BILL'S HOME TECH

Home & Small Business Tech Solutions

An Extended Guide · No. 1279

Switching Fuels Safely on a Dual- or Tri-Fuel Generator

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off, and start fresh

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! Before you begin — a quick safety note.
This guide covers work involving propane, natural gas, gasoline, and engine exhaust, 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 generator installer. 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

A Note From Bill

If your generator can run on more than one fuel, sooner or later you'll want to switch — maybe the gasoline's getting low, maybe the propane tank runs dry mid-outage. This guide is the safe, step-by-step way to do it.

It's simpler than it sounds, and it's the same handful of steps no matter which two fuels you're moving between. Your model's manual will have the exact details — this guide gives you the shape of the process so nothing catches you off guard.

What you'll get out of this guide

- The general steps that apply to almost every dual- or tri-fuel model
- Why you always stop the engine first
- The mistakes that trip people up
- Town and country notes on when switching actually comes up
- The safety habits that matter with any fuel in your hands

★ Manuals vary — and that's fine
Every brand does the exact steps a little differently. This guide teaches you the pattern; your manual fills in the specifics for your model. Keep both handy.

Switching Fuels, in One Page

Everything below is detail. If you only remember five things, remember these.

- ❑ Always stop the engine and let it cool before switching fuels — never while it's running.
- ❑ Shut off the fuel you were using (close the cylinder or gas valve) before disconnecting anything.
- ❑ Set the selector to the new fuel before you restart — not during, not after.
- ❑ Never blend fuels. Run one at a time, every time.
- ❑ Run it outdoors only, 20+ feet from the house — the CO rule doesn't change mid-switch.

> **✔ Read your manual once, calmly**
> The best time to learn your model's exact switching steps is a quiet afternoon — not in the middle of a storm.

Why You Run One Fuel at a Time

A dual- or tri-fuel engine is a clever bit of engineering, but it's built to sip from one fuel source at a time, not blend them.

The fuel selector is really a valve, or a set of valves, that routes exactly one fuel to the engine. Gasoline, propane, and natural gas all burn differently — different pressures, different mixtures — so the engine needs to know which one it's getting before it starts, not partway through.

- Mixing fuels isn't a shortcut — it can damage the engine or simply not work.
- The selector's whole job is to keep things simple: one fuel, chosen deliberately, every time.

> **★ It's simpler than people expect**
> Once you've switched fuels once or twice, it becomes second nature. The steps are the same every time — that's the whole point of this guide.

The Big Idea Behind Switching

Underneath all the specific steps, switching fuels follows one simple pattern.

- **Stop** — turn off the engine.
- **Cool** — give it a few minutes before touching fuel components.
- **Shut off** — close the valve on the fuel you were using.
- **Select** — set the selector to the new fuel.
- **Start** — restart on the new fuel, fresh.

That's the whole shape of it. The next several pages walk through each piece in a little more detail, because a couple of them are exactly where people get tempted to skip a step.

> **! The step people skip**
> Switching the selector while the engine is still running is the single most common shortcut people try — and the one most likely to cause trouble. Always stop first.

Step 1: Stop the Engine First

Every changeover starts the same way — with the engine off.

It might seem faster to flip the selector while it's running, especially mid-outage when you're in a hurry. Don't. These engines are designed to be told which fuel to expect before they're asked to run — switching live can cause a rough stall, an engine hiccup, or worse.

- Unplug or switch off whatever's connected before you stop the engine — the same gentle shutdown you'd use any other time.
- Let the engine come to a full stop before doing anything else.

> **! There's no safe way to switch fuels live**
> No model, no shortcut. If you need a different fuel, the engine comes off first — always.

Step 2: Let It Cool

Give the engine a few minutes to settle before you start handling fuel connections.

A hot engine and an open fuel line are not a good combination, whatever the fuel. Let things cool down — you're not in as much of a hurry as it feels like in the moment.

- This matters most with gasoline, where spilled fuel near heat is a real fire risk.
- It's still good practice with propane and natural gas — cool hands work more carefully than rushed ones.

> **✔ Use the wait wisely**
> While it cools, this is a good moment to grab the fuel you're switching to and double-check your manual's steps for your specific model.

Step 3: Shut Off the Fuel You Were Using

Before you touch the new fuel, put the old one away properly.

Fuel you're leaving	What to do
Propane	Close the cylinder valve fully before disconnecting the hose
Natural gas	Close the shutoff valve on the quick-connect fitting before disconnecting
Gasoline	Nothing to close — just make sure the engine is off and cooling as usual

This step is really about not leaving a fuel line pressurized or exposed while you're not actively using it. It only takes a few seconds and it's worth never skipping.

> **! Closed valve, every time**
> A cylinder or gas valve left open when it's not in use is a leak waiting to happen. Make closing it part of the routine, not an afterthought.

Step 4: Purge the Line, If Your Manual Calls For It

This is the one step that varies the most by brand — which is exactly why your manual matters here.

Some models want you to let the engine run briefly on the old fuel until it stalls out on its own, clearing the line, before switching. Others don't need this at all. There's no single universal answer, so this is the step to look up rather than guess.

- Check your manual's section on changing fuels or fuel selection specifically.
- If you genuinely can't find guidance, a generator installer or the manufacturer's support line can tell you what your model expects.

Skipping a purge step your model actually needs can leave a bit of the old fuel in the line when the new one starts flowing — usually a minor annoyance rather than a danger, but worth doing right.

> **✔ When in doubt, ask**
> A two-minute call to me or to your manufacturer beats guessing on a step that's different model to model.

Step 5: Set the Selector to the New Fuel

With the old fuel shut off and the engine cool, this is the moment the switch actually happens.

- Find the selector and turn or set it to the fuel you're switching to.
- Double-check it's fully in position, not stuck between settings.
- If you're switching to propane or natural gas, make sure that fuel source is connected and its valve is open before you try to start.

This is the step that gives dual- and tri-fuel generators their whole appeal — and it only works cleanly because you did the steps before it in order.

> **✔ One setting, confirmed**
> A quick glance to confirm the selector landed exactly where you meant it to takes two seconds and avoids a confusing restart.

Step 6: Restart on the New Fuel

The last step is simply starting up, the same way you would on any fuel.

- Set up in your safe outdoor spot if you've moved it at all — exhaust pointed away from the house.
- Start the engine as usual for that fuel — using the choke for a cold gasoline start, for instance.
- Let it settle a minute before plugging your loads back in.

From here, it behaves exactly like it would if you'd started on that fuel from scratch. There's a dedicated guide in this series on the day-to-day routine for each individual fuel if you want more detail.

> **★ First switch feels like the hardest one**
> It isn't, really — it just feels that way the first time. After that, it's five minutes and a bit of common sense.

Switching Fuels in Town or the Suburbs

In town, switching often comes up as a choice rather than an emergency — which makes it a good place to get comfortable with the process.

What usually matters most here

- **Natural gas day to day, something else in reserve.** On a tri-fuel unit, many town households run natural gas as their everyday, hands-off choice, and switch to propane or gasoline only if the gas line itself is ever disrupted.
- **Practice before you need it.** A calm weekend is the perfect time to do a practice switch, so the steps are familiar if you ever need them during an actual outage.
- **Keep it quiet and tidy.** Whichever fuel you land on, the same safe outdoor spot and neighborly habits apply.

A common town pattern is simply never needing to switch at all — but knowing how, just in case, is real peace of mind.

> **✔ No gas line yet?**
> Then switching mostly means moving between gasoline and propane, which is the simpler of the two changeovers — fewer connections to think about.

Switching Fuels on a Well or in the Country

Out in the country, switching fuels is more likely to happen mid-outage — which is exactly why it's worth practicing ahead of time.

What usually matters most here

- **Running low on one fuel mid-storm.** A long rural outage might mean gasoline runs out before power comes back — switching to a fresh propane cylinder keeps things going.
- **The well pump doesn't care which fuel you're on** — but remember propane and natural gas make a bit less power than gasoline. If you switch away from gasoline, double-check the generator can still comfortably start the pump's surge on the new fuel.
- **Keep both fuels genuinely ready,** not just theoretically available — a charged cylinder and fresh, stabilized gasoline both on hand, so a switch is actually an option when you need it.
- **Cold weather complicates propane specifically** — worth knowing before you switch to it on the coldest night of a long outage.

A typical country approach is starting an outage on whichever fuel is most plentiful, then switching deliberately, using the steps in this guide, as supplies run low.

> **★ Well-pump backup is worth doing right**
> If you're relying on a fuel switch to keep the well pump going through a long outage, let's make sure the generator's sized to handle the surge on every fuel you might switch to — not just the one you started on.

The Rule That Matters No Matter the Fuel

Switching fuels doesn't change where the generator needs to sit. The exhaust is dangerous no matter what's feeding it.

CO is **invisible** and has **no smell**. Breathing enough of it can make you pass out — or worse — before you realize anything's wrong. It takes roughly a hundred lives a year, almost always in situations that were preventable.

- Run the generator **outdoors only**, at least **20 feet** from the house — before, during, and after any fuel switch.
- Point the exhaust **away** from doors, windows, and vents.
- **Never** switch fuels — or run at all — in a garage, basement, shed, or carport, even briefly.
- Put **battery-backup CO alarms** on every level of the house and near bedrooms, and test them.
- If an alarm sounds, or anyone feels dizzy or sick, get outside into fresh air and call 911.

> **! A quick switch is still a running generator**
> It's tempting to think a brief fuel change is low-risk enough to do somewhere convenient. The rule doesn't bend for “just a minute.”

Handling Fuel Safely While You Switch

You've got two fuels in play during a changeover, so it's worth a reminder on each.

Fuel	While switching
Propane	Close valves fully before disconnecting; check new connections with soapy water
Natural gas	Close the shutoff before disconnecting; confirm the quick-connect is fully seated on reconnect
Gasoline	Only handle it with the engine off and cool; wipe any spills before restarting

None of this is complicated on its own — the switching process just means doing two fuels' worth of good habits back to back.

> **! If you ever smell gas mid-switch**
> Stop everything. Don't light anything or flip switches. Get away from the area and call your gas or propane supplier, or 911, from a safe distance.

Why Manuals Vary — and Why Yours Wins

This guide teaches the pattern that holds true across almost every dual- and tri-fuel model. The exact details are still yours to look up.

- Some models have a single selector knob; others use separate valves for each fuel.
- Some want a purge step; others don't.
- Choke and starting behavior can differ fuel to fuel, brand to brand.

None of these differences are complicated once you know to look for them — they're just not universal, so a five-minute read of your specific manual is worth doing before your first real switch.

> **✔ Keep the manual where the generator lives**
> A waterproof sleeve taped inside a storage tote, or a photo of the key pages on your phone, means it's there exactly when you need it.

The Mistakes That Trip People Up

Almost every switching problem traces back to one of these.

- **Switching the selector while the engine is running.** Always stop first.
- **Forgetting to close the old fuel's valve.** Leaves a line pressurized for no reason.
- **Trying to blend fuels** — there's no “a little of both” setting, and there shouldn't be.
- **Not resetting the selector before restarting** — leaving it on the old fuel and wondering why the new one won't feed the engine.
- **Skipping the manual** on a model with a genuinely different process than the general pattern here.

Every one of these is avoidable simply by going in order and not rushing. That's really the whole secret.

> **★ The fix for all of these**
> Slow down by about thirty seconds. Every mistake on this list comes from skipping a step to save a moment that wasn't worth saving.

A Simple Pre-Switch Checklist

Print this page, or just remember the shape of it.

- ❑ Engine stopped and given a few minutes to cool.
- ❑ Old fuel's valve closed (propane or natural gas) before disconnecting.
- ❑ New fuel connected and leak-checked, if applicable.
- ❑ Selector set fully to the new fuel — confirmed, not assumed.
- ❑ Safe outdoor spot confirmed, exhaust pointed away from the house.
- ❑ Restart as usual, loads added back gradually.

> **✔ Tape it to the generator**
> A laminated copy of this checklist right on the unit means you're never relying on memory alone, especially at 2 a.m. in a storm.

When You Might Actually Need to Switch

In practice, most switches happen for one of a few reasons.

- **One fuel is running low** mid-outage — gasoline getting scarce, or a propane cylinder nearly empty.
- **The gas line is disrupted** on a tri-fuel unit that normally runs on natural gas.
- **You simply prefer a different fuel** for a given situation — gasoline for a quick job, propane for an extended outage.
- **Seasonal habits** — some folks lean on propane in winter and gasoline the rest of the year, or vice versa.

None of these are emergencies by themselves. Having the steps down ahead of time is what keeps them from feeling like one.

> **★ There's no wrong reason to switch**
> Whatever's driving the change, the steps are the same. That consistency is the whole point of owning a dual- or tri-fuel machine.

After You Switch: What to Expect

Once you're running on the new fuel, a couple of things are normal and worth expecting.

- **A power difference.** If you've switched from gasoline to propane or natural gas, expect a bit less available power — plan your loads accordingly.
- **A slightly different sound or idle,** especially moving to or from gasoline, which needs the choke.
- **No mixing residue to worry about** — these systems are designed to run cleanly on whichever single fuel is selected.

There's a whole guide in this series comparing the three fuels side by side if you want the fuller picture of what changes and why.

> **✔ Give it a minute to settle**
> A generator can sound a touch different for the first minute on a new fuel as it finds its rhythm. That's normal — no need to fuss with it.

When to Give Me a Call

Switching fuels is meant to be simple, and it is once you've done it. A few moments are still better handed off.

- Walking through your specific model's switching steps together, once, so it's second nature.
- Sorting out a fuel line or connection that doesn't seem to be sealing right.
- Deciding which fuel should be your “everyday” choice and which should be the backup.
- Sizing a generator so it comfortably handles your loads on every fuel you might switch to.
- A yearly check-up that includes testing a switch between your fuels.

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Everyday Cheat Sheet

Dog-ear this page. It's the fast answer to what comes up most when you're switching fuels.

I want to...	Remember this
Switch fuels safely	Stop engine, let cool, shut off old fuel, select new fuel, restart
Avoid the #1 mistake	Never switch the selector on a running engine
Handle propane/gas mid-switch	Close the valve fully before disconnecting; leak-check on reconnect
Know when to purge	Check your manual — it varies by model
Restart cleanly	Selector confirmed on the new fuel before you start
Stay safe from CO	Outdoors only, 20+ feet from the house, alarms working inside
Get help	Call Bill: (330) 200-8042

Words People Use

A few terms that come up around switching fuels, in everyday language.

Q: Fuel selector
The knob or valve on a dual- or tri-fuel generator that picks which single fuel the engine burns.

Q: Changeover
The general term for the process of switching a generator from one fuel to another.

Q: Purge
Clearing remaining fuel from a line, sometimes called for by a manual before switching to a different fuel.

Q: Derate
A generator making somewhat less power on one fuel than another — worth remembering when you switch away from gasoline.

Q: Shutoff valve
The valve that stops fuel from flowing to a propane or natural-gas connection; close it before disconnecting.

Q: Quick-connect
A tool-free fitting used to attach or detach a portable generator from a natural-gas line.

Q: Carbon monoxide (CO)
The invisible, odorless gas in engine exhaust that can kill. The reason a generator must always run far outdoors, on any fuel.

The Safe Switch, Step by Step

The same pattern, whichever two fuels you're moving between

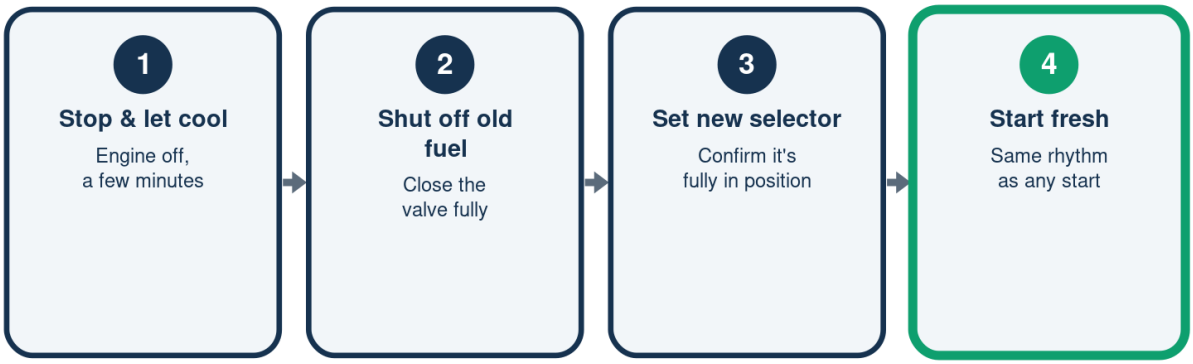


Illustration - a schematic, not to scale. Your setup may differ.

Shutting Off Each Fuel

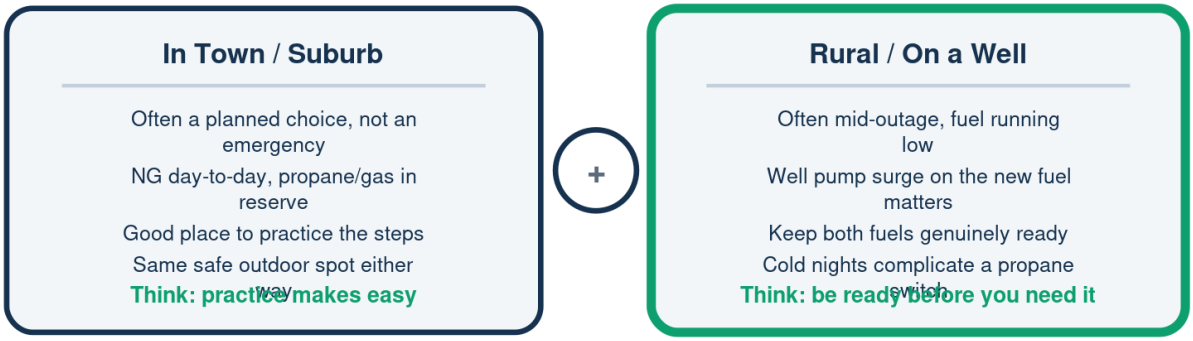
What “shut off” means before you disconnect

	Gasoline	Propane	Natural Gas
To stop feeding it	Nothing to close	Close cylinder valve	Close the shutoff valve
Before restarting	Confirm fresh fuel	Check hose connection	Confirm valve reopened

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

Switching in Town vs. the Country

Different reasons, same safe steps

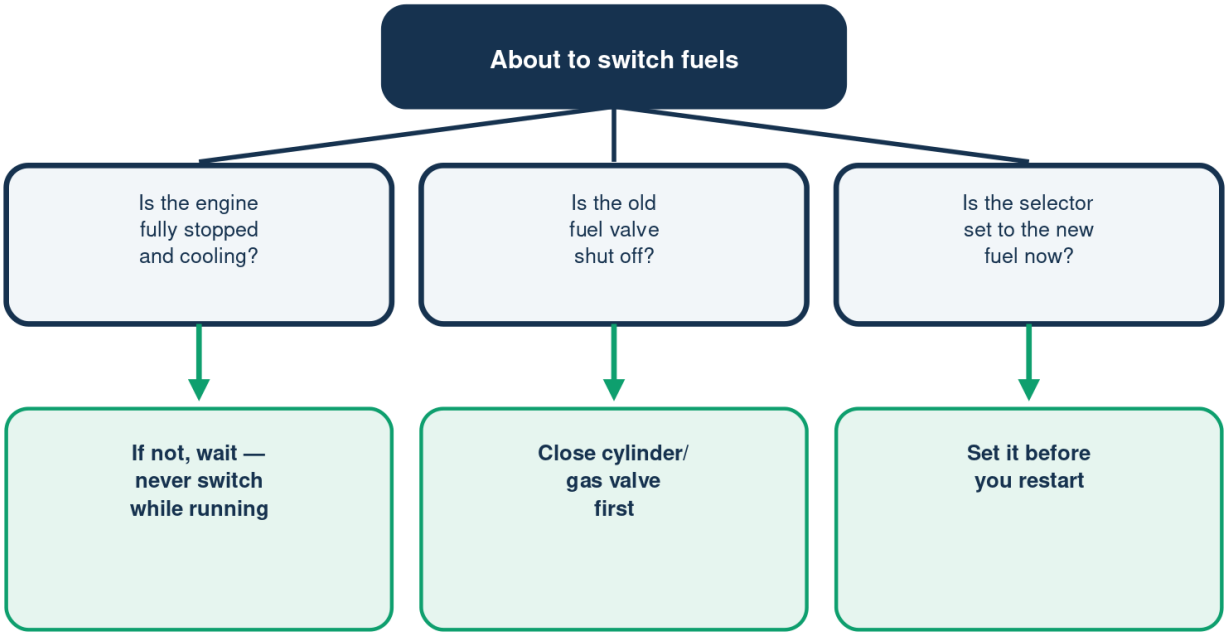


Same six steps — different reasons to use them

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

Ready to Switch Fuels?

Three checks before you touch the selector



Run one fuel at a time — never blend gasoline, propane, and natural gas together.

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.

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