



An Extended Guide · No. 1292

What a Standby Generator Is

A calm, plain-English
introduction for your home

Tech Made Simple — Service Made Personal

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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. The good news with a standby unit is that a pro handles the placement, so this becomes something you check on, not something you have to get right in the dark.

Let's understand the whole thing, calmly

A whole-home standby generator is the quiet, hands-off answer to a power outage — a permanent machine that lives outside, watches your power, and switches your home over to its own power automatically when the utility goes down. No cords, no gasoline, no going outside in a storm.

I'm Bill, and I run Bill's Home Tech here in Portage County, Ohio. I've spent 30+ years helping folks get comfortable with the equipment in their homes, patiently and in plain language. Think of this guide as me at your kitchen table, walking you through what a standby generator actually is before you spend a dime — so the whole idea stops feeling like a mystery.

We won't chase brand names or specifications. We'll start with the big picture — what it is, how it works, and what it takes to put one in — and let the other guides in this series handle the details like sizing, fuel, and the install itself.

★ There's nothing to sell you here

I don't sell generators and I earn no commission, so this is just honest advice. If you'd like a second opinion before you talk to an installer, call or text me at (330) 200-8042 and I'll help you think it through — free.

The whole guide, on one page

If you remember only these things, you already understand what a standby generator is and does.

- ❑ It's permanently installed outside on a pad and wired into your home — not something you roll out and start.
- ❑ It runs on a permanent fuel supply: natural gas from the utility, or propane from a tank on your property.
- ❑ An automatic transfer switch is the brain — it senses the outage, starts the generator, and switches your home over by itself.
- ❑ Power usually comes back in seconds, whether you're home or away, asleep or on vacation.
- ❑ It can back up your whole house or just the circuits that matter most — that's a sizing choice we cover in its own guide.
- ❑ Installing one is a professional job: a licensed electrician, a licensed gas pro, and a permit. It is not a do-it-yourself project.

✓ The one-sentence version

A standby generator is a portable generator's calmer, permanent cousin: it does automatically, and for the whole home, what a portable does by hand for a few things.

What a standby generator actually is

Picture a unit about the size of a central air-conditioner sitting outside your house, quietly waiting.

That's the heart of it: a permanently mounted generator, bolted to a pad outside, wired into your home's electrical system, and connected to a steady fuel supply. It isn't stored in the garage and wheeled out — it lives outdoors, in the weather, ready every hour of every day.

Inside its weatherproof housing is an engine and a generator head, much like a portable's, but built to start and run on its own and to sit outside for years. It doesn't need you to fill a tank or pull a cord. When the power fails, it simply takes over.

Because it's a permanent piece of equipment tied into your wiring and your gas line, putting one in is real construction — which is exactly why it's a job for licensed pros and a permit, not a weekend project. We'll come back to that.

✓ Look for a safety listing

A quality standby unit is safety-listed to the standard known as UL 2200 (for stationary engine generator assemblies). It's one more sign you're looking at a properly built machine, not a bargain-bin gamble.

How it's different from a portable generator

If you've considered a portable generator, this is the clearest way to understand a standby: same job, very different experience.

A portable generator

You store it, wheel it outside in the storm, start it, run cords or flip a manual switch, and keep it fueled with gasoline or propane by hand. It costs far less, but it asks something of you every single time — and someone has to be home and able to do it.

A standby generator

It's already outside, already wired in, already fueled. It starts itself, powers the house itself, and shuts itself down when the utility returns — whether you're home, asleep, or three states away. You trade a higher cost for not having to lift a finger.

★ Which one is right isn't obvious

For some homes a portable is the smarter buy; for others, a standby is worth every penny. We have a whole guide comparing the two honestly. If you'd like help deciding, that's exactly the kind of call I love — reach me at (330) 200-8042.

The four parts of the system

A standby setup is really four things working together. Once you can name them, the whole system makes sense.

- **The generator itself:** the engine-and-generator unit outside on its pad, in a weatherproof housing.
- **The automatic transfer switch:** the brain and the safety gate. It watches your power and does the switching. Its own guide goes deep on how it works.
- **The fuel supply:** a natural-gas line from the utility, or a propane tank on your property, connected by a licensed gas pro.
- **The pad and connections:** a level concrete or composite pad, plus the electrical and gas connections that tie it all into your home.

Every other guide in this series is really a close-up on one of these four parts — the fuel choice, the sizing, the transfer switch, the placement and pad, the install. This guide is the map; those are the streets.

✓ You don't assemble any of this

All four parts are chosen, sized, and connected by your installer as one coordinated job. Your part is understanding it well enough to make good decisions and ask good questions — which is what these guides are for.

What happens the moment the power goes out

Here's the whole sequence, start to finish — and the best part is that you don't have to do any of it.

The transfer switch is always watching the utility power. The instant it senses an outage, it signals the generator to start. After a brief warm-up, it safely disconnects your home from the grid and connects it to the generator instead. Your lights, furnace, fridge, and the rest of your chosen circuits come back — usually within seconds, not minutes.

The generator then runs as long as the outage lasts, sipping fuel from your gas line or propane tank. When the utility power returns and holds steady, the transfer switch quietly switches your home back to the grid, lets the generator cool down, and shuts it off. Then it goes back to watching and waiting.

! Why the switching is a safety feature, not just a convenience

That automatic switch physically keeps your generator's power and the utility's power from ever meeting — the electrical code (NEC 702.5) requires exactly that. It's what protects your home's wiring and any utility crew working on the lines outside. The transfer-switch guide explains this in plain English.

What it runs on: natural gas or propane

Unlike a portable, a standby generator is tied to a permanent fuel supply — so it doesn't need refueling by hand. You'll pick one of two fuels.

Natural gas

If your home already has natural gas from the utility, the generator can tap that same line. The great advantage is a supply that keeps flowing on its own during most outages, so runtime isn't something you have to ration.

Propane

If you don't have natural gas — common out in the country — the generator runs on propane from a tank on your property. Propane stores for years and is available anywhere, but the tank holds a finite amount, so the tank size and a refill plan matter for a long outage.

✓ We go much deeper on this

Which fuel is right depends on what your home already has and where you live. Our natural-gas-versus-propane guide compares them fully, with no invented numbers — and your installer confirms your gas line or tank can actually feed the unit.

Whole house, or just the essentials?

A standby generator doesn't have to power everything. One of the first real decisions is how much of your home you want it to cover.

A smaller unit paired with a transfer switch can back up your essential circuits — the furnace, the fridge, some lights and outlets, the well or sump pump. A larger unit can run the whole house, air conditioning and all. In between, clever load-management can let a mid-sized unit cover a big home by taking turns with the biggest loads.

Which path is right comes down to what you truly need running, your budget, and the size of unit and fuel supply your home can support. That's a proper load calculation — work for your installer, not a guess from a chart.

★ Start with a must-run list

Before you talk to anyone, jot down what you'd want running in a two-day outage. That little list drives the whole sizing conversation. Text it to me at (330) 200-8042 and I'll help you think it through — our sizing guide walks the rest.

Air-cooled or liquid-cooled — the two families

You'll hear these two terms as you shop. Here's the plain-English difference, without getting into the weeds.

Air-cooled units are the smaller, more common home standby generators, cooled by a fan much like a portable's engine. They handle the essentials and a good part of many homes, and they cost less to buy and install.

Liquid-cooled units are larger, with a radiator and coolant like a car's engine. They're built for big homes, true whole-house coverage, or heavy continuous loads — more capable, and more of an investment.

✓ Most homes land in the air-cooled range

For a typical house backing up the essentials plus real comfort, an air-cooled unit is often the sweet spot. Our air-cooled-versus-liquid-cooled guide covers how to tell which family your home needs — and your installer's load calculation settles it.

Two kinds of homes, two sets of needs

The right standby setup for a tidy in-town lot is often not the right one for a farmhouse on a private well. Where you live shapes the whole plan.

If you live in town or the suburbs

In town or the suburbs, your water keeps flowing from the city main whether the power is on or not, so a standby generator is about food, warmth, comfort, and staying connected — not about keeping water running.

- Natural gas is often already at the house, which makes for a simple, unlimited-feeling fuel supply.
- Essential-circuit coverage — furnace, fridge, lights, internet — suits many in-town homes nicely.
- Lots are smaller and neighbors are close, so placement, setbacks, and noise deserve extra thought.
- A permit and, often, a neighborhood association's rules will shape where the unit can go.

If you are out in the country on a well

Out in the country the stakes are higher. When the power quits, your well pump quits with it — no electricity means no water for drinking, cooking, flushing, or the animals — and rural outages tend to run longer.

- A standby that covers the 240-volt well pump keeps water flowing, which for a rural home is the whole point.
- No natural gas usually means propane — so tank size and a refill plan matter for a long outage.
- The sump pump, a chest freezer, and the furnace often belong on the must-run list too.
- More room on the lot makes placement easier, but the gas and electrical runs can be longer.

★ Not sure which camp you're in?

Plenty of homes sit in the middle. Tell me whether you're on city water or a well, and what your outages are usually like, and I'll help you picture the right setup. Call (330) 200-8042.

Why this is a job for licensed pros

I'll be plain with you, because it matters: installing a standby generator is not a do-it-yourself project, and it's not something I do myself either.

A proper install ties into two things that demand a license — your electrical panel and your gas supply. A licensed electrician handles the transfer switch and the wiring; a licensed gas pro handles the fuel line. In almost every town it also requires a permit and an inspection, and often a heads-up to your utility.

That may sound like a lot, but it's what makes a standby generator safe and reliable for years. The install guide, the permit guide, and the gas-line guide each walk through a piece of it, so you'll know exactly what to expect.

★ Where I fit in

I'm your guide and helper, not your electrician. I help you decide if a standby is right, size up your needs, line up licensed pros I trust, and make sure you understand and can live with your system once it's in. Call (330) 200-8042.

The honest cost picture

A standby generator is a bigger investment than a portable, and you deserve to know why before you're surprised. I won't quote you dollar figures — they vary too much to be honest — but I can tell you what goes into the number.

The price isn't just the machine. It's the transfer switch, the electrical work, the gas-line work, the pad, the permit and inspection, and the labor to tie it all together. A bigger unit, a longer gas or electrical run, or a panel that needs updating all add to it.

Against that cost, weigh the value: automatic power whether you're home or not, no fuel runs in a storm, protected food and heat, and for some folks real peace of mind about medical equipment or a flooding basement. Our cost-and-value guide lays out the whole picture fairly.

✓ Get more than one quote

Because so much of the cost is the install, quotes can vary a good deal between installers. Getting a few — and understanding what each includes — is the single best way to spend wisely. Our choosing-an-installer guide shows you how.

What owning one is actually like

A standby generator mostly just waits — but it isn't quite install-it-and-forget-it. Here's what living with one involves.

On a schedule you or your installer set — commonly once a week — the unit runs a brief self-test, exercising its engine for a few minutes so it's ready and its parts stay in good shape. You'll hear it. It's normal, and it's a good sign.

Beyond that, it needs routine maintenance a bit like a car: oil and filter changes and a periodic checkup, following the manufacturer's schedule. Many owners keep a service plan with their installer so they don't have to track it. Our maintenance guide covers the whole rhythm.

✓ It can tell you how it's doing

Most modern standby units can send alerts to your phone — a weekly 'all's well,' or a heads-up if something needs attention. Our monitoring guide explains how that works and how I can help you set it up.

Noise, neighbors, and where it sits

A standby generator lives outside, so how it sounds and where it sits are worth thinking about early — especially on a smaller lot.

Modern units are much quieter than the roaring portables of old, particularly during their brief weekly test. But it's still an engine, and a good neighbor plans for that — placement, distance from bedrooms and property lines, and any local rules all play a part.

Where the unit can go is also shaped by code and the manufacturer's required clearances from windows, doors, and vents — for both safety and servicing. Your installer sorts this out, and our placement guide explains what drives it.

✓ Check the rules early

Some towns and many neighborhood associations have rules about generators — where they sit, how they're screened, quiet hours. A quick check before you commit saves an awkward surprise later. Our noise-and-neighbors guide helps.

The safety that never changes

A standby unit is installed to be safe — but a few truths are worth holding onto for as long as you own it.

The big one is carbon monoxide. Your installer places the unit outdoors, away from windows, doors, and vents, to the maker's and code's clearances. Your job is to keep it that way: never let anyone enclose it, build a deck or structure over it, or let snow and leaves pile up around it, and keep tested carbon-monoxide alarms inside your home.

The other truth is that the electrical and gas connections are licensed work, start to finish. If anything ever seems off — a smell of gas, a scorched spot, a unit that won't stop running or won't start for its test — that's a call to a pro, not a project for you.

! If you ever smell gas

Leave the area right away, don't flip switches or light anything, and call your gas company or 911 from somewhere safe. A gas smell is always treated as an emergency, never a wait-and-see.

A few myths, cleared up

Some very common beliefs about standby generators just aren't so. Let's clear the air.

- **'It'll power everything, always.'** Only if it's sized and wired to. Many systems back up chosen circuits, not the whole house — and that's often the smart, affordable choice.
- **'I can save money by installing it myself.'** The electrical and gas work require licenses and a permit. Doing it yourself isn't legal or safe, and it can void the warranty.
- **'Natural gas never runs out, so runtime is unlimited.'** Natural gas usually keeps flowing, which is a real advantage — but no fuel or machine is truly unlimited, and propane tanks are finite.
- **'Once it's in, I can forget it.'** It needs its weekly test and routine maintenance to be ready. A neglected unit can let you down on the one night you need it.

✓ When in doubt, ask a plain question

There's no silly question about any of this. If a salesperson's answer leaves you more confused, ask again — or ask me. Clear beats clever every time.

Signs a standby generator is worth it for you

A standby isn't for everyone, and that's fine. These are the situations where folks are usually happiest they made the leap.

- Your outages are frequent or long, or a storm can leave you dark for days.
- You're on a well, so no power means no water at all.
- Someone at home relies on powered medical equipment, or the cold and heat are a real health concern.
- You travel, or there are times no one able to run a portable is home.
- A flooding basement, a freezer full of food, or a home business makes an outage costly.
- The idea of wrestling a portable out in a storm simply isn't realistic for you anymore.

★ And when a portable is the wiser buy

If your outages are rare and short and you're comfortable running a portable, that may be the smarter money. I'll always tell you honestly when I think that's your situation — I'd rather you spend well than spend big. Call (330) 200-8042.

What the road to owning one looks like

If you decide to explore a standby, here's the path from curious to covered, so nothing catches you off guard.

- ❑ Make your must-run list — what you truly want powered in an outage.
- ❑ Decide roughly on whole-house versus essential circuits, and your fuel.
- ❑ Get a load calculation and a few quotes from licensed installers.
- ❑ Sort out placement, the pad, permits, and any neighborhood rules.
- ❑ Have licensed pros do the electrical, gas, and transfer-switch work.
- ❑ Pass inspection, then test the system and learn how it behaves.
- ❑ Set up monitoring and a maintenance plan so it stays ready.

✓ You don't walk it alone

Each of these steps has its own guide in this series, and I'm glad to walk any of them with you in person. You don't have to become an expert — you just have to take it one calm step at a time.

What I do, and what I leave to the pros

Worth saying plainly, because it's the honest shape of how I can help.

- **What I help with:** deciding whether a standby fits your home and budget, building your must-run list, making sense of quotes, lining up licensed installers I trust, and teaching you your system once it's in.
- **What only licensed pros do:** the electrical work and transfer switch, the gas-line connection, and pulling the permit.
- **What I never do:** panel wiring, gas work, or the install itself — that's not my license, and your safety deserves the real thing.

★ Call before you're deep in it

The best time to reach me is while you're still deciding, not after something's installed and puzzling. A little guidance up front saves a lot of second-guessing. Reach me at (330) 200-8042.

Questions worth asking before you commit

Whether you're talking to an installer or to me, these questions get you to a system you actually understand.

Q: Will this back up my whole house, or just certain circuits?

This shapes the size, the cost, and the transfer switch. Make sure you and the installer picture the same thing — our sizing guide helps you decide.

Q: What fuel will it use, and can my supply actually feed it?

Natural gas or propane, and whether your existing line or tank is up to the job. A licensed gas pro confirms this, not a brochure.

Q: What's included in the quote — permit, pad, gas, and electrical?

So you're comparing complete installs, not just machine prices. Ask each installer to spell out what's in and what's extra.

Q: What maintenance will it need, and do you offer a service plan?

A standby needs routine care to stay ready. Knowing the plan up front keeps it dependable for years.

✓ There's no silly question

If an installer makes you feel rushed or foolish for asking, that's a reason to keep looking, not to sign. A good pro welcomes plain questions.

Common Questions

The questions I hear most from folks first looking into a standby generator, answered plainly.

Q: Does it turn on by itself, even if I'm not home?

Yes — that's the whole idea. The automatic transfer switch senses the outage and starts everything on its own, whether you're asleep, at work, or on vacation.

Q: How fast does the power come back?

Usually within seconds of the outage, after a brief warm-up. You may barely notice the gap, especially if sensitive electronics are on a small battery backup to bridge it.

Q: Do I have to refuel it?

No. It draws from your natural-gas line or a propane tank automatically. With natural gas there's usually nothing to do; with propane you keep an eye on the tank and plan refills for long outages.

Q: Can I install one myself to save money?

No — the electrical and gas work require licenses and a permit, and doing it yourself isn't safe or legal and can void the warranty. This is a job for licensed pros.

Q: Is it noisy?

Far less than the portables of old. You'll hear its brief weekly test and hear it run during an outage, but modern units are built to be reasonably quiet neighbors.

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

Understanding a standby generator before you spend is exactly the kind of thing I love to help with, with nothing to sell you. Call or text me at (330) 200-8042 and let's talk 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 a whole-home 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 Four Parts of a Standby System

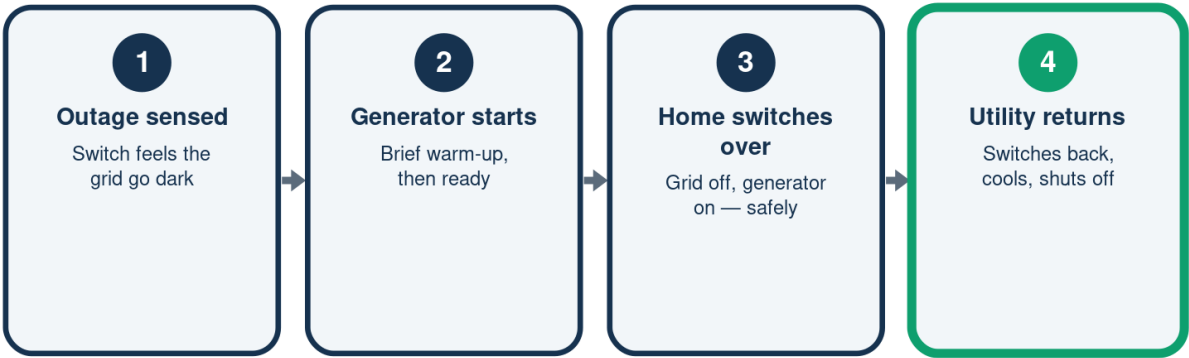
Name these four and the whole thing makes sense

	What it is	What it does
The generator	Engine unit outside	Makes the power
Transfer switch	The brain and gate	Does the switching
The fuel supply	Gas line or tank	Feeds it, hands-free
Pad & hookups	Level base + wiring	Ties it to your home

All four are chosen and connected by your installer as one job.

What Happens When the Power Goes Out

The whole sequence — and you do none of it



Power is usually back within seconds, home or away.

Standby vs. Portable, at a Glance

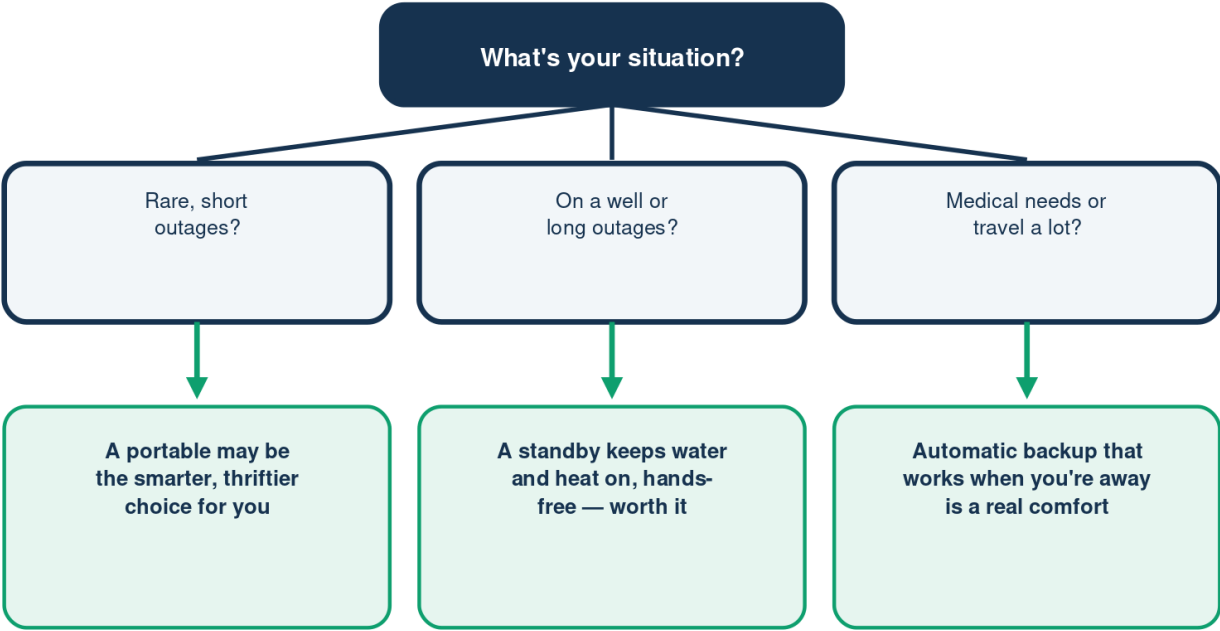
Same job, very different experience

	Standby	Portable
Starting	Automatic	You start it
Location	Permanent, outside	Stored, rolled out
Fuel	Gas line or tank	You refuel by hand
Coverage	House or circuits	A few things
Cost	More to buy/install	Much less

Neither is 'better' — it's about your home and how you'd use it.

Is a Standby Right for Your Home?

Let your situation point the way



A load calculation from a licensed installer sizes it right — no guessing.

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



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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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