



By Tim Birnie

According to the National Fire Protection Association (NFPA), 40% of residential fires are electrical.

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## Do Newer Homes Fall Victim To Electrical Hazards?

*The answer is yes: Electrical hazards are all too common in newer homes.*

Despite the perception that “new” means better construction practices and safer technologies, many new-build homes harbour potentially-dangerous electrical hazards that can leave builders and homeowners in the dark. As a Licensed Electrical Contractor, we inspect these newer homes.

In my experience, the warning signs of an electrical hazard can arise as early as 10-15 years after building. These warning signs include flickering lights, breakers that trip and a burning-plastic smell.

Degraded electrical, poor connection points and electrical shortcuts are some of the reasons why newer homes experience these electrical hazards. The term “newer homes” gives us a false sense of security; we assume we won’t have to worry about the electrical.

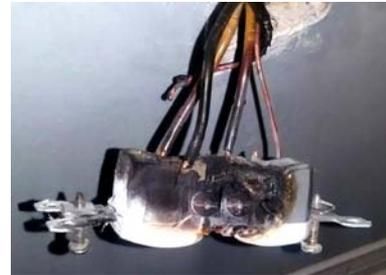
The industry has implemented new techniques and devices to keep up with demand because builders are under aggressive timelines. These innovations, like back-stabbing, are legal but whether or not they’re safe is up for debate.

Builders and contractors must advise clients to routinely maintain their home’s electrical because of these industry changes. A conversation must be started with industry professionals to bring awareness about electrical maintenance in newer homes.

According to the National Fire Protection Association (NFPA), 40 per cent of residential fires are electrical; these fires are preventable with the right education.

As the President of Birnie CurrentSAFE, a division of Birnie Electric that specializes in residential Electrical Hazard Detections (EHD), these are five of our top reasons why newer homes fall victim to electrical hazards:

- 1. Back-stabbing:** Although an approved practice in new-build homes, back-stabbing can create weak connections in a device. Here’s why: The wires are plugged into the back of the outlet and the contact area between the wire and device is minimized. According to the Electrical Safety Authority (ESA), these weak connection points can result in arcing and sparking. A safer alternative is to wrap the wire, tightly, around the screw of the outlet. Back-stabbing is a popular wiring choice because it’s a faster method, but requires more upkeep.
- 2. Handyman Horrors:** In an age of Google and YouTube, anyone can be an “electrician”. Homeowners don’t want to pay their builder or third-party Licensed Electrical Contractor (LEC) to perform upgrades such as installing pot-lights. Investing in a new home is expensive and, for whatever reason, homeowners assume they can shortcut costs when it comes to their electrical. This is frustrating for builders, the ESA and the homeowner, who has the most to lose. The law stipulates that homeowners



*Birnie CurrentSAFE was asked to inspect this 15-year-old townhome after an electrical fire started in the homeowner’s outlet, which was back-stabbed.*

must hire a LEC if they are not doing their own electrical work. When a homeowner hires an LEC, the owner is assured that the work is performed to code, that the proper permits were obtained and that all warranties remain in place.

- 3. Changes in AFCI Code:** The new Rule 26-724(f) of the 2015 Canadian Electrical Code mandates that all branch circuits in dwelling units supplying 125V receptacles rated 20A or less, is to be protected by a combination-type Arc Fault Circuit Interrupter. AFCI are designed to recognize arc-faults and respond by interrupting power, reducing risk of an electrical fire. Ten years ago, AFCIs were only required in bedrooms. Arc-faults can occur anywhere in the electrical system, especially when nails or screws have accidentally punctured wires.
- 4. Sound the Alarm:** According to the Ontario Association of Fire Chiefs (OAF), hard-wired smoke detectors must be replaced after ten years of installation. It’s recommended to upgrade to battery operated smoke alarms because smoke alarms connected directly to your home’s electrical power supply will not work during power outages unless they have a battery back-up. The older models, installed in homes 10-15 years ago, do not have an internal battery backup.
- 5. Electrical Education:** It’s imperative that homeowners and builders understand what happens to electrical systems over time, especially in an age where we’re overloading our circuits and where electrical systems are degrading faster than ever. Our organization has a strong mandate on public education and community safety. We’ve partnered with several fire departments to create awareness and we’re reaching out to builders and contractors to create relationships and share electrical safety tips that save lives.

In North America, electrical fires account for nearly three billion dollars in property damage. Now more than ever, the residential construction industry needs to take measures to implement proactive and preventative processes to protect the electrical systems in newer homes.