

Fresh Water Tank Fills by Itself

This guide is intended to assist Heartland Owners in diagnosing and fixing the cause of the fresh water tank filling by itself.

Important Notices

Who created this document?

This document has been created by Heartland Owners independently of the Heartland RV Company, and is posted to the Heartland Owners Forum as a service to the owner community.

Errors and Omissions

Because the authors are Heartland owners, not engineers or service technicians, it's possible that this document could contain errors or omissions. Readers are advised to also review the manufacturers' product documentation for more complete information and guidance.

Additional Resources

The heartlandowners.org website has a collection of owner-written user guides, including information on water systems, heating and cooling, winterizing, residential refrigerator, water heater and other topics. This information is available at <http://manuals.heartlandowners.org/?man=User%20Guides>.

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Contact Information

Questions and comments may be directed to manuals@heartlandowners.org

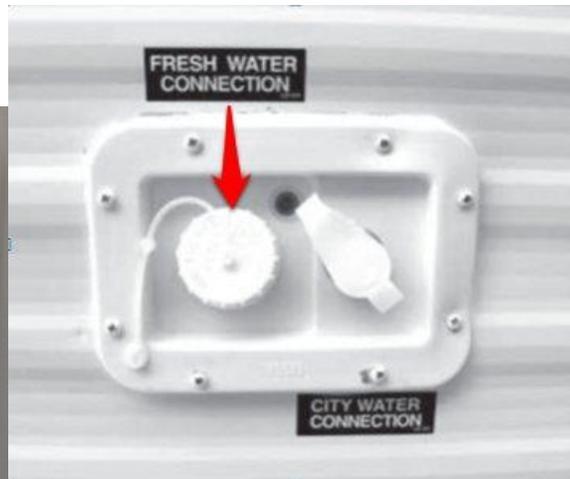
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Which Type of Fresh Water Tank Fill Do You Have?

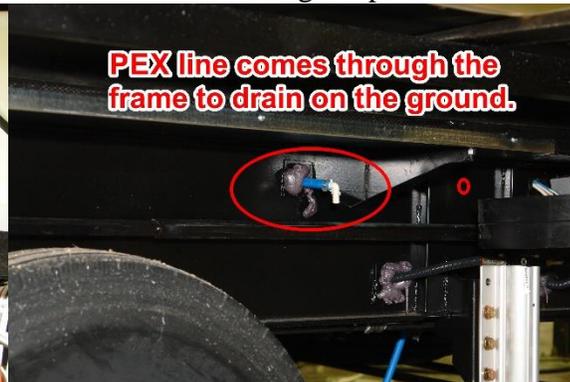
Until about 2012, all Heartland RVs came with a gravity fill water inlet to the fresh tank. And today, some models still do. Since 2012, on some models there is a 4-way Anderson Valve. To fill the fresh tank using the gravity feed, a water hose is inserted into the Fresh Water Connection as pictured on the right. To fill the fresh tank using the 4-Way Anderson Valve, the valve must be switched to the TANK position and a water hose must be connected to the water inlet next to the valve control.



Over-filling the Fresh Tank

On a gravity feed system, care must be taken to not overfill the fresh tank with pressurized water as doing so can expand the tank causing a rupture. As the tank gets nearly full, you'll hear gurgling and may have a small amount of water spit out of the vent at the top right of the fresh water connection. The connection itself may overflow.

On an RV with the 4-way Anderson Valve, there are overflow fittings as pictured below.



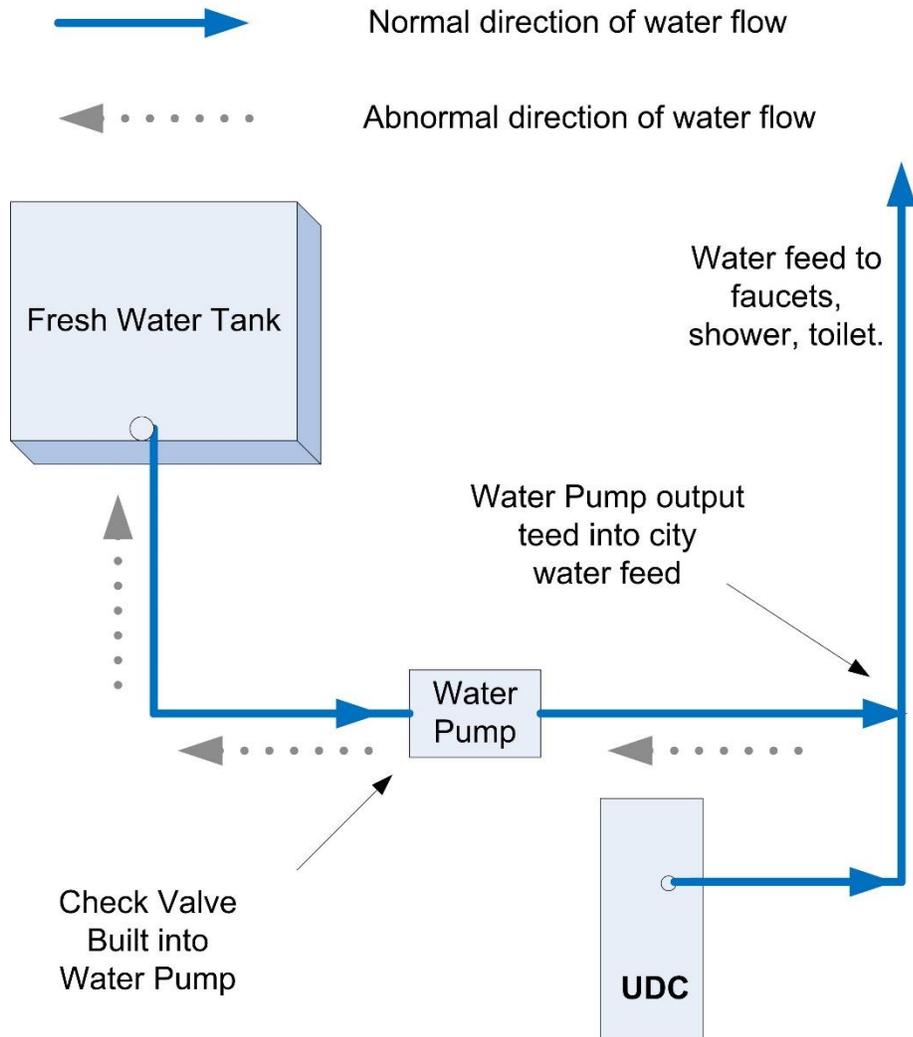
Determining if the Fresh Tank is Filling by Itself

Gravity Fill System

On a gravity fill system, you'll hear the gurgling at filter screen next to the fill opening. If the cap is in place over the fill opening, you may get water out through the filter screen. Fortunately, the cause of the tank filling by itself on a gravity fill system is always the water pump. The diagram below helps explain what's happening.

There is a check-valve inside the water pump that only allows one-way travel of water. The normal flow is from the fresh tank, through the pump, to the plumbing fixtures. In an abnormal condition, the check valve gets stuck partially open.

Because your plumbing system is designed to use either city water, or fresh tank water, the two sources are teed together. When on city/campground water, which is pressurized, if the check valve is stuck open, water can flow through the tee, through the pump and into the fresh tank.



4-Way Anderson Valve System

With the 4-Way Anderson Valve, the cause of failure can be the check valve in the water pump, as explained above, or within the Anderson Valve itself.

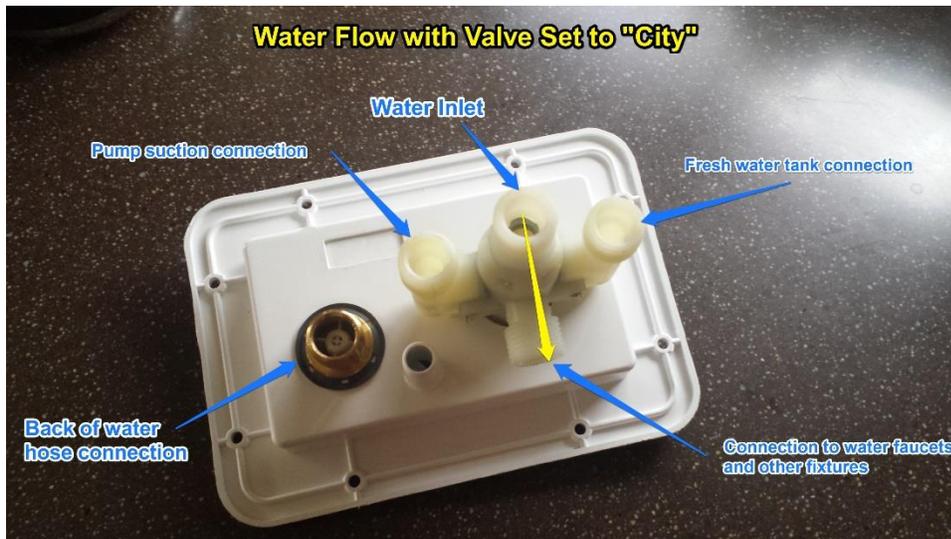
When the Valve is set to CITY, and you are connected to city/campground water, the valve's internal structure routes water from the water inlet to the plumbing fixtures. The valve's design allows it to function in 4 different modes. The internal structure provides different channels for water flow in each mode. There are O-rings inside the valve assembly that maintain separation between these various channels.

If an O-ring becomes damaged, it may not provide separation between the channels, which would allow city water to leak through to the channel that is used to fill the fresh water tank.

How to Tell Which Part is Failing

The simplest way to tell which part is failing is to test the 4-way Anderson Valve. To do so, you'll have to have access to the back side of the valve assembly. On many models the rear wall of the pass through basement storage, next to the Universal Docking Center (UDC), can easily be taken down to expose the back of the Anderson Valve and the water pump.

On the back side of the Anderson Valve, there are several water connections with twist-on connectors that are hand tight. Looking at the back of the valve, the connection on the right goes to the fresh water tank, as pictured below.



If you disconnect the Fresh water tank connection fitting on the right, along with the Pump suction connection on the left, with city water is turned ON, and the Anderson Valve set to CITY, check for water coming out of the open left and right valve fittings. That would indicate a leaking O-ring or valve seat inside the valve assembly.

If no water leaks out of the valve assembly, the problem is with the check valve inside the water pump.

Fixing the 4-Way Anderson Valve

The 4-Way Anderson Valve can be fixed either by replacing the entire assembly, or by replacing the cartridge that has the O-rings. Either replacement is fairly quick and easy. You may find it simpler to replace the cartridge.

Where to Get Parts

This item is warranted by Heartland RVs through the duration of your Heartland RVs supplied warranty period. During the warranty period, in order to obtain replacement parts:

- Contact your selling dealer, or an RV dealership that sells and services Heartland products. The dealer can obtain necessary parts and install them for you.
- or
- Contact Heartland Customer Service (877-262-8032 / service@heartlandrvs.com). Heartland can send you parts directly for self-install.

After your warranty has expired, you may purchase replacement parts from the ABCORV.COM website. Orders may be placed online. If you have questions, the contact information is:

- Phone: 800-476-9876.
- Email: abcovr@andersonbrass.com

Replacing the Cartridge



Instructions to replace the cartridge assembly may be found in [this folder](#) on the Heartland Owners Forum website.

Replacing a Failing 4-Way Anderson Valve with an All Brass Retrofit

Anderson has released an all brass (low-lead) version of the 4-Way Valve that is expected to be much more reliable than the predecessor, by doing away with rubber and plastic parts. The retrofit also has a check valve to prevent back-flow through the pump if the pump's internal check valve were to get stuck open.



The retrofit valve assembly, # [MANRV101RF](#) maybe be purchased directly from the [ABCORV.COM](#) website. Orders may be placed online. If you have questions, the contact information is:

Phone: 800-476-9876.

Email: abcovr@andersonbrass.com

When replacing the entire assembly with either the original version, or the retrofit all brass version, it's simply a matter of attaching each fitting on the back side of the valve to the same location on the new assembly.

Fixing the Check Valve Inside the Water Pump

Unfortunately there is no reliable way to fix the check valve inside the water pump. The corrective action is to either replace the pump assembly, or add a check valve on the suction side of the pump. Either solution is fairly quick and easy and can be accomplished without any special tools. But if you're out of warranty, you may prefer the less expensive option, which is to add a check valve.

The easiest way to add a check valve is to get a Sharkbite (or equivalent) press-on ½" check valve. Amazon sells them for about \$16 as of this writing. Plumbing supply stores and many hardware stores may also carry them. To install, you make a clean cut to the suction line (on the side with the filter bowl) and press each cut end into the press-on check valve. The check valve may come with inserts to use with some types of tubing, so check the instructions that come with the valve. Also, be sure the arrow on the check valve points toward the water pump.

How to Cope While Waiting for Parts

While waiting for parts, simply turn off the campground water faucet. Turn the water pump ON and if you have a 4-way Anderson Valve, change it to NORMAL to use water from the fresh tank. With the campground water turned off, the tank will not fill until you are ready to refill it.

Revision History

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|------------|---|
| 02/12/2017 | Initial Release |
| 5/10/2018 | Update diagnostic technique and parts sources. |
| 9/14/2020 | Add information about the all brass retrofit Anderson Valve, and update information on purchase of parts. |