



An Extended Guide · No. 1311

Carbon Monoxide and Exhaust Safety

The safety that never changes

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! Read this first — carbon monoxide is still the real danger

A standby generator runs on an engine, and engine exhaust contains carbon monoxide — an invisible, odorless gas that can kill. Your installer sets the unit outdoors and spaces it away from windows, doors, and vents to meet the maker's instructions and local code, which is a big part of what keeps you safe. Your job is to keep it that way: never let anyone box it in, build a structure around it, or let snow, leaves, or drifts pile up against it, and never move it closer to the house. Put battery-backup carbon-monoxide alarms on every floor and outside the bedrooms, and test them — the safety agencies urge this for every home. If an alarm sounds, or anyone feels dizzy, sick, or sleepy, get everyone into fresh air first and ask questions later. This whole guide is about that one danger — and the small, easy habits that keep your standby unit as safe to run as the day the pros set it in place.

Let's talk about the one danger worth your full attention

A standby generator is a wonderful thing, and it is installed to be safe. But it runs on an engine, and every engine makes carbon monoxide. This is the guide I most want you to actually read — calmly, once — and then keep in a drawer.

I'm Bill, and I run Bill's Home Tech here in Portage County, Ohio. In 30-plus years of helping folks with the equipment in their homes, nothing sobers me faster than a carbon monoxide story on the news. The good news with a standby is that the hardest part — putting the unit in the right place — is already done for you by licensed pros.

So this guide isn't here to frighten you. It's about the handful of simple things that are yours to do: keeping the unit open and clear, keeping good alarms inside, and knowing what to do in the rare moment something seems off. That's the whole job, and it's an easy one.

★ There's no silly question here

This is the one topic where I'd genuinely rather you call and ask than wonder. If you'd like to walk through your own setup together, call or text me at (330) 200-8042 — it costs nothing to talk it through.

The whole guide, on one page

If you remember only these things, you already have the heart of standby generator safety.

- ❑ Carbon monoxide (CO) is invisible, odorless, and can kill. Engine exhaust always contains it.
- ❑ The biggest safety step is already done: your installer placed the unit outdoors, away from windows, doors, and vents, to the maker's and code's clearances.
- ❑ Your main job is to never undo that — don't enclose it, build over it, or let anything block it or its exhaust.
- ❑ Keep snow, leaves, and drifts off the unit and clear of its exhaust; a buried unit can push its own exhaust back toward the house.
- ❑ Put battery-backup CO alarms on every level and outside every bedroom, and test them.
- ❑ Know the symptoms — headache, dizziness, weakness, nausea, confusion, sleepiness — and get everyone to fresh air first, then call 911.

! This page is worth reading twice

Everything else in this guide simply expands on these six lines. If you take nothing else with you, take this page.

What carbon monoxide actually is

Understanding why carbon monoxide is dangerous makes every habit in this guide make plain sense, instead of feeling like an arbitrary list of rules.

Any engine that burns fuel — gasoline, natural gas, or propane — gives off carbon monoxide as part of its exhaust. It's simply a byproduct of combustion. A standby generator's engine is no exception; it produces CO whenever it runs.

The danger is that carbon monoxide is completely invisible and has no smell at all. It gives you no natural warning the way a gas leak does. Once breathed in, it crowds oxygen out of your blood and starves your brain, heart, and other organs — often while you feel nothing worse than a vague headache or a little drowsiness that's easy to blame on being tired.

Every year, carbon monoxide kills dozens of people in this country, and generators of all kinds are part of that sad total. Nearly every one of those deaths was preventable. That's exactly why the habits in this guide matter — and exactly why they work.

! Why an engine outdoors still deserves respect

A standby unit sits outside, which is a huge head start on safety. But exhaust can still drift, and a blocked or buried unit can send it the wrong way. Respect the engine, keep it clear, and keep alarms inside — that's the whole idea.

The biggest safety step is already done for you

Here's the genuinely reassuring part, and it's worth understanding: with a standby, the hardest safety decision was made by professionals before the unit ever ran.

When your unit was installed, a licensed pro placed it outdoors and spaced it away from your windows, doors, vents, and combustible walls to meet the manufacturer's instructions and local code. The national standard for engine placement, known as NFPA 37, is part of what guides those distances. This isn't a spot someone eyeballed in a hurry — it was chosen on purpose, permanently.

The exhaust outlet is aimed to carry fumes away from the house, not toward it. That fixed, correct placement is doing quiet safety work for you every time the unit runs, day or night, home or away. Unlike a portable that someone has to set out and aim correctly in the dark and the rain every single time, your standby got this right once, for good.

✓ Don't undo good work

Because the placement is already right, your job simply shifts to keeping it that way. The rest of this guide is really just that one idea, seen from a few angles. Our placement guide covers how the spot is chosen in the first place.

Your job: keep it open, never boxed in

The single most important thing you can do is mostly a matter of leaving things alone. An engine needs open air around it to run safely.

Over the years, a unit that was placed perfectly can get slowly boxed in by well-meaning projects. That's the thing to guard against. If exhaust can't escape freely, or fresh air can't reach the engine, carbon monoxide can build near the unit and find its way toward the house.

- **Never build a structure over or around it.** No deck, no roof, no enclosure, no shed built up against it — even to keep the weather off.
- **Never let it get walled in.** A new fence, an addition, or a stack of stored items too close can choke off the airflow it needs.
- **Don't let screening or landscaping crowd it.** A shrub or a decorative screen is fine only if it never blocks the clearances or the exhaust — your installer can tell you what's safe.
- **Keep everyday clutter away from it.** Trash cans, patio furniture, firewood, and piled-up mulch all work against it.

! When in doubt, ask before you build

If you're planning any project near the unit — a deck, a fence, a patio, new landscaping — check with your installer first. Boxing in a good placement by accident is one of the few real ways to make a well-installed standby dangerous.

Snow, leaves, and drifts — keep it clear

Here in Ohio, this is the one that catches people. A standby runs itself in a winter storm, which is exactly when snow and ice can pile up against it.

The unit draws in air and pushes out exhaust through openings in its housing. If deep snow, a drift, ice, or a heap of wet leaves covers those openings, the engine can end up breathing its own exhaust — and a buried unit can push carbon monoxide back toward the house instead of safely away from it.

After any heavy snow, ice storm, or windy autumn day, take a moment to clear snow, ice, and debris off the top and sides of the unit and away from its exhaust and air openings. Do it gently, and only when it's safe to do so. Watch for snow sliding off the roof above it, and for downspouts that dump water or ice nearby.

! Clear it before and after a storm

Making a quick check of the unit part of your storm routine — before the snow flies and again after it stops — is one of the most valuable habits in this guide. Our cold-weather guide goes deeper on winter care.

Carbon monoxide alarms — your early warning inside

Good placement keeps the danger outside. Alarms are your warning on the rare chance any of it ever drifts in — an odd wind, a buried unit, a mistake made once.

Choose battery-powered or battery-backup carbon monoxide alarms. During a long outage your standby is running, but you still want alarms that keep working no matter what — so a plug-in-only alarm isn't enough on its own.

Where to put them

- One on every level of the home, including the basement.
- One outside each sleeping area, close enough to wake a sleeping person.
- Follow the maker's instructions for mounting height and spacing.
- Don't rely on a single alarm for a whole multi-story house.

✓ Test them, and mind the replacement date

The safety agency known as the CPSC urges every home to keep working CO alarms and test them regularly. Press the test button monthly, replace batteries when the alarm chirps, and replace the whole alarm by the date printed on it — they don't last forever.

The symptoms, and exactly what to do

If you or anyone in the house feels any of these while the generator is running, treat it as carbon monoxide until proven otherwise.

- Headache — often the very first sign
- Dizziness or feeling light-headed
- Weakness or unusual tiredness
- Nausea or an upset stomach
- Confusion or trouble thinking clearly
- Sleepiness that feels sudden or out of place

These symptoms are easy to mistake for the flu or plain tiredness, which is what makes CO so sneaky. If more than one person — or a pet — feels the same vague symptoms at once while the unit is running, take it seriously right away.

- ☐ Get everyone, pets included, outside into fresh air immediately — don't stop to investigate.
- ☐ Call 911 once you're outside, and describe the symptoms and the generator.
- ☐ Do not go back inside for any reason until responders say it's safe.
- ☐ If anyone has collapsed, can't wake up, or is struggling to breathe, tell the dispatcher clearly.

! When in doubt, get out

You will never regret stepping outside over a false alarm. You may deeply regret waiting to be sure. Fresh air first, questions later — every single time.

If you ever smell gas

Carbon monoxide has no smell — but the fuel that feeds your generator does, on purpose. A gas smell is a different emergency, and it's worth knowing the response cold.

Natural gas and propane both have a strong odor added to them — often described as rotten eggs — so you can notice a leak. If you ever smell that near your unit, its fuel line, or inside the house, treat it as an emergency, not a wait-and-see.

Leave the area right away. Don't flip any switches, light a match, or start anything — a spark can ignite gas. Once you're somewhere safe, call your gas company or 911. Let the professionals find and fix the source; a fuel leak is licensed work, never a project for you.

! Two different dangers, two clear responses

Feel sick, or an alarm sounds? That points to carbon monoxide — get to fresh air, then call 911. Smell gas? Leave without touching anything, then call the gas company or 911. Either way, get out first. Our gas-line guide covers the fuel side in more depth.

Two kinds of homes, two sets of needs

The carbon monoxide rules never change, but where you live shapes how they play out day to day.

If you live in town or the suburbs

On a smaller in-town or suburban lot, the unit often sits closer to the house, the neighbors, and the things that can crowd it — so keeping it open and clear takes a little extra attention.

- With windows, doors, and a neighbor's home nearby, the installer's clearances matter even more — never move or block the unit after the fact.
- Watch for snow sliding off a close roofline, or a downspout dumping ice right next to the unit.
- Resist the urge to hide it behind a tight screen, a fence, or a deck — looks must never beat airflow.
- In a two-story home, make sure there's a tested CO alarm on every level, not just the main floor.

If you are out in the country on a well

Out in the country on a well, the unit usually has more room to breathe — but rural outages run longer, so it runs unattended for days at a stretch, which is exactly when alarms and clear-it habits earn their keep.

- A days-long outage means the engine runs through the night, again and again — battery-backup alarms inside are not optional.
- Open country means deeper drifts and blowing snow; check the unit and its exhaust after every storm.
- On propane, the unit still makes carbon monoxide like any engine — the outdoor placement and alarm habits apply exactly the same.
- Farther from neighbors and help, a quick daily look at the unit and a check-in with each other matter more, not less.

★ Want a second set of eyes on your setup?

Town lot or forty acres, I'm glad to walk your unit with you, check that it's clear, and make sure your alarms are where they should be. Call (330) 200-8042.

The weekly self-test makes exhaust too

Here's a standby-specific thing worth knowing: your unit runs a short self-test on a schedule — commonly once a week — even when the power is on.

During that brief weekly exercise, the engine starts, runs for a few minutes, and shuts off. That's normal and healthy — it keeps the engine ready and the battery charged. But it does mean the unit makes exhaust on an ordinary day, not just during an outage.

You don't need to do anything special for it, beyond the habits you already know: keep the unit clear, don't stand right over it while it runs, and make sure nothing has crept up against it since last week. If the self-test ever happens with the unit buried in snow or boxed in by a project, that's the moment good habits matter.

✓ Pick a considerate time, and let it run

Your installer can set the self-test for a daytime hour that suits you and the neighbors. Let it run its full cycle — that short weekly workout is part of what keeps the unit dependable. Our maintenance guide covers the self-test in full.

Other carbon monoxide risks during an outage

An outage often brings out other fuel-burning things — and the same danger applies to all of them, not just the generator.

- **Charcoal or gas grills** used indoors or in a garage to cook something quick — a leading cause of CO poisoning during outages.
- **Camp stoves and propane heaters** not rated for indoor use, brought inside for warmth.
- **A gas fireplace or furnace** with a vent that's blocked or snowed over outside.
- **A car left running in an attached garage** to charge a phone or stay warm, door up or not.

A standby generator actually cuts some of this risk, since you're far less likely to drag a grill or a car into service for power. But the other hazards still apply, especially in a long winter outage.

! One set of alarms guards against all of it

This is one more reason whole-home CO alarm coverage is worth it — it protects you from every fuel-burning source under your roof, not only the generator outside.

Who is most at risk

Carbon monoxide is dangerous to everyone, but it doesn't affect everyone equally — worth knowing if your household includes anyone in these groups.

Infants and young children, older adults, anyone who is pregnant, and anyone with a heart or lung condition can be affected faster and more severely. Pets are affected too, and sometimes show distress before people notice anything at all.

For older adults especially, the early signs — a headache, feeling tired, a little foggy — are easy to write off as an ordinary rough day. If the generator is running and something feels off, I'd always rather you check on it than explain it away.

★ This is exactly why I ask

When I help someone with a standby, I ask a little about who lives in the home — not to be nosy, but because the alarm plan is worth getting extra right when someone vulnerable is under the roof. No judgment, ever — just care. Call (330) 200-8042.

A few myths, cleared up

Some reasonable-sounding beliefs about standby generators and carbon monoxide simply aren't true. Here's the honest version of each.

Myth	Fact
'It's outside, so CO can't reach me.'	Exhaust can drift, and a blocked or buried unit can push it back toward the house. Keep it clear and keep alarms inside.
'The pros placed it, so I never think about it.'	They got the placement right — your job is to keep it that way and never box it in or block it.
'Natural gas and propane are clean, so no CO.'	Every engine makes carbon monoxide, whatever the fuel. Clean-burning is not the same as CO-free.
'I'd smell it or feel it in time.'	CO has no smell, and the early symptoms feel like tiredness. An alarm is your only reliable warning.
'A little snow on it is fine.'	Snow and ice over its openings can make it breathe its own exhaust. Clear it off after storms.

! A belief doesn't have to be true to feel true

Every myth above sounds sensible, which is exactly why it sticks around. When something you've heard doesn't match this guide, trust the habit, not the rumor.

Staying safe when you're away

One of the best things about a standby is that it protects your home while you're gone. A little planning keeps that hands-off comfort genuinely safe.

If an outage hits while you're traveling, the unit will start and run on its own, maybe for days. That's the whole point — but it also means no one is there to notice a drift piling up against it or to hear an indoor alarm.

- Set up remote monitoring so your phone — and, if you like, a family member's — gets an alert if the unit runs or faults.
- Ask a trusted neighbor or house-sitter to glance at the unit after a storm and keep snow and debris clear of it.
- Make sure that person knows never to touch, cover, or enclose the running unit, and how to reach your installer.
- Keep your CO alarms fresh so they're ready to do their job in an empty house too.

✓ Let it watch your home, and let someone watch it

The combination of monitoring alerts and one set of local eyes is the sweet spot for travelers. Our monitoring guide walks through setting up the app and alerts — and I'm glad to help you get it going.

If you think it may already have happened

What to do in the hours after a real carbon monoxide scare, once everyone is safely outside and 911 has been called.

- ❑ Stay out until firefighters or responders say it's safe to go back in, even if you feel better in the fresh air.
- ❑ Get checked by a doctor or emergency room even if the symptoms fade — CO effects can linger or return.
- ❑ Have someone find out why it happened — a buried or blocked unit, an alarm that didn't sound — before the generator runs again.
- ❑ Replace or have any alarm tested if it failed to sound when it should have.

! There's no such thing as overreacting here

A scare that turns out minor still deserves a medical check and an honest look at what went wrong. Treat it as a warning worth a real response, not something to shrug off once the headache fades.

Your simple carbon monoxide habit

None of this needs to live in your head. A few standing habits cover the whole job.

- ❑ CO alarms on every level and outside every bedroom, tested and dated.
- ❑ The unit kept open and clear — never boxed in, built over, or crowded.
- ❑ Snow, ice, and leaves cleared off the unit and its exhaust after every storm.
- ❑ Everyone in the house knows the rule: fresh air first, then call 911.
- ❑ Everyone knows a gas smell means leave first, then call the gas company or 911.
- ❑ A plan for who checks the unit when you're away.

✓ Walk through it once, calmly

Point out the unit, the alarms, and the plan to whoever else lives with you on an ordinary day — not during a storm. Five calm minutes now beats any confusion later.

Questions worth asking your installer

A few plain questions clear up most of what folks wonder about carbon monoxide and their unit.

Q: Is the unit placed to the required clearances?

Ask them to confirm it meets the maker's instructions and local code, and to show you which openings must stay clear. Our placement guide explains what drives those distances.

Q: Which parts of the unit must I keep clear of snow and debris?

Have them point out the exhaust outlet and the air openings so you know exactly what to check after a storm.

Q: When is the weekly self-test set for?

So you know when to expect the engine to run on an ordinary day, and can pick a considerate hour.

Q: What CO alarms do you recommend, and where?

A good installer is glad to talk through battery-backup alarms and placement, or point you to clear guidance.

Q: Can I build a deck, fence, or patio near it later?

Ask before you plan anything nearby, so a future project never accidentally boxes the unit in.

★ There's no silly question here

If an installer ever makes you feel foolish for asking about safety, that's a reason to keep looking, not to stop asking. Reach me at (330) 200-8042 any time you want a plain answer.

What I do, and what I leave to the pros

Worth saying plainly, because safety is where being clear about this matters most.

- **What I help with:** checking that your unit is clear and unobstructed, helping you set up and test CO alarms, setting up monitoring alerts, and making sure everyone in the house knows the plan.
- **What only licensed pros do:** placing or moving the unit, all the electrical and gas work, and anything involving the fuel line.
- **What I never do:** gas work, moving the generator, or telling you a spot is safe when that's the installer's call — your safety deserves the real thing.

★ Safety is the visit I take most seriously

Getting the alarms, the clear-it habits, and the family plan right is exactly the kind of visit I care about most. Call or text me at (330) 200-8042.

If you remember only one thing

Out of everything in this guide, one idea holds the rest together.

The pros put your unit in the right place. Keep it that way. Open, clear, never boxed in, never buried in snow — and good alarms inside, tested. Everything else here, the symptoms and the emergency steps, exists to back up that one simple idea, not to replace it.

! Say it back to yourself

Keep it open and clear. Alarms on every level, tested. Fresh air first if anyone feels sick. That's the whole job — and it's an easy one to live with.

Common Questions

The questions I hear most from folks thinking about carbon monoxide and a standby, answered plainly.

Q: Is a standby safer than a portable for carbon monoxide?

In an important way, yes — it's permanently placed outdoors by pros, so it isn't set up wrong in the dark and rain each time. But it still makes CO, so the clear-it habits and indoor alarms still matter.

Q: Do I need CO alarms if the unit is outside?

Absolutely. Exhaust can drift, and a blocked or buried unit can send it toward the house. Battery-backup alarms on every level are your reliable warning.

Q: Can carbon monoxide come from a unit that's running fine?

If it's placed well and kept clear, the risk is low — that's the point of good placement. The danger climbs when something blocks it or buries it, which is why keeping it clear matters.

Q: The unit tests itself near my garage — is that a problem?

Ask your installer to confirm the exhaust is aimed away from the garage, doors, and windows. Don't prop a door open toward the exhaust, and keep alarms inside just in case.

Q: What's the first thing to do if my CO alarm sounds?

Get everyone into fresh air outside, then call 911 — even if no one feels sick. Treat it as real every time, and don't go back in until responders say it's safe.

★ Still have a question? That's what I'm here for

Carbon monoxide is the one topic I'd rather you call about than guess on. Call or text me at (330) 200-8042 and let's talk it through, with nothing to sell you.

You don't have to do this alone

You just have to remember that a friendly, patient person is one call away.

I hope this guide made carbon-monoxide safety with a standby generator feel a little less daunting and a lot more doable. Keep it in a drawer with your other home papers, come back to a page whenever you need it, and don't worry about memorizing anything.

When you'd rather have a hand, that's exactly what I do. I come to your home, work at your pace, and never make you feel rushed or silly for asking. A first visit is a flat \$99, and for the parts that don't need me on-site I can often help right on your screen for \$49. Every visit comes with a 30-day, come-back-free guarantee. I don't do the licensed electrical or gas work myself — for that I'll help you line up a trustworthy local pro.

★ Bill's Home Tech — real help, close to home

Call or text me at (330) 200-8042, or visit BillsHomeTech.com. Serving Atwater and all of Portage County. 30+ years of patient, plain-English tech help — and if you're ever not 100% happy with a visit, I'll make it right or refund it. That's a promise. — Bill

The Habits That Keep It Safe

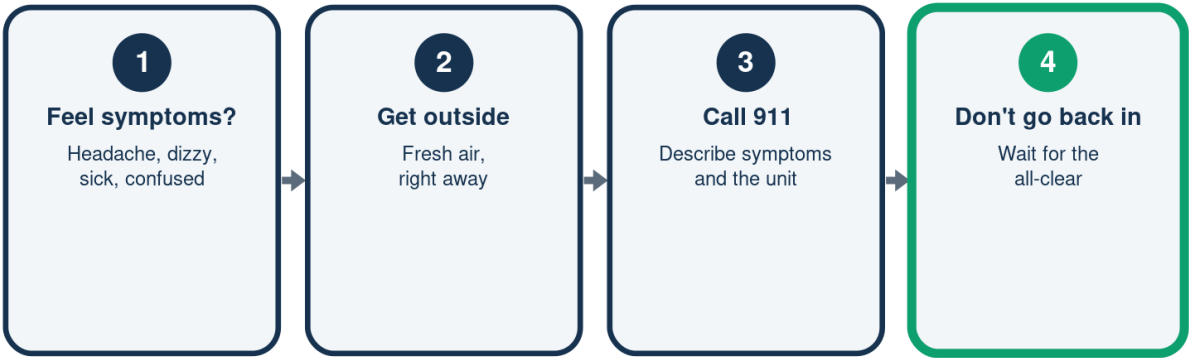
The pros placed it right — these keep it that way

	The habit	Why
Keep it uncovered	No decks or	enclosures
Clear off snow	Blocked vents	back up
Alarms inside	On every	level
Test them	Proves they	work

Keep it open, keep it clear, keep alarms inside — that's the job.

If You Suspect Carbon Monoxide

Fresh air first, questions later



Fresh air first, questions later — every single time.

CO Alarms — The Essentials

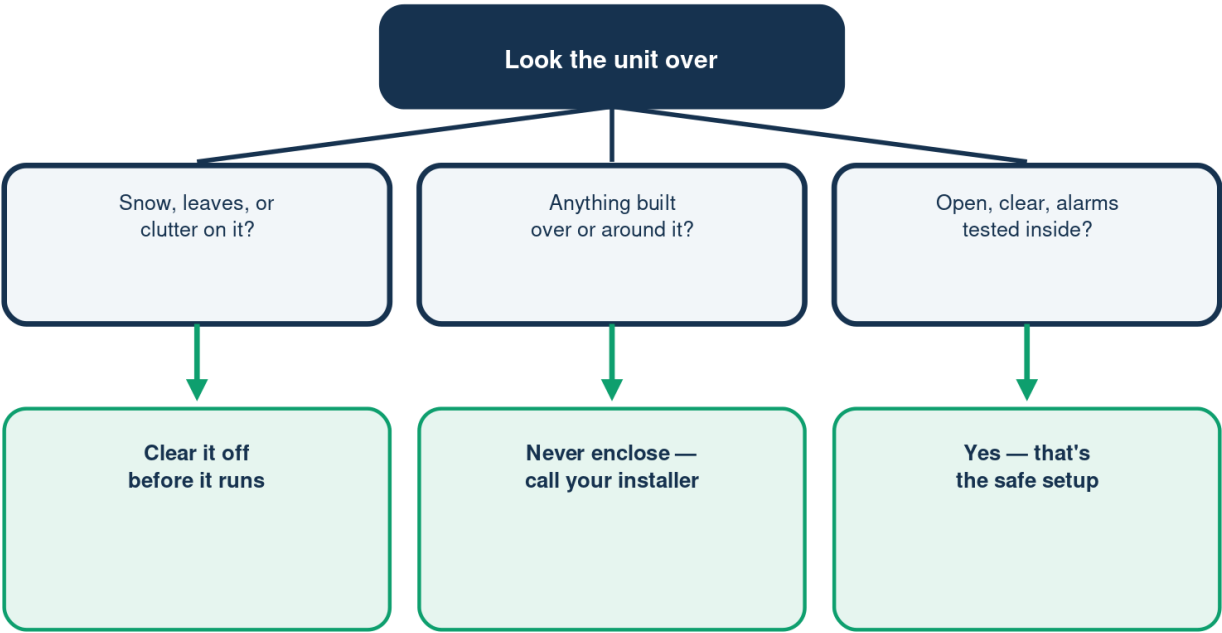
What a real alarm plan looks like

	What to do	Why
Battery-backup type	Works no	matter what
Every level of home	No floor left	uncovered
Outside bedrooms	Close enough	to wake you
Test monthly	Confirms it	still works

An alarm that isn't tested is only a decoration.

Is Your Unit Clear to Run Safely?

Give it a quick look before the weather turns



Smell gas? Leave without touching anything, then call the gas company or 911.

Illustration - a schematic, not to scale. Your setup may differ.



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A Note From Bill

A quick note from Bill.

I write these guides to make home tech a little less frustrating, and I do my best to keep every step accurate and up to date. Still, every home, device, and setup is a bit different, so I can't promise a guide will match yours exactly or fix your particular problem. These guides are for general information only — they're not professional, legal, or financial advice, and they don't replace your device's own manual or the manufacturer's instructions. Please go slow, use your own good judgment, and use everything here at your own risk. If a step involves electrical wiring, a gas appliance, a water heater, plumbing, or climbing a ladder — or if anything just doesn't feel safe — please stop and call a licensed professional (or give me a call at 330-200-8042). Bill's Home Tech and Bill Davis can't be responsible for any damage, data loss, or injury that comes from using these guides. Thanks for reading, and stay safe out there.

— *Bill*



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