

YOUR HOME INSPECTION COMPANY

HOME MAINTENANCE MANUAL

4th Edition

Inspecting Since 20XX

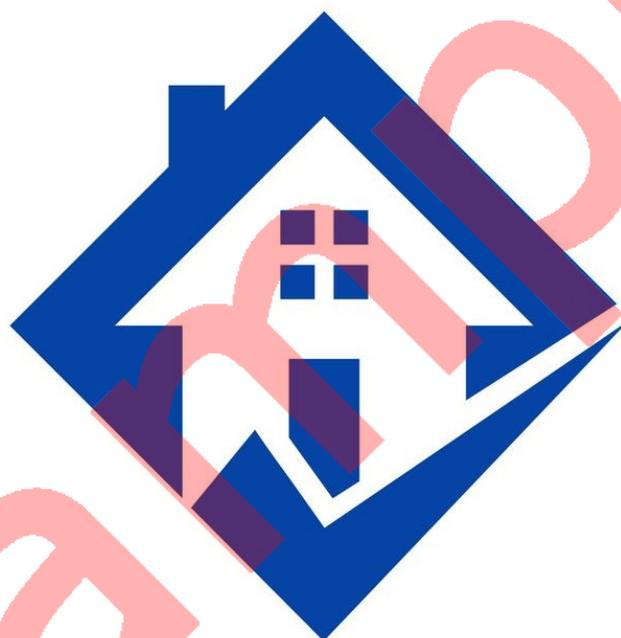


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Fourth Edition



Your Home Inspection Company

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Welcome to Your Home Maintenance Manual

Realizing that your home is probably one of the biggest investments that you will ever make, this manual was developed to help you take care of your investment. Of course no house lasts forever, but proper regular maintenance will increase the life span of your home and help to prevent costly repairs that could have been avoided. Also, by keeping your home well maintained, you will be doing your part to preserve the overall quality of life in your neighborhood and community.

This manual is designed to serve as an at-home reference tool. Different components of your home are briefly described and check lists for almost every topic are included. The checklists are designed to help manual you through maintenance checks and through decisions about whether or not a certain repair requires professional attention.

Only suggestions for the most common types of houses are given, such as ranch, bungalow, split-level, condominiums, townhomes and other common homes. Because this manual has information about various housing types and systems, some information will not apply to your particular home. For example, this manual expands upon *many* types of roofing available, such as asphalt, wood shingles, slate/clay tile, and roll roofing, and you will need to select that which is relevant to your home.

Definitions of technical terms used in this manual are included in the **Glossary** at the end of the manual.

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Sample

15 TOOLS EVERY HOMEOWNER SHOULD HAVE

Now that you have your new home, you should be ready to do some minor repairs and maintenance. To do so, you should own a basic set of tools. The following items are essential tools but this list is by no means exhaustive. While we recommend getting familiar with basic tools and minor repairs, technically exhaustive or potentially dangerous repairs should be left to the professionals.

1. Plunger

A clogged sink or toilet is one of the most disturbing problems that you will face. With a plunger on hand, however, you can usually remedy these troubling plumbing issues relatively quickly. It is best to have two plungers -- one for the sink and one for the toilet.



2. Combination Wrench Set

One end of a combination wrench set is open and the other end is a closed loop. Nuts and bolts are manufactured in standard and metric sizes and because both varieties are widely used, so you'll need both sets of wrenches. For the most control and leverage, always pull the wrench toward you, instead of pushing on it. Also, avoid over-tightening.



3. Slip-Joint Pliers

Use slip-joint pliers to grab hold of a nail, a nut, a bolt, and much more. These types of pliers are versatile because of the jaws, which feature both flat and curved areas for gripping many types of objects. There is also a built-in slip-joint, which allows the user to quickly adjust the jaw size to suit most tasks.



4. Adjustable Wrench

Adjustable wrenches are somewhat awkward to use and can damage a bolt or nut if they are not handled properly. However, adjustable wrenches are ideal for situations where you need two wrenches of the same size. Screw the jaws all the way closed to avoid damaging the bolt or nut.



5. Caulking Gun

Caulking is the process of sealing up cracks and gaps in various structures and certain types of piping. Caulking can provide noise mitigation and thermal insulation, and control water penetration. Caulk should be applied only to areas that are clean and dry.



6. Flashlight

None of the tools in this list is of any use if you cannot visually inspect the situation. The problem, and solution, are apparent only with a good flashlight. A traditional two-battery flashlight is usually sufficient, as larger flashlights may be too unwieldy.

7. Tape Measure

Measuring house projects requires a tape measure, not a ruler or a yardstick. Tape measures come in many lengths, although 25 feet is best. Measure everything at least twice to ensure accuracy.

8. Hacksaw

These are great for cutting metal objects such as pipes, bolts and brackets. Hacksaws look thin and flimsy, but they'll easily cut through even the hardest of metals. Blades are replaceable, so focus your purchase on a quality hacksaw frame.

9. Torpedo Level

Only a level can be used to determine if something, such as a shelf, appliance or picture, is correctly oriented. The torpedo-style level is unique because it not only shows when an object is perfectly horizontal or vertical, but it also has a gauge that shows when an object is at a 45-degree angle. The bubble in viewfinder must be exactly in the middle, not merely close.



10. Safety Glasses / Goggles

For all tasks involving a hammer or a power tool, you should always wear safety glasses or goggles. They should also be worn while you mix chemicals.

11. Claw Hammer

A good hammer is one of the most important tools you can own. Use it to drive and remove nails, to pry wood loose from the house, and in combination with other tools. They come in a variety of sizes, although a 16-ounce hammer is the best all-purpose choice.



12. Screwdriver Set

It is best to have four screwdrivers: a small and large version of both a flat-head and a Phillips-head screwdriver. Electrical screwdrivers are sometimes convenient, but they're no substitute. Manual screwdrivers can reach into more places and they are less likely to damage the screw.

13. Wire Cutters

Wire cutters are pliers designed to cut wires and small nails. The "side-cutting" (unlike the stronger "end-cutting" style) style is handy, but not strong enough to cut small nails.

14. Respirator / Safety Mask

While paints and other coatings have become less toxic (and lead-free) over time, most still contain dangerous chemicals, which is why you should wear a mask to avoid accidentally getting them in your lungs. A mask should also be worn when working in dusty or dirty environments. Disposable masks usually come in packs of 10 and should be thrown away after use. Full and half-face respirators can be used to prevent the inhalation of very fine particles that ordinary face masks will not stop.

15. Duct Tape

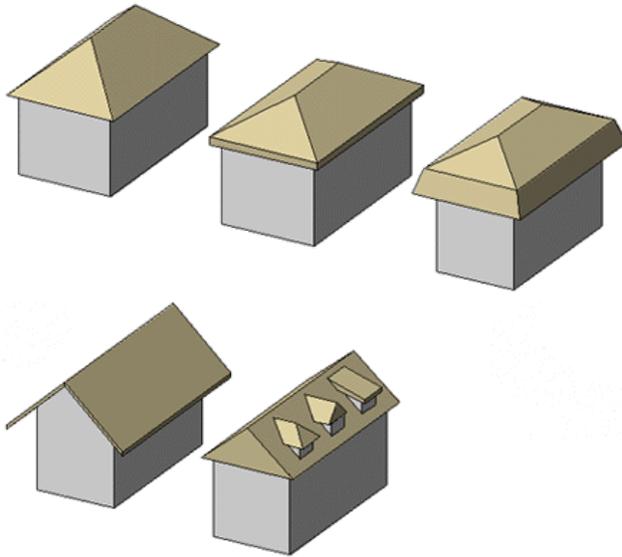
This tape is extremely strong and adaptable. Originally, it was widely used to make temporary repairs to many types of military equipment. Today, it's one of the key items specified for home emergency kits because it is water-resistant and extremely sticky.

PART 1: OUTSIDE THE HOME



This section gives a general overview on maintenance activities for the exterior, which provides protection for your home's framework and interior features. Maintaining the roof, wall, foundation and other components in good repair is critical.

ROOFS



This manual begins by discussing the roof because a weather-tight roof is basic to the preservation of your home, no matter how old or new it is. The roof sheds rain, shades the sun and serves as a general buffer from the weather.

During different architectural periods in the history of the United States, a variety of roofing materials were used, such as clay tiles, slate, copper, tin and asbestos. Common roofing materials are listed below. Each variety of roof has different features and expected life spans. Being aware of the general facts concerning your roof will help you to budget for future replacement or repairs.

Table 1: Common Roofing Materials

Material	Maintenance	Life Span
Asphalt Shingles	Little at first, but over the years some shingles begin to curl, crack and lose their surface coatings. Not difficult to repair or replace.	15 to 30 years under temperate weather conditions. Better-quality asphalt shingles carry 25-year guarantees. Life span is also affected by the color of the shingles. Light colored roofs tend to last longer than dark colored ones.
Wood Shingles and Shakes	Unsealed types sometimes tend to rot, warp, split and soon weather to a soft gray. Not difficult to repair or replace.	20 years or more for shingles; up to 35 years for shakes if maintained well.
Slate, Clay Tiles	An occasional cracked or chipped tile may need repair.	The life span of your house, provided you make repairs before the underlying layer of sheathing is damaged.
Roll Roofing	Lightweight, single-layer installations fail frequently, but repairs are very easy.	From 5 to 15 years. With short-term warranties, ask if the company will come back for patching.

Tin Roofing	May need periodic painting, especially if it comes in contact with any other metal.	Tin roofs are very durable and last for many decades.
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The life span given for each type of roof in Table 1 is dependent upon regular maintenance and checks. Each roof, regardless of the materials used, has features which must be continually maintained and checked. If you have questions, call a qualified professional.

Checklist for the Roof:

RIDGE CAPS. These shingles, located on the crest of the roof, often fail first. Look for cracks and wind damage. A leak here could show up almost anywhere in the house.

FLASHING. *This is by far the most common location for water intrusion into your house.* Flashing is metal strips which provide the transition between two different kinds of surfaces and binds them together, offering additional protection against leakage. It is located in valleys or around protrusions on the roof such as plumbing vent pipes or chimneys. Check all flashings. They should be tight, rust-free, and sealed with roofing cement, which can also be used to repair minor leaks around flashing.

VALLEYS. Valleys, where two slopes meet to help direct runoff into gutters, are another place where deterioration soon causes problems. If there is flashing in the valleys, make sure that it is tight fitting and without holes or rust.

ROOF AND SOFFIT VENTS. Be sure that your attic is properly ventilated. Consult a manual or a professional to determine the proper vent system for your home.

SHINGLES. Check for loose, curled-up, or missing shingles which will admit moisture that could weaken the underlying sheathing and harm walls and ceilings below. If branches hit your roof during storms or high winds, they need to be trimmed back in order to avoid damaging the shingles.

GRANULES IN THE GUTTER. A large accumulation of granules in the gutter means that your roof is losing its coating. Your roof may need to be replaced soon. Consult with a professional.

LEAKS. Check for water stains on framing, sheathing, and insulation in the attic and on the roof. Leaks usually originate higher up than the area where they first appear.



NOTE: Do not go up on your roof when it is raining, it will be slippery. Be careful around wiring and the electrical service; contact the electrical company for advice if you need to work close to the electrical service. Also, use extra care when placing and climbing ladders.

GUTTERS. Gutters are usually made of metal and run below and along the edge of your roof. Gutters and downspouts help divert water away from your home, thus preventing premature rotting or damage to the roof, walls and foundation caused by water. Make sure that gutters are attached securely to the roof and walls. If they are not properly attached, damage to your siding, interior walls or foundation can result. Gutters and downspouts must be cleaned frequently, particularly in the fall if you have large trees close to your home. Clogged gutters can result in damp walls or foundation, or cause ice dams during the winter.



Checklist for Gutters:

DEBRIS. Mud and rotting leaves not only clog up gutters and downspouts, they also hold moisture that causes rust, rot, and corrosion. Hose your gutters clean. Begin at the high end of each gutter or in the middle of gutters if they have spouts at both ends. Sometimes you can blast out a spout blockage with hose pressure. If not, break up the jam with a broom handle or a plumber's snake.

RUST/CORROSION. Inspect the inside of your gutters after cleaning them. If any part is beginning to rust, scrape and wire-brush them, then apply a thin coat of roofing cement. Small holes can be fixed by pressing a thin sheet of metal into roofing cement. Plastic roofing cement is available at your local hardware or building supply store.

SLOPE. All gutters must slope slightly toward their downspouts. Run water through the gutter in order to determine if the gutters are properly sloped for effective water drainage. Many problems are caused by standing water due to flat or sagging gutters.

RUN-OFF EXTENSIONS. Make sure downspout extensions are directing water away from the foundation. Runoff extensions should extend at least four feet away from your house. Also make sure that water is not eroding sections of your yard.



NOTE: If your roof or gutters fails to pass any component of this check-up, check with your local library "houses - maintenance and repair" section for repair information and/or call a professional.

Sample

CHIMNEY & FIREPLACE

Chimneys not only channel smoke out of your fireplace, they also serve to contain toxic gases, heat and flames. Heat and water tend to cause chimneys to deteriorate. For example, water driven into mortar joints by the wind and acid created by some woods when burned both lead to the erosion of mortar.

Inspections of the outside of your chimney should be done annually, checking every surface you can see, including any in-the-attic portions, looking for cracks and deteriorated mortar. Chimneys also need to be cleaned at least once a year. Depending on how often you use it and the kind of wood you burn, they may need to be cleaned more frequently. Cleaning helps prevent poisonous fumes from entering the house or a fire in the chimney wall itself. It's best to hire a chimney sweep company to clean your chimney.

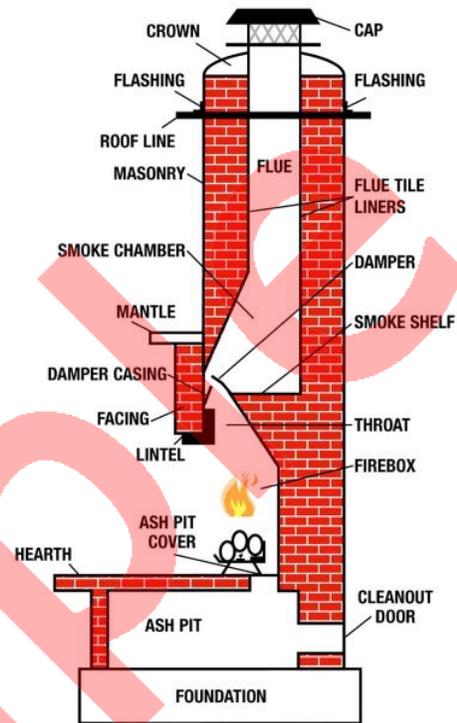
Checklist for Chimneys:

JOINTS AND FLUE. Wind driven rain often erodes mortar joints. These will need to be tuck-pointed by a professional. If not repaired, moisture can seep through, causing damage to walls and ceilings. Mortar should be packed around the flue.

HOT SPOTS. Every once in a while test for chimney hot spots by feeling reachable areas with your hand. If an area on the chimney is unusually hot, this may need your immediate attention. Hot spots may mean a broken flue, a fire hazard that a mason should attend to before you use the fireplace again.

CROWN

One of the most common defects that we find during a home inspection is a cracked crown (see photo above) and a missing chimney flue cap. A cracked crown can allow water to seep inside the chimney, between the brick and the flue liner. Over time, this can deteriorate the mortar between the bricks and the liner causing them to come loose. This can pose a structural concern to the chimney and a fire hazard to the house and occupants.

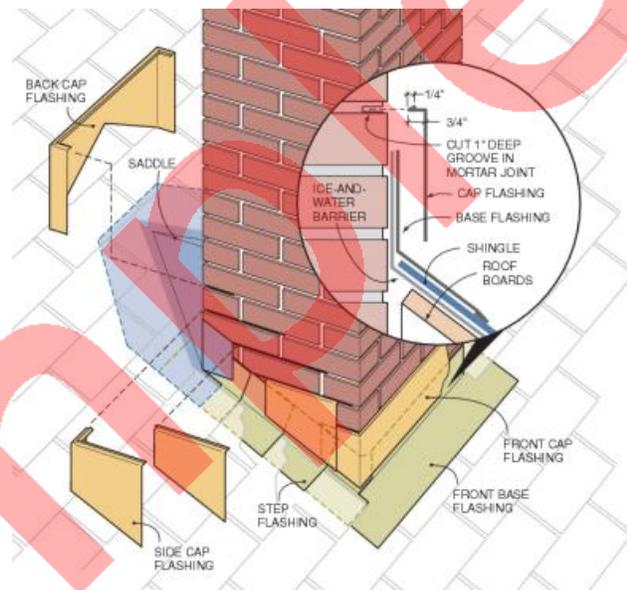


RAIN CAP/SPARK ARRESTOR.

Like a damaged crown, the lack of a chimney cap/spark arrestor can also allow for water to cascade down the chimney flue when it rains, and over time deteriorate the mortar between the bricks and chimney liner tiles. However, the lack of a spark arrestor can allow for live embers from the fireplace to escape. In certain areas, embers from fireplaces can pose a significant fire hazard not only to the house but to surrounding neighborhoods. In both cases, the damage to the chimney can also require costly repairs. An inexpensive cap/spark arrestor, as in the photo, can prevent both concerns.

FLASHINGS

Chimney flashing is the sheet metal that connects the roof surface to the chimney and prevents roof leaks into the house. Without getting too technical here, the flashing is made up of two parts. The step flashing is tucked under the shingles, and the counter flashing is attached to the chimney and overlaps the step flashing. The combination of the two is what prevents roof leaks. Missing flashing or lack of regular maintenance to this flashing system are lead causes of roof leaks. Check that your chimney has proper flashing around it. A seal should be made between the chimney and the roof. If this is not the case, consult a manual to repair the flashing or call a professional.



LINER. A chimney liner serves to prevent seepage of smoke into the house through little cracks in the chimney. The liner is generally made out of metal or ceramic. In older homes, the chimney may not have a liner or it may be damaged. Consult with a mason or a home maintenance manual for further information on repairs.

DAMPER DOOR

The damper is the metal door of sort that prevents energy loss through the chimney, when not being used. It also aids in the efficient removal of smoke from the fireplace and up the flu by preventing smoke from circulating backwards onto the smoke shelf and potentially back in the house. Occasionally these doors rust or are covered with creosote and do not operate properly. This compose a potential hazard if the door is not fully open while using the fireplace. Rust damage is also typical when a proper chimney cap is not installed. Older chimneys can be retrofitted with an external, spring loaded damper/chimney cap, as in the photo above.

METAL CHIMNEYS. Some chimneys are made out of stainless steel rather than brick and mortar. They require a two inch clearance on all sides. Check for cracks and make sure that the pipes are secured tightly together. These chimneys generally need to be cleaned twice a year.

EXTERIOR WALLS

Common materials used for exterior walls are listed below in Table 2. Regardless of its composition, exterior walls deserve a careful, semiannual inspection. Scan the surface of your home, using field glasses if necessary to check high places. Remember to look under the eaves, porches and other sheltered places. Look specifically for cracks, splits, peeling paint and any evidence of rot or insect damage. Walls can be maintained easily with regular check-ups and care. Many small repairs done regularly prevent larger repairs in the future. If you initiate any small repairs, we suggest that you visit your local library for a more detailed “how-to” help book. Finally, it’s a good practice to wash down your walls annually with a light detergent solution and rinse well.

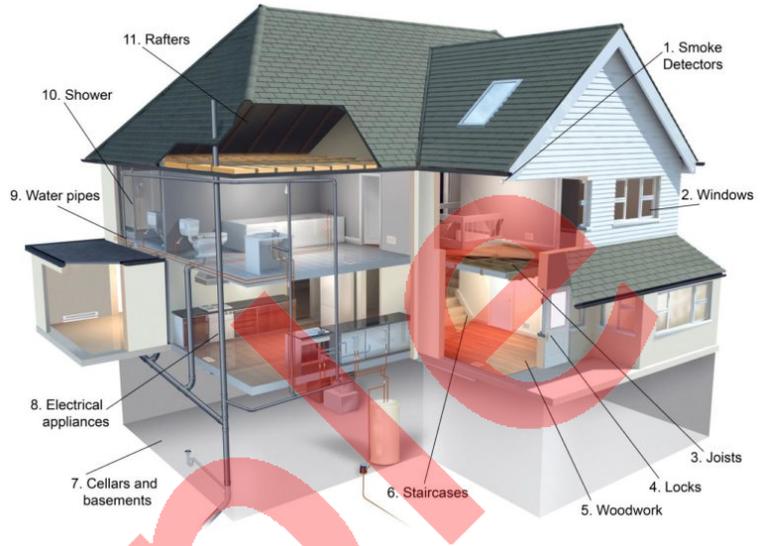


Table 2: Common Materials for Exterior Walls

Material	Maintenance	Life Span with Proper Maintenance
Manufactured Siding	Aluminum or steel siding may require painting.	Some brands offer life-time warranties.
Stucco	Check annually for cracks. Repair small cracks with a caulk appropriate for stucco. Larger cracks will require patching; consult a manual or a professional.	Indefinite.
Hardboard (Masonite)	Inspect caulk joints annually and check for peeling paint. Repair immediately because moisture causes hardboard to swell and deteriorate rapidly. Paint every 3-5 years.	20-25 years.
Vertical (Plywood)	Check caulk joints annually and repair as necessary. Stain every 3-5 years.	Indefinite.
Wood (Redwood or Cedar).	Check caulk joints and the condition of the paint annually. Touch up paint and re-caulk as necessary. Paint entire surface every 3-5 years.	Indefinite.

Checklist for Exterior Walls: