

## **Be careful what you watch on TV!**

Last week I was watching CSI, the popular TV show “Crime Scene Investigation” and they had a story about a disgruntled electrician who rigged a special electrical safety device is called a GFCI or Ground Fault Circuit Interrupter to electrocute his boss. The story was very entertaining and went on in great detail how the electrician used his specialized knowledge of the GFCI to set a trap for his boss. He made sure the ground was wet in order to conduct the electricity better and that the boss’s boot had a nail through the rubber sole to insure the electricity would penetrate into his foot. And to be sure of his bosses demise the electrician cut off the ground prong on the electric cord in order to disable the GFCI. With all this technical planning the boss’s fate was sealed and ultimately the crime scene investigators came in foil the unscrupulous electrician’s plans.

I was working on an inspection report while my son was watching the program. When I hear the “GFCI” word my interest was peeked and I watched for a few moments. The program was very well done but it was WRONG! The GFCI is designed to protect against every one of the faults the program described. The only way that the GFCI could have failed is that the unit was defective, which would be very apparent after the disaster, or that the unit was miss wired at the terminals which would also be obvious to any investigator.

In the early 1960’s residential wiring systems were upgraded from the old fashioned 2 wire system to the more modern 3 wiring systems. The old fashioned 2 wire systems are still considered safe but they require a little more specialize knowledge in order to use properly. The 3 wire, commonly known as the ground circuit was added to help insure a breaker would trip before the electricity would go through one’s body. The next upgrade came in the mid 1970’s. The ground fault circuit interrupters were first installed in the garages and the exterior plugs. A GFCI is the square outlet with the little red and black buttons in the center that pops when your wife uses the hair dryer. Over the years their use has been recommended at any outlet were there is the possibility of touching the plug and touching water at the same time. There is an electronic circuit chip in each GFCI that measures the current coming into the unit and the current going out of the unit; when the current is off by just 5 milli amps (really tiny amount of current) then the breaker opens and the circuit is turned off. Under the right conditions it takes only 15 milli amps to stop your heart, the GFIC will open the circuit before you can feel the shock. It is unknown how many lives this system saves every year but some estimates say they are second only to the smoke detectors for saving lives.

If you have GFCI’s in your home you sure press the black test button every month or so to be sure the unit is working. GFCI’s do wear out over time and will need periodic replacement. If you do not have GFCI’s you should upgrade your system. They cost only about \$15 apiece and an electrician can install one in just a few minutes. An entire home can be upgraded for several hundred dollars. If you have an older home with a 2 wire system GFCI’s can be installed to upgrade the safety of the system to equal or exceed the safety of a modern system.

Lastly, be sure to check the qualifications of anybody working on your home. While the TV program sounded very good and would convince anybody who was not educated in the subject and gave out improper information, the same can be said for many unscrupulous contractors and technicians. Any Home Inspector who is a member of the California Real Estate Association can give you good advice regarding your home. In order to be a member a candidate must pass a written exam, attend regular chapter meetings and obtain a minimum of 30 hours of continuing education each year. If you need a home inspection be sure to use a CREIA member. If you have any questions I can be reached at 613-1430