



Operating Instructions

Air Top Series Heaters



WARNING: Cancer and Reproductive Harm
www.P65Warnings.ca.gov

Introduction

Dear Webasto Customer,
Thank you for choosing a Webasto Air
Top Series Heater. Air Top Series
Heaters are used

- to heat cabins, boats, trucks, minibuses, vans and motor-homes and
- to defrost vehicle windows.

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



Repair work should only be carried out by an authorized Webasto dealer.

Servicing and Safety Instructions

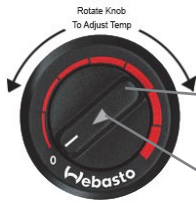
1. While a Webasto heater is in use, the product surface, connected hoses, ducting, and air outlet(s) may become hot to the touch. Contact with skin may cause burns.
2. **Webasto heaters must be switched OFF when re-fueling at filling stations and/or while loading or unloading flammable materials for transport, to prevent the risk of explosion. Please review the owner's manual for safety and use instructions.**
3. The year in which the heater was used for the first time must be permanently displayed on the factory plate by deleting the inapplicable years from the plate.
4. **The heaters are not designed for heating hazardous substance transport compartments.**
5. Claims can only be made if it can be verified that the claimant has complied with the servicing and safety instructions.
6. **The heater may not be operated in enclosed spaces (such as garages) as a result of the risk of poisoning and asphyxiation, even if a timer is used.**

7. Improper installation or repair of Webasto heating systems can cause fire or the leakage of deadly carbon monoxide leading to serious injury or death.
- 8. The heater must be checked by an expert at the latest at the start of the cold-weather period.**
9. NEVER attempt to install or repair a Webasto heating system unless you have successfully completed Webasto factory training and have the technical skills, technical information, tools, and equipment required to properly complete the necessary procedures. Only genuine Webasto parts may be used.
- 10. In the event of a long-term heavy smoke condition, unusual combustion noises, the smell of fuel, or if the heater suffers continuous faults with error messages (flashing code), it must be shut down by removing the fuse and must not be reused until it has been inspected by Webasto- trained personnel.**
11. Webasto products produce temperatures high enough to ignite surrounding combustible materials such as inflammable liquids, gases, vapor, and other combustible matter. The heater must be switched off when loading or unloading inflammable materials to prevent the risk of explosion.
- 12. The heat transfer unit on air heaters is exposed to very high thermal stress and must be replaced by a genuine Webasto spare part ten years after it is used for the first time.
If exhaust lines pass through areas used by personnel, they must also be replaced by genuine spare parts after ten years.**
13. The fuel specified by the vehicle manufacturer is suitable for use in the Air Top 2000 ST B (gasoline).
- 14. The diesel fuel specified by the vehicle manufacturer is suitable for use in the Air Top 2000 ST D (diesel).**
15. There are no known negative influences due to fuel additives when used appropriately.
- 16. If fuel is extracted from the vehicle's tank, follow the additive instructions issued by the vehicle manufacturer.**
17. If you change to low-temperature fuel, the heater must be operated for approx. 15 minutes so that the fuel system is filled with the new fuel.
- 18. The temperature in the area around the heater must not exceed 85 °C / 185° F (storage temperature). If the temperature exceeds this level there is a risk of permanent damage to the electronics systems.**
19. Webasto rejects any liability for problems and damage caused by the system being installed by untrained personnel.
- 20. Keep the hot air inlet and hot air outlet free of dirt and foreign bodies. Soiled or blocked hot air lines may cause overheating.**
21. To prevent mechanical parts seizing, the heater should be operated for

approx. 20 minutes once a month.

- 22. Do not stand on the heater and do not place any heavy items on the heater or throw items at the heater.**
- 23. Do not place any items of clothing, textiles or similar materials over the heater or in front of the hot air inlet and the hot air outlet.
- 24. The heater must not be cleaned with a high-pressure cleaner.**
- 25. ALWAYS and carefully follow Webasto installation and repair instructions and heed all WARNINGS.

Control Element



! Changes to the settings on the control element will be carried out with a short time delay

Rotary knob for:

- Switching on and off
- Setting the room temperature
- Resetting after a fault cut-out

Indicator / error code display

Switch ON

Set the rotary knob on the control element to the desired temperature.



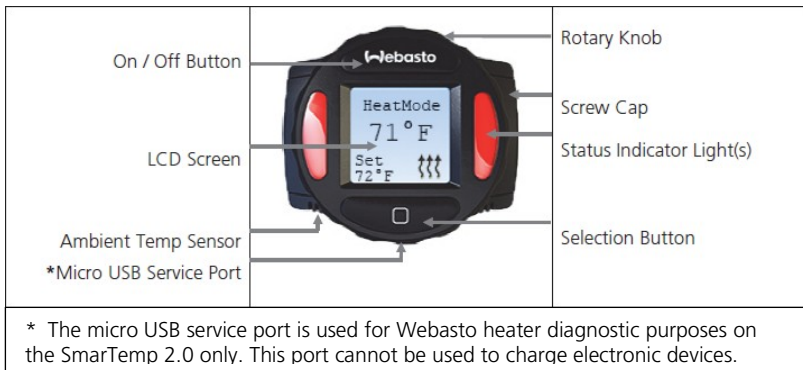
NOTE:

To prevent the combustion air fan from scraping, ensure that there are no objects on or against the heater before you turn it on.

Ventilation Option

A separate switch (optional) allows the user to choose between heating and ventilation mode. In ventilation mode the fan speed depends on the position of the control element knob.

SmarTemp Control



Heater ON Example (2.0)

Press the Webasto button to turn heater on.

Set Temperature Output & Heater Runtime Example

Using the rotary dial and the selection button, follow these steps to set your cab temperature to 70°F with a runtime of 4 hours.

1. Press the Selection button. Using the rotary dial, select: Options > Duration > Timed > Adjust runtime to 4 hours. Confirm the adjustment by pushing the selection button.
2. From the main screen use the rotary dial to adjust the set temperature to 70°F; confirm the adjustment by pushing the selection button.

NOTE: The set temperature can be adjusted quickly even when the heater is running using the same method as above.

Set Timer Example

Set timer to turn on Friday at 6:30AM with a runtime of 60 minutes.

1. Press the Selection button. Using the rotary dial, select Timer.
2. Highlight the timer feature, press the Selection button. Select "edit" from the sub-menu.
3. Adjust and select day for Friday.
4. Adjust and select time for 6:30AM.
5. Adjust and select runtime for 60 minutes.
6. Settings are saved each time the selection button is pressed.

Heater ON Example (3.0)

Press the Webasto button to turn heater on.

Set Temperature Output & Heater Runtime Example – Air Heater

Using the rotary dial and the selection button, follow these steps to set your cab temperature to 70°F with a runtime of 4 hours.

1. Press the Selection button. Using the rotary dial, select: Duration > Timed > Then set your duration to 4 hours. Confirm the adjustment by pushing the selection button.
2. From the main screen use the rotary dial to adjust the set temperature to 70°F; confirm the adjustment by pushing the selection button.

NOTE: The set temperature can be adjusted quickly even when the heater is running using the same method as above.

Set Timer Example

Set timer to turn on Friday at 6:30AM with a runtime of 60 minutes.

1. Press the Select button. Using the rotary dial, select Timer.

2. Highlight the timer feature, press the Selection button. Select "edit" from the sub-menu.
3. Adjust and select day for Friday.
4. Adjust and select time for 6:30AM.
5. Adjust and select runtime for 60 minutes.
6. Settings are saved each time the Select button is pressed.

Refer to Menu Descriptions Table for a detailed description of each menu item and its default setting.

Set Temperature Output & Heater Runtime Example – Air Heater

Using the rotary dial and the selection button, follow these steps to set your cab temperature to 70°F with a runtime of 1 hour.

3. Press the Select button. Using the rotary dial, select: Duration > Timed > Then set your duration to 1 hour. Confirm the adjustment by pushing the selection button.
4. From the main screen use the rotary dial to adjust the set temperature to 70°F; confirm the adjustment by pushing the selection button.

NOTE: The set temperature can be adjusted quickly even when the heater is running using the same method as above.

Menu Description

Refer to Menu Descriptions Table for a detailed description of each menu item and its default setting. Depending on the SmarTemp version, menu order may vary from order below.

	Definitions	Default
Mode	Mode changes the operation of the heater between heat mode and ventilation mode. Status indicator lights will illuminate red for heat mode and blue for ventilation mode when the selected mode is active.	Heat Mode
Timer (3.0)	User can select a specific day, time and heater runtime up to 7 days in the future. Be aware this is a one-occurrence timer requiring the user to turn the timer "ON" again after each scheduled timer use. When selecting timer a sub-menu will appear (Edit, On, and Off). To modify timer settings, select "edit". Select the day, time, and heater runtime using the rotary knob and the selection button. Settings are saved each time the selection button is pressed. If the timer function will be used regularly for next day startups, the "ANY" setting can be used in place of the day of the week. With this set, the timer will disregard the day setting and start during the next 24-hour period based on the time selected. The "ANY" setting is located in the list of days between Saturday and Sunday.	OFF
Language	Language changes between English, Spanish, and French.	English
Offset (3.0)	This allows the user to set an offset (plus or minus 9°F, 5°C) to compensate for any temperature difference between what the SmarTemp reads, and what the operator feels. NOTE: This function only applies to air heaters.	0°
Temp Unit	Temp Unit changes between Fahrenheit and Celsius units of measure.	Fahrenheit
Backlight (3.0)	Set intensity of backlight.	80%
User Permission (3.0)	A password can be set to prevent access to the advanced "Options" menu. Enter a 4-digit code passcode to begin securing the "Options" menu. Note: This is typically used in fleet vehicle applications.	Disabled

Bluetooth	Enable or disable Bluetooth functionality.	Enabled
Error Code	<p>This section will log the last 5 error codes and the date that it was set. Highlight and select an error code for a full description. If the heater produces an error code, the status indicator lights will flash red and the error will display on the main screen.</p> <p>NOTE: Heater error codes cannot be reset through the Webasto SmarTemp Control 3.0; a Webasto PC Diagnostics tool or the SmarTemp app is required. Refer to the heater service manual for resetting an error code.</p>	
Brake Input Signal (3.0)	<p>When enabled the heater will only start when the parking brake is enabled and a 12V signal on the Brake Input pin of the SmarTemp 3.0 connector.</p> <p>NOTE: This feature is only used in original-equipment applications.</p>	Enabled
Heaters (3.0)	<p>Allows you to name the heater(s) connected to the SmarTemp through the mobile application after selecting number of heaters. The control method (analog or W-Bus) to be selected.</p> <p>NOTE: W-Bus is not a control option for the TT Evo heater when used with an Air Top heater.</p>	
Options (2.0)	Advanced level adjustments; see below.	
Duration	<p>Duration allows for the selection of <u>continuous</u> heater operation or <u>timed</u> operation (30 minutes – 14 hours in 30 minute increments).</p> <p>IMPORTANT: <u>Timed</u> duration is not to be mistaken for Timer functionality. The duration times above are used when turning the heater on manually. I.e. set the heater duration for 8 hours before heading to bed.</p> <p>Note: If <u>timed</u> operation is selected 10 hours is default.</p>	Continuous

LVD	<p>LVD "Low Voltage Disconnect" allows the user to set the battery voltage level at which the Webasto SmarTemp Control 2.0 will shut down the heater.</p> <p>If battery voltage is equal to or less than the threshold selected +0.1v, the heater will not start. I.e. if an 11.5v threshold is selected the heater cannot be started until B+ has reached 11.7v.</p> <p>12 volt - Range between 11v – 12.5v 24 volt - Range between 21v – 25.5v</p>	<p>11.4v 24.2v</p>
Password	<p>A password can be set to prevent access to the advanced "Options" menu. Enter a 4 digit code passcode to begin securing the "Options" menu.</p> <p>Note: This is typically used in fleet vehicle applications.</p>	OFF
PM Reminder	<p>If the heater has not run 30 days, the preventive maintenance (PM) reminder will alert the operator with a message to run the heater for 20 minutes. The indicator lights will flash red as a visual reminder. The operator will have the ability to Start the 20 minute maintenance cycle or delay it via a "Snooze" option. When Snooze is selected the PM reminder will postpone until 12:00PM the following day.</p>	ON
Time & Date	<p>Set time and date using the rotary knob and selection button. 12 (AM / PM) or 24 hour available. The Webasto button can be used to go back to the previous field if additional changes are needed.</p>	12 hour
Offset	<p>Depending on the installation location, the temperature reading may vary slightly. The Offset feature allows a temperature adjustment of +/- 9°F (+/- 5°C). Adjust this as necessary to obtain the most accurate ambient temperature reading.</p>	0°
Default	<p>Default allows the user to perform a factory reset of the control settings.</p> <p>Note: Heater information will NOT be affected.</p>	N/A

Use the following link to obtain version specific controller operation instructions.

<http://www.techwebasto.com/documentation/heater/recreational.html>

Actions in event of faults

If an error occurs, first check the fuse and plug connections to ensure that they are in proper condition and connected correctly.

If the actions described below do not rectify the error, have the heater checked by Webasto-trained personnel.

Heater unit cuts out automatically

Cause

No combustion after start and repeat start

Flame extinguishes during operation

Heater unit overheats and indicator flashes

Vehicle voltage too low

Remedy

Switch heater unit off (for at least 2 seconds) and then on again

Switch heater unit off (for at least 2 seconds) and then on again

Make sure that hot air can flow freely, allow heater unit to cool down, Switch heater unit off (for at least 2 seconds) and then turn on again

Charge battery
Switch heater unit off (for at least 2 seconds) and then turn on again

Heater unit emits black smoke

Cause

Combustion air and/or exhaust system blocked

Remedy

Check combustion air and exhaust system for blockage

Error code output on combination timer or control element

If the system is fitted with a combination timer, when an error occurs an error code is displayed on the timer's screen until the heater has been properly repaired.

The error code is output if the heater is fitted with a control element after an error has occurred by the switch- on indicator/error code indicator flashing. After a burst of fast flashes the error code will be displayed by a sequence of long flashes, the number of which is shown in the table below.

Error code Meaning

F 00*	Control unit error
F 01	No start (after 2 starting attempts)
F 02	Flame failure (at least > 3)
F 03	Undervoltage or overvoltage
F 04	Premature flame recognition
F 05	Flame monitor (petrol heater) interrupt or short circuit
F 06	Temperature sensor interrupt or temperature sensor short circuit
F 07	Metering pump interrupt or metering pump short circuit
F 08	Fan motor interrupt or fan motor short circuit or fan motor overload or blocked
F 09	Glow plug interrupt or glow plug short circuit
F 10	Overheating
F 11*	Overheating sensor interrupt or overheating sensor short circuit
F 12*	Heater unit lock-out
F 14	Overheating sensor installed incorrectly / defective
F 15*	Defective controller / open or short circuit
F 16**	Exhaust temperature exceeded
F 17**	Exhaust gas temperature sensor defective
F 18**	Defective controller / open or short circuit
F 19**	Plausibility of sensors incorrect (exhaust / overheat sensor)

If serious malfunctions such as overheating or failure occur, the heater will go into a locked state (F 12). This state can be reset by using the following heater lockout reset procedure.

*Not used on EVO 40 and EVO 55

** Not used on AirTop 2000ST and 2000STC

Heater Lock-out Reset Procedure

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. Switch the heater ON
2. Within 10 seconds disconnect power from the heater (unplug the harness, disconnect the battery, remove the fuse)
3. Wait 10 seconds
4. Switch the heater OFF
5. Reconnect power
6. Switch the heater ON
7. Rectify the cause of the fault

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.

Product Registration

The heater can be registered by visiting www.techwebasto.com or by scanning the code.

A proof of purchase is required for all heaters that are not registered.



Limited Non-Transferable Warranty

Webasto Thermo & Comfort North America, Inc. (hereinafter referred to as Webasto) warrants their heaters and heater kits against defects in material and workmanship for two (2) years effective at the time of installation or vehicle registration date for original equipment installation (OEM). This warranty period may not exceed three (3) years from the original date of sale by Webasto. This warranty period may be superseded by written contractual agreements.

All models are limited to 2,000 maximum operating hours.

Replacement parts are covered for six (6) months or the remainder of the original warranty period, whichever is longer.

The intent of the Webasto warranty is to protect the original end-user of the heater from defects and provide free repair and replacement of defective parts in the manner provided herein. During the warranty period, the exclusive remedy will be for Webasto, at their discretion, to repair or replace those parts which are demonstrated to be defective in material or workmanship.

While warranty is provided to the "original end-user", it is to be administered and serviced through an authorized Webasto dealer in accordance with the Webasto warranty policy or contractual agreement between Webasto and a second party.

To locate the nearest Webasto authorized dealer for warranty service:

visit <http://www.techwebasto.com> or call (800) 860-7866 in USA, (800) 667-8900 in Canada.



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