



An Extended Guide · No. 2045

Burying Cable to an Outbuilding

Conduit, fiber, and lightning
sense — the safe way to dig

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Running a line in the ground, the safe way

When you can't see the far building from the house — or you just want the steadiest connection there is — a buried line is the answer. This guide walks you through the honest parts: calling 811 before you dig, why fiber is the safer link between buildings, and where a licensed pro has to take over. No jargon, no pressure.

I'm Bill, and I run Bill's Home Tech here in Portage County, Ohio. A buried line is wonderful once it's in — weather doesn't touch it, trees don't block it, and a storm doesn't drop the signal. But burying a cable between buildings has a few real safety points, and I'd rather you know them than learn them the hard way.

The big ideas are simple: always call 811 and have the lines marked before any shovel goes in; between two buildings, fiber is the safer choice because it carries light, not electricity; and the trench and any power work belong to a licensed pro. We'll take each one at a time.

★ No wrong question here

If you'd like someone to look at your place and help you plan a buried run the right way, that's exactly what I do. Call or text me at (330) 200-8042 — I don't sell the gear or dig the trench, so the advice is just advice.

The whole guide, on one page

If you remember only these things, you already understand the safe way to bury a line.

- ❑ Call 811 before any digging — it's free, it's the law, and it keeps a shovel away from gas, power, and water lines.
- ❑ Direct-burial cable is made to go in the ground; ordinary indoor cable is not.
- ❑ Conduit — a protective pipe — lets you pull cable later and guards it where it could be damaged.
- ❑ Copper carries electricity, so it can carry a lightning surge from one building to another; fiber carries light and doesn't.
- ❑ Fiber needs a small adapter at each end to turn light back into an ordinary network signal.
- ❑ Trenching near utilities and anything touching the electrical panel are jobs for a licensed pro.

! The one rule that never bends

Call 811 (or go to call811.com) and wait the full time they tell you before you break ground. Every trench, every time. A struck gas or power line can hurt or kill — there is simply no reason to skip it.

Before anything else: call 811

This is the first page on purpose. Nothing else in this guide matters if a shovel finds a buried utility line.

811 is the national 'call before you dig' number. You call it (or request online at call811.com) a few days before you plan to dig, tell them where, and the utility companies come out and mark their buried lines — gas, electric, water, and more — with little flags and spray paint. It's free, and in Ohio, as everywhere, it's the law.

Why it matters so much: those lines are often shallower than people expect, and a shovel or a trencher that hits a gas line or a power cable can cause an explosion, a serious shock, or a very expensive repair you'd have to pay for. The marking takes a little patience up front and removes a genuine danger.

Wait the full time they tell you — usually a couple of business days — before you break ground, and dig carefully by hand near any marks. If a contractor does the digging, confirm with your own eyes that 811 was called before they start.

! Make the call — no exceptions

Call 811 or visit call811.com before any digging, even a short trench to a shed. Wait the full time, respect the marks, and dig with care near them. This is the single most important thing in this whole guide.

Why a buried line is worth the trench

Digging is work, so it's fair to ask why you'd choose a buried line over beaming the signal through the air.

A buried line is the steadiest connection there is. Once it's in the ground, weather doesn't touch it, trees can't grow into its path, and a storm rolling through doesn't drop the signal. There's nothing overhead to come loose and nothing to re-aim. It just works, year after year.

It's also the right choice when you simply can't get a clear view between the buildings — a hill, a stand of trees, or another building in the way. A wireless bridge needs line of sight; a buried line doesn't care what's in the way, because it goes under it all.

The trade-off is the trench. That's the real work and the real cost, and it's why many folks weigh a bridge first. My guide on internet to the barn lays the two choices side by side if you're still deciding.

✓ You can mix the two

Plenty of places beam a bridge across a long open gap and then bury a short line for the last stretch into a building. You're not locked into one method for the whole distance.

What direct-burial cable is

Not every cable can go in the ground. Using the wrong one is a slow way to waste a trench.

Direct-burial cable is made to live underground. It has a tougher, water-resistant jacket built to handle moisture, soil, and temperature swings without breaking down. Ordinary indoor cable, by contrast, will soak up water and fail before long if you bury it bare — so it's the wrong tool for the job.

You'll hear two approaches. One is burying direct-burial cable on its own, down at a sensible depth. The other is running cable — sometimes ordinary cable — inside conduit, a protective pipe. Both can be right; which one fits depends on your ground, your distance, and what you're running.

Cable type	Where it belongs
Indoor cable	Inside only — never bare in ground
Direct-burial	In the ground as-is
Cable in conduit	Protected, easy to replace

✓ **Ask what's going in the ground**

If someone's burying a line for you, it's fair to ask whether it's direct-burial rated or run in conduit. A plain indoor cable dropped in a trench is a corner cut you don't want.

Conduit — the pipe that protects the cable

Conduit is just a protective pipe you run the cable through. It costs a little more up front and pays you back more than once.

Picture a smooth pipe laid in the trench, with your cable pulled through the inside. The pipe takes the abuse — rocks, shifting soil, a future shovel — so the cable doesn't. It also guards the cable where it comes up out of the ground and into a building, which is a spot that otherwise takes a beating.

The quiet bonus is future you. If the cable inside ever fails, or you want to upgrade it, you can often pull a new line through the same conduit without digging the trench again. That one feature has saved many a homeowner a second dig.

✓ Leave a pull string

A good installer leaves a sturdy string inside the conduit alongside the cable. Years later, that string lets you pull a new cable through without a shovel. Ask for it — it costs almost nothing and it's a gift to future you.

Depth, frost, and getting it right

How deep the trench goes isn't a guess — it's about staying below trouble, and it depends on your ground.

A buried line wants to be deep enough to be safe from the mower blade, the garden fork, the frost that heaves the ground each winter, and the ordinary settling of soil. Too shallow and it's at the mercy of every spring thaw and every shovel. Here in northeast Ohio our winters are no joke, so frost depth is a real consideration.

I won't quote you an exact number of inches, because the right depth depends on local rules, your soil, whether you used conduit, and what else is in the ground. That's exactly the kind of thing the person doing the trench should know for our area — and it's worth confirming they do.

✓ Deeper is cheaper than re-digging

If there's ever a question, a little extra depth is cheap insurance. Re-opening a trench after a frost heave or a cut line costs far more than doing it a few inches deeper the first time.

The big safety point: copper versus fiber

This is the one technical idea worth really understanding, because it's about protecting your gear — and your buildings — from lightning.

An ordinary network cable is copper, and copper carries electricity. When you run copper between two separate buildings, you've tied their electrical worlds together. In a lightning storm, a surge that hits one building — or even strikes nearby — can travel that copper straight into the other, frying equipment at both ends or worse.

Fiber carries light, not electricity. A fiber line between the house and the barn passes the internet perfectly but gives lightning nothing to ride on. For a run between two buildings — especially out in open country where storms are a fact of life — that's why the pros so often reach for fiber. It's a safety choice as much as a performance one.

! Think hard before burying copper between buildings

If someone offers to run plain copper between two buildings, ask about fiber or proper surge protection first. A single bad storm can send a surge down that copper and take out gear at both ends. A little foresight here protects your electronics and your buildings.

How fiber works, in plain English

Fiber sounds high-tech, but the idea is simple once you picture it.

A fiber line is a hair-thin strand of glass that carries your internet as pulses of light. Because it's light and not electricity, it can't carry a shock or a surge, and it isn't bothered by the electrical noise that sometimes troubles long copper runs. It also carries plenty of signal over long distances without fading the way copper does.

The one thing fiber needs is a small adapter at each end — often called a media converter — that turns the light back into an ordinary network signal your gear understands. One sits where the fiber enters the house, one where it enters the barn, and from there everything plugs in as usual.

Fiber is a little more delicate to handle and terminate than copper, which is a fair reason to let someone experienced run it. But the safety payoff between buildings is real, and the adapters are a small, one-time part of the job.

✓ Don't let 'fiber' scare you off

Fiber has a fancy reputation, but for you it behaves just like any other internet line once the adapters are in. You plug into the adapter and never think about the glass again.

Two kinds of places, two sets of needs

Where your place sits shapes how a buried run comes together — but the 811 call and the lightning sense apply to everyone, town lot or working farm.

If your place is close to town

The buildings are usually close, the trench is short, and the ground is often tidy lawn. That keeps the dig small — but the utility lines near a house can be dense, so marking matters.

- A short trench to a garage or shed is often a modest one-day job.
- Near a house there may be more buried lines — make the 811 call count.
- For a short run, conduit makes future repairs easy and cheap.
- Even a short building-to-building run deserves a thought about surge protection.

If you're out on acreage or a working farm

Now the runs are long, the ground may cross fields, drives, and old buried surprises, and open-country storms make lightning a real worry.

- Long runs favor fiber — it carries far without fading and won't carry a surge.
- Field tile, old wells, and forgotten lines make the 811 call even more important.
- A trencher covers ground fast, but keep it well clear of marked utilities.
- Between barns in storm country, fiber's lightning safety truly earns its keep.

★ Planning a run across your place?

Tell me how far apart your buildings sit and what's between them, and I'll help you plan the trench, the cable, and the fiber-versus-copper call — and line up a trencher and electrician where they're needed. Call (330) 200-8042.

Lightning sense between buildings

Out in open country, lightning isn't a rare worry — it's part of the plan. A few sensible habits protect your gear and your home.

Choosing fiber for the building-to-building run is the biggest single thing you can do, because it simply gives lightning nothing to travel on. Where any copper or outdoor gear is involved, you want surge protection where the line comes inside and good grounding done the way the maker and your electrician call for.

Grounding gives a stray charge a safe path to the earth instead of through your equipment or your walls. It's not a do-it-yourself guess — it's part of why the electrical side belongs to a licensed pro. In a truly bad storm, there's still no shame in unplugging gear you can easily reach.

! Fiber is lightning's dead end

The simplest lightning protection between two buildings is to give the surge nothing to ride. Fiber carries light, not electricity, so a strike on one building has no copper path into the other. For storm country, that's the whole argument in one sentence.

Where a licensed pro has to decide

I help you plan and set up plenty, but some of this is genuinely licensed-pro work — and that line is there for your safety.

Trenching near buried utilities, deciding the right depth for our area, anything touching your electrical panel, running power to a building, and grounding of outdoor gear are all a licensed professional's call. These aren't areas to save a few dollars by guessing — a mistake can be dangerous or costly, and may not pass an inspection.

I'm a tech helper, not a licensed electrician or a trenching contractor. What I do is help you choose the path, plan the whole project, handle the network gear and the far-end Wi-Fi, and coordinate a trustworthy local pro for the digging and the electrical parts — so you deal with one friendly person instead of chasing several.

! Leave the panel and the trenching to the pros

Anything involving the electrical panel, a new circuit, power between buildings, or machine trenching near utilities is licensed work — not a weekend project. I plan it with you and line up the pro; I don't do licensed electrical or trenching work myself, and neither should an unlicensed helper.

Planning the route of the trench

A little thought about where the trench goes saves work, cost, and trouble down the road.

The shortest straight line between the two buildings is usually cheapest to dig, but it isn't always the smartest. You want to avoid crossing septic fields, well heads, big tree roots, drives you'd have to cut through, and — above all — the marked utility lines. Sometimes a slightly longer route around trouble is the easy choice.

Think about where the line comes up and enters each building, too. A clean, sealed entry near where your network gear lives inside saves running cable all over the building. Mark your planned route with little flags or paint before the 811 folks come, so everyone's talking about the same path.

✓ Snap photos and sketch it

Take pictures of both buildings and the ground between them, and sketch where you think the line should run. Text them to me and I can often spot a better route — or a hazard to avoid — before anyone picks up a shovel.

Don't forget the far end

However the line gets to the barn, one thing is always true: it still needs something to spread the signal around once it arrives.

A buried line delivers the internet to one spot in the barn — usually right where the cable or the fiber adapter comes inside. To actually use it on your phone, a camera, or a laptop, that spot needs a Wi-Fi box — an access point — to broadcast a signal through the building. The line is the water main; the Wi-Fi box is the faucet.

In a metal building this matters even more, because steel siding fights a Wi-Fi signal hard — so the Wi-Fi has to start inside. My guide on Wi-Fi in a metal building covers exactly where to put that box and whether you need more than one.

✓ Plan the box when you plan the trench

Decide where the far-end Wi-Fi box will go while you're planning the trench, so the line comes up in a handy spot. It's a small thing that saves running extra cable around the barn later.

Common mistakes to sidestep

A handful of avoidable slip-ups cause most of the buried-line regrets. Now you'll see them coming.

- **Digging before calling 811** — the one mistake that can hurt someone or cost a fortune.
- **Burying ordinary indoor cable** bare in the ground, where water ruins it before long.
- **Running copper between buildings** with no thought to lightning, then losing gear in the first big storm.
- **Going too shallow**, so frost heave or a shovel finds the line.
- **Skipping conduit** and a pull string, then having to re-dig the whole trench to fix or upgrade later.
- **Forgetting the far-end Wi-Fi box**, so the signal arrives but can't be used.

! The one that costs the most

Skipping the 811 call is the mistake that can injure someone or cost a fortune. It's free and it's the law — there is no reason, ever, to skip it.

A simple planning checklist

Walk through these before any shovel goes in the ground. Each answer keeps the job safe and tidy.

- ☐ I've called 811 and waited the full time before digging.
- ☐ I know roughly how far apart the two buildings are.
- ☐ I've planned the route to avoid septic, wells, roots, and drives.
- ☐ I'm using direct-burial cable or cable in conduit — not bare indoor cable.
- ☐ For a building-to-building run, I've asked about fiber or surge protection.
- ☐ I've left the depth, panel, and trenching decisions to a licensed pro.
- ☐ I've planned for a Wi-Fi box at the far building.

★ Bring me the answers

Fill in those blanks and you've done the hard part. Send them my way and I'll help you plan the whole run and line up the right pros. Call or text (330) 200-8042.

What the job really involves

Nobody can quote your exact price without seeing the place, but the shape of the job is clear — and that's what helps you plan.

A buried run is really three parts: the trench, the cable or fiber in it, and the gear at each end. The trench and any power work are the labor that costs the most, because they're the hard, skilled part. The cable or fiber and the adapters are often the smaller piece, and the far-end Wi-Fi box is smaller still.

I keep dollar amounts out of my guides on purpose — prices change, and they vary a lot by distance and ground — but I'm always glad to help you read a real quote and tell you whether it's fair. Count the whole job, not just the cable, so there are no surprises.

✓ Budget the trench, not just the wire

The cable is often the cheap part. The trench, the conduit, the fiber adapters, the far-end Wi-Fi box, and an electrician's time are the rest. Plan for all of it and the project goes smoothly.

Keeping it working, year after year

The great thing about a buried line is how little it asks of you once it's in. A few small habits keep it trouble-free.

A properly buried line mostly just keeps working — that's its whole appeal. The spots to keep an eye on are where the line comes up out of the ground and into each building: make sure that entry stays sealed against water and that the adapters and gear inside aren't sitting in dust or damp.

At the far end, the Wi-Fi box benefits from an occasional restart and from living somewhere out of the worst dust and cold. My guide on protecting tech in barns and garages goes deeper on enclosures and keeping the mice out of your gear.

✓ Mark where the line runs

Keep a simple note or photo of where the trench runs across your property. Years from now, when you or someone else plans to dig or plant, knowing where that line sits — and calling 811 again — prevents an accident.

What to do yourself, and when to call

Plenty of the planning you can handle. The digging and the electrical are genuinely jobs for someone licensed — and that keeps you safe.

Deciding the route, choosing fiber or copper, planning where the line enters each building, setting up the network gear, and placing the far-end Wi-Fi box are all things a handy person — or I — can do together. That's the part where a plain-English helper earns their keep.

Machine trenching near buried utilities, deciding the right depth for our frost, anything touching the electrical panel, running power to a building, and grounding outdoor gear are licensed-pro territory. I plan the whole project with you and line up a trustworthy trencher and electrician — I don't do that work myself.

★ One call, start to finish

You don't have to juggle a trencher, an electrician, and a tech helper on your own. I can scope the project, do the parts that are mine, and coordinate the pros for the rest — one friendly person to deal with. Call (330) 200-8042.

Questions to ask before you commit

Whether you're talking to a trencher, an electrician, or me, these questions get you a safe, honest job.

Q: Has 811 been called, and are we waiting the full time?

Any reputable contractor says yes without hesitation and shows you the marks. If digging is treated casually, that's a red flag — stop and sort it out first.

Q: Are we running fiber or copper between the buildings?

On a long run, or anywhere storms are common, fiber's lightning safety is worth asking for. If it's copper, ask exactly how surges will be handled.

Q: What cable goes in, and is it in conduit with a pull string?

You want direct-burial cable or cable in conduit — never bare indoor cable — and a pull string makes future repairs a breeze.

Q: Who handles the depth, the panel, and any power work?

Those answers should point to a licensed pro. Depth for our frost and anything electrical isn't a place for guesswork.

✓ There's no silly question

If someone makes you feel foolish for asking how the job will be done safely, that's a reason to find someone else. A plain answer to a plain question is the least you should expect.

Common Questions

The questions I hear most from folks planning a buried line, answered plainly.

Q: Do I really have to call 811 for a short trench to a shed?

Yes — every trench, every time. It's free and it's the law, and even a short dig can find a gas, power, or water line. Call 811 or visit call811.com and wait the full time before you break ground.

Q: Why fiber instead of a normal network cable between buildings?

A copper cable carries electricity, so it can carry a lightning surge from one building straight into another. Fiber carries light instead, giving lightning nothing to ride on — which is why pros favor it between buildings.

Q: Can I bury a regular Ethernet cable if I just put it a little deeper?

No — ordinary indoor cable soaks up water and fails underground. Use direct-burial-rated cable, or run cable inside conduit. The right cable is cheap insurance against re-digging the trench.

Q: Do I need an electrician, or can my handyman dig the trench?

The route and the network gear can be a handy helper's job. But machine trenching near utilities, the right depth, and anything electrical belong to a licensed pro — that line is there for your safety.

★ Still weighing it up?

A buried line is a once-and-done job that pays you back for years. Call or text me at (330) 200-8042 and we'll plan a run that's safe, tidy, and right for your place.

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 burying a safe, steady line out to your outbuilding 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 — barn, shop, and all — 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, trenching, or tower 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

Copper vs. Fiber Between Buildings

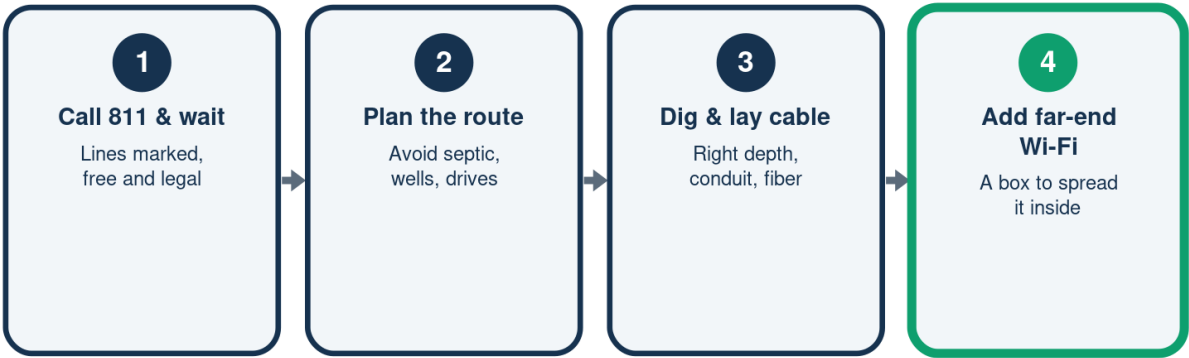
Why the pros so often choose fiber

	Carries	Lightning risk
Copper cable	Electricity	Can carry a surge
Fiber line	Light	No surge path
Needs adapters	Fiber only	One at each end
Best between barns	Fiber	Storm-safe

Fiber carries light, not electricity, so lightning has nothing to ride.

Burying a Line in Four Steps

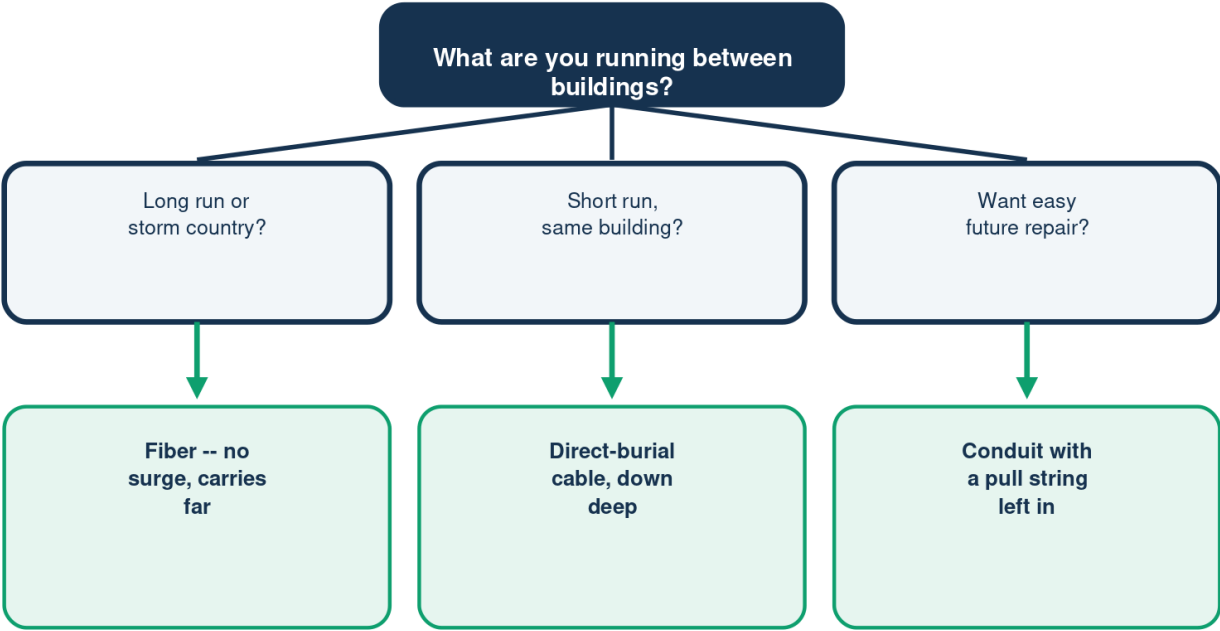
The safe, orderly way to do it



Never skip step one -- 811 before any shovel goes in the ground.

Which Cable Goes in the Ground?

Pick by distance, storms, and protection



Call 811 first -- and never bury plain indoor cable bare.

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

Whose Job Is Which Part?

Where a licensed pro has to take over

	You or a helper	A licensed pro
The route	Plan it	--
The trench	--	Dig near utilities
The panel/power	--	All electrical
Far-end Wi-Fi	Set it up	--

Trenching near utilities and all panel work belong to a licensed pro.



Need a Real Person?

You do not have to remember all of it.
You just have to remember you can call.
Friendly, in-home tech help -- I come to you.

BILL'S PROMISE

If you are not 100% happy with a visit, I will
make it right -- or refund it. No awkwardness,
no fine print. That is how I would want to be treated.

(330) 200-8042 · BillsHomeTech.com

Bill@BillsHomeTech.com · Mon–Sat 9:00 AM – 7:30 PM

— 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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