

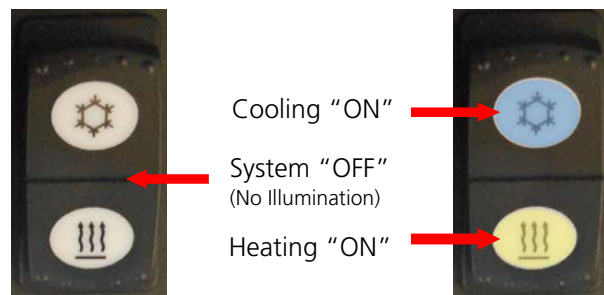
General Information

Dear Webasto Customer,

We assume that the workshop / service center that carried out the installation explained to you the operation and principle of functioning of your new heater to your complete satisfaction. This owner's handbook is designed to give you a brief summary of how to use the Thermo 90 S / Thermo 90 ST heaters.

Operation

For heating operation, before switching the heater on, it is recommended to pre-heat the cab with the vehicles heating system for less power consumption!

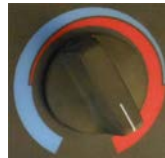


Cooling Mode: Vehicles ignition must be set to "OFF". The 24V switch must be set to the "Cool" position.

Note: On the air handler to the left of the operator is a two position toggle switch. This allows the operator to select between low and high speed fan mode.

Heating Mode: Vehicles ignition must be set to "OFF". The 24V switch must be set to the "Heat" position.

Note: In order for the heat function to operate the vehicles O.E. HVAC rotary dial must be turned to the full heat position as shown below



IMPORTANT

The vehicles O.E. HVAC rotary dial must be turned to the full heat position for the supplemental "HEAT" function to operate.

Maintenance and Safety information

The installation of the unit must be carried out in accordance with the installation instructions. The installation must be checked in accordance with the Legal Provisions for Installation. For details refer to the installation instructions.

The year of the initial operation must be durably marked on the heater's nameplate by removing the non-applicable years.

The heater must be switched **off**:

- At filling stations.
- In locations where flammable vapors or dust may accumulate (i.e. in the vicinity of fuel-, coal-, sawdust or grain depots).
- In enclosed spaces (i.e. garages).

The heater must **not** be:

- Exposed to temperatures greater than +85°C. Exposure to such temperatures may cause damage to the electronic components.
- Operated without a minimum level of 20% of good quality antifreeze in the water of the heating circuit.

The heater **must**:

- Be operated using the fuel specified on the name plate and the rated voltage specified on the name plate.
- In the case of a severe build-up of smoke, unusual combustion noises or fuel smell, the heater is to be put out of operation by removing the fuse and may only be restarted after being inspected by Webasto-trained personnel.

Maintenance and Safety information (Continued)

- Be operated at least once a month for 20 minutes, with the vehicle engine cold and at the preset fan speed. The heater should be checked annually by a qualified expert, preferably prior to the heating season commencing.

Liability claims:

- Failure to follow the installation instructions and the notes contained therein will lead to all liability being refused by Webasto. The same applies if repairs are carried out incorrectly or with the use of parts other than genuine spare parts.
- Liability claims can only be made if the claimant can verify that he has complied with the servicing and safety instructions.

DANGER: Heater must be switched “off” when refueling at filling stations and/or while loading or unloading flammable materials for transport, to prevent the risk of explosion. Please review owner’s manual for safety and use instructions.

Troubleshooting

The control unit continuously monitors the heater operation. The control unit identifies errors on individual heater components and faults during operation. Should the control unit experience component errors and operational faults, the heater may be shut down.

Causes:

- The heater is shut down (fault lock-out) if:
- No or incorrect start
- Temperature sensor defective
- Overheating sensor interrupt or short circuit
- Overheating sensor installed incorrectly
- Ceramic glow pin interrupt or short circuit
- Fan motor overload or blocked or short circuit or interrupt
- Error in the fuel metering pump or circuit
- Under voltage or over voltage for longer than 20 seconds.
- Control unit defective
- Overheating

Effects:

The fuel supply is stopped if the heater overheats.
The heater continues to run in the same way as if it is switched off manually.
After the heater stops the control unit may set in fault lock-out mode.

Heater Lock out Reset Procedure:

1. Using switch or standard timer control, turn heater on
2. Remove the main power connection to heater from battery or pull fuse for a minimum of 20 seconds.
3. Using switch or standard timer control, turn the heater off.
4. Reinstall main heater power connection where previously disconnected.

Rectify the cause of the fault.

Troubleshooting (continued)

IMPORTANT: Heater fault codes can be read using PC Diagnostics, however, the heater lockout reset must be manually performed using the procedure stated above.

If you have any questions, contact our technical support team at (800) 860-7866 or via email at: info-us@webasto.com.

Fault Code Display / 24V Three Position Switch

After the occurrence of a malfunction, the fault is indicated via the operation indicator light on the standard 24V three position switch.

Note: If the heater is activated by the switch, the types of malfunctions are indicated by coded flashing signals via the operation indicator light during the after-run period of the heater. The coded flashing signals correspond to the numbers in the table below:

F 01	No start-up (after 2 start-up attempts)
F 02	Flame extinguished
F 03	Under voltage or overvoltage
F 04	Premature flame detection
F 05	Flame detector interruption or flame detector short-circuit
F 06	Temperature sensor interruption or temperature sensor short-circuit
F 07	Metering pump interruption or metering pump short-circuit
F 08	Fan motor interruption or fan motor short-circuit or incorrect fan motor speed
F 09	Pencil-type glow plug interruption or pencil-type glow plug short-circuit
F 10	Overheating
F 11	Circulating pump interruption or circulation pump short circuit



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