

# Operating instructions

Air heater

Air Top Evo 55



## 1 About this document

### 1.1 Purpose of the document

This operating instruction is part of the product and provides the user with information on the safe operation of the unit.

### 1.2 Using this document

- ▶ Before operating the unit, read this operating instruction, the operating instructions of the control element and the supplementary sheet "Important notes on the operating and installation instructions".
- ▶ Keep this operating instruction ready to hand.
- ▶ Hand this operating instruction on to the following owner or user of the unit.

### 1.3 Use of symbols and highlighting



#### **WARNING**

##### **Type and source of the risk**

Result: non-observance can lead to severe or mortal injuries.

- ▶ Actions to protect yourself against risks.



#### **CAUTION**

##### **Type and source of the risk**

Result: non-observance leads to minor injuries.

- ▶ Actions to protect yourself against risks.



#### **ATTENTION**

##### **Type and source of the property damage**

Result: non-observance leads to property damage.

- ▶ Actions in order to avoid property damage.

Highlight	Explanation
✓	Requirements for the following necessary action
▶	Necessary action

## 1.4 Warranty and liability

Webasto shall not assume liability for defects or damage that are the result that the installation and operating instructions as well as the instructions contained therein being disregarded.

This liability exclusion particularly applies for:

- improper use
- repairs not carried out by a Webasto service workshop
- use of non-original spare parts
- conversion of the unit without permission from Webasto

## 2 Safety

### 2.1 Intended use

The heater is only approved for installation in vehicles. The heater is suitable for heating:

- engines
- cabins
- aggregates
- cargo areas

The heater is not approved for the direct heating of the cargo area of ADR vehicles (Accord européen relatif au transport international des marchandises Dangereuses par Route, English: European Agreement concerning the International Carriage of Dangerous Goods by Road).

## 2.2 Regulations and safety instructions

- ▶ Regulations on the supplementary sheet "Important notes on the operating and installation instructions" must be observed.

## 2.3 Safety instructions

**Risk 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.

**Risk of intoxication and suffocation from exhaust fumes in closed rooms without exhaust gas extraction**

- ▶ Do not switch on or operate the heater.

**Risk of fires from flammable substances in the hot air flow**

- ▶ Keep the hot air flow free.
- ▶ Remove flammable substances from the hot air flow.

**Risk of injury from the defective unit**

- ▶ Do not operate a defective heater.
- ▶ Contact a Webasto service workshop.

## 2.4 Avoiding property damage

**Overheating caused by insulated cold air inlet and hot air outlet**

- ▶ Keep the cold air inlet and hot air outlet clear of dirt and objects.

**Incorrect handling**

- ▶ Protect the unit against mechanical loading (e.g., falling down, impacts, knocks or vibrations).
- ▶ Do not place heavy objects on top of the unit.
- ▶ Do not step on the unit.

**Switching off incorrectly, without after-run**

The fan of the heater keeps running approx. 40 to 120 seconds after switching off

via the control element. Switching off incorrectly, without after-run leads to the unit over-heating.

- ▶ Always switch off the heater via the control element.
- ▶ If a battery circuit breaker is fitted: switch off the heater via the battery circuit breaker only in case of danger.

## 3 Unit description

### 3.1 Type label

The type label is applied to the heater or clearly visibly as a duplicate on the vehicle. The year of installation is found on the type label.

### 3.2 Function description

The heater heats the vehicle cabin, cargo area, interior of the vehicle, or defrosts the vehicle windscreen. The heater operates independent from the vehicle engine and is connected to the electric system of the vehicle.

## 4 Operation



### **WARNING**

#### **Risk of explosion from vapours, dust and hazardous goods**

Severe burns

- ▶ Switch off the heater at petrol stations and tank facilities as well as in the vicinity of fuel stores, coal bunkers, timber yards or grain warehouses.



### **WARNING**

#### **Breathing exhaust fumes in closed rooms**

Intoxication and suffocation

- ▶ Never operate the heater in closed rooms such as garages or workshops that do not have an exhaust extraction unit, not even with programmed heating start.

#### 4.1 Operating the heater

- ▶ See the enclosed operating instruction of the control element.

#### 4.2 Use suitable fuels

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

- ▶ Use suitable fuels (see "Technical Data").

#### 4.3 Change to fuel resistant to cold temperatures

- ✓ Fuel resistant to cold temperatures is filled.
- ▶ Switch on the heater for approx. 15 minutes.

The fuel system is completely filled with fuel resistant to cold temperatures.

#### 4.4 Using the heater in vehicles for transporting hazardous goods



##### **WARNING**

**Risk of explosion from explosive and flammable hazardous goods**

Severe burn injuries

- ▶ The heater must not be operated during loading and unloading as well as at the loading points.

#### Switching the heater on and off

- ▶ Switch the heater on and off via the control element.

#### Switching the heater on after automatic switch-off

If the vehicle engine is turned off or the pumping device of the vehicle is put into operation, the heater switches off automatically. The combustion air supply is interrupted after max. 40 seconds and the heater switches to fault lock-out.

- ▶ Make sure that the pumping device is out of operation.
- ▶ Wait until the heater switches to fault lock-out.
- ▶ Switch off the heater via the control element.
- ▶ Switch the heater back on via the control element.

## 5 Cleaning

- ▶ With intake filter fitted on the cold air inlet: clean the intake filter.
- ▶ Do not clean the heater with a high-pressure cleaner.

## 6 Troubleshooting

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 operating indicator. The number of pulses corresponds with the number of fault codes. Example for fault code F03: ".....- - - ....."
- ▶ In event of an error occurring, check the fuse and plug connectors.
- ▶ Determine the measure using the following fault code table.
- ▶ If the error cannot be rectified by the measure described, contact your Webasto service workshop.

Code	Possible cause	Measure
Heater switches off automatically		
F00	Control unit defective / heater lock-out / internal room temperature sensor defective	▶ Contact a Webasto service workshop.
F01	No starting	▶ Switch off the heater for at least 2 seconds. ▶ Switch on the heater.
F02	Flame goes out during operation	▶ Switch off the heater for at least 2 seconds. ▶ Switch on the heater.
F03	On-board power supply too low / undervoltage or overvoltage	▶ Charge the vehicle battery. ▶ Switch off the heater for at least 2 seconds. ▶ Switch on the heater.
F04	Premature flame detection	▶ Contact a Webasto service workshop.
F07	Fuel pump defective	
F08	Combustion air fan defective	
F09	Glow plug defective	
F10	Heater overheats	▶ Check the cold and hot air lines for free passage. ▶ Allow the heater to cool down. ▶ Switch off the heater for at least 2 seconds. ▶ Switch on the heater.

Code	Possible cause	Measure
F14	Blow out temperature sensor defective	▶ Contact a Webasto service workshop.
F16	Exhaust gas temperature exceeded	
F17	Exhaust gas temperature sensor defective	
F18	Setpoint sensor defective	
F19	Plausibility check for sensor not correct	▶ Make sure that the pumping device is out of operation. ▶ Wait until the heater switches to fault lock-out. ▶ Switch off the heater via the control element. ▶ Switch the heater on via the control element.
–	On vehicles for transporting hazardous goods: Vehicle engine switched off / pumping device in operation	
Heater produces black smoke		
–	Combustion air and exhaust gas guiding blocked	▶ Check combustion air and exhaust gas routing for free passage.

### Service signal

The service signal is shown via the control element when the heater is switched on.

- On control elements with display: "- -"
- On control elements without display: operating indicator flashes: on for 1 second, off for 1 second
- ▶ Have the heater checked by a professional. The heater can continue to be used with limited operation.

## 7 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.
- ▶ The heat exchanger must be replaced by a Webasto original spare part every 10 years after being put into service for the first time. See the type label for the first time it was put into service.



## 8 Disposal

The unit must not be disposed of in domestic waste.

- ▶ Observe the regional regulations for disposal of electronic products.

## 9 Service and customer services

Do you have any technical queries or a problem with your unit?

Country-specific telephone numbers for our branches can be found on the Webasto service point flyer or under [www.webasto.com](http://www.webasto.com).

## 10 Technical data

The values in brackets apply for the extended heating capacity that is activated temporarily during each start.

Heater		Air Top Evo 40		Air Top Evo 55	
		Diesel	Petrol	Diesel	Petrol
Type approval	EMC	E1 03 5529	E1 03 5529	E1 03 5529	E1 03 5529
	Heater	E1 00 0385	E1 00 0385	E1 00 0386	E1 00 0386
Heating capacity (kW)		1.5–3.5 (4.0)	1.7–3.5 (4.0)	1.5–5.0 (5.5)	1.7–5.0 (5.5)
Fuel consumption (l/h)		0.18–0.43 (0.49)	0.25–0.51 (0.58)	0.18–0.61 (0.67)	0.25–0.73 (0.80)
Rated voltage (V)		12 / 24	12	12 / 24	12
Nominal power consumption (W)		15–40 (55)	15–40 (55)	15–95 (130)	5–95 (130)
Fuel		Diesel / biodiesel DIN EN 590 DIN EN 14214	Petrol DIN EN 228	Diesel / biodiesel DIN EN 590 DIN EN 14214	Petrol DIN EN 228
Operating temperatures (°C)		–40 to +40	–40 to +40	–40 to +40	–40 to +40

In case of multilingual versions the German version is binding.

The telephone number of the respective country can be obtained from the Webasto service point flyer or the homepage of your respective Webasto country representative.

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