PO Box 230966, Tigard, Oregon, 97281 • (503) 236-1812

AMI Associated Master Inspectors

Physical Inspection of 835 SE Klickitat Street

Circa: 1999 *Unconfirmed Square Footage: 3,720*

Tuesday, October 17, 2017 *9:00 am – 3:30 pm*

Prepared For: *Fiona Quimby*

Report Number: *171017A*

Construction Contractors Board License # 146715
Oregon Certified Home Inspector #015
Washington State Licensed Home Inspector #425

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INTRODUCTION

This is my report of a visual inspection of the readily accessible areas of this building conducted on October 17, 2017. I prepared it for the exclusive use of Fiona Quimby; it represents her interests only. It does not represent the interests of any other party. A separate inspection contract contains terms and conditions that are crucial to the understanding of this report. Don't use this report without considering the terms and conditions of that contract.

The purpose of this report is to alert you to major defects in the condition of the property. Please do not mistake this report for a warranty or any kind of insurance.

In the body of this report, I may occasionally cite the sources of my opinions by referring to the building code. Understand that I provide this information as a courtesy. This inspection will not identify every item in the house that doesn't comply with the provisions of the building code. I am not a building code inspector and this is not a building code inspection. The citations are merely for reference, not enforcement.

Please review all parts of this report carefully and call me for an explanation of any part that you do not fully understand. You can call me anytime at 503 985-7543 or e-mail me at jim@amipdx.com

Conditions during the inspection:

- At the beginning of the inspection, the weather was overcast with a temperature of 51 degrees and relative humidity at 81%.
- For the purpose of this inspection, consider that the front door faces east.
- The soil was wet.
- During the inspection, this vacant house was fully furnished.
- Fiona Quimby and agent Henry Higgens were present during the latter portion of the inspection. An inspection team from AMI was present throughout.

This report was prepared by James S. Katen, partner in Associated Master Inspectors:

- Oregon Certified Home Inspector #15.
- Washington Licensed Home Inspector #425
- American Society of Home Inspectors #109204.
- Oregon Construction Contractors Board #146715.
- A member in good standing of the Oregon Association of Home Inspectors-ASHI.

The Oregon Construction Contractors Board requires me to include the following paragraph in this report. They tell me that it has to be in 12-point type and in all caps. Here it is:
THIS REPORT IS INTENDED ONLY FOR THE USE OF THE PERSON PURCHASING THE HOME INSPECTION SERVICES. NO OTHER PERSON, INCLUDING A PURCHASER OF THE INSPECTED PROPERTY WHO DID NOT PURCHASE THE HOME INSPECTION SERVICES, MAY RELY UPON ANY REPRESENTATION IN THE REPORT.

HOW TO READ THIS REPORT

Description

Each of the building's systems has a heading, like the one at the top of the page, followed by two sections. The first section is called "Description." This is where I'll describe the basics of that particular system in general terms. It's a short inventory of what things the building is made of and the methods I used to inspect it.

Observations & Recommendations

In this section I'll go into more detail about topics that I think are particularly important for you to understand about the given system. Most of these details will be formatted as follows:

Topic

Many of the topics will have their own headings followed by a short description of the problem or concern. If I have a recommendation for a specific action, I'll write it in bold below this paragraph, with a number before it, like this:

1. **This is where I'll put specific recommendations. They might suggest repairs, maintenance, or the need for further evaluation by a specialist. Wherever I recommend repairs, you should have the work done by qualified, licensed contractors.**

STRUCTURE

Description

Building Type: Two-story wood frame.

Foundation Type: Cast concrete foundation surrounding a crawlspace at the main house and a slab on grade at the garage.

Columns: Wood.

Floor Construction: Wood I-joist system.

Subfloor: Oriented strand board (OSB).

Exterior Wall Construction: 2x6 stud frame construction.

Interior Wall Construction: Wood stud.

Roof Framing: Manufactured truss system at the main house. Wood I-joist system at the bonus room.

Roof Sheathing: Oriented strand board (OSB).

Ceiling Support: Bottom chords of roof trusses at the main house. Rafters at the bonus room.

The floors are flat and level, the walls are plumb, and the roof planes are flat with no significant sagging. The cracks that I can see in the foundation walls are less than ¼" wide.

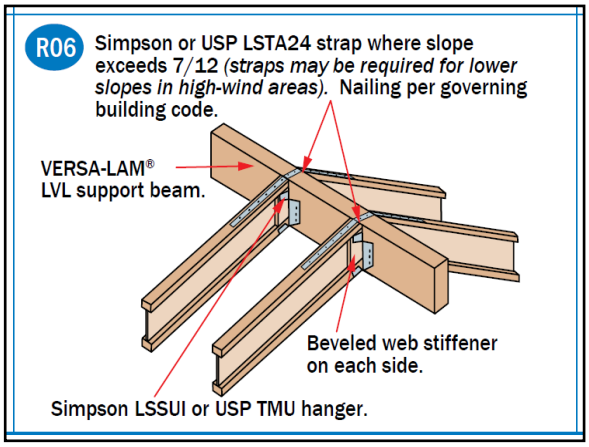
This house's structure is generally typical of 1999 residential construction in Vancouver.

Observations and Recommendations

Improper Roof Framing

Above the bonus room, the cut ends of the BCI rafters extend down farther than the bottom of the ridge board and no metal connectors are visible. This doesn't comply with the manufacturer's installation instructions. The rafter ends could crush, split, or otherwise distort under heavy loads. Note that this is an engineered system: repairs should not be improvised. Only an engineer or the manufacturer should specify how this issue should be resolved.

1. **Ask a Boise Cascade representative to determine whether or not the bonus room rafters need to be repaired and, if necessary, provide repair specifications. Then hire a contractor to make the repairs.**



CRAWLSPACE

Description

Access: Floor hatch in the pantry closet.

Clearance below Joists: Adequate.

Method of Inspection: Crawled.

Ventilation: Perimeter foundation vents.

Vapor Barrier: Black polyethylene plastic.

Underfloor Insulation: R-19 fiberglass.

Fungal Rot: None visible.

Signs of Water: Extensive.

Sump Pump: None.

Gravity Drain: At the front wall.

Crawlspaces should be dry. Wet crawlspaces are bad for several reasons. The water grows algae and fungi, humidifies the crawlspace, encourages the presence of rot and insects and, in many cases, causes uneven settlement of the footings and the foundation.

Observations and Recommendations

Standing Water

Water stands in pools at the northeast side of the crawlspace today. Mineral-crusted outlines of other ponds suggest that during wet weather even more water accumulates down there. A live salamander under the vapor barrier wouldn't be there if the crawlspace was dry. Wet crawlspaces are bad for several reasons. The water grows algae and fungi, humidifies the crawlspace, encourages the presence of rot and insects and, in many cases, causes uneven settlement of the footings and the foundation. Note that someone has already attempted to install a drainage system, but it's not working properly yet.

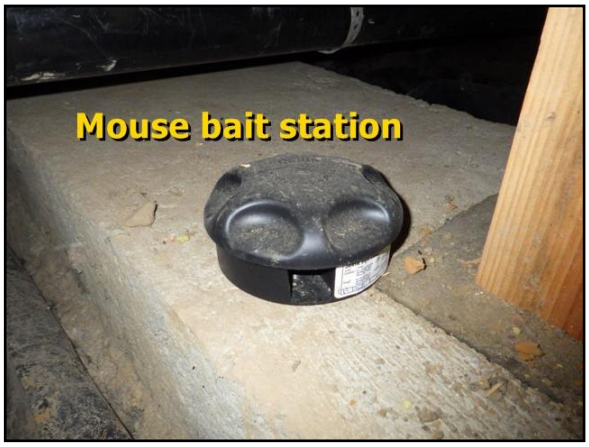
2. **Hire a drainage contractor to design and install improvements to the crawlspace drainage system that will ensure water doesn't accumulate down there. Be sure that the work includes a warranty.**

Missing Drain Cap

At the east side of the crawlspace, the gravity drain's backwater valve lacks a cover. Critters and water can enter the crawlspace via this opening.

3. **Replace the missing cover on the crawlspace's backwater valve.**

Mice



Mice are living in the crawlspace, and in and under the kitchen cabinets, where I can see their droppings, urine, and nesting material. The crawlspace also has a strong mousy smell in places and several mouse bait stations, all of which have no bait left. Mice can cause damage to insulation, wood framing, plumbing pipes, and wiring. In some cases, they can transmit diseases. It's best to exclude them from your house.

4. **Survey the exterior of the house to locate and block off all rodent entry points. Remember that mice can pass through an opening the size of a dime. Use ⅛" galvanized steel hardware cloth to seal large openings and stainless steel wool to seal small openings. Begin by patching the opening near the dryer vent.**
5. **After all entry points have been sealed, place mouse traps in the crawlspace to monitor the population. If the traps catch mice, go back to find and seal the openings that you missed.**

ELECTRICAL SYSTEM

Description

Overall Service Capacity: 200-amp, 120/240-volt, single phase.

Service Type: Underground lateral.

Meter: Class 200 meter.

SEC Type: 4/0 aluminum.

Service Location: Garage.

Service Panel: Eaton 200-amp main-breaker load center.

Sub Panel: None.

Permit: Final signature dated 5/18/99.

Service Grounding & Bonding: The service is grounded via at least one driven electrode and via the water service pipe.

Grounding Electrode Conductor: Stranded copper.

Branch Wiring: Copper NM cables.

Solid Aluminum Wiring: None.

Smoke Alarms: 1999 ds.

Carbon Monoxide Alarms: 2014 ds. None installed upstairs.

I opened the service panel to observe service and branch circuit conductors, their overcurrent devices, and the compatibility of their ampacities and voltages as well as grounding and bonding equipment. I also tested a random selection of receptacle outlets for proper polarity and grounding.

I didn't test the smoke alarms because they're obsolete. See below.

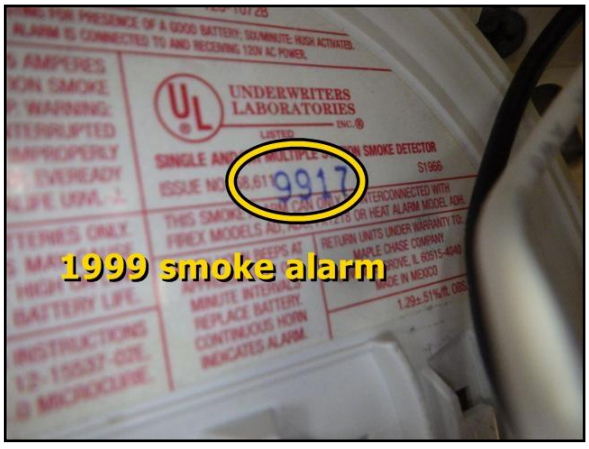
I didn't inspect the low voltage accessory systems for things like telephone, cable TV, intercoms, alarms, or timers.

I tested the GFCIs that are present today. They're working properly for now.

Observations and Recommendations

Obsolete Smoke Alarms

The 1999 smoke alarms are obsolete; after 10 years of service, their sensors are no longer dependable and the manufacturer *requires* that they be replaced.



6. **Replace all of the existing hardwired, interconnected smoke alarms with new hardwired, interconnected smoke alarms. I suggest that you install photoelectric-type alarms because they're more reliable and they have fewer false alarms than the ionization kind. To learn more about this topic, read this article: www.ashireporter.org/HomeInspection/Articles/Silent-Alarms-Deadly-Differences/2537 .**

Incomplete GFCI Protection

Ground fault circuit interrupters (GFCIs) are special electrical devices that protect people from being shocked by "ground faults" (electricity that moves through our bodies to grounded surfaces). It's best to have GFCI protection at any location where people may be exposed to electricity and grounded surfaces at the same time. In this house, I found GFCI protection at the exterior receptacles, some of the garage receptacles, the kitchen counter receptacles, the bathroom receptacles, and the whirlpool bath receptacle. It's missing at some of the garage receptacles (including those on the ceiling), and the laundry room receptacle.

7. **Ensure that you have GFCI protection at *all* exterior, bathroom, kitchen counter, laundry room, whirlpool tub, and garage duplex receptacles (including those on the garage ceiling).**

Incomplete Carbon Monoxide Alarms

I found one installed carbon monoxide alarm in the 1st floor hallway, but no installed ones upstairs. *Carbon monoxide* is an odorless poison gas that's produced by incomplete combustion. Things in this house that can produce carbon monoxide include the furnace, the gas water heater, the fireplaces, the gas dryer, the gas cooktop, and vehicles in the attached garage.

8. **Install a 2nd carbon monoxide alarm on the 2nd floor, near the bedrooms.**

Poor Weather Covers

Two of the exterior receptacles have broken covers:

- At the southeast exterior corner of the garage, the receptacle outlet has the wrong kind of weather cover, installed sideways.
- At the midwest side, the exterior receptacle's weather cover is broken.

Snap covers like this are no longer supposed to be used outdoors anyway.

9. **Remove the broken snap covers from the southeast and midwest exterior receptacles and replace them with "extra duty in-use" covers.**

Poorly Terminated Cable

Under the crawlspace, right next to the access hatch, an electrical cable is coiled up with its wires taped shut. This cable shouldn't be loose and its ends should always be safety contained.

10. **Ask your electrician to secure the loose coil of cable in the crawlspace and enclose its wire ends in a junction box.**

Oversized Breaker

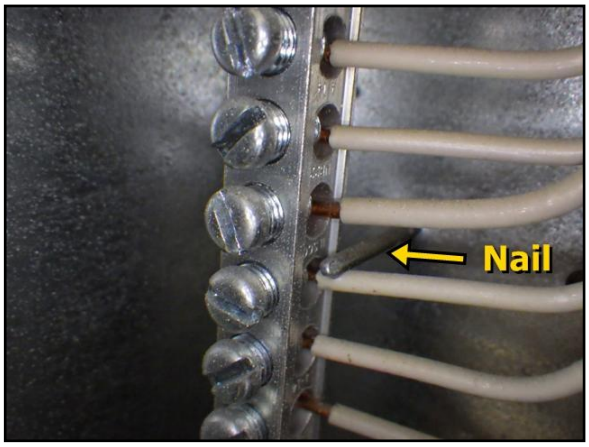
The air conditioner's data plate states that its electrical circuit should be protected by a breaker no larger than 45 amps. A 50-amp breaker is present. (The presence of 45-amp fuses in the air conditioner's disconnect box is fine, but they're considered supplementary and don't eliminate the need for a properly sized breaker at the beginning of the circuit.)

11. **Have your electrician install a 45-amp breaker on the air conditioner circuit.**

Nail through Panel

Note that the siding contractor drove a nail through the back of the electrical panel. Luckily, it didn't hit anything important.

12. **Ask your electrician to clip the errant nail in the electrical panel.**



Missing Receptacles

There's no electrical receptacle at the kitchen peninsula or at the 23" countertop to the left of the freezer. These areas should each have one, so that you don't need to use extension cords to reach appliances there.[1]

13. **Have an electrician install GFCI-protected receptacle outlets at the kitchen peninsula and at the countertop to the left of the freezer.**

FYI – No Extra Laundry Room Receptacle

Note that, aside from the receptacle behind the washing machine, there's no readily accessible electrical receptacle in the laundry room. None is required, but it's nice to have and you might find that lack of one to be inconvenient. If you wish to have an accessible receptacle there, an electrician can install one for you. (GFCI protected, of course. . .)

[1] The source of my opinion is the National Electrical Code, Section 210.52(C)

HEATING AND AIR CONDITIONING SYSTEM

Description

Fuel: Natural gas.

Type: Category I warm air furnace.

Manufacturer: York.

Date of Manufacture: 1999.

Electrical Disconnect: The electrical service panel is in sight of the furnace.

Gas Shut-Off: Southwest exterior meter.

Heating Capacity: 115,000 btu/hr.

Clearances: Adequate.

Distribution: Ducts.

Filter: Two14x20x1 (pleated paper).

Auxiliary Heat: None.

Cooling: Goodman 4-ton air conditioner. Circa 1999. 26.8/45.

Differentials: With return air at 67 degrees dry bulb and 55 degrees wet bulb, the air conditioner produced 45-degree supply air. This differential is normal.

I ran the furnace through a complete cycle. It worked properly. Gas furnaces of this design tend to last 20-25 years. Of course, I can't predict how long any individual furnace will last.

I ran the air conditioner through a complete cycle. It produced an adequate temperature differential. Air conditioners in our climate tend to last 15-20 years.

Have the furnace and air conditioner serviced every year to keep them in good condition and to spot problems early.

Clean air filters help your furnace and air conditioner to run better and last longer. Change your filters as soon as they get dirty. Pleated paper filters tend to last about 3 months.

Observations and Recommendations

Dirty Furnace

The furnace's blower compartment is dirty (I removed a chunk of plywood from it) and the blower vanes are caked with dust. In the burner compartment, debris sits on the burners.

14. **Have the furnace cleaned and serviced.**

Gaps at Plenum

Just below the furnace, gaps in the air conditioner coil housing are allowing conditioned air to blow into the garage in both the heating and cooling modes. This wastes energy.

15. **When you have the furnace serviced, ask the technician to carefully seal the evaporator coil plenum while he's there.**

Rusted B-Vent

A *B-vent* is a double-walled metal pipe that carries exhaust gas from the furnace and water heater to the rooftop. The part of this B-vent that's above the roof has begun to rust. It's still useable but should be protected to prevent further rusting. Replace this vent when you replace the furnace.

16. **Paint the rusting B-vent above the roof to prevent further rusting. Replace the vent when you replace the furnace.**

Inadequate Clearance under Ducts

In the crawlspace, several of the flex ducts are resting on the floor. Ducts should never touch the crawlspace floor.[2] Critters and moisture can damage them.

17. **Improve the installation of the flex ducts to ensure that they're supported at least 4" above the crawlspace floor.**

Crushed Ducts

In the crawlspace at least one section of flex duct has been crushed where someone has crawled over it.

18. **Hire a heating contractor to locate and replace all crushed sections of heating duct in the crawlspace. Whenever people go in the crawlspace, instruct them to avoid damage to the ducts by going *under* the them instead of over them.**

FYI – Old Air Conditioner

Air conditioners tend to last about 15-20 years. This one is 18 years old. Plan to replace it soon.

FYI – Old Furnace

Gas furnaces tend to last about 20-25 years. This one's 18 years old. While it's working fine today, it's certainly well into the latter third of its service life. Plan to replace it soon.

[2] The source of my opinion is the Oregon Residential Specialty Code, Section 1601.4.7

PLUMBING SYSTEM

Description

Water Shut-Off Location: At the southwest meter or at the larger hand valve in the northwest corner of the garage.

Service Pipe: Copper.

Supply Pressure: 79 psi.

Visible Distribution Piping: Copper.

Visible DWV Piping: ABS plastic.

Functional Flow: Adequate.

Functional Drainage: Adequate.

Hose Bibs: Frost proof.

Water Heater Location: Garage.
Brand: GE.
Fuel: Natural gas.
Size: 50 gallons.
Date: 1999.
Elevation: 18" above the garage floor.
Safety Valve: Present & properly plumbed.
Seismic Support: Two straps, but they're loose.

I operated the plumbing fixtures to check for proper orientation of hot & cold, adequate flow and adequate drainage.

I can only see some of the water distribution pipes & waste pipes; I can't see any of the underground portions or the portions that are concealed in walls, floors, or ceilings.

The irrigation system is outside the scope of this inspection.

Observations and Recommendations

Leaking Toilets
All three toilets are leaking at their wax rings.

19. **Reinstall all three toilets with new wax rings. Make repairs to the adjacent floors as necessary. See the 2nd page of the *Interior* section of this report for further details.**

Waterlogged Expansion Tank
The water heater's accessory expansion tank is useless. Its bladder has broken and the tank is waterlogged. It can't be repaired. Without a working expansion tank, water that expands as it's heated might cause damage to the plumbing pipes or cause the safety valve to open.

20. **Hire a plumber to install a new, working, expansion tank at the water heater. Be sure to follow the directions regarding pressurizing the tank *before* installing it.**

Uninsulated Plumbing Pipes

In the crawlspace, a few sections of the plumbing pipes aren't insulated. The hot water pipes will lose heat to the crawlspace quickly and, in very cold weather, the water in the pipes could freeze.

21. **Thoroughly insulate the water distribution pipes in the crawlspace. During freezing weather, close the crawlspace vents to reduce the risk of frozen pipes.**

Poorly Placed Plastic Pipe

The water heater's safety valve discharge pipe is made from plastic and too close to the draft hood.[3]

22. **When you replace the water heater, be sure to provide proper clearance between any plastic pipes and the water heater's draft hood.**

Non-Working Pop-up

In the half bathroom, the pop-up stopper doesn't work. Its control lever is broken.

23. **Replace the control lever at the half bathroom's pop-up stopper.**

Whirlpool Bath Cleaning

The whirlpool bath worked properly today, but the jets discharged some debris into the water. These are flakes of a biofilm that grows inside the pipes of seldom-used whirlpool tubs. Visit Lasco's website (www.aquaticbath.com) or call them at (800) 877-2005 to learn more about cleaning and maintaining the whirlpool bath. (Lasco has merged with Aquatic.)

24. **Thoroughly clean the whirlpool bath when you move in and regularly thereafter.**

FYI – Old Water Heater

Water heaters tend to last about 12-15 years. This water heater is 18 years old. Plan to replace it soon.

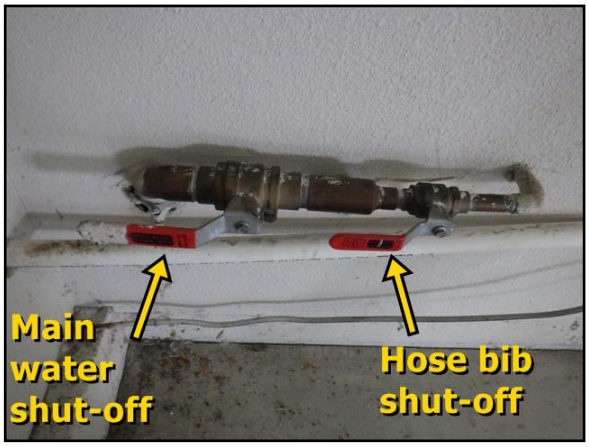
[3] The source of my opinion is the Plastic Pipe and Fittings Association Installation Handbook.

FYI – Frost Proof Hose Bibs

The hose bibs on this house are the frost proof variety; they're less likely to freeze in winter than the non-frost proof kind. Understand that, in order for these to work properly, you can't leave a hose attached to them during freezing weather. Be sure to disconnect your hoses from your hose bibs each fall to reduce the risk of frozen water pipes.

FYI – Frost Proof Bib on Cold Wall

The southwest hose bib is also the frost proof kind, but since it's installed on an unheated garage wall, its frost-proof design will not be very useful. To reduce the risk of frozen water in its pipe you should shut its water supply and drain it each fall. Its shut off valve is located on the garage's northwest interior wall, right next to the main shut-off valve. Each fall, shut this valve, open its drain cap a half turn, and then open the hose bib to allow all of the water in its pipe to drain out. Reverse the procedure in the spring.



INTERIOR

Description

Walls: Drywall.

Ceilings: Drywall.

Floors: Carpet, ceramic tile, hardwood, & sheet vinyl.

Doors: Hollow hardboard.

Cabinets: Wood, plywood, & particleboard.

Countertops: Stone & ceramic tile.

Windows: Insulated vinyl.

Wall Insulation: Fiberglass. R-21.

Ceiling Insulation: Cellulose & fiberglass. R-30 to R-38.

Floor Insulation: Fiberglass. R-19.

Stairways and Handrails: One stairway to the 2nd floor.

Fireplaces: Two Archgard 16,500 btu/hr direct vent decorative gas fireplaces. One has a makeshift blower.

Wood Stove: None.

Floor Moisture Content near Toilets:
Master Bath: 26 - 30%. Normal-to-high for ceramic.
Hall Bath: 30%+. High for vinyl.
Half Bath: 26-30%. Normal-to-high for ceramic.

Exhaust Fans: Bathrooms, laundry room, & kitchen.

I opened and closed all doors, all windows, and all cabinets.

Observations and Recommendations

Poorly Supported Mirrors

All of the bathroom mirrors are poorly supported:

- In the two upstairs bathrooms, the bottom edges of the mirrors sit in metal mirror channels, but the top edges are only supported by mastic. This is inadequate. The mastic can fail, the mirrors can tip forward, and someone could be injured.
- In the half bathroom, the oval mirror only has one plastic clip at the top, and one at the bottom. If its mastic were to fail, the mirror would fall.

25. Install mechanical clips to thoroughly secure the wall mirrors in the bathrooms.

Water-Damaged Hall Bathroom Floor

The upstairs hall bathroom floor is swollen from a leaking toilet.

26. **Replace the water-damaged upstairs hall bathroom floor before re-installing the toilet with a new wax ring.**

Likely Water-Damaged Half-Bath Floor

In the half bathroom, my moisture meter shows high moisture levels next to the toilet and extending forward to just outside the bathroom door. I suspect that the wax ring has leaked and water has crept forward under the tiles' backerboard. The only resulting damage that I can see is that the tiles tend to "click" when I walk on them.

27. **Remove the half-bathroom toilet and look for damage under the tiles. Replace any damage as necessary. If there's no visible damage, just reinstall the toilet. Understand that the clicking tiles might someday come loose and have to be repaired or replaced.**

Unlikely Water-Damaged Master Bathroom Floor

In the master bathroom, my moisture meter shows one small spot of high moisture just behind the toilet on the starboard side. I find it unlikely that there's anything worth fixing here. Reinstall this toilet with a new wax ring. I see no need for repairs to the floor.

28. **Remove the master bathroom toilet and look for damage. After finding none, reinstall the toilet with a new wax ring. (On the off chance that you find damage, of course, make repairs as necessary.)**

Failed Insulated Glass Seals (Fogged Glass)

Insulated glass panels have a rubber-like seal between two panes of glass. When this seal fails, moisture enters between the panes, causing fogging. This has little effect on the insulating ability of the panel and it has no effect on the weather-keeping-out ability of the glass. It merely affects clarity. Since one of the primary functions of glass is to be clear, I consider fogged windows to be defective. I found fogged glass panels at the following locations, there may be others that have failed seals but that aren't apparent today:

- One right panel at the living room's east window.
- One upper panel at the breakfast area's north window.
- One left panel in the bonus room's west window.
- One right (fixed) panel in the master bedroom's north wall.
- One right panel in the dining room window.
- One right panel in the office window.

I marked the failed panels with red paper dots.

29. **Have a glass contractor replace the 6 failed insulated glass panels noted above as well as any others that he discovers.**

Poorly Adjusted Fireplace

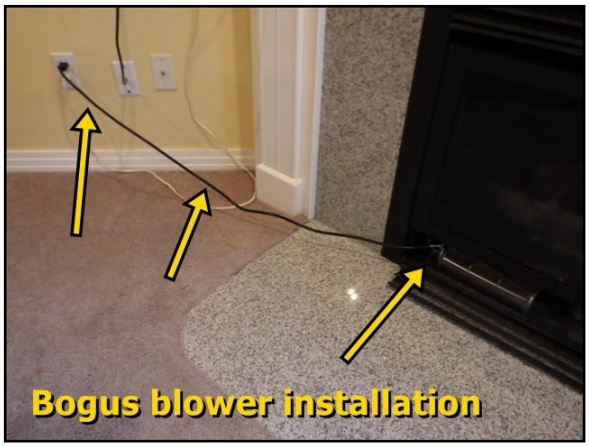
The family room fireplace flame is poorly adjusted and very sooty. It's deposited lots of soot on its outdoor metal cap and on the siding above.

30. **Hire a gas fireplace contractor or chimney sweep to clean and tune the family room's gas fireplace.**

Poorly Installed Fireplace Blower

The living room's fireplace has no blower. In the family room, someone installed an aftermarket blower on the fireplace, but did it poorly. The blower is in the wrong place, it has to be plugged in manually, and its electrical cord is poorly secured.

31. **Ask your gas fireplace service contractor or chimney sweep to re-install the family room fireplace blower properly.**



Missing Security Screws

At the rear sliding door, the door catch is still only installed with its short shipping screws. This is not a secure way to latch the door. After the door was installed, the installer was supposed to replace these temporary screws with long screws that go into the wall framing.

32. **Install long security screws at the rear sliding door's catch.**

Non-Latching Door

The rear sliding door doesn't latch shut properly. It relies on the broomstick in the track to make it secure.

33. **Repair or replace the latch at the rear sliding glass door.**

Bad Fan

The upstairs hall bathroom's exhaust fan has bad bearings.

34. **Replace the fan (or just the fan motor) at the upstairs hall bathroom.**

Poorly Placed Fan

In the master bathroom, the exhaust fan is placed low on the vaulted ceiling. Shower steam will tend to rise to the highest point on the ceiling.

35. **Install a 2nd exhaust fan in the master bathroom. Direct its exhaust 100% to the outdoors, not into the attic.**

Loose Cabinet Door Hinge

In the kitchen, the island's north cabinet door has one hinge that's not attached.

36. **Re-secure the loose cabinet door hinge on the north side of the kitchen island.**

FYI – Low Windows

At the upper floor, the openable windows are low, near the floor. This presents a particular risk to small children, who can fall out of the windows. If small kids will be present, install stops to prevent these windows from opening more than 4". Be sure that the stops can be removed by an adult in the case of a fire or other emergency. Never rely on window screens to prevent children from falling out of windows.

FYI – C.L.U.E. Report

C.L.U.E. stands for Comprehensive Loss Underwriting Exchange and provides information on insurance claims filed on the house in the previous 5-7 years. These reports can be found at http://www.lexisnexis.com/risk/solutions/clue-home-seller.aspx but are only available through the owner of the home. If you're interested in learning about recent insurance claims on the home, ask the seller to provide a C.L.U.E Report.

APPLIANCES

Description

Dishwasher: Kenmore with plastic tub.

Disposer: ISE 5/8 hp.

Instant Hot Water Dispenser: Everhot 1.3kw.

Cooktop: Kenmore 4-burner gas cooktop.

Wall Oven: Kenmore electric convection oven.

Microwave: Kenmore built-in microwave/convection oven.

Range Hood: None.

Kitchen Exhaust Fan: Kenmore retracting downdraft.

Refrigerator: Kenmore 32" counter-depth. (39˚F)

Freezer: Frigidaire 32" counter depth. (5˚F)

Washer: Maytag HE top loader.

Dryer: Frigidaire gas model. (A 240-volt electrical receptacle is also present.)

I inspected the appliances by turning them on briefly using the normal operating controls. I didn't make extensive tests of timers, thermostats, and other controls.

I ran the kitchen appliances. The dishwasher ran through its cycle, made typical noises, and didn't leak; the disposal spun around; the instant hot water dispenser dispensed hot water instantly; the cooktop's burners lit; the oven's bake & broil elements got hot and its convection fan spun; the microwave oven heated my towel; the downdraft fan rose, lowered, and its fan spun around; the fridge was cold inside and made ice. I can't tell how well these appliances run, only that they run.

I ran the laundry appliances. The washer filled with the correct temperature of water, agitated, spun when it was supposed to, and didn't leak. The dryer spun around and got hot inside. I can't tell how well they'll wash & dry clothes.

Note that the house is plumbed for a central vacuum, but no central vacuum motor is present.

Discovery of recalled appliances and other products is outside the scope of this inspection. For the latest information on recalls, visit www.recalls.gov

Observations and Recommendations

Damaged Vent Terminal

The downdraft fan's terminal is blocked by soil at the bottom and its plastic louvers are distorted.

37. **Install a new outdoor terminal at the range's downdraft fan duct. Ensure that the new terminal operates freely without binding or sticking.**

Missing Membrane at Downdraft Fan

At the cooktop's downdraft fan, the control button's membrane cover is missing. Dirt and liquids can fall into the switch and foul it.

38. Replace the control button membrane cover at the cooktop's downdraft fan.

Damaged Membrane

The dryer's control pad membrane has delaminated and begun to peel away from the control buttons below. This will only get worse with time.

39. Plan to replace the dryer's control pad.

ROOF & ATTIC

Description

Roof Type: Gable.

Roof Covering: Laminated comp shingles.

Flashing Materials: Steel & PVC plastic.

Estimated Installation Date: 1999.

Layers: One.

Drainage: Continuous metal gutter & downspout system.

Skylights: None.

Recent Weather: Wet.

Method of Inspection: I viewed the roof from the top of my ladder at several locations.

Ventilation: Roof jacks & soffit vents.

Attic Access: Four sidewall hatches in the bonus room and one ceiling hatch above the front center bedroom closet.

Method of Attic Inspection: I crawled through the accessible portions of the attic.

Composition shingles of this quality tend to last about 20-25 years in our climate.

Be sure to ask the seller about the presence of any roof leaks, including those that have occurred in the past and been repaired.

Observations and Recommendations

Old Shingles

The shingles have loose and worn granules, they're backing is very brittle, and they've begun to shrink. Some of the staples are backing out, causing the shingles above to lift, and some of the shingles are worn through at the nail heads. At the dormer ridge, some cap shingles are split. As they continue to age, the shingles will become stiffer and less able to accommodate thermal expansion & contraction. At that point, they might crack or blow off in high winds. You shouldn't wait until the roof is unreliable to replace it. You should replace it before it begins to leak, not after. I suspect that the roof will become unreliable in less than 5 years.

40. **Plan to replace the roof shingles within the next 2-4 years. Be sure to strip off all of the existing shingles and flashings, repair any damaged portions of roof sheathing, and install new shingles and new flashings all around in strict accordance with the shingle manufacturer's instructions.**

Leaking Plumbing Vent Jack

Where the northwest plumbing vent passes through the roof, the flashing assembly's neoprene gasket is cracked. Water can leak into the attic today. In my experience, once one of these gaskets cracks, the others aren't far behind.

41. **Replace the flashing assemblies, or just the neoprene boots, at each of the plumbing vents on the roof.**

Leaking Storm Collar

At the furnace's B-vent, above the roof, the storm collar is poorly caulked. (The joint intersects a crimp in the B-vent, making it difficult to seal.) A small amount of rainwater is entering the attic around this vent.

42. **Properly caulk the storm collar at the B-vent above the roof. Lift the storm collar up a few inches and apply a ring of caulk around the vent a few inches above the base flashing. Then slide the storm collar down into the ring of caulk to seal it.**

Lifting Apron Flashings

At the rear of the garage, where the dormer meets the lower roof, the apron flashing was only secured with staples; this flashing is lifting. Wind-driven rain can blow under this flashing and leak into the roof.

43. **Re-secure the rear dormer's loose apron flashing using metal roofing screws that have integral neoprene washers.**

Inadequate Cut-Outs at Gutters

Where the rear dormer gutters spill onto the lower rakes of the roof, the gutters have not been adequately cut away to allow for full drainage. Debris collects at these bottlenecks, causing the gutters to clog & back up.

44. **Where the rear dormer gutters discharge onto the roof surface, cut out larger drain openings to prevent clogs.**

Loose Gutter Spikes

Some of the gutter nails are loose. Some sections of the gutters are in danger of falling away from the roof. This often happens when there's no fascia board and the nails are driven into the end-grain of the rafter tails.

45. **Locate and remove all loose gutter spikes and replace them with gutter screws and proper ferrules.**

Debris in Gutters

The gutters are full of debris.

46. **Clean the gutters and ensure that they drain fully without retaining water.**

Moss

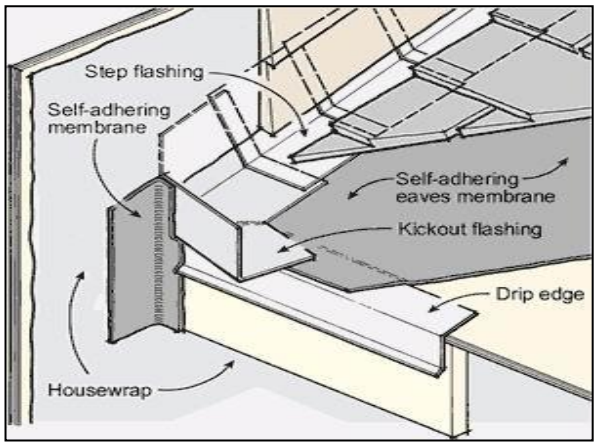
A heavy crop of moss is thriving on some parts of the roof. Excessive moss growth damages composition shingles by loosening the ceramic granules from the shingles. Many people cause even more harm to their roof when they try to remove the moss.

47. **Have a roof maintenance contractor apply moss killing granules to kill the moss on the roof. Be sure to use a product intended for use on roofs, not on lawns. (The latter stuff contains iron and will stain the roof.) Allow winter rain & wind to spread the granules and scour off the dead moss. Repeat as necessary but do nothing else. Never pressure wash a composition shingle roof.**

Missing Kickout Flashing

At several locations where the lower roof gutters meet the house sidewalls, there's no kickout flashing. Some of the roof water misses the gutters at these locations and, instead, flows down the siding. This places unnecessary stress on the siding, the trim, and the caulk in these areas and it invites leaks into the wall. A proper kickout flashing will divert this water into the gutter.

48. **Install a proper kickout flashing at each location where lower roof gutters meet the house sidewalls to ensure that all roof water from these areas goes into the gutters and not onto or behind the siding.**



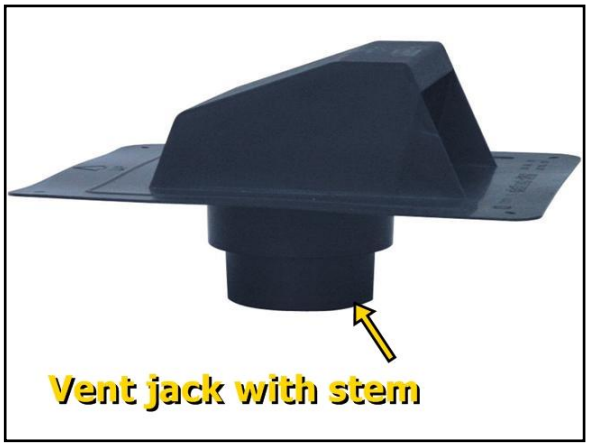
"Stretched" Flashings

Where the garage roof meets the house sidewalls and the dormer sidewalls, the roofer "stretched" his step flashings to span more than one course of shingles. This will make leaks more likely, especially when snow & ice are on the roof.

49. When you replace the roof shingles, ask the roofer to install all new step flashings properly. Ensure there is one piece of step flashing interleaved with each course of shingles and aligned with the shingles' lower edges per the shingle manufacturer's installation instructions.

Poorly Oriented Bath Exhaust

In the attic, the bathroom fans' exhaust ducts lead to the soffit vents, low on the roof. These are intake vents. The air that enters the attic through these vents will carry the bathroom exhaust back into the attic. The humid air from the bathrooms is supposed to be directed to the exterior air, not the attic air.[4]



50. When you replace the roof, ask the roofer to install dedicated tight vent fittings to pass the bathroom exhaust through the roof to the outdoors. Such fittings should include round collars that sleeve into the exhaust ducts. Do not allow any opportunity for this exhaust to enter the attic. (Don't monopolize existing attic vents for this purpose. All of the existing vents are meant to ventilate the attic.)

Poorly Flashed Patio Roof

Where the patio roof meets the main house, it's not properly flashed. It relies, instead, on caulk.

51. Install proper flashing where the patio's metal roof meets the house sidewall.

[4] The source of my opinion is the Oregon Residential Specialty Code, Section 1507.2

EXTERIOR & GROUNDS

Description

Doors: Wood & glass. Metal clad & glass. Metal clad. Vinyl-framed sliding glass.

Windows: Vinyl-framed fixed, single hung, & sliding.

Siding: One-coat stucco. Fibercement lap.

Soffits: Open at the eaves with LP panels above the porch.

Trim: Wood & foam plant-on trim.

Chimney: Metal sidewall vents.

Grading: Positive, level, & negative grades.

Walkways: Concrete.

Driveway: Concrete.

Vegetation: Overgrown.

Fences: Pressure-treated posts with cedar fence boards. Chain link.

Stairs: Concrete.

Deck: None.

Patio: Concrete & concrete pavers.

Retaining Wall: Keystone concrete block.

I inspected the exterior by walking around the grounds.

In the context of this report, *flashing* is sheet metal that's been bent into a specific shape and interwoven between building materials to keep water from flowing behind them.

Observations and Recommendations

Heaving Sidewalks

Sections of the east sidewalk have been heaved upward by tree roots. At the southeast corner, a manhole cover surround is heaved up an inch or so above the sidewalk. These sections have ledges that can cause someone to trip over them.

52. Repair the east and southeast sidewalks to eliminate the trip hazards/ledges at the heaving sections. It might be possible to grind down the high sections.

Imperfect Stucco

At the east and south sides of the house, the siding is one-coat portland cement stucco covered with an acrylic finish. The "stucco" trim consists of plant-on foam with the same acrylic finish. (Please note that this is *not* synthetic stucco, also known as EIFS – an infamous product with a long history of failure.) While this stucco is far more fault-tolerant than EIFS, it is not a risk-free product. Installation errors can allow water into the walls and lead to rot. I performed a visual inspection of the stucco; I didn't do any destructive testing. Some problems that I found with this installation include the following:

- Most of the cracks in this stucco have been patched. (One-coat stucco tends to have a lot of cracks.)
- Some of the stucco cracks have not been patched.
- Some sections of the foam trim have horizontal surfaces that can hold water, which tends to soften the acrylic finish. (The upper edges of the trim are always supposed to be sloped.)
- Some of the foam trim has a very thin coat of acrylic; its fiberglass mesh is visible. Other sections have various dents and superficial damage.
- The stucco is only about ½" above the driveway slab. It's supposed to be 2" above paved surfaces.
- The front porch is cast against the stucco. As with the driveway, the stucco is supposed to be 2" above the porch. This provides a concealed path for insects to enter the house.
- The caulk joints at the windows are narrow and, in places, separating from the window frames. These might admit water behind the stucco.

Understand that, given the nature of this siding, it's possible that there are areas of concealed damage – damage that no one can see or find without removing siding. An inspector who specializes in stucco siding inspections will have specialized equipment and expertise and might find additional problems with this installation.

53. Hire a stucco inspector to review the siding and recommend a course of action for repair.

Missing Flashing at Wood Trim

All projecting wood trim should be flashed.[5] The projecting wood trim at the kitchen door lacks flashing. It's caulked instead. Caulk fails. Water can enter behind the trim and cause rot.

54. Properly flash the trim above the kitchen door. If you choose to ignore this recommendation, establish a maintenance schedule to inspect the caulk above this trim every fall and replace the caulk as necessary.

Poorly Aligned Downspout

At the northwest corner of the garage, the downspout doesn't fully align with its underground drain pipe. Some of its water spills on the ground right next to the foundation.

55. Align the garage's northwest downspout with its underground drainpipe.

Poorly Graded Patio

Near the rear sliding glass door, a section of the patio slopes toward the house. All of the rain that falls on this section will flow toward the foundation and make its way into the crawlspace.

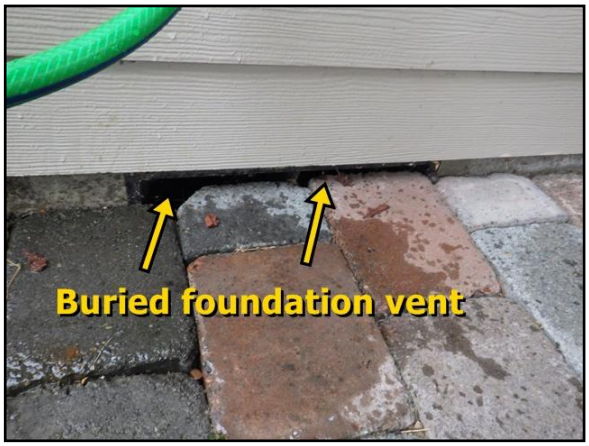
56. Replace or repair (via "mudjacking") the portion of the rear patio that slopes toward the house. Alternatively, ask your drainage contractor if there's another solution that will prevent the slab from directing surface water into the crawlspace.

Poor Grading at Foundation Vents

Some of the foundation vents are below grade. Water, soil, and debris can sift into the crawlspace through these vents.

57. Excavate soil below the level of the partially buried foundation vents and install vent wells (like miniature Hoover Dams) around them.

[5] The source of my opinion is the Oregon Residential Specialty Code, Section 703.8(4)



Blocked Foundation Vent

At the northwest corner of the house, patio pavers completely block the foundation vent.

58. **Remove the patio pavers away from the northwest foundation vent and install a vent well there to keep the vent clear.**

Painted-Shut Fan Terminals

At the west exterior wall, the bathroom and laundry room exhaust terminals have louvers that are painted shut.

59. **Break the paint seal at the exhaust duct terminals at the west exterior and ensure that the louvers open and close freely.**

Inadequate Clearance below Siding

The fibercement siding nearly touches the concrete slab at the rear patio and the soil at the north bump out. The siding manufacturer requires 1"- 2" of clearance at the patio and 6" of clearance at the soil.[6] Without proper clearance, the siding will be constantly wetted by splashing and will be prone to deterioration from freeze/thaw cycles.

60. **Excavate the soil to provide 6" of clearance to the siding near the north bump out. At the rear patio, it's not possible to provide proper clearance now. Understand that you might have to replace that 1st course of siding someday.**

Overgrown Vegetation

The plants around the house are overgrown. Branches are touching the siding and the roof. These will tend to hold moisture against the siding and can provide a path for insects to enter the house.

61. **Trim all vegetation well away from the house and keep it that way.**

Big Trees

Large trees are growing near the house. If they or their larger branches were to fall, they could cause severe damage to your house.

62. **Consult with an arborist about the big trees that surround the house. Ask him to advise you about ways to reduce the risk that they pose to the house.**

FYI – Bats

At the northwest corner of the garage, where the garage roof meets the main house sidewall, bats have been living in the small gap between the rafter and the siding. If you don't want them there, seal the small opening between the rafter and the sidewall.

[6] The source of my opinion is Hardiplank's installation instructions.

GARAGE

Description

Garage Type: Attached 3-car garage.

Overhead Doors: Two insulated steel doors. One 7x16 and one 7x9.

Door Balance: The doors are balanced.

Automatic Opener: Two Chamberlain screw-drive openers.

Safety Eyes: Present, but mounted too high.

Pressure Sensitive Reverse: One works properly, but the other doesn't.

Floor: Cast concrete slab.

Fire Separation: Adequate.

Passage Door: Solid hardboard.

Exterior Door: To the side yard.

Vehicle Barrier: One inadequate bollard.

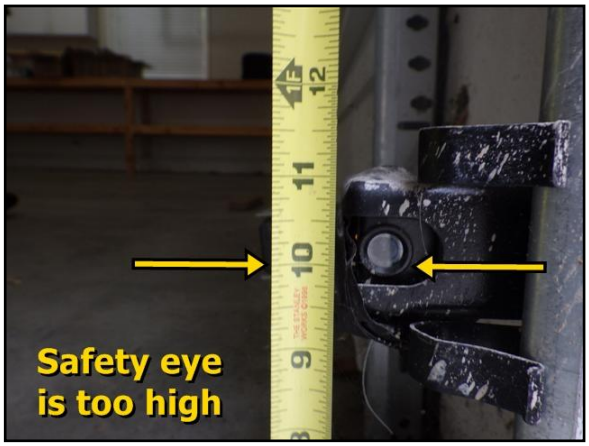
The automatic garage door openers' safety features are not working properly today. Even after they've been adjusted to work properly, they might go out of adjustment again. That's why it's important for you to test them each month. When the door is moving downward, swing your foot in front of the safety light beam. The door should stop and reverse. Then place a 2x4 flat on the ground and close the garage door. When it hits the 2x4 it should immediately stop and reverse itself.

Observations and Recommendations

High Safety Eyes

The automatic openers' safety eyes are mounted too high off the floor. A small person or pet can fit under them and be hit by the door. The manufacturer requires that these eyes be mounted at 4"-6" above the floor – no more.

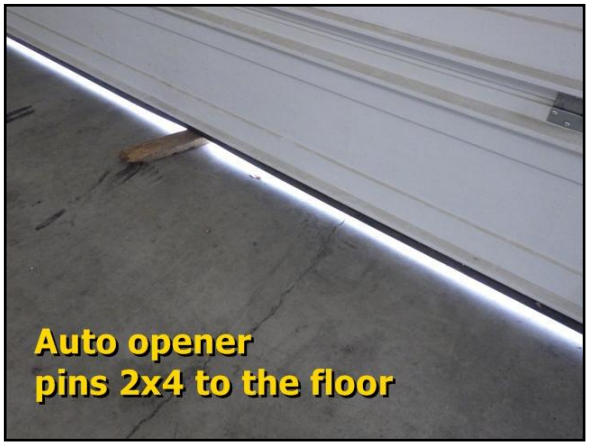
63. Re-install the automatic openers' safety eyes so that they're 4"- 6" above the garage floor.



Mis-Adjusted Auto-Reverse

An automatic opener is supposed to stop and reverse automatically when it hits someone. This is particularly important when it hits someone near the ground. If the door doesn't reverse, a person could be pinned to the ground. When I tested the east garage door opener, it pinned a 2x4 to the floor.

64. Adjust the east auto opener to reverse immediately upon contact with a 2x4 laid flat on the ground in its path. Test this function monthly.



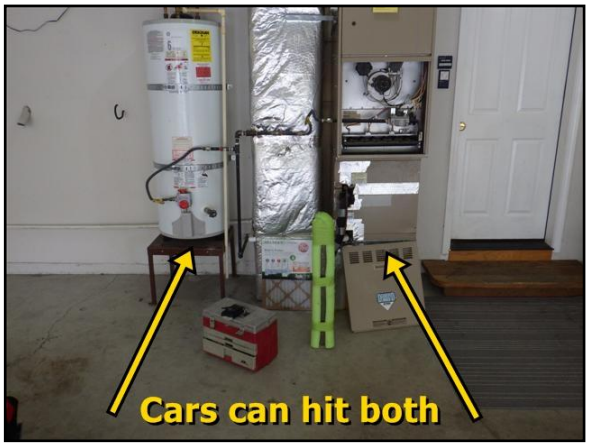
Low Control Buttons

The automatic garage door openers' control buttons are mounted too low. The manufacturer requires that these buttons be installed at least 60" above the floor to keep them out of reach of small kids. The manufacturer also requires that a warning sticker be installed next to the buttons.

65. **Raise the garage door openers' control buttons so that they're all at least 60" above the nearest floor. Install one orange, black, & white warning sticker next to the buttons. You'll find these stickers in the auto openers' manuals.**

Missing Vehicle Barriers

A vehicle barrier is present, but it won't stop a car from hitting the furnace or the water heater.



66. **Install vehicle barriers to prevent a car from hitting the furnace or the water heater.**

Missing Latch

Note that the passage door between the garage and the laundry room has a deadbolt but no passage set. Without one, the door won't latch shut. It's important that the door latch shut to complete the fire separation between the house and garage.

67. **Install a passage set or a lock set at the door between the garage and the laundry room.**

FYI – Floor Cracks

The cracks in the garage floor are harmless. Most builders install control joints in concrete slabs to encourage the concrete to crack in straight lines. This builder didn't, so the concrete just cracked at random.

SUMMARY

This house is in good condition with some exceptions. Comparing it to other houses of the same age and type that I've recently inspected, the overall condition is slightly below average and the number of repairs is above average. Bear in mind that all homes need repairs of one type or another, even if only minor. Some of the repairs are of the type that you might be inclined to live with under ordinary circumstances. Buyers and sellers often have different perspectives on this issue.

What follows is a summary of recommendations contained in previous pages. I provide it as a convenient reference. Don't rely exclusively on this summary. The full explanations of these issues are on the pages listed to the right of each recommendation.