TORONTO DUCTWORK

Duct Repair & Replacement

Repairing damaged, disconnected, or deteriorated ductwork and replacing old galvanized steel, flex duct, or duct board systems

28 Expert Answers from Duct IQ

torontoductwork.com/construction-brain

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Q1

Can a crushed Toronto duct be repaired in place?

Yes, a crushed duct can often be repaired in place — but whether that's the right call depends on how badly it's crushed, what type of duct it is, and where it's located.

A minor crush or dent in rigid galvanized steel duct can frequently be reshaped by hand or with sheet metal tools, then resealed with duct mastic and UL 181-rated foil tape. If the metal hasn't kinked sharply or cracked at the seam, the duct wall retains enough structural integrity to hold its shape after reshaping. This is a legitimate repair that a skilled sheet metal contractor can complete in under an hour for an accessible section.

Flex duct is a different story. Flex duct that has been crushed, kinked, or compressed doesn't spring back — the wire helix deforms permanently and the inner liner crinkles, creating a restriction that stays in place even after you try to straighten it. A 90-degree kink in flex duct can reduce airflow by 50% or more. In most cases, a crushed flex duct section should be cut out and replaced entirely rather than repaired. The good news is that flex duct replacement is inexpensive — typically $8–$18 per linear foot installed — and a short section can be swapped out quickly.

The severity of the crush matters more than the duct type. A steel duct that's been partially flattened by a heavy load (common in GTA basements where someone stored heavy items on overhead ductwork, or in attics where a roofer walked on the duct run) may have cracked seams or deformed fittings even if the main body looks salvageable. Before deciding on repair versus replacement, a contractor should check static pressure on both sides of the damaged section — if pressure drop across that section is significantly higher than it should be, the restriction is real and the repair hasn't fully restored airflow.

GTA-Specific Considerations

In older Toronto and Scarborough homes with 1950s–1970s galvanized steel ductwork, crushed ducts are common in basements where the ductwork runs low and has been bumped by decades of storage, renovation activity, and foot traffic. The steel in these older systems is often thinner and more brittle than modern duct stock, which means reshaping carries more risk of cracking the metal or breaking a seam. If the duct is already showing rust or the seams are separating, a repair-in-place may just be delaying a replacement that's overdue anyway.

In attic installations — more common in newer Vaughan, Markham, and Brampton homes — crushed flex duct is frequently found where insulation has been piled on top of duct runs or where a trades worker stepped on the duct during a service call. Attic repairs are more involved because of the heat, limited workspace, and the need to pull back insulation and then reinstall it properly over the repaired or replaced duct with a minimum of R-8 wrap.

Practical Tips

Before calling a contractor, note the location of the crush, how long it's been there, and whether you've noticed reduced airflow or comfort problems in the rooms served by that duct run. A crushed supply duct to a bedroom will show up as that room being harder to heat or cool than the rest of the house. If you can safely access the duct in an unfinished basement, take a photo — it helps the contractor assess whether repair or replacement is the better call before they arrive.

Budget $150–$600 for a repair-in-place on accessible rigid duct, and $300–$800 for a flex duct section replacement including proper support and insulation. If the crushed section is inside a finished wall or ceiling, costs rise significantly because drywall access is required.

When to Hire a Pro

Any duct repair beyond adjusting a loose register is worth having a sheet metal contractor assess. Airflow is invisible — a duct that looks repaired may still be significantly restricted. A pro can verify the repair with airflow measurements and check whether adjacent joints were also damaged. Toronto Ductwork can match you with a local ductwork contractor for a free estimate — find professionals through the Toronto Construction Network at torontoconstructionnetwork.com.

Q2

Why does my Toronto home ductwork sweat and drip water onto the basement floor in summer?

Your ductwork is sweating because cold supply ducts running through your warm, humid basement are dropping below the dew point of the surrounding air — condensation forms on the duct surface exactly the same way a cold glass of water sweats on a humid summer day.

This is one of the most common ductwork complaints in the GTA, and it's almost entirely a moisture and insulation problem, not a duct problem per se. When your air conditioner is running, supply ducts carry air chilled to roughly 12–15°C. Your basement in July or August might have air at 24–28°C with relative humidity above 60% — a humidex situation that pushes the dew point up to 15–18°C. The moment your cold duct surface drops below that dew point, moisture condenses out of the air and onto the duct. Enough condensation accumulates to drip onto the floor, stain ceiling tiles, and eventually promote mould growth on the duct exterior, surrounding insulation, and wood framing.

Toronto's summer humidity is the key aggravating factor here. The GTA regularly sees humidex values above 40 from late June through August, and Lake Ontario's moderating effect keeps lakefront neighbourhoods — the Beaches, Mimico, Port Credit, Lakeshore — more persistently humid than inland areas. An uninsulated galvanized steel trunk duct in a Scarborough or Etobicoke basement that barely sweated 20 years ago may now drip constantly because the home has been air-sealed more tightly over the years, trapping more indoor humidity, or because the air conditioner was upgraded to a larger, colder-running unit.

The fix is duct insulation, not dehumidification alone. Wrapping your supply ducts with **R-8 duct wrap insulation** — fibreglass blanket with a foil vapour barrier — raises the outer surface temperature of the duct above the dew point, stopping condensation at the source. R-8 is the minimum recommended value for GTA basements and is non-negotiable for attic duct runs. The vapour barrier facing must face outward and all seams must be sealed with UL 181-rated foil tape to prevent humid air from reaching the cold duct surface through gaps in the insulation. If you use duct mastic to seal the duct joints first, then wrap with R-8, you've addressed both air leakage and condensation in one pass.

Before wrapping, seal the duct joints. Leaking duct joints in the basement are doubly problematic in summer — they lose cold conditioned air into the basement (wasting energy) and create cold spots on the duct exterior that condense even more aggressively. Apply duct mastic to all joints and seams before insulating. Never use grey cloth duct tape for this — it dries out and falls off within a few years in the temperature cycling of a GTA basement. Only UL 181 foil tape or mastic belongs on ductwork.

Check your return air situation as well. Many post-war Toronto homes — particularly those built between 1945 and 1975 in North York, Scarborough, and Etobicoke — use floor joist cavities as return air plenums. These "panned joist" returns are extremely leaky and pull humid basement air directly into the system, increasing the moisture load on your air conditioner and worsening condensation on supply ducts. If you have this setup, replacing panned joist returns with proper sheet metal return ductwork is one of the highest-impact ductwork upgrades you can make.

What you can DIY versus what needs a pro: Wrapping accessible basement ductwork with R-8 duct wrap is a reasonable DIY project for a capable homeowner — the materials are available at HVAC supply houses, and the technique is straightforward. Sealing joints with mastic beforehand is also manageable. However, if your ductwork runs through finished ceiling spaces, if you suspect mould has already established on the duct exterior or surrounding framing, or if you have panned joist returns that need replacing, bring in a professional. Mould remediation before insulating is essential — trapping active mould growth under insulation makes the problem significantly worse.

Professional duct insulation for a typical GTA basement runs **$1,500–$4,000** depending on the amount of exposed ductwork and whether sealing is included. If Aeroseal duct sealing is warranted for inaccessible sections, budget an

additional **$1,500–$3,500**.

Need help finding a ductwork contractor to assess and insulate your basement duct system? Toronto Ductwork can match you with local professionals for free — browse contractors through the Toronto Construction Network directory at **torontoconstructionnetwork.com/directory?trade=hvac**.

Q3

Can a fallen tree or ice storm damage rooftop ductwork on a Toronto commercial building?

Yes, absolutely — fallen trees, ice accumulation, and wind-driven debris from GTA ice storms are among the most common causes of rooftop ductwork damage on commercial buildings in Toronto.

Rooftop HVAC and ductwork systems on commercial buildings are fully exposed to the elements, and Toronto's climate is particularly brutal on this equipment. Ice storms — which the GTA experiences several times each winter — can deposit 20-40 mm of ice on exposed surfaces. A single large rooftop duct section or air handling unit can accumulate hundreds of kilograms of ice load, crushing sheet metal housings, collapsing flexible connections, and tearing duct supports from roof curbs. The weight of ice on a fallen tree branch landing on a rooftop duct run can cause immediate catastrophic crushing of the sheet metal.

Beyond direct impact damage, ice storms cause significant secondary damage. Freeze-thaw cycling at duct joints — already a challenge in GTA winters with 50+ freeze-thaw cycles per season — is dramatically accelerated when ice forms directly inside or around duct seams. Sealants crack, joints separate, and vapour barriers on insulated rooftop duct sections split open. Once the vapour barrier is compromised, the insulation absorbs moisture, loses R-value, and promotes corrosion of the underlying sheet metal from the outside in. This kind of damage is often invisible until the duct system is inspected up close.

Wind is the other major factor. The derecho-style windstorms that hit the GTA — including the significant 2022 storm that caused widespread tree damage across Toronto, Vaughan, and Mississauga — generate gusts exceeding 100 km/h that can lift unsecured rooftop duct sections, tear flexible duct connectors at air handling unit connections, and topple rooftop exhaust stacks. Rooftop ductwork that was not properly anchored to roof curbs with code-compliant supports is especially vulnerable.

What to inspect after a storm event:

Look for visibly crushed or deformed sheet metal duct sections, displaced duct supports or broken roof curb connections, torn flexible connectors between rooftop units and duct plenums, damaged duct insulation jacketing

(the aluminum or PVC cladding on rooftop duct), and displaced or missing duct access panels. Inside the building, sudden changes in airflow, unusual noise from the duct system, or rooms that are no longer being conditioned properly are all signs of storm damage to the rooftop distribution system.

Ontario Building Code and insurance considerations are both relevant here. Rooftop mechanical systems on commercial buildings fall under OBC Division B Part 6 (Mechanical) and must be maintained in code-compliant condition. Storm damage that compromises fire dampers, make-up air interlocks, or combustion air pathways creates immediate code compliance issues. Most commercial property insurance policies cover storm damage to mechanical systems, but documentation is critical — photograph all damage before any temporary repairs are made, and get a professional assessment from a qualified sheet metal or mechanical contractor before filing your claim.

This is strictly professional territory. Rooftop ductwork work involves working at height, confined space considerations around rooftop mechanical equipment, potential asbestos in older commercial buildings (pre-1990 construction), and the need for proper fall arrest systems. Any post-storm assessment and repair should be performed by a qualified commercial sheet metal contractor — not a general maintenance crew.

If your commercial building in the GTA has sustained storm damage to rooftop ductwork or HVAC equipment, Toronto Ductwork can connect you with experienced local sheet metal contractors through the Toronto Construction Network. Browse commercial ductwork and ventilation contractors at **torontoconstructionnetwork.com/directory?trade=hvac**.

Q4

Can mice or rats living inside my Toronto home ductwork cause health problems?

Yes, rodents living in your ductwork create serious health risks through contaminated air circulation, allergens, and potential disease transmission. When mice or rats nest in ducts, their droppings, urine, dander, and decomposing remains get distributed throughout your home every time the furnace or air conditioning runs.

Health Risks from Rodent-Contaminated Ductwork

Rodent infestations in ductwork pose multiple health concerns. Mouse and rat droppings contain bacteria, viruses, and parasites that become airborne when disturbed by air circulation. These contaminants can trigger asthma attacks, respiratory infections, and allergic reactions, particularly in children and individuals with compromised immune systems. Hantavirus, though rare in Ontario, is a serious concern with deer mice — the virus becomes airborne when dried droppings are disturbed by airflow.

The smell alone indicates a problem. Rodent urine contains ammonia compounds that create persistent odours circulated throughout your home. Dead rodents decomposing in ductwork create even worse air quality issues and attract insects. Beyond health risks, rodents damage ductwork by chewing through flex duct outer jackets, insulation, and even thin-gauge galvanized steel, creating air leaks that reduce system efficiency.

Why GTA Homes Are Vulnerable

Toronto's housing stock makes rodent duct infiltration common. Many older homes in established neighbourhoods have return air systems using floor joist cavities as plenums — sheet metal panned between joists. These systems connect directly to wall cavities, basement rim joists, and crawlspaces where mice easily enter. Once in the building envelope, rodents follow air currents and find warm ductwork attractive for nesting, especially during Toronto's harsh winters.

Homes with ductwork in unconditioned spaces (attics, crawlspaces, garages) are particularly vulnerable. Rodents enter through foundation gaps, roof penetrations, or damaged exterior vents, then follow ducts throughout the home. Flex duct is especially susceptible — mice can chew through the outer vapour barrier and nest in the insulation layer between the inner liner and outer jacket.

Immediate Actions and Professional Solutions

Stop using your HVAC system immediately if you see droppings near registers or smell strong ammonia odours when the system runs. Continuing to operate the system spreads contamination throughout your home. Seal off supply and return registers with plastic sheeting and tape until the problem is addressed.

Professional remediation involves several steps: pest control to eliminate active infestations, duct inspection with cameras to locate contamination, removal and disposal of contaminated insulation and damaged ductwork, thorough cleaning with HEPA filtration, and sealing entry points. In severe cases, complete duct replacement may be necessary. Expect costs of $2,000-$8,000 depending on contamination extent and accessibility.

Prevention Strategies

Prevent future infestations by sealing exterior entry points — gaps around foundation, roof penetrations, damaged soffit vents, and holes where utilities enter the home. Install proper screening on exterior exhaust vents and ensure dryer vents have functioning dampers. For homes with panned joist returns, consider upgrading to proper return ductwork, which eliminates the connection between ducts and wall cavities where rodents travel.

Regular duct inspection during furnace maintenance can catch problems early. Look for droppings near registers, unusual odours when the system starts, or scratching sounds from ductwork. Address any signs immediately — rodent populations multiply rapidly in the warm, protected environment of ductwork.

Need help finding a pest control specialist or ductwork contractor to address contamination? Toronto Ductwork can match you with local professionals experienced in rodent remediation and duct system restoration.

Q5

What causes black residue around the supply vents in my Toronto home?

Black residue around supply vents is typically caused by dust and airborne particles being filtered by the vent grille itself, creating a "ghosting" effect where particles accumulate along the edges of the airflow pattern. This is especially common in Toronto homes during winter months when furnaces run continuously and indoor air becomes drier and more static-prone.

The primary cause is **inadequate air filtration** in your HVAC system. When your furnace filter is dirty, undersized, or low-quality, fine particles bypass the filter and travel through your ductwork. As conditioned air exits the supply register, these particles get deposited around the vent opening due to air turbulence and electrostatic attraction. The black residue is essentially soot, dust, cooking particles, and other airborne contaminants that should have been captured by your system's filter.

GTA-specific factors make this problem worse during heating season. Toronto's urban environment introduces more particulates from traffic, construction, and industrial activity. During winter, homes are sealed tight with windows closed, concentrating indoor pollutants. The dry air from forced-air heating creates static electricity that attracts particles to surfaces around vents. Many older Toronto homes also have **oversized ductwork** from gravity

furnace conversions, which creates low air velocity and allows particles to settle out before reaching the filter.

Poor ductwork sealing is another major contributor. If your ducts have leaks (common in GTA homes with 20+ year old ductwork), the system pulls unfiltered air from dusty basements, crawlspaces, or wall cavities. This contaminated air carries more particles than filtered return air, leading to heavier deposits around supply vents. Leaky return ducts are particularly problematic because they bypass your filter entirely.

Immediate solutions include upgrading to a high-quality pleated filter (MERV 8-11), checking that your current filter fits properly with no gaps, and increasing filter change frequency during heavy-use months. Clean the black residue with a damp cloth and mild detergent. For the supply registers themselves, remove them and wash thoroughly with soap and water.

Long-term fixes require addressing the root cause. Have your ductwork inspected for leaks and sealed with mastic or UL 181 foil tape. Consider upgrading to a whole-house air cleaner or electronic air filter for superior particle removal. If you have an older Toronto home with original galvanized ductwork, the interior surfaces may be rough and corroded, creating turbulence that promotes particle deposition - this may warrant duct replacement.

When to call a professional: If black residue appears suddenly, is oily or greasy, or is accompanied by odors, this could indicate a more serious problem like a cracked heat exchanger, oil furnace issues, or contamination in the ductwork that requires immediate professional attention.

Q6

How do I stop condensation dripping from my air conditioning ductwork in a humid Toronto summer?

Condensation dripping from air conditioning ducts is extremely common in Toronto's humid summers and indicates insufficient duct insulation. When cold supply air (typically 12-15°C) flows through ducts in warm, humid spaces like basements, attics, or crawlspaces, moisture in the air condenses on the cold duct surface and drips onto ceilings, floors, and belongings below.

The primary solution is **proper duct insulation with a minimum R-8 duct wrap** around all supply ducts in unconditioned spaces. Toronto's summer humidity levels regularly push the humidex above 40, creating perfect conditions for condensation on any cold surface. Supply ducts carrying air-conditioned air are essentially giant cold-water pipes running through your home — without adequate insulation, they will sweat profusely during humid weather.

Check your existing duct insulation first. Many GTA homes have inadequate insulation (R-4 or less) or damaged insulation with gaps, tears, or compression. The insulation must completely wrap the duct with no gaps, and the vapour barrier (usually foil facing) must face outward to prevent moisture penetration. Pay special attention to duct joints, fittings, and connections where insulation is often missing or poorly sealed.

Common problem areas in GTA homes include basement ductwork near foundation walls (where humidity is highest), ductwork in unfinished basements with poor ventilation, and any ducts running through crawlspaces or attached garages. Older homes in Toronto, Scarborough, and Etobicoke often have galvanized steel ducts with minimal or deteriorated insulation that needs complete replacement.

Immediate steps you can take: Ensure your basement has adequate ventilation and consider running a dehumidifier during peak summer humidity. Check that all supply registers are open — closing registers increases pressure in the duct system and can worsen condensation by making the remaining ducts even colder. Clean or replace your furnace filter, as restricted airflow makes the air conditioning coil work harder and produces colder supply air.

Professional solutions include re-insulating all supply ductwork with R-8 duct wrap, sealing duct joints with mastic to prevent air leakage, and potentially installing a whole-home dehumidifier integrated with your HVAC system. Some contractors also recommend upgrading to insulated flex duct or duct board for problem areas, though proper insulation of existing metal ductwork is usually more cost-effective.

Don't ignore this problem — condensation dripping from ducts causes water damage to ceilings, promotes mould growth on duct exteriors and surrounding materials, and wastes significant energy as your air conditioning system works harder to overcome heat gain through uninsulated ducts. In Toronto's climate, properly insulated ductwork isn't optional for air-conditioned homes.

Professional duct insulation typically costs $1,500-$4,000 for a whole-house upgrade, but the energy savings and comfort improvement make it one of the most cost-effective HVAC improvements you can make. Need help finding a ductwork contractor experienced with condensation issues? Toronto Ductwork can match you with local professionals who understand GTA climate challenges.

Q7

What should I do if my Toronto home ductwork was damaged during a basement waterproofing project?

If your ductwork was damaged during basement waterproofing, immediately shut off your HVAC system to prevent air leaks, debris circulation, and potential safety hazards, then document all damage with photos before contacting both your waterproofing contractor and insurance company.

Basement waterproofing projects frequently damage existing ductwork because contractors need to excavate around foundation walls, move or remove ducts temporarily, and work in tight spaces where ductwork is often routed. The most common damage includes crushed flex duct, disconnected joints, torn duct insulation, damaged return air plenums, and severed branch runs to basement rooms. In older GTA homes, waterproofing work sometimes reveals that return air was being pulled through floor joist cavities that are now sealed, requiring complete return air redesign.

Immediate steps include turning off your furnace or air handler at the thermostat and electrical panel to prevent conditioned air from escaping through damaged ducts and unconditioned air from entering the system. Take comprehensive photos of all damage from multiple angles — these will be crucial for insurance claims and contractor accountability. Check for any disconnected or crushed ducts, damaged insulation, and debris that may have fallen into the ductwork. If you smell unusual odors when the system runs, shut it down immediately as construction debris or moisture may have entered the ducts.

Documentation and liability are critical in GTA basement waterproofing projects. Most reputable waterproofing contractors carry liability insurance specifically for incidental damage to existing systems, but you need proper documentation. Review your waterproofing contract for language about existing utilities and ductwork — many contracts include clauses limiting liability for pre-existing conditions or requiring homeowners to relocate utilities before work begins. Contact your homeowner's insurance to report the damage, as they may cover repairs and pursue subrogation against the waterproofing contractor's insurance. Get written estimates from licensed HVAC contractors for all necessary repairs, including duct replacement, sealing, insulation, and system testing.

Repair considerations in post-waterproofing basements often require upgrading the entire duct system rather than simple repairs. If your home had panned joist returns (sheet metal nailed under floor joists), waterproofing may have sealed these cavities, necessitating proper return ductwork installation. This is actually an opportunity to improve your system — many older GTA homes have inadequate return air, and installing proper return ducts to bedrooms and basement areas dramatically improves comfort and efficiency. New ductwork should be routed to avoid future waterproofing maintenance and positioned above the new basement floor level with proper supports and sealing.

Timing considerations are important because you'll need heat or cooling while repairs are underway. Temporary duct repairs using UL 181 foil tape and mastic can restore basic function, but permanent repairs should include proper duct sizing calculations, especially if you're adding basement living space. The post-waterproofing environment may have different humidity levels, requiring attention to duct insulation and vapor barriers to prevent condensation issues.

Professional requirements include using a TSSA-registered contractor if any gas connections need modification, and ensuring all electrical work (relocating thermostats, zone dampers, or exhaust fans) is done by an ESA-Licensed Electrical Contractor. If the damage is extensive, consider this an opportunity to upgrade to a properly designed duct system with Manual D calculations, adequate return air, and proper sealing — improvements that will pay dividends in comfort and efficiency for decades.

Need help finding a qualified ductwork contractor to assess and repair the damage? Toronto Ductwork can match you with experienced professionals who understand both waterproofing impacts and proper duct system design for your specific situation.

Q8

How do I fix ductwork that was crushed by storage items in my Toronto home attic?

Crushed attic ductwork needs immediate attention as it severely restricts airflow and can reduce heating/cooling efficiency by 30-50% or more. The repair approach depends on the duct type, extent of damage, and accessibility, but this typically requires professional replacement rather than simple repair.

Assessing the Damage

First, determine what type of ductwork you're dealing with. Most GTA homes built after 1980 use flexible ductwork (flex duct) for attic branch runs, which consists of a wire coil frame covered by insulated plastic. When crushed, the wire coil often stays deformed even after removing the weight. Older homes may have rigid galvanized steel or aluminum ductwork, which can sometimes be reshaped if the damage isn't severe.

Check the extent of crushing by measuring the duct diameter at the damaged section versus an undamaged section. If the duct is compressed by more than 25%, it needs replacement. Even seemingly minor crushing can dramatically reduce airflow — a duct compressed to half its diameter loses about 75% of its airflow capacity due to the physics of air movement through restricted spaces.

Why This Happens in GTA Attics

Toronto area homes commonly have ductwork running through attic spaces, especially in post-1970s suburban construction across Mississauga, Brampton, Markham, and Vaughan. Homeowners often use attics for storage without realizing that even lightweight boxes can crush flex ductwork over time. The problem is compounded by GTA's extreme temperature swings — flex duct becomes more brittle in winter cold and more pliable in summer heat, making it vulnerable to permanent deformation.

Many GTA attics also have inadequate ductwork support. Flex duct should be supported every 4 feet with proper hangers, but builder-grade installations often use minimal support, allowing ducts to sag and making them more susceptible to crushing when storage items are placed nearby.

Professional Replacement vs. DIY Repair

Working in GTA attics is challenging and potentially dangerous, especially during Toronto's temperature extremes. Summer attic temperatures can exceed 60°C (140°F), while winter conditions make the space frigid and potentially icy. The confined space, loose insulation, and risk of stepping through ceiling drywall make this work best left to professionals.

A qualified ductwork contractor will replace crushed sections with new flex duct, ensuring proper sizing, support, and insulation. They'll also inspect the entire attic duct system for other issues like disconnected joints, inadequate insulation, or improper routing. **Expect to pay $300-$800 per crushed duct run for professional replacement**, depending on length and accessibility.

If you're determined to tackle this yourself, work only during moderate weather, wear protective equipment including a respirator (attic insulation contains irritating fibers), and never step between ceiling joists. However, most homeowners find the working conditions too difficult and the risk of additional damage too high.

Preventing Future Problems

After repair, create a clear storage plan for your attic that keeps items away from ductwork. Install plywood decking over ceiling joists in storage areas, but ensure it doesn't contact or compress ducts. Consider having a contractor install additional duct supports or protective covers if storage near ductwork is unavoidable.

This is also an excellent time to evaluate whether your attic ductwork should be relocated entirely. Ducts in unconditioned attic spaces lose significant energy in Toronto's climate and are prone to condensation problems. Many GTA homeowners benefit from moving ductwork to conditioned basement spaces during major renovations.

Need help finding a ductwork contractor? Toronto Ductwork can match you with local professionals who specialize in attic duct replacement and have experience working safely in GTA attic conditions.

Q9

Why does my Toronto home ductwork make a ticking sound only at night when the furnace cycles?

The ticking sound you're hearing is most likely thermal expansion and contraction of your ductwork as metal components heat up and cool down during furnace cycles. This is especially common in Toronto homes during our extreme temperature swings, and it's more noticeable at night when ambient household noise is lower.

Thermal expansion is the primary culprit in GTA homes because our climate creates significant temperature differentials. When your furnace fires up, hot air (typically 120-140°F) rushes through metal ducts that may be sitting in a cold basement, crawlspace, or attic. The rapid temperature change causes the metal to expand, creating stress at joints, connections, and where ducts contact structural elements. As the system shuts down and ducts cool, they contract back to their original size, often producing the reverse ticking sound.

Sheet metal ductwork is particularly susceptible because it has the highest rate of thermal expansion among common duct materials. Galvanized steel trunk lines, which are standard in most Toronto homes built after 1945, expand approximately 1/16 inch per 10 feet of length for every 100°F temperature change. In a typical GTA home with 20-30 feet of trunk ductwork, this translates to nearly 1/4 inch of total expansion during each heating cycle. When ducts are tightly secured to floor joists or wall framing, this expansion creates friction and stress that manifests as ticking, clicking, or popping sounds.

The nighttime timing amplifies your awareness of these sounds for several reasons. Ambient noise levels drop significantly after dark - no traffic, appliances running less frequently, and household activity decreasing. Additionally, Toronto's diurnal temperature swings mean your furnace cycles more frequently on cold nights, creating more expansion events. Sound also travels differently through the house structure at night when humidity levels change and materials contract slightly.

Several factors specific to Toronto housing stock worsen expansion noises. Older homes (pre-1980) often have ductwork that was retrofitted into existing spaces, creating tight fits against structural members. Many GTA homes have ducts running through unconditioned spaces like crawlspaces or uninsulated basements, where temperature differentials are most extreme. Homes with ducts in attic spaces face the worst expansion stress - attics can reach -20°F in winter and 140°F in summer, creating a 160-degree temperature range.

Simple solutions can often reduce or eliminate the ticking. Have a ductwork contractor inspect where ducts contact structural elements and install expansion joints or flexible connections at stress points. Adding insulation around ducts in unconditioned spaces reduces temperature shock. Loosening overly tight duct hangers allows for natural expansion without binding. Sometimes, simply repositioning a duct slightly away from a joist or beam eliminates the contact point causing the noise.

Professional intervention is warranted if the sounds are loud, frequent, or accompanied by visible duct movement. Excessive expansion stress can loosen duct joints over time, creating air leaks that waste energy and reduce comfort. A qualified sheet metal contractor can assess your ductwork layout, identify stress points, and install proper expansion accommodations. This is particularly important in Toronto's climate where thermal cycling happens hundreds of times per heating season.

When hiring a professional, ensure they understand thermal expansion principles and have experience with GTA housing stock. The contractor should check WSIB coverage and provide references from similar thermal expansion noise resolution projects. Proper solutions typically cost $300-$800 depending on the number of stress points requiring attention.

Need help finding a ductwork contractor experienced with thermal expansion issues? Toronto Ductwork can match you with local professionals who understand how GTA climate affects ductwork performance.

Q10

Does my Toronto home insurance cover ductwork damage from a burst pipe or flooding?

Most standard Toronto home insurance policies provide limited coverage for ductwork damage from sudden water events like burst pipes, but coverage varies significantly by insurer and policy type. Understanding what's covered—and what isn't—can save you thousands when dealing with water-damaged ductwork in your GTA home.

Sudden and Accidental Water Damage is typically covered under standard homeowner's policies. If a pipe bursts in your basement and floods your ductwork, or if a hot water tank fails and soaks your furnace room ducts, most insurers will cover the cost to repair or replace damaged ductwork. This includes galvanized steel ducts that rust after water exposure, flex duct that becomes waterlogged and needs replacement, and duct insulation that becomes contaminated with flood water.

However, **gradual water damage is almost never covered**. If your basement develops chronic moisture problems that slowly rust your ductwork over months or years, or if poor ventilation causes condensation that damages ducts, insurance won't pay. This is considered maintenance-related damage that homeowners are expected to prevent through proper home care.

Sewer backup coverage requires a separate endorsement on most Toronto policies, and it's essential for GTA homeowners. When Toronto's combined sewer system backs up during heavy rains—increasingly common with climate change—raw sewage can flood basements and contaminate ductwork. Standard policies exclude sewer backup, but the endorsement typically costs $50-150 annually and covers cleanup, ductwork replacement, and temporary accommodation.

Overland flooding (surface water from heavy rains, snowmelt, or nearby water bodies) requires separate flood insurance that many Toronto homeowners lack. If the Don River floods your basement or surface water enters through foundation cracks, your ductwork damage likely won't be covered without specific flood coverage.

Mould exclusions are critical to understand. While insurers may cover initial water damage to ductwork, they typically exclude mould growth that develops afterward. If water-damaged ducts aren't properly dried and cleaned within 24-48 hours, mould can colonize the interior surfaces and insulation. Mould remediation and ductwork replacement due to mould contamination is usually excluded, potentially costing $5,000-15,000 out of pocket.

What insurers typically cover: Replacement of water-damaged galvanized steel ductwork, removal and replacement of contaminated flex duct and duct insulation, cleaning of salvageable metal ductwork, and temporary heating/cooling during repairs.

What's usually excluded: Gradual moisture damage, lack of maintenance, mould growth, sewer backup without endorsement, overland flooding without separate coverage, and "improvement" costs—if your 1960s galvanized ducts are replaced with modern materials, you may only receive depreciated value for the old system.

GTA-specific considerations include the age of Toronto's housing stock. Many homes have ductwork in basement locations prone to flooding, and older galvanized systems are particularly vulnerable to water damage. Clay soil common in Toronto can shift and crack foundations, creating water entry points that threaten basement ductwork.

Document everything immediately after water damage. Take photos of affected ductwork before cleanup, keep receipts for emergency drying equipment, and have your ductwork professionally inspected for hidden damage. Insurance adjusters may not understand that waterlogged duct insulation must be completely replaced—it cannot be dried and reused.

Review your policy annually and consider adding sewer backup coverage if you don't have it. Many Toronto homeowners discover coverage gaps only after filing a claim. Your insurance broker should understand local flood risks and recommend appropriate coverage levels for your neighbourhood and home age.

Need help finding a ductwork contractor to assess water damage or perform insurance-covered repairs? Toronto Ductwork can match you with experienced professionals who understand insurance claim processes and can provide detailed documentation for your adjuster.

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Q11

How do I improve airflow to the second floor of my Toronto two-storey home?

Poor airflow to the second floor is one of the most common comfort complaints in GTA two-storey homes, and it usually comes down to undersized ducts, insufficient return air, or duct runs that are too long with too many bends. The good news is that several practical fixes can dramatically improve second-floor comfort without replacing the entire system.

The first thing to check is your **return air situation**. Many post-war Toronto homes across Scarborough, North York, Etobicoke, and the inner suburbs were built with a single return air grille on the main floor and nothing on the second floor. This creates a massive pressure imbalance — conditioned air is pushed up to the bedrooms through supply ducts, but there is no easy path for that air to cycle back to the furnace. The second floor becomes positively pressurized, which actually resists additional supply air from entering the rooms. Adding dedicated return air ducts to second-floor bedrooms and the hallway is often the single most impactful improvement you can make. Expect to pay **$300 to $800 per return register** including the branch duct, boot, and grille. For a typical two-storey home with three bedrooms, adding returns usually costs **$1,200 to $3,000** total and transforms comfort.

Next, examine the **supply duct routing** to the second floor. In many GTA homes, second-floor supply ducts take a tortuous path — running horizontally through the basement, turning up through a wall chase to the main floor, then continuing up to the second floor with multiple elbows and transitions along the way. Every 90-degree elbow in a duct system adds resistance equivalent to 10 to 15 feet of straight duct. If a second-floor supply run has three or four elbows plus 30 feet of length, the effective duct length may be 70 to 90 feet — far too long for a typical 6-inch branch duct to deliver adequate airflow. A contractor can measure the actual airflow at each register using an anemometer or flow hood and identify which runs are underperforming.

Duct sealing is another high-impact fix. Studies show that a typical older duct system loses 20 to 40 percent of its air through leaks at joints, connections, and failed tape. If your ducts are leaking conditioned air into the basement ceiling cavity before it reaches the second floor, sealing those joints with duct mastic can recover significant airflow. Professional whole-house duct sealing costs **$1,500 to $4,000**, while Aeroseal — which seals ducts from the inside — runs **$1,500 to $3,500**.

For homes where duct modifications are impractical, a **duct booster fan** installed in the supply duct serving the second floor can increase airflow. These inline fans cost **$150 to $400** and are activated by a pressure switch or thermostat. They are a band-aid rather than a proper fix, but they can help in situations where running new ductwork is not feasible. If your second-floor comfort issues are severe, consult a ductwork contractor who can perform Manual D calculations and recommend the most cost-effective improvements. Toronto Ductwork can match you with local professionals for free through the Toronto Construction Network.

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Q12

Why is one room in my Toronto home always hotter or colder than the rest?

A single room that is consistently too hot or too cold almost always points to a ductwork issue — either insufficient supply air reaching the room, inadequate return air leaving it, or a combination of both. This is an extremely common problem in GTA homes, particularly in post-war and 1970s-1990s construction where duct systems were designed for heating only and air conditioning was added later.

The most likely culprit is a **supply duct that is undersized, too long, or has too many bends**. Every room in your home needs a specific volume of conditioned air (measured in CFM) to maintain comfortable temperatures, and that volume depends on the room's size, window area, insulation quality, and sun exposure. If the duct serving the problem room is a 5-inch flex duct with two 90-degree turns and a 25-foot run, it simply cannot deliver enough air. Each 90-degree bend adds resistance equivalent to 10 to 15 feet of straight duct, so a run with multiple bends effectively behaves like a duct twice its actual length. A contractor can measure airflow at the register with a flow hood — if the room needs 80 CFM and the register is only delivering 40, you have found the problem.

In many older Toronto homes, **flex duct serving the problem room may be crushed, kinked, or disconnected**. Flex duct in attic spaces across Mississauga, Brampton, and Vaughan frequently sags between support points, creating dips that restrict airflow. In basements, flex duct routed around obstacles sometimes gets kinked at sharp angles, cutting airflow by 50 percent or more. A visual inspection of the duct run — if accessible — can reveal these issues.

Missing or blocked return air is the other common cause. If the problem room has a supply register but no return air grille, the room builds positive pressure as conditioned air is pushed in with no easy exit path. This pressure resists additional supply air, making the room underserved. The gap under the door provides some return air path,

but it is rarely sufficient, especially if the door is closed at night. Adding a return air duct to the room typically costs **$300 to $800** and can solve the problem entirely.

Sun exposure and insulation also play major roles. South and west-facing rooms in Toronto absorb significantly more solar heat in summer, especially rooms with large or poorly insulated windows. A room over an uninsulated garage or above a cantilevered bay window will always be harder to condition because of heat loss through the floor. In these cases, the ductwork may actually be adequate, but the room's heating and cooling load is higher than what the duct system was designed to handle.

Before spending money on duct modifications, try some **no-cost adjustments first**. Open the register damper in the problem room fully, and partially close registers in rooms that are already comfortable — this redirects some airflow to where it is needed. Make sure furniture is not blocking the supply register or return grille. If these basic adjustments do not help, a professional airflow assessment is worth the investment. Get matched with a ductwork contractor for a free estimate through Toronto Ductwork.

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Q13

What causes banging or popping noises in my Toronto home ductwork when the furnace kicks on?

Banging or popping noises when your furnace starts up are almost always caused by thermal expansion of the sheet metal ductwork, and while they are usually harmless, they can indicate design issues worth addressing. This is particularly common in Toronto homes during winter, when the temperature differential between cold ducts and hot supply air is at its greatest.

When your furnace fires, it pushes heated air at 50 to 70 degrees Celsius into ductwork that may have cooled to 15 to 20 degrees (or even colder if ducts run through an unheated attic or crawlspace). Sheet metal expands when heated, and large flat sections of rectangular ductwork flex outward under the pressure of expanding air, then snap back — producing that distinctive bang or pop. This is called **oil canning**, and it happens because the flat panels of rectangular duct lack stiffness. Round and oval ducts rarely have this problem because their curved shape is inherently more rigid.

The severity of oil canning depends on several factors. **Larger rectangular ducts with unsupported flat panels** are the worst offenders — a 20-by-10-inch rectangular trunk line with a long unsupported span will pop loudly every time the furnace cycles. **Thinner gauge metal** (28 or 30 gauge) flexes more easily than heavier 26-gauge duct. And **ducts that were installed without cross-breaks** — the small dimpled stiffening lines pressed into flat duct panels during fabrication — are more prone to flexing. In many older GTA homes, particularly post-war construction across North York and Scarborough, the original ductwork was fabricated from thinner gauge metal without cross-breaks, making expansion noise a persistent annoyance.

Several fixes can reduce or eliminate the noise. A sheet metal contractor can **add cross-breaks or stiffening beads** to the flat panels of existing rectangular ductwork, increasing rigidity so the metal cannot flex enough to pop. This is a relatively inexpensive fix at **$50 to $150 per section**. For severely affected trunk lines, adding a **standing seam or rolled stiffener** along the length of the duct provides even more rigidity. Another approach is installing a **flexible canvas connector** (sometimes called a vibration isolator) between the furnace plenum and the first section of trunk duct. This absorbs the initial pressure pulse and prevents it from transmitting through the entire duct system. These connectors cost **$50 to $150 installed** and also reduce the transmission of furnace blower vibration into the ductwork.

If the noise is more of a **rattling or vibrating sound** rather than a clean pop, check that all duct sections are properly secured with sheet metal screws and that hangers are tight. Loose connections rattle when airflow starts and stops. Also check for ducts resting against floor joists, pipes, or other building components — vibration transfers through contact points and amplifies noise.

While oil canning is not a safety concern, persistent loud banging can indicate that your ductwork is undersized for the furnace blower output, creating excessive static pressure. If the noises are new or have gotten worse after a furnace replacement, have a contractor check that the new furnace's airflow is compatible with the existing duct system.

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Q14

How do I balance the airflow in my Toronto home without calling a contractor?

You can significantly improve airflow balance in your home using the register dampers that are already built into your supply vents — it takes patience and a systematic approach, but it is oone of the most effective free comfort improvements available to any homeowner. Proper balancing can reduce temperature differences between rooms by 2 to 5 degrees Celsius without any professional help or equipment.

Start by **opening every supply register in the house fully**. This is your baseline. Many homeowners have closed registers in unused rooms thinking it saves energy, but closing registers actually increases static pressure in the system, forces air out through duct leaks, and can strain the blower motor. Modern forced-air systems are designed to operate with all registers open.

Next, **identify your problem rooms** — the ones that are consistently too hot in summer or too cold in winter. Walk through the house with a thermometer (even a basic indoor thermometer or your phone's weather sensor) and note the temperature in each room after the system has been running for at least 30 minutes. Record which rooms are comfortable and which are not.

Now begin the balancing process. **Partially close the damper lever on registers in rooms that are already comfortable or over-conditioned.** The small lever on the side of floor registers or the adjustment behind wall registers controls a damper inside the register boot. By restricting airflow to rooms that are getting too much conditioned air, you redirect that air to rooms that are underserved. Work in small increments — close each damper about 25 percent at a time, wait 30 to 60 minutes for the system to stabilize, and then check temperatures again.

This process works because your furnace blower moves a fixed volume of air. If you reduce the flow to one room, the pressure in the system increases slightly and pushes more air to other rooms. It is not a perfect science — the rooms closest to the furnace with the shortest duct runs will always get the most air — but careful damper adjustment can make a noticeable difference.

Pay attention to return air as well. Make sure all return air grilles are unobstructed — no furniture blocking them, no rugs covering floor returns. A blocked return grille starves the entire system of air and reduces airflow to every room in the house. If you have a home with only one or two return grilles (common in older Toronto homes), keeping interior doors open allows air to circulate back to the return more easily. For bedrooms where you want the door closed at night, installing a **door undercut** of at least 1 inch or adding a **jump duct or transfer grille** between the room and the hallway can help.

Do your balancing during the season when you have the worst comfort problems — summer if upper floors are too hot, winter if certain rooms are too cold. The settings that work for heating may not be optimal for cooling because hot air rises and cold air falls, changing the dynamics. Some homeowners adjust their dampers twice a year as the seasons change.

If balancing alone does not solve your comfort issues, the problem likely goes deeper — undersized ducts, disconnected flex duct, or insufficient return air that requires professional assessment.

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Q15

What are the signs that my Toronto home ductwork needs to be replaced?

If your ductwork is more than 30 to 40 years old, has visible rust or deterioration, or your energy bills have been climbing despite a newer furnace, it is likely time for replacement. Many GTA homes — particularly post-war construction across Scarborough, North York, Etobicoke, and the inner suburbs — are running on original galvanized steel ductwork that is now 50 to 70 years old, well past its expected service life.

The most obvious sign is **visible physical deterioration**. Walk through your unfinished basement and look at the ductwork. Rust holes, corroded seams, separated joints, and crushed or sagging flex duct all indicate a system that is leaking conditioned air into unconditioned spaces. If you can see daylight (or feel warm air escaping) at duct joints when the furnace is running, those leaks are costing you money with every heating and cooling cycle. Minor leaks at a few joints can be sealed with duct mastic for **$150 to $600**, but widespread deterioration across the entire trunk and branch system usually means replacement is more cost-effective than piecemeal repairs.

Uneven temperatures throughout the house that persist despite a properly functioning furnace are another strong indicator. If some rooms are 3 to 5 degrees warmer or cooler than the thermostat setting and adjusting register dampers does not help, the ductwork is likely undersized, poorly routed, or so leaky that insufficient air reaches distant rooms. This is especially common in homes where air conditioning was added decades after the original heating-only duct system was installed — the ducts were never sized for cooling loads, which require roughly 400 CFM per ton versus 300 CFM per ton for heating.

Excessive dust, musty odours, or allergy symptoms that worsen when the system runs can indicate ductwork problems. Older duct systems with failed joints pull unfiltered air from basements, crawlspaces, and wall cavities — bringing dust, mould spores, and insulation fibres into your living spaces. If your home gets dusty within a day or two of cleaning, leaky ductwork is a likely culprit. Additionally, if your ducts have been contaminated by rodent droppings, mould growth inside the duct walls, or residue from old fibreglass duct liner, cleaning alone may not resolve the problem — replacement is the definitive solution.

Rattling, banging, or whistling noises that have gotten progressively worse over the years suggest that joints are loosening, metal is fatiguing, and the system is losing structural integrity. While some noise is normal due to thermal expansion, increasing noise levels indicate worsening deterioration.

If your home has **asbestos-wrapped ductwork or asbestos duct tape** — common in Toronto homes built before 1980 — you cannot simply patch or modify the system. Professional asbestos abatement is required before any duct work, adding **$2,000 to $5,000** to the project cost. A complete duct replacement for a typical GTA home runs **$5,000 to $18,000** including removal and disposal of the old system, but the improvement in comfort, efficiency, and air quality is dramatic. Get matched with a ductwork contractor for a free estimate on your project through

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Q16

How do I fix condensation forming on my ductwork in a Toronto basement?

Condensation on basement ductwork in Toronto is caused by warm, humid air contacting the cold surface of supply ducts carrying air-conditioned air, and the fix is insulating those ducts with a minimum R-8 duct wrap that includes a sealed vapour barrier. This is one of the most common ductwork problems in GTA homes, especially during the humid summer months when humidex values regularly exceed 40.

The physics are simple. During summer, your air conditioner produces supply air at roughly 12 to 15 degrees Celsius. That cold air flowing through uninsulated metal ducts in your basement cools the outer surface of the duct below the dew point of the surrounding basement air. When humid basement air contacts that cold surface, moisture condenses — the same process that forms water droplets on a cold glass on a summer day. In Toronto's humid summers, this condensation can be substantial enough to drip steadily onto basement floors, stored belongings, and ceiling materials, eventually causing water damage, staining, and mould growth.

R-8 fibreglass duct wrap with an integral foil vapour barrier is the standard solution for insulating exposed basement ductwork. The insulation prevents the outer surface of the duct from dropping below the dew point, eliminating condensation. The vapour barrier facing must face outward (toward the warm, humid air) and all seams and joints in the vapour barrier must be sealed with foil tape to prevent humid air from reaching the cold duct surface behind the insulation. A poorly sealed vapour barrier defeats the purpose — moisture gets behind the insulation, condenses on the duct, and gets trapped, creating an invisible mould problem. R-8 duct wrap material costs approximately $1.50 to $3.00 per square foot installed, and insulating a typical basement trunk line and branch runs costs $800 to $2,500 depending on the total linear footage.

Before insulating, address any **existing duct leaks**. Leaking duct joints release cold air into the basement space, making the condensation problem worse by further cooling surfaces around the leak. Seal all accessible joints with duct mastic or UL 181-rated foil tape before wrapping with insulation. If your ducts have been sweating for years, inspect the exterior surfaces for rust — long-term condensation corrodes galvanized steel ductwork from the outside, and severely rusted sections should be replaced before insulating.

Basement humidity control is the other half of the equation. If your basement humidity consistently exceeds 55 to 60 percent relative humidity in summer, insulation alone may not fully eliminate condensation. Run a dehumidifier to maintain basement humidity below 50 percent relative humidity during summer months. A properly sized basement dehumidifier for a typical GTA home costs $250 to $500 and removes 30 to 70 pints per day. Also verify that your basement has no active moisture intrusion — water seeping through foundation walls or floor during spring thaw or summer rainstorms raises humidity dramatically and must be addressed at the source.

This is a project that a capable homeowner can tackle in an unfinished basement with exposed ductwork. You will need R-8 duct wrap (available at building supply stores), foil tape, a utility knife, and a few hours. Wrap the insulation snugly around the duct, vapour barrier facing out, overlap seams by two inches, and seal every seam and end with foil tape. For finished basements where ductwork is concealed above a dropped ceiling, the job is more involved and a professional ductwork contractor is the better choice.

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Q17

Why is air leaking from the joints in my Toronto home ductwork?

Air leaks at duct joints in Toronto homes are caused by failed sealant, thermal expansion and contraction from the GTA's extreme temperature swings, age-related deterioration, and in many cases, joints that were never properly sealed in the first place. A typical older GTA home loses 20 to 40 percent of its heated and cooled air through duct leaks, which translates directly into higher energy bills, uneven room temperatures, and reduced indoor air quality.

The most common culprit is **cloth duct tape** — the grey tape that ironically shares a name with ductwork but is completely unsuitable for HVAC applications. Cloth duct tape was widely used on GTA homes built from the 1950s through the 1990s, and it fails predictably within two to five years. The adhesive dries out, the fabric deteriorates, and the tape peels away from the joint, leaving gaps that leak conditioned air into basements, crawlspaces, wall cavities, and attics. If you see grey tape hanging off your duct joints, it has failed and the joints are leaking.

Toronto's climate accelerates joint failure significantly. With winter temperatures dropping to minus 20 degrees Celsius and summer temperatures exceeding 35, your metal ductwork expands and contracts through a temperature range that stresses every joint connection. Over 50 freeze-thaw cycles per winter work the joints back

and forth like a slow-motion wrestling match between metal and sealant. Connections that were tight when installed gradually loosen, and sealant that was marginal to begin with cracks and separates. Snap-lock round duct joints and rectangular duct S-clips and drives are particularly vulnerable to this thermal cycling.

Vibration from the furnace blower also contributes to joint failure over time. Every time the system cycles on, the blower motor creates vibration that travels through the ductwork. Over tens of thousands of cycles across years and decades, this vibration loosens mechanical connections and cracks brittle sealant.

To fix leaking joints, the proper approach is to seal every accessible joint with **duct mastic** — a water-based, fibre-reinforced sealant that you apply with a brush or gloved hand in a thick layer over the joint. Mastic remains flexible permanently, adheres to both galvanized steel and flex duct collars, and does not degrade with temperature cycling. For a belt-and-suspenders approach, apply mastic first and then cover with UL 181-rated foil tape. A gallon of duct mastic costs $15 to $30 and covers 30 to 50 joints, making this one of the most cost-effective home improvements available.

In an unfinished Toronto basement with exposed ductwork, sealing joints yourself is a practical DIY project. Start at the furnace plenum and work outward along each trunk and branch run, applying mastic to every joint, seam, and connection including takeoff collars, register boots, and duct-to-plenum connections. For ducts concealed in walls, ceilings, and finished spaces, **Aeroseal** is the professional solution — a patented process that seals ducts from the inside by blowing aerosolized polymer particles through the system that accumulate and seal at leak points. Aeroseal costs $1,500 to $3,500 for a typical GTA home but can reduce duct leakage by 90 percent, often paying for itself within a few years through energy savings. If you need help finding a ductwork contractor to address leaking joints, Toronto Ductwork can match you with local professionals for free estimates.

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Q18

Can I repair a small hole in my metal ductwork myself in my Toronto home?

Yes, repairing a small hole in metal ductwork is a manageable DIY project for most Toronto homeowners, provided the hole is in an accessible location like an unfinished basement and is small enough to patch — generally under 10 centimetres (4 inches) in diameter. For larger holes, damaged sections, or ductwork in hard-to-reach locations, a professional repair is the better choice.

The repair method depends on the size of the hole. For very small holes — nail punctures, screw holes from past renovations, or pinholes from rust — **duct mastic alone** is sufficient. Clean the area around the hole with a damp cloth to remove dust and debris, then apply a thick layer of duct mastic over the hole and at least 5 centimetres beyond the edges in all directions. Use a brush or a gloved hand to work the mastic into the opening and smooth it flat. Allow it to cure for 24 hours before running the system. A single container of duct mastic costs $15 to $30 at any building supply store and will handle dozens of small repairs.

For holes up to about 10 centimetres, use a **patch method**. Cut a piece of sheet metal (available in small sheets at hardware stores for $10 to $20) about 5 centimetres larger than the hole on all sides. Apply a generous layer of duct mastic around the hole, press the patch over it, and then apply mastic over the patch edges, completely sealing the patch to the surrounding duct surface. For added security, wrap UL 181-rated foil tape over the mastic and patch once the mastic has set. This creates a permanent, airtight repair that will outlast the ductwork itself.

Do not use cloth duct tape for this repair — despite being the first thing most homeowners reach for, grey cloth duct tape is not rated for HVAC use. It dries out and peels off within a few years in the GTA's temperature extremes, leaving the hole exposed again. Only UL 181-rated foil tape or duct mastic provides a lasting seal.

Before patching, consider **why the hole is there**. If it is a screw hole or nail puncture from a previous renovation or shelf installation, the repair is straightforward. If the hole is caused by rust — particularly common on older galvanized ductwork in Toronto homes built between the 1950s and 1980s — you need to assess the extent of the corrosion. A single rust hole often indicates widespread thinning in the surrounding area. Press gently on the metal around the hole — if it flexes or crumbles, the entire section is compromised and patching is a temporary fix at best. In this case, the damaged section should be cut out and replaced with new galvanized duct, which is a job for a professional sheet metal contractor. Replacing a single damaged duct section typically costs $300 to $800 depending on size, location, and accessibility.

Also check for condensation as the root cause of the rust. Uninsulated supply ducts in Toronto basements sweat during humid summers, and years of condensation will corrode galvanized steel from the outside. After making your repair, insulating the duct with R-8 duct wrap prevents future condensation and protects the ductwork going forward. If you discover widespread rust or multiple holes across your duct system, it may be more cost-effective to

have a professional assess whether targeted section replacements or a complete duct replacement makes more sense for the long term.

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Q19

What causes whistling or hissing sounds from my Toronto home ductwork?

Whistling or hissing sounds from your ductwork are caused by air being forced through a restriction or gap at high velocity, and in Toronto homes the most common culprits are undersized ducts, closed or partially blocked registers, dirty filters, leaking joints, and flex duct that has become kinked or crushed over time. The sound is essentially the same physics as whistling through pursed lips — air accelerating through a narrow opening creates turbulence and noise.

The **most frequent cause** in GTA homes is a dirty or restrictive furnace filter. When a filter becomes clogged with dust, pet hair, and debris — which happens quickly in Toronto's pollen-heavy spring and dusty summer construction season — the blower motor pulls air through the restricted filter media at high velocity, creating a hissing or whooshing sound at the return grille. Check your filter first. If it is visibly dirty, grey, or clogged, replace it. Filters should be changed every one to three months depending on type, and more frequently if you have pets or nearby construction. A clean filter alone may resolve the noise completely.

Undersized ductwork is a systemic issue common in post-war Toronto homes across Scarborough, North York, and Etobicoke. These homes were built with ductwork designed for heating only, and when air conditioning was added later, the existing ducts were too small to handle the higher airflow requirements (cooling requires approximately 400 CFM per ton versus 300 CFM per ton for heating). Air moving through undersized ducts at excessive velocity creates whistling at registers, rushing sounds through trunk lines, and turbulence noise at fittings. If your ductwork has always been noisy since the air conditioner was installed, undersized ducts are the likely cause, and the only real fix is upsizing critical trunk lines and branch runs — a project that typically costs $3,000 to $8,000 depending on scope.

Partially closed registers and dampers are another common source. When a register is nearly closed, the small opening accelerates air to high velocity, creating a distinct whistle. Check all your supply registers — open them fully and see if the noise stops. If someone previously closed registers in unused rooms to redirect airflow, this increases static pressure throughout the system and can cause whistling at remaining open registers. The proper solution is to keep all registers open and use zone dampers in the trunk duct if you need room-by-room control.

Flex duct problems are widespread in GTA homes built from the 1980s onward. Flex duct that has sagged from its hangers, kinked at a turn, or been compressed by stored items in the attic creates a restriction that whistles or hisses as air pushes through. In attic spaces, flex duct insulation sometimes separates and bunches up inside the outer jacket, creating an internal blockage. Inspecting attic flex duct runs and re-supporting sagged sections, straightening kinks, and pulling the duct taut can eliminate noise from these sources.

Leaking joints produce a hissing sound as pressurized air escapes through gaps. Run your hand along accessible duct joints while the system is running — you will feel air blowing from leaky connections. Seal these with duct mastic for a permanent fix.

If the noise started suddenly rather than gradually, check whether a damper inside a duct has come loose and is partially blocking the airflow path, or whether a register boot has separated from the branch duct. These issues are common after renovation work or heavy foot traffic above floor registers. If you have addressed the obvious causes and the whistling persists, a ductwork contractor can perform a static pressure test to identify the restriction point — this diagnostic test typically costs $150 to $300 and pinpoints exactly where the problem lies.

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Q20

Why does my Toronto home have weak airflow from some registers but not others?

Uneven airflow between registers is one of the most common ductwork complaints in GTA homes, and it almost always points to a design, installation, or deterioration problem in the duct system rather than an issue with the furnace itself. The good news is that most causes are identifiable and fixable once you know where to look.

The most frequent culprit in older Toronto homes — particularly the post-war builds across Scarborough, North York, and Etobicoke — is undersized return air. These homes were originally designed with a single return air grille on the main floor, which simply cannot pull enough air back to the furnace to maintain balanced airflow to every supply register. When the system is starved for return air, rooms closest to the furnace get decent airflow while rooms farther away, especially upstairs bedrooms, get noticeably weaker delivery. Adding return air ducts to the

basement and upper-floor bedrooms is one of the single most impactful upgrades for these homes, typically costing $300-$800 per new return register including the branch duct.

Beyond return air problems, weak airflow at specific registers often indicates a restriction somewhere in that particular duct run. In homes built from the 1970s through the 1990s across Mississauga, Brampton, Markham, and Vaughan, flex duct was commonly used for branch runs. Over decades, flex duct sags between supports, develops kinks at turns, and can even collapse under stored items in the attic. A single 90-degree kink in flex duct can reduce airflow by 50 percent or more. Disconnected duct joints are another common cause — vibration from the air handler, temperature cycling through Toronto's freeze-thaw seasons, and settling of the house can gradually work connections apart, especially joints that were only sealed with cloth duct tape rather than UL 181-rated foil tape or mastic.

Damper position is the simplest thing to check first. Many homeowners do not realize that the small lever on the branch duct near the trunk line is a manual damper. If it is perpendicular to the duct, the damper is closed and airflow is blocked. Walk through your basement or utility area and confirm every damper lever is parallel to its duct run. Also check that no furniture, rugs, or storage boxes are blocking return air grilles — starving the return side affects the entire system.

If dampers and returns check out, the problem may be duct sizing or excessive static pressure. A qualified ductwork contractor can measure static pressure at the supply and return plenums and compare it to the equipment manufacturer's specifications. High static pressure indicates restrictions — undersized ducts, too many bends, dirty filters, or collapsed flex duct. In the GTA market, a diagnostic visit with static pressure testing typically runs $150-$300 and gives you a clear picture of what needs fixing. For homes where multiple rooms have weak airflow, a professional duct balancing using an anemometer to measure CFM at each register costs $200-$500 and can dramatically improve comfort without replacing any ductwork. If you are dealing with persistent hot and cold spots despite a healthy furnace and clean filter, a ductwork contractor through the Toronto Construction Network can assess your system and recommend targeted repairs rather than a full replacement.

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Q21

How do I fix a disconnected duct run in my Toronto home attic or basement?

A disconnected duct run means conditioned air is being dumped into your attic, basement ceiling cavity, or wall chase instead of reaching the intended room — wasting energy, creating comfort problems, and potentially causing moisture damage. If you have a room that suddenly stopped getting airflow or has always been significantly weaker than other rooms, a disconnection is a likely cause.

In an unfinished basement, finding and fixing a disconnection is relatively straightforward. Walk the length of each branch duct from the trunk line to the register boot and look for gaps, fallen sections, or joints that have pulled apart. Post-war Toronto homes with galvanized steel ductwork often develop disconnections where branch ducts connect to the trunk line, particularly if the original installer relied on friction fit or cloth duct tape instead of proper mechanical fasteners and mastic. The fix involves reconnecting the joint with sheet metal screws (three per connection, evenly spaced), then sealing the entire joint with duct mastic applied generously with a brush or gloved hand, and optionally covering the mastic with UL 181-rated foil tape for a belt-and-suspenders seal. Materials cost under $30, and a capable homeowner can handle this repair in a basement where the ductwork is visible and accessible.

Attic disconnections are a different situation entirely and should be handled by a professional. GTA attics are dangerous work environments — summer temperatures regularly exceed 50 degrees Celsius under the roof deck, winter temperatures match outdoor conditions at minus 15 to minus 20, and the combination of insulation, limited headroom, and truss spacing makes movement treacherous. Beyond the safety concerns, a disconnected duct in a Toronto attic creates a serious condensation problem. In summer, cold air conditioning supply air dumping into a hot, humid attic causes massive condensation that soaks insulation and ceiling drywall. In winter, warm moist supply air hitting cold attic surfaces creates frost buildup that melts during thaws, causing water damage. If you suspect an attic duct disconnection — one room suddenly lost airflow, you see water stains on the ceiling below the attic, or you notice frost or moisture when you peek into the attic hatch — call a professional promptly.

For flex duct disconnections, the repair is particularly important to get right. Flex duct must be reconnected to the metal collar or fitting using a zip tie or worm-gear clamp tightened over the inner liner, then the insulation and outer vapour barrier pulled over the connection and secured with a second clamp. The vapour barrier must be intact and sealed — any gap allows warm humid air to reach the cold inner duct surface, causing condensation inside the insulation layer. This is especially critical in GTA attics where the humidity differential between conditioned air and attic air is extreme.

Professional duct repair for a disconnected run in the GTA typically costs $150-$600 depending on location, accessibility, and whether the disconnection caused secondary damage. Attic repairs are on the higher end due to the difficulty of the work environment. If the disconnection has been present for a while and you see any signs of mould on surrounding materials, address the mould source first — duct cleaning alone will not solve a mould problem caused by ongoing moisture from a disconnected duct. Toronto Ductwork can match you with a local ductwork professional for a free estimate through the Toronto Construction Network.

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Q22

Can squirrels or raccoons damage ductwork in a Toronto home attic?

Absolutely — wildlife damage to attic ductwork is a surprisingly common problem in the GTA, and raccoons in particular can cause thousands of dollars in duct damage in a remarkably short time. Toronto has one of the densest urban raccoon populations in North America, and squirrels are equally persistent about finding warm nesting spots in residential attics across every GTA neighbourhood.

Raccoons are the more destructive of the two. They are strong enough to tear apart flex duct completely — ripping through the outer vapour barrier, pulling apart the fibreglass insulation, and puncturing or disconnecting the inner plastic liner. They target flex duct because it is soft and easy to manipulate, and they are attracted to the warm air flowing through supply ducts in winter. A raccoon nesting in an attic will often tear open a supply duct to create a warm air source near its den, disconnecting the run entirely. The damage typically affects multiple duct sections because raccoons move through the attic and disturb ductwork along their travel paths. Beyond the physical damage, raccoon feces and urine contaminate duct insulation and can introduce harmful bacteria and roundworm eggs into the air system if the inner duct liner is breached.

Squirrels cause different but still significant damage. They chew through flex duct outer jackets and insulation to access nesting material — the fibreglass insulation inside flex duct is attractive nesting material for squirrels. They also gnaw on duct board and can chew through the foil facing of fiberglass duct board sections, compromising both the air seal and the insulation value. Squirrel entry points into attics often occur at soffit vents, ridge vents, and gable vents — the same locations where exhaust ducts terminate, so bathroom and kitchen exhaust duct terminations are frequently damaged by squirrels enlarging the opening to gain entry.

If you discover wildlife damage to your ductwork, the repair sequence matters. First, the animals must be removed and excluded from the attic by a licensed wildlife removal company — repairing ductwork before sealing entry points guarantees repeat damage. Second, any contaminated insulation and duct sections must be removed and disposed of properly. Raccoon feces require careful handling due to Baylisascaris roundworm risk. Third, damaged duct sections are replaced and reconnected with proper mechanical fasteners, mastic, and UL 181 foil tape. Finally, all duct insulation is replaced and vapour barriers are sealed.

The cost for wildlife-related duct repair in the GTA typically runs $500-$3,000 depending on the extent of damage, with the wildlife removal and exclusion adding another $300-$1,500 as a separate service. If raccoon contamination is extensive, professional cleaning and sanitizing of the remaining duct system is recommended, adding $300-$700 for duct cleaning by a NADCA-certified company. Homeowner's insurance sometimes covers wildlife damage to ductwork — check your policy before paying out of pocket, as the claim may be worthwhile for extensive damage. For the duct repair portion, a qualified ductwork contractor can assess the damage and recommend whether

individual sections can be repaired or whether full replacement of the attic duct runs makes more sense given the extent of the problem.

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Why does my Toronto home ductwork vibrate and make rattling noises?

Rattling and vibrating ductwork is almost always caused by loose connections, improperly secured duct sections, or sheet metal panels that flex under air pressure — a phenomenon called oil-canning. While some duct noise is normal when the system starts up or shuts down, persistent rattling, buzzing, or vibrating during operation indicates a problem that should be addressed before it worsens.

The most common cause in GTA homes is **thermal expansion and contraction**. Toronto's extreme temperature swings — from minus 20 in winter to plus 35 in summer — cause metal ductwork to expand and contract with every heating and cooling cycle. Over years and decades, this movement loosens sheet metal screws, works joints apart, and causes duct sections to shift against framing members, pipes, or other ducts. When the furnace blower starts up and pressurizes the system, these loose sections vibrate against whatever they are touching. The fix is straightforward: identify the vibrating section (have someone stand near different duct runs while the system operates), then either tighten or add sheet metal screws at the joint, or insert a piece of rubber or foam insulation between the duct and the framing member it is contacting. This is a repair most homeowners can handle in an accessible basement.

Oil-canning is the popping or booming sound that large rectangular duct sections make when the blower starts or stops. The flat sheet metal panels flex inward or outward as pressure changes inside the duct, snapping between two stable positions with a loud pop. This is extremely common in the large rectangular trunk ducts found in post-

war Toronto homes across North York, Scarborough, and Etobicoke. The fix involves stiffening the duct wall by adding a sheet metal cross-break (a diagonal crease pressed into the flat panel) or riveting a stiffening angle to the duct surface. A sheet metal contractor can do this for $100-$300 per section.

High-pitched whistling or rushing sounds indicate a different problem — excessive air velocity caused by undersized ducts, partially closed dampers, or restrictions in the system. Check that all damper levers on branch ducts are in the open position (parallel to the duct). Dirty air filters are another common cause — a clogged filter forces the blower to work harder, increasing air velocity through the remaining open area and creating turbulence and noise. Replace your filter every one to three months depending on type.

Rattling at the furnace or air handler may indicate a failing blower motor bearing, a loose blower wheel, or a cracked heat exchanger — all of which require professional diagnosis by an HVAC technician. A cracked heat exchanger in particular is a serious safety concern as it can allow combustion gases including carbon monoxide to enter the duct system and circulate throughout the home. If the rattling seems to come from inside the furnace rather than the duct system, shut off the system and call a TSSA-registered heating contractor immediately.

For persistent duct noise that you cannot isolate, a ductwork professional can perform a static pressure test to determine whether the system is operating within design parameters. Excessive static pressure — above 0.5 inches of water column on most residential systems — causes noise throughout the duct system and indicates a design or restriction problem. In the GTA, a diagnostic visit with pressure testing typically costs $150-$300 and identifies the root cause so repairs can be targeted rather than guesswork.

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How do I know if my flex duct is crushed or kinked in my Toronto home?

The telltale signs of crushed or kinked flex duct are weak airflow at the affected register, a room that never reaches the right temperature, and sometimes a whistling or hissing sound near the restriction. Flex duct problems are extremely common in GTA homes built from the 1970s through the 2000s, particularly in Mississauga, Brampton, Markham, Vaughan, and Richmond Hill where flex duct was widely used for branch runs in attic and basement ceiling installations.

The simplest diagnostic test is the **airflow comparison**. Hold your hand in front of every supply register in your home while the system is running. If one or two registers have noticeably weaker airflow than the others — and the damper on that branch is fully open — there is likely a restriction in that duct run. You can make this test more precise by holding a tissue or light piece of paper near the register face. Strong airflow will hold the tissue firmly against the grille, while a restricted run will barely move it.

If you can access your ductwork visually — in an unfinished basement ceiling, crawlspace, or attic — look for these specific problems. **Sagging flex duct** hangs down between support points like a hammock, creating low spots that restrict airflow and collect condensation. Flex duct should be supported every four feet maximum with broad saddle-type hangers — never with wire or string that cuts into the duct and creates pinch points. **Kinked flex duct** has sharp bends where the inner wire helix has collapsed, creating a near-total blockage. This commonly happens at turns around framing members, at connections to register boots, and where the duct drops from an attic floor to a ceiling register. A 90-degree kink can reduce airflow by 50 percent or more. **Crushed flex duct** occurs when heavy items are stored on top of duct runs in attics, when insulation is packed too tightly around ducts, or when someone has stepped on a duct while working in the attic.

Flex duct that is not pulled taut is also a performance problem even if it is not technically kinked. The corrugated inner liner of flex duct creates significant friction when the duct is compressed or bunched. A six-foot section of flex duct that is only stretched across a four-foot span has far higher friction than the same duct pulled taut. Industry standards require flex duct to be stretched to at least 90 percent of its full extended length.

If you find crushed or kinked flex duct in your basement, the repair is relatively straightforward — reposition the duct to eliminate the kink, support it with proper hangers every four feet, pull it taut, and re-secure connections with zip ties and mastic. Replacement flex duct costs $3-$8 per linear foot for material. However, if the damaged flex duct is in an attic, hire a professional. GTA attics are extreme work environments, and improper flex duct repair in an attic — particularly leaving gaps in the vapour barrier — creates condensation problems that cause mould and water damage. Professional flex duct repair or replacement for a single run typically costs $200-$600 in the GTA market. If multiple runs are damaged, it may be more cost-effective to replace all attic flex duct with properly supported and insulated rigid metal duct, which is more durable and has lower friction for better airflow.

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What should I do if I find mould inside my Toronto home ductwork?

If you discover mould inside your ductwork, the most important thing to understand is that cleaning the mould without addressing the moisture source that caused it will only result in the mould returning. Mould needs moisture to grow, and the presence of mould inside ducts tells you that there is a condensation or water intrusion problem in your duct system that must be solved first.

In GTA homes, the most common cause of mould in ductwork is **condensation on uninsulated or under-insulated ducts in unconditioned spaces**. During Toronto's humid summers, when supply ducts are carrying air-conditioned air at 12-15 degrees Celsius through a hot, humid attic or basement, the temperature difference causes moisture to condense on the cold duct surfaces — the same way a cold glass sweats on a humid day. This condensation soaks into duct insulation, collects in low points of flex duct, and creates the persistent moisture that mould needs to colonize. Ducts in unconditioned spaces need a minimum of R-8 insulation with an intact vapour barrier facing outward to prevent this condensation cycle. Lakefront neighbourhoods like the Beaches, Mimico, and Port Credit are particularly vulnerable due to Lake Ontario's humidity effect.

Before doing anything else, stop using the system if mould is extensive. Running the blower circulates mould spores throughout every room in the home. Then assess the extent of the problem. Surface mould on the interior of galvanized steel ducts can be cleaned — the metal itself does not support mould growth, so once cleaned and the moisture source is eliminated, mould will not return on steel surfaces. However, mould on flex duct inner liners, fiberglass duct board, or duct insulation generally cannot be effectively cleaned. These porous materials absorb moisture and mould penetrates below the surface where cleaning cannot reach. Contaminated flex duct and duct board sections must be removed and replaced.

Professional mould remediation in ductwork typically involves several steps. A qualified contractor will inspect the entire duct system to map the extent of contamination, identify the moisture source, clean salvageable metal duct sections using HEPA-filtered equipment and antimicrobial treatment, remove and replace contaminated flex duct or duct board, insulate or re-insulate ducts in unconditioned spaces with R-8 duct wrap and properly sealed vapour barrier, and seal all duct joints with mastic to prevent air leakage that contributes to condensation. The cost for professional duct mould remediation in the GTA ranges from $1,500-$5,000 depending on the extent of contamination and how much ductwork needs replacement versus cleaning.

Do not attempt DIY mould cleaning inside ductwork. Disturbing mould without proper containment releases massive quantities of spores into the air. Professional duct cleaning companies with NADCA certification use truck-mounted HEPA-filtered equipment that maintains negative pressure in the duct system during cleaning, preventing spores from entering living spaces. Legitimate duct cleaning in the GTA costs $300-$700 for a standard home — be

extremely wary of companies offering $99 whole-house deals, as these are bait-and-switch operations.

After remediation, the moisture source must be permanently addressed. This may mean adding or upgrading duct insulation, repairing vapour barriers, fixing a roof leak that drips onto attic ducts, or improving ventilation in a damp basement. Without solving the moisture problem, you will be paying for mould remediation again within a year or two. If your home has persistent humidity issues contributing to duct condensation, an ERV or HRV system ($2,500-$6,000 installed) can help manage indoor moisture levels while maintaining fresh air exchange.

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How do I protect my Toronto home ductwork during a cold snap?

The best protection for your ductwork during a Toronto cold snap is preparation done before temperatures plummet — once a -20 degree Arctic air mass arrives, your options are limited and the damage risks are immediate. The key vulnerabilities are ducts in unconditioned spaces (attics, crawlspaces, garages, and uninsulated exterior wall cavities) where extreme cold causes condensation, freezing, joint failures, and energy losses that spike your heating bills.

Before cold snap season arrives — ideally in October or November — inspect all accessible ductwork in unconditioned spaces. Look for disconnected joints, torn insulation, exposed duct sections, and sagging flex duct. Every joint should be sealed with duct mastic or UL 181 foil tape — Toronto's 50-plus freeze-thaw cycles per winter cause duct joints to expand and contract repeatedly, loosening connections that were tight in September. A can of duct mastic and a brush cost $15-$30 and a homeowner can seal visible, accessible joints in an unfinished basement in an afternoon. For ducts in attics, crawlspaces, or enclosed chases, hire a professional — accessing these areas safely in cold weather is difficult and the consequences of poor sealing are severe.

All ductwork in unconditioned spaces should be insulated to a minimum of R-8 with a continuous vapour barrier. During a cold snap, uninsulated supply ducts carrying warm air through a -20 degree attic lose tremendous amounts of heat, and the temperature differential causes rapid condensation that can drip onto ceiling materials and freeze in extreme conditions. If your attic ducts are not insulated, this is a priority upgrade that typically costs $200-$600 for a typical GTA home's attic duct runs.

During an active cold snap, keep your thermostat at a consistent temperature — do not set it back dramatically at night. Large temperature swings cause the furnace to run in extended cycles, creating pressure fluctuations that stress duct joints. Keep all supply and return registers open and unblocked to maintain balanced airflow throughout the system. If you notice rooms that are suddenly much colder than others, a duct may have disconnected or a joint may have failed — check accessible ductwork for obvious gaps or air leaks.

If a power outage occurs during a cold snap — a real possibility during Toronto ice storms — your furnace stops and ducts in unconditioned spaces cool rapidly to ambient temperature. Any residual moisture in the system can freeze, and flex duct outer jackets can crack in extreme cold. When power returns, run your system on low heat initially and listen for unusual sounds that might indicate damage. After any extended outage during freezing temperatures, inspect attic and garage ductwork before resuming normal operation. Look for cracked flex duct, disconnected joints, and ice or water stains on surrounding materials.

For homes with chronic cold-snap comfort problems — rooms that are always cold despite the furnace running — the underlying issue is usually inadequate duct insulation, undersized ductwork, or air leakage in the duct system. These are structural problems that temporary measures cannot fix. A professional duct assessment with a blower door test and duct leakage measurement identifies exactly where the problems are and what repairs will have the most impact. Toronto Ductwork can match you with local professionals for a free estimate.

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Can ice form inside ductwork running through an unheated Toronto attic in winter?

Yes, ice can absolutely form inside ductwork running through an unheated Toronto attic, and it is more common than most homeowners realize. This happens when warm, moist air from inside the home leaks through unsealed duct joints into the cold attic space, or when condensation forms on the interior walls of cold supply ducts and freezes during extended cold snaps below -15 degrees Celsius.

The mechanism is straightforward. When your furnace cycles off overnight or during the day when you are at work, ducts in an unheated attic cool rapidly toward the outdoor temperature. In a Toronto January or February, that means duct surfaces can reach -10 to -20 degrees Celsius within a few hours. Any residual moisture in the duct system — from humid indoor air that leaked in through gaps at joints, connections to registers, or the air handler plenum — freezes on the interior duct walls. When the furnace kicks back on, that ice melts and drips into the ductwork, running downhill to the lowest point and potentially dripping through ceiling registers or soaking into duct board and insulation. Over repeated freeze-thaw cycles — Toronto averages more than 50 per winter — this process causes rust in galvanized steel ducts, delamination of fibreglass duct board, and cracking of flex duct outer jackets.

Flex duct is particularly vulnerable in attic installations. The plastic inner liner becomes brittle in extreme cold and can crack at stress points where the duct bends over trusses or joists. Once the inner liner is compromised, fibreglass insulation particles enter the airstream and circulate through your home. If you have flex duct in your attic that is more than 10 to 15 years old, it should be inspected for damage every fall before the heating season begins.

After any extended power outage during a cold snap, inspect attic ductwork before running your furnace. When heat stops flowing through ducts in a -20 degree attic for 12 or more hours, all residual moisture freezes. Turning the furnace back on sends warm air through ice-lined ducts, creating a sudden burst of condensation and melt water that can overwhelm drain paths and soak ceiling insulation.

Prevention requires three things: sealing, insulation, and proper vapour barriers. First, every joint and connection in your attic ductwork must be sealed with duct mastic or UL 181 foil tape — never grey cloth duct tape, which fails within a few years in GTA temperature extremes. Second, all attic ducts need a minimum R-8 insulation wrap with an intact outer vapour barrier to keep the duct surface temperature above the dew point. Third, the vapour barrier must face outward (toward the attic air) and be sealed at all seams and penetrations to prevent moist attic air from reaching the cold duct surface underneath.

Attic ductwork repair and insulation is not a DIY project for most homeowners — attics are dangerous working environments with extreme temperatures, limited space, and tripping hazards. Professional duct insulation in the

GTA runs $1.50 to $3.00 per square foot installed, and a complete attic duct sealing and insulation project typically costs $2,000 to $5,000 depending on the system size. Get matched with a ductwork contractor through the Toronto Construction Network for a professional assessment.

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Q28

Can I modify the ductwork in my Toronto condo to improve airflow to a specific room?

Modifying ductwork in a Toronto condo is possible in some cases, but it is significantly more restricted than in a detached home because of condo corporation rules, building engineering constraints, and the Ontario Building Code requirements for multi-unit residential buildings. Before touching any ductwork, you need to understand exactly what you own, what requires approval, and what modifications are physically feasible in your unit.

The first step is determining whether your condo has an in-suite HVAC system with its own ductwork, or whether it relies on a centralized building system. Many newer Toronto condos built after 2005 — particularly in the downtown core, CityPlace, Liberty Village, and along the waterfront — have individual fan coil units with short duct runs serving each suite. In these buildings, the ductwork within your unit walls is typically part of your unit and can be modified with condo board approval. Older Toronto condos and many mid-rise buildings in Scarborough, North York, and Etobicoke may use centralized systems where ductwork is a common element owned by the condo corporation — you cannot modify common element ductwork without an engineering review and a Section 98 approval under the Ontario Condominium Act.

For suites with individual fan coil units, improving airflow to a specific room usually involves one of three approaches. First, check whether the existing damper in the branch duct serving that room is partially closed — this is the simplest fix and costs nothing. The damper is usually a small lever on the round branch duct near the main trunk. Opening it fully may resolve the issue. Second, if the branch duct is undersized, kinked, or takes an excessively long path with too many bends, a ductwork contractor can reroute or resize the branch duct. This typically costs $500 to $1,500 in a condo setting and requires opening walls or ceilings to access the duct. Third, adding a booster fan inline with the branch duct can increase airflow to a distant room. Inline booster fans cost $200 to $500 installed but require electrical work by an ESA-Licensed Electrical Contractor.

Condo-specific constraints you must plan for include: limited ceiling space (many Toronto condos have 8-foot ceilings with only 6 to 10 inches of clearance above the dropped ceiling for ductwork), structural elements that cannot be penetrated (concrete slabs, shear walls, post-tensioned slabs), fire separation requirements between units that restrict duct penetrations, and noise transmission concerns — ductwork modifications that increase airflow velocity can create noise that travels to neighbouring units through shared walls and ceilings.

Before starting any ductwork modification in a Toronto condo, follow this process. Review your condo's declaration and rules to determine whether ductwork is a unit component or common element. Submit a modification request to your condo board with details of the proposed work — most boards require engineering

drawings and contractor insurance certificates. Obtain a building permit from the City of Toronto if the modification is significant (new trunk lines, major rerouting). Hire a licensed contractor with experience working in Toronto condos — condo work requires understanding of fire separations, noise control, and building engineering systems.

For minor airflow improvements like adjusting dampers or replacing registers, you generally do not need board approval or permits. But anything involving opening walls, rerouting ducts, or adding electrical components requires proper approvals. Toronto Ductwork can help you find a ductwork contractor experienced with condo projects through the Toronto Construction Network.

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