

ELECTRICAL SAFETY

ketplace where you can test the polarity of a receptacle and also trip the GFCI. I have stated that the grounding conductor has no part to play in the operation of the GFCI, *but* using the external tester the grounding conductor must be present because the tester is using the hot and grounding conductor to trip the device.

Are Your GFCIs Working?

We take for granted that our GFCIs are providing protection if we can operate a tool, hair dryer, or other item through them. Yet this is not always the case. While the device will allow current to flow through it, the monitoring of the current may not be taking place.

Built into the device is a metal oxide varistor (MOV) used as a surge suppressor. The MOV absorbs the voltage surge and converts it into heat. Repeated surges can degrade the MOV, still allowing current to flow but not providing the protection required. Voltage surges such as lightning strikes in the area can cause a surge, as can utility company switching. In the event a GFCI trips out, is reset,

and power is restored, you should go a step further and press the test button to insure that the device trips open to stop the current flow. If the device will not trip open, or if it trips and current continues to flow, the device is defective and must be replaced.

Some parts of the country are more susceptible to lightning strikes than others. This is a primary cause of GFCI failures. The International Association of Electrical Inspectors obtained information from the American Society of Home Inspectors about its findings in inspecting residences. This survey only covered parts of the United States, and some of the figures are staggering about the number of GFCIs that do not operate properly.

In parts of Florida, up to 58 percent of the GFCI circuit breakers were defective, and 33 percent of the receptacles. Of the states from which information was obtained, Washington state had the least number of failures. The survey covered parts of New York, Florida, Texas, California, Washington, and Illinois. IAIE, ASHI, and the National Electrical

Manufacturing Association are joining forces to get data from each state to give a true picture of the failures throughout the United States.

The Bottom Line For Safety

If you follow just these two steps, whether at home or at work, you can help ensure that your GFCIs function as life-protecting devices.

1. Test them monthly as required.
2. When a GFCI trips, reset and then trip it using either a GFCI tester or test buttons on the device. (Make sure this stops the current flow). Reset and use the circuit! ■

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