

# RV Consumer e-Magazine

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Issue 11



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## Cold Weather Camping, Maintenance & Storage



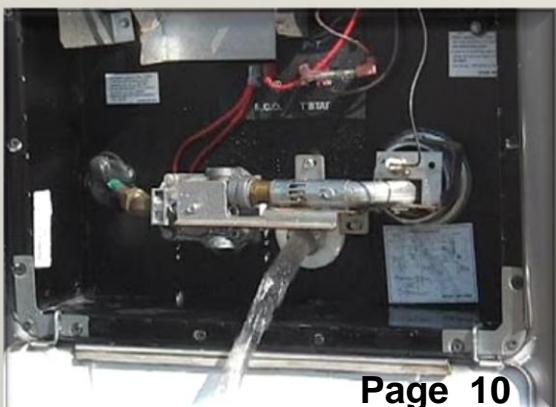
Top 5 RV Cold Weather Maintenance Tips

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When you live less than 100 miles inland from the North Carolina coast for 30 plus years you become somewhat of a veteran dealing with hurricanes. You keep a portable generator, a small propane cook top stove and lanterns on hand and ready to use. As the storm approaches you stock up on supplies like food and water and hunker down with expectations of flooding, downed trees and no electricity.

It would take both hands to count the number of times we went through this process. Afterwards you wait patiently for electricity to be restored and you start cleaning up.

I always say that one benefit of RV ownership is having shelter, or an escape from approaching storms. This time as Hurricane Matthew approached we made the decision to pack the RV and head in the opposite direction. Prior to leaving we emptied most of the refrigerator and freezer, parked the vehicles in the garage and put some outside furniture and plants away.

We were extremely grateful to have the RV. It was a bit difficult getting back home due to washed out roads and flooding, but we made it. Now the chore of restoring things to normal starts. Because of the storm, and time restraints, I am reprinting some articles from past issues.

Enjoy this issue of RV Consumer Magazine, and if you have RV friends and family tell them to subscribe, and to like us on [Facebook](#)

Happy Camping,  
~ Mark



## RV Consumer Magazine

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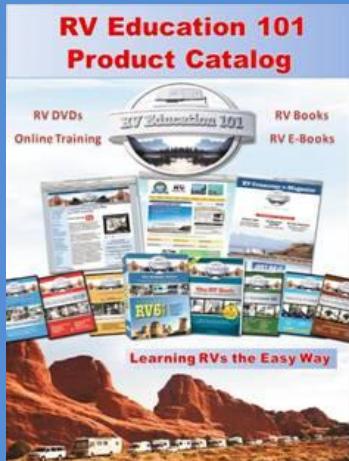
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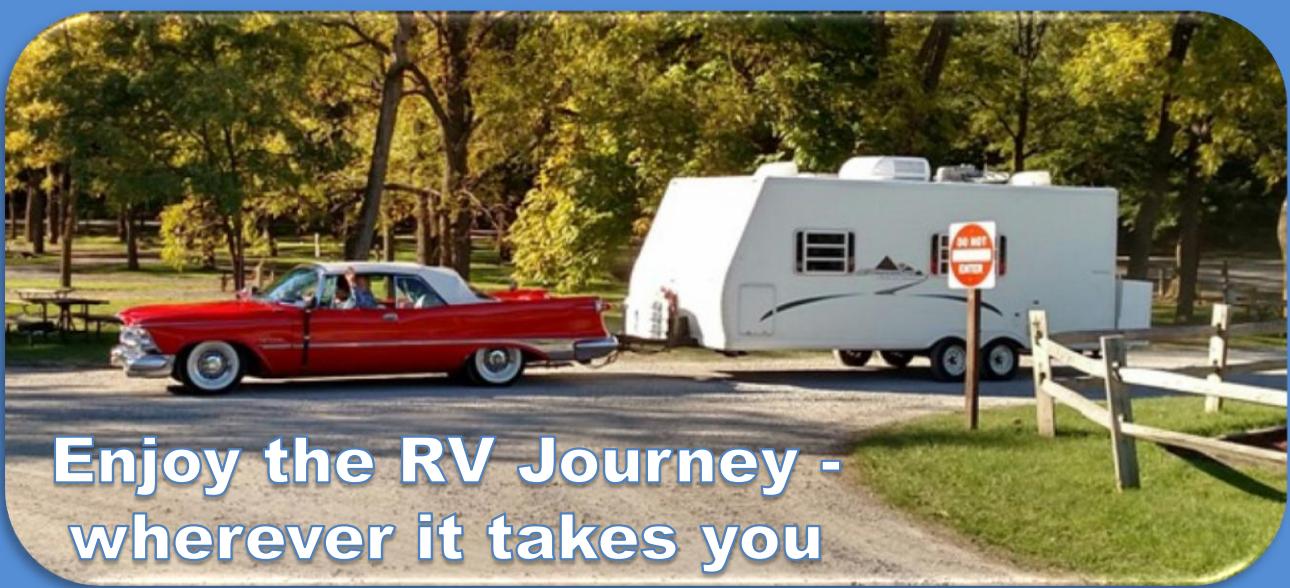
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**Enjoy the RV Journey -  
wherever it takes you**

# Fall & Winter Camping

## Tips



By Mark Polk

Rather than swimming pools and flip-flops it's time to think about campfires and hiking boots.

Fall and winter camping season is here. Autumn ushers in shorter days, colder nights, spectacular landscapes and prime RV camping season. There's just something about getting the sweatshirts and sweatpants out and sitting around a campfire gazing at a star-filled sky that makes cold weather camping special.

As for the RV, you want to make sure the furnace is operating properly prior to taking any cold weather camping trips.

[Click here to watch the video](#)

You can enjoy a trip to the mountains or a solitude journey to the beach after all the swimmers and sunbathers are gone for the season. You can go tailgating at a college football game or plan a Thanksgiving RV trip with family and friends.

The point is just because summer is over doesn't mean camping season is over. You can enjoy camping in colder regions of the country too, even if the RV water system is already winterized to protect it from freezing. It is actually much easier to winterize an RV than most people think it is, and it's not very

expensive either. I have winterized and de-winterized our RV as many as three times during one winter.

The good news is, it is still possible to use the bathroom facilities when you are traveling with the RV winterized. We take one gallon jugs filled with water to use in the toilet, and if your holding tanks are not heated you can add some RV antifreeze to the gray and black water holding tanks to prevent the contents from freezing. Add the RV antifreeze through the toilet for the black water holding tank and down the shower or tub drain for the gray water tank. The antifreeze will also protect the shower or tub P-trap which is usually located below floor level.

The amount of antifreeze required for the holding tanks will be based on the size of the tanks, and it will be necessary to add more RV antifreeze as waste water is added to the tanks to prevent the antifreeze from being too diluted.

Don't allow the holding tanks to fill completely before emptying them during cold weather camping. This will reduce the chance of freezing, and possible damage to the holding tanks.

Take bottled water along for drinking and other needs like cooking, washing and brushing your teeth when the RV is winterized. We have a five gallon jug we always take on trips, filled with tap water from our house, for our pet's drinking water and other needs. This really comes in handy when the RV is winterized.

When we arrive at our camping destination I try to select a site that is exposed to the sun throughout the day, but also where there is some type of wind-break available. Position the RV on the site so the front or rear is facing the brunt of any wind, not the sides of the RV. If electricity is available I de-winterize the water system so we can use the sinks, toilet and shower. All of the water lines in our RV are above floor level, in heated space, so we don't need to be too concerned about the water system freezing **as long as the RV has heat**. We leave the water heater turned on whenever the water heater tank is full so there is no chance of it freezing. Some water heaters operate on LP gas and electricity. Keep in mind if it's in the electric mode it will use 9 to 13 amps.

It's important that you know where all of the plumbing is located on your RV. Some RVs have heat ducts going to the basement storage areas where the water system is exposed to outside temperatures, but many RVs do not. If portions of the RV water system are below floor level, in areas that are not

heated, it is possible for it to freeze and damage the water lines. If you are hooked up to an external water supply one option is to use a heated RV drinking water hose to protect the water supply from freezing temperatures.

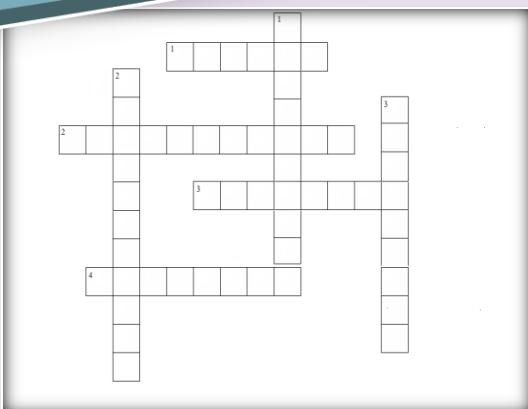
[Click here to watch video](#)

If it is really cold outside and the possibility exists that the outside water supply could freeze, or if the campground water supply is shut off for the winter, I fill our fresh water holding tank and use it for all of our water requirements. Again, keep in mind where your fresh water tank is located; ours is in a heated area. If the campground shower facilities are still open it's a good idea to use them to avoid the gray water holding tank from filling so quickly. In this situation it might be in your best interest to keep the RV winterized and just use the campground facilities.

The best source for heat is to use the RVs forced air furnace. Click to read my [5 Minute Fix to a Warmer RV article](#)

Cold weather camping trips in your RV can be lots of fun with a little prior preparation and planning. Whether you head north, south, east or west get out and enjoy some cold weather RV camping. ~RV101

# RV Play & Learn



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## [RV Storage Puzzle](#)

# RV Storage “TO DO” List

- ✓ Wash the RV & clean the interior.
- ✓ Don't forget to cover the tires.
- ✓ Clean the refrigerator, put baking soda in compartment and leave doors cracked open.
- ✓ Remove all dry-cell batteries.
- ✓ Inspect the roof seams body seams and sealants. Reseal as needed. Use the proper sealants.
- ✓ Remove all consumables that would attract mice and other rodents, and anything that can freeze.
- ✓ Turn LP gas off.
- ✓ Clean & dry the awning fabric.
- ✓ Look for anywhere that mice or other rodents can get it, and seal as necessary.
- ✓ Clean the air conditioner filters.
- ✓ Check and fill the water levels in all lead acid batteries.
- ✓ Charge battery and remove for storage.
- ✓ Change the engine and generator oil and oil filter.
- ✓ Fill fuel tank and add a fuel stabilizer. Run the engine and the generator long enough for the stabilizer to get through the fuel system.
- ✓ Winterize the RV plumbing system.



# RV Quick Tips: Cold Weather Camping

## The Other Antifreeze

Automotive Glycol antifreeze helps lower the freezing point of water; the corrosion inhibitors help prevent scale and rust build-up in the cooling system and it helps keep the engine operating at its most efficient temperature regardless of operating conditions and outside temperatures. **Do not use for RV plumbing systems!**

## Calculating Propane Usage

The first step is to multiply your propane container capacity using one of these formulas, (gallons or pounds), to determine the container BTU capacity. BTUs per gallon equal 91,502 or BTUs per pound equal 21,548. Next, divide your container BTU capacity by the total BTU demand of the appliances you are using. BTU appliance demand can normally be found on the appliance or in the appliance owner's manual. This will give you an idea of how long you can expect your LP gas to last.

## Carbon Monoxide Safety

Carbon monoxide is deadly. You cannot see it, taste it or smell it. Never use your range burners or oven as a source of heat. If your RV is not equipped with a carbon monoxide detector you should purchase a battery operated model designed for use in RVs. Always test the carbon monoxide detector for proper operation before each trip. Check the carbon monoxide expiration date.

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# 7 Easy Steps to Winterize your RV Plumbing System

By Mark Polk

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 the most common problems related to not winterizing your RV, or not properly winterizing your RV.



The RV plumbing system is the most vulnerable system 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 7 easy 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:

- Non-toxic RV/Marine antifreeze. The amount depends on the layout and length of your plumbing lines. Two to three gallons will normally do.
- A water heater by-pass kit, if not already installed.
- A wand to clean out the black water holding tank if the RV doesn't have a built-in clean out system.
- A water pump converter kit, or tubing to connect to the inlet side of the 12-volt water pump.
- Basic hand tools to remove and install drain plugs.

**Note:** Read your owner's manuals for unit specific winterizing guidelines. Follow the steps outlined here 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 using a tank flushing wand. Drain the water heater. Open the pressure relief valve and remove the drain plug.

**Caution:** Never drain the water heater when 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 time for 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:** By-pass the water heater. If you do not have a by-pass kit installed the water heater will fill 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 pink 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 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. Click here for information on our [Winterizing & Storing DVD](#) or [E-book](#). ~ **RV101**

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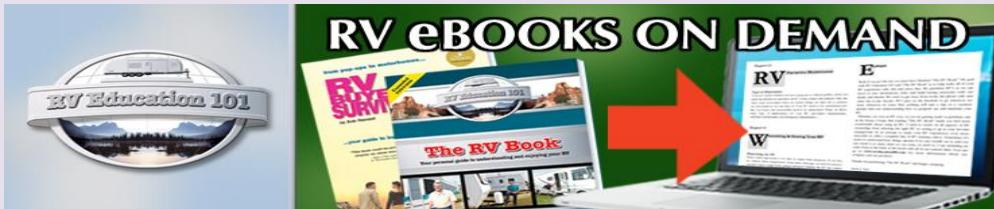
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## More Cold Weather Camping Tips

- Do not store any water hoses with water in them. When you need to use the hose it will probably be frozen. You can take it inside to thaw out if need be, or use a hair dryer.
- Covering the windows with, shades or blinds will help keep the heat in. It helps to cover overhead vent openings too.
- Leave cabinets or drawers open where water lines are located to let the heat circulate around plumbing.
- Try to avoid opening the entry door as much as possible.
- Don't forget the electric blanket. It can be a lifesaver at night.
- If you haven't purchased your RV yet and you know you will be using it in cold weather see if the manufacturer offers an arctic package option when you buy it. Some packages include higher R-factor insulation values, enclosed underbelly, heated holding tanks, dual pane windows and more.
- When your winter camping trip is over and you head back home don't forget to winterize the water system, if you expect freezing temperatures.



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In other news our brand new [RV101 YouTube Channel](#) is growing quickly with nearly 80 RV videos already posted. A new RV video will be released weekly throughout 2016, so take a minute to visit and subscribe to get notified every time a video is released.

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The new App is titled “RV Education 101” and is available through both [Apple](#) and [Android](#) App Stores. The IOS App works on iPhone, iPad and iPod touch devices.

When you open the App’s main menu it lists all of the full-feature RV training titles currently available, and you have the option to purchase individual chapters, or the entire video. And because it is an instant download with limited overhead we can pass the savings onto you.

# Prep your RV for Cold Weather Storage

By Mark Polk

Here are some tips to help prepare the RV's interior, exterior and chassis for cold weather 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 accessing 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 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; 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 into electricity, it's a good idea to turn the main breaker in the distribution panel off. 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. but remember to re-install them next spring.

## RV Exterior

When you store your RV outside for extended periods of time the exterior begins to show signs of wear, caused by 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 wash or clean 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's 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 prior to 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 the RV 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.

In addition to the RV's interior and exterior there are other important items like tires, batteries and fuel systems that need to be protected during storage.

[Visit my RVing with Mark Polk Blog](#) to get more helpful information on these topics and other helpful information on using and maintaining your RV. ~RV101

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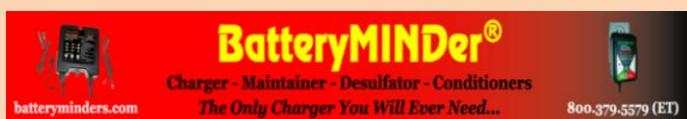
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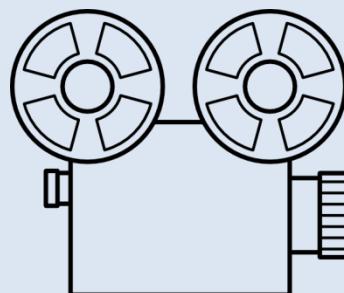
[The Battery Minder](#)



# RV Tool Box Tips

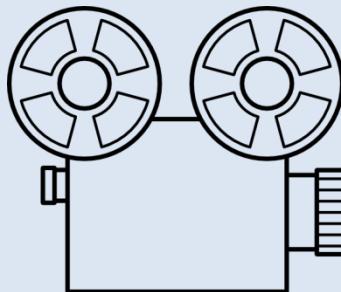


Keep a tank flushing tool in your RV tool box to keep the water heater tank clean and operating properly.

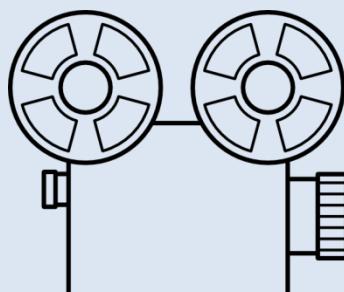


[RV Water Heater Preventive Maintenance](#)

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# Top 5 RV Cold Weather Maintenance Tips

I would like to offer some simple preventive maintenance procedures you can follow to help prepare your RV for cold temperatures, and to help prevent untimely breakdowns as a result of the colder weather.

## Here are my top 5 RV Cold Weather Maintenance Tips



**1) RV Tire Tips:** During the warmer months of the year I constantly remind folks not to check tire pressure when the tires are hot, meaning after the RV was driven more than one mile. Hot weather and hot tire temperatures cause tire inflation to increase. But something seldom discussed is what happens to your tire pressure when the mercury plummets? The answer is, when it's cold outside the air pressure in

your tires drops 1 to 2 pounds for every 10 degree drop in temperature. This means if you have not checked the tire pressure in your RV tires since that trip you took last August your tire pressure could be dangerously underinflated when you head out for the holidays. The best advice I can offer is to get in a habit of checking and adjusting tire pressure monthly, so it is correct regardless of the temperature. This applies to your automobiles too.



**2) Automotive Antifreeze Tips:** When you talk about RVs and antifreeze most folks think about the RV antifreeze used to protect the RV water system from freezing. We will talk about that type of antifreeze in a minute but first I want to talk about the automotive antifreeze used in the RV or tow vehicle engine's coolant system. Glycol antifreeze does protect your engine in several ways:

- When it's cold out it helps lower the freezing point of water.
- The corrosion inhibitors that are added to the antifreeze help prevent scale

and rust build-up in the cooling system.

- c. It provides protection against boiling during the hot summer months.
- d. It helps keep the engine operating at its most efficient temperature regardless of operating conditions and outside temperatures.

Just like engine oil the antifreeze in your RV or tow vehicle automotive cooling system needs to be replaced at regular intervals. If you have not had this service performed in the last few years check your vehicle owner's manual for the recommended intervals and schedule an appointment to have it done.



**3) RV Battery Tips:** Batteries are no different than tires and antifreeze when it comes to being affected by weather. In cold temperatures it's important that both the starting battery and coach batteries remain fully charged. A discharged or partially charged battery will freeze much faster than a charged battery. Batteries in storage will lose a percentage of the charge while they sit idle. It's not uncommon for a battery to

discharge up to 10% a month when it is in storage. Cold temperatures slow this natural discharge process down and warmer temperatures speed the process up. You should test the stored battery state of charge every month and charge batteries that are at or below an 80% state of charge, which is 12.4 volts for a 12-volt battery. If your RV converter charges the battery at a constant rate, around 13.5 volts, this is too high for a float charge and can deplete the electrolyte over a period of time. In this situation plug the RV in periodically during storage and allow the converter charger to charge the battery(s) for 8 to 12 hours. Some RV converter multi-stage chargers and aftermarket chargers are designed to maintain a float charge on the battery after the batteries are charged and will not deplete the electrolyte.

Remember, for the converter charger to operate the RV needs to be plugged into electricity. The other option is to remove the batteries and store them in a cool dry place to prevent them from freezing, but you should still check and recharge batteries that drop below an 80% state of charge. **Tip:** If you remove the batteries take a picture, or draw a diagram of how they are connected to assist with installing them again next spring.



**4) RV Fuel System Tips:** Number four on my list is adding a fuel preservative to the fuel system, especially if you have an on-board generator. **Tip:** This applies to other gas powered engines too, like lawnmowers, weed eaters, and portable generators that tend to sit in storage for months at a time. The fuel that sits in the small needle valves of a carburetor can begin to breakdown and gum up in a very short period of time.

The result is the engine may not start, or run properly next spring when you take it out of storage. A fuel preservative can prevent this from happening. Add the recommended amount of fuel preservative to the fuel tank and run the vehicle engine and generator long enough for the preservative to get through the entire fuel system. Another good idea is to change the oil and oil filter on the vehicle engine and the generator prior to storage. Acids accumulate in used engine oil and can corrode engine bearings, especially while sitting for long periods of time.



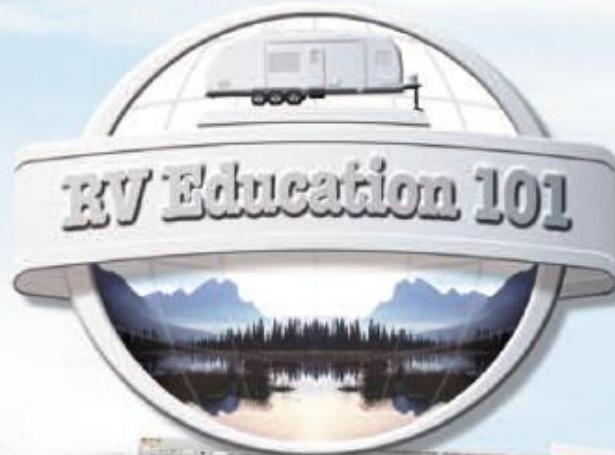
**5) RV Winterizing Tips:** Last but certainly not least is winterizing the RV water system. The RV plumbing system is the most vulnerable system to damage from plummeting temperatures. To protect it from freezing you need to add non-toxic RV/marine antifreeze to all of the water lines in the RV. It's not that difficult to winterize the water system yourself, or you can schedule an appointment with a RV repair facility to winterize the RV for you.

The important thing is to have it done before temperatures drop below freezing. To learn how to winterize the RV yourself we offer a [winterizing and storing DVD](#) demonstrating exactly how it's done.

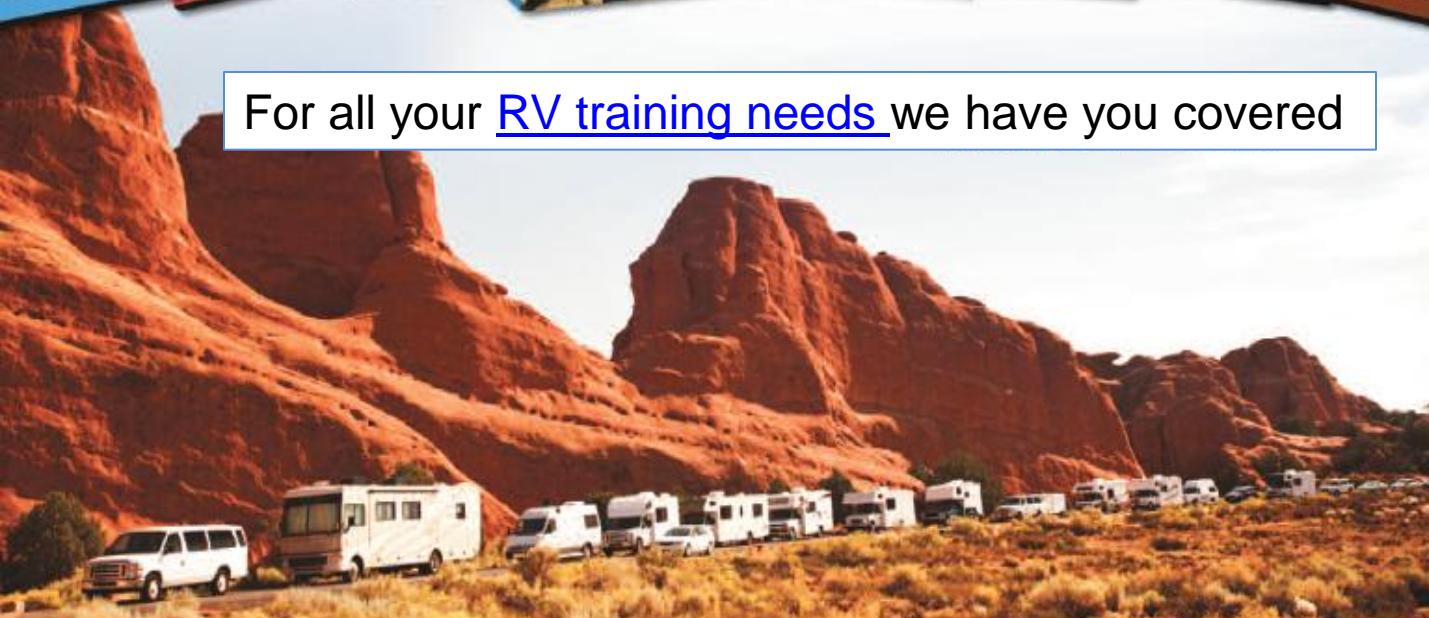
There you have it, my top 5 cold weather maintenance tips. If you are not comfortable doing any of these preventive maintenance procedures yourself have the work done by a reputable repair facility. You will be glad you did next spring when the RV is ready for the first camping trip of the new year.

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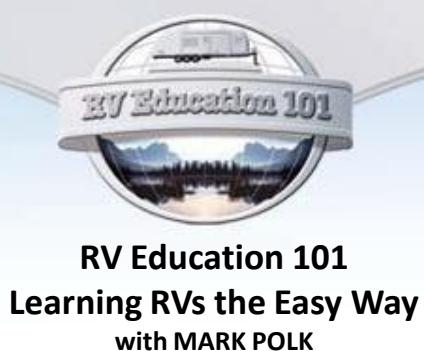
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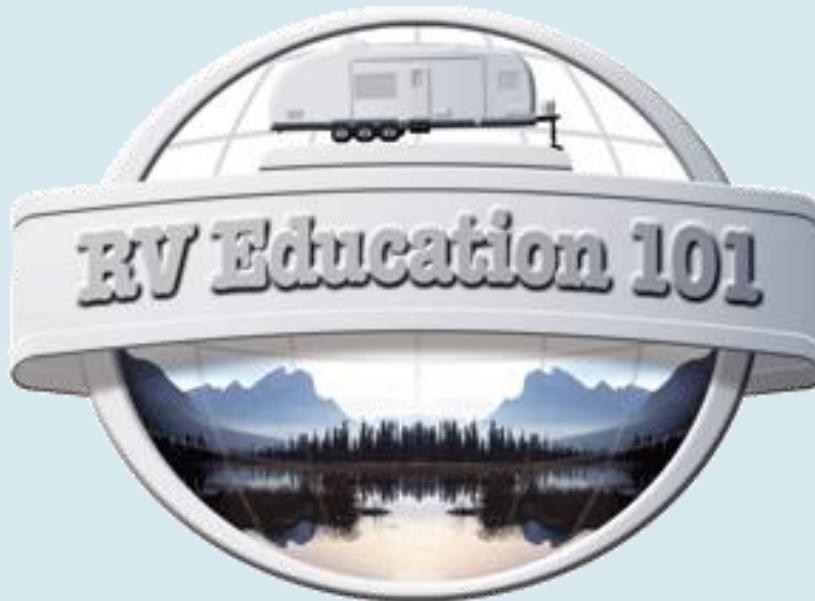
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Our goal with RV Consumer E-Magazine is to provide you with helpful information to make all of your RV experiences more enjoyable. I left my position as an RV Sales and F&I manager in 2000 to work RV Education 101 fulltime.

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 Type A motor home and travel with our three dogs Roxie, Gracie & Mo-Mo. If you would like to learn more about us and about RV Education 101 please visit

[www.rveducation101.com](http://www.rveducation101.com)

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