

DEBOR 2019 REPORTER

INSPECTION NEWS & VIEWS FROM THE AMERICAN SOCIETY OF HOME INSPECTORS, INC.

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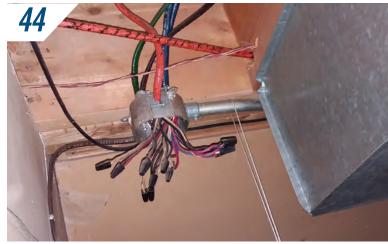
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To set and promote standards for property inspections and to provide the educational programs needed to achieve excellence in the profession and to meet the needs of our members.

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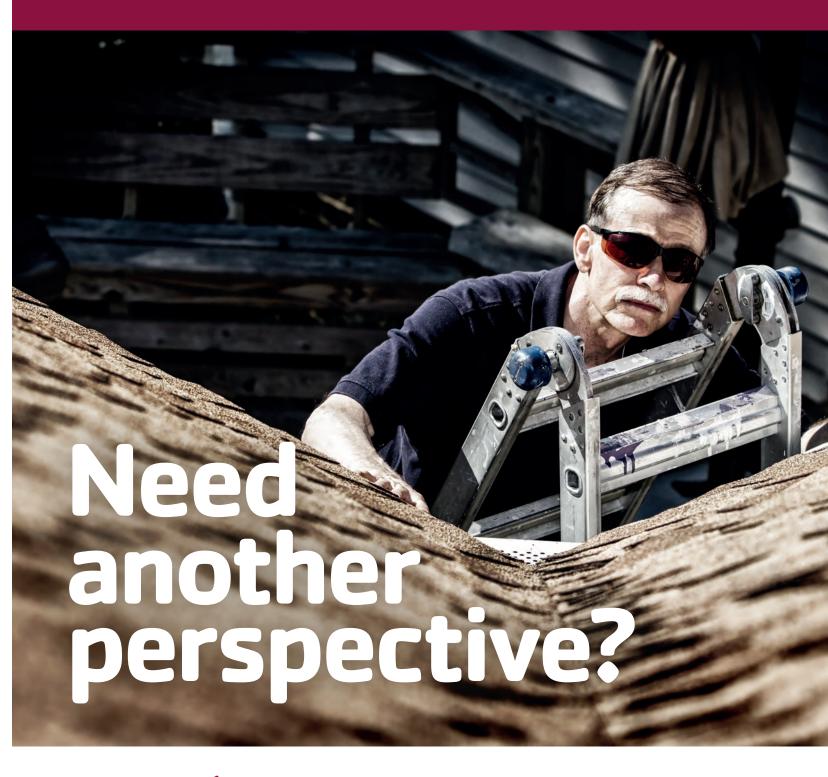
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Managing Risk

You Didn't Do Your Job: A Home Inspection Insurance Pre-Claim

By Stephanie Jaynes, Marketing Director at InspectorPro Insurance

Note: The Managing Risk column reviews the most common allegations in the industry and provides tips to make inspectors better equipped to prevent claims. The following is a real home inspector's errors and omissions insurance pre-claim from our archives. To protect the insured's identity, all identifiable characteristics—including names, associations and locations—have been omitted or removed. This article was originally published on the InspectorProwebsite on July 1, 2018.



Stephanie Jaynes is the Marketing Director for InspectorPro Insurance, ASHI's one and only Premier Insurance Partner (http://ipro.insure/ASHI-partner). Through risk management articles in the ASHI Reporter and on the InspectorPro website, InspectorPro helps inspectors protect their livelihood and avoid unnecessary risk. Get peace of mind and better protection with InspectorPro's pre-claims assistance and straightforward coverage. Learn more at www.inspectorproinsurance. com (http://ipro.insure/ASHI-column).,

THE COMPLAINT

hile on a cruise just two months after the original inspection date, James Johnson received a call, not from the home inspection client, but the client's father. The client's father, Robert Brown, a professional engineer, said that his son was "too busy to call."

After reaching out to both the real estate agent and a contractor who helped flip the property, father Brown was calling Johnson to complain about a defect he'd discovered. Brown accused Johnson of being "a terrible inspector" because Johnson did not report that the dryer vent was not connected in the attic.

"You didn't go into the attic, and you should have. That's your job, and a court would see it that way," Brown said. "You missed this. No inspector should've missed that."



According to the father, running the dryer had caused moisture to build in the attic, which led the water to drip through the ceiling and down into the living space. Brown then suggested that, if Johnson was a professional, he'd make it right by taking care of the required repairs.

"He was really berating me from the get-go," Johnson told us in a phone interview for this article. "I'm very cautious about everything that I say, and I certainly didn't want to stir him up anymore. So, I said, 'Okay, I understand. I understand what your complaint is, and I'll just have to look at the report when I get a chance."



THE RESPONSE

Immediately upon hanging up with the client, Johnson called us to report the incident and receive guidance through his policy's pre-claims assistance program. Here at InspectorPro, pre-claims assistance is free legal help to stifle client complaints before they turn into claims or written demands for money. For the last four years, our team has squashed 85 percent of pre-claims before they turned into claims at no cost to the insured, including no deductibles charged and no premiums increased. You can learn more about how pre-claims assistance works at http://ipro.blog/ASHI-pre-claims.

"I've used pre-claims assistance several times—usually about small things," Johnson said. "I've become very comfortable with reaching out to pre-claims whenever I feel the first inkling of an issue."

For Johnson, this complaint was important to refer to preclaims because (a) the client's father alluded to a payout and (b) the client's father was so upset.

"It felt like it might have escalated," Johnson explained.

During his discussion with pre-claims assistance, Johnson explained that it was impossible for him to inspect the attic. There was no flooring in the attic and very little head space, which would have forced Johnson to crawl on top of the ceiling joists to view the attic. Johnson deemed the attic's conditions to be dangerous and didn't enter; instead, he viewed the attic from the scuttle entrance.

After sending over copies of his pre-inspection agreement and report, our pre-claims assistance staff drafted a letter denying Johnson's liability. In the letter, pre-claims assistance defined a home inspection and its limitations. The letter explained and provided evidence that the ASHI Standard of Practice (SoP [https://www.homeinspector.org/Standards-of-Practice]) excludes procedures the inspector thinks are likely to be dangerous or to damage the property (SoP, 13.2, F.1). In addition, the letter pointed out that the inspection report acknowledged that Johnson didn't enter the attic in the report. Furthermore, there wasn't a dryer on site at the time of the inspection, so there wasn't a way to test the vent. Upon completion, Johnson sent the letter to his client—not Brown, the client's father.

THE RESOLUTION

Since sending the letter, Johnson hasn't received further complaints. Johnson credits the closure to pre-claims assistance.

"I really appreciate having a program that's so easy to access. They're really responsive, and it's very comforting to have someone else handle it for me," Johnson said.

Johnson would not recommend that a home inspector attempt to resolve a pre-claim without an insurance company's help. Not only could such an attempt jeopardize insurance coverage, but it could also lead to less positive results.

"I strongly believe in pre-claims. They have such a better understanding of the legal part of this industry than I do," Johnson said. "I know that pre-claims is going to do the best job it can. They're going to draw on all the important points to counter [the complaint]. And when the letter comes and I read over it, it's a sigh of relief. It just takes away that very stressful time period, when you're waiting for it to play out."

BECOME THE NEXT PRE-CLAIMS SUCCESS STORY

Want to stifle customer complaints before they turn into claims? Or need help defending your home inspector errors and omissions insurance claim? If you're an InspectorPro insured, contact us today to report a claim or use no-cost pre-claims assistance.

"You definitely need to speak with pre-claims. You have nothing to lose," Johnson said. "There is an approach to handling these things that is tried and true and successful. There's no point in stressing over it when you can have an attorney write a letter for you and bring out the strongest points to make your case. If somebody were to go it alone, it would be foolish."

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MARKETING FOCUS

HOW TO USE TEACHING AND CONTINUING EDUCATION CREDITS TO ATTRACT MORE AGENTS AND GROW YOUR BUSINESS

Jamison L. Krugger, Director of Education Systems, Preferred Systems, Inc.





Jamison Krugger is the Director of Education Systems for Preferred Systems, Inc., and co-founder of the InspectionMarketer Program. Jamison is the chief software architect for the cloud-based continuing education platform that runs Preferred Systems' national continuing education programs. Jamison has been focused on software development and digital marketing durring the last 25 years. In addition to the continuing education market segment, Jamison has developed custom software applications for the commercial printing industry, customer loyalty programs for restaurants and pizzerias throughout the United States and Europe, and he has most recently been working on new telemedicine applications. Jamison holds a bachelor's degree in computer science from Clarion University of Pennsylvania.





ost successful home inspection companies rely on a steady stream of referrals from real estate agents to build and grow their businesses. Developing good relationships with local agencies can be the key to the long-term success of a home inspection company.

If your goal is to attract more agents to your company, the first thing you need to do is position yourself in front of more agents on a regular basis. The problem is that you are not alone in your desire to attract more agents to your business. Real estate agencies are bombarded daily with calls and visits from home inspectors, mortgage brokers, title companies, home stagers, home warranty companies and many other professionals who want to do business with them.

GAIN A COMPETITIVE EDGE

To get attention, many of these companies use a wide range of marketing and sales strategies, including making regular office visits to deliver marketing materials, dropping off and refilling candy bowls, or scheduling presentations. While some companies achieve success with these strategies, they become less effective over time as a result of everyone copying them. When you approach agencies with these gimmicks, you might be viewed as just another salesperson, and your marketing materials may go unnoticed or end up in a big pile with the others on the way to the trash bin.

One way to stand out in your market is to do the opposite of what everyone else is doing. Change the conversation that you are having with local agencies by focusing more on what you can do for them instead of what they can do for you. But how?

EDUCATION IS A POWERFUL TOOL
THAT CAN HELP YOU ESTABLISH
GREAT RELATIONSHIPS WITH
REAL ESTATE AGENTS AND
ELEVATE YOUR BUSINESS TO
THE NEXT LEVEL AND BEYOND.



Instead of spending your time talking to agents about who you are and what your company does, offer to teach them something valuable that will help them in their business. Remember, you are the expert on home inspection and you have a wealth of useful, relevant information that can assist them in helping their clients. The more an agent knows about home inspections, the more value he or she can bring to clients. Agents who are knowledgeable about home inspection issues can better assist their clients in dealing with potential problems that can occur during a real estate transaction.

When it comes time for an agent to make a referral to a home inspection company, who are they more likely to send their client to—a stranger who shows up in the lobby with a brochure and a business card, or someone who spent an hour or more providing valuable information that helped them become a better agent?

EARN THE TRUST AND LOYALTY OF AGENTS

Earning the trust and loyalty of agents takes time. To earn trust, you need to consistently demonstrate that you are not only knowledgeable, but you are the type of person to whom an agent can feel comfortable sending their clients.

Providing education can buy you the time you need to earn that trust. Of course, you will need to spend some time interacting with agents to build a deeper connection, but each time you get in front of a group of agents and teach them something, you earn a little more trust. When you've earned a wealth of trust, agents will think of you first when they need to recommend a home inspector.

agents should be familiar, including the following examples:

- · THE BASICS OF A HOME INSPECTION
- · COMMON HOME DEFECTS
- · LEAD SAFETY
- · MOLD
- · RADON
- · HEATING SYSTEMS
- · HOME ENERGY OPTIONS
- "GREEN" HOMES AND ENERGY EFFICIENCY
- SEPTIC SYSTEMS
- · STRUCTURAL ISSUES
- · HOME SAFETY
- HOME APPLIANCES
- NEWER HOMES
- KEY AREAS TO OBSERVE

Next, you must develop the presentations for the topics. The more presentations you are prepared to give, the better. Each presentation represents another opportunity to connect and reconnect with more agents.

You have several options for creating a presentation. With your existing knowledge and all the information available to you online, you can build a custom presentation on any topic you feel passionate about. This will take a considerable amount of time, but it will be well worth it in the end. It is also possible to find an existing course and modify it to suit your needs, as well as your presentation style. Regardless of which option you choose, don't forget to add some humor and a few personal stories to lighten things up and keep your audience engaged.



MORE OF THESE TYPES OF PRESENTATIONS IS TO OFFER CE CREDITS TO AGENTS.

GET CERTIFIED AS A CONTINUING EDUCATION INSTRUCTOR IN YOUR STATE

If you are going to invest your valuable time educating agents about home inspection, the most important thing you can do is get certified by your state to teach continuing education (CE) courses. Why?

To maintain their real estate licenses in the state(s) in which they operate, agents and brokers need a specified number of CE credits each year or recurring time period. These requirements are set forth in state laws and are administered by state real estate commissions. The specific requirements, time frames and deadlines vary considerably across states. Agents meet these credit obligations by completing CE courses.

If you become an approved, certified CE instructor in your state, you can bring great value to local real estate agencies. By offering to give presentations that include CE credits, you will set yourself apart from your competitors. Home inspectors who become state-certified CE instructors have a much easier time scheduling appointments with local agencies because they can offer CE credits for their presentations. Most home inspectors are not approved CE instructors, so those who are become highly regarded as trusted experts in the field of home inspection.

WHAT IS REQUIRED FOR A HOME INSPECTOR TO OFFER CE CREDITS?

The requirements for becoming a CE instructor vary by state, and the process of managing a CE program can be overwhelming and outside of the normal operations of a home inspection business. For this reason, many home inspectors choose not to pursue it.

However, home inspectors can seek professional help when implementing a CE program. Finding a company to manage the entire CE program can save a great deal of time and money. Most home inspectors are busy and prefer to leave the administrative work related to a CE program to someone else.

If you are ready to take your presentations to the next level, Preferred Systems, Inc. offers a turn-key program called InspectionMarketer that provides you with everything you need to start teaching CE courses. Preferred Systems will get you approved as an instructor in your state, provide you with pre-approved courses and give you access to a cloud-based administrative portal for managing every aspect of the program.

To learn more about the InspectionMarketer Program, attend an upcoming webinar at www.InspectionMarketer.com You can arrange a private one-on-one demonstration by calling (814) 434-9080. For more information about Preferred Systems, visit www.PreferredEducation.com.



RES-I-TEC, Inc., a home inspection company, in 1973 and has since served as inspector, president and CEO. He has personally conducted more than 15,000 home inspections, and he voluntarily served for 15 years as ASHI's national spokesperson for news media interviews and meetings with home inspectors. He was a senior trainer for American Home Inspection Training Institute, teaching new home inspectors nationwide. He teaches continuing education and other programs throughout the country, and conducts educational programs for home inspectors, real estate professionals and homebuyers. He has been a speaker at the Connecticut Association of Realtors conference, Northern Fairfield County Association of Realtors conference, National Association of Realtors conferences in California, Washington and the "Triple Play" conferences in Atlantic City, as well as national conferences for ASHI, the National Association of Home Inspectors (NAHI) and others. Contact Ron at (203) 791-1076 or email shadowrjp@comcast.net.

n the May 2019 issue of the ASHI *Reporter*, in the article "The Life Cycle of a House: How Houses Age Gracefully," I shared my observations about the way homes age. In this article, I will share how, when a home has reached the old age of 100 or even 200 years, an inspector must apply a different set of standards to evaluate the house.

For the most part, building codes were not in effect when homes were built more than 100 years ago and engineering standards were "trial and error." The quality of the construction was left up to the integrity and expertise of the builder. The type of construction that was used was quite different from today's standards and different materials were used as well.

In "antique" homes, builders employed a framing method primarily referred to as "post and beam," "timber framing" or "log framing." This method required framing members of a large cross-sectional dimension to span long distances and provide support at each end, with no vertical support between the two ends.

Many times, the trees that were growing on the property were used for the building and they were hand-hewed, shaped and cut to the appropriate length. This method presented a pathway of entry for beetles and other wood-destroying insects whose natural habitats were those trees.

The spaces between the large framing members could be filled with many different materials, as they were not load-bearing and were only fill-in materials. The joinery on timber framing was done by hand and referred to as "mortise and tenon." In this system, no nails were used; the joints were secured together using wooden pegs (Photos 1 and 2).

made by hand.

Nails were scarce and expensive because they had to be made by hand (Photo 3). In fact, it is important to keep in mind that nearly all of the materials in these structures had to be







Timber framing methods are still used today, particularly in barn building, as well as in new home construction; however, the tools and materials used today are much more precise. The joinery is tighter and metal strapping (as well as nails and screws) holds the joints together (Photos 4, 5, 6 and 7).









Chestnut was the primary type of wood material used in antique buildings; however, this type of wood is no longer available in great quantities. Oak also was used (note: Oak is often misidentified as chestnut). Another noteworthy item in old homes is the flooring boards, as they are usually quite wide. Chestnut, oak and pine wood all were used for flooring. Wide board flooring materials today are scarce and expensive.

When electricity and machines became available, machine-milled wood and machine-made nails became widely available, and a method of framing called "balloon framing" became popular between the 1830s and 1950s. Using the balloon framing method, the vertical wall studs were run down to the foundation all the way up to the attic. This required long framing members that were hard to handle and, eventually, they also became scarce and expensive.

Around the 1950s, another change was made to the way homes are framed. "Platform framing" refers to the framing of a home in which the first-floor deck is built on top of the foundation, then it is framed up to the second-floor deck and continued up to the attic level. This method of platform framing required only that the home had wall studs as high as the ceiling heights that the builder was trying to achieve; this method is still used today.

The fireplace was not only used for heating purposes, but for cooking as well (Photos 8 and 9).

8



In the back wall of the fireplace, a "beehive" oven was constructed for baking purposes. This construction turned out to be quite hazardous because clothing (such as long skirts) worn by women of the time could easily catch fire when they leaned over the fire to bake and cook. To prevent this, women often soaked the bottom of their skirts in water to keep them from catching fire. It wasn't long before builders moved the location of the beehive oven from the rear of the fireplace to the side—an area that did not require a person to lean over the fire. This building adjustment was a momentous change for the women of this era.

The foundations of the earliest antique homes were, at first, dry-laid stonework. When lime and sand became available, builders used a mortar mixture of the sand and lime to hold the stones together. This lime mortar was very soft and not very strong. If you happen to inspect a home that has one of these old foundations with lime mortar, you can easily scrape the mortar out with a screwdriver. In addition, old foundations are not very good at keeping storm water from seeping into the basement area. When cement became available, it was a mixture of finely ground clay and limestone, which created a strong mix that strengthened the foundation wall substantially and is still in use today.

Central heating was introduced in Worcester, MA, around the year 1835. Heat conservation was important. The ceilings of the oldest antique homes were very low and the exteriors were built close to the ground, to conserve heat. Years later, this building strategy was the cause of decay to the sections of the house that were near the ground surface. There was generally one heat supply duct in the middle of the first floor and the heat moved through the home by convection. It worked quite well, except in those rooms farthest away from the central floor duct, which did not get very warm during cold New England winters. Later, builders added ductwork so that heat could reach distant rooms via convection. Finally, builders added fans to distribute the heat more evenly (Photos 10 and 11).





Indoor plumbing in the United States was introduced in the early 1800s. The White House added indoor plumbing in 1833. There are also reports of indoor plumbing in ancient Rome and in settlements dating earlier than that.

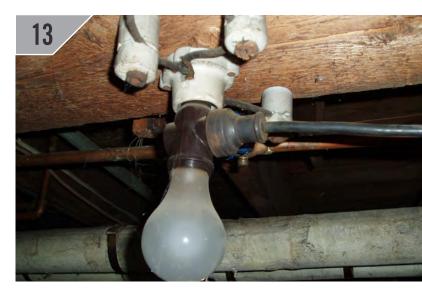


Up to the point when the privy was moved indoors, the outhouse was an important component of building planning (Photo 12). It had to be close to the house, but also far enough away (for obvious reasons) and it had to be sturdy enough to withstand bad weather. Some builders thought it was a good idea to build outhouses out of brick.

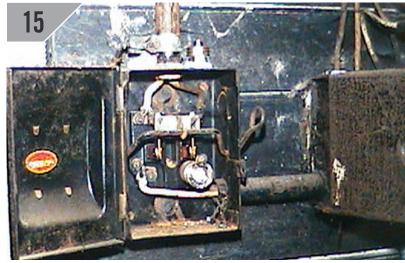
The invention of electricity is another story. In 1882, Thomas Edison brought electric light to parts of Manhattan in New York City. But the use of electricity did not spread rapidly into residential areas of homes for many years. Most people lit their homes with gaslight and candles for another 50 years.

The earliest source of electric power in older homes was a 110-volt, 30-ampere electric service, which was named "knob and tube" wiring (Photos 13, 14 and 15). This method was a two-wire conductor system that did not have a ground; today, it is considered to be unsafe. It employed porcelain connectors when the conductors were run on the surface and porcelain tubes when the conductor was run through a wooden beam. This was a miraculous invention at that time and its use escalated the growth of the United States.









If you are fortunate enough to live in an antique home that is in good shape, you are very lucky. These homes are usually cozy and give you the feeling of a "glow" that comes from an open fireplace, although you might have to sit in an easy chair directly in front of the glow from the fireplace to feel that comfort. If you live and own an antique home that is in bad shape or has not been properly maintained, be prepared because these homes can be expensive to repair, even if they are wonderful to live in.

WATER HAMMER ARRESTORS

Water is heavy and it takes energy to move it around. Think about a commercial hydroelectric generator: Water moving downward from a lake to the lower discharge generates a lot of electricity.

PRESSURE MOVES WATER THROUGH PLUMBING

That same energy equation applies in our homes. When a valve opens, pressure in the system pushes water through the fixture. Close the fixture and the water stops; the energy of the moving water is then absorbed by the piping and the remaining water. An abrupt halt can trigger a loud "hammer" and, over the long term, it can even damage piping.

WATER STOPS TOO QUICKLY—BAM!

Plumbers have known for hundreds of years that when fast-moving water stops suddenly, this puts stress on piping and causes pounding—also known as hammering. In the 1850s, municipal water systems dealt with this by using a large open standpipe to absorb surges in volume and energy as a piston pump moved water into the piping.

In homes, many types of water hammer arrestors have been used over the years (Photos 1 and 2). A water hammer arrestor contains an air chamber to absorb energy when the water suddenly stops moving. In older plumbing systems, you might see curled copper tubes, copper cans, vertical pipes and other strange devices at the water main.



Photo 1. Coil water hammer arrestor.



Photo 2. Copper mesh water hammer arrestor.

WATER HAMMER ARRESTORS EVOLVED

Water hammer arrestors evolved from there. Simple manufactured arrestors appeared on the market. In addition, plumbers installed arrestors made from standard plumbing parts (Illustration P015C). These worked great as long as there was an air cushion in the upright tube. Over time, the air cushion was lost and the system had to be drained to re-establish the air cushion.

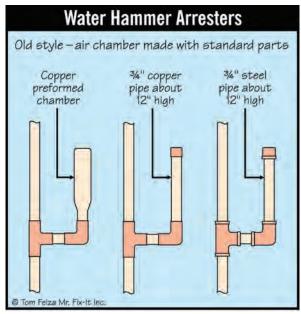


Illustration P015C. Water Hammer Arrestors.

Today, manufactured water hammer arrestors are placed wherever there is an electrically operated solenoid valve. The valve uses electric current to generate a magnetic field, which operates a mechanism that regulates the fluid flow. Examples include washing machines and dishwashers; the solenoid valve can abruptly halt the water flow.

In modern water hammer arrestors (Illustration P032C), a disc separates water from the air cushion. Moving in response to changes in water pressure, the disc prevents the air cushion from being absorbed into the water.

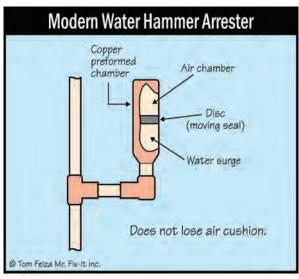
WHAT TO WATCH FOR

Every home should have water hammer arrestors, but they may not be visible. If the owner of an older home reports problems with water hammer, this means the old arrestor has lost its air cushion. For washing machine piping, the solution may be as simple as adding a threaded arrestor directly on the supply hose fittings.

Tom Feiza has been a professional home inspector since 1992 and has a degree in engineering. Through HowToOperateYourHome.com, he provides high-quality marketing materials that help professional home inspectors educate their customers. Copyright © 2019 by Tom Feiza, Mr. Fix-It, Inc. Reproduced with permission.

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Ilustration P032C. Modern Water Hammer Arrestor.

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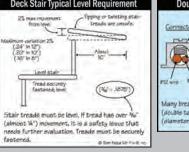
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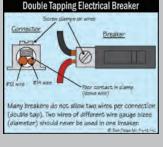


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nspections of electrical systems and components cover a vast and varied spectrum. Learning to recognize proper and improper installations and defective systems is a continuing process for home inspectors.

In a typical workweek, a home inspector will likely come across issues involving improper wire size, grounding or bonding issues, incorrect overcurrent protection, degradation of equipment, open splices and uncovered junction boxes...just to name a few.

In this article, I'll focus on electrical connections. All electrical circuits terminate in some form at their point of origin and also at their end destination. Depending on the circuit design, splice junctions and device connections add more termination points.

The wiring that supplies a branch circuit in the average home originates in the distribution panel at the overcurrent device terminals for the ungrounded conductor, and at the neutral bar and grounding bar for the grounded and grounding conductors. The "home run" (that is, wiring from the overcurrent device to the first component in the circuit) connects to the terminals on the outlet, commonly a switch or receptacle. From that point, the circuit will generally continue with another run of wire to the next outlet (for example, a receptacle, switch or fixture). The circuit may involve 10 to 15 (or more) devices, which could require up to 100 points of connection.

Loose or damaged connections are commonplace in electrical systems. The points of connection are the weak links in any wiring system. The more connections, splices or terminations, the more potential for problems. Knowing how to identify these problems by visual inspection is probably the most critical part of the home inspector's electrical evaluation.

The opinions expressed in this article are those of the author only and do not necessarily reflect the opinions or views of ASHI. The information contained in the article is general and readers should always independently verify for accuracy, completeness and reliability.

Circuit-Breaker Terminals

Terminals on circuit breakers have a variety of designs, depending on the manufacturer and the time of manufacture. Terminals are identified and labeled to specify temperature rating, wire material rating, wire size range and torque specification. If the terminals are rated for two conductors, this also will be specified.

Currently, only two manufacturers—Eaton and Square D-provide residential-grade circuit breakers that allow two conductors (Photo 1). Eaton, formally Cutler Hammer, sells two residential lines of load-center panels: CH and BR. Only CH breakers are rated for two wires. They are easy to recognize by their tan-colored toggle for the breaker switch. Square D terminals have a top and bottom pressure plate that has slots on each side for the wires. They are available on both their QO and HOM lines of breakers.

The Eaton design is a tapered slot with a set screw. These terminals are only available on 15-, 20- and 30-amp breakers. I often hear or read comments from inspectors that the two wires must be the same size and must both be either solid or stranded; however, there is no requirement for this in the listing by the manufacturer. The Square D terminal, for example, can have a #14 wire on one side and a #10 on the other side, and one could be stranded and the other solid. They cannot both be in the same slot, however.

Eaton terminals also will allow two wires of different gauge. Both styles only allow two copper wires. If aluminum is used, only one can be connected. Some older designs by other manufacturers allowed two wires, but those designs are no longer made (Photos 2 and 3).

A common misconception by home inspectors is that when a second wire is added to a breaker terminal (even one designed for two wires), another circuit has been added and this could cause an overload. First, even if the breaker had 10 wires attached, it is still one circuit. Here's a simple rule: One overcurrent device = one circuit. Second, as far as causing an overload, a second wire is simply a connection to provide a parallel branch of the circuit; it is no different from a splice downstream at a junction box or a connection at an outlet, and it causes no more or no less potential for an overload. Inspectors have no way of knowing what the amperage load is or could be on each of the wires without doing additional testing and measuring, which is beyond the scope of a standard home inspection.



Photo 1. Left to right: Square D breaker designed for two wires, Eaton/ Cutler Hammer CH breaker designed for two wires and Siemens breaker designed for one wire.



Photo 2. Older GE breaker designed for two wires.



Photo 3. Older Bryant tandem breaker designed for two wires for each circuit.

Double-taps and multi-taps are common defects found in electrical inspections. Terminals that are not designed for two wires may not provide a good connection, which will cause higher resistance at the connection and, thus, temperature rise. Neutral terminations allow only one conductor per terminal.

It is common to see double-tapped neutrals in older panels. Some inspectors and electricians think that this was once an acceptable installation. Many code inspectors did not enforce one wire per terminal because none of the code references specifically mentioned neutrals.

NEC Article 110.3(B) refers to manufacturer's specifications, which designate only one neutral conductor per terminal. NEC Article 110.14(A) states: "Terminals for more than one conductor and terminals used to connect aluminum shall be so identified." UL bulletin 67 also specifies one neutral per terminal. These requirements go back to at least the 1960s. Finally, in the 2002 edition of the NEC, the confusion was put to rest by Article 408.21, which includes a specific requirement of one neutral per terminal.

Codes aside, logical thinking should prevail. The neutral in a 120-volt circuit carries the same amount of current as the hot conductor. They deserve equal respect in termination requirements. A terminal that is not designed for more than one wire is a potential safety and performance concern, and should be corrected (Photo 4).



Photo 4. Double- and multi-tapped neutrals.

Correcting double-taps is fairly simple. One wire can be connected to the breaker terminal and then spliced to the two-load wires with a proper connector such as a wire nut. This is perfectly acceptable. It should be noted, however, that this type of splice correction for double-tapped neutrals needs a closer look. It should be confirmed that the two spliced neutrals are on circuits of opposite phase legs. The breakers (normally a double-pole breaker) for the two circuits must be connected with a handle tie to ensure this. If the two load neutrals are on circuits of the same phase leg, the pigtail wire to the terminal will carry the sum load of both circuits and it could be undersized. It is unlikely that the amperage of both circuits would be heavily loaded enough at the same time to cause a problem, but it is possible.

As mentioned earlier, there are many different designs used in breaker terminals. Some are significantly better than others. The types with a top pressure plate are good because the contact area to the wire is large. An older design had a bottom plate with upturned edges and a screw head to secure the top of the wire. Most installations with this type are a straight-in connection (Photo 5). This can sometimes cause problems because of the small contact with the screw head. A better application with this type terminal is to wrap the wire in a clockwise direction two-thirds of the way around the screw. Unfortunately, this is rarely done.



Photo 5. Loose "straight-in" connection on wire-binding screw. This design was only allowed for #10 gauge and smaller per 110.14(A).

Lugs, Wire Nuts and Other Connectors

Wire terminals and lugs are designed for specific wire sizes. Common improper installations include cutting strands to make an oversized wire fit the terminal (Photo 6) or separating the strands of a large conductor into "pigtails" to fit two smaller terminals. (This is often seen with large-gauge stranded equipment grounds and neutrals.)



Photo 6. Wires too large for breaker terminals.

Wire nuts, split bolts, set-screw connectors and others all have specific use applications as well. Wire nuts do have a limit of how many wires are allowed, but this limit is often ignored by the installer. (Side note: I refer to mistake-makers as installers because a person bearing the title of **electrician** should certainly know better.)

Barrel lugs, such as those used for service-conductor connections, often are stamped with detailed information on the face or side of the lug (for example, wire size, number of conductors, wire material and temperature rating).

Solid and stranded wire have different characteristics, and work differently with the various types of terminals and connectors. Most breaker terminals, wire nuts, split bolts and barrel lugs are compatible with both. Crimp connectors, such as butt splices, spades and rings, can be used with solid or stranded conductors. Many electricians (including myself) will use these only with stranded wire because solid wire tends to work loose with crimp connectors.

Push-in connectors should only be used with solid wire. Wire-binding screw terminals, such as those on receptacles and switches, work fine with solid wire, but stranded wire is more difficult to properly wrap well around the screw.

Using spades and ring-crimp connectors on stranded wire for connecting to wire-binding screws makes a good, solid connection, but "technically" it would be wrong because spade terminals have not been evaluated and are not "listed" for that application by UL. It's puzzling to me that UL seems to favor the push-in connections on listed receptacles and switches over the much better connection of a spade or ring terminal.

Many installers use the push-in connectors that are available on the cheaper, lower-grade receptacles and switches. These are only allowed on 15-amp branch circuits and only with #14 solid copper. They provide a faster installation method and therefore are popular.

I've seen many failures on these connections over the years. The design is simply bad because it depends on spring tension for the connection. Springs weaken over time and the contact area is minimal. Back-wired/push-in connections are compliant by manufacturer's specs and are not considered a defect; however, in my opinion, they are not a best-practice installation.

Electricians wrap the binding screw or use a better grade outlet with pressure-plate terminals. Connections on switches and receptacles are normally not visible to the home inspector unless covers are removed or are missing. I mention this to stress the importance of good and proper connections.

So, what could be the consequences of a loose electrical connection? There could be loss of power, damaged devices and equipment and, most importantly, a loose electrical connection could cause a fire. When a connection point is loose, resistance at that point increases which, in turn, produces heat. A "glowing connection" is a term used in the industry to describe an intense heating condition at loose electrical connections. According to some studies, the terminal temperature can reach 1,000 degrees F on a standard household receptacle under load when the connection is loose.

I recommend reading these good articles on this subject:

- "A Glowing Connections Experiment" (www. experts.com/Articles/glowing-connection-expiriment-by-Donan-Engineering)
- "The Basics of Electrical Overheating" (www. ecmweb.com/ops-amp-maintenance/basics-electrical-overheating)

Newer technology, such as arc fault devices, can help prevent damage from loose connections only if there is arcing sufficient enough to affect the wave pattern of the circuit and be recognized by the device. Many times, there is little or no arcing and therefore no specific protection. The load current in the circuit is within the parameters of the overcurrent protection, so the breaker or fuse will not open and disconnect the power (Photos 7 and 8). **Important note**: Both of the circuits shown in Photos 7 and 8 were still energized when I found them. The circuit breakers did not trip.

My guess is that the next major technological advancement will be a thermal-protection sensor that will be installed in outlet devices. That technology is already available via thermal switches and overloads, but apparently there is not yet a cost-effective value for this application.

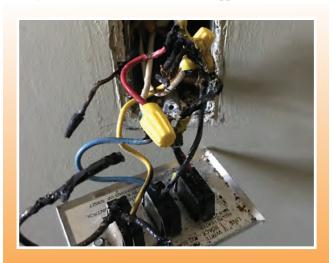


Photo 7. Resulting damage on switch from a loose connection



Photo 8. Loose connection at pull-out bar in cheap furnace disconnect.

Safeguards Against Loose Connections

The first line of defense to prevent loose connections is in the initial installation. If the **installer** is careless, untrained or both, the chances of problems are greatly increased. It is my hope that **electricians** will have proper training and pride of craftsmanship that will result in proper installations.

The basic requirements for proper installations are as follows:

- **Proper torque:** Torque specifications should be followed. Too tight and too loose both cause problems. Note: The 2017 NEC requires using calibrated torque wrenches and screwdrivers for terminal connections. 110.14(D).
- Clean, dry terminals and wires: Connection points should have no corrosion, oxidation or moisture. Antioxidant compounds can be beneficial. These are sometimes recommended by manufacturers. They are not required by the NEC.
- **Proper wire size-to-terminal match:** Follow specifications for wire size.
- Proper material compatibility: Follow specifications to avoid dissimilar metal issues for aluminum and copper conductors.
- Number of allowed conductors per terminal: Follow the listing specifications.

In existing installations, the best way to prevent issues is to have the system inspected. This is where home inspectors can play an important role. Inspectors should learn to identify potential issues when checking panels. Visual inspections are limited, but they can reveal issues if the inspector follows good practices.

Inspecting a panel properly takes some time. Look at each terminal individually for the following items (some are shown in Photo 9):

- DISCOLORATION
- PROPERLY STRIPPED WIRES
- DOUBLE-TAPS
- PROPER WIRE SIZE FOR LUGS AND BREAKERS
- SIGNS OF CORROSION AND OXIDATION
- MELTED INSULATION

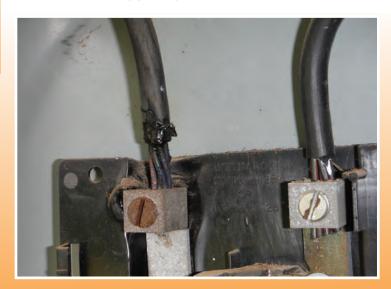


Photo 9. Discoloration on lug and melted insulation on wire.

Another common loose connection point in older homes is in a receptacle socket. Old receptacles lose tension in the contact blades over time. This can cause arcing and intense heat elevation. **Important note**: If your receptacle tester falls out when you let go of it, this is a defect and should be reported.

Circuit breaker stab-to-bus connections also can be a point of loose connection. Many designs are used. Some older designs and commercial designs use bolt or screw connections to the bus, which provide a best-case connection if properly torqued. All currently made residential lines use spring tension clips that snap to the bus stabs. Again, string tension weakens over time and can become loose. Sometimes, these failures are visible to inspectors (Photos 10 and 11), but often they are not. Some older brands (in my opinion, Zinsco/Sylvania was probably the worst) would actually fall off of the bus. Only breakers that are listed for use in a particular panel should be used.



Photo 10. Damaged bus stab.



Photo 11. Arc burns on bus.

Thermal imaging cameras are commonplace in the home inspection industry today. These can be useful tools to find loose and hot-spot connections. Conversely, they are useless if the scan is done on circuits that are under no load at the time of the scan. The circuit must be under a sufficient load for a thermal anomaly to appear.

Proper training is also imperative for accurate interpretation of the scan. A normally loaded circuit will appear "dangerously hot" to an untrained thermographer when the elevated heat of the wiring is actually normal (Photo 12). The wires in a normally loaded circuit will be uniform in the temperature signature from the point of connection to where it leaves the panel. A hot spot or loose connection under load will be more elevated in temperature, and the wire temperature will decrease as it gets farther away from the connection point (Photo 13).

SOMETIMES, THESE FAILURES ARE VISIBLE TO INSPECTORS, BUT OFTEN THEY ARE NOT.



Photo 12. Thermal image of circuit under normal load.

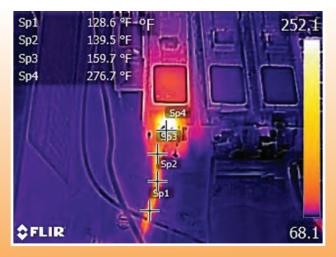


Photo 13. Thermal image of loose connection at a breaker terminal (photo credit: Charles Buell).

I mentioned earlier that terminations in receptacle and switch boxes are not normally visually accessible and are beyond the scope of a typical home inspection. We can only report on and inspect what we can see. Signs of amateur work, homeowner installations and what I like to call "brother-in-law" wiring are what we might see in panels, attics and crawl spaces. When these signs are present, it is good practice to recommend a full evaluation of the **electrical** system by a qualified inspector or electrician (not an installer). That recommendation might just prevent a catastrophe.



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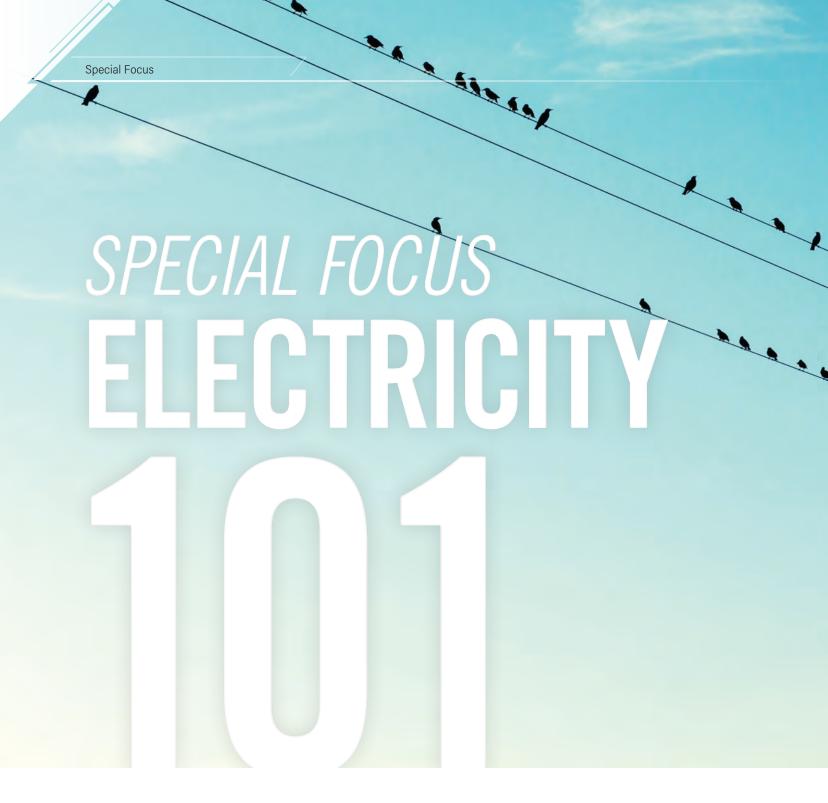
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By Mike Conley

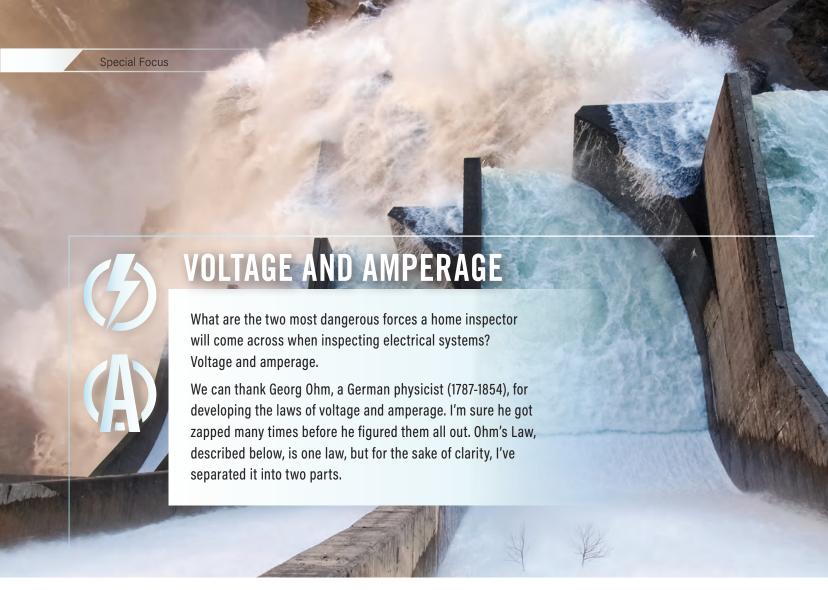
Mike Conley has been home inspecting since the mid-1980s. He has served on the ASHI Board of Directors several times and as Secretary in 2018. He also has served on various committees and task forces, chairing some of them. Mike writes many informative articles on various subjects to advance the inspection profession and help other home inspectors. He is one of the founders of his local ASHI Chapter and is active in education at InspectionWorld® and the ASHI School, as well as at conferences and seminars around the country.



ow can birds land on a live wire and not get shocked? The answer is complicated, yet simple to most experienced home inspectors. It's a matter of understanding how electricity operates.

There are few tools in a home inspector's toolbox that don't require interpretation or have more than one explanation. But when it comes to electricity, we have solid, black-and-white guidelines to help us figure out what's what. Using these "laws" can help us understand, figure out or diagnose why electricity acts the way it does or, you might say, how it "conducts" itself.

Keep in mind that there is no actual movement in a conductor when electrons are flowing, at least not in the way we might think. No atoms within the copper are carrying electricity and moving forward. Electricity is an electromagnetic force that runs along the circumference of a conductor, transferring the electrical energy from one atom to another.



OHM'S LAW, PART 1,

states that current (amperage) flowing across two points in a conductor is directly proportional to the potential difference across those two points. The key phrase in this part of the law is "potential difference across two points." In other words, electricity flows from high to low potential, just like water that flows downhill. And the greater the potential difference (or the steeper the hill), the more the electricity wants to flow from high to low.

OHM'S LAW, PART 2,

states that the current in a conductor that flows between two points is inversely proportional to the total resistance in that circuit. The key phrase in this part of the law is "inversely proportional to the total resistance." In other words, when current goes up, there's less resistance. Less resistance in a conductor means there is less heat and better electrical conduction.

It might sound complicated, but it really isn't. By the time you finish reading this article, it will all become translucent. (Yes, that's right, translucent, not transparent. Still, it's better than having it be opaque.) Keep in mind that learning and understanding electricity is a process that takes time and experience.

USING THIS THOUGHT PROCESS MIGHT HELP:

Think of **voltage (V)** as being equivalent to pounds per square inch of force and think of **amperage (A)** as being equivalent to gallons per minute. They have to work together to have electrical flow and its accompanying danger. Without flow (amperage), there is little danger—electricity just sparks and we are shocked. It also might help to think of the electrons that flow through a conductor like bowling balls. You could manually roll bowling balls uphill, but there would be a lot of resistance (which would produce heat). But once your bowling balls are up the hill, you can release the balls from there and they will roll downhill freely (with less resistance and less heat).



GROUNDING

So, with voltage and amperage in perspective, what about grounding? Grounding is the path electricity wants to take so that it can get back to its source. What is its source? Is it the transformer? Or, more likely, is it the main service panel (MSP)? For all practical purposes, home inspectors should only be concerned with the electrical mast, the MSP and the branch circuits, which together create a controlled path for electricity's entry into the building and distribution throughout the house via various circuits.

However, electricity does not have to follow the prescribed paths that are created via the MSP and the branch circuits. We want it to, and we "encourage" it to follow those paths by having the appropriate wire size and the ability to create a direct path back the MSP.

HOME INSPECTORS SHOULD ONLY BE CONCERNED WITH THE ELECTRICAL MAST, THE MSP AND THE BRANCH CIRCUITS.

As long as all circuits and breakers (or fuses) are as they should be, then everything is safe, right? Yes and no. Things can get out of hand sometimes, so the folks who design electrical schematics put in backup systems. What's an example of a backup system? A ground wire? In fact, all modern 120-volt branch circuits have a grounded wire called the white or neutral wire. That's the return path for electrical flow.

The backup path I will explain now is the green or bare wire—a system that is there in case something goes wrong with the neutral. The green (or bare) wire is dormant until a short occurs. Then, it's there to offer an alternative path back to the MSP. What happens then? A breaker trips and shuts off the electrical flow. It's all about safety-by keeping electricity contained within each individual circuit, a breaker will sense an imbalance and shut itself off. In a properly wired home, the imbalance is in the white or neutral wire or, if that fails, the backup green wire kicks in (Figure 1).

GROUND WIRE RECAP

Equipment to Earth = Ground

{ Bare or Green }

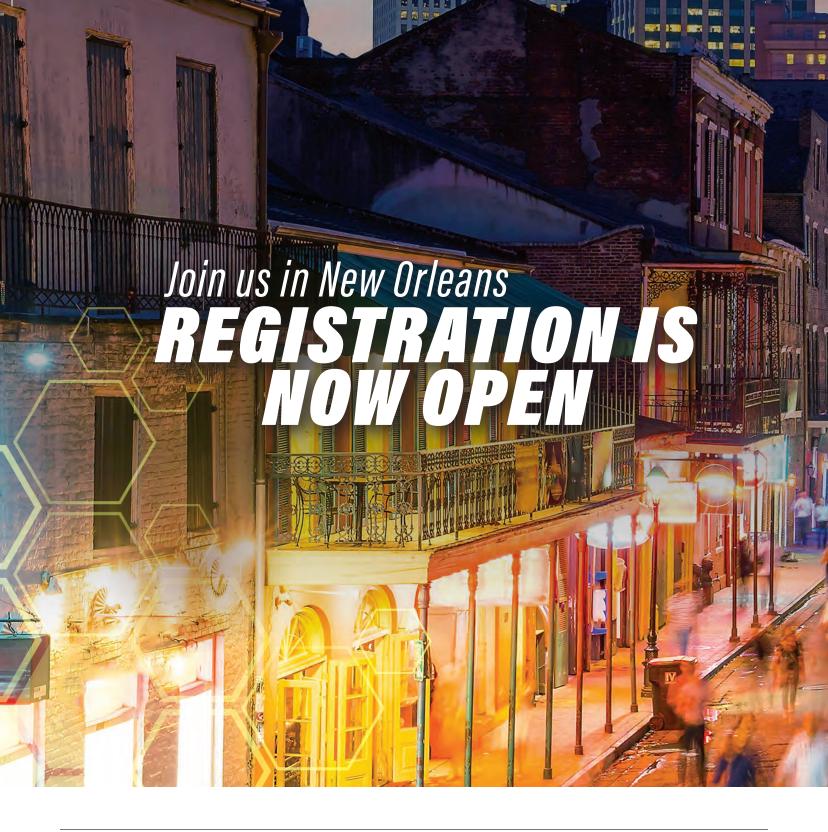
Equipment to Equipment = Grounding

{ Bond Wire }

Equipment to MSP = Grounded

{ White or Neutral }

Figure 1



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LIVE WIRES

Electricity will take whatever conductive path that is available to it. And because electricity is invisible, we don't always know or sense what path it might take. That's what makes it dangerous. But understanding its components and how they function will help us minimize our exposure.

Take birds on a wire, for example. Birds can sit on a live wire because the difference potential between their legs or other body parts is zero. The electrical flow prefers staying in the wire instead of going through the bird (Figure 2). Birds on a wire are not grounded; that is, no part of them touches the ground, so they don't act as conductors.



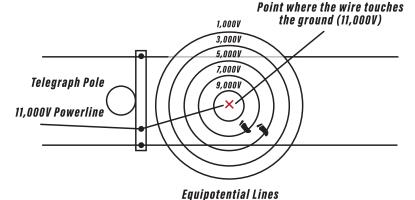
Figure 2

This concept also applies to people. It's the nature of electricity that it is always trying to reach its starting point or to ground. This brings up another point that directly affects home inspectors: step potential. Step potential is the difference between two points of an energized source.

Take, for example, a barn owl landing on a live wire (Figure 3). When the owl landed, it made contact with one wire while its feet were in contact with a second wire. The difference potential between the two wires caused part of the current to flow through the bird, killing it. If the barn owl had landed on only one of the wires, making no contact with the other wire, it would have lived. This explains one of the reasons why high-voltage wires on poles are spaced apart as far as they are—so that any large bird, when spreading its wings, will not make contact with more wires than the one on which it lands or is perched (Figure 4).



Figure 3



The person's left foot is at 7kV relative to ground. Their right foot is at 5kV relative to ground. Therefore they have a 2kV difference between their feet.

Figure 4

As home inspectors, we have to be aware of the difference potential as well as the grounding rules. Electricity wants to go back to its source in any way that it can or by discharging into the ground (that is, from a place of high voltage to a place of low or no voltage, such as the ground). The function of an electrical system is to make sure it goes through controlled pathways so that a breaker is tripped. The electricity is then shut off and no one is injured or killed. Figure 5 shows an example of a person making contact with wire, and the ground and the factors that can affect the voltage.

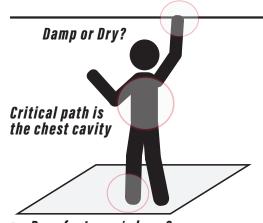


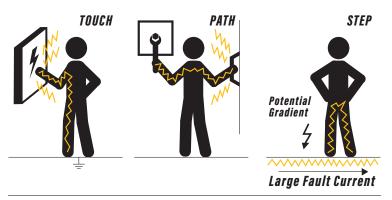
Figure 5 Bare foot or w/ shoes?

WHAT'S THE BEST WAY TO AVOID A **DIFFERENCE POTENTIAL BETWEEN YOUR LEGS** IN AN ENERGIZED SITUATION?

- 1. Be aware of your surroundings at all times when inspecting, especially in abandoned or foreclosed homes.
- 2. Never turn on anything electrically if you don't know why it's off.
- 3. Hop away ("bunny hop," keeping both feet together) from the danger for at least 30 feet. Keeping your feet together prevents creating any difference potential between your legs.

Let's not forget touch potential! Touch potential is voltage that occurs between an energized object and the feet of a person in contact with that object. Why? Because we are usually standing in contact with ground.

Figure 6 shows three ways that a home inspector can create a conductive path through the body. One more thing...electricity can jump or arc. The amount of jump is directly proportional to the amount of voltage, as illustrated in Figures 7 and 8. I imagine the voltage jump that can occur when dealing with very high voltage, such as in an electrical room or when standing next to a high-voltage transformer.



Step & Touch Potentials Figure 6

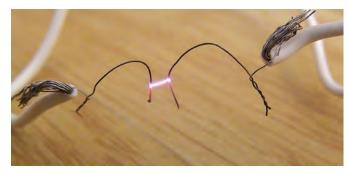


Figure 7



Figure 8

USE CAUTION

Finally, using common sense and understanding is how we protect ourselves during an inspection. Carry a voltage sniffer with you and use it instead of your fingers (or tongue) to "sniff" out voltage where you suspect it. Use caution and think before you act. Electricity can do substantial damage and it can be a cause of death when it is not respected. Respecting electricity might save your life. Remember, as little as 10amps (and in some cases even less than that) can kill you with continued exposure. What's the minimum amperage found in an average residential home? Fifteen (15) amps. Stay safe out there.



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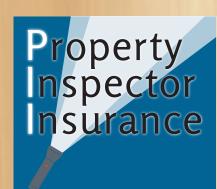
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OHIO SOUTH ASHI

Meeting: Third Tues. every month, 6:30 pm @ Kriemer's Bier Haus, OH-128 Cleves, OH 45002 P.O. Box 532197 Cincinnati, OH 45252 Chris Green, 513-939-4036 Email president@ohsoashi.com

Pocono-Lehigh (PA)

www.pocono-lehighashi.org
Third Tuesday, Tannersville Inn
Tannersville
Ronald Crescente, 570-646-7546
amerispec@pa.metrocast.net

PRO-ASHI (PA)

www.proashi.com Second Wednesday of Jan., March, May, Sept. & Nov. Ray Fonos, 412-461-8273 southpittsburgh@hometeam.com

Tri-State (DE, NJ, PA)

www.tristateashi.org

Second Tuesday except April, Aug. & Dec., Dave & Buster's Plymouth Meeting, PA Jules Falcone, julesfalcone@me.com

MIDWEST

Great Lakes (IL, IN, IA, KY, MI, MN, OH, WI)

For monthly meetings: www.greatinspectors.com/ schedule-of-events/ Janni Juhansz, 734-284-4501 greatlakes.president@gmail.com

Greater Omaha (NE)

www.ashiomaha.com Jon Vacha, 402-660-6935 jon@hsinspections.com

Heartland (IA, MN, ND, SD, WI)

www.ashiheartland.org

Second Monday, 6:30 pm, except Nov. & April. Frankie's Pizza 3556 Winnetka Ave. N., New Hope, MN Reuben Saltzman, 612-205-5600 reuben@ashiheartland.org

Indiana ASHI

www.inashi.com

Quarterly

Bill Halstead, 765-465-6185 hhinspect@outlook.com

Iowa ASHI

www.iowaashichapter.org

Fourth Tuesday, 6:00 - 8:00 pm lowa City Area Assoc. of Realtors Education Center 847 Quary Road, Coralville, IA Craig Chmelicek, 319-389-7379 elitehomeandradon@gmail.com

Northern Illinois

www.nicashi.com

Second Wednesday (except Dec.) 5:30 pm - 9:00 pm Allegra Banquets, 237 W. St. Charles Rd. Villa Park, IL 60181 Joe Konopacki, 630-283-2248 joe@insightpsinc.com

SOUTH MIDWEST

Arkansas

Kyle Rodgers, 479-599-9314 kyle@aplus-inspection.com

Great Plains (KS, MO)

www.ashikc.org

Second Wednesday of every month The Great Wolf Lodge, Kansas City Randy Sipe, 913-856-4515 randy@familyhomeinspections.com

Midwest PRO ASHI (KS)

David Mason, 316-393-2152, david@allprohomeinspec.com

St. Louis (MO)

www.stlashi.org

Second Tuesday, 5 pm Creve Coeur Government Center Multi-Purpose Meeting Room 300 N. New Ballas Creve Coeur, MO 63141 Mark Goodman, 636-391-0091 mark@homeinpectstl.com

Lone Star (TX)

www.ashitexas.org

Bud Rozell, 214-215-4961 goodhomeinspection@att.net

MOUNTAIN

Arizona

www.azashi.org

Bryck Guibor, 520-419-1313 bryck@msn.com Quarterly education on azashi.org

New Mexico

www.ashinm.org

Bi-monthly meetings are held on the second Saturday of the month at Drury Hotel (Jan., March, May, July, Sept.) located at 4630 Pan American Freeway NE in Albuquerque. Meeting starts at 8:30 am. Lance Ellis, 505-977-3915 lellis@amerispec.net

Northern Rockies (ID, MT)

Steve Jenicek, 406-949-6461 Steve@taskmasterinspections.com Secretary: Kelly Campeau 877-749-2225 Kelly@inspectormt.com

Rocky Mountain

Fourth Tuesday, 6:30 pm Bob Kadera, 303-588-2502 bob@360degreeinspections.com

Southern Colorado

www.ashi-southerncolorado.org

Second Thursday each month, 6:30 pm Valley Hi Golf Club, 610 S. Chelton Rd. Colorado Springs, CO 80910 Aaron Hunt, 719-334-5455 aaron@huntproperty inspections.com

PACIFIC

Alaska

Meeting dates: Jan. 1, March 1, Aug. 1, Nov. 1 Location varies each meeting David Mortensen, 907-243-4476 dave@discoveryinspect.com

ASHI Hawaii

www.ashihawaii.com

Oscar Libed, 808-330-2302 oscar@inspecthawaii.com

California

Randy Pierson, 310-265-0833 randy@southbayinspector.com

Central Valley CREIA-ASHI

Peter Boyd, 530-673-5800 Boyd.p@comcast.net

Golden Gate (CA)

www.ggashi.com

Brian Cogley, v 510-295-8021 f 510-355-1073 CogleyInspections.com

Inland Northwest (ID, WA)

Vince Vargas, 208-772-3145 vince@vargasinspections.com

Orange County CREIA-ASHI (CA)

www.creia.org/orangecounty-chapter

Third Monday, 5:30 pm Hometown Buffet 2321 S. Bristol, Santa Ana Bill Bryan, 949-565-5904 bill@rsminspections.com

Oregon

www.oahi.org

Fourth Tuesday, 6:30 pm 4534 SE McLoughlin Blvd. Portland Jon Nichols, 503-324-2000 housedetective@hotmail.com

San Diego CREIA-ASHI

First Tuesday each month Elijah's Restaurant 7061 Clairemont Mesa Boulevard San Diego, CA 92111 Ray (Cliff) Sims Jr., 619-334-1138 cliffsims@cox.net

San Joaquin Valley (CA)

Third Thursday, 6 pm 1736 Union Avenue, Bakersfield, CA Raymond Beasley, 661-805-5947 rbinspector@aol.com Mail: 3305 Colony Oak St. Bakersfield, CA 93311

Silicon Valley ASHI-CREIA (CA)

www.siliconvalleyinspector.com Tammy Nicholas, 408-771-4939 tnicholas490@gmail.com

Southwestern Idaho

Second Monday
David Reish, 208-941-5760
dave@antheminspections.com

Los Angeles-Ventura County ASHI-CREIA

Third Wednesday, 5 pm Holiday Inn, Woodland Hills Bob Guyer, 805-501-0733 guyerinspections@roadrunner.com

South Bay (CA)

Webinar meetings Randy Pierson, 310-265-0833 randy@southbayinspector.com

Western Washington

www.ashiww.com

Chapter Meetings held at chapter seminars in March and Sept. Karl Nueffer karl@G4inspections.com

NEW ENGLAND

Coastal Connecticut

www.coastalctashi.org

Third Thursday, 6 pm, Westport VFW Lodge, 465 Riverside Avenue, Westport John Hamlin, 203-912-1917 john.hamlin@pillartopost.com

New England (ME, MA, NH, RI, VT)

Third Thursday (usually), 5 pm Hilton Garden Inn, Waltham, MA Alex Steinberg, 617-924-1028 alex@jbsinspections.com

Northern New England (NNEC) (ME, MA, NH, VT)

www. ashi-nnec.org

Third Thursday of Jan., April, June and Sept. Tim Rooney, 603-770-0444 homeviewnh@comcast.net nnec.ashi.2016@gmail.com

NEW YORK/JERSEY/ DELAWARE

Central New York

www.cnyashi.com

Third Wednesday each month, 6 pm Tony's Family Restaurant, Syracuse Richard Alton, 315-415-4847 dick@altoninspect.com

First State (DE)

www.firststateashi.org

Third Wednesday, 7 pm The Buzz Ware Center 2121 The Highway, Arden Mark Desmond, 302-494-1294 mark@delvalleyhome.com

Garden State (NJ)

www.gardenstateashi.com Second Thursday The Westwood, Garwood

Kevin Vargo, 732-271-1887 gsashipresident@gmail.com

Greater Rochester (NY)

www.ashirochester.com

Second Tuesday, 6 pm Jeremiah's Tavern, 2200 Buffalo Rd. Gates, NY 14624 Jim Brennan, 585-520-5575 jbrennan@independentinspectionservice.com

Hudson Valley (NY)

Second Tuesday, 6 pm Daddy O's Restaurant 3 Turner Street Hopewell Junction, NY 12533 Michael Skok, 845-592-1442 ashistatewide@yahoo.com

Long Island (NY)

www.liashi.com

Third Monday, 6 pm, Domenico's Restaurant, Levittown John Weiburg 516-603-5770 john@greenlinkhi.com

New York Metro

www.nyashi.com

Last Thursday, 5 pm Travelers Rest 25 Saw Mill River Road Ossining, NY 10562 Chris Long, 914-260-8571 pres@nyashi.com

Southern New Jersey (NJ)

www.southernnjashi.com

Third Wednesday, 6:30 pm Ramada Inn. Bordentown Rick Lobley, 609-208-9798 rick@doublecheckhi.com

MID-ATLANTIC

Central Virginia

www.cvashi.org

Second Tuesday, 6:30 pm Independence Golf Course 600 Founders Bridge Blvd. Midlothian, VA 23113 John Cranor, President 804-873-8537 cranorinspectionservices @gmail.com

Hampton Roads (VA)

Second Thursday, 7 pm, Cypress Point Country Club, Virginia Beach Gregory Murphy, 757-535-4355 gmurphy@coastalinspect.com

MAC-ASHI (MD, VA)

www.mac-ashi.com

Second Wednesday, 6 pm Senior Center, Rockville Mark Mostrom, 301-536-0096 pivotalinspections@comcast.net

NOVA-ASHI (MD, VA)

www.novaashi.com

Fourth Tuesday, Associate hour 6-7 pm, Membership meeting 7-9 pm, Northern Virginia Resources Center, Fairfax Tony Toth, 703-926-6213 tony_toth@msn.com

SOUTH ATLANTIC

ASHI Georgia

www.ashigeorgia.com Brent Drake, 770-778-81076 drakesinspection@gmail.com

East Tennessee

www.etashi.org

Third Saturday of Feb., May, Aug. and Nov. Paul Perry, 866-522-7708 cio@frontiernet.net

Mid-Tennessee

Ray Baird, 615-371-5888 bairdr@comcast.net

Mid-South (TN)

Steven Campbell, 901-734-0555 steve@memphisinspections.com

North Carolina

www.ncashi.com

Meeting TBA Bruce Barker, 919-322-4491 bruce@dreamhomeconsultants.com

South Carolina

First Saturday of Feb., May, Aug. & Nov., 8 am Roger Herdt, 843-669-3757 herdtworks@msn.com

GULF

ASHI South (AL)

www.ashisouth.org

Quarterly, Homewood Library Homewood John Knudsen, 334-221-0876 jgknudsen111@gmail.com

Florida Wiregrass

www.ashiwiregrass.org

Second Wednesday, 6:30 pm Sleep Inn Hotel, Wesley Chapel Nancy Janosz, 813-546-6090 ProTeamInsp@aol.com

Gulfcoast (FL)

First Thursday, 7 pm, The Forest Country Club, Fort Myers Len Gluckstal, 239-432-0178 goldenrulehi@comcast.net

Louisiana

Quarterly Meetings Michael Burroughs 318-324-0661 Mburroughs2@comcast.net

Suncoast (FL)

www.ashisuncoast.com

First Tuesday, 6:30 pm; Please see our website for meeting locations. Neal Fuller, 727-858-2975 nealf.ma@yahoo.com

Southwest Florida

www.swashi.com

Serving Manatee, Sarasota & Charlotte Second Wednesday, 6 pm Holiday Inn, Lakewood Ranch 6321 Lake Osprey Drive, Sarasota Michael Conley, 941-778-2385 FLinspector@outlookcom

CANADA

CAHPI Atlantic

www.cahpi-alt.com

Lawrence Englehart 902-403-2460 inspections@eastlink.ca

CAHPI Ontario

www.oahi.com

Rob Cornish, 613-858-5000 robc@homexam.ca

Alberta Professional Home Inspectors (APHIS)

www.aphis.ca

Meetings held 3 times a year Alan Fisher, 403-248-6893 admin@aphis.com

Quebec AIBQ

www.aibg.gc.ca

Pascal Baudaux, 450-629-2038 info@almoinspection.ca



CHAPTER EVENTS

KEYSTONE ASHI 2019 SEMINAR

When: October 11-12, 2019 CEUs: 16 ASHI CEs

Where: DoubleTree by Hilton, Reading, PA **Contact:** Amanda@brsinspect.com

TO HAVE YOUR CHAPTER SEMINAR
LISTED HERE, EMAIL ALL INFORMATION
ABOUT YOURCHAPTER SEMINAR TO:

micheleg@ashi.org.

IMPORTANT REPORTER DEADLINES:

DECEMBER 2019 ISSUE - 10/7/19
 JANUARY 2020 ISSUE - 11/7/19

• FEBRUARY 2020 ISSUE - 12/7/19

The *Reporter* is produced 6-8 weeks ahead of the week it arrives in your mailbox.

ST. LOUIS ASHI CHAPTER FALL SEMINAR

Date: Friday, November 1, 2019 **Time:** 7:00 AM – 5:00 PM **Location:** St. Louis Assoc. of Realtors

> Conference Center 12777 Olive Boulevard St. Louis, MO 63141

Agenda:

Round Table Presentation

Don Norman, ACI Harry Morrell, ACI Wayne Brewer, ACI

Windows

Dennis McHugh, Clear Window Technology

Electrical & Arc Flash

Jason Brozen, Master Electrician

Skylights & Flashing

Mike Chance, Vellux Corp.

Contact: Mark Goodman, 314-409-3991

COMMERCIAL INSPECTION CLASS

When: November 3-4, 2019

CEUs: 16 ASHI CEs

The commercial inspection class is an ASTM/ASHI hybrid commercial inspection class

taught by David Goldstein.

Contact: Mark Goodman 314-409-3991

MAC-ASHI TECHNICAL SEMINAR

When: November 16, 2019 **Where:** Gilchrist Hall

9601 Medical Center Drive Rockville MD 20850

CEU's: 8 ASHI, MD and VA CEs

Register at: www.macashi.org/fall-seminar

ASHI CENTRAL PA CHAPTER

When: March 7, 2020

Where: Park Inn by Radisson, Harrisburg West

5401 Carlisle Pike, Mechanicsburg, PA 17050

CEUs: ASHI 8 CEs

Contact: Pat Reilly, pwreilly@comcast.net







OCTOBER ANNIVERSARIES

Twenty-Five Years

Keven H. Kossler Carl Pucci

Twenty Years

Brian Giallombardo Gordon Guffey Keith Nelson Randy Noon Joseph Petrozola Ronald Werder

Fifteen Years

Gregg Allen Thomas W. Blythe James Booth Joseph W. Fleming III Richard J. Gerardi Fernando Guillermo Bruce Hefka Michael Meesit Marc Morin John Nicolai Charles Oev Mike Price Mike Rawlings

Ten Years

Michael Bley David Christopher John B. Cordell Daniel Dodge Kollin K. Gibson Geno Gooch William Layher Steven Lightcap Edmond B. Ragazzi Andy Smith Joe Sorbello Kerry Staudt Michael K. Webb Jon Weiss Colin A. Williams Rick Young John Zito

Five Years

Kevin J. Austin Troy Bradley Antonius C. Bukkems Keith M. Carr Stephen Carter Ryan Castillo Richard D. Davis Brian Dixon Otis Esham Rob Faschel Rob A. Hager Steven Hallmark Justin Harper Don Henson Egbert Jager Michael Shane Johnson Mark Jones Tim Mitchell Patrick O'Connor Bill Phillips Scott Stewart, P.E. Lixin Wang Corey Williams

CURRENT ASHI MEMBERSHIP

ASHI Certified Inspectors: 3,478

Inspectors: 221 Associates: 3,175 Retired Members: 120

Affiliates: 84

Total: 7.377 Members as of 9/5/2019

FREE ASHI Member access to past IW sessions.

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- 3. Click on:

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ASHI MEMBERSHIP BENEFIT PROGRAMS

ASHI-ENDORSED PROGRAMS

ASHI's E&O Insurance Program: InspectorPro Insurance inspectorproinsurance.com/ashi/ 866-916-9419

ASHI Personal Lines Insurance Program: Liberty Mutual www.libertymutual.com/ashi

ASHI's Protecting Home Inspectors From Meritless Claims Program: Joe Ferry -The Home Inspector Lawyer 855-MERITLESS (637-4853) contact@joeferry.com www.joeferry.com/ashi

ASHI Service Program BuildFax Tricia Julian, 877-600-BFAX TJulian@BuildFax.com www.buildfax.com http://go.buildfax.com/ASHI

HomeAdvisor.com Brett Symes, 913-529-2683 www.homeadvisor.com ashi@homeadvisor.com

LegalShield Joan Buckner, 505-821-3971 buckner.legalshieldassociate.

InspectionContracts.com Dave Goldstein, 800-882-6242 www.inspectioncontracts.com david@inspectoreducation.com

OneSource Solutions 877-274-8632 www.osconnects.com/ashi/

Porch.com Eliab Sisay, 206-218-3920 www.porch.com Eliab@porch.com

ASHI Rebate Program Quill.com Dana Fishman, 800-634-0320 x1417 www.quill.com/ashi dana.fishman@quill.com

ASHI-ENDORSED EXAMS

ASHI Standard and Ethics Education Module Go to www.homeinspector.org, click on Education, then click on the link for the ASHI Online Learning Center. NHIE Exam: 847-298-7750 www.homeinspectionexam.org

ASHI-ENDORSED TRAINING PROGRAMS

ASHI@Home Training System 800-268-7070 education@carsondunlop.com

PLATINUM PROVIDER

Mastermind Inspector Community Mike Crow www.mikecrow.com dreamtime@mikecrow.com Mention that you are an ASHI member.

In this column, ASHI's Ethics Committee addresses dilemmas faced by home inspectors.

Are These Violations of the ASHI Code of Ethics?

By Jamison Brown, ASHI Ethics Committee Chair

Know the Code: The ASHI Code of Ethics can be found at this link: https://www.homeinspector.org/Code-of-Ethics

Jamison Brown is the owner of Home Inspections by Jamison & Company, Poquoson, VA. Before becoming an ASHI member in 1988, Jamison was a project manager, and supervised the construction and remodeling of more than 10,000 housing units for the U.S. Department of Defense (DoD) and the U.S. Department of Housing and Urban Development (HUD). Jamison is a former member of the Carpenters and Joiners of America, and a former licensed plumber in the state of Virginia. He is a member of the International Code Council, International Association of Electrical Inspectors (IAEI) and a certified member of the American Society of Home Inspectors (ASHI). He has been a member of ASHI's Technical and Membership Committees, and was chair of the CEPP Committee. Currently, he chairs the ASHI Code of Ethics Committee. Jamison has personally inspected more than 18,000 residential and commercial properties. Contact him at jamison.brown@gmail.com.

QUESTIONS & INTERPRETATIONS

Question: Is mold testing or mold remediation (or both) performed on a structure inspected by a home inspector in violation of the ASHI Standard of Practice (SoP) or the ASHI Code of Ethics (CoE)?

RESPONSE: Mold testing is an ancillary service that provides information to a home inspection client on the conditions surrounding the house. Mold testing is beyond the scope of a home inspection as defined in the ASHI SoP, but it is not a prohibited service.

Correction of the underlying causes of a mold infestation would involve eliminating the source of moisture. This could include repairs to the building envelope, plumbing system or ventilation; these are all components that would be inspected and reported on in a home inspection. Performing mold remediation would violate CoE, Item 1.F., which states, "Inspectors shall not repair, replace or upgrade, for compensation, systems or components covered by the ASHI Standards of Practice, for one year after the inspection."

Question: Can an ASHI member perform partial inspections and use these inspections to generate referrals for contractors who are willing to pay a referral fee to the inspector?

RESPONSE: Part of our responsibility to our clients is to provide advice and counsel based on our professional judgment. The client must be able to rely on the inspector to provide that advice based on the best interest of the client, not based on the payment of a referral fee or some other inducement. Limited inspections on homes must still be performed in accordance with the ASHI Code of Ethics. Accepting referral fees, as in the case described here, is prohibited.

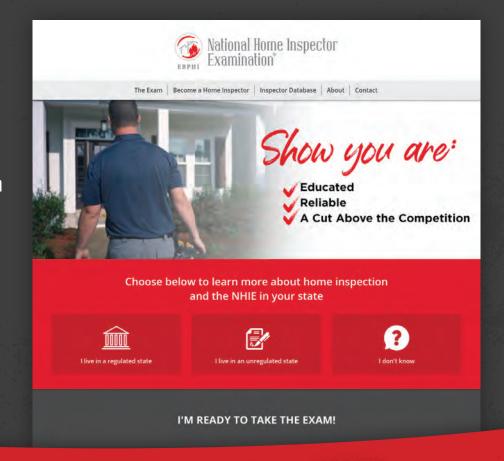
Question: Is it a conflict of interest for an inspector to perform a pre-listing inspection for a seller and then, with the seller's permission, provide the buyer of the property with the home inspection report and charge the buyer a fee to walk through the property and check that items noted in the report were repaired?

RESPONSE: The ASHI Code of Ethics does not prohibit an inspector from performing a pre-listing inspection for the seller and then later, for a fee and with the consent of the seller, consulting with the buyer on items identified in the original report as needing repair. CoE, Item 1.D. states, "Inspectors shall not receive compensation for an inspection from more than one party unless agreed to by the client(s)." The question addressed in this example describes full disclosure and agreement between the parties involved.

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Today's Deck Menu: Two Beams and a Side of Post



"But I reinforced it with a 2×4 shim!"



Tired of the kids playing with the lights?

ENOTE THAT THE FUNNY THING IS THE LIGHT SWITCH IN THE UNDERHANG. IT'S A LITTLE DARK TO SEE RIGHT AWAY.]









Peanut butter, still in a "Jif"!



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SATURDAY, 8:00 AM - 5:45 PM Lunch included

"What the Heck is That?
Components Found in the Home Inspection" — Mike Casey

"Basement Inspections - Proper Reporting and Avoiding Headaches" — $\operatorname{\mathsf{Tom}}\nolimits$ Feiza

"Electric Panel Inspection" — Mike Casey

"How Water, Steam, Vapor and Dew Point Affect Home Systems and Home Inspection" — Tom Feiza

CONFERENCE REGISTRATION

ASHI MEMBER

NON- MEMBER

2-day - \$149 ASHI member 1-day - \$119 ASHI member 2-day - \$199 Non-ASHI member

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Register at www.homeinspector.org/Education-Training/Excellence-in-Education **Questions? Contact:** education@ashi.org | **Hotel Contact:** 224-563-1800

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Modern Art

Postcards from the Field

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Note: By sending in your postcard(s), you are expressly granting ASHI the right to use the postcard and your name with it in the

ASHI REPORTER and in other publications ASHI may select.

All I know is, I don't want to meet what's going in and out of that door.

JAMES BROCK **Boston Home Inspectors** Boston, MA

JAMES BROCK

Boston, MA

Boston Home Inspectors

Two wrongs don't make a right.

ANDRE PETERS

Exterior and Interior Home Inspection

Edmonton, Alberta, Canada

Heat Recovery System Down the Lazy River

JIM YOUNG **Home Pro Professional Home** Inspection, Cleveland, OH

The listing said: "Has a deck"



wait, the railing has to go around the WHOLE deck?



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Boston, MA



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Vote for ASHI's Proposed Bylaws Changes

Scott Patterson, ASHI President



s your ASHI President, I must say that 2019 is turning out to be a monumental year for ASHI and our members! We have been able to make significant advancements in our internal operations—from adding a new back-office database, a new advanced discussion board and our new website that will go live in a few months. In addition, we will be launching our very own ASHI Insurance Program this fall. Even with all of this, the most important achievement is the fruition of almost four years of work by more than 50 individuals on a committee and a task force to design, develop and form the future of ASHI for many years to come.

I would like to thank the Relevance Task Force for their work and the Strategic Planning Committee for their nearly three years of work. These groups' in-depth evaluation and study provided the groundwork and much of the supporting information that was then taken up by the Bylaws Committee to formulate the proposed Bylaw updates that were emailed to members. Be sure to check your email from ASHI and vote today.

The proposed changes reflect the changes in our profession, changes in association management, changes in social interaction and technological advancements. We all must keep in mind that ASHI is here to serve the entire membership. Your elected leaders recognize the importance of our chapters, newly formed meeting groups and non-affiliated members, and the proposed changes to our bylaws reflect this purpose—to serve the entire membership.

Your elected ASHI Board of Directors has voted to support all the proposed Bylaw changes, and I encourage all voting members to support and vote for the proposed changes as well.

Proposed Changes to ASHI's Bylaws

Brendan Ryan, Chair, Bylaw Committee

The Bylaws for the American Society of Home Inspectors (ASHI) have not undergone a full evaluation in many years, nor have they undergone a substantial, document-wide update to reflect the best practices of modern association management.

The findings of the ASHI Relevance Task Force's report reflected the need for updating our guiding document. Issues relating to technology, communication, board size, elections, the Council of Representatives and other items show a cumbersome older model. In order for ASHI to be a nimble and efficient decision-making association that always represents its entire membership, the ASHI Relevance Task Force recommended that changes be made.

The major changes proposed for the bylaws represent a change to ASHI's culture—to embrace innovation in the profession and expansion of the roles and expertise of home inspectors. Any past emphasis on adversarial relationships within ASHI groups is being set aside, and resources are being allocated to programs and services that provide tangible benefits for all members.

A key to the success of these changes in the ASHI Bylaws is to increase the efficiency and effectiveness of the Board. Reduction in size, availability for all members to serve and setting term limits all address this issue. A Board size of 11 members is reflective of an association of ASHI's size.

Consolidating the Nominating Committees into one oversight group to verify credentials will streamline the election process. All positions will be available to the entire membership. There will no longer be a petition process to get on the ballot; all qualified persons will be included on the ballot.

The purpose and mission of the Council of Representatives must evolve to be a group focused on benefits and programs that have value for the entire membership. From this Council, we will form a new Membership Relations Committee. All members, chapters and meeting groups will be welcome to participate on this committee.

ASHI leaders recognize that, as an entity, ASHI represents all members on an equal level. ASHI leaders also recognize the importance of chapters and that the newly formed meeting groups are keys to ASHI members' experience. The value to members of these entities should be independent of and in addition to the value provided by ASHI national.

The Bylaw Committee is confident that the changes are in the best interest of the membership of ASHI and a needed update to our guiding document. Please join us in supporting the proposed changes to the ASHI bylaws.

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