

## ***What are those strange noises in your house...***



By Rick Bunzel

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All houses make noises, some stranger than others. When I was a child those noises would sometimes keep me awake but now as a home inspector I have a much better understanding of what causes them. Homes have a natural rhythm or cycle and react to moisture and temperature changes. Heaters run, pumps click on and off, water softeners cycle, etc. Most of the noises are natural, and you need not worry unless walls are leaning, doors are sticking, floors are sagging or water is leaking. The noises are caused by the normal expansion and contraction of wood and manmade materials. Some of the biggest offenders are wood framing, vinyl and metal siding, plumbing, and heating ducts. Wood can shrink 1/4" or more across 6" of wood grain as its moisture content changes with the seasons. This movement makes floors creak, move and crack. You will often see drywall nails popping from the drywall surface as the wood shrinks or expands. Masonry chimneys, tile chimney liners and the wood framing attached to them move at different rates, and this also creates noises. Imagine how hot that chimney liner can get and how much it may move in that cold masonry chimney. Most basements have metal heating ducts and metal piping attached to wood framing. When you run hot water in the bathroom, the cool pipe becomes hot and expands significantly. This expanding pipe is attached to the wood frame of your home, and it must bounce and slide along the framing or hangers until the expansion is accommodated. Outside your home, vinyl siding is often a culprit for clicks and thumps. Vinyl siding must be installed so it can move horizontally. As outdoor temperatures change, or when bright sunlight hits the siding on a cold day, you will hear movement noises. Aluminum siding, metal gutters, and metal flashing all move with temperature changes. Water pipes can pound, slush, and gurgle as water flows and drains.

Floor squeaks and creaks are a big nuisance but can be fixed. Loose floorboards cause floor squeaks and framing that move and rub as you walk on the floor. It could be wood rubbing on wood or wood rubbing on nails. Most often this occurs in the winter, because our homes dry out during the heating season. If the squeaks occur on the first floor and you can reach this area from the basement, try the following measures. Have someone walk on the offending floor while you listen for squeaks and watch for movement in the basement. Mark the problem areas. Brackets can be purchased that attach to the floor joist and then screw into the flooring pulling it tight and hopefully removing the squeak. Occasionally it will take several brackets to remove the offending squeak.

If you can't get to the floor from below then you will want to try "Squeeeeek No More" from O'Berry Enterprises, Crystal Lake, IL. This product works from above the squeak through carpeting or hardwood flooring. It is a special bracket that holds and drives a long notched screw. Once driven into the offending area, the screw disappears. The bracket ensures that the screw is driven to the right depth. Then you use the bracket to break off the head and shank of the screw just below the wood. If you use this on a finished wood floor, it will create a tiny hole that should be patched with wood putty.

If your gas water heater makes a popping and pounding sound when heating water, this indicates that sediment has built up on the bottom of the tank. When the gas flame is on, the water boils, just like water in a metal pan on the stovetop. The sediment at the tank bottom hinders heat transfer and releases steam bubbles, and when the bubbles rise into colder water in the upper part of the tank, they collapse as the steam turns back into water. Their collapsing makes the popping and pounding sounds. The popping and pounding does little harm to the water heater or the piping. When a water heater gets to be about 15 to 20 years old, it has exceeded its normal lifespan, and you should plan for a replacement.

When the air conditioner runs, the furnace fan must move more air through the system than when the unit is used for heating. Often the fan will automatically run at a higher speed for greater volume and pressure. Because air is moving through the system with greater speed, volume, and pressure, it is more likely that the ductwork will "pop" outward. Isolate the problem by listening for the sound and watching the ductwork when the air conditioner starts. You will probably find the sound coming from large, flat pieces of sheet metal near the furnace. Cut a foam insulation panel to fit the flat panel. Using construction adhesive, glue the panel to the duct. In the case of heating noises, the problem occurs as the metal ductwork heats up. Metal expands as it heats, so it needs room to move. If the ductwork is trapped within the wood framing in the basement, or if it's too tightly secured to the framing, this creates friction that causes the noise. Watch the ductwork and listen for the sounds as the furnace runs. You may need to loosen some mounting brackets or adjust ductwork that's forced against wood framing.

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