

When Your Radon Fan Not Working: Diagnosis and Repair Tips for Homeowners

If you have a radon mitigation system in your home, the fan is the heart of the setup. It pulls soil gas from beneath your foundation and vents it safely above the roofline. But when that fan stops, the whole system goes silent. A radon fan not working isn't just a nuisance. It can mean radon levels climbing back up inside your living space. Over the years, I have seen plenty of fans fail for reasons that are easy to miss. Let me walk you through the common causes and what you can do about them.

First Steps: Is the Fan Getting Power?

The most obvious place to start is the power supply. Many fans plug into a standard outlet or are hardwired through a disconnect switch. If the fan is dead quiet, check the circuit breaker. A tripped breaker is surprisingly common after a storm or if the fan was working hard during hot weather. I have also seen a simple disconnect switch get flipped off by accident during yard work or basement cleanup. Before you call for help, confirm that the fan has power at the source.

If the breaker keeps tripping, you might have a short in the fan motor or in the wiring. This is where things get more involved. A professional can test the fan leads with a multimeter to see if the motor is pulling current. Sometimes the problem is a failed capacitor, which helps the motor start and run smoothly. A bad capacitor can make the fan hum without spinning, or it may not start at all.

Listen for the Signs: What a Stuck Fan Sounds Like

I once visited a home where the homeowner said the [radon fan not working](#) was his main worry. I walked into the basement and heard a faint buzz. The fan was trying to run but something was blocking it. A tiny piece of debris or a buildup of dust can stop the fan blade from turning. In other cases, the fan controller might be set too low, or the motor bearings have worn out over years of continuous operation. A fan that runs 24/7 can last many years, but eventually moving parts wear down.

Sometimes the fan runs but you get little to no airflow. That is a different kind of failure. The motor may spin, but the impeller could be loose, or the fan housing might have a crack. You can check airflow by feeling the exhaust vent outside. If it feels weak or nonexistent, the fan may be spinning the wrong way or the system has a blockage.

Checking Your System with a Manometer

A manometer is a simple tool that measures pressure. In a sub-slab depressurization system, the fan creates negative pressure under the slab. A manometer connected to a pitot tube or a pressure port can tell you if the fan is pulling properly. Normal readings vary depending on your soil and pipe layout, but a sudden drop usually means the fan is struggling or the system has a leak. If the manometer shows zero when the fan is on, you likely have a radon fan not working scenario.

I recommend keeping a basic manometer in your maintenance kit. It is a fast way to confirm the system is working without climbing on the roof. Many homeowners have no idea their fan has failed until they retest with a radon test kit and see high numbers. By then, you have already been exposed to elevated radon for weeks or months.

Common Fan Models and Their Weak Points

Two of the most common fan brands in St. Louis are RadonAway and GP-201. The RadonAway RP series is known for reliability, but even these fans can fail. The GP-201 is a workhorse used in many residential systems. I have seen GP-201 fans last over a decade, but they are not immune to capacitor failure or moisture damage. Another popular model is the RN101, which is a smaller fan often used in tighter spaces. The RN101 can be more sensitive to back pressure and heat, so it tends to fail sooner if the system is not designed well.

If you have a RadonAway fan that is not working, check the fan leads for continuity. A failed capacitor is a common culprit. You can replace the capacitor yourself if you are comfortable with basic electrical work, but always disconnect power first. If the motor itself is burned out, replacement is usually the better option.

Moisture and the Radon Seal

Moisture is a killer for radon fans. Condensation can form inside the PVC piping, especially in cold climates or when the pipe runs through an unheated space. Water can drip down into the fan housing and short out the motor or rust the bearings. A proper Radon Seal around the pipe penetrations and a drain point in the lowest part of the system can help keep water out. If you suspect moisture damage, let the fan dry out for a few days before replacing it. Sometimes a fan that seems dead will start working again once the internal moisture evaporates, but that is not something to count on.

In St. Louis, we see a lot of systems installed in crawl spaces and basements that are prone to dampness. A heat recovery ventilator can help manage overall humidity in the home, but it is not a direct fix for a wet fan. The best approach is to make sure the fan is mounted above the potential water line and that any condensation drains away from the fan.

Airflow Blockages and Laminar Flow Issues

A radon fan not working might actually be a fan that is working fine but fighting against a blockage. Debris, dead insects, or even a bird nest can obstruct the intake or exhaust. Over time, dust and soil can build up inside the pipe, especially if the system lacks a filter. Some systems use a laminar flow design to reduce turbulence and improve efficiency, but any obstruction ruins that advantage.

I once helped a homeowner who had a radon fan that sounded like it was running but their radon test kit showed high levels. We looked at the pitot tube reading on the manometer, and it was barely moving. After opening the pipe at the fan inlet, we found a clump of soil and roots that had been sucked in through a crack in the sub-slab piping. Cleaning that out restored the system to full performance.

If you suspect a blockage, the first step is to inspect the exterior vent. Make sure it is not covered by snow, leaves, or a spider web. Then check the pipe joints for any signs of separation or cracks. A visual inspection can save you a lot of time.

When to Call a Professional

Some radon fan problems are simple to fix: reset the circuit breaker, clear a blockage, or replace a capacitor. But if the fan motor is dead, the wiring is damaged, or the system has a hidden leak, it is time to bring in someone who works on these systems every day. In St. Louis, Air Sense Environmental handles radon system repair, fan replacement, and inspection for existing systems. They know the local soil conditions and common installation pitfalls. A professional can diagnose a radon fan not working in minutes with the right tools, and they can source parts like a new RN101 or GP-201 quickly.

If you are not sure whether the fan is the problem or something else in the system, a professional inspection is money well spent. They will check the manometer, the pitot tube, the fan controller, and the disconnect switch. They can also test the radon levels with a certified radon test kit to confirm the system is protecting your home. The EPA recommends testing your home for radon every two years, and more often if you make changes to your heating or cooling system. A working fan is the only way to keep radon levels low.

Preventive Maintenance Tips

The best way to avoid a radon fan not working is to take care of it before it fails. Here are a few things I recommend to homeowners:

- Check the manometer reading monthly. Write it down so you can spot changes.
- Keep the exterior vent clear of debris, snow, and plants.

- Listen for odd sounds. A change in tone or a rattle means something is wrong.
- Have the system inspected every few years by a qualified professional.
- If your fan is more than ten years old, consider a proactive replacement.

These simple steps can catch a problem early, before radon levels rise. A fan that runs continuously is under constant stress, and even the best models will eventually need service.

Final Thoughts

A radon mitigation system is a long-term investment in your health. When the fan stops, the system stops. Whether it is a capacitor issue, a blocked pipe, or a failed motor, the key is to diagnose it quickly. Do not wait to find out your radon fan not working by testing the air months later. Take the time to check the system, listen to it, and watch the manometer. If you are in the St. Louis area, Air Sense Environmental can help with repairs and replacements. A working fan means peace of mind and lower radon levels, which is something every homeowner deserves.