

ASK THE INSPECTOR COLUMN FOR JUNE 15, 2016
HEADLINE: WHAT DOES DOUBLE-TAP MEAN?

Recently, I had a reader e-mail me about his home inspection, with a comment that the inspector had made about double tapped circuits in the main fuse panel. The inspector had suggested that this be corrected by an electrician. He stated that this is a “serious safety problem that demands immediate panel replacement.” He offered that it could start a fire and cause them personal safety and overloading problems. He also stated that he (the inspector) had a friend who is an electrician and that they should call him.

Our reader’s home inspector caught a condition that we see all too often, especially in older homes where the system is still on fuses and not breakers. The basement may have been finished some years after the home was built and, to save some money, the wiring for it was installed without the benefit of an electrician. What I suspect the inspector was explaining is that there is more than the recommended number of wires coming from an individual fuse. The code is one lead per fuse on a 120 Volt branch circuit and, unless it is wired for a larger service with the correct sized wire, standard 14-gauge wire is required to be fused at 15 amps. Commonly, we see this condition of over-fusing with the use of two leads going to a single fuse; then, quite likely, the present homeowner has screwed in a 20 amp or larger fuse into the socket. Now he has a 20 amp capacity available. However, the wire size is not of the capacity to handle this over the long term and yes, in some circumstances, overheating and a fire is possible. One of the main reasons this happens, especially in an older home, is that, while they often have the 100-amp entrance main supply, it is the branch supply that is lacking. Newer homes, with a gas water heater and gas furnace will commonly have a similar 100-amp entrance main supply. The difference, however, is that an older fuse panel may have 10-14 branch circuits, whereas a newer panel will have 24 or more.

Our reader has a couple of options available to him. He can add a sub-panel or pony panel, as they are sometimes called. This panel can be located close to the existing panel, space permitting. With correct junction boxes mounted outside the panels to extend the branch wiring to the new sub panel, it can be a reasonably priced option. If he needs more than six new circuits, his new sub panel should have its own disconnect installed. If the existing installation already has a number of single line disconnect boxes outside the main panel that have been installed for upgrades like the dryer, air conditioner and other modern conveniences, he is well advised to give a new breaker panel some thought. If space is a concern, this is also the best route to go. While either fuses or breakers are safe, properly fused and wired, breakers tend to be more convenient. It is sometimes the case when a blown fuse happens that the right size is not in the household inventory of bits and pieces, but a larger one is available. As a temporary measure the larger fuse is screwed in and, unfortunately, usually forgotten; a recipe for disaster.

As an average, one could expect an upgrade to a new breaker panel to cost in the range of \$1000 to \$1500. It will depend upon the amount of cleanup necessary and any changes done at the same time. If the entrance stack has to be changed too, this will run into more money. I did mention to our reader that there are “rumblings” that the home insurance industry may be making fuse panels yet another reason to up their prices. I have been told of one company that is now surcharging a home with a fuse panel and the rest may well follow in due course.

This home inspector has over reacted a bit, though, because as long as the fuse size is, in fact, correct to the wire size, it will generally only mean nuisance tripping. As noted, the catch is the right fuse size. While a homeowner can change a fuse, upgrading a panel is not the type of work for the do-it-yourself homeowner. The reader’s inspector was correct in his suggestion about contacting a reputable, fully licensed electrician for the job. Once our reader receives written estimates, before doing the actual hiring, he should take the time to understand what the electrical contractor is going to do.

The issue I have is in regard to the “friend who is an electrician.” Unless there are extenuating circumstances, this inspector should have recommended three reputable licensed electricians. There are far too many instances of “kickbacks” to home inspectors and, given the volume of inspections a full time inspector can do, this is a well-known credibility issue. Hopefully, once licensing is introduced later this year this credibility issue, along with others will cease and the home buying public can recover some faith in the industry.

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