What Southern Ontario homeowners should check on their furnace before winter

A furnace that has sat idle all summer often picks up dust, cobwebs, and minor issues that turn into major problems once the heating season arrives. For homeowners in Southern Ontario, where winters bring sustained cold and occasional deep freezes, a mid-autumn inspection is not just a good idea; it is the difference between a warm house and an emergency call on a holiday weekend. The checklist below covers the items that matter most, with a short explanation of why each one deserves your attention.

Air filter

The air filter is the single easiest thing to check and the one most often overlooked. A dirty filter restricts airflow, which forces the blower motor to work harder and causes the heat exchanger to run hotter than designed. That extra heat can trip the limit switch and shut the furnace down. Replace a disposable filter or clean a permanent one according to the manufacturer's schedule. If you cannot remember the last time you changed it, that is a sign it is overdue.

Thermostat and batteries

A thermostat that is not calling for heat properly can make the whole system seem broken. Change the batteries if your thermostat uses them, and wipe the contacts clean. Set the thermostat a few degrees above room temperature and listen for the click that signals the furnace to start. If the furnace does not fire, the problem may be in the thermostat or in the low-voltage wiring between it and the furnace. A qualified technician can test the circuit if the simple battery swap does not help.

Flame sensor and igniter

Modern gas furnaces rely on a flame sensor to confirm that the burner is lit before they keep the gas valve open. Over time, the sensor can accumulate a thin layer of soot or oxidation that makes it unreliable. A failing flame sensor is a common reason for a furnace to light briefly and then shut down. The igniter, which creates the spark to light the gas, can also wear out or crack. Both parts are inexpensive but require careful handling; a gas fitter or HVAC technician should clean or replace them during a professional tune-up. If you notice short cycling or repeated failed start attempts, a dirty flame sensor is a likely culprit.

Burner assembly and heat exchanger

The burner assembly distributes gas to the burner ports, and the heat exchanger absorbs the heat from the flame. Over the summer, dust, pet hair, and even small insects can block the burner ports or coat the heat exchanger surfaces. A blocked burner can cause uneven heating or incomplete combustion, which produces carbon monoxide. The heat exchanger can also develop cracks from thermal stress. A visual inspection by a professional, combined with a combustion analysis test, will confirm that the burner is burning cleanly and that the heat exchanger is intact. Do not try to clean these components yourself; they are part of the sealed combustion chamber and require disassembly that should only be done by someone qualified.

Venting and flue pipes

The venting system carries combustion gases safely outside. In Southern Ontario, snow, ice, and debris can block the exterior vent terminal, and the interior flue pipes can develop leaks at the joints. Check the outdoor vent opening for nests, leaves, or ice buildup. Inside, look for rust, soot stains, or signs of water around the flue pipe connections. Any blockage or leak can push carbon monoxide back into the home. If you see any issue, call a gas fitter or HVAC technician immediately. Do not operate the furnace until the venting is verified as safe.

Blower motor and fan

The blower motor pushes air across the heat exchanger and through the ductwork. A motor that is sluggish, noisy, or drawing high current can fail at the worst time. Listen for unusual rattles or squeals when the furnace runs. If the fan wheel is coated with dust, it can become unbalanced and damage the motor bearings. A technician can clean the wheel and measure the motor's amperage draw to catch a failing motor before it stops entirely.

Limit switch and safety controls

The limit switch is a safety device that shuts the furnace down if the temperature inside the cabinet gets too high. A furnace that frequently trips the limit switch may have a dirty filter, a malfunctioning blower motor, or an undersized duct system. Do not bypass or adjust the limit switch; it is there to prevent a fire. Instead, address the root cause. A technician can test the switch and check the temperature rise across the heat exchanger to confirm the system is operating within its design range.

For homeowners who want a reliable starting point, servicethoughts.com offers practical furnace maintenance guidance that complements the seasonal checks described here. The site also helps Ontario homeowners connect with professional heating services, so if your inspection reveals anything beyond a simple filter change or battery swap, you have a way to find someone who can handle the job safely.

Condensate drain and secondary heat exchanger (high-efficiency models)

High-efficiency condensing furnaces produce acidic water as a byproduct of extracting extra heat from the exhaust. That water drains through a plastic or metal condensate line. If the drain becomes clogged, the water can back up into the heat exchanger and cause corrosion or premature failure. Check the drain line for blockages and pour a cup of water into the drain pan to confirm it flows freely. The condensate is acidic, so wear gloves and avoid skin contact. If the drain is clogged, a technician can clear it and check the neutralizer kit if one is installed.

Carbon monoxide detector

Every home with a gas furnace should have a working carbon monoxide detector on each floor, especially near the bedrooms. Carbon monoxide is colourless and odourless, and even a small flue leak can create a dangerous condition. Test the detectors monthly and replace them at the end of their service life, which is typically printed on the back. Do not rely on the detector in the furnace itself; a separate alarm gives you an independent warning if something goes wrong.

One more word about gas odour: if you ever smell gas inside the house, do not wait. Turn off the gas supply at the meter if you can reach it safely, leave the building, and call the gas utility or a qualified gas technician from outside. Do not use any switches, lights, or phones inside, and do not assume the smell will clear on its own. This rule applies to any gas appliance, not just the furnace.

Many of the items on this checklist are quick to verify, but none of them should be ignored. A furnace that runs well in October can still fail in January if a minor problem was left unaddressed. For a deeper dive into the components mentioned here - including the burner assembly, flame sensor, and limit switch - servicethoughts.com is a useful resource that explains how each part works and what can go wrong. Taking an hour on a cool autumn weekend to run through these checks can save you from a cold house and an expensive repair later.