

RV Fire Safety



Contents:

Intro	Fire Extinguishers	Driving	Parked
The Fire	Safety Equipment	Engine Fire	Exterior Fire
The Dangers		Down the Road	Interior Fire
Causes			Odds and Ends
Read Instructions			Forums

Intro

Fire is one of the leading causes of RV loss in the U.S. today. According to the National Fire Protection Association (NFPA), 20,000 RV fires occur each year. Our hope is to help you identifying the most prevalent fire threats and what steps can be done to reduce those threats.

The subject of RV Fire Safety had a lot of material to cover when putting together the information for this help file. A few of the fire topics we will cover are:

- Engine Fires – diesel fuel, oil, transmission fluid, brake fluid, coolant, alternator(s).
- Electrical Fires – faulty wiring, electric appliances, space heaters.
- 12 Volt Systems – lithium batteries, invertors, convertors, chargers, solar panels.
- Propane Fires – heaters, water heater, stove top.
- Campsite Fires - camp fires, lanterns, dry grass.

To make this a little more manageable, we divided it into four documents to make it a bit less overwhelming.

The Fire

Losing an RV in a fire is something we hope you never have to deal with. Having lost our 2021 RV in June 2021 to an electrical fire while in storage, we have become more self-aware of many of the aspects of RV fire safety and the possible causes of a fire.

Fortunately, our loss was only “stuff” and we were not in harm’s way. When you think about it, a fire like this could have been far worse. For example, imagine if you will... (Twilight show theme music playing), you are out west in the wilderness, boon-docking in the middle of nowhere, no cellphone coverage, no one around. As long as we are imagining the worst, let’s make it the middle of the night, in a thunder storm. OK, that’s really bad stuff!



You will probably never get to experience losing an RV to fire, so here's what you will miss with the process: County fire inspections, photographs, and paper work. An insurance company, photographs, and paper work. Insurance inspectors, photographs, and more paper work. Insurance adjustors, photographs, and still more paper work. The insurance company will likely request access to your emails, phone records, and your RV's event data recorder (black box). In their eyes, after all, you are the prime suspect.

If your RV is totaled, the insurance company will require power of attorney. You will sign over the title, and they will pay off any loan balance you have. Then they will tow your beloved RV away, and after many more weeks, you will (hopefully) receive a settlement check. With any luck, it will cover the van and contents. Ya, right!

After that ordeal, you can now begin the purchase process all over again, only to discover the same model RV that you had will now cost you \$30,000-\$40,000 more than what you had paid for your original RV. If the fire was the fault of the manufacturer, don't expect any assistance from them.

I'm guessing right about now, you have decided you don't want to experience this for yourself. No, don't sell your RV! Knowing what the causes are can help an RV owner avoid a dangerous situation and property loss.

TIP: If your RV is new or almost new, consider getting replacement coverage insurance. That could cover any price increases on a replacement RV. They aren't getting any cheaper.

TIP: If you have a fire or crash, take pictures at the scene with GPS location and date/time stamp functions turned on if possible. Document everything; every phone call, email, time, dates, names, and locations. It could come in handy.

Disclaimer: To be clear, we do not claim to be experts on RV fire safety, and the fire information offered here was gleaned from many websites. On the other hand, we hope that our experience and this information will help you understand what could happen and how you can prepare to avoid becoming one of the RV fire statistics.

The Dangers

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Today's RVs are a complex collection of technology and any number of flammable materials. Each year, RV manufacturers are continually incorporating more and more complexity and features into RV electrical systems, whether these features are useful or not.

Our 2021 van had solar panels, a large lithium house battery, inverters, converters, and touch panel controls, all connected by a dizzying maze of wiring strung through walls, ceiling, and cabinets. Any single point of failure in this electrical jumble could destroy your RV in a cloud of magic smoke. In addition to electrical, there are the

common fire causes: engine fluids, diesel fuel, propane, alternators, generators, and, of course – the human error factor.

Many years ago, with our first sprinter van, a Great West Van, we were members of FMCA (Family Motor Coaching Association) and they offered a course covering RV Fires presented by Mac McCoy, "The Fire" Guy". It was an excellent course, and I wish everyone could have taken it. Sadly, Mac is no longer with us, and his full course never made it to YouTube.

The course was several hours long, and Mac went through the many fire dangers in RVs and demonstrations. We will gloss over some of the topics with only a brief mention because they may be specific to towables or older style propane refrigerators.

Causes

What are some of the causes of RV vehicle fires?

- Fuel Leaks
- Electrical Systems
- Engine Fluids
- Overheated Engine
- Catalytic Converters
- Crashes
- Poor Maintenance
- Bad Design



So, what can be done to reduce the chances of a RV fire?

Education, prevention, and safety equipment are a few of the important components.

Just Read the Instructions

There are many fire and safety tools that can save lives. The four most important ones are: (1) A fire Detector, (2) A Fire Extinguisher, (3) A Carbon Monoxide Detector, (4) LP Gas Sensor.

To be effective, they must be operational, and you must know how to operate them.



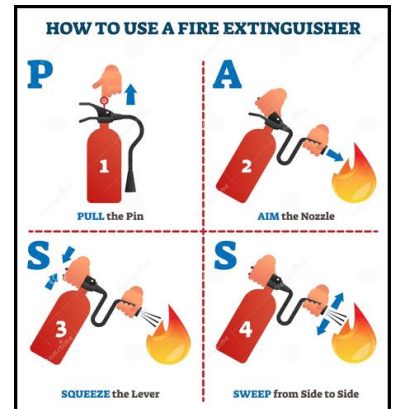
Elon Musk of SpaceX has a wonderful sense of humor and named the floating landing platform drone-ship "Just Read the Instructions". SpaceX lands their Falcon rocket boosters at sea on the drone-ship when a booster doesn't carry enough fuel to return to the launch pad for landing.

People rarely stop to read the instructions on how to operate a fire extinguisher, since who plans on having a fire! Watching your van go up in smoke is not the time to have to stop and read the instructions.

Most approved fire extinguishers operate on the same basic principal. They use the easy-to-remember acronym **PASS** which describes how to operate a fire extinguisher.

It stands for:

- **P**ull - Pull the Pin
- **A**im - Aim the nozzle at the base of the fire
- **S**queeze - Squeeze the handle
- **S**weep - Sweep the spray from side to side at the **BASE** of the fire nearest you.



As long as we are reading instructions, when does the smoke detector and other safety gear need new batteries or be replaced? Your pre-trip checklist, or monthly inspection, should include inspecting the fire extinguisher and testing:

- smoke detector
- carbon monoxide detector
- propane detector

Important TIP: Have two **escape routes**. At night, make sure the back doors of your van can be opened in an emergency. Begin by removing any bicycles or hitch carriers that may block the opening of the rear doors. A swing-away hitch mount allows the bikes and storage boxes to be positioned to the side, allowing the doors to open in an emergency. Know how to UNLOCK and OPEN the doors in the dark.



Power Door - Our previous Sprinter had a power sliding side door. It was unreliable and sometimes couldn't be opened except by starting the engine. Occasionally the key fob would work so we installed Command Hooks by the door to hang the keys for quick access. The power door had a manual release knob that would disengage the drive belt, but it still took a great deal of effort to push the door open.

TIP: Decide on a rally point for occupants to meet up for a head count. (150 feet away, to the front or to the rear.)

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LINKS:

Fire Damage and Loss Assessment of Recreational Vehicles (RV's) (PDF).

<https://www.nfpa.org/-/media/Files/News-and-Research/Fire-statistics-and-reports/US-Fire-Problem/RFDamageAndLossRVs.pdf>

RV Fire Cause and Prevention - <https://www.arprv.com/rv-fire-cause-and-prevention.php>

Fire Safety in a Van - <https://www.roadtripamerica.com/rv/RV-Fire-Safety.htm>

Ethylene Glycol-Based Engine Coolant as a Vehicle Fire Fuel: <http://www.reifire.net/text/ethylene.pdf>

First Alert Fire Extinguisher, Car and Marine FE10GR - <https://www.amazon.com/dp/B000UHP9EU/>

First Alert EZ Fire Spray, Extinguishing Aerosol Spray, AF400 - <https://www.amazon.com/dp/b001229jcu>

Amerex 90-417 B417, 2.5lb ABC Dry Chemical Fire Extinguisher - <https://www.amazon.com/dp/b0089xa6y0>

Amerex B385TS, 2.5lb Halotron I Class B C Fire Extinguisher - <https://www.amazon.com/dp/b00cmumw5c>

