

FREE SAMPLE

POWER, WATER, HEAT & EVERY PART ON THE LIST

THE \$10K CAMPER

*Turn any old van into a warm, wired tiny home with
a shower, a toilet and running water.*



Solar & wiring diagrams

Running water

Line-by-line budget

Materials list

THE \$10K CAMPER

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Read this first

This is a planning and building guide, not a certified RV design. Vans, state rules and electrical gear vary, so check what applies to you before you build.

- **Electrical work can start fires.** Follow your equipment manuals, fuse every positive wire, and have a qualified person check your system if you're unsure.
- **Heaters and stoves can kill.** Fit a carbon monoxide alarm before you ever run a heater or cook inside, and follow the heater maker's install instructions exactly.
- **Know your weight.** Never load the van past its rated payload. Weigh it when you're done.
- **Check your state's rules** for registering a converted van, and tell your insurance company about the conversion.
- **Prices** are ballpark US figures from fall 2026. Yours will be different, so price your own list before you commit.

The author can't be held responsible for injury, loss or damage that comes from using this information. Build smart, check twice, and when in doubt, ask someone who's done it.

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Introduction: a tiny home that goes where you go

You can turn an empty cargo van into a warm, wired little home with running water for about \$10,000 in parts, if you do the work yourself. That's what this guide is: one conversion, start to finish, with the numbers.

The van-life videos make it look like you need \$80,000 and a fancy builder. You don't. You need a plan, a weekend toolkit, and the patience to do the electrical and the water right the first time.



Inside the finished van: galley on the left, bed across the back, roof fan overhead. Illustration.

What \$10,000 gets you

- Insulated floor, walls and ceiling, finished in plywood and wood planks
- A roof fan that pulls fresh air and shower steam out, rain or shine
- **Real power:** about 400 watts of solar, a 200 amp-hour lithium battery, charging from the engine while you drive, and an inverter for regular plugs. Enough to run the fridge, lights, fan, laptop, an induction cooktop and the shower's water heater
- **Running water:** about 30 gallons of fresh water, a 12-volt pump, a faucet and sink, and a 20-gallon gray-water tank for what goes down the drain

- **A hot shower:** a shower pan set into the floor, a curtain that pulls around it, and a small electric water heater
- **A toilet:** a flushing cassette toilet in its own cabinet, with a door
- A diesel heater that keeps you warm on freezing nights and sips fuel from a separate little tank
- A fixed bed with a storage "garage" underneath
- A galley cabinet with a 12-volt fridge and a cooktop
- Window covers, and the safety gear that keeps you alive

What it doesn't cover

- **The van itself.** Any old van will do, and Chapter 1 shows how to pick one
- Mechanical repairs, tires and brakes
- A composting toilet or a fully walled wet bath (Chapter 3 prices them as add-ons)
- Air conditioning
- Tools you don't already own (Chapter 7)

Where the number comes from

The typical build in Chapter 3 comes to about \$9,850 in parts, shower and toilet included, which leaves a little room under \$10,000 for surprises. A lean build with a cheaper battery and salvaged wood comes in around \$6,450. Buy everything brand-name and new, and you'll pass \$15,000 fast.

Who this is for

You can drill a straight hole, read a tape measure, and follow a wiring diagram. You've got a driveway or shop to work in. And you've got roughly 12 to 16 weekends.

The design is drawn for a high-roof cargo van with about 10 to 12 feet of cargo floor, like a Ram ProMaster, Ford Transit or Mercedes Sprinter. Smaller and older vans work too; you'll just shrink the furniture.

How to use this guide

Read it all before you cut a single hole in your van. The power and water chapters are where most first-timers go wrong, and they're the hardest things to fix once the walls are up.

Let's get rolling.

CHAPTER 9

15 mistakes that blow a van build

Every one of these shows up again and again in van build videos. Each costs money, time or both, and each is easy to avoid once you know it's coming.

Before you build

1. **Buying a rusty van because it was cheap.** Rust repair eats the budget before you've bought a single board.
2. **Never checking the payload.** An overloaded van brakes badly, eats tires and may not be covered in a crash.
3. **Designing around Instagram.** Plan for how you'll actually live: where wet boots go, where you'll cook in the rain, where the trash lives.

Holes, insulation and walls

4. **A leaking roof fan.** Skimp on butyl tape and sealant, and water runs down inside the walls for months before you notice.
5. **Bare metal edges left unpainted.** Every hole you cut starts rusting the same week unless you paint the edge.
6. **Fiberglass insulation.** It holds moisture and sheds fibers. Use polyiso board or wool.
7. **Screwing into thin sheet metal.** Screws shake loose. Use rivnuts and bolts for anything that matters.
8. **Covering the walls before running the wires.** Then you're pulling panels off to add one light.

Power and water

9. **Undersized wire and missing fuses.** This is how van fires start. Follow the fuse table in Chapter 4.
10. **Bad crimps.** A loose battery lug gets hot under load. Crimp properly and give every lug a hard tug.
11. **Too little battery for an electric kitchen.** Induction cooking is great, but it needs the full 200 Ah. Plan the energy budget first.
12. **Water tanks outside the van in cold country.** They freeze and crack. Keep them inside.

- 13. No trap on the drains.** Gray-tank smell comes right up the sink and shower drains without a check valve or waterless trap.

Heat and safety

- 14. Running a heater without a carbon monoxide alarm.** Ever. Fit the alarm first.
- 15. Anything heavy left loose.** Batteries, tanks and cabinets must be bolted down. In a hard stop, they become projectiles.

Avoid these 15, and your van will still be dry, warm and rattle-free years from now.

That's the free sample

You've read the introduction and Chapter 9. The full guide has the rest:

- How to pick a van that won't eat your budget, and the payload math nobody does
- The layout, cutaway and floor plan, plus the line-by-line budget
- The full power system: energy budget, wiring diagram, and wire and fuse sizes
- Running water, heat and the safety gear that keeps you alive
- All 11 build phases with a builder's check for each, the materials list and four worksheets

Get the full guide for \$30, or both guides for \$49, at the25kcabin.com or the10kcamper.com.