



An Extended Guide · No. 1628

Carbon Monoxide and Your Fuel: A Safety Reminder

The invisible danger, and
how to stay ahead of it

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! Read this first — carbon monoxide is the real danger

A running generator's exhaust contains carbon monoxide — an invisible, odorless gas that can kill in minutes. Never run a generator indoors, in a garage, in a shed, or on a porch, not even with the door open and a fan going. Run it outside only, well away from the house — the safety agencies say at least 20 feet — with the exhaust pointed away from every window, door, and vent. Put battery-backup carbon-monoxide alarms on each floor and outside the bedrooms. If an alarm sounds, or anyone feels dizzy, sick, or sleepy, get everyone into fresh air first and ask questions later. Whichever fuel you use to make power — gasoline, propane, diesel, or natural gas — burning it always produces this same invisible gas, which is exactly why every fuel in this guide gets the same outdoor-only rule.

Let's talk about carbon monoxide and your fuel

Carbon monoxide is the one danger that connects every fuel in this whole set. This short guide is a reminder, not a scare — a plain look at where it comes from, how to keep it outside where it belongs, and how to know if something's wrong.

I'm Bill, and I run Bill's Home Tech here in Portage County, Ohio. This is one of the guides I most want everyone to actually read, because getting it right, without hesitation, is what keeps a family safe.

There's a dedicated guide elsewhere in the Power and Backup library that walks through generator carbon monoxide safety step by step. This one stays focused on the fuel connection — why every fuel makes it, and the habits that apply no matter which one you use.

★ There's no silly question here

If you're ever unsure whether your setup is genuinely safe, that's exactly the kind of thing I'm glad to look at. Describe it to me, or I'll come see it in person. Call or text me at (330) 200-8042.

The whole guide, on one page

If you remember only these things, you'll stay well ahead of carbon monoxide, whatever fuel you use.

- ❑ Burning any fuel — gasoline, propane, diesel, or natural gas — produces carbon monoxide, an invisible, odorless gas that can kill in minutes.
- ❑ A generator's exhaust is the most dangerous everyday source of it at home.
- ❑ Run it outdoors only, well away from the house, exhaust pointed away from every window, door, and vent.
- ❑ Never run a generator in a garage, shed, basement, or porch, even with the door open.
- ❑ Propane makes less carbon monoxide than gasoline, but it still makes it — the outdoor rule doesn't change.
- ❑ Put battery or battery-backup carbon monoxide alarms on every level and outside sleeping areas, and test them.

✓ This guide is the reminder, not the whole story

For a full walk-through of generator carbon monoxide safety, look for the dedicated guide in the Power and Backup library. This one keeps the focus on the fuel connection itself.

What carbon monoxide actually is

It helps to know exactly what you're guarding against.

Carbon monoxide is a gas produced whenever fuel burns, especially when it doesn't burn completely. You cannot see it, smell it, or taste it, which is exactly what makes it so dangerous — there's no natural warning sign the way there is with a gas leak's odor.

Once breathed in, it interferes with how your blood carries oxygen, and it can build up in a closed or poorly ventilated space far faster than most people expect. That combination — invisible and fast — is why the habits in this guide matter so much.

✓ This is different from a gas leak

A gas leak has a deliberate warning smell added to it. Carbon monoxide has none at all. We'll come back to that difference later in this guide.

Gasoline, propane, diesel, natural gas — all of them

It's tempting to think of carbon monoxide as a gasoline problem. It isn't.

Any engine or appliance burning any fuel produces carbon monoxide as a byproduct. The fuel changes; the fact that it's being produced does not. Our guide on matching the right fuel to your generator covers this same point from the generator side.

Fuel	Produces CO
Gasoline	Yes
Propane	Yes, less
Diesel	Yes
Natural gas	Yes

✓ **No fuel gets a pass**

Whatever your generator or appliance burns, assume it makes carbon monoxide and treat it accordingly. That single assumption keeps you safe across every fuel type.

A portable generator is the everyday danger to know

Of every fuel-burning thing around a typical home, a portable generator is the one most likely to cause real trouble.

A generator burns a meaningful amount of fuel quickly and sits right at ground level near the house, often during the exact hours people are indoors with the windows shut. That combination is why generator exhaust causes more carbon monoxide harm at home than almost anything else.

This isn't a reason to avoid owning one — it's a reason to be genuinely consistent about where it runs, every single time, not just when it's convenient.

! Consistency is the whole safety plan

A generator that runs outdoors 99 times out of 100 is not a safe generator. The one time it runs somewhere closer is the one that matters.

Outdoors only — no exceptions, ever

This is worth its own page, because it's easy to talk yourself into a shortcut.

Never run a generator of any fuel type in a garage, a shed, a basement, or on a porch, even with the door open and a fan running. None of those half-measures move enough air to keep carbon monoxide from building up to a dangerous level.

- Not in an attached or detached garage, door open or closed.
- Not in a shed, basement, crawl space, or under a deck.
- Not on a covered porch or patio, even a fully open-sided one.
- Point the exhaust away from every window, door, and vent, including a neighbor's.

! A cracked door is not ventilation

Opening a garage door or a window does not make an enclosed space safe for a running generator. Outdoors, in the open air, well away from the house, is the only acceptable answer.

Propane makes less carbon monoxide — not none

This is a genuinely useful fact, and also an easy one to misuse.

Propane tends to burn a bit more completely than gasoline, which generally means somewhat less carbon monoxide for the same amount of work. That's a real advantage, and it's part of why some folks lean on propane for backup power.

But 'less' is not 'none.' A propane generator's exhaust still carries real carbon monoxide, and running it indoors is just as dangerous as running a gasoline unit indoors would be. Don't let a cleaner-burning fuel talk you into standing any closer to the house.

! Cleaner is not the same as safe indoors

No amount of 'burns cleaner' changes the outdoor-only rule. Treat every fuel type exactly the same way when it comes to where the generator runs.

Carbon monoxide alarms: where they belong

A good alarm is your backup for the one time distance and ventilation aren't enough.

Put a carbon monoxide alarm on every level of your home, including the basement, and at least one outside each sleeping area. Battery or battery-backup models keep working even if the power is out — which, during a generator-powered outage, is exactly when you need them most.

- One on every floor, including any finished basement.
- At least one just outside each area where people sleep.
- Battery or battery-backup, so an outage doesn't silence it.
- Follow the manufacturer's instructions for exact placement height and spacing.

★ I'm glad to help you check your coverage

If you're not sure your home has alarms in the right places, that's an easy thing to walk through together. Call or text me at (330) 200-8042.

Testing your alarms and keeping them ready

An alarm that isn't tested is just a quiet box on the wall.

Test each alarm regularly using its test button, and follow the manufacturer's instructions for how often to test it, when to change the battery, and when the whole unit is due for replacement — that information is specific to your model, so the packaging or manual is the accurate source.

A helpful trick is tying the habit to something you already remember, the same way many people check smoke alarms when the clocks change. Piggybacking on an existing habit is how a new one actually sticks.

✓ Tie it to a habit you already have

Whatever day you already use to check smoke alarm batteries is a perfectly good day to test your carbon monoxide alarms too.

Symptoms worth knowing, in yourself or anyone else

Carbon monoxide poisoning can feel a lot like something far more ordinary at first, which is part of what makes it dangerous.

- Headache.
- Dizziness or lightheadedness.
- Weakness or fatigue.
- Nausea.
- Confusion.
- Unusual sleepiness.

Any one of these, especially if more than one person or pet in the house feels it at the same time, is worth taking seriously right away.

! Fresh air first, questions later

If an alarm sounds, or anyone shows these symptoms, get everyone into fresh air immediately, then call 911. Don't pause to investigate the source first.

Two kinds of homes, two sets of needs

Where you live changes a few details — how close neighbors' windows are, or how many outbuildings you have — but never the outdoor-only rule.

If you live in town or the suburbs

In town or a close-in suburb, an attached garage is often right there, and it's tempting to think 'just for a minute' with the door cracked.

- Never run a generator in an attached garage, even briefly, even with the door open and a fan blowing.
- Point the exhaust away from your own windows and doors, and away from a close neighbor's too.
- A tight yard still has a safe outdoor spot — look for one well clear of every window and vent.
- Closer neighbors mean a working carbon monoxide alarm protects more than just your own household's peace of mind.

If you are out in the country on a well

Out in the country, a barn or detached outbuilding is often available, which helps — but the same outdoor rule still applies inside them.

- A detached barn or shed is a better spot than the house, but the generator still needs to run outdoors, in open air, not just inside a different building.
- Longer outages sometimes mean a generator runs for many hours at a stretch — don't let familiarity loosen the distance habit.
- More outbuildings mean more possible exhaust paths to think about — keep it well clear of every door and window, on any building.
- A well means power loss also means water loss, which makes staying safe while running the generator even more worthwhile.

★ Let's make sure your setup is genuinely safe

Tell me where you're running your generator and I'll help you think through distance and alarm placement. Call (330) 200-8042.

Fresh air first, then call — the one rule to remember

If you take away only one idea from this guide, make it this one.

The moment an alarm sounds, or anyone feels the symptoms we just covered, get everyone — people and pets — outside into fresh air right away. Don't stop to find the source, open every window, or figure out what's wrong first.

Once everyone is safely outside, call 911. Describe what happened and let them guide you from there. Don't go back inside until you're told it's safe.

! Fresh air first, then call — always in that order

Investigating before you leave, or calling from inside the house, defeats the purpose of getting to fresh air. Get safe, then get help.

A backstop, not a reason to run closer

Newer equipment has a genuinely helpful safety feature — worth understanding for what it is and isn't.

Some newer generators include a built-in sensor that detects rising carbon monoxide levels nearby and automatically shuts the engine down, often built to a recognized safety standard like PGMA G300 or UL 2201. It's a real, welcome safety improvement.

What it isn't is a reason to place the generator any closer to the house, or to skip the outdoor-only habit because you assume the shutoff will catch a mistake. Treat it as a backstop for the unexpected, not as your main plan.

! A backstop, never the main plan

Even a generator with an automatic shutoff still runs outdoors, well away from the house, exactly like one without it.

Common mistakes people make

A handful of avoidable habits account for most carbon monoxide close calls I hear about.

- **Running a generator in the garage with the door open**, assuming that counts as ventilation.
- **Assuming propane or natural gas is automatically safe indoors** because it burns cleaner.
- **Forgetting to test alarms** until long after they'd have warned you.
- **Running a generator on a covered porch** to keep it out of the rain.
- **Standing close to a running generator to check on it** more often, and for longer, than necessary.

! Every one of these feels reasonable in the moment

None of these mistakes looks dangerous while you're doing it, which is exactly why the outdoor-only habit has to be automatic, not a judgment call each time.

Carbon monoxide is different from a gas leak

These two dangers get confused, and it's worth being clear about the difference.

Carbon monoxide is a byproduct of burning fuel — it comes from an engine or appliance that's running, and it's completely invisible and odorless. A gas leak is unburned propane or natural gas escaping before it's ever used, and it carries a deliberate rotten-egg smell so you can catch it. Our gas-leak guide covers that danger and the leave-first-then-call response in full.

Both deserve real respect and both deserve alarms: a gas leak might be caught by smell or a gas detector, while carbon monoxide needs a dedicated CO alarm, since your nose cannot detect it at all.

! Two dangers, two responses

For a gas leak: leave first, then call. For a CO alarm or symptoms: get to fresh air first, then call. When in doubt, get outside either way.

What about the furnace and water heater?

A natural word to ask, since those appliances burn fuel indoors every day without trouble.

A properly installed furnace, water heater, or natural gas appliance is vented — built with a flue or chimney that carries its combustion byproducts, including carbon monoxide, safely outside. That's very different from a portable generator, which has no such venting and simply exhausts into the open air around it.

Our natural gas basics guide covers this appliance side in more depth. The short version here: a working vented appliance is a low everyday risk, but it's still worth having whole-home carbon monoxide alarms, since a vent that fails or gets blocked can change that picture.

★ If venting ever seems off, call a pro

I'm a tech helper, not a licensed technician for appliance venting. If you ever suspect a vent is blocked, damaged, or was installed incorrectly, that's a call to a licensed pro, and I'm glad to help you line one up.

Questions worth asking

Whether you're asking a dealer, a technician, or me, these get you real answers.

Q: Does my propane generator really need to run outdoors too?

Yes. Propane makes less carbon monoxide than gasoline, but it still makes it. The outdoor-only rule applies to every fuel type, without exception.

Q: Do I need carbon monoxide alarms if I don't own a generator?

Yes — any fuel-burning appliance in the home, like a furnace or water heater, can produce carbon monoxide if something goes wrong with its venting. Whole-home alarms are worth having regardless.

Q: Is a carbon monoxide alarm the same as a smoke alarm?

No — they detect different things. Many combination units cover both, but check the packaging to be sure yours actually detects carbon monoxide.

Q: If my generator has an automatic CO shutoff, can I run it closer to the house?

No. Treat that feature as a backstop for the unexpected, not a reason to change where or how far away the generator runs.

✓ There's no silly question

Carbon monoxide can feel abstract until it matters. Ask until you're confident — that's exactly how you stay safe.

A simple carbon monoxide safety checklist

Walk through this on a calm afternoon, not during a storm warning.

- ☐ I run any fuel-burning generator outdoors only, well away from the house.
- ☐ The exhaust points away from every window, door, and vent, including a neighbor's.
- ☐ I never run a generator in a garage, shed, basement, or porch, even with the door open.
- ☐ I have carbon monoxide alarms on every level and outside sleeping areas.
- ☐ My alarms are battery or battery-backup, and I test them regularly.
- ☐ Everyone in my house knows the plan: fresh air first, then call 911.

★ I'll happily check your setup with you

If you'd like a second set of eyes on your alarms or your generator's spot, that's a quick, worthwhile visit. (330) 200-8042.

A safety reminder worth repeating

This whole guide comes down to one idea, stated a few different ways.

Every fuel makes carbon monoxide when it burns. You cannot see it, smell it, or feel it coming. The only reliable defense is keeping the source outdoors and well away from the house, and backing that habit up with working alarms inside.

None of this requires special skill or equipment beyond an alarm and a little discipline about where things run. It's some of the cheapest, most effective safety in this entire guide set.

! Every fuel, the same outdoor rule

Gasoline, propane, diesel, or natural gas — if it's burning to make power, it runs outdoors, well away from the house, every single time.

Common Questions

The carbon monoxide questions I hear most often, answered plainly.

Q: Can carbon monoxide build up even with a door or window open?

Yes. A cracked door or open window doesn't move nearly enough air to keep it from building up to a dangerous level in an enclosed or partly enclosed space.

Q: Which fuel is safest from a carbon monoxide standpoint?

None of them are safe to run indoors. Propane and natural gas tend to produce somewhat less than gasoline or diesel, but every fuel still requires the same outdoor-only rule.

Q: How many carbon monoxide alarms does my home really need?

One on every level, including the basement, and at least one outside each sleeping area. Battery or battery-backup models keep working even during a power outage.

Q: What should I do the moment an alarm sounds?

Get everyone into fresh air immediately, then call 911. Don't pause to investigate the cause first, and don't go back inside until you're told it's safe.

★ Still have a question on your mind?

That's what I'm here for. Call or text me at (330) 200-8042 and I'll give you a plain, honest answer, and help you make sure your household knows the plan.

How this fits with the rest

Carbon monoxide touches nearly every guide in this set — here's how the pieces connect.

This guide covered why every fuel produces carbon monoxide and the habits that keep it outdoors where it belongs. For the fuel side of your generator specifically, see our guide on matching the right fuel to your generator, and for the appliance side, our natural gas basics guide.

Refueling only when the generator is off and cool prevents a different but related danger, covered in its own guide, and a gas leak is a separate hazard entirely, covered in full in our gas-leak guide. For a deeper, generator-specific walk-through of carbon monoxide safety, look for the dedicated guide in the Power and Backup library.

★ One call covers all of it

You don't have to sort out which guide answers which question. Call or text me at (330) 200-8042, describe your setup, and I'll help you think it through.

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 staying safe from carbon monoxide, whatever fuel you use 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

Which Fuels Produce Carbon Monoxide

Every one of them -- the outdoor rule never changes

	Produces CO	Safe indoors?
Gasoline	Yes	Never
Propane	Yes, less	Never
Diesel	Yes	Never
Natural gas	Yes	Never

Every fuel makes it -- the outdoor rule never changes.

If a Carbon Monoxide Alarm Sounds

One sequence, no exceptions



Fresh air first, then call -- every time, no exceptions.

Generator Exhaust vs. a Vented Appliance

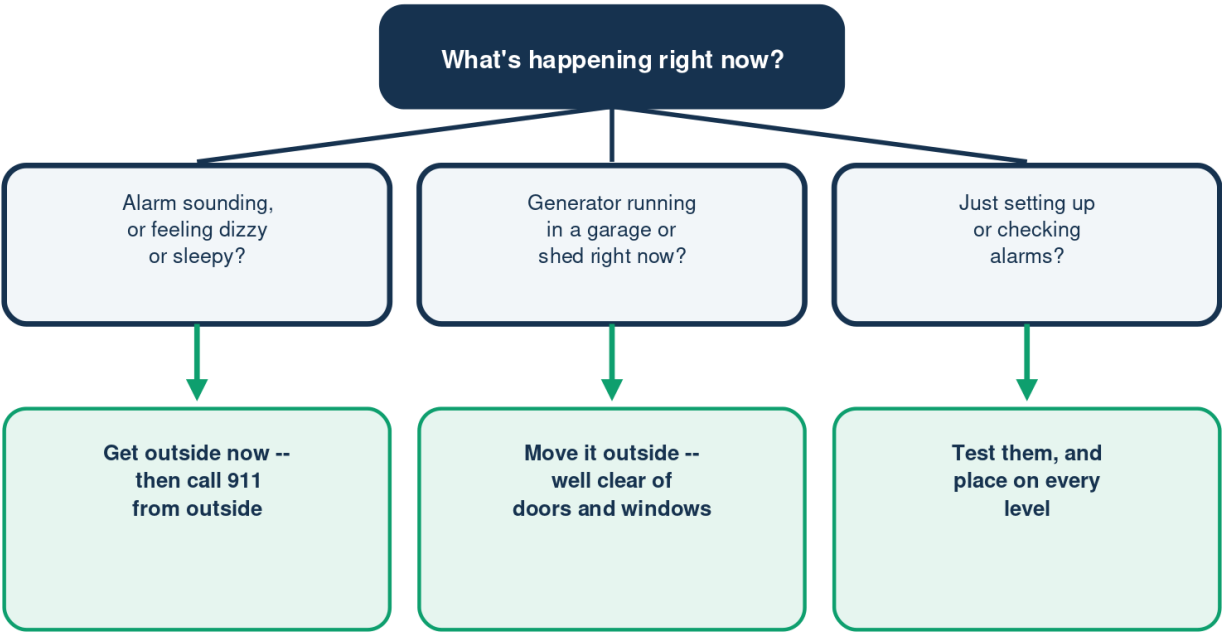
Two very different pictures at home

	Portable generator	Furnace/water heater
Where it runs	Outdoors only	Indoors, vented
CO risk	High if misused	Low when vented
Alarm needed	Yes	Yes
Who installs	You, outdoors	Licensed pro

A vented appliance is a different picture -- but alarms matter for both.

Do You Smell, Feel, or Notice Something?

A quick gut-check for an uncertain moment



When in doubt, get everyone outside first and sort it out from there.

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



Need a Real Person?

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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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