Use and Care Guide

100 Series

Aqua-Hot®

An AIRXCEL Brand

AHE-125-DN1

Thank you for equipping your RV, coach, or caravan with an Aqua-Hot hydronic heating system! We deeply value your business and we are grateful for the trust you have placed with Aqua-Hot Heating Systems, LLC. Our customers are our top priority and we are committed to providing best-in-class products, service, and support.

We understand how important comfort is to you as a recreational vehicle or manufactured home owner; therefore, we have designed a heating system to significantly improve all of your comfort levels. Additionally, the Aqua-Hot hydronic heating system is a low-emissions, fuel efficient system that adds thousands of dollars in value to your RV or home.

We know that you must be eager to get underway, but take time to read and understand this Use and Care Guide to understand the basic functionality of the Aqua-Hot. This guide should be maintained in legible condition and kept in a safe, accessible location for future reference.

Should you have any suggestions on how we can better serve you, please do not hesitate to contact us.

Technical Support can be contacted at 574-AIR-XCEL (574-247-9235). Hours of operation are 7:00am to 4:00pm (MST) Monday through Friday.

The Aqua-Hot heating system is protected by the finest warranty in the industry (read about it at the back of this manual).

Important Notes:

- A qualified installer or service technician must perform equipment installation or service. Contact Aqua-Hot for Factory Authorized Service Centers or Certified technicians located near you at www.aquahot.com/service-help, or call us at 574-AIR-XCEL (574-247-9235).
- Warranty work must be performed by an Aqua-Hot Factory Authorized Service Center.
- Your on-product identity label contains the specifications of your unit. Factory settings may be adjusted by the vehicle manufacturer, confirm final setting with your dealer.

- Follow this guide exactly. Failure to do so may result in a fire or explosion resulting in property damage and/or personal injury.

Comfort Zone #1: Comfortable Cabin Heat.

Get heat where you want it, when you want it. This Aqua-Hot system puts heat where you need it. Therefore, your interior temperatures will be just right. Don't hesitate to crank up the heat because the Aqua-Hot system doesn't remove moisture from the air. From now on, you will have to blame the dry skin and itchy eyes on Mother Nature!

Comfort Zone #2: Quiet Operation

Say goodbye to rude awakenings from the forced air furnace, you're an Aqua-Hot owner now! The Aqua-Hot is quiet when operating, so you'll never have to turn up the TV, yell across the room, or have an interrupted night of sleep again due to your heating system.

Comfort Zone #3: Comfortable Hot Water

Take showers knowing that your tank-less Aqua-Hot is ready and waiting to deliver hot water. The freedom to take a hot shower when you want makes your experience much more like home.

Comfort Zone #4: Low Emissions

Aqua-Hot's new low emission systems are fume-less and odorless. It's good for you, good for your neighbor, and good for the environment.

Comfort Zone #5: Large Service Networks

You won't need to service your Aqua-Hot often, but when you do, you can be confident in our Certified Service Centers that are close by and trained to assist you with all of your Aqua-Hot specific needs.

Comfort Zone #6: Adds Value

The NADA Recreational Vehicle Guide lists Aqua-Hot as adding thousands of dollars to the value of a coach or caravan. That value will pay off when it's time to trade up or sell.

Contents

Caution Notes

As you read this information, take particular note of the NOTICE, CAUTION, WARNING and DANGER symbols when they appear. This information is important for safe and efficient use of the Aqua-Hot system.

NOTICE signals a situation where potential damage to the Aqua-Hot could occur.

CAUTION signals a situation where potential harm or risk of minor or moderate injury could occur if you do not follow instructions.

WARNING signals a hazardous situation where potential harm, risk of serious injury, or death could result if instructions are not followed.

DANGER signals a situation where immediate risk of serious injury or death will result if instructions are not followed.

NOTE: This manual will also use notes sections similar to this one to draw attention to features and practices which should be observed.

Read all instructions before using the Aqua-Hot unit. Aqua-Hot Heating Systems is not liable for damage resulting from failing to follow instructions contained in this, and any other Aqua-Hot documentation relevant to this unit.

- Read this user manual before using the Aqua-Hot System to reduce the risk of injury to persons or damage to the equipment.
- The product identity label contains specifications of the unit, to what standard it has been tested, and important safety notices.

⚠ CAUTION

- Disconnect electric wiring to the Aqua-Hot System before welding or plasma cutting the coach to avoid damage to equipment.
- The Aqua-Hot tank and heating loop operate at 0.0 PSI (zero pressure system). Air pressure to the tank must not exceed 18 PSI. Exceeding this rating will cause internal damage to the Aqua-Hot.
- DO NOT connect the 12-volt DC power to the Aqua-Hot if the vehicle requires welding.
- At maximum operating temperature, the coolant will be very hot and scalding hot vapor or coolant may result in serious burns or injury. Be aware of hot surfaces.

⚠ WARNING

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

- Use special caution when children are present. Children must not be allowed to play with the heater or perform cleaning and maintenance.
- At maximum operating temperatures, the hot air outlet will be very hot that may result in serious burns or injury. Be aware of hot surfaces.
- The burner produces very hot temperatures that can ignite surrounding flammable materials. The burner should be turned off when loading or unloading flammable materials.

Safety Features

Low-Voltage Shutdown

The Controller is designed to operate between 11V DC and 16V DC. If the Controller detects that it is receiving voltage below 11.8V DC, a System Voltage fault will trigger a display on the LCD screen. If the Controller system drops below 11.2V DC for 30 seconds, it will discontinue operation of the Aqua-Hot heating system.

Over-Current

An Over-Current fault condition occurs when too much current is drawn by a component, usually a fan or pump. When this fault is triggered, the output channel is shut off until the Controller has been reset or power-cycled.

Over-Temperature

An over-temperature fault will occur if your Aqua-Hot heating system has reached 218°F (103°C). The Controller will deactivate the heater and display an over-temperature fault on the LCD display screen.

Low-Level Cutoff

If the system senses low fluid level, the heating system will shut down all fans, heat sources, and pumps until the unit is refilled.

House Power Sense

The Aqua-Hot Controller contains within it a fail-safe functionality known as House Power Sense. This functionality serves as a live signal to the Aqua-Hot allowing it to continue operating. If power is lost to the on-board RVC network or other on-board control systems, the Controller is signaled to shut down operation until a 12V DC power signal is returned to the unit.

⚠ CAUTION

As with any appliance, allow the Aqua-Hot to completely shut down BEFORE disengaging the coach 12V power disconnect.

Safe Operation

The Aqua-Hot Heating system consists of an electric heating element and an external diesel burner. The electric element and/or the external diesel burner heat a glycol and water mixture, that flows through tubing and into heat exchangers to heat a zone that calls for heat. The heating system also heats domestic water for hot water use in the shower or at hot water faucets.

To safely and properly operate the Aqua-Hot 125DN, please make sure that the fluid level is up to the "COLD" level line on the expansion tank before heating. If the heater has already been activated and running, the fluid should be to the "HOT" level.

Locate the Aqua-Hot LCD screen (shown below) inside the coach (contact the vehicle manufacturer if unable to find), tap the screen to wake, tap on either the "ELECTRIC" to turn on the Electric Element or "BURNER" to turn on the external diesel burner. It will take approximately 20 minutes to get the glycol fluid up to operating temperature. After the tank is to temperature, you can turn on the heat on your coach thermostat or run hot water.

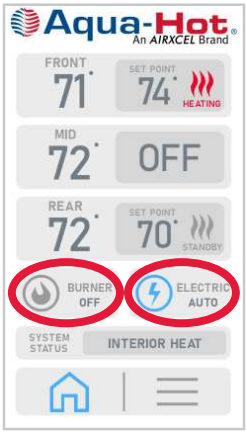


Figure 1

General Care

The Aqua-Hot 125DN's fluid levels should be checked regularly to ensure it is at the proper level. It should be checked when the Aqua-Hot is at maximum operating temperature, when the external diesel burner completes a cycle or when the electric element disengages. The level should be at the "HOT" mark on the expansion tank.

It is necessary to take precautions during any user maintenance. Note that the fluid will be very hot, and any scalding hot vapor or coolant could cause serious burns or injury.

Intended Use

This manual explains the operation and care of the Aqua-Hot heating system and Reporter.

These instructions are approved for the Aqua-Hot 125DN model for recreational vehicles only. Not for use in boats.

Service and repairs may only be carried out by an authorized, factory-trained Aqua-Hot technician. The heating system must be installed/serviced in accordance with local codes, or, in the absence of local codes, follow NFPA 1192.

- The vehicle owner is responsible for correct operation of the appliance.
- The Aqua-Hot 125DN must comply with the codes and regulations of the country it is being used in. National and local codes must be followed, or follow NFPA 1192.
- Make sure to properly winterize the Aqua-Hot's domestic water system when not in use and/or any time the heater is stored where freezing temperatures may be experienced. The Aqua-Hot warranty will not cover claims for freeze damage. Please refer to page 13 for proper winterization of the Aqua-Hot.
- In order to provide the best freeze protection, boil-over protection, anti-corrosion, and rust protection, a mixture of 50/50 Ethylene Glycol antifreeze and distilled water is recommended. The Aqua-Hot 125DN boiler tank holds approximately 1.8 gallons (6.8 liters).
- The mixture may be modified to provide the most adequate freezing, boiling, and rust/anti-corrosive protection. A 50/50 mixture of Ethylene Glycol and distilled water has a freeze point of approximately -35°F (-37°C) and a boiling point of approximately 223°F (106°C). Reference page 16 for measuring the antifreeze mixture with a refractometer.

Hot Water Priority System

The Aqua-Hot 125DN is a Hot Water Priority heating system. Meaning that the 125DN cannot heat the interior of the coach and produce hot water simultaneously. When hot water is being used, the interior heating system will shut off temporarily, until hot water is no longer being used.

When hot water is requested, domestic water from the coach's fresh water tank is transported through the domestic water line, that goes into a heat exchanger located in the Aqua-Hot. The water is then heated by the heated antifreeze and distilled water solution. The heated domestic water then flows through the tempering valve to be mixed with cool water from the fresh water tank to achieve an appropriate temperature before it flows to the faucet.

Aqua-Hot 125D
1. Tempering Valve
2. Fluid Circulation Pump
3. Aqua-Hot Controller
4. Antifreeze and Water Heating Solution Tank
5. AC Electric Element
6. AC Activation Relay
7. Plate-to-plate Heat Exchanger
8. Three-Way Valve
9. Zone Air-Bleed Valve
10. Fluid Expansion Port (to overflow bottle)
11. Zone Return
12. Fluid Fill Port
13. Zone Supply
14. External Diesel Burner Return
15. External Diesel Burner Supply
16. Domestic Cold-Water Inlet
17. Domestic Hot-Water Outlet
18. Domestic Low Point Drain
19. Cabinet Drain

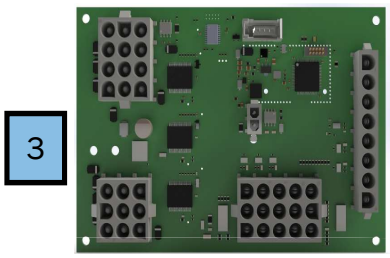


Figure 3

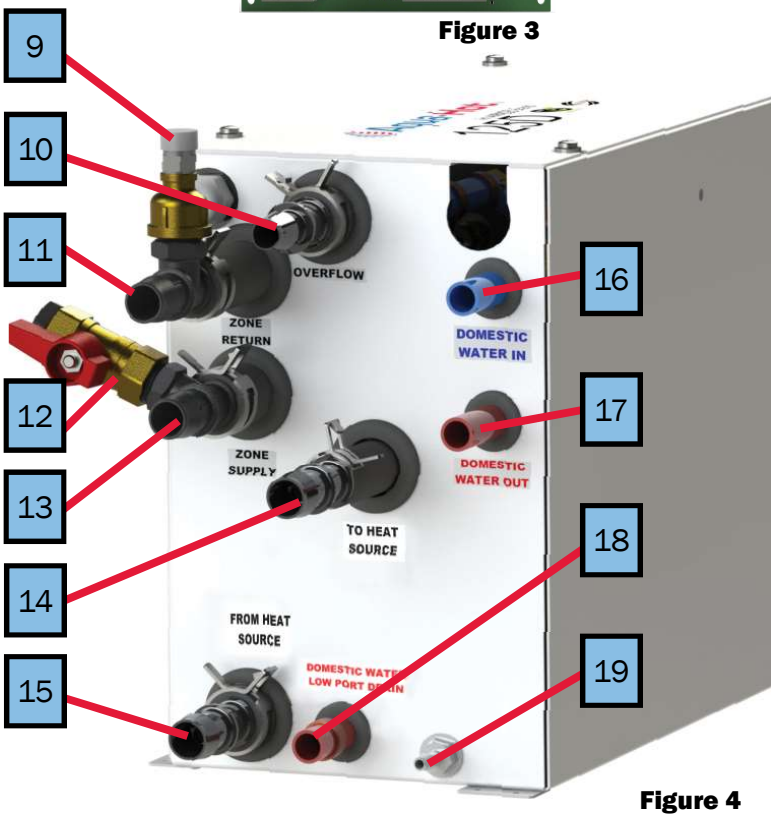


Figure 4

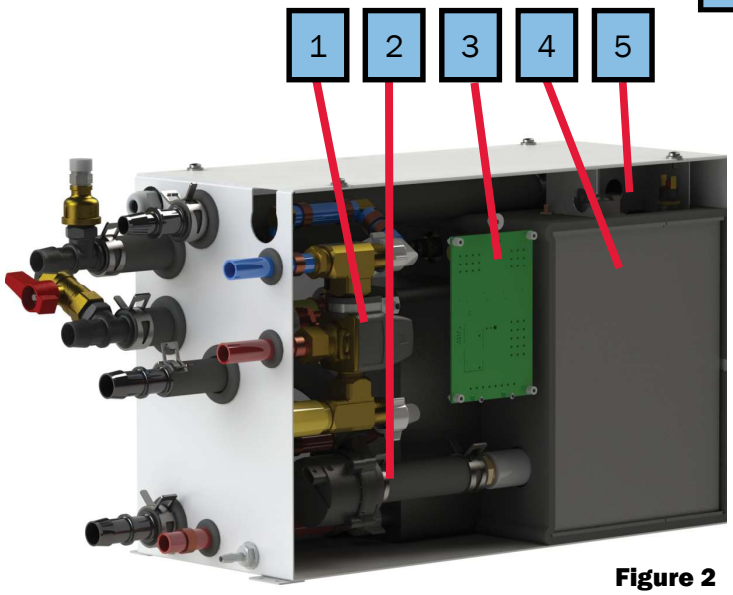


Figure 2

NOTE: The side panel in the view above has been made transparent to aid in the explanation of the heater. DO NOT remove the side panel. Doing so risks irreparable damage to the Aqua-Hot. Only remove the service panel for service.

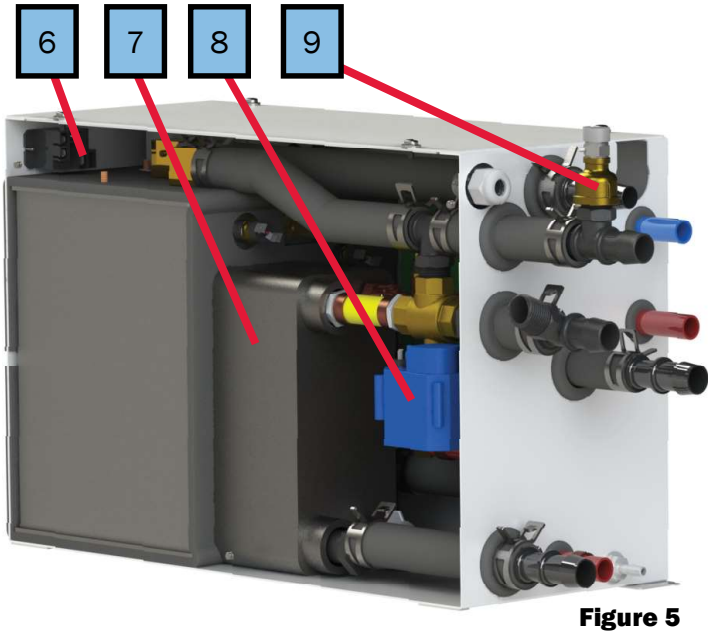


Figure 5

Aqua-Hot Diesel Burner
1. Combustion Air Fan
2. Fluid Outlet
3. Fluid Inlet
4. Combustion Chamber
5. Circulation Pump
6. Exhaust Gas Temperature Sensor
7. Exhaust Outlet
8. Air Inlet
9. Control Unit
10. Burner Motor
11. Fuel Inlet
12. Combustion Air Inlet
13. Fuel Pump
14. High Altitude Bypass Assembly

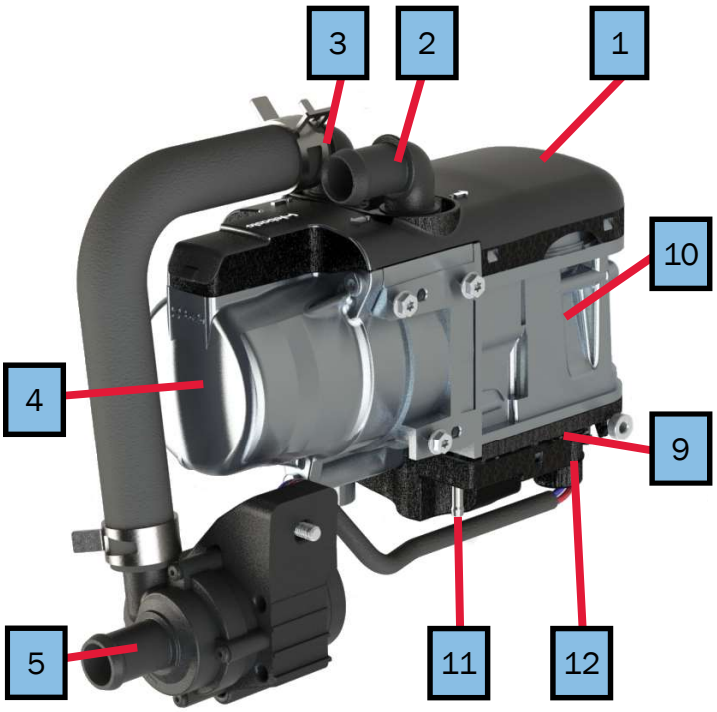


Figure 7

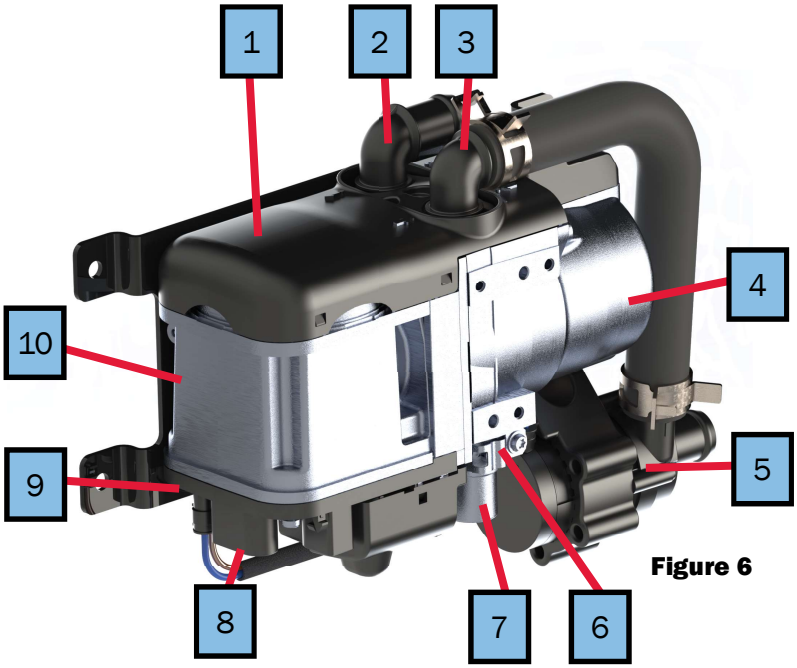


Figure 6

Figure 8

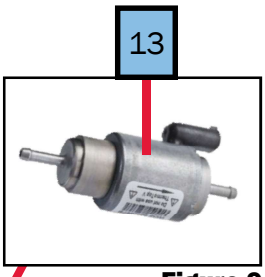


Figure 9

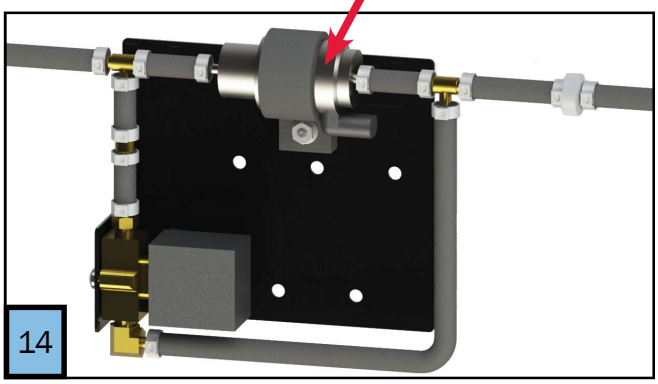


Figure 10

System Features

The Aqua-Hot 125DN Series is a Hydronic Heating System that can provide heat and hot water on demand using a built-in electric heating element and an external diesel burner.

The Aqua-Hot Heating System is a 2-in-1 system

1. Interior Heating System: Provides quiet, comfortable interior heat and even temperatures.
2. Tank-less Hot Water System: Provides a flow of comfortable hot water.

The Aqua-Hot is powered by TribridHot™ technology and uses one or a combination of the following heat sources:

- When plugged into shore power, or powered by a generator, the electric element lets you use the power you are already paying for to provide heat in mild conditions and meet your light duty hot water needs.
- The external diesel burner can be utilized with the Aqua-Hot to heat and produce hot water.

Bring the Aqua-Hot to Operating Temperature:

Your Aqua-Hot hydronic heating system heats an ethylene glycol antifreeze and distilled water solution that is stored in the Aqua-Hot's boiler tank. This water and antifreeze solution must be up to operating temperature before the Aqua-Hot will provide interior heat or comfortable hot water. To bring the Aqua-Hot up to temperature, navigate to the climate page of the LCD screen, and tap either the "ELECTRIC" or "BURNER" icon. Depending on the ambient temperature, it may take up to 20 minutes for the Aqua-Hot's water and antifreeze solution to reach operating temperature.

Once the tank is up to operating temperature, the electric element may be used to maintain the operating temperature and provide light duty hot water and interior heat.

For continuous hot water, or for heat in colder conditions, it is recommended to utilize the external diesel burner.

All vehicle installations must comply with the requirements listed in the Recreational Vehicle Industry Association's (RVIA) ANSI/NFPA 1192 Handbook for Recreational Vehicle Standards.

Aqua-Hot®

An *AIRXCEL* Brand

Exhaust system MUST NOT terminate beneath the vehicle and not less than 3 feet from an openable window.

Combustion Air MUST BE supplied from outside the vehicle.

Suitable for water (potable) heating and space heating.

THIS APPLIANCE OPERATES ON BOTH DC AND AC POWER.

USE COPPER CONDUCTORS ONLY!

Use a circuit breaker that cuts power a 20-Amps maximun for over-current protection for the 120-VAC power supply.

Mount the Heater and Unit so that the Access cover can be easily removed for service.

For Detailed Information, reference the Owner's Manual or contact Aqua-Hot Heating Systems Inc. at 1-800-685-4298.

Minimum Service Clearances
Front - Open Access
Back - 1 Inches
Top - 8 inches
Sides - 1 inches

This appliance must be installed in accordance with local codes or, in the absence of local codes, the Standard for Recreational Vehicles, ANSI A119.2/NFPA 1192 or CAN/CSA-Z240 RV.

Listing 20L01

Meets or Exceeds: UL 307A, UL 174
CSA/CAN B140.0-06
CAN/CSA-C22.2 No.110-94

Max Tank Pressure	0 PSI
Watts (DC)	84W
Watts (AC)	1500W
Tank Capacity	1.8 gal (Ethylene Glycol)
Volts/Amps	12VDC, 7A
Volts/Amps/Frequency	120VAC, 13.75A, 50/60Hz
Burner Model	Webasto TT Evo
Burner Fuel	Diesel
Burner Rating	17,060 BTU

Model Number: AHE-125-DN1

Serial Number: A125DN-XXXXXX__

Burner Serial Number: XXXXXX

7901 Miller Drive • Frederick, CO 80504 • 1.800.685.4298 • www.aquahot.com

NOTE: This product label is attached to the side of the Aqua-Hot and provides a ready reference to specifications, test standards, and important safety notices.

Operational Overview

The heating features are powered by the external DC diesel burner and/or the AC electric element on the 125DN. These maintain the temperature of the Aqua-Hot's antifreeze and water heating solution to provide hot water and interior heat.

External Diesel Burner:

The diesel burner is the Aqua-Hot's primary and most powerful heat source, and provides all of the heating and hot water needs when cold temperatures exist, and/or when there is a high demand for hot water. It can be activated by turning the burner on by tapping BURNER to ON on the LCD screen shown below. The burner has 4 modes: LOW, HIGH, AUTO, and OFF. While in LOW mode, the burner will maintain a tank temperature of 165°F and minimum temperature of 160°F. In HIGH mode, the burner will keep the tank temperature between 160°F and 180°F. In AUTO mode, the burner will toggle between HIGH and LOW as needed, using temperature readings from the coach interior thermistors. OFF mode, the burner is off and will not provide any heat to the Aqua-Hot tank.

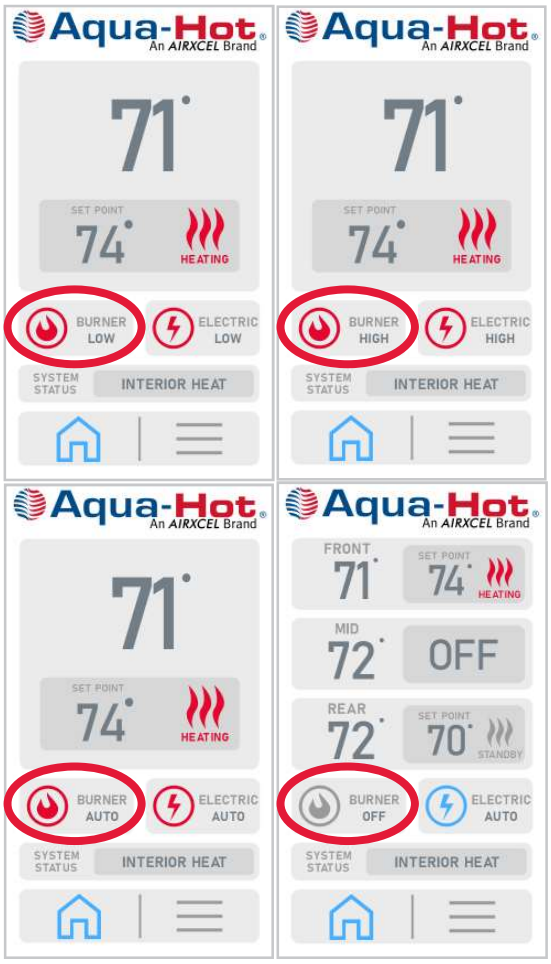


Figure 11

Electric Element:

The electric element is the Aqua-Hot's secondary heat source and can be used when plugged into shore power. The electric element will work to maintain tank temperature at 5°F below the heater activation threshold. It can be activated by tapping on the ELECTRIC button of the LCD screen interface. The electric element has 4 modes: LOW, HIGH, AUTO, and OFF. While in LOW mode, the element will maintain a tank temperature of 170°F and minimum temperature of 165°F. In HIGH mode, the element will keep the tank temperature between 165°F and 180°F. In AUTO mode, the element will toggle between HIGH and LOW as needed, using temperature readings from the coach interior thermistors. OFF mode, the element is off and will not provide any heat to the Aqua-Hot tank.

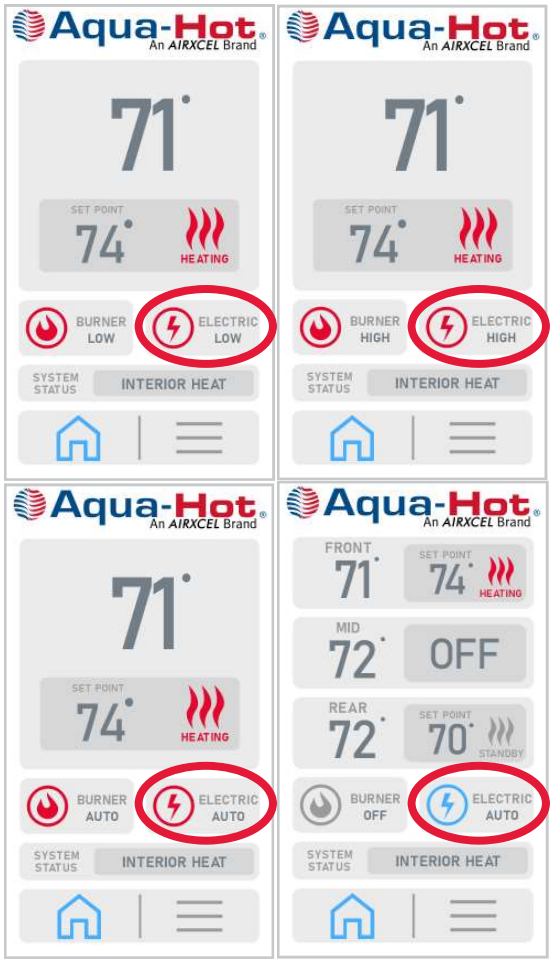


Figure 12

Controlling Heat Levels with Room Thermostat:

When the Aqua-Hot is on and up to operating temperature, adjust the room thermostat to the desired temperature and it will automatically activate the Aqua-Hot's heating functions to maintain the desired interior temperature.

Different manufacturers may use different types of thermostats. Please contact the dealer or manufacturer for the exact type, location, and thermostat operation.

Aqua-Hot LCD Display

Figure 13

The Aqua-Hot electronic display provides direct diagnostic and control of the Aqua-Hot. This display is directly interfaced with the Aqua-Hot to relay real-time operational information such as unit diagnostics, warnings, faults, and operating conditions. Please contact Aqua-Hot, or your vehicle manufacturer for more information.

Using Hot Water:

The Aqua-Hot 125DN is a Hot Water Priority heating system. Meaning that the 125DN cannot heat the interior of the coach and produce hot water simultaneously. When hot water is being used, the interior heating system will shut off temporarily, until hot water is no longer being used.

When hot water is requested, domestic water from the coach's fresh water tank is transported through the domestic water line, that goes into a heat exchanger located in the Aqua-Hot. The water is then heated by transfer from the heated antifreeze and distilled water solution. The heated domestic water then flows through the tempering valve to be mixed with cool water from the fresh water tank to achieve an appropriate temperature before it flows to the faucet.

Heat Priority Option:

The Aqua-Hot comes equipped with the three-way valve (sometimes known as the summer/winter valve). This controls the flow of the antifreeze and water heating solution within the Aqua-Hot to deliver either hot water or interior as priority. Tapping on this element will change the valve's orientation. When this element displays "INT. HEAT", this valve is oriented to provide interior heat by circulating the heating solution throughout the interior heating zone. When the element says "HOT WATER", the valve is oriented so that the heating solution is routed to prioritize hot water.

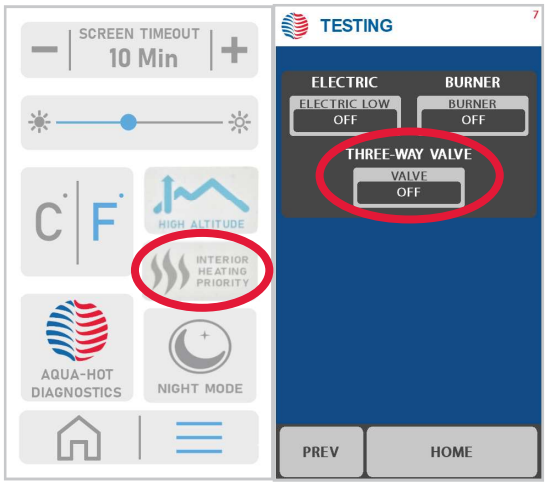


Figure 14

High Altitude Option:

The Aqua-Hot 125D comes equipped with a High Altitude mode that allows the external diesel burner to operate properly at high altitudes. It is recommended any time the coach is at an altitude higher than 5,000 feet, to activate the High Altitude button on the LCD screen. This modifies the fuel pump rate to decrease the flow of diesel fuel. This allows for less emissions, carbon build-up, and proper diesel burner operation.

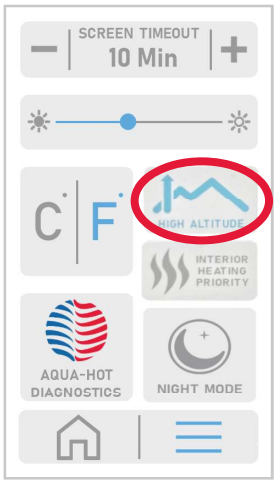


Figure 15

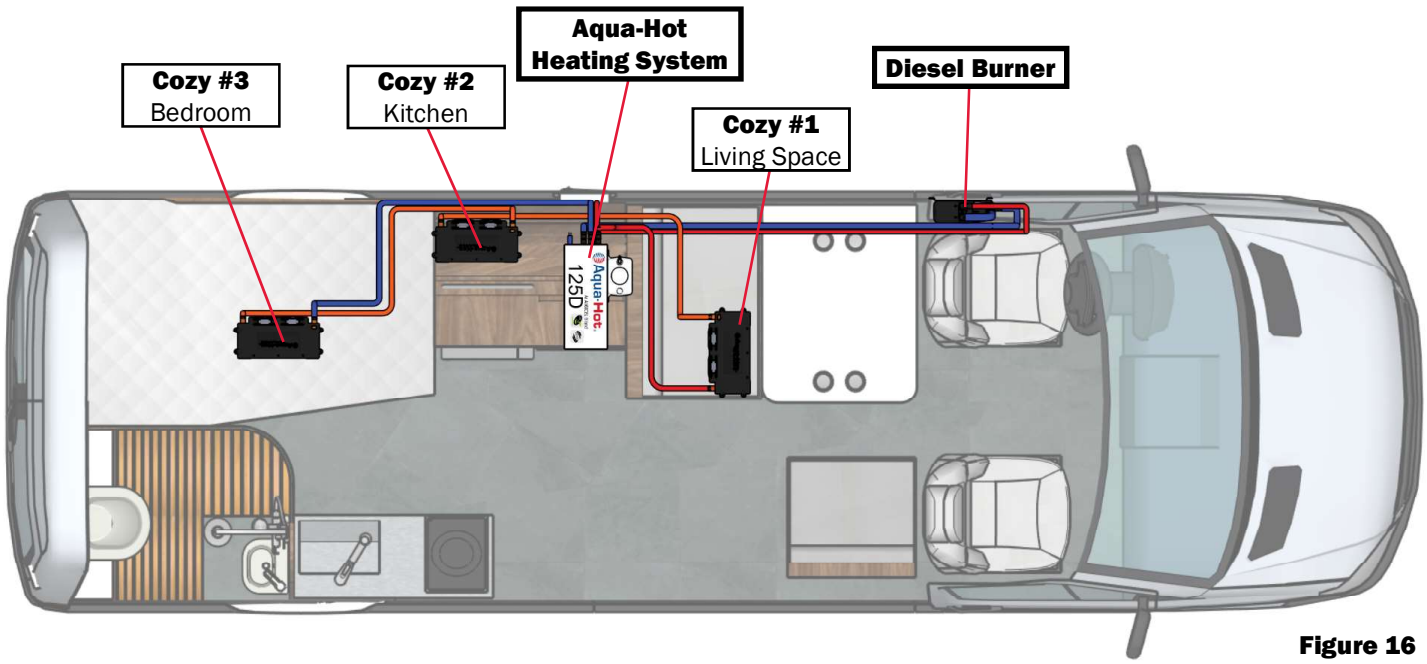


Figure 16

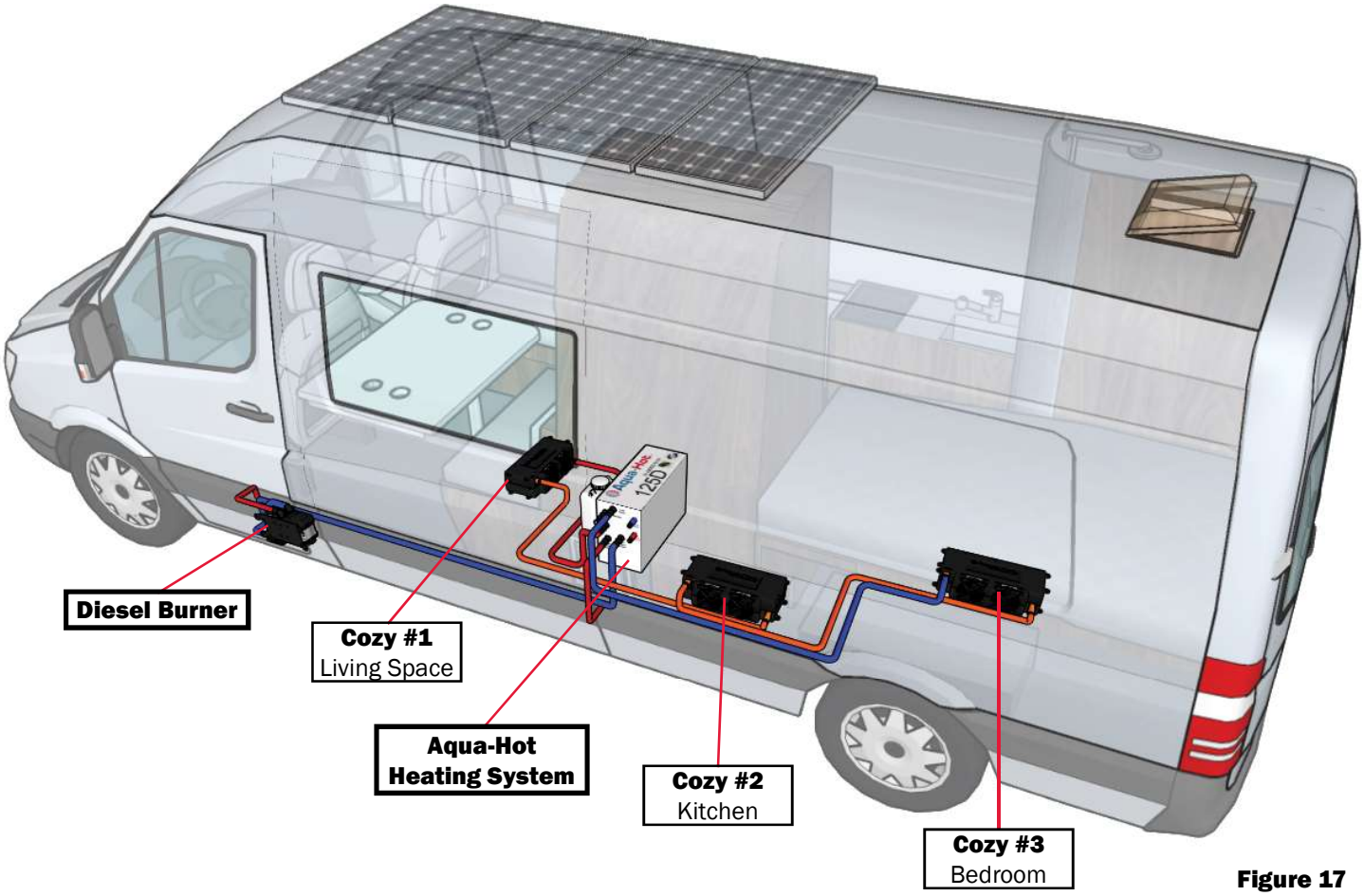
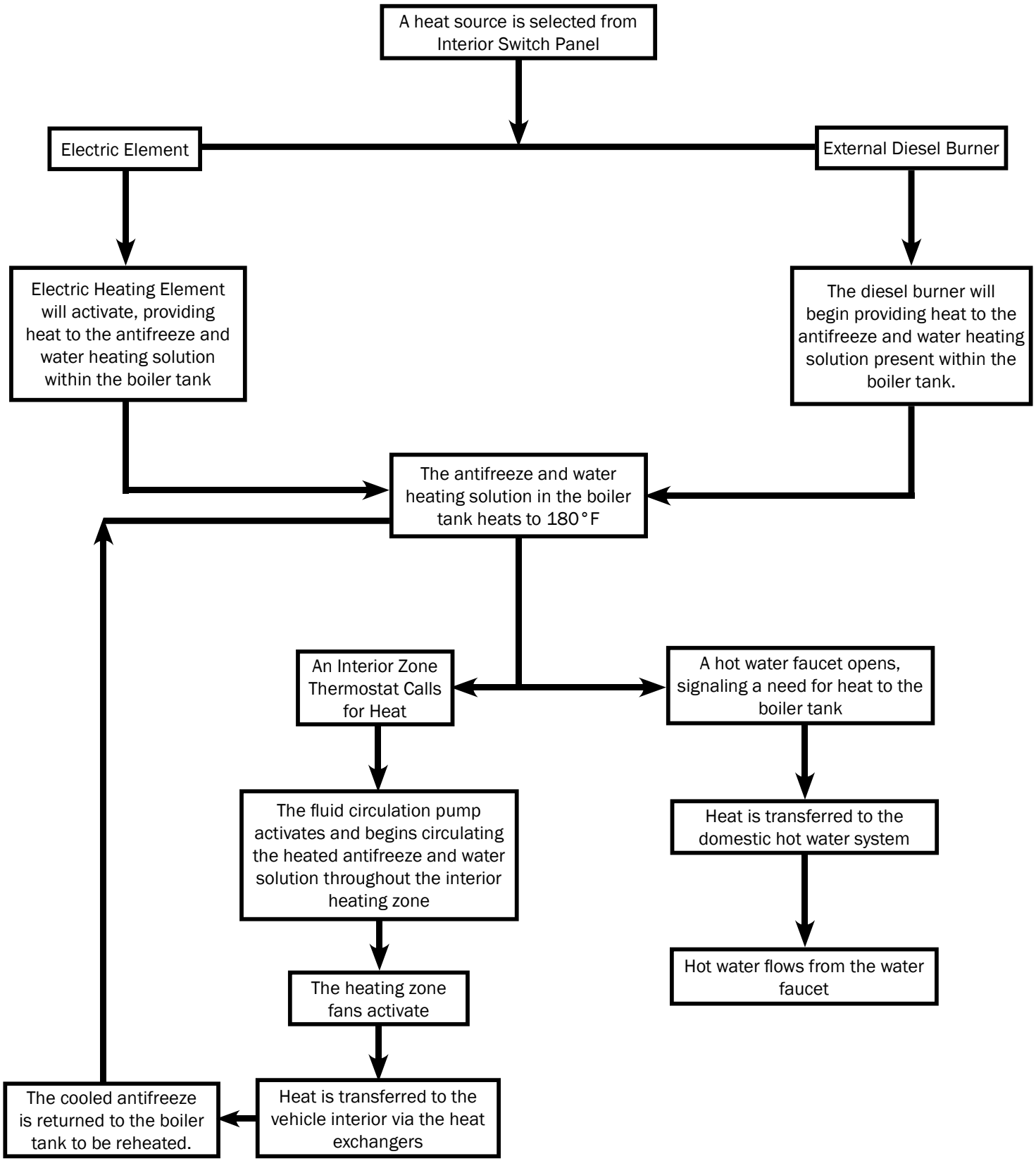


Figure 17

Operational Flow Chart



Maintenance Schedule

Monthly Maintenance

Check the Aqua-Hot's antifreeze and water heating solution to ensure that it is at the proper level. This can be accomplished by visually checking the coolant level in the Aqua-Hot's expansion tank; reference Figure 20 on page 15.

Please note that the coolant level should be checked ONLY when the Aqua-Hot is at maximum operating temperature. This should be done immediately after the electric element disengages, or after the diesel burner has completed a cycle.

At maximum operating temperature, the antifreeze and water heating solution should be at the level marked "HOT" on the expansion tank.

It is also recommended to run the diesel burner once a month for a full cycle (at least 20 minutes) to ensure optimum heater condition.

Annual Maintenance

To maintain the Aqua-Hot at its full potential, it is highly recommended to have the diesel burner tuned up annually. This involves the fuel filter replaced, burner cleaned, inspecting the exhaust and combustion air lines for damage and ensure they are clear, checking the fuel lines for any leaks, checking the hoses and wiring to make sure there is no damage or cracks.

Replenishing the Antifreeze and Water Heating Solution

If the antifreeze and water heating solution needs replenishing, remove the cap for the expansion bottle and fill it to the "HOT" mark. Replace the expansion bottle cap when this is complete. DO NOT operate the unit without first replacing the cap of the bottle. Reference Figure 20 for additional information. Excess air will escape through this bottle as the stir pump of the unit operates. While bleeding this system of air it will be necessary to continue to fill the bottle until this process is complete.

Reference the Appendix on page 16 for the proper tool and instructions for usage in measuring the system's antifreeze mixture ratio.

The Aqua-Hot does not need regular replacement of the antifreeze and water heating solution, but in the event that more antifreeze is required, contact Aqua-Hot Heating Systems to purchase antifreeze, or for guidance in selecting an appropriate antifreeze product for use with this unit.

DANGER

When the Aqua-Hot is at maximum operating temperature, the coolant is very hot. If the Aqua-Hot heating system is accessed, scalding by hot vapor or coolant may occur. Before cleaning or servicing, disconnect all power supplies.

WARNING

DO NOT operate the auxiliary heat source and/or electric heating element without antifreeze and water heating solution present in the Aqua-Hot's boiler tank. Doing so will cause serious damage to the heater.

Overheat Protection

Every Aqua-Hot is equipped with at least two overheat protection devices. These are commonly known as the high-limit thermostats. These thermostats operate by maintaining a circuit while the unit is below 218° F (103° C).

In the event of an overheat condition, the high limit thermostats will cut the operating signal to the external diesel burner, and/or the electric element. When this signal is interrupted, the electric element and diesel burner will immediately disengage. Contact Aqua-Hot Heating Systems LLC for assistance in locating a qualified person to service this heater.

WARNING

DO NOT attempt to reset the high-limit thermostats after an overheat condition until the unit has been serviced by a qualified technician. Failure to do so could result in damage to the unit, personal injury, or death.

In order to provide the best freeze protection, boil-over protection, anti-corrosion, and rust protection, a mixture of 50/50 ethylene glycol antifreeze and distilled water is recommended. The Aqua-Hot 125DN boiler tank holds approximately 1.8 gallons (6.8 liters).

The mixture may be modified to provide the most adequate freezing, boiling, and rust/anti-corrosive protection. A 50/50 mixture of ethylene glycol and distilled water has a freeze point of approximately -35°F (-37°C) and a boiling point of approximately 223°F (106°C). Refer to the table below to determine the best protection mixture ratio. Reference page 16 for measuring the antifreeze mixture with a refractometer.

Ethylene Glycol

Freeze Point (°F)	32	25	20	15	10	5	0	-10	-20	-30	-40	-50
Concentration (%)	0	10	16	21	25	29	33	39	44	48	52	56

Winterizing the Aqua-Hot

The Aqua-Hot's domestic water heating system must be completely drained of domestic water at any time the heater is stored where freezing temperatures may be experienced.

Please follow these instructions when winterizing the Aqua-Hot domestic water heating system. Reference Figure 18 below for a system overview.

NOTE: The Aqua-Hot can continue to be used for interior heat once the domestic hot water system has been winterized.

1. Completely drain the fresh water storage tank.
2. Disconnect the domestic water demand pump suction line from the fresh water storage tank.
3. Attach an adequate piece of hose onto the suction side of the domestic water demand pump.
4. Place the opposite end of the hose into an adequate supply of non-toxic RV winterization antifreeze (FDA certified as GRAS must be used) and allow the fluid to pump through.
5. Open and close all interior and exterior water faucets one at a time, until ONLY pure RV antifreeze is present. Perform this procedure for both cold and hot water faucets.
6. Remove the hose and reconnect the domestic water demand pump's suction line to the fresh water storage tank.

WARNING

Not winterizing the Aqua-Hot when freezing temperatures are present will result in serious damage to the Aqua-Hot domestic water heating system. Ensure that FDA approved "GRAS" antifreeze rated for winterization is used when winterizing this unit.

De-Winterization

To de-winterize the Aqua-Hot system, completely fill the fresh water storage tank. Open and close the interior and exterior faucets, one at a time, until only clear water is present.

Disinfecting the Domestic Water System

NOTICE

The Aqua-Hot Heating components are not compatible to prolonged exposure to sodium hypochlorite (bleach or liquid bleach.) Using products containing bleach, including water refreshers, may cause corrosion of the domestic water lines, resulting in a catastrophic failure of the Aqua-Hot system by creating leaks that cannot be repaired. This damage is not covered by the Aqua-Hot warranty.

If disinfecting the hot water heating system, be sure to follow NFPA 1192 Standard on Recreational Vehicles "Instructions for Disinfection of Potable Water Systems."

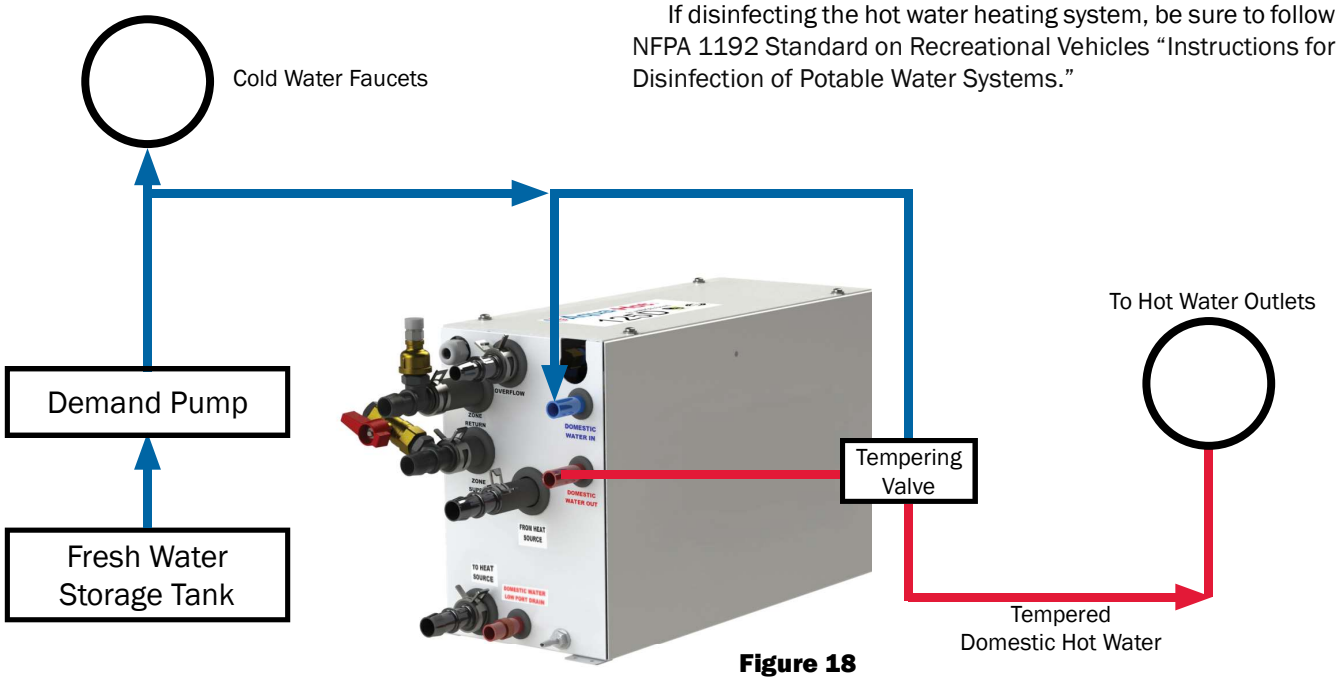


Figure 18

General Troubleshooting

Should the Aqua-Hot Hydronic Heating System fail to operate, complete the following checks:

1. Verify that the Aqua-Hot is supplied with electrical power.
2. Make sure there is an adequate supply of diesel fuel (at least ¼ tank).
3. Ensure that the Aqua-Hot boiler tank has an adequate supply of antifreeze and water heating solution by checking the level at the expansion tank. If the level is low, reference the maintenance section of this guide for refilling instructions.
4. Verify the functionality of any in-line fuses connected to the Aqua-Hot. Replace these fuses if necessary.
5. Ensure that all coach-side hot water faucets are closed.
6. Visually inspect the interior of the Aqua-Hot to ensure that there are not any pinched or damaged wires.
7. Locate the high-limit thermostats (3) within the Aqua-Hot. Test these thermostats for functionality, and replace if necessary.
8. Locate and test the ETS module for functionality. Replace if necessary.
9. Locate and test the fluid circulation pump. Replace if necessary.
10. Locate the three-way valve and test it for functionality. Replace if necessary.
11. Make sure there are no faults displayed on the LCD screen as shown below.

Figure 19

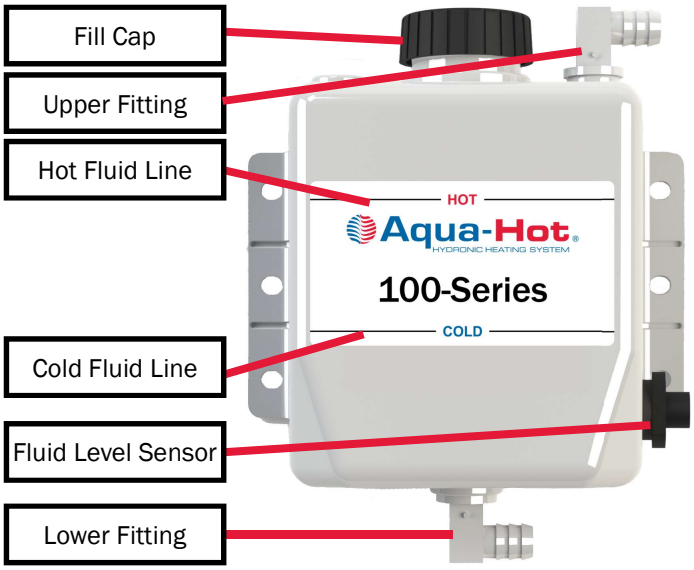


Figure 20

NOTE: The fluid level sensor is located in the Aqua-Hot's expansion tank. If the antifreeze solution in the expansion tank drops below the level of the fluid sensor, the Aqua-Hot will not operate.

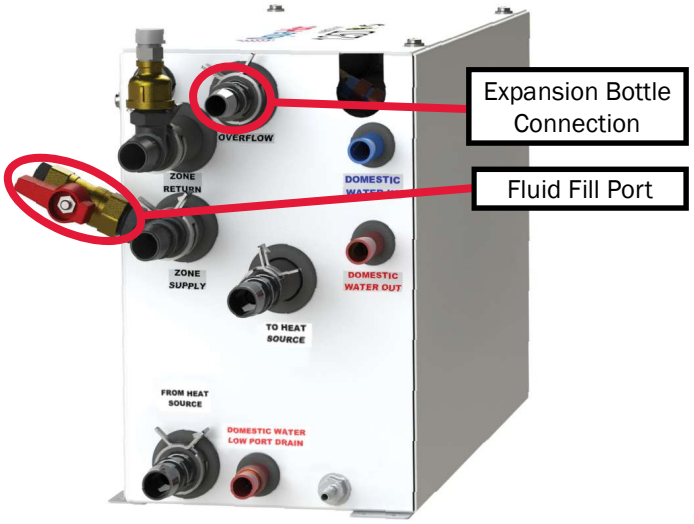
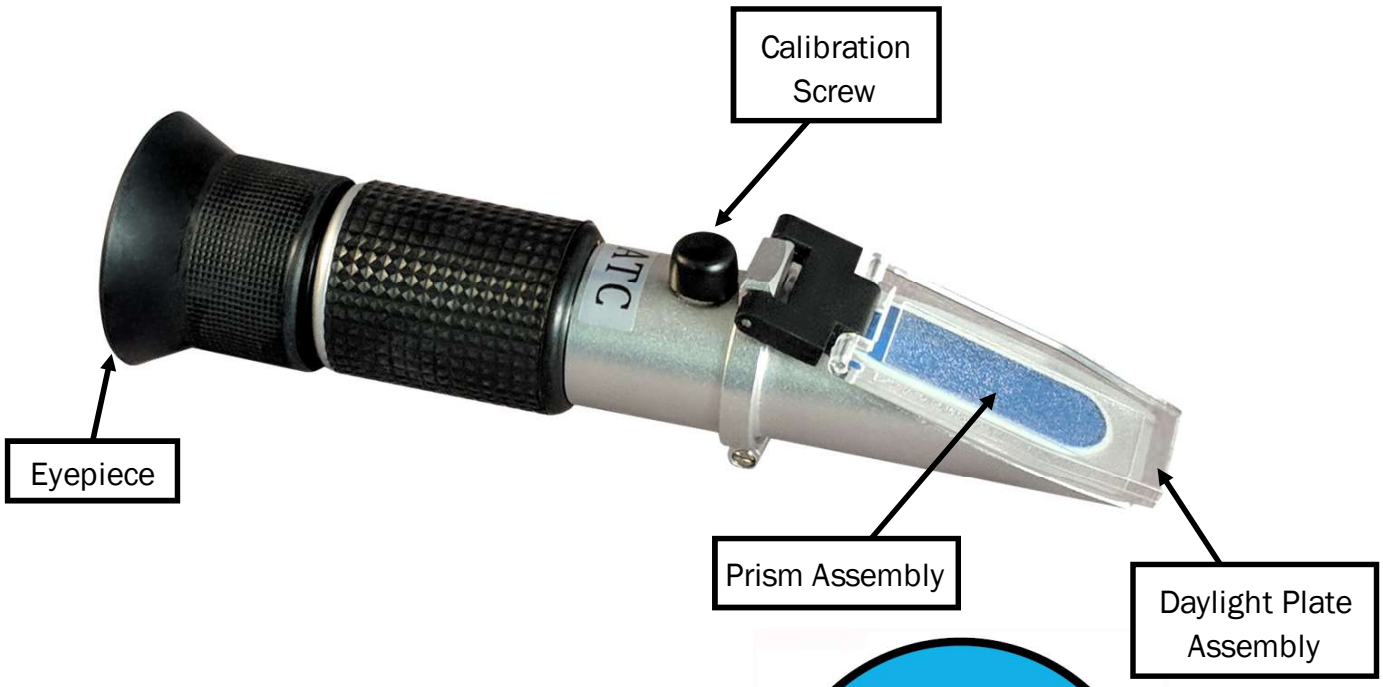


Figure 21

Measuring Antifreeze Using a Refractometer

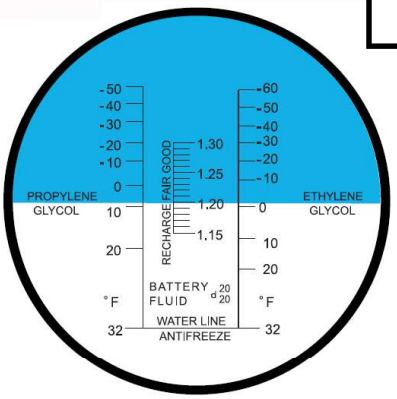


Properly Apply Antifreeze to the Prism Assembly

Use the guide below to properly apply the ethylene glycol mixture to the prism assembly of the refractometer. Once that is complete, peer through the eyeglass of the refractometer to continue to the next step.

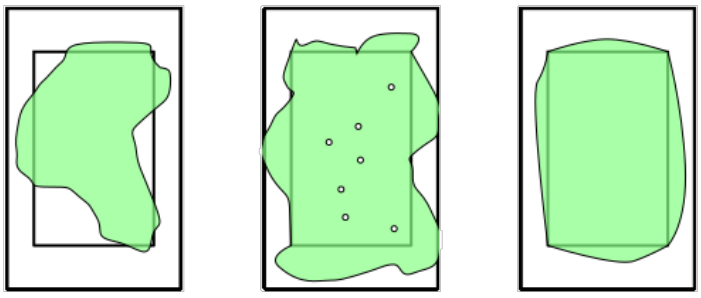
Adjust the Boundary Line

Once the glycol solution has been properly applied, adjust the calibration screw until the boundary line labeled “Ethylene Glycol” is set to 32 °F. The graphic to the right has been designed as an aid, but note that it may differ from what is shown in the refractometer sight glass.

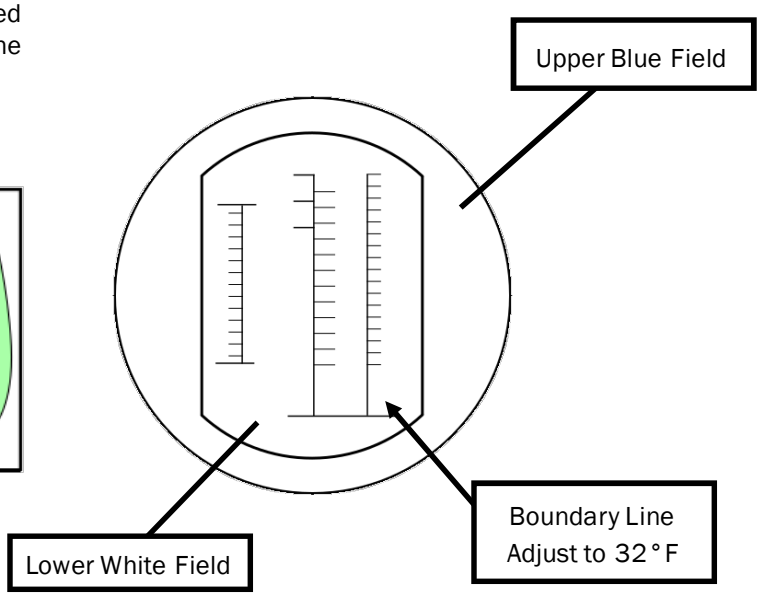


Refractometer Sight Glass

Application of Ethylene Glycol



Poor Poor Good



DATE	SERVICE PERFORMED	SERVICE CENTER

DATE	SERVICE PERFORMED	SERVICE CENTER

Aqua-Hot®
An AIRXCEL Brand

2-YEAR LIMITED WARRANTY AQUA-HOT® HYDRONIC HEATING SYSTEM

Aqua-Hot Heating Systems Inc. warrants the Aqua-Hot Heater to be free from defects in material and workmanship under normal use and service for a period of two years on both parts and labor commencing upon the original date of registration of the vehicle. Replacement parts are warranted for the remainder of the Heater's standard warranty coverage or for six months, whichever is greater. The intent of this warranty is to protect the heater's end-user from such defects, which would occur in the manufacturing of the product. Thus, problems due to improper specifications, improper installations, improper use, the use of accessory parts or parts not authorized by Aqua-Hot Heating Systems Inc., repair by unauthorized persons, and damage or abuse of the heater are specially excluded from warranty coverage.

For additional information, or to obtain a warranty repair authorization, please contact the Aqua-Hot Heating Systems Warranty Administrator at 574-AIR-XCEL (574-247-9235) (7:00 AM to 4:00 PM Mountain Standard Time) or visit www.aquahot.com.

My Comfort Zones are On-Board
Vehicle:

Purchased From:
Dealer Information:
Name:
Location:
Phone Number:

Heating System:
Serial Number:

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