Water Heater

Webasto
Feel the Drive

***Thermo Top Evo* Parking Heater**

E1
00 0258

Installation Documentation
Ford Transit

Validity

Manufacturer	Model	Type	EG-BE-No. / ABE
Ford	Transit	FCD	e11 * 2007 / 46 * 1100 * ...

Motorisation	Fuel	Transmission type	Output in kW	Displacement in cm³	Engine code
2.2 TDCi	Diesel	6-speed SG	74	2198	DRF5
2.2 TDCi	Diesel	6-speed SG	92	2198	DRF5
2.2 TDCi	Diesel	6-speed SG	114	2198	CVR5

SG = manual transmission

From Model Year 2014
Left-hand drive vehicle

Verified equipment variants: Manual air-conditioning
Front fog light
Start / Stop
2WD / 4WD

Not verified: Automatic air-conditioning
Headlight washer system
Passenger compartment monitoring

Total installation time: approx. 6.5 hours

Ford Transit

Table of Contents

Necessary Components

- Basic delivery scope *Thermo Top Evo* in accordance with price list
- Installation kit Ford Transit 2014 Diesel: **1323197A**
- Heater control in accordance with price list and upon consultation with end customer
- In case of Telestart, indicator lamp in accordance with price list and in consultation with end customer

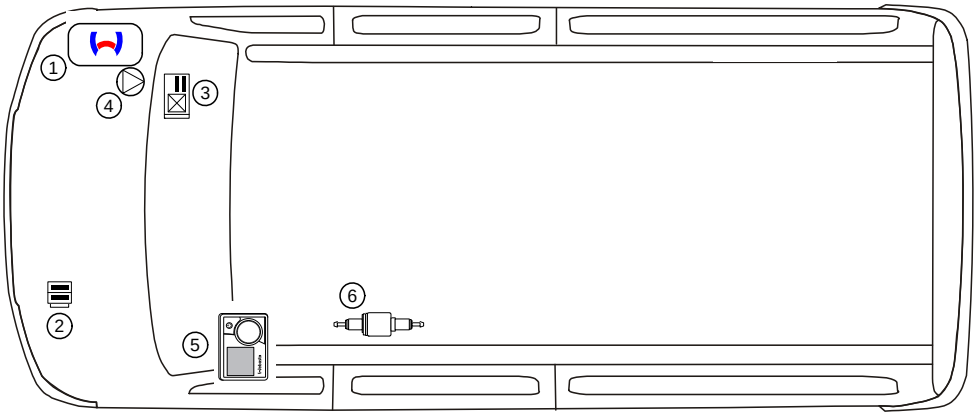
Installation instructions:

- Arrange for the vehicle to be delivered with the tank only about ¼ full!
- The installation location of the push button in the 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
2. Engine compartment fuse holder
3. Passenger compartment relay and fuse holder
4. Circulating pump
5. MultiControl
6. Metering pump



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.

Information on Validity

This installation documentation applies to Ford Transit Diesel vehicles - for validity, see page 1 - from model year 2014 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 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
- Hose clamp pliers for self-clamping hose clamps
- Hose clamp pliers for Clic hose clamps of type W
- Automatic wire stripper 0.2 - 6mm²
- Crimping pliers for cable lug / tab connector 0.5 - 6mm²
- Torque wrench for 2.0 - 10 Nm
- Hose clamping pliers
- Metric thread-setter kit
- Webasto Thermo Test diagnosis with current software

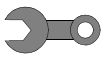
Dimensions
- All dimensions are in mm

Tightening torque values
- Tightening torque values of 5x13 heater bolts and 5x11 heater stud bolts = 8Nm.
- Tightening torque values of 5x15 retaining plate of water connection piece bolts = 7Nm.
- Tighten other bolt connections in accordance with manufacturer's instructions or in accordance with state-of-the-art- technology.

Explanatory Notes on Document

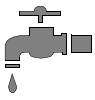
You will find an identification mark on the outside top right corner of the page in question to provide you with a quick overview of the individual working steps.

Mechanical system



Electrical system

Coolant circuit



Combustion air

Fuel

Exhaust gas

Software

Special features are highlighted using the following symbols:

Specific risk of injury or fatal accidents

Specific risk due to electrical voltage

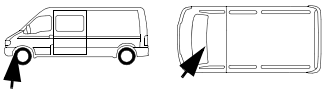
Specific risk of damage to components

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

Ford Transit

Preliminary Work

Vehicle

- Open the fuel tank cap.
- Ventilate the fuel tank.
- Close the fuel tank cap again.
- Depressurise the cooling system.
- Disconnect the battery.
- Remove the air filter box.
- Remove the left headlight.
- Remove the frontal engine underride protection.
- Remove the glove compartment.
- Remove the lateral instrument panel trim on the driver's side (only in case of Telestart and Thermo Call).

The following work should only be performed during the corresponding installation sequence:

- Remove the tank according to the manufacturer's instructions.
- Remove the fuel-tank sending unit in accordance with manufacturer's instructions.

Heater

- Remove years that do not apply from the type and duplicate label.
- Attach the duplicate label (type label) at the appropriate place in the engine compartment.

Heater Installation Location

1 Heater

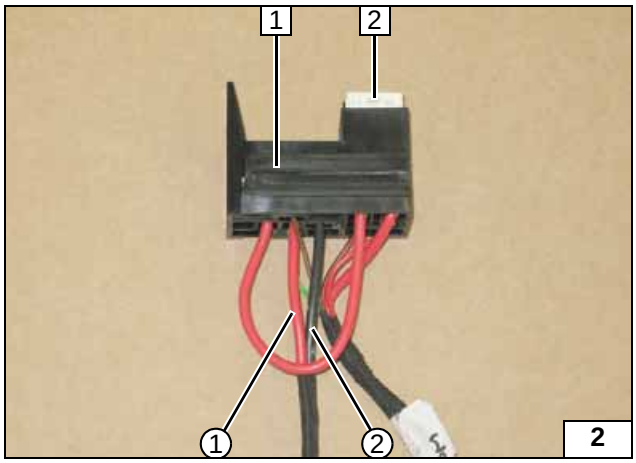
Installation location

Preparing Electrical System

Wire sections retain their numbering in the entire document.

Connect wires as shown in the connection diagram.

Installing wires

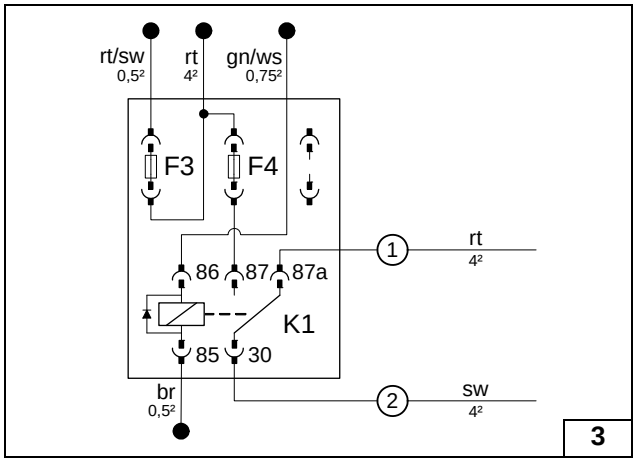


2

1 Passenger compartment relay and fuse holder
2 25 A fuse F4
① Red (rt) wire of K1/87a, fan wiring harness
② Black (sw) wire of K1/30, fan wiring harness

K1 relay is inserted only after installing the passenger compartment relay and fuse holder.

Connection diagram for F4 and K1 relay



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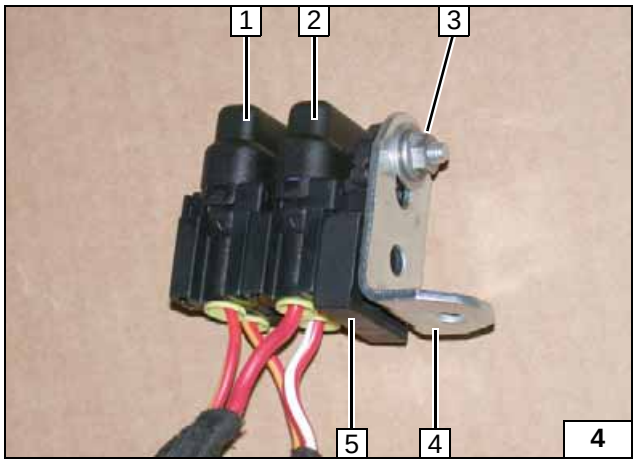
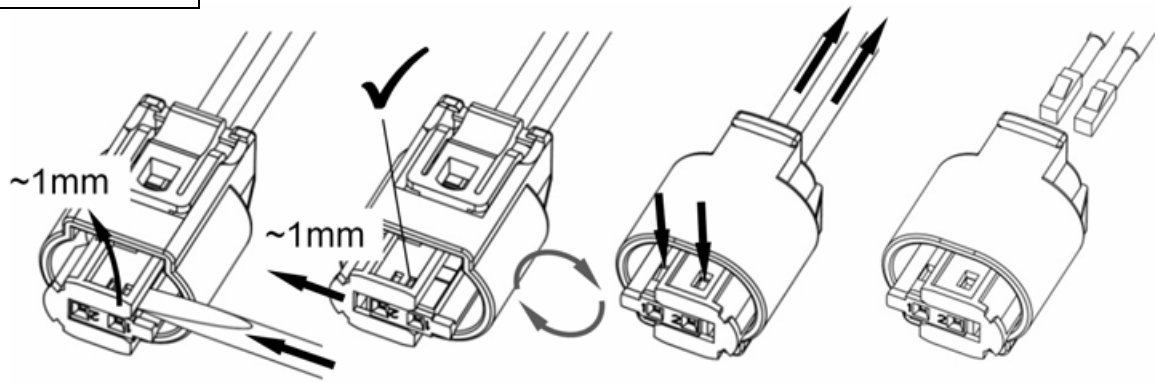


4

1 20A fuse F1
2 30A fuse F2
3 M5x16 bolt, large diameter washer [2x], nut
4 Angle bracket
5 Retaining plate for engine compartment fuse holder

Premounting engine compartment fuse holder

Connector X7



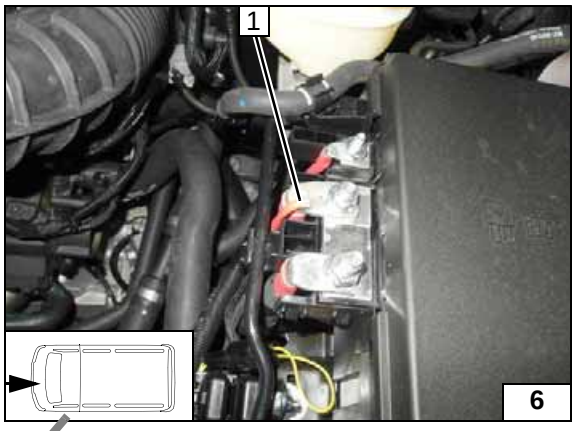
5

Dismantling connector of metering pump

Electrical System

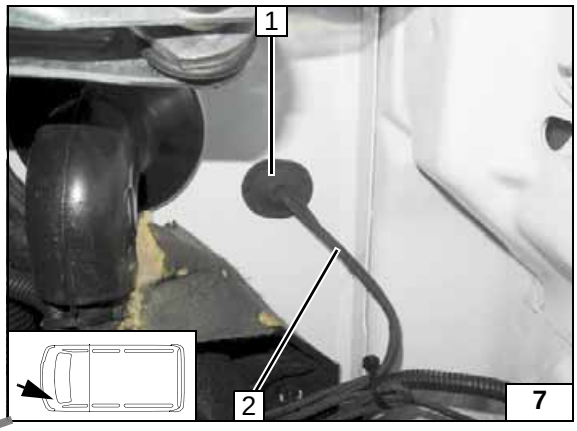
Positive wire

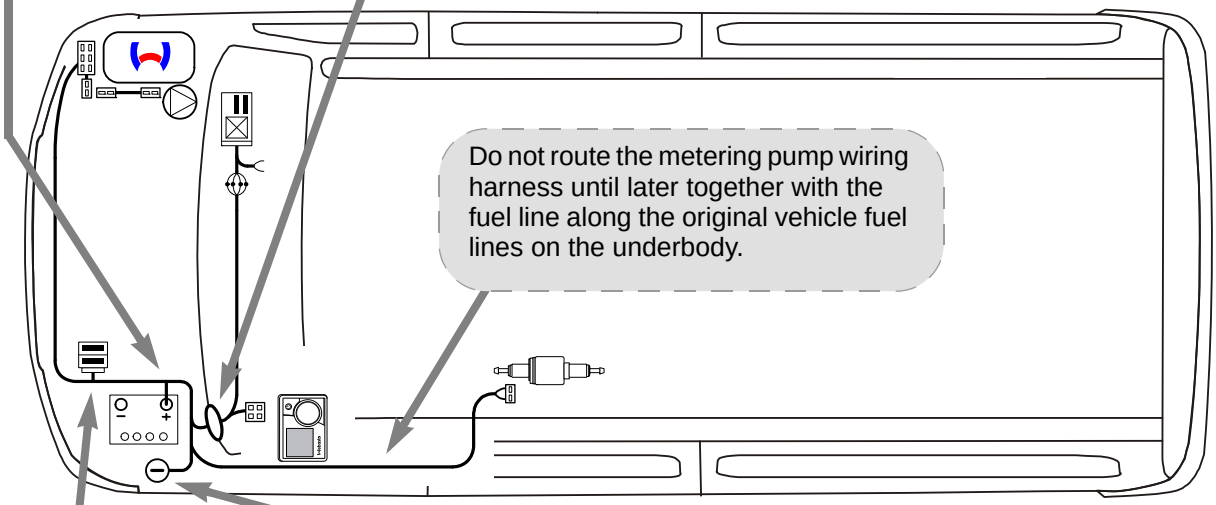
1 Positive wire on positive battery distributor



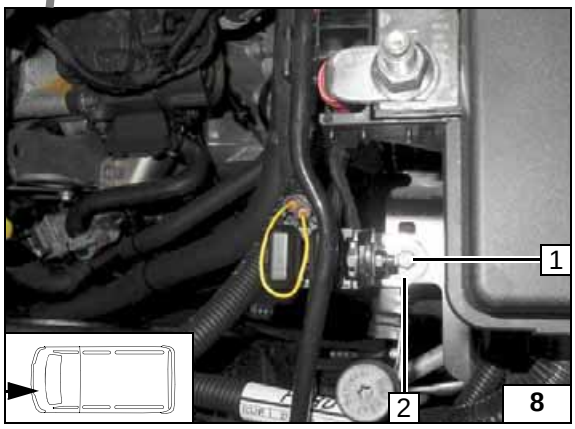
Wiring harness pass through

1 Protective rubber plug
2 Heater wiring harnesses, heater control



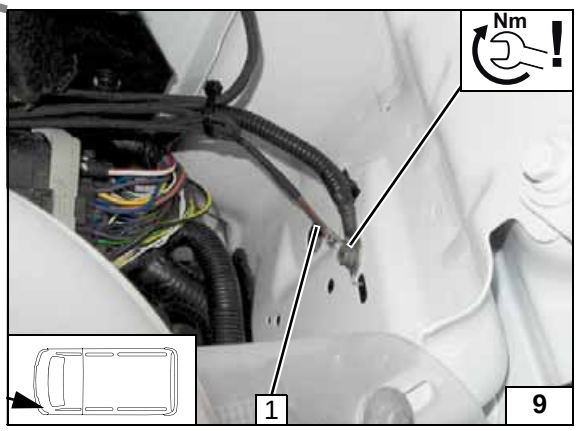


Wiring harness routing diagram



Fuse holder of engine compartment

1 Original vehicle bolt
2 Angle bracket

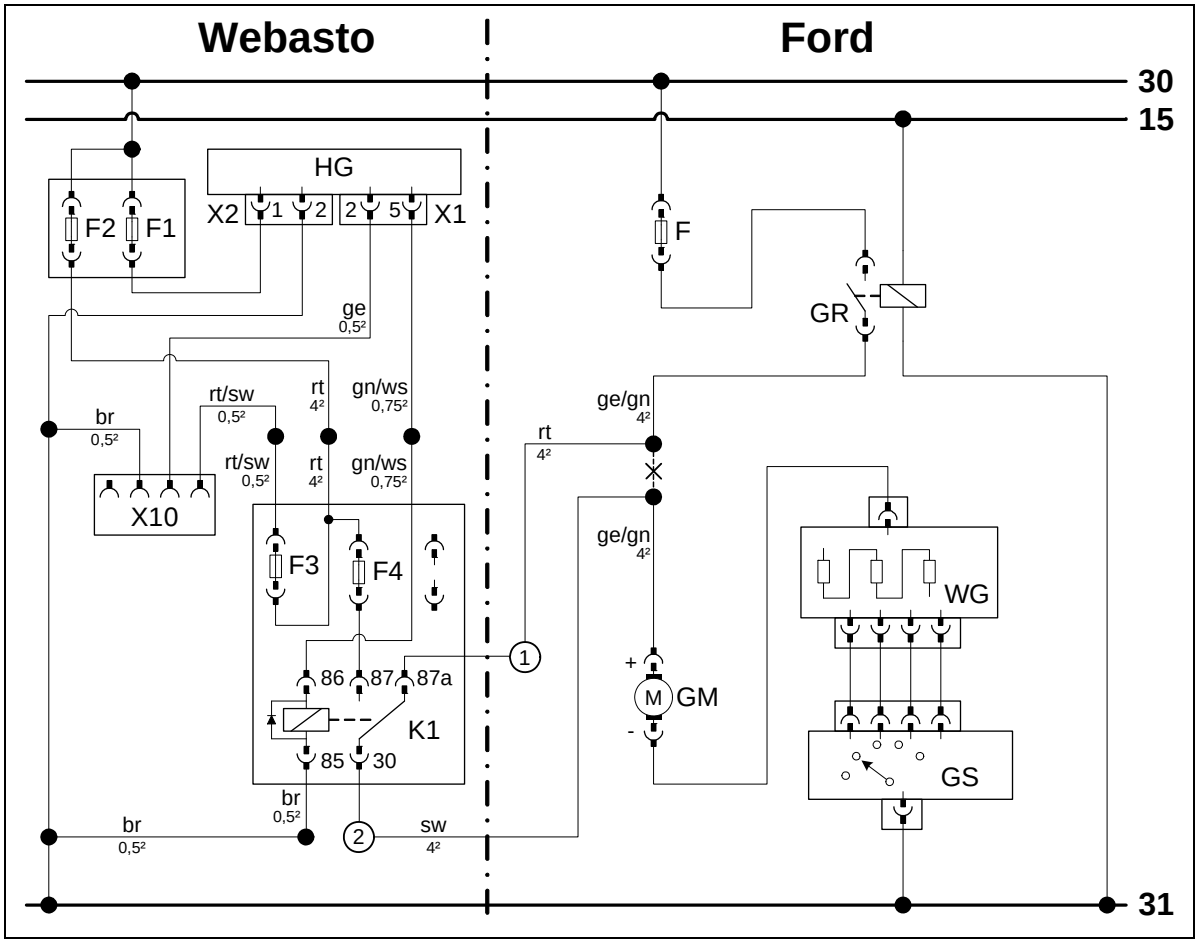


Earth wire

1 Earth wire on original vehicle earth support point

Fan Controller

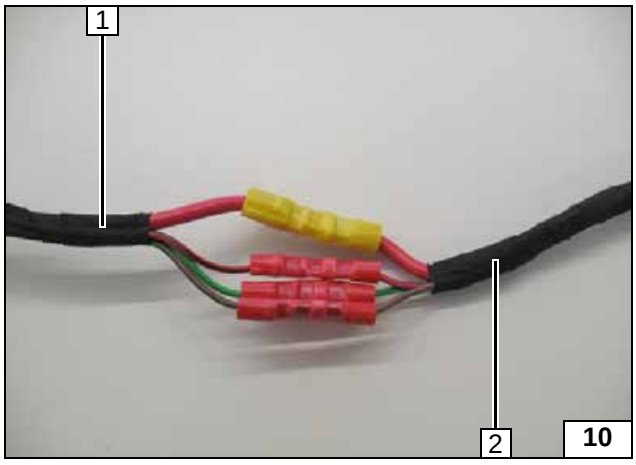
Wiring diagram



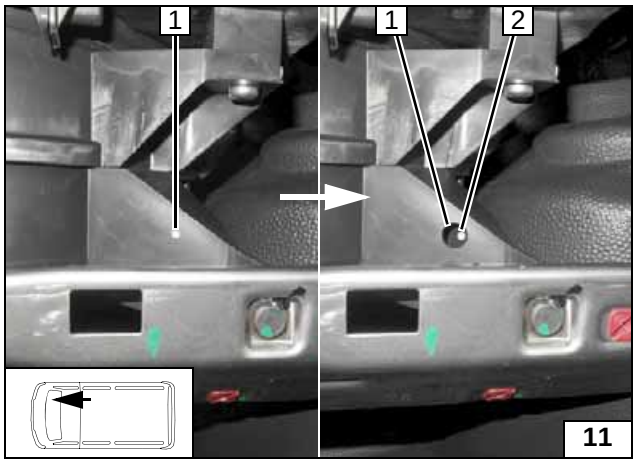
Legend

Webasto components		Vehicle components		Colours and symbols	
HG	Heater TT-Evo	F	40A fuse	rt	red
X1	6-pin heater connector	GR	Fan relay	sw	black
X2	2-pin heater connector	WG	Resistor group	ge	yellow
F1	20A fuse	GM	Fan motor	gn	green
F2	30A fuse	GS	Fan switch	or	orange
X10	4-pin connector of heater control			ws	white
				br	brown
F3	1A fuse				
F4	25A fuse			**X**	Cutting point
K1	Fan relay			Wiring colours may vary.	

Connecting wiring harnesses using same colour wires



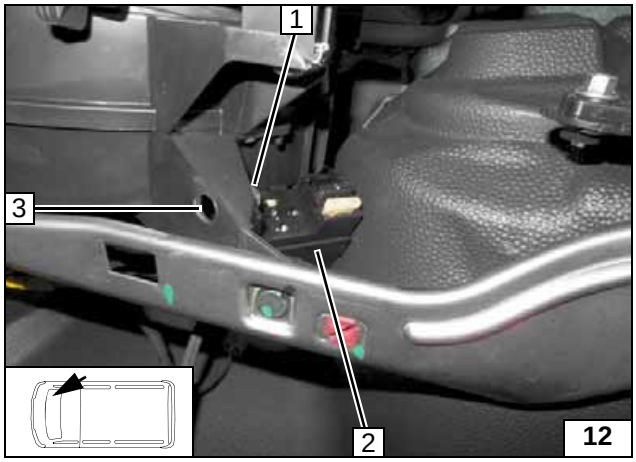
1 Wiring harness of passenger compartment relay and fuse holder
2 Wiring harness of heater



Holes through fastening struts of fan motor.

1 10mm dia. hole only in front part
2 5.5mm dia. hole in rear part

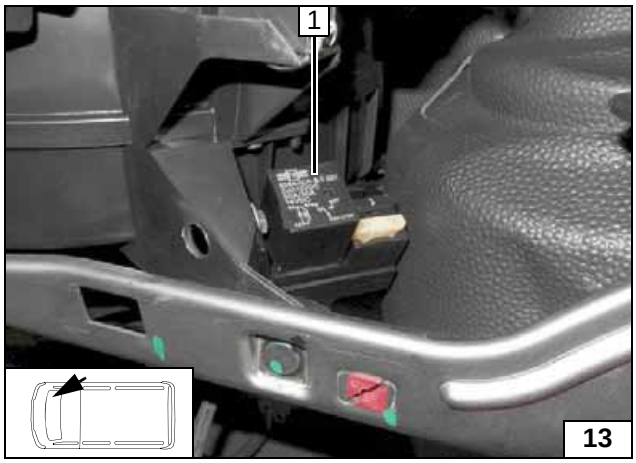
Hole for passenger compartment relay and fuse holder



Install M5 nut through 10mm dia. hole **3**!

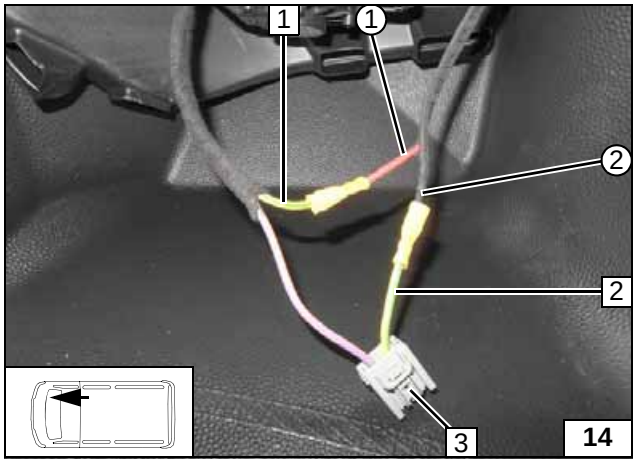
1 M5x16 bolt, large diameter washer, nut
3 Passenger compartment relay and fuse holder

Installing relay and fuse holder of passenger compartment



1 K1 relay

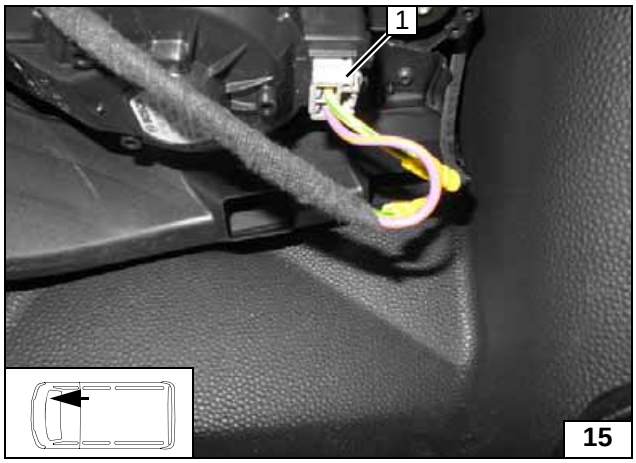
Mounting K1 relay



Connection to 2-pin connector **3** from the fan motor. Produce connections as shown in wiring diagram.

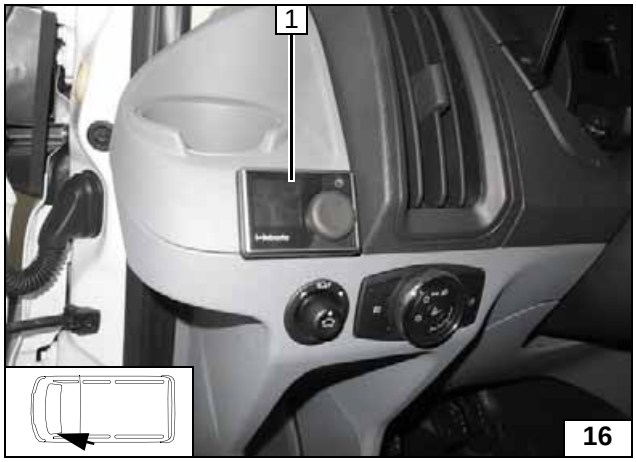
1 Yellow/green (ge/gn) wire of fan relay
2 Yellow/green (ge/gn) wire of 2-pin connector of GM
① Red (rt) wire of K1/87a, fan wiring harness
② Black (sw) wire of K1/30, fan wiring harness

Connecting fan motor



1 2-pin connector of fan motor attached

Attaching fan motor connector



MultiControl option

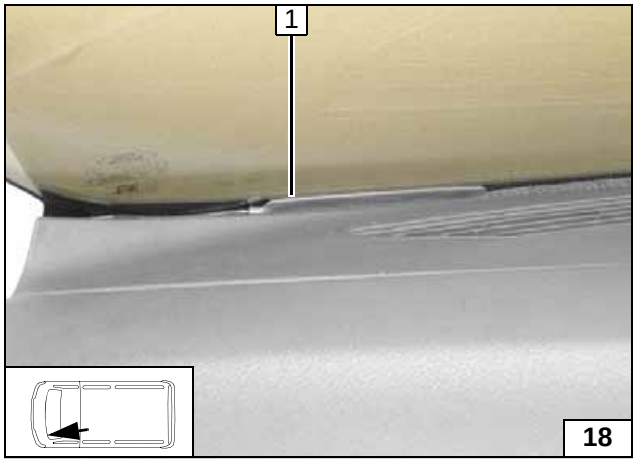
1 MultiControl

Installing MultiControl

Remote Option (Telestart)

Fasten receiver **1** with adhesive tape.

Mounting receiver



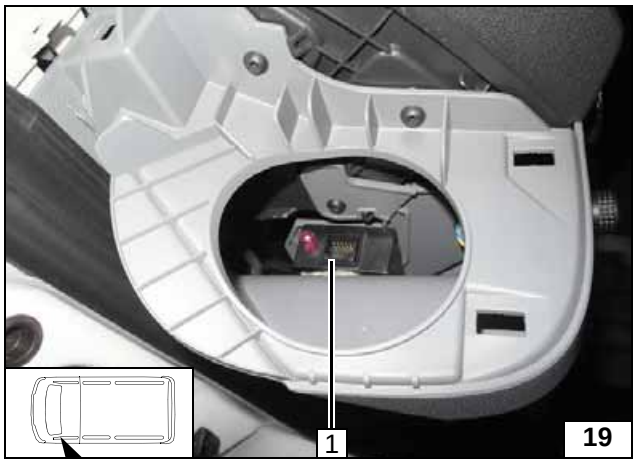
1 Antenna

Mounting antenna

Thermo Call Option

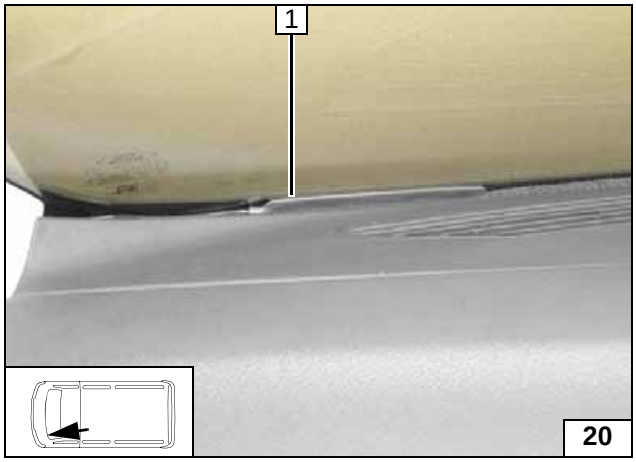
Mounting receiver

Fasten receiver **1** with adhesive tape.

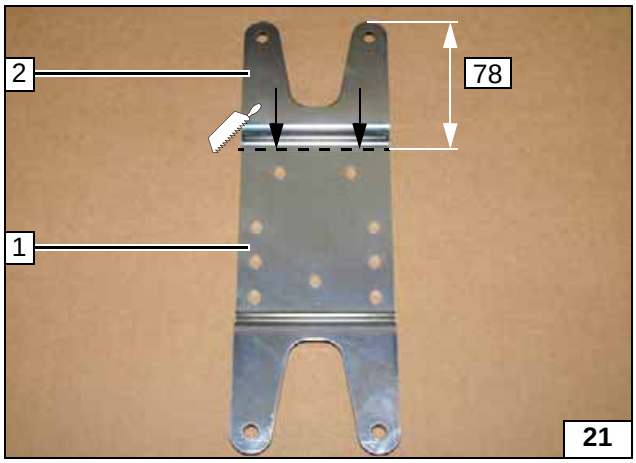


1 Antenna

Mounting antenna



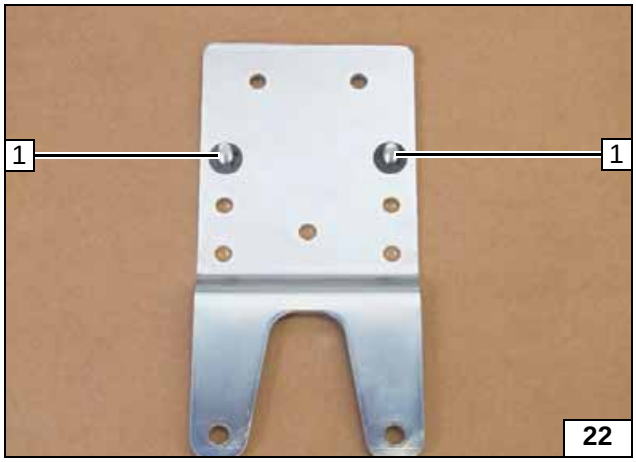
Preparing Bracket



Cut off bracket **1** at the markings.

2 Discard section

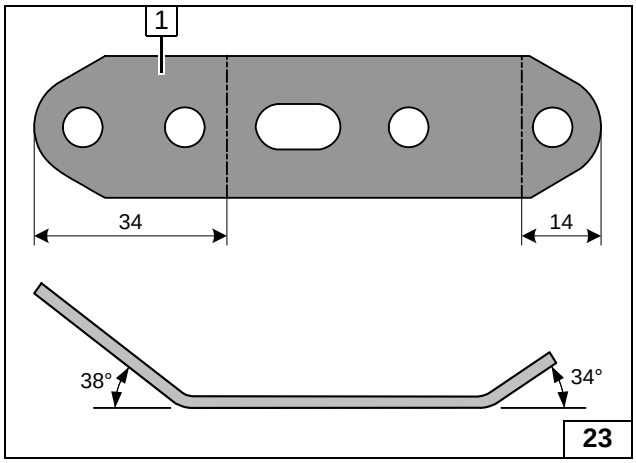
Preparing bracket



Countersink existing holes at position **1** with 12mm dia. drill bit on the side of the bolt head!

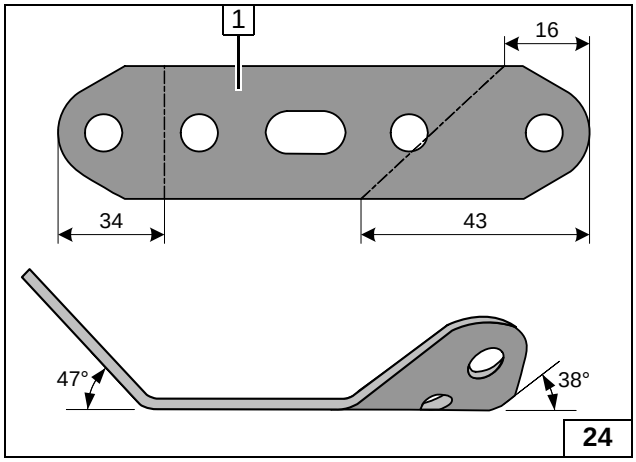
1 M6x9 bolt (inner hexagonal bolt), pin lock [2x each]

Preparing bracket



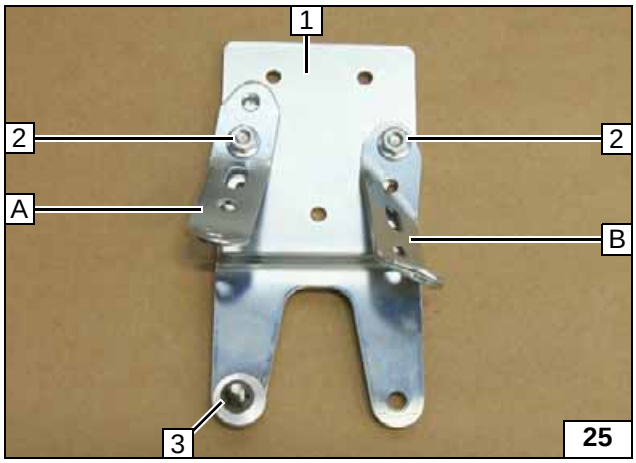
1 Perforated bracket **A**

Preparing perforated bracket



1 Perforated bracket **B**

Preparing perforated bracket

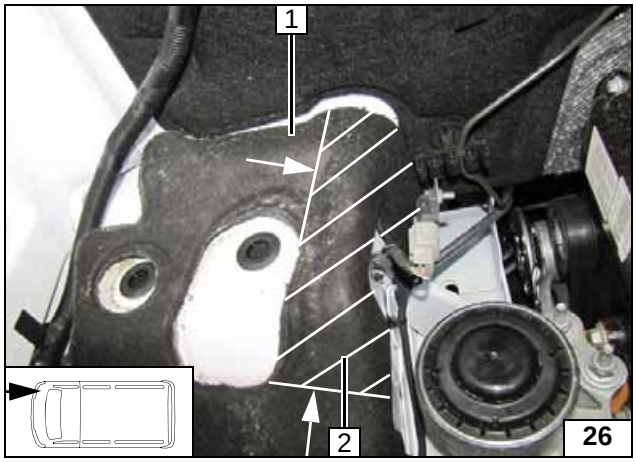


1 Bracket
2 M6 flanged nut on M6x9 bolt
B Perforated bracket
3 M6x20 bolt, 5 mm shim, pin lock
A Perforated bracket

Preparing bracket

Preparing Installation Location

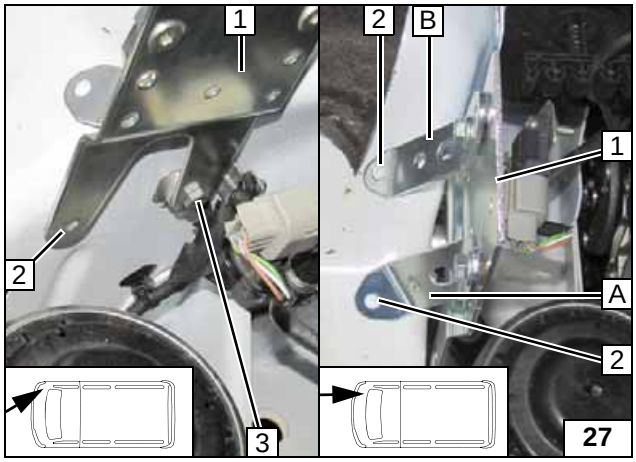
Cut out insulation mat **1** at the marking.



2 Discard section

Cutting out insulation mat

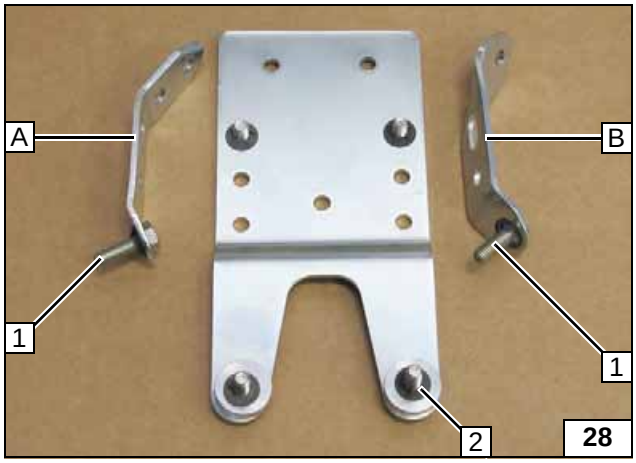
Remove original vehicle bolt at position **3** and discard it.
Install bracket **1** loosely and align vertically. The angled down parts of perforated bracket **A** and **B** should rest on the body, adjust the perforated brackets if necessary!



2 Copy hole pattern, 7mm dia. hole [3x each]
3 Premounted M6x20 bolt in existing threaded hole

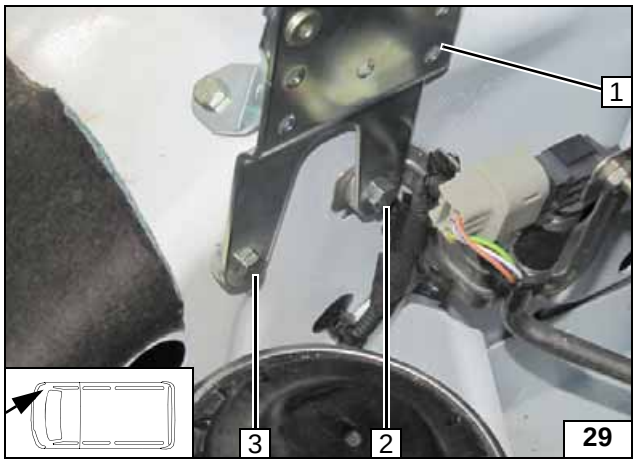
Holes in body

Remove bracket.
Bracket **A** and **B** are removed from perforated bracket for demonstration purposes only.



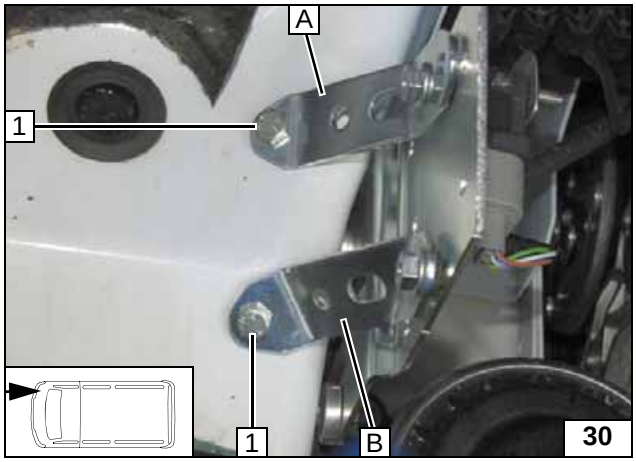
1 M6x20 bolt, pin lock [2x each]
2 M6x20 bolt, 5 mm shim, pin lock

Preparing bracket and perforated brackets



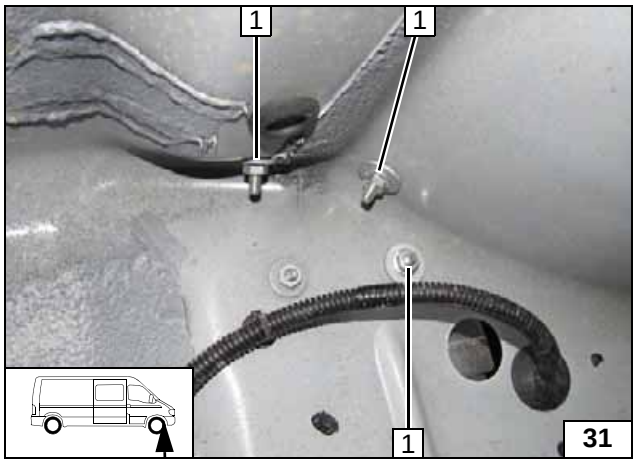
1 Bracket
2 Bolt M6x20 in existing threaded hole
3 Insert M6x20 bolt in hole

Mounting bracket



1 Insert M6x20 bolt in hole [2x]

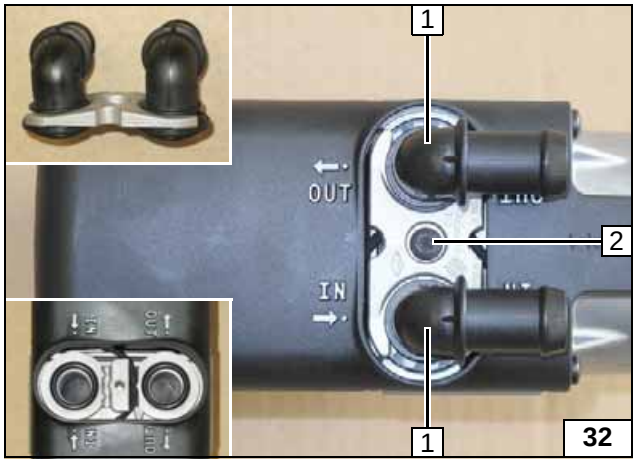
Mounting bracket



1 Large diameter washer, flanged nut [3x each]

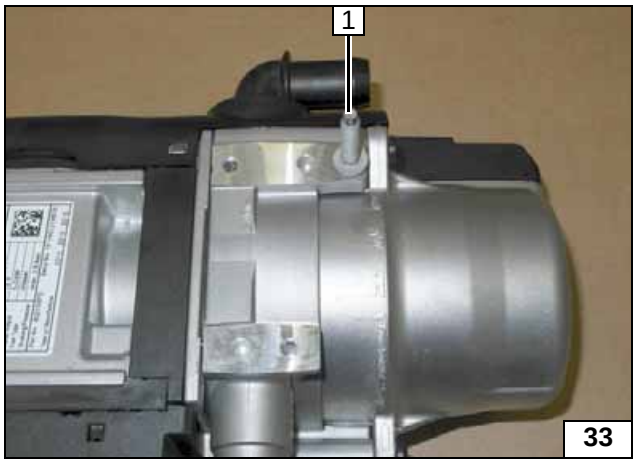
Mounting bracket

Preparing Heater



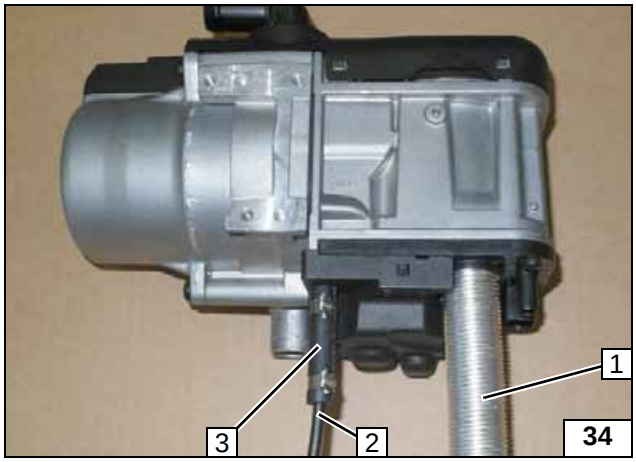
1 Water connection piece, sealing ring [2x each]
2 5x15 self-tapping bolt, retaining plate of water connection pieces

Mounting water connection pieces



1 5x11 self-tapping stud bolt

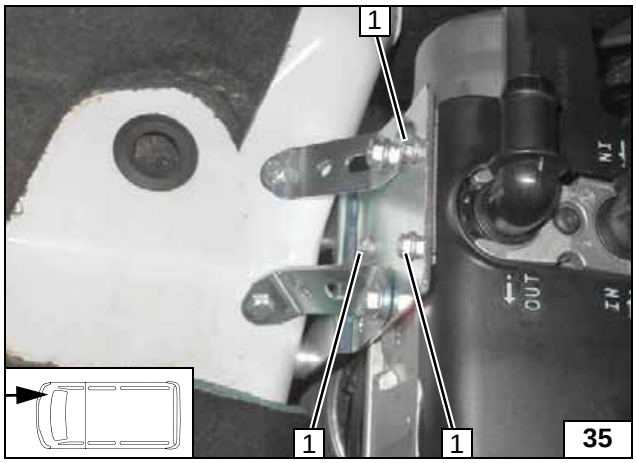
Installing stud bolt



1 Combustion air pipe
2 Fuel line
3 Hose section, 10 mm dia. clamp [2x]

Premounting fuel line and combustion air pipe

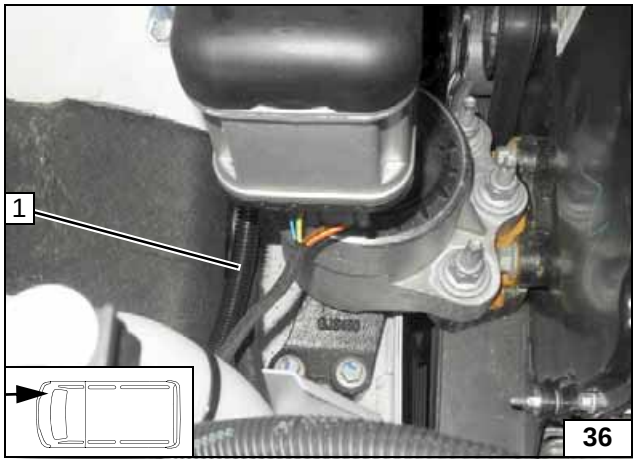
Installing Heater



1 5x13 self-tapping bolt [3x]

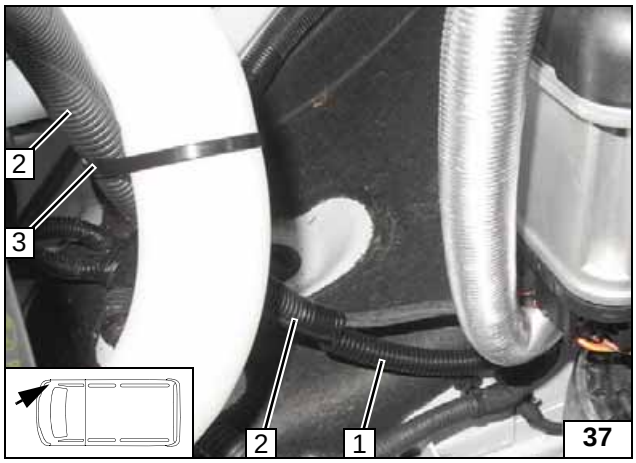
Mounting heater

Wiring harness routing



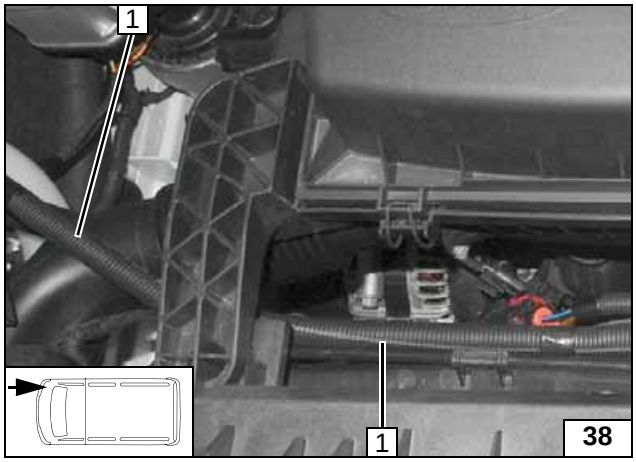
Slide 10mm dia., 100mm long corrugated tube **1** onto fuel line. Connectors on heater will be inserted later.

Corrugated tube on fuel line



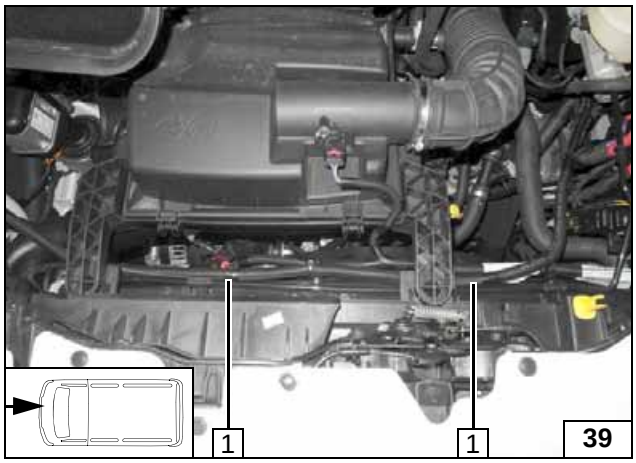
1 Fuel line in 10mm dia. corrugated tube
2 Wiring harness of heater and fuel line in 13mm dia. slitted corrugated tube
3 Cable tie

Routing wiring harnesses



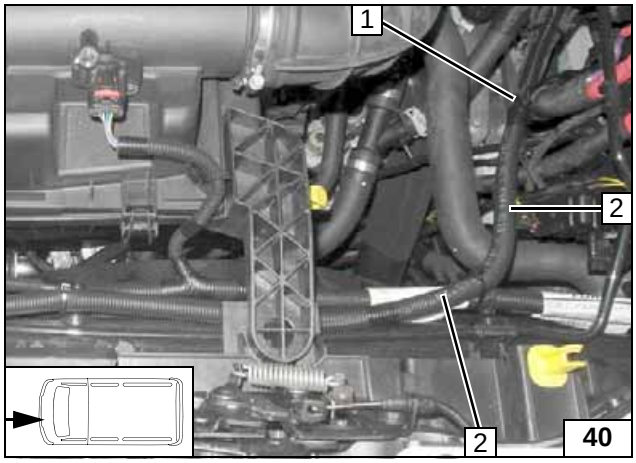
1 Wiring harness of heater and fuel line in 13mm dia. slitted corrugated tube

Routing wiring harnesses



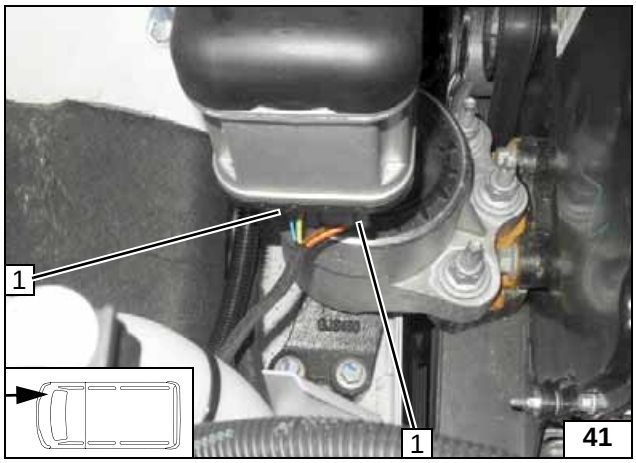
1 Wiring harness of heater and fuel line in 13mm dia. slitted corrugated tube

Routing wiring harnesses



Route wiring harness of heater and fuel line in 13mm dia. corrugated tube **2** up to position **1**!

Routing wiring harnesses



1 Connector of heater wiring harness [2x]

Mounting wiring harnesses

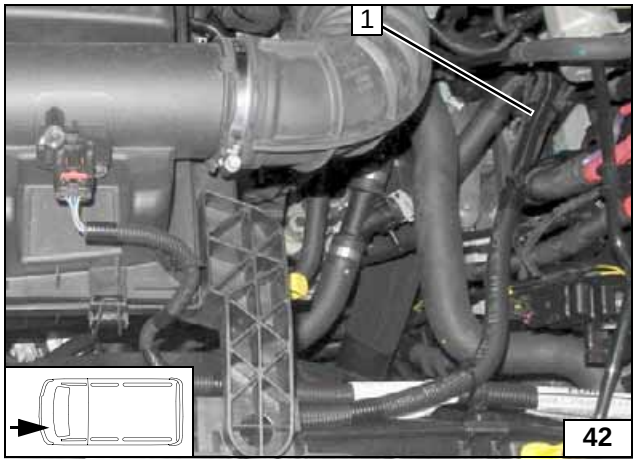
Fuel

CAUTION!
Open the vehicle's fuel tank cap, ventilate the tank and then re-close the tank lock.

Any fuel running off should be collected in an appropriate container.

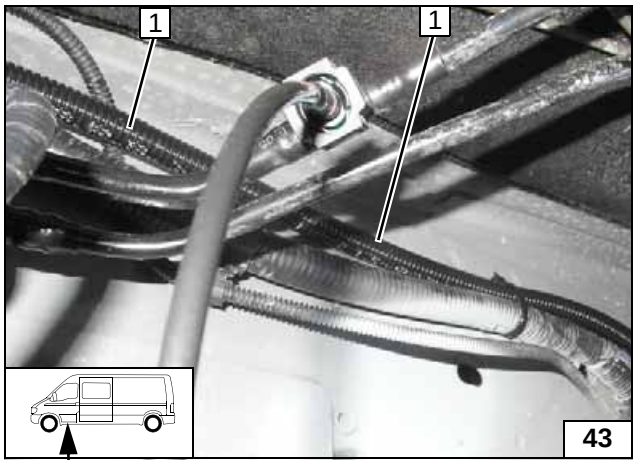
Install fuel line and metering pump wiring harness so that they are protected against stone impact. Unless specified otherwise, always fasten using cable ties.
Provide rub protection for fuel line and wiring harness in areas where there are sharp edges.

WARNING!
The fuel line and wiring harness are routed to the metering pump as shown in the wiring harness routing diagram.



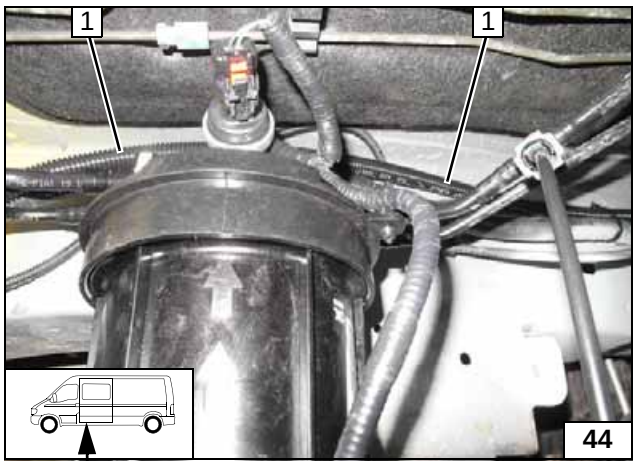
Pull fuel line and wiring harness of metering pump in 10mm dia. corrugated tube **1** and route to the underbody.

Routing wiring harnesses



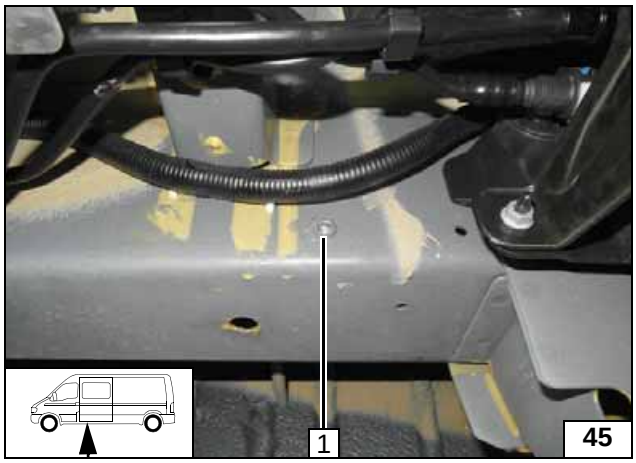
1 Fuel line and wiring harness of metering pump in 10mm dia. corrugated tube

Routing lines



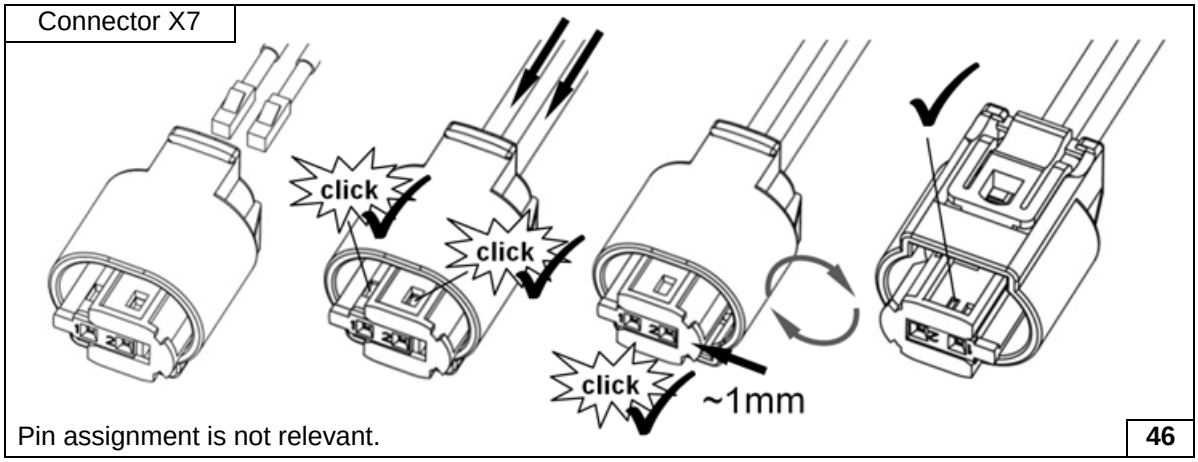
1 Fuel line and wiring harness of metering pump in 10mm dia. corrugated tube

Routing lines

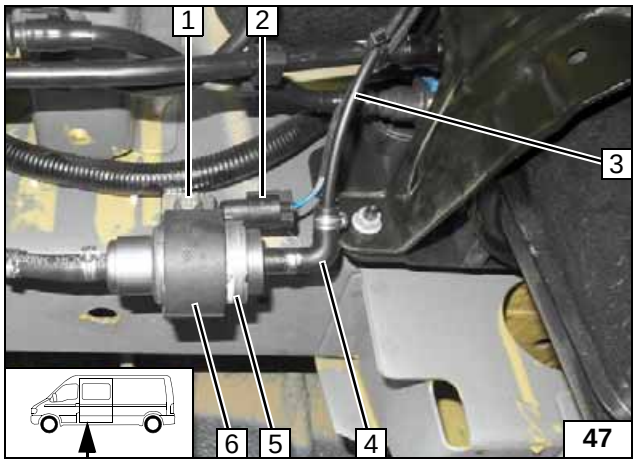


1 Drill out hole to 9.1 mm dia.; rivet nut

Installing rivet nut

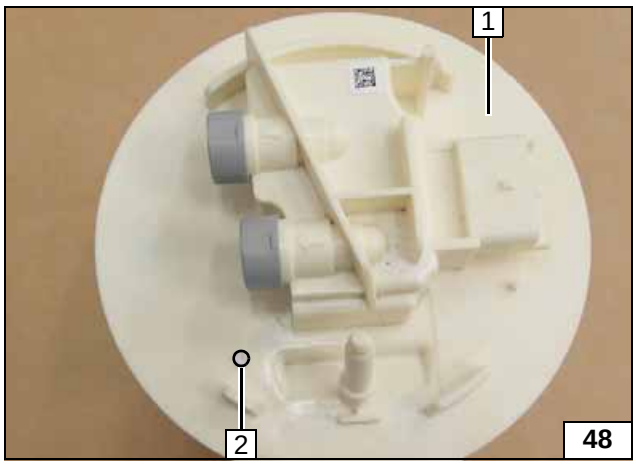


Completing connector of metering pump



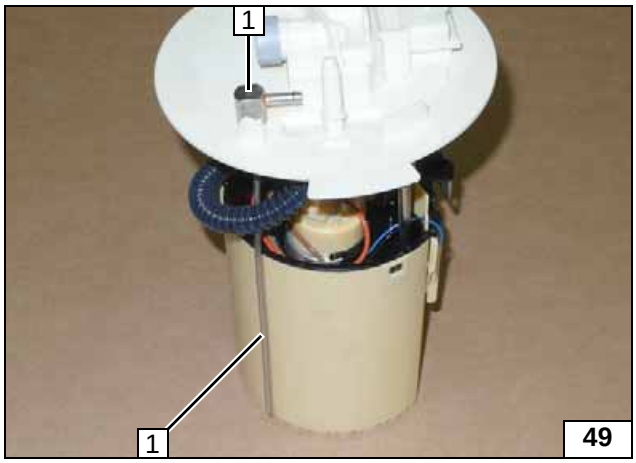
1 M6x25 bolt, support angle bracket, flanged nut
2 Wiring harness of metering pump, connector X7 mounted
3 Fuel line of heater
4 90° moulded hose, 10 mm dia. clamp [2x]
5 Metering pump
6 Mounting of metering pump

Installation / connection of metering pump



Remove fuel tank according to manufacturer's instructions. Remove fuel-tank sending unit **1** in accordance with the manufacturer's instructions.
Copy hole pattern **2** in the centre of the perforation, 6mm dia. hole.

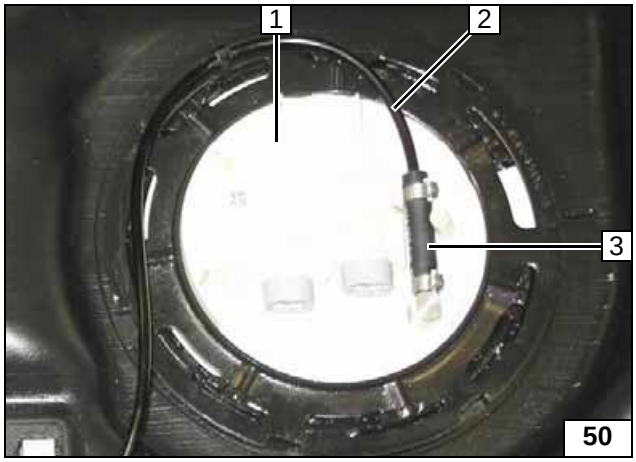
Fuel extraction



80 l tank = template **A**
100 l tank = template **B**

Shape fuel standpipe **1** according to template and cut to length.

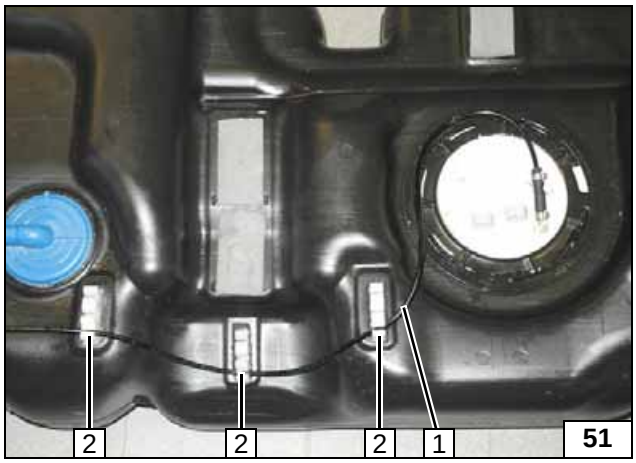
Installing fuel standpipe



Install fuel-tank sending unit **1** in accordance with manufacturer's instructions.

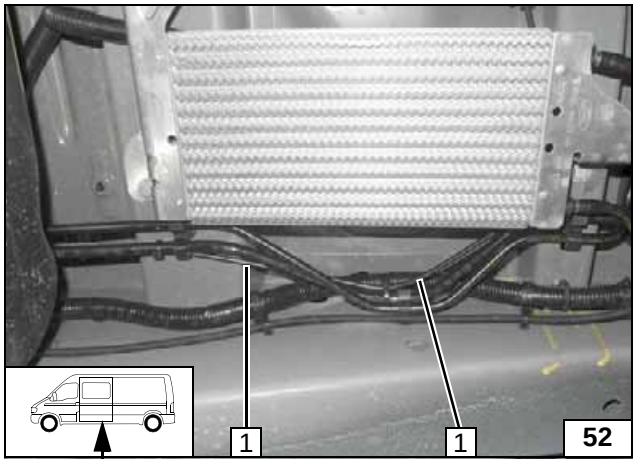
2 Fuel line
3 Hose section, 10 mm dia. clamp [2x]

Connecting fuel line



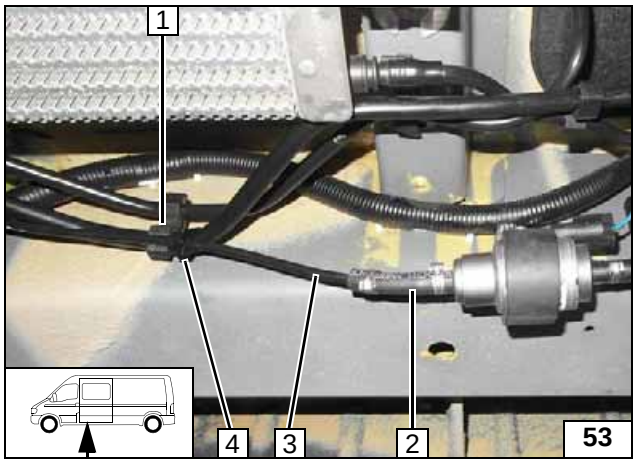
Insert fuel line **1** into original vehicle retaining clip **2** [3x]. Mount fuel tank according to manufacturer's instructions.

Routing fuel line



1 Fuel line of fuel standpipe

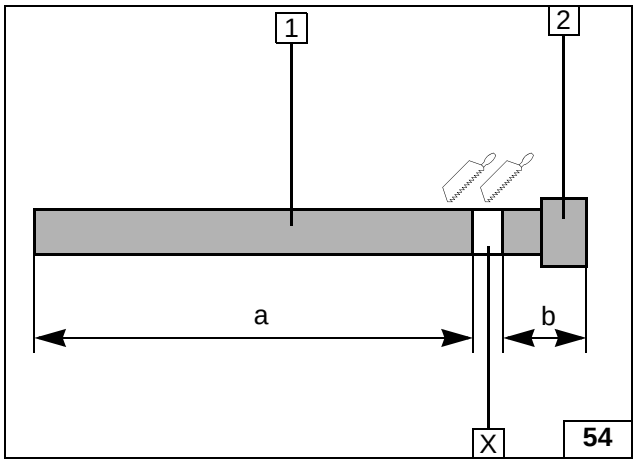
Routing fuel line



Check the position of the components; adjust if necessary. Check that they have freedom of movement.

1 Fuel line in original vehicle retaining clip
2 Hose section, 10 mm dia. clamp [2x]
3 Fuel line of fuel standpipe
4 Cable tie

Connecting metering pump

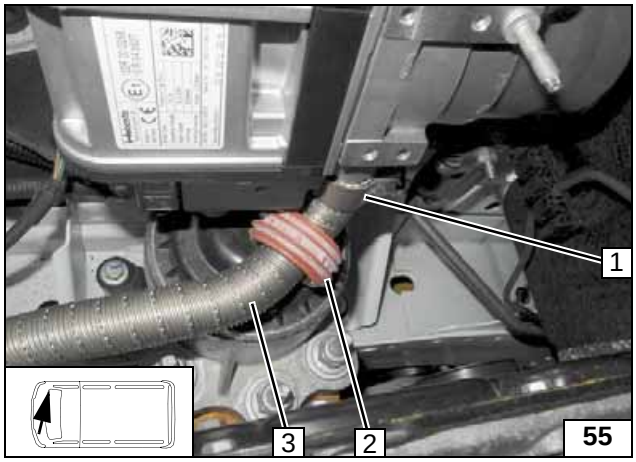


Exhaust Gas

Discard section **X**.

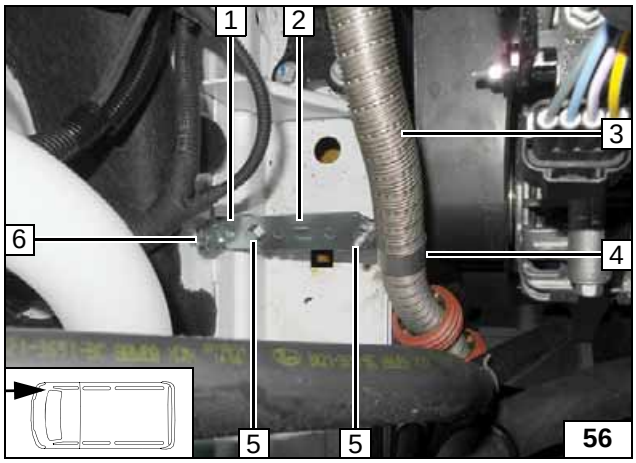
1 Exhaust pipe
a = 900
2 Exhaust end section
b = 70

Preparing exhaust pipe



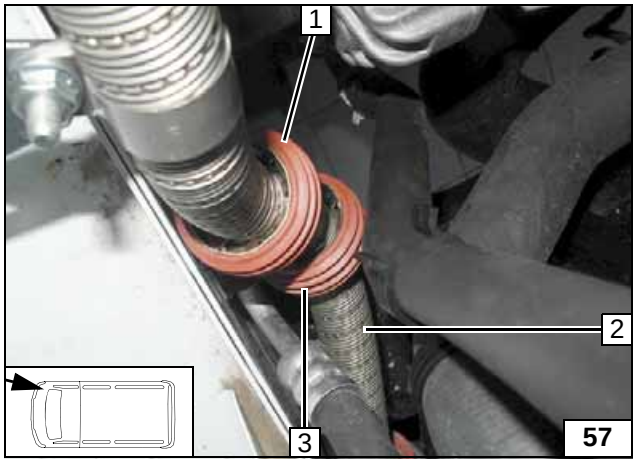
1 Hose clamp
2 Slide on spacer bracket and align
3 Exhaust pipe

Mounting exhaust pipe



1 Angle bracket
2 Perforated bracket
3 Exhaust pipe
4 P-clamp
5 M6x20 bolt, flanged nut [2x each]
6 M6x20 bolt, spring lockwasher, existing threaded hole

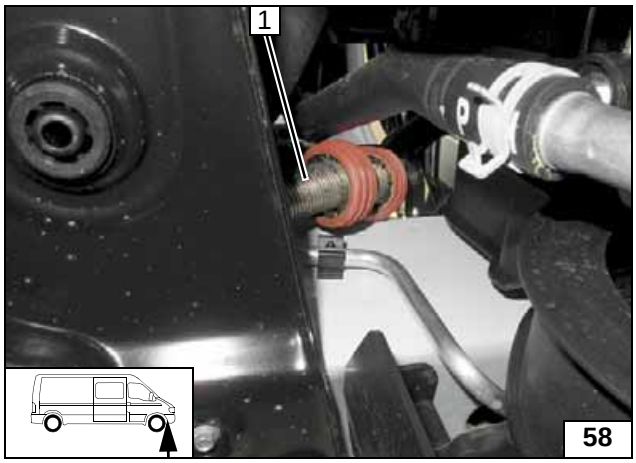
Routing exhaust pipe



Slide on spacer bracket **1** and align with frame side member. Slide on spacer bracket **3** and position between original vehicle hose and A/C line!

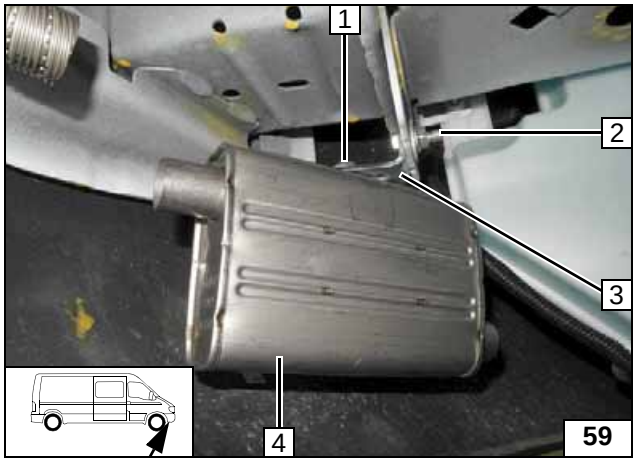
2 Route exhaust pipe downwards

Installing spacer bracket



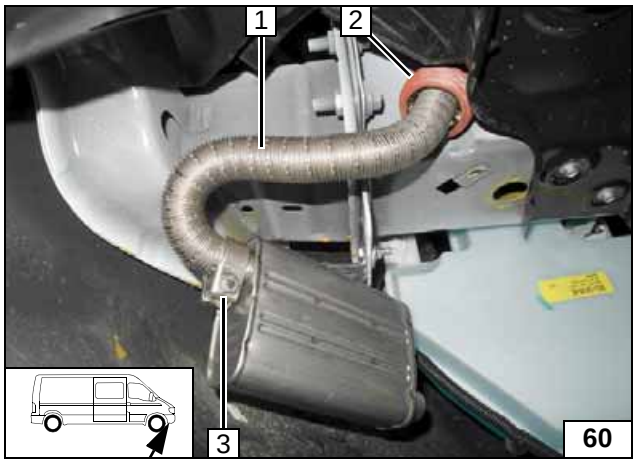
Route exhaust pipe **1** over the cross member to the front!

Routing exhaust pipe



1 M6x16 bolt, spring lockwasher, large diameter washer
2 M6x20 bolt, large diameter washer, flanged nut, existing hole
3 Angle bracket
4 Silencer

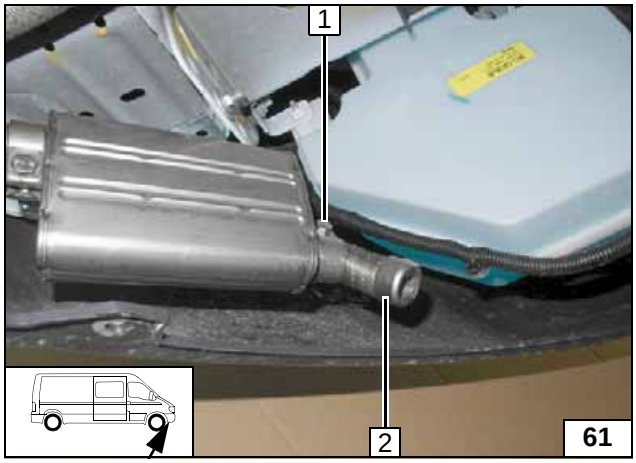
Mounting silencer



Slide on spacer bracket **2** and position between frame side member and cross member!

1 Exhaust pipe
3 Hose clamp

Mounting exhaust pipe



Ensure sufficient distance from neighbouring components, or correct.

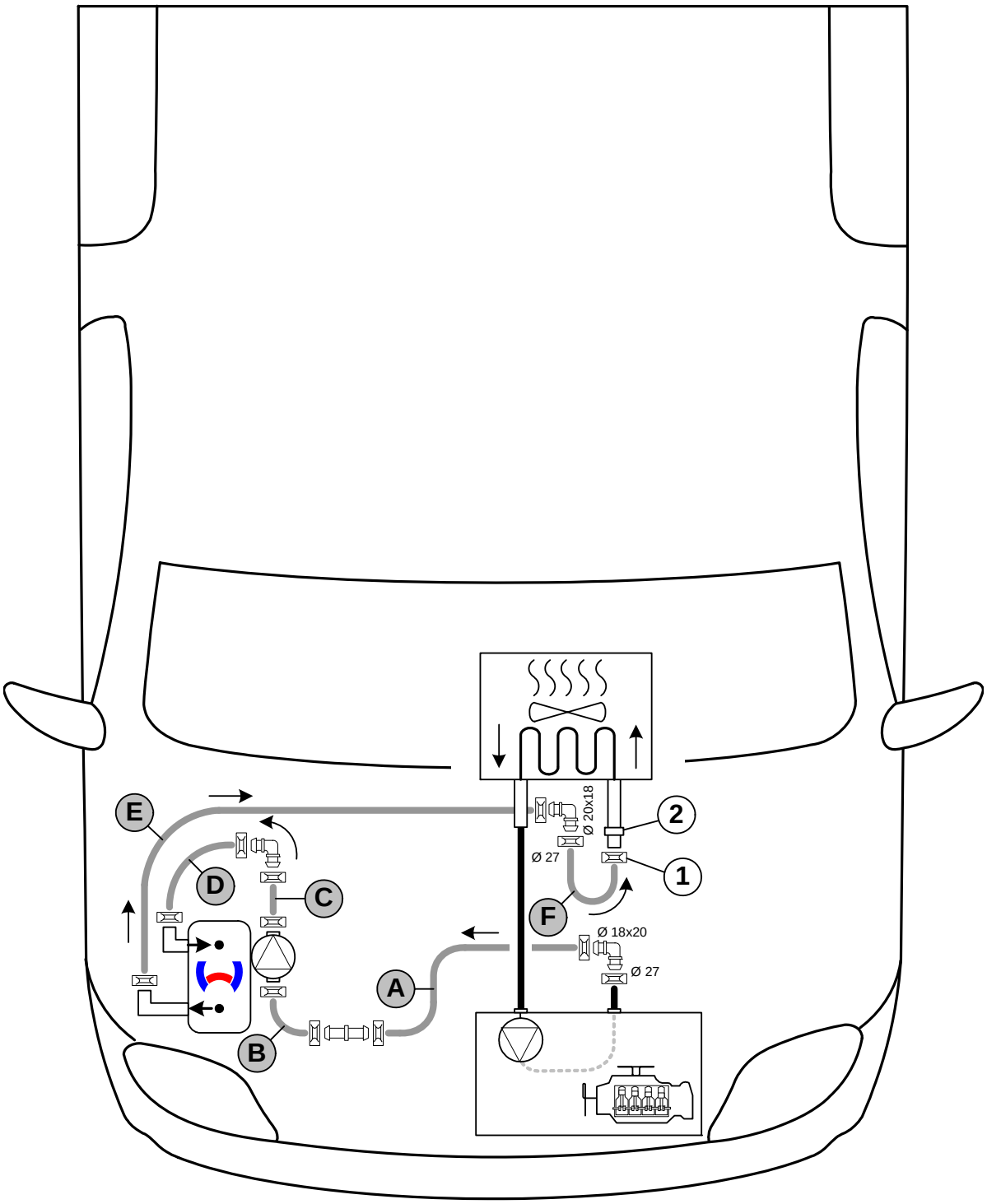
1 Hose clamp
2 Align exhaust end section

Mounting exhaust end section

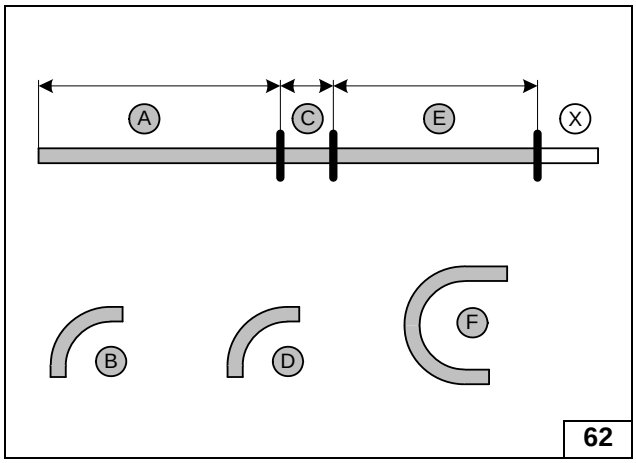
Coolant Circuit

WARNING!
Any coolant running off should be collected in an appropriate container. Route hoses kink-free. Unless specified otherwise, always fasten using cable ties. Position clamps so that other hoses cannot be damaged. When installing the hoses, the heater must be filled with coolant.
The connection should be modelled on an "inline" circuit and based on the following diagram:

Hose routing diagram



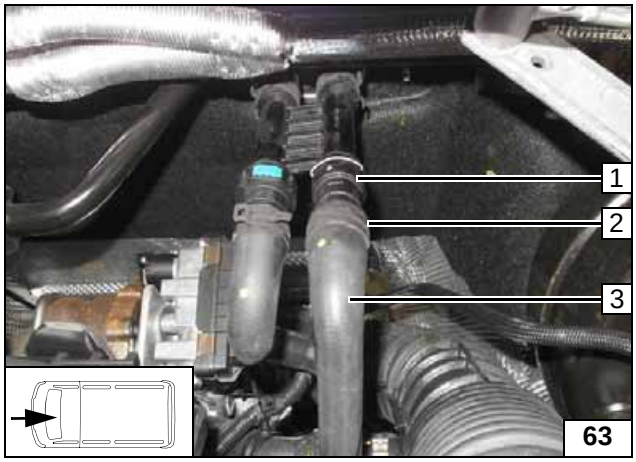
All spring clips without a specific designation = 25mm dia.!
1 = Original vehicle spring clip ! **2** = Coupling piece of heat exchanger inlet!
All connecting pipes without a specific designation and = 18x18mm dia.



Discard section **X**.
Hose **B** / **D** = 90°, 18x18mm dia. moulded hose
Hose **F** = 180°, 20x20mm dia. moulded hose

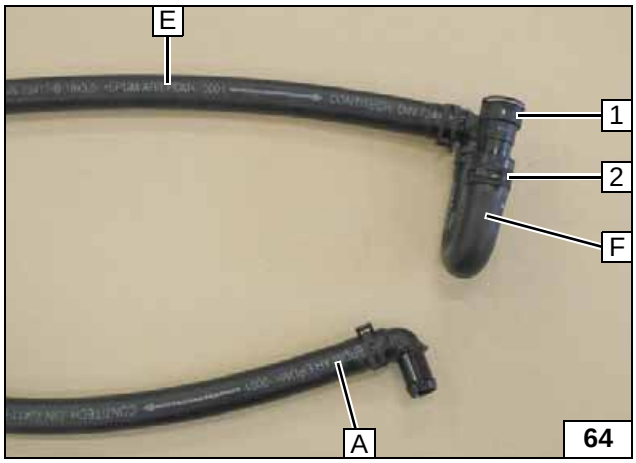
A = 670
C = 60
E = 810

Cutting hoses to length



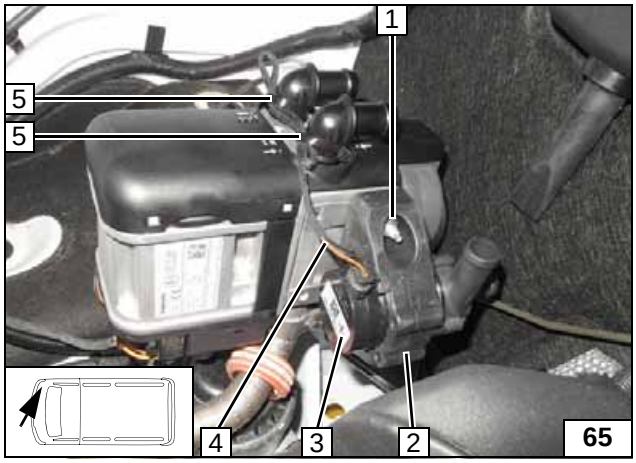
Remove hose of engine outlet / heat exchanger inlet **3** from coupling piece of heat exchanger inlet **1**. Spring clip **2** will be reused. Remove coupling piece of heat exchanger inlet **1**, will be re-used.

Cutting point



1 Coupling piece of heat exchanger inlet
2 Original vehicle spring clip

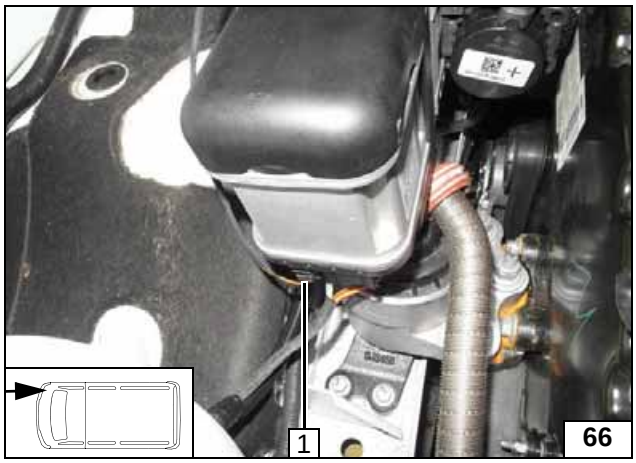
Preparing hoses



Attach wiring harness of circulating pump **4** to water connection piece using cable tie **5** [2x].

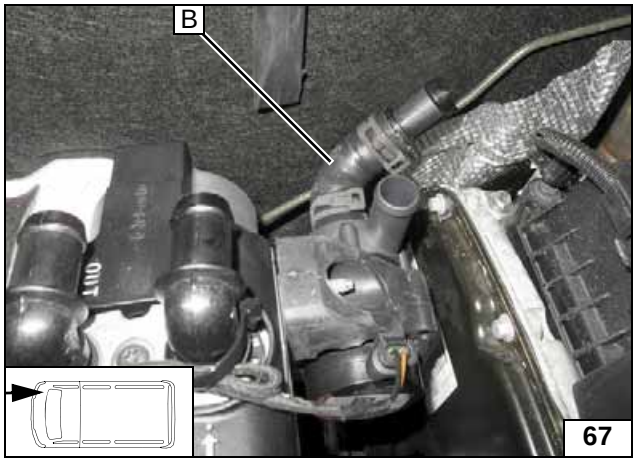
1 M6 flanged nut on stud bolt
2 Circulating pump mounting
3 Circulating pump

Premounting circulating pump

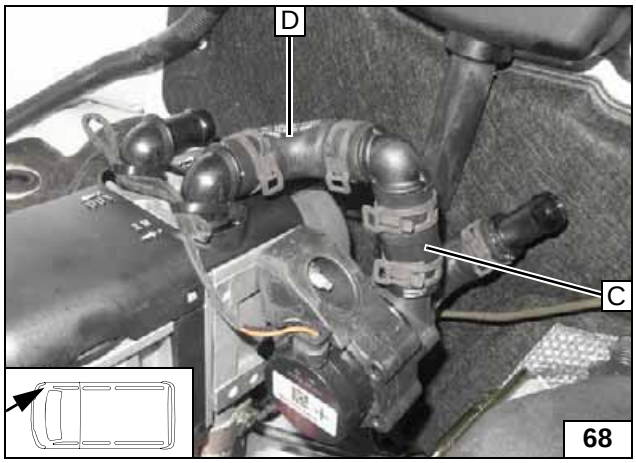


1 Connector of circulating pump wiring harness

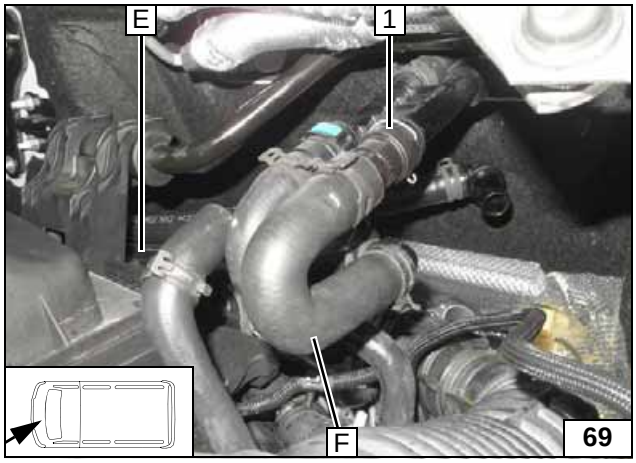
Connecting wiring harness



Installing hose B

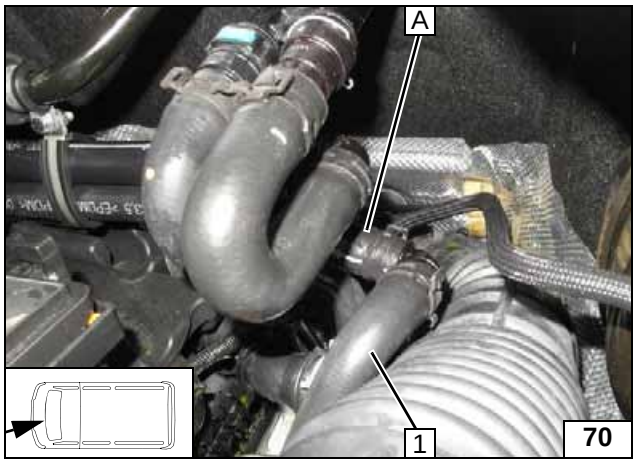


Installing hoses C and D



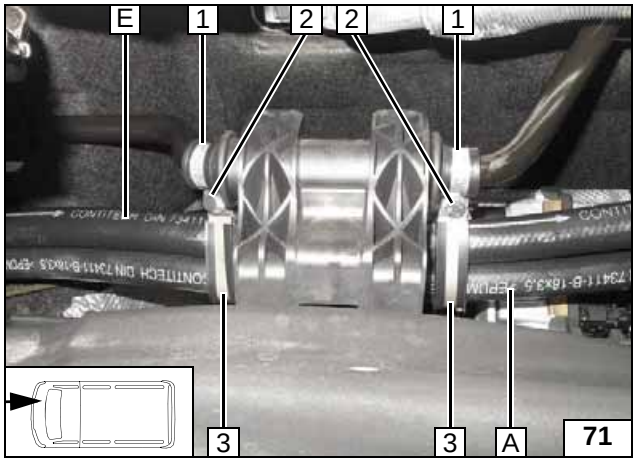
1 Coupling piece of heat exchanger inlet

Connecting heat exchanger inlet



1 Hose of engine outlet

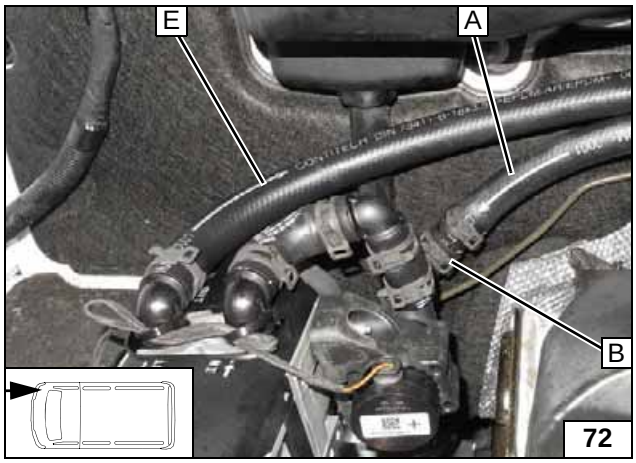
Connecting engine outlet



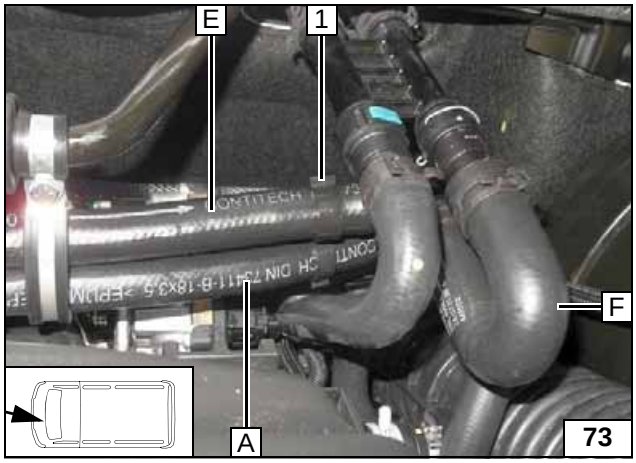
Secure hoses **A** and **E** on original vehicle strut!

1 18mm dia. rubber-coated p-clamp [2x]
2 M6x20 bolt, flanged nut [2x]
3 35mm dia. rubber-coated p-clamp [2x]

Routing in engine compartment



Connecting heater

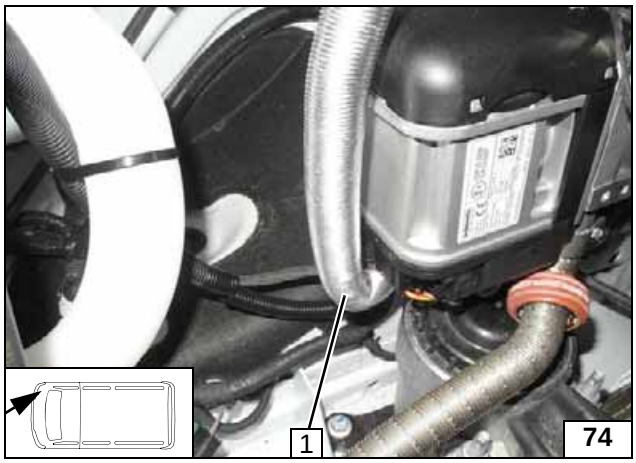


Ensure sufficient distance from neighbouring components, or correct.

1 Hose bracket

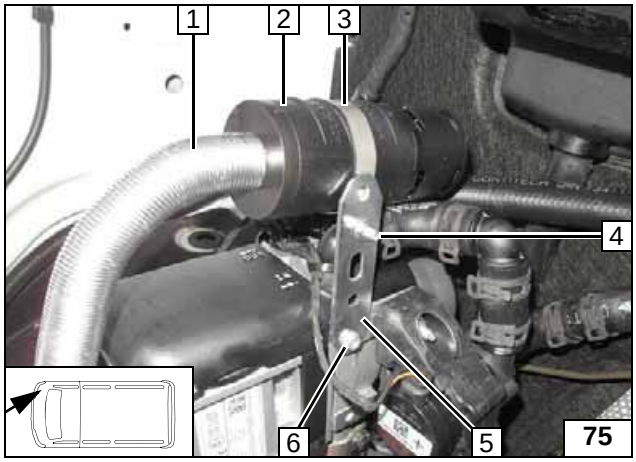
Aligning hoses

Combustion Air



1 Combustion air pipe

Routing combustion air pipe



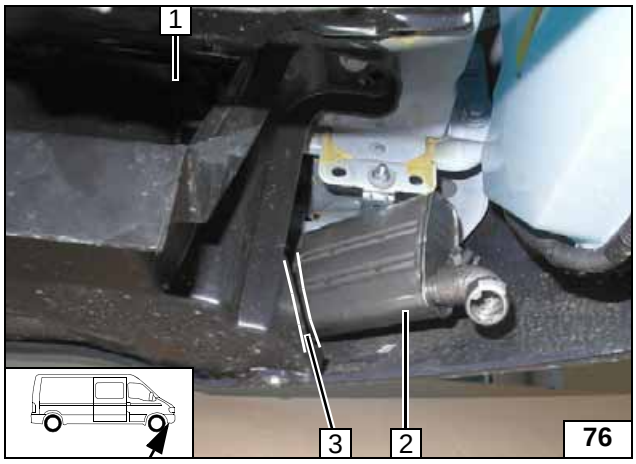
1 Combustion air pipe
2 Silencer
3 51 mm dia. clamp
4 M5x16 bolt, flanged nut
5 Perforated bracket
6 5x13 self-tapping bolt

Mounting silencer

Final Work

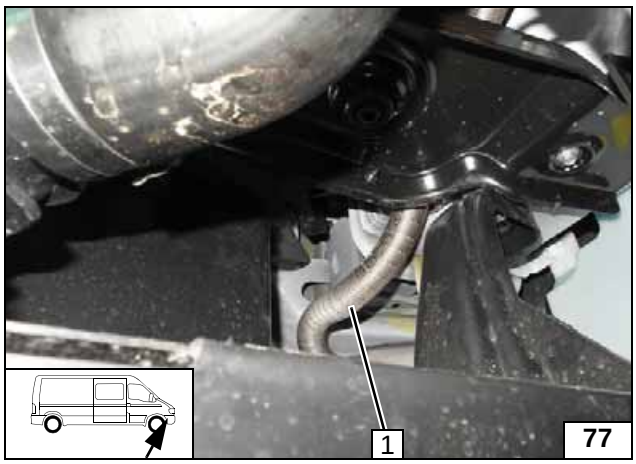
WARNING!
Mount removed parts in reverse order. Check all hoses, clamps and all electrical connections for firm seating. Insulate and tie back all loose wires.
Only use manufacturer-approved coolant. Spray heater components with anti-corrosion wax (Tectyl 100K, Order No. 111329).

- **Connect the battery.**
- **Fill and bleed the coolant circuit according to the vehicle manufacturer's specifications.**
- **Adjust MultiControl, teach Telestart transmitter.**
- **Make settings on A/C control panel according to the "Operating Instructions for End Customer".**
- **Place the "Switch off parking heater before refuelling" caution label in the area of the filler neck.**
- **See installation instructions for initial startup and function check.**



Install engine underride protection **1**. Ensure sufficient distance at position **3** between engine underride protection **1** and exhaust silencer **2**, correct if necessary!

Checking distance

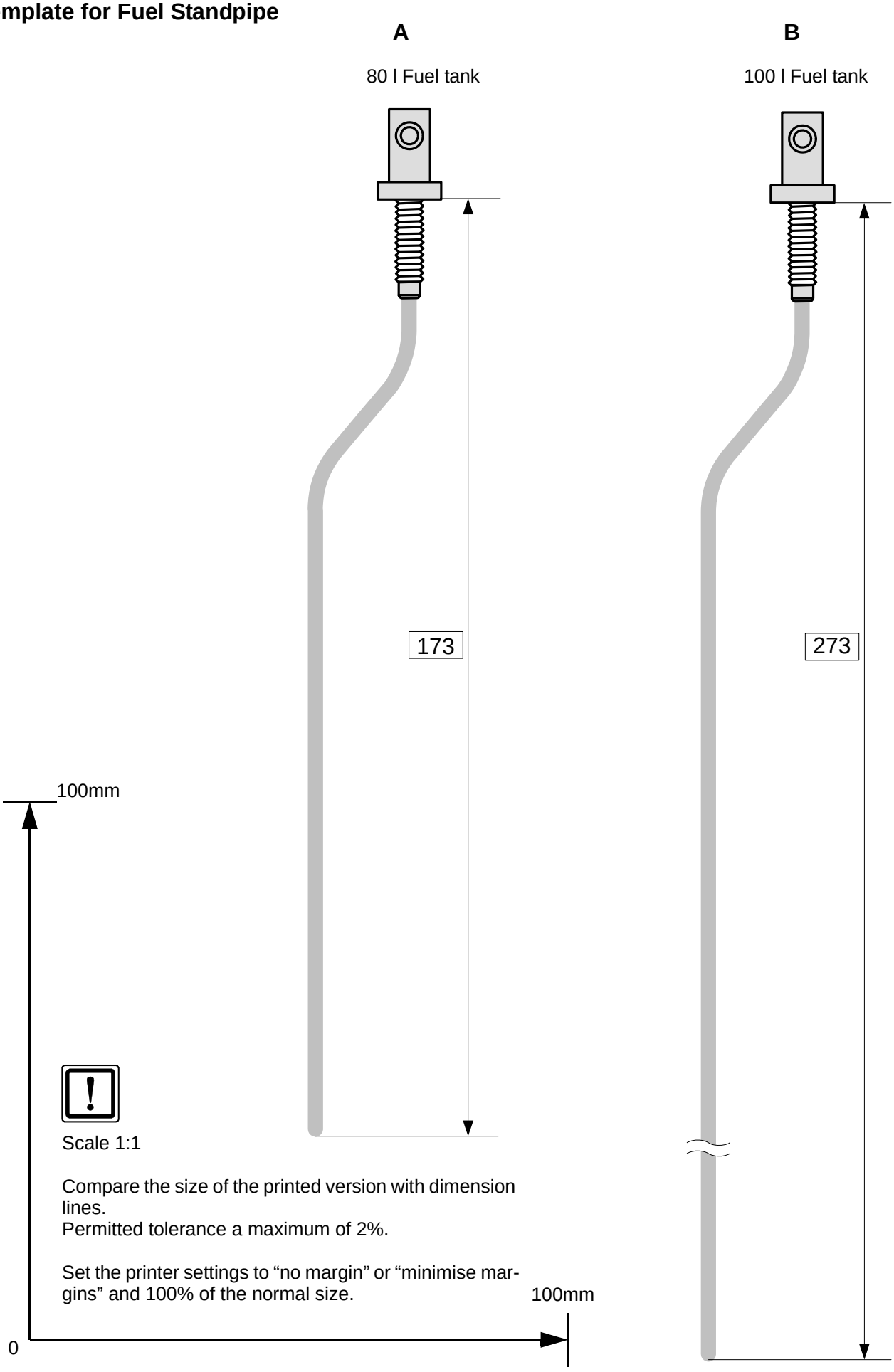


Ensure sufficient distance between exhaust pipe **1** and neighbouring components, correct exhaust pipe **1** if necessary!

Checking distance

Webasto Thermo & Comfort SE
Postfach 1410
82199 Gilching
Germany
Internet: www.webasto.com
Technical Extranet:
http://dealers.webasto.com

Template for Fuel Standpipe



Operating Instructions for End Customer

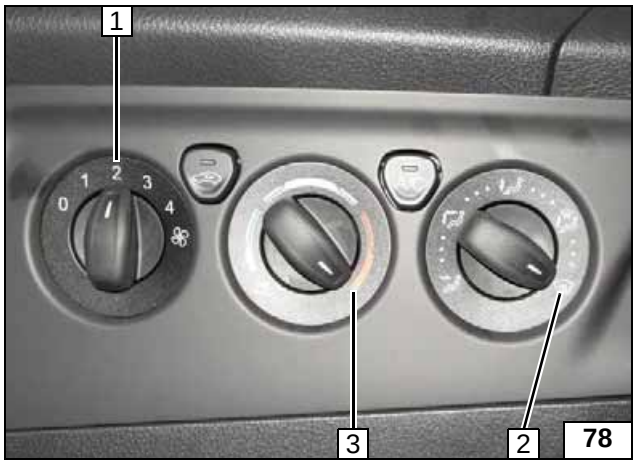
Please remove this page in case of manual air-conditioning and add it to the vehicle operating instructions.

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 the vehicle settings for the heating operation.
Instructions for deactivation can be taken from the operating instructions manual of the vehicle.

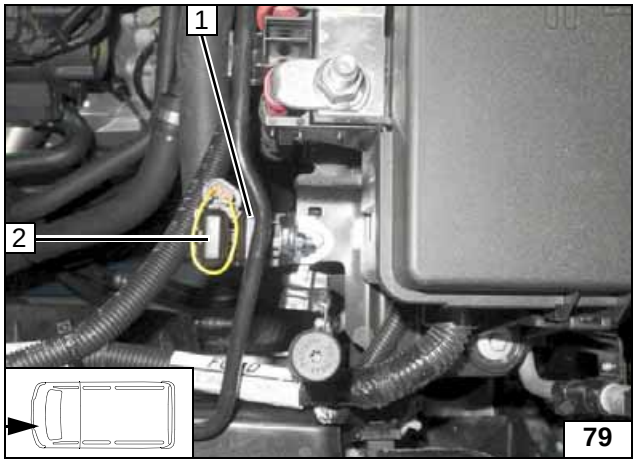
Before parking the vehicle, make the following settings:

A/C control panel



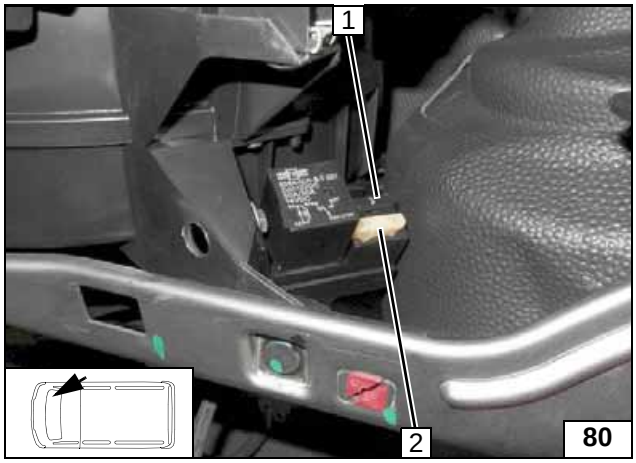
1 Set fan to level "1", or max. "2"
2 Air outlet to windscreen
3 Set temperature to "max."

Fuses of engine compartment



1 Passenger compartment main 30A fuse F2 (hidden by line)
2 20A fuse F1 of heater

Fuses of passenger compartment



1 1A fuse F3 of heater control
2 25A fan fuse F4