

Fire & Life Safety **HANDBOOK**

When You Take Fun Seriously.



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LEARN ABOUT

Fire & Life Safety • RV Safety • Vehicle Maintenance • Fire Extinguishers
• Smoke Detectors • Carbon Monoxide Detectors

“Without a doubt, the RVing lifestyle is an interesting and fulfilling one. More people than ever are buying RVs to see the country, visit family and friends, and even live in full-time. No matter how you use your RV, an unexpected fire can be a devastating experience. You can reduce the risk of fire and the resulting injuries through prevention, protection and a plan of action. Before you leave on your life-changing adventure, take the necessary precautions to protect your family and yourself. Please join the Family Motor Coach Association and their safety education programs in a campaign to make RVing as safe a lifestyle as possible.”

**— Mac “The Fire Guy” McCoy
30-Year Firefighting Veteran**

Fire & Life Safety **HANDBOOK**

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Educating RVers For The Safe Road Ahead

PREVENTION

Recognizing common causes of fires goes a long way toward prevention. A monthly fire safety inspection can alert you to any potential hazards like these:

Antifreeze can spray on hot engine parts through pinhole leaks in radiator or heater hoses. Antifreeze contains ethylene glycol concentrate and water. When the water boils off, the remaining ethylene glycol can self-ignite at 782° F. During your monthly fire inspection, check all hoses for firmness, clamp tightness, and signs of leaking.

Rubber fuel lines are commonly used to connect metal lines to the electronic fuel injection system, or to the carburetor in older RVs. Check all the lines and connections between the fuel tank and the engine on a monthly basis. If there is any sign of a leak, have the lines replaced and the entire system inspected by a qualified RV mechanic as soon as possible.

Grease, oil, and road dust build up on the engine and transmission, making them run hotter. The grime itself usually doesn't burn, but if combined with a fuel leak or short-circuited wire, a fire could start. Keep your RV's underpinnings clean and it will run cooler, more economically, and longer.

Overheated engine manifolds can get as hot as 900° F. The heavy insulation in the compartment reflects the heat back to the top of the engine, and a fire can easily break out. Inspect your radiator. If you find any green or yellow fluid leaking, tarnished components or an unusual odor, have it repaired by a qualified person as soon as possible.

Tires and brake fluid can be ignited from the friction of a dragging brake. Some of the worst fires are those caused when one tire of a dual or tandem pair goes flat, scuffs, and ignites long before the driver feels any change in handling. Feel the sidewall of all RV, towed vehicle, and towing vehicle tires with the back of your hand each time you stop. If a tire in a single-tire application is hotter than the others, it may have less pressure in it. In a dual-tire application, one tire being hotter than the other may indicate the hot tire is bearing more weight and the cool one may have low air pressure.

Dry grass can be ignited by a hot exhaust pipe or catalytic converter.

Batteries produce explosive gases. Keep flame, cigarettes, and sparks — such as from cable clamps or tools — away. Be sure your battery compartment is properly vented. Always shield eyes when working near batteries. Keep vent caps tight and level. Check your battery monthly. If you find the battery is swollen, replace it immediately. Use extreme care when handling batteries — they can explode. Keep batteries out of reach of children.

Spontaneous combustion can occur in damp charcoal. Buy charcoal fresh, keep it dry, and store it in a covered metal container. Rags soiled with auto wax or cleaners that contain petroleum products or other oil-based cleaning materials can also spontaneously combust if disposed of in a combustible container. Put dirty cleaning rags in a metal container with a lid.

Refrigerators can be dangerous to run while you drive if they're powered by propane, rather than an inverter or generator. Most refrigerators will keep food cold or frozen for eight hours without being run, and a fridge fan can be used to help maintain a safe temperature. Driving with propane on can add to the danger if you are involved in an accident or have a fire. Shut the propane off at the tank. If you store your RV, check the flue before starting your refrigerator on propane. Birds and insects can build nests and clog the flue, which can cause a fire or cause excess carbon monoxide to enter your RV.

Electrical malfunction is the most common cause of RV fire. Check all 12-volt connections before and after every trip. Buy a vehicle that has the RVIA seal. Have any add-on wiring done by a capable electrician, and use common sense when using electrical aids.

Fuel, including gas and propane, can pose an immediate, explosive danger. Diesel fuel is less volatile, but it dissipates more slowly so it remains a danger longer. Clean up leaks or spills at once and use all fuels in adequately vented areas.

Galley stoves shouldn't be left unattended. If the flame goes out, gas continues to flow and could result in an explosion. A stove should never be used to heat your RV. Open propane flames release high levels of carbon monoxide.

Cooking hazards pose even more threat in your RV than in your home because in a compact galley, all combustibles — from paper towels to curtains — are apt to be closer to the stove. A box of baking soda—the ingredient in powder extinguishers — can be used in lieu of a fire extinguisher for minor galley flare-ups.

PLAN OF ACTION

Now that you recognize hazards, you can eliminate them to help prevent fires and related injuries. You can also help prevent serious injury when a fire does occur by developing and following a plan of action. For an effective plan, be sure to include the following:

- Make sure everyone knows what the smoke alarm sounds like and what to do when they hear it. Test your smoke detector regularly.
- Have at least two escape routes—one in the front and one in the rear of the RV. As soon as they're old enough, teach children to open hatches and emergency exits.
- Review with everyone the “Stop, Drop, and Roll” rule so they know what to do when clothing is on fire.
- Make sure visitors can open the front door. Not all manufacturers use the same lock and latch assembly.
- Choose a rallying point where everyone will meet immediately after escaping, so everyone can be accounted for.
- Show family members how to unhook electricity (screw-on cords can be tricky) and how to close propane valves, in case either of these measures is called for.
- Practice unhooking your tow vehicle as quickly as possible to avoid spreading the fire to other vehicles.
- Re-emphasize to everyone aboard that objects can be replaced, people can't. Never stay behind or re-enter a burning RV to retrieve anything.



PROTECTION

In addition to smoke detectors in each area of the RV, there are other fire and life safety tools that can save lives. Keeping them maintained and in working condition is equally important to knowing how to use them properly.



Fire extinguishers

You should have four fire extinguishers for your RV — one in the galley, one in the bedroom, one near the front door of the RV, and one outside of the RV in an unlocked compartment or in your towed or towing vehicle. Make sure family members know how to use the extinguishers and understand which extinguishers are effective on various fires.

During your monthly inspection, check the fire extinguisher gauge to determine if there is pressure in the extinguisher. If the gauge indicates empty or needs charging, replace or recharge the extinguisher immediately. To test non-gauged extinguishers, push the plunger indicator (usually green or black) down. If it does not come back up, the extinguisher has no pressure to expel its

contents. If you need help testing your fire extinguishers, check with your local fire department.

Do not pull the pin and expel the contents to test your powder extinguisher. If you use a portion of the powder extinguisher, have it refilled or replaced immediately. When you have a fire extinguisher refilled, ask to shoot off the charge first (most refill stations have a special place where this can be done safely). This lets you see how far it shoots and how long a charge lasts.



Invert and shake your dry powder or dry chemical extinguisher monthly to loosen the powder. The jarring of the RV does not loosen the powder; in fact, it packs the powder, which may make your extinguisher useless in fighting a fire.

Carbon monoxide detector

Deadly, invisible, odorless CO usually results from exhaust leaks or misuse of heating devices. Be sure to put your CO detector in the bedroom. The proper location is on the ceiling.

Propane leak detector

Liquid propane gas (LPG), like gasoline fumes, tends to pool in low spots in the RV until a spark sets it off. Some newer motorhomes are equipped with an automatic shut-off if its sensor detects an LPG leak. If you have a leak, be sure to shut the propane off at the tank.

Fighting RV fires

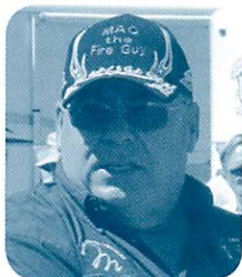
The first rule of RV firefighting is to save lives first and property second. Get yourself and your family to safety. Then, you may have time, opportunity, and equipment to minimize fire damage:

- Get help. Adults and older children should know how to dial 911 or 0, and how to get emergency help on any CB, VHF, or ham radio available. It's crucial to know where your RV is so firefighters can find you.
- If you can do so without endangering yourself or others, use any firefighting aids on hand.
- If you have a quick-disconnect fitting on your water hookup, these hoses can be unhooked instantly to fight a fire. If a nearby RV is burning and you cannot move your RV but can safely stay close enough to keep it hosed down, you may be able to save it.

For more life-saving tips and a live firefighting demonstration, attend the Fire & Life Safety seminar, presented at more than 30 rallies nationwide each year. Visit www.macthefireguy.com or call Mac McCoy at 503.599.7323 for a seminar schedule.

Fire & Life Safety Course

INSTRUCTOR BIOGRAPHY



George "Mac" McCoy has been a firefighter for more than three decades. Prior to his retirement in 1999, his work history included being a paramedic, deputy sheriff and, most recently, the Fire Service Training Coordinator for the State of Oregon. Mac has a bachelor's degree in Fire Science and master's degree in Fire Administration. He has taught "Basic Fire & Life Safety" to thousands of civilians and firefighters across the United States and abroad.

Mac joined with Jim Gates, the founder of Hawk International, to bring the RV perspective to the manufacturing of fire suppressants. Then in 1998, Mac took his Fire & Life Safety show on the road. Traveling in his motorhome, Mac stops along the way to meet new friends, explore new towns and live his passion of bringing Fire & Life Safety to fellow RVers all across the country. Mac "The Fire Guy," looks forward to meeting you along his journey!





FIRE & LIFE SAFETY COURSE OUTLINE

- Testimonials
- What is fire?
- Familiarizing yourself with the personal fire extinguisher
- Choosing and using the correct extinguisher
- Rechargeable versus non-rechargeable extinguishers
- Smoke, carbon monoxide, and propane gas (LPG) detectors
- General safety tips
 - A. Catalytic heaters
 - B. Where and how fires start
 1. *Flammable and combustible liquids*
 2. *Flammable gas (LPG)*
 3. *Brakes and tires*
 4. *Engine and electrical*
- Fight or flight
- Escape through exit doors, windows, and hatches
- Get out and stay out
- Stop, drop, and roll
- Call 911
- Live fire training with dry powder extinguisher
- Introduction to the new clean air foam fire extinguishing system

TESTIMONIALS

We went to Mac's demonstration in Shawnee, Oklahoma, at a Teton rally, and after watching him, decided to buy a fire extinguisher. We hung it in sight by the door.

A few months later we were at the Escapees Escapade when the trailer down the road caught fire from the gas from the refrigerator. The small extinguishers the people were using were not too successful, and flames were coming out the top vent of the refrigerator. Several swipes with the foam extinguisher and the fire was out in 3 to 5 seconds.

The fireman said they were very lucky — it could have been much worse.

— *Bernie Hulse – Newport, OR*

One evening we were playing cards at our RV. I looked out at an RV nearby and noticed a flame. I mentioned to my husband that it was a big flame for a water heater. He said it wasn't a water heater, that their refrigerator had caught fire. We used a Big Shot to put out the fire and all was well. What a life-saver that turned out to be as there were hundreds of rigs nearby!

— *Marion Coogan – Fruitland Park, FL*

At the Life on Wheels Conference I attended one of your fire safety classes. I was very impressed with your demonstration and purchased a set of fire extinguishers.

We were traveling through Nova Scotia with our Saturn in tow behind our Discovery motorhome when the driver of the pilot vehicle leading us pulled over and waved at us to do the same, then told us we needed to check our tow car because it looked like the front end had locked up. The front tire had blown and it was now riding on the rim! As I stood there dumbfounded, someone yelled out his window, "Your tire's on fire!"

I grabbed one of your fire extinguishers and yelled at my husband to grab another. I used your Big Shot, and my husband just about emptied your Model P-22 on the tire. I ran back inside to get two more extinguishers, but when I returned the fire had been extinguished. We had avoided a major catastrophe with just the two extinguishers. We don't like to think what could have happened, but we are definitely strong believers in your extinguishers.

— *Candace Smith – Merritt Island, FL*

As I pulled my Ford conversion van up to the house, I smelled something burning. I turned and looked outside, and I saw smoke coming from the hood of the van. Through the grill I saw a ball of fire in front of the alternator.

By this time my wife had come out and asked if she should call the fire department. I said no but asked her to go to the RV and get my Hawk extinguisher, which I had purchased last year while in Brooksville at the Southeast FMCA Rally, in case the Big Shot was not enough.

I opened the hood and hit the fire with about 10 to 15 seconds of foam. The fire seemed to diminish but was still burning and very hot. I again hit the fire with the Big Shot, but this time I stayed with it for the full charge. The fire went out but was still very hot and smoking. Not wanting to use the big Hawk unless it was necessary, I started to spray water on the area to cool it down.

I was very pleased with the way the Big Shot performed and will buy four more — one for each of my cars and two for my boat. I was lucky because if the fire had started at one of the places where I had been earlier, the van would have burned up. Instead, all I had to do was replace the alternator and some of the wiring.

One never knows when things like this will happen, but being prepared is a necessity—not only with equipment, but also with experience and training. Thanks for both.

— Bill Ryan – Port Charlotte, FL

FIRE! DO YOU KNOW WHAT TO DO?

It is three o'clock in the morning, and you wake to a crackling sound. You're only half alert, so — thinking it's a dream — you go back to sleep never to wake up again.

There is a predator in your RV and you aren't aware of it — its name is FIRE! While you sleep, this predator is creeping throughout your vehicle leaving behind many toxic gases as it smolders before it leaps into flames. It is these gases that are deadly. The entire process takes only a few minutes. ***Fire is HOT, fire is FAST, and fire is DEADLY.***

Do you know what to do if the smoke detector goes off in the night?

You should have at least one, and preferably two, smoke detectors in your RV. These detectors need to be tested at least once a week to assure they're in proper working order. Batteries should be replaced yearly. Smoke detectors save lives — that is not just a phrase, it is fact.

Do you know how to properly extinguish a flame with a fire extinguisher?

This needs to be accomplished in the first few seconds, before the fire grows and gets out of control.

Do you know two ways out of each area inside your RV?

Remember, fire may block the door, forcing you to escape another way. Always have two exits.

If you answered “no” to any of the questions above, don't worry, you are not alone. After this class, you will feel better prepared to handle an emergency, and you will be among those fire-safe RVers.

This class will introduce you to fire and life safety issues that will help save lives. Remember, this is just an introduction to fire safety and proper fire extinguisher use.

PORTABLE FIRE EXTINGUISHERS

Before using a portable fire extinguisher, you need to know the basic parts and proper way to use this equipment. When used properly, a portable fire extinguisher can save lives and reduce property loss by putting out the fire or at least keeping it confined in one area until the fire department arrives.

The extinguisher must be large enough to put out the fire — be aware that portable fire extinguishers are not designed to put out large or rapidly spreading fires. An extinguisher is not an alternative to calling the fire department. Many portable fire extinguishers discharge completely in as few as 8 to 10 seconds. Once it has been discharged, a portable dry-powder fire extinguisher must be recharged before it can be used again. This needs to be done even if you did not use the entire contents of the extinguisher.

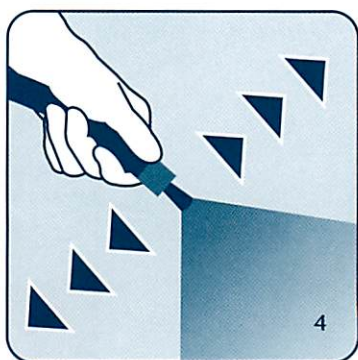
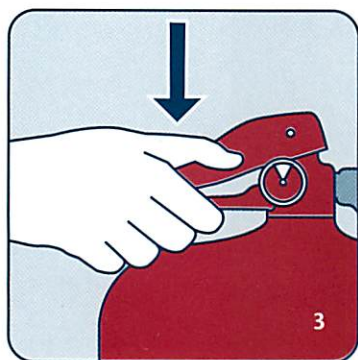
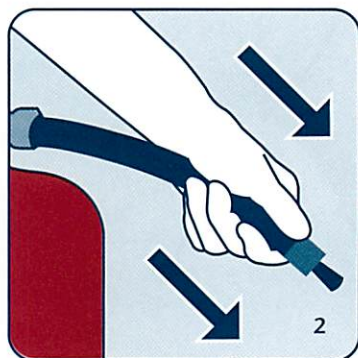
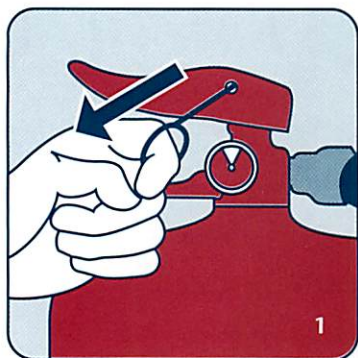
PARTS OF A FIRE EXTINGUISHER

Most portable fire extinguishers for home use consist of six main parts you should be familiar with:

- 1 Cylinder** — This is the body of the extinguisher. It is pressurized and holds some combination of extinguishing agent and expellant gas.
- 2 Handle** — This is nothing more than a grip for carrying or holding the extinguisher. The type of handle design may vary according to manufacturer. Lifting an extinguisher by the handle will not cause the unit to discharge.
- 3 Trigger** — This is usually a short lever mounted above the handle at the top of the extinguisher, although some units differ. The unit will discharge when you squeeze the trigger.
- 4 Nozzle** — This is at the top of the extinguisher where the extinguishing agent is expelled and can have a hose attached.
- 5 Pressure Gauge/Pressure Pin**—The effective range of an extinguisher and its ability to expel its entire agent both decrease as pressure drops. Check the pressure of your extinguisher on a regular basis; have it recharged if pressure drops below normal operating level.
- 6 Locking Mechanism** — All portable fire extinguishers must come with some type of locking mechanism to prevent accidental discharge. *The mechanism must be removed or released for the extinguisher to work.*

Portable Fire Extinguisher Operation — Don't Forget the PASS Word! (PASS = PULL, AIM, SQUEEZE, and SWEEP)

Keep your back to an unobstructed exit and stand 6 to 8 feet away from the fire. Follow the 4-step PASS procedure. Always be sure the fire department inspects the fire site, even if you are sure it is out!



- 1 PULL the pin:** This unlocks the operating lever and allows you to discharge the contents of the extinguisher.
- 2 AIM low:** Point the nozzle (or hose) at the base of the fire.
- 3 SQUEEZE the lever above handle:** This discharges the extinguishing agent. Releasing lever will stop the discharge.
- 4 SWEEP from side to side:** Moving carefully toward the fire, keep the extinguisher aimed at the base of the fire and sweep back and forth until flames appear to be out. Watch the fire area. If fire starts up again, repeat the process.

Extinguisher Markings



(Green)



(Red)



(Blue)



What do these markings mean?

- A** Effective on ordinary combustibles such as wood, cloth, and paper.
- B** Flammable liquids such as gasoline, oil, and oil-based paint.
- C** Energized electrical equipment — including wiring, fuse boxes, circuit breakers, machinery, and appliances.

Why are they significant?

If any of these symbols are missing on the portable fire extinguisher, it has not been rated for that class of fire.

The Importance of Proper Vehicle Maintenance!

It is important to perform regular maintenance checks on your vehicle to avoid potentially life-threatening situations. Repair any engine or transmission oil leaks as soon as possible, especially on automatics. Transmission fluid is highly flammable; it ignites very easily and will burn rapidly. Transmission fluid can ignite when coming in contact with the exhaust system, which can become extremely hot when traveling up hills. Maintaining proper air pressure in your tires will not only increase your mileage, but decrease the risk of uneven wear, excess heat buildup, possible blowouts, etc. If you ever suspect that you have an electrical short, have it checked immediately by a qualified professional.

DETECTORS

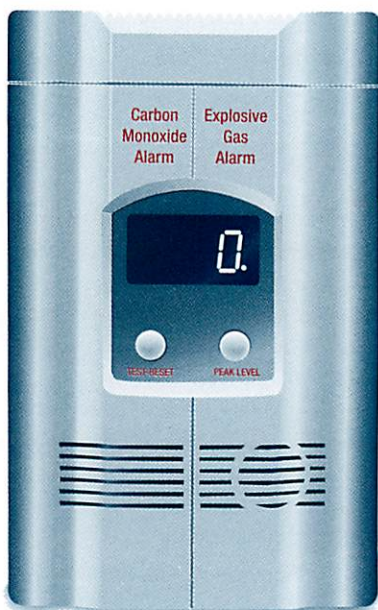


Smoke Detectors

- Install an RV-UL-approved battery-operated smoke detector in your RV (or more than one, if needed.)
- Test the device before each trip and once a week.
- Replace battery yearly. Replace your detector after 7 years of use, or as recommended by the manufacturer.
- Dual sensor-photo electric-ionization are best for RV's.

Carbon Monoxide Detectors

- Install an RV-UL-listed carbon monoxide detector.
- Like smoke detectors, CO detectors should be placed on the ceiling of the bedroom or at least 4 inches down from the ceiling on an inside wall. Avoid dead air space in a corner.





Propane (LPG/Gas) Detectors

- Place in the kitchen area, close to floor level.

Note: The purpose of detectors is to warn you of a potentially life-threatening situation. Such warning may be insufficient, unless you plan and practice an escape plan for your RV.

Before Operating Your Stove or Oven

If you smell gas:

- Extinguish all open flames (pilot lights, lamps, smoking materials, etc.)
- Do not operate electrical switches. Turning a switch on or off might create a spark that could touch off an explosion.
- Shut off gas supply. Open doors, windows, and vents.
- Leave your RV until the odor is gone. Have the gas system checked and repaired before using again.

Note: Before operating your stove or oven open a window and overhead venting or turn on exhaust fan.

Warning! It is not safe to use cooking appliances, like your oven or stove, to heat your RV. The amount of oxygen in your vehicle is limited due to its size, so if you use your oven or stove for this purpose, you run the risk of asphyxiation (not enough oxygen to breathe). Remember, when you cook in your RV, always open a window or roof vent.

GENERAL RV FIRE SAFETY

- **Keep** portable space heaters and other heat-producing appliances at least 3 feet away from anything else.
- **Never** leave cooking unattended. If you must leave something cooking, take a kitchen item (a timer is ideal) to remind you to return. Keep things that can burn away from the stove top.
- **Don't overload** electrical outlets, circuits, bypass fuses or circuit breakers. Replace frayed or damaged electrical cords, and follow the manufacturer's load specifications and instructions for using extension cords. Never run electrical cords across doorways or under carpets, or pinch them under furniture.
- **Never store gasoline** inside your RV.
- **Store flammables and combustibles** away from heat and possible sparks.
- **Careless disposal** of smoking materials is the leading cause of fire deaths in the U.S. Use large, non-tip ashtrays. Before leaving an area where people have been smoking, check cushions and furniture for smoldering butts. Soak the contents of ashtrays with water before dumping into waste baskets. Never smoke in bed or when sleepy. Keep matches and lighters up high and out of reach of children.
- **If your clothing catches fire, remember Stop, Drop and Roll!**
 - STOP** moving—don't run. That only fans the flames and causes greater injury and damage.
 - DROP** to the floor. Cover your face and mouth with your hands if you can.
 - ROLL** over and over to smother the flames.
- **If you do get burned by fire**, run cool water over the burn for 10 to 15 minutes. If the burned skin blisters or is charred, see a doctor immediately.



A motorhome is more than an investment. It represents a way of life. That's why you should know about Family Motor Coach Association.

FMCA is a membership organization made up of people just like you. It actually serves as an information bureau for motorhome owners and furnishes services you can't get anywhere else. If you own a motorhome, you can't afford not to join. Dues and initiation fee are just \$45 for the first year and dues are \$35 per year thereafter.

Join our family and discover the benefits and advantages of belonging to this unique group!

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