

# **BUILDERS** CHALLENGE

# FOCUS ON YOUTH



Thank you to the Canada Mortgage and Housing Corporation (CMHC) - Indigenous Skills Training Program for their invaluable support, guidance, and commitment to empowering youth through hands-on learning and skill development.







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This general guideline is a resource of the First Nations Housing Community. A special thanks to Jon Eakes for his assistance in putting this information together.



# Jon Eakes

TV and Radio personality and all-around handyman Jon Eakes will host the exciting Builders Challenge - Focus on Youth event.

Jon has been an expert in the field of home renovation for over 30 years and starred in the first national home renovation TV show in North America.

Today, Jon brings his home renovation message to regulatory, corporate and government agencies through Radio, TV, and gatherings like the First Nations Housing Conference.



# Introduction

Just like preventative maintenance on your car, if you take care of a few small items around the house every week, you can avoid many emergency breakdowns and expensive repairs.

Preventative Maintenance Calendar is an essential tool designed to help homeowners, property managers, and businesses proactively maintain their equipment, appliances, and systems. By scheduling regular checks and upkeep, this calendar aims to extend the lifespan of assets, improve energy efficiency, ensure safety, and prevent costly repairs or unexpected breakdowns.

Unlike reactive maintenance, which addresses issues only after they arise, preventative maintenance focuses on identifying potential problems early and keeping systems running smoothly throughout the year. This organized approach minimizes downtime and reduces the risk of emergencies by ensuring that every component, from HVAC systems to plumbing and electrical networks, receives timely attention.

The calendar is divided into weekly tasks, with clear instructions for inspecting, cleaning, repairing, or replacing critical components. Whether it's changing furnace filters, checking smoke alarms, or inspecting roofs and gutters, each task is scheduled to align with optimal maintenance intervals.



# **Key Benefits**

## Key Benefits of Using a Preventative Maintenance Calendar:

- 1. **Cost Savings:** Avoid expensive repairs or replacements by addressing minor issues early.
- 2. **Efficiency:** Ensure systems operate at peak performance, reducing energy consumption and utility bills.
- 3. **Safety:** Protect occupants by maintaining safe operating conditions for essential systems.
- 4. **Longevity:** Prolong the lifespan of appliances, equipment, and infrastructure through regular care.
- 5. **Peace of Mind:** Stay organized and avoid the stress of unexpected issues with a proactive plan.

The following weekly tasks can be embark on in order to achieve the benefits outlined above.







## Filter

It is essential to regularly check furnace filters to ensure optimal performance and efficiency. A clogged filter can significantly increase heating costs, potentially doubling energy expenses. When airflow is restricted, the furnace must work harder and run longer to maintain the desired temperature, causing excess heat to escape up the chimney. In severe cases, a clogged filter may even lead to furnace overheating. While all filters reduce airflow to some extent, clean filters perform their function



effectively by allowing the best possible airflow. Not all filters require monthly cleaning or replacement, but for homes where the maintenance frequency is unclear, it is recommended to check the filters monthly until a suitable pattern is established. This proactive approach helps maintain system efficiency and prevents unnecessary wear and energy loss.



## **Barometric Flue Dampers**

The barometric damper on oil furnaces with chimneys plays a crucial role in maintaining proper functionality. This component is typically located in a "T" joint along the flue pipe, positioned between the furnace and the chimney. It consists of a small, pivoting round disk with a weight at its base to ensure it remains in the correct position. The damper enables the chimney to draw air from the furnace room and mix it with exhaust gases, ensuring the chimney operates effectively.

The weight on the damper can be adjusted to regulate the airflow into the chimney, but such adjustments should only be performed by a qualified furnace technician. During inspections, the damper must be checked to ensure it swings freely when gently pushed. Dirt accumulation on the pivot points can impede this movement, affecting performance. Cleaning these pivot points with a brush is a simple but essential task to maintain proper chimney and furnace operation.

This maintenance step, while minor, is vital for ensuring the overall efficiency and safety of the system.





# **Roof Inspection**

Winter water damage can be mitigated by monitoring the accumulation of ice along the edge of the roof with tools such as binoculars to closely examine the roof without requiring the use of a ladder. Given the inherent dangers of climbing ladders in winter conditions, such tasks should be reserved for professionals equipped with appropriate safety gear.



Ice formations or icicles on the roof's edge often indicate the need for drainage paths to prevent water from

pooling and seeping under shingles. Temporary solutions, such as installing electrical de-icing cables or applying non-corrosive salt melters, can address this issue. However, these measures are not substitutes for addressing the root cause, which is typically heat loss from the house into the attic and through the roof's snowpack.

To implement a long-term solution, photographic documentation of ice accumulation during winter is recommended. These images serve as critical references in the



spring, guiding efforts to seal heat loss points effectively. This approach ensures a systematic and permanent resolution to the problem.

# **Floor Register Maintenance**

Floor registers, particularly those within forced-air heating systems, should be inspected for dirt accumulation, especially around carpets. Dust and debris often collect at these locations due to air leakage around the floor grill frame, with the carpet functioning as a filter.

Oily or greasy dirt deposits around floor registers may signal issues with the furnace's heat exchanger, such as the leakage of exhaust gases into the home. In such cases, professional inspection by a furnace technician is strongly advised to address potential safety concerns.

If dirt streaks are purely dust-related, preventive measures can be taken to reduce accumulation. Weather-stripping products, such as self-adhesive foam strips, can be applied to seal the frame of the floor grill to the underlying metal ducting. This ensures that all air passes through the grill without bypassing it, improving both cleanliness and system efficiency.

By addressing these two areas proactively, potential damage and safety risks can be minimized while maintaining a secure and efficient home environment.





# **Moisture Damage**

January typically brings the coldest temperatures of the year. This results in outside walls and window frames reaching their lowest temperatures, which can cause issues with indoor humidity levels. What was manageable earlier in the season may now lead to the formation of condensation, a phenomenon influenced by both humidity and temperature.



Preventative maintenance inspections should include identifying areas where condensation is present. This is

crucial, as prolonged condensation contributes to the development of mould and mildew, which can negatively impact indoor air quality. Over time, these issues may lead to structural damage and rot within the home.

Attention should be given to water pipes, as colder temperatures cause incoming water to be significantly colder, increasing the likelihood of sweating pipes. Areas under sinks, floors beneath pipes, and sections where cold water pipes run through



basements should be checked for dripping or condensation. Insulating these pipes can effectively mitigate this problem.

High-moisture areas such as shower rooms and laundry rooms require special attention. Ceiling-to-wall joints, often the coldest points in homes, are particularly susceptible. Additionally, the backs of closets, especially those densely packed with linens, should be inspected. Poor air circulation in such spaces can lead to musty odors. A practical solution includes replacing solid shelves with wire racks and potentially insulating the exterior walls behind these closets.

Should a single condensation issue be identified, specific solutions can often resolve the problem. However, if condensation is observed in multiple areas, reducing overall humidity becomes necessary. This can typically be achieved by installing or enhancing exhaust fans or implementing whole-house fresh air ventilation systems.

By taking these measures, the risks associated with condensation can be significantly minimized, preserving both indoor air quality and the structural integrity of the home.





## **Attic Frost**

The coldest time of the year presents a critical opportunity to inspect attics for frost-related issues. Moisture problems can occur in attics year-round, but they tend to be most pronounced on the coldest days. During these conditions, warm air from inside the house creates pressure that forces it upward. As it escapes into the attic, the moisture it carries condenses and freezes upon contact with cold surfaces.



Common indicators of attic frost include small patches of frozen moisture on roofing nails and larger accumulations resembling snow atop insulation near air leaks. Proper ventilation in winter aims to keep snow on the roof frozen, rather than eliminate moisture. Addressing frost primarily involves sealing air leaks from the house into the attic.

Minor, even frost patterns on the underside of the roof deck are typically normal for older homes and require no immediate action. However, concentrated frost or ice clumps often mark significant air leaks. These localized frost patches serve as visual



indicators, simplifying the process of identifying and sealing problem areas to prevent water damage.

# **Humidifier Considerations**

Excessive indoor condensation, particularly on windows, often indicates high humidity levels within the house. In such cases, turning off any humidifier is recommended. Over humidification suggests a need for better air sealing rather than additional moisture. Modern homes are designed to retain humidity efficiently, making mechanical ventilation more appropriate for balancing indoor air quality.

For households experiencing dryness due to excessive winter air infiltration, sealing air leaks is the optimal solution. Humidifiers should only supplement moisture levels after achieving adequate air sealing.

Regular maintenance of humidifiers is essential for optimal performance. Components such as air pads may require cleaning, while older drum-style humidifiers may benefit from oiling and inspection. Newer humidifiers offer enhanced designs with control mechanisms that reduce the need for standing water, improving hygiene and efficiency. In contrast, vaporizer humidifiers can disperse mineral particles into the air, leading to residue accumulation. Regular cleaning of pads is preferable to dealing with such dust.

By proactively managing both attic frost and indoor humidity, homeowners can protect their property and enhance overall comfort.





Regular filter maintenance is essential for maintaining good health and achieving economic efficiency. Filters play a critical role in ensuring that various household systems operate effectively and safely.

# **Forced Air Furnaces**

Forced air furnaces are equipped with a basic pre-filter designed to protect the fan motor. While it takes time for these filters to clog to the point of affecting performance, their primary function is limited to capturing large particles, such as fuzz. Enhanced filters, on the other hand, are capable of removing finer pollutants from the air. However, these advanced filters can become clogged quickly, reducing airflow through the heat exchanger. When airflow slows, the furnace operates for longer



periods, wasting energy and potentially overheating the fire chamber. To avoid such issues, furnace filters should be checked monthly, regardless of whether they are washable or disposable.

The frequency of filter maintenance varies depending on household conditions. For instance, a home with no smokers, no pets, and fewer occupants will require less



frequent filter maintenance compared to one with smokers, multiple pets, and a larger family.

# **Electronic Air Cleaners and Air Exchangers**

Maintaining electronic air cleaners requires attention to the cleaning process and the degreasers used, as improper maintenance can impact their efficiency. Air exchangers, which are becoming increasingly common, also have filters that need regular care. These filters prevent outdoor pollutants from entering the home and may require more frequent cleaning in the spring when pollen levels are high and in the fall when insects are prevalent. Additionally, the heat exchanger core of air exchangers should be inspected and cleaned periodically.

## **Kitchen Range Hood Filters**

Kitchen range hood filters must also be maintained to prevent the accumulation of organic grease, which can turn rancid if left unchecked. The frequency of cleaning depends on cooking habits. Those who cook with steam will require less frequent maintenance compared to individuals who regularly use oils or deep-frying methods. Range hood filters can often be cleaned in a dishwasher, making maintenance more convenient. However, caution should be exercised, as electronic air cleaners from furnaces should not be placed in a dishwasher to avoid damage.

By adhering to a consistent maintenance schedule for all household filters, systems can operate more efficiently, air quality can be improved, and costly repairs can be avoided. Filter maintenance is a small yet impactful step toward a healthier and more economical living environment.





INDOOR SAFETY is something we can deal with while it is too cold to work outdoors. Today I suggest checking out safety related to simply moving about the house, like things that could cause you to fall, or things that could help you to catch a fall.

## **Floor Coverings**

Whether we are talking about rugs or door sills, transitions from one type of floor covering to another can be a cause for stumbling, especially if something has come loose or the edge of a rug has begun to roll up. Double sided rug tape can be used to lock down or control that rug that won't stay put. Make sure that any rugs on stairways are securely attached. If a sill plate or transition between two floor coverings appears to be cause for stumbling, study how to eliminate or smooth out the transition. This can be especially important if someone in the family has become less mobile over the last year.





# **Hand Rails**

Check all hand rails in the house to be sure they are securely attached. If they are getting loose, fix them because although you rarely put much pressure on rails, if you stumble, it is a solid rail that will allow you to avoid falling. In the bathroom, as people become less mobile with age, you should be adding solid grab bars around both the toilet and the bathtub. Be sure these are screwed into at least one stud and are built sturdy. A flimsy towel rack can actually be dangerous near a tub because if you slip you go for the rack and put a lot of pressure on it. If it is not designed to catch you, it could actually make the fall worse because your hands are not going for the floor to protect you, they are busy pulling down a lousy towel rack. You can purchase secure grab bars that look good enough to use for towel racks.





## Drains

Drains in a house often go unnoticed until they clog, but regular maintenance can prevent issues. A yearly inspection of all household drains is recommended:

- **Dishwasher drain pipe:** Inspect the pipe at least once a year to ensure it's not clogging. Disconnect it from the pump to check inside.
- **Hot water tank:** Draining or flushing the tank annually removes sediment and extends its lifespan.



- Ventilation and air conditioning drains: Check and clean condensate drain tubes to ensure proper flow and prevent water damage.
- **Sluggish drains:** Remove and clean them instead of relying on harsh chemical solutions, which can harm plumbing and septic systems.
- **Bathroom and kitchen sink drains:** Weekly maintenance with a few spoonful of baking soda can prevent grease and soap buildup.
- **Floor drains:** Prevent foul odors by keeping them wet or installing a dry trap insert.





## **Door Maintenance**

Winter is a great time to address indoor repairs, including tightening and adjusting door fixtures:

- **Door handles:** Tighten screws on door handles using a Phillips screwdriver.
- Latch adjustments: Adjust door catches to ensure doors latch tightly.
- **Hinge screws:** Tighten all hinge screws, replacing loose ones with longer screws to ensure they bite into the wood framing.



- **Squeaky hinges:** Remove hinge pins, clean them with lubricant, and reinstall. Note that WD-40 acts more as a cleaner than a long-term lubricant.
- **Outdoor hinges:** Pay special attention to outdoor hinges, which often need more maintenance due to exposure.





## **Filters**

Regular filter maintenance ensures optimal air quality and heating efficiency:

- **Furnace filters:** Check filters monthly unless a longer replacement cycle is suitable. Dirty filters increase heating costs.
- **Germ-killing options:** Consider electronic air filters or UV lamps to reduce airborne germs in addition to filtering dust.
- **Retrofitting:** Many germ-reduction devices can be retrofitted to existing systems with minimal effort.







# Appliances

Appliance maintenance, especially for refrigerators, can improve efficiency and extend their lifespan:

- Refrigerator coils: Pull the refrigerator away from the wall and vacuum the condenser coils on the back.
  Dust accumulation reduces cooling efficiency and increases energy consumption.
- Hidden coils: Newer refrigerators may have coils hidden behind a sheet metal cover. Clean accessible areas to maintain efficiency.
- **Annual task:** A yearly cleaning can reduce energy usage and prolong the appliance's life.







## **Hot Water Tank**

It is recommended to flush out any sediment from the bottom of a hot water tank at least once a year. While this maintenance task is often overlooked, it is outlined in the manufacturer's guidelines and can help the heater function more efficiently and last longer.

Depending on water quality and the condition of pipes, sediment accumulation may vary. In some cases, there may be no sediment, while in others, significant buildup



can occur. Excessive sediment reduces the tank's capacity for hot water, which can result in hot water running out more quickly over time. Additionally, sediment acts as insulation, reducing the efficiency of the heating process.

To clean the tank, turn off the power supply (electricity, gas, or oil) and the water valve feeding the tank. Open a hot water faucet in the house to allow air into the system. Drain the tank completely by attaching a garden hose to the outlet at the bottom of the tank or allowing water to flow into a drain. Continue until the water runs clear or the tank is empty.



For tanks with white plastic valves, there is no need to worry about the valve falling off when opened fully. If no water flows by gravity, sediment may be blocking the valve, or the upstairs faucet may not be open. In such cases, temporarily pressurize the system by turning on the water valve feeding the tank. Exercise caution, as hot water may discharge rapidly.

The pressure relief valve should also be tested during this maintenance. Open the valve momentarily to ensure it functions properly. If it leaks or fails to release water, replace it immediately, as it is a critical safety feature.





## **Driveways & Walkways**

During winter, frost can cause damage to driveways and walkways. While little can be done immediately, this is a good time to inspect for signs of shifting or cracking. In some cases, issues may resolve themselves after the spring thaw, temporarily masking the problem. Document these areas with photos and notes to plan for repairs in the spring.



Frost shifting is typically caused by water-saturated soil, such as clay, freezing and expanding. Addressing these

issues often involves improving water drainage and replacing clay soil with sand or gravel to prevent water accumulation. Proper landscaping and water management can reduce frost-related movement.





## **Indoor Frost Damage**

As winter ends, check for signs of frost damage inside the home. Cracks in plaster or drywall, especially near windows, doors, and wall joints, may indicate frost-related movement. These issues are often linked to external factors such as water pooling near the foundation.

Inspect the exterior during a thaw or rainy period for water pooling on frozen ground, as this can help identify problem areas for landscaping improvements. Preventing water saturation in the fall can reduce frost damage to indoor walls.







### **Eavestroughs & Downspouts**

- Ensure eavestroughs are securely attached, free of obstructions, and direct water away from the foundation or into a dry well.
- Check and repair outdoor caulking around windows, doors, and other penetrations.
- · Clean range hood filters if necessary.







## **Attic Inspection**

At the end of winter, inspect the attic for damage caused by heavy snow loads. Check for cracked roof boards, matted insulation, and signs of leaks. Look for daylight in unexpected places, which may indicate potential water leaks or animal entrances. Ensure roof vents have proper insect and squirrel screening.

When inspecting the attic or working outside, practice ladder safety and avoid stepping directly on the attic floorboards to prevent falls or injuries.







## Landscaping

- Inspect property grading to ensure water drains away from the foundation.
- Address low flower beds, runoff from hills, and poorly draining window wells.
- Ensure downspouts direct water away from the foundation to prevent pooling.





# Siding, Storms, and Screens

Inspect siding for loose sections or cracks in masonry and ensure caulking around windows and doors is watertight. Repair or replace any damaged caulking immediately.

Prepare window screens for the season by cleaning them and addressing any damage. If needed, repair services are available at hardware or glass stores. Be cautious with ladders, especially on soft ground, and use boards to stabilize them if necessary.





## Addressing Basement Water Issues and Moisture Control

As snow melts across Canada, water often finds its way into basements during the transition from winter to spring. It's crucial to dry out any moisture promptly to prevent mould and mildew growth. Remove wet rugs, lift vinyl with trapped water, and inspect for musty odors, which might indicate hidden moisture.

Springtime water intrusion is frequently caused by frozen ground combined with poor drainage around the home. Properly sloping landscaping and ensuring downspouts extend at least 4–5 feet from the foundation can help. Ventilation in crawl spaces should be opened, but the primary moisture barrier remains a plastic sheet over exposed soil.





# Preparing for Spring and Shutting Down Winter Systems

Turn off and clean humidifiers, whether freestanding or furnace-attached, to prevent stagnant water. Ensure dampers between humidifiers and furnace ducting are closed if air conditioning is installed to avoid freezing the system. For gas furnaces, shutting off the pilot light can save energy during warmer months.

Inspect fences for winter damage, including frost heaving or shifting. Evaluate structural integrity, repair latches, and consider repainting or re-staining after the ground has settled.







## Water Quality and Pest Control

Maintain water filtration systems based on lab-tested results. Filters should be selected and maintained per the manufacturer's guidelines, ensuring they remain effective and bacteria-free.

Reduce standing water around the property to limit mosquito breeding, and inspect wood near soil for signs of termites or carpenter ants.







# **Filter Maintenance**

Check all household filters, such as those in furnaces, air conditioners, HRVs, range hoods, and vacuum cleaners. Replace or clean as necessary, noting replacement dates to establish a maintenance schedule. Clean clothes dryer lint filters with soap and water to prevent buildup.



# Septic Tank Maintenance and Carpet Cleaning

Septic systems require periodic pumping to prevent clogging and costly repairs. Regularly measure scum and sludge levels to determine when professional service is needed.

Carpets, including area rugs, should undergo annual deep cleaning to remove accumulated dust, dirt, and bacteria.





## Wood Heating System Inspection and Dryer Maintenance

Chimneys connected to wood-burning appliances should be swept in late spring to prevent humidity-induced creosote corrosion. Inspect for structural issues and repair as needed.

Vacuum lint from dryer ducts and surrounding areas to improve efficiency and prevent obstructions.





### **Roof Inspections**

Inspect roofs for structural issues, missing shingles, or damaged flashings. Use binoculars or digital cameras for detailed views if ladders are impractical. Early summer offers ideal conditions for repairs, as shingles are warm but not overly hot.



# **Driveway Repairs and Filter Checks**

Address cracks in asphalt driveways to prevent water from flowing toward the foundation. For oil stains, consider eco-friendly cleaning products. Seal or resurface driveways as necessary.

Continue monthly filter checks, ensuring all systems, including air conditioners and ventilation, remain clean and efficient.





# **Managing Basement Humidity**

High humidity in basements can cause mould, rust, and damage to materials. Insulate basements thoroughly and use vapour barriers to minimize condensation on cold surfaces. Avoid stacking boxes tightly against walls, and consider dehumidifiers to maintain relative humidity below 60%.



### **Faucet Maintenance**

Inspect all faucets, including outdoor spigots and washing machine valves, for leaks. Replace worn washers or cartridges as needed, focusing on hot water lines, which wear out faster due to heat exposure.





# Electricity

Electrical systems often provide early warning signs for potential issues. The primary concerns revolve around fire prevention, which involves mitigating heat and sparks. Regulations for electrical work vary by location, with some requiring licensed electricians for all tasks, while others allow homeowners to perform specific work under permits or at their discretion. In any case, uncertain tasks should be deferred to professionals. Annual inspections by homeowners are essential, focusing on potential danger signs:

- **Flickering Lights:** Fluorescent lights that flicker typically need a bulb or ballast replacement. Persistent flickering in incandescent lights may indicate poor connections, often resolved by securing the bulb or addressing loose wires.
- **Dimming Lights:** Lights dimming during appliance use suggest overloaded circuits, requiring professional inspection and possible re-wiring.
- **Overheating Outlets:** Outlets should feel warm but not hot. Excessive heat may result from overloaded outlets or loose wires, both of which require attention.
- **Fuses:** Standard fuses should align with circuit capacity (e.g., 15 amps for ordinary lines). Larger fuses, such as 30 amps, may indicate unsafe conditions and should prompt professional analysis.





## Security

Home security encompasses more than locks and alarms; it also involves landscaping and habits.

- **Exterior Inspection:** Ensure adequate lighting for walkways and stairs, preferably automated via timers, motion sensors, or dusk-to-dawn controls. Shrubs and trees should not obstruct lights or provide concealment for intruders, particularly near vulnerable entry points like basement windows.
- **Habits:** A coordinated effort among household members to secure the home reduces dependence on high-tech solutions. Automated systems, such as alarms that notify when deactivated, can enhance security for busy families.





## Filters

Filters play a critical role in maintaining airflow and cleanliness in various systems. Regular checks are crucial:

- **Ventilation and Air Conditioning:** Replace or clean filters based on usage and environmental conditions.
- **Range Hoods and Screens:** Window screens, often overlooked, can become clogged with dust and should be cleaned with water and detergent.





## **Power Lines**

Preventative maintenance on power lines ensures reliability:

- Buried Lines: Monitor for exposed wires or damaged connection towers.
- **Overhead Lines:** Inspect masts for secure attachments, intact joints, and proper sealing at the entry point into the house. Loose or damaged components should be promptly repaired.





## Condensation

High humidity during summer can lead to condensation issues:

- **Pipes:** Insulate cold water pipes with vapor barriers on the room side to prevent dripping and moisture buildup.
- **Garage Maintenance:** Lubricate door mechanisms to prevent rusting, using silicone spray for better dust resistance. Exercise caution with garage door springs.





#### Doors

Humidity can cause doors to swell and bind. Solutions include planning and sealing doors, especially on the top and bottom. Persistent issues may indicate structural problems requiring professional assessment.



## Windows

Optimize window function and weatherproofing:

- · Clean and lubricate tracks and mechanisms.
- Inspect and replace damaged putty in older windows to prevent water damage.
- · Check and update weather-stripping and caulking as necessary.





# Siding

Siding protects walls from physical damage and sunlight:

- Address loose siding promptly to prevent further damage.
- Ensure proper caulking at wall penetrations while allowing ventilation in flashed joints.



# Heating

Prepare heating systems for colder weather:

- Schedule professional inspections for furnaces and boilers.
- Check flue pipes, oil tanks, and water leaks.
- Update pilot lights and clean humidifiers.





## **Baseboard Heaters**

Dust accumulated over summer should be removed from baseboard heaters to avoid unpleasant fumes. Ensure crawl space ventilation is managed as heating begins.



# **Radiators and Wood Heating**

- **Hot Water Radiators:** Bleed air to improve heat distribution, or consider automatic air removal systems.
- **Wood Heating:** Chimneys should be swept and inspected for obstructions or loose joints before use.





With the arrival of fall, preparations for winter are underway across the animal kingdom, including among humans. Heating systems are being activated, and what might seem like repair work could simply be routine maintenance.

# **Noisy Furnace**

A forced-air furnace that makes an unusual amount of noise during startup may indicate issues with the fan belt. If the belt is too loose, it can cause banging noises, especially at startup. If it is too tight, it can wear out the fan bearings prematurely. Adjusting the tension on the fan belt involves disconnecting the furnace from electrical power, loosening the mounting bolts that hold the motor in place, pulling the motor away from the fan to adjust tension, and then tightening the bolts again.

An unbalanced fan due to dust accumulation on the blades may also create noise. Keeping fan blades clean can reduce noise, improve airflow, and lower electricity consumption. Always ensure the furnace is disconnected from power before handling the fan or belt.



# **Filters**

As the heating season begins, it's important to check and clean or replace furnace filters regularly, ideally every month. While some filters are designed to last longer, inspecting them monthly ensures optimal performance until it's clear how frequently replacement is needed in a specific home. Dirty or clogged filters reduce furnace efficiency and increase heating costs.

# **Cold Air Drafts**

Colder outdoor temperatures signal the need to identify and eliminate cold air drafts. This can be achieved through weather-stripping and caulking. Addressing drafts not only enhances comfort and energy efficiency but also helps protect the structural integrity of a home.





## **Protection from Freezing**

Outdoor hose bibs should be drained, and hoses stored before freezing temperatures arrive. Pipes located outdoors or near exterior walls may require insulation or draining to prevent freezing.

# **Air Conditioners**

Outdoor air conditioners should be covered to protect them from rain and snow. Heat pumps, however, should remain uncovered as they function throughout the winter. Covers should not be airtight; a breathable "raincoat" style cover is recommended to allow air circulation and prevent rust. For window or wall air conditioners, sealing the interior side is more critical than the exterior to prevent frost buildup inside the unit caused by household moisture.

## **Screens & Storm Windows**

Remove and store window screens as they accumulate snow and ice, reducing light and potentially damaging the screens. This also improves visibility and reduces indoor window condensation by enhancing airflow over the glass. Indoor air quality may improve as a result of reduced mold growth.





## **Preparing for Snow and Spring Runoff**

Landscaping adjustments should be made before the ground freezes to prevent water pooling around foundation walls during spring thaw. Ensuring a slight slope away from the house can direct water away effectively. This may involve adding soil to settled areas near the foundation or flower beds.

# Septic Tank Maintenance

For properties with septic systems, the sludge and scum levels should be checked. A professional can demonstrate how to perform this task. Regular checks help prevent solid waste from reaching the leaching field, avoiding costly repairs. The frequency of maintenance depends on the system's usage and occupancy patterns.





## **Eavestroughs and Drains**

Clean rain gutters and downspouts after most leaves have fallen but before snow arrives. Clogged gutters can freeze, preventing proper drainage during winter thaws. Check roof joints and flat roof drains for debris. Clear any leaf piles to avoid moss growth or decay. Always practice ladder safety during this task.





# **Filter Maintenance**

Regularly checking and maintaining filters is essential for both health and energy efficiency.

- Forced Air Furnaces: Basic filters protect the fan motor but may not improve air quality. Higher-grade filters remove pollutants but require more frequent checks to prevent airflow blockages, which can reduce furnace efficiency or cause damage.
- **Electronic Air Cleaners:** Follow cleaning instructions carefully, including the use of appropriate degreasers.
- **Air Exchangers:** Filters prevent outdoor pollutants from entering the home and may collect debris such as insects in the fall. Cleaning the heat exchanger core is also recommended during maintenance.
- **Kitchen Range Hood Filters:** Regular cleaning prevents grease accumulation and rancidity. While range hood filters can often be cleaned in a dishwasher, electronic air cleaner components should not. Maintenance frequency depends on cooking habits, particularly for those who frequently use oils or fry foods.





## **Baseboard Heater Safety**

Checking baseboard heaters early in the heating season is crucial for maintaining safety. Furniture may shift over time, and it is essential to maintain adequate clearance from the heaters. A safe guideline is to keep objects at least a foot away, though testing is advised. Turn the heater to maximum and, after 10 minutes, check nearby objects for excessive heat. Factors such as the type of material, height, and open space around the heater influence the level of heat transfer. Once safe distances are established, consider marking these locations to ensure furniture remains in place. Curtains should be kept at least six inches away from heaters. Any signs of scorching should prompt immediate adjustments or replacement of the material to avoid fire hazards.

For wood-burning appliances, maintain a clearance of at least three feet unless the appliance specifies otherwise.



## **Exhaust Fans**

Exhaust fans should be inspected to ensure they are functioning effectively. Fans that spin but fail to ventilate may have installation issues, such as long ducts or obstructive rain hoods. Over time, nests, condensation, or debris may block airflow. A simple test involves holding a tissue to the exhaust grille to check for suction.



# **Bells, Buzzers, and Alarms**

Doorbells, smoke detectors, and other alarms should be tested regularly. Broken doorbells often require button replacement, though brittle wires may need careful handling. Wireless systems are an alternative but require periodic battery checks.

Smoke alarms should be tested with actual smoke (e.g., incense) to ensure sensors are operational, and all alarms should be vacuumed occasionally to remove dust. Many alarms, including those for carbon monoxide and temperature, have a lifespan of about five years and should be replaced accordingly. Labeling alarms with their installation and replacement dates is recommended.





## **Structural Inspections**

Performing an annual structural inspection can prevent problems. Begin in the basement, checking for cracks or shifts in concrete. Mark cracks to monitor movement over time. Sagging floors may indicate issues, often requiring basement reinforcement.

Inside the house, inspect drywall and plaster for recurring or worsening cracks, which could signal structural issues. Outside, examine the roof for sagging and the siding for signs of movement, such as diagonal cracks in bricks or stucco.





## **Temporary Window Upgrades**

Sealing window frames with permanent caulking prevents drafts. Temporary solutions for windows that won't be opened during winter include temporary caulking or applying shrink-wrap plastic to create an air barrier and additional insulation.



## **Fire Extinguishers**

Fire extinguishers should be checked to ensure they are fully charged and functional. Regular maintenance and inspections are necessary, as extinguishers can lose their charge over time.



# **Filters**

Filters in forced-air furnaces, air exchangers, and kitchen range hoods should be inspected monthly. Proper maintenance improves air quality, conserves energy, and prevents equipment damage.



## **Electrical Safety**

As additional lighting is often used during the holiday season, electrical safety is paramount. Extension cords should not be used as permanent wiring, and overloaded outlets should be avoided. Outdoor lighting should be connected to GFI-protected outlets. If extension cords become hot, they should be replaced or reconfigured to reduce the load.





Holiday visitors and icy walkways often coincide during this time of year, making **ice management** a priority. While completely preventing ice formation around homes may not be feasible, there are effective steps to ensure walkways and driveways are as safe as possible for guests.

One common hazard is ice caused by roof downspouts discharging water onto driveways or walkways. While this setup is useful for directing water away from the house during most of the year, it can create dangerously slippery conditions in winter. To mitigate this, consider extending downspouts beyond walking paths, especially during the transition season between rain and snow. Similarly, sump pumps that discharge onto the ground should also direct water away from these paths.

It's important to monitor for icicles forming above walkways. Removing them before they grow large can prevent potential accidents. Additionally, keeping a supply of deicers is recommended. Different de-icers serve various purposes: some are designed to melt the ice, while others provide a non-slip surface. A combination of these products is often necessary for optimal safety.





Issues like condensation and frost on windows can be addressed to prevent problems such as peeling paint or mold growth. These issues often indicate underlying conditions that require attention, as well-constructed and properly maintained homes rarely experience condensation and should not have frost on windows, even in colder climates.

Condensation may result from high indoor humidity or issues with the window itself. Frost, however, is generally caused by the window frame or glass reaching subfreezing temperatures, which may be due to poor insulation, air leaks, or outdated single-pane windows. Addressing air leakage through weather-stripping or around the frame can often resolve frost issues.

Condensation occurs when high humidity meets low temperatures, such as the moisture on a cold drink in summer. Solutions involve raising the temperature, lowering humidity, or balancing both. For persistent whole-house condensation, reducing indoor humidity levels is often effective. In cases where only a few windows are affected, inspect them for cold air leaks or ensure furniture and curtains are not obstructing warm air circulation.

Addressing condensation proactively can prevent damage such as paint peeling and, more critically, the growth of mold and mildew, which can pose health risks.





Post-Christmas safety is crucial, as decorations often remain in place while homes continue to experience extended use during the holiday period. This time of year is particularly busy for fire departments, making precautionary checks essential.

- 1. **Christmas Trees:** Regularly check the condition of real Christmas trees. If needles are drying out, consider removing the tree to reduce fire risk. A tree that remains fresh should still be monitored closely.
- 2. **Candles:** Ensure candles are not placed near flammable decorations, including the tree. Remove any packaging materials lying around, as these are highly combustible.
- 3. **Extension Cords and Outlets:** Verify that extension cords and outlets used for decorations are not overloaded. Check that cords are not warm to the touch and that they are positioned safely to prevent tripping or accidental tree falls. Outdoor wiring should also be inspected for secure placement.
- 4. **Heating Appliances:** Heaters and wood-burning appliances often see increased use during the holidays. Check for unusual heat near these appliances, including floors and walls. If surfaces are excessively hot, adjust use or relocate items to reduce fire hazards. Additionally, inspect the roof for ice or icicle buildup caused by the home's extended heating. Such accumulations can pose risks if they fall unexpectedly.








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