

Home Maintenance Guide



TEXAS ASSOCIATION OF REAL ESTATE INSPECTORS

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TAREI
Texas Association of Real Estate Inspectors

Although information in this pamphlet is based on the authors' extensive experience and knowledge of recognized home maintenance procedures, it is not intended to substitute for the services of qualified professionals with on-site knowledge. Before attempting any dangerous activities and to clarify any uncertainties, seek the advice of an appropriate local expert. Recognized safety procedures should be followed when performing any home maintenance tasks.

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THE TEXAS ASSOCIATION OF REAL ESTATE INSPECTORS (TAREI) was created in 1977 by a group of dedicated home inspectors to share information and set industry standards. These TAREI professionals, in drafting Standards of Practice and a stringent Code of Ethics, established the parameters of a professional home inspection in the state of Texas. The organization grew quickly; to assist the public and its members, in 1990 TAREI hired an executive director and opened a permanent office in Austin.

In 1981 Texas became the first state to license real estate inspectors, who now operate under the Texas Real Estate Commission (TREC). The commission used TAREI's Standards of Practice as a model for the state's legal definition of a real estate inspection.

TAREI continues to:

- work with TREC to update and define industry standards
- keep its members well trained and abreast of changing technology
- educate Texas home buyers about home maintenance and safety, and
- provide quality real estate inspections.

*To locate an inspector in your area, log on to
www.tarei.com*

IN THE YARD

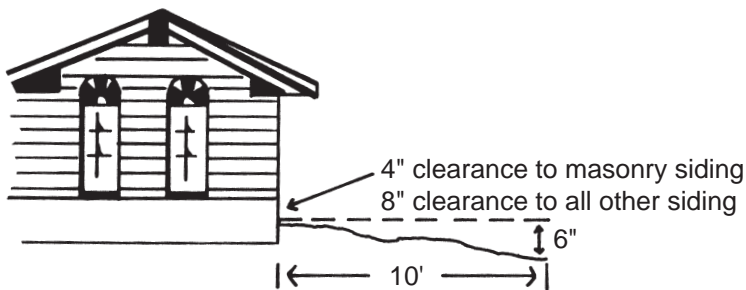
Site Safety

Periodically walk around the yard with an eye to safety. Have dogs dug holes that might trip someone? Are sidewalks and driveways free of clutter and tripping hazards like raised edges? Are covers for water meters or lawn sprinkler control boxes properly installed? Look for low hanging branches, wires or other hazards. Corrective action now may prevent grief later.

Gather old or unused paints, insecticides, toxic cleaners and depleted household batteries for hazardous waste pickup or delivery to an approved disposal site.

Site Drainage

Is your property on a hillside that directs water runoff towards the house, or is your lot basically flat? Your goal is to have rain drain off the lot promptly without ponding within ten feet of the house.



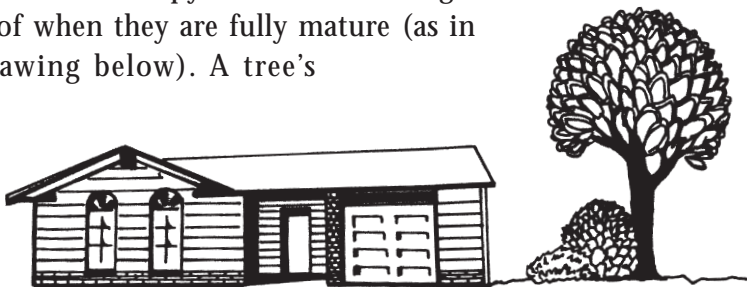
Equally important, the soil should not be allowed to dry out and separate from the edges of the foundation. Resulting gaps between the soil and the slab indicate that the soil is too dry—water that foundation! Consider ringing your foundation with “soaker hoses” placed two feet away from it. The slow, steady watering provided by soaker hoses helps stabilize soil moisture, protecting the slab.

Solutions to drainage problems are as varied as the terrain, and may include rain gutters and gutter extensions, French drains, swales and berms, retaining walls, catch basins and even sump pumps. With a little planning and some work, almost any yard can provide a healthy environment for a stable foundation, a dry house, and control of mosquitoes.

Trees and Shrubs

To minimize wood rot and insect damage in siding and trim, allow air to freely circulate next to the house. This is easily accomplished by locating decorative plants several feet away from exterior walls and keeping them trimmed. If siding is easily visible, maintenance problems will be detected early and unwanted guests won’t have a place to hide. Vines growing on any exterior surface will cause serious damage over time and should not be permitted. Do not try to remove vines by pulling them off. Instead, sever them at the ground and wait until the plants have died before removing them.

Trees should be planted far enough away from the house that their canopy will not overhang the roof when they are fully mature (as in drawing below). A tree’s



root system mimics its canopy. Roots growing under a foundation can destabilize it in several ways—for instance, by removing moisture from the soil that a foundation needs for its structural support.

When trees are close to the house, their limbs should never touch the building, or serious damage can result. Be aware, too, that growing root systems can lift sidewalks, patios and driveways, causing damage and creating trip hazards.

FOR A SOLID FOUNDATION

Concrete Slabs

Walk around the house studying the edges of the foundation. Look for cracks in the edges or soil separation from the edge of the slab (see “Site Drainage,” above) and unusual discoloration or water stains, mud or mounded dirt piles on the slab edge.

Cracks in the foundation edge may indicate foundation movement or settling. Some cracks are not unusual and may not be structurally significant, but if in doubt, have a qualified structural engineer or other expert evaluate them. Discoloration and/or water stains can indicate a plumbing leak in the house and should be evaluated by a qualified plumber. Mud or mounded dirt piles on slab edges may indicate destructive or hazardous insects invading the house. Again, call an expert—a qualified pest control operator.

Pier and Beam

Walk around the perimeter of the house looking for cracks or damage to the crawl space skirting and ventilation openings. Skirting and vent screens should be kept in good condition to prevent animal access and to maintain adequate ventilation year-round. Inadequate venting or blocked vents

can lead to moisture build-up under the house, fostering wood rot and wood-destroying insects.

An annual inspection of the crawl space is best left to a qualified inspector. If you must do it yourself, follow these safety tips. Always let someone know where you will be, wear sturdy coveralls and a dust mask, carry a bright light and avoid contact with any electrical wiring. The crawl space should be clean and dry. Nothing should ever be stored in the crawl space. While under the house, look for evidence of animal infestation, leaking plumbing, foundation movement and anything else unusual like damp or rotted wood in bath and kitchen areas. After completing your inspection, be sure that the access hatch cover is in good repair, fits the opening properly and is securely closed.

ON THE ROOF

NOTE: Falling from a roof can be hazardous to your health! Do not get on a roof unless you are completely comfortable, have the proper equipment for access, and wear appropriate clothing—including rubber-soled shoes. If you have any doubts, ask a qualified roofing contractor or inspector to check the roof. Most roof repairs are best left to a qualified roofing contractor.

Overhanging Trees

Tree limbs rubbing on a roof can do serious damage. Overhanging branches should be kept trimmed to provide adequate clearance even in a high wind, and to prevent insect infestation. Trees can grow rapidly and should be inspected at least twice a year. Oak wilt is a serious problem in many areas of Texas and can best be prevented by trimming oaks during the coldest or hottest times of year. Sterilize pruning tools with

bleach, and promptly cover cuts with wound paint. Major trimming is best left to a certified arborist.

Chimneys and Metal Flashing

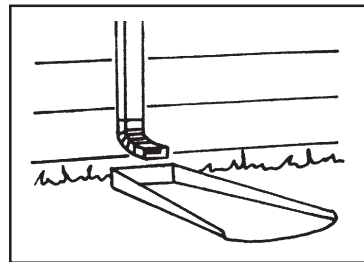
Inspect the chimney crown for cracking (masonry) or rusting (metal). Cracking or rusting should be repaired to prevent water penetration and deterioration. The rain cover and spark arrestor screening should be in good condition. If none is present, after-market cap/screen units are available. After measuring the top flue tile for size, purchase and install one. If the chimney is wood, be sure that wood and trim are sound; if masonry, that bricks or stone are not loose or cracked, permitting water penetration.

Most roof leaks occur around flashings. Metal flashings at the chimney, in roof valleys, at sidewalls and vents should be in good condition, not rusted or bent. They should lay flat on the roofing surface, laced in the roof covering “shingle style.” Do not nail down raised flashings. The nail puts a hole in the roof, allowing water penetration.

Rain Gutters and Downspouts

If you don't have rain gutters, consider adding them. Properly installed gutters can help solve drainage problems and promote foundation health.

Clean rain gutters and downspouts as needed to keep them flowing freely. In an area of heavy trees, cleaning may be required several times a year. Consider the addition of gutter guards to reduce maintenance.



Inspect gutters for proper drainage (standing water can breed mosquitoes), leaks at seams or end caps, loose or missing gutter

spikes and loose or missing downspouts. Look behind gutters for rotted fascia, and repair as needed. Splash blocks or downspout extensions should direct water into the yard well away from the foundation.

Roof Surfaces

On composition shingle roofs look for signs of damage or wear. Sweep off leaves and debris. Worn surfaces, missing granular coating, cracked, pitted, brittle or swollen shingles are signs that shingles may be nearing the end of their useful life. Raised shingle tabs may indicate improperly seated fasteners that can be carefully reseated; take care not to tear the shingle or poke a hole in it. Split, torn or missing shingles may cause leaks and should be replaced immediately. While on the roof, also check the condition of sidewalls not visible from the ground.

Metal roofs are best observed from a ladder at the eaves. Walking on a metal roof can bend panels, creating leaks. Look for loose fasteners, rusted panels, open seams, bent flashing and deteriorated caulking. Leaves and debris should be removed from roof surfaces.

Flat or built-up roofs may be surfaced with several different types of roofing materials. Generally, check for areas of water ponding, areas of missing aggregate coverings or gravel, tears or blisters in the surface and deep alligator cracking. Also check the condition of flashings at edges and vents. Flat roofs are prone to leak and require regular maintenance; therefore a qualified roofing contractor should further investigate any such problems. Leaves and debris left on the roof will hold water and speed deterioration.

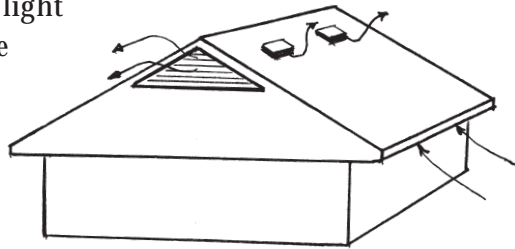
Concrete and clay tile roofs are easily damaged, and a thorough inspection is best left to a qualified roofing contractor. Walking on a tile roof is not recommended. From the eaves you can check the general roof condition. Look for rotted fascia, loose or cracked tiles, deteriorated caulking and sealant.

IN THE ATTIC

NOTE: Attic inspections are best conducted during cool weather or early in the morning. If you expect to spend more than a few minutes in the attic, a dust mask is recommended. Exercise extreme care to step only on solid decking or framing members. Falling through the ceiling could ruin your day!

Ventilation

Good ventilation removes moisture and heat from the attic, contributing to a healthy house. Check that your attic is adequately ventilated and that all vent screens are in good condition. To check soffit vents, stand in the center of a dark attic and look for light at the edges of the house. No visible light may indicate soffit vents are blocked by insulation. Torn or missing screens allow birds and other critters into the attic; they should be repaired or replaced. Consider calling an exterminator if you find rodent droppings, nesting materials or other evidence of critters. Be sure that attic vent pipes from bathrooms, the kitchen range hood and the clothes dryer are intact and direct moisture and fumes through the roof to the outside. In some older homes, bathroom vents and the kitchen range hood were terminated in the attic. This is unsafe and no longer considered acceptable. Consider extending these vents through the roof. A good time to do this is when the roof surface is replaced.



INSULATING MATERIALS

Insulation

Adequate attic insulation helps keep your home comfortable and lowers heating and cooling costs. Look at the insulation in your attick spaces and consider adding insulation if yours is skimpy, compacted or unevenly distributed. Consult an insulation specialist to determine what is recommended in your area.

Material Description	Insulating Value*	
	R per inch	R as listed
Batts/Blankets		
fiberglass / rock wool	3.2	
3.5 in.		11
6.0 in.		19
9.0 in.		30
12 in.		38
Loose-fill		
fiberglass / rock wool	2.5	
4.0 in.		11
8.0 in		19
12 in		30
16 in		40
cellulose	3.7	
3.0 in.		11
5.0 in.		19
8.0 in.		30
10 in.		37
12 in		44
perlite / vermiculite	2.0–3.0	
5.0 in.		10–15
7.0 in.		14–21
11 in.		22–33
16 in.		32–48

RECOMMENDED INSULATION VALUES FOR HOMES

(Based on Climate and Estimated Fuel Costs)

Optimum R-Value
(wall/ceiling)

Location	Electric heat @ rate of:		Gas heat @ rate of:	
	8¢/KWH	10¢/KWH	50¢/ccf	80¢/ccf
Amarillo/Panhandle	R24/R31	R27/R36	R20/R27	R25/R33
Dallas/Ft. Worth, El Paso, Texarkana, Wichita Falls	R22/R30	R25/R34	R19/R27	R23/R31
Houston, McAllen, Corpus Christi, San Antonio	R19/R29	R22/R33	R18/R29	R20/R30

Structure and Framing

Check roof framing for loose members and separation or gaps where rafters connect to ridge boards. Also be sure metal truss plates are not twisted or loose. Excessive evidence of movement could suggest foundation problems and should be inspected by a qualified structural engineer. The underside of roof decking should be dry and free of water stains and mildew caused by leaks. Valleys deserve special attention.

HVAC Ductwork

Significant amounts of conditioned air can be lost to the attic through leaky ducts. Inspect ductwork for leaks at connections and joints, proper support, tight bends and general condition. During the 1980s a flexible duct with a gray plastic covering was used extensively. This gray plastic covering deteriorates in attics. Damaged ductwork should be replaced.

AROUND THE OUTSIDE

Foliage

Remove or thin dense foliage close to the house to allow for inspection of exterior surfaces and good air circulation. Vines should not be allowed to grow on or cover walls. The foliage holds moisture, promotes rot and damages all siding types.

Decks and Balconies

Inspect deck and balcony steps and surfaces for loose fasteners, “nail pops” (nails backing out), rotted wood and proper operation of gates and latches. Replace rotted boards and framing members. Loose fasteners should be removed and replaced with ring shank

nails or decking screws for better holding power. Aluminum or stainless steel fasteners cost more but will not rust. Rebuild any loose, missing or rotted railings, benches or steps. Current safety standards require railing or baluster spacing to be four inches or less to prevent the passage of small children.

Dirt, mold and mildew can be removed from deck surfaces by power washing. Power washing equipment can be found at most rental centers. After the surface is clean, finish with a deck sealant or wood stain for a longer lasting, better looking deck.

Exterior Walls

Four inches clearance from grade to masonry type sidings and six inches clearance from grade to all others is recommended to minimize moisture damage and insect infestation. If soil is graded to improve siding clearance, take care that water does not pond at the foundation edge (see “Site Drainage”).

Exterior surfaces should be checked for fading, chalking, blistered or flaking paint; rusted fasteners and “nail pops”; loose or rotted wood, panels and trim; gaps between panels, and water damage. Masonite, hardboard and other composite panels are prone to “nail pops” and water damage at edges and bottoms, and should be kept well painted and dry. Remember to thoroughly paint the *bottom edge* of these panels, for greatest protection. Loose fasteners can be replaced with large-headed screws (with washers if necessary) for a more permanent repair. Gaps or cracks at trim or between panels should be sealed with a good quality exterior caulk. When repainting exterior surfaces, pay special attention to surface repair and preparation so your paint job will last.

Masonry walls should be inspected for soft or missing mortar, cracks or separations in mortar joints and cracked or loose bricks or stones. A competent mason can replace soft or missing mortar. Cracked masonry or mortar joints may indicate

foundation distress and should be inspected by a qualified structural engineer who can recommend any needed repairs or remedial action. Weep holes are openings in the bottom of brick or stone walls and above window and door lintels designed to allow an escape route for moisture that enters the wall cavity. Weep holes are usually spaced about four feet apart and should not be obstructed.

Carefully inspect stucco surfaces for cracks and evidence of moisture penetration. Stucco is often installed without provision for moisture to escape from wall cavities. Moisture seeping through cracks can do serious damage before detection. Professional repairs are recommended. Stucco siding should terminate several inches above the soil.

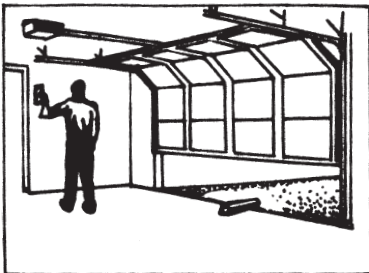
Outside Doors

Check doors, door trim and thresholds for wood rot or water damage. Replace any deteriorated exterior caulking with a good quality latex caulk compatible with door and wall materials. Hinges should be secure, and knobs and locks functioning properly. Properly installed weather-stripping at exterior doors helps lower your energy bills, so keep it snug and in good condition.

Sliding glass doors let us view and access the outdoors but also bring their own set of problems. Worn rollers or a dirty track can make doors hard to operate. Most rollers can be adjusted, and replacement parts for many types of doors are available at home centers, glass shops and screen shops. Sliding door lock failure is a common problem; locks should be kept in good working order. Many types of supplementary locks are available for sliding doors and are a good investment in home security. Sliding door screens are often neglected. Keeping rollers working smoothly and replacing torn screens will pay dividends when you want to feel the breeze on a nice spring day.

Examine garage doors and the surrounding framing for evidence of wood rot and physical damage. Check doors for proper operation and balance. (Release the automatic operator if one is present with the door in the down position.) The door should easily open to its full height and close smoothly without crashing to the floor. A balanced door will stay in place when opened to a height of five or six feet. Rollers and hinges should not be loose and should operate smoothly. Regular servicing of rollers and tracks will help keep them working well. Since springs are under great tension and can cause serious injury or damage if mishandled, the adjustment of door springs is best left to a qualified contractor.

Reattach the automatic operator and test the safety reversing mechanism. Place a rolled up Sunday newspaper or a 2x4-inch



board flat on the floor under the center brace in the garage door, and operate the door. A properly adjusted door will automatically reopen when striking the paper or board, without excessive pressure or jerking. (*Note: lightweight metal doors can be damaged if*

the reverse mechanism does not function properly during this test). Adjustments at the operator motor can correct most malfunctions. Door operators manufactured after 1993 will also have optical sensors installed near the floor on each side of the door opening. If the beam between the sensors is broken while the door is closing, it should reverse directions and open. If the optical sensors are not properly aligned, the door will not function as intended. Do not attempt to circumvent these safety features. They are designed to minimize the risk of a large, heavy, moving object.

Windows and Screens

Open and close all the windows in your house. Clean and lubricate any that stick, and straighten any bent tracks. Bedroom windows must open fully to allow for fire escape; any security bars must have safety release mechanisms that do not require a key and can be easily opened in an emergency. Be sure no glass is broken and that the window locks function properly. Lock replacement parts can be found in home centers and glass shops. Double pane windows fog when the sealed air space between the glass panes loses its seal, and moisture enters the cavity. Though these windows will still operate, they may become impossible to see through and should be replaced by a qualified glass company.

From the outside, inspect wood frames and sills for rot, and check the caulking around the frame. Any gaps or cracks should be sealed with a good quality exterior caulk. Repair or replace damaged or missing window screens.

APPLIANCE MAINTENANCE

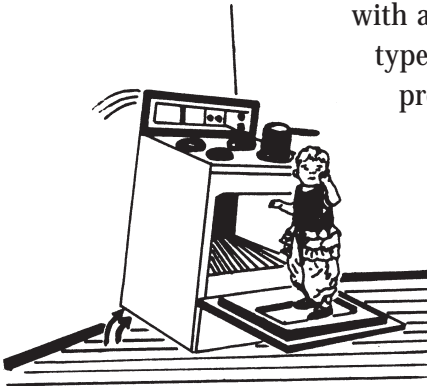
Refrigerator

Note: Refrigerators are not part of typical home inspections.

Check door seals by closing the door on a dollar bill and trying to pull it out. Gaskets that seal properly will grip the bill, making it hard to remove. Periodically remove the kick plate from the front of the refrigerator, remove and clean the drip pan underneath, and vacuum dust bunnies from the cooling coils. If practical, pull the refrigerator away from the wall, clean behind it and check the icemaker valve for leaks.

Range: Cooktop and Oven

Illegible or broken control knobs should be replaced. Surface burners and heating elements should be inspected for proper operation on both high and low settings. Any “on” indicator lights should illuminate. Check heating accuracy by placing an oven thermometer in the oven and setting the temperature at 350 degrees. Let the oven heat for at least 25 minutes, then check the thermometer. If it reads within 25 degrees of 350, the oven is operating within normal limits. If not, most oven thermostats can be corrected (sometimes at the control knob).



New ranges are being installed with an “anti-tip device.” This bracket type device at the back of the range prevents tipping if a child climbs onto the oven door to see what’s in the soup pot. Most older ranges were installed without this device; consider having one installed if small children are around your house.

Range Hood or Vent

Most older range hoods have an exterior vent, while many newer models over electric ranges simply recirculate the air through filters and back into the kitchen. Some cooktops are designed with a downdraft vent on the cooktop surface. All are acceptable. Many of the older exterior vents terminate in the attic, an unacceptable practice today. This arrangement blows grease into the attic creating a fire hazard. We recommend that the vent be extended to the outside.

Test the function of these vents by operating the fan and light. If the unit is very dirty, cleaning may be necessary. Be sure the power supply is shut off before using any cleaning fluids around

the fan motor. Metal filters can be cleaned in the dishwasher. The charcoal filters in recirculating range hoods have a life of only ten hours. If the light doesn't work, try replacing the bulb.

Dishwasher

Check the dishwasher for freely spinning washer arms, proper door spring operation and attachment to the counter. Close the soap dish and operate the unit in the normal cycle. During the rinse cycle, open the door (washing should stop) to see if the washer arms are turning and the soap dish has opened. Remove the kick plate from the bottom front of the unit to check underneath for leaks. If the dishwasher is an older model and needs several repairs, consider replacing it. Even a seemingly minor problem like rust on the baskets can cost \$200-300 to replace the offending parts.

Finally, check the drain hose to see if it has an anti-siphon loop. This loop, intended to help keep water and food in the sink or disposer from backing up into the dishwasher tub, will be looped up against the bottom of the countertop before it connects to the disposer or drain pipe under the kitchen sink.

Food Disposer

Remember that the disposer is a vegetarian, especially if sewage disposal is through a septic system. Fats and grease can plug drainpipes and hinder bacteria in a septic system, and bones or other hard objects can damage or jam the grinding plate. If the unit jams, turn the power off and work out the jam using the allen wrench (supplied with a new disposer) in the slot at the bottom of the disposer. Press the red reset button on the bottom of the unit to reset the internal breaker, turn on the water and run the disposer. No response? Call a plumber. If the rubber splashguard is worn and allows garbage to splash out the top during operation, you may find a replacement splashguard or a strainer for the sink

drain at most home centers. Excessive vibration and noise, or a unit that is rusted out means it's time for a new disposer.

Laundry Connections and Dryer Vent

Check laundry faucets and washer connections for leaks and corrosion. Corrosion at faucets indicates small leaks that can turn into big leaks. In hard water areas, periodically clean the screens in the hose at the washer connections. Consider replacing old worn hoses to prevent bursting and flooding. If a floor drain is present, pour a cup of water in it and check the exterior termination to be sure it is not clogged.

Annually check your dryer vent for excessive lint buildup and clean the vent. Cleaning the dryer's lint screen before each use prevents lint buildup and saves energy.

Smoke, Heat and Carbon Monoxide Detectors

Each month press the test button on your detectors to be sure they work, and at least once a year (the start of daylight savings time is a good reminder) change all batteries. Recycle the alarm batteries in entertainment remotes or kids' toys, where their possible failure isn't a life-or-death matter. If you don't have smoke detectors, install one in each bedroom and in bedroom halls. If you have gas appliances, consider installing carbon monoxide detectors near furnaces and water heaters. All of these alarms are a very minor expense weighed against their usefulness in an emergency.

Fire Extinguishers

You do have one, don't you? Be sure the fire extinguisher is suitable for all types of fires (it should be marked "A, B, and C" to indicate this) and is conveniently located. Make sure all family members know the location of the extinguisher, and how to

operate it. Each month check that the fire extinguisher is fully charged and has not passed its expiration date.

FIREPLACE AND CHIMNEY

On the roof, check out the chimney crown as described in “Chimneys and Metal Flashing.”

When the weather begins to cool and leaves start to fall, it's time to check out the fireplace. Visually inspect the firebox, looking for loose or shifted bricks (if brick). If necessary, have a qualified chimney sweep replace them and repoint mortar cracks. Check the damper for proper operation and inspect the flue. Excessive soot or creosote buildup should be removed to prevent a chimney fire. Gas log lighter pipes should be free of excessive corrosion and should burn evenly along their entire length. Helpful hint: To help prevent ashes from clogging the gas holes in the lighter pipe, install the pipe with the holes pointed sideways or down.

KEEPING COMFORTABLE

NOTE: A semi-annual service contract with a qualified HVAC contractor to inspect and service all types of heating and air conditioning equipment will keep yours operating efficiently and extend its life.

Return Air Filters

The single most important thing a homeowner can do to keep the HVAC (heating, ventilation and air conditioning) system

operating at peak efficiency is to keep the return air filters clean and properly secured in place. The filters should fit snugly. If they lift when the blower comes on, unfiltered air is bypassing the filter. Check filters monthly and clean or replace them when they start looking dirty.

Thermostats and Controls

Visually inspect the wall thermostat for any damage or missing parts, and repair as needed. Programmable thermostats have a battery that must be changed if the LCD readout indicates the battery is weak. There is also a “fan limit switch” that ensures greater energy efficiency. If the blower either runs continuously after turning off the heat or shuts off immediately, the fan limit switch may not be functioning properly; a qualified HVAC contractor should service the unit.

Heating

Inspect the combustion chamber in gas-fired furnaces to be sure a bright blue flame is visible along the entire length of burner pipes. A yellow flame or excessive rust or soot indicates improper combustion and/or a possible leak in the heat exchanger that could allow combustion gases and carbon monoxide to enter your living area. This potentially dangerous situation requires professional inspection and repair.

Electric heat requires little homeowner maintenance. Simply be observant, and if the unit does not seem to be heating adequately, call your HVAC contractor to evaluate it.

Air Conditioning

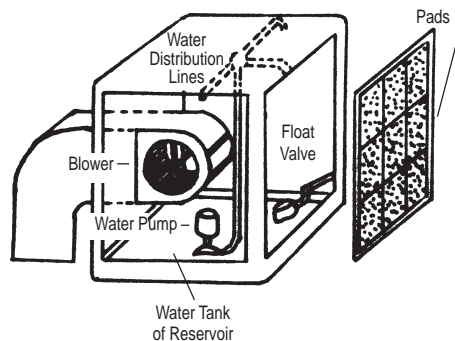
To kill fungus and keep your air conditioner running smoothly, pour one cup of a 50/50 solution of chlorine bleach and water into the opening at the condensate drain line where it

exits the evaporator coil. Doing this in Spring and Fall will also prevent condensate from backing up into house and flooding the area. Check the flow of water through the condensate drain by observing flow at its termination or the flow of water in the pipe. If the drain does not flow freely, simply blowing it out may solve the problem. This drain line should terminate at least five feet from your home's foundation to prevent a wet area at the foundation edge.

Outside the house trim foliage back from condensing unit coil fins for proper air circulation and more efficient operation. Manufacturers recommend at least two feet clearance around and five feet above the unit. Listen for unusual fan or motor noise that might signal impending failure. Inspect coil fins for damage and make repairs if needed. HVAC contractors have special tools for straightening bent coil fins. Watch for fire ants that may invade the unit and cause serious problems. Use of an insecticide around the condensing unit to control fire ants is a wise preventive measure.

Evaporative Coolers

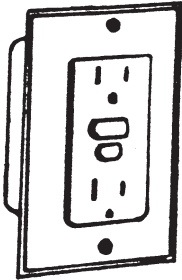
At the beginning of the cooling season, inspect the cooler for rust and other damage. Check the water pump and blower for proper operation, and make repairs as necessary. Evaporative pads should be rinsed clean or replaced to facilitate maximum evaporation and cooling.



DON'T BE SHOCKED

Ground Fault Protection (GFCIs)

Electric outlets called Ground Fault Circuit Interrupter receptacles save lives by cutting power to appliances that may short out and shock you. Current safety standards require ground fault



protection at receptacles serving kitchen countertops, in bathrooms, within six feet of bar or laundry sinks, in the garage (if undedicated), and outdoors. Many older homes lack this protection. GFCI receptacles should be installed by a qualified electrician at all required locations.

Periodically test GFCI receptacles by pressing the “test” button to interrupt power and the “reset” button to restore it. A lamp or other small device plugged into the receptacle should turn off and on accordingly. Inexpensive circuit testers with GFCI testing capability are available at most home centers and hardware stores. Defective GFCI receptacles should be replaced by a qualified electrician.

Exterior Electrical Connections

Electricity is supplied to houses through overhead power lines or underground cables. Visually inspect overhead lines for contact with trees or shrubs, and call your electric utility company to inform them of any such contact. Advise them also of the following: a power line less than 10 ft. above a yard or 12 ft. above a driveway; improper connection or anchoring at the service mast or building (check for signs that wires, cables and anchor bolts have pulled loose); and frayed or damaged wiring cables. For underground service, check for loose connections and damage to electrical conduit at the meter and main service panel.

Remember that you cannot disconnect the power on the supplier side of the meter (from your meter to the pole), so all these conditions present a hazard and should be professionally repaired right away.

Inspect the main service panels to be sure that the inside cover is properly secured in place and there are no broken breaker handles, open breaker slots or missing knockouts in the inside cover or panel box. Blanks are available to fill open breaker slots to keep out nesting wasps and lizards, and to protect seven-year-old electricians with screwdrivers. Breakers that repeatedly trip indicate a serious problem and must be investigated by a qualified electrician. For your safety, do not remove the inside panel cover. Leave the inspection of panel interiors to professionals.

Check exterior receptacles and switches for proper operation and damage. Replace broken or damaged outlets and missing or broken covers (for weather protection).

Interior Electrical Service

Interior service panels, or subpanels, require the same inspection recommended for main panels (above). Again, leave inspection of the panel interior to a qualified professional.

Check interior receptacles and switches for broken or missing wall covers, broken parts, and for those not working or hot to the touch. Dimmer switches or switches controlling multiple lighting fixtures may need lower wattage bulbs to prevent overheating. Carefully read and follow instructions when installing dimmer switches or rheostats on lights or ceiling fans. Before attempting any electrical repairs, be sure the power has been shut off at the appropriate breaker and that you are properly observing safety precautions. If you have any doubts or are not completely comfortable working with electrical wires or appliances, don't do it! Call a qualified electrician.

FLOWING BUT NOT FLOODED

Exterior Plumbing

Locate your homeowner's main water shut-off valve. Be sure it is not leaking and is easily accessible and operating in case of an emergency. Fire ants are a common problem. Keep the cover in place and the enclosure cleaned out.

Inspect all exterior faucets for leaks. A single dripping faucet can waste hundreds of gallons of water a year. Also inspect for broken handles and the presence of backflow (anti-siphon) protection on each faucet. Backflow protection devices for exterior faucets are readily available and are intended to prevent contamination of drinking water caused by back siphoning. Before cold weather comes, unscrew, drain and store garden hoses inside for the winter. Install insulated covers on outside faucets to protect them from freezing weather.

Lawn sprinkler systems require regular maintenance. Periodically run through the stations with the manual controls, checking each station for broken or misdirected sprinkler heads, broken pipes and surface leaks. A properly adjusted system will result in less water in the street and greener grass. All systems are required to have backflow protection to protect drinking water supplies from contamination. Requirements vary from city to city, but it is important to know where your backflow protection is located and how to shut off the water supply for repairs or freeze protection. Check these components regularly for operation and water leaks. A qualified lawn irrigation contractor can help you better understand your system and learn how to maintain it.

Interior Plumbing

Daily use of water faucets in the house should make it obvious when they are hard to turn off, start to drip or splatter water on

countertops. Replacing faucet washers can usually repair dripping faucets. Sediment in many water systems can build up in faucet aerators, restricting water flow and spattering water. To solve this problem, unscrew the aerator from the faucet spout, disassemble it (keeping parts in proper order), rinse away sediment, reassemble and screw the aerator back on. Occasionally it may be necessary to replace the aerator to achieve proper performance.

Periodically inspect supply shut-off valves under sinks for proper operation, corrosion and leaks. A leaking or inoperable valve can create a lagoon of trouble if not caught and corrected early.

Occasionally fill sinks with water and watch them drain while the water continues to run. A properly draining sink will empty faster than it fills. At the same time, look under the sink (a good flashlight helps) for leaks in the drainpipes. Bathtubs should also drain faster than the water runs, so you're not standing in a lake while showering. Repairing these simple plumbing problems early can help avoid bigger problems later.

Another big water waster is a running toilet. Here's an easy test to see if you have a problem. Put a few drops of food coloring in your toilet tank—don't flush yet. If any color appears in the toilet bowl, you have a leak. Replacing the rubber flapper in your tank will cost only a few dollars and save hundreds of gallons of water a month. While the lid is off your toilet tank, check flush mechanisms, handles, chain flappers and ball cock valves. A poorly adjusted or worn ball cock valve (also called a fill valve) can also cause a toilet to run. Make sure your replacement ball cock valve is an anti-siphon type, where valve assembly is above the overflow tube in the toilet tank to avoid back siphoning and contamination of the drinking water supply. Check that the toilet bowl is firmly anchored to the floor, with no leaks between bowl and tank or at the water supply valve on the wall.

Water heaters should be visually inspected for leaks or corrosion at supply pipefittings at the top of the tank, and for rust or corrosion on the tank or at the drain valve at its bottom. The temperature/pressure (T&P) relief valve at the top or side of the tank should be tested monthly for proper operation; however, before testing check for proper connection of the drainpipe to the T&P valve. Have the T&P valve replaced if no water is released or if the valve does not re-seat after testing. Gas-fired water heaters should be checked for excessive rust and scale on the burner compartment and for a bright blue flame. Check the flue vent pipe for damage and continuity through the ceiling and roof, and for proper centering over the draft hood. To avoid scalding and for maximum economy, the temperature on both gas and electric water heaters should be at the lowest possible setting that still provides hot water. Many plumbers recommend 120°F as a maximum setting.

Notes

