

Circuit Breakers & GFI's

Today's circuit breakers are superior to ones made 20 years ago or more and of course, tons better than the old glass and tubular link fuses. Not only did you have to replace those fuses often but they did not always open the circuit at the indicated amperage because they were soft metal links that melted on overload.

Trouble was, they may have partially melted at a past overload and the next time blow sooner than it should. The other problem with fuses was they did not always blow as quickly as they should if the current came up real fast like in a short circuit. So you could get hurt or ruin the appliance that it was protecting before the fuse link melted and stopped the electricity from flowing.

Today's circuit breakers are made much better and their snap action opening of a circuit on overload is dependable and very, very fast. They also last a long time. Circuit breakers are not repairable but are easily replaced by an electrician if necessary. The cost of a breaker is between \$8.00 and \$15.00. Although not a difficult project it is dangerous for the average do it yourselfer because when you remove the cover of the breaker panel, the supply wires to the main are always live, even if you shut off the main breaker. Falling against or touching these by mistake could change your name to toast! If you think a circuit breaker has

tripped open the breaker panel door and look to see if one is not in the same position as all the others. If it isn't, push it all the way off and then on again.

If it continues to trip, you may have a short somewhere. Unplug what ever you think made it trip, try again and if this doesn't do the trick, opt for a call to an electrician.



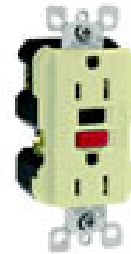
As fast as a circuit breaker stops the flow of electricity it will not open until it reaches the amperage rating of that particular breaker, for example, 15 or 20 amps. So if you were touching something in the house that



shorted out you could get seriously hurt or killed before the breaker would open. That's where the GFI's come in. A Ground Fault Interrupter will open a circuit almost instantaneously when it detects current going to anywhere other than through it, so as to prevent injury. That is why they are required in wet places like kitchens, bathrooms and garages. Your outside outlets should also be on a GFI. When a GFI senses about a 5 milliamp (.005 of one amp)

difference, it will trip. If you are the reason this happened, you may feel a tingle or your arm may jerk but

you will not be seriously hurt. You may not see a GFI outlet in the bathroom or kitchen but the outlets are protected by one. A single GFI outlet can be wired to protect many outlets down stream of it. GFI's should be tested occasionally by pressing the test button and then the reset button. While you are doing this, plug something like a light or can opener into the outlets you think should be protected and see what happens when you trip the GFI. Don't take it for granted that they are protected, test them. This may come as quite a shock but not everything was done perfectly when these houses were built. The bathrooms should definitely be protected as well as the outlets above the kitchen counters and on your kitchen island.



The refrigerator, stove, dishwasher and sink disposal unit are not on GFI circuits. Some GFI outlets have a little light indicating it has tripped, others don't. Lynn Buechler's bathrooms were protected by a GFI that was located in the garage behind a shelf. It took her a week to locate it. She had lights but no outlets, which meant no curling iron... you talk about panic! So look for one in the garage, we all have one there although most of the time it is just for the garage and the outdoor outlet near the garage. Don't take anything for granted though.

Whenever a circuit breaker trips or you have to shut it off because of some maintenance or repair, write on the paper alongside the breaker what area or appliance it was for. This will save a lot of guess work later on. If you are turning breakers on and off to find the circuit you need, be sure to turn off your computer and other sensitive equipment so as not to damage them.

This and previous around the house articles can be retrieved on the web at http://www.umbc.edu/fairways_legend_maintenance_arti.htm