is to protect you from a fire.

The inspector said the GFCI has failed but the outlet still works, how do I test it?

On older GFCI outlets, the switching contacts remain closed, and the device continues to provide power - but no protection. Newer GFCI outlets will turn off the device and not allow it to be reset.

Understand that GFCI outlets eventually wear out, so you should test them about once per month to test the outlet, press the Reset button, and then plug in a simple night light or other electrical device. The device should turn on. Then press the Test button. If the GFCI is working, the power will immediately be cut. Press Reset again, and your device should turn on again. If so, the outlet is working as it should. If the light doesn’t turn off when you press Test, you have a problem.

Can I just replace the GFCI?



You could, but it is much more common for a GFI receptacle to re-trip (or to not reset) for other reasons than a bad GFI. Your new GFCI would probably not reset either. Common causes are;

1. There could be a ground-fault happening at some "downstream" wire or receptacle or item plugged in.

2. Your GFI that won't reset could have been installed incorrectly recently; since 2002 GFI receptacles have had a feature that won't let them reset if they are hooked up wrong or if power is not reaching them.

3. The device has failed. It is always best to contact a licensed electrical contractor to diagnose and make repairs or replacements.

The home inspector recommended installing GFCI's but the homeowner and their agent are saying they are not required by code. What should I do?

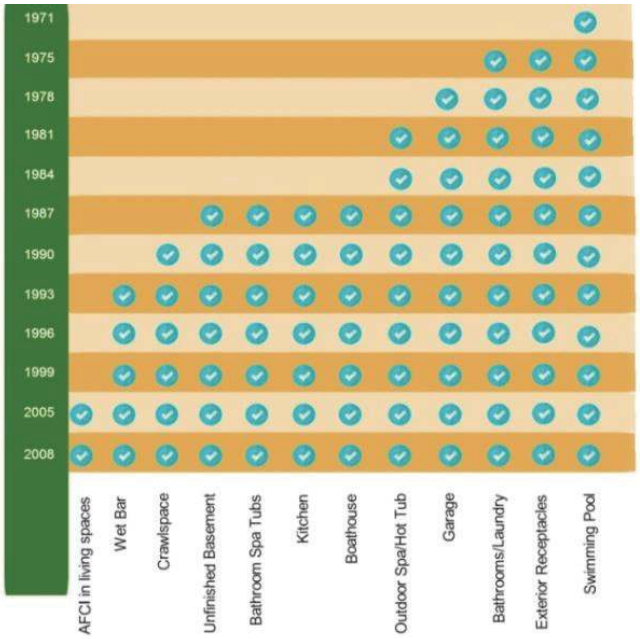
This may be true but just like a home inspector is not a real estate agent, homeowners and their agents are not code officials. Only a code official can make the determination of what meets code. So let's forget the "code" word and focus on why the inspector made this recommendation. The reasons the inspector made this recommendation is safety and liability.

In an older home there may be no requirement for GFCI's to be installed. The seller is not required to upgrade the receptacles unless the electrical system has been modified. So if the kitchen in a 1950's home has been remodeled, and outlets added or moved, they must upgrade all outlets that service the counter. upgrade all outlets that service the counter. This applies to bathrooms too; outlets within 6 feet of a plumbing fixture require upgrading.

So when the inspector suggests upgrading certain locations to GFCI outlets or breakers please know that they have your safety in mind. The seller may not have to make the upgrades but ask if they want to assume the liability? For your own benefit and the safety of your friends and family upgrading is the best option even if it was not required when the home was built.

When and Where were GFCI's Required?

Ground fault protection was first required in 1968 for underwater lighting and has since gradually increased over the years. The chart to the right provides an overview of when and where GFCI's are required.



GFCI Not Required: Receptacles installed for appliances in dedicated spaces such as dishwashers, disposals, refrigerators, or laundry equipment