

Operating Instructions

Thermo 90 ST WDT

Webasto

Introduction

Dear Webasto Customer,

Thank you for choosing the Webasto Thermo 90 ST WDT Water Heater. We hope you will enjoy many years of additional comfort during your travels with it.

The heater Thermo 90 ST WDT is used in conjunction with the original vehicle heating system in parking heating mode for cab and engine pre-heating.

The auxiliary heating mode can also be operated with the vehicle engine running.

We presume that the principle and mode of operation of your new heater has been explained to your complete satisfaction by the workshop/service centre which installed the heater. In these operating instructions we would like to once again provide you with an overview of the safe use of the Thermo 90 ST WDT heater.

To become familiar with and understand all functions of the heater, you must read these operating instructions carefully.

Then you can be sure that you can use all functions to your satisfaction and feel completely comfortable and safe.

If you should lose these instructions, please contact an authorised Webasto dealer immediately to obtain a replacement copy.

Repair or maintenance work not described here may only be carried out by an authorised Webasto dealer.



Maintenance and Safety Instructions

Within the scope of European Directive 70/156/EEC and/or EC/2007/46 (for new vehicle types from 29.04.2009), there is a type approval for the Thermo 90 ST WDT water heater according to the Directives ECE R-122 (Heater) and ECE R-10 03 (EMC).

The heater must not be started until the unit has been checked exclusively by personnel duly trained by Webasto.

The unit may only be installed professionally in accordance with the installation instructions.

The year in which the heater was used for the first time must be permanently displayed on the type label by deleting the inapplicable years from the label.

The heater **must not be operated** :



Danger of explosion and suffocation!

- In filling stations and tank farms.
- At locations at which highly flammable gases or dusts can form, and at locations at which highly flammable liquids or solid materials are stored (e.g. near fuel, coal and wood dust, grain warehouses, dry grass and leaves, cardboard , paper, etc.)
- In enclosed rooms (e.g. garages), not even via the timer or Telestart.

The heater **must not**:



- be exposed to temperatures of more than +85 °C. Otherwise the electronics may suffer permanent damage.
- be operated without at least 20 % brand name anti-freeze in the water of the heating circuit.

The heater:



- may only be operated with the fuel specified on the rating plate and at the nominal voltage specified on the rating plate.
- must be taken out of operation by switching it off immediately and removing the fuse if smoke develops, if unusual burning noises are heard or if there is a smell of fuel. The heater must not be restarted until the unit has been checked exclusively by personnel duly trained by Webasto.
- must be operated for 10 minutes at least once a month, with the engine cold and the fan set to the minimum setting.
- must be inspected every year by a specialist at the beginning of the heating season or earlier.

Liability:

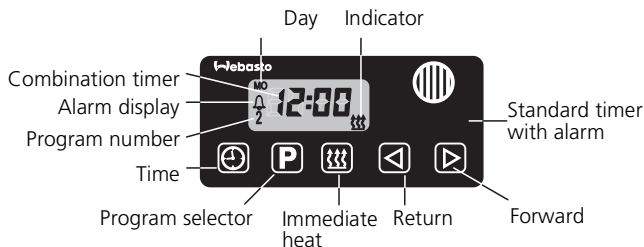


- Non-compliance with the operating instructions and the warnings contained therein will lead to the exclusion of all liability by Webasto. The same applies if repairs are carried out incorrectly or with the use of parts other than genuine spare parts. This invalidates the type approval for the heater and its homologation/ EC type permit.
- Claims can only be made if it can be verified that the claimant has complied with the servicing and safety instructions.

Operation of the heater

Before switching on the heater, the vehicle heater must be set to "hot", and the vehicle heater fan must be set to the slowest speed (reduced current consumption)!

Standard timer



General information

The standard timer allows the heater start time to be selected for a period of up to seven days. Three cut-in times can be programmed, although only one of them may be activated. The standard timer is equipped with a wake-up function. When the ignition is switched on the timer shows the current time and the day. When the heater is operating, the display and the buttons are lit. When the timer is connected to the power supply all the symbols in the display will flash. The time and day must be set.

Operation

The operation of the timer is designed such that all the flashing symbols can be adjusted using the ◀ and ▶ buttons. If no button is pressed for five seconds the displayed time is saved. If the ◀ and ▶ buttons are pressed for longer than two seconds, they will switch to high speed adjustment. If the ignition is switched off whilst the heater is in immediate heating mode, a remaining operating time of 15 minutes will appear on the display and the heater will continue to operate.

Switch on

Manual: by pressing the  button (immediate heat)
Automatic: By programming the start time.




Switch off

Manual: by pressing the  button (immediate heat)

Automatic: by programming the switch-on duration

With running heater: by setting the remaining operating time.




Set time/date


Press the  button for more than two seconds - the time flashes - set the time using the  and  buttons - the day flashes - set the day.

View time



Ignition off: press  button.

Program start time




Press the  button - program number flashes - set the start time using the  and  buttons - the day flashes - set the day.

If you press the  button several times, you can set the program numbers 2 and 3 or go to the time mode.



View/Delete selected times

Press  button repeatedly until the desired program number is displayed. To delete the selected time, press the  button repeatedly until the time is displayed, with no program number.

Program operating time





The heater must be switched off. Press the  button for three seconds - the operating duration flashes - set the required operating duration using the  and  buttons (10 to 120 minutes).

Set remaining time

Set the required remaining time (1 to 120 minutes) using the  and  buttons. The remaining time is the time that the heater will continue to operate. It can only be changed whilst the heater is operating and the ignition is off.


Set wake-up time

A wake-up time can only be programmed with the standard timer.

The wake-up time is not linked to a day of the week. Press the  button repeatedly until the bell symbol  appears in the display. Then set the desired wake-up time with the  and  button.

The timer switches off after 5 minutes or when one of the buttons is pressed.

View/delete wake-up time

Press the **P** button repeatedly until the bell symbol  appears in the display and read off the wake-up time.

Delete the wake-up time by pressing the **P** button repeatedly until the bell symbol  is no longer visible in the display.

Remote control

Possible using an external optional immediate heat button.

Action in the event of faults

If a fault occurs, check that the fuses and plug connections are in perfect condition and secure.

If this action does not correct the defect, consult your authorised Webasto dealer.

After the heater has been shut down due to a fault lock-out, a coded flashing signal is emitted through the operation indicator during the run-on time of the heater.

These coded flashing signals are designed to assist the authorised Webasto dealer in isolating the fault.

Heater switches off automatically (= fault lock-out)

Cause

No combustion after start and repeat start

Flame extinguishes during operation

Voltage drop for more than 20 seconds

Heater has overheated due to lack/loss of coolant

Remedy

} Switch off heater and switch on again.
If the heater fails to re-start consult your authorised Webasto dealer.

Check fuses, electrical connections and battery

Refill coolant as directed by vehicle manufacturer.

Fault code output on the display of the standard timer

If the system is fitted with a standard timer, the fault is indicated on the timer's display after an error has occurred.

Fault codes

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 run-on time of the heater.

After five short signals, count the long flashes:

The coded flashing signals correspond to the numbers in the table below.

F 00/--	(only five short signals) Heater lock-out or control unit defective, Unlocking only possible by an authorised workshop
F 01	No start (after 2 starting attempts)
F 02	Flame failure
F 03	Undervoltage or overvoltage
F 04	Premature flame recognition
F 05	Flame monitor interruption or flame monitor 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
F 09	Glow plug interruption or glow plug short circuit
F 10	Overheating
F 11	Circulation pump interruption or circulation pump short circuit
∞	Fan motor sluggish

In multilingual versions the German language is binding.
The telephone number of each country can be found in the Webasto service center leaflet or the website of the respective Webasto representative of your country.

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