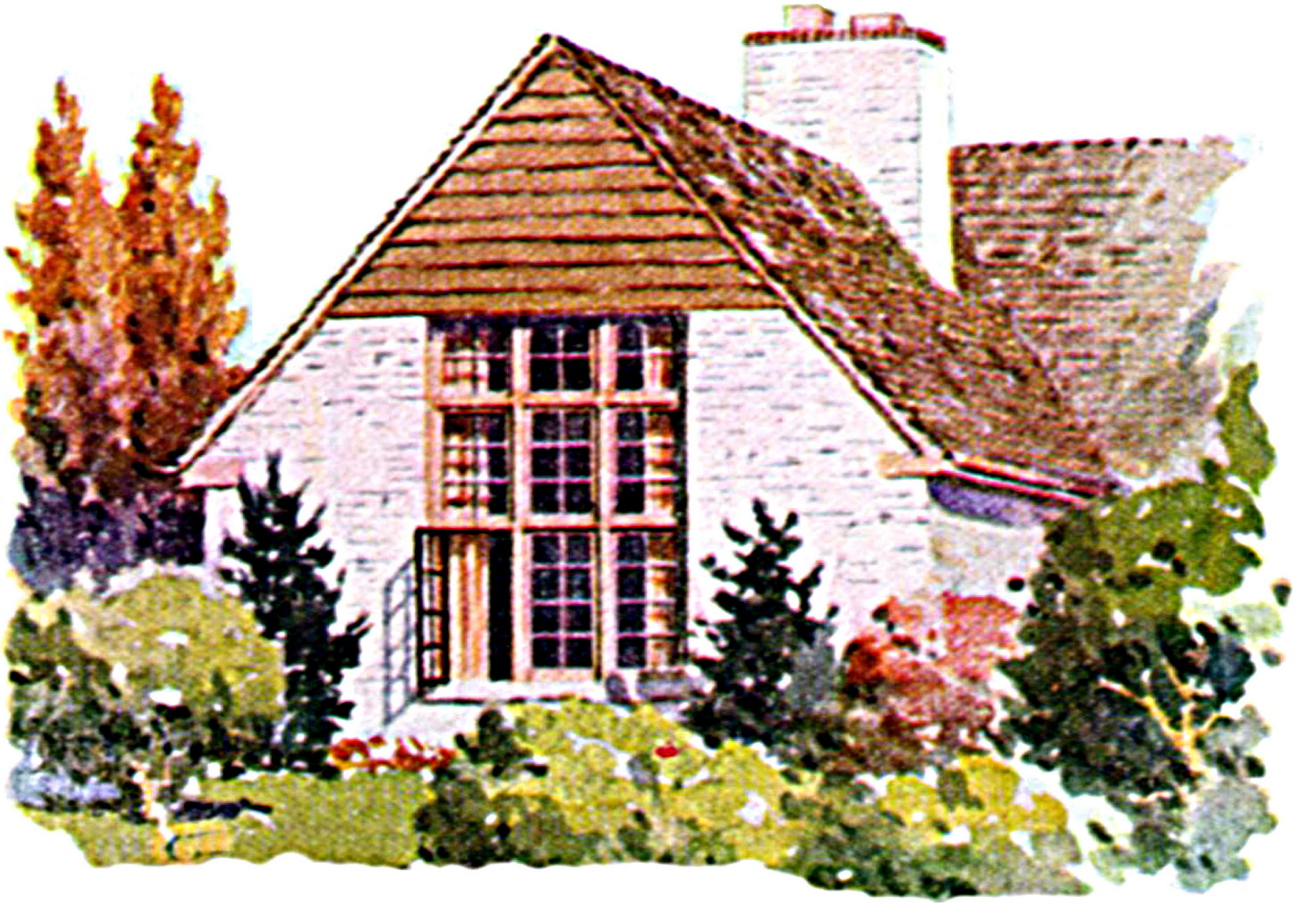
ADDENDUM
TO YOUR
INSPECTION REPORT



Additional informaton about your home inspection provided by:

Tri-Value Consultants

PLEASE READ THIS ENTIRE ADDENDUM,
AS IT CONTAINS INFORMATION ABOUT YOUR HOME AND THIS HOME INSPECTION

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993 Summer Street, Lynnfield, MA 01940 - 781-334-3830

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ADDENDUM TO THE REPORT

Written By: Joseph V. Scaduto and Michael J. Scaduto
Published by: The Society of Professional Real Estate Inspectors

PLEASE READ THE FOLLOWING ADDENDUM INFORMATION CAREFULLY AND FULLY!

This addendum to the report is an integral part of your inspection report. Please read it carefully and fully to better understand your new house or your new condo, hereby referred to as your new HOME. If there are any questions about the inspection or the inspection report, **please feel free to contact my office for any needed further clarification.**

This addendum manual has been organized and sequenced in the order that your new home was inspected. Typically this is done from the *exterior* to the *basement*, to the *attic* areas and finally to the *living* areas. We will also go into more detail as to the considerations that may have been discussed at your inspection, as well as clarifications on various terms used during the course of your inspection.

Included at the end of this addendum will be **a listing of typical life expectancies** of various systems and components of a home. Use this table only as a general guide as to the useful remaining life expectancy of various systems and components in your new home. Some systems and components may last much longer than the general listed life expectancies, while others may need repair or replacements much sooner.

Keep in mind that this is only an **OPINION REPORT** and is based strictly on a **general visual inspection** , dealing only with **MAJOR** concerns and issues of **clearly visible and easily accessible** areas of the property. Any reference to minor details-defects/deficiencies and concerns is done only as a courtesy.

Please note that **absolutely no judgements** are made in regards to any **concealed, inaccessible and not fully visible** areas of this home. It is up to the owners, tenants or real estate agents to provide easy access to all areas of the building.

Be sure to **ask the current occupants** (*owners or tenants*) as well as the *real estate agents*, about any of the concerns that may have been discussed at the inspection. If necessary **consult with specific tradespersons**, **contractors, enviromental testing labs,and pest control companies or engineers**, as may be needed, in regards to our findings, discussions and recommendations.

Also remember that there is no perfect house or condominium. As such there will always be a variety of conditions that will need to be addressed, corrected, repaired or replaced, updated and upgraded and generally maintained. You should expect and anticipate a continuous on-going maintenance program to provide proper upkeep for your new home. Failure to properly repair and maintain your new home will result in deterioration and failure of the many various systems, and system components of the building.

PLEASE NOTE: We never recommend that a client *buy or not buy* a property. That is always an individual choice based on a clients needs, and financial resources.

EXTERIOR SYSTEMS AND COMPONENTS

ROOF AND ROOF COMPONENTS

Roof and all Roof Components are usually viewed from *street-ground level using binoculars,* and from various windows where applicable. We recommend that you ask the owners or agents exactly how old the roof is, and if there has ever been any past or recent roof leaks, and if so- were those roof leaks corrected. Refer to the life expectancy sheet at the end of this text to see what are some of the typical life expectancies of various roofs.

Roof Overheating Signs which are exhibited by cupping, curling, and a general brittleness in the shingles - usually indicates inadequate roof/attic ventilation. If the roof/attic areas of the subject house has *minimal or no ventilation*- consider adding more vents to avoid premature deterioration of the roof covering.

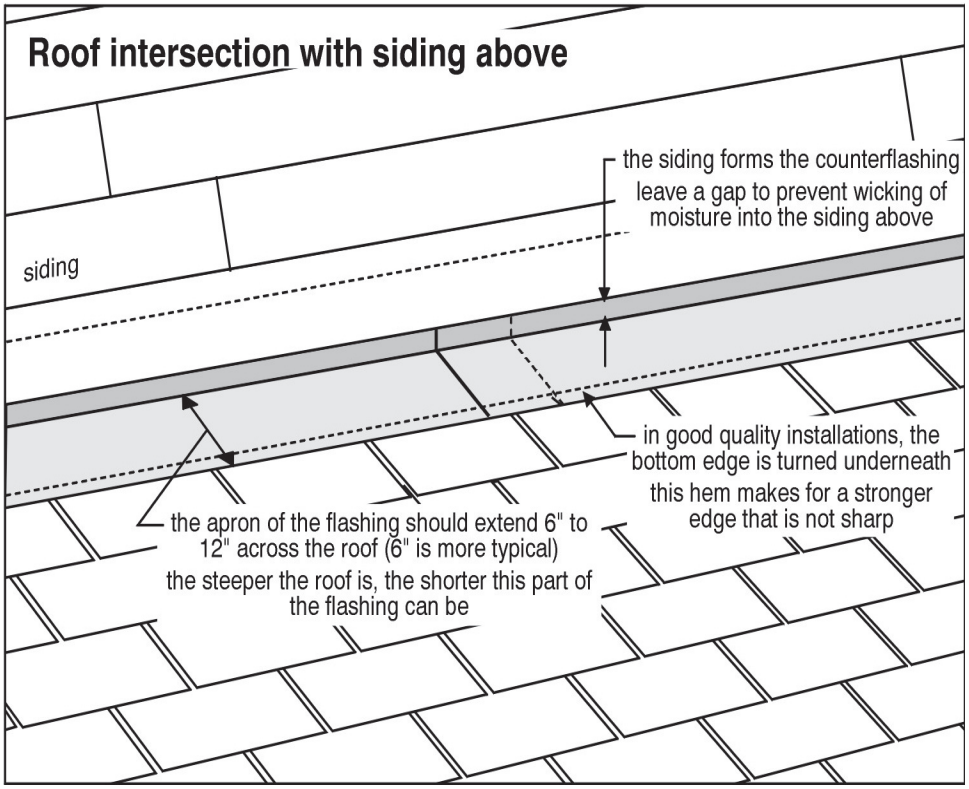
Overheating, cupping and curling shingle evidence can often either be an indication of older and deteriorated shingles, or of premature shingle deterioration and/or failure.

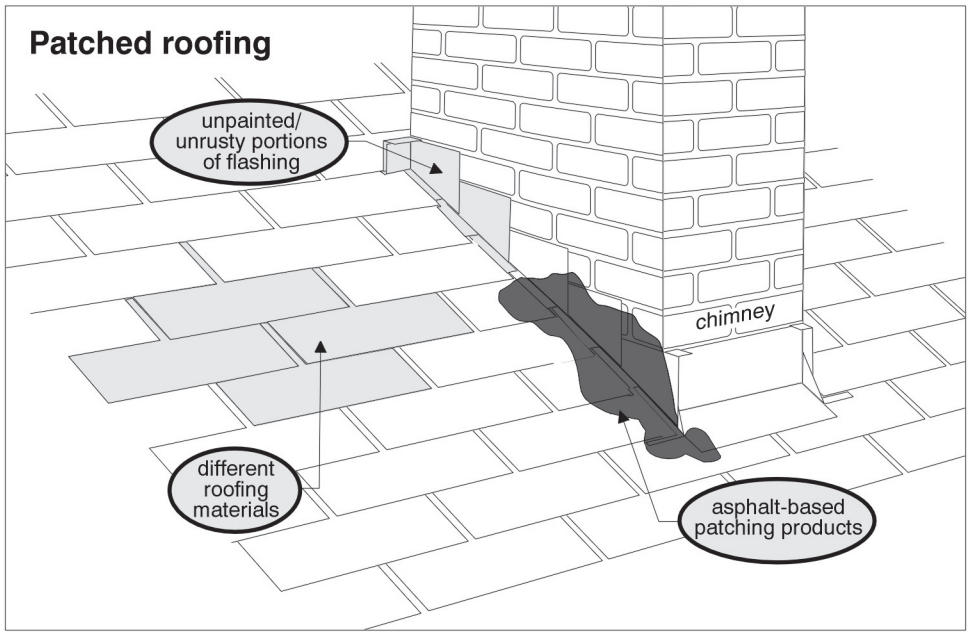
Lichen, algae, moss and fungal growths on roof surfaces usually indicates some failure in the roofing materials, and as such these areas should be monitored for future repairs or replacements. Where possible and practical such *living organisms* should be professionally washed down and removed from roof surfaces. Often too much shade on the roof will allow such organisms to grow and thrive on roof surfaces. Trim back all overhanging tree branches to allow sunlight to warm the roof surfaces and prevent such growths.

Poor Roof Flashing Details - indicates that one or more of the important flashing details at the roof penetrations; at plumbing vent pipes, at chimney penetrations, at skylights, and at any intersecting roof joints, as well as ventilation units may, in the inspectors opinion, be susceptible to roof leaks.

All poor flashing details should be monitored, and if needed - evaluated by a roofer for possible repairs.

Poor flashing details can also occur when a newer roof or a second layer of roof shingles are installed. **Flashing should always be installed over the roof shingles and not under them**. This is especially true for plumbing vents, and chimney flashing areas. Often when reroofing the roofer will make this important detail mistake, which could result in roof leaks from various flashing areas. If there are any concerns with flashing details have a professional roofer fully evaluate, and correct as may be needed.

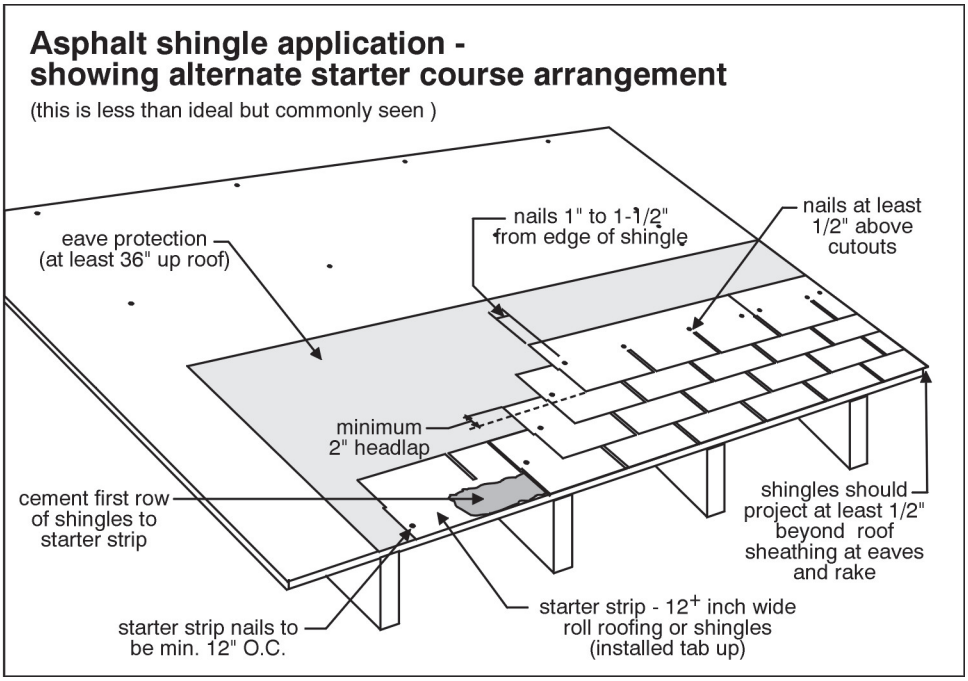




Often, flashing gunked up with roof cement is an indication of past roof leaks, just as shingles which have been replaced around the flashing indicate possible past roof leaks. Be sure to check with the owners about any questionable, and or suspect flashing areas that were brought to your attention during the course of the inspection. Monitor all gunked up roof penetrations and roof areas for future leaks, as roof cement is only a temporary patch.

Determining if flashing is in place and properly installed is beyond the scope of a general visual inspection. **Also determining if a proper ice shield guard is in place and properly installed** is equally beyond the scope of a general visual inspection. No judgements made in either case.

An ice shield guard (shown as "eave protection" in the diagram) is a membrane that is laid down under shingles (typically 36 inches up) at the roof overhangs-eaves, at roof valley areas and generally at any roof area susceptible to ice dam or gutter backup damage. Not all roofs will have such protection in place, and without it can be more prone to ice dams. When reroofing always have an ice shield guard installed under the new shingles.



Minimal or No Overhangs On a Roof - can pose as a potential for ice dams in northern regions and gutter backups for most houses. Monitor and if necessary check with a roofing contractor if corrections are needed. Having an *ice shield guard underlayment* installed under the roof shingles is one way of avoiding the backup of water from ice dams and gutter backups. Consult with a roofer for such roof protection.

Actual Chronological Roof Age Versus Actual Physical Age of Roofs - will vary from roof to roof. Depending upon the quality of the roof shingle and the adequacy of the roof/attic ventilation, a newer roof may physically appear older and may have premature deterioration and failure. Note: It is impossible for a home inspector to determine the exact age of any roof. Consult with a roofer for such information.

The number of layers of roof shingles is often difficult to determine in a general visual inspection. This is especially true when the inspector views hip roofs (which have no edge to see) or when metal drip edges are installed at the roof's edges. If your inspector determines that there are multiple layers of roof shingles, you will need to strip the roof down to bare wood roof sheathing *when re-roofing*. NOTE: In most communities the maximum number of layers would be two layers due to the weight of the shingles.

ROOF COMPONENTS

Roof Drainage will consist of gutters and downspouts.

We recommend that buyers/owners of homes consider adding roof drainage to their homes, since most homes have a potential of water entry into their basements or crawlspaces.

Often the *primary cause of wet basements* or *wet crawlspaces* is due to the lack of proper roof drainage.

All downspouts should *extend several feet away* from house foundations. Extend as needed.

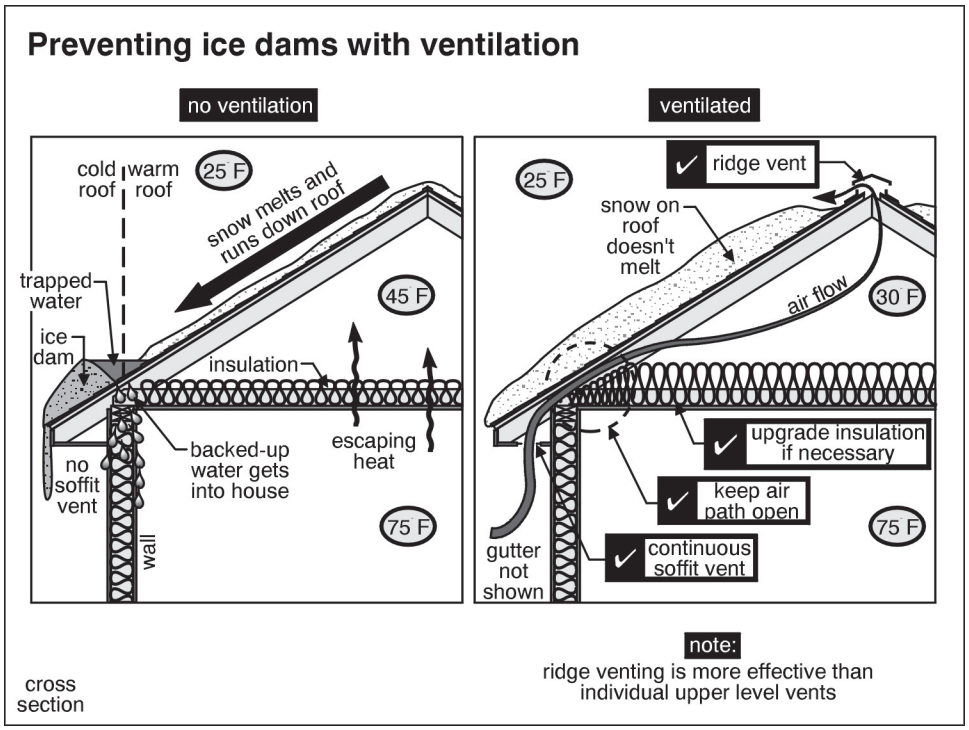
Often when roof drains are not maintained there could be ***concealed rot and damage*** in the surrounding and adjacent wood siding and trim, such as fascia, soffit and eave trim. Determining such damage is beyond the scope of a general visual home inspection.

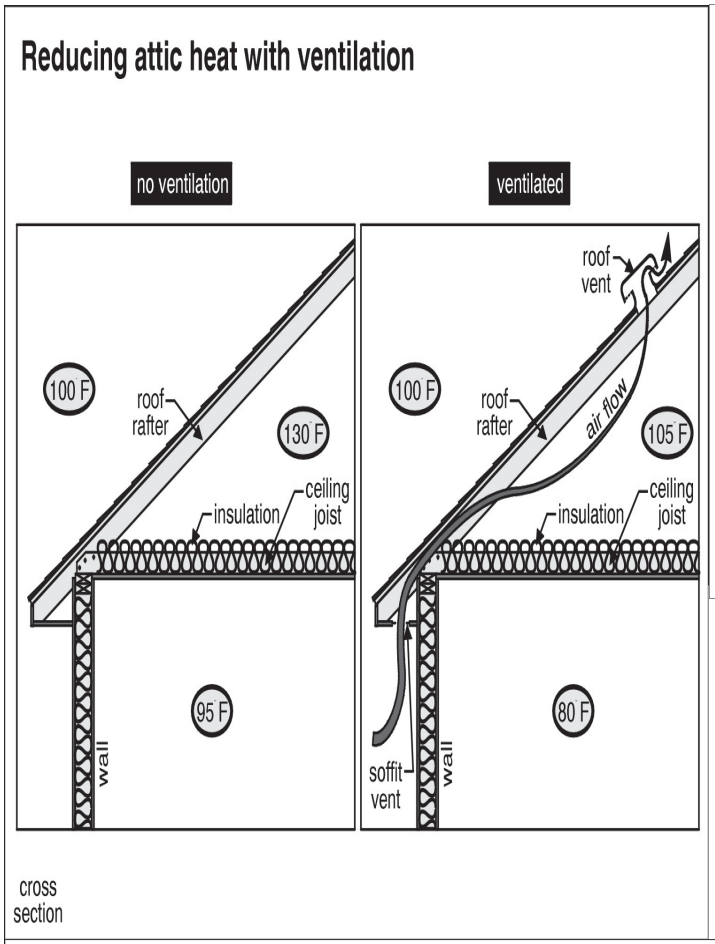
All gutters should be *cleaned, serviced and repaired* on a regular basis, as needed, to avoid leaf buildup and deterioration. Wood gutters should be oiled *every 6 months* with a linseed oil preparation.

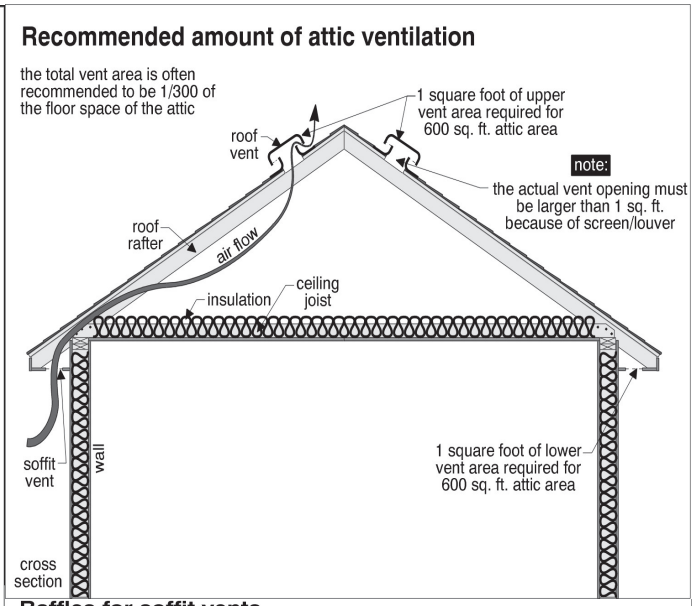
Minimal or No Roof/Attic Ventilation - could cause premature roof shingle failure, condensation, ice dams, damage to attic insulation, wood rot and damage to attic/roof framing, mold and mildew in attics and insect activity. If in doubt about the adequacy of attic/roof ventilation consult with a professional roofer.

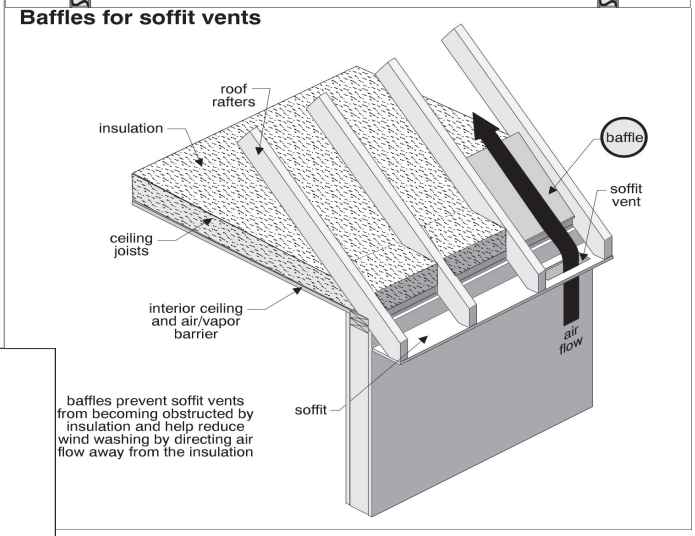
Ice Dams are formed when melting snow re-freezes at the edge of a roof, and water from the melting snow ponds up behind the ice. This water can back up under roof shingles and leak back into the building. When proper ventilation is installed *(see right)* there is much less chance that ice dams will form.

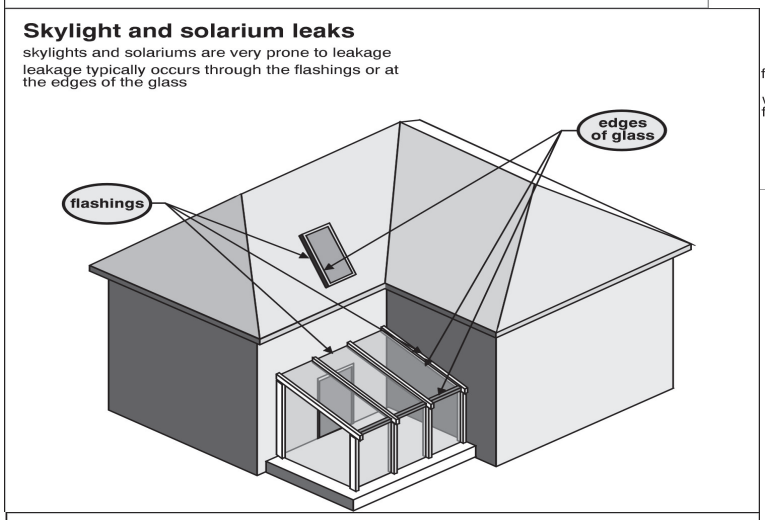
All attics need ***year round ventilation***, and as such vent units should never be blocked off in the winter.

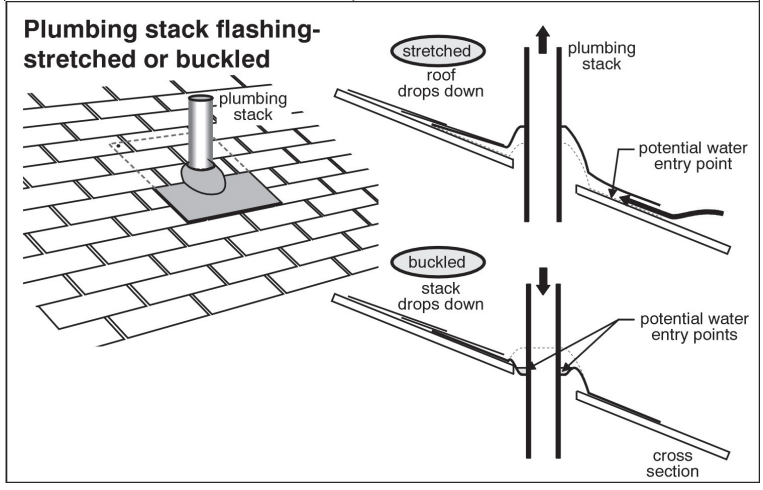












Skylights - no matter if new or old- are roof penetrations, and as such they will always have the potential for leaking. We recommend that you monitor for leaks, and if necessary consult with a professional roofer if you have any concerns. *Poor flashing details* often are the reason for most of these leaks.

Plumbing Vent Pipes - are the vent pipe that discharge sewer gases from your plumbing system to the exterior of the building. These vent pipes like most roof penetrations will have a *potential for leaking* at their flashing points. Often roof cement that has been gunked up around the vent pipe base on the roof is an

indication of past roof leaks. Monitor, and if necessary have flashing areas resealed.

Plumbing vent pipe locations are important. Vent pipes should not be located too close to openings such as windows, skylights or doors, since wind could drive sewer vent gases back into the house. These vent pipes should be *a minimum **10 feet*** horizontally from any building opening, such as windows, skylights and doors. They also should be *a minimum of **10-12 inches*** above the roof line. Too low or too high could have an adverse effect on the plumbing venting.

Antennas - on roofs, chimneys or plumbing vent pipes can act as *a sail in heavy winds*, and in turn may cause leaks at flashing points or attachment points. For that reason we recommend that all such located antennas be removed.

CHIMNEYS

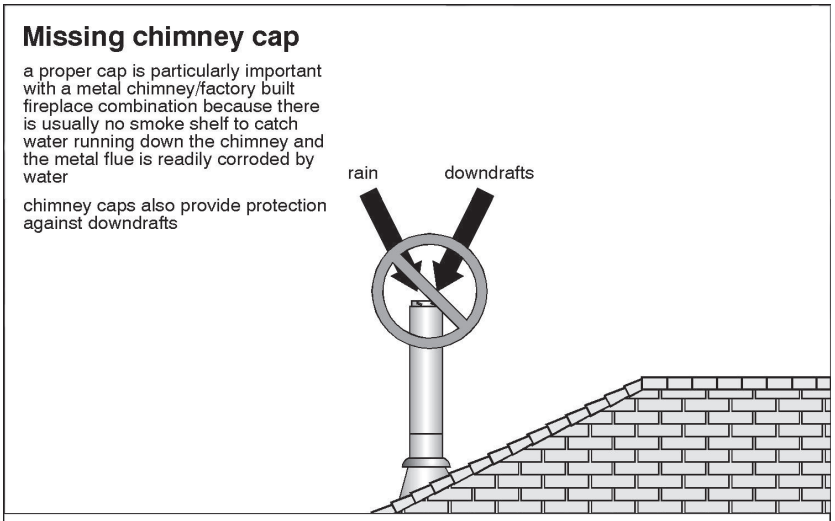
Rain caps or chimney hoods, in our opinion, should be installed on all chimneys. These chimney covers will act to *prevent water entry* into the chimney system. In addition, these protective hoods will *prevent a variety of animals* including birds, raccoons, and squirrels from getting into the chimney. Rain caps also act as a preventative safeguard against *premature damage* to the chimney upper masonry areas.

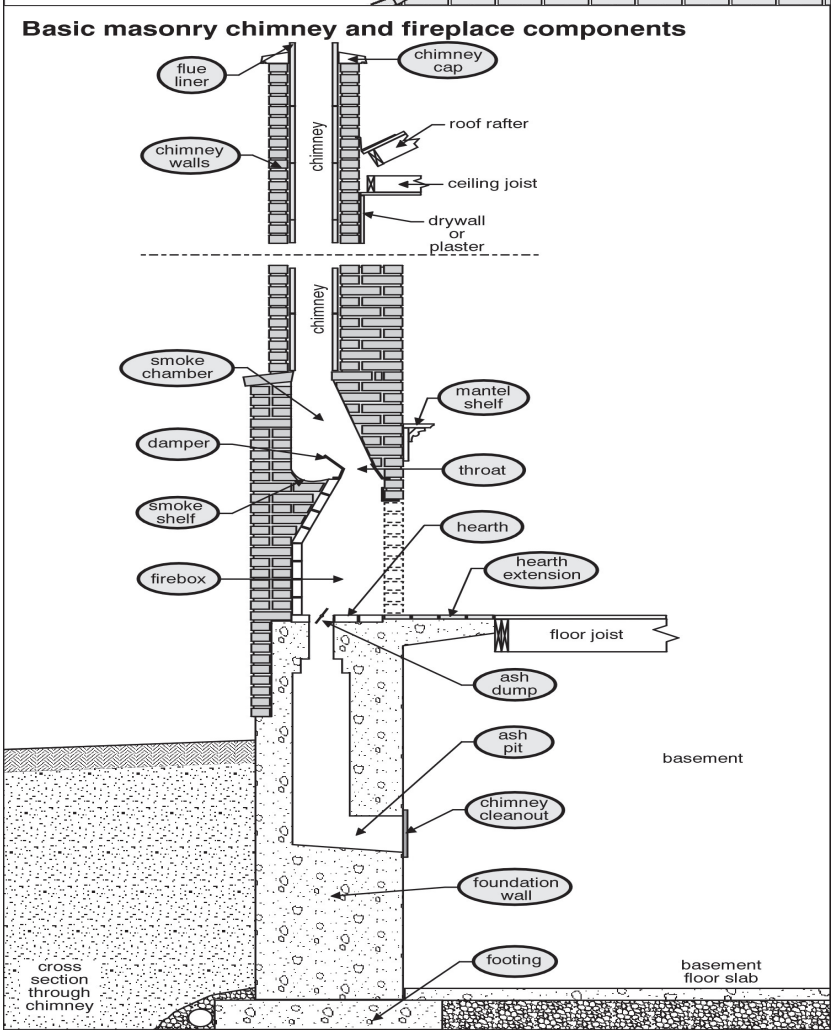
For all of these reasons we recommend that a chimney rain cap be installed - if none is currently in place.

NOTE: Metal chimneys must always have a protective metal cap.

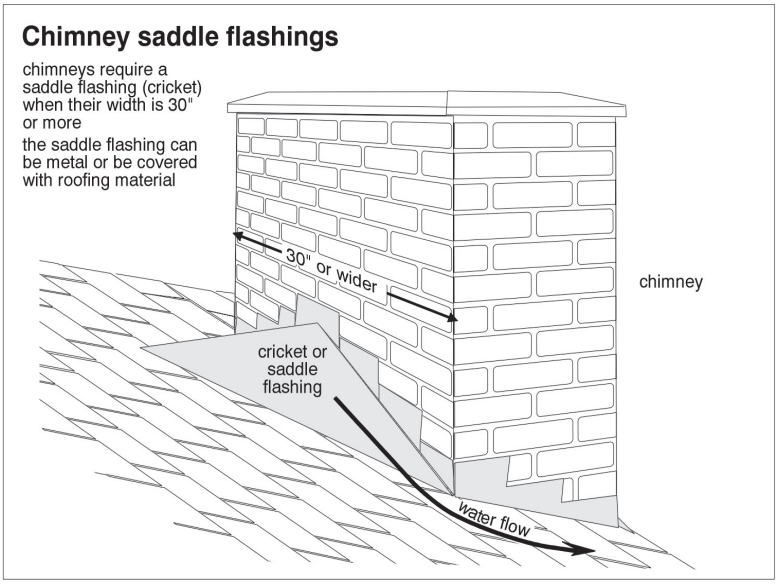
Inspecting the interior of the chimney, including both lined and unlined flue spaces, is beyond the scope of a general visual inspection, and as such is **not** part of this inspection. We recommend that you have a qualified chimney sweep clean and fully evaluate the entire chimney system, including those inaccessible flue passages for any possible concealed damage or deterioration.

We suggest that you consult with a chimney sweep that uses a **video camera** to fully evaluate the interior flue shafts. In our opinion, this is the best and only way to really determine the conditions of these non-visible and inaccessible flue areas.





A chimney saddle or cricket is a small false roof built behind a chimney on the main roof to divert water away from the chimney. Roofs that have roof lines extending directly to chimneys with no protection could have the potential for water entry through the chimney flashing. Monitor for leaks and if necessary have a saddle installed by a roofer.



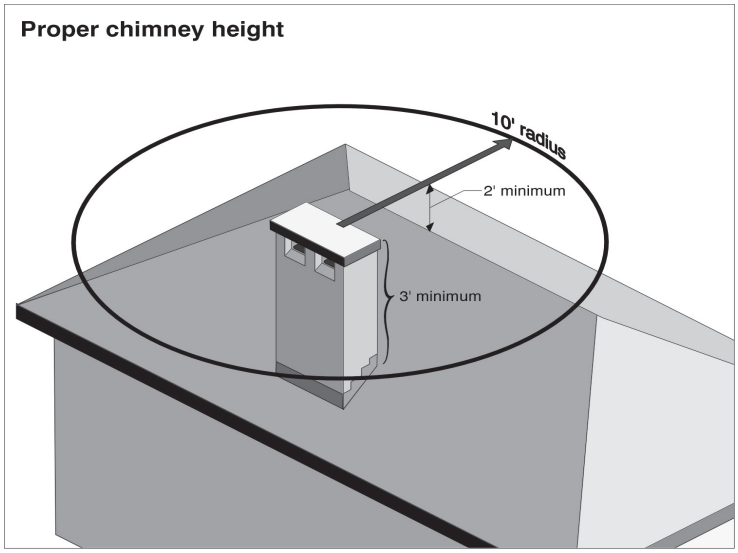
Chimney flashings tend to leak - monitor on a regular basis and if necessary have the flashing resealed or replaced by a roofer to make a water-tight seal.

Efflorescence water salt stains on a chimney often indicates past water entry to the chimney system. Ask the owners and if they have no answers, you may wish to have the chimney system fully evaluated by a qualified chimney sweep.

Pointing up masonry chimneys such as *brick, block or stone* should be done on - an as needed basis.

Pointing up simply means repairing mortar joints in masonry chimneys. This is an important maintenance chore to have done in order to avoid additional and more costly repairs to the chimney. When you have your chimney cleaned and serviced be sure to have your chimney sweep fully evaluate the entire system for any possible needed repairs.

Chimney heights are important in order to have *proper draft in the flues*. Chimneys that are too low or are blocked by overhanging tree branches, could experience draft problems, which in turn will affect the performance of your heating and domestic hot water systems.



A good rule of thumb for chimney heights is that a chimney should extend at least ***3 feet high*** above the roofline and should be at least ***2 feet higher*** than anything ***within 10 feet of it***.

Exterior mounted chimneys, i.e. those mounted on an outside wall of a house, have a greater potential for some movement. As such you should monitor on a regular basis for any evidence of chimney movement away from the building. If your inspector indicates that some chimney movement has occurred in the past, it is advised that you consult with a chimney sweep or qualified mason to see if repairs may be warranted.

SIDING

Siding is the exterior covering of the house walls. All siding joints and seams should be kept weather-water tight to avoid premature failure, wood rot, paint failure and insect activity and damage. As part of your home maintenance program be sure to caulk and seal all open joints and seams with

a good quality caulking material.

Some siding materials are considered to be of a *lessor quality* than other types of sidings. One of these is **masonite siding**, or similar manufactured products, such as **fiberboard products**. These siding materials have a history of premature failure, which is often accelerated from lack of proper homeowner maintenance. These types of siding products need careful annual evaluations, and more frequent painting and care than other types of siding materials, in order to avoid product failure.

Some type of sidings such as **aluminum-metal** siding products should be **electrically grounded** by a licensed electrical contractor as a preventative safety measure. If you have this type of siding, and it is not grounded, consider consulting with a licensed electrician. Also check with your town to see if this is required.

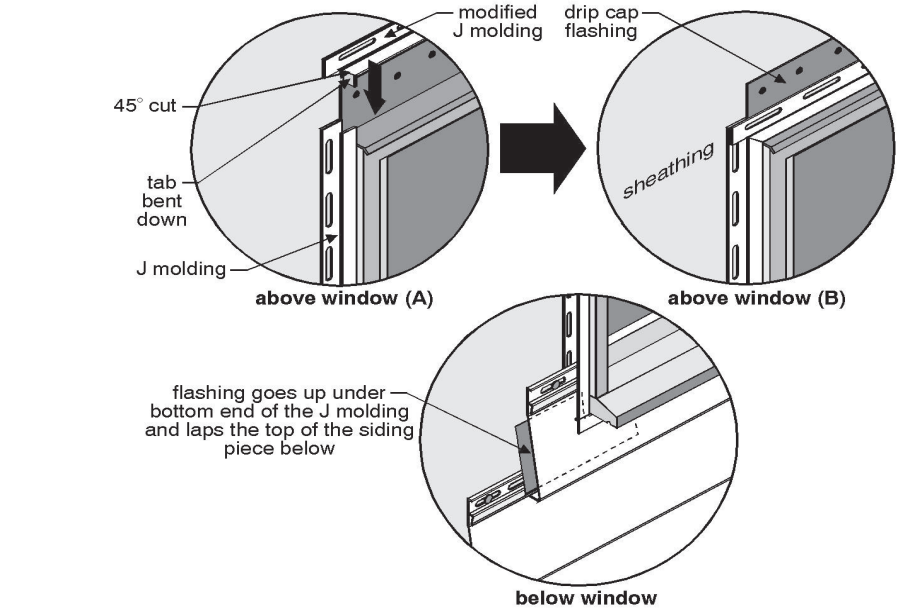
J-channels are trim pieces usually installed on vinyl siding. Often J-channels are poorly installed and may allow water to get behind them with some resulting damage to wall areas. If your inspector indicates that the J-channels are poorly installed have this item evaluated by a siding contractor for possible corrections.

Brick veneer should have weep holes in order to drain any trapped moisture behind such exterior walls. When weep holes are plugged, cemented over or missing, moisture may build up behind the brick veneer walls and cause hidden or inaccessible damage to framing members. Many older homes have no weep holes in the brick veneer, as it was not common practice to include them.

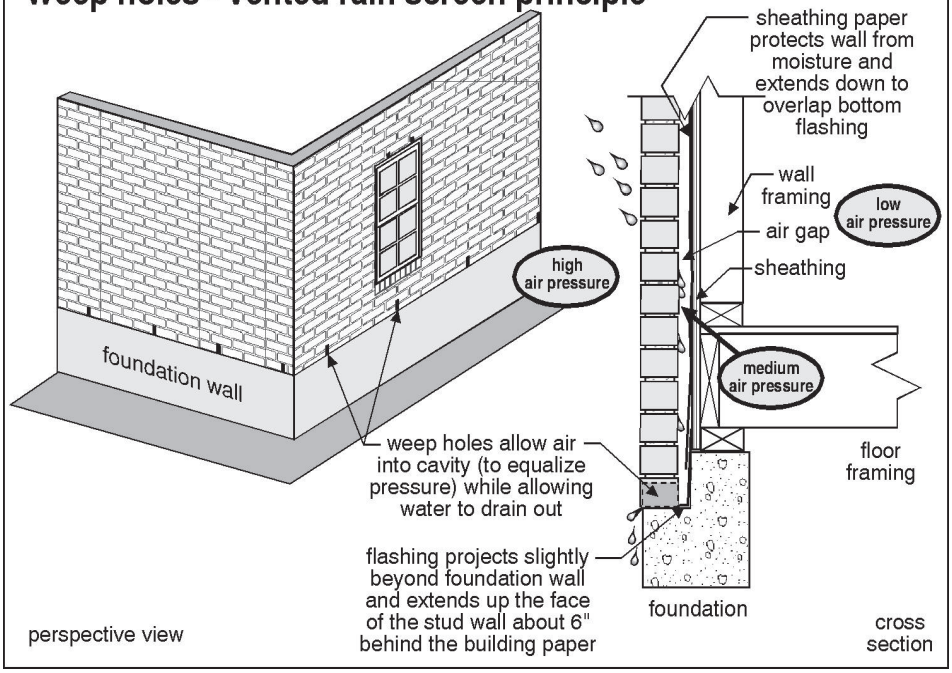
Stucco should be maintained on an annual basis to avoid damaged surfaces and concealed wall damage.

Wall sheathing under the siding is **not inspected**, and is beyond the scope of a general visual inspection.

J moldings around windows



Weep holes - vented rain screen principle



EXTERIOR TRIM

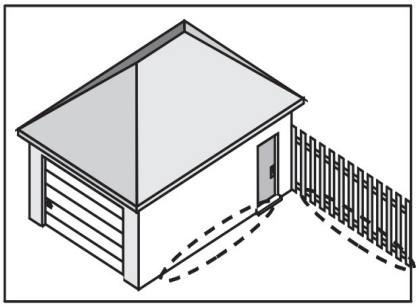
Exterior trim such as, **window and door casings,**

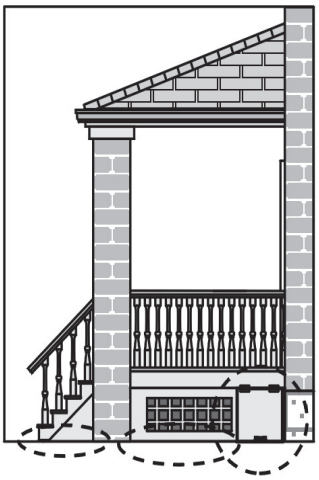
fascias, soffits, rakes and various moldings are the exterior materials that cover intersecting joints and openings in the buildings exterior wall surfaces. Like siding - trim joints and seams should be kept weather-water tight to avoid any water entry which could lead *to premature failure, wood rot, paint failure and insect activity or damage.* Caulk and seal as needed.

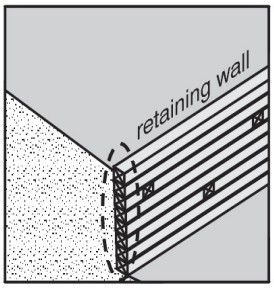
Metal or vinyl covered trim areas may have been installed to cover damaged wood. Often these areas are found on windows and door trim areas, and particularly on low foundation windows. Determining such concealed damage is beyond the scope of a general visual inspection.

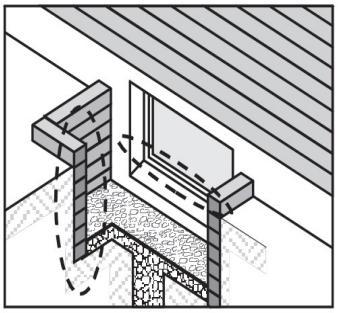
Wood siding or wood trim in direct soil, ground, grade or masonry contact always has a potential for concealed wood rot, and or concealed wood destroying insect activity and damage. Where and when possible regrade and break all such direct contact to wood areas. Where possible and practical try to provide a minimum of several inches of clearances between the wood and any ground/ grade contact to avoid this **very strong potential for rot and insect activity.**

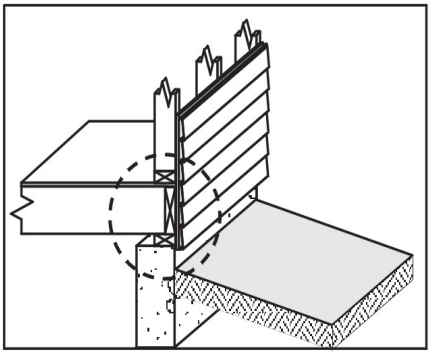
Areas to check for wood/soil contact include:











Mold and Mildew on siding and trim is often the result of *too much shade and not enough sunlight.*

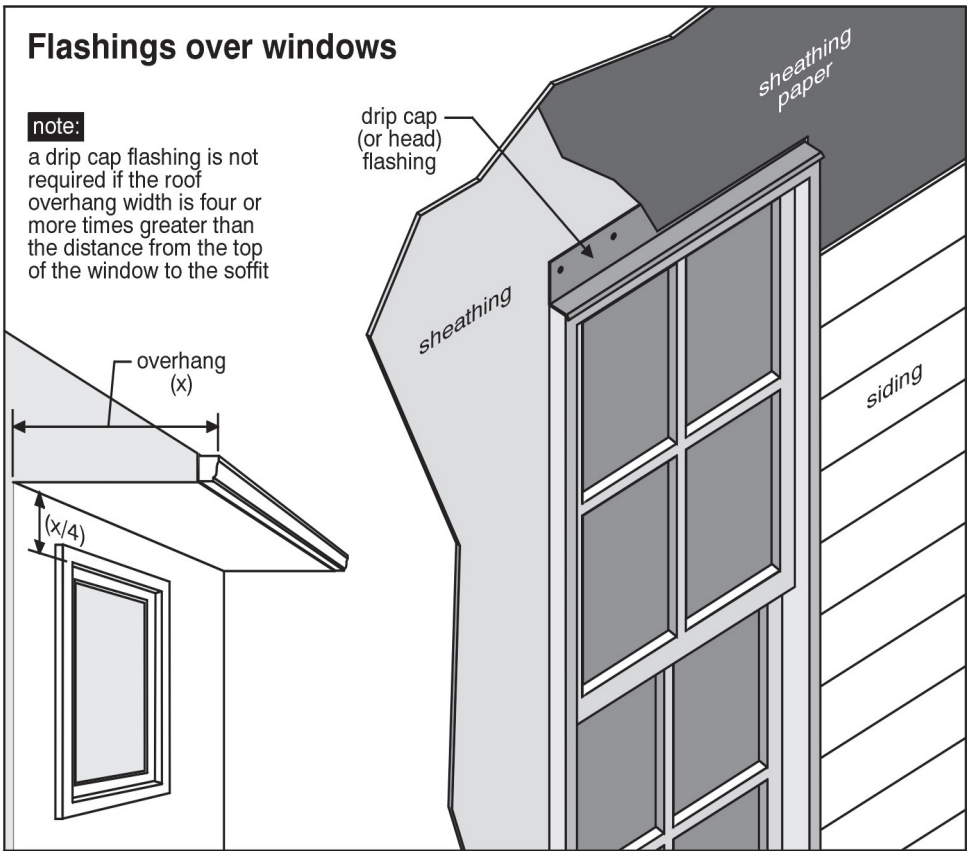
Mold and mildew are harmful organisms that will cause damage to paint surfaces and to wood products. It is suggested that all such organisms be removed, and that any overgrown vegetations be trimmed back to allow for sunlight, and to avoid too much shade - which will result in such conditions.

Chalking found on trim as well as siding is a condition with painted surfaces where the painted surface takes on a chalk-like condition. Often the only recourse is to have these surfaces professionally washed and cleaned and then to repaint the siding and trim. Get an opinion from a professional painter.

Peeling paint on siding and trim should be scraped and sanded down to bare wood, then primed with a good quality primer sealer, and then repainted with two coats of a good quality paint. Failing to maintain peeling surfaces could result in wood rot and deterioration in siding and trim areas, as

well as concealed wall sheathing. Excessive and on-going peeling paint is often an indication of a moisture problem in the building. Sometimes the cause may be due to too much building moisture and a lack of adequate roof/attic ventilation.

Poor exterior details such as those found in open trim and siding joints; open exterior seams, gaps and cracks; missing, open or damaged flashing areas, as well as open and deteriorated previously caulked areas, constitute poor exterior detailing. If your new home has any exterior open seams, joints, flashing, etc., ***it is strongly recommended*** that all such areas be properly ***caulked and sealed*** to make these areas both weather-tight and impervious to water entry. **Failing to do so** will result in peeling paint, wood decay and deterioration, as well as a strong potential for wood destroying insect activity and damage.



WINDOWS

Most windows in many older homes are found to be badly neglected, with a variety of defects ranging from cracked window glass, ripped screens deteriorated glass putty, faulty window tracks, and damaged frames, as well as missing storm windows and screens. As a new owner you will want to repair, service and maintain all windows to make them weather tight and free of defects.

Seal loss in windows, sliders and skylights is a common occurrence and can happen within the first year of their installation. Most window manufacturer's only give a one year warranty on thermal pane glass. When the thermal seal is lost and moisture develops between the panes of glass - replacement is usually needed. *Seal loss **prediction** is beyond the scope of a general inspection.*

Screens and storm windows are required for both health and energy reasons. If the house that you are buying has missing screens or storm windows, be sure to add them to your list of needed improvements.

Ancillary window equipment such as shutters, awnings, shades, curtains, etc. are **not** part of this general inspection.

FOUNDATIONS

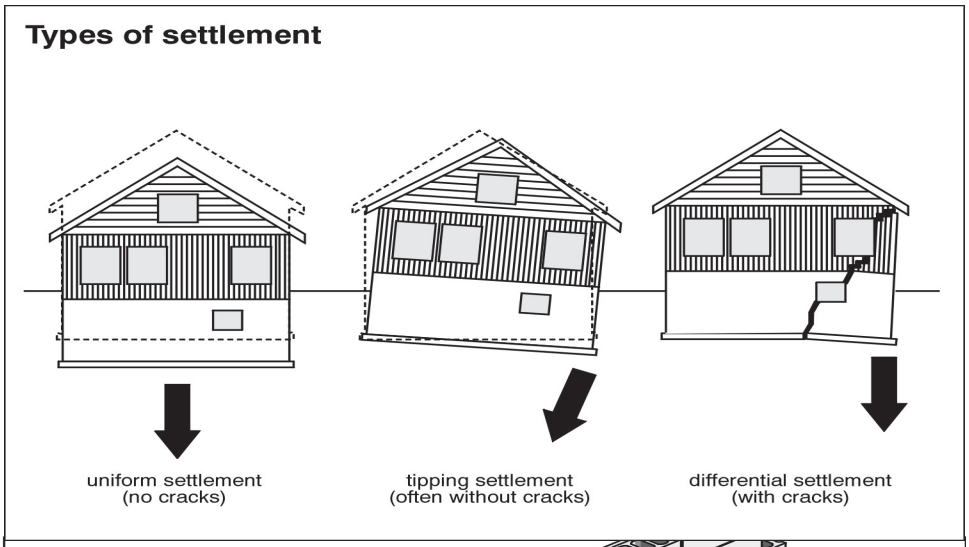
A Foundation is probably the most important structural system of a house.

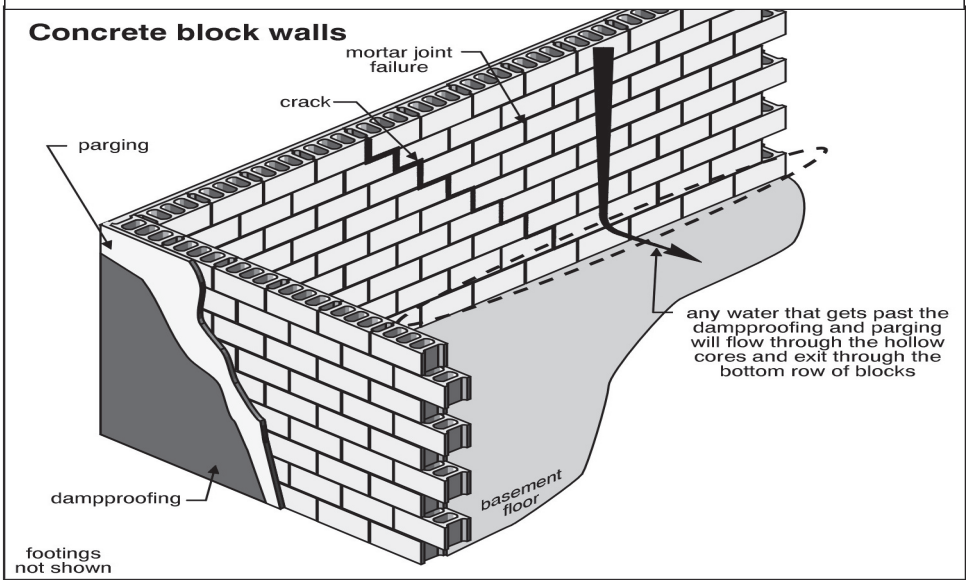
Serious foundation damage, settlement signs and cracks should always be further **fully evaluated by a structural engineer, or a foundation contractor**. A structural engineering inspection of a

foundation is beyond the scope of a general inspection.

Jointed foundations such as *brick*, *block or stone* have a greater potential for water entry into the basement or crawlspace areas. As part of your homeowner maintenance program it is up to you to make sure that all foundation joints, as well as cracks and damage are properly repaired and or sealed to make a water-weather tight foundation.

Cracks, damage and settlement to a *brand new or a newer* poured concrete foundation and a poured concrete basement floor can occur anytime after the inspection. Any predictions of future cracks in walls or floors is beyond the scope of a general inspection.





Open seams and joints between the exterior foundation walls and adjacent patio areas, walkways or driveways should be caulked or cemented and sealed tight to avoid any water entry to the basement or crawlspaces. Open joints between the foundation and adjacent areas has the potential for water entry.

Any foundation openings such as *low foundation windows, deep foundation window wells, and basement entry areas* are always a potential for water entry. Monitor on a regular basis, and if necessary take corrective measures to insure that these areas will not allow water into the basement areas. Caulk and seal all basement entry joints, and consider some form of foundation window hood to keep out moisture.

EXTERIOR ENTRANCES

Entrances and exits of all homes have an innate potential for hazards, and as such you as a new owner should take all the necessary steps to insure safety for your family and any visitors to your home

Handrails are advised for any set of stairs with three or more steps, this would include both entrance and exit areas, as well as any set of stairs - such as basement entry and exit areas, etc.

Guardrails are advised for any entrance platform high enough that a child may fall and become injured.

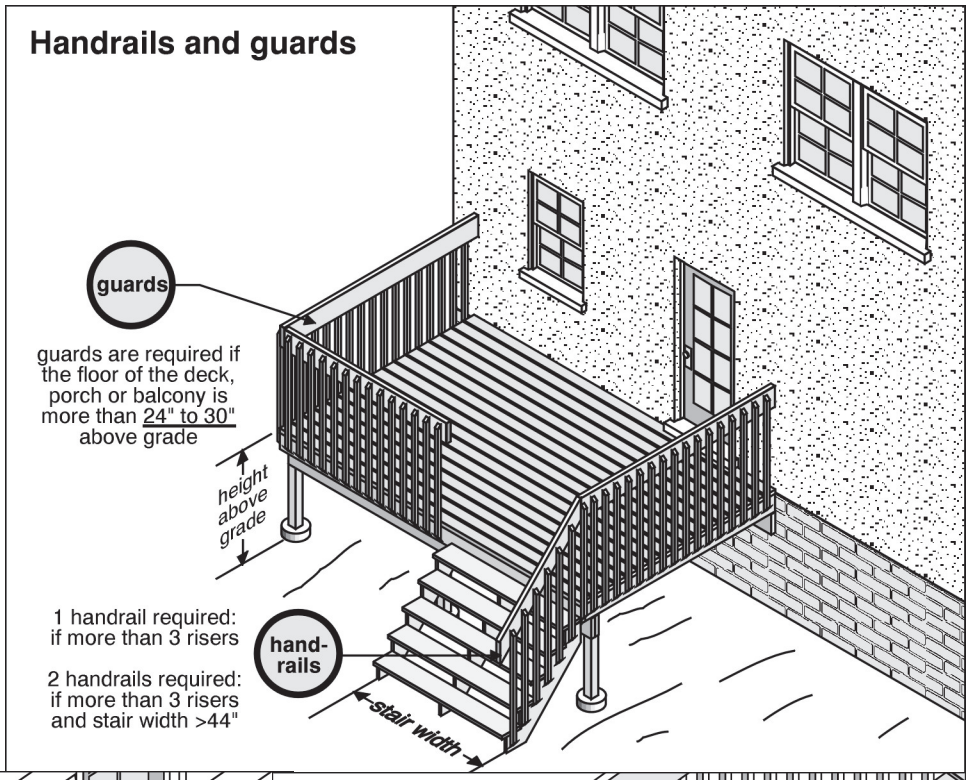
A good rule of thumb would be to have guardrails on any platform that is ***30 inches*** or more in height.

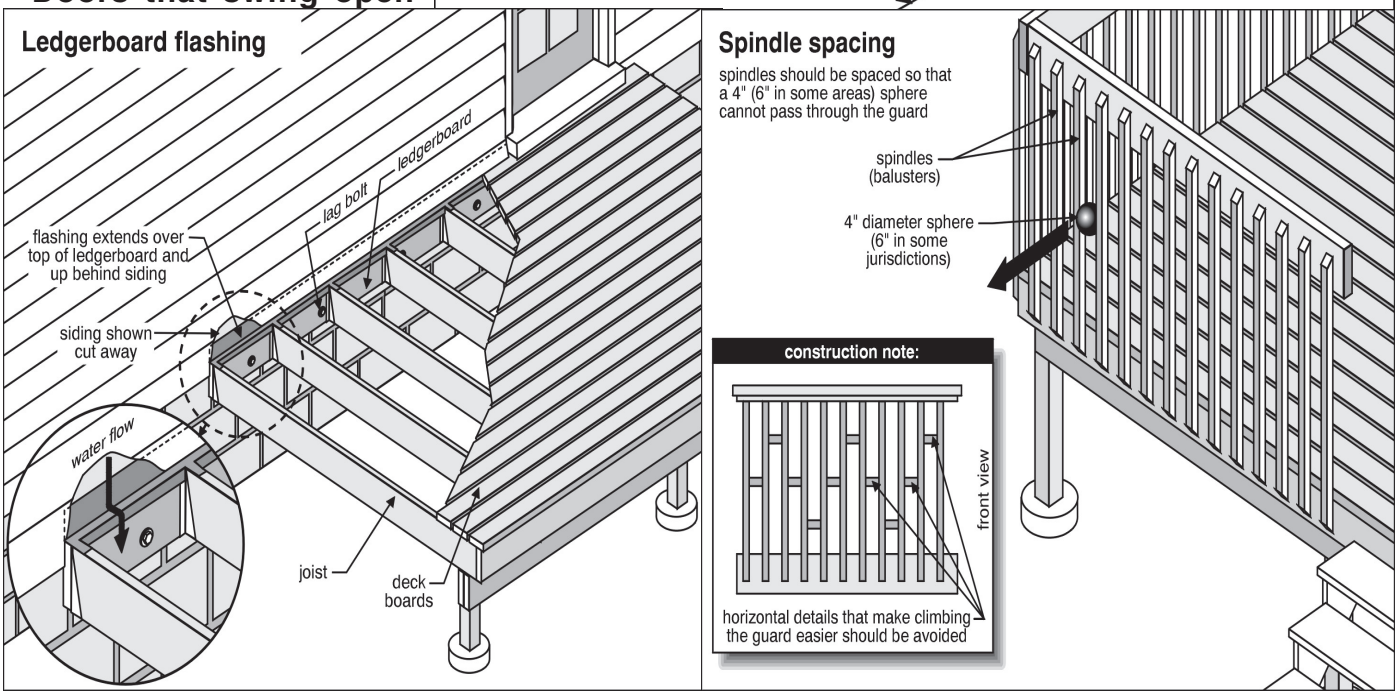
Balusters should be installed on all hand and guard rails to prevent any child from falling.

A narrow spacing of ***4 inches*** between balusters is considered adequate for safety.

Sufficient lighting is advised for all entrances and exits to insure safety.

Damaged, loose or deteriorated handrails and guardrails should be repaired or replaced as needed.





Doors that swing open over steps instead of a platform are a potential tripping hazard.

Storm doors or insulated doors are advised in northern climates for all entry doors, to conserve energy.

Dead bolt locks on exit doors are always a strong potential hazard, particularly in case of a fire in the home, as was discussed during the inspection. *Be sure to keep a set of spare keys next to the door for safety, if using such locks.*

Entry kickplates and door frame trim in grade or imbedded in masonry are always suspect for concealed rot and insect damage. Such damage is beyond the scope of a general inspection.

PORCHES, DECKS AND BALCONIES

Porches, decks and balconies - hereby referred to as (PDBs) - are always a *potential safety hazard,* and as such you as a homeowner must repair and maintain these areas on a regular basis.

Amateur-handyman/homeowner work on PDBs are often the cause of many accidents and problems with these outdoor structures. Very often these structures are constructed without the benefit of *municipal building permits* from the local building department. If your inspector indicated possible amateur work it would be wise to double check with the local municipal building department to see if appropriate permits were issued and signed off on.

Bolting to the building for all PDBs is a necessary structural safety feature. PDBs that are not properly bolted and secured to the building will have the *potential for shifting and moving*. Under the worst case situations, PDBs can pull completely off of a building. There are documented cases where these structures have fallen off of buildings - injuring, and sometimes killing the people who were on them.

Flashing is often omitted between the PDBs ledger board and the building siding. This omission of flashing could allow water from melting snow and rain to drain to the adjacent siding and cause wood rot and also to enter into the building. Often these unflashed areas are potential areas of activity for woodboring insects. If no flashing is in place between the PDB and the building, consider having such protective materials installed.

Handrails or guardrails that are *loose, damaged or missing* should be repaired or replaced as needed. Also if hand or guard rails are too low consider making them higher to avoid any potential accidents. A ***36 inch height*** for railings is considered a safe height.

Balusters (vertical spindles) on handrails and guardrails should be spaced tight enough together to prevent any small child from falling through them. A ***4 inch*** *spacing* is considered safe. Replace any missing or damaged ones.

Lateral sway in PDBs is a term used to describe lateral (side to side) movement in these structures. If your inspector indicates this condition, have a contractor evaluate and provide better lateral support and bracing. Studies have shown that *excessive lateral* sway *can rip a PDB off of a building.*

Footings under support posts cannot be determined during a general visual inspection. Determining the *condition or the depth* of such footings is also beyond the scope of a home inspection. If there are any concerns about support post footings consult with a licensed contractor.

Ground Fault Circuit Interrupter (GFCI) outlets should be installed on all PDBs, for safety.

Maintenance of PDBs is critical to their future condition. As an owner you should consider *painting, staining or waterproofing* on a regular basis, as well as making any needed repairs and maintenance.

GARAGES

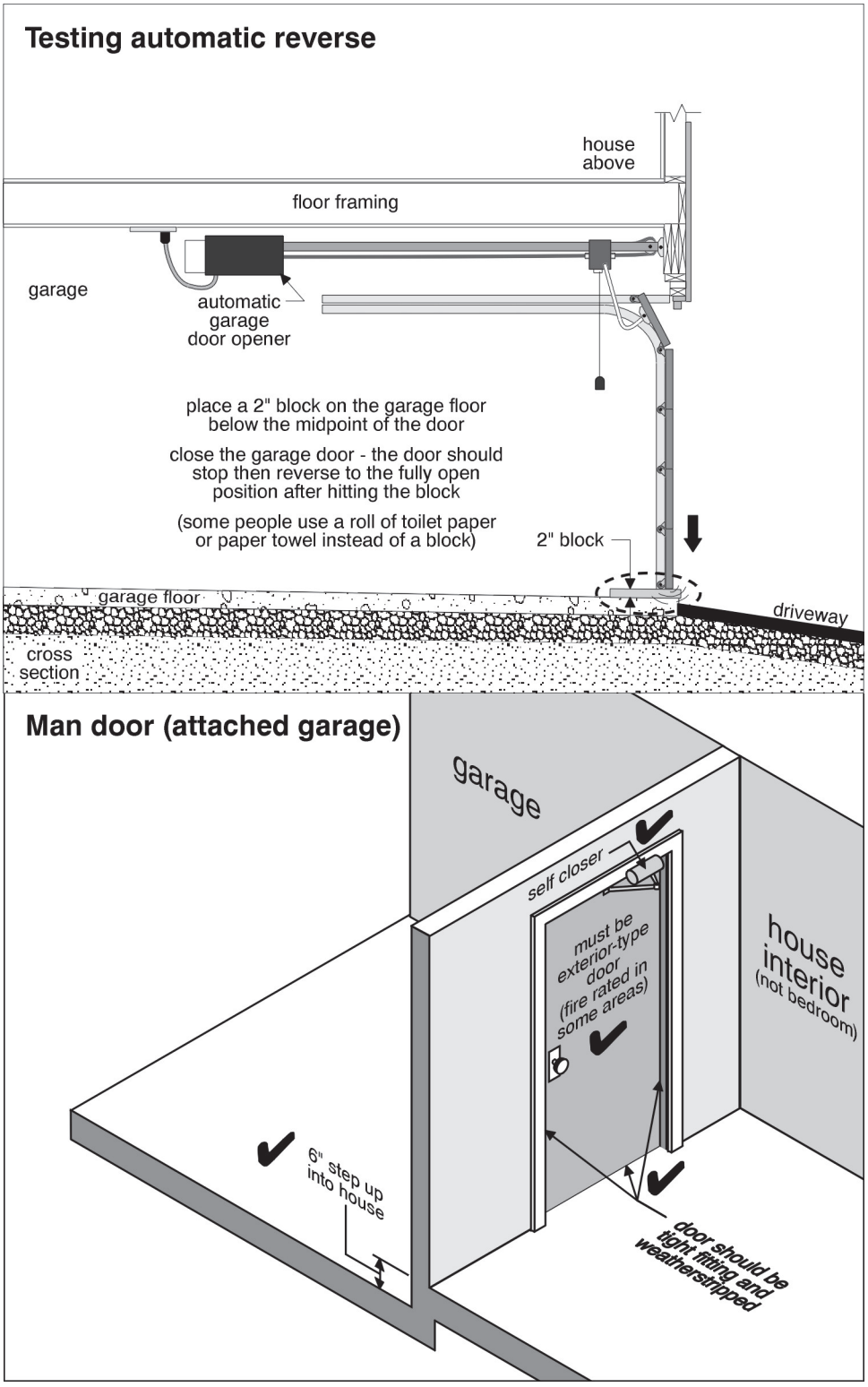
Garage doors are a potential hazard, particularly for children and pets.

One of the major concerns with garage doors is the proper functioning of the *automatic reverse safety mechanism* on the door opener. This unit should be tested on a frequent basis to make sure it is working properly.

If garage doors do not *automatically reverse* under slight pressure, have a garage door mechanic evaluate and correct as needed.

Safety cables should be installed, if not in place, between the garage door springs. If the garage door springs fail, the safety cables will prevent a possible accident from happening.

Fire rated doors are required for entrances that lead from the garage and into the building or into the basement. Doors that lead from the garage into the building should be fire rated solid core doors, or have a protective covering of sheet metal. If such safety doors are not in place have them added.



A gas fume barrier should also be in place for any doors that lead into the building. This typically would consist of a *threshold* high enough to prevent any hazardous fumes from the garage to enter the basement or the house.

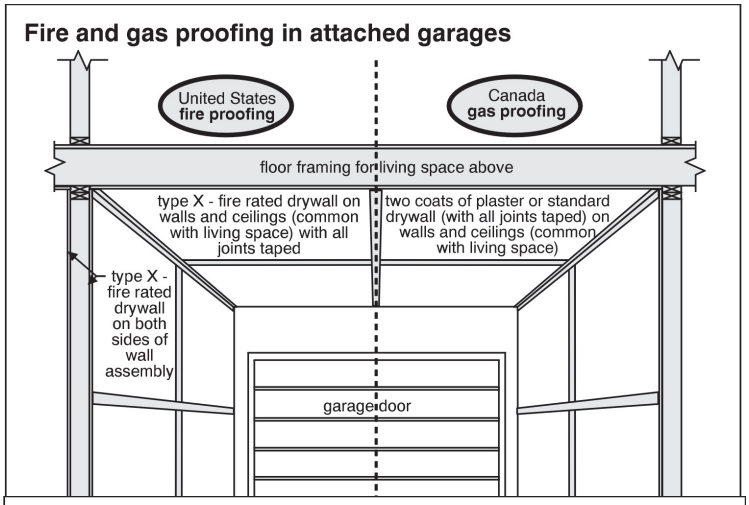
Firestopping is required of all walls and ceiling areas facing the living areas of the building. Usually

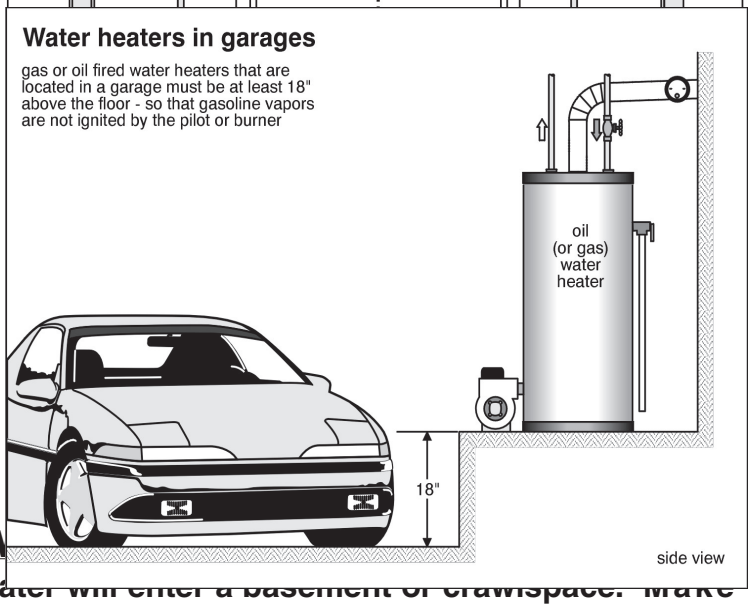
a covering of sheetrock is considered sufficient. Many areas require special ***5/8ths thick*** (type X) fire rated sheetrock. to be installed as a firestopping material.

GFCI outlets should be installed in garages for safety reasons. If your garage does not have these special safety outlets consider having your electrician install them.

Uninsulated drains, **water lines**, **heat pipes and plumbing traps** should be *insulated* in unheated garages to avoid any possible freezeups. Also **uninsulated HVAC ductwork** should be *insulated* for energy cost savings.

Any mechanical equipment in garages such as *oil tanks*, *heating systems*, *hot water tanks*, etc. should be protected from any possible vehicle damage. Often concrete filled metal posts or a masonry wall is installed to provide a barrier to these areas.





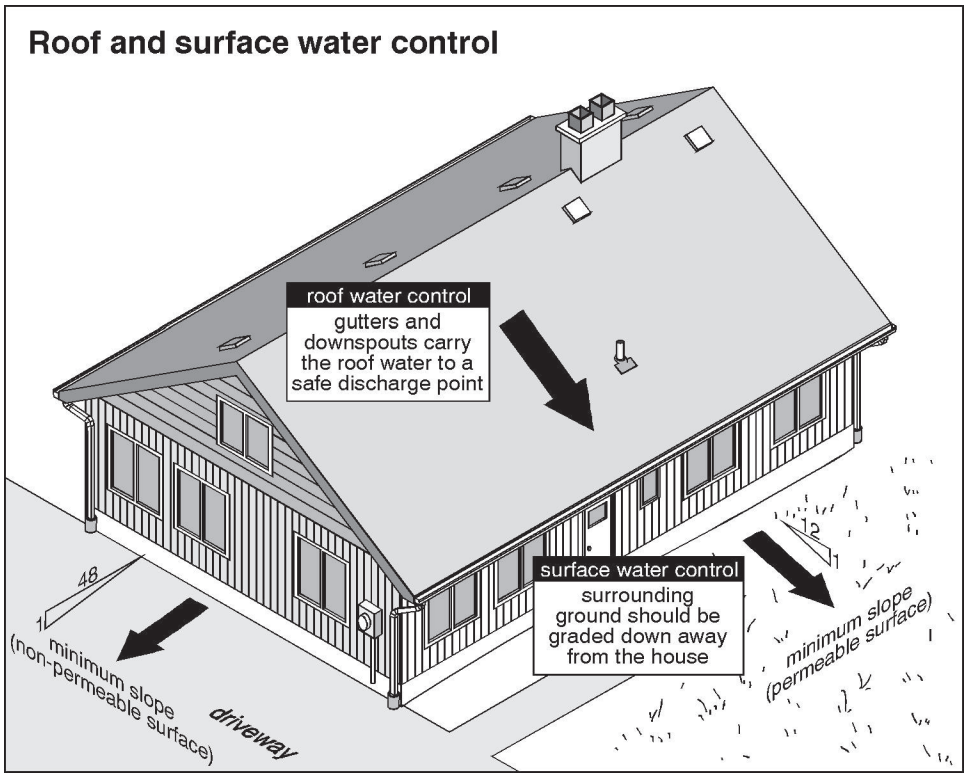
WET BASEMENTS AND WET CRAW

There are any number of reasons why water will enter a basement or crawlspace. Make any needed and suggested corrections or repairs.

Negative lot grading pitched to the house will allow water to accumulate at the foundation with a potential for entry to the basement or crawlspace areas.

Negative foundation grading, where perimeter soils around the foundation slope back to the foundation walls has the potential for water entry into basement or crawlspace areas.

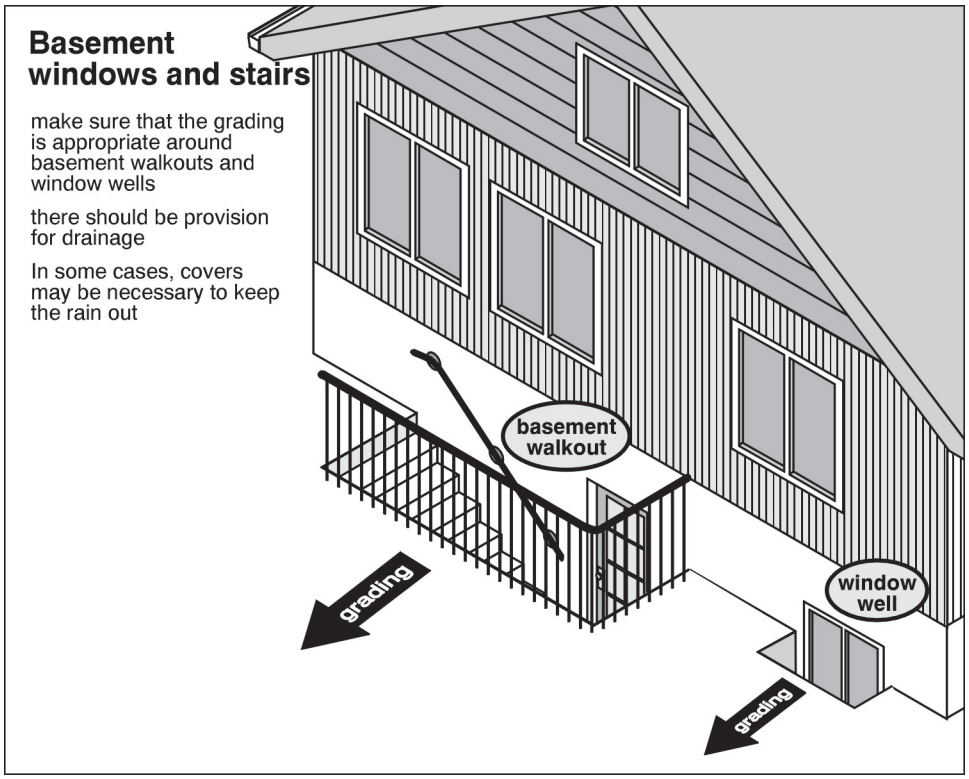
Jointed foundations such as *brick , block and stone* , as well as *damaged foundations* can allow water into these



areas.

Roof drainage, either *missing, improperly installed, or draining too close,* can allow roof drainage runoff to flow to the foundation. Roof drainage runoff is often one of the major causes of water entry to basements and crawlspaces. <u>All downspouts draining from gutters should discharge several feet from foundation walls.</u>

Openings in a foundation wall such as *basement entry areas,* as well as *low foundation* windows contribute to water entry as well.



MAKE ALL DISCUSSED SUGGESTED REPAIRS AND OR CORRECTIONS TO PREVENT ANY POTENTIAL FOR WATER ENTRY TO BASEMENTS OR CRAWLSPACES.

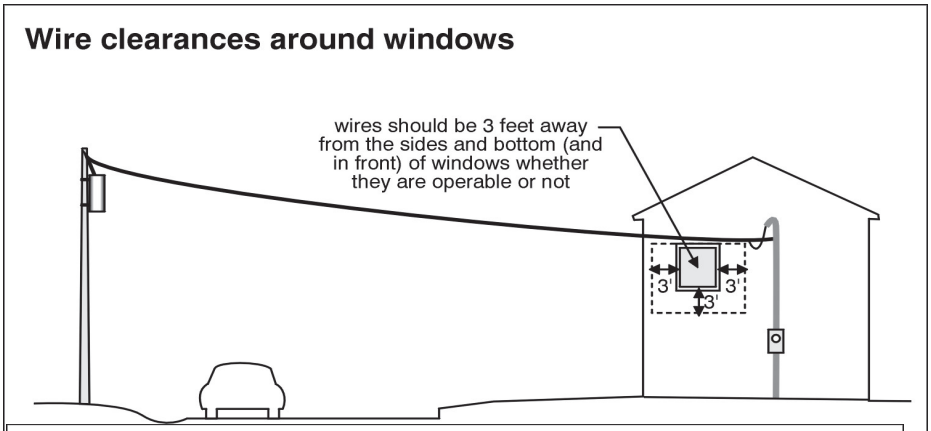
EXTERIOR ELECTRIC

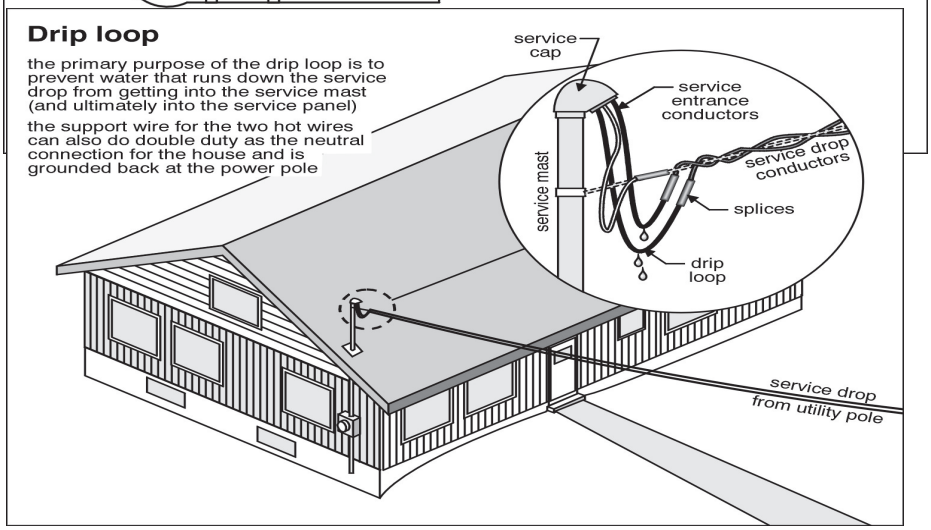
Service Cables

<u>Drip loops on service cables</u> should have a sufficient drip loop to allow water to drain off of the electrical service wires. Service cables with an inadequate drip loop have the potential for water entry into the electric service cable, into the electric meter, as well as into the electric service panel.

<u>Overhead electrical wires should have a 3 foot minimum clearance</u> to the sides of windows, decks, porches, balconies and roofs. Consult with an electrician if wires are too close to such areas.

<u>Damaged or deteriorated electric service cables</u> should be evaluated for possible replacement. Damaged insulation on service cables usually warrants cable replacement.





Servide cables that are higher than the masthead always have a potential for allowing water into the electrical system.

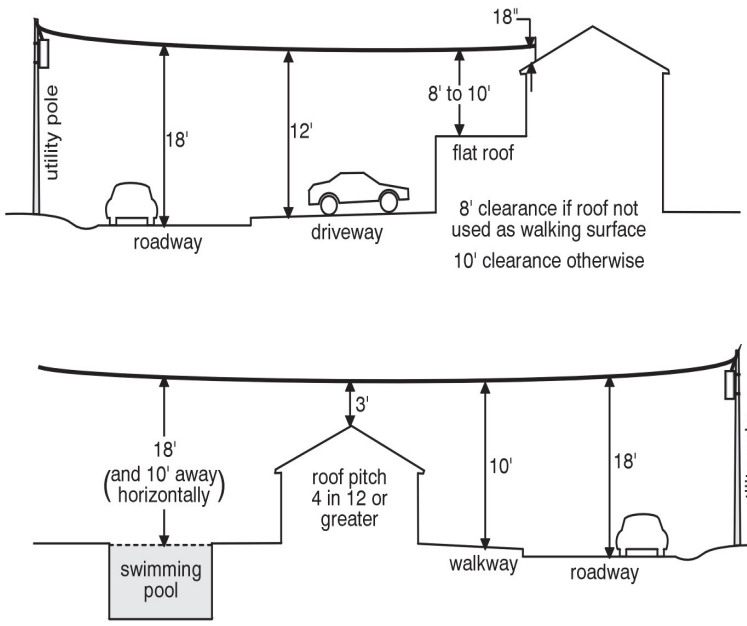
Duk seal is that putty like sealant on the electric service cable where it enters the electric meter, or where the electric service cable enters the building. If the duk seal is damaged or missing - have repaired or added to avoid water entry to the meter, electric service panel or into the basement.

Loose or poorly mounted mast heads, service cables and meters must be reattached to the building.

Miscellaneous electric comments

All exterior outlets should be **(GFCI) protected**. If not update as needed.

Service drop clearances (United States)



All wall mounted light fixtures and spotlights should be **properly mounted on mounting blocks** to avoid any chance of water entry to the electrical fixture.

Exposed unprotected wiring is not allowed on open surfaces There should never be any exposed and unprotected visible electric cables on the soil-ground-grade or exposed on light posts.

If your inspector finds any electrical defects have a licensed electrician correct as needed.

FENCING, RAILINGS, AND RETAINING WALLS

Fencing and railings are often required where there is a potential for someone, ***particularly a child***, falling from a high elevation. This is common on high retaining walls, basement entrances and high surface/grade elevations. Be sure to add rails or fencing where safety may be a concern.

Fencing is also required where there are swimming pools, or any bodies of water that a child may fall into. Be sure to fence off any potential dangerous areas and make child safe.

Exposed barbs on metal fencing such as chain link fences are potential hazards. The sharp pointed barbs on these fences, if exposed at the top of the fence, poses as a potential hazard, *particularly to children*. As such - consideration should be given to correcting this serious potential hazard.

NOTE: ***Barbed wire*** *is illegal to use on fences. If your property has this hazardous wiring - REMOVE IT.*

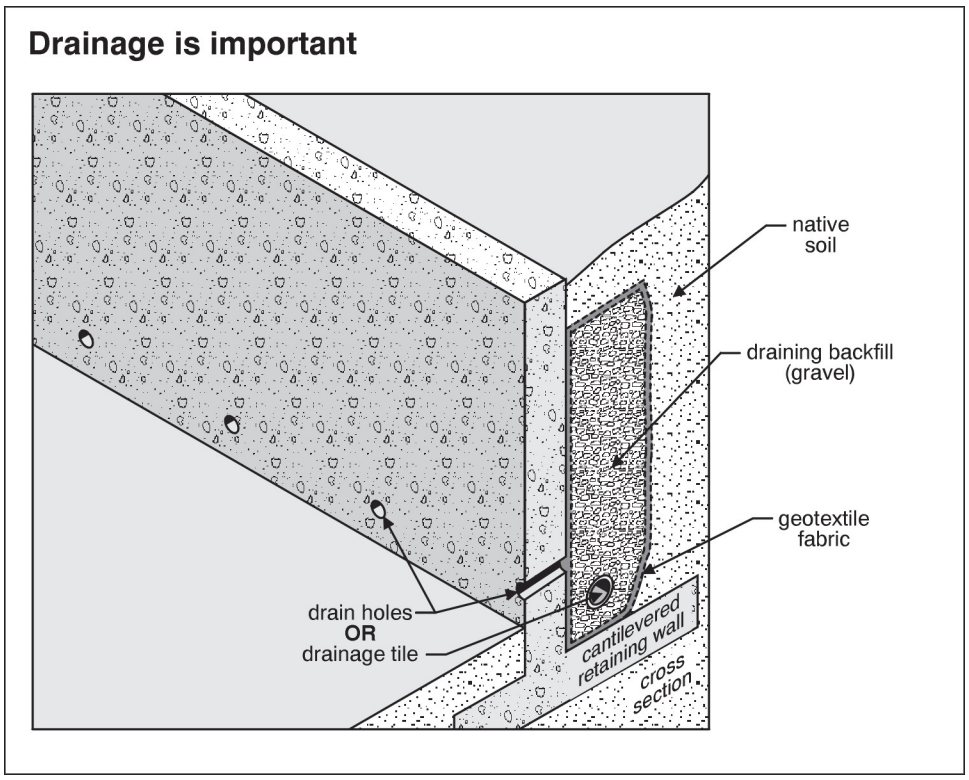
Weep holes are drilled out holes, often with installed drain pipes, found in most retaining walls. These weep holes allow water to drain from behind retaining walls and reduces the water pressure on the wall.. Often retaining wall failure can be attributed to the lack of sufficient weep holes. If you

have a retaining wall with inadequate drainage consider having weep holes installed.

A full inspection of fencing and retaining walls is beyond the scope of a general inspection, and is **not** part of this inspection.

Landscaping and Vegetation

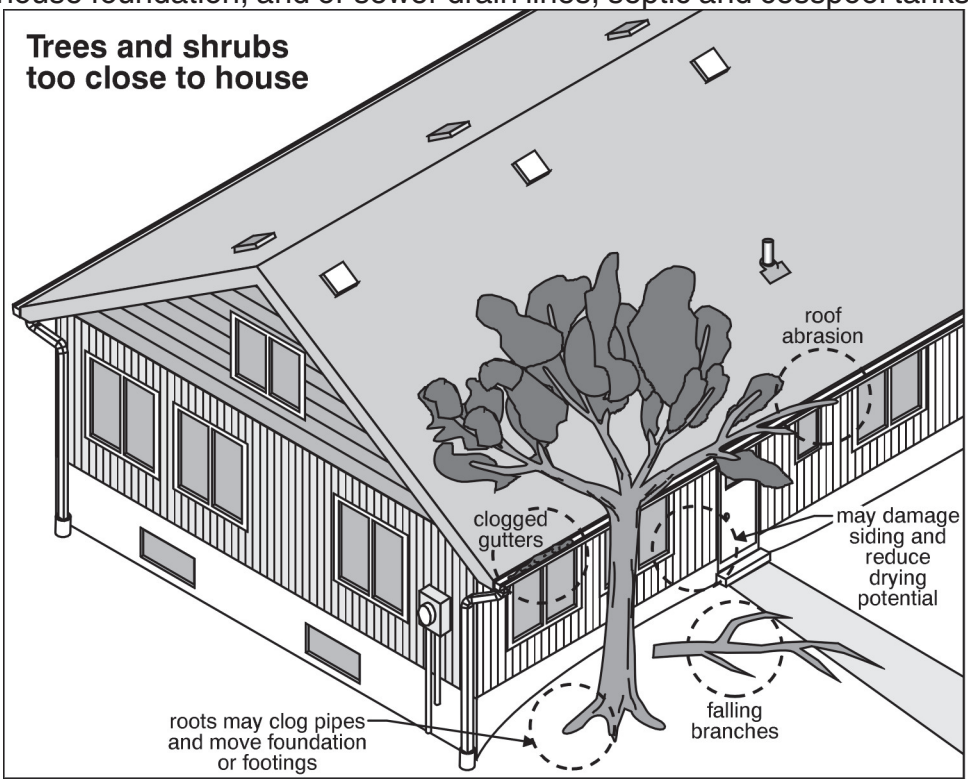
It is important to keep all vegetations such as *shrubs, bushes*, *ivy, trees*, *etc.*, away from the house. As such you should consider trimming back - cutting back and away all overgrown vegetations.



Trees

Overhanging tree branches contribute to gutters being clogged with leaves, and have the potential for falling branches damaging the roof or house.

Tree roots too close to the house foundation, and or sewer drain lines, septic and cesspool tanks, as well as drywells - can cause damage to these areas.



Too much shade from trees and overgrown vegetations can result in the destructive growth of mildew, mold algae and fungal growths on the roof and the house.

Tree branches that overhang chimneys can interfere with the proper draft of chimney flues.

Miscellaneous

Ivy and climbing vines on chimneys can cause damage to both brickwork and brick joints, as well as concealing existing damage to the chimney.

Ivy and climbing vines on wood siding and wood trim, porches, etc., can cause wood rot and

damage, as well as provide a harborage for wood destroying insects.

Overgrown vegetations too close to exterior compressors will interfere with their proper operation.

Moss on exterior steps are a potential slipping/tripping hazard.

Overgrown vegetations on retaining walls will result in damage to these areas and conceal existing damage.

Shrubs/bushes too close to the house can provide shade which could result in rot to adjacent wood areas.

Overgrown vegetations can conceal damage to foundation walls, as well as creating problems for jointed foundations, such as brick, block or stone.

Overgrown grasses and vegetations can conceal wood destroying-woodboring insect activity and damage.

TRIM BACK - REMOVE ANY SUCH OVERGROWN VEGETATIONS FROM THE BUILDING

Exterior Plumbing

All buried exterior water and sewer, *as well as sprinkler piping* is beyond the scope of a general visual inspection. This includes private wells, private sewer systems, dry wells and any auxiliary equipment.

Woodboring - Wood Destroying Insects (Structural Pests)

All houses have the potential for wood destroying-woodboring insects, and as such you as a new owner should be aware of and should be vigilant to the ever constant potential for these type of insects. *Termites, carpenter ants and powder post beetles* (hereby referred to as **structural pests**) are the most common type of structural pests that attack the wood of residential homes. If you have any concerns, and/or if any potential areas are pointed out to you - then it is suggested that you get a **SECOND OPINION** from a q*ualified pest control company.* Be sure to **ask the owners or their representatives** about any evidence of past or current insect activity or damage, or structural insect/pest chemical treatments.

Homes that have *direct wood contact with either soils/ground or grade* have the greatest potential for both structural pest damage as well as wood rot.

Homes that have *direct wood contact with masonry areas*, such as at kickplates under door sills located on masonry platforms, are also susceptible to structural pest activity and damage.

Any jointed foundation such as brick, block or stone are easy avenues for structural pest entry to the home.

Hollow block foundations are particularly susceptible to *termite entry* due to their hollow cores.

Slab designed *homes* are also an area of high potential for *termite activity* and damage.

Crawlspace designed homes are another area where the potential for structural pests exists and is high.

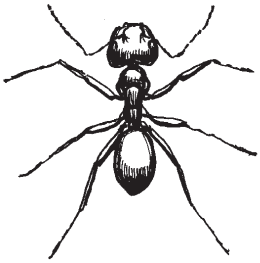
Crawlspaces under decks and porches are also potential areas for structural pests.

Wood rot and decay are attractive areas for structural pests, and as such should be repaired/ replaced.

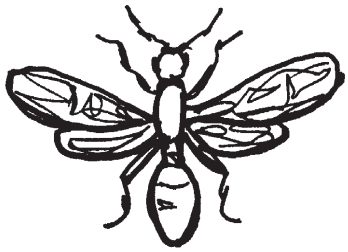
If the house exterior has extensive wood rot and deterioration it is strongly suggested that a contractor open up such areas to determine the *full extent* of the damage, as well as to determine if any concealed wood destroying insects are active behind such damaged areas.

Subterranean Termites (Photo from USDA)

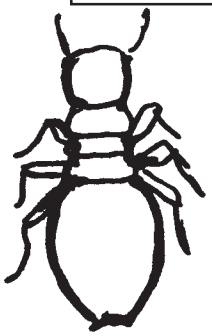
Central Air Conditioning and Heat Pump Systems (Cooling Systems)



Carpenter Ant



Reproductive Carpenter Ant



Termite

Reproductive Termite

If your house has a cooling system there are some things that you should be aware of. Depending upon what part of the country that you live in compressors have *a limited useful life expectancy*. On the average compressors can be expected to perform optimally in the **8 - 12 year range**. After that they are considered to be on **borrowed time**, and as such you may wish to budget for possible future replacement of an older compressor.

Like heating systems, cooling systems should be *inspected and* serviced *annually* by a qualified service technician. Failure to annually check and service cooling systems could result in premature failure of the system. **WE STRONGLY RECOMMEND THAT NEW OWNERS HAVE THEIR SYSTEM SERVICED AND EVALUATED AT THEIR VERY FIRST OPPORTUNITY.**

The location of the exterior compressor is important to its overall performance and life expectancy. A poor location could result in a less than adequate performance and a shorten life. Having a compressor under a deck or porch or too close to the house will interfere with the much needed free air flow around the compressor. Too much shade from trees or overgrown vegetations will also interfere with the free air flow around the unit.

If the compressor is *tipped or unstable* consider having a service technician evaluate for possible corrective measures. Continued movement in the compressor can often snap the refrigerant lines.

Missing or damaged insulation on refrigerant lines should be added or replaced as needed. *Caulk*

and seal any open seams where the refrigerant lines enter the building.

Cooling systems **WILL NOT** be operated or tested by the inspector if the outdoor temperatures are *too cold, if the system is winterized,* if the system has not been on for the past ***24 hours***, and if the system appears to be in need of *repairs, service or maintenance.*

Wall and Window Air Conditioning Units are not part of this inspection.

Keep all open joints and seams where wall ac units are located caulked and sealed to avoid unwanted water entry into the building.

Window and wall ac units should tip slightly down and away from the building in order to shed water and to avoid any unwanted water entry to the building.

Expect replacement for any older, damaged or rusted wall/window units.

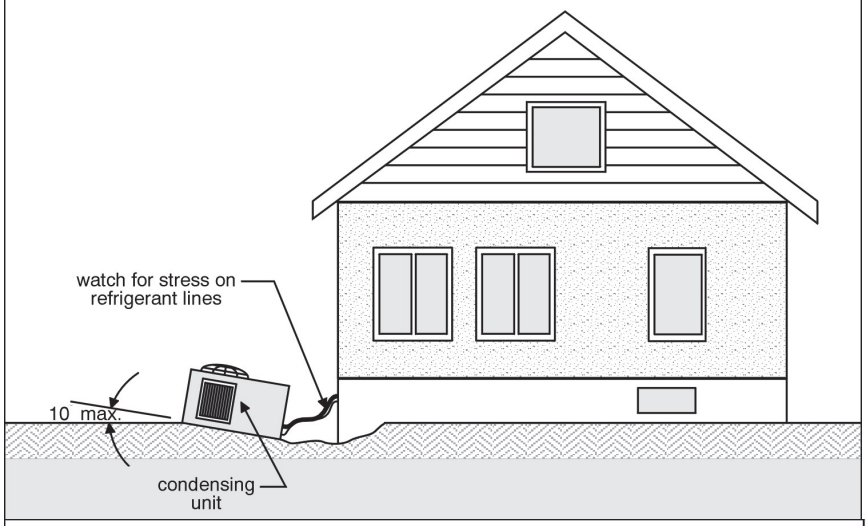
Auxiliary Structures

Outbuildings, sheds, storage areas, barns and similar exterior structures are **not** part of this general inspection.

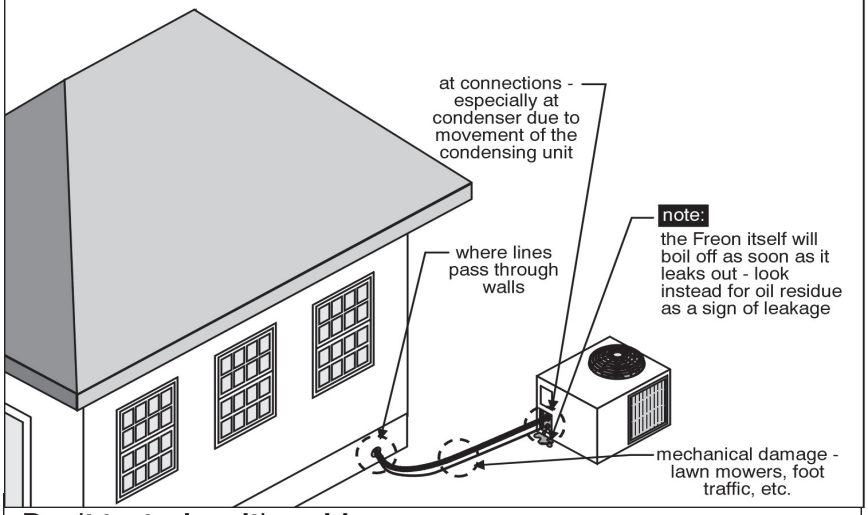
Private sewer systems (cesspool or septic, as well as drywells) are not part of this inspection.

If your home has a private sewer system consider having a competent septic pumping company pump the system and evaluate its condition. Private sewer systems should be pumped out on a regular basis, at minimum every three years - or sooner if necessary.

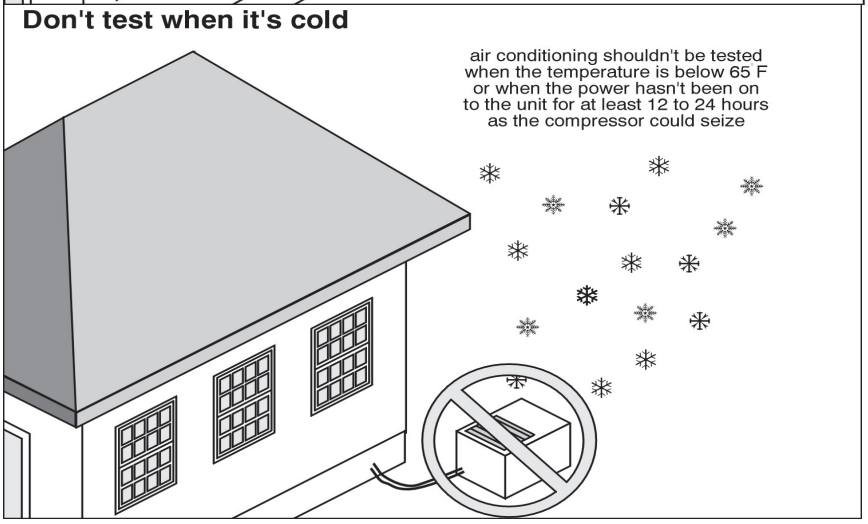
Condensing unit out of level



Leaking refrigerant lines - vulnerable areas



Don't test when it's cold



Basement - Electro-Mechanical Systems

Note: If any of the electrical or mechanical systems are **off or winterized**, the home inspector **will**

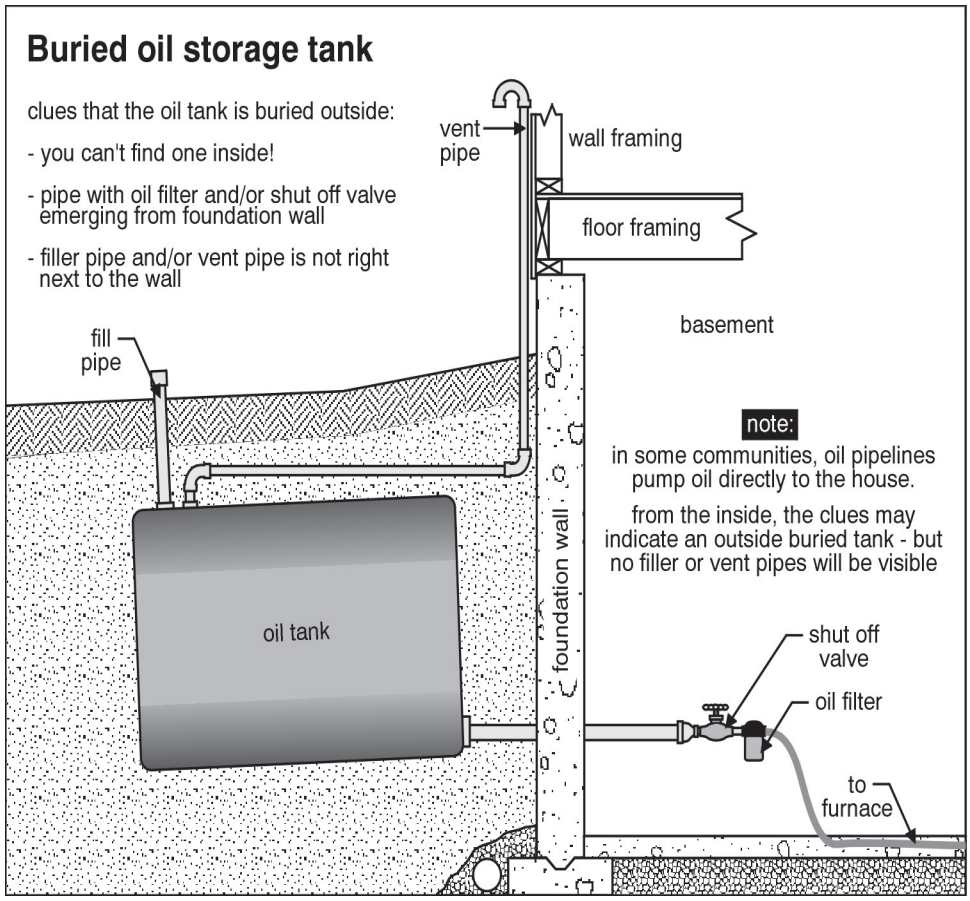
not reactivate such systems. It is up to the owner of the property to have all systems on and functional at the time of the inspection.

HEATING SYSTEMS

All heating systems need periodic cleaning, service and maintenance. Oil systems will require **annual service** while **gas fired** systems usually need service **every two to three years**. Unfortunately most people who own gas fired systems rarely have their heating systems cleaned and serviced. It is *strongly recommended* that no matter what fuel your system uses, to have it cleaned, serviced and evaluated as soon as possible and at your earliest convenience, and then on an annual (oil) or every 2-3 years (gas) basis.

The inspection of buried oil tanks, buried gasoline storage tanks, buried oil and buried gas lines, or any form of buried fuel storage tanks is beyond the scope of this general inspection, and are **not inspected**. Most municipal fire departments usually keep records of such buried fuel items. Check with the ***local fire department*** if any concerns.

Buried oil lines, heat pipes and heat ducts in basement floors or house slabs have a *potential for concealed damage and concealed leaks*. This is beyond the scope of a general inspection, and is **not part of this inspection.**

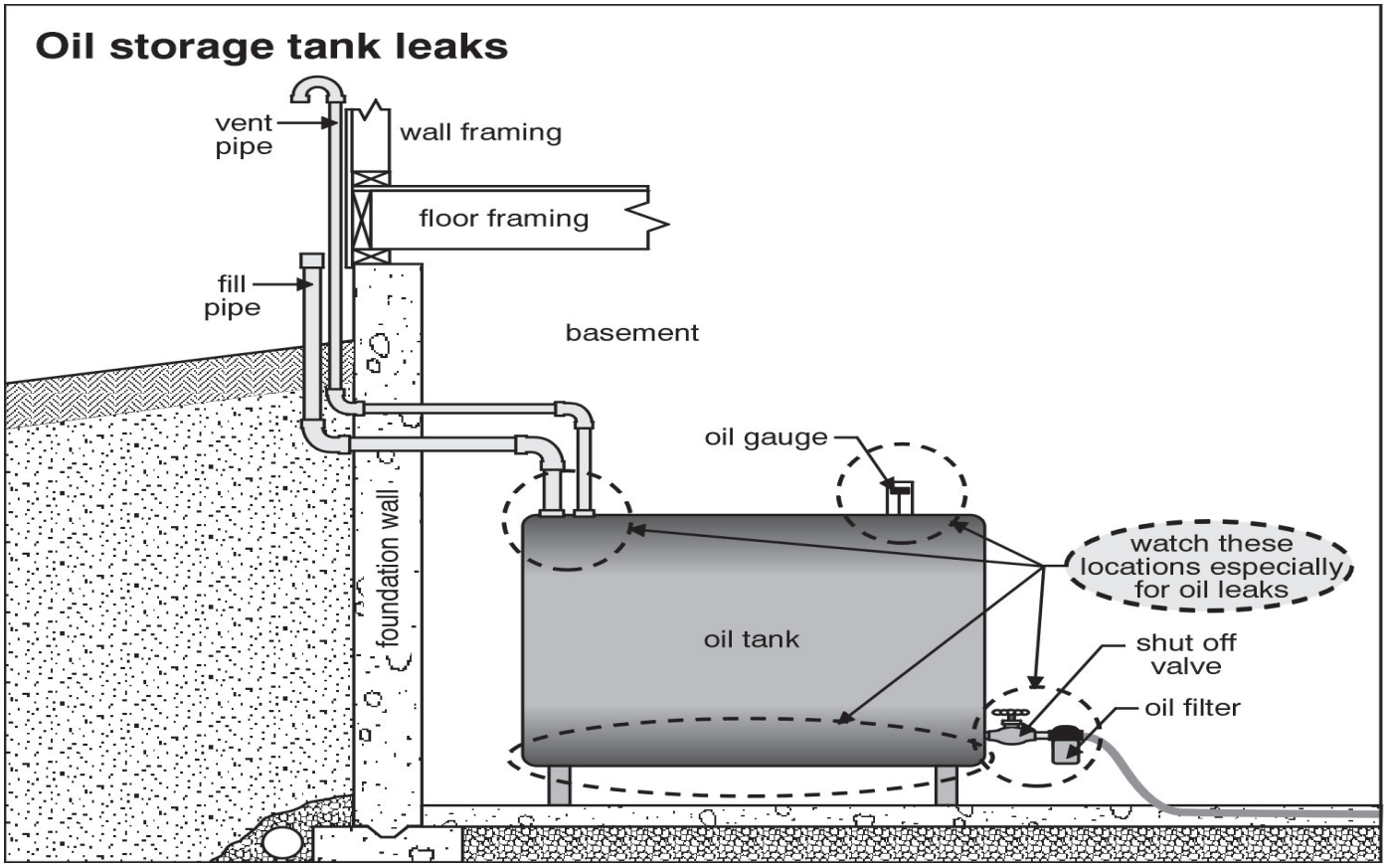


Propane gas storage tanks and all associated piping are not part of the general inspection, and should be evaluated by the propane fuel service company who typically owns and services such units.

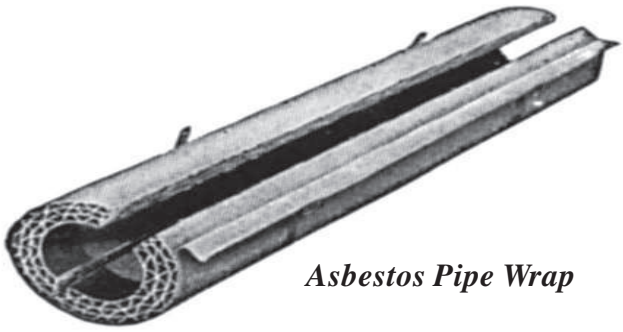
Older, rusted and patched oil storage tanks should be replaced and or monitored for *possible future replacement*. In most communities leaking oil tanks are required to be replaced. Check with your oil fuel supplier, or local fire department.

Asbestos insulating materials on boilers, furnaces as well as on heat pipes or ductwork should be further evaluated by a testing lab or an industrial hygienist - both of which can usually be found in the phone book. Deteriorating asbestos on heat pipes at minimum should be **ENCAPSULATED** (wrapped and sealed) to avoid a **FRIABLE** (loose and deteriorated) condition. Friable insulation can become air borne.

Asbestos that is found on heating ducts of warm air systems poses more of a *potential contamination* problem than those found on heat pipes. Asbestos on heat ducts, particularly the heat duct joints always has a potential for being sucked into the ductwork and blown up into the living

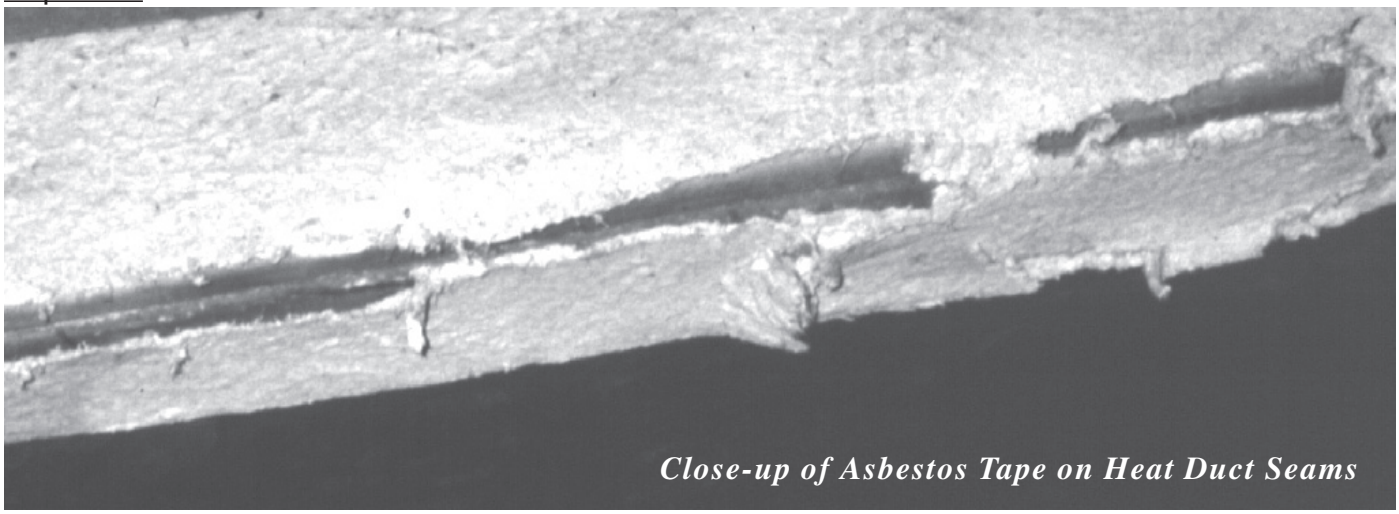


areas of the house. As such it is important to get a **second opinion on any apparent asbestos materials** found in the house.



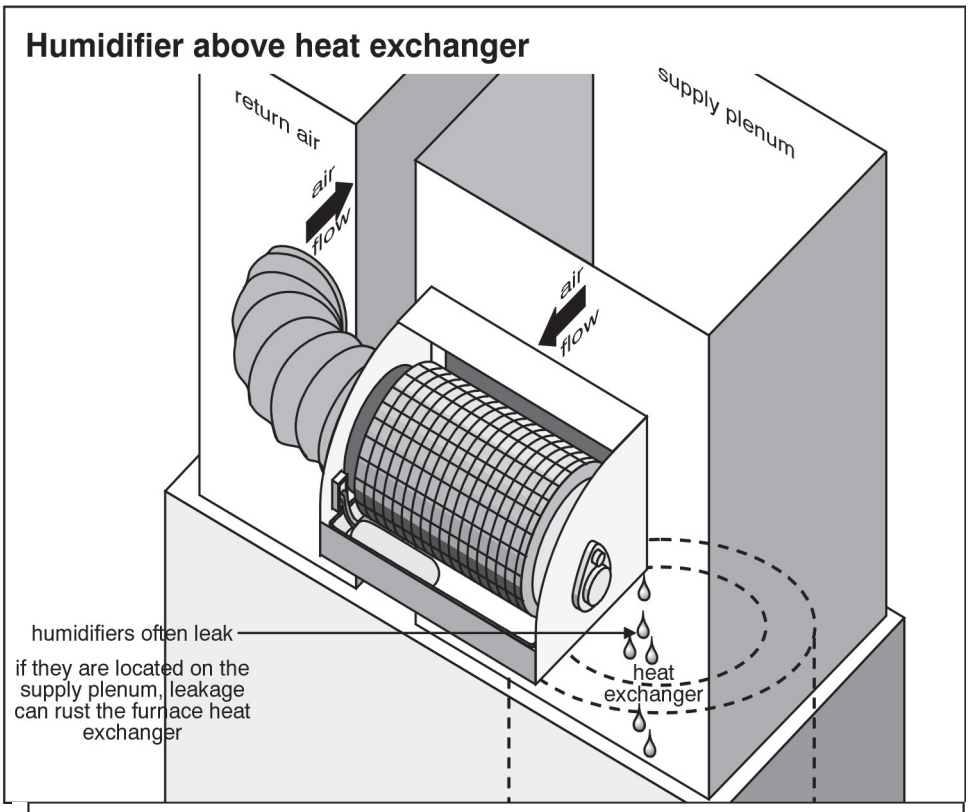
Asbestos Pipe Wrap

Humidifiers on warm air systems usually are not properly maintained. In time such non-maintained humidifiers cause extensive damage to the heating system (**especially for the heat exchanger)** from the moisture that they create. Check with your heating contractor to see if the humidifier should be removed or replaced. One of the major causes of *heat exchanger failure* in warm air systems, is a faulty humidifier. If a heat exchanger fails than in almost all instances the furnace has to be replaced. Other than a visual inspection, the inspecting of humidifiers is beyond the scope of a general inspection, and are not inspected.



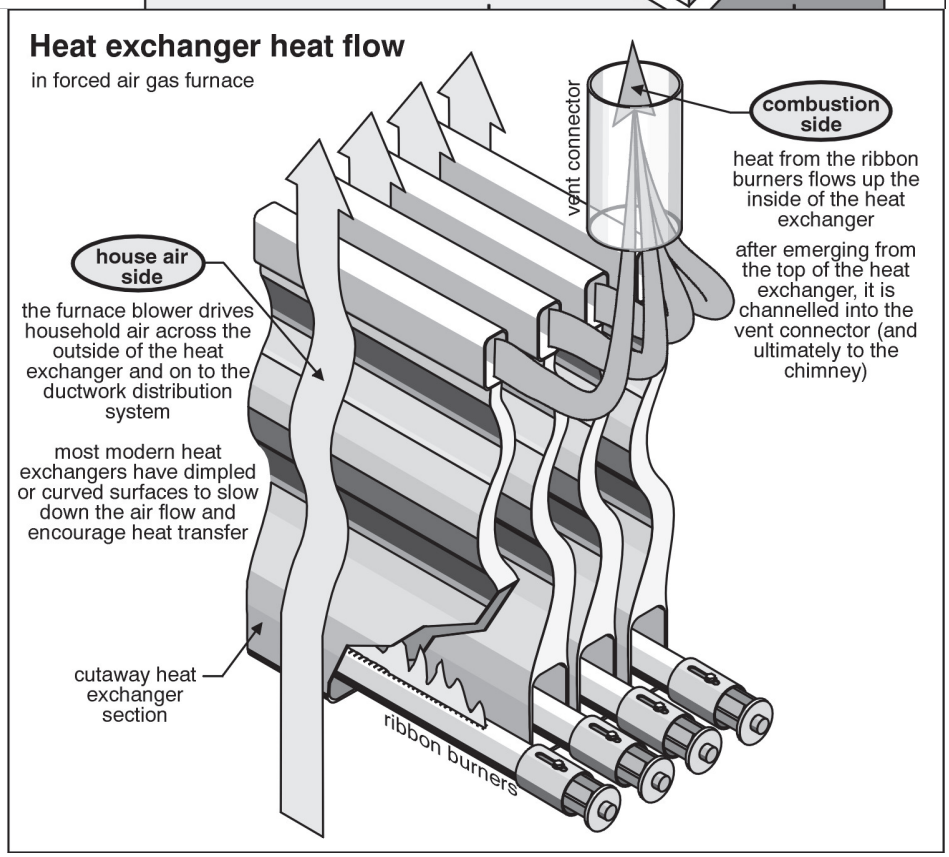
Close-up of Asbestos Tape on Heat Duct Seams

Warm air furnaces have concealed heat exchangers that can become defective and go undetected. Inspecting heat exchangers is beyond the scope of a general inspection, and as such are not inspected. If the furnace shows excessive corrosion and rust on its surface, and if it has a humidifier, you should consider having a **smoke test** done by a heating contractor to determine if the important heat exchanger is defective. ***Damaged and defective heat exchangers usually requires that the furnace be replaced.***



Heat exchanger failure in furnaces sometimes can also be determined by:

- Soot stains in the living area walls and floor areas adjacent to warm air registers,
- *Pungent odors coming out of the registers while the heating system is in operation,*
- *Erratic flame pattern on burners.*



Automatic vent dampers are often found on the flues of warm air furnaces, heating boilers, as well as hot water tanks. These important devices should be cleaned and serviced and evaluated on an **annual basis** by a heating contractor. Failure to maintain these devices could result in a dangerous condition of flue gas spillage back into the basement or living spaces. **HAVE THESE DEVICES INSPECTED ANNUALLY.**

Filters on warm air heating systems should be replaced as soon as they become dirty or if damaged. These should be checked and replaced on a regular routine basis. Consider checking filters monthly.

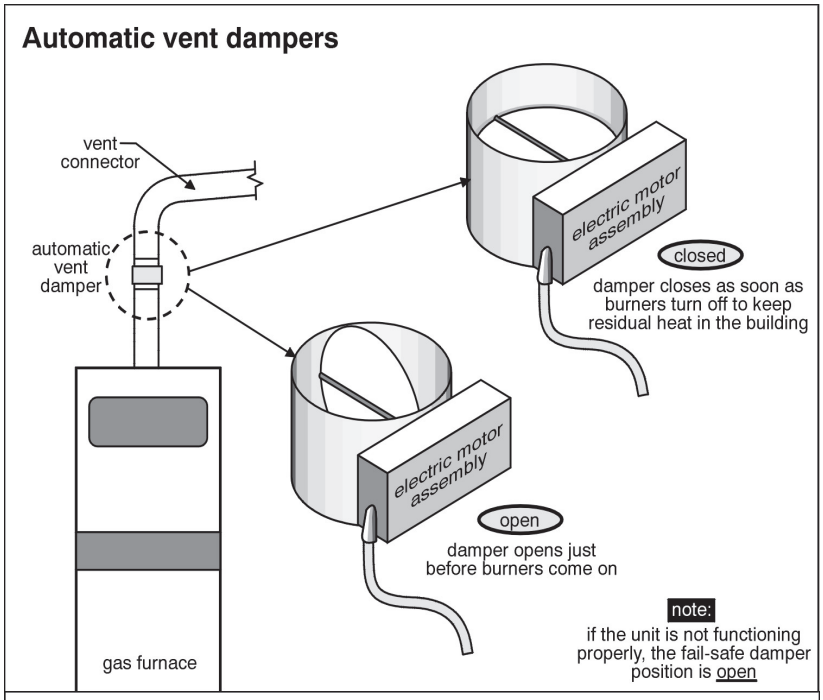
Any valve that has the potential for blowing off hot water or steam, **such as a relief valve**, should have a proper **drip pipe** extending down to within **6 inches** of the floor. Have such a drip pipe added if missing.

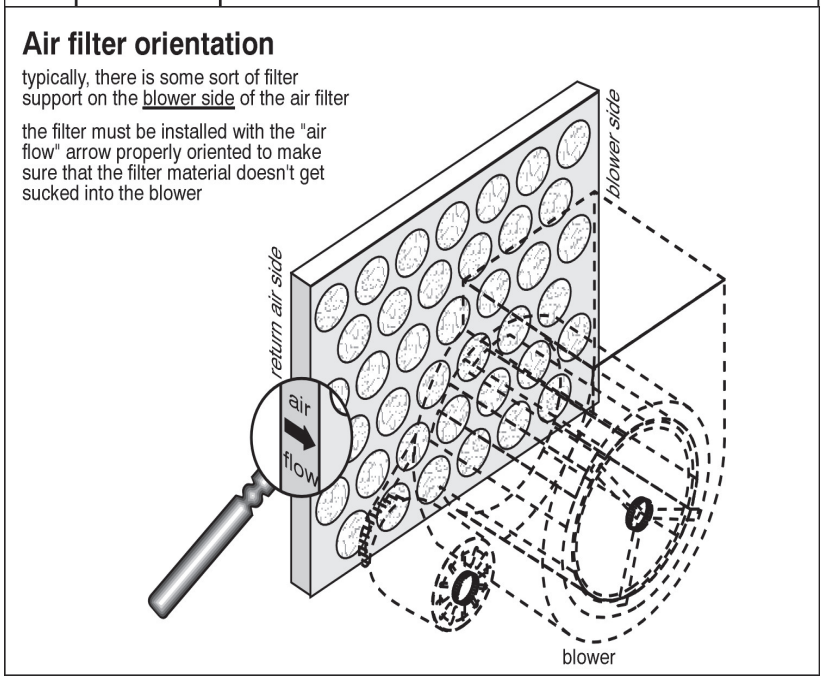
Major rust - corrosion on heating systems or components could lead to leaks. Monitor/repair as needed.

Determining the adequacy of heating systems to fully heat a home is beyond the scope of a general home inspection, and is **not** part of the home inspection. Consult with a heating contractor who can do a heat load calculation to make that determination. Consider adding heat to rooms where missing.

As with any type of heating system (*heat pump, steam*, *forced hot water or forced warm air*) check with your **heating contractor** for specific information regarding **proper maintenance** of your heating system.

The useful life expectancy of heating systems varies from manufacturer to manufacturer, as well as from individual models, and quality of design and construction.





- Most warm air **furnaces** have a useful life of **15 - 25 years.**
- Most **cast iron boilers** have a useful life of **25 - 35 years**.
- While the lessor quality **steel boilers** will only have a useful life of between **10 - 15 years**, with many steel boilers failing well before those designated times.

Don't be surprised if some individual heating system components fail during your ownership. This is common and typical for any system, **EVEN ON NEWER SYSTEMS**. Normal wear and tear along with some lack of full on-going maintenance and upkeep can create some premature failures in systems, as well as individual components. That is why it is important to have the system fully evaluated by a heating contractor at your earliest convenience, as well as serviced and maintained on a regular basis.

If you have an **OLDER heating system** you should **anticipate future repairs and or replacement** of the system, and as such you should budget accordingly. Depending upon the type of system and the quality of the furnace or boiler - the price will vary greatly. On the average a good cast iron boiler

will cost in the **$3,000 to $4,000** range while a good quality furnace should run in the **$1,800 to $2,500** range. These are very rough approximations, as such you should always consult with a heating contractor for an exact quote.

Installing a carbon monoxide detector in your home would be a good precautionary life-safety measure. These detectors sense the presence of deadly carbon monoxide gas, and have proven to be an effective life safety feature for most homes. **Consider adding one in your new home.**

Installing smoke detectors is a must for any home. Be sure to add these important life safety devices on all levels of your home including the basement.

If you have any concerns regarding the heating system it is advised that you consult with a heating contractor for further evaluation. Also talk to and ask the owners questions about it as well.

ELECTRICAL SYSTEMS

OLDER electrical systems and components should be considered for updating and upgrading.

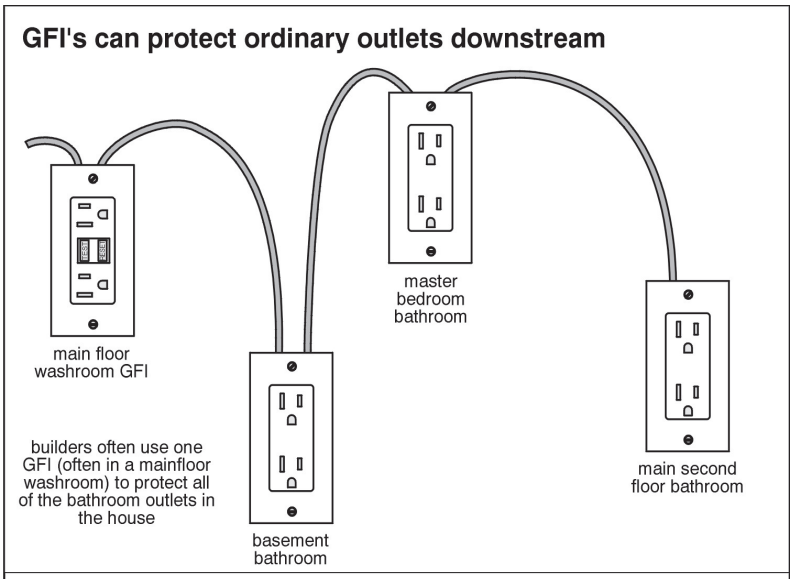
Most modern homes should have at ***minimum a 100 amp / 240 volt service***, with an adequate number of circuits to service sufficient outlets and lights throughout the house.

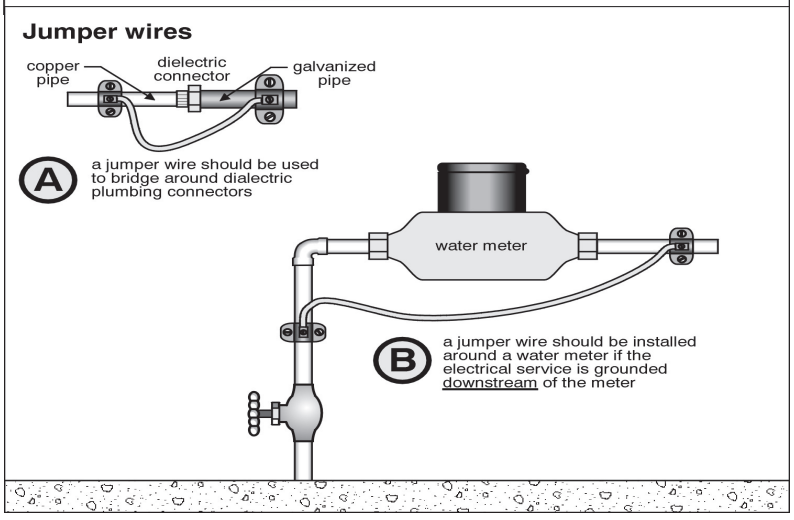
If your house does not have **GROUND FAULT CIRCUIT INTERRUPTER (GFCI) outlets** be sure to add them ***These special safety outlets typically will be found in bathrooms, kitchens, outdoors, decks and porches, garages, the basement, swimming pools, spas, and near any plumbing or close to water.***

The electrical grounding wire which is normally attached to the main water line should have what is called a **jumper cable**. In other words the grounding wire should jump from one side of the water meter to the other side. If your electric service does not have a grounding wire that goes from the street side of the water meter to the house side, consider having a licensed electrician add one for safety.

Often homes with non-metallic water pipes will have a driven metal rod for their grounding device.

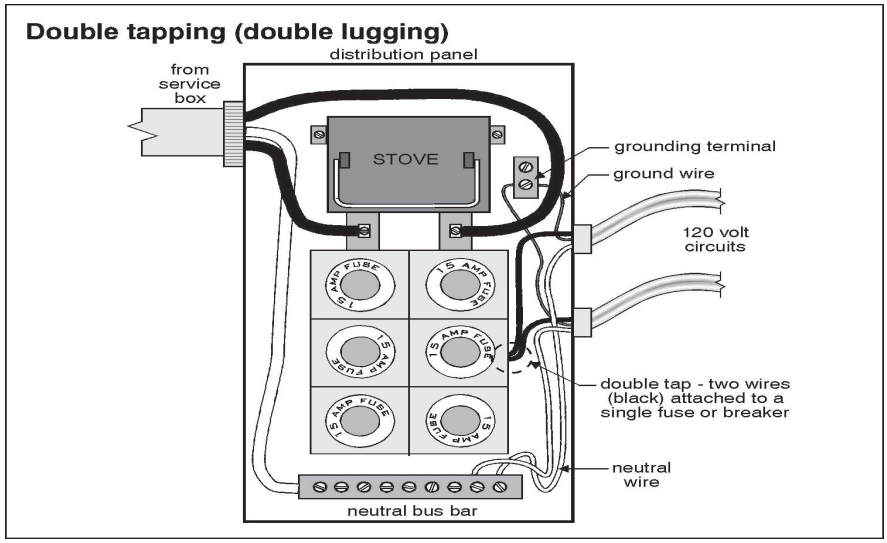
Check with a licensed electrician if any doubt about the electrical grounding of your electric service.





Double tapped circuit breakers in electrical service panels should be evaluated by a licensed electrician and corrected as may be needed. A double tap is where there is more than one electrical wire attached to the circuit breaker terminal. Typically this is not allowed by the electrical code. This is particularly important if any **240 volt circuits** have been double-tapped.

If **corrosion/rust** is found inside your electrical service panel it is the result of moisture. Moisture can be from condensation, and or from rain water getting into the system. In either case, the corrosion is a sign of a problem and must be further evaluated by a licensed electrician. If the corrosion is extensive it may be required to change the service panel, or make serious corrective repairs to the panel.

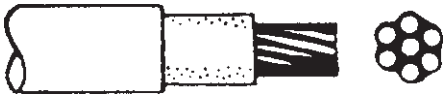


Overfusing occurs when the wrong size fuses are put into the fuse slots. This is a very common and serious mistake. When for instance a 30 amp fuse is used in a fuse socket that only requires a 15 amp or a 20 amp fuse. This overfusing could result in a fire. Overfused circuits should be reduced to their proper fuse size to avoid any potential problems. **If you are not sure of the correct fuse sizes, check with your electrician.**

Aluminum wiring on general circuits (solid conductor aluminum wiring) that feed general wiring in the house, such as outlets and lights, should be further evaluated by a licensed electrician. In most instances aluminum wiring poses as a ***potential safety hazard*** and should be removed or corrected by a licensed electrician. At minimum, every connection made with solid conductor aluminum wiring should be opened up and checked. This is quite labor intensive, and involves opening each and every switch, outlet and junction box for examination. Again, check with a licensed electrician for such services, as they are beyond the scope of a home inspection.

This should not to be confused with stranded conductor aluminum wiring that may be found on the main service conductors (stranded aluminum wring). Examples would be stranded aluminum wiring found on *main service connections, dryer circuits*, *electric range circuits and electric hot water tanks*. Stranded aluminum wiring installed correctly is safe.

De-oxy gel is a paste used to coat aluminum wire connections on electrical terminals in service panels. If your inspector indicates that there is missing De-oxy gel, have an electrician evaluate and correct as needed.



The **directory** on the cover of the electrical panel should be filled in with the exact locations of all circuits. If your panel is not fully labeled consider having it done.

Missing screws on electrical service panel covers should be replaced.

Open junction boxes no matter where they are found in the building, should have metal covers.

All **exposed and unprotected wiring** should be properly installed in junction boxes for safety.

All **poorly hung and mounted wiring** should be properly hung for safety and wire protection.

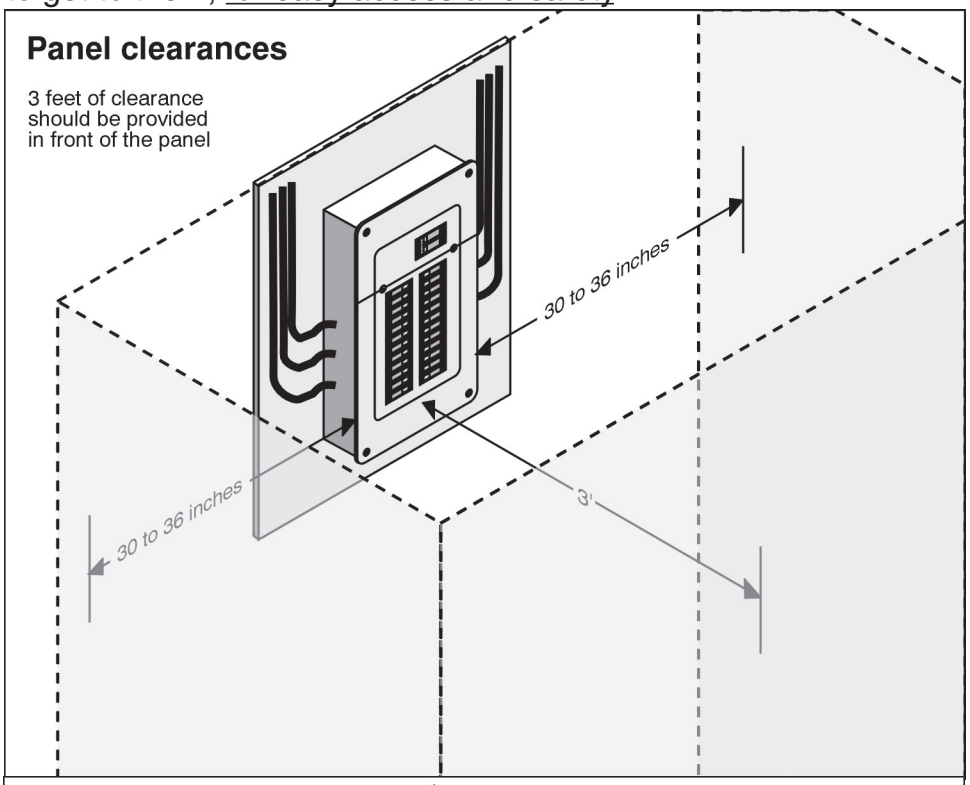
Electrical service panels require adequate space adjacent to and in front of them for easy access and service.

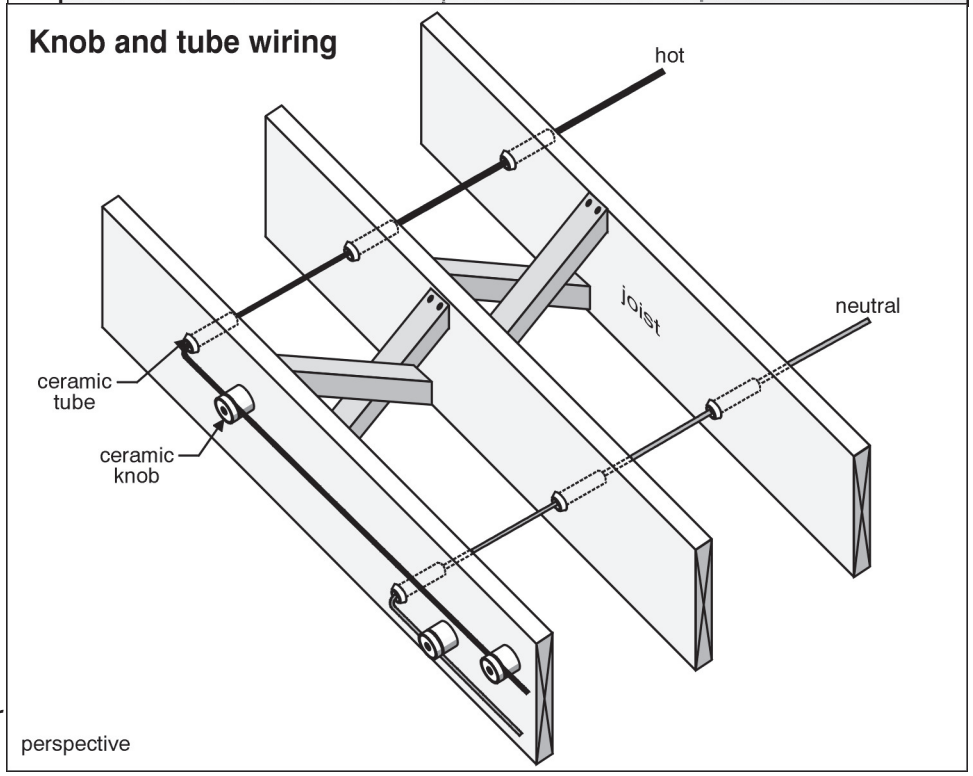
Often homeowners finish off basement-utility areas and make these electrical panels inaccessible. There should be a clear **30 inch wide** space in front of these panels and at least a depth of a **3 foot** clear space to get to them, for easy access and safety.

Amateur work such as the use of *extension cord, lamp cord and zip cord wiring* for permanent wiring is both a code violation and a safety hazard. If your home has any such improper wiring have a licensed electrician upgrade with proper wiring and proper outlets.

Older wiring such as old knob and tube wiring should be fully evaluated by a licensed electrician for possible upgrading and updating. This type of wiring dates back to the early 1900's. Also this type of wiring was meant to be air cooled, and as such should never be covered over with insulation - which is common in attics and in the walls of homes with blown in insulation. If you do have old knob and tube wiring buried in insulation you should consider having a licensed electrician fully evaluate for possible rewiring.

It is beyond the scope of a general inspection to inspect *generators, any and all electrical pumps and motors- including but not limited to - sump/ejection/sewer/jacuzzi/ condensate, etc., and or similar*





types of equipment. These electrical items and components are **NOT** inspected.

It is also beyond the scope of a general inspection to determine the adequacy of your electrical service. If there are any questions have a licensed electrician further evaluate and update as needed.

Circuit breakers including the main breaker are **not** tripped or otherwise turned off. This is beyond the scope of a general inspection There is always the possibility that older breakers could become damaged, or not turn back on after being tested.

If the inspector found various defects and deficiencies in your electrical service, it is suggested that you contact a licensed electrician to fully evaluate the system, and to make any corrections and or repairs and upgrades as may be needed.

PLUMBING SYSTEMS

OLDER water pipes and drain-vent pipes should be monitored on a regular basis for leaks and or a need for future repairs or replacements. This is particularly true if *rust nodules and corrosion* are noted on these pipes. As an owner you should **anticipate and expect repairs and replacements** to any older plumbing components (pipes/drains/vents)

Cleanout caps for sewer drains that are gnarled, damaged or having evidence of being replaced are usually an indication of some past problems in the sewer drain lines. Often **blockages** in the drain lines are the reason for the cleanout caps being damaged or having to be replaced. It is suggested that you consult with the previous owners or tenants to see if there has been a history of drain pipe problems with this house.

Shutoff valves are **not** closed and **sewer drain cleanouts** are **not** opened during the course of a general visual home inspection.

All amateur work is suspect and should always be followed up with an evaluation by a licensed plumber.

Old lead water pipes should replaced if found in the house. These water pipes have a potential to allow leached lead into the water supply for the house, which is a **potential health hazard**.

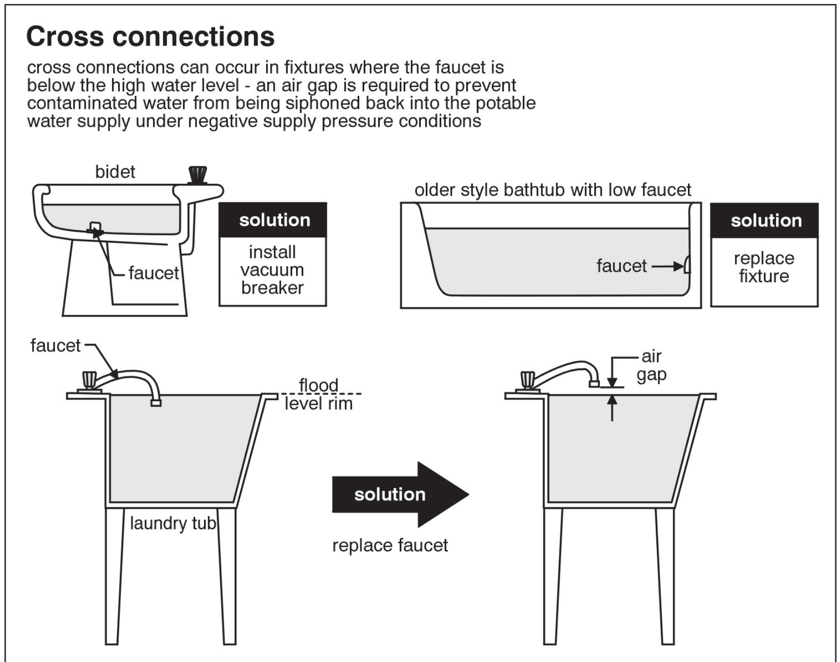
Poor water pressure in the house water lines may be the result of old water pipes such as, galvanized and brass water pipes, having constriction on their interior walls from years of built up corrosion. Poor water pressure also could be due to an old main water line coming in from the municipal water supply. If you have inadequate water pressure, check with a plumber to see if anything can be done to remedy the condition.

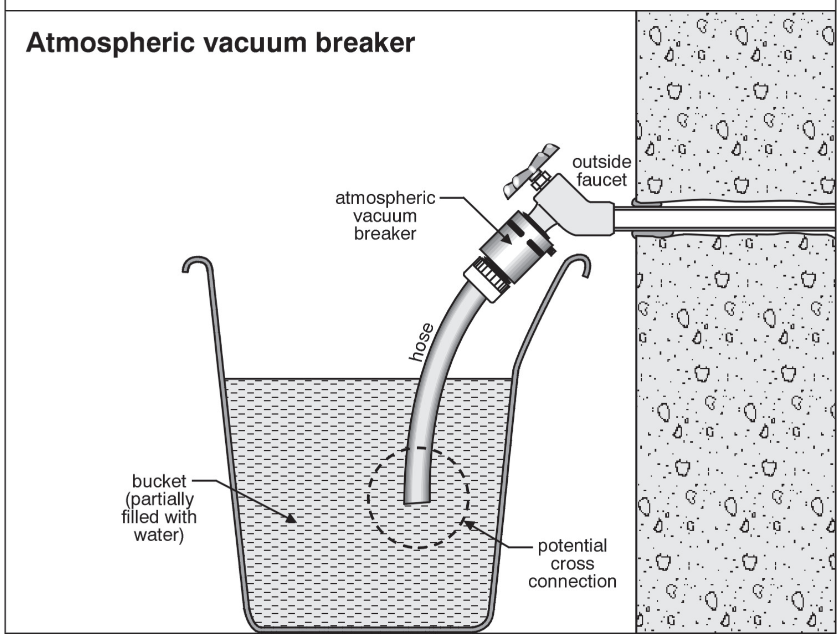
Poorly supported water lines and drain pipes should be considered for additional support.

Cross connections in the plumbing system occur where **POTABLE** (*clean, safe, drinkable*) water can become contaminated by polluted water. This condition will occur when unsafe water is siphoned back into the potable water supply.

Some common sources of cross connections are as follows;

- Short lengths of hose attached to faucets (usually laundry sinks) extending below the rim of the sink.
- When a water hose is left in a pool or a spa after refilling.
- Older sinks where the faucet extends below the rim and overflow of the sink.
- Any hose attached to an outside hose bib that does not have an **ANTI-SIPHON VACUUM BREAKER**.
- Water softener discharge tubing connected directly to waste drains, without an air gap.
- *Improperly installed sprinkler systems.*



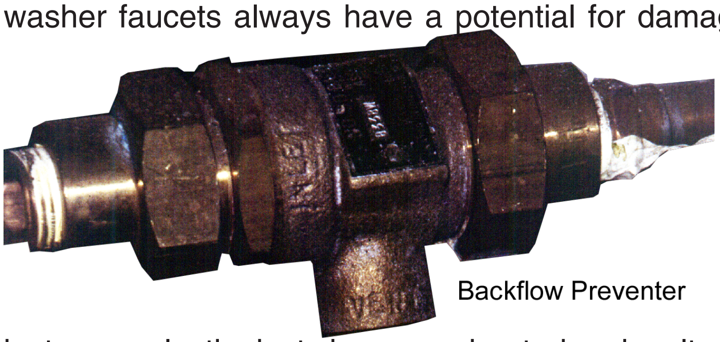


Backflow preventor. This is a device like an <u>anti-siphon device or a vacuum breaker</u> that prevents the siphoning of polluted water into potable water. Often amateur sprinkler system installations have no backflow preventor.

A drain pan with an overflow drain pipe should be considered for <u>washing machines</u> that are in living areas. This is also true for <u>hot water tanks</u> in living areas.

Major rust - or corrosion on pipes, drains or fittings could lead to leaks. Monitor and repair as needed.

Old washing machine faucets should be considered for upgrading to a newer <u>single control valve faucet</u>. Older washer faucets always have a potential for damaged hoses. With a newer faucet there is less chance of damaged washing machine hoses and resulting water damage.



Backflow Preventer

Dryers should vent to the <u>exterior</u> and not into the interior areas of the building. Venting any appliances into the building will result in moisture related damage. Also, dryers should have **metal ductwork** and not plastic ductwork. <u>In some instances plastic ducts have overheated and melted - resulting in fires.</u>

It is beyond the scope of a general visual inspection to inspect <u>*sump pumps*</u>, <u>*ejection pumps*</u>, <u>*sewer pumps*</u>, or any form of pumps or similar equipment. For the most part most pumps have a useful life expectancy of **<u>5 - 7 years.</u>**

It is beyond the scope of a general visual inspection to inspect <u>*private sewer systems*</u>; *and <u>private water systems</u>,* including the <u>*purity*</u> of the water and the <u>*amount of the flow*</u> of the water, <u>as well as; any water softener equipment, water storage tanks, and any ancillary associated equipment.</u>

In general if the inspector found defects and deficiencies in the plumbing system you should consider having a licensed plumber evaluate the plumbing system, and correct/repair as needed.

DOMESTIC HOT WATER

No matter what the source of your domestic hot water is, i.e. a free standing tank, storage tank, or a tankless off of the boiler, your hot water temperature, should never be more than **120 degrees**. **SCALDING** can occur if your hot water temperature is greater than 120 degrees. Therefore it is strongly suggested that you make sure that this temperature setting is always maintained for your domestic hot water.

Most hot water tanks have a useful life expectancy of **5 to 7 years**. If your tank is five or more years of age you should anticipate and expect future replacement of the tank.

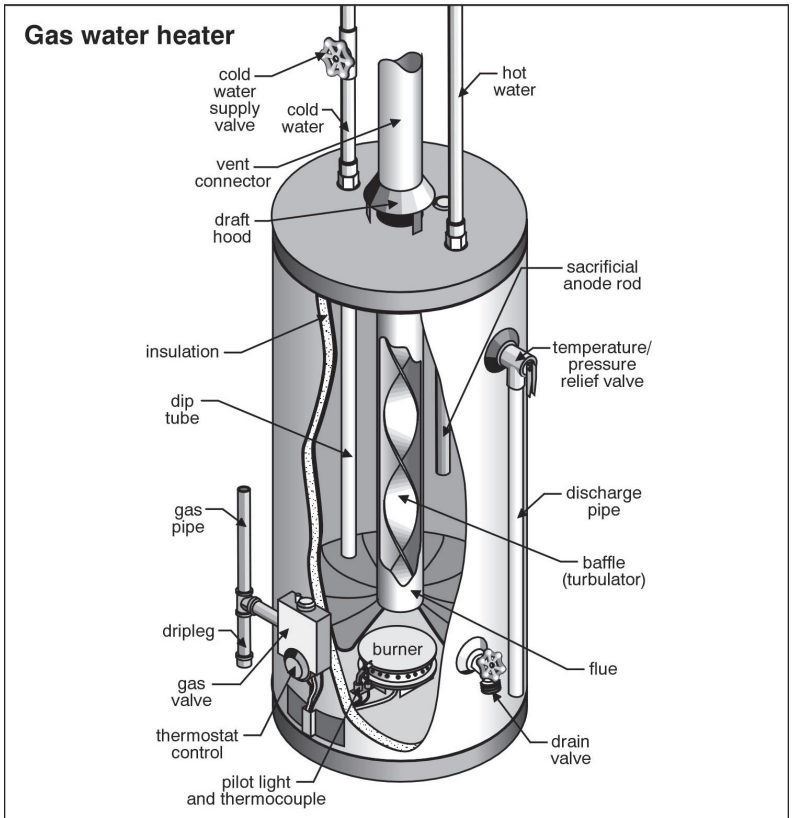
During a general inspection the inspector does **not** change or adjust the hot water temperature controls.

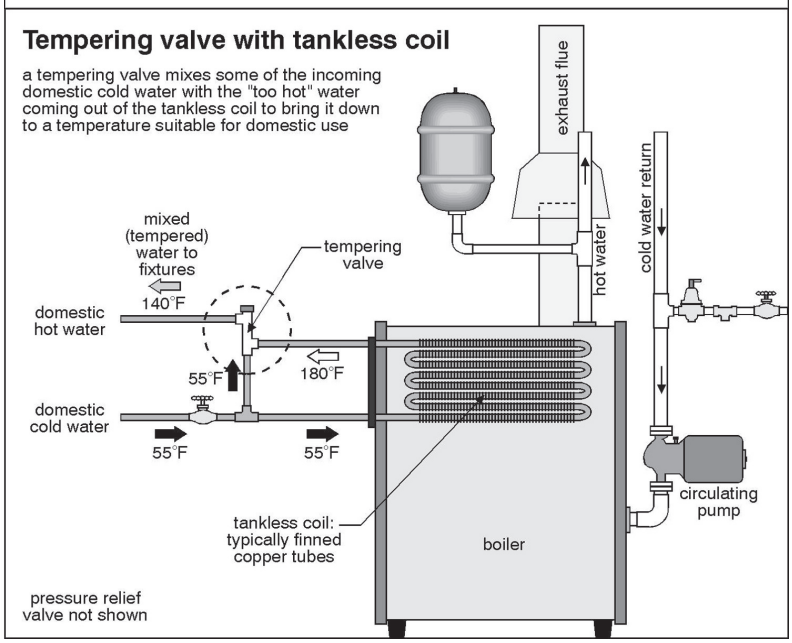
If your domestic hot water system is a **tankless system** off of a boiler you should be aware of the following:

1. Water pressure off of a tankless is usually only **fair,** in older systems the water pressure is often **poor**.
2. Domestic hot water **temperature** off of a tankless **will fluctuate** from hot to luke warm, even cold.
3. Tankless hot water systems often **do not** provide sufficient amounts of domestic hot water, and as such it is often necessary to add an add-on storage tank to the system in order to have sufficient hot water.
4. Often the hot water temperatures are **excessively hot** and can be in the **160 to 180 degree range**.

It is suggested that if you have a tankless hot water system to have your heating contractor set a safe hot water temperature for you, i.e. no greater than **120 degrees**.

If your hot water tank is in the living areas of the house or condo, it is suggested that a **drain pan connected to a drain pipe** be installed under the tank to avoid any





damage from a leaking tank.

All relief valves, no matter if on boilers or hot water tanks, should have a **drip pipe** that extends down to within six inches of the floor. This drip pipe would prevent anyone standing next to a relief valve from getting scalded, if the valve blew off hot water or steam.

If there is an **automatic vent damper** on the system flue pipe be sure to have it cleaned and serviced on an annual basis. Failure to have these damper controls serviced annually could result in a malfunction of the unit, with a possible dangerous backdrafting or spillage of flue gases into the building.

Evidence of **discarded matches** on or around the system may be an indication of some past or active backdrafting. **Backdrafting** in many instances will blow out the pilot light, hence the need for the matches. It is suggested that you consult with the owners about this possibility.

Major rust - corrosion on tanks or fittings could lead to leaks. Monitor and repair/correct as needed.

If your domestic hot water pipes and tank are not **insulated**, it is suggested that you consider this as an energy cost savings.

PLEASE NOTE: This inspection does not guarantee that your domestic hot water system (tank or tankless) will provide you with adequate amounts of hot water on an on-going basis. Older systems are expected to provide less than adequate amounts of hot water. If a newer system fails to provide adequate hot water check with the manufacturer's warranty for repairs or replacements. Most tanks are typically under at least a five year warranty.

If there are any concerns or noted defects have a licensed plumber evaluate and correct if necessary.

GAS SYSTEM

If your house has either a natural gas or propane gas system the following information may apply to your home.

If the inspector detected any **gas odors** during the course of the inspection, you or the owners should have the house checked for possible active gas leaks. Always be vigilant for future gas leaks.

Poorly hung gas pipes and or the **gas meter** could result in gas leaks. Have the meter, as well as all gas lines properly hung and mounted to avoid this possibility.

Major rust - corrosion on gas lines could lead to gas leaks. If concerned check with your gas supplier.

Gas Pipes

Natural gas lines in most communities should only be **black iron pipe**, propane gas lines are usually **copper**.

If **flexible gas** line connections are in place, check with a licensed plumber about replacing (if necessary) with proper gas lines. Flexible gas connectors have been known to crack or leak at their

joints.

Most gas companies do not allow the use of **galvanized pipes or galvanized fittings** for gas systems. If you have galvanized pipes or fittings (which are metallic silver in color rather than black), check with your local gas supplier.

Gas fired dryers should have **metal**, and **not plastic** ductwork for safety. Plastic ducts has been known to melt and cause fires.

Keep in mind that **gas leaks** can occur anytime after the inspection. Always be **vigilant** to any possible gas odors. As a safety precaution you may wish to purchase a **gas detector**. If installing gas detectors, consider one for the basement and one for each floor of the house.

A **Carbon Monoxide Detector** detects the often odorless byproducts of heating systems/hot water heaters/stoves/etc., should they malfunction and allow combustion gasses to enter your home. Serious illness or death can result quite quickly if carbon monoxide levels build up in a house due to a malfunctioning appliance ***We strongly recommend that all homes have carbon monoxide detectors installed in multiple locations.***

If there are any concerns regarding the gas system in your home, consult with a licensed gas fitter or a licensed plumber for further evaluations and possible corrections.

AIR CONDITIONING - HEAT PUMP SYSTEMS

If your new home has a central air conditioning system or a heat pump system the following comments may be of some help to you in better understanding these systems.

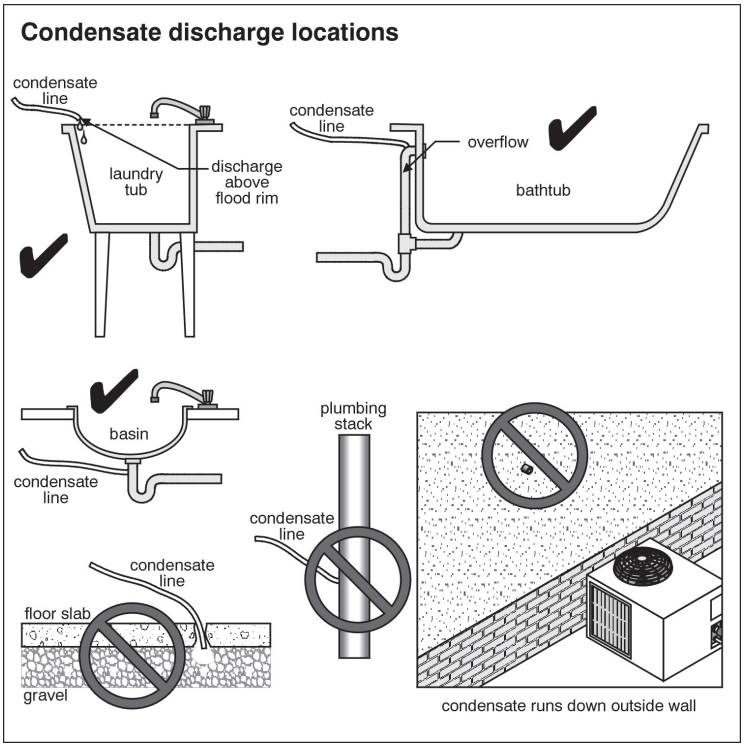
Filters on any type of forced air systems should be replaced as needed, i.e. when dirty or damaged.

Condensate drain pipes should not discharge below the basement slab, nor should they discharge directly into the plumbing system, or below sink/ drain rims. All of these areas have the potential for allowing back into the air system radon gases (from the soil) or plumbing sewer gases (from the plumbing drains).

The general visual inspection of these systems does **not** determine the adequacy for cooling and/or heating (heat pumps) and as such you may wish to consult with a **HVAC service technician**.

SYSTEMS ARE NOT TESTED FOR THE FOLLOWING REASONS:

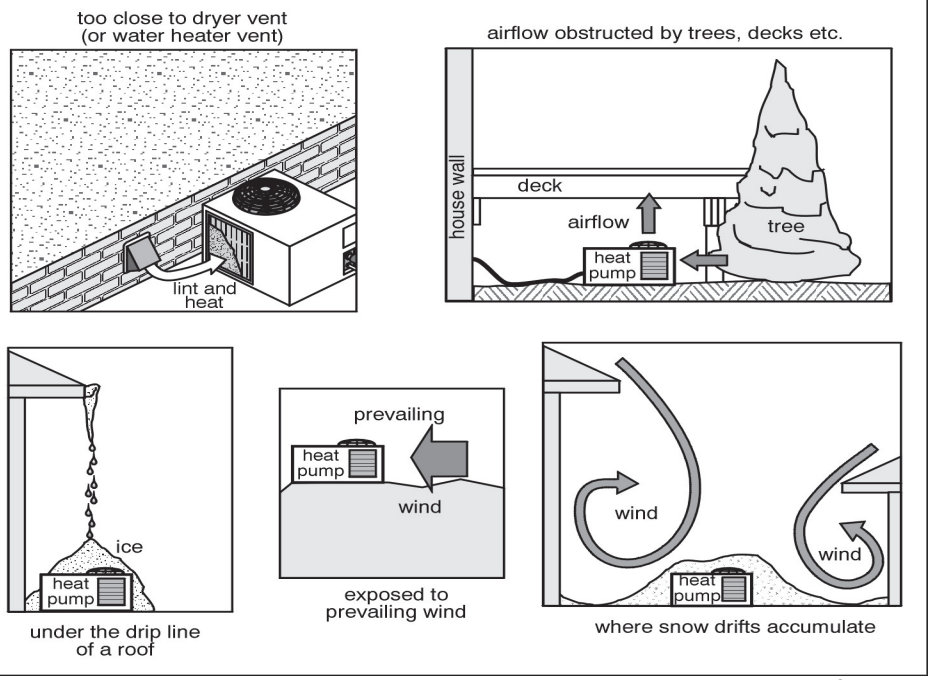
- Systems that show **lack of upkeep and maintenance/repairs will not** be tested.
- Will not be tested if **electric power** to the system has not been on for at least **24 hours** prior to inspecting.



- **Air conditioning systems will not be tested if the outside air is too cold.** The outdoor temperatures must be at least **60 degrees** or higher for the past **24 hours**.
- **Heat pump systems will not be tested in the cooling mode,** unless the outdoor temperatures have been at least **65 degrees or above** for the past **24 hours**.
- **Heat pump systems will not be tested in the heating mode,** unless the outdoor temperatures have been **below 65 degrees** for the past **24 hours**.

Testing the air conditioning or the heat pump system when the outdoor temperatures do not warrant testing, could result in **major damage** to the expensive outdoor compressor-condenser unit.

Poor outdoor coil location

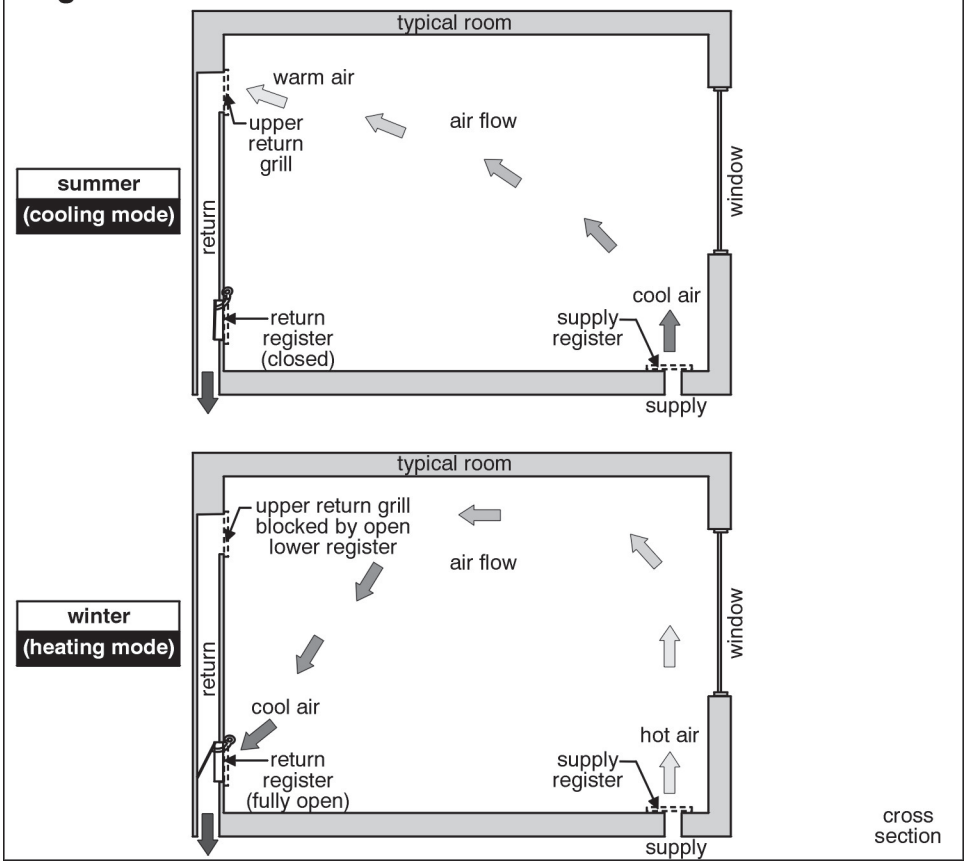


As previously noted air conditioner and heat pump compressors usually have an **average life expectancy** of between **8 - 12 years**. If your compressor is in that later age range, you should expect future replacement.

Air registers that are low on walls and or mounted on floors will have less than adequate cold air flow, than those that are mounted in ceilings or upper portions of walls. Since cold air tends to fall and hot air tends to rise, *cooling registers* should always be located **high** and *heating registers* should always be located **low**.

In order for any air system to function properly there should be a **return register** in every room serviced by these systems, or a **common hallway return**. If rooms have no returns in them, then you should have room doors undercut by at least **3/4 of an inch** to allow air flow out of the room when the doors are closed.

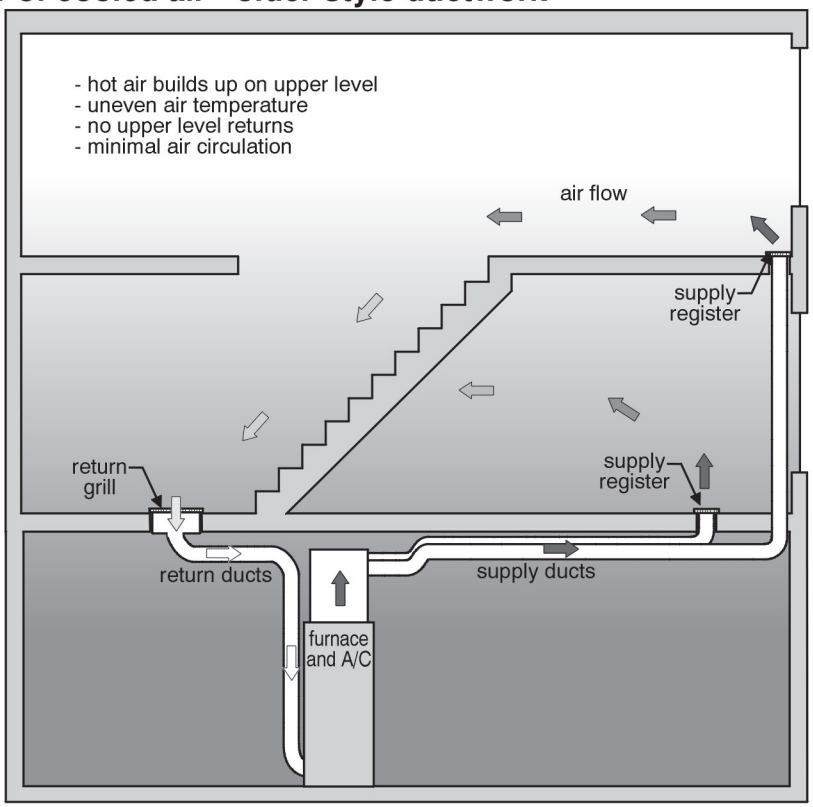
High and low returns



All forced air ductwork where accessible in basement, crawlspace or attic areas should be **fully insulated**.

If there are concerns for maintenance, and a need for service or repairs, be sure to check with a HVAC contractor for a full evaluation, for possible corrections and/or repairs to the system.

Flow of cooled air - older-style ductwork



BASEMENT AREAS

NOTE: No judgements are made in regards to any *concealed*, *inaccessible and non-visible areas* of a basement. Inaccessible areas may be due to stored goods, debris, finished wall-ceiling-floor surfaces, built in storage bins, storage closets, locked areas, stored equipment, limited to no lights, etc. It is up to the owners to provide a clear and safe entry and easy access to basement and crawlspace areas.

Foundation Walls

If water stains or efflorescence water salts are found, ask the owner or tenants about any history of past water into the basement.

Cracks and open joints in foundation walls should be repaired to avoid **water/radon entry** to the basement. In addition, any open seams or joints *between foundation walls and basement floor areas* should also be properly sealed tight to avoid moisture and radon entry.

Jointed foundations such as *brick, block and stone* always have the potential for **water/radon** entry to the basement. If your home has such a foundation be sure to ask the owners about any past water entry to the basement, and if the house has been tested for radon gas. Also consider having the house tested for radon

Jointed foundations, particularly **hollow block** always have the potential for **termite entry**, often concealed and undetected. If your house has a jointed foundation, particularly a hollow block foundation, it is highly recommended that a pest control company perform a full structural pest / termite inspection.

Serious - major cracks and damage to foundations should be further evaluated by a **structural engineer** and or a **foundation contractor** for an assessment of the damage, as well as for repairs.

Basement Floors

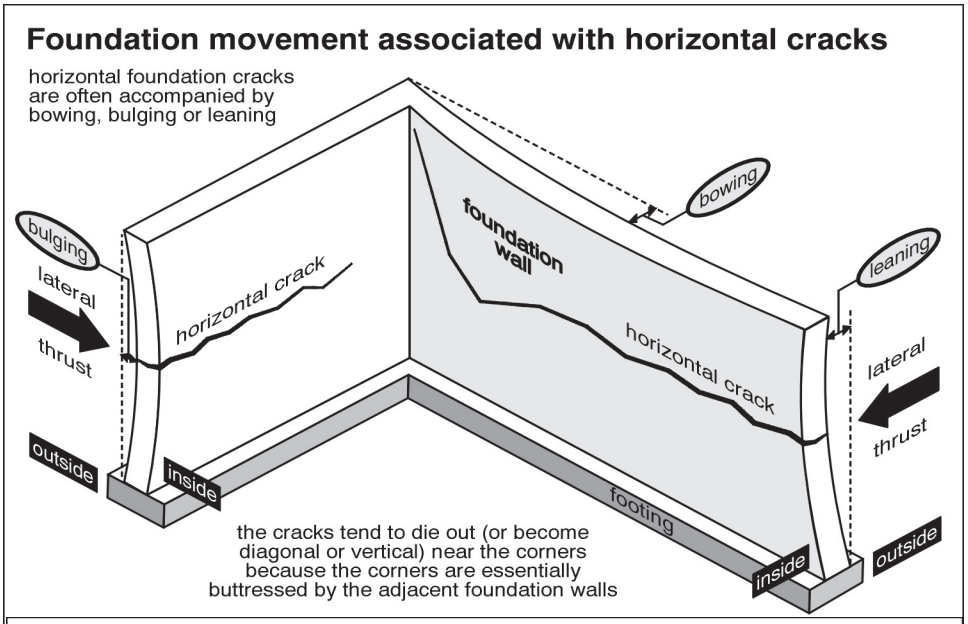
Exposed soils in basements always have the potential for *moisture*, *radon and insects*. If you have such a basement dirt floor consider having a concrete floor poured over such exposed soils.

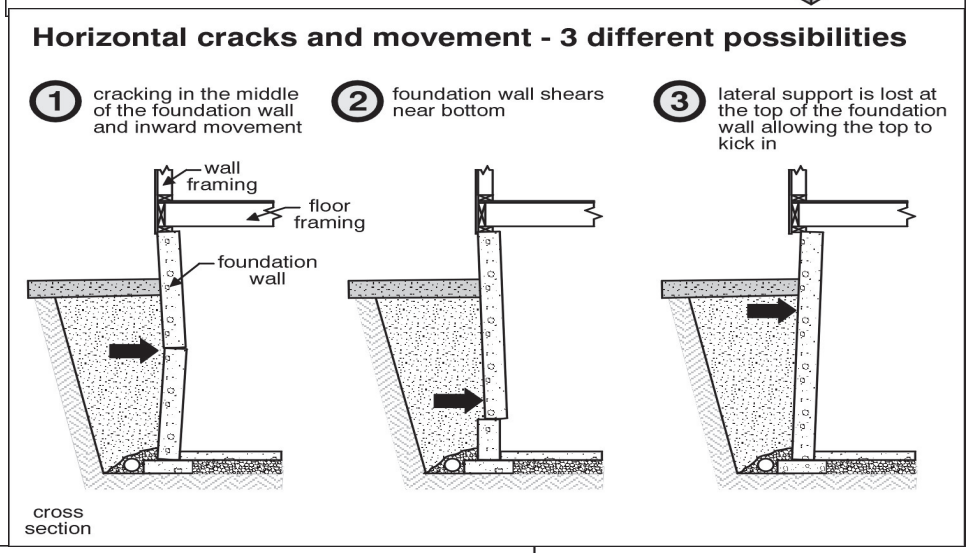
All cracks in basement floors should be properly sealed to keep out *moisture and radon gases.*

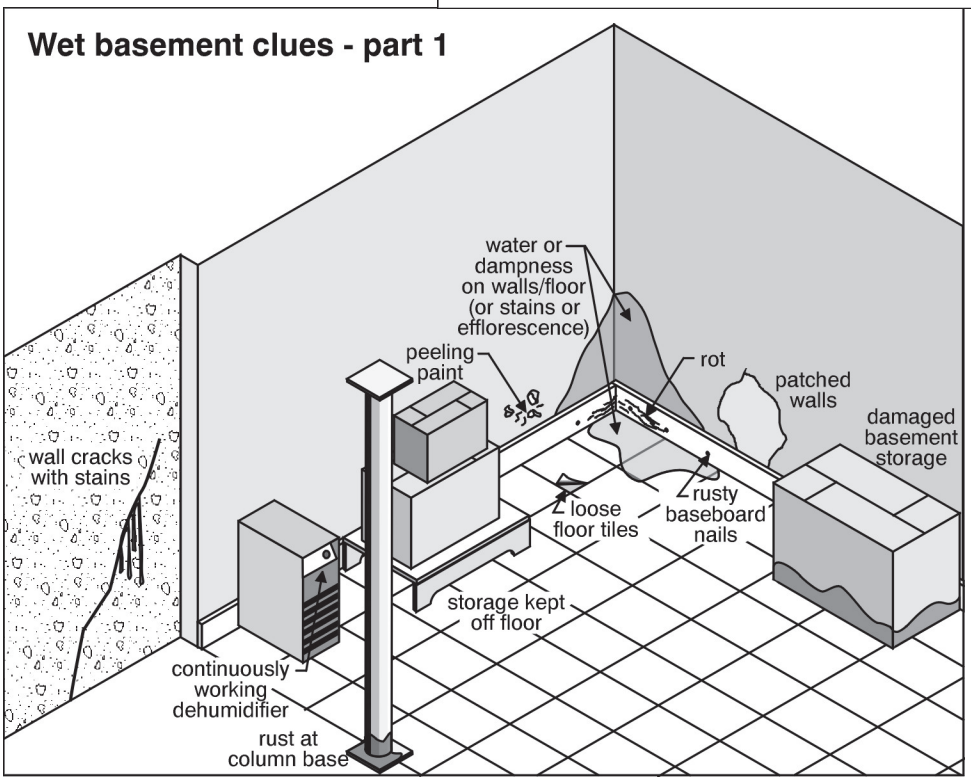
If any evidence of water stains and or efflorescence salt stains ask the owners or tenants about any past history of water into the basement.

Open seams, **joints and cracks** between the perimeter foundation walls and the basement floor should be sealed to prevent *radon gases and moisture* from entering the basement.

Major cracks, damage or heave signs in the basement floors usually indicates a serious condition, such as frost heaves and or settlement signs. Be sure to ask the **owners or tenants** about the history of any such visible conditions. Also have these cracks evaluated and repaired as needed.







Framing

Firestopping is needed wherever there are any open vertical shafts, or in the case of attached townhouses - horizontal shafts. Firestopping means sealing any open shafts with materials such as

sheetrock, sheetmetal, or even wood. In case of a fire, these sealed open shafts will slow down the spread of flames. If your home or condo has any such openings, consider having them properly sealed and firestopped.

Firestopping is also usually required over oil fired heating systems. Check with your oil dealer to see if it is necessary to install *5/8ths thick sheetrock*, or similar firestopping materials, over any oil fired equipment.

Any water stains noted under plumbing fixtures, on wood framing adjacent to plumbing fixtures, on basement ceilings, or at the perimeter foundation wood sill areas, should be checked out with the owners for possible past plumbing or heat pipe leaks, and or leaks from the exterior.

Concealed framing that is blocked by finished surfaces, and or insulation is **not** inspected and no judgements are made in regards to the condition of any framing in these areas.

Support framing that shows a need for repairs or upgrades should be checked out by a licensed contractor for appropriate repairs or replacements as needed.

Basement Stairs *(like all stairs pose as a potential tripping hazard)*
All stairs need **handrails and balusters** (*vertical spindles*) for safety. If your basement stairs have no rails or balusters consider adding them as a safety feature. Basement entrances-bulkheads also require handrails.

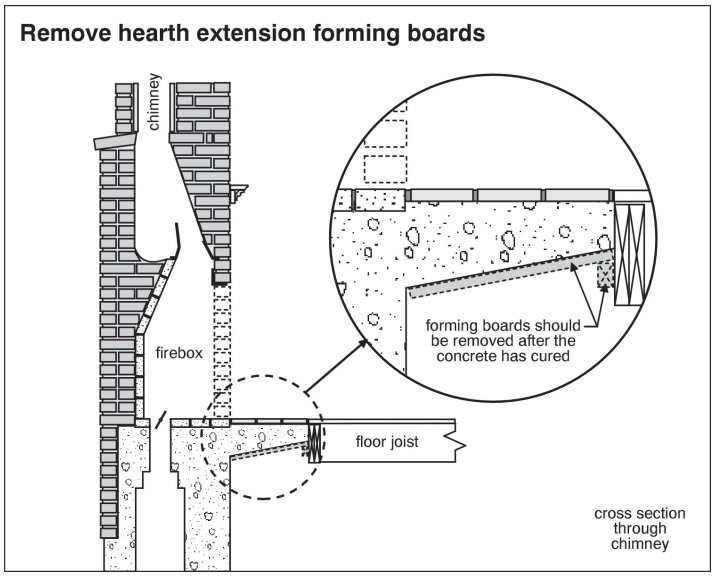
All loose or damaged *rails, steps or balusters* should be repaired. Stairs that are too **bouncy** are an indication that they are not properly supported - consider adding additional support under such stairs.

Chimney

If **wood form boards** are still in place under the fireplace hearth, consider removing them.

Water stains on the chimney often indicates water entry from the exterior. If the chimney has no *rain cap/hood* on the outside, consider having one added to limit any water entry to the chimney system.

Have chimney **base cleanouts** fully cleaned of any accumulated debris if such base cleanouts are in place.
These doors should *seal tightly*, if not have any loose or damaged doors repaired as needed.

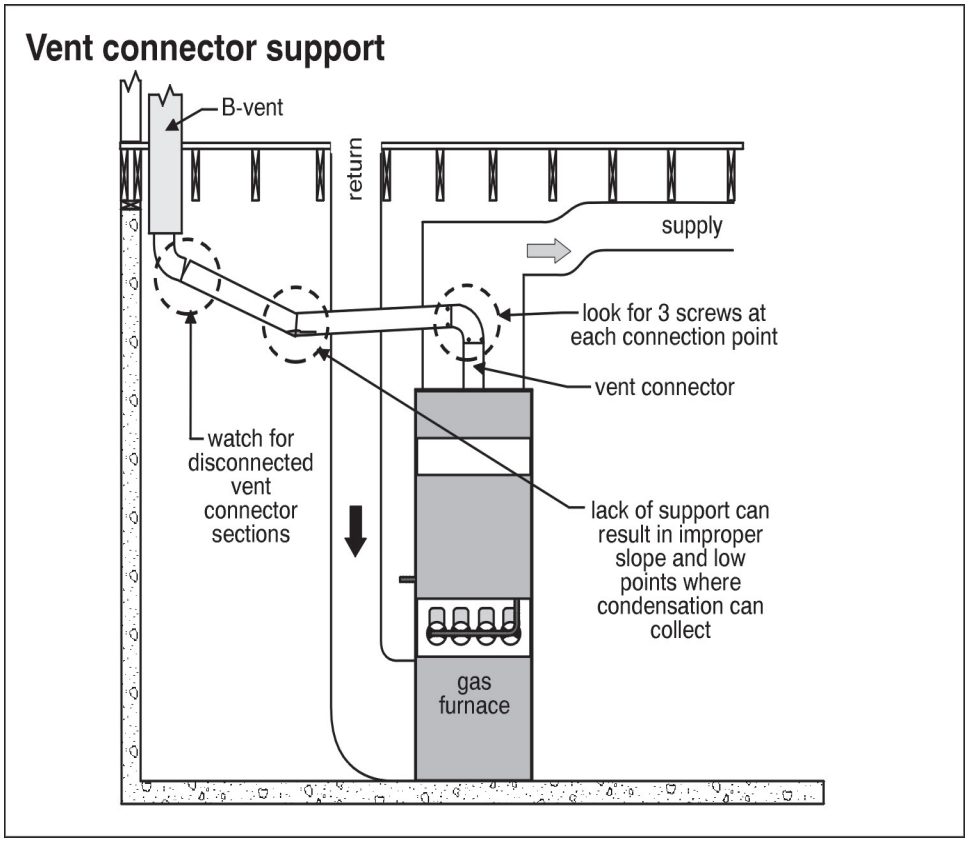


Metal flue pipe connectors from heating systems and hot water tanks should be sealed tight to the chimney with no open gaps and no loose sections. Each metal flue connectors should have *three sheetmetal screws* holding them together. Loose connections of flues pipes and poor sealing to the chimney could allow the escape of dangerous combustion fumes and gases back into the basement. Seal all such

openings.

The pitch of metal flue pipe connectors to chimneys should pitch up to them at about a **1/4 inch per foot** of linear run. A poor pitch or any dips in the flue pipe could prevent proper venting of combustion gases to the chimney. Improper venting of dangerous flue gases could result in gas spillage back into the basement areas.

Damaged or rusted out sections of flue pipes should be replaced..



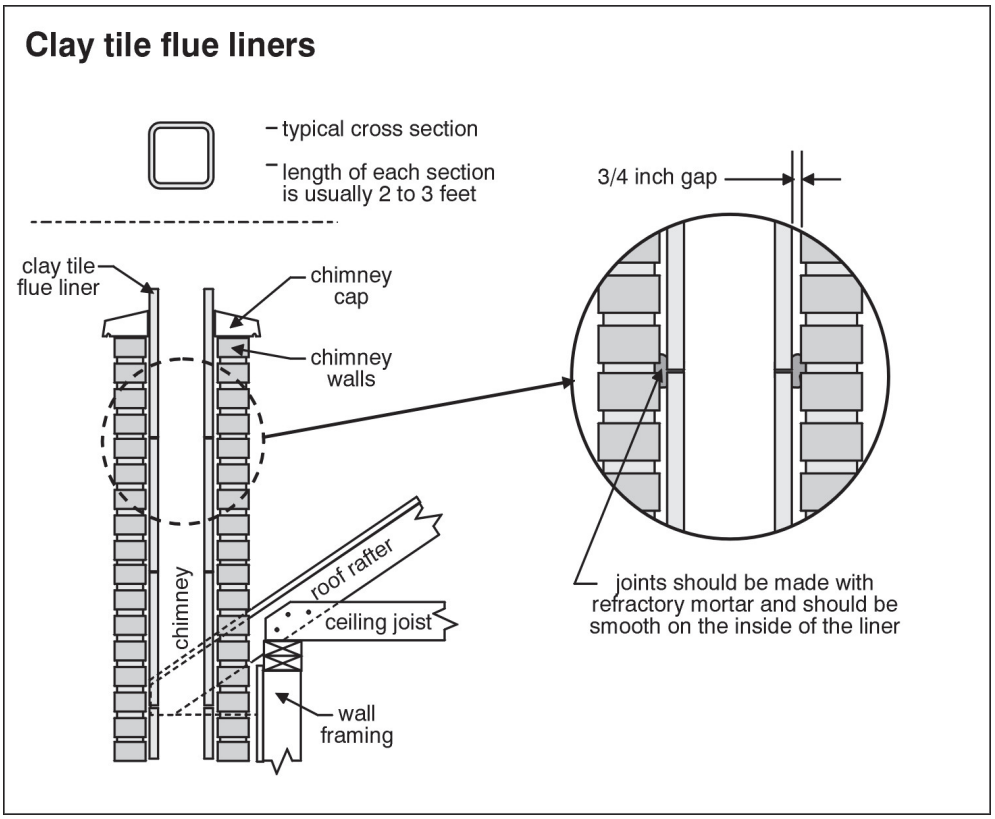
All chimneys should be **properly lined**. If your chimney is not lined, or if it is undetermined if it is lined, you should have a chimney sweep evaluate, and line the chimney as may be needed. Chimneys without a proper and safe liner are a potential hazard. Determining if the chimney has a liner is beyond the scope of a general visual home inspection.

Basement Insulation

Consider insulating if your homes basement is not insulated, to save on energy costs.

The optimum place for installing insulation is under the first floor, as well as in the perimeter foundation sill areas. Often foundation walls, particularly in finished basement areas, are also considered for insulation.

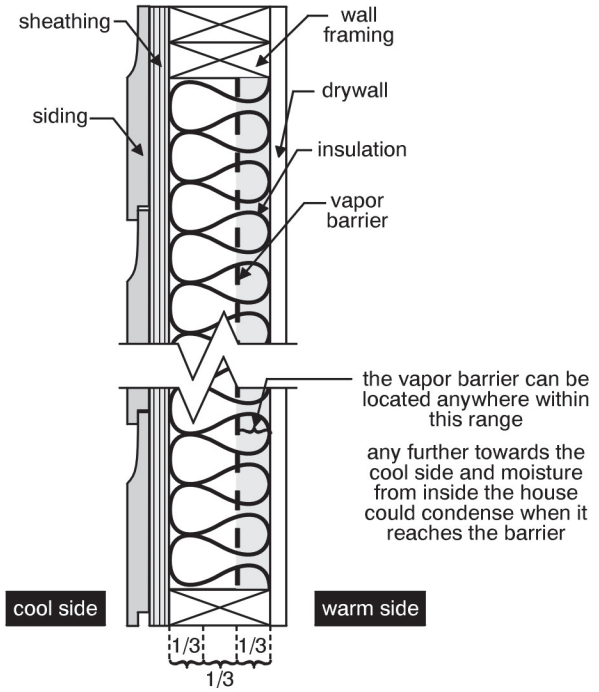
Vapor barriers should always face the heated side of the house. In the case of



basement insulation the vapor barrier should be installed flush with the underside of the subflooring under the first floor, and should not be visible from the basement. Most vapor barriers are **combustible** and if exposed should be protected from any heat source.

Polystyrene insulation *(looks like a white foam product)* is an extremely combustible material and should never be exposed and installed in any areas where it might come in contact with heat. This type of insulating product should be protected on any exposed side with a material such as sheetrock.

Vapor barrier location



WET BASEMENTS AND CRAWLSPACES

All basements and crawlspaces have the **potential of getting wet**. As noted previously if there are any signs and evidence of past water entry into the basement or crawlspaces, ***be sure to ask*** the owners, tenants, or the real estate agents about any past wet basement/crawlspace history. Even relatively dry basements and crawlspaces, under the right conditions, i.e. exceptionally heavy rains, can take in water.

Jointed foundations, such as *brick*, *block and stone*, are always suspect for water entry into a basement or crawlspace due to their many joints. Also foundations that are built directly *on rock or ledge,* with some of the rock and or ledge showing in the basement or crawlspace areas, are also highly suspect for water entry.

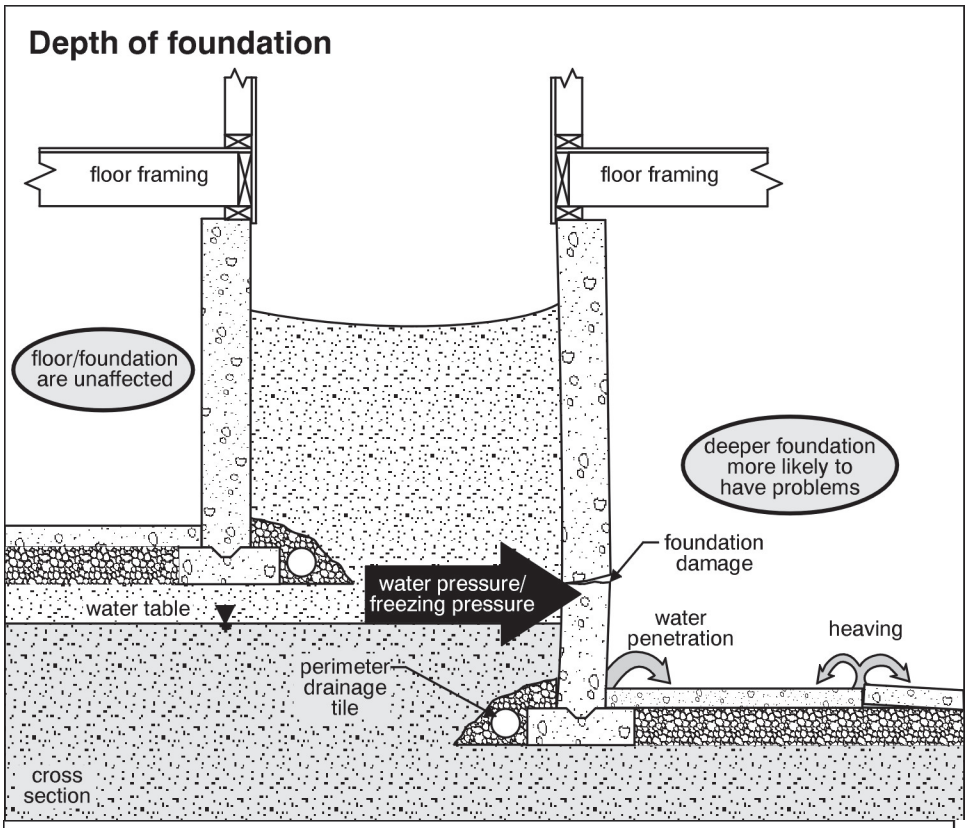
The 4 different types of moisture that inspectors typically come across are; *flooding*, *seepage*, *condensation* and *rising damp*. The full extent of any of these four types of moisture is beyond the scope of a general visual inspection. It is also beyond the scope of a general visual inspection, and the capacity of the home inspector to predict whether or not a relatively dry basement or crawlspace will flood out in the future.

Flooding would refer to major amounts of water coming into the basement or crawlspace, either on a regular basis or on a periodic basis. Evidence of major water stains and efflorescence water salt stains on foundation walls, floor areas, boxes, stored goods, etc. are possible signs of past flooding. Multiple sump pump installations are often an indication of major regular on-going flooding.

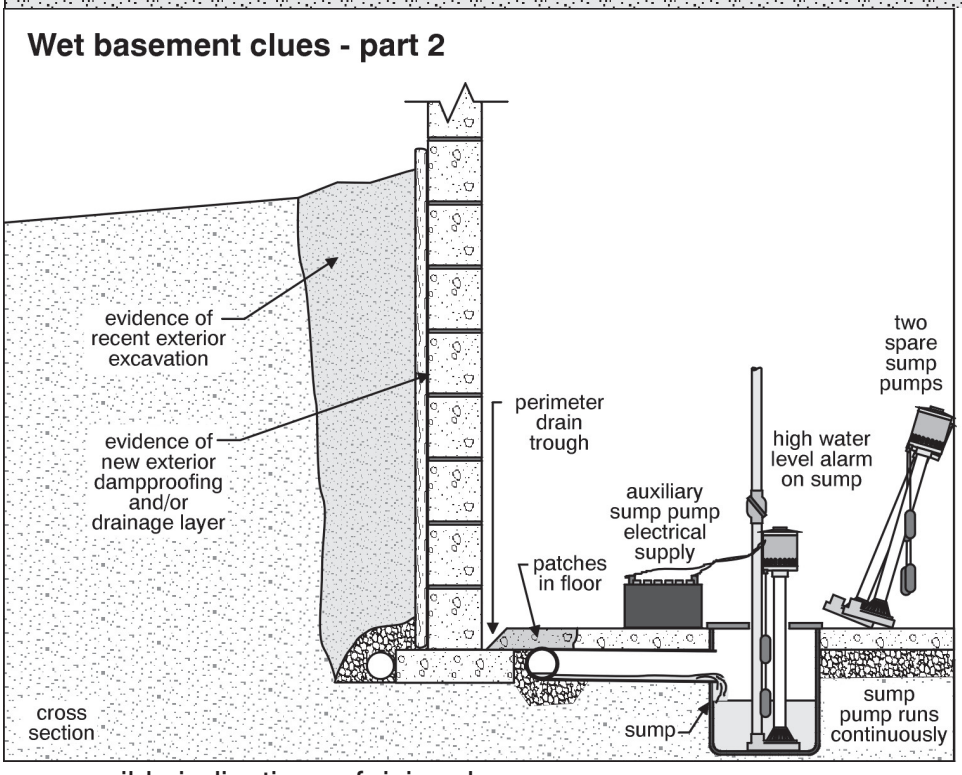
Seepage is the slow seeping in of water, usually through open joints and cracks, and this too can either be on a regular basis or a periodic basis. Evidence of seepage is often seen as random stains at foundation cracks or joints. White salt stains on walls (*efflorescence stains*) and floors also

sometimes indicate seepage.

Condensation is something that most basements, and especially crawlspaces with exposed soils, have. Condensation is the result of the moisture vapors that rise up, unseen by the human eye, and condense on cold surfaces such as metal pipes and windows. Evidence that might indicate condensation are sweating pipes and windows, rusting pipes, water stains under pipes on basement floors, rust and corrosion on metal objects, including the inside of the electrical service panel. Often condensation is accompanied by mildew.



Rising Damp is moisture that wicks up from under the basement floor and up from exposed soils, which rises by capillary action up support posts and partition walls. The end results on metal support posts are often seen as large rust nodules and corrosion patches. On brick support posts the evidence is often seen with low brick deterioration and crumbling brick mortar joints. On partition walls and wood posts the visual evidence is often seen as low stains that look like they were sponged up from the floor. Also low wood rot, as well as low partition wall deterioration are possible indications of rising damp.



A strong musty, **moldy odor** is an indication of some form of existing or potential moisture problem. Be sure to ask the owners or tenants about any concerns for moisture in the basement or crawlspace areas.

It is strongly recommended that all homeowners purchase and have ready both a ***dehumidifier*** as well as a ***sump pump*** as a preventative measure. Most basements can benefit from the use of a dehumidifier to control unwanted moisture in the air. And it is always practical to have a sump pump on hand just in case flooding does occur.

NOTE: If a basement has major water entry problems then it may be necessary to have some form of interior basement perimeter drainage system installed. Often these systems are referred to as *french drains or a B-dry system.* If such is the case with your home, consult with a professional waterproofing contractor to determine what may be required to correct any existing conditions.

Crawlspaces

If you have a home with a crawlspace then the following information should be of some help to you.

Crawlspaces are strong potential areas for *wood destroying insects, wood rot, mold, mildew, moisture, vermin and radon.* And as such they should be monitored and inspected on a regular basis to avoid any development of those noted defects and conditions.

Exposed soils in crawlspaces should have a ***vapor barrier,*** *such as a plastic sheet or tar paper,* properly installed across the exposed soils in order to cut down on the amount of moisture coming out of the soil. Moisture in a crawlspace will have a negative impact on wood framing, resulting in wood rot and woodboring insect activity.

All heat, **cold water and hot water pipes**, as well as **heat - cooling ducts** in crawlspaces should be fully insulated to prevent any possible freezeups, as well as to conserve energy costs.

Any wood contact with soil in crawlspaces has a strong potential for both *wood rot and wood destroying insect* activity and damage. Where possible all wood in direct grade, or close grade contact with soil should be corrected in order to avoid wood rot and insect activity and damage.

Ventilation for crawlspaces is essential, particularly if there is exposed soils in the crawlspace. Ventilation will help to remove moisture from these areas. If the crawlspace has no ventilation consult with a contractor to determine where the best location would be for such vents.

Damaged areas in crawlspaces should be repaired, and any water entry into these areas should be corrected. In many instances water entry to crawlspaces (*as with basements*) can be attributed to poor exterior roof drainage and negative foundation grading. As discussed, make whatever improvements that may be needed to control water entry and any resulting damage in crawlspaces.

SPECIAL NOTE

An inspector will not enter a crawlspace if the *headroom* is less than 3 feet, if there are any *obstacles* and blocked areas, if the crawlspace is *flooded* out, full of mud, and if the inspector feels that there are any *hazards or debris* in the crawlspace areas that would be *a hazard or a danger to the inspector*.

The following are some examples of such potential hazards that could be found in crawlspaces; (i.e. discarded asbestos insulation and debris, live exposed electrical wires, excessive amounts of broken glass or boards with exposed nails, any gas or chemical odors, any live animals such as raccoons, dogs, rats, etc., as well as excessive amounts of animal feces and contaminants, etc.) all of which could pose as a danger and health risk to an inspector.

BEDROOMS IN BASEMENTS

In order for a bedroom in a basement area to be **legal and safe**, it must meet certain **safety and code requirements**. Of particular importance are the strict code requirements for a ***safe second***

means of egress. If the only second means of egress from such a bedroom is a window, then the window must meet the following requirements.

1. for easy access basement bedroom windows sills cannot be higher than **44 inches** from the finished floor.
2. for easy egress basement bedroom windows should have a net clear opening of **20 inches by 24 inches** in either direction. **(The same is true for all bedrooms in a home)**

In addition, basement bedrooms must have proper **firestopping** between the room and the adjacent basement utility areas . i.e. heating system, etc.

If you have a basement bedroom and it does not meet these requirements, you should check with the municipal building department in your city or town to see if permits were issued for work done. In addition, make any needed corrections to make such rooms suitable for use as bedrooms.

ATTICS

If your home has an attic or upper crawlspace areas the following information may be of some use to you.

SPECIAL NOTE:
If you have an attic or crawlspace area, with no access consider having one installed in order to periodically check on conditions in these areas, as well as to determine if any insulation is in place.

Attic access openings, doors, etc., nailed or screwed shut, blocked by stored goods, etc., or otherwise sealed and inaccessible, will **not** be opened up and entered. It is up to the owner to provide a clear and safe opening into such areas.

Insulation

All attics should be fully insulated with several or more inches of insulation, including the attic access opening. If your attic has no insulation or minimal insulation consider adding, and or increasing the amount of insulation for energy cost savings. A properly insulated and ventilated attic will result in a cooler home in the summer and a warmer home in the winter. In northern climates it is not unusual to insulate the attic floors with up to **12 inches** of insulation, including the attic opening. *A good rule of thumb is that you can never over insulate or over ventilate an attic area - if done correctly.*

Insulation should **not** be installed under the roof sheathing unless a **proper baffle** system is in place, in addition to having in place both an upper (**RIDGE VENT**) and lower (**SOFFIT OR DRIP EDGE**) vents.

Installing insulation improperly directly under roof framing will result in *mold*, *mildew, damaged insulation and wood rot* to the roof framing. In addition, insulation improperly installed directly under roof framing will cause the roof shingles to *overheat*, *deteriorate and prematurely fail.*

A special note of interest is that most roof shingle warranties are voided by the manufacturer if the attic is incorrectly insulated or ventilated.

Insulation should **not** be installed directly over the (**EAVES**), *the overhanging soffit areas*. Improperly installing insulation in these areas, will *block vents* that may be in place, and could result in *mold, mildew*, *rot and a potential for ice dams* which is common in the northern climates. If your home has insulation stuffed into the roof overhangs consider pulling back and removing all such insulation to avoid any future problems.

Sometimes owners insulate the exposed open attic **end walls**. This is not necessary unless the attic is being considered for living space. Under most conditions the end walls, like the underside of the roof, should be left exposed and not insulated.

Insulation should not be over and covering older style **knob and tube wiring**. If your home has this type of old wiring still in place it would be wise to have a licensed electrician evaluate for possible concealed active old knob and tube wiring buried under insulation. This type of old wiring can overheat when buried in insulation and cause a fire. Inspecting for any buried wiring is beyond the scope of a general visual inspection.

Insulation should not be over and covering, as well as up against older style **recessed light fixtures.** These high hat light fixtures give off a great deal of heat, and the resulting heat could cause a fire. If your home has older style recessed light fixtures make sure that there is no insulation within **3 inches** of them and that no insulation is **covering** them.

Ventilation units, such as *bathroom vents*, *kitchen vents and laundry vents*, should not be covered or blocked by insulation. These ventilating units are meant to discharge moisture or grease directly **to the exterior**. Failure to vent moisture and grease to the outdoors will result in problems in the attic. If your home has ventilating units venting directly into the attic and or under insulation, be sure to have them properly discharging to the exterior of the building.

Electrical junction boxes should not be covered by insulation. Electrical junction boxes, no matter what part of the house that they are in, should always be visible and accessible. Also, if you have any junction boxes in your attic (*or any part of your home*) **with no covers** - be sure to add their protective metal covers for safety.

Insulation should never cover electrical wires with unprotected **splices**. All electrical splices in wiring (*no matter what part of the home that they are in*) should always be installed in proper electrical junction boxes with covers, with the junction boxes being clearly visible and easily accessible.

Insulation should be installed with the important **VAPOR BARRIER** *(often looks like brown paper or aluminum foil)* facing down, and up against the attic floor *(which in most cases would be over the ceiling for the rooms below it).* Insulation installed improperly could result in moisture problems. Often homeowners install insulation upside down with the vapor barrier showing. If your home has its insulation installed incorrectly, consider, where possible and practical, to correct this situation.

If the attic areas are **finished**, or if the home has **cathedral ceilings** it would be impossible, under most circumstances, to determine if there is insulation, and the kind and amount of insulation, that may be hidden under finished surfaces.

Ventilation

Adequate ventilation is necessary for all attics and upper crawlspace areas of a home. If your

home has no roof/attic ventilation or minimal ventilation consider having a roofer add or increase as may be needed.

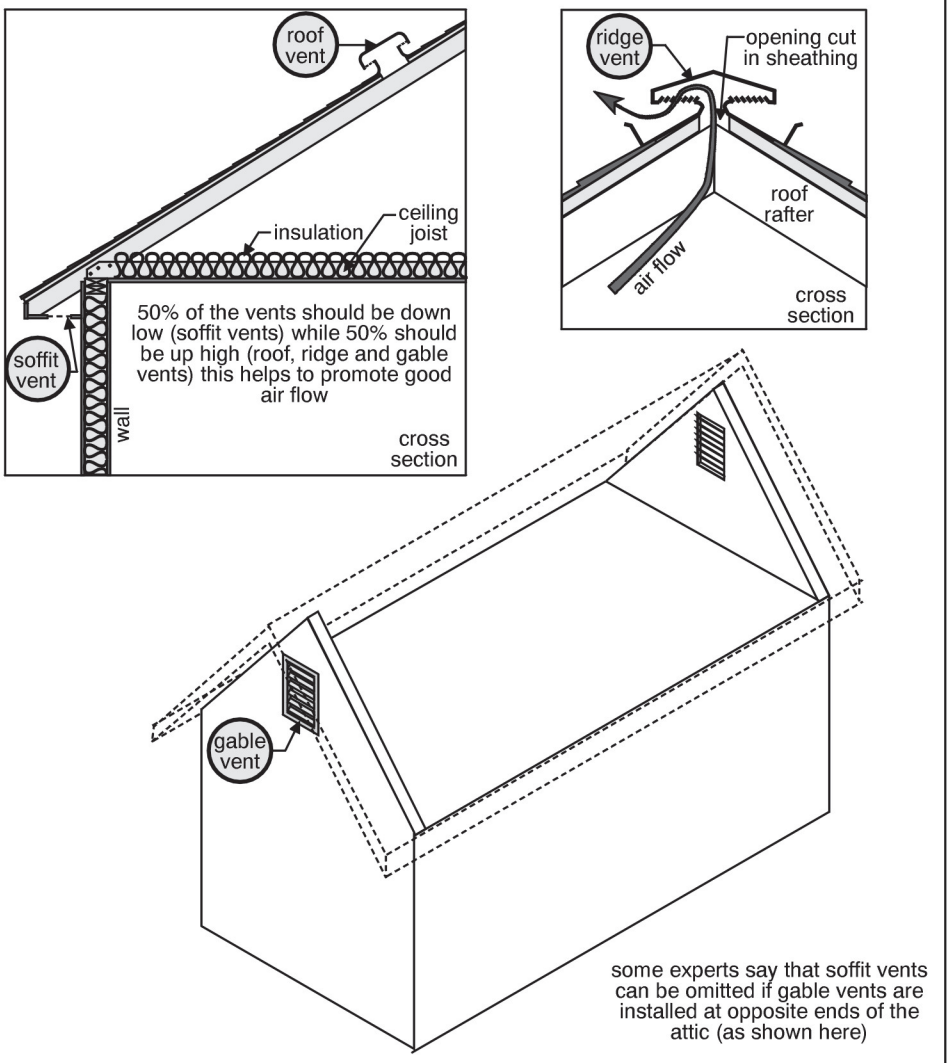
The most typical attic/roof vents are:

- Gable vents
- Roof mounted vents
- Roof turbine vents
- *Ridge and soffit vents*
- *Ridge and drip edge vents*
- Power vents (either on the roof or at the attic end walls)

The best ventilation system would be a *combination of upper and lower vents*, such as seen with a combination of ***ridge and soffit vents, or ridge and drip edge vents.*** This type of ventilation allows air movement from lower vents to be carried and vented out of the top ridge vent. This air movement vents unwanted heat in the summer, and unwanted moisture during the cooler seasons.

Most attics and upper crawlspace areas typically have **minimal ventilation**, and as such a variety of defects can occur, such as the development of *mold, mildew, wood rot, insulation damage, ice dams, insect activity and premature roof shingle failure*

Types and locations of vents



All attics need **year round ventilation**, and as such attic/roof vents should never be closed off, i.e. during the winter. If you find any of your homes vents blocked, be sure to open them up and leave them open year round.

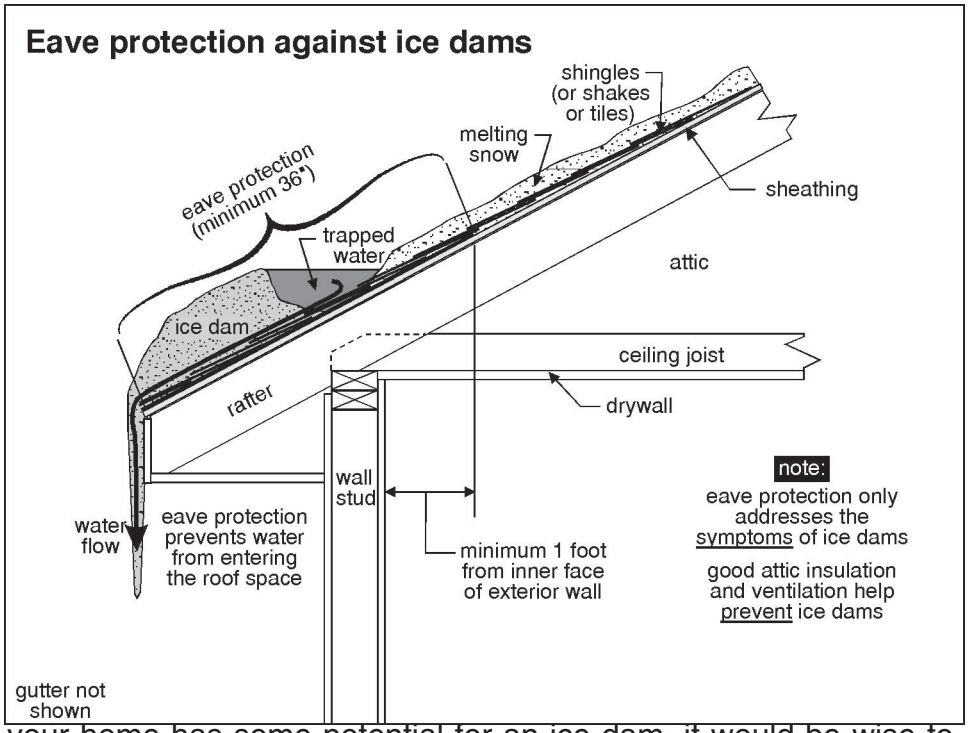
Occasionally **attic vents** will allow in driven rain or melting snow. As a precautionary measure you as a new owner should monitor on a regular basis, especially during heavy rains, to determine if water entry is occurring from these air vents. If so, make any needed corrections or repairs - as may be needed.

Ice Dams

Ice dams will occur in northern climates. Homes with **minimal to no ventilation and insulation** often experience ice dams. Also homes with **improperly installed ventilation and insulation** can

experience ice dams as well. Make any needed changes-corrections to avoid ice dams.

An *ice dam* occurs when snow at the low ends of roofs freezes over and forms a raised ridge of ice at the edge of the roof. During the day (especially a warm winter day) melting snow from the upper portions of roof melts and drains down to this ice dam. When the melting snow water cannot get over the raised ridge of the ice dam, it will back up under the roof shingles, where it will then leak into the building.



Often the **best remedy** to avoid ice dam leaks is to have an **ice shield guard** installed under the existing roof covering at least **3 feet** up at all low roof edges, as well as in all valley and susceptible areas of the roof. An ice shield guard is a rubber membrane roofing material used to prevent ice dam problems. If your home has some potential for an ice dam, it would be wise to consult with a roofing contractor about such a possible remedy.

Leaks Into Attics

Roof leaks can happen even on brand new roofs. Typically roof leaks **will occur at roof penetrations** such as, *skylights*, *plumbing vent pipes, roof/attic ventilation units*, *and chimney areas*. The culprit in most of these areas is **faulty flashing** from the roof openings on the roof surface. In most instances, these roof leak areas can be corrected by properly sealing or reflashing these roof penetrations.

If the roof leaks are caused by an **older deteriorated roof** be sure to have a roofer evaluate the roof for repairs or possible replacement.

It is important as a new owner to **periodically inspect** the attic-crawlspace areas during heavy rains or during times of melting snow to check for leaks into these areas. Pay particular attention to any roof areas that have flashing details such as chimneys and vent pipes, etc., as well as any areas that have previous water stains.

Sometimes driven rain can come in from the **attic end walls**. This is especially true where exterior chimneys are located on exterior walls. Always check end walls for *past stains* and or *visible skylight* through openings in the sheathing and siding. If you find any holes or openings in these end walls be sure to caulk and seal them to make weather-water tight and impervious to water entry.

Often **damaged gable vents**, or gable vents with **improper flashing** can also allow water entry into the attic. Monitor and repair/correct as needed.

NOTE: AN INSPECTOR CANNOT PREDICT IF A ROOF WILL LEAK!

Unless it is raining at the time of the inspection and the roof is actively leaking into the attic or house, or if there are clearly visible holes and damage to the roof or underside of the roof, i.e. in the attic - future predictions of roof leaks are beyond the scope of the inspection and beyond the ability of the inspector.

Condensation In Attics

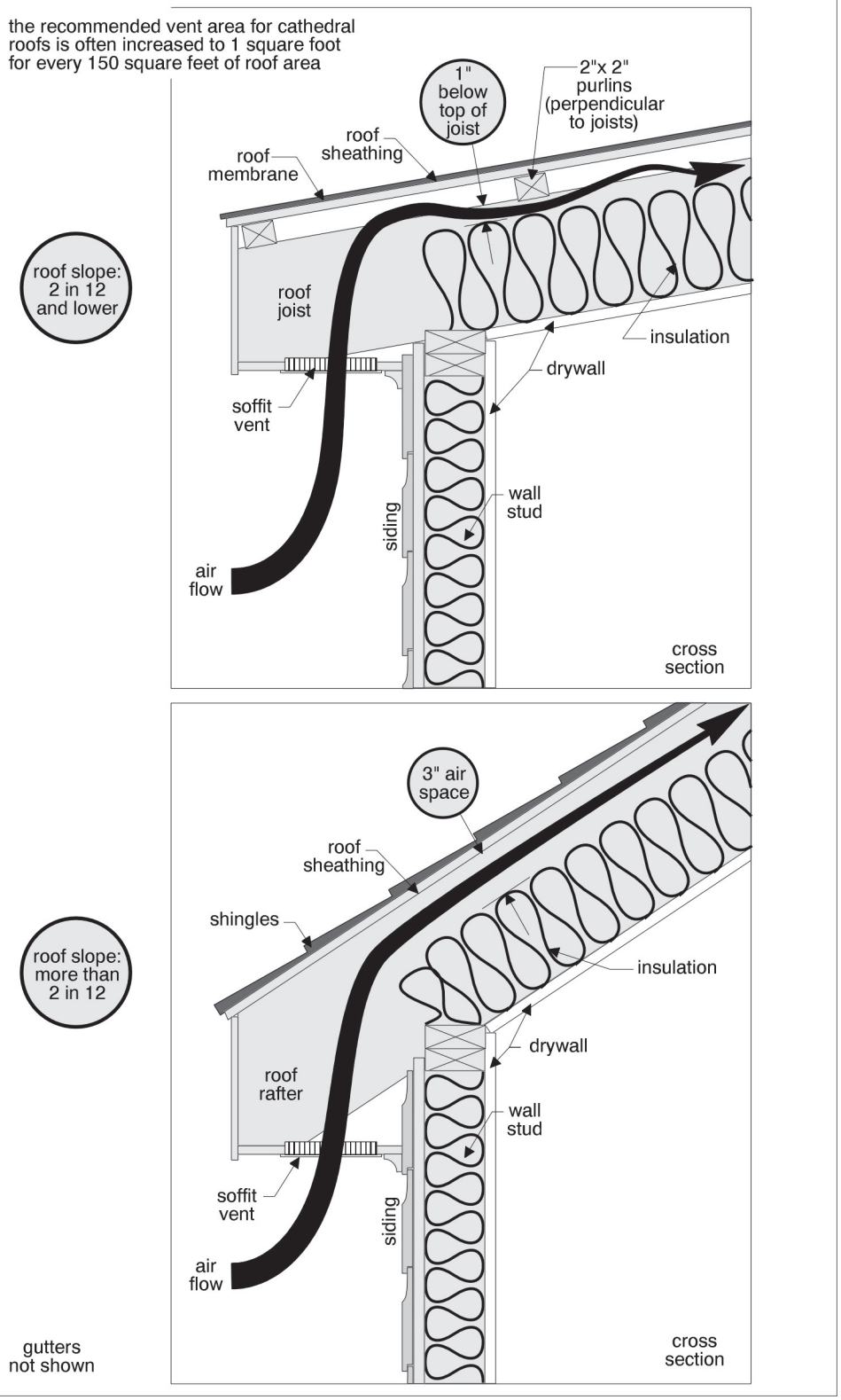
Evidence of **CONDENSATION** *(trapped moisture in attics that condenses on cold surfaces, i.e. the underside of roofs and on the ends of roof nails)* in attics usually can be found in the form of mold or mildew on the underside of the roof sheathing. In many instances **black spots and discoloration** on wood framing is evidence of past condensation and past moisture problems.

Also **rusting on nails and discoloration on the wood** around the nails is a sign of past condensation. During the winter in northern climates ice/ frosting on the ends of the roof nails, or actual sheets of ice on the underside of roof sheathing, is a guaranty of condensation and the lack of adequate attic/roof ventilation.

In most instances, and for most homes **improving the attic/roof ventilation** will either alleviate or correct the problem. If your attic has a condensation problem, have a roofer evaluate and suggest ways to correct those conditions, i.e. adding more ventilation units to the attic.

Miscellaneous Attic Comments

Venting cathedral roofs



If your attic has a walkup type of access, **handrails and guardrail**s should be in place for safety. If missing be sure to add where, and as needed. If balusters are needed, be sure to add them as well.

Collar ties are those horizontal framing members that tie the rafters together. They usually are on every third or fourth set of rafters. Sometimes they are on each set of rafters. These important attic/roof framing members should never be removed. If you are planning on remodeling the attic into living spaces, be sure to check with a contractor on exactly what can and cannot be done with the attic/roof framing.

If you have an attic where **plumbing vent pipes** are improperly discharging directly into the attic, have a licensed plumber extend these vents to the exterior.

If you have an attic where the **chimney** is visible, monitor on a regular basis for repairs to the brickwork as well as to the masonry joints. As previously noted also monitor where the chimney extends through the roof for open flashing and active roof leaks.

All exposed water pipes, heat pipes, and ductwork should be **fully insulated** to avoid freezeups as well as energy losses.

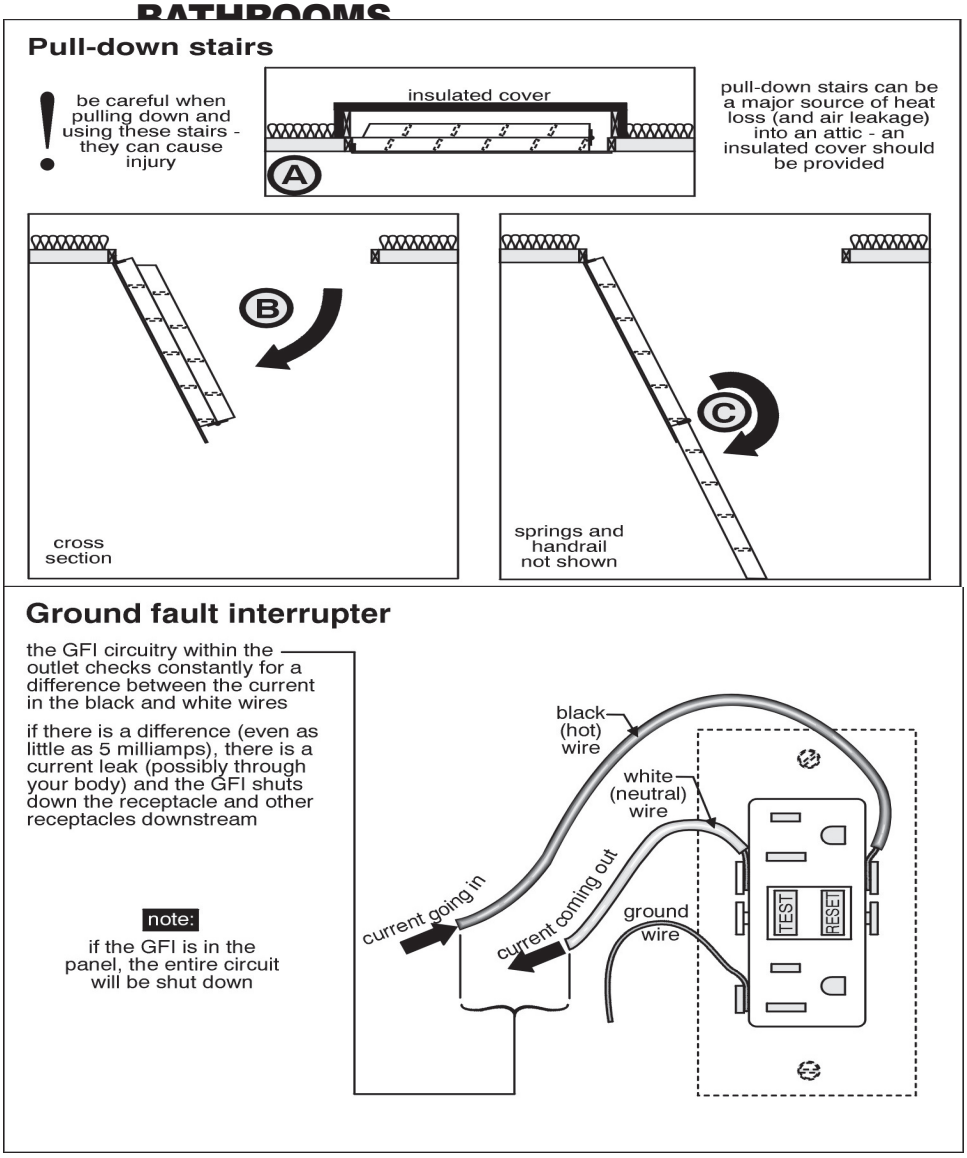
All holes and openings in attics, from roof areas and exterior trim areas such as; soffits, fascias, and rakes should be sealed tight to avoid any entry from birds, squirrels, raccoons and other animals and insects.

BATHROOMS

All bathrooms should have ground fault circuit interrupter (GFCI) safety outlets. If your home does not have these important safety outlets in both your bathrooms and kitchen areas have a licensed electrician install them for safety.

Consider adding **Anti-Scald Valves**, *(often called mixing valves)* if your bathroom showers do not have these important safety controls. These important safety devices automatically shut off the water if the water temperature becomes too hot. Such important devices can prevent scalding.

A **loose toilet** can *leak,* and could also allow *sewer gases* back into the bathroom. Make sure all loose plumbing fixtures, such as loose sinks, loose countertops and particularly toilets, are properly

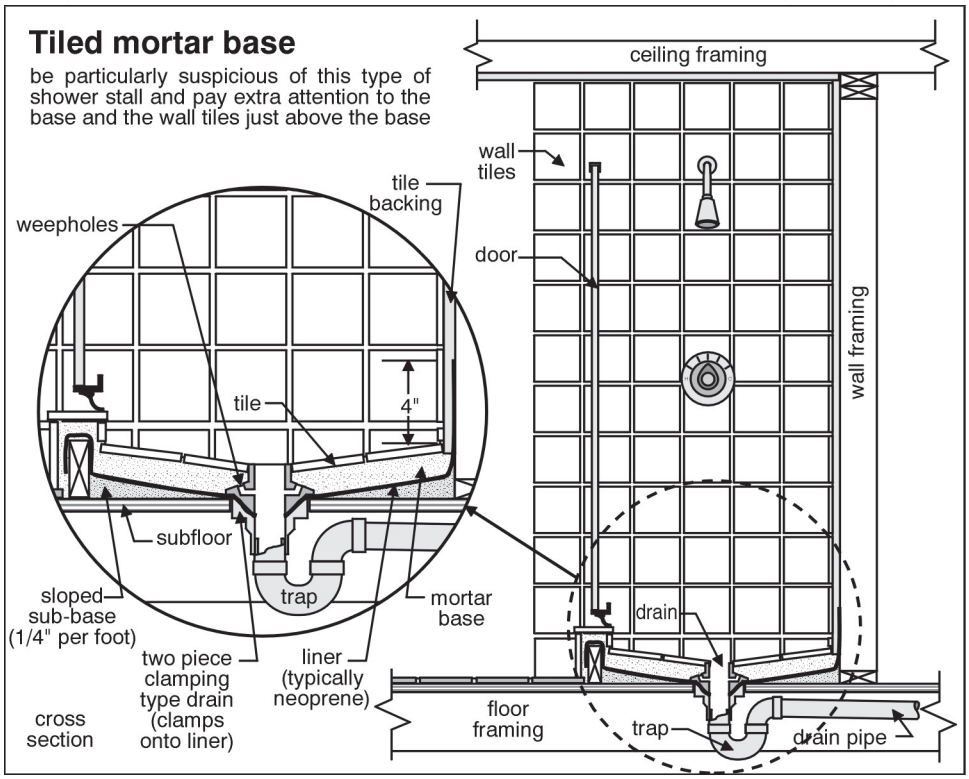


mounted.

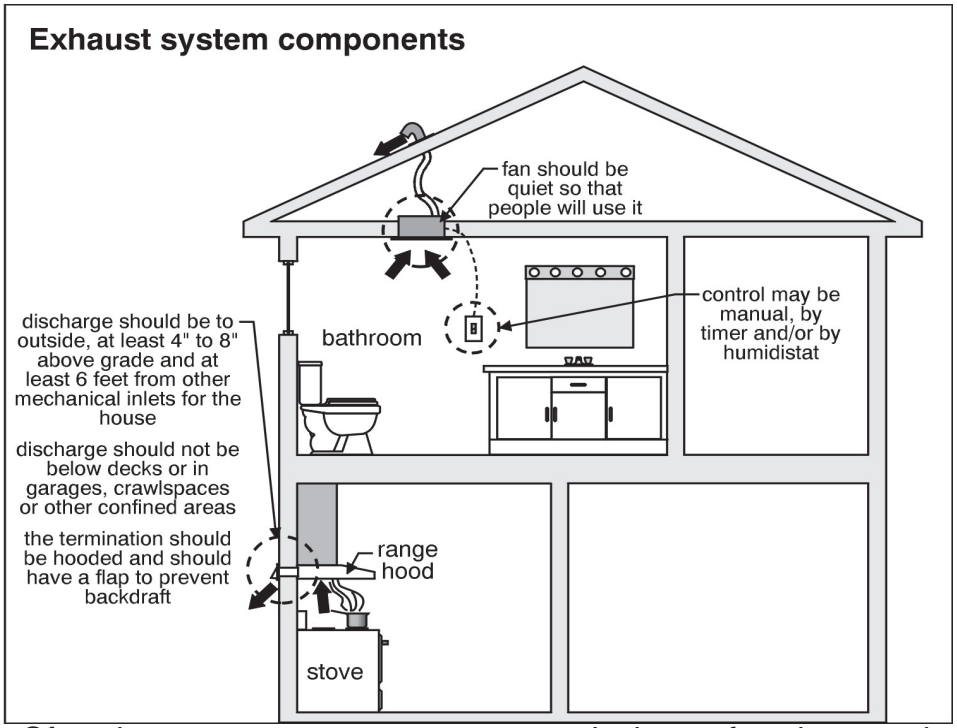
All floor and wall tile joints should be **grouted, caulked and sealed tight** at their joints to make them impervious to water entry. Open joints and seams can allow water to get behind the tile and cause damage to the adjacent wall and floor areas. An inspector has **no idea as to the full extent of concealed damage** behind any finished areas in a building, including but not limited to, behind/ under floor and wall tiles.

Shower pans are **not** tested or inspected due to their inaccessible locations. No judgements are made in regards to these non-visible areas. Shower pans that are not properly installed, and tile over shower pans that are not properly grouted, caulked and sealed may leak with resulting damage to the home.

Shower doors will leak if their doors are not properly maintained. Periodically check the gasket on the doors to make sure that it provides a tight seal. If necessary replace the door gasket in order to provide for a water-tight seal when the door is closed.



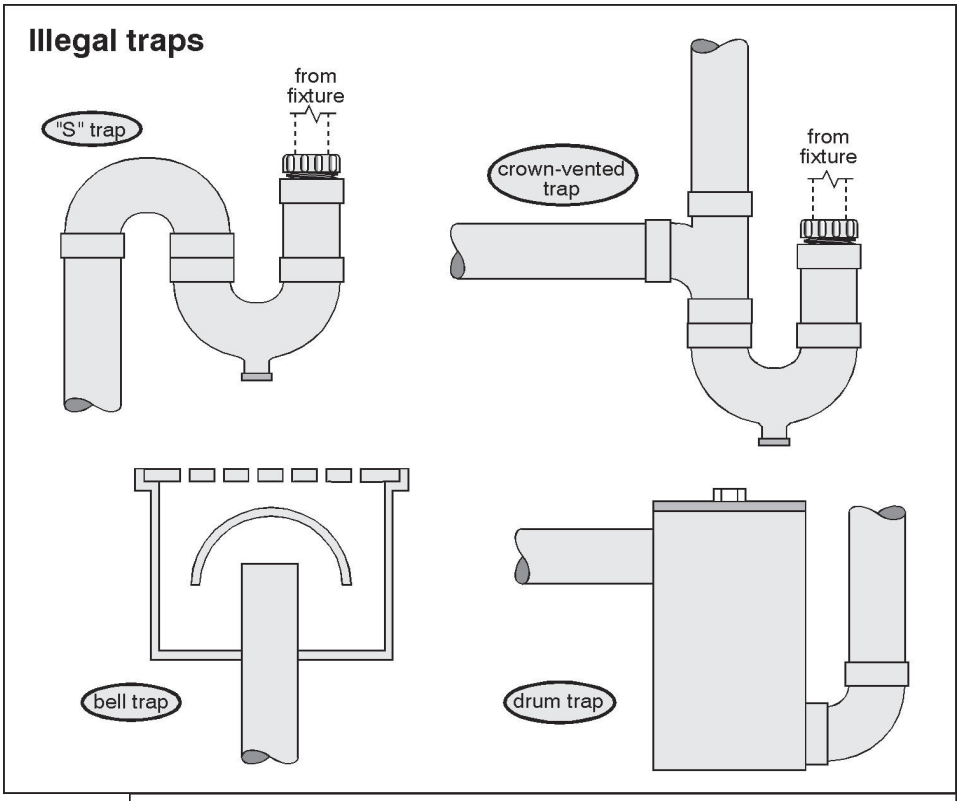
Consider adding a **mechanical vent** in the bathroom - if none is in place. These vents will vent moisture out of the bathroom to the exterior of the building. Bathrooms without mechanical vents tend to have moisture problems such as, *mildew, mold, peeling paint and peeling paper*. If the existing vent is venting directly into the attic or anywhere indoors - be sure to correct and extend such vents to the exterior.



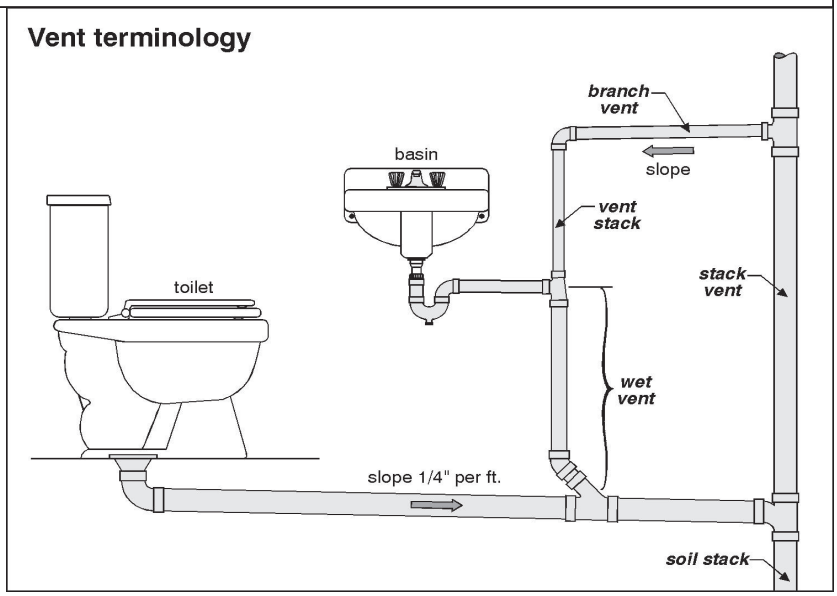
Venting sounds, such as *gurgling-sucking* sounds, when fixtures are draining indicates a problem with the plumbing system. Often the vent pipe is not connected or incorrectly installed, or the fixture trap under the sink is incorrect. No matter what the reason, venting sounds should be further evaluated by a licensed plumber and corrected. Often dangerous *sewer gases* can enter the house from improperly

vented plumbing fixtures, or when trap water is siphoned out due to improper traps.

An example of an improper and incorrect trap would be an **S-trap**. An S-trap as its name implies forms the letter S. This is an ***illegal trap*** and will cause the trap water to be ***siphoned*** out when the sink is draining. When the trap has no water in it, ***sewer gases*** can enter the house. As with the venting concerns, also have a licensed plumber evaluate and correct any such incorrect and improper traps.



Backups of water from sinks into tubs when draining, indicates that there is a blockage in the drain lines under the floor. If you experience any such backups of water from one plumbing fixture into another plumbing fixture, consult with a licensed plumber in order to correct the situation.



Slow and sluggish drains indicates some blockages in the drain lines. Sometimes a liquid drain cleaner may solve the problem. There may be times, however, when you may need to call in a plumber to use a drain auger to clear a blocked drain. This is a common occurrence in most homes, particularly in older homes.

Water pressure in most homes will vary from good to fair, depending upon how many fixtures are on at the same time. This is a normal occurrence in most homes. When water pressure is only fair to poor than you may wish to consult with a plumber to determine what the cause is, and if anything can be done about it.

There should be a **heat source** in every bathroom.
Remember to maintain the domestic hot water temperature at no more than **120 degrees**.

KITCHENS

Much of the information regarding bathrooms can also be applied to the kitchens of most homes:

- GFCI outlets should be installed on all wall spaces over countertops, particularly those within 6 feet of sinks.

- Add more electrical outlets to meet your specific needs not only in kitchens, but throughout the house.

The same comments discussed for bathrooms also hold true for kitchens regarding:
- Venting problems, S-traps, sluggish-slow drains and water pressure.
- Domestic hot water should never be more than **120 degrees**.
- Countertop and backsplash areas should be kept well caulked and grouted to prevent water related damage.
- Countertops should be mounted securely to their base cabinets.
- All wall cabinets should be mounted securely to walls.
- There should be a functional and adequate heat source in the kitchen.

Kitchen appliances are **not** part of this inspection. Any appliance in the several plus year range should be consider to be on borrowed time, and as such you can expect future repairs or replacements.

Dishwasher hoses should be installed with an *air gap loop* to prevent backflow of water to the appliance.

Disposals should not be used with private sewer systems (*cesspool or septic*).

Wiring under the kitchen sink should be protected from damage and possible water contact. As a safety measure you may wish to consider replacing regular electrical wiring with armored electrical cable. Any exposed wires should be installed in proper electrical junction boxes.

FIREPLACES AND SOLID FUEL STOVES

If your home has a fireplace or solid fuel stove the following information may be of some help to you.

Fireplaces

The fireplace inspection **does not** include an inspection of the *smoke chamber* or the *flue areas*, which in most instances are covered with soot, inaccessible and never clearly visible. Have a chimney sweep clean and evaluate all smoke chambers and flues for any negative conditions and for safety.

If your fireplace has any **open joints or open seams** in brickwork and masonry you should have these openings properly sealed to avoid any hot embers or sparks from getting into them. Hot embers or sparks that get into open joints could ignite wood framing that is under or behind these areas. Have any such openings cemented up tight.

All damaged **firebox** areas, **inner and outer hearth** areas, as well as **facade** areas, should be repaired prior to any usage of the fireplace, for safety reasons.

If the fireplace **damper** is damaged or missing have it repaired or replaced prior to your use of the fireplace.

A missing or damaged damper will allow heat losses from the house, as well as cold air entry into

the house. In addition, birds, insects and a variety of animals can easily enter the home when the damper is missing.

If there are any signs and evidence of **fireplace-chimney settlement** consider having these areas fully evaluated by a masonry contractor, and make any possible needed corrections and repairs as needed.

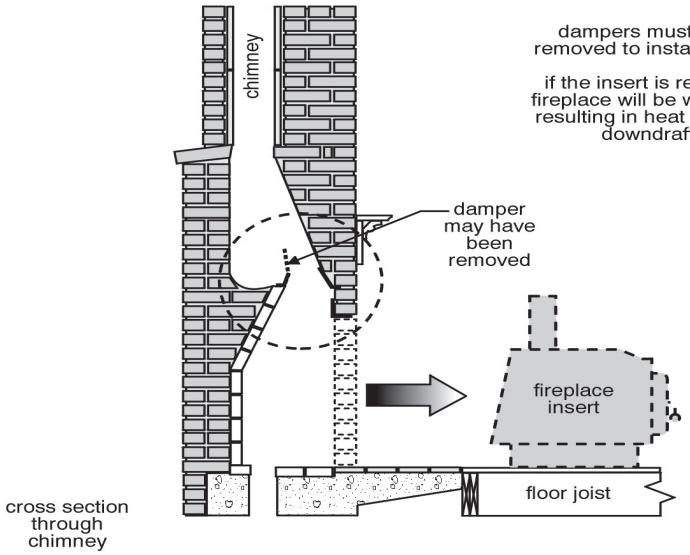
Painted fireplaces are a potential hazard, unless the paint is a specially formulated paint meant to be used in fireplaces. Check with the owners to see if they have any knowledge of the paint formulation.

Evidence of **water stains and rust** on the fireplace or fireplace damper is an indication of past water entry from the chimney. Ask the owners about any such stains, and consider adding a chimney rain cap on the exterior, if none is in place - or making any needed repairs as may be needed.

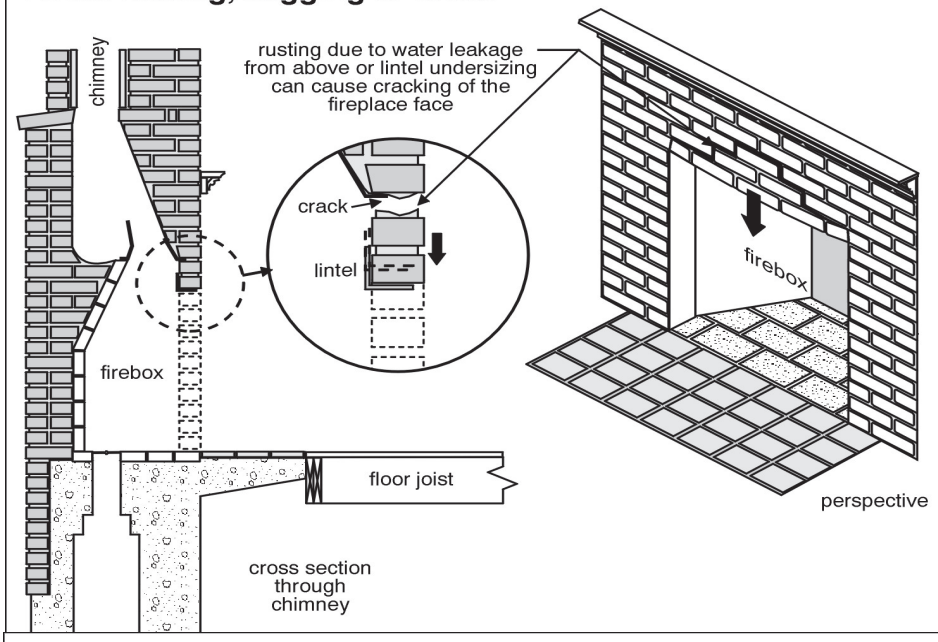
If a fireplace is **inaccessible** during an inspection with *stored firewood*, *accumulated ashes and debris*, *with a burning fire*, *with a blocked damper area*, or with some form of *stove insert*, then the fireplace **cannot be properly inspected and no judgements will be made.**

Evidence of **creosote or built-up soot and ashes** would require cleaning by a chimney sweep and further evaluations of those areas that

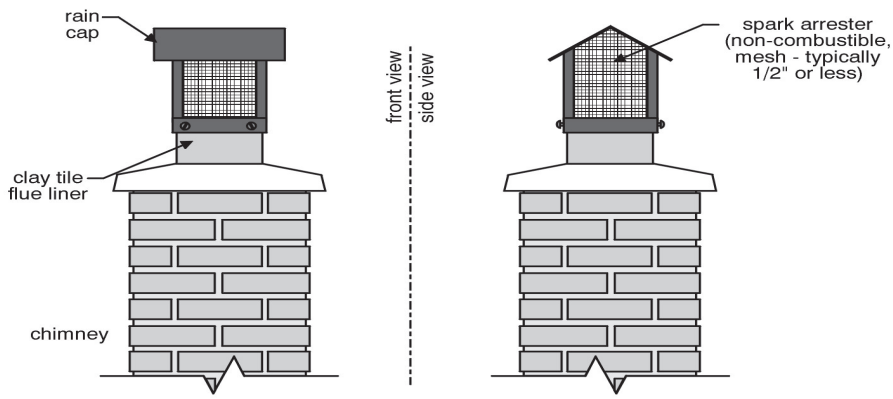
Missing damper



Lintel rusting, sagging or loose



Rain caps and spark arresters



were covered and not fully visible during the course of the inspection.

PLEASE NOTE: In most instances the smoke chamber, as well as the interior flue areas are <u>not fully visible</u> during the course of an inspection. It is for that reason that we strongly suggest that a qualified chimney sweep fully inspect and evaluate these areas for any possible concealed damage.

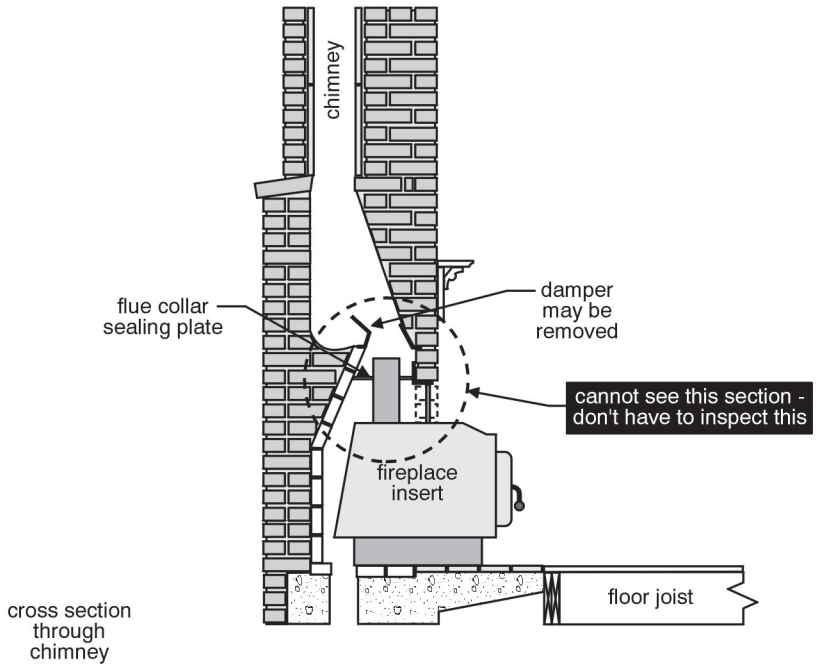
Solid Fuel Stoves (wood and coal stoves)

Inspecting solid fuel stoves is beyond the scope of a general inspection and is **not** part of the inspection.

If the home has a **solid fuel stove** (i.e. wood or coal stove) it is strongly recommended that you check with the local fire department, or whatever municipal department issues **permits** for such installations. Most communities require the issue of a permit for the installation of solid fuel stoves. If the stove has no permit and requires one, then it is **<u>strongly recommended that you have the stove installation inspected and a permit issued for it.</u>**

Wood stoves and stove flue pipes should have **safe and proper clearances** from combustible materials. Overheating of combustible areas and possible fire may result from improper clearances.

Not required to inspect fireplace insert flue connections



Gas stoves and gas logs are <u>not</u> part of this inspection.

Miscellaneous Comments

It is **<u>strongly recommended</u>** that a qualified chimney sweep <u>clean, service and evaluate</u> the entire chimney-fireplace system in order to make sure that the system is fully functional and **<u>safe to use</u>**.

This inspection **does not guarantee** proper draft for any flues in the chimney system. **Nor does it guarantee** that the fireplace will work properly and safely.

Consider having any older brick lined - unlined chimney properly lined for safety.

LIVING AREAS - ROOMS IN GENERAL

Overall

Only a random sampling of a representative number of windows, doors, electrical outlets, switches, light fixtures, and fans are tested and inspected.

No judgements are made of any inaccessible, non-visible, concealed and non-functional areas of the home.

Have any such areas further evaluated when appropriate.

Windows

Most windows in older homes suffer from a lack of full upkeep and maintenance. As such you should expect some typical repairs and maintenance on the windows in your home.

Add storm windows and screens where missing for energy savings and health reasons (i.e. insects).

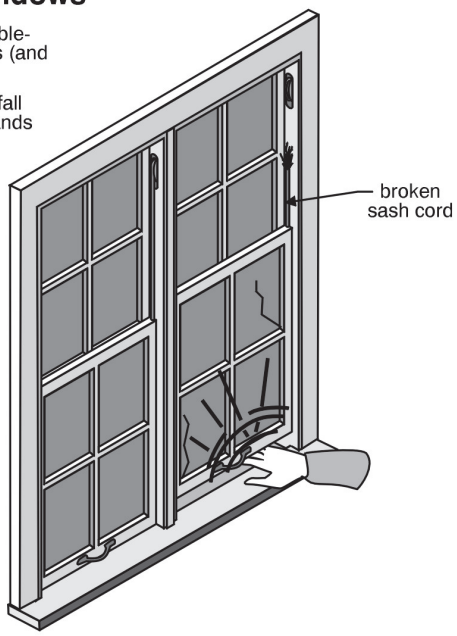
If any storm windows are missing **weep holes** (small drilled holes - where the window sill meets the storm window) consider adding them. These small weep holes will drain off moisture that may accumulate between the primary window and the storm window.

Seal loss occurs when the air gap in the thermal glass is lost **Seal loss in windows, sliders, and skylights is a common occurrence and cannot be predicted by a home inspector.** Often seal loss can take place within the first year of installation. If you experience seal loss check with the manufacturer to see if the units are still under warranty. The name of the manufacturer can often be found on the glass or the frames of the units.

Watch for faulty windows

be careful when operating double-hung and single-hung windows (and also self-storing storms)

if they're defective, they could fall unexpectedly - injuring your hands and/or the window

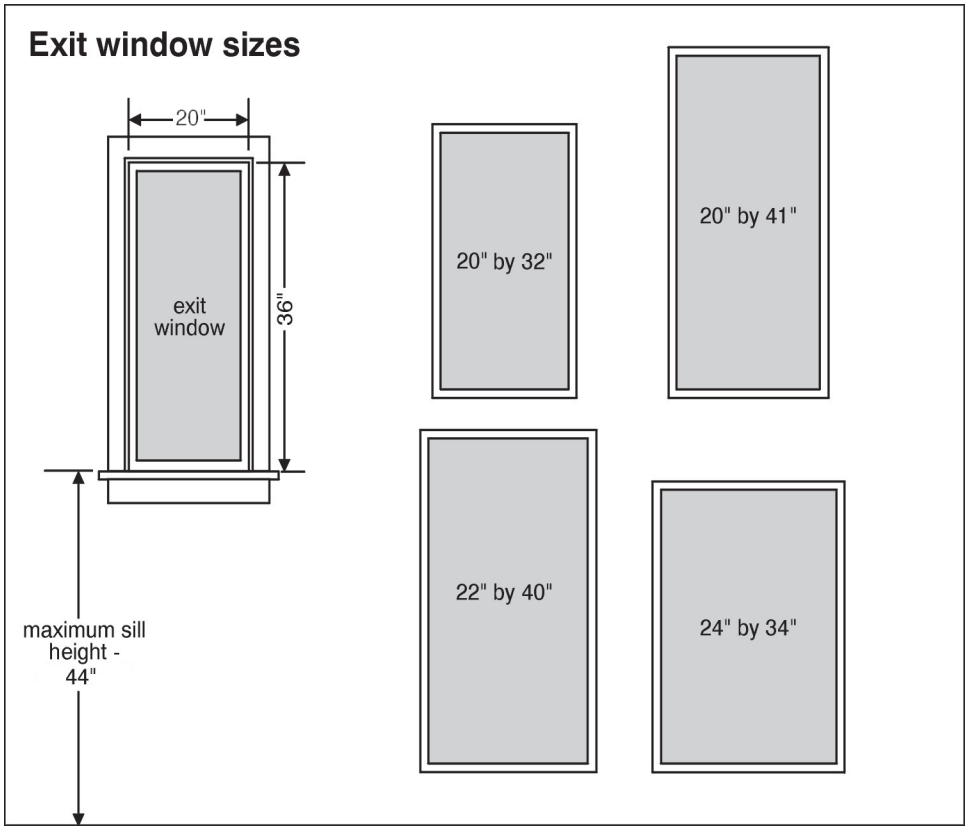


Window components

Excessive condensation evidence on windows is often an indication of high concentrations of moisture in the building. Often the house has limited or no roof/attic ventilation. Check with the owners regarding this.

All bedrooms should have **windows for ventilation**. All bathrooms should have **windows or**

mechanical vents for ventilation. Rooms that have no ventilation are consider illegal living areas, and are in code violation. All such areas with missing ventilation must be brought up to code.



Bedroom windows all throughout the home must meet egress requirements. Safety requires that bedroom windows have a total net opening **no smaller in size than 20 by 24 inches**, in either direction. Windows that do not meet these requirements should be brought up to code for safety.

Skylights tend to leak - even with the best installations. Monitor on a regular basis for evidence of leaks, and if necessary have a roofer make any needed corrections. Be sure to ask about any stains that may have been found on skylights during the inspection.

Some skylights operate by electrical power. This inspection does **not** inspect and check any electrical controls or devices needed to open and close skylights. This also includes **not** inspecting any mechanical devices for opening and closing awnings or shutters.

Electrical Receptacles

Since **electricity can be a danger** to the occupant of a home, particular attention should be given to any electrical defects or deficiencies found. If there are any noted electrical concerns consult with a licensed electrician for corrections, repairs, upgrading and updating, and further evaluations.

Minimal outlets in a home should be addressed not by adding *extension cords, lamp cords and zip cord wiring outlets*, but by having more outlets installed by a licensed electrician. Using extension cords and the like for extending the current electrical wiring, and by adding more outlets in a home, is a good way to overload the electrical wiring and cause a fire. Replace all such improper wiring.

Two slot outlets in homes should be upgraded to grounded three slot outlets, where possible and practical. If the house contains **ungrounded wiring** (such as Knob and Tube, older BX or Rag Romex wire) then the outlets should be upgraded to newer two slot outlets instead. Remember that if a grounded outlet is needed or desired where ungrounded wiring is present, that **rewiring** would be needed. Avoid the use of three prong (grounded) to two slot outlet adapters, as there may not be a proper ground connection in the two slot outlet. If any two slot outlet is not grounded, then the outlet should remain as a two slot outlet as a way of identifying it as non-grounded (*open ground*).

Reversed polarity is an electrical concern that should be corrected. A miswired outlet with reversed polarity is an indication of amateur handyman wiring. The following are three types of reversed

polarity.

- *Hot-neutral reversed polarity* - the most common
- *Hot-ground reversed polarity* - the most dangerous
- *Ground-neutral reversed polarity* - the least dangerous

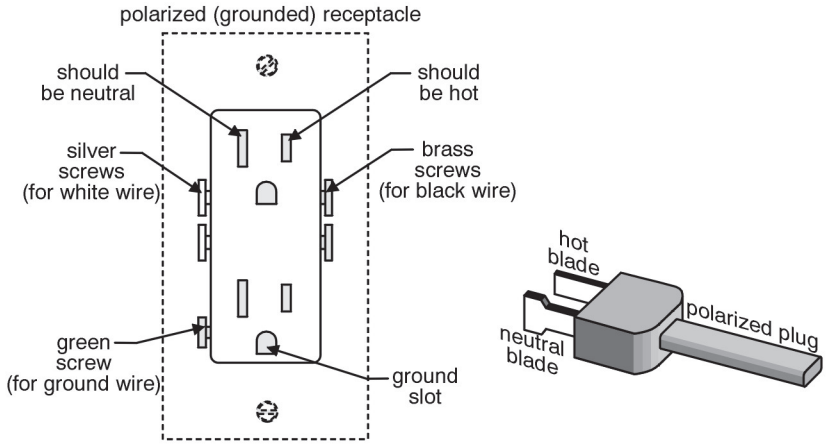
ALL are improperly wired and as such pose as a potential electrical shock hazard.

Metal pull chain light fixtures should be upgraded to electrical switches or with insulating links. Having metal pull chains on electrical fixtures (i.e. lights) particularly in bathrooms and kitchens is a needless potential shock hazard.

Incandescent light bulbs in closets pose as a potential fire hazard. If your closets have such exposed open light bulbs which could overheat surrounding combustible materials, consider having fluorescent lights installed. At minimum have all such exposed bare bulbs installed in a proper glass light fixture enclosure.

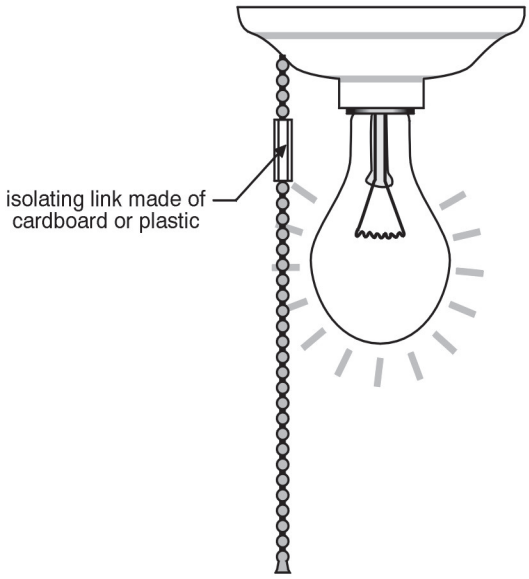
Painted outlets, no matter if they are 2 slot or grounded 3 slot types, should be considered for replacement. In most instances painted outlets have poor contact of the plugged in devices, and pose as a safety hazard.

Reversed polarity



when the polarity is reversed, the wide receptacle slot is (incorrectly) hot and the narrow slot is neutral - this is not uncommon when people forget that the black wire should be attached to the receptacle's brass screws

Isolating links needed on pull chains



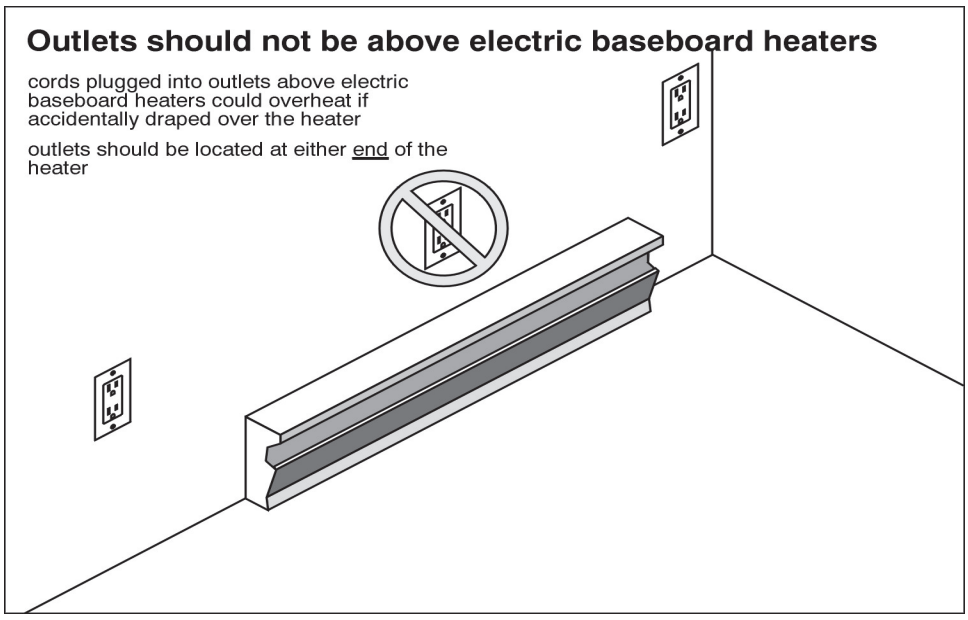
Loose outlets and switches are a potential hazard and must be corrected. Loose electrical receptacles can result in electrical sparking inside the walls with a resulting fire.

Recessed wall outlets and switches are another safety issue which should be corrected. When electrical receptacles are recessed inside walls they have a greater chance of becoming loose. All outlets and switches should be mounted flush with the walls that they are mounted on and should be secured tightly to these walls.

Electrical cover plates should be on all electrical outlets and switches. Missing cover plates poses as a potential shock hazard to the occupants of the home.

Outlets <u>should not</u> be installed over electric baseboard heat. Draped power cords over electric heat could cause a fire. If your home has outlets over such heating units have your electrician correct as needed.

Heat and cooling registers, as well as their ductwork should be inspected and cleaned regularly. Dirty ducts and registers are a potential health hazard for the occupants of homes.

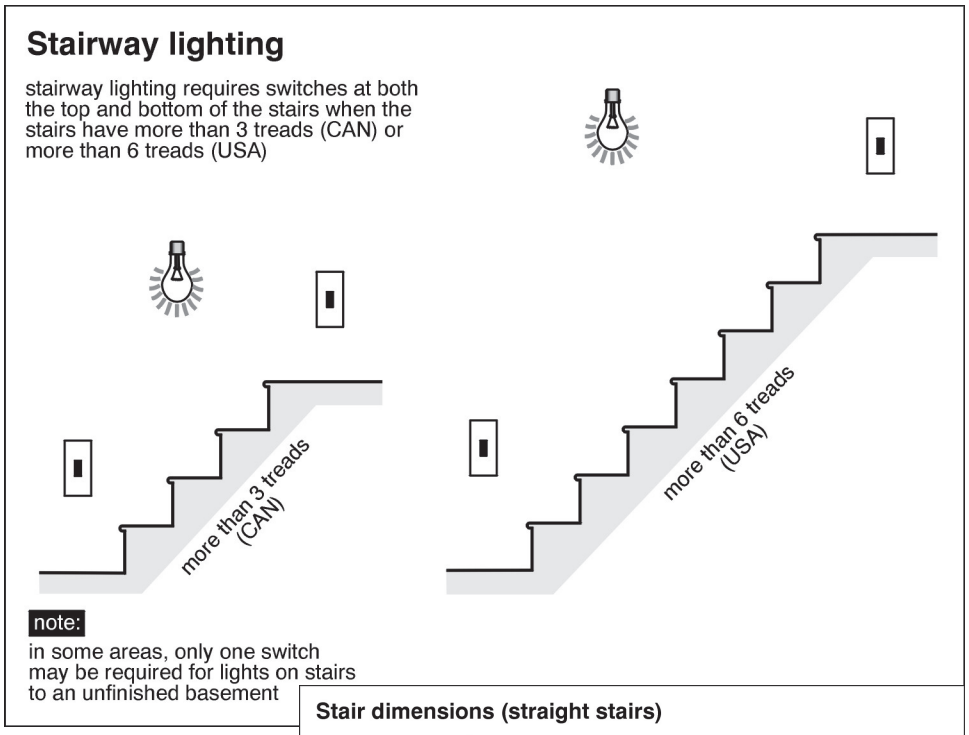


Stairways (inside as well as outside the building)

Stairways always pose as a potential hazard, particularly for older persons, as well as for children.

All stairways should have sufficient lighting, and adequate handrails with properly spaced balusters.

- Balusters should be spaced close enough together so that a child could not squeeze through them.

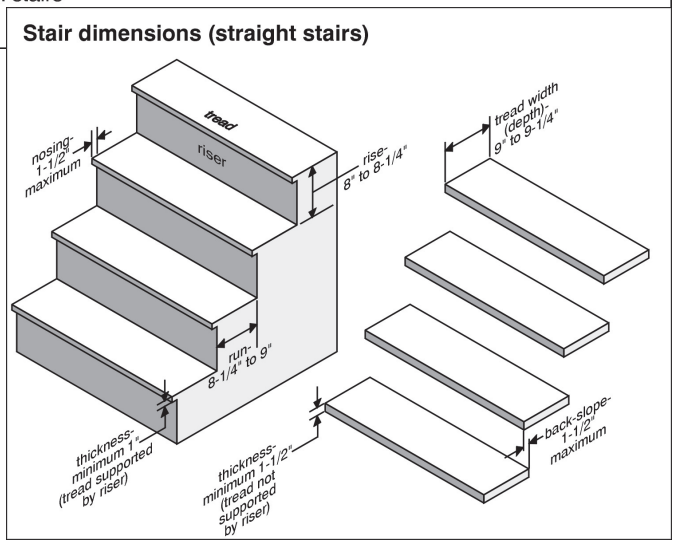


- Individual steps should not have uneven heights in their risers. Such uneven risers pose as a tripping hazard.

- Stair treads should be wide enough to support and accommodate persons walking on them.

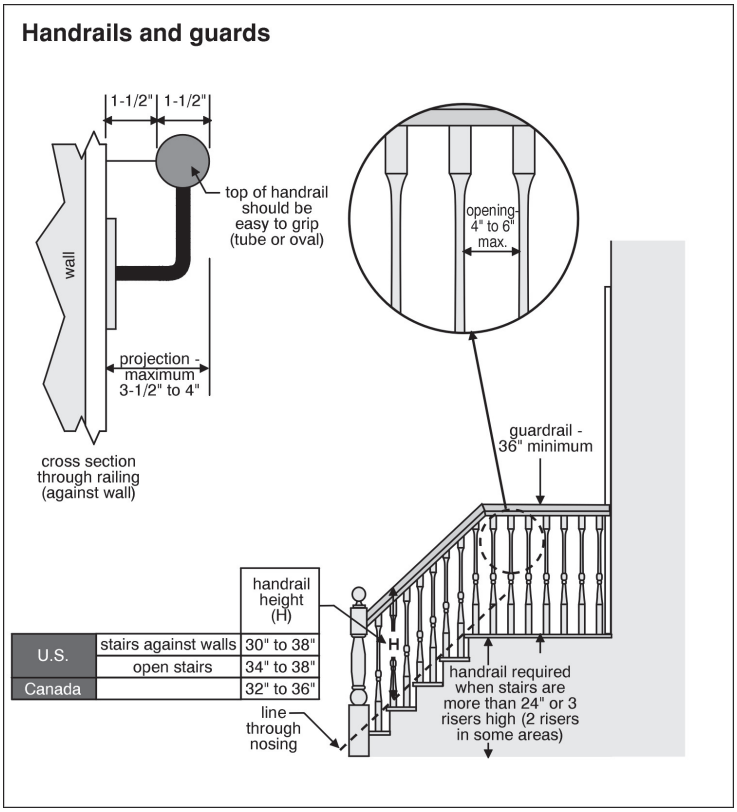
- Any loose or damaged handrails, guard rails, balusters, and steps should be repaired immediately.

- Any missing rails, balusters, or stair treads should be replaced immediately.



- All platforms 30 inches or higher should have guardrails of sufficient height with properly spaced balusters.
- Doors should only open up to platforms, and should never open up to the top step of a flight of steps.
- Steep stairways are always a potential tripping hazard, particularly if the treads are carpeted.

Existing conditions, such as low handrails and guardrails, and wide spacing of balusters may be grandfathered in due to the age of the house, **however it is up to YOU to make sure that YOUR HOME has safe stairways**.



Environmental Concerns

Environmental issues and concerns such as asbestos, lead, radon, carbon monoxide, and all contaminants and pollutants should be evaluated by an industial hygenist or by qualified testing labs. **This inspection does not deal with environmental issues or concerns.**

Settlement Evidence

(Most older homes exhibit some signs of settlement.)

Many older homes show some evidence of settlement in the way of slanted floors, doors and windows out of alignment, as well as various plaster and foundation cracks. On the whole this is typical and common.

However, if the home that you are buying shows **excessive signs of settlement** with corresponding major cracks in plaster walls and ceilings, as well as serious cracks in foundation walls and floor areas, it is suggested that a **structural engineer be called in to assess the structural integrity of the building.**

OLDER SYSTEMS AND COMPONENTS

NOTE: Any system or component in the building that is considered or listed as OLD or OLDER, should be monitored for future repairs or replacements. Consult with an appropriate contractor if there are any concerns.

IN CONCLUSION, AS STATED PREVIOUSLY, THIS ADDENDUM IS PART OF THE WHOLE REPORT AND MUST BE USED IN CONJUNCTION WITH THE *FIELDNOTES* AS WELL AS THE *NARRATIVE* PORTION OF THE REPORT, IN ORDER TO FULLY UNDERSTAND THE INSPECTION FINDINGS AND CONCLUSIONS.

IF YOU HAVE ANY QUESTIONS OR CONCERNS ABOUT ANY ASPECT OF THE INSPECTION, OR THE INSPECTION REPORT, PLEASE FEEL FREE TO CONTACT MY OFFICE FOR FURTHER CLARIFICATION.

USEFUL LIFE EXPECTANCY OF SOME BUILDING

The Massachusetts Rules and Regulations For Performing a Home Inspection

This is an excerpt *(excerpted on June 2003)* from the Massachusetts Rules and Regulations from the State's Web Site at: *http://www.state.ma.us/reg/boards/hi/cmr/26606.htm*
Please visit the State's web site for more information and the latest updates.
This informational pamphlet is provided as a service to our Home Inspection Clients.

Other Useful State Web Site Links:

The Board of Registration of Home Inspectors

Massachusetts Board of Registration of Home Inspectors Main Web Site:
http://www.state.ma.us/reg/boards/hi/
Home Inspector's Fact Sheet for Consumers:
http://www.state.ma.us/reg/Consumer/fspagehi.htm
The Entire Massachusetts General Laws Governing Home Inspections:
http://www.state.ma.us/reg/boards/hi/cmr.htm

The following questions are suggested for you to ask about all homes for purchase:

Is there a history of water penetration in the basement and/or crawlspace? _____
Is the dwelling on public sewage or on a private sewage system? _____
Has the dwelling has been tested for radon gas? _____
Has the dwelling been inspected for insect infestation? _____
Has the dwelling been previously inspected by a home inspector and is the seller willing to disclose such report? _____
Is there an underground storage tank on the property? _____

CMR 266 *Massachusetts Rules and Regulations for Home Inspectors*

6.00: **Standards of Practice**
6.01: Access, Purpose and Scope
6.02: System: Roofing
6.03: System: Exterior
6.04: Structural Components
6.05: System: Electrical
6.06: System: Plumbing
6.07: System: Heating
6.08: Central Air Conditioning
6.09: General Interior Conditions
6.10: Insulation and Ventilation
6.11: General Limitations and Exclusion

STANDARDS OF PRACTICE

A registered professional home inspector practicing in the commonwealth of Massachusetts shall carry out his inspection and issue his report in accordance with 266 CMR 1.00-11.006.01:

Access, Purpose,and Scope

(1) **Access**. The client shall provide safe access and sufficient lighting to the area(s) to be inspected.

(2) Purpose of the home inspection performed to the standards of 266 CMR 1.00 – 11.00 shall: Provide the client with a better understanding of the property conditions, as observed at the time of the inspection. However, it shall be understood that an inspection carried out under the standards of 266 CMR 1.00-11.00 is not and shall not be construed to be a comprehensive Architectural and or an Engineering study of the dwelling in question.

(3) Inspectors shall:

(a) Use a written contract and provide only the client with an original copy of the contract.

(b) Observe readily accessible Installed systems and components listed in 266 CMR 1.00-11.00.

(c) Submit a confidential written report only to the client which shall:

1. Describe those components specified to be described in 266 CMR 1.00-11.00. Standards
2. Indicate which systems and components designated for inspection in 266 CMR 1.00-11.00 have been inspected;
3. Indicate any systems and components so inspected, which were found to be in need of repair

(4) (a) The inspector shall notify his/her client that answers to the following questions should be ascertained from the seller and are relevant to the purchase of a house and may not be readily observable through inspection:

(1) History of water penetration in basement and/or crawl space.

(2) If the dwelling is on a public or private sewage system.

(3) If the dwelling has been tested for radon gas.

(4) If the dwelling has been inspected for insect infestation.

(5) (a) If the dwelling has been previously inspected by a home inspector and

(b) if the seller is willing to disclose such report.

(6) If there is an underground storage tank on the property.

(a) The home inspector shall not represent to the seller or buyer that there is any legal obligation, duty or requirement on behalf of the seller or to answer the questions set forth in 266 CMR 6.01(4) unless otherwise required by law.

(b) A home inspector shall not be held responsible for the accuracy of third party information.

(5) Standards set forth 266 CMR 1.00-11.00 are not intended to limit Home Inspectors from:

1. Reporting observations and conditions in addition to those required by 266 CMR 6.00
2. Excluding systems and components from the inspection if requested by the client.
3. Regardless of any additional professional registration or license held by the home inspector, unless otherwise contractually agreed to with the client, the home inspection shall be conducted to the professional licensure standards of 266 CMR

only:

6.02: **System: Roofing**

(1) The inspector shall observe the readily accessible:

1. Roof coverings.
2. Exposed roof drainage systems.
3. Flashings.
4. Skylights, chimneys and roof penetrations.
5. Signs of leaks on building components.

(2) The Inspector shall:

(a) Report the methods used to observe the roofing.

(b) Describe the type of roof covering materials (Asphalt, , slate, metal and or tile shingles; built-up type (Bald asphalt, tar and gravel, mineral covered rolled roofing, ballasted rubber membrane, adhered membrane, other) (c) Report on the condition of the roof, exposed roof drainage systems, exposed flashings, skylights, exterior of chimneys, roof penetrations and any signs of previous leaks.

(3) The Inspector is not required to:

(a) Walk on the roofing unless the client provides safe access and the seller and or the seller's representative provide authorization that relives the Inspector of all responsibility of possible damage to the roof.
(b) Observe attached accessories including but not limited to solar systems, antennae, and lightning arrestors.
(c) Inspect the interior of chimney flues.

6.03 **System: Exterior**

(1) The Inspector shall observe the readily accessible:
(a) Wall cladding, flashings and trim.
(b) Entryway doors and windows.
(c) Garage door operators.
(d) Decks, balconies, stoops, steps, areaways, and porches including railings.
(e) Eaves, soffits, fascias and corner boards.
(f) Vegetation, grading, drainage, driveways, walkways and retaining walls with respect to their effect on the condition of the building.

(2) The Inspector shall:
(a) Describe wall-cladding materials (cementious siding, asphalt, wood shingles, Aluminum and or vinyl siding, wood clapboards, other) and report on the condition of the exposed wall cladding.
(b) Report the condition of decks, balconies, stoops, steps, areaways, and porches including railings.
(c) Report the condition of eaves, soffits, fascias and corner boards.
(d) Operate all entryway doors and representative number of windows including garage doors, manually or by using permanently installed controls of any garage door operator.
(e) Report whether or not any garage door operator will automatically reverse or stop when meeting reasonable resistance during closing.
(f) Report on slope of earth as it impacts the structure.

(3) The Inspector is not required to observe:
(a) Storm windows, storm doors, screening, shutters, awnings and similar seasonal accessories
(b) Fences, landscaping, trees, swimming pools, patios, sprinkler systems.
(c) Safety glazing.
(d) Garage door operator remote control transmitters.
(e) Geological conditions (Engineering services).
(f) Soil conditions (Engineering services).
(g) Recreational facilities.
(h) Outbuildings and detached garages.
(i) Undergound utilities, pipes, buried wires, or conduit.

6.04 **System: Structural Components:**

(1) The inspector shall observe the following exposed readily accessible structural components including:
(a) The exposed portions of the foundation.
(b) The exposed portions of the basement floor.
(c) The exposed portions of the superstructure floor system (girders, sills, floor joists, headers and bridging)
(d) The exposed portions of the columns.
(e) The exposed portions of the roof framing (rafters, collar ties, trusses, beams and sheathing materials).

(2) The inspector shall report on the following exposed readily accessible structural components including:
(a) The type of foundation materials and the condition of the exposed components (brick, concrete block, concrete, stone, wood, other).
(b) The type of basement floor system and the condition of the exposed components (concrete, earth, wood, other).
(c) The type of superstructure floor system and the condition of the exposed components (girders, sills, floor joists and bridging)
(d) The type of columns and condition (brick, concrete block, concrete, steel, wood)
(e) Roof structure (rafters, collar ties, trusses, beams) roof sheathing (boards, plywood, oriented strand board, other).

(3) The inspector shall:
  (a) Probe exposed readily accessible structural components where deterioration is suspected. However, probing is_NOT required when probing would damage any finished surface.
  (b) Enter readily accessible under floor crawl spaces and attic spaces only after safe access is provided by the owner and or client except when access is obstructed, when entry could damage the property, or when dangerous or adverse situations are suspected by the inspector.
  (c) Report the methods used to observe under floor crawl spaces and attics.
  (d) Report signs of previous water penetration into the building.
(4) The Inspector shall not be required to:
  (a) Collect engineering data on the size, span, spacing, species, section modulus, slenderness ratio and or modulus of elasticity of the structural members.
  (b) Inspect for insect infestation.
  (c) Remove covering and or finish materials to gain access to the items being inspected.

6.05 **System: Electrical**:
(1) The Inspector shall observe:
  (a) The exterior of the exposed service entrance conductors.
  (b) Readily accessible Service equipment, grounding equipment, main over current device, main and distribution panels.
  (c) Amperage and voltage ratings of the service.
  (d) The exterior of the readily accessible exposed branch circuit conductors, their over current devices, and the compatibility of their ampacities and voltages.
  (e) The operation of a representative number of permanently installed lighting fixtures, switches and receptacles located inside the house, garage, and on its exterior walls.
  (f) The polarity and grounding of all three-prong receptacles within six feet of interior plumbing fixtures and all readily accessible non-dedicated receptacles in the garage and on the exterior of inspected structures.
  (g) The operation of Ground Fault Circuit Interrupters.
(2) The Inspector shall report on the following:
  (a) The size and the voltage of the main service disconnect (30, 60, 100, 125, 150 and or 200 amp, other service, 120, 120/240, 120/208-volt system).
  (b) Service entry conductor materials (copper and or aluminum, if aluminum are the tips coated with a corrosion inhibitor and is the over load device rated for the use of aluminum wire).
  (c) Service type as being overhead or underground.
  (d) The number of branch circuits in the panels.
  (e) The type of branch circuit conductor materials (copper and or aluminum, if aluminum are the tips coated with a corrosion inhibitor and is the over load device rated for the use of aluminum wire).
  (f) The compatibility of the overload protective devices and the size of the protected conductor.
  (g) The type of branch circuit wiring (BX, conduit, Romex, knob and tube, wire mold, other).
  (h) If there is ground fault protection provided.
  (i) If the system is grounded.
(3) The Inspector is not required to:
  (a) Collect engineering data on the compatibility of the disconnects and individual circuit breakers with the panel and or determine the short circuit interrupting current capacity. (Engineering services).
  (b) Determine and or report on the adequacy of the in place systems to provide sufficient power to the dwelling, or reflect on the sufficiency of the electric distribution system in the dwelling (Engineering services).
  (c) Insert any tool, probe, or testing device inside the panels.
  (d) Test or operate any over current device except Ground Fault Circuit Interrupters.
  (e) Dismantle any electrical device or control other than to remove the covers of the main and sub-distribution panels, if readily accessible and not painted in place.
  (f) Observe and or report on:
    1. The quality of the conductor insulation. (Electrical Services).
    2. Test for Electro-Magnetic fields. (Electrical Services).

3. Low voltage systems, door bells.
4. Smoke detectors (Seller's responsibility).
5. Telephone, security alarms, cable TV, intercoms, or other ancillary wiring that is not a part of the primary electrical distribution system.

6.06 **System: Plumbing**

(1) The inspector shall observe:
   (a) The exposed readily accessible interior water supply and distribution system including:
      1. Piping materials, including supports and insulation.
      2. Fixtures and faucets.
      3. Functional Flow.
      4. Leaks.
      5. Cross Connections.
   (b) The exposed readily accessible interior drain, waste and vent system, including:
      1. Traps; drain, waste, and vent piping; piping supports and pipe insulation.
      2. Leaks.
      3. Functional Drainage.
   (c) Hot water systems including:
      1. Water heating equipment.
      2. Normal Operating Controls.
      3. Automatic Safety Controls.
      4. The exterior of the chimneys and vents.
   (d) Sump pump.

(2) The inspector shall:
   (a) Report on:
      1. The type of water supply and distribution piping materials (brass, copper, steel, lead, plastic, other).
      2. The types of drain, waste, and vent piping materials (brass, copper, cast iron, lead, plastic, steel, other)
      3. The type of water heating equipment, flue pipe and capacity (gas, electric, oil, tankless, solar, other).
   (b) Operate all plumbing fixtures, including their faucets and all exterior faucets attached to the house if readily accessible.

(3) The inspector is not required to:
   (a) Collect engineering data on the size of the plumbing equipment, the size or length of water and or waste systems and or remove covering materials (engineering services).
   (b) Report on the adequacy and or the efficiency of the in place systems to provide sufficient hot water to the dwelling, sufficient water supply or drainage for the dwelling (engineering services).
   (c) State the effectiveness of anti-siphon devices (Engineering services).
   (d) Determine whether water supply and waste disposal systems are public or private (owner's responsibility).
   (e) Operate automatic safety controls.
   (f) Operate any valve except readily accessible water closet flush valves, fixture faucets, and hose faucets.
   (g) Observe or report on:
      1. Water conditioning systems.
      2. Fire and lawn sprinkler systems.
      3. On-site or public water supply quantity and quality.
      4. On-site or public waste disposal systems (Title V Inspection).
      5. Foundation sub drainage systems.
      6. Spas, except as to functional flow and functional drainage.
      7. The interior of flue linings.

6.07 **System: Heating**

(1) The inspector shall observe permanently installed exposed readily accessible heating systems including:
   (a) Heating equipment.
   (b) Normal operating controls.

(c) Automatic safety controls.
(d) The exterior of the chimneys and vents.
(e) Solid fuel heating devices.
(f) Heating distribution systems including fans, pumps, ducts and piping, with supports, dampers, insulation, air filters, registers, radiators, fan coil units, convectors.
(g) The presence of an installed heat source in each room.

(2) The inspector shall:
(a) Report on:
1. The type of energy source (coal, electric, gas, and oil, wood, other).
2. The type of heating equipment (electric, hot air, hot water, steam, other).
3. The type of distribution system (piping: black iron, copper, and other. Duct work aluminum, fiberglass, steel, other).
(b) If possible, have the owner and or the owner's representative operate tthe system using normal operating controls. If not possible for owner or owner's representative to operate system, home inspector shall operate system using normal operating controls and report on conditions.
(c) Open readily accessible and operable access panels provided by the manufacturer or installer for routine homeowner maintenance.

(3) The inspector is not required to:
(a) Test and or inspect the heat exchanger (requires the equipment to be dismantled).
(b) Collect engineering data on the size of the heating equipment, the size or length of the distribution systems. (engineering services)
(c) Report on the adequacy of the in place system(s) to heat the dwelling (engineering services)
(d) Operate heating systems when weather conditions or other circumstances may cause equipment damage.
(e) Operate automatic safety controls.(f) Ignite or extinguish solid fuel and or gas fires.
(g) Observe:
1. The interior of flues.
2. Fireplace insert flue connections.
3. Humidifiers.
4. Electronic air filters.
5. The uniformity or adequacies of heat supply to the various rooms.
6. The heat exchanger (Requires dismantling of the furnace cover and possible removal of controls) HVAC technician work.

6.08 **System: Central Air Conditioning**

(1) The Inspector shall observe:
(a) Exposed readily accessible central air conditioning including:
1. Cooling and air handling equipment.
2. Normal operating controls.
(b) Exposed readily accessible distribution systems including:
1. Fans, pumps, ducts and piping, with supports, dampers, insulation, air filters, registers, fan-coil units, condensers.
2. The presence of an installed -cooling source in each room.

(2) The Inspector shall:
(a) If possible, have the owner and or the owner's representative operate the systems using normal operating controls and report on conditions. If not possible for owner or owner's rep to operate system, home inspector shall operate system using normal operating controls and report on conditions.
(b) Open readily accessible operable access panels provided by the manufacturer or installer for routine homeowner maintenance and report on conditions.

(3) The Inspector is not required to:
(a) Collect engineering data on the size of the cooling equipment, the size or length of the distribution systems.
(b) Report on the adequacy of the in place system(s) to cool the dwelling (engineering services).
(c) Have the owner's representative operate the cooling systems when weather conditions or other circumstances may

cause equipment damage.

(d) Observe evaporator coils (Requires dismantling of the plenum cover and possible removal of controls) HVAC technician work.

(e) Observe non-central air conditioners.

(f) Observe the uniformity or adequacy of cool-air supply to the various rooms.

6.09 **System: General Interior Conditions**

(1) The Inspector shall observe:

(a) Walls, ceiling, and floors.

(b) Steps, stairways, balconies, and railings.

(c) Counters and a representative number of cabinets.

(d) A representative number of doors and windows.

(e) Separation walls, ceilings, and doors between a dwelling unit and an attached garage or another dwelling unit.

(2) The Inspector shall:

(a) Operate a representative number of primary windows and interior doors.

(b) Report signs of water penetration.

(3) The inspector shall report on:

(a) The type of exposed floor material(brick, carpet, ceramic tile, linoleum, slate, vinyl tile,wood, other).

(b) The type of exposed wall material (brick, ceramic tile, fiberglass, laminates, paneled, plaster, gypsum wall board, plastic tile, other).

(c) The type of exposed ceiling material (acoustical tile, gypsum wall board, plaster, wood, other).

(4) The inspector is not required to observe and or report on the cosmetic condition of:

(a) Paint, wallpaper, and other finish treatments on the interior walls, ceilings, and floors.

(b) Draperies, blinds, or other window treatments.

(c) Household appliances.

(d) Recreational facilities or another dwelling units.

6.10 **System: Insulation and Ventilation**

(1) The inspector shall observe:

(a) Exposed insulation in unfinished spaces.

(b) Ventilation of attics and foundation areas.

(c) Kitchen and bathroom venting systems.

(2) The inspector shall report:

(a) The existence of insulation in unfinished spaces.

(b) Absence of it in unfinished space at conditioned surfaces.

(c) The type of ventilation in attic (gable, ridge, soffit, roof surface, other).

(d) Presence or absence of ventilation in kitchen and bathroom.

(3) The inspector is not required to report on:

(a) The type of insulation

(b) Concealed insulation and vapor retarders.

(c) Venting equipment which is integral with household appliances.

6.11 **General Limitations and Exclusions:**

(1) General limitations.

(a) Inspections done in accordance with the standards set forth in 266 CMR 6.00 are visual and are not technically exhaustive.

(b) The standards set forth in 266 CMR 6.00 are applicable to buildings with four or less dwelling units and their attached garages.

(2) General exclusions.

(a) Inspectors shall not be required to report on:

1. Life expectancy of any component or system.
2. The causes of the need for a repair.

3. The methods, materials and costs of corrections.
4. The suitability of the property for any use.
5. Compliance or non-compliance with applicable regulatory requirements.
6. Any component or system, which was not observed.
7. The presence or absence of pests such as wood damaging organisms, rodents, or insects.
8. Cosmetic items, underground items, or items not permanently installed.
9. Items specifically excluded by client.

(b) Inspectors shall not be required to:

1. Offer or perform any act or service contrary to law.
2. Offer warranties or guarantees of any kind.

(c) Inspectors are prohibited from reporting on:

1. Market value of property or its marketability.
2. The advisability or inadvisability of te prurchase of the property.
3. Offer or perform engineering, architectural, surveying, plumbing, electrical, heating services, pest control, urea formaldehyde and lead paint inspection(s) or any other job function requiring an occupational license and or registration in the jurisdiction where the inspection is taking place, unless the inspector holds a valid registration and or occupational license, in which case he/she may inform the client that he/she is so registered/licensed, and is therefore qualified to go beyond the 266 CMR 1.00-11.00. Should the inspector offer any service requiring a registration and or occupational licenses he/she shall be required to specify and list additional services not required under these standards of basic home inspection. In addition the inspector shall not offer to make and or perform any repairs and or treatment to the property he and or his firm has inspected.
4. To collect any engineering data (the size of structural members and or the output of mechanical and or electrical equipment).
5. Determine the cost of repairs.
6. Determine Building Code and or Zoning violations.
7. Verify property lines.
8. Inspect concealed spaces.
9. Inspection of surface and subsurface soil conditions.
10. Calculate the strength, adequacy, or efficiency of any system or component.
11. Enter any area or perform any procedure, which may damage the property or its components, or be dangerous to the inspector or other persons.
12. Operate any system or component that is shut down or otherwise inoperable.
13. Operate any system or component, which does not respond to normal operating controls.
14. Disturb insulation, move personal items, furniture, equipment, plant life, soil, snow, ice, or debris that obstructs access or visibility.
15. Determine the presence or absence of any suspected hazardous substance including but not limited to latent surface and or subsurface Volatile Organic Compounds, PCB's, asbestos, UFFI, toxins, carcinogens, lead paint, radon gas, noise, and contaminants in soil, water, air quality, wet lands and or any other environmental hazard.
16. Determine the effectiveness of any system installed to control or remove suspected hazardous substances.
17. Predict future conditions, including but not limited to failure of components.
18. Project operating costs of components.
19. Evaluate acoustical characteristics of any system or component.
20. Determined location of property lines.
21. Determine extent or magnitude of damage or failures noted.

REGULATORY AUTHORITY - M.G.L. c. 13, § 96, c.112, §§ 221 through 226.

Visit the Consumer Product Safety Commision's Web Site:
http://www.cpsc.gov/
And a Recall Information Site for Recalled or Dangerous Products:
http://www.recalls.gov/

SYSTEMS AND SYSTEM COMPONENTS

Listed below is a small sampling of some typical age/life expectancies. These are only very general estimated life expectancies, since there are many factors that determine the remaining useful life of any system or component. Some of these systems/components will last longer than expected, while others may fail much sooner than expected.

Once a system or component approaches its final years its performance decreases in proportion to its years of service, and the resulting loss in efficiency usually will dictate a need for repairs or eventual replacement. When systems or their components approach their estimated final years they are considered to be on **BORROWED TIME** and **major repairs** or **replacements** should be *anticipated.*

EXTERIOR

Estimated Life Expectancy

Roofing:

Asphalt/Fiberglass shingles ---------- 15 to 20 years
Asphalt Roll roofing ---------- 10 years
Wood shingles ---------- 10 to 30 years
Clay and Cement tiles ---------- 20 plus years
Slate shingles ---------- 40 to 80 plus years
Asbestos-Cement shingles ---------- 30 to 60 plus years
Metal roofing ---------- 15 to 30 plus years
Tar and Gravel-built up roof ---------- 25 to 35 years
Single Ply rubber membrane roof ---------- 15 plus years

Septic System Leaching Field ---------- 18 to 22 years

Untreated and not maintained wood **decks, porches and balconies** ---------- 5 to 7 years

Non-maintained Masonite and similar **fiberboard siding and trim products** ---------- 5 to 7 years

Thermal seals in windows, skylights and sliders ---------- Could fail within first year
Painted siding and trim ---------- 5 to 7 years

Heat Pump or Air Conditioning Compressor ---------- 8 to 12 years

Buried Oil Tanks ---------- 15 to 20 years
Indoor Oil Tanks ---------- 30 to 40 years

INTERIOR

Heating Systems:

Warm Air Furnaces ---------- 15 to 25 years
Cast iron boiler (steam or hot water) ---------- 25 to 35 years
Steel boiler (steam or hot water) ---------- 10 to 15 years
Copper Boiler (steam or hot water) ---------- 10 to 15 years
Circulating pump for hot water ---------- 10 to 12 years
Heat exchanger with a humidifier ---------- 10 to 12 years
Combustion chambers ---------- 10 to 12 years
Burners ---------- 10 to 20 years

Domestic Hot Water Tanks ---------- 5 to 10 years
Pumps and motors ---------- 5 plus years
Buried in slab/concrete - water and heat **pipes and ductwork** ---------- 15 to 25 years
Most appliances ---------- 7 to 12 years
Metal shower stalls ---------- 10 to 20 years
Shower pans ---------- 10 to 20 years