

Operating Instructions

Air Top 2000 STC

Air Heater



English

1 General information

1.1 Purpose of the document

These operating instructions provide the user with information on the safe operation of the Air Top 2000 STC.



NOTE

The actual availability of these functions depends on each installed heater.

1.2 Using this document

- Before operating the Air Top 2000 STC, carefully read these operating instructions as well as the operating instructions for the control element.
- Hand these operating instructions on to the following owner or user of the Air Top 2000 STC.

1.3 Warranty and liability

Webasto shall not assume liability for defects or damages that are the result of disregarding the installation and operating instructions. This liability exclusion particularly applies to:

- Installation or maintenance by untrained personnel.
- Improper use.
- Repairs not carried out by a Webasto service workshop.
- Use of non-genuine parts.
- Conversion of the unit without permission from Webasto.
- Mechanical damage to the equipment.
- Failure to comply with service instructions.

1.4 Use of symbols and highlighting



DANGER

This signal word denotes a hazard with a high degree of risk which, if not avoided, may lead to death or serious injury.



WARNING

This signal word denotes a hazard with a moderate degree of risk which, if not avoided, may lead to minor or moderate injury.



CAUTION

This signal word denotes a hazard with a low degree of risk which, if not avoided, may lead to minor or moderate injury.



NOTE

This symbol denotes a special technical feature, or (if not observed) potential damage to the product.



This symbol refers to separate documents which may be enclosed or can be requested from Webasto.

2 Safety

2.1 Intended use



WARNING

The heater is used exclusively for comfort purposes. Due to its installation, it must not become a safety-relevant component for proper functioning of the vehicle.



NOTE

The heater is not approved for the purpose of directly heating the cargo area of ADR vehicles (hazardous substance transportation).

The heater works independently of the vehicle engine and is integrated in the electrical system of the vehicle.

The heater is approved for the following applications:

- Car, light truck (LCV)
- Trucks, buses in EU vehicle classes **M**, **N** and **O**.
- Caravans, motor homes, boats, pleasure craft
- Earth-moving machinery
- Construction machines
- Industrial trucks
- Vehicles that can be used in commercial, light-industrial and industrial environments
- Agriculture and forestry machines

2.2 General safety information

2.2.1 Safety information on operation



DANGER

Risk of injury from the defective unit

Do not operate a defective Air Top 2000 STC and put it out of service by removing the fuse:

- prolonged heavy smoke development
 - unusual burner noise
 - smell of fuel
 - permanent fault switch-offs with error messages (flash code)
 - damaged heater.
- ▶ Contact a Webasto service workshop.



DANGER

Risk of burn injuries due to insufficient distance between hot air outlet and persons

Burn injuries

- ▶ Make sure that persons are protected from the direct hot air flow from the heater and from contact with surfaces that will become hot.
- ▶ Heat-sensitive parts must be protected from the direct hot air flow.



DANGER

Danger of explosion

In environments with combustible vapours, flammable dust and hazardous goods (e.g., petrol stations, tank facilities, fuel store, coal bunkers, timber yard or grain warehouses).

- ▶ Do not switch on or operate the heater.



DANGER

Risk of explosion from explosive and flammable hazardous goods

For hazardous material vehicles, restriction of the heater operation (ADR) is required to prevent severe burns.

- ▶ Do not operate the heater at hazardous material loading points.
- ▶ Do not operate the heater when loading and unloading hazardous materials.



DANGER

Danger of poisoning and suffocation

Do not operate the heater in closed rooms that do not have an exhaust extraction unit.

- ▶ Do not switch on or operate the heater, also not with programmed heating start.



DANGER

Danger of fire

Flammable materials or liquids in the hot air flow.
 ▶ Keep the hot air flow free.



NOTE

▶ Do not operate heater without control unit cover in place.

2.2.2 Avoiding damage to property



NOTE

Protect the Air Top 2000 STC against mechanical stress:
 ▶ e.g. dropping, impacts or knocks.
 ▶ Do not place any objects on top of the heater.
 ▶ Do not stand on the heater.



NOTE

The fan of the heater keeps running for approx. 240 seconds after switching off via the control element (40 s for ADR). Switching off incorrectly, without after-run, can cause damage to the Air Top 2000 STC.
 ▶ Always switch off the Air Top 2000 STC via the control element.

2.3 Regulations and legal requirements

The Air Top 2000 STC heater has been type-tested and approved in accordance with ECE-R 10 (EMC) and ECE-R 122 (heater).



Read and comply with warnings in these Installation instructions and in the Operating instructions.

3 Operation



DANGER

Hazardous material vehicles (ADR) must not be switched on or off using a timer control or remote control.

3.1 Control elements

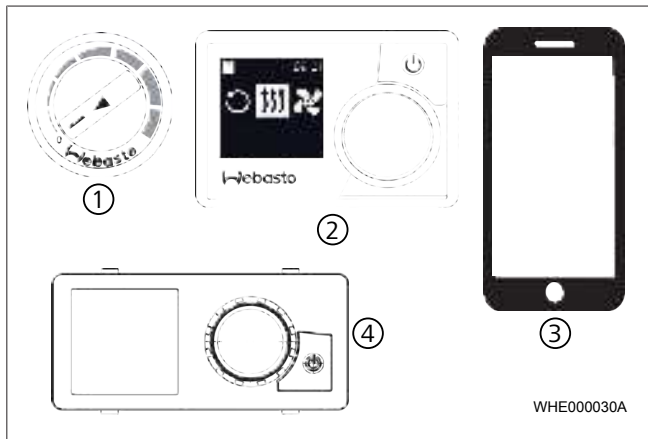


Fig. 1 Control elements

①	Rotary switch	③	ThermoCall TC4 and ThermoConnect with mobile app
②	MultiControl or SmartControl	④	UniControl



Observe additional requirements from the operating and installation instructions for the Air Top 2000 STC and the control element.

The Air Top 2000 STC can be fitted with various control elements. A combination of control elements is possible.

3.2 Switch the heater on and off

The heater is switched on and off by different switch signals. Depending on the system equipment, the switch signals are produced by a switch, control element or a climate control system.



See the operating and installation instructions for the control element.
 If the documents are not available, these can be requested from Webasto.



DANGER

Overheating possible

A battery disconnecter (emergency off switch) may only be actuated in the event of danger since the heater will be switched off without after-running period.

▶ Always switch on/off the heater via the control element.

3.3 Heater operation



NOTE

In order to ensure that the batteries are recharged while travelling, follow this rule of thumb: the travelling time should be greater than or equal to the preheating time. In order to protect the batteries, the heater has an undervoltage trip.

3.4 Using the heater in hazardous material vehicles (ADR)

It is not possible to set a preselection time in hazardous material vehicles (ADR). The SmartControl (if present) shows how much heater operation time is left (remaining operation time).



NOTE

An ADR after-running period is applied in the following cases:

- the generator signal (D+, light machine) is discontinued.
 - the pumping device (auxiliary drive) belonging to the vehicle is put into operation.
- After the end of the ADR after-running period, the heater is in ADR locking mode.



NOTE

Release ADR lock:

- ▶ put the pumping device belonging to the vehicle out of operation
- ▶ restart the heater by switching it off and on again using the control element

3.5 Switching the heater on after automatic switch-off



ATTENTION

Possible loss of heating function

- ▶ Following an automatic switch-off, the heater may need to be manually switched back on in some circumstances.

The heater can be restarted by switching it off and on again using the control element.

4 Fuel

The heater is connected to the fuel tank of the vehicle or to a separate fuel tank.

Suitable fuels:

- Air Top 2000 STC D: Diesel DIN EN 590; biodiesel DIN EN 14214 and HVO DIN EN 15940
- Air Top 2000 STC B: Petrol DIN EN 228

4.1 Converting from operation with summer diesel to winter diesel

- ✓ The tank is filled up with winter diesel (cold-resistant fuel). However, the fuel system for the heater may still contain residues of summer diesel.
- ▶ Switch on the heater for approx. 15 minutes (the fuel system is completely filled with cold-resistant fuel).

5 Cleaning



NOTE

Do not clean the Air Top 2000 STC with a high-pressure cleaner.

Carefully clean the heater using water and a cleaning agent suitable for cleaning vehicles.

With intake filter fitted on the cold air inlet clean the intake filter.

6 Malfunctions

In the event of a malfunction, the control element can indicate a malfunction.

If an error occurs, the unit outputs a fault code via the control element.

- On control elements with display, the fault codes F01 to F15 are output via the display. The fault codes F16 to F19 are shown with "- -".
- On control elements without display, the fault code is output by flashing pulses of the indicator lamp. The pulses are short or long. The number of long pulses corresponds to the number of the fault code. F00 is just rapid flashing.
- In event of an error occurring, check the fuse and plug connectors.
- Determine the measure using the following fault code table.
- If the fault cannot be rectified by the measure described, contact your Webasto service workshop.

Cod e	Hex code	Possible cause	Action
Heater switches off automatically			
F00	H: 01 / 07 / 11 / 18 / 81 / 91 / 92	Control unit defective / heater lock-out / internal room temperature sensor defective	Contact a Webasto service workshop.
F01	H: 02 / 82 / 83	No start	1. Switch off heater. 2. Switch on the heater.
F02	H: 03	Flame goes out during operation	1. Switch off heater. 2. Switch on the heater.
F03	H: 04 / 84	On-board power supply too low / undervoltage or overvoltage	1. Charge the vehicle battery. 2. Switch off heater.

Cod e	Hex code	Possible cause	Action
			3. Switch on the heater.
F04	H: 05	Flame was detected prior to combustion	Contact a Webasto service workshop.
F07	H: 08 / 88	Fuel pump defective	
F08	H: 09 / 15 / 89 / 95	Combustion air fan defective	
F09	H: 19 / 99	Glow plug defective	
F10	H: 5B / 5C / 06 / 17	Heater overheats	1. Check the cold and hot air lines for free passage. 2. Switch off heater. 3. Allow the heater to cool down. 4. Switch on the heater.
F14	H: AB / 1B	Blow out temperature sensor defective	Contact a Webasto service workshop.
F16	H: 4F	Exhaust gas temperature exceeded	
F17	H: 1A / 9A	Exhaust gas temperature sensor defective	
F18	H: 9B	Setpoint sensor defective	
F19	H: 93	Plausibility check for sensor not correct	
-		On vehicles for transporting hazardous goods: Vehicle engine switched off / pumping device in operation	1. Make sure that the pumping device is out of operation. 2. Wait until the heater switches to fault lock-out. 3. Switch off the heater via the control element. 4. Switch the heater on via the control element.
Heater produces black smoke			
-		Combustion air and exhaust gas guiding blocked	Check combustion air and exhaust gas routing for free passage.
In case of any other error messages not listed, contact the Webasto service workshop.			

7 Service signal

In the event of service information, the service signal is shown via the control element when the heater is switched on.

- In the case of the MultiControl / SmartControl control element, a service symbol is displayed.
- On control elements without display: operating indicator flashes for 60 s: on for 1 s, off for 1 s
- ▶ Have the heater checked by a professional.

The heater can continue to be used with limited operation.

8 Maintenance

- ▶ Put the heater into operation every 4 weeks in order to prevent mechanical parts from seizing.
- ▶ At the beginning of the heating period, have the heater checked by a professional.

9 Disposal

The Air Top 2000 STC must not be disposed of in domestic waste.

Observe the regional regulations for disposal of electronic products.

10 Warranty and customer service

The device is registered during installation by the Webasto service workshop. You will receive the registration document. Pass the registration document on to the next owner or user of the device.

Do you have any technical questions or problem with the device?

National phone numbers of our representatives are provided on: www.webasto.com