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RV and Boat Batteries Explained — Lead-Acid vs Lithium

lasts for years An Extended Guide · No. 2058

An Extended Guide · No. 2058

Tech Made Simple. Service Made Personal.

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What's Inside

Everything in this guide, with page numbers. Skip to whichever chapter answers your question right now.

1. For electrical, gas, water, or ladder work, please call a licensed professional. — Bill's Home Tech 5

2. For electrical, gas, water, or ladder work, please call a licensed professional. — Bill's Home Tech 6

3. For electrical, gas, water, or ladder work, please call a licensed professional. — Bill's Home Tech 6

4. For electrical, gas, water, or ladder work, please call a licensed professional. — Bill's Home Tech 7

5. For electrical, gas, water, or ladder work, please call a licensed professional. — Bill's Home Tech 8

6. For electrical, gas, water, or ladder work, please call a licensed professional. — Bill's Home Tech 9

7. For electrical, gas, water, or ladder work, please call a licensed professional. — Bill's Home Tech 10

8. For electrical, gas, water, or ladder work, please call a licensed professional. — Bill's Home Tech 11

9. For electrical, gas, water, or ladder work, please call a licensed professional. — Bill's Home Tech 12

10. For electrical, gas, water, or ladder work, please call a licensed professional. — Bill's Home Tech 13

11. For electrical, gas, water, or ladder work, please call a licensed professional. — Bill's Home Tech 14

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For electrical, gas, water, or ladder work, please call a licensed professional. — Bill's Home Tech

12. For electrical, gas, water, or ladder work, please call a licensed professional. — Bill's Home Tech 15

13. For electrical, gas, water, or ladder work, please call a licensed professional. — Bill's Home Tech 16

14. For electrical, gas, water, or ladder work, please call a licensed professional. — Bill's Home Tech 17

15. For electrical, gas, water, or ladder work, please call a licensed professional. — Bill's Home Tech 18

16. For electrical, gas, water, or ladder work, please call a licensed professional. — Bill's Home Tech 18

17. For electrical, gas, water, or ladder work, please call a licensed professional. — Bill's Home Tech 19

18. For electrical, gas, water, or ladder work, please call a licensed professional. — Bill's Home Tech 20

19. For electrical, gas, water, or ladder work, please call a licensed professional. — Bill's Home Tech 21

20. For electrical, gas, water, or ladder work, please call a licensed professional. — Bill's Home Tech 22

21. For electrical, gas, water, or ladder work, please call a licensed professional. — Bill's Home Tech 23

22. For electrical, gas, water, or ladder work, please call a licensed professional. — Bill's Home Tech 24

23. For electrical, gas, water, or ladder work, please call a licensed professional. — Bill's Home Tech 25

24. For electrical, gas, water, or ladder work, please call a licensed professional. — Bill's Home Tech 26

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25. For electrical, gas, water, or ladder work, please call a licensed professional. — Bill's Home Tech 27

26. For electrical, gas, water, or ladder work, please call a licensed professional. — Bill's Home Tech 28

A Picture to Follow Along 29

A Second Look 30

A Note From Bill 30

Your Visit — and My Promise 31

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What's Inside Everything in this guide, with page numbers. Skip to whichever chapter answers your question right now..... 5

1. The Whole Idea in One Glance..... 5
2. What the Battery Actually Does..... 6
3. Starting vs House Batteries..... 6
4. What Deep-Cycle Really Means..... 7
5. Amp-Hours, the Size Number..... 7
6. Why Half Your Battery May Be Off-Limits..... 8
7. The Old Standby: Lead-Acid..... 8
8. Flooded Lead-Acid, the Classic Kind..... 9
9. AGM, the Sealed Lead-Acid..... 9
10. The Modern Choice: Lithium..... 10
11. Why LiFePO4 Is the Safe Lithium..... 10
12. The Little Brain Inside Lithium..... 11
13. Lead-Acid vs Lithium, Side by Side..... 11
14. The Weight Difference Matters..... 12
15. How Long Each One Lasts..... 12
16. Sizing a Battery to Your Needs..... 13
17. Matching the Charger to the Battery..... 13
18. The Maintainer for the Off-Season..... 14
19. Never Let Lead-Acid Sit Discharged..... 14
20. Batteries and Cold Weather..... 15
21. Batteries and Hot Weather

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For electrical, gas, water, or ladder work, please call a licensed professional. — Bill's Home Tech

2. For electrical, gas, water, or ladder work, please call a licensed professional. — Bill's Home Tech

..... 15 22. Knowing How Full It Is..... 16 23. Adding Batteries Together..... 16 24. Fuses and Safe Connections..... 17 25. Fighting Corrosion on the Terminals..... 17 26. A Word on Boat Batteries..... 18 27. Batteries for a Trolling Motor..... 18 28. Which Battery Pairs Best With Solar..... 19 29. Upgrading From Lead-Acid to Lithium..... 19 30. Buying the Right Battery..... 20 31. The Common Brands, Evenly..... 20 32. The Trouble With Used Batteries..... 21 33. Storing a Battery Over Winter..... 21 34. Retiring an Old Battery..... 22 35. The Questions People Ask Me Most..... 22 36. When the Battery Seems Dead..... 23 37. What the Voltage Reading Tells You..... 23 38. Battery Sizes and Fitment..... 24 39. The Six-Volt Golf-Cart Trick..... 24 40. The Ways You Refill a Battery..... 25 41. The Slow Self-Drain..... 25 42. Your Battery Checklist..... 26 43. When It Is Worth Calling Me..... 26 Everyday Cheat Sheet

3. For electrical, gas, water, or ladder work, please call a licensed professional. — Bill's Home Tech

..... 27 A Picture to Follow Along..... 28 A Second Look..... 28 A Note From Bill..... 29 Your Visit — and My Promise

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THE 60-SECOND VERSION

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1. The Whole Idea in One Glance If you remember only this page, you will still make a smart choice. There are two big choices in RV and boat batteries. Lead-acid is the old, affordable standby — heavier, and you can only safely use about half of what it holds. Lithium, the LiFePO4 kind, costs more up front but is lighter, lets you use nearly all of it, and lasts many times longer. The right pick depends on your budget and how hard you use it. Lead-acid: cheaper, heavier, only about half is usable Lithium (LiFePO4): pricier, lighter, nearly all usable, long life Amp-hours (Ah) measure how much a battery holds A deep-cycle 'house' battery runs your gear; a starting battery cranks engines Match the charger to the battery type, and never let lead-acid sit dead You do not have to buy the most expensive battery. The right one matches how you camp or boat — light users do fine on lead-acid, while heavy off-grid users usually come out ahead with lithium. WHAT IT DOES 2. What the Battery Actually Does Your battery is a tank that stores electricity for when the engine is off and you are not plugged in. It runs your interior lights, the water pump, the fridge controls, the radio, and anything else that needs power while you sit at camp or drift on the lake. When you plug in or drive, it refills. Without a healthy battery, an RV or boat is just a shell. It is the piece that makes everything else work when you are away from a plug, which is exactly when you most want things to work. TIP Think of the battery as a bucket of electricity. You scoop from it while you camp and refill it by driving, plugging in, or charging with solar. Keep the bucket from running empty and it stays healthy.

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TWO JOBS

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3. Starting vs House Batteries The single most important distinction. Here is a distinction that trips up a lot of folks. A starting battery is built to give a huge, short burst to crank an engine, then get refilled right away. A house battery, also called deep-cycle, is built to give a steady trickle for hours and be drained down and recharged over and over. They are different tools for different jobs. Starting battery: a big, short burst to crank an engine House (deep-cycle): a steady draw for hours, drained and refilled Using a starting battery for house duty wears it out fast Using a house battery to crank may leave it struggling WATCH OUT Do not run your lights and fridge off the same battery that starts your engine. Drain it overnight and you may wake to an engine that will not turn over. Keep the two jobs on separate batteries. DEEP CYCLE 4. What Deep-Cycle Really Means Deep-cycle is just a fancy way of saying a battery built to be drained down and charged back up many times without harm. That is exactly what your RV and boat house batteries do every trip. A deep-cycle battery is happy with that life; a starting battery is not. Deep-cycle batteries handle being drained and refilled often That is the daily life of an RV or boat house battery Starting batteries hate being deeply drained For running your gear off-grid, you want deep-cycle When you shop for a 'house' battery for camping, the word to look for is deep-cycle. It tells you the battery is built for the up-and-down life your gear will give it.

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AMP-HOURS

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5. Amp-Hours, the Size Number The main number on a deep-cycle battery is amp-hours, written Ah. It tells you roughly how much the battery holds — its tank size. A bigger amp-hour number means more hours of running your gear before it needs a refill. It is the first number to look at when comparing batteries. Amp-hours (Ah) tell you how much the battery holds More amp-hours means longer runtime before recharging You can add batteries together for more total amp-hours It is the gas-tank size of the battery world TIP If two batteries cost about the same, the one with more amp-hours holds more power. But remember the usable catch on the next page — amp-hours on the label are not all yours to use. USABLE CAPACITY 6. Why Half Your Battery May Be Off-Limits Here is a surprise that catches many people. With a lead-acid battery, you should only use about half of its amp-hours before recharging. Draining it much deeper, over and over, wears it out early. So a 100 amp-hour lead-acid battery really gives you about 50 usable amp-hours. Lithium changes this dramatically. Lead-acid: use only about half before recharging A 100 Ah lead-acid battery gives roughly 50 usable Lithium: use nearly all of it without harm That gap makes lithium hold far more real power than the label gap suggests WATCH OUT When comparing a lead-acid and a lithium battery, do not just compare the amp-hour labels. A 100 Ah lithium gives you nearly twice the real power of a 100 Ah lead-acid, because you can use almost all of it.

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LEAD-ACID

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7. The Old Standby: Lead-Acid Lead-acid is the traditional battery that has run RVs and boats for generations. It is affordable, widely available, and well understood. The trade-offs are that it is heavy, you can only use about half its capacity, and it needs more care than lithium. For light users on a budget, it still makes good sense. Affordable and available everywhere Heavy, and only about half is usable Needs more care and does not love deep draining A sensible choice for light, budget-minded users Lead-acid is not obsolete. For a camper who plugs in most nights and only needs the battery now and then, it is a perfectly good, wallet-friendly choice. FLOODED 8. Flooded Lead-Acid, the Classic Kind The oldest and cheapest lead-acid battery is the flooded type, with liquid inside and caps on top you can open. It is inexpensive but needs real care: you have to check the fluid level and top it off with distilled water, and it must be kept upright and vented because it can give off gas while charging. The cheapest lead-acid type, with liquid inside Needs its fluid checked and topped with distilled water Must stay upright and have ventilation Gives off a little gas while charging WATCH OUT A flooded battery must be kept upright and vented — it is not sealed. For a boat that pitches around or a sealed compartment, a sealed AGM or lithium battery is the safer pick.

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AGM

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9. AGM, the Sealed Lead-Acid AGM is a sealed, maintenance-free version of lead-acid. There is no liquid to check and no caps to open, and it can be mounted in more positions without worry. It costs a bit more than a flooded battery but is far more convenient, and it handles vibration well, which boats appreciate. Sealed and maintenance-free — no fluid to check Handles vibration well, good for boats Can mount in more positions than a flooded battery Costs a little more, but far less fuss AGM is the easy middle ground in lead-acid: the affordability of lead-acid without the fluid checks of a flooded battery. For many RV and boat owners it is the sensible lead-acid pick. LITHIUM 10. The Modern Choice: Lithium Lithium batteries, specifically the LiFePO4 type, are the modern favorite for serious RV and boat use. They cost more up front, but they are light, you can use nearly all their capacity, they charge fast, and they last for thousands of cycles — often many times longer than lead-acid. Over years of heavy use, they often cost less in the long run. Lightweight — a fraction of a lead-acid's weight Use nearly all of it, not just half Charges quickly and lasts for thousands of cycles Costs more up front, often cheaper over its long life The full name is lithium iron phosphate, written LiFePO4 or LFP. It is a very safe and stable lithium type, which is why it is the one used in RVs, boats, and power stations.

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LIFEPO4

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11. Why LiFePO4 Is the Safe Lithium You may worry about lithium batteries after hearing of phone or scooter batteries catching fire. The lithium used in RV and boat batteries, LiFePO4, is a different and far more stable chemistry. It is the one chosen for homes, RVs, and boats precisely because it is safe and does not have the fire reputation of other lithium types. LiFePO4 is a stable, safe lithium chemistry It is not the same as phone or scooter batteries Chosen for RVs, boats, and home backup for its safety Built-in protection circuits guard against misuse TIP If a battery is sold for RV, marine, or solar use and says LiFePO4, you can trust it is the safe, stable kind. That label is your assurance. THE BMS 12. The Little Brain Inside Lithium Every good lithium battery has a small built-in computer called a battery management system, or BMS. It watches the battery and protects it — shutting things down if it gets too hot, too cold, too full, or too empty. This is a big reason lithium is both safe and long-lived; the BMS looks after it for you. The BMS is a built-in guardian for the battery It protects against overcharge, over-drain, and overheating It will refuse to charge in freezing cold to protect the cells It is a big reason lithium lasts so long If a lithium battery suddenly stops delivering or charging, the BMS may be protecting it — often from cold. Warm it up and let it reset before you worry something is wrong.

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HEAD TO HEAD

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13. Lead-Acid vs Lithium, Side by Side Let us lay them next to each other plainly. Lead-acid wins on up-front price and is available anywhere. Lithium wins on weight, usable power, charging speed, and lifespan. The honest answer is that light users save money with lead-acid, and heavy off-grid users usually come out ahead with lithium over time. Price up front: lead-acid wins Weight and usable power: lithium wins by a lot Charging speed and lifespan: lithium wins Long-run cost for heavy users: lithium often wins TIP Ask yourself how hard you use the battery. Plug in most nights? Lead-acid is fine. Boondock for days and lean on your battery? Lithium pays you back in freedom and longevity. WEIGHT 14. The Weight Difference Matters Lithium's lightness is not just a convenience; it can matter for your rig. A lithium battery weighs a fraction of a comparable lead-acid one. In a boat or a smaller camper where every pound counts toward your load limits, trading a heavy bank of lead-acid for light lithium can free up real capacity. Lithium weighs far less than lead-acid for the same power Lighter is easier on your rig's weight limits A boat gains payload by going lighter Easier on your back when you have to lift one If you have ever hauled a big lead-acid battery, you will appreciate lithium the moment you pick one up. For a boat especially, the saved weight can matter as much as the power.

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LIFESPAN

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15. How Long Each One Lasts A battery's life is measured in cycles — one charge and discharge is a cycle. A well-cared-for lead-acid battery may give you a few hundred to around a thousand cycles. A good lithium battery can give several thousand. That difference is why lithium, despite its price, often costs less per year over its life. Lead-acid: a few hundred to around a thousand cycles Lithium: several thousand cycles, often Deep draining shortens a lead-acid's life fast Lithium's long life softens its higher sticker price TIP When you compare prices, divide the cost by the cycles you will likely get. Lithium's bigger sticker often shrinks to a bargain once you spread it over its long life. SIZING 16. Sizing a Battery to Your Needs To size a battery, you figure out how much power you use between charges, then pick enough usable capacity to cover it with a cushion. Add up your daily use, remember that lead-acid gives you only about half its label, and choose a size that leaves you comfortable, not scraping the bottom every night.

1. Add up the power you use between charges
2. Remember lead-acid gives about half its label
3. Pick enough usable capacity plus a comfortable cushion
4. Add batteries together if one is not enough My power station and solar guides walk through this same sizing with camping examples like a fridge and a CPAP. The math is the same whether the battery is loose, built in, or in a box.

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THE RIGHT CHARGER

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17. Matching the Charger to the Battery This is one of the most important and most overlooked points. Lead-acid and lithium want different charging, and using the wrong charger can shorten a battery's life or fail to fill it fully. Many chargers have a setting for each type. When you switch battery kinds, you often need to switch or re-set your charger too. Lead-acid and lithium want different charging profiles A lithium-ready charger or setting fills lithium properly The wrong profile can undercharge or stress a battery Switching battery types often means adjusting the charger WATCH OUT If you upgrade from lead-acid to lithium, check that your converter, charger, and any solar controller can be set for lithium. An old lead-acid-only charger may never fully fill a lithium battery. MAINTAINER 18. The Maintainer for the Off-Season A maintainer, sometimes called a trickle charger or tender, is a small charger that keeps a battery healthy while the rig or boat sits unused. It feeds just enough power to keep the battery from slowly draining itself flat. For lead-acid especially, a maintainer over the off-season can add years of life. A maintainer keeps a resting battery from going flat Especially valuable for lead-acid in storage Match it to your battery chemistry, same as any charger An inexpensive way to protect a costly battery TIP A maintainer that matches your battery type is cheap insurance. Leaving a lead-acid battery to sit and slowly die over winter is one of the most common and avoidable ways to kill one.

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NEVER SIT DEAD

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19. Never Let Lead-Acid Sit Discharged If there is one rule for lead-acid, it is this: never leave it sitting discharged. When a lead-acid battery sits empty, a damaging process called sulfation builds up inside and can ruin it for good. Recharge it promptly after use and keep it topped up in storage, and it will reward you with years of service. A discharged lead-acid battery damages itself as it sits The culprit is a buildup called sulfation Recharge promptly after every trip Keep it topped up, on a maintainer, during storage WATCH OUT Leaving a lead-acid battery dead in a cold garage all winter is the fastest way to ruin it. Charge it full before storage and keep it that way with a maintainer. COLD 20. Batteries and Cold Weather Cold is hard on all batteries, and it affects the two types differently. Lead-acid delivers less in the cold and can even freeze if it is discharged. Lithium works fine in the cold but must not be charged while below freezing, or its cells can be damaged. Both deserve some thought for an Ohio winter. Lead-acid delivers less in cold and can freeze if drained Lithium runs in the cold but must not charge below freezing A good lithium BMS blocks charging when it is too cold Store batteries somewhere above freezing when you can WATCH OUT Never try to charge a lithium battery when it is below freezing. A quality BMS will block it, but if yours is basic, bring the battery somewhere warm before charging.

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HEAT

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21. Batteries and Hot Weather Heat is the quiet killer of batteries. Both types age faster when they live in high heat, like a sealed compartment baking in the summer sun. You cannot avoid all heat, but keeping a battery out of the worst of it — shaded, vented, not against a hot engine — adds meaningfully to its life. High heat ages both battery types faster A sealed, sun-baked compartment is hard on a battery Give the battery shade and some airflow Keep it away from the hottest parts of the rig If your battery lives in a compartment that gets blazing hot in summer, a little ventilation goes a long way. Heat you cannot feel is still shortening its life quietly. MONITORING 22. Knowing How Full It Is Guessing a battery's charge leads to nasty surprises. A battery monitor shows you how full it is, like a fuel gauge, and the good ones also show how fast you are draining it. Many lithium batteries report this to a phone app. Knowing the real number lets you plan instead of panic. A battery monitor is a fuel gauge for your power It shows the charge level and how fast you are using it Many lithium batteries report to a phone app Knowing the number lets you camp without surprises TIP The simple voltage reading on many RVs is a rough guide at best. A proper battery monitor is far more honest, and it is the single best upgrade for anyone who camps off-grid.

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WIRING MORE

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23. Adding Batteries Together If one battery is not enough, you can connect several to build a bigger bank. Done right, this multiplies your capacity. It needs the correct cables, matched batteries, and proper fuses, so it is a job to do carefully. The payoff is more days off-grid without a recharge. Connecting batteries builds a bigger bank Use matched batteries of the same type and age Correct cables and fuses are a must More bank means more days before a recharge WATCH OUT Do not mix old and new, or lead-acid and lithium, in the same bank. Mismatched batteries fight each other and the weakest one drags the whole bank down. FUSES 24. Fuses and Safe Connections A battery holds a lot of energy, and a short circuit can release it all at once with enough heat to start a fire. That is why a proper fuse close to the battery is not optional. Good, tight, clean connections and the right fuse keep all that stored power safely where it belongs. A short circuit can release a battery's energy as fire A proper fuse near the battery is essential Keep connections tight, clean, and corrosion-free Protect cables from chafing and vibration WATCH OUT A missing or undersized fuse on a battery cable is a genuine fire hazard. If you are unsure about fuse size or wire gauge, this is a job well worth having checked.

CORROSION

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25. Fighting Corrosion on the Terminals The crusty white or blue-green buildup you sometimes see on battery terminals is corrosion, and it chokes the flow of power. Keeping terminals clean and protected is easy and makes a real difference. A loose or corroded connection can mimic a dead battery when the battery is actually fine.

1. Disconnect and look for crusty buildup on the terminals
2. Clean it off with a brush and a baking-soda-and-water paste
3. Dry everything and reconnect snugly
4. Add a dab of terminal grease or felt washers to slow it TIP If your gear acts dead but the battery seems charged, check the terminals before anything else. A corroded connection is a common, easy-to-fix impostor for a bad battery. BOAT BATTERIES 26. A Word on Boat Batteries Boats add a few wrinkles. Marine batteries face constant vibration, damp air, and pitching around, so sealed types like AGM or lithium are often the better choice.

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Many boats also keep two batteries — one to start the motor and one to run the electronics — managed by a simple switch so you never drain your starting power. Boats face vibration and damp, so sealed types shine Keep a starting battery separate from the house battery A battery switch lets you protect your starting power Secure batteries so they cannot shift when the boat moves A battery switch on a boat is your friend. It lets you run the stereo and fish finder off the house battery all day while keeping a full starting battery in reserve for the trip home.

TROLLING

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27. Batteries for a Trolling Motor A trolling motor leans hard on a deep-cycle battery, draining it steadily over a day of fishing. This is a job where lithium's deep usable capacity and light weight really pay off, giving you longer on the water and less weight in the hull. Lead-acid works too, but you will carry more and use less of it. Trolling motors drain a deep-cycle battery steadily Lithium gives more usable run time and less weight Match the battery to the motor's voltage needs Keep it topped up so you are not cut short mid-trip TIP If you fish all day on a trolling motor, lithium's full usable capacity can nearly double your time on the water compared to a same-size lead-acid battery. SOLAR PAIR 28. Which Battery Pairs Best With Solar If you are building a solar setup, the battery choice matters even more. Lithium pairs best with solar because it charges quickly — grabbing more of a short sunny spell — and lets you use nearly all of what the panels put in. Lead-acid works, but you lose some of the sun's gift to its half-usable limit. Lithium charges fast, catching more of a sunny day You can use nearly all of what the panels store Lead-acid wastes some of the harvest to its usable limit For serious off-grid solar, lithium is the natural match My solar guide goes deeper on sizing panels and battery together. The short version: solar and lithium are made for each other, giving you the most real power from every sunny day.

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UPGRADING

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29. Upgrading From Lead-Acid to Lithium Switching an older rig from lead-acid to lithium is a popular upgrade, and it is mostly straightforward — but not quite plug-and-play. You need to make sure your charger, converter, and solar controller can be set for lithium, and check that the new battery fits and is secured. Done right, it transforms how long you can camp off-grid. Confirm your charger and converter can do lithium Check your solar controller has a lithium setting Make sure the battery fits and is well secured The payoff is far more usable power and longer life WATCH OUT Dropping lithium into a rig with a lead-acid-only charger is the common mistake. The battery may never fill fully, and you will blame the battery when it is really the charger. BUYING 30. Buying the Right Battery Buy for how you really use the battery, not the fanciest option on the shelf. Match the type to your camping or boating style, the size to your real needs, and the chemistry to your charger. Prices vary widely by brand and season, so confirm the current price and look for the warranty while you are at it. Match the type to how hard you use the battery Size it to your real needs with a cushion Make sure your charger suits the chemistry Confirm the current price and check the warranty TIP A longer warranty often signals a battery built to last. On lithium especially, read the warranty — the good ones back up their long-life promise with real years of coverage.

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BRANDS

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31. The Common Brands, Evenly Many reputable brands make RV and boat batteries in both lead-acid and lithium. Rather than crown a single best, look for a battery with the right type, size, and a solid warranty from a maker with good reviews. The well-known names all make dependable batteries when the specs fit your needs. Many solid brands make both lead-acid and lithium Look for the right type, size, and a good warranty Reviews and warranty tell you more than the logo Match the specs to your rig before choosing a name Pick the chemistry, the amp-hours, and the warranty that fit your use first. Among the batteries that match, any well-reviewed brand will serve you for years. USED 32. The Trouble With Used Batteries A used battery can look like a bargain, but a battery wears with every cycle, so you are buying something with miles on it. A tired battery holds far less than its label claims, and you often cannot tell by looking. For a part this important, a new one with a warranty is usually the wiser spend. A battery wears with every charge and discharge A worn one holds far less than its label You often cannot judge its health by eye A new battery with a warranty is usually wiser WATCH OUT A used battery that is cheap may be cheap for a reason. If you must consider one, test that it holds a charge under load before any money changes hands.

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STORAGE

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33. Storing a Battery Over Winter For an Ohio winter, store your battery the right way and it will wake up healthy in spring. Charge it, keep it somewhere above freezing if you can, and keep it topped up with a maintainer. Lead-acid especially must not be left to sit discharged, while lithium is happiest stored partly charged. Charge lead-acid full and keep it on a maintainer Store lithium partly charged, not pinned full Keep batteries above freezing when you can Check and top up every so often through the cold months WATCH OUT My winterizing guide covers storing batteries alongside the rest of the rig. The one rule that saves the most batteries: never let a lead-acid one sit through winter discharged. DISPOSAL 34. Retiring an Old Battery When a battery finally gives out, do not just toss it in the trash — batteries hold materials that must be recycled, and most places require it. The good news is recycling is easy: auto parts stores and many retailers take old batteries, often for free, and sometimes even give you a small credit. Never put a battery in household trash Auto parts and battery stores take them for recycling Recycling is often free, sometimes with a small credit Handle an old battery carefully; it still holds a charge Most places that sell batteries will recycle your old one. It keeps hazardous materials out of the landfill and is usually as simple as dropping it at the counter.

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COMMON WORRIES

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35. The Questions People Ask Me Most When folks ask me about batteries, the same worries come up again and again. Here are the honest answers to the ones I hear most, so you can decide with clear eyes and no sales pressure. 'Is lithium safe?' The LiFePO4 kind used in RVs and boats is, yes 'Is lithium worth the price?' For heavy off-grid use, usually yes over time 'Can I just drop lithium in?' Check your charger can handle it first 'How long will it last?' Lead-acid a few years; good lithium many more There is no shame in sticking with lead-acid. For a camper who plugs in most nights, a good AGM battery is a perfectly sensible, affordable choice. TROUBLESHOOTING 36. When the Battery Seems Dead A battery that seems dead is not always a bad battery. Often the real culprit is a loose or corroded connection, a tripped fuse, a lithium BMS protecting itself from cold, or simply a battery that was drained and needs a charge. Work through the basics before you spend on a replacement.

1. Check the terminals for corrosion and tighten the connections
2. Check the fuses between the battery and your gear
3. If it is lithium and very cold, warm it and let the BMS reset
4. Put it on the right charger and give it time to recover
5. Only then consider that the battery itself may be worn out TIP Before you declare a battery dead, clean the terminals and check the fuses. A surprising number of 'dead' batteries are just a loose, corroded connection away from working fine.

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VOLTAGE

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37. What the Voltage Reading Tells You Many RVs and boats show a battery voltage somewhere, and it is a rough window into the battery's health. A healthy 12-volt battery at rest reads a little above 12 volts; it climbs higher while charging and sags under a heavy load. It is not a perfect fuel gauge, but it is a useful glance. A rested 12-volt battery reads a little above 12 volts It rises above that while charging It dips under a heavy load, then recovers A reading stuck low points to a tired or drained battery Voltage is a hint, not the whole story — a proper battery monitor is far more honest. But a quick voltage glance is still a handy way to spot a battery that is running down. GROUP SIZE 38. Battery Sizes and Fitment Batteries come in standard case sizes, often called group sizes, with names like Group 24, 27, or 31. The number is about the physical size and terminal layout, not the power. When you replace a battery, matching the group size helps the new one fit the tray and the cables you already have. Group size describes the case size and terminals Common ones include Group 24, 27, and 31 Matching the group size eases a drop-in replacement Measure your tray before buying if you are unsure TIP Jot down your battery's group size before you shop. It saves you from bringing home one that will not fit the tray or reach the cables, which is a frustrating trip back to the store.

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SIX VOLT

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39. The Six-Volt Golf-Cart Trick Some RVers swear by a pair of six-volt golf-cart batteries wired together to make a tough, long-lasting 12-volt bank. These batteries are built for the deep, repeated draining that golf carts and RVs share, and a matched pair can outlast a single 12-volt battery. It is a classic lead-acid approach worth knowing about. Two six-volt batteries wire together to make 12 volts Golf-cart batteries are built for deep, repeated use A matched pair can outlast a single 12-volt battery A time-tested lead-acid approach for heavier use The six-volt pair is a lead-acid tradition that still works well. If you go that way, keep the two batteries matched in age and type so neither drags the other down. REFILL WAYS 40. The Ways You Refill a Battery A battery is only useful if you can refill it, and there are several ways. You charge from shore power when plugged in, from the engine while you drive, and from solar while you sit in the sun. Most rigs use a mix, and the more ways you have, the less likely you are to run dry. Shore power: the fastest fill when you are plugged in The engine: a steady top-up while you drive Solar: free, quiet charging while you sit in the sun A mix of sources keeps you full in any weather TIP My solar and power station guides go deeper on charging off-grid. The more ways you can refill a battery, the more freedom you have to camp wherever you like for as long as you like.

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SELF-DRAIN

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41. The Slow Self-Drain Even sitting untouched, a battery slowly loses charge on its own, and small always-on loads in a rig — a propane detector, a clock, a radio memory — speed that along. This slow drain is why a rig left for a month can come back to a flat battery even though nothing was left on. Batteries slowly self-drain even when untouched Small always-on loads speed the drain along A rig left for weeks can return to a flat battery Lead-acid is harmed by sitting flat; lithium tolerates it better WATCH OUT A master disconnect switch, flipped off when you park, stops the slow drain from those always-on loads. For a lead-acid battery especially, it can be the difference between a healthy spring and a ruined one. YOUR CHECKLIST 42. Your Battery Checklist Here is the short version to keep by the door of the rig or in the boat. If you can check these off, your battery is the right one and set up to last for years. Chose lead-acid or lithium to match how hard I use it Using a deep-cycle house battery, separate from starting Sized for my real daily use with a cushion My charger and solar controller suit the chemistry Keep lead-acid charged and never let it sit dead Store it above freezing on a maintainer over winter Terminals clean, connections tight, fuses in place Tape this list inside a cabinet door. A thirty-second glance keeps your battery healthy and keeps you from being stranded with no power at the worst moment.

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WHEN TO CALL

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43. When It Is Worth Calling Me Choosing a battery and keeping it healthy is something most people can handle, and I hope this guide makes it clearer. But if you are weighing lead-acid against lithium for how you really camp, planning an upgrade that touches your charger and wiring, or chasing down a battery that keeps going flat, that is exactly what I am here for. I will give you the honest answer, even when the honest answer is that your current battery is fine and just needs a good charger. TIP I can sit down with you, match the right battery to how you camp or boat, and make sure your charger and wiring are set up safely so your power lasts for years. My first in-home visit is a flat $99, and remote help by screen-share is $49. Call or text me at (330) 200-8042. CHEAT SHEET Everyday Cheat Sheet Keep this page handy. It is the short answer to the questions RVers and boaters ask most about batteries. Lead-acid: cheaper, heavier, use only about half its amp-hours Lithium (LiFePO4): pricier, lighter, use nearly all, lasts far longer Use a deep-cycle 'house' battery for your gear, separate from the starting battery Amp-hours (Ah) are the tank size; compare usable capacity, not just the label Match the charger and solar controller to the battery chemistry Never let lead-acid sit discharged; keep it on a maintainer in storage Never charge lithium below freezing; store it partly charged Clean the terminals and check the fuses before blaming a dead battery Get help: call Bill at (330) 200-8042

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HOW I CAN HELP

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AT A GLANCE

A Picture to Follow Along

Lead-Acid or Lithium for How You Camp?

Match the battery to how hard you use it.

Flooded / AGM

Lowest up-front price

Only about half usable

Good for light, plug-in users

Lithium LiFePO4

Light and nearly all usable

Charges fast, lasts for years

Best for heavy off-grid use

Starting Battery

Short, strong burst

Cranks the engine only

Keep it separate from house

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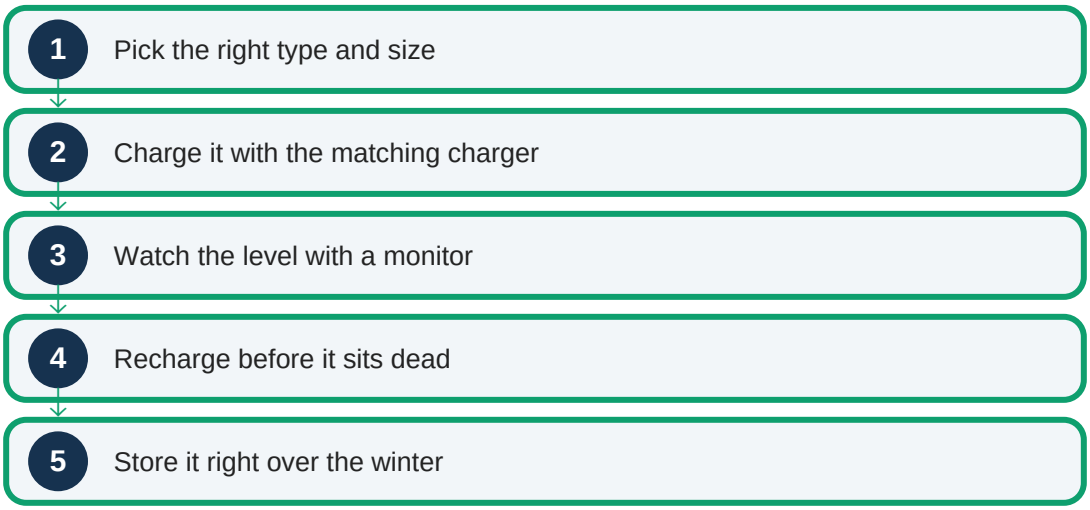
AT A GLANCE

A Second Look

Keeping a Battery Healthy for Years

A simple cycle of care.



BEFORE YOU GO

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 results.

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Remote Support — $49 for a screen-share session. I only connect with your permission, you watch the whole time, and you can end anytime. If I can't fix it over the screen-share, I refund the $49 — and if it turns out you need me in person, that $49 goes toward your visit. It's included free for Support Plan members ($39/mo).

GOOD TO KNOW

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