

SUBURBAN

WATER HEATERS

FAQ & TROUBLE SHOOTING GUIDE



Coast to Coast
CARAVAN & LEISURE

FAQ

Q: Can I operate my water heater's electric element and gas burner at the same time?

A: Yes, when taking advantage of available campsite or generator-produced electricity you may operate on both gas and electric for a faster recovery rate

Q: Are all Suburban Water Heaters equipped with an Anode Rod? What is its function? When should it be changed?

A: All Suburban water heaters feature an anode rod. The anode equalizes aggressive water action, providing

cathodic protection for the tank. It is a very important factor in tank life and should only be removed for inspection, draining or replacement. It is removable using a 1-1/16" thin wall socket.

All Suburban water heaters are protected by a magnesium anode to prolong the life of the tank. Under normal use, the anode rod will deteriorate. Because of this, we recommend it be replaced annually or when consumption or weight loss of the rod is greater than 75%. Note: Water with high levels of iron and/or sulphate will increase the rate of deterioration. To extend anode life, drain water from tank whenever the RV is not being used. Avoid any extended time of non-use with water in the tank.



Q: Why does water drip from my water heater's pressure and temperature (P&T) relief valve?

A: You may experience water weeping or dripping from your water heater's pressure and temperature (P&T) relief valve when your water heater is operating. Water weeping or dripping does not mean that the P&T valve is defective. As water is heated, it expands. The water system in a recreational vehicle is a closed system and does not allow for the expansion of heated water. When the pressure of the water system exceeds the relieving point of the P&T valve, the valve will relieve the excess pressure.

Q: Can I add-on an electric element to a PA/DA Model (GAS ONLY Unit)? What will happen if I use it?

A: NO, The use of these aftermarket heating element devices may result in damage to components or the water heater. When aftermarket heating elements are inserted into the anode rod/drain connection, tank life is shortened by accelerating inner tank corrosion. This will be a non-warrantable situation. An Upgrade is required to a GAS/ELECTRIC model, for this application.

FAQ

Q: There is a bad odor coming from the hot water faucet. How can I correct this?

A: Odor from the hot water system is not a service problem and many water supplies contain sufficient amounts of sulphur to produce an odor. The odor is similar to rotten eggs and is often referred to as "sulphur water." Sulphur water is not harmful - only unpleasant to smell. Sulphur water can be caused by a chemical action or by bacteria. The key to eliminating this smell is heavy chlorination of the water system. Add about six (6) ounces of chlorine (common household liquid bleach) to each 10 gallons in the water tank. Then run the heavily chlorinated water throughout the system, opening each faucet one at a time until you smell the chlorine. Let the RV sit a few days and the chlorine should take care of the problem. Then you will need to take care of the chlorine by flushing the water system. If you don't have a water filtration system that removes chlorine, you may have a problem getting rid of the chlorine taste. You might consider adding such a system because it allows you to keep water chlorinated and this prevents several problems, including sulphur water. Chlorination also takes care of other types of bacteria and viruses.

Q: How do I drain my water heater?

A: Follow the below steps;

1. Turn off electrical power to the water heater either at the switch from the electric element or a breaker.
2. Shut off the gas supply to the water heater.
3. Turn off the pressure pump on the water system.
4. Open both hot and cold water faucets.
5. Remove the anode rod from the tank. **(NOTE TAKE CARE as Water May be HOT when drained from the unit).**
6. Follow the RV manufacturer's instructions for draining the entire water system.

Q: What if I operate the water heater without water in the tank?

A: Operation without water in the tank on the 12 VDC gas portion of the water heater can cause the copolymer insulation jacket to melt and can cause the ECO/Thermostat to trip.

Operation without water in the tank on the 230VAC electric portion of the water heater will damage the element.



TROUBLE SHOOTING GUIDE

Fault: NO Operation on 240V/ELECTRIC

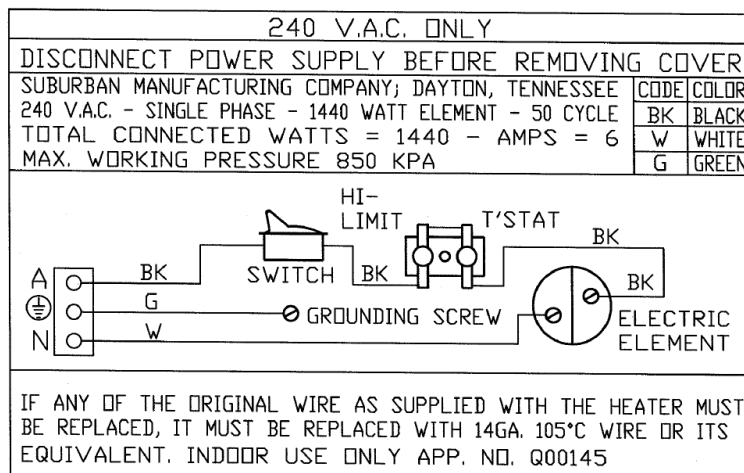
(Confirm power is Available at GPO near the Suburban hot water unit and all connections to the unit are in good order & that the unit is not already at operation temperature, and 240V switch is in the ON position.)

1. Check for 240v @ Element (If No power present, then go to step 3, If 240v is present go to step 2)
2. Check Element resistance (Reading Approx 40 ohms, Short circuit/Open Circuit element is faulty)
3. Check power @ Thermostat (With the Neutral (white) wire as your reference, 240V should be found at either side of the thermostat. If power is found on the entry of the thermostat and Hi-limit is depressed, then Thermostat is Faulty, Replace thermostat and re-check operation. Should no power be found go to step 4)
4. Check for 240V @ main control switch (Located in the service area bottom left) (With the Neutral wire as your reference, and the switch in the ON position, 240V should be present at both sides of the Switch. If switch is disconnected from the circuit, a reading of 0 ohms should be found with the switch in the ON position)

Common Faults:

Fault: 240V element shorted/open circuit (May Trip Circuit Breaker for RV or Supply POLE @ RV Park)

Cause: 240V has been applied to the RV, and Suburban Control Switches in the ON position, with NO water in the Tank, causing it to 'boil dry' (commonly after a anode service due to tanks not bleed for air)



240vac wiring diagram

PLEASE NOTE:

240V Inspection/Repairs are ONLY to be carried out by licensed tradespersons

TROUBLE SHOOTING GUIDE

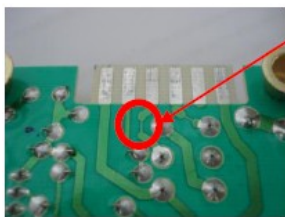
Fault: NO Operation on 12VDC/GAS

(Confirm that power is Available at 12V house battery and all connections/Fuses to the unit are in good order & that the unit is not already at operation temperature, and 12V house switch is in the ON position.)

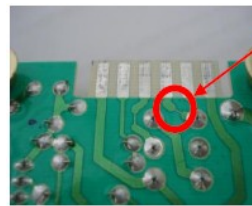
(Turn Off Gas supply for the Following tests)

1. Check for 12v @ PC control module (12v+ PIN 1. and 0v/Earth on PIN 6. Should be above 12.0v with module connected) (If 12V power is present, unit should spark and allow Gas for Ignition, Check for Gas flow/pressure at Regulator test point)
2. Check for power flow through Thermostat (With Earth as a reference, 12V should be found on both connections of thermostat. If power only found on input, make sure the unit is not at temperature, and Hi-limit is depressed, then Thermostat is Faulty, Replace Thermostat and re-check operation)
3. Check for power @ 12v wall plate/Reset light (GAS Control switch) (With Earth as a reference, 12V should be found on both connections of switch, when in the ON position. If power is only found on input, then Main 12V switch is Faulty, Replace Main 12V switch and re-check operation).

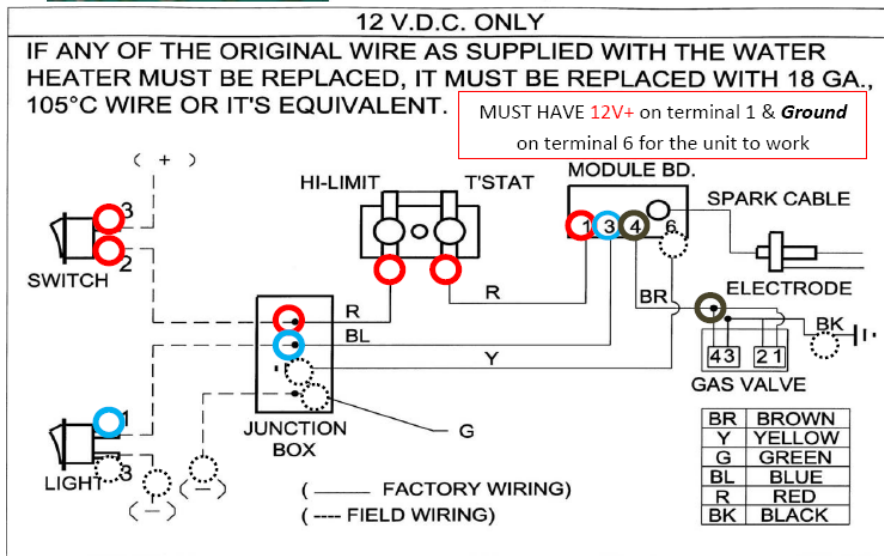
Common Faults:



Fault: **NO RESET LAMP**
But unit operates correctly
Wall switch plate is wired up incorrectly or a short to ground on the blue wire from pc module to switch plate



Fault: **NO Power to Gas Valves**
Check for short on either of the two gas valve coils or short to ground on brown wire from Module to Gas valves.



Gas Valve Electrical Specifications

Type:

Twin 12V Coils

Resistance:

38.5 ohms per coil

Current Draw:

Under 1 Amp
(while in heat/ignition mode)

KEY

- Must have 12V+ on this line at these Marked points (when below thermostat cut out temp)
- Must have 12V+ on this line at these Marked points (when the system is first turned on for approx 10seconds)
- Must have 12V+ on this line at these points (after the 10seconds ignition warm up time, While the spark is present)
- Must have EARTH/GROUND (-) (At all times of operation)