

Visual Property Inspection

9 Homeview Ave
Toronto, ON M6N 1S9

Prepared for :

The Weir Team

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Inspected by :

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Report Commentary

Date: 18-Mar-2016

9 Homeview Ave, Toronto, ON M6N 1S9

This summary is not the entire report. The complete report may include additional information of concern to the client. It is recommended that the client read the entire report.

1.0 Property and Site

1.1 **Front Porch Rail**

Add handrail for safety

1.2 **Deck Railing**

Install handrail to promote safety

2.0 Exterior

2.1 **Window Exterior**

All windows have been replaced recently and are in good condition.

3.0 Roof Structure

3.1 **Covering**

Shingles typically last 15 years. These shingles are in the last 3rd of their life. Inspect on an annual basis and replace as required.

4.0 Electrical Service

4.1 **Service Size**

200 amp service, copper wire.

5.0 Heating

5.1 **Heating System**

High efficiency furnace is 5 years old and functioning as intended. Typical life expectancy is 20 years.

5.2 **Venting**

Remove old furnace vent pipe and seal flue to prevent exhaust gases from entering the home.

5.3 **AC**

AC unit is 5 years old. Typical life expectancy is 15 years.

Testing A/C unit during low outdoor temperatures will cause system failure. Determine function during cooling season.

6.0 Plumbing Components

6.1 **Hot Water Tank**

Hot water tank is newly installed. Typical life expectancy is 15 years.



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Property and Site

Limitations

- Vegetation/Tree/Shrub Vines Debris/Obstruction
 Snow/Ice Cover
AGE OF HOME 75+

Conditions

- Sunny/Mostly Sunny Cloudy/Mostly Cloudy Rain/Wet Conditions
 Snow/Ice Conditions
Approx. Temperature 5 celsius

Building

- 2 Story Duplex Condo Townhome

Recommend CO detector installation as required by law within 15 feet of all bedrooms for occupant safety.

All smoke detectors over 10 years old should be replaced for safety as a precautionary measure. Some have a limited lifespan and older technology detectors are not as effective as newer ones.

Inspection limited by furnishings throughout the home including but not limited to furniture, blinds, curtains, wall & floor coverings, possibly fresh paint, boxes, appliances, clothes, items stored under some or all sinks, and storage items

This is not a building code inspection. Local codes, city and county, can vary significantly and change regularly over time, and are not a part of this home inspection.

Landscaping

- Bushes/Hedge/Flower Bed Vine Slopes To House

Driveway

- Concrete Gravel Gravel Needs Regrading Asphalt

Walkway/Path

- Slopes to House Concrete Paving Stone Patio Stone/Brick

Front Porch Rail

- Wood Metal Composite

Add handrail for safety

Front Porch Light

- Unsecured Appears to be sensor activated Representative # Inspected/Tested

Operational



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Property and Site

Deck(s)/Patio(s)

- Slopes to House
- Typical Cracking

- Wood/Composite
- Concrete

- Paving Stone/Block/Brick

Deck Railing

- Wood
- Metal
- Composite

Install handrail to promote safety

Exterior

Limitations

- Insulation Conceals Clearance Debris/Obstruction
 Obstructed/No or Partial Access Bushes/Vines/Tree Obstructions Snow/Ice Cover

Foundation Wall

- Stone/Flagstone Brick Concrete Block
 Preserved Wood Partially Concealed Hairline Cracking-typical
 Completely Concealed

Exterior Walls

- Wood/Composite Stucco Vinyl/Aluminum Brick/Stone
 On Wood Framing

Some brick deterioration and settlement cracks noted on east and west side. Repair as necessary to prevent water entry.

Window Exterior

- Wood Metal Vinyl Wood Int/Vinyl or Metal Cla

All windows have been replaced recently and are in good condition.

Window Well

- Improper Drainage Corrosion - treat/Repair Metal Wood

Windows on east side are at grade. Providing a window ell with drainage is the best solution. At a minimum keep snow away from this area and keep windows well caulked to prevent water entry.

Garage Side or Back Door

- Dented/Minor Damage Binds - Adjust/repair

Operational

Exterior Lighting

- Not all lights tested Unsecured - repair Representative # Inspected/Tested

Operational

Roof Structure

Inspected By:

- Binocular
 Roof Edge
 Walk On
 No Access

Limitations

- Deck/Patio
 Solar Panels
 Gravel Cover
 Steep Slope
 Height
 Snow/Ice Cover
 Rain - Too Slippery
 Material Too Slippery

Main Roof

- Flat
 Gable
 Hip/Valley
 Shed
 Estimated Age 10 to 15 years
 Pitch 4 in 12

Gutter/Downspout

- Galvanized
 Plastic
 Aluminum
 Copper
 Below Ground Discharge
 Above Ground Discharge

Fascia/Soffit

- Moisture Staining evident - Monitor
 Aluminum/Vinyl
 Wood

Covering

- Concrete/Clay Tile
 Wood Shingle/Wood Shake
 Asphalt/Composite Shingle
 Metal
 Other
 Flat Roof Membrane
 Tar & Grav

Shingles typically last 15 years. These shingles are in the last 3rd of their life. Inspect on an annual basis and replace as required.

Life Expectancy

- Typical
 Middle
 End
 Exceeded
 Middle/End

Accessory

- Vent Stack
 Solar Panels
 Skylight(s)
 Vent Caps

Flashing

- Not Checked/Concealed
 Chimney
 Drip Edge
 Flat Roof
 Skylight
 Roof to Wall
 Stack
 Valley
 Roll Roofing
 Replace When Re-roofing
 Aluminum/Galvanized
 Tarring/Concealed

Chimney/Vent

- Wood
 Metal
 Furnace/Water Heater
 Fireplace
 Brick/Block/Stone
 Stone
 Corrosion

Repoint chimney mortar joints to reduce further deterioration.

Chimney Cap

- Concrete
 Metal
 Minor Cracking - Seal
 Corrosion



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Roof Structure

Visible Flue Liner

Clay

Metal

Block

Rain Cap/Screen Covered

Limitations

- No Access/Sealed Insulated Stored Items Looked In/Insp from opening
 Entered Hatch Pull Down

Structure

- Truss Rafter Stains

Sheathing

- Condensation Boards Plywood/OSB Stain(s) Concealed

Insulation

- Concealed/Not Visible/Finished Fiberglass Foam Rock Wool Fiberglass
 Blown In/Loose Batt Other Cellulose

Ventilation

- None Turbine Mechanical Soffit Roof/Ridge Baffles
 Gable end Turbine

Exhaust Duct

- Concealed Into Attic Metal Flex

Basement/Structure

Limitations

- Finished/Partially Finished
 Dry Ground
 Clutter/Obstruction
 Dry Weather/Drought

Basement structure material/conditions determined by representative amount as visible in furnace/laundry utility room. Less than 10% of components visible

Floor

- Crack(s) - Typical. Seal + Monitor
 Concrete
 Carpet
 Ceramic
 Vinyl
 Structural Wood Floor
 Structural Concrete Floor

Wall

- Crack
 Concealed
 Concrete
 Block
 Brick/Stone
 Wood
 Drywall/Plaster

Ceiling

- Unfinished
 Wood
 Tile
 Drywall/Plaster

Window

- Binds - Adjust/repair
 Not Tested
 Thermal
 Single Pane
 Fixed Pane
 Metal
 Wood
 Vinyl
 Representative # Inspected/Tested

Operational

All windows have been replaced recently and are in good condition.

Door

- Binds
 Damaged
 Pocket
 Hinged
 Wood
 Metal
 Hole(s)/Damaged
 Representative # Inspected/Tested

Operational

Lighting

- Minimal
 Unsecured
 Representative # Inspected/Tested

Operational

Heat Source

- None
 Electric
 Air Register
 Radiant/Baseboard

Basement Stairway

- Unsecured
 Carpet
 Wood
 Worn

Railing

- Metal
 Wood
 Incomplete
 None

Floor Joist

- Concealed
 Engineered Joists
 Solid Wood
 Stained

Bridging

- Concealed
 Continuous
 X-Metal
 X-Wood
 Solid Wood
 None

Basement/Structure

Sill Plate

All Concealed No Anchors Partially Concealed

Beam

Unsecured Concealed Metal Wood

Post

On Slab Concealed Wood Concrete Metal Brick/Block
 Stone

Pipes/Ducts

Leak Insulated Secured



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Electrical Service

Service Entrance

No Conduit Overhead Underground 120/240V

Entrance Cable

Concealed Aluminum Copper

Main Disconnect

Switch/Cartridge Fuse Breaker

Service Size

Have Electrician Evaluate

Amps 200

200 amp service, copper wire.

Distribution Panel

Not Opened Non Standard Installation Obstructed

Location Basement West wall

Panel Rating

Room For Expansion

Amps 200

Fuse

Breaker GFCI Breaker AFCI Breaker Over-Fused Cartridge Glass

Circuit Wires/Receptacles

Aluminum Copper Representative # of Outlets Inspected/Tests Switched Outlets

Grounding

Concealed Ground Rod Water Main

Bonding

Concealed Water Pipe Gas Pipe Meter By-Pass

Auxiliary Panel

Concealed Non Standard Installation Not Opened Unsecured

Location Furnace room

Auxiliary Service size

Have Electrician Evaluate

Amps 100



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Electrical Service

Auxiliary Panel Rating

Room For Expansion
Amps 100

Auxiliary Fuse

Breaker GFCI Breaker AFCI Cartridge Glass

Heating

Data Plate

Not Legible Incomplete
 Model: Trane Estimated Age: 5 years

Limitations

System Operating in Heating Mode System Shut Down/Not Tested

Smoke Detectors

Basement 1st Floor 2nd Floor 3rd Floor

Thermostat/Humidistat

Unsecured Programmable Standard

Operational

Heat Type

Convector - Wall Unit Forced Air Radiator/Baseboard
 Radiant - In-Floor Electric

Burner Type

Conventional Mid Efficiency High Efficiency

Heating Fuel Source

Gas Electric Propane

Fuel Source Shut Off Location

Beside

Heating System

Advise Service/Repair Contract Verify Service Hist w/Selle

Operational

High efficiency furnace is 5 years old and functioning as intended. Typical life expectancy is 20 years.

Fresh Air Supply

Internal External

Venting

Metal Corrosion Sidewall/Plastic Flue

Remove old furnace vent pipe and seal flue to prevent exhaust gases from entering the home.

Life Expectancy

Typical Middle Exceeded Middle/End

Gas Burner

Not Checked

Operational

Heating

Ignition

- Electronic Pilot & Thermocoupl

Heat Shield

- Missing Corrosion Soot None

Burn Chamber

- Advise Adjustment Soot

Motor/Blower

- Direct Drive Noisy Other

Operational

Filter

- Disposable Missing Inoperable Undersized Damaged

Duct/Joint/Housing

- Corrosion Secured

AC

- Not Checked Dirty Central Room Unit
Approx. Age 5 years Approx Size - Tons 1

Not Applicable

AC unit is 5 years old. Typical life expectancy is 15 years.

Testing A/C unit during low outdoor temperatures will cause system failure. Determine function during cooling season.

Cooling Fuel Source

- Electric

Condensation Line

- Improper Drain Corrosion

Refrigerant Line

- Unsecured Not Insulated

Electric Heating

- Not Tested Forced Air Damaged Fins Baseboard

Functional

Plumbing Components

Limitation

- Finished Basement Private System

Public Supply

- Concealed Lead Galvanized Plastic Copper Metered
 Not Metered

Shut Off Location: Basement north wall

Public Shut-Off Valve

- Not Tested Corrosion

Water Pressure

- Low Typical High

Water Quality

- Discoloration Debris Odor Advise Well Water Quality Test Typical

Hose Bibb

Not Applicable

- Not Checked Shut-Off Valve Unsecured Frost Free

Determine operation when weather permits. Hose bibb currently winterized

Distribution Piping

- Concealed Plastic Galvanized Copper

Cross Connection

- Kitchen Laundry Hose Bibb None Visible

Waste Drainage

- Concealed Cast Iron Plastic Copper Pump/Inspect Septic System

Sewer lines in old homes such as this are prone to tree root damage, low spots, fractures, or collapse due to deterioration over time. If line has not been replaced in modern time, it may well need to be in the near future. The best way to determine condition of the drain line requires camera/scope evaluation by a drain professional.

Floor Drain

- None - a potential concern Drain Appeared Functional During Test

Main Cleanout

- Concealed

Location Furnace room



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Plumbing Components

Hot Water Tank

Operational

With Heating System
Age less than 1 year

Gas Electric
Estimated Capacity -Gallons 40

Some Corrosion Noted - Typical

Hot water tank is newly installed. Typical life expectancy is 15 years.

Life Expectancy

Typical Exceeded Middle Middle/End

Fuel Shut-Off

Concealed
Location beside

Relief Valve

No Test Lever Corrosion Other

Discharge Tube

Undersized Discharge

Venting

Flue Sidewall Improper Rise Unsecured Corrosion Soot

Burn Chamber

Not Checked Needs Adjustment



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Laundry

Floor

- Worn
- No drain

Drain could not be located at time of inspection.

Wall

- Patched
- Unfinished
- Crack - Typical
- Uneven

Ceiling

- Patched
- Unfinished
- Crack - Typical
- Uneven

Window

- Binds - Adjust/Repair
- Not Tested
- Thermal Pane
- Single Pane
- Treat Wood To Preserve/Protect
- Storm Windows

Operational

Door

- Binds
- Damaged/Hole in Door

Operational

Lighting

- None
- Unsecured

Operational

Tub/Faucet

- Unsecured
- Plastic
- Slow Drain
- Corrosion

Operational

Trap/Drain

- Drain stop disconnected/inoperable-repair if possible
- Improper Trap
- Slow Drain
- Corrosion
- Concealed

Washer

Operational: Yes

- Tested On/Off Function Only
- Make Samsung # Y01C53AC70092K

All appliances were turned on using regular operating controls if they are connected or not shut down. All functions and different systems are not tested. The test simply comprises turning the appliances on to verify some basic functionality.

Dryer

Operational: Yes

- Tested On/Off Function Only
- Make Samsung # Y0K753BC602249M

Dryer Vent

- Unsecured
- To Crawlspace
- Mostly Concealed
- Plastic Duct

Dryer vent cleaning is recommended to increase efficiency and for fire safety. Inspect/clean on a regular basis.

Interior of dryer vent condition concealed-not inspected

Laundry

Heat Source

- None Thermostat Electric Air Register Radiant
 Radiator/Convactor

All Baths

Location

Basement 1st Floor 2nd Floor 3rd Floor

Water Flow

Normal Suspect Low

Floor

Worn Minor Cracking - Typica Stains/Minor Damage

Wall

Uneven Patched - Typical Ceramic

Ceiling

Uneven Minor Patching - Typical Minor Cracking - Typica

Window

Binds - Adjust/Repair Not Tested Treat Wood To Preserve/Protect Thermal Pane
 Single Pane Storm Windows Representative # Inspected/Tested

Operational

Door

Binds - Adjust/Repair Damaged Representative # Inspected/Tested

Operational

Lighting

None Unsecured

Operational

Exhaust Fan

Advise Installation Dirty - Clean for best function Noisy - Service/Repair/Replace

Operational

Sink

Worn Chip/Scratch Solid/Granite

Faucet

No Shut-off Unsecured Corrosion Minor Leakage at Handle - Repair

Operational

Trap/Drain

Drain stop disconnected/inoperable-Repair Slow Drain-Clean/Repair Corrosion - Monitor for leaks

Vanity

Worn/Scratches Missing/Loose Hardware Prior Stains-No Leakage Now

Counter

Unsecured Minor Damage - Scratches/Stains Caulk at Backsplash

Toilet

Operational

- No Shut-Off Unsecured Crooked - Monitor for leakage

Heat Source

- None Thermostat Electric Air Register Radiant
 Radiator/Convactor

Basement washroom

Location

Basement 1st Floor 2nd Floor 3rd Floor

Water Flow

Normal Suspect Low

Floor

Worn Minor Cracking - Typica Stains/Minor Damage

Wall

Uneven Patched - Typical Minor Cracking - Typica

Ceiling

Uneven Minor Patching - Typical Minor Cracking - Typica

Window

Binds - Adjust/Repair Not Tested Treat Wood To Preserve/Protect Thermal Pane
 Single Pane Storm Windows Representative # Inspected/Tested

Operational: Yes

Door

Binds - Adjust/Repair Minor Damage/Hole In Door Representative # Inspected/Tested

Operational: Yes

Lighting

None Unsecured

Operational: Yes

Exhaust Fan

Advise Installation Dirty - Clean for best function Noisy - Service/Repair/Replace

Operational: Yes

Sink

Worn Chip/Scratch Solid/Granite

Faucet

No Shut-off Unsecured Corrosion Minor Leakage at Handle - Repair

Operational: Yes

Trap/Drain

Drain stop disconnected/inoperable Slow Drain - Clean/Repair Corrosion - Monitor for leaks

Vanity

Worn/Scratches Missing/Loose Hardware Prior Stains-No Leakage Now

Toilet

No Shut-Off Unsecured Crooked - Monitor for leakage

Operational: Yes

Basement washroom

Tub Faucet/Mixer

Not Tested Unsecured Leaky-Secure/Repair/Replace

Operational: Yes

Shower Enclosure

Ceramic/Tile Solid Surface/Marble Fiberglass Plastic Panels
 Minor Mildew Stains - Treat/Clean Worn - Scratches/Chips

Shower Head

Not Tested Unsecured Leaky-Secure/Repair/Replace

Operational: Yes

Heat Source

None Thermostat Electric Air Register Radiant
 Radiator/Convactor

2nd Floor Washroom

Location

Basement 1st Floor 2nd Floor 3rd Floor

Water Flow

Normal Suspect Low

Floor

Worn Minor Cracking - Typica Stains/Minor Damage

Wall

Uneven Patched - Typical Minor Cracking - Typica

Ceiling

Uneven Minor Patching - Typical Minor Cracking - Typica

Window

Binds - Adjust/Repair Not Tested Treat Wood To Preserve/Protect Thermal Pane
 Single Pane Storm Windows Representative # Inspected/Tested

Operational: Yes

Door

Binds - Adjust/Repair Minor Damage/Hole In Door Representative # Inspected/Tested

Operational: Yes

Lighting

None Unsecured

Operational: Yes

Exhaust Fan

Advise Installation Dirty - Clean for best function Noisy - Service/Repair/Replace

Operational: Yes

Sink

Worn Chip/Scratch Solid/Granite

Faucet

No Shut-off Unsecured Corrosion Minor Leakage at Handle - Repair

Operational: Yes

Trap/Drain

Drain stop disconnected/inoperable Slow Drain - Clean/Repair Corrosion - Monitor for leaks

Vanity

Worn/Scratches Missing/Loose Hardware Prior Stains-No Leakage Now

Toilet

No Shut-Off Unsecured Crooked - Monitor for leakage

Operational: Yes



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2nd Floor Washroom

Tub/Enclosure

- Ceramic/Tile Solid Surface/Marble Fiberglass Plastic Panels
 Minor Mildew Stains-Treat/Clean Worn - Scratches/Chips

Tub Faucet/Mixer

- Not Tested Unsecured Leaky-Secure/Repair/Replace

Operational: Yes

Shower Enclosure

- Ceramic/Tile Solid Surface/Marble Fiberglass Plastic Panels
 Minor Mildew Stains - Treat/Clean Worn - Scratches/Chips

Shower Head

- Not Tested Unsecured Leaky-Secure/Repair/Replace

Operational: Yes

Heat Source

- None Thermostat Electric Air Register Radiant
 Radiator/Convactor

Kitchen

Floor

Worn Minor Cracking - Typica Stains/Minor Damage

Wall

Uneven Patched Minor Cracking - Typica

Ceiling

Uneven Patched- Typical Minor Cracking - Typica

Window

Binds - Adjust/Repair Not Tested Thermal Pane Single Pane
 Treat Wood To Preserve/Protect Representative # Inspected/Tested Storm Window

Operational

Door

Binds - Adjust/Repair Minor Damage/Hole(s)

Operational

Lighting

None Unsecured Representative # Inspected/Tested

Operational

Sink

Worn Chip/Scratch

Faucet

No Shut-Off Valve Unsecured Corrosion Minor Leakage at Handle - Repair

Operational

Trap/Drain

Slow Drain - Clean/Repair Corrosion - Monitor for Leakage

Counter

Unsecured Caulk at Backsplash Minor Damage/Scratches/Worn

Cabinet

Worn/Scratches Missing/Loose Hardware Representative # Inspected/Tested

Range Hood

Cooktop Exhaust No Exhaust No Light Noisy

Operational

Exhaust vent

Unsecured Ductless Concealed To Exterior

Filter

Missing - Install for safety Unsecured Damaged Greasy

Major Appliances (Built-in)

- Tested ON/OFF only. Did not Test All Functions/Cycles

All appliances were turned on using regular operating controls if they are connected or not shut down. All functions and different systems are not tested. The test simply comprises turning the appliances on to verify some basic functionality.

Dishwasher

Operational

Brand Samsung # A3JDG9MC501013F

Stove/Cooktop

Operational

Brand Kitchenaid # DD22579736

Refrigerator

Operational

Brand Samsung # Y4D24ADC600464Y

Heat Source

- None Thermostat Electric Air Register Radiant
 Radiator/Convactor

Interior Living Spaces

Floor

- Worn
 Minor Cracking - Typica
 Staining/Minor Damage

Wall

- Uneven
 Patched - Typical
 Minor Cracking - Typica
 Wood Frame w/drywall/plaster

Ceiling

- Uneven
 Patched - Typical
 Minor Cracking - Typica
 Wood Frame w/drywall/plaster

Window

- Binds - Adjust/Repair
 Not Tested
 Fixed Pane
 Single Pane
 Thermal Pane
 Treat Wood To Preserve/Protect
 Representative # Inspected/Tested

Operational

Lighting

- None
 Unsecured
 Representative # Inspected/Tested

Operational

Interior Doors

- Binds - Adjust/Repair
 Hinged
 Closet door off track
 Floor guides missing
 Representative # Inspected/Tested

Operational

Stairway

- Carpet
 Wood
 Worn
 Squeaks - Typical

Railing

- Wood/Metal
 Incomplete
 None

Exterior Doors

- Binds - Adjust/Repair
 Weather Stripping Missing/Improper
 Dead Bolt
 Minor Damage - Dent/Split/Worn
 Sliding
 Hinged

Operational

Heat Source

- Air Register
 Electric
 Radiator/Convactor
 None
 Radiant-Concealed



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Additional Comments

General Comments

This is a Prelisting Inspection performed for the seller of the home in preparation for putting the home on the market for sale. This inspection is completed to ASHI and OAHl standards, is visual in nature, and does not address building code compliance issues which are the purview of municipal building inspectors.

Property and Site

Building



Rear image

Front Porch Rail



Add handrail for safety

Property and Site

Deck Railing



Missing handrail

Exterior

Exterior Walls



Brick deterioration

Exterior

Window Well



Windows at grade

Roof Structure

Covering



Roof covering



Roof Structure

Chimney/Vent



Mortar deterioration

Attic

Structure



Attic

Electrical Service

Service Size



Electrical panel

Auxiliary Panel



second panel

Heating

Heating System



High efficiency furnace

Venting



Remove old exhaust pipe and seal

Plumbing Components

Public Supply



Water meter and main shut off

Electric Heat

Residential electric heating systems are clean, nearly one-hundred percent efficient, and easy to maintain. Unfortunately, electric heat tends to be the most expensive heating. Generating electric heat involves inefficiencies and energy losses during conversion from fossil fuel to heat energy, from heat energy to mechanical energy, from mechanical energy to electrical energy, and finally from the transmission of electricity to your home. In the end, it would be cheaper and more efficient to burn the fossil fuel directly in your home.

Except for one mitigating factor: delivery of the fossil fuel to the home comes at a cost. In remote areas where the delivery costs of fossil fuel are high, electric heat may be a less expensive option.

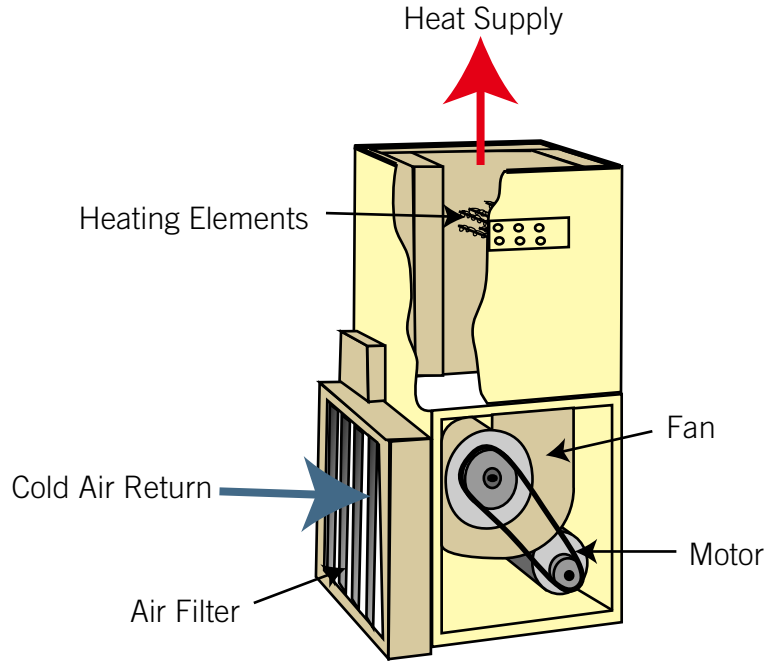
Heat Pumps

An electric heat pump does not generate heat, it just collects heat from outside and moves it inside. When you heat your house with electricity, you convert one unit of electrical energy into one unit of heat energy. With a heat pump, you might then use one unit of electrical energy to collect two units of heat energy, giving you one-hundred percent more heat than you paid for! The difficult part to understand is how you can collect heat from outside when it is cold outside. At about the freezing point, the electricity cost to pump heat into your house becomes more than the cost to generate heat directly. For this reason, heat pumps are not used in very cold climates. You see them more in places such as North Carolina.

Electric Furnace

An electric furnace is a simple and relatively trouble-free system. It has no heat exchanger, no gas valve, no igniters and no chimney. It simply has an electric resistance coil placed directly in the air stream. A blower moves air through the furnace and circulates the warmed air throughout the house.

Air conditioning can be added directly to the furnace, using the same ducting that



Electric Furnace

circulates heat to also circulate cool air.

Electric Baseboard Heaters

Electric baseboard heaters provide heat exactly where you need it, as you need it. Baseboards allow you to set back the thermostats in the rooms you are not inhabiting, saving a significant amount of energy. Unfortunately, you cannot add air conditioning to this system without adding an independent ducting system.

Electric Hot Water Boiler

An electric hot water boiler uses electric elements to heat water. The heated water is pumped into radiators or convectors throughout the house. In terms of size, electric hot water boilers are small and inconspicuous.

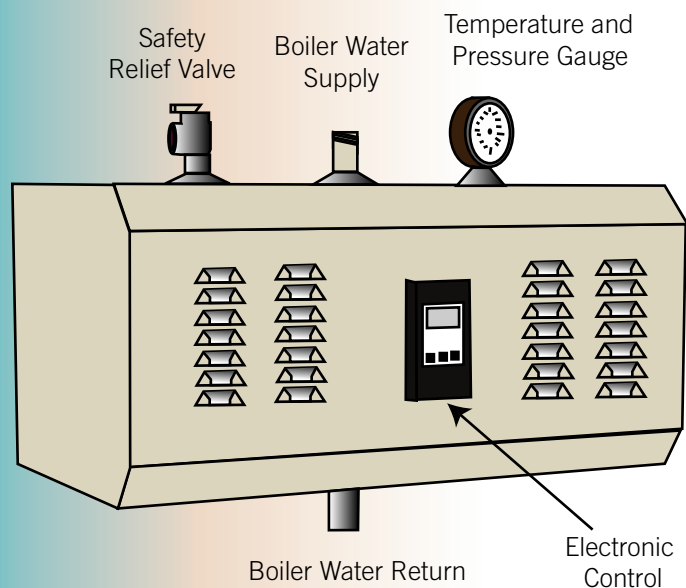
Electric Radiant Heat

Today, under-floor electric radiant heat is popular in bathrooms and kitchens, usually added as accent heating rather than as the primary source of heat.

In the late '80s and early '90s, whole house electric radiant heating became popular. Flexible radiant panels were installed under the drywall in the ceiling, creating a comfortable temperature without revealing the heat source. These systems, however, had problems that led to a recall and their ultimate termination. Since then, whole house electric radiant heat has not been popular.

Electric Thermal Storage

In some geographic areas, suppliers bill electricity at variable rates, higher during peak demand time and lower during low demand. This system encourages consumers to cut back on energy use when the generating station is maxed out.



Electric Boiler

Electric thermal storage heating systems use energy during off peak hours to heat a thermal mass, such as blocks of ceramic, located inside the home heating unit. During peak hours when electricity is most expensive, the electric heat shuts off but heat continues to ooze out of the ceramic, thus heating the home.

Even though electricity is more expensive than other heating options, you can offset the higher energy cost with good insulation. Most building codes require much higher insulation levels if the home is to be heated with electricity. The insulation is the builder's problem and the energy savings are the home owner's benefit. And an electric heating system will require few repairs over its life.

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Railings and Guards

The CDC (Centers for Disease Control and Injury Prevention) estimates that 40% of all unintentional deaths around the home are due to falls. One in five injuries that require a visit to an emergency room is due to a fall. Over 50% of these are falls that happen at home and most of these are falls from stairs and steps.

Railings and guards are designed to keep people from falling and injuring themselves. There is no doubt that properly installed railings and guards could help to improve these statistics.

A railing is something to grip onto when you go up and down a staircase. A guard is something that keeps you from falling off a staircase, deck or balcony. On a staircase, sometimes the railing doubles as a guard.

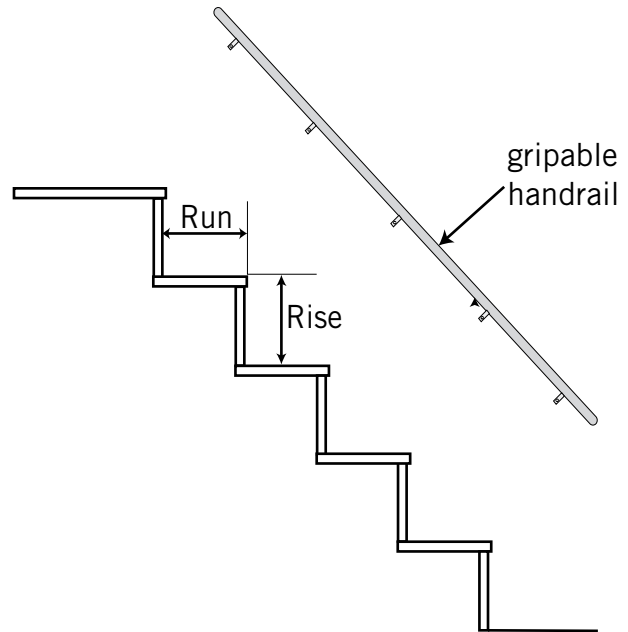
Many homes have missing or inappropriate railings and guards. One reason is that older homes did not have the same requirements as we do today. Home owners are not required to upgrade their homes to modern safety standards. If we had to upgrade, everybody would have to renovate their home every year just to keep up.

Pillar To Post home inspectors inspect your home with this in mind. We don't believe people should have to renovate their homes every year. Your railings and guards may be perfectly adequate for the time they were installed. At the same time we are concerned for your safety. We believe the solution is to provide you with information on common safety issues and let you decide if you would like to address the issue as a discretionary upgrade.

Here are a few common issues:

Missing railings: Sometimes a staircase has no railing at all, either because the previous owner removed it to make more room to move furniture up the stairs or because it was never installed in the first place. Ideally there should be a railing on any staircase that has more than two or three risers. The actual requirement depends on your area and when the home was built.

Missing guard: A common scenario is there is no guard on an open staircase to a



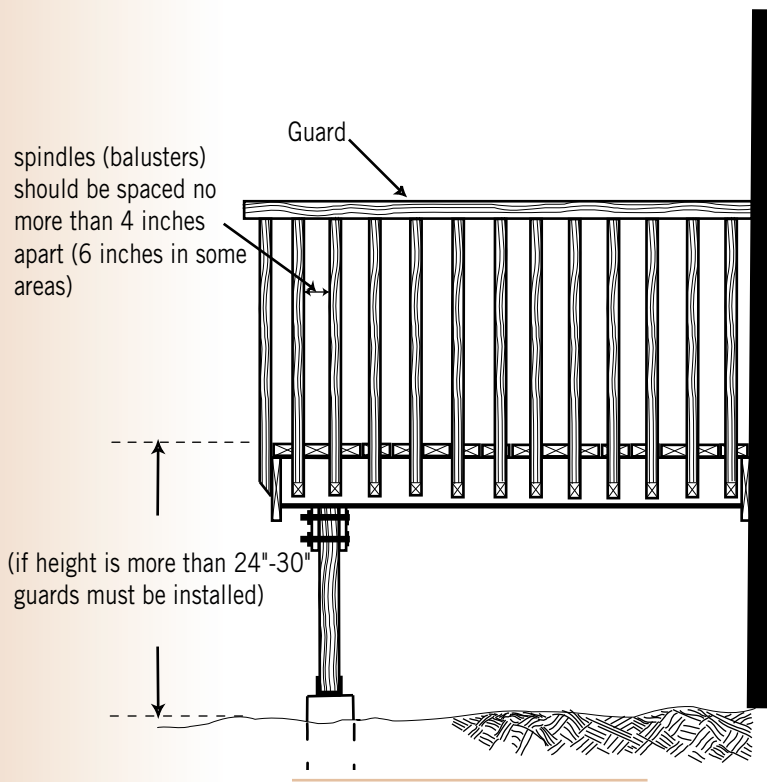
basement. In many areas, a guard was not required as long as there was a wall on one side and the basement unfinished. Today, many home owners have turned their basement into a recreation area or a playroom for children. The open staircase is now a danger. Ideally, a railing and guard should be added.

Guard too low: In some cases, an old home will have very low guards on staircases or balconies. This was the design at the time the home was built. Ideally, a guard should be 36 inches high, unless it's part of a staircase handrail in which case 34 inches would be ideal. In many areas, if the drop is six feet or more, a guard of 42 inches is required.

Railing or guard has large openings: Railings and guards may have vertical spindles (called balusters). These keep people from falling through. In some cases, the spacing between the spindles is so wide that a child could fall through. The requirements have changed over the years and also vary from area to area but most authorities believe that a maximum opening of four inches offers the best protection.

Other things to look for:

- Guards that incorporate climbable elements are not ideal. An example is a bench built into a guard or horizontal slats between the spindles on the guard. The concern is that children can climb them and fall over.
- Appropriate lighting for a staircase is a must. A dark stairwell is dangerous. That's all there is to it.
- Uneven stairs and stairs with non-uniform riser height are dangerous.



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Arc Fault Circuit Interrupter

Increasing Electrical Fire Safety

An “arc fault circuit interrupter,” or AFCI, is a new type of circuit breaker designed to detect sparking in an electrical system, and to shut down the affected circuit before it causes a fire. The jury is still out on whether AFCIs actually save lives and property.

A household circuit can cause fire in two ways: circuit overload and sparking. Standard circuit breakers or fuses usually protect an overloaded circuit, but the breakers may not trip from intermittent sparking. For example, if you pierce or sever an electrical cable while hammering a nail into a wall, you could create an intermittent short, resulting in sparking. If the breaker does not trip, a fire could start. The AFCI is designed to detect such problems.

Other potential causes of sparking:

- A frayed extension cord
- A squeezed or pinched cord
- Old and cracked insulation on electrical wires and cables
- Loose electrical connections

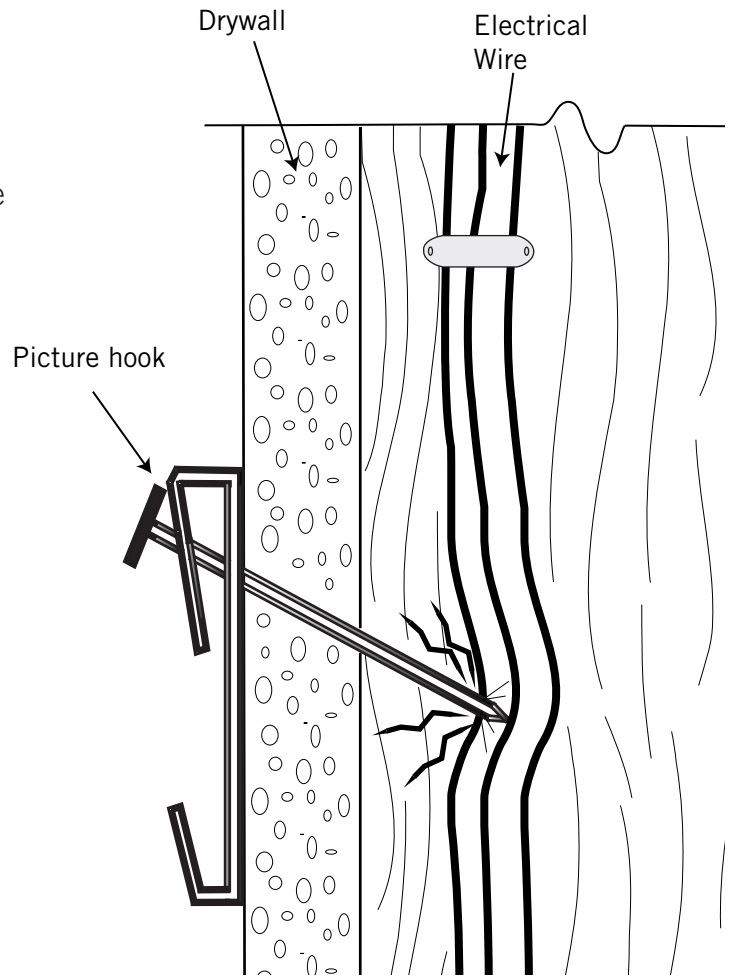
What’s the Difference Between an AFCI and a GFCI?

A GFCI, or a “ground-fault circuit interrupter,” is typically installed in areas with a high risk for electrical shock, such as bathrooms (see Pillar To Post® GFCI Info Series). A GFCI protects people from electric shock, while an AFCI protects homes from electrical fires.

What Do These Devices Look Like? Where Are They Installed?

An AFCI fits into the electrical panel in place of a standard circuit breaker. It looks like a GFCI breaker except the AFCI has a blue test button while the GFCI has an orange test button.

AFCIs are becoming mandatory in some jurisdictions. In 2002, the National Electrical Code insisted on AFCIs for all bedroom electrical outlets and their branch circuits.



Information Series

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AFCIs may be retrofitted to any home with a modern circuit breaker panel. But before you ask your electrician to replace all your breakers with AFCIs, consider the following:

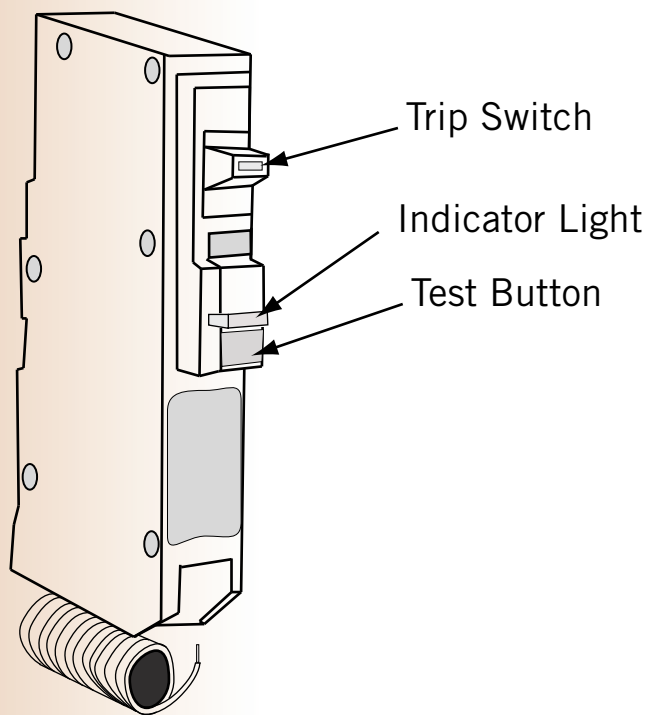
- AFCIs are expensive, about \$40 to \$60 dollars per breaker. For a typical panel, you might pay a sum of \$1,500, not including labor.
- AFCI breakers may not be available for an old panel.

Can an AFCI Make an Old Electrical System Safer?

Old wiring has likely been subjected to years of modifications and abuse, making it a more likely candidate for sparking. Insurance companies are concerned about the safety of knob and tube wiring in particular, making an AFCI seem an ideal retrofit. But since AFCIs have not been tested with old wiring, certifying laboratories and electrical authorities cannot yet assure the public that AFCIs will perform as expected.

Not Quite Electrical Nirvana

It will take several more years before statistics reflect anything concrete about how well AFCIs function. In the meantime, we can only assume that AFCIs reduce the chances of electrical spark-induced fires. Electrical authorities do plan, however, to ultimately mandate every breaker in your electrical panel as an AFCI or a GFCI, or a device that covers both, protecting people from electric shock and homes from electrical fires.



Pillar To Post® encourages anyone who feels they would benefit from AFCIs to consult an electrician. We would like to make one thing clear: we do not believe AFCIs are a quick fix for dangerous wiring, nor are they an excuse to live with an unsafe electrical system. A qualified electrician should promptly deal with unsafe wiring conditions.

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Carbon Monoxide

Carbon monoxide, or CO, a byproduct of incomplete combustion of fossil fuels, is a colorless, odorless gas. Breathing CO reduces the blood's ability to carry oxygen. In severe cases, CO can cause death.

Defective or malfunctioning fossil fuel appliances, or inappropriate use of appliances that burn fossil fuel close to or inside the home can pose a serious health hazard. Here are a few examples of dangerous operations:

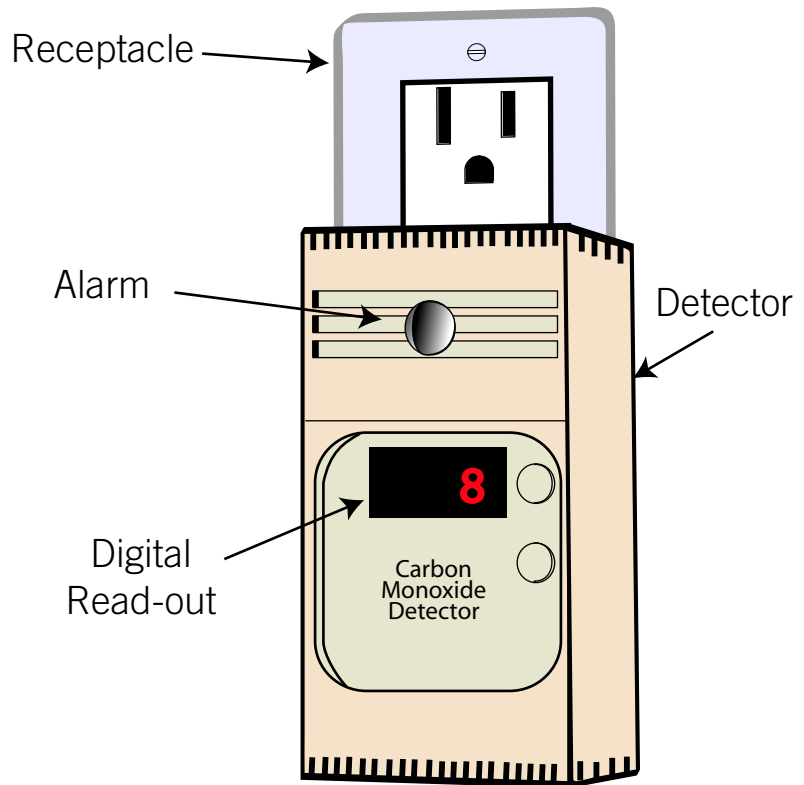
- Running an automobile or gas lawn mower inside the garage
- Operating a barbeque inside the home
- A gas or oil burning furnace with a blockage in the chimney
- Kerosene space heaters
- Operating a generator in the home during a power failure

Symptoms of Carbon Monoxide Poisoning

Symptoms of carbon monoxide poisoning include headache, dizziness, nausea, vomiting, weakness, chest pain, confusion, and loss of consciousness. Carbon monoxide poisoning can lead to death. Low level poisoning may go unnoticed because it may be mistaken for the flu.

Carbon Monoxide Detector

You should have at least one carbon monoxide detector in your home. In some geographic areas, a CO detector is required by law. The CO detector should be placed where you can hear it if it goes off when you are asleep. A CO detector does not have to be placed on the ceiling, since unlike smoke, CO has approximately the same weight as air so it mixes



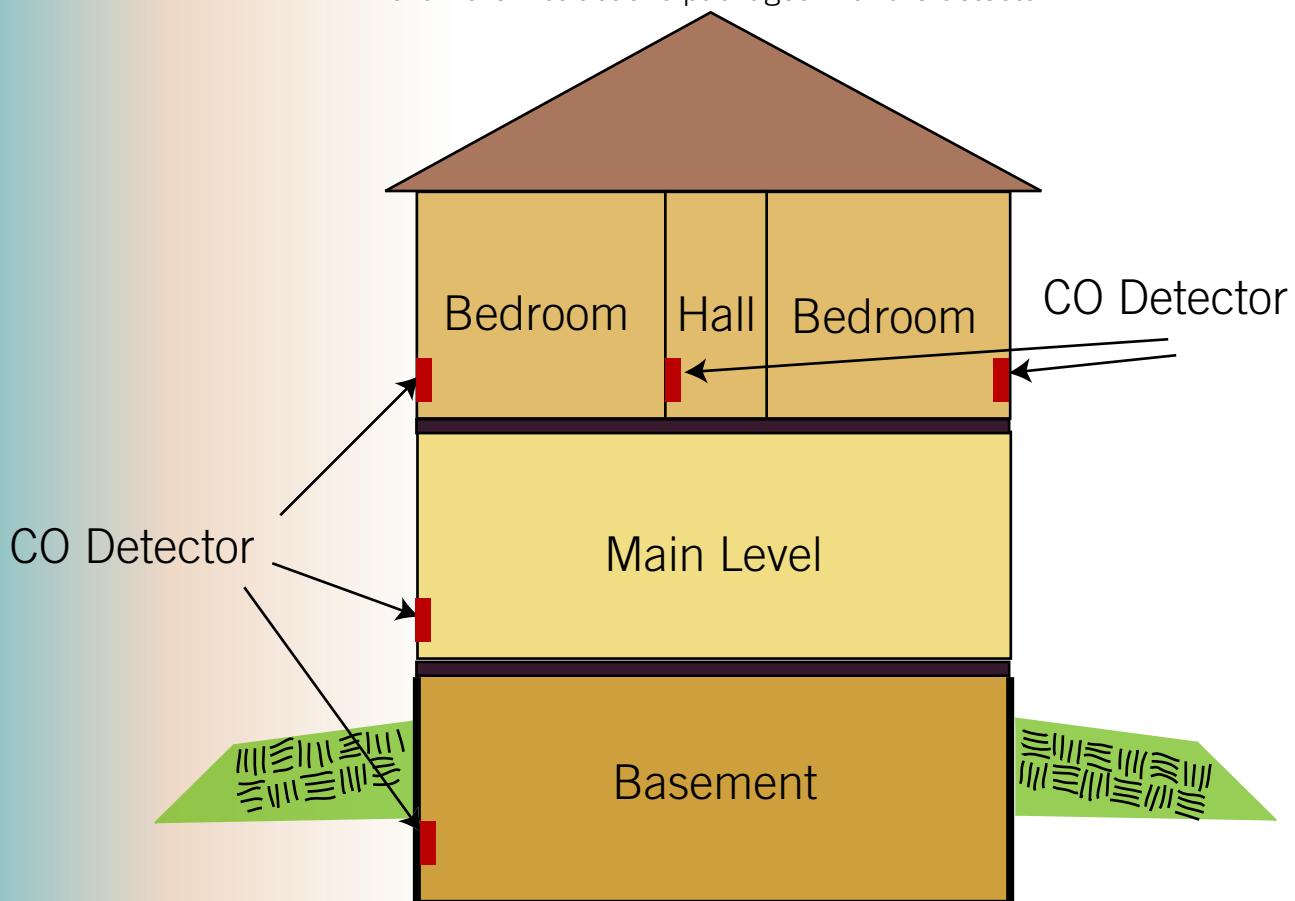
uniformly throughout the room rather than floating up to the ceiling. To avoid false alarms, do not install the detector next to heating and cooking appliances, vents, flues, or chimneys. Make sure you read and follow the operating, placement, and testing instructions that come with the detector.

If the carbon monoxide detector alarms, take it seriously.

Avoiding CO Poisoning

- Have your heating systems serviced every year by a qualified technician.
- Have your fireplace chimney cleaned and inspected every year.
- Install at least one CO detector in your home and replace the batteries twice per year.
- Open the garage door prior to starting your car; drive the car out promptly. Do not leave it idling in the garage. Do not use a remote car starter when the car is in the garage.
- Do not use a charcoal or propane barbeque in the home.

If you are installing only one carbon monoxide (CO) detector, it should be located where you can hear it if it goes off when you are sleeping. For greater safety, multiple CO detectors can be installed throughout the home. Follow the instructions packaged with the detector.



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ASPHALT SHINGLES

Asphalt shingles are the most common type of sloped roof covering in North America. They are easy to install, reliable and arguably the best bang for the buck.



Three layers of an asphalt shingle

Shingle Construction

While there are many types of asphalt shingles, the general construction is similar. There are three distinct layers -

- A base material that gives the shingle strength and shape.
- An asphalt layer that forms a waterproof barrier.
- A granular surface that reflects the ultraviolet radiation and gives the shingle durability, color and texture.

Warranty

What's a 20 year shingle? 20 years is the manufacturer's limited warranty against defects. The number loosely represents the number of years the shingle could last in an ideal installation and ideal conditions. In practice, the reliable life is less than stated. Common shingle warranties are 15 to 50 years. The higher the warranty, the thicker the layer of asphalt and the thicker and heavier the shingle.

Fiberglass or Organic Based Asphalt Shingles

The two common base layer materials are paper saturated in asphalt and fiberglass. While they are both asphalt shingles, they are often referred to as organic and fiberglass respectively.

Fiberglass base shingles were developed to use less of the expensive asphalt but still maintain the same shingle life. The main difference is that the fiberglass based shingle is thinner and lighter than the equivalent organic shingle, making it more desirable for installers.

Organic shingles are thicker and heavier and are considered to have better durability and tear resistance. Fiberglass based shingles are more flexible in hot weather and may perform better in wind storms. Both types are used successfully in most climates. There have been problems reported with fiberglass based shingles involving cracking of the shingles due to thermal stress (large temperature fluctuations). These problems are less prevalent now as new standards for manufacturing these shingles have been adopted by most manufacturers.

Architectural / Laminated Shingles

The most common asphalt shingle is the three tab shingle shown in the illustrations. Instead of three tabs, the architectural shingle has pieces of shingle material stuck on to create a more interesting pattern. Because there are pieces stuck on, it's often called a *laminated shingle*. Since it's a premium product, it will have a 25 to 30 year warranty as a minimum. Many styles are available.

On The Roof

The illustration below shows a roof deck with the first few rows of shingles. The shingles are arranged so water sheds from one shingle to the next. The key point is that the system is not waterproof. It relies on gravity and the slope of the roof to shed water. Asphalt shingles are designed for a roof with a slope of 4 in 12 or greater. They can be used on low slope roofs as well but a special application technique is required.

Flashing: Asphalt shingles will shed water reliably. At roof penetrations or intersections, special treatment is required. For example, you can't reliably seal shingles to the edge of a skylight or chimney. Flashings are pieces of metal that are strategically placed to shed water over roof penetrations and onto the field of shingles without relying on sealants. Done properly, flashings will do the job for the life of the roof as they rely on nothing but gravity and slope. Flashings are often not done properly and are considered to be the weak point of any roof surface. Roofs rarely leak in the middle of a field of shingles, they leak at roof penetrations and intersections where flashing has been poorly installed or have become damaged.

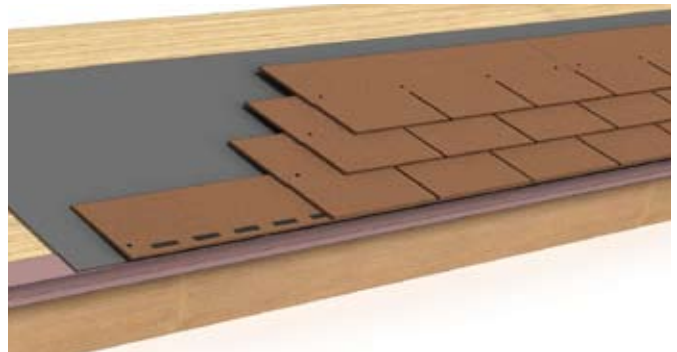
Life Cycle & Reliability

Asphalt shingles wear out. Imagine an asphalt shingle roof surface as a sacrificial wear surface. The life cycle of the surface is always less than the advertised warranty period of the shingle.

Wear: Asphalt shingles deteriorate from exposure to ultraviolet radiation. For this reason, south and west facing shingles wear out much more quickly than north and east facing. Other wear factors include heat, inadequate venting of the roof space underneath, roof slope, leaves and debris, snow and ice.

Reliability: When the surface is near the end of its service life, it becomes unreliable. We are often asked if an old roof could last another year or two. The answer is usually, "yes but". Either live with a reduced reliability (increased risk of leakage) or improve the reliability by giving the roof a "once over", focusing on repairing flashings. Depending on the roof, it may not make economic sense to spend money repairing flashings that will only be torn off when the roof is ultimately resurfaced. Furthermore, the surface is hard to work with because it becomes very brittle when it's old.

Multiple layers: When it's time to resurface the roof, it is possible to install new asphalt shingles directly over the old. This is less expensive than stripping the existing surface. The trade-off is that the roof may not last as long and may not be as reliable. This is because old flashings are often used and are often not done properly and because the shingles are laid upon an uneven base. Some areas allow up to three layers while other areas allow only two.



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