

Chapter 2

Power Sources



I Batteries

Your batteries are the _____ of your power system.

They are the only power source that _____ energy to be used for later when no other power sources are available.

Ways to charge batteries:

- _____
- _____
- _____
- _____

The most common battery type is _____ or _____.

These batteries are _____ and _____ (in a good way).

Qualities: They are _____, _____, _____, and they need to be _____ to the outside.

Use _____ batteries for extended off-grid stays.

Qualities: They are _____, _____, _____ their power, and don't need to be _____ to the outside.

Lithium batteries need a _____ to protect them.

The size of your battery bank will affect which _____ you can run, and how _____ you can run them for.

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I Shore Power

When connected to a 30-amp or 50-amp pedestal at a campground, it enables _____ power natively throughout the rig. Here's what happens:

- All your household _____ are energized.
- Certain appliances switch over from _____ and from 12 volt to 120 volt.
- You can run high draw _____ like air conditioner, microwave, and convection oven.
- Your _____ converts the 120-volt into 12-volt power to run low voltage appliances.
- Your converter charges the _____ until full.

I Generator

A generator is just a tiny, portable _____ that runs on gas or propane to create energy.

_____ or open frame generators create big nasty raw power.

_____ generators not only have built in inverters, but create very clean and stable power.

Your generator's _____ output will determine what you can run inside the RV while connected.

Generators do create _____ and _____ fumes which can bother your neighbors.

Some campgrounds have specific _____ around generator usage.

Did you know that _____ altitude affects your generator?

You'll lose 10 percent of the rated output every time you gain _____ feet in altitude.

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I Tow Vehicle Pigtail

Here's what happens when you connect your pigtail to your tow vehicle:

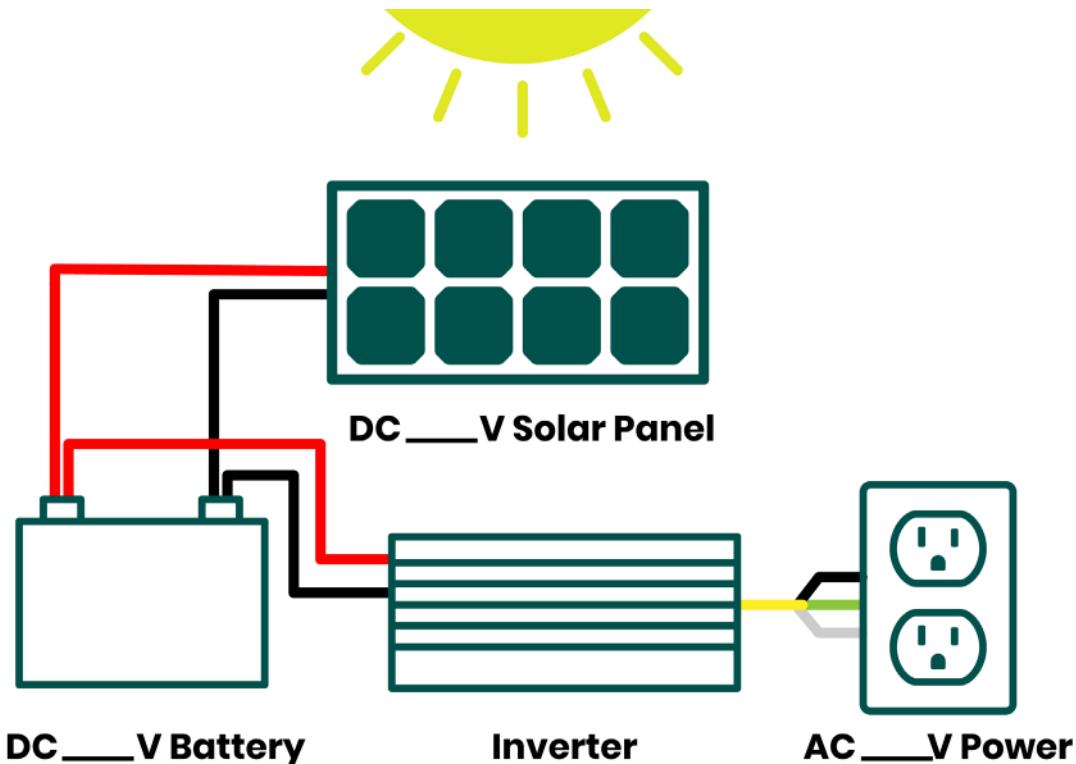
- It enables _____ lights, turn _____, brake lights, and _____ lights on the RV.
- The vehicle can communicate with your RV _____ to slow down more safely.
- It connects to your RV _____ to trickle charge.

This trickle charge doesn't provide any _____ charge, so don't count on it.

I Solar

Solar panels are just creating _____ power.

AC appliances you want to run are still limited by your _____ bank and _____ size.



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I Solar (Continued)

Invest in a _____ charge controller. This will make sure you charge and float your batteries safely at the correct voltages and don't overcharge them.

A single 100-watt panel can put out up to _____ amps per hour at its peak.

_____ and _____ will affect the output of your panels.

Can I run my air conditioner with solar? _____

Technically, you can build a power system in your RV that can run your A/C. Let's say you have a small 13,500 BTU RV air conditioner. Here's how much power it needs:

- On startup, it uses up to 3,000 watts
- It continuously uses 1,500 watts
- This translates to about 150 amps per hour from your batteries

To run A/C on solar, you'd need:

- _____ watts of solar panels
- _____ amp hours of lithium batteries
- A _____ watt inverter or larger
- All new larger gauge trunk _____ to handle the voltage increase
- Not to mention all the other parts of the system, like a _____, solar charge controller(s), and more

The easiest way to add solar is to get a _____ panel or solar _____.

The best long term solution is to _____ as many panels as you can on the _____.

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I Propane

Propane gives you the option of making food and staying warm while using virtually _____ power.

You can find propane easily at many _____.