

IMAGINE

BY GRAND DESIGN RV

IMAGINE TRAVEL TRAILER OWNER'S MANUAL

UPDATE: For 2023 models



Includes XLS & AiM



Travel Trailer Owner's Manual UPDATE: 2023 Models

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This UPDATE serves as a supplement to your Imagine Owner's Manual, Rev. 01/2022. It includes instructions for newly added components and revised winterizing instructions.

This *Owner's Manual Update* should be considered a permanent part of the RV. If the RV is sold, the full *Owner's Manual*, this *Update*, and the *Owner Information Package* should remain with the RV for the next owner.

Service & Warranty

Component Supplier Contact Information

All component suppliers listed are correct at the time of printing. Grand Design RV may change components at their discretion. Please contact GDRV Customer Support with any questions.

Component	Brand	Supplier Website	Phone Number
Air Conditioner	Dometic	dometic.com	(800) 544-4881
Air Conditioner	Furrion	furrion.com	(888) 354-5792
Awning(s)	Lippert	lci1.com	(574) 537-8900
Axle	Lippert	lci1.com	(574) 537-8900
Converter / Inverter	WFCO	wfcoelectronics.com	(877) 294-8997
Cooktop / Griddle (Outside)	Capitol	customerservice.ddr@gmail.com	(574) 970-9765
Entry Door / Entry Steps	Lippert	lci1.com	(574) 537-8900
Entry Steps	MORryde	morryde.com	(574) 293-1581
Fireplace	Innoflame	davecarter.com	(574) 642-0627
Frame / Chassis	Lippert	lci1.com	(574) 537-8900
Frame / Chassis	BAL RV Products Group	norcoind.com	(574) 557-7788
Furnace	Dometic	dometic.com	(800) 544-4881
Graphics	Vomella	vomella.com	(651) 228-2200
Load Center	WFCO	wfcoelectronics.com	(877) 294-8997
Microwave	High Pointe	collins-n-co.com	(574) 848-1118
Power Tongue Jack	Lippert	lci1.com	(574) 537-8900
Range Hood	Furrion	furrion.com	(888) 354-5792
Range Top / Oven Combo	Furrion	furrion.com	(888) 354-5792
Range Top / Range Hood	Greystone	wayinterglobal.com	(574) 971-4490
Refrigerator - 12V	Furrion	furrion.com	(888) 354-5792
Refrigerator - Compact	Hotpoint	mwss-inc.com	(800) 772-7262
Refrigerator - AIM	Norcold	thetford.com	(800) 543-1219
Roof Membrane	Alpha Systems	alphasystemsinc.com	(800) 462-4698
Slide Floor	Huber	huberwood.com	(800) 933-9220
Slideout(s)	Lippert	lci1.com	(574) 537-8900
Solar Charging System	Furrion	furrion.com	(888) 354-5792
Solar Charging System	GoPower!	dometic.com	(800) 544-4881
Stereo	Furrion	furrion.com	(888) 354-5792
Television	TCL	tclusa.com	(877) 300-8837
Television	Logix	butlersales.biz	(574) 252-4274
Thermostat	Dometic	dometic.com	(800) 544-4881
Thermostat	Furrion	furrion.com	(888) 354-5792
Tires	Goodyear	lionsheadtireandwheel.com	(574) 533-6169
Toilet	Dometic	dometic.com	(800) 544-4881
TV Antenna	Winegard Company	winegard.com	(800) 288-8094
Water Heater	Furrion	furrion.com	(888) 354-5792
Water Pump	Shurflo	shurflo.com	(800) 854-3218
Windows	Cleer Vision Windows	cleervision.com	(574) 262-0449
Windows	Lippert	lci1.com	(574) 537-8900

Component Manufacturer Warranty Information

Each manufacturer provides their own warranty for the components on your Imagine TT. This warranty information is current at the time printing, but is subject to change at any time per the manufacturer. Details can be found on the company websites listed or by contacting them directly. See **previous page**, *Component Supplier Contact Information*.

Component	Brand	Manufacturer Warranty
Air Conditioner	Dometic	Two year limited warranty from date of purchase.
Air Conditioner	Furrion	Two year limited warranty from date of purchase.
Awning(s)	Lippert	One year limited warranty from date of purchase.
Axle	Lippert	Six year limited warranty from date of purchase.
Converter / Inverter	WFCO	Two year limited warranty.
Cooktop / Griddle (Outside)	Capitol	One year limited warranty.
Entry Door / Entry Steps	Lippert	One year limited warranty from date of purchase.
Entry Steps	MORryde	One year limited warranty from date of purchase.
Fireplace	Innoflame	One year limited warranty.
Frame / Chassis	Lippert	One year limited warranty from date of purchase.
Frame / Chassis	BAL RV Products Group	Three year limited warranty from date of purchase.
Furnace	Dometic	Two year limited warranty.
Graphics	Vomella	Five year limited warranty.
Load Center	WFCO	Two year limited warranty.
Microwave	High Pointe	One year limited warranty.
Range Hood	Furrion	One year limited warranty from date of purchase.
Power Tongue Jack	Lippert	One year limited warranty from date of purchase.
Range Top / Oven Combo	Furrion	One year limited warranty from date of purchase.
Range Top / Range Hood	Greystone	One year limited warranty.
Refrigerator - 12V	Furrion	Two year limited warranty from date of purchase.
Refrigerator - compact	Hotpoint	One year limited warranty.
Refrigerator	Norcold	One year limited warranty.
Roof Membrane	Alpha Systems	Eighteen year limited warranty.
Slide Floor	Huber	25 year limited warranty, not to exceed the OEM Warranty on the finished product.
Slideout(s)	Lippert	One year limited warranty from date of purchase.
Solar Charging System	Furrion	Two year limited warranty from date of purchase.
Solar Charging System	GoPower!	Five year limited warranty from date of purchase.
Stereo	Furrion	One year limited warranty from date of purchase.
Television	TCL	One year limited warranty.
Television	Logix	One year limited warranty.
Thermostat	Dometic	Two year limited warranty from date of purchase.
Thermostat	Furrion	One year limited warranty from date of purchase.
Tires	Goodyear	No fault 12-month limited warranty from the date of purchase. Five year limited warranty from the tire manufacture date.
Toilet	Dometic	Two year limited warranty from date of purchase.
TV Antenna	Winegard Company	Two year limited warranty, Parts. One year limited warranty, Labor.
Water Heater	Furrion	One year limited warranty from date of purchase.
Water Pump	Shurflo	One year limited warranty.
Windows	Cleer Vision Windows	One year limited warranty from date of purchase.
Windows	Lippert	One year limited warranty from date of purchase.

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30 Amp PWM Solar Controller (If So Equipped)

Please read and understand the manufacturer's manuals for the *30 Amp PWM Solar Controller* and the *Solar Panel* BEFORE using the *Solar Power Charging System*.

- Follow all safety alerts, warnings, and instructions when using the *Solar Power Charging System*.
- **Observe correct polarity at all times.**

Reverse polarity of the battery terminals will cause the controller to give a warning tone. Reverse connection of the array will not cause an alarm but the controller will not function. Failure to correct this fault could damage the controller.





OPERATING INSTRUCTIONS

You **must** SET the battery type on the GP-PWM-30-SQ before you begin to use the controller. Please check your battery manufacturer's specifications to select correct battery type. The unit provides 6 battery types for selections: **LTO**, **Gel**, **AGM**, **LiFePO4**, **WET** (conventional lead acid), and **Calcium**.

Setting The Battery Charging Profile

PRESS **BATTERY TYPE** button and HOLD for 3 seconds to go into the battery type selection mode, the battery types you select will be shown on the LCD meter. The controller will automatically memorize your battery type setting. **Incorrect battery type setting may damage your battery.**

When the controller powers on the unit will run self-test mode and automatically show below items on LCD before going into charging process. Refer to the Battery Charge Profile Chart for details on each profile.

	Self-test starts, digital meter segments test		Software version test
	Rated voltage		Current test

After going into charging process, the LCD displays the charging states as below. Press VOLT / AMP button in sequence, the LCD will display in turn with Battery Voltage, Charging Current, Charged capacity (Amp-hour) and Battery Temperature (*if an external temperature sensor is connected*).

- Also see the manufacturer manual for **BATTERY CHARGING PROFILE CHART, FAULT CODES, TROUBLESHOOTING, ETC.**



NOTICE

DO NOT exceed the GP-PWM30-SQ Amp Current and Max Voltage ratings.

The current rating of the solar system is the sum of the Maximum Power Current (Imp) of the solar PV strings in parallel. The resulting system Imp current is not to exceed 30A. The voltage of the array is the rated open circuit voltage (Voc) of the PV array and is not to exceed 25V.

If your solar system exceeds these ratings, contact your dealer for a suitable controller alternative.



2000 Watt Inverter & 2nd Battery Disconnect

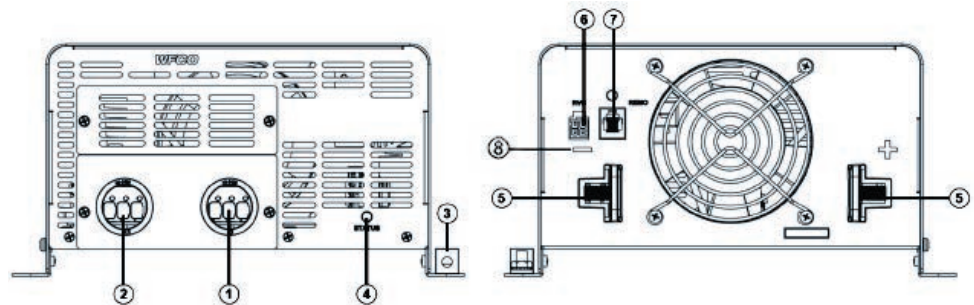
Inverter - 2000 Watts (If So Equipped)

Your Imagine Travel Trailer, if so equipped, has a 2000 watt inverter mounted next to the Universal Docking Station, See **photo**, left.

- Please download and read the entire manufacturer’s owner’s manual for detailed operating instructions and safety warnings BEFORE using the inverter.
- The WF-5220 manual is found on the WFCO website: <https://wfcoelectronics.com/product-downloads/>

When properly connected to the RV battery (or batteries) and turned ON, the inverter transforms the *direct current* (DC) from the batteries into a pure sine wave *alternating current* (AC). This AC is similar to the voltage provided by your utility and is used to power any electrical appliances (i.e., AC loads) connected to the inverter’s output.

Switch the 2nd Battery Disconnect to the OFF position when the inverter is NOT needed. See **photo**, upper left.

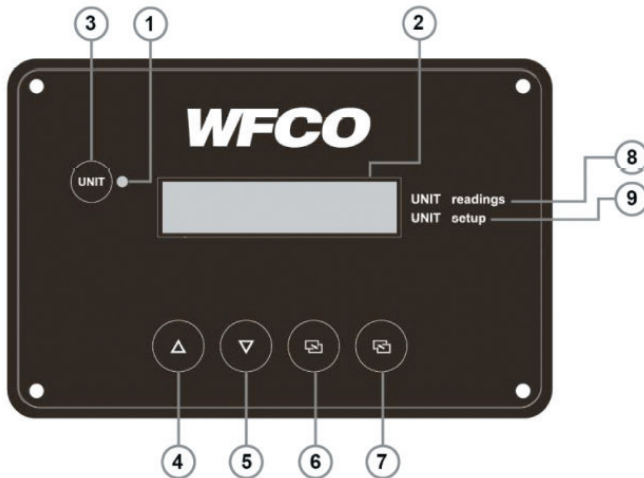


Front Panel		Back Panel	
1	AC Output	5	DC Input +/-
2	AC Input	6	RVC
3	Chassis Ground	7	Remote Port
4	Status LED	8	Terminal Resistor

Power ON / OFF / Remote (Main) Switch

- The LCD remote control panel is found inside the forward door-side pass-thru storage compartment.
- The input that comes from the (AC) Breaker Panel can’t be controlled by the switch. Please disconnect Shore Power before you operate the main inverter unit in order to avoid an electric shock.

- **Remember that the 2000 watt inverter can ONLY run a maximum of approximately 16.4 amps.**
- See [page 87](#) in your Owners Manual, *Approximate Electrical Load Ratings*.



1	LED indicators - There is an LED indicator on the front panel that lights solid to indicate the inverter is ON/OFF
2	LED Display - The display is used for setting up the system operation, as well as viewing current operating status and fault conditions
3	Unit ON/OFF Button - To Turn ON, PRESS for 0.5 seconds, To Turn OFF, PRESS for 3 seconds.
4	UP Button - Moves up in the menu tree.
5	Down Button - Moves down in the menu tree.
6	Enter Button - Go to the next page.
7	Back Button - Go to the previous page.
8	Unit Readings - LCD screen displays • Temperature • DC Voltage • Grid Input • Inverter Out • Fault Condition
9	Unit Setup - Sets inverter parameters

For battery recommendations and any further questions, please contact your dealer or Grand Design RV Customer Service.



Water Heater
Wall Controller

! DANGER

Suffocation or Fire Hazard

Exhaust gases are hot and contain carbon monoxide, **do not** breathe or obstruct the exhaust gases.


Failure to follow this instruction will lead to serious injury, property damage or death.

Furrion Tankless Water Heater



Please read all safety and operating information provided both here and in the manufacturer’s manual before using the water heater. Based on the hot water demand, the tankless water heater will heat incoming cold water to a desired output temperature by monitoring key sensors to regulate the thermal energy released over a large heat exchanger. This creates a more useful and energy efficient heating system versus the conventional tank water heater that wastes fuel during re-heat cycles and is limited on volume output.

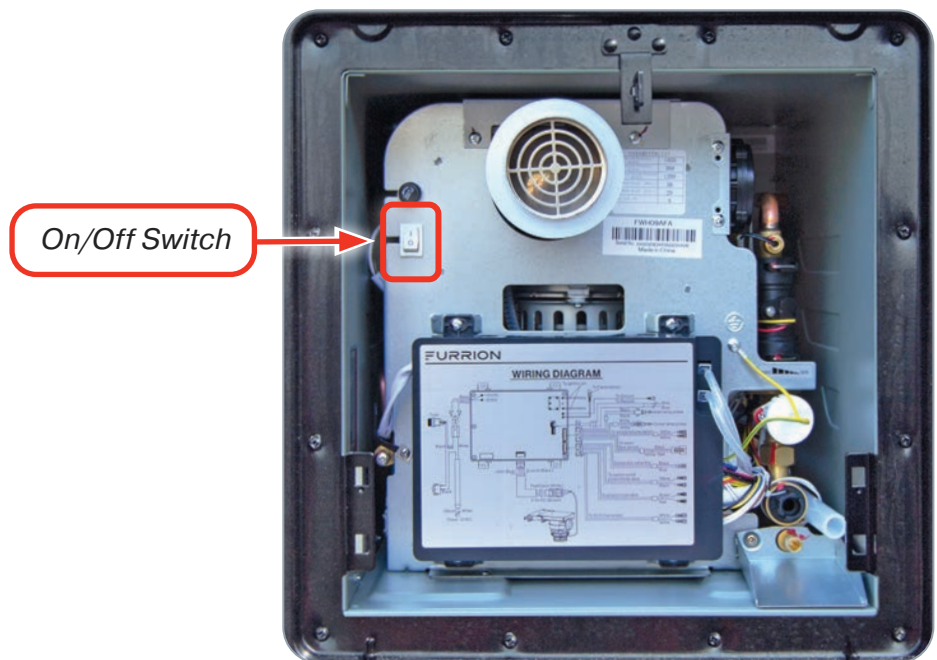
Controller Operation

Before normal operation of the appliance, perform a basic functional test check out each time the RV and water system is setup for use. Refer to “Functional Test” of this manual for instruction. After the Functional test is completed, the appliance can be operated from the wall controller which includes the Power switch. The control switch can be used for in living “ON/OFF” function.

1. Touch power button  to turn the power ON/OFF. The Furrion logo on the panel will be illuminated and display the current temperature setting.

NOTE: The micro processor is always on. It draws approximately 0.25 AMPS, but is advisable to turn off when not in use.

2. Touch button marked “°F/°C” to transform the temperature display in °F or °C, the related LED would be lighted on the controller.
3. Touch the  or  button to adjust the temperature to your desired settings. The wall controller settings are from 95°F (35°C) to 124°F (51°C).



Inside the Exterior Door Furrion Tankless Water Heater

The temperature can be selected to operate in two different methods:

Method 1:

Point of use mixing: Set the controller temperature to a desired output temperature, typically elevated above comfortable bathing temperatures. i.e. 115°F (46°C). Turn ON the hot water, once hot, add cold water to achieve desired temperature.

Method 2:

Single point use: Set the controller temperature to a desired output temperature for the faucet you want to use, typically set to the desired bathing temperature. i.e. 100°F. The unit will maintain the set temperature by use of the hot water faucet only, no need to mix cold water.

4. Turn on the water faucet(s) and use as desired. The water temperature exiting the appliance (not faucet) will display.

Safe Operation

Consider the following points for safe use of the appliance:

- Install an RV water regulator to the inlet of the coach, and operate between (35-70PSI).
- The factory default water temperature setting is 115°F (46°C).
- There may be a variation between the temperature delivered from the appliance and the temperature at the faucet due to water conditions between seasons like hot summer or the length of pipe from the appliance.
- Always check the water temperature, in reference to the chart below, by the display (step 3/4) and hand touch before bathing or with other hot water uses.

Temperature °F (°C)	Time before skin becomes scalded
155°F (68°C)	1 Second
148°F (64°C)	2 Seconds
140°F (60°C)	5 Seconds
133°F (56°C)	15 Seconds
127°F (52°C)	1 Minute
124°F (51°C)	3 Minutes
120°F (48°C)	5 Minutes
100°F (37°C)	Safe Bathing Temperature

Source: Moritz, A.R. / HERRIQUES, F.C.: Studies of thermal injuries: the relative importance of time and surface temperature in causation of cutaneous burns A. J. Pathol 1947; 23: 695 - 720.

! WARNING

If the information in the manufacturer instructions is not followed exactly, a fire or explosion may result causing property damage, personal injury or death.

Do not store or use gasoline or other flammable vapors and liquids in the vicinity of this or any other appliance.

WHAT TO DO IF YOU SMELL GAS:

- Evacuate all persons from vehicle.
- Shut off gas supply at gas container or source.
- DO NOT touch any electrical switch, or use any phone or radio in vehicle.
- DO NOT start vehicle's engine or electric generator.
- Contact nearest gas supplier or qualified service technician for repairs.
- If you cannot reach a gas supplier or qualified service technician, contact the nearest fire department.
- DO NOT turn on gas supply until gas leak(s) has been repaired.
- Installation and service must be performed by a qualified installer, service agency or the gas supplier.

Furrion Tankless Water Heater, Continued

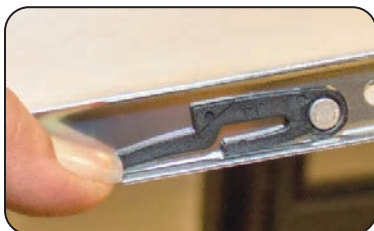
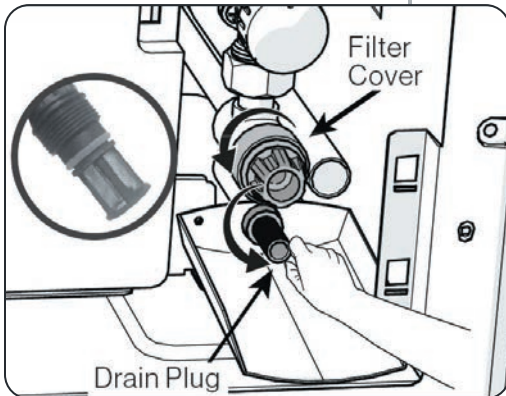
WARNING

Both automotive antifreeze (ethylene glycol) and windshield washer anti-freeze (methanol) are poisonous.

NEVER use these products in your fresh water system. They are harmful and may be fatal if swallowed.



Air Compressor Hose with Pressure Gauge



Drawer Release Clips

Winterizing the Furrion Tankless Water Heater & Plumbing System:

The Water Heater Bypass Vales (located on the back of the water heater) **MUST be kept in the "Normal Position" NOT the "Bypass Position."** Also see page 22.

Supplement the following important water heater instructions when completing any winterizing steps:

FOR WINTERIZING: Drain & Blow Out Water Heater

1. CLOSE all faucets & low point drains.
2. REMOVE the *Water Heater Drain Plug* and the *Filter Cover*. See the Diagram, left.
3. APPLY **no more than 30 PSI** of air to the *City Water Connection* at the Universal Docking Station.
 - After water stops draining from the Water Heater, SHUT OFF air.

Adding RV Antifreeze to the Furrion Tankless Water Heater:

4. REINSTALL the drain plug and filter cover.
5. ACCESS your Water Pump. (*Location varies by floorplan*)
 - The **Winterize Valve & Suction Hose** are found on the intake side of pump.
 - a. **If pump is located under the Dinette Bench:** REMOVE cushions and LIFT seat panel.
 - b. **If pump is located behind the Universal Docking Station:** UNSCREW & REMOVE the access panel located in your pass-through compartment.
 - c. **If pump is located behind the Kitchen Drawers:** REMOVE the three drawers from the base cabinet:
 - i. PULL OUT the drawer until it stops.
 - ii. LOCATE the plastic drawer release clips on the right and left sides of the drawer, *then*
 - iii. *At the same time*, gently PUSH and HOLD down both plastic drawer release clips.
 - iv. Continue to PULL the drawer towards you and remove it from the drawer guides.
 - v. REPEAT **steps (i - iv)** to remove the remaining kitchen drawers.

6. REMOVE the re-usable cap from the *Suction Line*. (SAVE the cap for step 14.)

7. PLACE the end of the *Suction Line* into a container of RV antifreeze.
8. TURN the *Winterize Valve* to the OPEN position.
 - As shown on **page 23**.
9. Turn ON the *12-volt Water Pump*.
10. OPEN the ***hot** water line at each faucet. (*Kitchen, Lavatory, Shower, & Outside Faucet/Spray Port*)
 - CLOSE each ***hot** water line faucet when RV antifreeze begins to flow continuously.
11. REPEAT **Step 10** with the ***cold** water lines on all faucets. It is also important to run RV antifreeze through the *Toilet* and the *Sink/Shower Drains*.
12. Turn OFF the *12-volt Water Pump*.

When you are done adding RV antifreeze

13. REMOVE the *Suction Line* from the container of RV antifreeze.
14. REPLACE the cap on the end of *Suction Line*.
15. BLOW OUT the black tank flush line at the outside connection with compressed air (max 70 PSI).
16. *To prevent staining*, CLEAN any RV antifreeze from the sinks, shower (or tub), and toilet using a soft, dry cloth.
17. OPEN then CLOSE kitchen hot water faucet to release pressure in water line.
18. REMOVE the water heater drain plug and allow RV antifreeze to drain.
19. DO NOT replace drain plug / SAVE drain plug for re-use.

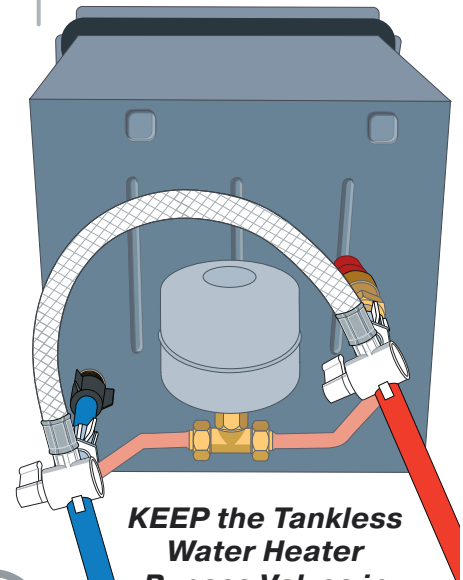
DO NOT USE YOUR WATER HEATER WHILE THE SYSTEM IS WINTERIZED. Heating when filled with antifreeze (or while drained) may cause unwarrantable damage to the water heater and/or other components of the plumbing system.

Next Season:

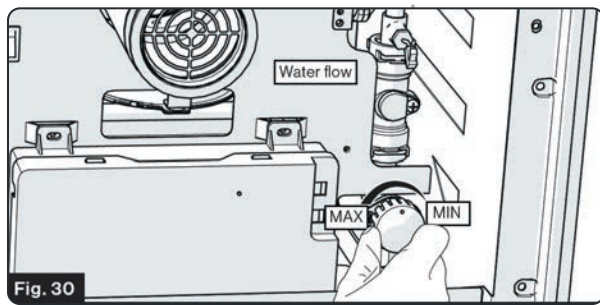
- Thoroughly FLUSH the water heater and system with clean drinking water through the hot and cold side before using.
- FILL water heater at *City Water Connection* & DRAIN several times. See *draining steps 17-19* (above).
- SANITIZE the water system per the recommendations of your coach manufacturer. See **page 20**.

It is important to read all instructions & understand each step *before* you begin the winterization process. It may be easier to winterize the RV with a second person to assist you. *If you still have questions or concerns, contact your dealer for assistance.*

Before you begin Winterizing: If you have installed an aftermarket Water Filter, make sure that it is set to the **bypass** position.



KEEP the Tankless Water Heater Bypass Valves in the Normal Position (Bypass Valve Handles Turned Towards The Water Heater)



Water Control Valve

The Water Heater is equipped with a water flow control valve, set from the factory at MAX flow. The valve will reduce the water flow and capacity through the water heater to improve water heating performance. Under extreme conditions, it may be necessary to adjust the valve accordingly:

- Cold water inlet conditions approximately less than 45°F (7°C)
- Higher water inlet pressures >65 PSI.
To operate (*Fig. 30*):
- REDUCE water flow: Rotate knob **clockwise** until a solid stop.
- INCREASE water flow: Rotate knob **counter clockwise** until a solid stop.

High Altitude Use

This appliance can be used at high altitude and has been tested up to 4500ft. For prolonged use at higher altitudes please contact support@furrion.com

Antifreeze Function

(for FWH09AFA and FWH09AFA-AM models only)

- The water heater can be used in freezing conditions, by operating a burner sequence program to keep the water liquid. This function turns ON automatically when water in the appliance falls below 43°F (6°C), then automatically shuts OFF when it is warmed.
- It will likely be necessary to manually adjust the water control valve to the "min" setting when using the water heater in freezing conditions.
- If the RV is to be stored, with no use, the water heater **must be winterized** appropriately per the instructions on **page 9**.
- The freeze protection system only protects the water heater appliance from freezing and will NOT prevent freezing of the water system in the coach. Ensure the coach is properly insulated and protected from freezing conditions.
- It is normal for the water heater to operate the burner system at different frequencies and duration for this mode.

NOTE: The antifreeze function is inoperable if any of the following are turned OFF:

- **Water Heater Appliance**
- **12V+ house electric**
- **Gas Supply**

NOTICE

PRODUCT DAMAGE DUE TO FROST CONDITION ❄️

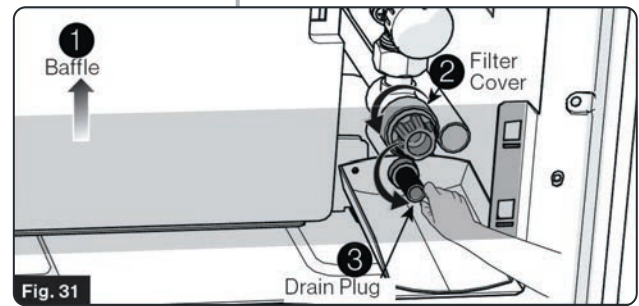
In frost conditions, ambient temperatures below 39°F (4°C), there is a risk that water in pipes, faucets and appliance could freeze.

This can cause considerable damage.

Storage and Transit

Anytime the RV is not intended to be used, it is considered to be in storage or transit. To prepare the water heater, follow the below steps:

1. Turn off gas supply.
2. Turn off water heater main switch.
3. Drain water out of the system and water heater by removing the filter cover and drain plug (*Fig. 31*)
4. If freezing conditions could occur, then the water heater **must be winterized** appropriately per the instructions on *page 9*.



Routine Inspection

Routine inspection is critical for maintaining proper operation of your appliance. Unless specified, review the following items yearly or before each season:

1. Inspect the gas system and installation every two years, or otherwise specified by your RV coach manufacturer, by a qualified personnel.
2. Inspect for cracks, separation, peeling of seals to the RV wall. Remove and re-seal as necessary (caulking or tape) between the side wall and the door of the water heater and ensure that the unit is solidly mounted to the vehicle.
3. Verify that the air inlet openings (louvers) are completely open and clear of any debris including mud, leaves, twigs, insects, etc. Remove all obstructions to allow full air flow.
4. Insects, including wasps and spiders, can build nests in the exhaust tube outlet which will affect the performance of the unit. Inspect the flue outlet tube to make sure that it is unobstructed and that the screen is clean. If debris or insects are present, clean and vacuum to remove any remaining debris. The use of any type of after-market screen to cover the vent is not permitted and will void the warranty.
5. Open the door and verify that no debris or extraneous combustible materials are present anywhere (especially in the area of the burner and the gas controls). Remove any item present and wipe clean the bottom of the housing.
 - Check especially around the hot water, cold water, gas and electrical connections.
6. Inspect the interior surface of the housing for any cracks or corroded areas that could allow penetration of gases into or out of the interior of the vehicle.
 - **NOTE:** If damage is found, please contact a technician to repair or contact Furrion customer service.

CAUTION

Always wear protective gear such as gloves, eyewear and clothing to avoid injuries during installation and servicing of the product.

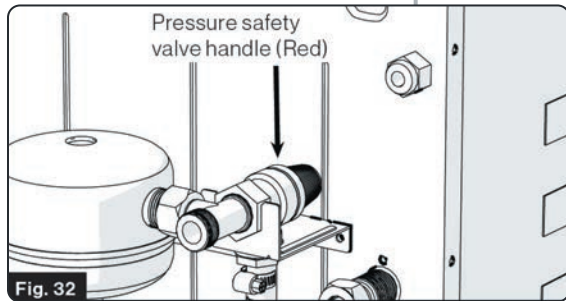
WARNING

Burn or Scald Hazard

- NEVER perform work while the water heater is operating.
- NEVER perform work without turning the Electrical and LP gas supply off.
- NEVER perform work when the appliance is hot.
- NEVER actuate the pressure relief valve as long as the appliance is still hot.
- NEVER actuate the Drain Plug as long as the appliance is under water pressure and/or is still hot.

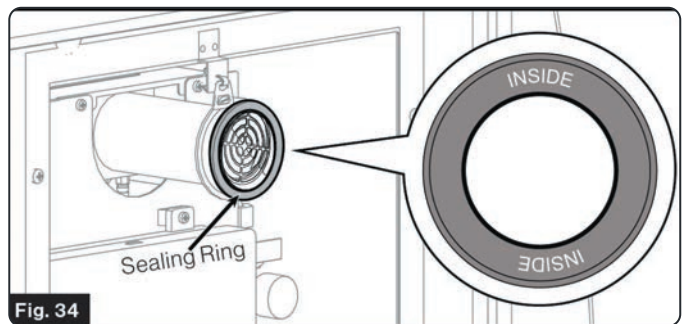
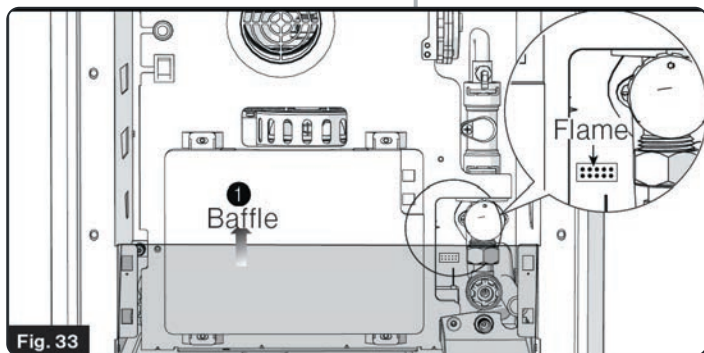
Furrion Tankless Water Heater, Continued

7. Check that all wire connections are firmly in place and there are no signs of chafing or cracks on the insulation. Verify that the spark ignition cable between the Control Board and the igniter is securely in place and not shorted to any metal component.



8. Inspect the pressure safety valve to ensure it has not been leaking (no water residue). See “Pressure Safety Valve Maintenance” for further inspection. (Fig. 32)
9. Inspect/clean/replace water inlet filter as necessary, see “Filter Cleaning” section.

10. Turn on the power to the water heater and open a hot water faucet to inspect the flame of the burner. The flame should be of the normal bluish appearance that indicates proper combustion. This can be accomplished by removing the water heater door and baffle to observe the flames by looking at the burner under the edge of the heat exchanger. (Fig. 33)



11. A sealing ring is assembled on the chimney. (Fig. 34) Inspect to make sure the seal does not have any cracks or breaks, and that it is in good condition. Contact Furrion for replacement.

NOTE: When installing the seal, make sure the words “INSIDE” are facing inward.

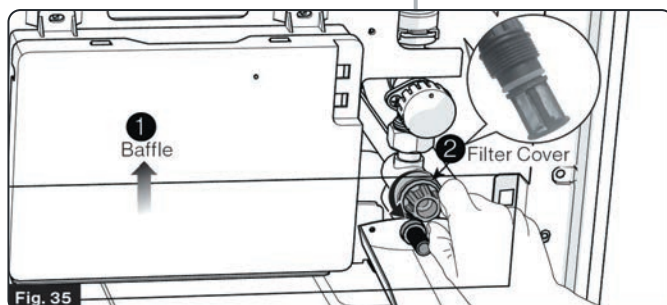
Filter Cleaning

There is a filter screen on the Water Heater inlet water line connection. The filter screen needs to be cleaned periodically to prevent blockages from forming. Follow below steps below to clean the filter (Fig. 35) :

! WARNING

Burn or Scald Hazard

- Never actuate the pressure relief valve while the appliance is in operation.
- Never tamper with the pressure relief valve.



1. **Step 1:** Open the door of the Water Heater, remove the baffle.
2. **Step 2:** Unscrew the filter cover by hand or a proper tool **counter clockwise**.
3. Clean the screen filter by flushing any debris accumulated.

Pressure Safety Valve Maintenance

1. The unit is equipped with a water pressure safety valve. The pressure safety valve needs to operate once each year to ensure this safety device is effective.
2. The pressure relief valve is a safety component and must not be removed for any reason other than replacement.

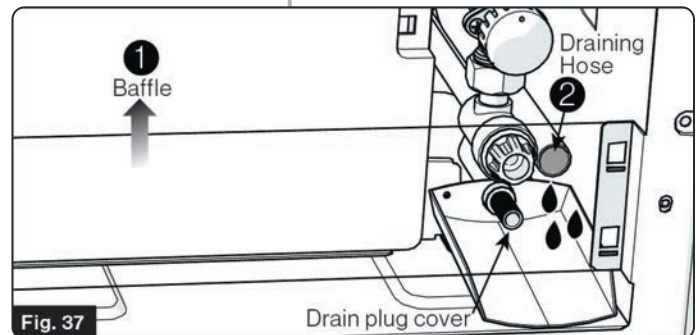
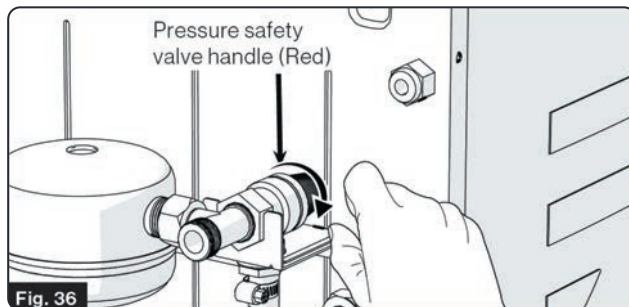
NOTE: The pressure relief valve must be replaced by a certified service technician if defective.

3. Tampering with the pressure relief valve will void the warranty.
4. *On the back of the water heater:*
ROTATE the pressure safety valve handle (Red) about 3~5 times counterclockwise. (Fig. 36)

Check the drain hose for water. (Fig. 37)

Water in the drain hose indicates the pressure safety valve is working properly.

NOTE: Never actuate the drain plug as long as the appliance is still hot.



Hard Water and Decalcification

For prolong usage, when exposed to higher water hardness concentrations, it is advised to provide a proper water treatment device for the incoming water to the coach.

- Hard water may lead to performance reduction of your appliance overtime.
- *Contact Furrion for decalcification instructions.*

! WARNING

If you smell propane gas, STOP immediately!

Follow the procedures listed in the Propane System section of this manual before attempting to operate the water heater.

! WARNING

Hydrogen gas may result if you have NOT used the water heater for two weeks or more.

HYDROGEN GAS IS EXTREMELY FLAMMABLE.

To reduce the risk of injury under these conditions, open the hot water faucet for several minutes at the kitchen sink before you use any electrical appliance connected to the hot water system.

If hydrogen is present, you may hear what sounds like air escaping through the pipe as the water begins to flow. Hydrogen gas may be present even after water has been drained from the water heater tank.

Open the faucet at the sink and allow the system to vent for five to ten minutes.

DO NOT smoke or have any open flame near the open faucet while venting.

On DSI water heater models, make sure the switch is OFF.

Water Heater, 6-Gallon (If So Equipped)

It is important to know which type of Water Heater is installed in your RV. Read all safety and operating information provided both here and in the manufacturer's manual before using the water heater. The water heater is designed to heat water quickly and efficiently. It's temperature is preset by the manufacturer. Your RV's water heater is turned ON & OFF on the *Monitor Panel*.

DO NOT operate the Water Heater while empty. This can result in damage to the tank and/or controls that is NOT covered under the warranty.

- CHECK that the *Water Heater* is filled with water before use;
- ALWAYS open both the hot and cold water faucets when filling the fresh water tank to allow air pockets to be forced out of the water heater.

Draining and winterization

- If the RV will be stored over the winter, the *Water Heater must be drained* to prevent damage from FREEZING.
- When WINTERIZING, it is recommended to **bypass the Water Heater and remove the Anode Rod (if equipped)**, particularly if introducing RV antifreeze into the plumbing system.

Odor from the hot water system

The running water from some fresh water sources may have a *rotten egg* smell. This is known as *sulfur water*. The odor is caused by Hydrogen Sulfide gas (H₂S) in the water, usually the result of bacteria or chemical action. Generally, sulfur water is not harmful, only unpleasant to smell. **Hydrogen Sulfide (rotten egg) odor is not a service problem.**

See [page 162](#) in your *Owners Manual, Basic Troubleshooting, Water Heater*. Also refer to the water heater manufacturer's owner manual for details on flushing to remove unpleasant odor.

High altitude deration

Your water heater is designed to work at elevations up to 4500 ft. above sea level. At higher altitudes there is less oxygen in the air. An inadequate supply of oxygen causes the air-fuel mixture to be out of sync, which compromises combustion and can produce Carbon Monoxide. At higher elevations, the water heater may require **derating** (a modification to compensate for the lack of oxygen in the air).

If the water heater is not properly derated, poor efficiency in heating the water may occur due to incomplete combustion. You may also notice pilot outage caused by burner lift-off or sooting from a yellow burner, indicating the possibility of carbon monoxide.

*For proper change out of the orifice (**derating**) consult with a local propane company, your dealer, or the water heater manufacturer.*

IMPORTANT NOTE: Once the RV is returned to lower elevation (below 4500 feet) any high altitude deration or other the water heater adjustments **must be reversed** for proper operation.

Pressure & Temperature Relief Valve

The *Pressure and Temperature Relief Valve* (P & T Valve) is a safety requirement for all water heaters. As cold water is heated, pressure in the water heater tank increases. The P & T Valve will release any unsafe pressure from the water heater tank.

It is normal for a small quantity of water to also be released from the P & T valve during the heating cycle. To reduce water dripping from the P & T relief valve:

- **Maintain an air pocket at the top of the water heater.** (refer to the manufacturer’s manual).
 - This air pocket forms in the tank by design.
 - Everyday use of your water heater will reduce this air pocket over time.

If the weeping persists, consult your dealer or a service agency authorized by the water heater manufacturer.

WARNING

Water temperatures over 125°F (49°C) can cause severe burns instantly or even death from scalds.

BE CAREFUL WHEN USING HOT WATER.

ALWAYS test the water temperature BEFORE showering or washing.

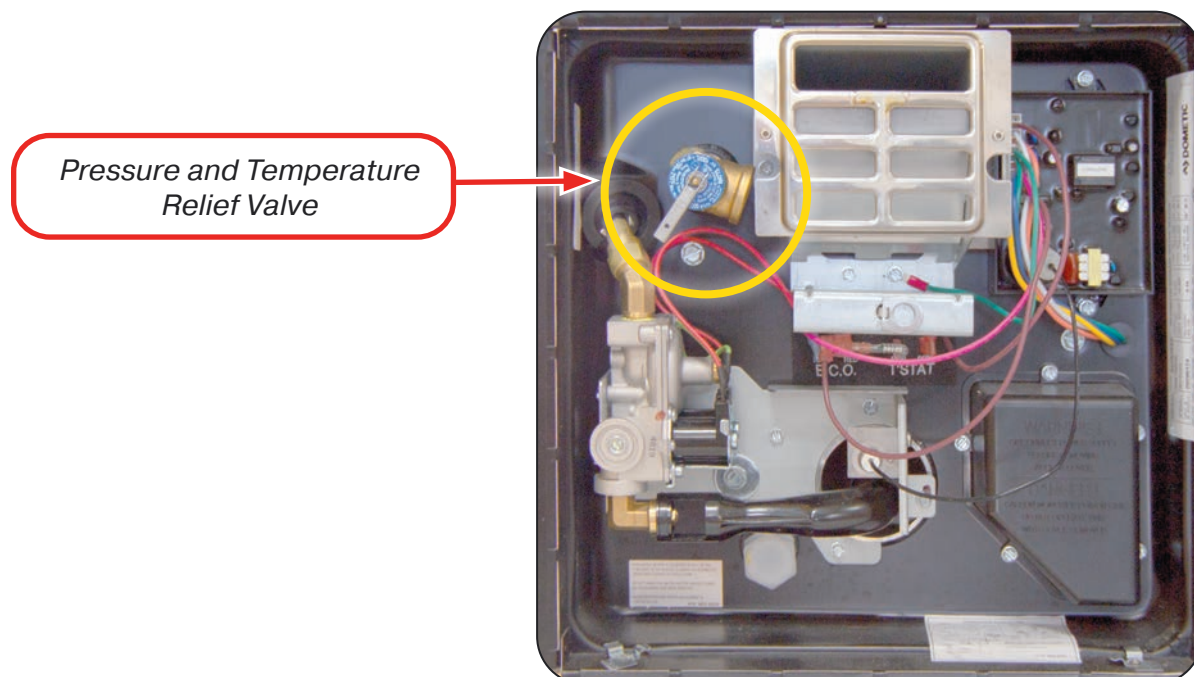
WARNING

DO NOT replace any **component part** with an **accessory part** that is not authorized by the water heater manufacturer, such as an *add-on* electric heating element.

Such items are not approved to be installed and could create an unsafe condition and will void all warranties.

Exterior Water Heater Door (see photo below)

If the water heater does not work, make sure the power switch is in the ON position.



Pressure and Temperature Relief Valve

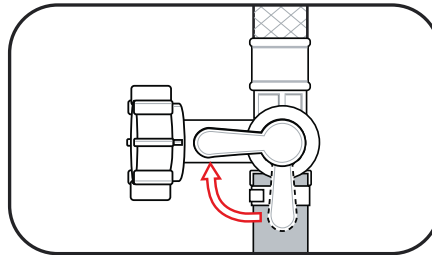
Water Heater- 6 gallon (If So Equipped), Continued

Water heater bypass valves

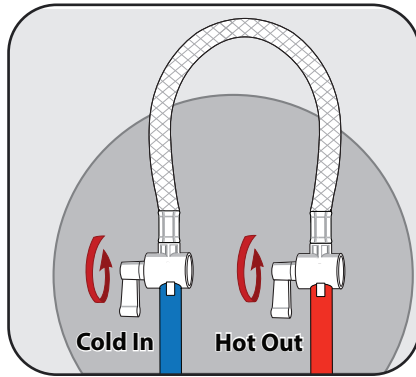
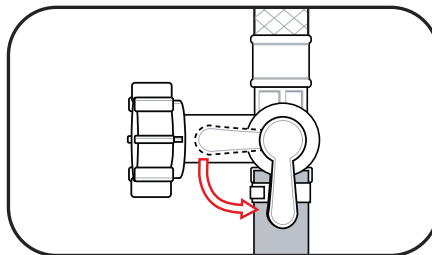
The water heater bypass uses two (2) valves, located on the back side of the water heater.

Also see **page 22**, *Water Heater Bypass Valves*.

- When camping, use the **Normal Use** position. TURN BOTH bypass valve handles towards the water heater as shown:



- When **Winterizing** or **Sanitizing** the 6 Gallon Water Heater, use the **Bypass** position. TURN BOTH bypass valve handles towards the hot & cold water lines as shown:



6 Gallon Water Heater Bypass Valves
(Bypass Position Shown)



Normal Use Positions



Bypass Positions

Winterizing the 6-Gallon Water Heater & Plumbing System

Important: Winterizing method varies depending on the type of Water Heater installed in your RV. Also see:

- **Page 9**, *Winterizing the Furrion Tankless Water Heater & Plumbing System*
- **Page 23**, *Winterization Valve*.

Preparing your RV for storage is very important in climates that experience cold weather. Follow the steps listed below at the end of the camping season:

- ALWAYS winterize the fresh water system of your RV BEFORE exposure to temperatures at or below 32°F (0°C).
 - *Damage to the water supply lines or water heater due to freezing is not covered under warranty.*
- **Winterize with RV Antifreeze ONLY**, no other products should ever be added to your fresh water system.
 - Make sure to have enough RV antifreeze to winterize all fresh water lines. *Several gallons may be required.*

BEFORE Winterizing, the *Fresh Water* plumbing systems & *Black Water, Grey Water Tanks* MUST all be emptied.

- See **page 19 & page 106** in your *Owners Manual*.

1. LEVEL the RV.
2. Turn OFF the *Water Heater 12-volt and 120-volt interior control switches*.
3. TURN BOTH water heater bypass valve handles to the **Bypass** position.
 - *If you have installed an aftermarket water filter, make sure that it is also set to the **bypass** position.*
4. OPEN the *Fresh Water Holding Tank Gate Valve*, and CLOSE both *low point drains*.
5. ACCESS the *12-volt Water Pump, Winterization Valve, and Suction Line (Location varies by floorplan)*.
 - See steps **5a -5c** on **page 9**.
6. REMOVE the re-usable cap from the *Suction Line*. (SAVE the cap for step 13.)
7. PLACE the end of the *Suction Line* into a container of RV antifreeze.
8. TURN the *Winterize Valve* to the OPEN position.
 - As shown on **page 23**.
9. Turn ON the *12-volt Water Pump*.
10. OPEN the ***hot** water line at each faucet. (*Kitchen, Lavatory, Shower, & Outside Faucet/Spray Port*)
 - CLOSE each ***hot** water line faucet when RV antifreeze begins to flow continuously.
11. REPEAT **Step 10** with the ***cold** water lines on all faucets. It is also important to run RV antifreeze through the *Toilet* and the *Sink/Shower Drains*.
12. Turn OFF the *12-volt Water Pump*.

When you are done adding RV antifreeze

13. REMOVE the *Suction Line* from the container of RV antifreeze.
14. REPLACE the cap on the end of *Suction Line*.
15. BLOW OUT the black tank flush line at the outside connection with compressed air (max 70 PSI).
16. *To prevent staining*, CLEAN any RV antifreeze from the sinks, shower (or tub), and toilet using a soft, dry cloth.

 **WARNING**

Both automotive antifreeze (ethylene glycol) and windshield washer anti-freeze (methanol) are poisonous.

NEVER use these products in your fresh water system. They are harmful and may be fatal if swallowed.



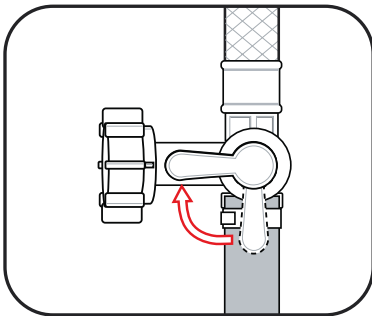
It is important to read all instructions & understand each step before beginning the winterization process. It may be easier to winterize the RV with another person to assist you. If needed, contact your dealer for assistance.



Fresh Water Holding Tank Gate Valve, located under the RV



Low-Point Drain Valves located under the RV



Normal Use Bypass Valve Position is used for Draining the Water Heater:

TURN BOTH bypass valve handles towards the water heater as shown.

Draining the Fresh Water System

The low-point drain valves release water in the supply lines by opening the valves and all faucets. The water heater has its own drain plug. To drain the permanent fresh water holding tank and supply lines:

1. OPEN all faucets.
2. OPEN the *Fresh Water Holding Tank Gate Valve*. This is the white T-handle located under the RV, close to the axles. *See Photo, top right.*
3. REMOVE the caps from the red and blue *low point drains*.
4. DRAIN the sink by removing the drain cap.
5. Turn ON the water pump and allow it to run as needed.
6. To drain the Water Heater use the **Normal Use** Bypass Valve Positions.
7. ALWAYS use the water heater **P & T Valve** (*Pressure and Temperature Valve*) to relieve any water pressure, BEFORE removing the water heater drain plug.
 - Even a small amount of water pressure may cause water to spray out when the drain plug is removed.
 - *See Diagram, on page 14 (Tankless Water Heater) or page 16 (6-Gallon Water Heater)*
8. REMOVE the water heater **drain plug**.
 - AFTER the water heater is finished draining, REPLACE the drain plug.

After draining the Fresh Water System:

EMPTY the grey and black water holding tanks at an appropriate facility or according to local public codes. It is normal for some water to remain in the tanks after draining.

- *See page 105 in your Owners Manual, Emptying the Black & Grey Water Tanks.*

Sanitizing the Fresh Water System

Use the following procedures to sanitize your Fresh Water System (*or Potable Water System*) when it is new, becomes contaminated, or has not been used for a period of time.

Before you begin:

- **For the Tankless Water Heater:** KEEP BOTH water heater bypass valve handles in the **Normal** position.
- **For the 6-Gallon Water Heater:** TURN BOTH water heater bypass valve handles to the **Bypass** position.
- *If you have installed an aftermarket water filter, make sure that it is set to the **Bypass** position.*

To sanitize the fresh water tank & fresh water system:

- PREPARE a *Chlorine Solution* using one (1) gallon of water and one-quarter (1/4) cup of household bleach (5% Sodium Hypochlorite solution).
- PREPARE approximately one (1) gallon of solution for every fifteen (15) gallons of holding tank capacity.

NOTE: As an option, several commercial solutions are available, and should be used as directed on the package.

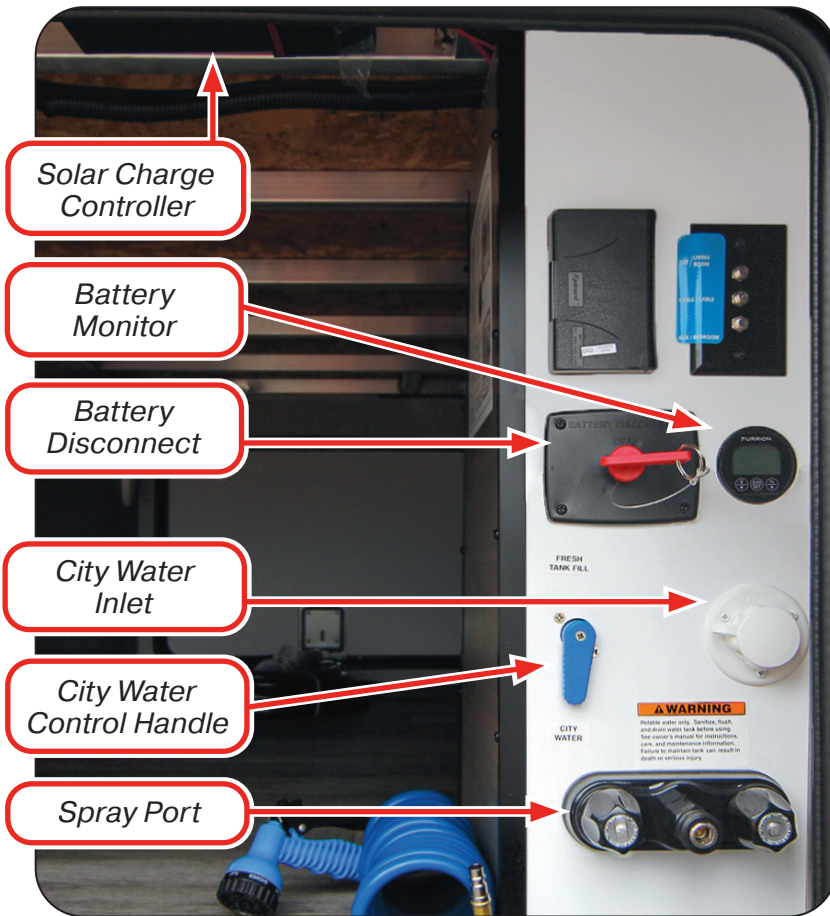
1. POUR the ***Chlorine Solution** into the gravity water fill inlet.
2. TURN ON the water pump.
3. OPEN all faucet fixtures, allowing all of the solution to pass through.
4. ALLOW the solution to stand for three (3) hours, *then*
 - DRAIN tank and FLUSH the system with fresh water.
 - BEFORE use, RUN plenty of water through the entire system.

To remove excessive chlorine odor or taste which may remain:

5. PREPARE a *Vinegar Solution* of one (1) quart vinegar to five (5) gallons water.
 - PREPARE approximately one (1) gallon of solution for every fifteen (15) gallons of holding tank capacity.
6. Pour the ***Vinegar Solution** into the fresh water gravity fill inlet
7. REPEAT steps 2-4 above.

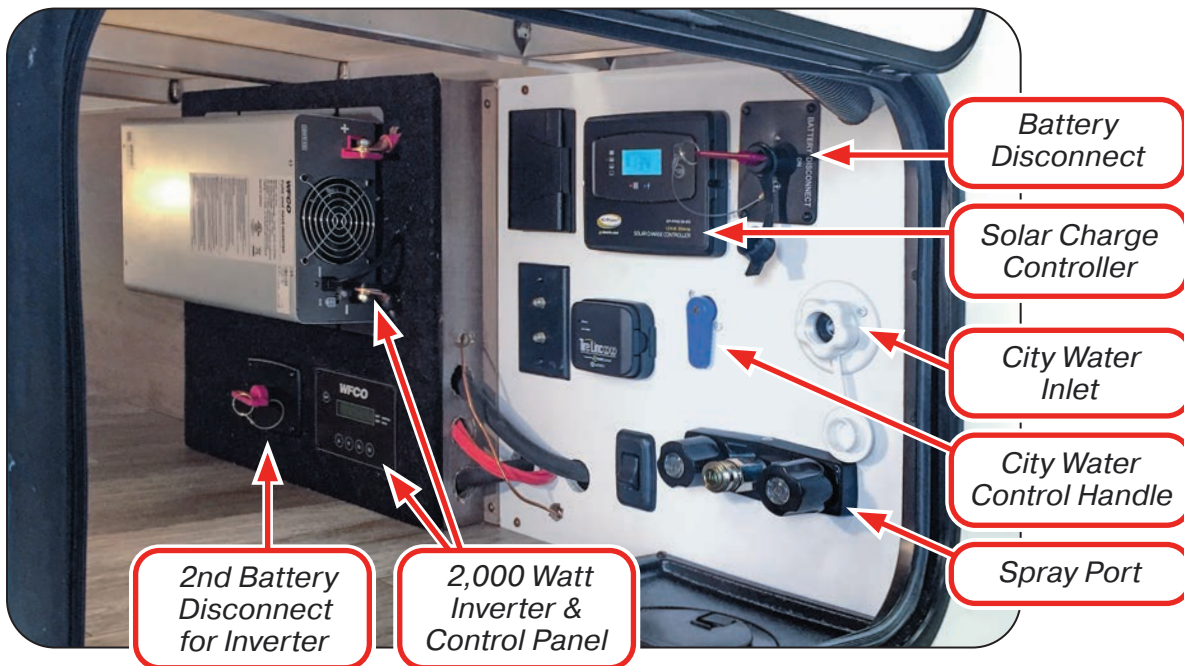
Universal Docking Station

Standard & XLS



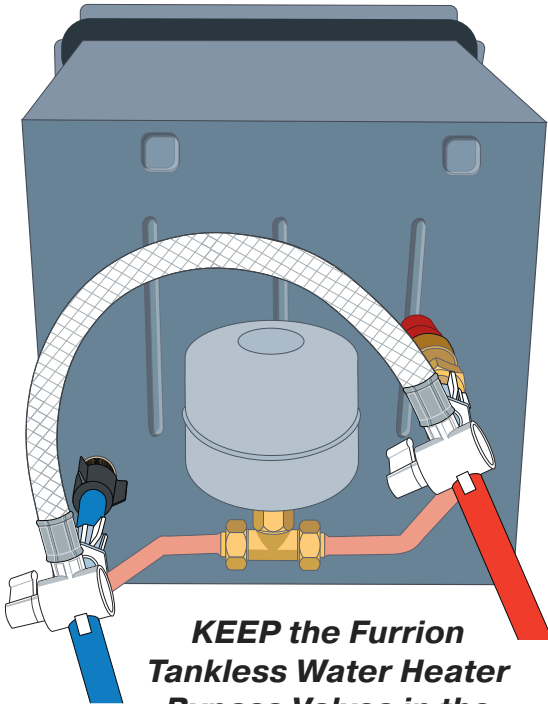
Fresh Water Gravity Fill Inlet

AIM



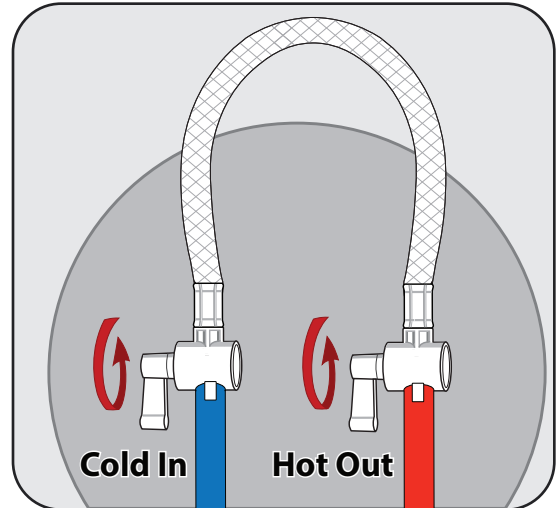
Water Heater Bypass Valves

* *The water heater bypass valves are found on the back side of the water heater.*



KEEP the Furrion Tankless Water Heater Bypass Valves in the Normal Position.

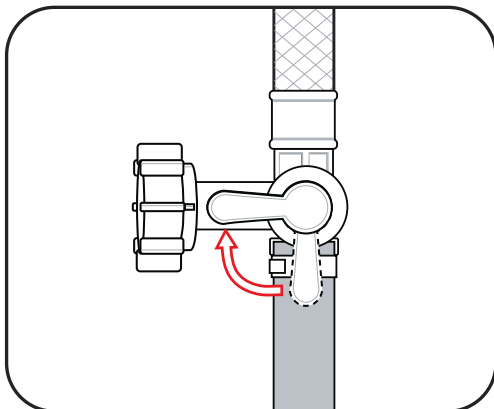
Bypass Valve Handles are Shown in Normal Use Position.



6-Gallon Water Heater Bypass Valves.

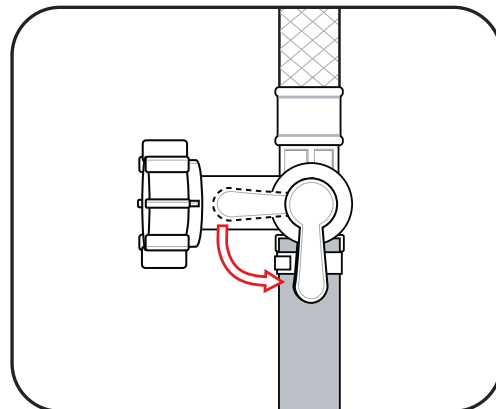
Bypass Valve Handles are Shown in Bypass Position.

Normal Use Position:



TURN BOTH bypass valve handles towards the water heater.

Bypass Position:



TURN BOTH bypass valve handles towards the hot & cold water lines.

Winterization Valve

Access the Water Pump (Location Varies by Floorplan) - See page 9, #5.

Normal / Sanitizing:

1. TURN the *Winterization Valve* to the CLOSED position.
2. POUR the Chlorine /Water mixture into the *Fresh Water Gravity Fill Inlet*.
3. TURN ON the *Water Pump*.
4. OPEN all faucet fixtures to circulate Chlorine /Water mixture through all waterlines.

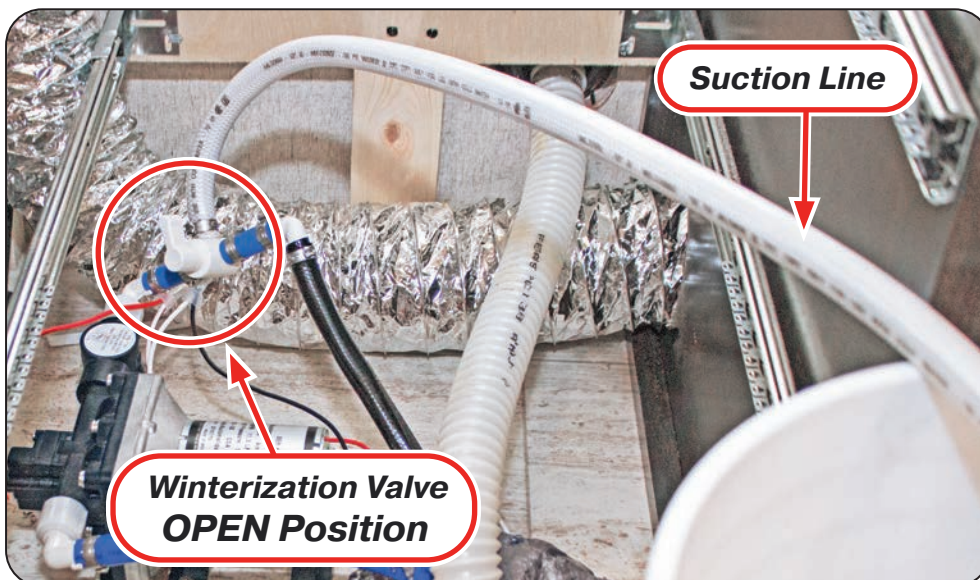


Also see page 20, Sanitizing the Fresh Water System.

Winterizing:

1. TURN the *Winterization Valve* to the OPEN position (toward *Suction Line*).
2. LOCATE the *Suction Line* & REMOVE the cap.
 - PLACE *Suction Line* into your container of RV antifreeze.
3. TURN ON the *Water Pump*.
4. OPEN all faucet fixtures individually until RV antifreeze is present. (*Kitchen, Lavatory, Shower, Stool, & Outside Faucet/Spray Port*)

Also see page 9, Winterizing the Furrion Tankless Water Heater & Plumbing System. OR page 17, Winterizing the 6-Gallon Water Heater & Plumbing System.





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