



An Extended Guide · No. 1257

Keeping Heat On

Furnace blowers and
safe backup heat

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! Before you begin — a quick safety note.

This guide covers work involving your furnace's 120/240-volt wiring and gas connections, which can cause serious injury, fire, or property damage if something goes wrong. It's here for general information only, not professional advice. If you're not completely comfortable — or if your local codes require a licensed pro — please stop and hire a qualified electrician or HVAC technician. Turn off the power at the breaker before any electrical step. Never work on gas lines yourself; if you smell gas, leave right away and call your gas company or 911. There's no shame in calling a pro — that's often the smart, safe choice. You follow this guide at your own risk. — Bill

Hello, and welcome

When a winter storm takes the power, a lot of folks are startled to learn the heat goes too — even with a furnace full of fuel. If that's ever left you shivering in the dark wondering why, this guide is for you, in plain English.

I'm Bill, and I run Bill's Home Tech here in Portage County, Ohio. I've spent more than 30 years helping folks get comfortable with their technology — patiently, in plain language, and at their own pace. Think of this guide as me sitting at your kitchen table, walking through it with you one step at a time.

We'll walk through why a gas, oil, or propane furnace still needs electricity to run, how a generator brings your heat back safely, how to stay warm and protect your pipes while you get going, and the one heating mistake that can turn deadly. Whether you live in town or out in the country on a well, you'll come away with a plan.

You do not have to read this all at once, and you certainly don't have to memorize it. Skip to whatever you need, keep it handy, and know that a real person is only a phone call away.

★ How to use this guide

Each page stands on its own. Read one, take what's useful, and come back for the next when you're ready. If a step ever feels fuzzy, that's on my writing — not on you — and you can always call me at (330) 200-8042.

The surprise: your furnace needs electricity

Here's the fact that catches so many folks off guard in a winter outage: a gas or oil furnace still needs electricity to run. You can have a full tank of oil or a live gas line, and when the power goes out, the heat goes out right along with it.

It seems backwards, doesn't it? The furnace burns fuel to make heat, so you'd think it would keep going as long as there's fuel. But a modern furnace is really two systems working together — one that burns the fuel, and one that runs on household electricity to control and move that heat. Knock out the electricity and the whole thing stops, fuel or no fuel.

The electric side does the jobs you never see: it lights the burner at the right moment, it watches the temperatures and safety switches, and — most of all — it runs the big blower fan that pushes warm air through your ducts and into the rooms. Without that fan, even a furnace that could light would have no way to send its heat where you need it.

So in a power outage, a house with a perfectly good furnace and a yard full of propane can still go cold. That's not a broken furnace; that's a furnace doing exactly what it's designed to do — refusing to run its burner when its controls and blower have no power.

The good news is that the electric side of a furnace, the blower especially, is usually something a right-sized generator can handle. Getting power back to those parts safely is what most of this guide is about. But first it helps to know exactly what inside the furnace is asking for electricity.

✓ Fuel is not the same as power

A furnace needs both to make heat: fuel to burn, and electricity to control the burner and run the blower. In an outage you've still got the fuel — it's the electricity you have to replace. That's the whole puzzle, and it's a solvable one.

What inside the furnace runs on electricity

You don't need to be a heating technician, but knowing the few electric parts of your furnace makes everything that follows clearer — and helps you see why even a small generator can often do the job.

- **The blower fan.** This is the big one — a motor that pushes warm air through your ducts to every room. It uses the most electricity of anything in the furnace, and it's the part that actually delivers the heat to you.
- **The igniter.** Modern furnaces light the burner with an electric igniter instead of a standing pilot light. It draws power only for a few seconds when the burner fires, but without it the furnace can't light at all.
- **The control board.** A small computer — a circuit board — that runs the whole show: reading the thermostat, firing the igniter, starting the blower, and watching the safety switches. It sips very little power but is fussy about the kind of power it gets.
- **The thermostat.** The little box on your wall that tells the furnace when to run. Many use their own batteries or low voltage from the furnace, so they're rarely the problem — but they're part of the electric chain too.

Add it all up and the picture is friendly: one hungry part (the blower) and a few thrifty ones (the igniter, the board, the thermostat). The blower is what sets the size of generator you need, and it's a motor — which brings one more wrinkle worth a page of its own.

★ Older furnaces, same idea

Even a decades-old furnace with a standing pilot still needs electricity for its blower and controls. If yours is a boiler or a floor furnace instead, the parts differ a little — we'll cover those — but the rule holds: no electricity, no heat delivered.

The blower's appetite — and its start-up gulp

Since the blower is the part that decides what size generator you'll want, it's worth understanding how much power it asks for — both while it runs and, importantly, in the instant it starts.

While it's running, a furnace blower is a fairly modest load — generally in the range of a few hundred watts, though it varies with the furnace and how hard the fan is working. That steady draw, on its own, is well within reach of many mid-size generators, and even some of the smaller ones.

But here's the wrinkle that trips people up: the blower is a **motor**, and motors are greedy for a split second when they first kick on. That **start-up surge** can be several times the blower's steady running draw — a brief, heavy gulp the generator has to be able to deliver, or the fan won't get moving. You size the generator to cover that surge, not just the running number.

Newer furnaces often have a **variable-speed** blower that ramps up gently and asks for less of a surge — kinder on a generator. Older single-speed blowers tend to slam on all at once. You don't need to know which you have to make a plan; you just size with a little headroom so the surge is covered comfortably.

I'm keeping these numbers general on purpose, because the honest truth is that the right size depends on your particular furnace. The safe approach is to find your blower's rating (it's often on a label inside the furnace door) or have it checked, then size the generator to clear the start-up surge with room to spare. There's a full sizing guide in this series that walks through the thinking.

✓ Give a motor room to start

When you bring the furnace on, switch your generator out of eco mode for a moment so it's already at full strength for the blower's surge, then switch eco back on once the fan is running. It's a small habit that saves a lot of frustration.

Why clean power is kind to your furnace

Remember that little circuit board running the whole furnace? It's the reason an inverter generator's clean power is such a good match for heating equipment.

That control board is a computer, and like any computer it expects smooth, steady electricity — the same even wave that comes from your wall outlets. Feed it rough, choppy power and, over time, it can act up: throwing error codes, short-cycling, or in the worst case failing outright. A furnace control board is not a cheap part to replace, so this matters.

An **inverter** generator rebuilds its power into that smooth, clean wave, very close to household electricity. That's exactly the gentle kind of power a modern furnace board wants. It's the same reason inverter units are recommended for TVs and computers — a furnace board is just one more sensitive electronic that appreciates clean power.

A conventional open-frame generator makes rougher power. Plenty of people have run a furnace on one without trouble, so I won't tell you it's certain to cause harm. But given the choice — and given how much a control board costs — the clean power of an inverter unit is the safer, more comfortable bet for something as important as your heat.

This is one of those places where the extra you pay for an inverter generator earns its keep. You're not just buying quiet and good fuel economy; you're buying the peace of mind that the brain of your furnace is getting the kind of power it was built for.

★ Clean power, one less worry

If you're choosing a generator partly to back up your furnace, I'd steer you toward an inverter unit for exactly this reason. Protecting that control board is worth it. Happy to help you pick one that fits your furnace and your budget — (330) 200-8042.

Two ways a furnace is connected

When it comes to actually getting generator power to your furnace, everything depends on one question: how is your furnace wired? There are two answers, and they lead down very different paths.

Hard-wired (most furnaces). The great majority of furnaces are wired straight into your home's electrical panel, with no plug to pull. There's just a cable running from the furnace into the wall. You can't simply unplug it and run a cord to a generator, because there's nothing to unplug.

On a plug and cord (some furnaces). A smaller number of furnaces are plugged into a regular outlet nearby — often a standard household socket tucked beside or above the unit. If yours is one of these, powering it from a generator is much simpler: you unplug it from the wall and run a good extension cord to the generator instead.

Which do you have? Take a look at your furnace. If you can find a normal plug going into an outlet, you're in the easier group. If the wiring disappears into the wall or a metal box with no plug in sight, it's hard-wired — the more common case. If you're not sure, don't guess; a heating technician or electrician can tell you in a moment.

The next two pages take each path in turn — the easy plug-in case first, then the hard-wired case, which needs a proper switch installed by a professional. Most folks are in the second group, so don't be discouraged; it's a well-worn, safe path, and the payoff is heat you can count on.

✓ Look before the storm, not during it

Figuring out whether your furnace is plugged in or hard-wired takes two minutes on a calm day, and it decides your whole plan. Do it now, with the lights on, so you're not squinting at wiring by flashlight when the heat's already off.

The easy case: a plug-in furnace

If your furnace plugs into an ordinary outlet, you're in luck — backing it up is about as simple as running a good extension cord, no electrician required for the connection itself.

The idea is straightforward. When the power's out and your generator is running safely outside, you unplug the furnace from its wall outlet and plug it instead into a heavy-duty extension cord that runs to the generator. The furnace gets its electricity from the generator, the blower runs, and the heat comes back on.

A few things make this go smoothly. Use a **proper outdoor extension cord**, heavy enough for the job — a thick, well-rated cord, not a thin lamp cord. Run it the shortest sensible route, and don't pinch it in a door or window. The generator, of course, stays outside and well away from the house, exactly as the carbon-monoxide rules require.

One honest caution: even though the connection is simple, you're still working around your furnace and a live generator. Make sure the furnace's own switch is off before you unplug and re-plug, keep your hands dry, and if anything feels uncertain, it's perfectly fine to have me or a technician show you the first time. After that it's a routine you'll do with confidence.

If your furnace is plugged in, you can often skip the whole transfer-switch conversation on the next page — a real time and money saver. Just make sure the outlet it's on is truly a normal plug, and not a special dedicated connection that only looks like one. When in doubt, ask.

★ I'll help you prove it works

The best time to test a plug-in furnace hookup is a mild day, not a freezing night. I'm glad to come out, confirm your furnace really is plug-in, pick the right cord, and run through it with you once so you know it cold. Call me at (330) 200-8042.

The common case: a hard-wired furnace

Most furnaces are wired straight into the panel, and there's a right way to power those from a generator: a transfer switch or interlock, installed by a licensed electrician. Here's what that means and why it's worth it.

Because a hard-wired furnace has no plug, you can't run a cord to it. Instead, an electrician installs a device that lets you safely feed generator power into your home's wiring — and, crucially, keeps that generator power **separated from the utility lines** at all times.

There are two common, safe versions. A **manual transfer switch** is a small panel mounted beside your main one; it lets you flip chosen circuits — the furnace, the fridge, some lights — over to generator power. A **panel interlock kit** is a simpler, often cheaper cousin: a sliding plate that makes it impossible to have the utility and the generator on at the same time, paired with an outdoor **inlet** you run one cord to from the generator.

Either way, you plug the generator into a single weatherproof outlet outside, start it, and flip the furnace's circuit to generator power. No cords snaking through the house, and the connection is safe, code-approved, and permanent. It's the same setup used to back up a well pump or a sump pump, so if you add one for the furnace, it can serve those too.

This part is genuinely licensed-electrician work — not because I'm being overly careful, but because a bad connection can send deadly voltage back onto the power lines and hurt the crews out fixing the outage. There's a full transfer-switch guide in this series that goes deeper, and I coordinate a good electrician for exactly this while I handle everything else.

! Never back-feed through an outlet

You may hear about running a cord with two male ends into a dryer outlet to power the house. Never do this — it's called a suicide cord because it can electrocute line workers and start a fire. The only safe way to power a hard-wired furnace is a transfer switch or interlock installed by a pro.

If you have a boiler or a heat pump

Not every home heats with a forced-air furnace. Two other common systems — boilers and heat pumps — play by slightly different rules when it comes to backup power, so let's cover them.

Boilers heat with hot water or steam instead of blown air. Good news: most boilers are fairly light on electricity. They still need power for the controls, the ignition, and usually one or more **circulator pumps** that push hot water through your radiators or baseboards — but that's typically a modest load, often well within a mid-size generator's reach. The connection question is the same as a furnace: most are hard-wired and want a transfer switch, though some are on a plug.

Heat pumps are a different animal. A heat pump is essentially an air conditioner that can run in reverse to heat your home, and like an air conditioner it's one of the **hungriest** things in the house. Many run on 240 volts and draw far more power than a simple furnace blower — often more than a modest generator can comfortably give.

There's a second catch in an Ohio winter: when it gets truly cold, many heat pumps lean on electric **backup heat strips**, and those are enormous power hogs. So a generator big enough to keep a heat pump fully heating in a deep freeze may be a large unit indeed — something to size carefully with a professional, and sometimes a reason to plan on supplemental heat instead.

If you're on a heat pump and want real backup heat, the honest path is to have it looked at: an HVAC technician can tell you what the unit actually draws, and we can figure out whether a generator that can run it makes sense, or whether a smaller unit plus safe space heating is the smarter plan. Don't assume the little suitcase generator will do it — heat pumps usually need much more.

✓ Know which system you have

Forced-air furnace, boiler, or heat pump — they back up very differently, and a heat pump especially can need a much bigger generator. If you're not sure which you've got, that's the first thing to pin down, and I can help you sort it out.

Space heaters — a safe bridge, used with care

While you're getting the generator going, or for a short outage not worth firing it up, an electric space heater can take the edge off. Used sensibly they're a fine bridge — but they demand respect, both for fire safety and for your generator's power budget.

First, the fire-safety rules, because space heaters cause too many house fires every winter. **Never leave one running unattended** — turn it off when you leave the room or go to sleep. Keep it **at least three feet from anything that can burn**: bedding, curtains, upholstery, papers, clothing. Set it on a hard, level floor, never on a rug pile, a table, or a chair. And choose one with an automatic **tip-over shutoff** and overheat protection.

Second, plug it in properly. A space heater is a heavy electrical load, so plug it **straight into a good outlet or a heavy-duty cord** — never a flimsy household extension cord or a daisy-chain of power strips, which can overheat. If you're running it off the generator, treat it like the big draw it is.

And that's the other thing: an electric space heater is a **power hog**. A single heater on high can eat a large share of a small generator's output all by itself — often as much as your fridge and furnace blower combined. Run one without watching your total and you can overload and stall the generator. So mind your **watt budget**: one heater at a time, on a modest setting, and not while the generator is already busy with heavier loads.

Think of a space heater as a way to warm one room you're actually in, not the whole house. Paired with warm clothes and a closed-off room — coming up next — it's a genuinely useful bridge until the furnace is running again.

! One heater, watched, in the room you're in

The safe recipe: a single heater with a tip-over shutoff, three feet from anything that burns, plugged into a good cord, never left alone, and counted against your generator's watts. That's a bridge. A houseful of heaters on flimsy cords is a fire and an overload waiting to happen.

The deadly mistake: never heat with a flame indoors

This is the most important safety page in the guide, and it's blunt on purpose, because this mistake kills people every winter. Never try to heat your home with a gas oven or stove, a charcoal grill, or an unvented fuel-burning heater indoors.

When the heat's off and the house is getting cold, it's a terribly tempting idea: light the gas oven and leave the door open, or fire up a camp stove or a grill in the kitchen. Please don't. Anything that burns fuel — gas, propane, charcoal, kerosene — gives off **carbon monoxide**, an invisible, odorless gas that can kill before you ever know it's there.

A kitchen stove or oven was built to cook for minutes with a range hood venting, not to run for hours as a heater. Used that way in a closed-up house, it can build carbon monoxide to deadly levels. The same goes for a charcoal or gas grill — those belong outdoors only, always — and for any camping or portable stove.

Unvented fuel heaters deserve their own warning. Kerosene heaters and portable propane heaters are sold for warmth, and some are rated for careful, limited indoor use — but they still burn fuel and use up oxygen, and they've caused deaths when run in closed rooms or overnight. If you ever use one, follow its instructions to the letter, crack a window, never run it while sleeping, and have working carbon-monoxide alarms. For most families, safe electric heating and a generator are the wiser path.

This is the second carbon-monoxide danger in this guide — the first being the generator itself, which lives outdoors for exactly this reason. The rule that ties them together is simple: **burning fuel belongs outside or in sealed, vented equipment, never in your living space for warmth.**

! If in doubt, get out

If a carbon-monoxide alarm sounds, or anyone feels dizzy, headachy, sick to their stomach, or unusually sleepy, get everyone outside into fresh air right away, then call 911 from outside. Don't stop to open windows or hunt for the cause. Fresh air first, every single time.

Protecting your pipes from freezing

A cold house isn't just uncomfortable — in a long winter outage, it can let your water pipes freeze and burst, turning a chilly night into an expensive flood. A few simple steps keep that from happening.

Water expands as it freezes, and a frozen pipe can split and then leak once it thaws. The pipes most at risk are the ones along outside walls and in unheated spots — basements, crawl spaces, garages, and under sinks on exterior walls. If your heat is going to be off for a while in a hard freeze, give those pipes a little help.

- **Let a faucet drip.** Open a faucet or two — especially the ones farthest from where your water comes in — to a slow trickle. Moving water is far harder to freeze than still water, and the trickle relieves the pressure that actually bursts a pipe.
- **Open cabinet doors.** Under sinks on outside walls, open the cabinet doors so what warmth the house has can reach the pipes tucked inside. Move household chemicals out of reach first if little ones are around.
- **Keep warmth where the pipes are.** If you're heating one room with the furnace or a space heater, remember the basement and the pipes. A little heat in the right spot goes a long way.

And know where your **main water shutoff** is, before you ever need it. If a pipe does burst, being able to shut the water off fast — at the main valve, usually where the water line enters the house — is the difference between a mop-up and a disaster. Find it now, make sure it turns, and show everyone in the house where it is.

✓ Find the shutoff on a calm day

Walk to your main water shutoff right now and make sure you know where it is and that it turns freely. In a burst-pipe moment you won't want to be hunting for it. If you can't find it, I can help you locate and label it on a visit.

Staying warm the old-fashioned way

Before furnaces and generators, people stayed warm through cold nights with a few simple tricks. Those same tricks are your reliable fallback while the heat's off — and they cost nothing.

Dress for it, indoors. Layers of clothing trap warmth far better than one heavy piece. Add a hat — you lose real heat through your head — along with warm socks, slippers, and a blanket over your lap. It feels a little funny to bundle up inside, but it works, and it takes the urgency out of getting the heat back instantly.

Close off one room and warm just that. Don't try to heat the whole house. Pick one room — usually a smaller one where everyone can gather — shut its door, and close the doors to rooms you're not using. Close the curtains at night to hold heat in, and open them on sunny south-facing windows during the day for a little free warmth. A single room is easy to keep comfortable with a space heater or the furnace running in short bursts.

Share warmth. People and pets in one room warm it just by being there. Warm food and drink help from the inside — if you can safely heat something, soup and hot tea do real good. And a good sleeping bag or a pile of blankets makes even a cold room perfectly survivable overnight.

None of this replaces getting your furnace running, but it buys you time and comfort while you do — and on a short outage, it may be all you need. The goal in a winter outage isn't a toasty whole house; it's keeping everyone genuinely safe and reasonably comfortable until the power or the generator brings the heat back.

★ Warm and safe beats warm and sorry

I'd always rather see a family layer up and warm one room safely than take a risk with a flame indoors or an overloaded cord. The simple ways are the safe ways, and they've kept people warm for generations. Keep them in your back pocket.

If you live in town: city and suburb

Here in town — Kent, Ravenna, Streetsboro, Aurora — most of my customers are on natural gas and city power, and a winter outage tends to look a certain, more manageable way.

Two things usually work in your favor in town. First, outages are often **shorter** — utility crews reach city neighborhoods quickly, so many winter outages here are measured in hours, not days. Second, you're likely on a **natural gas furnace**, which means you won't run out of fuel; the gas keeps flowing even when the electricity doesn't. Your whole problem is just the electricity to run the furnace.

That makes the in-town plan pleasantly simple. For the common hard-wired furnace, a modest generator plus a transfer switch or interlock — installed by an electrician — will bring your heat right back. Because you don't have a well pump to run, you can often get away with a smaller, quieter, more affordable unit than a country home needs.

And for a short outage not worth wheeling out the generator, a **space-heater bridge** plus warm clothes and a closed-off room is often plenty. Warm one room, keep an eye on the heater and your watt budget, and ride out the couple of hours until the lights come back. Many town families find that combination — a right-sized generator for the long ones, a space heater for the short ones — covers everything.

! Apartments and condos are a special case

If you're in an apartment or condo, a fuel generator usually isn't practical — there's rarely a safe outdoor spot 20 feet from windows, and running one on a balcony or in a garage is dangerous. Lean on layers, a closed-off room, and a carefully used electric space heater, and check whether your building has any backup-heat plan. I'm glad to help you think it through.

If you're in the country on a well

Out in the townships — Atwater, Rootstown, Deerfield, Palmyra — a winter outage is a more serious matter, and heat moves from a comfort to a genuine safety concern. If you're in the country, this page is written for you.

Country outages tend to run **longer and colder**. Rural lines are the last to be restored, so where a town might be dark for hours, a farm road can be out for days — sometimes in the bitterest weather. And you're **farther from help**: no warming center around the corner, a long drive to a motel, neighbors spread out. That's exactly why reliable backup heat matters more out here.

Many country homes heat with a **propane furnace** fed from a big tank in the yard. The nice part is you own your fuel — as long as the tank's full, you're not depending on a gas line. The catch is the same as anywhere: that propane furnace still needs **electricity** for its blower, igniter, and controls, so a generator is what turns your tank of fuel into actual heat.

There's a second reason a generator earns its keep out here: when the power's out, **your well pump is down too**, so you've lost water at the same time as heat. A generator sized and safely wired to run both the furnace and the well pump — through a transfer switch an electrician installs — covers the two things you truly can't do without in a long winter outage. That's often the whole case for backup power in the country.

★ In the country, heat is safety

When an ice storm can leave you cold and without water for days, backup heat isn't a luxury — it's looking after your family. I help country folks size one generator to cover the furnace and the well pump, coordinate the electrician for the hookup, and make sure you've got safe fallback heat too. One call and we'll build the plan: (330) 200-8042.

The safety talk: carbon monoxide

A furnace-backup plan runs into carbon monoxide twice, and this page covers the first: the generator itself, which burns fuel and must live outdoors. (The other danger — never heating with a gas stove or an unvented flame indoors — has its own page earlier in this guide.) Because your generator makes carbon monoxide, this one rule comes before everything else, every single time.

Every generator that burns gasoline or propane makes carbon monoxide, or "CO" — a gas you cannot see or smell. It is the one real danger with a generator, and it is completely avoidable. More people are hurt by running a generator in the wrong place than by anything else, so please read this page twice.

Outside only — no exceptions

Never run a generator indoors, and that includes the garage, the basement, a shed, a carport, or a covered porch — even with the door up or a window open. CO pools and seeps into the house. The only safe place is outdoors, in the open air.

At least 20 feet away, exhaust pointed away

Set the generator at least 20 feet from the house, and turn it so the exhaust blows **away** from any door, window, or vent. Don't tuck it against the wall to hide it or keep it dry — give it room to breathe and let the fumes drift off.

Alarms are your safety net

Put working carbon-monoxide alarms on every level of your home and near the bedrooms, and use ones with a battery backup so they work when the power is out. Test them now, before storm season, not during it.

Getting the heat back: your outage plan

Let's put the pieces together into a calm, safe order of steps — the same steps the picture at the back of this guide walks through. Follow them and a cold, dark house becomes a warm one, safely.

- 1. Bridge the gap first.** Before anything else, keep everyone safe and comfortable: layer up, gather in one closed-off room, and if you like, run a single space heater carefully — never a flame indoors. This takes the pressure off so you can set up the generator without rushing.
- 2. Set the generator up outside.** Wheel it out at least 20 feet from the house, exhaust pointed away from doors, windows, and vents — never in the garage or a shed, even with the door open. Add fresh fuel, and start it as your manual describes. Let it settle for a moment.
- 3. Power the furnace the right way.** If your furnace is plug-in, unplug it from the wall and connect it to the generator with a heavy-duty cord. If it's hard-wired, use the transfer switch or interlock your electrician installed — flip the furnace circuit over to generator power. Switch the generator out of eco mode for the blower's start-up surge, then back on once it's running.
- 4. Heat's back on.** The blower runs, warm air moves through the ducts, and the house begins to recover. Keep an eye on your fuel and your watt budget, remember the pipes if it's a hard freeze, and let the furnace do its work. You've turned an emergency back into an ordinary evening.

✓ A card taped inside a cabinet

Once you've done this once with me or your electrician, write the exact steps for your setup on an index card and tape it inside a kitchen cabinet. On a stressful, freezing night you'll be grateful to just follow the card instead of remembering. I'm happy to help you write it.

Test it on a mild day, not a freezing night

The worst time to discover a problem is a bitter night with the heat already off. So once your setup is in place, run the whole thing on a calm, mild day, start to finish.

A furnace backup has a few pieces that all have to work together: the generator, the cord or the transfer switch, and the furnace itself. Each might be fine on its own and still hit a snag when you connect them for real. A dry run on a good day turns those snags into a simple puzzle instead of an emergency.

Set the generator up exactly as you would in a real outage — outside, 20 feet away, exhaust pointed off. Start it, let it settle, and bring the furnace on the proper way for your setup. Watch the blower start (that's the surge moment), listen for it running smoothly, and feel for warm air at the vents. Let the furnace complete a full cycle so you know the whole loop works.

If anything hesitates — the generator strains when the blower kicks on, a breaker trips, the furnace throws an error — far better to sort it out now, in daylight, with time to call for help. Note how it all went, so the real thing is just repeating a routine you've already done once.

While you're at it, run through your fallback heat too: check that your space heater works and has its safety features, that you know where the main water shutoff is, and that your carbon-monoxide alarms have fresh batteries. A calm afternoon of testing buys you real peace of mind when the sky turns ugly.

✓ Tie it to the start of the season

Pick an easy marker — the first cold snap, or when you turn the clocks — to test your heat backup and swap your CO-alarm batteries. Twenty minutes once a year, and you'll trust the whole setup when you finally need it.

How I can help

Keeping the heat on in a winter outage pulls together a few things — sizing a generator for your furnace, figuring out how it's wired, and having safe fallback heat ready. Pulling all that together is exactly the sort of thing I do for folks around Portage County.

I'm Bill, and I run Bill's Home Tech right here in Portage County. I'm a tech-help person, not a power company and not a pushy salesman — I help folks pick the right gear, set it up, and feel confident using it. With generators, that means helping you choose a unit that fits your home and your budget, showing you how to run it safely, and getting your internet, TV, and devices happily back on once the power's flowing.

The hookup itself — a transfer switch or interlock that ties the generator to a hard-wired furnace, and anything touching your furnace's own wiring or gas connections — is a job for a licensed electrician or HVAC technician, and I'm a tech-help person, not either of those. So I coordinate the right pro for that part, and I handle the rest: helping you choose and size the unit, sorting out plug-in versus hard-wired, setting it up, teaching you to run it safely, and getting your thermostat, internet, and devices happily back on. One friendly point of contact for the whole project.

Three easy ways to get help

- **An in-home visit** — a flat \$99 first visit. I come to you, here in Portage County, and every visit is 30-day come-back-free.
- **Remote help** — a flat \$49 screen-share, up to two hours, for the things I can sort out without coming over (it's free for Support Plan members).
- **A Support Plan** — \$39 a month for folks who'd like me on call all year.

Your furnace-heat questions, answered

The questions I hear most from folks working out how to keep the heat on when the power's gone.

Q: If I have gas, why does my heat quit in an outage?

Because a gas or oil furnace still needs electricity to run its blower, igniter, and controls. You've got the fuel, but without power the furnace can't light or move warm air. Restore the electricity with a generator and the heat comes back.

Q: Can I just run an extension cord to my furnace?

Only if your furnace is the plug-in kind. Most furnaces are hard-wired into the panel with no plug, and those need a transfer switch or interlock installed by an electrician. Check whether yours has a normal plug; if it disappears into the wall, it's hard-wired.

Q: What size generator do I need for my furnace?

For most forced-air furnaces, a modest generator sized to cover the blower's start-up surge does the job. Heat pumps are the exception — they draw a lot and often need a much bigger unit. Find your blower's rating or have it checked, and size with headroom.

Q: Is it safe to warm the house with the gas oven?

No — never. A stove, oven, or grill run for heat gives off carbon monoxide and can kill in a closed house. Use safe electric space heating and a generator instead, keep working CO alarms, and let any flame stay outdoors or in sealed, vented equipment only.

Q: Are space heaters safe to run on a generator?

Yes, one at a time and with care. Keep it three feet from anything that burns, never leave it unattended, plug it into a good heavy cord, and count it against your watts — a heater is a big draw that can overload a small generator on its own.

Your keeping-the-heat-on checklist

Tear this out and tape it inside a cabinet door. Work down it on a calm day and a winter outage becomes something you're ready for.

- ☐ Found out whether your furnace is plug-in or hard-wired (most are hard-wired).
- ☐ For a hard-wired furnace: a licensed electrician has installed a transfer switch or interlock with an outdoor inlet.
- ☐ Chosen a generator sized to cover the blower's start-up surge, with headroom — an inverter unit for clean power on the control board.
- ☐ A heavy-duty outdoor extension cord on hand if your furnace is the plug-in kind.
- ☐ A safe outdoor spot for the generator picked out — at least 20 feet from the house, exhaust pointing away.
- ☐ Working carbon-monoxide alarms inside, on every level and near bedrooms, with fresh batteries.
- ☐ Never a gas oven, grill, or unvented flame used indoors for heat — safe electric space heating only.
- ☐ A space heater with a tip-over shutoff, plus warm layers and blankets, ready as a bridge.
- ☐ You know where your main water shutoff is, and the drip-and-open trick for a hard freeze.
- ☐ Tested the whole setup on a mild day, so you know it brings the heat back.

Work down that list and a winter outage becomes something you're ready for — warm, safe, and in no danger. That's the whole goal.

The short version

If you remember nothing else from this guide, remember these:

- A gas, oil, or propane furnace still needs electricity to run — the blower, igniter, and controls — so when the power's out, the heat's out too, even with plenty of fuel.
- Most furnaces are hard-wired and need a transfer switch or interlock installed by a licensed electrician; some are on a plug and can run from a heavy cord. Clean inverter power is kindest to the control board.
- A heat pump draws a lot and may need a big unit; boilers are usually lighter. Have yours sized with a pro.
- For safe fallback heat: one carefully watched electric space heater, warm layers, and a closed-off room — and never a gas stove or unvented flame indoors, which makes deadly carbon monoxide.
- Run the generator outside only, protect your pipes in a hard freeze, test it on a calm day — and know I'm a phone call away.

Keeping Heat On at a Glance

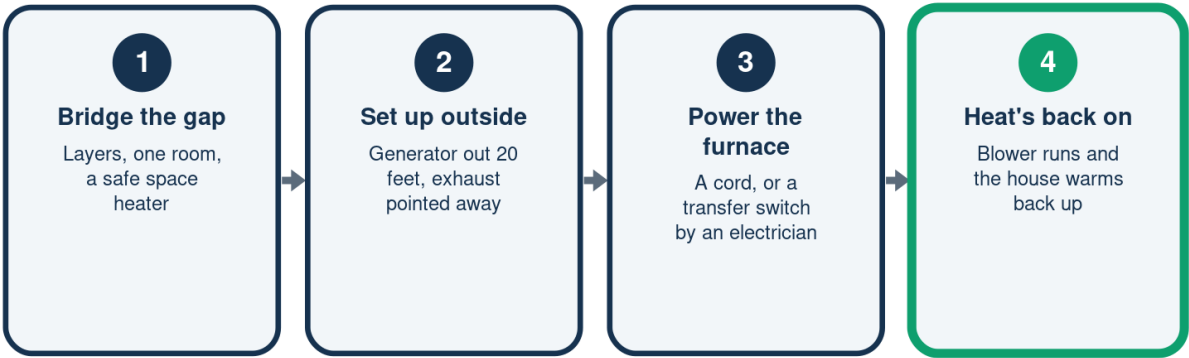
The plain-English version

The short answer		Why it matters
The surprise	Furnace needs power	No power, no heat
The blower	Runs on electricity	Plus a start-up surge
Clean power	Kind to the board	Choose an inverter
Most furnaces	Are hard-wired	Need an electrician
Stay warm safely	One space heater	Never a flame inside

Heat takes fuel and electricity both — back up the power safely, and never burn fuel indoors for warmth.

Getting the Heat Back

The safe order of steps



Warm up safely first, set the generator up outside, then power the furnace the right way.

Plug-In vs. Hard-Wired Furnace

How your furnace connects

	A plug-in furnace	A hard-wired furnace
Connection	A cord to an outlet	Wired into the panel
To power it	A heavy-duty cord	A transfer switch
Who's needed	You can do it	A licensed electrician
How common	A lucky few	Most furnaces
Voltage	Usually 120 volts	120 volts, wired in

Most furnaces are hard-wired and need an electrician; a lucky few plug in — never back-feed through an outlet.

How Do I Power My Furnace?

Start with how it's connected

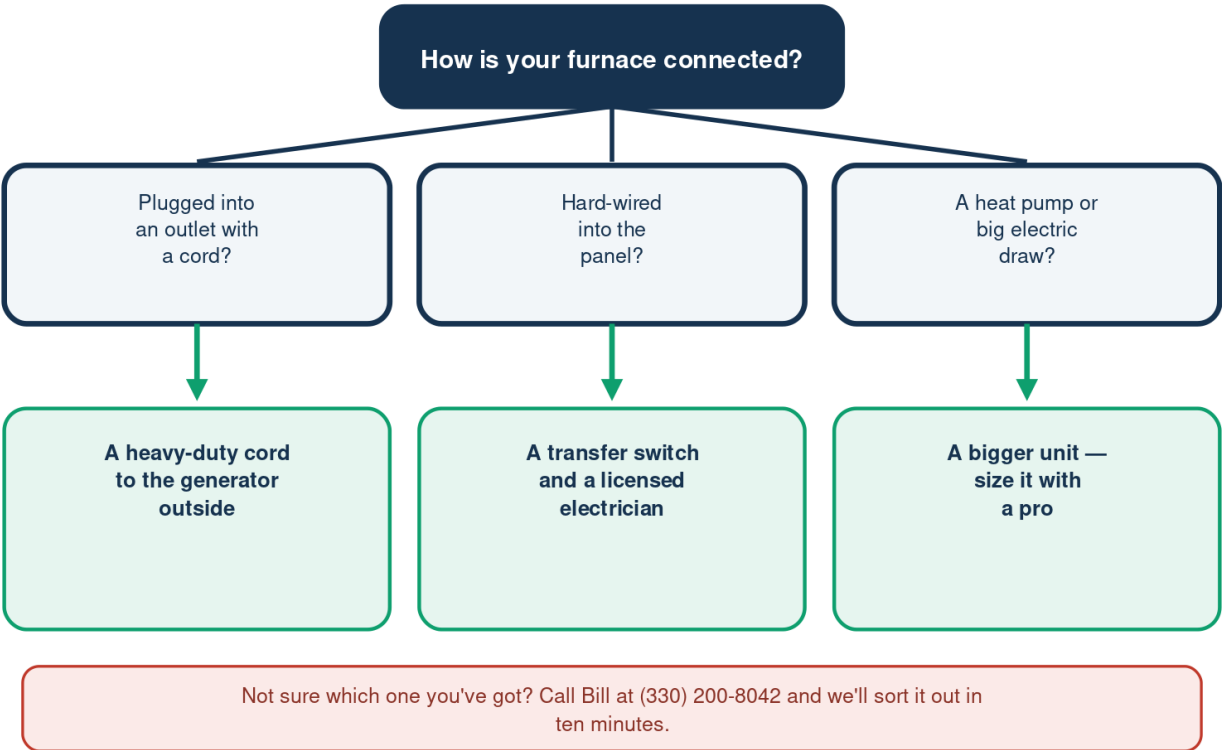


Illustration - a schematic, not to scale. Your setup may differ.



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— Bill

Prefer help without a visit?

Bill can screen-share and fix many things remotely — a flat \$49, free for Support Plan members.



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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