BILL'S HOME TECH

Home & Small Business Tech Solutions

An Extended Guide · No. 1703

Connecting Backup Power Safely: Transfer Switches & Interlocks

The one safe way to feed a hardwired well pump

Tech Made Simple — Service Made Personal

BillsHomeTech.com · (330) 200-8042 · Atwater, Ohio

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! Read this first — on a well, no power means no water

On a home with a private well, a power outage isn't just dark — it's dry. The pump that lifts your water runs on your home's electricity, so when the power stops, every tap, toilet, and hose stops with it. Keep a few days of stored drinking water on hand as a backup you can count on — a common guideline is about a gallon per person per day. And know this from the start: a well pump is almost always a 240-volt appliance wired straight into your electrical panel, so any backup hookup for it is a licensed electrician's job. Never try to feed it with a cord or by backfeeding an outlet — that is unsafe, against code, and can put deadly voltage on the power lines outside. There is exactly one safe way to feed your well pump from a generator — a transfer switch or interlock at your panel, put in by a licensed electrician. This guide explains that safe way, and why the shortcuts are so dangerous.

Connecting backup power to your well pump, safely

This is the guide about the hookup itself — the piece between your generator and your pump. Get this right and everything else works. Get it wrong and it is genuinely dangerous, so let's be careful and clear.

I'm Bill, and I run Bill's Home Tech here in Portage County, Ohio. Of everything in this whole category, this is the part I most want you to get right, because the shortcuts here do not just risk your equipment — they can kill someone. The good news is that the safe way is well-understood, affordable, and done by professionals all the time.

Your well pump is hardwired into your electrical panel. So the hookup is not about finding an outlet — it is about safely letting a generator feed your panel while keeping your home separated from the utility lines. That is what a transfer switch or an interlock does.

★ This is the one to call a pro for

I help you plan and choose, but the actual hookup is licensed-electrician work, always. Call or text me at (330) 200-8042 and I will line you up with a trustworthy local one.

The whole thing, in about a minute

If you remember only these things, you will keep your family and your linemen safe.

- ❑ A well pump is hardwired — you cannot run a cord to it, ever.
- ❑ The safe hookup is a transfer switch or an interlock at your panel, by a licensed electrician.
- ❑ Backfeeding through a dryer outlet — a 'suicide cord' — can kill you or a lineman. Never do it.
- ❑ A transfer switch or interlock keeps your home disconnected from the grid while the generator runs.
- ❑ You also need a generator inlet box outside and the right heavy cord.
- ❑ This work is permitted and inspected — exactly what you want on something this serious.

! The one hard rule of this whole category

Never feed your home or pump by backfeeding an outlet. It can push deadly voltage onto the power lines and electrocute a line worker trying to restore your power. Always through a proper switch, always by a pro.

Why you cannot just run a cord

This surprises many folks, so let me explain it plainly.

Small things — a lamp, a fan, a single portable heater — plug into outlets, and you can run a cord from a generator to those. But your well pump has no plug. It is wired straight into your electrical panel on its own 240-volt circuit, like your dryer or range. There is simply nowhere to plug a cord in.

To power a hardwired pump, the generator has to feed the panel itself — and that must be done through equipment that safely separates your home from the utility lines. That equipment is a transfer switch or an interlock. There is no safe cord-based shortcut for a hardwired pump.

> **✔ Cords for plug-in things, a switch for the pump**
> You can cord a generator to plug-in comforts like a fridge. But the hardwired pump needs the panel hookup. Two different jobs, two different methods.

The deadly shortcut — backfeeding

I am going to be blunt here, because this one truly matters.

Some people try to power their home by running a cord with a male plug on both ends from a generator into a dryer or other 240-volt outlet — pushing power backward into the panel. It has a grim nickname among electricians: a 'suicide cord.' It is illegal, it is against code, and it is genuinely deadly.

Two dangers stand out. First, those exposed plug prongs are live with lethal voltage the moment the generator runs — one touch can kill. Second, and just as serious, that power flows backward out to the utility lines, where it can electrocute a line worker who believes the lines are dead while they work to restore your power. A transfer switch or interlock exists precisely to make that impossible.

> **! Never, under any circumstances**
> There is no outage worth a life. Never backfeed. The safe hookup costs little compared to what a shortcut can cost, and a licensed electrician installs it in a matter of hours.

Option one — a transfer switch

A transfer switch is the classic, straightforward way to connect a generator safely. Here is how it works.

A transfer switch is a small device installed next to your main electrical panel. It lets you move selected circuits — including your well pump — from utility power over to the generator, and it physically prevents both sources from being connected at once. That is the safety at the heart of it: your home can never backfeed the grid.

Manual transfer switches, used with portable generators, often have a row of little switches for each circuit, sometimes with meters so you can see the load. When the power goes out, you start the generator outdoors, plug it into the inlet, and flip the switches. Simple, safe, and clear. Automatic transfer switches, used with standby generators, do all of this on their own.

> **✔ Simple to operate once it is in**
> A manual transfer switch turns an outage into a short, safe routine: start the generator, connect it, flip the switches. Many folks find it reassuringly easy after the first time.

Option two — an interlock kit

An interlock is a clever, often more affordable way to reach the same safety, using your existing panel.

An interlock kit is a metal plate fitted to your existing electrical panel. It lets an electrician add a single breaker for the generator, and the plate mechanically ensures you cannot have the main breaker and the generator breaker on at the same time. That mechanical lock is what makes it safe — your home is always connected to one source or the other, never both.

The appeal is flexibility and cost: because it works with your whole panel, you can power any circuit in the house, one at a time within your generator's limits, rather than only a pre-chosen few. The trade-off is that you manage the breakers yourself during an outage. Our interlock guide goes deeper if this option appeals.

> **✔ Flexible and budget-friendly**
> An interlock often costs less than a transfer switch and lets you choose which circuits to run as you go — handy if your needs change through an outage. Just mind your generator's total load.

Transfer switch or interlock — which is right?

Both are safe and both are code-approved. The choice comes down to how you like to operate and your budget.

	Transfer switch	Interlock kit
Circuits	Pre-selected few	Any in the panel
Operating	Flip labeled switches	Manage breakers
Cost	Often higher	Often lower
Best for	Simple routine	Flexibility, budget

Neither is 'better.' A transfer switch is beautifully simple to operate — flip the labeled switches and go. An interlock is flexible and usually cheaper, at the cost of managing breakers yourself. Your electrician can tell you which suits your panel and your comfort level. Either way, your well pump must be one of the circuits it can power.

> **★ Not sure which suits you?**
> It often comes down to whether you want dead-simple operation or maximum flexibility. Call or text (330) 200-8042 and we will match it to how you like things.

The other pieces — the inlet box and the cord

A safe hookup is more than the switch. Two more pieces make the connection between generator and house.

A generator inlet box (sometimes called a power inlet) is a weather-proof outlet mounted on the outside of your house. Your generator connects to it with a heavy, properly rated cord, and the inlet carries that power safely inside to the transfer switch or interlock breaker. You never run a cord through a cracked window or door — the inlet is the proper, weatherproof path.

The cord itself must be the right type and rating for the job — a generator cord built for the load, not a household extension cord. Your electrician sizes the inlet and specifies the cord to match your generator and your pump. Our guide on generator cords covers this in more detail.

> **! No cords through the window**
> Running a cord through a cracked window or door invites water, drafts, and damage, and it is not the safe path. A proper inlet box is how power comes in from a generator — clean, weatherproof, and code-compliant.

What to expect from the job

Knowing what a good install looks like helps you be a confident customer. Here is the shape of it.

- **A visit and a plan** — the electrician looks at your panel, your pump circuit, and picks a switch or interlock.
- **A permit** — pulled before the work, which is exactly what you want on panel wiring.
- **The install** — the switch or interlock, the outdoor inlet box, and the generator breaker, usually in a few hours.
- **An inspection** — a local inspector confirms the work is safe and to code.
- **A walk-through** — the electrician shows you how to operate it, step by step.

Ask for that walk-through and do it together at least once. The whole point is that you can operate it calmly and safely on your own during a real outage. A good electrician will happily show you.

> **✔ Insist on the walk-through**
> You should finish the job knowing exactly how to switch to generator power and back. If anything is unclear, ask again — that is what a good pro is there for.

Two kinds of homes, two sets of needs

A safe hookup matters in any home, but on a well the stakes and the must-have circuit are different.

If you live in town or the suburbs

In town or the suburbs on city water, a transfer switch or interlock is still the right, safe way to connect a generator — but the circuits you care about are comfort and safety loads: the furnace, the fridge, some lights, maybe a sump pump. There is no 240-volt well pump to include.

- The same safe hookup applies — transfer switch or interlock, by a licensed electrician.
- Prioritize the furnace, fridge, lights, and any sump pump.
- A smaller generator and a simpler switch often suffice.
- Backfeeding is just as deadly here — never a shortcut, city or country.

If you are out in the country on a well

Out in the country on a well, the hookup has one non-negotiable job: it must be able to power your 240-volt pump. That shapes the switch or interlock you choose and the generator you pair with it.

- The pump circuit must be one the switch or interlock can power — confirm it.
- You will need genuine 240-volt capability through the hookup, not just 120-volt circuits.
- An interlock's flexibility can be handy for juggling the pump with other loads.
- Pair the hookup with a generator sized for the pump's surge — see our sizing guide.

> **★ Well or city — I will help you spec it**
> The right switch depends on your panel, your pump, and how you like to operate. Call me at (330) 200-8042 and we will get it specified before the electrician arrives.

Whole-home switches, and where the pump fits

Some transfer setups cover the whole panel at once. Here is how the pump fits into those.

Beyond the small circuit-by-circuit transfer switches, there are larger service-entrance transfer switches and whole-panel setups that hand your entire home over to the generator at once. With one of these, your pump comes along automatically because the whole panel is being fed — you do not pick it out separately.

These pair naturally with larger portable generators and with standby units. The key, as always, is that the generator is big enough to start the pump's surge along with whatever else is running. Our standby guide covers the automatic version, and our sizing guide covers making sure the generator can carry it all.

> **✔ Whole-panel means the pump is included**
> If your setup feeds the whole panel, you do not have to remember to switch the pump on — it is simply there. Just make sure the generator can start it.

Operating it during an outage — the calm routine

Once it is installed, using it is a short, safe routine. Here it is, step by step.

- ❑ Set the generator outside, well away from the house, and start it.
- ❑ Connect the generator to the outdoor inlet box with the proper cord.
- ❑ At the panel, switch over — flip the transfer switch, or move the main and generator breakers per your interlock.
- ❑ Turn on the pump circuit (and your other essentials), mindful of the generator's limit.
- ❑ When utility power returns and holds, reverse the steps to switch back to the grid.

Do it in daylight the first time, with your electrician or with me, so it feels familiar before a real storm. Written on a card taped inside the panel door, these steps let anyone in the house follow along.

> **★ Let's practice it once together**
> The first switch-over feels big; the second feels routine. Call or text (330) 200-8042 and I will walk through it with you on a calm day.

Managing the load — do not overload the generator

A safe hookup still asks one thing of you: do not ask the generator for more than it has.

Your generator can only make so much power. During an outage, the pump's startup surge is the biggest single demand, so it is wise to start the pump when little else is running, let it refill the system, then turn your attention to other loads. Running the electric range, the dryer, and the pump all at once will trip a right-sized portable.

This is where an interlock's flexibility helps — you can bring loads on and off as needed. With a transfer switch, you simply mind the meters. Either way, a little sequencing keeps everything running smoothly. Our sizing guide explains how much headroom to plan for.

> **✔ Start the pump first, alone**
> Give the pump a clear runway: turn off big loads, let the pump start and refill, then switch other things back on. A simple habit that avoids nuisance trips.

Keeping the hookup ready

The hookup itself asks very little, but a few habits keep it dependable.

Keep the outdoor inlet box's cover closed and clear of debris and wasps. Store the generator cord where you can find it in the dark, coiled and dry. And run through the switch-over once or twice a year, so the routine stays fresh in your mind and you catch anything amiss before an outage.

It is also worth keeping the operating steps, your electrician's number, and mine with your home papers. A hookup you know how to use is worth far more than one you installed and forgot.

> **✔ A twice-a-year dry run**
> Tie a quick switch-over test to the clock change, like your smoke-alarm batteries. Five minutes keeps the whole routine second nature.

A few common myths, gently corrected

These come up around hookups, and some of them are dangerous. Here is the honest version.

The myth	The honest truth
I can backfeed if I turn off the main breaker.	No — it is still illegal, unsafe, and easy to get wrong. Use a switch.
An interlock is less safe than a transfer switch.	Both are code-approved and safe when properly installed.
I can install a transfer switch myself.	Panel wiring is licensed-electrician work, permitted and inspected.
Any extension cord works for the inlet.	You need a proper generator cord, sized for the load.

! The main-breaker myth is the dangerous one

Believing you can safely backfeed 'if you flip the main' has cost lives. The mechanical lock in a switch or interlock is what makes it safe — human memory is not.

What I can do — and what I bring in a pro for

This is the guide where the line between my help and a pro's work is clearest, so let me be plain.

- **What I do:** help you understand your options, decide between a transfer switch and an interlock, make sure the pump circuit is included, line up a trustworthy electrician, and practice the routine with you.
- **A licensed electrician does** all of the actual work — the switch or interlock, the inlet box, the generator breaker, the permit, and the inspection.
- **I never touch panel wiring myself** — that is their trade, and the right, safe way.

I am a patient tech helper with 30-plus years of experience, not a licensed electrician. On this particular job, that line is absolute: the hookup is theirs to do. What I bring is a friendly guide through the choices and someone to make the day go smoothly.

> **★ I will line up the right electrician**
> Finding a trustworthy, fairly priced electrician is half the battle. I am glad to help with that. Call or text (330) 200-8042.

The mistakes that catch people out

Most hookup trouble comes from a handful of avoidable slip-ups — and one dangerous one.

- **Backfeeding** — the dangerous one, and never worth it. Always a switch or interlock.
- **Forgetting the pump circuit** so the whole point — water — gets left out.
- **Skipping the permit and inspection**, which protect you and your home.
- **Using a household extension cord** instead of a proper generator cord.
- **Never practicing** the switch-over, so the first time is in the dark during a storm.

Our common-mistakes guide covers each in detail. The safe hookup quietly removes the dangerous mistake entirely — that is its whole purpose.

> **✔ The fix is a pro and a practice run**
> A licensed install with the pump circuit included, plus one calm-day practice, avoids this entire list.

Questions worth asking your electrician

A few good questions help you get a safe, well-suited hookup.

Q: Will this include my well pump circuit?
The whole point is water, so confirm the pump is one of the circuits the switch or interlock can power.

Q: Do you recommend a transfer switch or an interlock for my panel?
Ask why — it should fit your panel, your budget, and how you like to operate.

Q: Are the permit and inspection included?
You want both. They are your assurance the work is safe and to code.

Q: Will you show me how to operate it?
Insist on a walk-through so you can switch over confidently on your own.

> **✔ A safe hookup is worth doing right**
> This is not the place to hunt for the rock-bottom price. A careful, properly permitted install is worth a little more for the peace of mind it buys.

Common Questions

The questions I hear most about connecting backup power to a well pump.

Q: Why can't I just run a cord to my well pump?
It is hardwired into your panel with no plug. Powering it safely means a transfer switch or interlock at the panel, by a licensed electrician — never a cord.

Q: What is wrong with backfeeding through the dryer outlet?
It is illegal and deadly. The exposed prongs are live, and power can flow out to the lines and electrocute a lineman. A transfer switch prevents both.

Q: Which is better, a transfer switch or an interlock?
Both are safe and code-approved. A transfer switch is simple to operate; an interlock is flexible and often cheaper. Your electrician helps you choose.

Q: Do I really need a permit for this?
Yes — and you want one. A permit and inspection confirm the work is safe. Panel wiring is not a place to cut corners.

> **★ Still have a question? That is what I am here for**
> There is no silly question, especially on safety. Call or text me at (330) 200-8042 and we will talk it through together.

A gentle word about cost

A safe hookup is a one-time expense, and one of the most worthwhile in this whole category.

The cost is the electrician's labor plus the switch or interlock, the inlet box, and the cord. An interlock is often the more affordable route; a transfer switch may cost a bit more for its simple operation. Either way, it is a one-time investment that makes every future outage safe and workable, for years.

Set against what a backfeed shortcut can cost — a life, a fire, a ruined generator — the safe hookup is genuinely inexpensive. I earn nothing on it, and I will help you find a fair price from a trustworthy electrician.

> **★ Worth every penny for the safety**
> This is the one hookup I never want anyone to skimp on. My first visit is a flat $99 with a 30-day come-back-free guarantee, and I am glad to help you compare electricians' quotes for $49 on your screen.

Bringing it all together

If this guide did its job, the safe path is crystal clear. Here it is in three lines.

- ❑ **Never** a cord to the pump or a backfeed — that is the one hard rule.
- ❑ **Always** a transfer switch or interlock, plus an inlet box and proper cord, by a licensed electrician.
- ❑ **Then** practice the switch-over once on a calm day, with the pump circuit included.

Do it that way and your generator will power your pump safely for years, protecting your family and the linemen working to restore your power. There is no more important page in this category than this one.

> **★ And whenever you would like a hand**
> That is exactly what I do — help you plan it, line up the electrician, and practice the routine. Call or text me at (330) 200-8042.

You don't have to do this alone

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

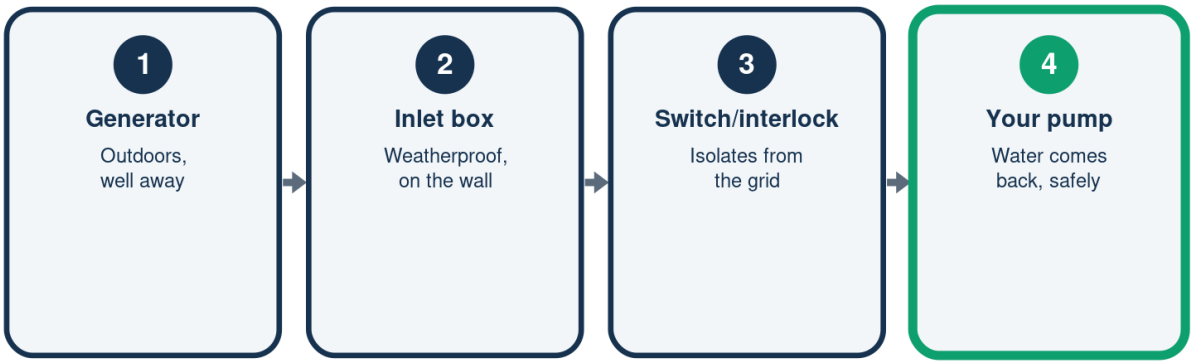
I hope this guide made connecting backup power to your well pump safely feel a little less daunting and a lot more doable. Keep it in a drawer with your other home papers, come back to a page whenever you need it, and don't worry about memorizing anything.

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 Safe Path From Generator to Pump

Every safe hookup follows this



No cords to the pump, no backfeeding -- ever.

Transfer Switch vs. Interlock Kit

Both safe and code-approved

	Transfer switch	Interlock kit
Circuits	Pre-selected	Any in panel
Operating	Flip switches	Manage breakers
Cost	Often higher	Often lower
Feel	Dead simple	Flexible

Your electrician helps you pick -- the pump must be included.

Safe vs. Deadly

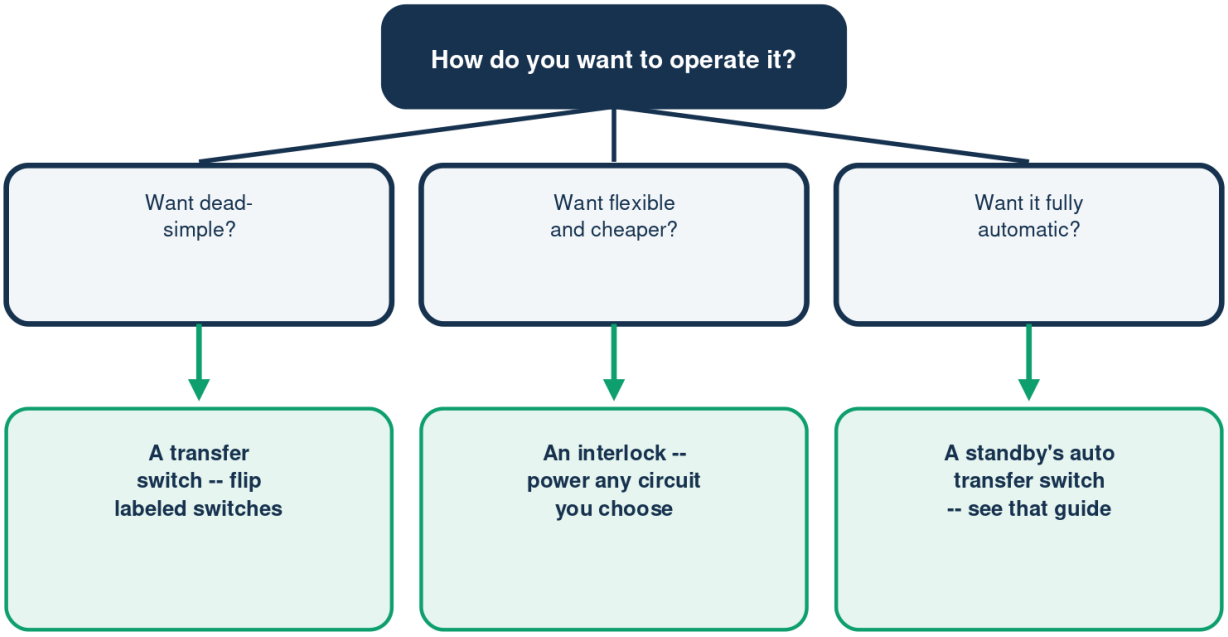
Why the shortcut is never worth it

	Safe hookup	Backfeeding
Grid isolation	Guaranteed	None -- deadly
Legal / code	Yes	No
Risk to linemen	None	Can electrocute
Who installs	Electrician	Nobody should

A 'suicide cord' can kill you or a lineman. Never.

Which Hookup Is Right for Me?

A calm way to decide



All are safe and code-approved; all are licensed-electrician work.

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

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A Note From Bill

A quick note from Bill.

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

— Bill

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