

14. Operation

The EVO5 Hydronic heater can be installed in a wide range of applications. This is a drop in solution designed by Webasto Thermo & Comfort Australia to minimize the installation time for the manufacturer and optimize the heating system. To meet the high quality standards of Webasto products, only qualified and authorized installers are allowed to perform the installation. The EVO5 Hydronic system designed by Webasto Australia has a 15L stainless steel glycol tank. The glycol used for the system is standard glycol used in automotive industry sold at any service station or auto parts retailer. The ratio of glycol used is 2:1—10 L glycol and 5 L water.

14.1 Switching ON

The heater is simply designed to turn on via the controller and is thermostatically controlled. The coolant circulation pump, glow plug and combustion air fan starts operation and after approximately 60 seconds combustion starts (audible combustion sound). After the coolant has reached the set point of 80°C the heater will automatically adjust its heat output to a lower operation range (partial heat load output). When the temperature of the coolant continues to rise and climb to 90°C at the heater outlet, the heater will cycle off. When the coolant temperature falls below 70°C the heater will restart and repeat the heating cycle. On initial start-up it will take approx. 15-20 mins to heat the coolant to around 90°C.

14.1.1 Radiator Fan Heater (Cabin Heating Option)

- Turn the cabin heater onto high fan speed.
- The cabin heater is now consuming energy from the coolant and will produce 60°C of hot air.

14.1.2 Hot Water

Adjust the tempering valve half way between maximum hot and maximum cold (half turn)
Turn the water pump on and adjust the tempering valve to obtain the desired outlet temperature.
(Cold water inlet temperature, will affect the hot water output temperature)
Refer Section 8 for the operation of mixing valve.

14.2 Switching OFF

When heating is no longer required, switch the heater off by the means of the ON/OFF toggle switch, digital multi-control or the timer option on the multi-control unit. Never turn off the heater by the main power supply. The combustion will be extinguished, followed by a shutdown cooling cycle of approximately 90 seconds.

15. Preventative Maintenance

The heater requires minimum maintenance to keep it in good operating condition:

1. Clean the heater compartment from any accumulated debris or dust.
2. Inspect all components for wear and damage
3. Check air intake and exhaust for any restriction.
4. Check fuel line for damage, restriction, kinks or loose connections
5. Inspect all coolant lines and clamps for leakage or damage
6. Check water coolant and fuel connections for leaks, tighten hose clamps if necessary.
7. Check glycol level, top up if necessary. (Standard glycol sold at any auto parts retail store).
8. Ensure to run the heater for an hour every month regardless of the season.



IMPORTANT!

Note: The build up of Carbon is not a warrantable condition

Situations in which carbon could build up in the heater are:

- Under Voltage: the system should have at least 12.5-13V for the system
- Low current: the system requires 7-8A for the initial start-up phase for 120 seconds and once the flame is established the glow plug goes out and continues running at 2-3A.
- Under size wire: ensure that correct wire size is used for battery connections if there was any extension made to the existing cables supplied.
- Fuel system: bad quality fuel, air pockets in the fuel line or running out of fuel.
- Combustion system: any blockage or restriction in the combustion air tube or at the silencer.
- Exhaust system: any blockage or restriction in the exhaust muffler or pipe.
- Isolation switch or circuit breaker: can prevent the heater from performing a correct shut down cycle. The battery positive & negative wire should to be connected directly to the battery.
- Poor electrical connections such as, improper crimping of terminals or plugs not connected fully etc.

16. Reset Procedure

Permanent lock out (H87) reset procedure for Thermo Top EVO5 using Multi-control

1. Turn off the heater using the multi-control
2. Remove 20A Fuse
3. Wait 30 seconds and then refit 20A Fuse
4. Wait 30 seconds
5. Turn Heater on using the multi-control & then remove 20A fuse between 3 and 10 Seconds
6. Wait 30 seconds and then refit 20A Fuse
7. Turn off the heater using the multi-control
8. Carry out reset of the multi-control
 - Go to main menu using the control knob*
 - Scroll to right & select SETTINGS*
 - Scroll to right & select RESET & confirm RESET OKAY*
9. Wait 30 seconds
10. Turn Heater on - procedure complete



17. Trouble Shooting Guide

FAILURE SYMPTOMS	PROBABLE CAUSE	REMEDY
Coolant heater switches off automatically	No combustion after start or automatic restart	Switch off heater momentarily and switch on once again
Heater expels black smoke from exhaust	Combustion air and/or exhaust ducting blocked	Check combustion and exhaust ducting for obstructions. If the smoking does not clear after 30mins of running, perform troubleshooting by a Webasto authorised dealer.
Heater will not start at all	Low battery voltage Low current draw	Check battery voltage (12-13.5 V) Check electrical connections Check fuse (20amps) Check current draw (Initial Start-up 6-7amps) Once the flame is established 2-3 amps continues running
Heater will start up then shut down after few minutes	Low battery voltage Low current draw Air pockets in fuel line Air pockets in glycol line	See above for low battery voltage & current For air pocket in the fuel or glycol line, bleed the system. For bleeding process: Fuel System – while the heater is running check the fuel pulse and look for air pockets in the clear fuel line. The fuel connection on the heater can be removed to let air out. Glycol Line – Run the heater, while the circulation pump is running, release one of the rubber hose clamps to bleed the system.
Heater will start up and shut down after few minutes	Heater overheats	Check coolant level Coolant system needs to be bled No Circulation Check coolant lines for obstruction, for closed valves and kinks. Allow heater to cool down, reset overheat limiter, perform the rest procedure and switch on once again to test.
Low Coolant level	Standard coolant used in automotive industry (Purchased at any auto parts retailer)	The glycol tank has a capacity of 15 litres. 10 Litres of glycol and 5 Litres of water. Periodical check are important it is no different to the system in your car or motorhome.
<p>For any of the troubleshooting listed above, if you are not sure, please do not attempt as there is hot glycol up to 90°C which can cause bodily harm if safety precautions are not taken.</p> <p>Any in case, if unsure please contact your nearest Webasto Authorised dealer for advice.</p>		

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