

As seen in

# Builder

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## Eliminating the Culprits that Cause Electrical Mayhem

Funny, isn't it?

Many homeowners would never consider plugging in their smart phones, computers, laptops, big screen TVs and other electronic devices without a surge strip protecting them from electrical surges.

Meanwhile the more expensive workhorses are subject to an immediate surge meltdown.

One big power spike and zap! The homeowner needs to open their wallet to replace their fried, damaged equipment. The Electric Power Research Institute has estimated that power failures and electrical surges cause an estimated \$104 billion in lost time, repairs and equipment. Think about how it could affect your family. No refrigerator with ice and filtered water in the door. No air conditioning for a good night's sleep. No microwave, washing machine, dryer, or dishwasher. Fine for a day or two, but imagine the disruption following two or three weeks without these expensive and time-saving appliances!

Still not convinced?

Consider this: The National Electrical Manufacturers Association (NEMA) reports electronic damage from surges due to lightning strikes and utility issues pales in comparison to a vastly more destructive spiking source. The culprit? The powering up of items inside the home, such as the air conditioner, power tools, pumps, and garage doors. Authorities say the start-up power surge required to operate these every-day devices accounts for billions in surge-related destruction.

That busts the myth that lightning strikes cause all the surge damage. Instead it's the smaller ones that start and stop dozens of times a day that wreak havoc in our homes.

There's another symptom you may not have considered. Have you noticed you're replacing your small electronics more frequently? The perpetrator could be "voltage transients." These fast and short-lived electrical spikes pretty much go unnoticed by you and your family. Happening throughout the day, they

don't cause too much of an interruption. But over time, circuit board components are damaged, resulting in shorter life.

What else can happen in our homes when small motors start? Arc fault. It doesn't matter the age of a home or its wiring system, flipping on light switches or turning on a hairdryer causes small arc faults. These are unavoidable, but consider what happens when you test grandmother's old lamp with the slightly frayed electrical cord. Or drive a nail into the wall and pierce an electrical wire hidden in the wall.

Arc fault circuit breakers help protect homeowners from damaging arcs. These electric arc faults occur when an electric current quits its intended path and travels through damaged insulation. Ever heard of the path of least resistance? Sometimes this path could start a fire if exposed to combustible material.

In recent years, the National Fire Protection Association (NFPA) began to strongly advocate for arc fault circuit breakers and load centers to save lives and make homes safer. According to the U.S. Fire Administration, each year home electrical problems cause about 47,700 fires, resulting in 418 deaths and \$1.4 billion in property loss.

So now what?

First, continue to urge homeowners to use surge strips. You can add another level of insurance by installing surge protection like Square D Surgebreaker Plus or HEPD80 at the electrical panel. Large surges are reduced before they can move downstream to sensitive equipment and smaller capacity surge strips. Plus, this level of security can also protect home wiring, telephone and cable/satellite lines from surges.

To protect homeowners from arc fault, Combination Arc Fault (CAFI) Circuit Breakers provide enhanced protection against electrical fires. These CAFI breakers, like Square D QO™ and Homeline™ products, sense and respond to a broader range of arcing incidents than standard AFCI breakers. Why is this important? A smart CAFI breaker is able to detect all three types of arc fault types that can occur.

So instead of looking at arc fault protection as a code requirement for some circuits you might want to consider it great upgrade opportunity for all circuits. And instead of overlooking true whole house surge protection - take the opportunity to add it to your upgrade line-up.