

# Water Heater

Thermo Top Evo Parking Heater



## Upgrade documentation VW T6

### Validity

Manufacturer	Model	Type	EG BE No. / ABE
VW	T6	7HC	e1 * 2001 / 116 * 0220

From Model Year 2016

Left-hand drive vehicle

Verified equipment variants: Diesel  
Climatic  
Vehicle with factory installed Webasto auxiliary heater

Not verified: Passenger compartment monitoring

Total installation time: approx. 4 hours

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## Necessary Components

- Upgrade kit for VW T6 2016 Diesel Climatic: **1324102A**
- Heater control in accordance with price list and upon consultation with end customer
- In case of installation of MultiControl CAR: MultiControl installation frame: **9030077\_**
- In case of Telestart option, indicator lamp in accordance with price list and in consultation with end customer

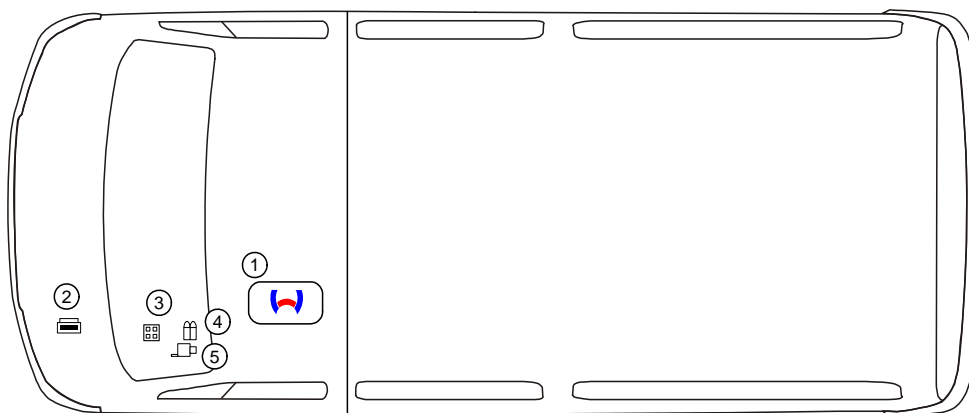
## Installation instructions:

- The installation location of the push button in case of Telestart or Thermo Call should be confirmed with the end customer.
- Depending on the available space and manufacturer's instructions, we recommend the use of a vehicle battery with more electrical capacity.

## Installation Overview

### Legend:

1. Heater (OE)
2. Engine compartment main fuse
3. Heater control connector
4. Fuse holder in passenger compartment
5. K1 relay



## Information on Total Installation Time

The total installation time includes the time needed for mounting and demounting of the vehicle-specific components, the heater specific installation time and all other times required for the system integration and initial start-up of the heater. The total installation time may vary for vehicle equipment other than provided.

# Information on Operating and Installation Instructions

## 1 Important Information (not complete)

### 1.1 Installation and Repair



The improper installation or repair of Webasto heating and cooling systems can cause fire or the leakage of deadly carbon monoxide, leading to serious injury or death.



To install and repair Webasto heating and cooling systems you need to have completed a special company training course and have the appropriate technical documentation, special tools and special equipment.



Installation and repair may ONLY be carried out by persons trained and certified in a Webasto training course. NEVER try to install or repair Webasto heating or cooling systems if you have not completed a Webasto training course, you do not have the necessary technical skills and you do not have the technical documentation, tools and equipment available to ensure that you can complete the installation and repair work properly.

Only use genuine Webasto parts. See the Webasto air and water heaters accessories catalogue for this purpose.

### 1.2 Operation

To ensure safe operation, we recommend having the heater checked every two years by an authorised Webasto dealer, especially when used over a long period and/or under extreme environmental conditions.

Do not operate the heater in closed rooms due to the danger of poisoning and suffocation.

Always switch off the heater before refuelling.

The heater may only be used with the prescribed fuel Diesel (DIN EN 590) or petrol (DIN EN 228).

The heater may not be cleaned with a high-pressure cleaner.

### 1.3 Please note

ALWAYS follow all Webasto installation and operating instructions and observe all warnings.

To become familiar with and understand all functions and properties of the heater, the operating instructions must be read carefully and observed at all times.

For proper, safe installation and repair work, the installation instructions with all warnings and safety information must be carefully read and observed at all times. Please always contact a workshop authorised by Webasto for all installation and repair work.

#### Important

**Webasto shall assume no liability for defects, damage and injuries resulting from a failure to observe the installation, repair and operating instructions of the information contained in them.**

**This liability exclusion particularly applies to improper installations and repairs, installations and repairs by untrained persons or in the case of a failure to use genuine spare parts.**

**The liability due to culpable disregard to life, limb or health and due to damage or injuries caused by a wilful or reckless breach of duty remain unaffected, as does the obligatory product liability.**

Installation should be carried out according to the general, standard rules of technology. Unless specified otherwise, fasten hoses, lines and wiring harnesses to original vehicle lines and wiring harnesses using cable ties. Insulate loose wire ends and tie back. Connectors on electronic components must audibly snap into place during assembly.

Sharp edges should be fitted with rub protection. Spray unfinished body areas, e.g. drilled holes, with anti-corrosion wax (Tectyl 100K, Order No. 111329).

Observe the instructions and guidelines of the respective vehicle manufacturer for demounting and mounting vehicle specific components!

The initial startup is to be executed with the Webasto Thermo Test Diagnosis.

When installing a programmable control module (e.g. a PWM Gateway), the corresponding settings must be checked or adjusted.

## 2 Statutory regulations governing installation

Guidelines	Thermo Top Evo
Heating Directive ECE R122	E1 00 0258
EMC Directive ECE R10	E1 04 5627

#### Note

The regulations of these guidelines are binding in the scope of the Directive 70/156/EEC and/or 2007/46/EC (for new vehicle models from 29/04/2009) and should also be observed in countries in which there are no special regulations.

#### Important

Failure to follow the installation instructions will result in the invalidation of the type approval for the heater and therefore invalidation of the general **homologation of the vehicle**.

#### Note

The heater is licensed in accordance with paragraph 19, section 3, No. 2b of the StVZO (German Road Traffic Licensing Authority).

## 2.1 Excerpt from ECE regulation 122 (heating system) paragraph 5 for the installation of the heater

Beginning of excerpt.

### ANNEX VII

#### REQUIREMENTS FOR COMBUSTION HEATERS AND THEIR INSTALLATION

##### 1. GENERAL REQUIREMENTS

1.7.1. A clearly visible tell-tale in the operator's field of view shall inform when the combustion heater is switched on or off.

##### 2. VEHICLE INSTALLATION REQUIREMENTS

###### 2.1. Scope

2.1.1. Subject to paragraph 2.1.2, combustion heaters shall be installed according to the requirements of this Annex.

2.1.2. Vehicles of category O having liquid fuel heaters are deemed to comply with the requirements of this Annex.

###### 2.2. Positioning of heater

2.2.1. Body sections and any other components in the vicinity of the heater must be protected from excessive heat and the possibility of fuel or oil contamination.

2.2.2. The combustion heater shall not constitute a risk of fire, even in the case of overheating. This requirement shall be deemed to be fulfilled if the installation ensures an adequate distance to all parts and suitable ventilation, by the use of fire resistant materials or by the use of heat shields.

2.2.3. In the case of M2 and M3 vehicles, the heater must not be positioned in the passenger compartment. However, an installation in an effectively sealed envelope which also complies with the conditions in paragraph 2.2.2 may be used.

2.2.4. The label referred to in paragraph 1.4 or a duplicate, must be positioned so that it can be easily read when the heater is installed in the vehicle.

2.2.5. Every reasonable precaution should be taken in positioning the heater to minimise the risk of injury and damage to personal property.

###### 2.3. Fuel supply

2.3.1. The fuel filler must not be situated in the passenger compartment and must be provided with an effective cap to prevent fuel spillage.

2.3.2. In the case of liquid fuel heaters, where a supply separate to that of the vehicle is provided, the type of fuel and its filler point must be clearly labelled.

2.3.3. A notice, indicating that the heater must be shut down before refuelling, must be affixed to the fuelling point. In addition a suitable instruction must be included in the manufacturer's operating manual.

###### 2.4. Exhaust system

2.4.1. The exhaust outlet must be located so as to prevent emissions from entering the vehicle through ventilators, heated air inlets or opening windows.

###### 2.5. Combustion air inlet

2.5.1. The air for the combustion chamber of the heater must not be drawn from the passenger compartment of the vehicle.

2.5.2. The air inlet must be so positioned or guarded that blocking by rubbish or luggage is unlikely.

###### 2.6. Heating air inlet

2.6.1. The heating air supply may be fresh or recirculated air and must be drawn from a clean area not likely to be contaminated by exhaust fumes emitted either by the propulsion engine, the combustion heater or any other vehicle source.

2.6.2. The inlet duct must be protected by mesh or other suitable means.

###### 2.7. Heating air outlet

2.7.1. Any ducting used to route the hot air through the vehicle must be so positioned or protected that no injury or damage could be caused if it were to be touched.

2.7.2. The air outlet must be so positioned or guarded that blocking by rubbish or luggage is unlikely.

End of excerpt.

In multilingual versions the German language is binding.

# VW T6

## Information on Validity

This upgrade documentation applies to VW T6 Diesel vehicles - for validity, see page 1 - from model year 2016 and later, assuming technical modifications to the vehicle do not affect installation, any liability claims excluded. Depending on the vehicle version and equipment, modifications may be necessary during installation with respect to this installation documentation.

Vehicle and engine types, equipment variants and other specifications not listed in this installation documentation have not been tested. However, installation according to this installation documentation may be possible.

## Technical Information

### Special tools

- Automatic wire stripper 0.2 - 6mm<sup>2</sup>
- Crimping pliers for cable lug / tab connector 0.5 - 6mm<sup>2</sup>
- Torque wrench for 2.0 - 10 Nm
- Deep-hole marker
- Webasto Thermo Test Diagnosis with current software

### Dimensions

- All dimensions are in mm

### Tightening torque values

- Tighten original vehicle bolt connections in accordance with manufacturer's instructions or in accordance with state-of-the-art-technology.

## Preliminary Work

- Disconnect and remove the battery.
- Remove the trim behind the battery (access to the passenger compartment grommet) (2x screws).
- Remove the lateral instrument panel trim on the driver's side.
- Remove the light switch with mounting.
- Remove the lower footwell trim on the driver's side.
- Remove the lower instrument panel trim on the driver's side.
- Remove the side step cover on the driver's side.
- Detach the driver's seat (4x screws).

## Explanatory Notes on Document

You will find an identification mark on the outside top right corner of the page in question to provide you with a quick overview of the individual working steps.

Special features are highlighted using the following symbols:

**Mechanical system**



**Electrical system**



**Specific risk of injury or fatal accidents.**



**Specific risk due to electrical voltage**



**Specific risk of damage to components.**



**Specific risk of fire or explosion.**



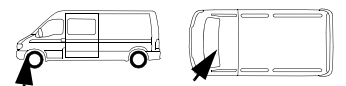
**Reference to general installation instructions of the Webasto components or to the manufacturer's vehicle-specific documents.**



**Reference to a special technical feature.**

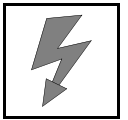


**The arrow in the vehicle icon indicates the position on the vehicle and the viewing angle**



**Tightening torque according to the manufacturer's vehicle-specific documents**



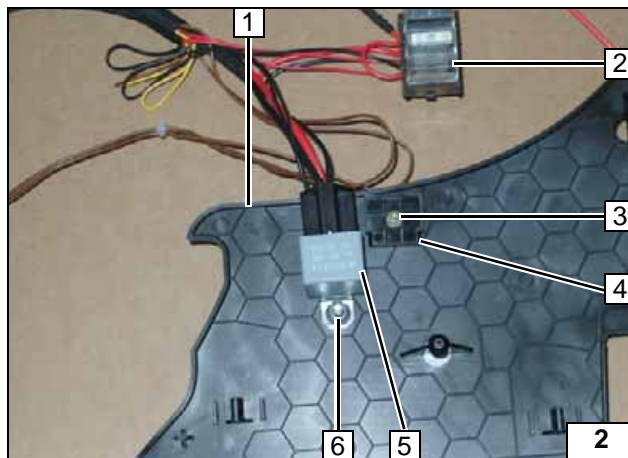
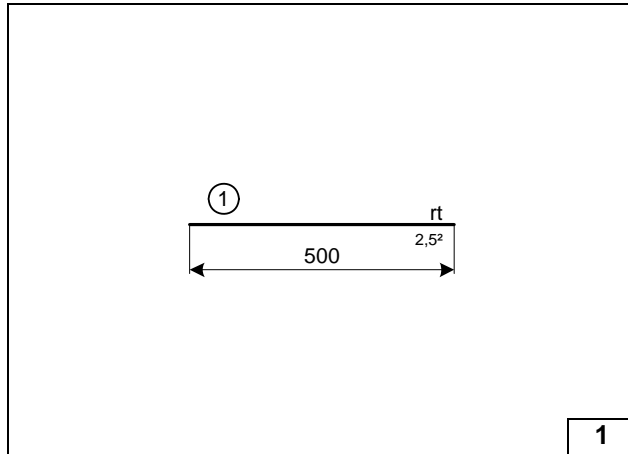


## Preparing Electrical System

Wire sections retain their numbering in the entire document.

Produce all following electrical connections as shown in wiring diagram.

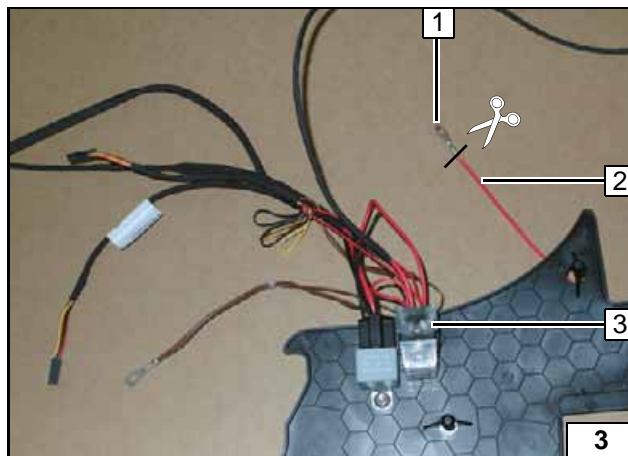
Pull wire ① into provided protective sleeving.



- 1 Footwell trim on the driver's side
- 2 Fuse holder, passenger compartment
- 3 5mm dia. hole, M4x10 bolt, large diameter washer, nut
- 4 Passenger compartment fuse holder socket
- 5 K1 relay
- 6 6mm dia. hole, M5x16 bolt, large diameter washer, flanged nut

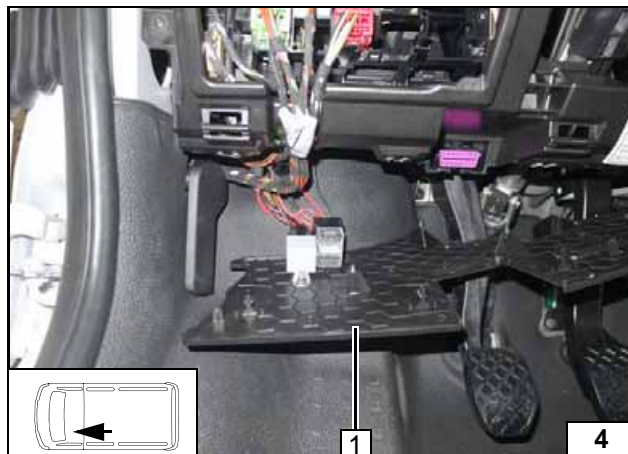
### Assigning wire

### Premounting K1 relay and passenger compartment fuse holder



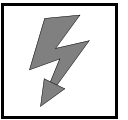
- 1 Cut off cable lug
- 2 2.5² positive wire of passenger compartment fuse holder
- 3 Install fuse holder

### Premounting fuse holder of passenger compartment



- 1 Position the underdrive protection under the instrument panel

### Positioning underdrive protection

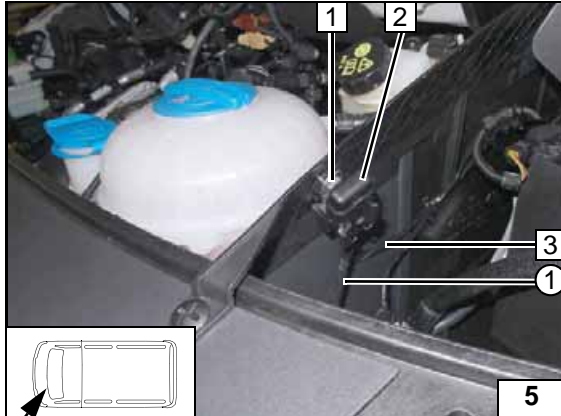


**Electrical System**



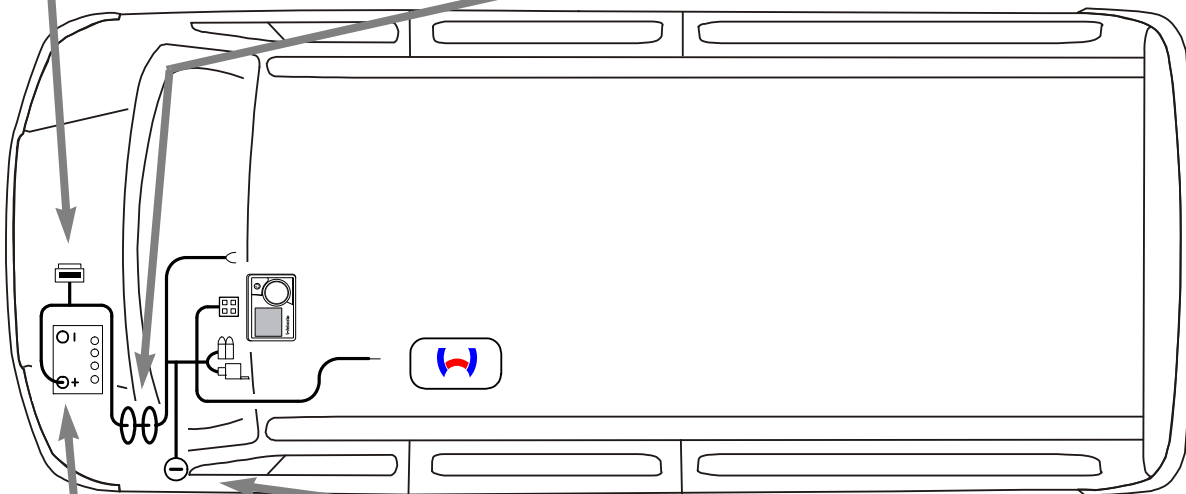
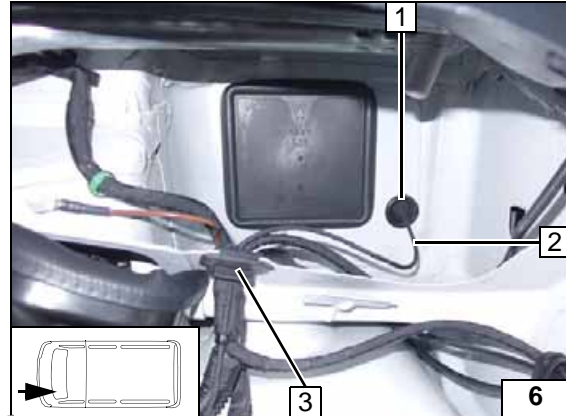
**Fuse holder of engine compartment**

- 1 6mm dia. hole, M5x16 bolt, large diameter washer [2x], fuse holder retaining plate, nut
- 2 Main fuse F1
- 3 Positive wire of passenger compartment fuse holder
- ① Red (rt) wire of power supply

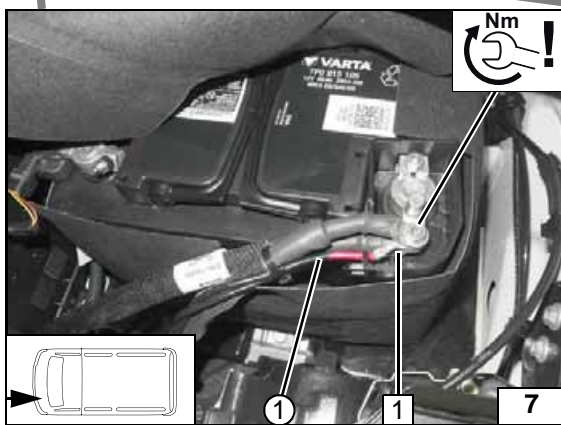


**Wiring harness pass through**

- 1 Passenger compartment protective rubber plug
- 2 Positive wire of passenger compartment fuse holder
- 3 Protective rubber plug of coolant reservoir

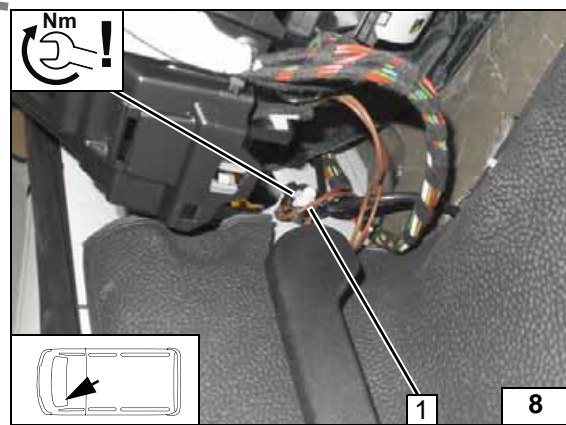


**Wiring harness routing diagram**



**Positive wire**

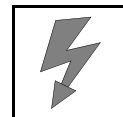
- 1 Positive wire on positive battery terminal
- ① Red (rt) wire of power supply



**Earth wire**

- 1 Earth wire on original vehicle earth support point

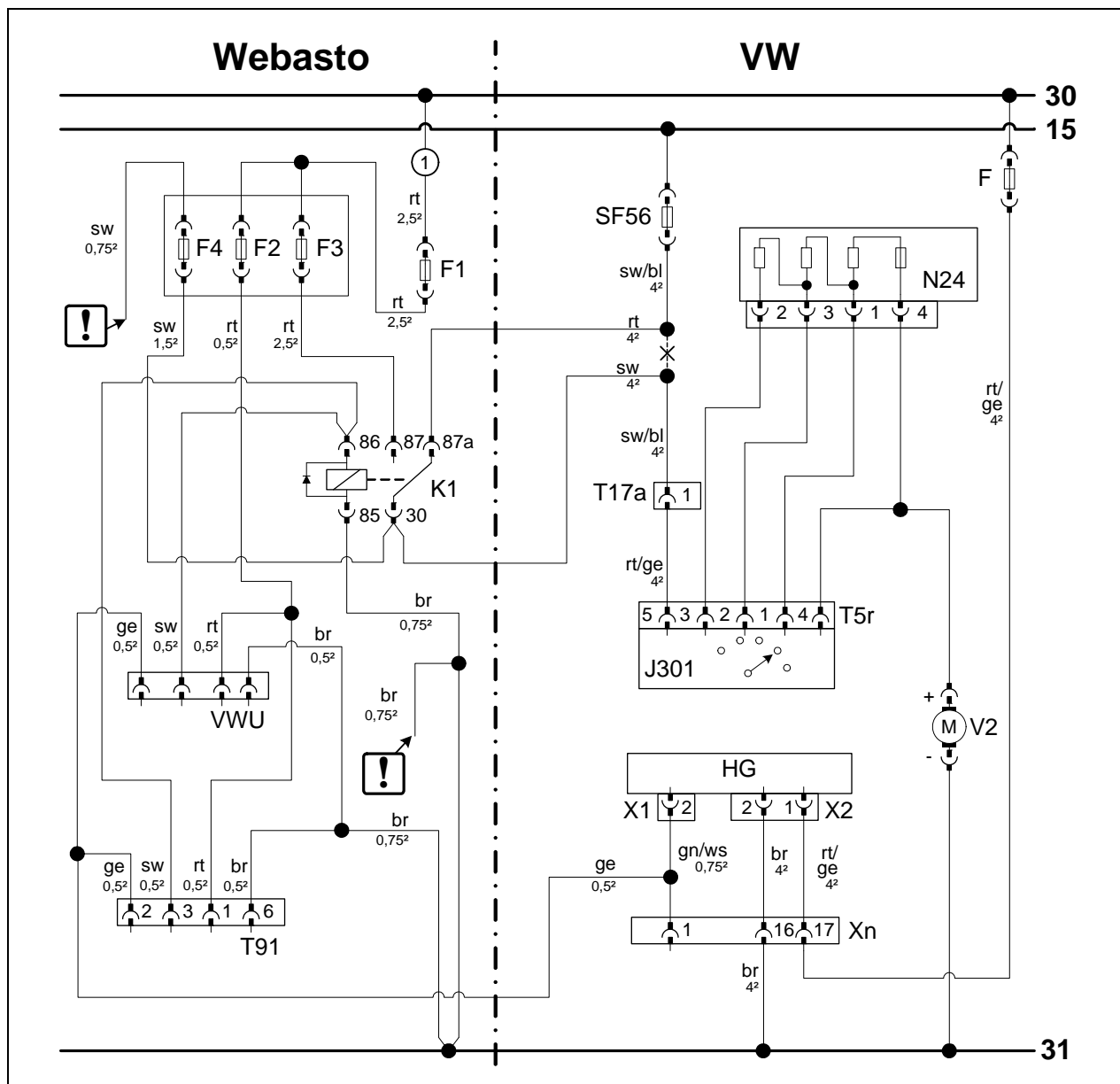





Wiring Diagram



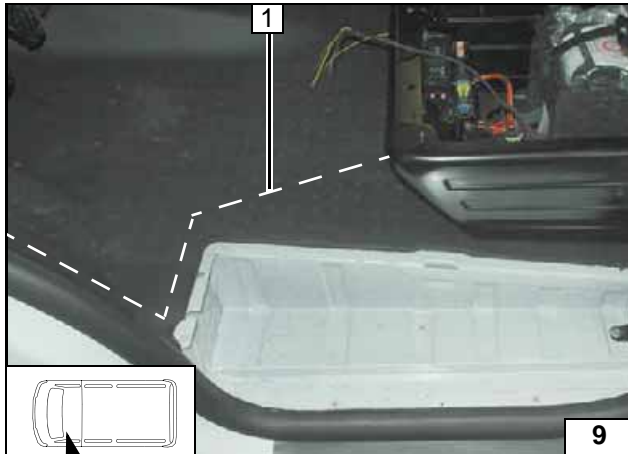
Wiring diagram



Webasto components	Vehicle components	Colours and symbols			
F1	30A main fuse	F	Heater fuse	rt	red
F2	1A fuse	SF56	Fan motor fuse	sw	black
F3	25 A fuse	N24	Resistor group	ge	yellow
F4	5A fuse	T17a	17-pin connector	rt/ge	red/yellow
K1	Fan relay	J301	A/C control unit	gn/ws	green/white
VWU	4-pin connector of MultiControl CAR	T5r	5-pin connector	br	brown
T91	6-pin connector of Telestart receiver	V2	Fan motor	sw/bl	black/blue
		HG	TT-Evo heater	br	brown
		X1	6-pin heater connector		
		X2	2-pin heater connector		
		Xn	17-pin connector		
					Insulate wire end and tie back
		Wiring colours may vary.			

Legend

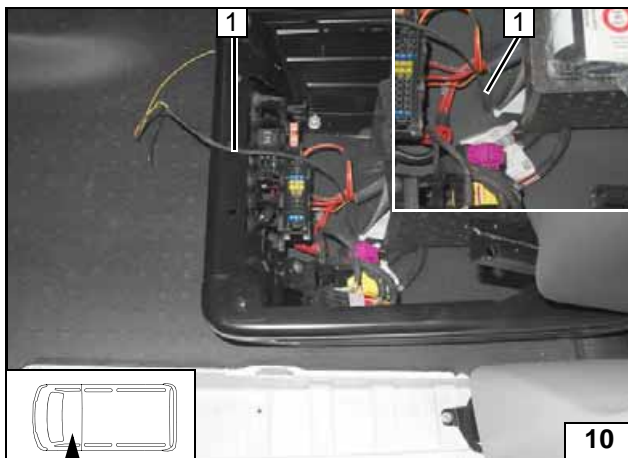




Route upgrade wiring harness 1 as shown under the footwell mat to the driver's seat.

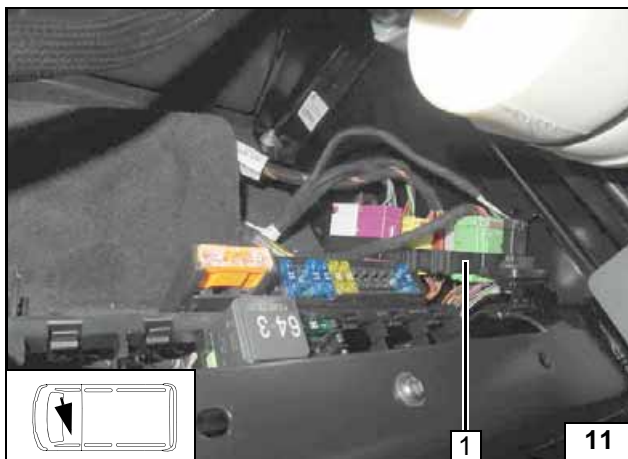


**Routing upgrade wiring harness**



1 Upgrade wiring harness

**Routing upgrade wiring harness**



1 Plug connector under the driver's seat

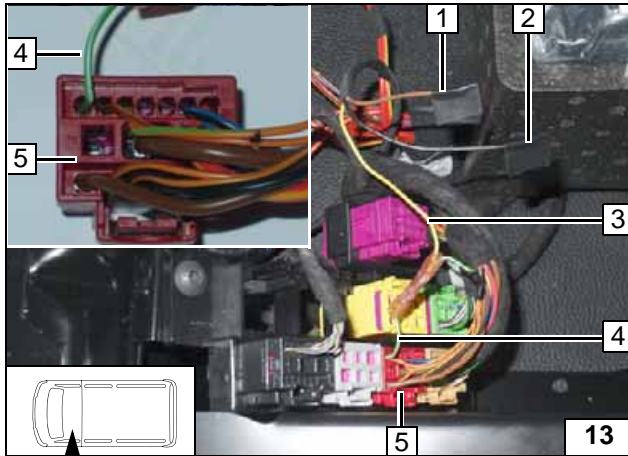
**Detaching plug connector**



1 17-pin connector Xn

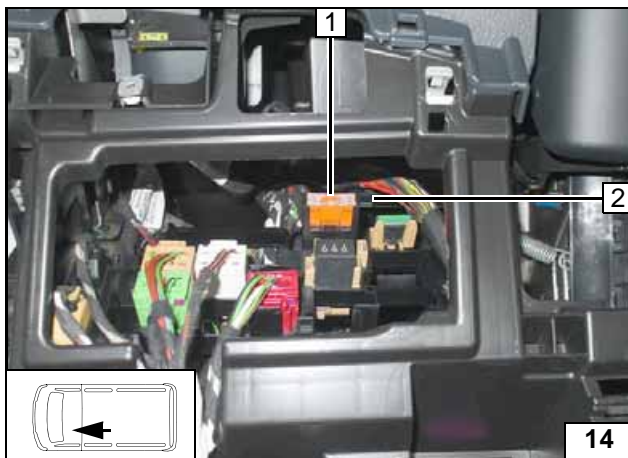
**Connector Xn**





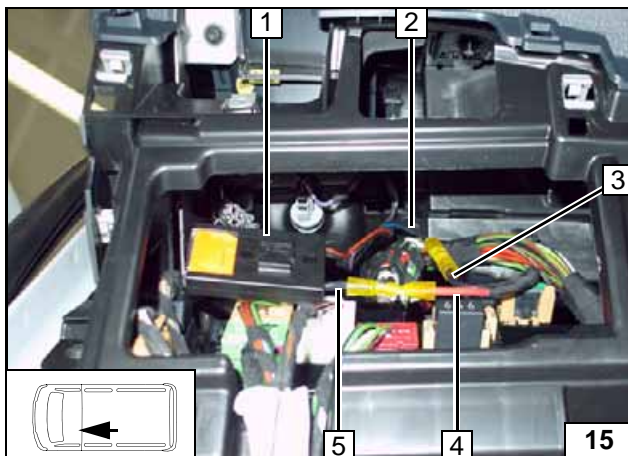
- 1 Insulate and tie back brown (br) wire (0,75<sup>2</sup>)
- 2 Insulate and tie back black (sw) wire (0,75<sup>2</sup>)
- 3 Yellow (ge) wire of heater control
- 4 Green/white (gn/ws) wire of connector Xn/ pin 1
- 5 17-pin connector Xn

**Connecting upgrade wiring harness**



- 1 Fuse SF 56
- 2 Remove fuse holder from mounting

**Removing fan fuse**

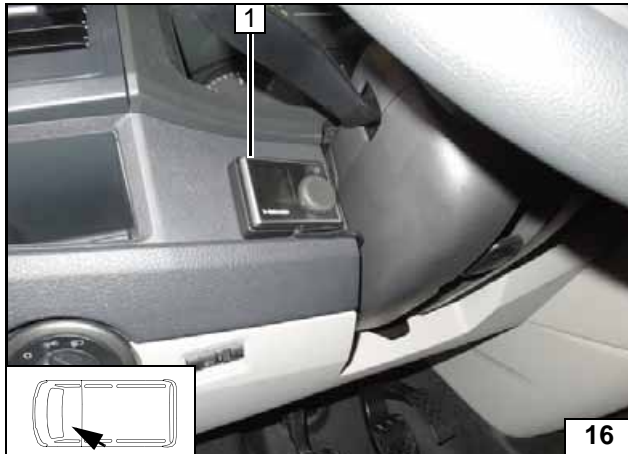
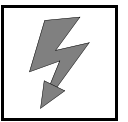


- 1 Fuse SF56 with socket, removed
- 2 Black/blue (sw/bl) wire of air-conditioning control unit
- 3 Black (sw) wire of K1/30
- 4 Red (rt) wire from K1/87a
- 5 Black/blue (sw/bl) wire of fuse SF56

Install fuse with socket

**Connecting air-conditioning control unit**



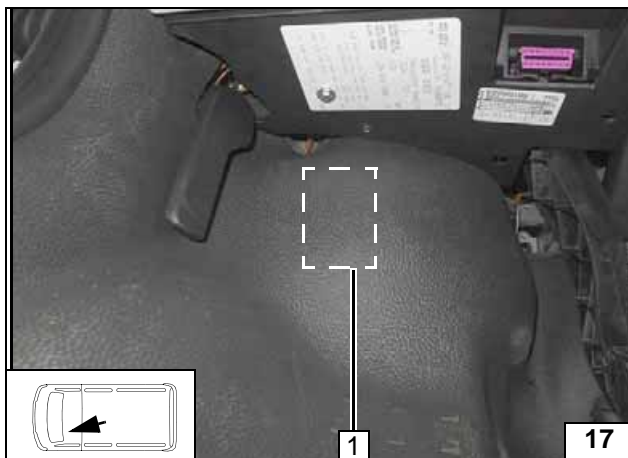


### MultiControl CAR Option

- 1 MultiControl CAR with installation frame



Installing MultiControl CAR



### Remote Option (Telestart)

Fasten receiver 1 with adhesive tape behind the footwell mat.

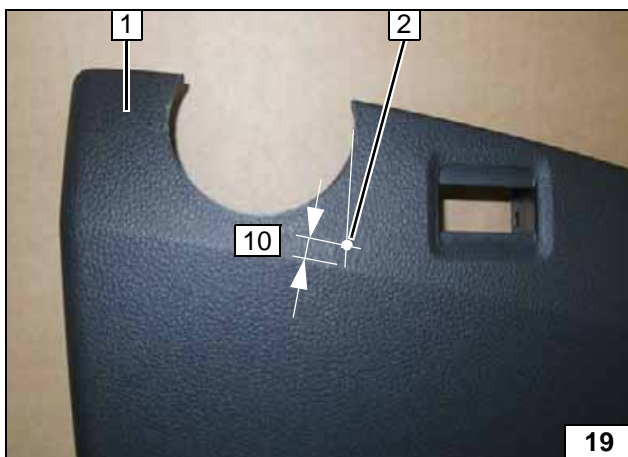


Mounting receiver



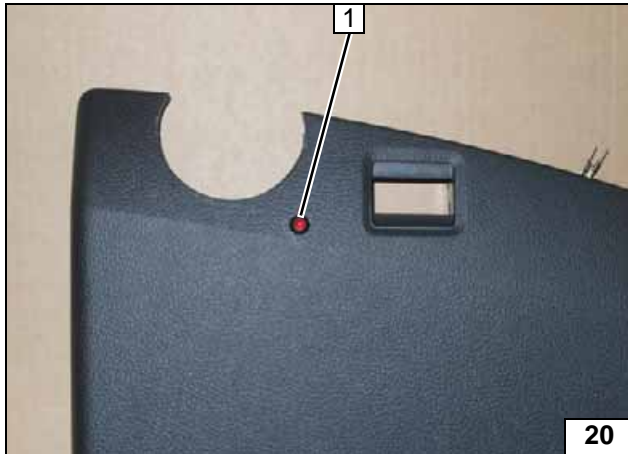
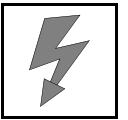
- 1 Aerial

Mounting aerial



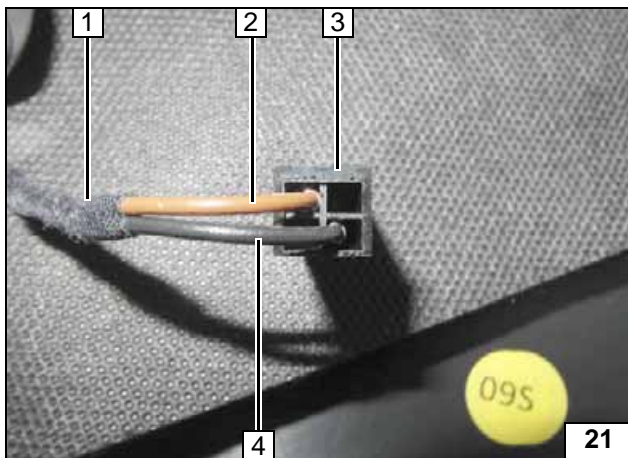
- 1 Instrument panel trim
- 2 Copy hole pattern, 8.5 mm dia. hole; drill

Installing operation indicator



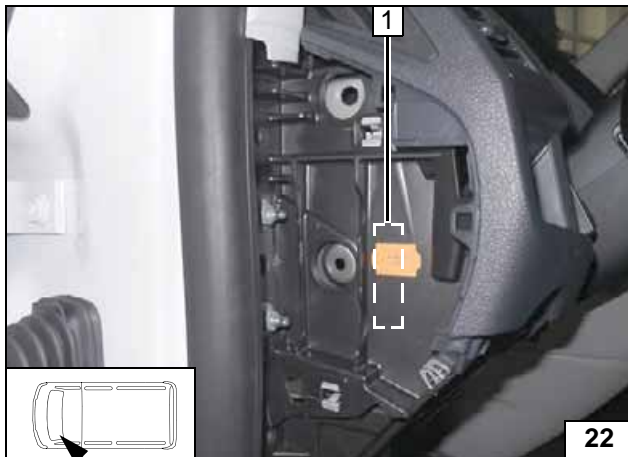
1 Operation indicator

Installing operation indicator



- 1 Operation indicator wiring harness
- 2 Brown (br) wire of pin 4
- 3 4-pin female connector
- 4 Black (sw) wire, pin 2

Installing female connector

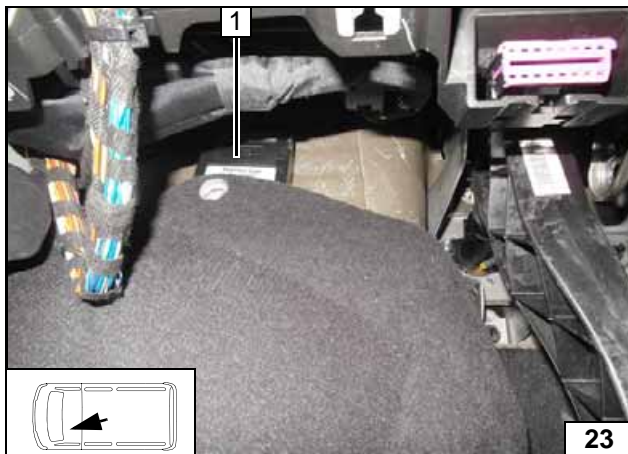


**Temperature sensor T100 HTM**

Fasten temperature sensor 1 with adhesive tape.



Mounting temperature sensor

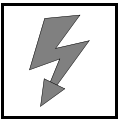


**Remote Option (Thermo Call)**

Fasten receiver 1 with adhesive tape behind the footwell mat.

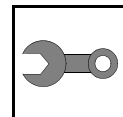


Mounting receiver



1 Aerial

Mounting  
aerial

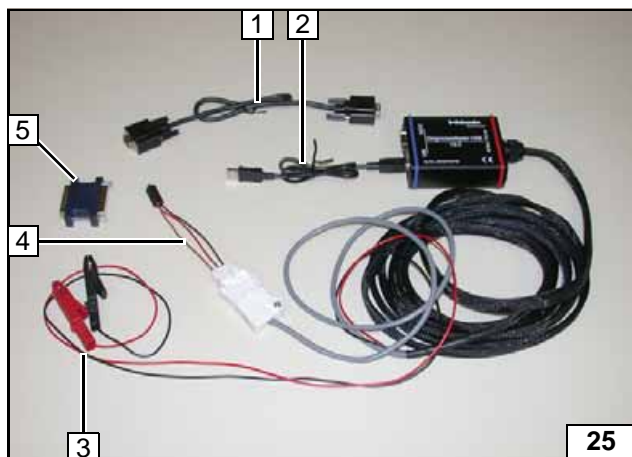


### Final Work



Install removed parts in reverse order. Check all electrical connections for firm seating. Insulate and tie back all loose lines.

- Connect the battery.
- Program MultiControl CAR, teach Telestart transmitter
- Place the "Switch off parking heater before refuelling" caution label near the filler neck.



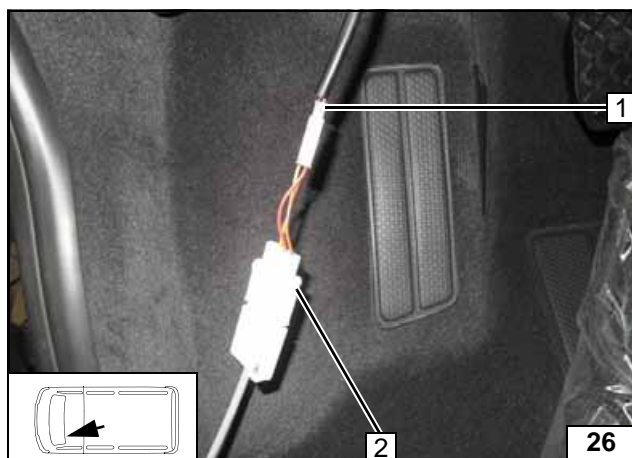
### Loading the Upgrade Software

Use a free interface (serial or USB) for the communication structure for the heater control unit.

- 1 Serial connecting line
- 2 USB connecting line (here already connected to the diagnosis adapter)
- 3 Positive and earth wire (not used)
- 4 Adapter wiring harness to clock connector
- 5 Dongle for the connection with the laptop (parallel illustration)



### Accessories for installation



### Warning:

The program of the Webasto diagnostics tool (WTT) must be closed on your PC.

- 1 Wiring harness extension (KBV) connector
- 2 Adapter connector



### Creating connection

The software should be launched as explained in the provided brief instructions



Webasto Thermo & Comfort SE  
 Postfach 1410  
 82199 Gilching  
 Germany  
 Internet: [www.webasto.com](http://www.webasto.com)  
 Technical Extranet:  
<http://dealers.webasto.com>



### Operating Instructions for End Customer

Please remove page and add to the vehicle operating instructions.

**Note:**

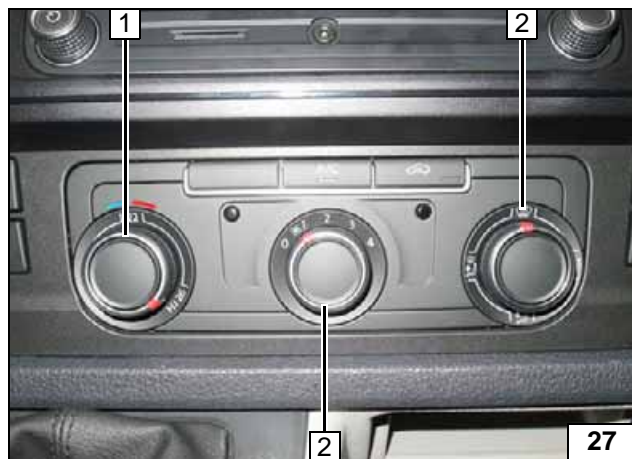
We recommend matching the heating time to the driving time.  
 Heating time = driving time

**Example:**

For a driving time of approx. 20 min. (in one direction), we recommend not exceeding a switch-on time of 20 min.

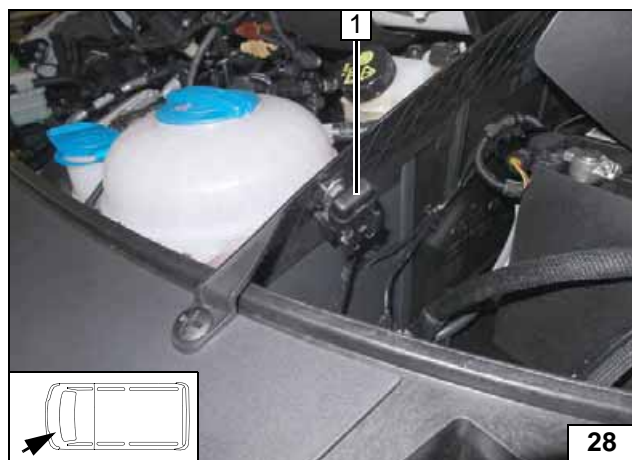
Passenger compartment monitoring, if installed, must be deactivated in addition to vehicle settings for the heating operation.

For instructions on deactivation, please refer to the operating instructions of the vehicle.



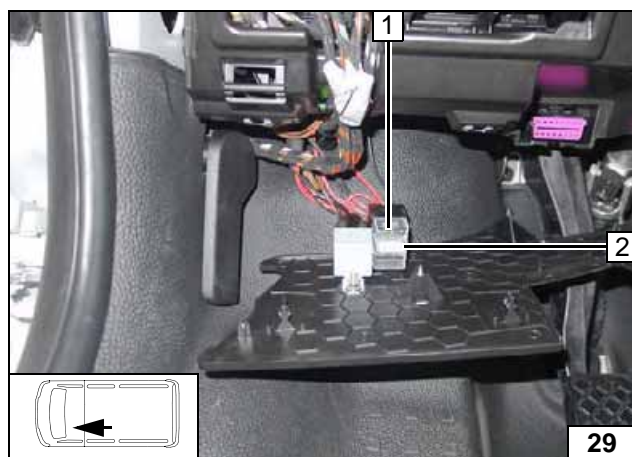
- 1 Set temperature to "max."
- 2 Air outlet to windscreen
- 3 Set fan to level "1", or max. "2"

A/C control panel



- 1 30A main fuse F1

Fuses of engine compartment



- 1 1A fuse F2 of heater control
- 2 25A fuse F3

Fuse of passenger compartment

