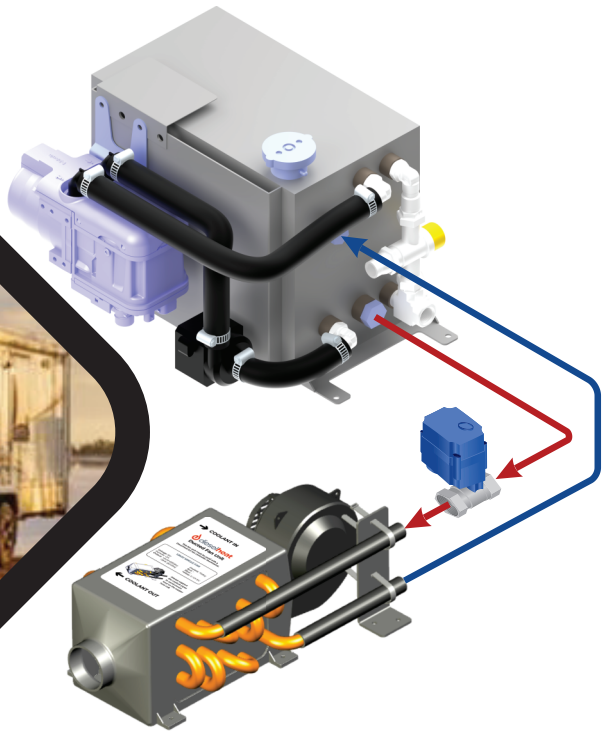




dhhydronic

OPERATION MANUAL

DH15oe (hot water only),
DH15oe DUO (combo hot water and hot air)
with Webasto Furnace

RETAIN IN VEHICLE FOR OPERATOR REFERENCE

dieselheat
www.dieselheat.com.au

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INTRODUCTION

DH Hydronic hot water heaters operate by transferring the energy from coolant heated by the diesel furnace to a potable water heat exchanger and optional fan air heaters.

The systems are assembled with pride and designed to be long-lasting and reliable. Please retain this operation manual in your RV for quick reference on how to use and care for your system.

OPERATING CONSIDERATIONS

- **Units are designed to be switched on when needed and turned off when not in use.**
- **Extended periods with the unit left in standby are not recommended.**
- **It is important to start showers when the furnace is running, and the furnace is not in standby, as the furnace restart time will reduce the amount of available hot water.**
- When starting from cold, or after a shower, allow time for the system to fully reheat before using it.
- Never leave the system in storage with very hard water in it as this can cause damage to the internal stainless steel plate heat exchanger.
- Never run the furnace in a sealed box or with any obstruction to the air inlet or exhaust.

Only turn the furnace off using the switch. Do not cut power to the furnace during any stage of its operation.

CONTROLLING THE HOT WATER SYSTEM (SYSTEM WITH ON/OFF SWITCH)

Use the on/off switch to turn the system on and off. The LED on the switch will stay lit when the system is operating or will blink to show fault codes.



TEMPERING VALVE - CONTROLLING WATER TEMPERATURE



The tempering valves built onto the DH Hydronic hot water heaters come preset at 50°C, but can be set at between 40°C and 55°C by removing the cap and rotating the brass bolt.

The system will always be shipped with the tempering valve. Never operate the system without the tempering valve or with a defective tempering valve as the outlet water temperature can be as hot as 80°C.

COOLANT

The system must be filled with good quality engine coolant to prevent corrosion of internal components. Commonly available automotive coolants that include corrosion inhibitors are acceptable and should be used in accordance with the manufacturer's specifications.
It is important to replace the coolant at the interval specified by the coolant manufacturer to prevent corrosion of system components. If no information on the coolant is known it is recommended to change it every 3 years.

WaterMark

SYSTEM FAULT CODES

If the system detects a fault, the LED will flash 5 times quickly, followed by a series of slower flashes.
Count the slow flashes to identify the fault number.

No. of Flashes	Error message
0	No component fault
1	No start
2	Flame failure
3	Supply voltage too high
4	Flame was detected prior to combustion
6	Temperature sensor
7	Fuel pump
8	Combustion air fan
9	The glow/ignition-element power circuit is defective
10	Heater overheats
11	Coolant pump short circuit
	Interruption
13	Vehicle fan power circuit short circuit
14	Overheat sensor short circuit
	Interruption
15	The glow/ignition element circuit is defective
16	Exhaust gas temperature too high
17	Exhaust gas temperature sensor break or short circuit

Note: *1 flash is the no start code, this means no component fault - use the fault finding guide over the page.*

FOR SYSTEM WITH OPTIONAL AIR HEATING THERMOSTAT

Display Icons & Buttons



General

The Diesleheat touch screen thermostat is designed to control the room temperature and hydronic furnace in a Dieselheat hydronic hot water and heating system.

Turning The System ON/Off

- Press to activate the system.
- Press to turn on the furnace for hot water.
- Press to activate the air heating.
- Press to switch the system off.

Furnace and fan settings are retained when the system is turned off and will return when it is switched on again.

Controlling Air Heating

- The furnace must be on for the air heating to work.
- Use the fan in low, medium, or high to set the fan speed manually.
- Use the fan in for the fan speed to vary automatically to maintain a set temperature.
- Use and to set the desired room temperature.

Keypad Lock/Unlock

Push and hold and simultaneously for **5 seconds** to LOCK all buttons.
Push and hold and simultaneously for **5 seconds** to UNLOCK all buttons.

Screen Sleep

The screen will go blank approximately 15 seconds after the last button press. To wake it up, press any button. If the furnace or air heating fan is running, "**ON**" will remain visible on the screen.
The fuel level (if sensor is installed) will remain visible, but can be hidden by changing parameter 14 (see page 6).

Fuel Level Indicator (Optional)

The fuel level gauge will show automatically after the Dieselheat fuel level sensor is connected and the fuel level is filled to over 50%. To hide the fuel level gauge set parameter 13 to 0 (see page 6).

No Furnace

If the **No Furnace** indicator appears, set parameter 3 to zero, as this function is not supported on this model system (see page 6).

Adjusting Thermostat Parameters

Some thermostat settings can be customized. The default settings are suitable for most situations and typically do not need adjustment.

How to Change Parameters:

1. Ensure the thermostat is **turned off**.
2. Press and hold ≋ and △ for **3 seconds** to enter **Parameter Mode**.
3. Use ≋ to scroll through available parameters.
4. Adjust settings using △ and ▽.
5. Changes are saved instantly.
6. Turn the thermostat off to exit **Parameter Mode**.

CODE	PARAMETERS	RANGE	DEFAULT
1	Temp calibration/offset	-9 ~+9	0
2	Temperature Display	0 Deg C, 1 Deg F	Deg C
3	CAN Communication	0 Disable, 1 Enable	Enable
4	Fan auto mode P-band range	2, 4, 6, 8, 10	10
5	Fan auto mode I-time range	1 - 60 mins	3 mins
6	Min EC Output for Auto Fan	0 - 10 Vdc	0 Vdc
7	Max EC Output of Auto Fan	0 - 10 Vdc	10 Vdc
8	Low Fan Speed for EC fans on manual mode	0 - 10 Vdc	2 Vdc
9	Medium Fan Speed for EC fans on manual	0 - 10 Vdc	5 Vdc
10	High Fan Speed for EC fans on manual mode	0 - 10 Vdc	10 Vdc
11	Not used		
12	Show Hot Water Temperature Graph	0, 1 (show)	1 (show)
13	Show Fuel Level Graph	0, 1 (show)	0 (do not show)
14	Display Graphs When Screen Sleeps	0, 1 (show)	1 (show)
15	HW Temperature Display*	0	Off
16	Button Backlight	0 Off, 1 On	On

Note: Parameters 4 and 5 adjust the sensitivity of the fan in Auto mode. P sets the speed at which the fan adjusts as the set temp is approached and T sets the time interval at which the controller adjusts the fan.

* If Parameter 15 is set to Off the main temperature display is based on the internal sensor or the external sensor if connected. If set to On the main display is always based on the internal sensor and the temperature sensed by the external probe is displayed in the top right of the controller. This allows the actual hot water temperature to be displayed in solar hot water systems.

RESTARTING AFTER RUNNING OUT OF FUEL

1. Turn On the Furnace

Switch the furnace on. It will begin a start-up process but will not ignite until the fuel pump and fuel line are fully primed.

2. Understanding the Start Process

Each start process includes two separate start attempts and takes about 6 minutes in total.
During each attempt:

- The coolant pump runs
- The combustion fan revs up and down
- The fuel pump pulses or ticks, note the pump is louder if it has no fuel in it.

3. After a Failed Start Process

If the furnace does not start after two attempts, it will automatically shut down and wait.
You can initiate a new start process by turning the furnace off and then back on.
Note: It may take 2 to 6 start processes for the furnace to successfully start, especially if the fuel line is long.

4. Lockout Warning

The Webasto furnace may lock out after 6 failed start attempts. To unlock the furnace, please use the unlocking procedure.

5. Unlocking Procedure

If the furnace has locked out follow this procedure to unlock it.

- Rectify the fault that caused the lockout first.
- Switch the heater ON at the controller.
- Within 10 seconds, remove heater fuse F1 (20 A).
- Leave the fuse out for at least 10 seconds, then refit it.
- Switch the heater OFF at the controller, then switch it ON to try restarting.

SIMPLE TROUBLESHOOTING

PROBLEM	THINGS TO CHECK	SOLUTIONS
On initial switch on, furnace does nothing.	· Check fuel pump connection wires are properly inserted into connector and connector is properly plugged into the fuel pump. · Check coolant pump wires are properly connected. · Check power supply fuses. · Check battery voltage is above 12 volts. · Check furnace is wired directly to batteries and there are no poor connections.	· Check error codes (count LED flashes). · Check for furnace lockout. · Resolve errors. · Follow unlocking procedure.
Furnace tries to start but doesn't start.	· Check fuel level in tank. · Check fuel filter has fuel in it. If it doesn't, look for low fuel or blockages. · Check fuel fl ow in fuel line by shining a torch on the fuel line and looking for bubbles or advancing fuel front when fuel pump is ticking. · Check battery voltage is above 12 volts.	· Check for furnace lockout and error codes. · If fuel has bubbles, look for air leak in fuel line.
Furnace starts but smokes or smells after initial startup.	· Smell and smoke at startup is normal but should clear within 1 minute. · Check for partially or completely blocked combustion air inlet or exhaust. · Check for condensation or water in the exhaust system. · If your fuel tank has quick disconnect fi ttings, check that the fi ttings are properly connected so adequate fuel can fl ow. · Carefully inspect the air intake and exhaust pipes for mud wasp nests. · Check the furnace is not running in a sealed container and that it has adequate combustion inlet air.	· If condensation is gathering in the exhaust on RVs, drill 2mm holes at low point. · Open any obstructed combustion air or exhaust pipes and run the furnace on high to clear any accumulated soot. · Contact Dieselheat to arrange servicing of the furnace.
Furnace has tried to start multiple times and is now 'dead'.	· The furnace has locked out due to excessive start attempts.	· Resolve the issues preventing it from starting. · Follow the unlock procedure.
Furnace starts and runs for approx. 1 minute then shuts down very quickly.	· Check coolant level. · Check coolant circulation and ensure pump is primed and nothing is obstructing the coolant fl ow.	· Open any closed valves, or remove anything obstructing the coolant flow. · Check coolant level.
System works but the air heating fan head is not hot.	· Check all shutoff valves are in correct positions. · Check coolant circulation. · Check air return on fan head is adequate.	· Open any incorrectly closed valves. · Ensure coolant pump is properly primed. · Ensure the electric coolant valve is opening when the fun is on.
The shower runs cold too quickly.	· Check system is properly preheated before starting shower. · Check **furnace is not in standby** mode before starting shower. · Check shower head fl ow rate is not outside the recommended range.	· Allow more time for the system to preheat/reheat. · From a cold start, do not allow the furnace to fully shut down before starting shower. · Trigger the furnace to restart by running some hot water prior to getting into the shower, then shut off the water and wait for furnace to be running prior to entering shower. · Change to a shower head with a lower fl ow rate.

TWO YEAR PRODUCT WARRANTY

Dieselheat offers a 2 year warranty on this product. Upon receipt of proof of purchase of a product, Dieselheat will, where possible, provide product support via telephone or email.

If Dieselheat determines that the issue necessitates the return of the product for inspection and/or repair, it is your responsibility to uninstall the product and return the product at your cost to Dieselheat. Upon repair of the product, Dieselheat will return the product to you at its cost. It is your responsibility to reinstall the product.

See our full warranty terms on our website.