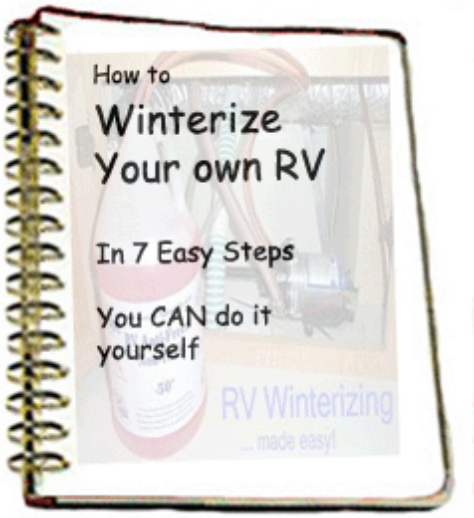


Between the last camping trip and the first cold night, the majority of RV owners are scrambling to get their units prepared for winter's cold.

Winterizing an RV water system can be quick and painless or an experiment in total frustration, depending upon how you go about it. By following these step by step instructions, almost any RV can be completely protected from the harsh winter's ravishes.

Foreword

This manual is not meant to be the "be all - end all" of RV Winterizing manuals. It is meant as a do-it-yourself guide only. A guide to help you extend the life of your RV, avoid costly repairs and thoroughly enjoy your RVing experience.

If you choose to follow any instructions or procedures in this manual, you must satisfy yourself thoroughly that neither personal nor product safety will be compromised or jeopardized.

Winterizing your RV is a fairly simple procedure if you follow these steps in the order they are presented. If you are still not comfortable winterizing your own unit, see the Winterizing Video at the end of this e-book.

DO NOT USE AUTOMOTIVE ANTIFREEZE !!! This is TOXIC - use only plumbing antifreeze approved for drinking water systems.

Step ONE

Drain the Fresh Water

Locate the fresh water tank drain valve or plug and open it to drain the fresh water ...

Drain the fresh water tank

Some coaches use a simple plug ...

STEP TWO

Drain the Water Heater

Locate the water heater tank drain plug and open it to drain the water heater ...

Open an inside faucet to allow air to enter the system. This speeds up the process ...

Drain the water heater tank.

If your water heater is equipped for electric heating, turn off the heating element at this point. This will prevent damage to the heating element if the coach is plugged into shore power. The on/off switch will be located on the water heater itself, some at the back (inside) and others on the front (outside).

STEP THREE

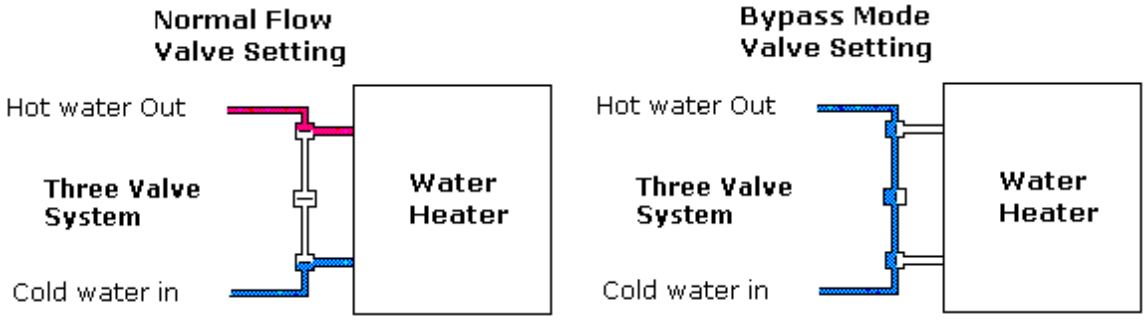
Bypass The Water Heater

The Water Heater Bypass is used when winterizing the water system. It is a series of valves or a single lever valve that allows the water flow to be shut off from the water heater and still be pumped to the rest of the hot water piping. This eliminates the need to fill the water heater tank with 6 gallons of winterizing antifreeze ... the tank is bypassed and then drained of water.

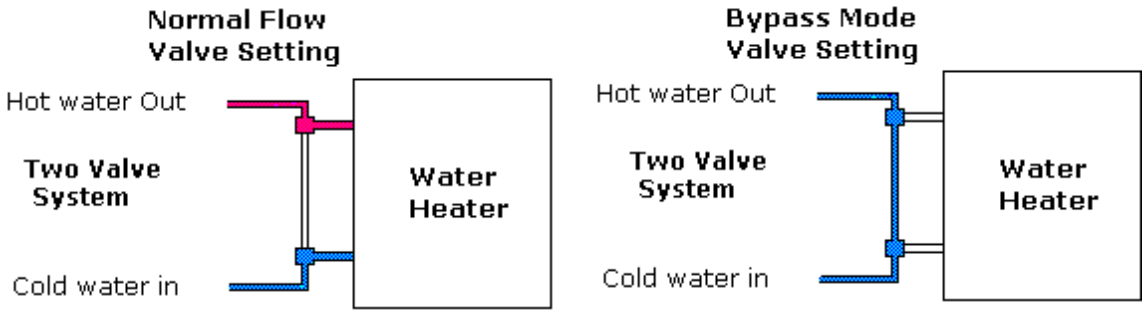
Single valve bypass in the normal flow position.

Single valve in bypass position.

Three Valve System



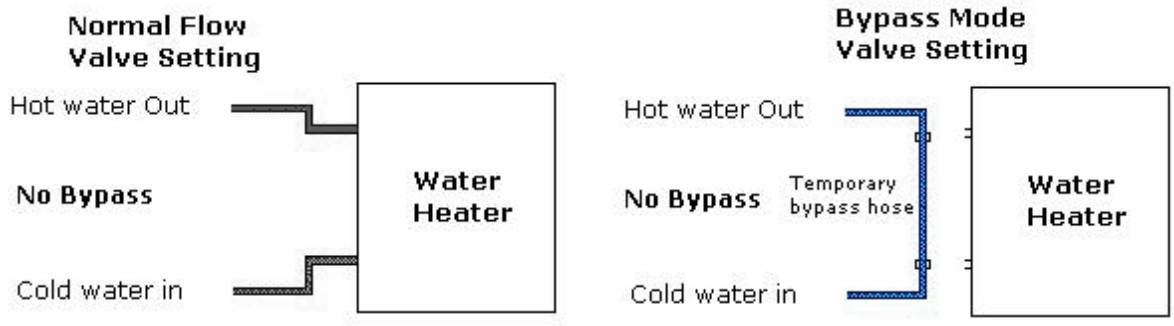
Two Valve System



A variation of the two valve bypass uses one valve on the bottom outlet with a one-way check valve at the hot water (top) outlet ...

No Bypass

If your RV does not have a bypass installed you will need to disconnect the top and bottom hoses from the water heater and insert a temporary hose between these lines.
First, drain the water heater using the drain plug in the front side. Next unscrew the top and bottom fittings on the water heater (have a few rags ready as there will be some water left that did not drain out).
Obtain a short length of hose and two fittings that will mate to the fittings on the removed water lines. Insert this hose as shown below. You are now ready to proceed ...



Here's a good article on installing a water heater by-pass kit (Internet connection required) Read it here! There are other kits available where you do not have to make any cuts, simply remove two fittings and install the bypass kit in their place. A good example is this one from Camping World:

Bypass the Water Filter

If your coach is equipped with an inline water filter it must be removed and bypassed to allow the antifreeze to fill these lines.

Some water filters use an inner filter cartridge encased in a housing. Remove the cartridge and reassemble the housing ... it will fill with antifreeze during the winterizing proceedure.

STEP FOUR

Connect the Winterizing Hose

Locate the water pump, disconnect the inlet fitting ... many newer RV's have a pump winterizing kit installed at the factory - this eliminates disconnecting any lines. You simply turn the valve so that the antifreeze is drawn from the jug and the water line from the fresh water tank is shut off.

Here's the quick way to find the water pump:
Look on the outside of the trailer for the water fill ... the water tank will be just under that.
While you are there, check for a drain valve on the exterior side of the trailer or just underneath on the belly of the trailer. If it is there open it to begin draining the tank. Other manufacturers put the drain valve inside the unit, so if you don't find a drain valve on the outside, it will be inside near the tank.
Go inside the unit and locate the water storage tank according to your outside observation. The water pump will be very near the water tank.
Also, it helps to open a tap and turn on the pump ... the sound will help locate the pump.

Disconnect the inlet side fitting ...

... and install the winterizing hose ...
The winterizing hose is hooked up to the water pump inlet side ...
... insert the other end of the hose into the antifreeze jug ...
Everything hooked up and ready to go!

... an aftermarket kit is available for a permanent installation ...
this is easily installed and comes with easy-to-follow directions.

STEP FIVE
Filling the System

Turn on the water pump and open the taps, one by one ...

Open the taps, one by one ...

... until the antifreeze appears ...

Do the hot and cold taps ...

... at every sink or shower faucet ...

Tub and shower ...

... don't forget the toilet! ...
Operate the toilet valve or step pedal ...

... or the outside shower, if you have one ...

STEP Six
The City Water Valve

IMPORTANT!

Make sure to relieve the water system pressure before proceeding!

Turn off the water pump and de-pressurize the system by opening a cold water tap ...

... at the city water connection, pry out the screen and washer ...

...and press in on the valve stem until the antifreeze runs out ...
Normally the antifreeze will run out under gravity alone. It may be neccessary to repeat this step several times.

STEP SEVEN
Finishing Up

Pour about a cupful of antifreeze into every drain to displace the water and protect the trap.

Finally, dump the holding tanks and pour a pint or so of antifreeze directly through the toilet and the tub drain ...

... to protect the dump valves.

That's about it! ...
That's it ... Done!

FAQ Section

I turned on water pump but no antifreeze will come out. The pump was working fine before. Any ideas will be appreciated. Thanks in advance.

Obvious things first ... you do have the winterizing hose on the inlet side of the pump, right? No kinks in the hose?

Sometimes the pump may have to be primed. This usually involves the older style of pump.

To prime the pump insert a small funnel in the open end of the hose, hold the end high and fill the hose with antifreeze. Then turn on the pump.

The antifreeze should prime the pump and away it should go.

The outside of my unit has printed “low water point”. I am wondering what that means?

The two low point drains you see are to drain both the hot and cold lines. Open a hot and a cold water tap and then open these drains.

Gravity then drains most of the water although some still stays in areas where the tubing rises and falls within the RV.

Once drained, close these valves before adding antifreeze through the pump.

These lines are not part of the water heater bypass system.

I can’t find the fresh water drain valve. Is it always on the outside of the RV?

The fresh water drain can be inside or outside the RV. Look on the exterior where the water fill is located - the fresh water fill that you insert the hose in to fill the tank.

The water tank will be located near this area. Look under the trailer on both sides of the coach for a drain valve.

If your tank is located inside the coach under the dinette or in a cabinet the drain valve will be inside also.

How much anti-freeze should it take to fulfill the winterizing of my camper?

I normally go through 1 1/2 gallons to winterize the lines and use the other half gallon to pour down the "p" traps.

Some smaller slide ins or pop ups use only one gallon. Large motorhomes with a washer dryer, 3 to 4 gallons.

If winterizing for the first time, buy 4 gallons. If something goes wrong you have extra antifreeze to finish.

If all goes well (as it should) you will have next years supply on hand. :)

New Video/DVD - Winterizing & Storing your RV

You've had a great year camping, now it's time to put your RV away for the winter. What do I do? Where do I start? Don't worry, you're not alone. These are common questions, and ones that this video answers for you. The Winterizing and Storing Your RV video/dvd provides you with step by step on how to properly winterize and prepare your RV for long or short term storage.

The RV Winterizing video/dvd by Mark Polk is a step by step RV winterizing guide. Mark demonstrates the easiest and most effective way to winterize your RV water system in this easy to understand video format.

Mark says "Winterizing the RV protects the RVs water system, but what about the tires, batteries, generator and other components that can be damaged if they are not properly prepared for short or long term storage?"

The video/dvd explains in detail what to do for these and other items.

At only $24.95, this video/dvd is a bargain!

More information - Click here!

Winterizing the ice maker

This is cut & pasted from the Dometic manual ...

* Follow these Steps: 1. Shut off water supply valve to ice maker.
* 2. Place a shallow pan under water solenoid valve.
* 3. Remove inlet fitting to ice maker water solenoid valve. Drain water from the supply line.
* 4. Remove the plastic nut and water line from outlet side of water solenoid valve. Drain water from the line.
* 5. Cycle ice maker several times while blowing compressed air through water solenoid valve. Be sure all water is out of the solenoid. NOTE: Up to 40 PSIG air pressure can be used to clear the valve.
* 6. Reconnect and tighten lines on water solenoid valve. Leave the water supply turned off until temperatures are above 32°F/0°C.
* 7. Dry out ice maker mold assembly with soft cloth. Place bail arm in UP/OFF position.

Winterizing the washer/dryer combo:

* Set the water temperature control to warm - this will fill both the cold and the hot lines with antifreeze.
* Turn on the unit and run about a gallon of antifreeze into the unit.
* Turn the control to spin - this will allow the pump to run the antifreeze through itself and then through the drain hose.
* Pour a cup down the drain to be sure that the "p" trap is filled with antifreeze.

Dewinterizing the RV Water System

Dewinterizing is simply the process of removing all traces of the RV antifreeze that was used to protect the water system.

1. Put several gallons of water into the fresh water tank.
2. Turn on the on-board water pump, and open a cold water tap.
3. Allow the water to flow for several minutes.
4. Connect the water hose to your city water supply inlet. Turn on the supply.
5. Open all taps one by one and allow the water to flow for several minutes.
6. Flush the toilet several times.
7. Now open the water heater bypass and fill the water heater with fresh water.
(You may want to allow a few gallons to flow through the water heater, then let it drain completely before re-installing the water heater drain plug)
8. Run water through all the hot water faucets.

That's it!

Congratulations!

CHECK LIST

- ___ Fresh water tank drained
- ___ Water heater drained
- ___ Water heater by-passed
- ___ Water filter by-passed
- ___ All hot & cold lines filled
- ___ Outside shower
- ___ Toilet
- ___ City water inlet
- ___ Tanks drained

RV Storage Tips

Controlling Humidity

The air in a closed up RV will contain varying amounts of moisture, depending upon the local climate and the storage methods utilized. If you are able to connect to shore power, during the storage period, an electric dehumidifier is a very good safeguard against a high humidity condition. Otherwise, one or better yet, two, DriziAire dehumidifiers is advised. Open a roof vent or two, if you can, to allow moist air to escape.

To Tarp or Not to Tarp

As a concerned RV Technician, I am totally against the tarping of an RV. If your roof is maintained and in good condition, it will withstand the forces of Mother Nature. If you simply must "tarp" your unit, build an "A" frame type of structure to repel rain or snow while allowing air to circulate beneath the tarp and above the roof of the RV. A tarp laid on the roof and draped down the walls, is an invitation to dry rot - you want the moisture to escape - not to be held in, as a tarp will do. Also, a tarp will move with the wind, regardless of how well it is secured. This results in chaffing of the sidewall paint, and we don't want to discuss that in this article!

Batteries

Clean and remove your battery(s) and store in a cool place. Top up the water level and check/recharge them monthly. Deep cycle batteries will self-discharge in a month and a discharged battery is not a happy battery. Use only distilled water to top off the water level in the cells. An uncharged battery will freeze in sub-zero weather if left outdoors.

RV Storage

If you store your RV for any length of time, it is best to provide a dehumidifying device.

Why?

RV's are not constructed to be houses ... they are made to be vacation homes.

Normal house construction includes a vapor barrier between the insulation and the outside environment. This prevents moisture build up in the walls.

RV's do not have a vapor barrier.

Why?

Houses are designed to maintain an even temperature and a more or less even

humidity level ... therefor a vapor barrier works to keep that level constant.

RV's are used for a period of time, and then stored.

The temperature and humidity level in an RV will vary greatly from periods of activity to periods of storage.

Even during storage periods the temperature and humidity levels will vary greatly according to the prevailing outside conditions.

A vapor barrier would trap moisture inside the RV ... not a good idea!

What does this mean?

Moisture!

Is this bad?

Yes! Moisture breaks down the bond in laminated walls and leads to dry rot in stick and glue RV framing. Moisture promotes mold growth and other nasty things.

If your RV is near an electrical source, a powered dehumidifier is a good idea. If no power is available there is a product called Dri-Z-Air that uses crystals to absorb moisture from the air.

RV Water Sanitizing Tip

If you notice a stale odor when using water from the fresh water tank, this indicates that water was left in the system for quite some time and has grown

stagnant.

The best thing to do when this happens is to sanitize the entire water system. First drain all of the water out of the system, and then close all of the drains.

Take one cup of household bleach for every 15 gallons of water that your fresh water tank holds. Mix the bleach in one gallon of water and pour it into the fresh water tank. Fill the fresh water tank with potable water. Turn the water pump on and open all faucets, one at a time, and run water until you smell the bleach. If possible drive or tow the RV to assist in cleaning the entire fresh water tank.

Let it sit for twelve hours and then drain the entire system. Refill the fresh water tank and run water throughout the system (every tap) until you no longer smell the bleach at that location. It may be necessary to repeat this more than once. When you no longer smell bleach, the system is sanitized.

This tip contributed by Mark Polk at RV Education 101

RV Water Sanitizing

Use only a special RV drinking water hose when connecting your RV to the campground water supply or when filling your on board water tank. This hose will prevent the rubber taste in your water as from a regular garden hose.

Fill your on board water tank 3/4 full and add one or two cap fulls (not cup fulls) of household bleach. Take the unit around the block to slosh the mixture to all parts of the tank. This solution will kill any bacteria that have accumulated in the tank during the storage period.

Turn on the water pump and open all taps one by one to allow this solution to fill every water line and flush out the system. Once this is done, let it sit overnight, if possible.

Connect the hose to your city water connection and flush every outlet for at least 5 minutes to purge out the bleach solution.

Drain your fresh water storage tank and refill with fresh water. You can add a capful of bleach every time you fill the water tank to keep it fresh and sanitary. However, due to the unknown quality of campground water supplies, and the fact that the water in your tank may stand for several days or weeks in the hot sun, it is recommended that you use bottled water for drinking supplies or install a quality water filtration unit for your drinking water.

The on board water tank holds approximately 30 gallons of water and at about 10 pounds per gallon this adds up to a fair amount of weight. If you are travelling from RV park to RV park, it is only necessary to carry the amount of water that you will need on the road for the day.

RV Waste Water Dumping Tip

Never leave your black tank valve open when you are hooked up to a sewer equipped RV site. If left open, the liquids will drain off and leave the solid material behind to build up in the tank.

Always dump your black tank first and always when it is at least 2/3rd full. Add water if necessary. This will ensure adequate flow to dump all the contents.

Dump the gray water tank last to help rinse out the valves and sewer hose.

Another good Tip ...

Many people think that using hot water with chlorine bleach will make their system even safer. Using hot water will actually reduce the effect of sterilizing the system since the chlorine evaporates quickly when it is exposed to heat. Always use cold water only.