

# When Your Radon Fan Needs Replacing: Signs, Costs, and What to Expect

If you own a home in York County with a radon mitigation system, you already know the value of keeping radon levels low. The fan is the heart of that system, and when it starts to fail, the whole system suffers. I have seen homeowners wait too long to act, and I have seen others replace a perfectly good fan out of worry. Knowing the difference between a minor issue and a true failure is the key to making smart decisions about radon fan replacement.

## How a Radon Mitigation System Works

A typical sub-slab depressurization system uses a fan to pull soil gases from beneath your basement floor and vent them above the roofline. The fan creates negative pressure under the slab, which prevents radon from entering your living space. Over time, that fan works hard. Dust, humidity, and voltage fluctuations all take a toll. When the fan motor begins to struggle, the entire radon reduction system loses effectiveness.



Most residential systems use a fan made by a manufacturer like RadonAway. The RP-series fan is a common choice because it is reliable and energy-efficient. But even the best fan has a service life. A typical RP-series fan runs continuously for five to seven years before the fan motor shows signs of wear. In damp crawl spaces or unconditioned basements, that lifespan can be shorter.

## Signs Your Fan Is Failing

The first clue is often sound. A healthy fan hums at a consistent pitch. If you hear rattling, grinding, or a change in tone, something is off. The second clue shows up on the manometer. That U-tube gauge on the vent pipe tells you the system pressure. A reading that drops below the original install baseline means the fan is not pulling as hard as it should. A reading that falls to zero means the fan has stopped entirely.

Another sign is a sudden increase in your electricity bill. A fan motor that is working harder to overcome bearing resistance or a failing capacitor draws more current. It is not a huge jump, but if you notice a steady creep, it is worth investigating.



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One more thing: condensation. If you see moisture pooling inside the PVC vent pipe near the fan housing, that is a red flag. A properly installed system includes a condensation loop to trap water before it reaches the fan. If that loop is missing or clogged, moisture can damage the fan motor and shorten its life drastically.

## When Replacement Becomes Unavoidable

Fan repair is sometimes possible. A bad capacitor, a loose wire, or a stuck relay can be fixed without swapping the whole unit. But when the fan motor itself fails, or when the fan housing is cracked or corroded, [radon fan replacement](#) is the only real option. I have also seen cases where a fan was undersized for the house from the start. In that situation, no amount of repair will fix the problem. You need a larger fan.

Radon fan replacement is not a DIY job for most homeowners. The system involves an electrical disconnect, wiring that must meet local code, and a sealed vent path that cannot leak. A mistake during installation can cause the system to pull conditioned air from the house instead of soil gas from under the slab. That wastes energy and does nothing for radon levels.

## What a Replacement Involves

A professional radon mitigation contractor will start by disconnecting power and removing the old fan. They will inspect the PVC vent pipe for cracks or sagging and check the fan coupler for wear. The coupler is a rubber boot that connects the fan to the pipe. It can harden and crack over time, especially in hot attics or cold basements.

The new fan should match the airflow and pressure specs of the original system, unless the original was undersized. Many contractors stick with the same brand and model to keep things simple. A RadonAway RP-series fan is a safe bet because parts are widely available and the warranty is straightforward. Most RP-series fans come with a five-year warranty coverage on the fan motor. Make sure your contractor registers the warranty at the time of installation.



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After the new fan is mounted and wired, the system gets a full system test. The contractor will check the manometer reading, confirm the vent pipe is clear, and run a post-mitigation test to verify that radon levels are back below the EPA action guideline of 4 picocuries per liter. Some homeowners also choose to install permanent monitoring at this point. A continuous radon monitor gives you real-time data and peace of mind, especially if you have young children or elderly family members at home.

## Cost and Timeline

The cost of radon fan replacement varies by region and the complexity of the install. In York County, a straightforward swap of an RP-series fan typically runs between \$400 and \$700. That includes the fan, the coupler, labor, and the post-mitigation test. If the PVC vent pipe needs reworking or if the electrical disconnect is outdated, the price goes up.

The timeline is usually one day. The actual swap takes an hour or two, but the post-mitigation test requires the system to run for at least 48 hours before a reliable reading can be taken. Some contractors offer a follow-up visit or a mail-in test kit to complete the process.

## Proactive Maintenance to Delay Replacement

There are a few things you can do to extend the life of your fan. First, keep the area around the fan housing clean and free of debris. A clogged intake or exhaust can cause the fan to overheat. Second, check the manometer monthly. A slow drift in pressure can warn you of a developing problem before the fan fails completely. Third, if your system uses an anode rod for corrosion protection, have it inspected every year. A depleted anode rod can lead to condensation and rust inside the fan housing.

One more tip: if your fan is in an unconditioned attic, consider adding a small insulated enclosure around it. That protects the fan motor from extreme temperature swings and can add years to its life.



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## Common Questions Homeowners Ask

- **How long should a radon fan last?** Five to seven years is typical. Some last longer in mild climates with clean power.
- **Can I replace the fan myself?** It is not recommended unless you have experience with electrical wiring and sealed vent systems. A small leak in the pipe can ruin the system's effectiveness.
- **Will a new fan lower my radon levels further?** Not necessarily. If your old fan was working correctly, a new one will maintain the same level. If the old fan was failing, levels will drop back to where they were originally.
- **Does homeowners insurance cover fan replacement?** Usually not, but some policies cover sudden mechanical breakdown. Check with your agent. The fan warranty may also cover the motor for five years.
- **What happens if I ignore a failing fan?** Radon levels will rise. Over months, that can create a health risk. The EPA recommends action at 4 pCi/L, and levels above that are common in homes with a broken system.

## Final Thoughts

Radon fan replacement is one of those home maintenance tasks that is easy to put off. The system is out of sight, and the fan hums quietly in the background. But a failing fan is a real problem, not just an annoyance. The good news is that replacement is straightforward, affordable, and effective. If your manometer reading has dropped, if the fan sounds different, or if it has been more than seven years since the last replacement, it is time to call a professional. A few hundred dollars now can save you from elevated radon levels and the worry that comes with them.

For homeowners in York County, local contractors are familiar with the soil conditions and climate that affect system performance. They can recommend the right fan for your house and ensure the installation meets all safety standards. And if you are already planning a radon fan replacement, consider adding permanent monitoring at the same time. It is a small upgrade that gives you continuous feedback on your home's air quality.