



# Summer – Time for Deck Inspections

BY SALLY CHAPRALIS

**AS WE WELCOME SUMMER – A WARM BREAK** from a grueling winter and busy season for buying, selling and renovating homes – we also open the doors to critical, and often misunderstood, home inspection issues.

Every summer the news media reports on deck, porch and balcony collapses that resulted in injuries or fatalities. Given our challenging winter, this summer could require even more vigilance and response from ASHI'S home inspectors, professionals who can identify the threats and save lives.

The following resources offer guides and checklists – from critical deck connections and wood decks to home inspection evaluations – for new, older and renovated homes, effects of winter weather, and potential outdoor dangers that can be prevented.

## Critical Deck Connections

"Most experts agree that the average life expectancy of a wood deck is 10 to 15 years. It is estimated that there are millions of decks in the United States that are beyond their useful life and may be unsafe," as Simpson Strong-Tie explains on its site: [www.safestronghome.com/deck](http://www.safestronghome.com/deck). In fact, the number of deck collapses has increased in recent years."

Simpson Strong-Tie emphasizes the importance of critical deck connections (connectors, fasteners and shear walls) as a starting point and as they relate to high winds, hurricanes and earthquakes.

Simpson's *Critical Deck Connections*, one of several discussions/videos on Building a Safe, Strong Deck, include:

- **Ledger Attachment:** The ledger connection, where the deck connects to the house, is the most common failure point on a poorly built deck. It's very important to use lag screws (SDS) or through-bolts rather than nails to secure your deck to the ledger board.
- **Joist-to-Ledger:** The floor joists intersect into a beam or ledger board and must be properly secured.
- **Joist-to-Beam:** The beams must be secured to the joists that support the floor of the deck.
- **Beam-to-Post:** The post must be properly connected to the beams underneath the deck.
- **Railing Post-to-Deck Framing:** People often get injured due to weak or wobbly railings on a deck. The railing must be properly attached to the perimeter of the deck as well as the floor joists running underneath the deck.
- **Stair Stringer-to-Deck Framing:** The stair stringers that run along each of the stair steps (or treads) must be secured to the deck framing.
- **Stair Tread-to-Stringer:** Each stair step (or tread) must be tied to the stair stringers.
- **Post-to-Concrete:** Post bases are used to connect the post to the footing or concrete slab underneath your deck.

*The "5 Warning Signs of an Unsafe Deck," another of Simpson's discussions/videos on Building a Safe, Strong Deck, include:*

1. **Missing Connections.** A deck should be built using a combination of wood, nails, screws and metal connectors. Look at how your deck is built – if all you see are nails, your deck may be unsafe.

2. **Loose Connections.** Depending on how the deck was built, vital connections may have degraded over time due to various factors. Issues such as wobbly railings, loose stairs and ledgers that appear to be pulling away from the home are all causes for concern.
3. **Corrosion of Connectors and Fasteners.** Metal connectors, nails and screws can corrode over time. Look for rust and other signs of corrosion that can weaken the structure of your deck.
4. **Rot.** Wood can rot and degrade over time with exposure to the elements. Wood members within the deck frame that have rotted may no longer be able to perform the function for which they were installed, making your deck unstable.
5. **Cracks.** As wood ages, it is common for cracks to develop. Large cracks or excessive cracking overall can weaken your deck, making it susceptible to collapse.

Besides "Critical Deck Connections" and "5 Warning Signs of an Unsafe Deck," you will find more guidelines, photos and videos:

- Building with a continuous load path
- Combat corrosion
- 5 Steps to a safer, stronger deck
- Repairing or retrofitting an existing deck
- Make this deck season a safe one

### Wood Outdoors – Connections

Decks can be made of plastic or composite materials, but most decks are made of wood – cedar, redwood, pine, or a sustainable tropical wood. Wood for outdoor uses requires ongoing maintenance and inspections.

For example, a deck's most vulnerable point is its connection to the house. When a deck has collapsed, the ledger board was usually attached to the house with nails, not the bolts that should have been the connection. When people move around on a deck or porch, the movement can pull the deck out ... as will a tough winter season. While nails can come out under pressure, lag screws or bolts are less likely to fail and should be used.

It's also important to that the deck-to-house connection is well flashed. Waterproof materials (flashing) prevent water from seeping in behind the ledger board that connects the deck framing to the house. Lack of flashing affects wood materials as well as metal fasteners. In addition, once wood gets and stays wet, it can attract ants.

You will find more information about the different types of wood used outdoors at the Wolmanized Wood site, [www.wolmanizedwood.com](http://www.wolmanizedwood.com):

**Decks, Back Yards, Landscaping, Walkways and Porches:** [www.wolmanizedwood.com/applications/decks-backyard-landscape-walkways-Porches.aspx](http://www.wolmanizedwood.com/applications/decks-backyard-landscape-walkways-Porches.aspx)

**How to Build the Best Decks:** [www.wolmanizedwood.com/-/media/Microsites/WOW/Docs/Outdoor/How%20to%20Build%20the%20Best%20Deck.aspx](http://www.wolmanizedwood.com/-/media/Microsites/WOW/Docs/Outdoor/How%20to%20Build%20the%20Best%20Deck.aspx)

The ASHI resource on *Inspecting Wood Frame Structures* offers in-depth guidelines and illustrations to broaden your professional outdoor perspective.

**Inspecting Wood Frame Structures:** [www.homeinspector.org/resources/journals/Inspecting-Wood-Structures.pdf](http://www.homeinspector.org/resources/journals/Inspecting-Wood-Structures.pdf)

### Updated Standards & Changing Codes

The North American Deck and Railing Association (NADRA) has created an inspection form, the Deck Evaluation Checklist, that you can download from the NADRA site at [www.nadra.org/consumers/deck\\_safety\\_month.html](http://www.nadra.org/consumers/deck_safety_month.html)

As NADRA explains, "The [four page] inspection form includes eight key areas: ledger connections, posts and footings, post-to-beam connections joists and joist connections, stairs, deck boards, handrail assemblies and guards and miscellaneous.

"Each section asks key questions about structural supports and connections, such as post sizes, fastener types and specific design aspects as well as any visible indications of corrosion or weakness. Hints for what to look for and what is not allowed also are provided. The checklist provides homeowners with guidelines for what areas need to be repaired, and they or the contractor can show this report to a dealer to get the materials needed to restore its condition."

NADRA also offers a one-page *Check Your Deck® Consumer Checklist* that lists 10 key signs that the homeowner's deck needs attention. "The 10 key areas outlined are split or decaying wood, flashing, loose or corroded fasteners, railings and banisters, stairs, cleaning and maintenance, grills/firepits/chimneys/heaters/candles, lighting and electrical, outdoor furniture and storage, and surrounding trees." You can also download the Consumer Checklist at [www.nadra.org/consumers/deck\\_safety\\_month.html](http://www.nadra.org/consumers/deck_safety_month.html).

### Changing Codes

NADRA posted an article on its site, *Deck Inspections – A Matter of Life and Death*, that addresses the changing International Residential Code (IRC).

“Building inspectors, like deck builders and homeowners, are challenged to keep up with the deck industry. There are changes to the IRC every three years. State and local amendments are added to those changes. New building materials and deck-related products are appearing on the market in record fashion. Reading industry magazines, consulting with other inspectors on a regular basis, and monitoring state building and code official association Websites and message boards are all good ways to stay abreast of new products and inspection challenges. And, in some cases, the builder is required to educate the inspector.” [www.nadra.org/consumers/deck\\_inspections.html](http://www.nadra.org/consumers/deck_inspections.html).

**The article also reminds us that “the results of good construction, building inspection, and plan review are often unseen ... As deck collapses continue to make headlines, the focus on safety and the quality of deck construction is bound to be strengthened ...”**

**ASHI members and Certified Inspectors can identify current and potential threats associated with decks, porches and balconies. We help save lives.**

You can also increase awareness in your area by becoming a professional, experienced resource who your local news media will appreciate. It's summer, a critical time for deck inspections. ■

### Retired ASHI Member Volunteers for Habitat for Humanity

We ran an article in the January 2013 ASHI Reporter about retired member Jack Fehlandt's volunteer work with Habitat for Humanity. Either Jack doesn't understand the meaning of retiring or he just likes to get his name in the Reporter!

*Knowing Jack, though, it's neither of those. He's just one heck of a great guy who's always given more than he's received. I'm sure the folks at Habitat are glad they have him as the source for helping families receive tips on how to maintain their homes. Here's his report:*

Last fall, the class out here in Phoenix had 12 families. The class in Phoenix on April 12, 2014 had eight, although they had expected 15. You never know what to expect. I always bring 20 sets of all my handouts and books to each class, just in case. My next class was at Habitat for Humanity, Northern Fox Valley (Carpentersville, IL) on the evening of May 16. I try to do two a year for each of these groups. Occasionally I am able to get classes with Teen Parent Connection (Glen Ellyn, IL) like we had July 1, 2013, with eight families and August 6, 2013, with seven families. I have not been successful with WINGS, Palatine, IL or more recently with Fellowship Housing. But I'll keep trying.

There is such a need out there for volunteer home inspectors. The time I spend with these folks is sooo appreciated. These classes cost me about \$8 per family for Tom Feiza's book, *How to Operate Your Home, valve tags, smoke detector stickers and photocopies*. The prep time, travel time plus two hours on site is well worth the effort! ■



Jack Fehlandt (in the rear right corner) with his students from his "Tips on How to Maintain Your Home" class.

To find learn about Habitat for Humanity Volunteer programs visit: [www.habitat.org/getinv/](http://www.habitat.org/getinv/). Please follow the links for:

- Find your local Habitat for Humanity
- Volunteer Programs
- Donate Money
- Donate Materials
- More



### ST. LOUIS PEER REVIEW (all rows left to right):

**Back row:** Chris Henry, Paul Smith and John Becker. **Middle row:** Michael Chambers, Ted Kozlowski, David Birenbaum and Bill Nast. **Front row:** John Wessling, Rick Michalicek, Wes Villhard and Jeff Massey.