ANNUAL COLD WEATHER RV ISSUE

Winter Camping in Arizona

RV Winterizing

RV Storage

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How will you Remember your travels?

The laptop we would’ve used to keep in touch with the kids.

The guy from Ed’s Towing. Spent three hours with him.

Cook’s Field, the week after we missed the Bluegrass Festival.

Not all insurance is equal. Just because you have your RV insured, doesn’t mean your whole RV experience is covered. Things like personal effects coverage, vacation liability, and towing expenses are frequently left out of other carriers’ policies. But at Explorer RV, we believe it’s more than just your RV we’re covering. It’s the travels, the good times, the memories. Visit us online to learn more or to get a quote.

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Hello and welcome back to another edition of RV Consumer E-Magazine. Some folks enjoy camping year round while others put their RV in storage during the colder winter months. Regardless of your decision, there are a few topics that need to be addressed when the temperatures start to plummet.

When the leaves start falling and the grass quits growing I like to discuss some preventive and routine maintenance that will help protect your RV and ensure that it will be ready for next year’s camping season.

For the do-it-yourselfer these checks and procedures are easy to perform, and can save you time and money. If you don’t feel comfortable working on your RV you can have the work completed by a reputable RV repair facility.

Enjoy this edition of RV Consumer e-magazine. Mark

www.rveducation101.com
www.rvconsumer.com

“There I nothing quite like a crisp cool morning on a camping trip, sitting outside enjoying a hot cup of coffee & enjoying nature.” ~ Mark Polk
RV Education 101 has a new RV video site designed to help educate you on RV how-to topics, RV products, RV tips and much more.

With over 80 informative RV videos RV101.TV is your #1 RV video source on the web. The videos are grouped by category covering every RV topic imaginable, so it’s easy to find what you are looking for or what you want to learn more about.

When you visit the site just click on the video category you are interested in to start watching and learning right now.

Learn about your RV the easy way at RV101.TV

Go where the RV takes you
It’s always sad to come to the realization that another camping season is winding down. Depending on where you live, part of this realization is preparing the RV for winter storage so it will be ready to go camping again next spring. A major part of winterizing your RV is to protect the RV water system from potential damage caused by exposure to freezing temperatures. Frozen and damaged water lines are in fact the most common problem related to not winterizing your RV, or not properly winterizing your RV.

The RV plumbing system is the most vulnerable to damage caused by plummeting temperatures. The good news is, it is easy to protect the RV water system from this potential threat. Here are my top 7 steps to winterize your RV plumbing system.

Before you get started there are a few items you will need to have. These items can be found in most RV parts stores:

1) Non-toxic RV/Marine antifreeze. The amount depends on the layout and length of your plumbing lines. Two to three gallons will normally do the job.
2) A water heater by-pass kit, if not already installed.
3) A wand to clean out the black water holding tank if the RV doesn’t have a built-in clean out system.
4) A water pump converter kit, or tubing to connect to the inlet side of the water pump.
5) Basic hand tools to remove and install drain plugs.

Note: Be sure and read your owner’s manuals for unit specific winterizing guidelines. Follow the steps below that apply to your RV.

Step # 1: If you have any inline water filters remove and bypass before starting. Drain the fresh water holding tank. Drain and flush the gray and black water holding tanks. If the RV doesn’t have a built in flushing system clean the black tank out with a wand. Drain the water heater. Open the pressure relief valve and remove the drain plug.

Caution: Never drain the water heater when it is hot or under pressure. With no water hooked up to the RV and the water pump off open a hot water faucet to remove any pressure on the system. Allow the tank to cool before draining.
Step # 2: Open all hot and cold faucets; don’t forget the toilet valve and outside shower. Locate and open the low point water drain lines. Use the water pump to help force most of the water out of the system, but turn it off as soon as the system is drained to prevent damaging the pump. Recap all drains and close all faucets.

Step # 3: Bypass the water heater. If you do not have a by-pass kit installed the water heater will fill up with RV antifreeze before it goes through the water lines, wasting six or ten gallons of antifreeze.

Step # 4: Install a water pump converter kit, or disconnect the inlet side of the water pump (the line coming from the fresh water holding tank) and connect tubing from the water pump inlet into a one gallon jug of RV antifreeze.

Step # 5: Turn the water pump on and pressurize the system. Starting with the closest faucet to the pump, slowly open the hot and then cold valves until the red colored RV antifreeze appears. Replace the antifreeze container as required. Repeat on all faucets from the closest to the farthest away. Don’t forget the outside shower.

Step # 6: Flush the toilet until antifreeze appears. Pour a cupful of antifreeze down each drain. Pour some RV antifreeze in the toilet and flush into the holding tank to prevent any water in the tank from freezing.

If your water heater has an electric heating element, turn it off. This will protect the element if the unit is plugged in while in storage. Make sure all faucets are closed.

Step # 7: Consult your owner manuals for winterizing other items like icemakers and washing machines.

The unit is winterized. Now, next spring when it’s time to head out in the RV you won’t have any unpleasant, not to mention costly, surprises waiting for you.

RV 101

This was a crash course. To learn how-to properly winterize the RV water system and prepare your RV for storage check out our winterizing & storing DVD

Also available as an e-book
Water Heater Bypass Kit
A water heater by-pass kit can save you money in two ways. It saves from using an extra six or ten gallons of non-toxic RV antifreeze needed to fill the water heater tank when it’s time to winterize your RV, and it prevents costly damage like ruptured water lines or a ruptured water heater tank.

Water Pump Converter Kit
To make the task of winterizing the RV even easier you can install a water pump converter kit. A water pump converter kit basically gives you an easy way to introduce the non-toxic RV antifreeze into the RV water lines.

Carbon Monoxide Safety
Remember, carbon monoxide gas is invisible, odorless, and deadly! It is produced by the partial combustion of solid, liquid and gaseous fuels. This includes gasoline, propane, natural gas, oil, wood, & coal. It is extremely serious when combustion by-products are not vented outside or not operating properly. Carbon Monoxide is the number one cause of poisoning deaths each year. Always test the CO detector for proper operation prior to a camping trip and if your RV doesn’t have a CO detector purchase and install one approved for use in RVs.

Cold Weather Battery Tip
When a battery is not recharged in a timely manner the sulfate material that attaches to the discharged portions of the plates begins to harden into crystals. Eventually this sulfate cannot be converted back into active plate material and the battery is ruined. Lead Sulfation will occur when a battery’s state of charge drops below 80 %, or 12.4 volts. Recharging a battery at an 80% state of charge will prevent battery sulfation.
Q: What is the magic number, in degrees, that you need to have your RV water system winterized?

A: That’s kind of a tricky question. Of course water freezes at 32°F. If the temps go back up (above 32°F) during the day chances are it would not freeze enough to cause damage to the RV plumbing system. But, this depends on other factors like the type of plumbing lines and fittings used in your RV as well.

My recommendation is if you live in an area where temperatures drop to 32°F or below, you should winterize the RV and then you have nothing to worry about.

I can winterize our RV in about 15 minutes if I have all the supplies on hand, and it is fairly inexpensive too. Kind of like cheap insurance to protect your investment. If you are interested in learning how you can winterize your own RV and save time and money check out our Winterizing DVD for more information.

To stay current with what’s happening in the world of RVs between magazine issues visit our Blog. We post informative RV tips and information a couple times per week. There is also an option to follow the Blog via e-mail. Just look on the right sidebar and when you sign up you’ll be notified each time we make a post.

RV Quick Tip

If you haven’t purchased your RV yet and you know you will be using an RV in cold weather make sure to include an arctic package option when you buy it. Some packages include higher R-factor insulation, enclosed underbelly, heated holding tanks, dual pane windows and more.
Subscriber’s Special

Purchase an 11 or 12 DVD Box Set and get our number 1 selling Checklist for RVers e-book FREE.

Our DVD box sets teach you everything you need to know about your RV. These DVD sets are a great value for the money and they make a great gift for the RVer on your Christmas list too.

To see what each DVD box set includes click on the type of RV you are interested in.

- Travel Trailer 11 DVD Box Set
- 5th Wheel Trailer 11 DVD Box Set
- Type C Motorhome 12 DVD Box Set
- Type A Motorhome DVD Box Set
**In the News**

From: [Outdoor Foundation](http://www.outdoorfoundation.org)

2012 Special Report on Camping

A study released by The Outdoor Foundation finds that almost 43 million Americans participated in camping last year. The 59-page American Camper Report provides detailed data and analysis on camping trends throughout the United States. The report presents information on overall participation, preferences, buying behavior and the future of camping. For the first time in the history of this report, people within the camping industry share the trends that they are seeing in the field.

[Read More and download the PDF report](http://www.outdoorfoundation.org/)

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From [Reuters.com](http://www.reuters.com)
By Lou Carlozo
NEW YORK

**Rambling retirees trade homes for boats, RVs, sofas**

There are no good statistics on just how many boomers are taking retirement on the road. But some indicators - steadily rising traffic at houseboat and recreational vehicle websites, and a growing number of retirement-age members on couchsurfing.com - confirm the trend. [Read More](http://www.reuters.com/)

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From [Fox News](http://www.foxnews.com)
By Kara Rowland

**Proposed federal budget cuts would deal blow to Americans’ beloved parks**

As many as 200 parks across America could greet visitors with “Sorry, but we’re closed” signs come January unless Congress reaches a deal to stop automatic, across-the-board cuts to domestic and military spending -- including an estimated $218 million less to the National Park Service, according to a conservation group.

[Read More](http://www.foxnews.com/)

**Note from Mark:** It is my opinion that we, as stewards of the land, are responsible for protecting and ensuring our national & state parks are left the way we found them for future generations. I find it appalling that this is where the government cuts the budget to make up for the ridiculous deficits it created in the first place.
When you hear the term “winterizing” the first thought that comes to mind is to protect the RV water system from potential damage caused by exposure to freezing temperatures. Frozen and damaged water lines are a big concern, but there is more to winterizing your RV than just protecting the water system from freezing.

The English dictionary definition for winterize is to prepare something, especially a house or an automobile, to withstand cold winter conditions. What I find interesting about this definition is that your RV is essentially a house and automobile combined. With that said, winterizing your RV would entail more than just preparing the water system for cold winter conditions. We would need to be concerned with preparing the RV’s interior, exterior and chassis, from the harsh winter months. We already discussed winterizing the plumbing system so now I want to discuss some tips for preparing the RV interior, exterior and the chassis for cold winter storage.

**RV Interior**

When RVs are stored for the winter it’s not uncommon for mice and squirrels to make their winter home in the RV. These rodents are notorious for chewing through vehicle wiring, plastic and rubber components, resulting in extensive damage to the RV.

Possibly, the most important step is to try and prevent mice and other rodents from being able to access your RV. This can be difficult because they can enter the RV through some very small openings. Start by inspecting the underside of your RV for any gaps or holes. Fill these gaps using silicone or expanding foam. A word of caution, if you never used expanding foam before you should experiment with it on something other than your RV first. When it dries it can expand a great deal more than you expect. Next, open drawers and cabinet doors inside your RV. Look in all of the corners and crevices, especially where plumbing and wiring enter the RV. If you can see any daylight mice can get in. Fill these areas with silicone or foam.

Remove all food from the RV when it’s being stored and thoroughly clean the RV to remove any remnants of food that might attract mice and other rodents.
Some people say mothballs help deter mice from making their home in your RV, and others say an alternative to mothballs is dryer sheets, like Bounce. I have talked to people who swear they work, and the smell is much more pleasant. If you are close to where your RV is being stored you may want to use conventional mouse traps and check for mice every week or so.

Next you should defrost the freezer compartment and clean the refrigerator. Leave the doors open and place baking soda in the compartments to absorb any odors. If the RV is in long-term storage, and won’t be plugged in to electricity, it’s a good idea to turn off the main breaker in the distribution panel. Turn all LP gas appliances off and turn the LP gas supply valve off. Close the window blinds to avoid sun exposure to the carpet, drapes and upholstery. Leave doors drawers and cabinets open. Clean the A/C filter(s). If you have vent covers installed on the overhead vents, that prevent rain from getting inside, leave them cracked open to allow for some ventilation. Remove any dry cell batteries from devices like smoke alarms, clocks etc.

**RV Exterior**

When you store your RV outside for extended periods the exterior begins to show signs of wear, caused by the constant exposure to the elements. Ozone in the air and ultraviolet, (UV) rays from the sun start to take their toll. Ozone causes the paint to fade and makes products like rubber and vinyl dry out, crack, and start to deteriorate. The UV rays from the sun make this aging process happen quicker. Before you store your RV you need to give the exterior a thorough cleaning. Whenever I’m washing or cleaning anything, whether it’s an automobile or the RV, I start from the top and work my way down. It’s a good idea to clean the RV roof before putting the RV in storage too. The type of roof your RV has will determine the cleaner you will need to use. Wash the exterior and if you’re really motivated wax it, using a quality wax formulated for the type of exterior surface your RV has. A good coat of wax protects your RV finish the same as it does an automobile. When you are cleaning the RV exterior inspect all roof seams, body seams and window sealant for any cracks and openings that would allow water to get in. Consult your RV dealer for sealants compatible with these materials and seal as required.

Don’t forget to clean the awning fabric, and let it dry completely before storing it. If you have a pop-up or hybrid trailer make sure all of the tenting material is clean and dry before storage.

Ideally you should try to store your RV under a covered area and on a solid surface like pavement or concrete. If this isn’t possible avoid parking under trees and in tall grass, fields or wooded areas.
If the RV won’t be parked under some type of covered shelter you may want to invest in a cover. Covering your RV can be a logical and cost effective way to help protect your investment. If you decide to use a cover make sure it is made of a breathable material.

Service all locks with a spray lubricant and lubricate all hinges. Insects are attracted to the odorant added to LP gas. You may want to cover LP gas appliance vents to prevent insects from making their winter home inside these vents. If you do cover the vents, remember to remove the cover next spring.

**RV Chassis**

Just like the exterior of the RV, the tires on your RV can be damaged by the harmful UV rays from the sun. Inflate the tires to the manufacturer’s recommended pressure and cover the tires with covers that will block out the sunlight. Place something like a piece of wood between the ground and the tires. Frozen ground and petroleum based surfaces, like asphalt, can damage tires over time. Make sure that whatever you use to block the tires is larger than the footprint of the tire. No portion of the tire should hang over the edge of the tire block; this can cause internal damage to the tire. For trailers, chock the wheels front and rear. If you are storing a pop-up outdoors angle the tongue downward to assist in snow and water run-off.

Battery maintenance is an important part of winter storage preparation.

If you plan to start the unit while in storage, and to periodically plug the unit into shore power leave the batteries in the unit. Plugging it into shore power once a month for about eight hours will help keep the coach batteries topped off. At a minimum you should check and adjust the water levels in all batteries and make sure the batteries are fully charged. A discharged battery will freeze much quicker than a fully charged battery. If the RV is in long-term storage it’s better to remove the batteries and store them where they will not freeze. In either case keep the batteries fully charged when they are in storage.

**Note:** If your converter charger doesn’t have a three stage charging system (or storage maintenance mode) don’t leave the unit plugged in constantly. This could overcharge the batteries and deplete the electrolyte levels.

If it’s a motorized RV you should fill the fuel tank prior to storage and add a fuel stabilizer. Run the engine and the generator long enough for the stabilizer to get through the entire fuel system. Change the oil and oil filter on the engine and the generator prior to storage. Acids accumulate in used oil and can corrode engine bearings, especially while sitting for long periods of time. If possible exercise the generator for at least two hours every month with a minimum of a ½ rated load on it. Consult your generator owner’s manual for load ratings. **RV 101**
When winter weather approaches each year some folks like to leave the colder climates in search of warmer temperatures. In RV terms these folks are referred to as snowbirds. Snowbirds usually seek out a campground or RV resort where they plan to stay put for weeks or months at a time.

This is a great way to escape from the cold weather, but it can present some maintenance considerations you are not accustomed to. Normally when you plan a trip in your RV you conduct some type of pre-trip checks to make sure the RV is properly prepared for travel. When it’s time to leave the campground you perform these checks again for the return trip. But what happens when you find that perfect campground or RV Park and stay put for extended periods of time? Do you conduct routine maintenance checks on the RV to make sure it is in a safe and operable condition while it’s parked? To help you out we produced a video offering some extended-stay maintenance checks to keep your rig in tip-top shape while it is parked at the campground. Enjoy the video.

Watch Extended Stay RV Maintenance Checks Video

Play Cold Weather RVing Crossword

For clues read Mark’s Cold Weather RVing article
Winter Camping in Arizona

Why stay where it is cold in the winter if you have the freedom to travel? In fact, many RVers head south to warmer climes to avoid snow and below-freezing temperatures. Several Southern areas are winter destinations but Arizona is popular not only because of its climate, but because of the variety of camping situations it offers and its unique features.

“RVers who head south for the winter are often called snowbirds. A whole flock comes each year from northern states and Canada to populate this warmer state—estimates range from 300,000-400,000 people.”

Not that Arizona is summer-like; temperatures can get below freezing even in the desert plus it has mountains that receive snow. It’s the desert that usually appeals to the winter visitor because it is warmer than much of the North. Here are some popular locations for RVers:

FAVORITE CAMPING SPOTS

Quartzsite: Located 20 miles east of the California state line along Interstate 10, Quartzsite is a tiny blip of a town during the hot summers but springs to life in the winter. In January and February, thousands of RVers come for the big RV show plus the swap meets and other shows. A calendar of events is available from the Business Chamber of Commerce.

Many RV clubs and groups choose Quartzsite to meet up and camp together in the desert. RVers with interests like rockhounding and prospecting find many opportunities for these activities in the Quartzsite area; enthusiasts of four wheeling or riding ATVs find miles of roads to ride in the desert.

By Jaimie Hall Bruzenak
Options for camping include regular RV parks, makeshift parks both with hookups and those without, plus free and low-cost boondocking (camping without hookups) on government land. A list of parks can be found here.

Two types of boondocking are available in the Quartzsite area.

**Long Term Visitor Areas (LTVA)** - RVers can purchase a permit from the Bureau of Land Management (BLM) for the seven-month winter season that runs from September 15th through April 15th. Currently the cost is $180 for the season, with two-week permits available also. There are four LTVA campgrounds two miles south of town that have a centralized area with dump station, water station and trash services. Additionally there are a few handicapped accessible vault toilets, some paved / improved roads, a dance floor and a ramada. More Info

**14-day camping**: You can also camp up to 14 days within any period of 28 consecutive days in designated areas around the town of Quartzsite. When your time is up, you must move at least 25 miles to a new spot. No facilities are provided, but businesses have sprung up in town to provide the services RVers need: potable water, sani-dump, propane sales and Laundromat. A municipal landfill for trash is open to the public north of town. More Info

14-day camping on BLM land is also available in other areas of Arizona. See the map.

Land run by federal agencies other than the National Park Service may also allow dispersed camping. Quartzsite limits the areas where it is permitted because of the heavy usage, but that is usually not the case. If you can find a spot to park where you don’t damage plants, you can stay. You are not allowed to empty your tanks on the ground, so you must find a dump station periodically. Most have a limit to any one stay—usually 14 days before you have to move at least 25 miles. More popular areas may restrict stays to shorter periods.

**Boondocking preparation**: Extended stays without hookups are more comfortable if you set your RV up for boondocking. Serious boondockers usually add solar panels and an inverter plus a more efficient catalytic or ceramic heater. They often carry bladders or additional large water containers and may have a portable sewage tote to avoid moving their rig so frequently. However, RVs can be used as they are for a one- or two-night stay if your batteries are charged, your water and propane tanks full, and your gray and black tanks empty. A built-in or portable generator can also be used to recharge your batteries. How long you can boondock depends on the size of your tanks and on how conservative the occupants are with use of electricity and water. If you run all your lights, radio or TV and especially your heater, you could end up with no power.
Snowbird Resorts

At the other end of the scale in comfort and price are the many snowbird resorts that offer numerous amenities to their winter residents. The greater Phoenix area, Tucson, Casa Grande and Yuma have any number of RV resorts that offer seasonal rates for the winter and plenty to do. More Info

Another example of resort living in the Phoenix area is Mesa Spirit RV Resort. It has three heated swimming pools as well as five heated spas and lighted tennis and shuffleboard courts. There are all sorts of craft rooms, two billiard rooms, a horseshoe area, a putting green with driving nets, miniature golf course, a library and picnic areas with gas BBQs. They too have entertainers performing all winter.

If by chance you can’t find enough to do in the park, transportation is provided by some resorts to outside entertainment and activities or even overnight bus trips. They are active retirement communities, the main difference being your living facility.

And in between

Many of Arizona’s RV parks and resorts fall somewhere in between the two extremes, costing less than the big resorts and offering fewer amenities, but offering good deals price-wise for the snowbird who wants to spend the winter. These include some membership parks like Encore and Thousand Trails, as well as small “mom and pop” parks.

Las Colinas RV Resort in Casa Grande is an example; if you rent for six months, your monthly rate drops below $400 a month and if you lease a spot for a year, your rate is slightly above $200.
**Unique Features**

While snowbirding in the Arizona desert, you'll find the state has much to offer. For example:

**Quartzsite:** You'll find a colorful history of mining and army activity in the area. General Patton trained his troops in the nearby desert. Prior to that, the U.S. Army experimented with using camels in the desert.

The grave of Hi Jolly, the first camel driver, commemorates that piece of history. Large intaglios or rock figures can be found near Quartzsite. The Fisherman Intaglio lies off Plamosa Road, north of town. An even larger one, the Blythe Intaglio, can be found in California, just across the state line.

In town, the Tyson’s Wells Stage Station Museum offers exhibits on Quartzsite’s mining history. The Chamber office in Quartzsite has information about all sorts of things to do.

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**Desert Oddities**

The Desert Bar or Nellie E Saloon, north of Parker, is an old mining camp that is now a huge outdoor bar.

Everyone should visit once! It’s only open on weekends during the winter season and they accept only cash. In Lake Havasu City the 1831 London Bridge that spanned the Thames River now spans the Colorado River. Robert McCulloch, developer of Lake Havasu, purchased the bridge in 1962 and spent several years reconstructing it. One last oddity: “The Thing” in Dragoon.

Billboards on I-10 for miles in either direction will let you know where to stop. For a small fee, you can satisfy your curiosity!

**National Parks**

Southern Arizona has a number of national parks. Organ Pipe Cactus National Monument, Saguaro National Park East and West, Chiricahua National Monument, and Tumacácori National Historical Park are the larger, better known ones. [More info](#)
Access to Mexico
Snowbirds have discovered that dental care and medicines are much less expensive in Mexico. Algodones, a short drive from Yuma, and Nogales, south of Tucson, are easily accessible. Ask fellow snowbirds for their recommendations.

Other Natural Attractions

Botanical gardens in Phoenix and Tucson, as well as Boyce Thompson Arboretum and the Arizona-Sonora Desert Museum showcase plants of the desert and are fascinating places to spend time.

Kitt Peak National Observatory, west of Tucson, offers tours and nightly observing programs with some of the finest night skies in the world.

No matter what your interests, there is plenty to do and see in Southern Arizona. Phoenix and Tucson offer some excellent museums plus day trips and hiking are plentiful throughout Southern Arizona. You’ll have interesting speakers, sporting events like golf tournaments and baseball spring training games, as well as other festivals to choose from all winter long. Arizona even has wineries. Check the Arizona Travel and Tourism site for more suggestions.

Happy winter camping, Jaimie

Jaimie Hall Bruzenak is an RV lifestyle expert who writes about living and working on the road.

Jaimie has authored: Support Your RV Lifestyle! An Insider’s Guide to Working on the Road

And co-authored with Alice Zyetz.: RV Traveling Tales: Women’s Journey’s on the Open Road

Retire to an RV: The Roadmap to Affordable Retirement

and The Woman’s Guide to Solo RVing

For more information visit The RV Lifestyle Experts
Can you afford to retire to an RV?

Is the RV lifestyle for you?

And … What is the RV lifestyle?

Dear Future Retiree:

*Retire to an RV-The Roadmap to Affordable RV Retirement*, now in a print edition, provides you with the information to make that decision.

RV lifestyle experts, Jaimie Hall Bruzenak and Alice Zyetz, share their combined knowledge based on 17 years on the road and five previous books. They are joined by 41 solo and couple RVers who have contributed their real-life experiences.

Here’s what you’ll learn to help you make your decision.

**INTRODUCTION:** 16 RVers describe how they save money living on the road. Pages 4-9

**55 WAYS TO SAVE MONEY** while living the RV Lifestyle. Pages 188-192

**LINKS TO 200+ RESOURCES** for additional information. Pages 178-187

“*Retire to an RV-The Roadmap to Affordable RV Retirement* is by far the most comprehensive guide to full-time RVing I have ever seen. It is easy to read. In addition to getting the authors' knowledgeable information on all these topics, the opinions and comments from numerous other full-time RVers covers all of the bases. For anybody planning, or just considering full-time RVing this is a must, must read. Great book!“

~ *Mark Polk RV Education 101*
I LOVE WHERE WE ARE AT THIS VERY MOMENT IN OUR RV

BUT,

I WANT TO SEE WHAT IS OVER THE HORIZON TOO ~ MARK J POLK

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with MARK POLK

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BARGAIN ROOM
If your RV has an EPDM or TPO roof it’s important that the roof is kept clean and maintained.

To help folks learn how to properly clean and maintain their RV roof Dicor has come out with a series of informative RV roof care videos, with me as your host.

Visit the links below to watch & learn more about your RV roof.

Cleaning & Protecting your RV Roof

How to Maintain Roof Sealants

How to Determine Roof Types

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The two most common causes for RV battery failure are undercharging and overcharging. Undercharging is a result of batteries being repeatedly discharged and not fully recharged between cycles. If a battery is not recharged the sulfate material that attaches to the discharged portions of the plates begins to harden into crystals. Over time this sulfate cannot be converted back into active plate material and the battery is ruined.

This also occurs when a battery remains discharged for an extended period of time, like during storage. Sulfation is the number one cause of battery failure. The second leading cause of battery failure is overcharging. Overcharging batteries results in severe water loss and plate corrosion.

With that said let’s look at how to properly store your RV batteries.

Before we talk about storing the batteries we need to talk about battery safety. Lead acid batteries contain sulfuric acid which is extremely corrosive and can cause severe burns or even blindness. And the hydrogen gas that batteries produce, when they’re charging, is very explosive. When you work around batteries you need to wear safety glasses and gloves, remove all jewelry and do not smoke or use any open flames. Caution: If you accidentally get battery acid on your skin, flush it with lots of water and if it gets in your eyes flush with low pressure water for 15 minutes and call a doctor.

When you put the RV in long term storage it’s a good idea to remove the batteries and put them in storage too. This is quite simple to do. The first thing we want to do is visually inspect the batteries for any obvious damage. Any fluid on or around the battery may be an indication that electrolyte is leaking from the battery. A damaged or leaking battery should be replaced immediately. Whenever you remove any battery always remember to remove the negative terminal or cable first, and then the positive cable.

Battery Tip: When you remove a battery turn off the ignition switch, all electrical switches, and any battery disconnect switches before you disconnect the battery cables. When you remove any battery cables label them first so you remember how they go back on the battery. When you reinstall the battery do it in the reverse order. Install the positive cable first and then the negative cable.
Clean the batteries with a 50/50 mixture of baking soda and water if necessary. Now you can check the electrolyte level in each cell and add distilled water if necessary. The minimum level required, before charging a battery, is at the top of the plates. If it’s below the plates add enough distilled water to cover the plates before you charge the battery.

Test the battery state of charge with a voltmeter or hydrometer and charge any batteries that are at or below 80%. An 80% charge is approximately 12.5 volts for a 12 volt battery and 6.25 volts for a 6 volt battery. Lead sulfation starts when a battery state of charge drops below 80%. After charging the batteries check and fill each cell to 1/8 inch below the fill well with distilled water. Overfilling cells will cause battery acid to overflow.

**Caution:** Batteries should only be charged in a well ventilated area and keep any sparks and open flames away from a battery being charged. Check the electrolyte levels before and after charging batteries.

A discharged or partially charged battery will freeze much faster than a charged battery. Store the batteries in a cool dry place but not where they could freeze. Batteries in storage will lose a percentage of current through internal leakage. It’s not uncommon for a battery to discharge up to 10% a month when it is being stored. Cold temperatures slow this natural discharge process down and warmer temperatures speed the process up. Test the stored battery state of charge every month and charge batteries that are at or below an 80% state of charge.

Completely charge the batteries before re-installing them next spring. For optimum performance you can equalize the batteries after they are fully charged. An equalizing charge is an increase in charging voltage similar to a bulk charge to convert any crystallized lead sulfate back into its original components.

If you decide to leave the batteries in the RV while it is in storage remember to check the state of charge monthly and charge any batteries at or below an 80% charge. Some RV converter multi-stage chargers and aftermarket chargers are designed to maintain a float charge on the battery without removing the batteries from the RV. Remember, for the converter charger to work the RV will need to be plugged in to electricity. **For more information on RV batteries check out our Deep Cycle Battery Care & Maintenance DVD**
Click here to view our complete line of RV Training Products
Our goal with RV Consumer E-Magazine is to provide you with helpful information to make all of your RV experiences more enjoyable. I left my position as an RV Sales and F&I manager in 2000 to start RV Education 101.

We produce RV educational videos & DVDs and publish books and e-books on how to safely & properly use and maintain your RV. The reason I left my job was because of my concern about the lack of educational and safety awareness material available to the RV consumer, in other words you.

My wife Dawn left her position in RV sales to help start the company, and is our Sales and Marketing Director. We currently have a 35-foot Class A motor home. We have two boys, Tyler 15 and Josh 22, both avid RVers and three dogs, Roxie, Gracie and Buck. If you would like to learn more about us and about RV Education 101 please visit www.rveducation101.com

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