

Operating Instructions

Marine Air Heater

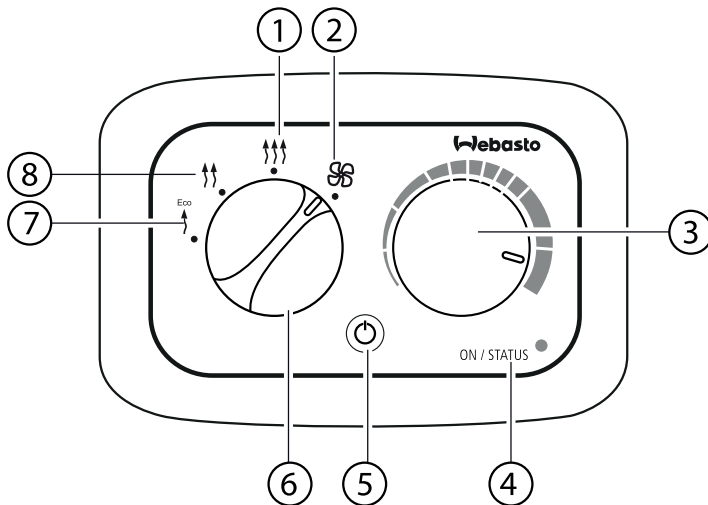
Air Top EVO 40 / 55

Multi Control MC04 and
Control Rheostat



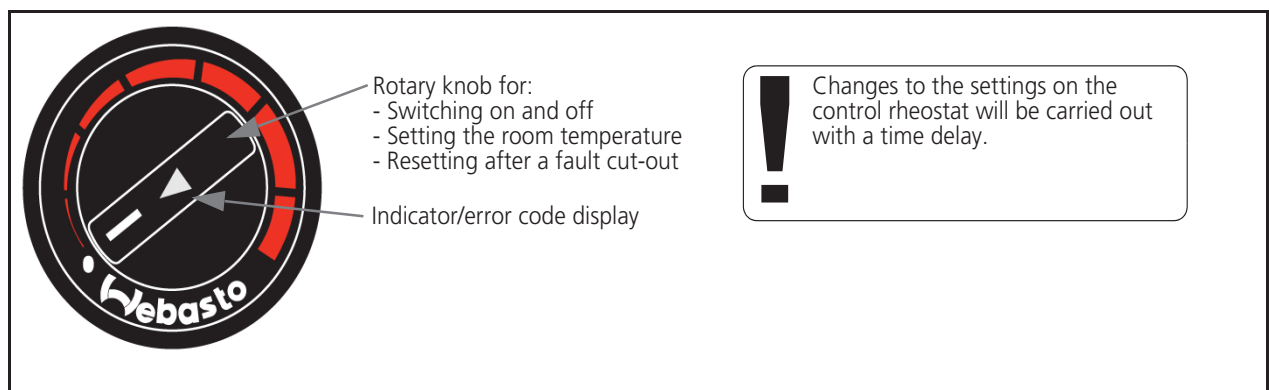
WARNING: Cancer and Reproductive Harm
www.P65Warnings.ca.gov

1 Overview of Control Element MC04



- | | | | |
|---|--|---|------------------------------------|
| 1 | Symbol - Quick heating function | 5 | On/Off button |
| 2 | Symbol - Ventilation | 6 | Function selector switch |
| 3 | Rotary knob (temperature/fan) | 7 | Symbol - Eco function |
| 4 | Operating indicator/fault code indicator/service indicator | 8 | Symbol - Standard heating function |

2 Overview of Control Rheostat



3 About this document

3.1 Purpose of the document

These operating instructions are part of the product and provides the user with information on the safe operation of the unit.

3.2 Using this document

- ▶ Before operating the heater, carefully read these operating instructions as well as the operating instructions for the heater.
- ▶ Keep these operating instructions in the vehicle.
- ▶ Hand these operating instructions on to the following owner or user of the unit.

3.3 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 |
| Control | Name of controls |

3.4 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 to:

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

4 Safety

4.1 Intended use

The built-in control element is used to control the heater.

4.2 Regulations and legal requirements

- ▶ Regulations on the supplementary sheet "Important Information on Operating and Installation Instructions" must be observed.

4.3 Safety information

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 poisoning and suffocation from exhaust fumes in closed rooms

- ▶ Do not switch on or operate the heater.

Risk of fire from flammable materials or liquids in the hot air flow

- ▶ Keep the hot air flow free.

Risk of injury from the defective unit

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



WARNING

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)

Severe burns

- ▶ Do not switch on or operate the heater.



WARNING

Breathing exhaust fumes in closed rooms

Poisoning and suffocation

- ▶ Never operate the heater (also not with programmed heating start) in closed rooms such as garages or workshops that do not have an exhaust extraction unit.
- ▶ In workshops with exhaust extraction facilities, make sure that the exhaust extractor is fully operational.

Caution: When heater is in use, the surface of the hot air outlet may become hot to the touch. Contact with skin may cause burns.



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.

5 Operation of MC04 Control Element

5.1 Switch on the heater







- ▶ Press On/Off button.
Operating indicator comes on.

5.2 Switch off the heater



- ▶ Press On/Off button.
Heater switches off.
Operation indicator goes out after approx. 3 minutes.

5.3 To set heating function

| Symbol | Function | Description |
|---|---------------------------|--|
|  | Quick heating function | Quickly heats up the space to be heated: The space is heated for a limited period of time at an increased heating output of 110 %. As soon as the set temperature is reached, the heater switches back to standard output. Maximum duration of increased heating capacity: Air Top Evo 40: 6 hours Air Top Evo 55: 30 minutes |
|  | Standard heating function | Heats up the space to be heated to the set temperature: The space is heated with the heater operating at standard output. |
|  | Eco function | The required temperature is maintained at 70 % output to save the battery and protect the environment. |
|  | Ventilation function | Quickly cools the space: The space is additionally cooled by circulating the air or feeding in fresh air. The fan speed is set individually with the rotary knob. A 3-minute cooling phase follows heater combustion operation. |

✓ Heater is on.



- ▶ Turn the function selector switch to the required heating function.

5.4 To set heating temperature

The heating temperature can be set infinitely from 5 °C to 35 °C.

✓ Heater is on.

✓ Heating function selected.

To increase heating temperature



- ▶ Turn rotary knob clockwise.

To decrease heating temperature



- ▶ Turn rotary knob anticlockwise.

5.5 To switch on ventilation

✓ Heater is on.



- ▶ Turn function selector switch to ventilation.



- ▶ Turn rotary knob to set fan level.

6 Operation of Control Rheostat

6.1 Switch on the heater

Set the rotary knob on the control rheostat to the desired position.

NOTE:

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

6.2 Ventilation Option (optional)

A separate switch (not included in kit) allows the user to choose between heating and ventilation mode. In ventilation mode the fan speed depends on the position of the control rheostat.

6.3 Actions in events of faults

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

Remedy

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

Flame extinguishes during operation

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

Heater unit overheats and indicator flashes

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 on again

Vehicle voltage too low

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

Heater Unit Emits Black Smoke

Cause

Combustion air and/or exhaust system blocked

Remedy

Check combustion air and exhaust system for blockage

6.4 Troubleshooting

Error Code Output

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

-You will find further information in the operating instructions and in the heater workshop manual.

NOTE:

An error code is generated on the control element indicator light after an error has occurred. When determining the generated code, there will be a series of 5 fast flashes after which, the error code will be generated by a sequence of long flash pulses, count only the long flash pulses to obtain the code. Error codes are shown in the table below.

| | |
|-----|---|
| F00 | Control unit error / incorrect parameter set / warm start recognition |
| F01 | No start (after 2 attempts to start) / no flame formation |
| F02 | Flame failure (repeated more than 3 times) |
| F03 | Under voltage or over voltage |
| F04 | Premature flame recognition |
| F06 | Temperature sensor interrupt or short circuit |
| F07 | Metering pump interrupt or pump short circuit |
| F08 | Fan motor interrupt or short circuit or overload or blocked |
| F09 | Ceramic glow pin interrupt or short circuit |
| F10 | Overheating: Resulting in permanent heater fault lock-out |
| F11 | Overheating sensor interrupt or short circuit |
| F12 | Heater lock-out |
| F13 | Heater lock-out permanent |
| F14 | Overheating sensor incorrect position |
| F15 | Set point generator interrupt |

Fault Lock-Out

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.

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.

7 Cleaning

- ▶ Wipe control element with damp cloth.

8 Disposal

The control element 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 at www.webasto.com.

10 Technical data

Operating voltage range: 12 V to 24 V

Permissible ambient temperature:

- Operation: -40 °C to $+75\text{ °C}$
- Storage: -40 °C to $+85\text{ °C}$

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.



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Technical Assistance Hotline
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Canada: (800) 667-8900

www.webasto.us
www.techwebasto.com

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