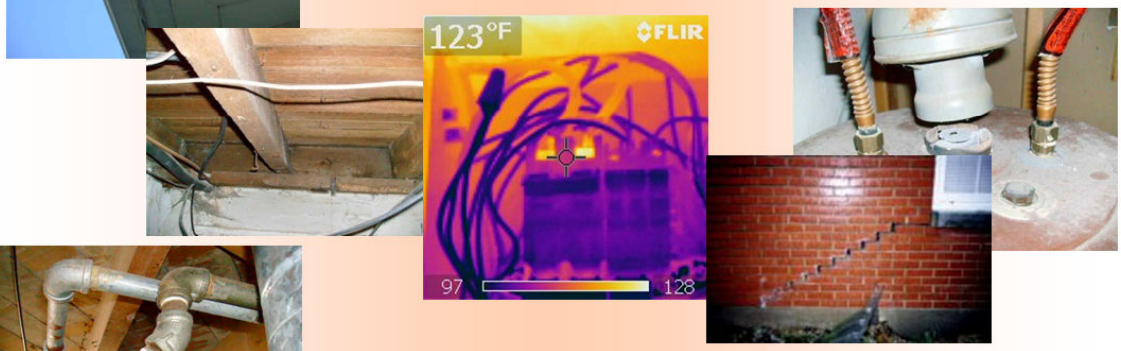
Home Inspection for the Homeowner

Carl Brahe, Certified Home Inspector



A professional home inspector guides you through inspecting your own home as a part of a good annual maintenance program.

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Homeowners Home Inspection Guide

Carl Brahe – Certified Home Inspector

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Why Inspect your House

This guide is not meant to replace a professional home inspection. It provides guidance for discovering many defects and knowing when to call for help. This guide is written with the assumption that the reader will have average handyman skills. Information is presented for persons with the knowledge and skill level.

Professional home inspectors have very specialized training and skills that the average handyman, or construction professional can't be expected to possess. Builders, architects and real estate brokers all employ professional home inspectors to protect their investments and to provide them with information for making wise real estate decisions. A professional inspection is suggested when making any real estate decision buying, selling or remodeling.

This inspection covers some common construction styles, materials and problems. Your home may be constructed differently with different materials, but the guidelines presented apply. Pay special attention to the problems listed in the top ten. Above all, if you are in doubt call a professional inspector or licensed contractor.

Top 10 Home Defects

Roofing Defects

Ceiling Stains

Water Intrusion

Electrical Safety Hazards

Rotting Wood On Exterior & Around Plumbing

Building Violations on Additions

Unsafe Fireplaces & Chimney Conditions

Faulty Installation of Water Heaters

Hazardous Conditions Involving Gas Heaters

Firewall Violations in Garages

www.housedetective.com

This inspection is geared toward the average homeowner and requires no special equipment or tools. Aspects of inspection that require special training or tools are not addressed here. When a thorough, professional inspection is appropriate, please call a professional.

The purpose of a home inspection is to discover defects to be repaired by appropriate professionals or competent do-it-yourselfers. When a professional home inspector finds unfamiliar situations, he/she will consult with a more knowledgeable professional. If you find something you don't understand, research it and/or consult with someone knowledgeable in the field.

Almost all houses have problems. Most are minor and inexpensive to fix. Some minor problems can turn into huge repairs and expense if not repaired immediately. These

problems may be discovered by an annual homeowner inspection. If in doubt, call a professional.

Your annual inspection should begin outside. Enemies of your home to look for are water, weather, pests, poor workmanship and deferred maintenance. Walk around your house inspecting from the bottom up. Look for anomalies, or things that don't look right. If anything doesn't look right to you, research it or call a professional to check it.

Use the checklists provided in the appendix to guide your inspection and correction of defects you discover.

If you identify a problem look for the source? Do you know what is required to repair it and are you willing and capable of doing it? If not, please contact a home inspector or appropriate repair person.

Landscape and grading

Look at the general drainage of your site. When it rains, or when snow melts, how does the water flow from your property to the adjacent properties? Does it run toward your foundation? Does it collect on your property? Does it damage your neighbor's property when it exits yours?

Uncontrolled water is usually the biggest single threat to a property, especially where the soil is high in clay content that can expand up to 15 times in volume when wet. The most common sources of uncontrolled water outdoors are:

- problems with roof, gutters and downspouts that allow water to drain next to foundation
- grading problems – dirt should slope away from the foundation on all sides of house
    - grading problems are often hidden by landscaping features such as bark, or stones that hide spots where water runs to foundation or pools next to it
    - brick, stone, plastic and metal edging next to house creates area where water pools

Drainage toward foundation Edging creates pool

- uncontrolled watering
    - moveable sprinklers that cause water to hit foundation, house, or pool next to foundation
    - sprinkler systems installed with sprinkler heads too close to foundation or aimed in a way that hits house or puts water too close
- uncontrolled moisture can cause
    - wood rot
    - mold growth
    - delamination/deterioration of building materials
    - conditions friendly to insects, spiders, reptiles and rodents

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Drainage

Concrete slopes to foundation

Dirt should slope away from all sides of your foundation six inches in ten feet. When this is not possible a drainage system is used to drain water away from the foundation. If concrete has settled with slope toward foundation concrete leveling may be used to repair.

You may notice cracks in walls and ceilings. Doors and windows may stick. This may be the result of uneven moisture under your foundation. If water drains away from three sides of your house, but brings the water to the foundation on the other side, extensive damage to your foundation may result.

A house plant watering meter, available at the local hardware store, can be used to identify places where soil is more moist next to foundation. If there is extra moisture in the water on one side of the house look for causes. Watch for clues like water stains or erosion that might lead you to the cause.

Bad drainage can cause bad cracks

Clay and organic matter in soil expands when wet and shrinks when dry. If all the soil under your house has even moisture the foundation floats with no damage. If one section expands, lifting the house, while the rest doesn't, the foundation can break.

Soil level next to the house should be at least 6 inches below all wooden parts, like sill board, framing and siding. This helps prevent excess wood rot and entry of invaders like ants and crickets.

Trees, shrubs and flowers

Look for trees or shrubs that may have grown too close to your foundation. These roots need to be removed. A professional landscaper may be able to remove roots while protecting the tree and preventing future root growth under the foundation. Plants and shrubs contacting the house should be trimmed back to prevent wetting building materials and providing access for insects. Plants need to be at least one foot from the foundation, shrubs at least five feet and trees ten.

If branches from large trees overhand the roof, these need to be removed. Limbs can damage the roof if broken by storm or disease. Leaves and small branches clog gutters and provide moisture promoting rot, decay and insect growth.

Sprinklers

Significant damage can occur from misguided watering of lawn, shrubs, flower boxes and gardens. Any of these activities that directs water toward your house are a danger to your foundation and may contribute to flooding in your basement. Oscillating sprinklers that spray against the house may damage siding, window and door frames, soffit and fascia, as well as the foundation.

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Spalling on inside of crawlspace wall

A leaking hose faucet can drip hundred of gallons of water into the ground next to your house. This can leak though the foundation walls. Look for signs of spalling on the inside of concrete. Spalling is salts washed through the concrete that dries on the inside. It has a white, salty appearance. If you have spalling, you have water flowing through your foundation. The source of the water must be stopped.

Exterior

Decks, porches and patios

A deck can be a wonderful feature adding to the enjoyment of your home. If properly built and maintained it can be a source of joy for many years.

Harsh climate, winds and high ozone levels can cause problems for decking. The wood must be protected and the protection maintained. Stains give a natural look, but paints last longer and protects the wood better. Painted decks need a lot less maintenance than stained. Decks should be stained every 1-2 years. Painted decks may go 10 years before repainting is needed.

Wood support beams that hold decks must not be in contact with the earth. Concrete supports should be a couple inches higher than soil level to keep moisture and insects from invading the wood. The beams are suspended on a metal bracket imbedded in the cement to prevent contact between it and the wood.

Look under the deck for cracked, or broken joists. Replace any that are badly damaged. Check where the joists connect to the hangers. Cracking at these connections may indicate movement in the deck foundation.

If your deck is cantilevered off your house, check horizontal support beams for cracks and rot. A cantilever is a beam that extends from the house frame. Decks can be built on cantilevers or on columns/beams. Cantilevered decks have a history of failing if overloaded. This can be from either design limit or compromised cantilevers.

Cantilevered decks have no support columns to ground

Cantilevers can also provide water entry into the house if not properly sealed. Look carefully for signs of water damage around the outside of the cantilever and where it extends inside your house. If the inside beam is covered look at walls and ceiling nearby for water stains.

Deck railings need to be sturdy and at least 40” high to prevent adults from tumbling over. Spokes in the railings are spaced so that a small child could not put his/her head through. The current standard is balusters must be no more than 4” apart.

The decking joists should be no smaller than 2x6. The decking boards are placed 1/8" apart to provide room for swelling and to shed water. Screws are better than nails for holding deck construction tight Notice where water goes when it runs off your deck. If it dumps extra water near your foundation, it could be a problem.

Exterior walls

Walk around your house and look at the walls and exposed foundation from the ground to the roof. The exterior shell repels the forces of nature. If it is compromised building materials can deteriorate quickly. Pathways for pest and water entry may develop. Moisture behind exterior siding may not evaporate creating conditions for mold growth and wood rot.

Note places that need repair. If paint is deteriorated on siding or trim, scrape and repaint as soon as possible. Paint protects wood. Without protection wood rots and must be replaced. Painting is relatively cheap and easy compared to replacing rotten wood.

If you find cracks in exterior walls the foundation below the wall has probably settled or heaved. Notice what is below the crack. A downspout without an extension, a dripping hose faucet, a misdirected sprinkler, an improper slope or many other conditions that allow water to flow to the foundation may exist. If cracks exceed ¼" or are growing consult with a structural engineer or foundation repair specialist.

Foundation

All foundations have some movement. They settle initially after being built. Over time there is likely to be more settling. The whole foundation may rise and fall riding safely on the expanding and contacting soil. If one part moves independently, damage from foundation to roof may occur.

Uneven moisture around the foundation can cause sections of the concrete to lift or rise independently instead of as a single unit. When this occurs parts of the foundation can fail.

You can check the moisture pattern around your foundation easily. It requires an inexpensive house plant watering meter. This tool can be found in hardware and discount stores for less than $10.

Stick the prongs of the moisture meter as deeply into the earth as you can about a foot from your foundation. Record the moisture level and move a few yards in either direction. Retest then continue around your entire house. If you find differences in moisture content, do whatever it takes to drain the wettest areas to bring moisture content the levels of the driest area. Even moisture around and under your foundation will help it last for decades, or even centuries.

Look for gaps around vent pipes and vents, or other protrusions through the foundation and outside walls. Small gaps, or holes, can allow entry of relatively large animals like

mice, snakes, squirrels and other rodents. Tiny holes and cracks allow entry for insects and spiders.

Look for cracking in the foundation. Small cracks may not threaten your foundation. Large cracks, ¼" or more, are always of concern. If in doubt call a professional. Even small cracks may allow entry of insects or radon. Cracks should be sealed with an appropriate sealer. Ask at your local hardware or building supply.

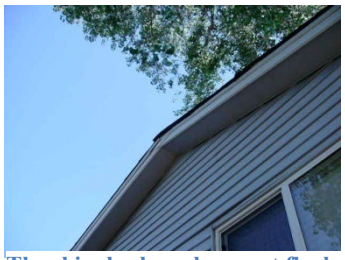
Crack ¼" or more – Call professional

** Always use products appropriate for the job at hand. Using the wrong products may cause additional damage. **

Roof, Flashing, Gutters and Downspouts

Roof and chimney

Step back and examine your roof using binoculars. You can spot many problems this way. Look for broken or worn shingles. Cupping and missing pieces are also trouble signs. Look for nail head that are sticking up. This occurs when the decking swells and pulls the nail. When the decking shrinks the nail remains sticking out. Over time this action can completely pull nails. It happens when moisture swells wood from saturation or from freezing.



The shingles have been cut flush with the edge of the roof letting water run underneath shingles.

The shingles should hang over the edges of the roof a few inches to allow water to shed without running underneath roofing. A small overhang on the gutters prevents water or ice from backing up under the shingles.

You can count the layers of shingles at the edge of the roof. If it has two layers, the old shingles will probably have to be removed before a new layer can be put on. This is the most allowed in most places because of the shingle weight.

Cracked cap and no spark arrestor

Check chimney and chase for signs of deterioration. With a chimney this means loose bricks, missing spark arrestor or gaps in the masonry. A chimney chase made of wood will rot if water is not properly drained from it. Look for loose nails and dry, cracked or rotted wood.

Deteriorated mortar

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Flashing

Examine the flashing. This is usually a piece of sheet metal that is fitted over places where shingles intersect horizontal walls, vents or flue pipes. It is often covered with a rubberized sealant. Any cracking or gaps in flashing is a serious situation. Water will penetrate and may run anywhere in the house. Building materials will loose all structural strength if left soaked long enough. Mold can form inside walls and floors. All these conditions, as well as insect infestation depend on building materials having a water content of 20% or more. The cure for all is dry building materials.

Damage from water and snow driven under flashing

Look at all vent pipes extending through your roof. Sealant around the flashing should not be cracked or missing. The same situation as above can result.

Worn out rubber flashing

Gutters and downspouts

Clogged gutters can cause huge problems. The origin may be hard for the homeowner to track down. This type of water leak may cause extensive rotting of building materials, mold growth and promote infestation by insects. When the water content in building materials exceeds 19% all of these conditions are likely to occur.

Clogged gutters, or gutters with no slope, can send runoff water down the side of your house, into attic or inside walls. Water can run from the highest level of your home to the lowest and to the farthest reaches. Look for water stains on the face of the gutters and on surrounding building materials that indicate water flowing over the front or behind gutters.

Missing, leaking or misdirected downspouts and extensions can crack foundation and worse. Make sure all downspouts and extensions are in place and in good repair. All downspouts need to be directed away from the foundation. Splash blocks and extensions can be used.

Downspout problems can become foundation problems

Examine the outside walls for water damage or dry rot caused by deterioration of paint or stain. Poke suspect areas with an ice pick, awl, nail or similar tool. If wood splinters it is too dry. If it is soft or soggy, it is too wet. This applies only to wood siding. Don't puncture or disturb asbestos siding in any way. Don't poke or scratch vinyl or metal.

Dark stains on wood are usually mildew. Mildew can be washed away by hand with a mild solution of equal parts dish soap and bleach in water, or by using commercial chemicals in a power washer.

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Under the overhangs of the roof is the fascia, or face board. If the fascia is rotted, or shows signs of water staining, it may need repaired or replaced. This may be a sign of leaking in the roof or of water cascading from clogged gutters.

Leaking gutters can rot fascia and soffit

The horizontal board on the underside of the roof over is called the soffit. Inspect it in the same way as the fascia. Find the source of any leaking water that is damaging the soffit and fascia before you repair the visual damage. It's foolish to install new materials where you have an active leak.

Interior

Crawlspace

If you have a crawlspace, check for signs of water beneath your house. If water has been leaking from plumbing, call a plumber immediately. This is not only a threat to your home; it is a threat to your health. Look for wet or fallen insulation. Most crawlspaces are now sealed with plastic sheeting to prevent moisture and radon entry. If yours is not sealed, consider sealing and testing for radon.

Water leaking into crawlspace from toilet above

Check the floor joists and sheathing for water stains. Look around the edges for water stains. Examine the floors under bathrooms and kitchens carefully paying close attention to materials around pipes where they come through the floor. Check all exposed plumbing for leaks. If you find water stains, wet building materials, or standing water, make note of what is above. You will want to check above these areas carefully.

The crawlspace needs to be ventilated to allow moisture to escape to the outdoors instead of into the house. Crawlspace vents are often sealed or blocked with insulation or stored items. Vents should be at two ends of the crawlspace to allow a cross flow of air. Make sure your vents are open and allow free flow of air.

Blocked crawlspace vent

Basement

In the basement, you may find early warnings of defects. Water always runs down hill. If there is serious water leakage anywhere in the house, it will probably show in the basement. The basement may have exposed plumbing and wiring vulnerable to damage. The furnace and water heater are installed here.

When you walk into your basement, sniff the air. Do you smell that damp, musty smell associated with basements? This is mold or mildew. It requires only a source of moisture that lasts for more than 48 hours. The usual sources are: leaks in plumbing, improper

grading around the house allowing runoff water to enter through the foundation, leaks in roof and condensation of moisture trapped in inside air.

To avoid damage to building materials, and possible health hazards, sources of moisture must be repaired and dried quickly. Mold begins to grow and decay your building materials in 48 hours. The only way to stop it is to decrease moisture to less than 16%. Dormant mold spores are everywhere just waiting for a source of water to bring them to life. Their purpose in nature is to decay all organic matter, including wood. No Moisture = No Mold.

As you enter your basement bounce on the stairs lightly. Is there give, a spongy feel or creaking? Examine the stairs from underneath if accessible. Shake the stairs to check for looseness. Poke the wood with a sharp screwdriver, awl or ice pick. If it crumbles, powders or splinters call help. If there is cracking, or other damage you are not comfortable repairing call a professional.

Carefully examine the walls where they meet the ceiling. Look for water stains or anything else out of ordinary. If water stains are old, and the cause has been repaired, they are probably only a cosmetic problem. Look for a separation between wall and ceiling that might indicate surging in the foundation or overloading of the floor above.

Move in a clockwise motion examining all the way around the edges of the walls where they intersect and where they meet the floor. Look at the center portions of the walls. If water stains are present notice if the stains are high on the wall, in the center or near the floor. This gives some clue of origin. Check each wall.

If the stain is near floor drains it probably indicates a slow, clogged or broken drain. If it is wet near the outside walls, it is an indication that the water may be coming through the foundation. If the moisture is in the ceiling in the middle of a room, the probable culprit is leaking plumbing in a room above. Moisture high on the inside of the exterior walls may indicate leaks in roof, fascia, siding, doors, windows, trim. A sprinkler problem or a gutter problem may also be indicated.

Fog on inside of windows and moist walls may be a sign of condensation from a leaking dryer hose or bathroom vent. Leaking plumbing or water intrusion may also be the cause.

Around the edges of the floor, where the foundation meets the walls, there may be an expansion material between the floor and the foundation walls. If the expansion material has shrunk and no longer seals, water may penetrate.

If you have this type of foundation, a radon test is recommended even if the expansion material is tight. Radon is a gas that will seep in through the expansion joint if the barometric pressure outside is greater than the pressure inside the house. Radon may enter through cracks in your foundation or basement walls, holes through concrete floors and unsealed crawl spaces.

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Radon is a concern for all. Most houses have not been tested for radon even though the EPA estimates that as many as a third of all US homes have dangerous levels of radon. Repair may be easy and inexpensive. Radon tests are recommended for all homes in the state.

Check walls for bowing or cracks. This may indicate foundation movement. Call a foundation professional if you find these things. Small cracks may be of no concern but should be checked by a professional. Major foundation damage may be avoided if discovered early. Even if your foundation has been stable for many years changes in nearby water drainage or underground water currents can cause sudden and even extreme damage. If you notice changes in your foundation, cracking in walls and/or ceilings, or if small cracks begin to grow, call an expert.

Twisted floor joists

Check floor joists for the floor above if visible. If floor joists are bowed, warped or deteriorated from dry rot, mold or insects call a foundation specialist. These are all signs of lumber that has lost structural strength. Cracking joists may indicate a heaving or falling, or overloading of the foundation.

Rotted support post

Check supports and beams. Wood should be firm and rot free. Steel support posts should be painted with no rust.

Uneven floors or cracking in concrete could indicate the foundation is heaving or sagging. This is usually caused by soil beneath the foundation swelling with moisture or shrinking from drying.

To check for uneven floors drop a marble in the center of the floor in rooms with no carpeting. If the floor is uneven, the ball will roll to the lowest point. This situation merits checking by a professional. It could indicate big problems developing.

Interior Rooms

Many homes are built on concrete slabs. Inspect these rooms in the same manner as the basement. Carefully examine the walls where they meet the ceiling and floor, as well as where they intersect. Look for any sign of water staining, new or old. In our dry climate, a major roof leak can go unnoticed until times of heavy rain. Dried up water stains could be a sign of an active leak. Make note to look in rooms above for the source.

Use the ball or marble to check for even floors. If it rolls toward or away from parts of the house with cracking it's a good indication that the source of the cracking is also the source of the uneven floors.

If your floor is not level, especially if there are cracks in your walls, consider calling a professional to find out why. Problems with the foundation, or floor joists are indicated.

These problems increase in severity and repair expense as time passes. What may be a small fix today can be heartbreaking in a year.

Check where walls meet the ceiling for separation caused by the framing lifting. Look along the walls for bowing. If bowing or gaps are visible, call a structural engineer. Bowed walls have little or no strength. Structural integrity is compromised.

Doors and Windows

Start outside inspecting windows and doors. Look around the frame for cracking, dry rot or moisture. Caulking needs to be replaced if shrunken or cracked. Look for water penetration around the top, bottom and sides of doors and windows. Sills should slope away from the house for proper drainage. Any water damage or infiltration needs to be fixed immediately.

Open and close each door noticing how easily it closes. Notice if the strike plates don't align well with door latch or dead bolt, or if the strike plates have been moved. Rising or settling in the foundation are likely. The doorframe may be distorted. Opening and closing the door may be hard. The latch may not work. Weather stripping may not seal well. This may also indicate a poor installation without proper shimming.

Open and close each window. All identical windows should operate identically unless they are dirty or damaged. Shifting in the foundation, or swelling from moisture may have distorted the frame. This may cause difficulty in operation. In extreme cases, the glass can crack or even shatter.

Good weather stripping around doors and windows can add greatly to the enjoyment of your home, particularly in the winter. Heating and cooling costs are less if weather stripping is in good condition and seals well. Your local hardware store will have various options for replacing weather stripping. Most stores will help you with the proper selection and provide installation instruction.

Open and close all the interior doors. Look for cracking around the frame and in the ceiling above on both sides of interior and exterior doorways. Check the alignment of the door latch with the striker plate. Misalignment may mean vertical movement. A professional should check vertical movement and resulting cracks around doors and windows.

Stairways

A solid handrail is required for all staircases. Steps rise at a comfortable, uniform rate. Risers are wide enough to feel safe and comfortable, not wide enough to require taking more than one step per riser. Spongy or creaking stairs may require reinforcement or replacement.

Handrails need to be at least 40" and balusters no more than 4" apart.

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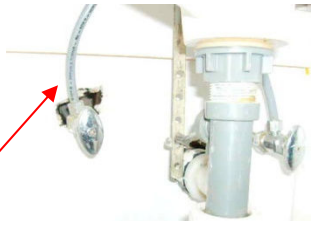
Kitchen

Your kitchen holds the potential for many threats to your home. This room may have electrical, plumbing and gas fixtures. All present possible dangers to your health as well as to the structure of your house.

Appliances will be minimally covered because no one knows your appliances better than you. Your everyday use reveals limitation and aging.



PB supply pipes – known to burst

The first place to inspect is your sink. Turn the water on full. The water should drain faster than the sink can be filled. Water dripping from around the base of the faucet when turned on or off can mean trouble if the seal under the body leaks. This is usually an easy fix. Kits are available from your local hardware store with easy to follow instruction. Few tools and little skill are needed.

Sink drains should use plumbing parts only

With the water running, look underneath the sink. The floor of the cabinet should be dry. Feel the drains and supply pipes. Use a small mirror to inspect behind the pipes for corrosion, cracks and leaks. Any leaking water needs to be fixed immediately. It takes only 48 hours of moisture above 19% in building material to begin decay. It can become a health hazard as well.

Check for leaks in the dishwasher discharge and water supply. Make certain the electrical connections are secure inside a junction box. Many dishwashers are now connected to an outlet under the sink. The outlet, or junction box should be mounted out of the way of possible drips from sink leaks.

Wrong drain hose connection

The discharge hose should empty into a drain with an air break. If the drain hose is connected to the garbage disposal the hose needs to make a high loop to prevent siphoning of wastewater into fresh water. The hose should exit from near the top of the dishwasher and run downward to the drain connection. If the hose make a low loop, reroute it.

Every kitchen needs to be equipped with an exhaust fan. Unfortunately, most kitchen exhaust fans don't really exhaust. They filter the air through a washable filter and recirculate into the kitchen. These filters build up grease from use and need to be washed regularly.

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If your fan does actually vent outside the kitchen, be sure it vents to the outdoors, not into the wall or attic. A build up of grease in these places creates a fire hazard that is hard fix. An airflow damper in the vent helps prevent the exhaust vent from becoming a chimney that intensifies flames in case of grease fire. If you have improper venting call an HVAC repairperson.

A vent to the outside is highly recommended for use with gas stoves. Gas flames, including pilot lights, release small amounts of deadly gases. Toxic fumes are increased if the flame is not properly adjusted or if there is not an adequate amount of fresh air for full combustion.

Your kitchen and bathroom are prime places for accidents with electrical shock. Every electrical circuit in every bathroom and kitchen require a GFCI (Ground Fault Circuit Interrupter) outlet. These outlets provide extra protection against shock. Only one is required on each electrical circuit. It will shut off the electricity to the entire circuit if ground fault is detected on any outlet. The "Test" "Reset" buttons on the face identify these.

GFCI Outlet

GFCI are being recommended for more location in recent years. This added protection is now recommended for bathrooms, bedrooms, kitchens, garage and outdoor circuits.

Bathroom

The bathroom is an obvious place for damage from uncontrolled water. Tubs, showers, toilets and sinks are prone to leaking, especially as they age. Caulking cracks and shrinks with time. Grout crumbles. Serious leakage can be hidden behind walls, under tub or shower.

The first place to look when inspecting a bathroom is the below the floor. If the plumbing below is exposed in basement, or crawlspace, inspecting is easier. Look for water stains on the underside of the floor and on floor joists. Follow the path of the plumbing noting corrosion or leaks. Water may run down the outside of water supply, or drain pipes, leaving moisture around the holes in floor and joists. Look carefully at these places. If the plumbing is hidden behind ceiling, or walls,, look for water stains on finished surfaces.

Open and close the bathroom door. Swelling of the wood due to uncontrolled condensation may cause sticking. Feel the walls. Dampness means condensation and possible mold growth. Open and close wooden cabinets. Misaligned doors may be caused by moisture.

Keep exhaust fan clean

Every bathroom should have a working vent fan or window to expel moisture from showers and baths. Moisture must be vented to the outside. Condensation can allow mold growth and decay of building materials if it does not dry out completely and quickly.

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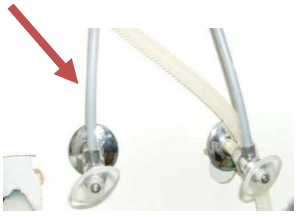
If vents exit through the side of your house, turn on all fans and the clothes dryer. The flap seals will open if air is exiting. If the flap doesn't open, try freeing it with your hand. If the flap moves freely, but no air is exiting, the vent hose is loose or clogged. Make sure all sources of venting; fans, dryer, etc., have a working vent that vents outside.

If vents exit through the attic, check for proper venting when in the attic. Sometime vents are left to deposit condensation inside your attic threatening your home and possibly your health.

Examine the walls where they meet the floor. Look for water stains. Follow the walls around where they meet the ceiling. Carefully check the rest of the walls. The source of any water leaking, staining or damage must be found and repaired immediately. Bounce on the floor to check for strength. Floorboards and joist can be left weakened by water damage, old or new. All that's needed for the forces of decay to eat away at the building materials that hold your house together is moisture and a couple days.

Caulk around sink

Open the vanity doors. Turn the water on all the way. The sink should drain as quickly as the water pours in. If water fills the sink, clean the drain. With the water running feel the pipes. Run your hand over the length of the drain and the water supply tubes. If you feel moisture find the source and stop it.



PB supply pipes – burst danger

Use a small mirror to look for corrosion or damage to pipes. Squeeze drain pipes. A severely corroded drainpipe may crumble in your hand. People have been known to use bizarre replacement pieces and repair materials in plumbing. If you find anything but real plumbing parts in your system call a plumber. Auto parts, tape, plastic wrap or wire are not acceptable plumbing repair medium.

The floor of the vanity should be dry. It is common for this wood, or cardboard to be soaked, warped from past soaking or rotted. If there is moisture present and you have not found the source look again.

If the faucets drip or leak from valve bases repair them. Your hardware person will help you select the proper parts and instruct you on installation.

PEX supply okay

Gently try to rock the toilet side-to-side. Notice any looseness in the tank. If it moves, tighten the mounting bolts. If rubber washers are leaking, replace them. If the toilet moves where it meets the floor tighten the bolts holding it to the floor.

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Look around the base of the toilet for signs of water stain or damage. Flush while watching and feeling for water around the base. If water is present you probably need to replace the wax seal.

These are cheap and fairly easy to replace. If you even suspect it may be leaking, replace it.

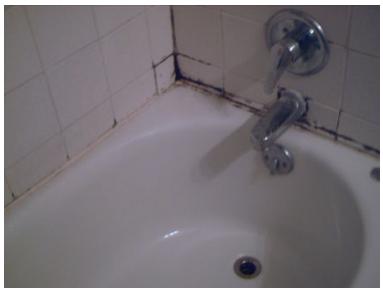
If the flush mechanism leaks, or does not fill properly, repair it or replace it. Flap seals and fill mechanisms are easy to replace. Again, your hardware person will assist you. The correct parts are required for low volume flush toilets. Generic parts may disable the water saving feature.

Caulk around spout and handles

Leaks in the tub or shower may be hard to find. You may not even see evidence of leakage in the bathroom. It may only show below if at all. Small leaks in caulking can send water great distances. If you have, or suspect you have a leak replace and repair the potential sources. It is inexpensive if you do-it-yourself.

Repair all breaks in caulk and grout. Ask your hardware person for help in selecting the right materials and the proper way to install them.

If you have water stains along the edges of bathtub or shower, or on the wood below reseal the showerhead pipe and overflow cover. Remove the pipe that the showerhead mounts to. Turn counter clockwise using a strap wrench if available. If not, carefully remove using pliers, pipe wrench or other tool covered in cloth to avoid scratching. These pipe threads are often sealed with pipe dope that has hardened and lost seal. Water can leak soaking materials in walls and floor undetected until major damage results. Replace this with Teflon tape and re-install. Seal shower head to pipe in the same manner.



Sometimes caulk needs replacing

The overflow drain cover may need to be sealed. This is usually a round metal piece held in place with one or two screws. Remove the screws. Replace the seal with a snake of plumber's putty the same length as the seal. The drip hole in the bottom of the overflow cover must remain unblocked. Roll the putty into a rope of the proper length and bigger diameter than the original seal. When installed wipe away excess putty that is forced out when tightening.

If the faucet drips, or leaks, repair it.

If you have a fiberglass tub, or shower base, kneel inside and look for hairline cracks that only open when there is weight on them. If you find cracks, you must replace or reline the tub or base.

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Plug the tub, or shower drain, making sure it doesn't leak. Fill with a few inches of water. Let it set. If the water level goes down after a couple hours, you have a leak.

If the tub or shower leaks around the base, you probably have a bad drain pan. The drain pan is waterproof material that is installed under the tub, or shower. If this liner leaks, the tub or shower must be torn out for replacement. This expensive repair needs to be done by a professional.

New custom fit tub liners may solve leaking problems with a relatively inexpensive fix. Theses liners are made to perfectly fit over your existing tub or shower stall. These must be installed by professionals willing to guarantee their work and that the leaks will be fixed permanently.

**A note on jetted tubs: On some tubs the pump that operates the jets is mounted in way that allows water to remain and stagnate in the pump. This has been found to be a health risk. Microbes can develop that have been associated with severe health problems.

The pump should be mounted with the drain sloping downward. The bottom of the pump housing must be higher than the drain. Some pumps have internal chambers where water collects and cannot drain even if mounted properly. If you think your pump may not drain completely, call a professional. You can help keep the system clean by running dishwasher detergent through the pump for 15 minutes every week. This applies to hot tubs as well.

Laundry

Check sinks, drains and washer supply hoses for leaks. Squeeze the washer hoses. They should be firm. Leaking or bursting washing machine hoses can cause a great deal of damage. If you have any doubts about your hose replace them. You can get steel braided hoses that last much longer than traditional rubber hoses.

Another possible source of problems is the dryer vent. Plastic dryer hoses present a fire danger. Dryer lint is highly flammable and build up in a dryer vent hose can catch fire. Plastic hoses melt and spread the fire. Metal hoses contain it better.

Dirty dryer vents allow entry for rodents and insects.

Attic

If your home was built between 1930 and 1990, you may have asbestos insulation in your attic. This is made from vermiculite and sold as Zonolite. The EPA describes the insulation as a pebble-like,

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Zonolite - asbestos containing insulation

pour-in product, usually light brown or gold in color. It has also been described as "brown Styrofoam" or "dirty Styrofoam." In some cases, homeowners discovered discarded packing bags in their attic labeled "Zonolite."

W.R. Grace owned a facility in south Denver, called Western Minerals. That plant converted vermiculite into Zonolite and distributed it in the region. The EPA believes the Western Minerals facility received at least 100,000 tons of the ore.

Western Minerals in Denver stopped processing Zonolite about 1990. The homes most likely to have Zonolite are those insulated between the late 1960s and the late 1980s, when the Western Minerals facility operated. But it's possible homes built both before and after that contain the vermiculite insulation.

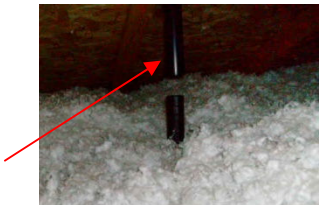
If you have this type of insulation, stay out of the attic. Do not open the access door, or disturb it in any way. Contact the EPA, (202) 566-0500, for information on remediation and what you should do until remediation is finished.

In most forms, asbestos is left alone, or sealed to avoid damage that could send deadly fibers into the air. Zonolite must be removed.

If you are certain your attic does not have asbestos insulation carefully enter. Wear a protective mask to avoid inhaling insulation, dust or other irritants and pathogens. Step only on the rafters if no floor is installed.

Examine the roof rafters for twisting, cracking or sagging or lifting off the central support beam. Look for water stains or moisture on the underside of the sheathing. Pay close attention to seals around vent pipes and other intrusions through the roof. The source of any water leakage must be found and repaired. This requires examining the roof.

Your attic must have proper airflow to remain dry. Vents in the roof, gables or soffits fill this need. These come in various sizes and types. Make certain you have attic vents and that they are working. If you have any doubts about the ability of your present venting system to move enough air to cool and dry your attic under all conditions, call a roofer. A rule of thumb is one square foot of ventilation for every three hundred square feet of roof.



Sewer vent pipe not connected

Check the roof from the outside. If you are not comfortable with being on the roof, or you are not well versed in finding leaks, call a roofer. Be sure the source outside, for every wet spot and stain inside, is identified and repaired. Leaks may be hard to find. Be persistent in finding them all.

If shingles are brittle, broken or missing, call a roofer. If the gravel has worn off shingles or nail heads are exposed get professional help.

Fireplace – woodstove

Fireplaces, chimneys and wood stove chimney pipes need to be cleaned periodically. Creosote builds up on the inside of chimney flues and can cause fires. If your chimney has not been cleaned in recent years, call a chimney sweep. They will inspect your fireplace or stove while they work. Chimney sweeps see more kinds of fire burning appliances than anyone. Having your chimney cleaned is necessary maintenance. Hearing your chimney sweep say everything is okay provides great peace of mind.

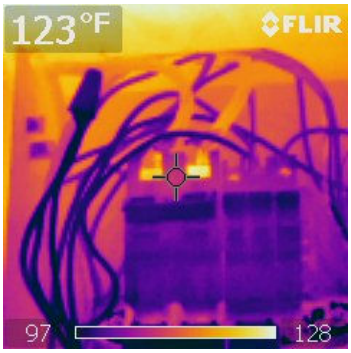
Mechanical Systems

Electrical

Check where the electrical service enters your house. If electricity is delivered through overhead wires, make sure there are no tree branches that threaten the wires. Many power companies will trim these free.

Make certain the wires are not in contact with roof or other structures. Overhead power wires must be at least twelve feet above driveways. Your power company is generally responsible for these lines and will move them if needed without charge.

A grounding wire connected securely to the breaker box and either to a water pipe, or to a copper rod driven into the ground, needs to be in place. This is a safety issue if missing or loose. Tighten if possible. Call an electrician if missing or damaged..



Handyman electric work Infrared shows it's hot enough to catch fire - 128° F

Water entry is a major concern with outside electrical fixtures. Overhead power should have a U shaped loop next to the service tower. This allows water to drip away from fixtures and penetrations to the inside of the house.

Places where wires enter junction boxes or breaker panels should be sealed. If the seals are cracked water can penetrate causing a potential shock hazard.

If you suspect that wiring has been done by unlicensed workers call a professional electrician or home inspector to inspect wiring. It is rare for a home inspection to not uncover wiring mistakes in amateur electrical work. It is also common for inspectors to find mistakes and/or poor workmanship done by professional.

All outside outlets need waterproof covers. The outlets should be GFCI, ground fault circuit interrupter. These provide extra protection against shock.

Gas and water service

Gas and water service entry are another area of possible concern. Pipes entering your house need to be well sealed. Water penetration can cause lumber and other building materials to decay loosing structural strength. Mold growth can occur. Moisture in building materials also invites insect infestation. Gaps around pipes can allow pest entry.

Pressure valve to left of meter may burp a small amount of gas

* The pressure valve, usually attached to the meter, occasionally burps a small amount of gas. If you smell gas here, go away for a few minutes. If the gas smell remains call your gas company.

Plumbing

Examine exposed plumbing, electrical wires and fixtures. Look for corrosion and moisture on pipes, especially at joints. Check electrical wires for worn insulation, loose fixtures or exposed wire splices. Notice anything that doesn't look right to you. If these conditions are found consult a plumber or electrician.

Polybutylene plumbing connection – known to fail

Copper to galvanized iron pipe connections cause corrosion

Hot and cold water pipes are required by code to be at least 6" apart. This is almost never the case. Sometimes hot and cold pipes touch. This is a waste of energy and makes it harder to get sufficient hot water at the faucets. You can insulate hot water pipes inexpensively. You can identify hot and cold pipes by touch.

If you find damage to the walls, ceilings or floors, anywhere in the basement, note what is directly above. If you find water stains, look for leaking plumbing or water entry from outside of this part of the house. If you find uneven floors or cracks in walls or floor joists, look in the rooms above for damage indicating that it transfers from the basement or foundation.

Sump full – pump not working

Basements may contain other elements like sump pumps or radon removal equipment. These should be kept clean and operation confirmed periodically. Check owner's manuals for specifics.

A dry basement smells good. Let you nose guide you to discovering future problems before they become major. Act when you first smell something.

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Floor drains

Find all floor drains. These drains have a water trap that prevents entry of sewer gas. If the water in the drain dries up from lack of use poisonous gas can enter your house. Sniff high above the drain. If you detect a bad odor, it may be sewer gas. Run water in the drain immediately. Avoid breathing the gas. Filling the trap with water should stop the odor. Pour water in the drain occasionally to maintain seal.

Notice how quickly the water drains. Look for water backing up around the drain. This could mean drain problems. If the drain is slow or clogged, call a plumber. Big trouble may be in store if the drainpipe is broken or full of tree roots. A camera on a sewer snake can be used to look inside drains. If you are buying an older house or live in an older house where you are having drain problem. Call a local plumber to scope drains. It is inexpensive and can provide a lot of reassurance.

HVAC

Furnace

Most furnaces do not have consumer serviceable components. You can however clean your furnace and replace the filter. The filter must be kept clean to allow airflow to the heat exchanger. A dirty filter can cause damage to the heat exchanger. If the filter is plugged air does not circulate properly through your house. Your furnace may not produce enough heat for comfort and the furnace blower motor may be in danger of failure from overheating. Your heating bills will also rise.

Expansive soil causes movement seen at furnace

The filter is simple to replace once you've located it. It is usually behind a sliding panel in the sheet metal furnace frame. It is always in front of the big squirrel cage fan that sends heat and cool through your home. Install a new filter once a month with the airflow following the arrows on the filter.

Vacuum all dirt from the filter compartment. Brush the fins of the squirrel cage with a paintbrush while vacuuming away debris that is loosened. A small build up of dust on the fins will cut the efficiency of the fan tremendously. If you feel comfortable with opening the furnace box, brush and vacuum all exposed areas.

When finished cleaning the furnace, turn up the thermostat to cause the furnace to light. Notice the flame. If it is sharp and blue, this is a good sign. If it is lazy and yellow, call a furnace repairperson. If your furnace is rusted, noisy, smelly or has a deteriorated flue call a professional. If you hear a growling or rumbling sound when the fan starts this could mean a worn fan bearing. Small repairs sometime save major expense.

While the fan is still blowing check all vents for airflow. Vacuum vents to prevent buildup of dust that nourishes mold and bacteria. If airflow to any vent is blocked, consult an HVAC professional. You likely have a clogged, smashed or disconnected air duct.

The tape on the joints may contain asbestos the insulated wrap almost certainly does

If you have an older heating system or live in an older house beware of asbestos. Asbestos can cover duct joints, ducts or entire heating systems. If you find something you suspect contains asbestos do not disturb it. When asbestos containing products become brittle from age microscopic fibers are released when disturbed. Consult an expert if you think you may have asbestos containing products.

These are only guidelines. A furnace can emit lethal levels of carbon monoxide and show no outward signs of damage. If you have any suspicion that your furnace is not working right call a licensed HVAC repairperson. All homes should be equipped with carbon monoxide detectors. Your furnace should be serviced every year by a licensed repairperson.

Air Conditioning

All forced air units operate on a simple principle. They move air, usually through a hot or cold medium. The most common cause of failure is that they cannot move air properly. When air does not flow properly various parts of these units over heat and fail.

One thirty second of an inch of dust accumulated on the blades of a fan, like used with furnaces, will cut down airflow by 30%. A filter that is half clogged with dirt cuts airflow to 60%. Evaporative coils on an AC unit that are a third blocked cut efficiency by 10-15%. If totally blocked with leaves, grass clipping, dirt and/or other things the condenser will fail.

The most common way to provide heat for a forced air furnace is through heating the inside of a metal container. Air is forced to pass around this container, or heat exchanger. The air gets warm and the heat exchanger cools. If the airflow is not sufficient to cool the heat exchanger, it overheats.

When overheated, a single drop of moisture or a speck of dirt can cause the heat exchanger metal to crack or separate at the seams. The heat exchanger can get hot enough to melt. When the metal container of the heat exchanger leaks, deadly gases such as CO escape and can be drawn into the fresh air supply and delivered to living spaces.
AC units are also damaged by excess heat from lack of airflow. Gases that turn very cold when compressed produce cooling. The cold is removed from the gas as it passed through something like a car radiator. The cold gas flows inside. The air handler, or squirrel cage fan box, forces air to flow through the radiator fins then throughout the conditioned space.

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When the liquefied gas is warmed by the airflow, it expands and turns back into a gas. The gas is taken outside to the compressor where it vents its heat while being compressed back into a cold liquid.

If a clogged filter, or dirt and debris restrict the airflow, the process of changing back and forth between gas and liquid is restricted. When airflow is restricted enough the gas stays liquid and damages the compressor.

Improper filter installation

Forced air systems of all kinds rely on unrestricted air movement. If air is restricted, overheating, inefficiency and damage will occur. The longer airflow is restricted the more damage results. Compressors, motors and heat exchangers are all at risk.


Condensation dripping onto filter grows mold

If you find water or moisture stains inside the filter housing or fan housing, the most likely cause is a problem with condensation control apparatus for the AC unit. The furnace and AC work the same. They channel air from the blower fan through a hot or cold heat exchanger depending on which is being operated.

When the AC is operating water will condense from the air on the outside of the cold heat exchanger. This moisture must be channeled to the outdoors or to a drain. If it leaks inside the air handler cabinet, mold or bacteria growth can result. If you find water inside your furnace/AC unit, have it fixed immediately. It is a health hazard.

Clean the cooling fins on your AC compressor. Blocked fins cause the compressor to overheat and decrease cooling. These can be cleaned with a garden hose and a soft brush.


Keep condenser cooling fins clean with a garden hose

Consider adding a misting unit to your compressor. This inexpensive device sprays a constant fine mist of water from an attached garden hose onto the cooling fins. It increases efficiency, useful life and significantly decreases energy consumption.

Turn on your AC system if the temperature outside is above 65° F. Never operate the compressor if the temperature is below this. Damage will occur. If the compressor makes strange noises, is louder than in the past or if you feel that it is not producing enough cooling, have it checked by a licensed HVAC repairperson. Deferred maintenance usually results in extra expense. This is especially true of HVAC equipment.

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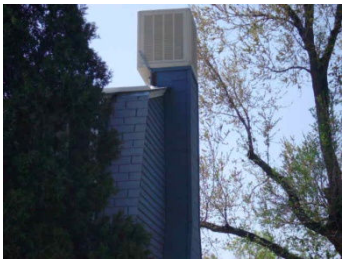
Other systems

A simple forced air system is a whole house fan. These are the most economical cooling systems. A fan is mounted in the attic that draws cool air through the whole house, forcing warm air out. Ideally, the house is sealed very tight and the fan runs only at night.

Another simple forced air cooling system that is installed in many dry climate homes and businesses is the evaporative cooler, or swamp cooler. This is like a box of rain with a fan inside to draw warm air through the falling water and push it into the building. Power use can be as low as 1/3 that required for AC operation in a dry climate.

Inside a swamp cooler

Swamp coolers are handyperson friendly. They have only a few basic parts. A box with louvered sides contains shredded aspen bats, or other medium, to hold the falling water. A pump sends water to the top of the box and it falls through the bats. The fan pulls air through and directs it into living spaces. A motor turns a squirrel cage fan using a fan belt. These, along with the float valve assembly are the only moving parts.

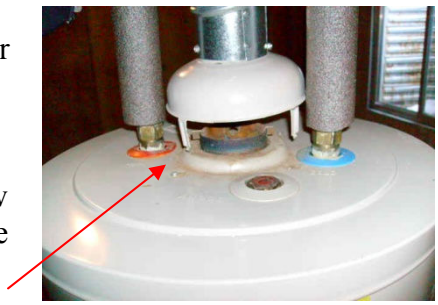


Swamp cooler mounted on chimney wrong for many reasons

Swamp coolers provide a moist cool that can be very welcome in our arid climate. The water filters out dust and pollen. Evaporative coolers are relatively inexpensive to install and operate cheaply when used with a thermostat. The downside is that they must be kept clean or mold and bacteria can grow. In most residential uses, servicing twice a year is sufficient and can be done by a homeowner.

Water heater

Water heaters are usually installed in the same area as the furnace. It is common to find a professionally installed water heater installed improperly. If you have any doubts about yours, call a licensed plumber.



Remove all articles from the top of the heater and find a new place to store them. Feel the flue where it joins the top of the tank. Be careful, it may be hot. It should be mounted solid and squarely over the vent. Notice any rusting of the flue pipes. Squeeze them to make sure they are strong. Long runs of vertical flue pipe should rise at a gentle angle.

Inspect your burner. It's behind the access panel where you light your pilot. If the burner, or burner compartment is rusted, the tank probably leaks. Any tank leak requires replacing the water heater. Gas water heaters last an average of 11-13 years. Electric heaters last an average of 14 years.

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Turn up the water temperature knob while watching the burner. The burner should light immediately with a sharp blue flame. If the flames reach outside the burner chamber a problem with the venting is indicated. This is dangerous. CO may be vented into the house.

While the water heater burner is lit hold a small mirror next to the air gap between the top of the tank and the bottom of the flue pipe. If the mirror fogs exhaust gas is escaping into your house. Carbon monoxide poisoning is possible. Flue problems can be potentially lethal and should be handled immediately by a pro.

No extension on pressure release valve

On every water heater a safety pressure valve is required that releases excess pressure when it begins to rise to unsafe levels in the tank. The tank can explode if there is no pressure release valve installed, or if it's not functional. This valve needs to be operated once a year to keep it clear of mineral build up and working properly. The valve has a metal lever attached to a brass body. There is a discharge pipe attached to this that directs released water to a drain or to the outside. The discharge pipe needs to vent downward to the floor to avoid scalding in case of operation.

Lift the lever. You should hear an immediate hissing of steam and water being released. Let a small amount of water run to be certain the valve is not blocked. A caution here: If the valve has not been operated for many years it will probably continue to leak after testing. If the valve cannot be cleared allowing it to seal by operating lever it will need to be replaced. The valve is inexpensive and can be replaced by a very handy homeowner, but a plumber is suggested.

Maintenance saves

Inspecting your home every year can save you money and headache. Discovering problems early often allow for small easy fixes. In all cases, call a professional home inspector, or repair person, if you have doubts. An investment of a few cents per square foot is a small price to pay for protection of your investment that may cost hundreds of dollars per square foot.

Deferred maintenance can be the biggest menace to a home. Be aware of problems developing in your home. Fix problems as soon as possible. Fix them right the first time. This will maximize the life of your house and minimize the expense of keeping it in top condition.

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Appendix

Checklist

EXTERIOR	
Landscaping and Drainage	
Soil slopes away from all side of the house	Yes No
Dirt is wetter in some places around the foundation than others	Yes No
Siding or other wooden parts contact soil	Yes No
Water from rain or snow runs away from house	Yes No
Sidewalks and driveways are in good condition	Yes No
Sprinklers, drippers or soakers put water next to foundation or on siding, roof, windows or doors	Yes No
Dripping hose bib	Yes No
All sprinkler heads installed, aimed and working properly	Yes No
Suspect breaks in pipes underground	Yes No
Places where water pools	Yes No
Gates and fences in good repair	Yes No
Decks, porches and patios	
Decking rotted or dried out	Yes No
Decking boards 1/8” apart to allow for expansion	Yes No
Support posts contacting ground	Yes No
Support post properly mounted on concrete footings or caissons	Yes No
Rotted or broken support posts	Yes No
Railings and stairs secure	Yes No
Balusters no more than 4” apart	Yes No
Railings at least 40” high	Yes No
No 2x4 structural boards – 2x6 or greater	Yes No
Deck mounted to building with lag bolts every 24”	Yes No
Crack in joists	Yes No
Rotted or broken joist	Yes No
Cantilevers well caulked	Yes No
Cantilevers cracked, rotted or broken	Yes No
Deck causes water to drain near foundation or onto porch/sidewalk	Yes No
Walls and trim	
Damage to exterior walls	Yes No
Paint needed	Yes No
Trim needs paint/caulk/repair	Yes No
Window frames need paint/caulk/repair	Yes No
Screens need repair	Yes No
Broken windows	Yes No
Door frames need paint/caulk/repair	Yes No
Doors need repair/replacement	Yes No
Holes, gaps or cracks that allow pests and cold air to enter	Yes No
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Cracks in foundation footings or walls	Yes No
Foundation walls bowed, twisted or leaning	Yes No
Foundation piers leaning or damaged	Yes No
Unsealed entry points for moisture, insects, reptiles and rodents around pipes, conduit, vents, etc. that go through foundation	Yes No
Roof	
Shingles are missing, cupped or damaged	Yes No
Seal or flashing damaged where pipes, skylights, etc exit through roof	Yes No
Exposed nail heads	Yes No
Ridge cap is in good repair - no missing shingles, no exposed nail heads	Yes No
Flashing damaged or missing	Yes No
Gutters and Downspouts	
Gutters clean and free of leaks	Yes No
Downspouts are in place and free of leaks	Yes No
Downspouts have splash blocks or drain to take water away from house (10 feet preferred)	Yes No
Water damage on siding, fascia or soffit that might indicate ice damming or runoff water missing gutter	Yes No
Soffit and fascia are water stained	Yes No
Soffit and fascia are damaged	Yes No
Chimney	
Chimney caps with spark arrestors in place	Yes No
If more than one flue, flues are different heights	Yes No
Chimney bricks and mortar are in good repair	Yes No
Chimney chase has water damage	Yes No
Sealant on flashing where chimney meets roof has cracked or failed	Yes No
INTERIOR	
Basement/Crawlspace	
Spalling on concrete walls or foundation	Yes No
Ventilated	Yes No
Vents unblocked	Yes No
Mildew smell	Yes No
Rodent smell	Yes No
Sewer gas smell	Yes No
Stairs and hand rails feel sturdy	Yes No
Mold observed	Yes No
Wet or water stained walls or ceiling	Yes No
Walls bowed, twisted or leaning	Yes No
Damaged, twisted, decayed or missing joists, support beams or piers	Yes No
Radon test	Yes No
Walls and trim	
Cracks in walls or floors	Yes No
Doors and windows open, close and lock properly	Yes No
Floors even	Yes No

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Floor feels solid	Yes No
Cracks around ceiling	Yes No
Gaps where ceiling and wall meets	Yes No
Water stains or damage on walls and ceiling	Yes No
Water damage around windows or exterior doors	Yes No
Musty smell	Yes No
Wall bowed	Yes No
Doors	
Doors open, close and lock properly	Yes No
Door frames in good condition	Yes No
Weather stripping in good condition on all outside doors	Yes No
Striker plates align	Yes No
Door aligns well with frame	Yes No
Hinges and other hardware in good condition	Yes No
Windows	
Broken glass	Yes No
Glass fogged inside	Yes No
Window frames free of rot and other damage	Yes No
Windows operate and lock properly	Yes No
Stair and handrails	
Steps and handrails feel solid	Yes No
Handrails/guardrails present where needed	Yes No
All steps rise uniform distance	Yes No
Carpet or runner is secure	Yes No
Balusters no more than 4” apart	Yes No
Kitchen	
Dry under sink	Yes No
Pipes corrodes or moist	Yes No
Shutoffs for faucet	Yes No
Faucet leaks or drips	Yes No
High loop in dishwasher drain hose	Yes No
Exhaust fan clean and working	Yes No
Stove clip installed to prevent tipping	Yes No
Floor feels solid	Yes No
Sink drains properly	Yes No
Grout or caulking needs repaired or replaced	Yes No
Doors and drawers work smoothly	Yes No
Bathroom	
Floor feels mushy or bouncy around toilet, tub or shower	Yes No
Floor is wet underneath	Yes No
Water stain or damage at corner of tub by floor	Yes No
Water stains on walls or ceiling	Yes No
Water around toilet when flushed	Yes No
Toilet operates properly	Yes No
Toilet loose	Yes No

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Sink drains properly	Yes No
Dry under sink	Yes No
Pipes corroded	Yes No
Shutoffs for faucet	Yes No
Faucet leaks or drips	Yes No
Grout or caulking needs repaired or replaced	Yes No
Doors and drawers work smoothly	Yes No
Exhaust fan clean and working	Yes No
Laundry	
Foggy windows	Yes No
Bath and dryer vents secure and venting outside	Yes No
Plastic dryer vent hose ****Fire hazard	Yes No
Dryer vent and hose clean, free of lint and obstruction	Yes No
MECHANICAL SYSTEMS	
Electrical	
Service wires through trees	Yes No
Service wires too close to ground or roof	Yes No
Conduit connected to outside breaker box sealed	Yes No
Breaker slots are in place covering holes for uninstalled breakers	Yes No
All outlets and junctions boxes have covers	Yes No
No exposed wire splices – not inside junction box	Yes No
GFCI outlets in all recommended places	Yes No
All switches and electrical fixtures work properly	Yes No
Grounding wire attached	Yes No
Electrical connection and spices not in junction boxes	Yes No
Damaged electrical wires	Yes No
Gas Service	
Sealed around pipe entering house	Yes No
Corrosion on gas pipes	Yes No
Gas smell (sulfur) around meter or where pipes enter house * see note	Yes No
Gas smell (sulfur) inside especially near water heater and furnace	Yes No
Plumbing	
Dripping or leaking water pipes	Yes No
Wet ground in crawlspace	Yes No
Moisture barrier	Yes No
Wet or water stained joists or floor boards/sheathing	Yes No
Damaged joists	Yes No
Wet or fallen insulation	Yes No
Water stain or damage under kitchen or bath	Yes No
Plumbing leaks	Yes No
Corrosion on water pipes	Yes No
Neutral smell above floor drains	Yes No
Drains freely	Yes No
Water stains around drain	Yes No

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Polybutylene or galvanized pipes – call a plumber if you have doubts	Yes No
Dripping, moist or corroded pipes	Yes No
HVAC	
Furnace	
Clean filter in place	Yes No
Flue pipes corroded	Yes No
Fresh air intake pipes – usually 6" diameter flue pipe	Yes No
Furnace body clean inside and out	Yes No
Burners rusted cracked or corroded	Yes No
Sharp blue flame	Yes No
Water Heater	
Water heater dripping	Yes No
Rust or corrosion on body	Yes No
Fluepipe firmly attached – top of heater and all connections	Yes No
Corroded fluepipe	Yes No
Rusted burner	Yes No
Sharp, blue flame	Yes No
Shut off valve on cold water pipe only	Yes No
Safety pressure/temperature relief valve operates	Yes No
Overflow pipe from safety relief valve directed downward emptying in a drain or outdoors	Yes No
Attic	
Insulation uniformly installed	Yes No
Rafters bowed, twisted or cracked	Yes No
Rafters not resting on main beam	Yes No
Water stains or moisture around vent pipes or other penetrations	Yes No
Attic ventilated – power vent working (if present)	Yes No
Cut, missing or moved rafter supports	Yes No
Sheathing water stained	Yes No
Exposed wires or splices	Yes No

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Inspection Summary

Inspection Summary
Safety Hazards—the items in this section are a danger to either the safety of the building or its occupants. Appropriate professionals should evaluate the issues.
Major Concerns—systems that are not working or are defective, potential structural problems, or any other issue that may require expensive repair or replacement.
Maintenance or normal repair— these issues are considered normal maintenance in homeownership.

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Repair list for defects that affect the safety of occupants and structure.

Repair	Contract Cost	Materials	Time Line

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Repair list for cosmetic problems that affect appearance.

Repair	Contract Cost	Materials	Time Line

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