Water Heater

Thermo Top Evo Parking Heater

E1
00 0258

With FuelFix

Installation Documentation
Skoda Citigo / VW up / Seat Mii

Validity

Manufacturer	Model	Type	EG-BE No. / ABE
Skoda	Citigo	AA	e13 * 2001 / 46 * 1169 * ...
VW	up	AA	e13 * 2007 / 46 * 1167 * ...
Seat	Mii	AA	e13 * 2007 / 46 * 1168 * ...

Motorisation	Fuel	Transmission type	Output in kW	Displacement in cm³	Engine code
1.0 MPI	Petrol	5-speed SG	44	999	CHYA
1.0 MPI	Petrol	5-speed SG	55	999	CHYB

SG = manual transmission

From model year 2012
Left-hand drive vehicle

Verified equipment variants: Manual air-conditioning
Front fog lights

Not verified:
Automatic air-conditioning
Passenger compartment monitoring
Headlight washer system
Sequential 5-speed manual transmission ASG
Blue motion

Total installation time: approx. 6.0 hours

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Skoda Citigo / VW up / Seat Mii

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Necessary Components

- Basic delivery scope of Thermo Top Evo in accordance with price list
- Installation kit with FuelFix for Skoda Citigo / VW up / Seat Mii 2012 Petrol: **1318215B**
- 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

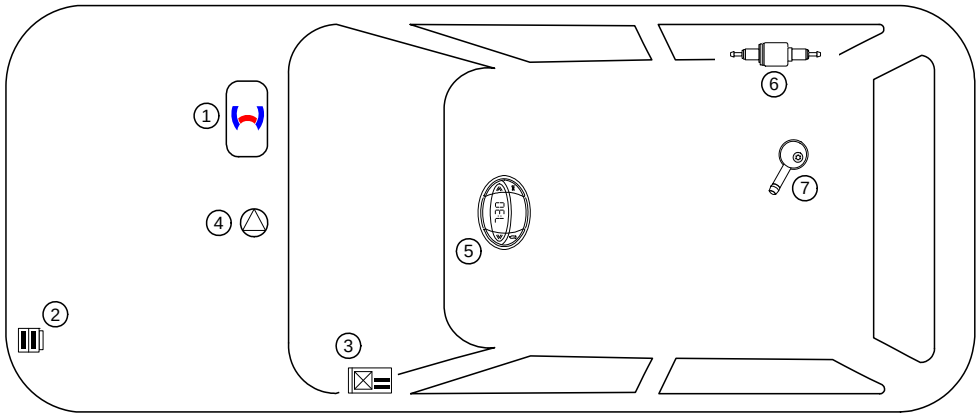
Installation instructions:

- Arrange for the vehicle to be delivered with the tank only about ¼ full.
- The installation location of the push button in case of Telestart or Thermo Call should be confirmed with the end customer.
- Depending on the space required and the vehicle manufacturer's instructions, we recommend the use of a vehicle battery with a higher electrical capacity.

Installation Overview

Legend:

1. Heater
2. Engine compartment fuse holder
3. Passenger compartment relay and fuse holder
4. Circulating pump
5. Digital timer
6. Metering pump
7. FuelFix



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.

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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 have to audibly click into place during installation.

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.

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Information on Validity

This installation instruction applies to Skoda Citigo / VW up / Seat Mii Petrol vehicles - for validity see page 1 - from model year 2012 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
- Hose clamp pliers for auto-tightening 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
- Deep-hole marker
- Webasto Thermo Test Diagnosis with current software

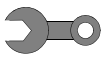
Dimensions
- All dimensions are in mm.

Tightening torque values
- Tightening torque values of 5x13 heater bolts and 5x11 heater stud bolts = 8Nm.
- Tightening torque value of 5x15 water connection piece retaining plate bolt = 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 damage to components.



Specific risk due to electrical voltage.



Specific risk of injury or fatal accidents.



Specific risk of fire or explosion.



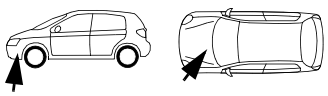
Reference to manufacturer’s vehicle-specific documents or to the general installation instructions of Webasto components.



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.



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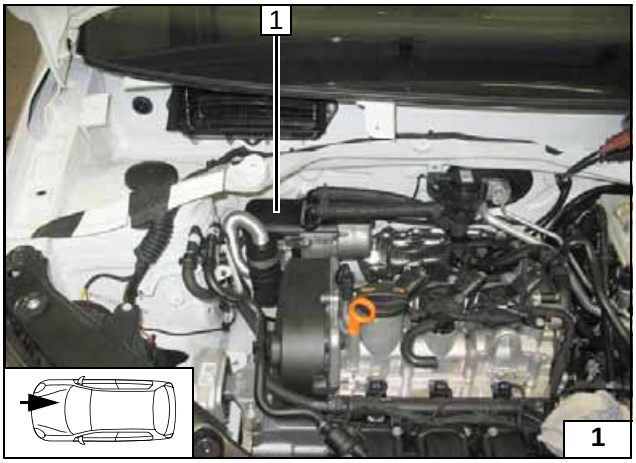
Preliminary Work

Vehicle

- Open the fuel tank cap.
- Ventilate the fuel tank.
- Close the fuel tank cap again.
- Depressurise the cooling system.
- Disconnect and completely remove the battery together with the carrier.
- Remove the air filter together with the intake hose.
- Remove the coolant reservoir cap.
- Remove the windscreen wiper.
- Remove the right-hand wheel well trim.
- Remove the rear bench seat.
- Open the right-hand tank-fitting service lid.
- Remove the instrument panel trim beneath the steering wheel.

Heater

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



Heater Installation Location

1 Heater

Installation location

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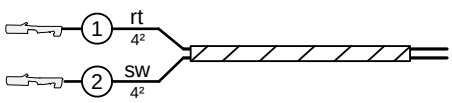


2

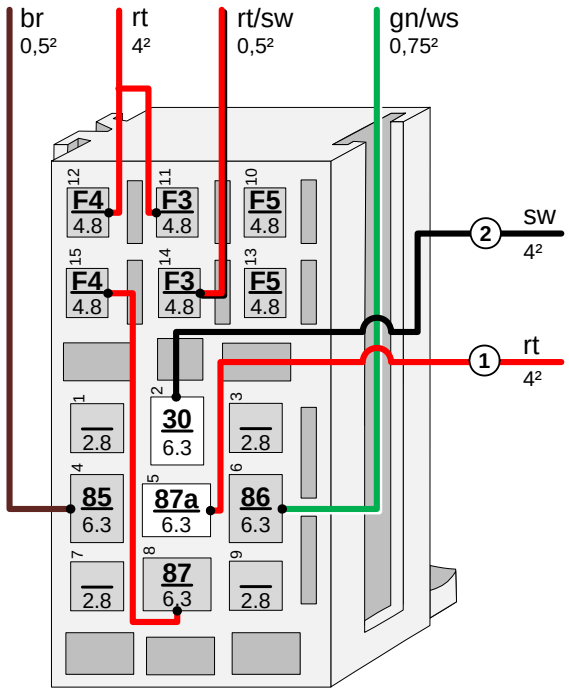
Preparing Electrical System

Wire sections retain their numbering in the entire document.

Produce all following electrical connections as shown in the wiring diagram.

① Red (rt) wire of fan wiring harness
② Black (sw) wire of fan wiring harness

Cutting to length / assigning wires



3

Connecting wires to passenger compartment relay and fuse holder

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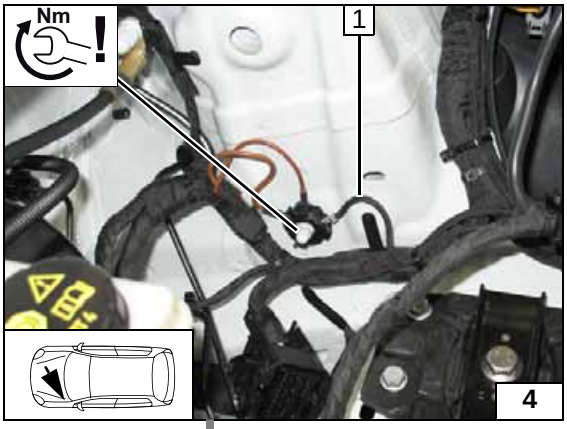
Electrical System

Earth wire

Positive wire will be installed to the battery positive distributor later.

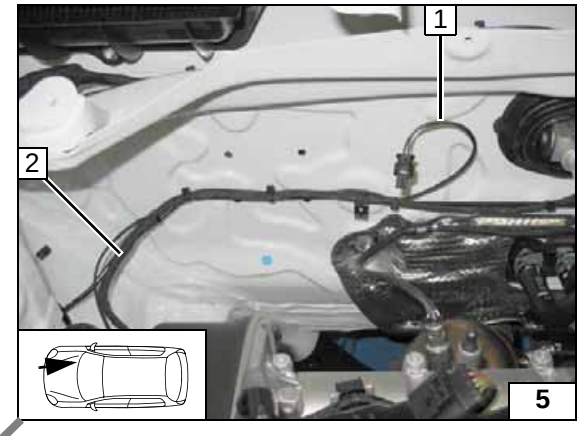
1 Earth wire on original vehicle earth support point

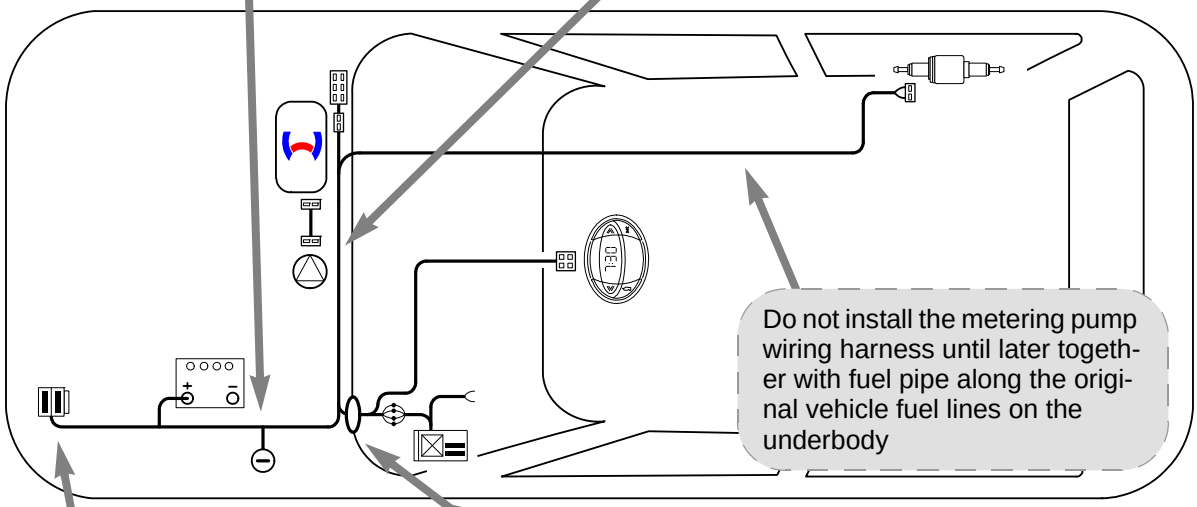


Wiring harness routing

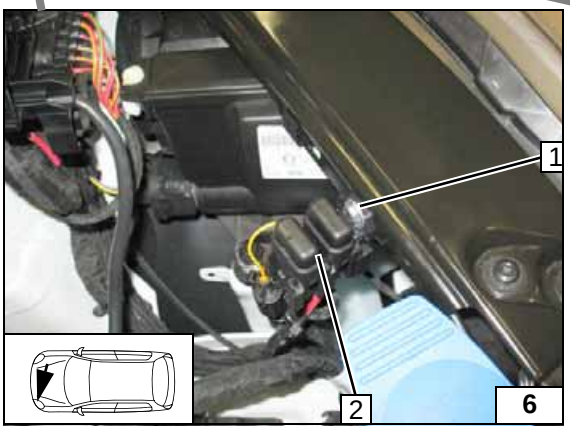
Route wiring harnesses of heater and circulating pump **2** to the installation location of the heater along original vehicle brake lines.

1 Wiring harness of circulating pump



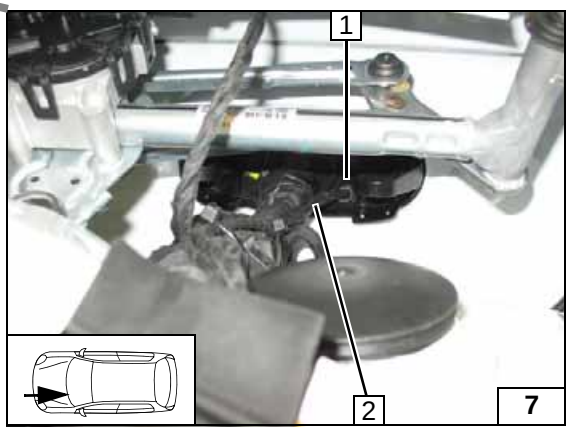


Wiring harness routing diagram



Engine compartment fuse holder

1 M5x16 bolt, washer [2x], retaining plate of fuse holder, nut, existing hole
2 Fuses F1-2



Wiring harness pass through

1 Protective rubber plug
2 Wiring harnesses of heater, heater control

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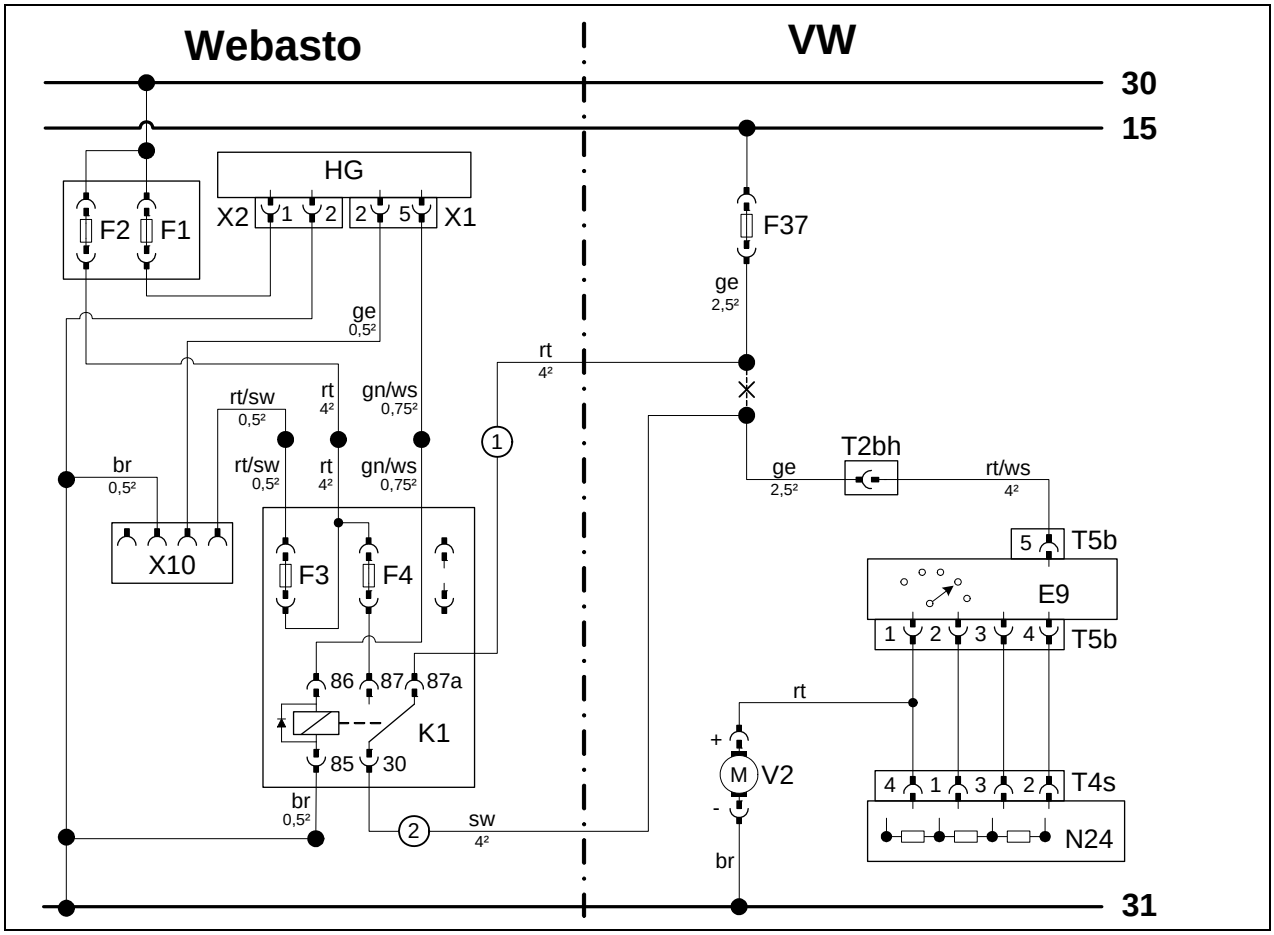
Fan Controller

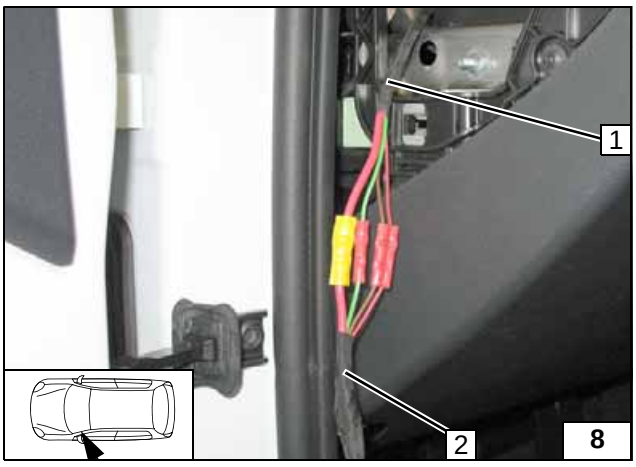
Wiring diagram



Legend

Webasto components		Vehicle components		Colours and symbols	
HG	TT-Evo heater	F37	30A fuse	rt	red
X1	6-pin heater connector	T2bh	2-pin connector	sw	black
X2	2-pin heater connector	E9	Fan switch	ge	yellow
F1	20A fuse	T5b	5-pin connector E9	gn	green
F2	30A fuse	V2	Fan motor	ws	white
X10	4-pin connector of heater control	N24	Resistor group	br	brown
		T4s	4-pin connector N24		
F3	1A fuse				
F4	25A fuse			**X**	Cutting point
K1	Fan relay			Wiring colours may vary.	

Connecting same colour wires of wiring harnesses



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

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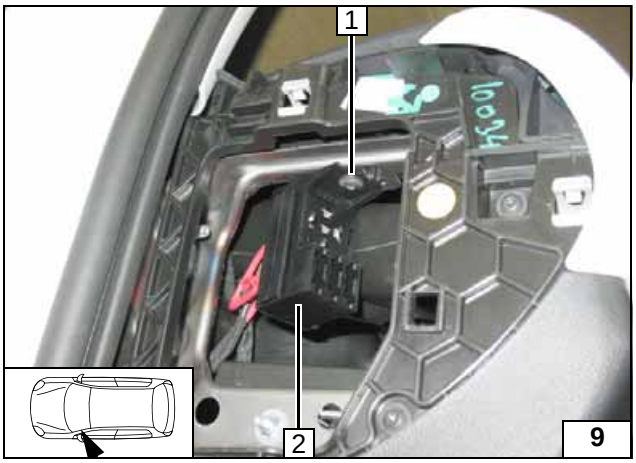
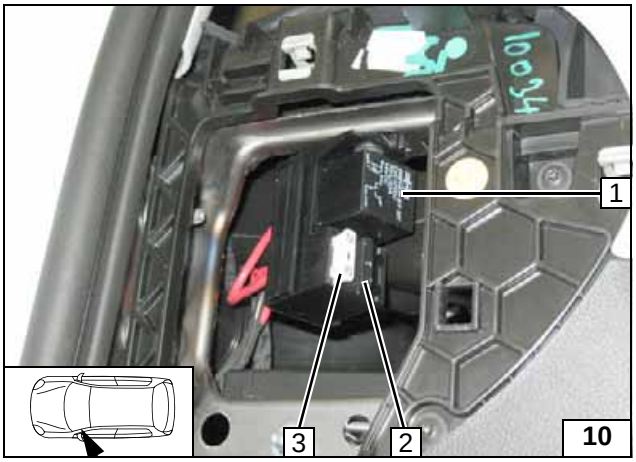


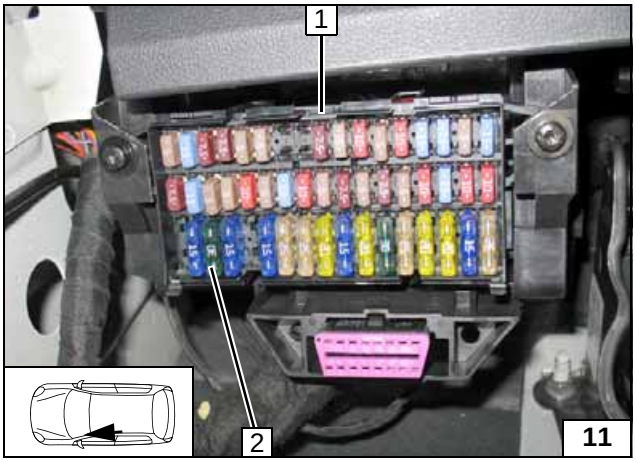
1 Original vehicle bolt
2 Passenger compartment relay and fuse holder

Installing passenger compartment relay and fuse holder



1 K1 relay
2 1A fuse F3
3 25A fuse F4

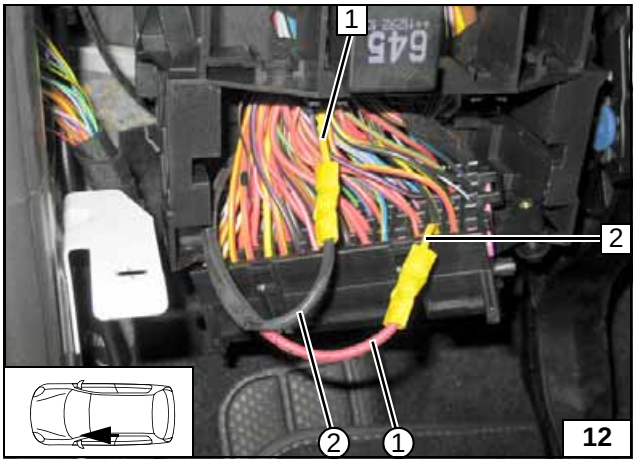
Completing passenger compartment relay and fuse holder



Loosen fuse and relay carrier **1**.

2 Socket of fuse F37

Fuse and relay carrier



Connection to 30A fuse F37.

1 Yellow (ge) wire of fan switch E9
2 Yellow (ge) wire of fuse F37
① Red (rt) wire of K1/87a, fan wiring harness
② Black (sw) wire of K1/30, fan wiring harness

Connection of fan switch

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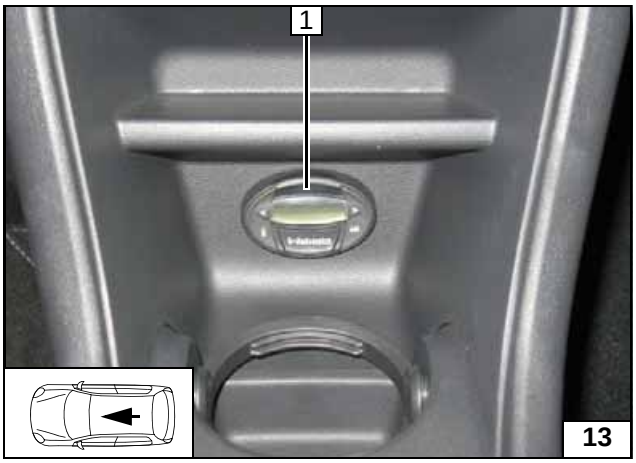
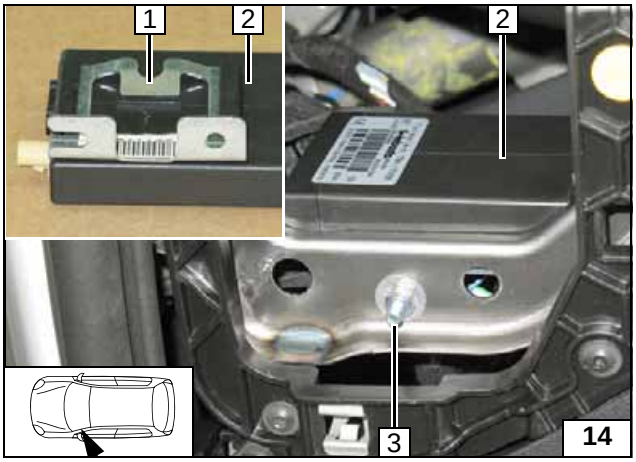


Digital Timer

1 Digital timer

Installing digital timer

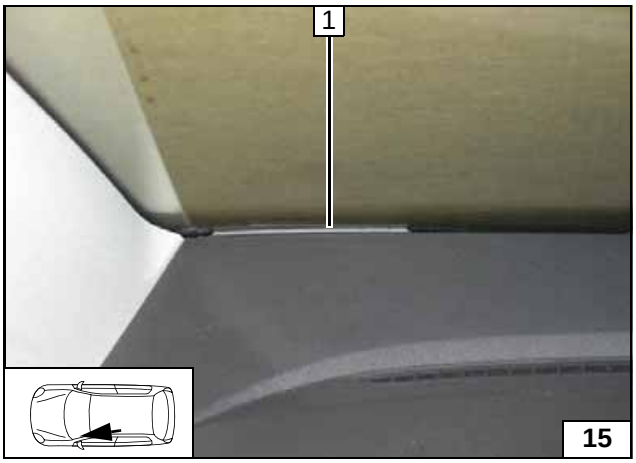


Remote Option (Telestart)

Angle bracket **1** down by 90°.

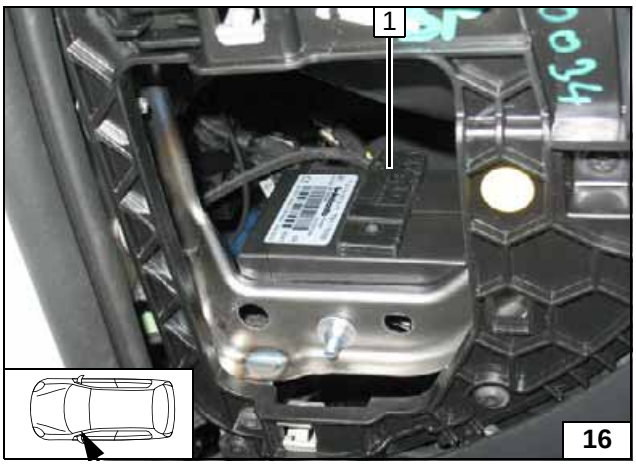
2 Receiver
3 M5x16 bolt, large diameter washer [2x], nut, existing hole

Installing receiver



1 Aerial

Installing aerial



Temperature sensor T100 HTM

Fasten temperature sensor **1** with adhesive tape.

Installing temperature sensor

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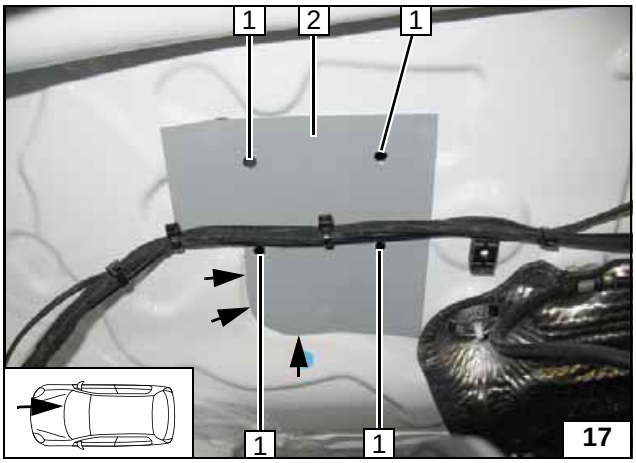
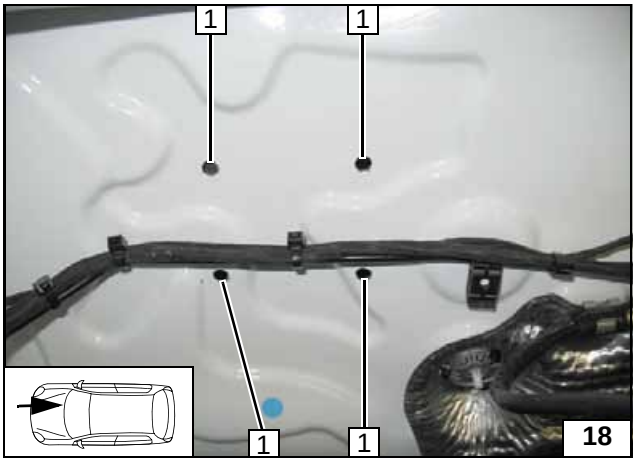


Preparing Installation Location

Cut out template **2** and place it on the contours of the firewall.

1 Copy hole pattern [4x]

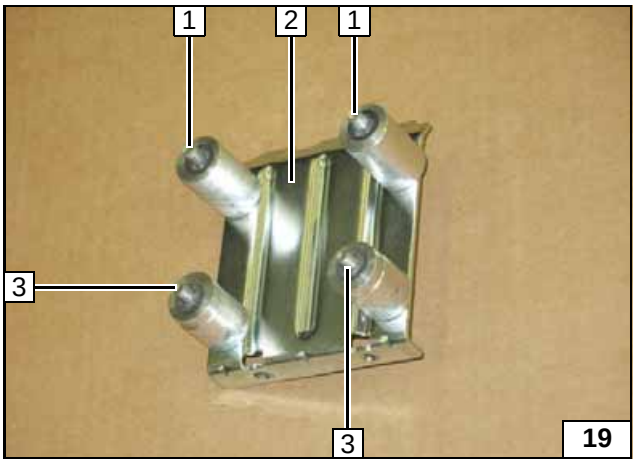
Copying hole pattern



Remove template. Fold back insulation mat in the passenger compartment. When drilling, watch components located behind!

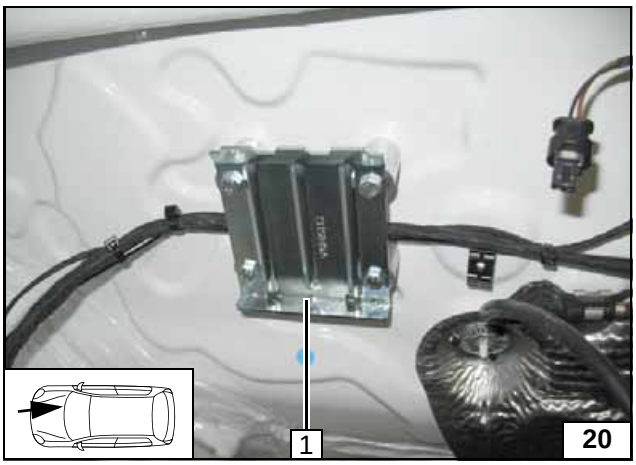
1 7 mm dia. hole [4x]

Holes in firewall



1 M6x40 bolt, 30 mm shim, pin lock [2x each]
2 Bracket part **A**
3 M6x35 bolt, 20 mm shim, 5 mm shim, pin lock [2x each]

Preparing bracket part A



Ensure sufficient distance to brake line and wiring harnesses of heater / circulating pump.

1 Insert bracket

Installing bracket part A

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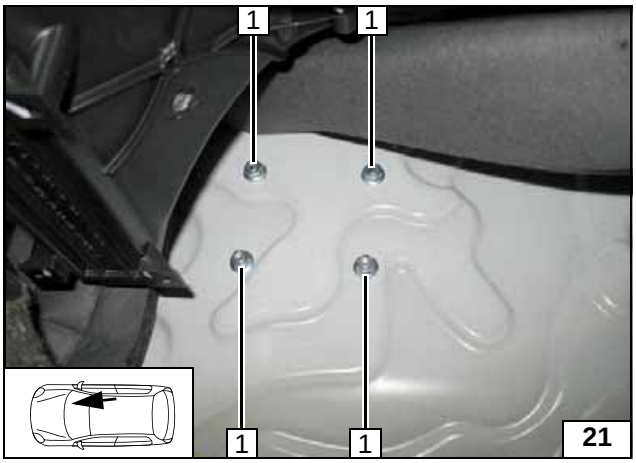
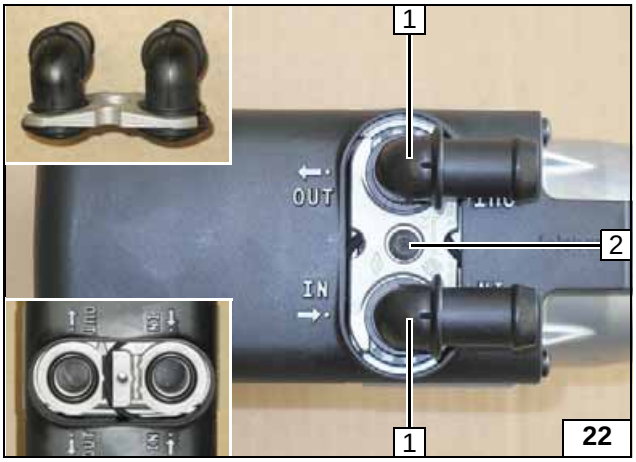


1 Flanged nut [4x]

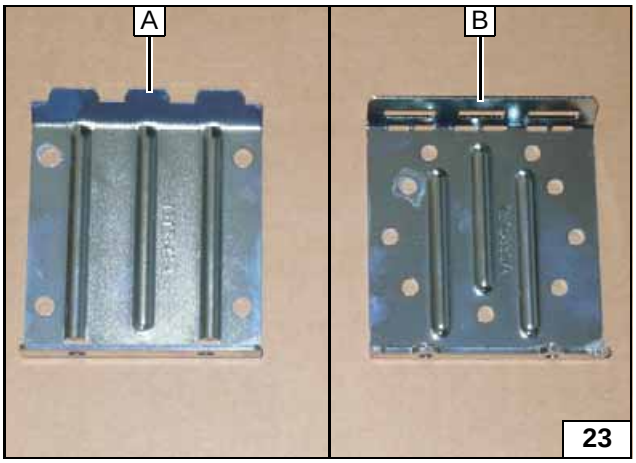
Installing bracket part A

Preparing Heater

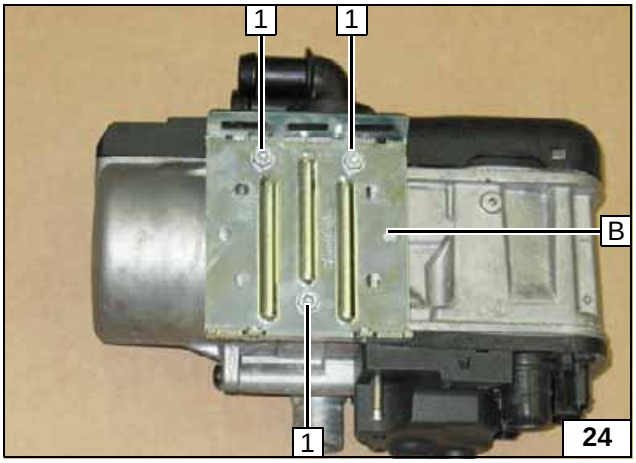


1 Water connection piece, sealing ring [2x each]
2 5x15 self-tapping bolt, retaining plate of water connection piece

Installing water connection piece



View/ assigning two-part bracket



1 5x13 self-tapping bolt [3x]

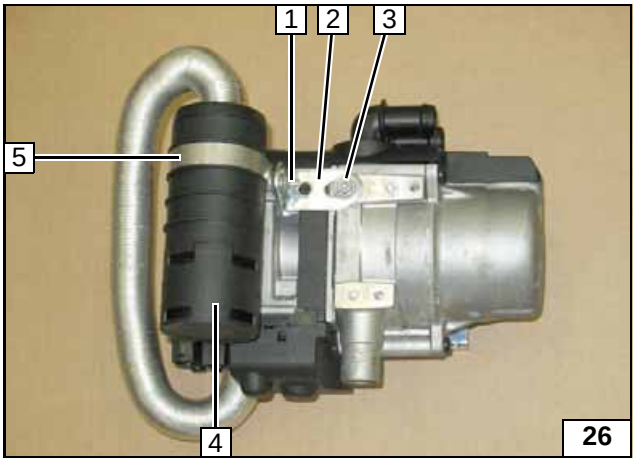
Premounting bracket part B

 © Webasto Thermo & Comfort SE



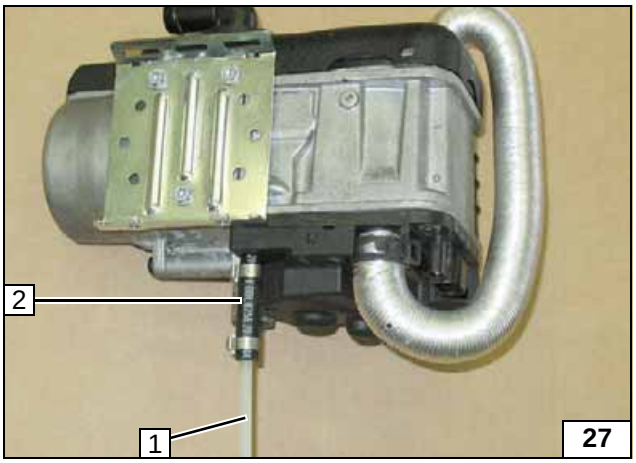
1 Combustion air pipe

Installing combustion air pipe



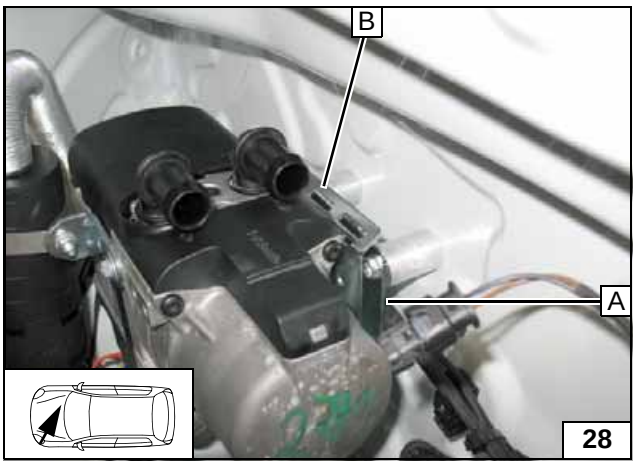
1 M5x16 bolt, flanged nut
2 Angle bracket
3 5x13 self-tapping bolt
4 Silencer
5 51 mm dia. clamp

Installing silencer



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

Premounting fuel line

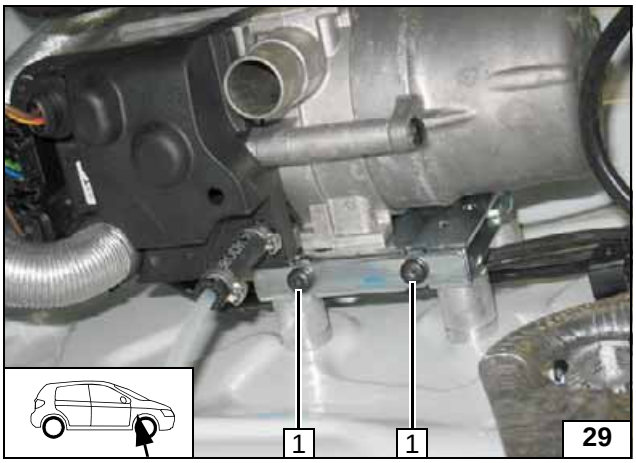


Installing Heater

Insert heater with bracket **B** into premounted bracket **A**.

Installing heater

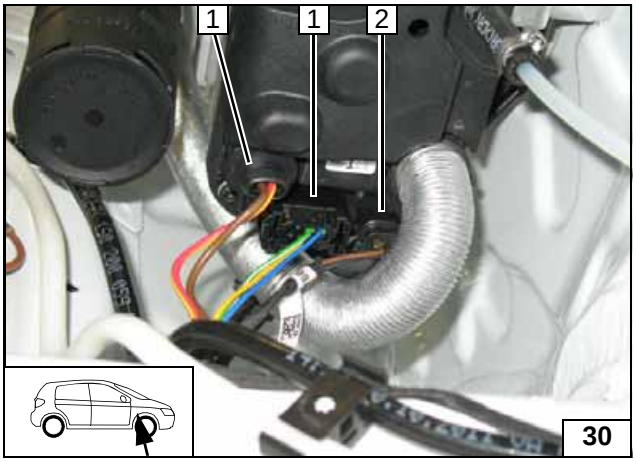
 © Webasto Thermo & Comfort SE



Bolt bracket **A** and bracket **B** together.

1 M5x12 Torx screw [2x]

Installing heater



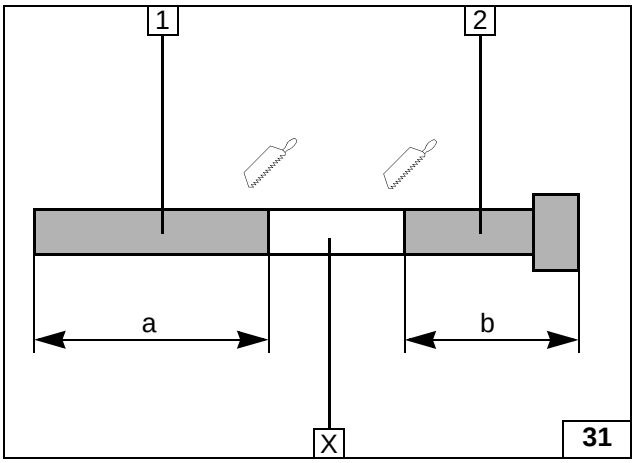
1 Connector of heater wiring harness [2x]
2 Connector of circulating pump wiring harness

Installing wiring harnesses

 © Webasto Thermo & Comfort SE

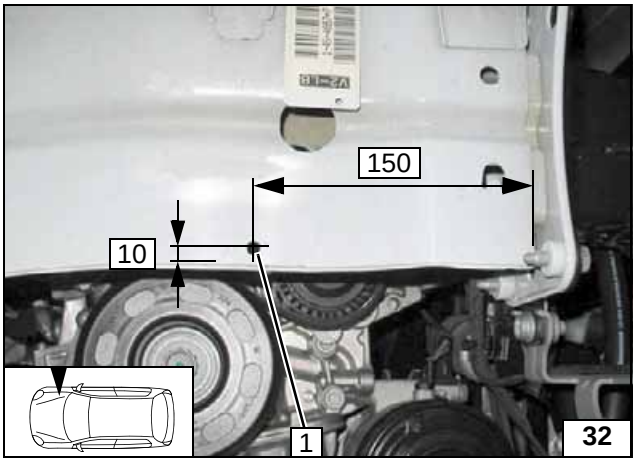
Exhaust Gas

Discard section **X**.



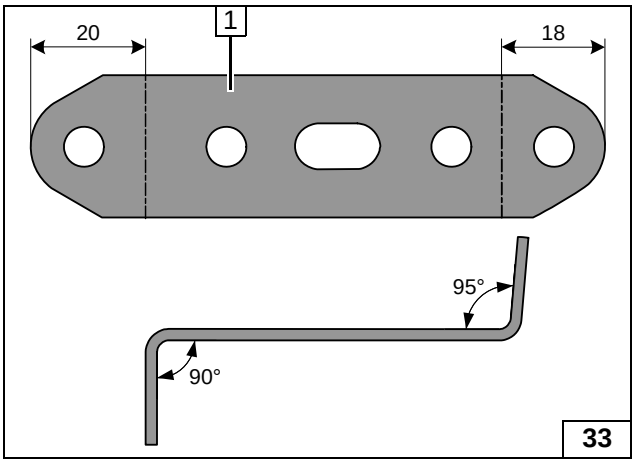
1 Exhaust pipe
a = 410
2 Exhaust end section
b = 170

Preparing exhaust pipe



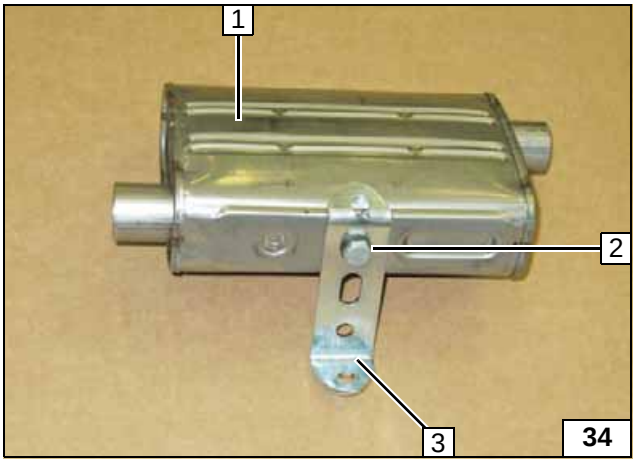
1 7 mm dia. hole

Hole for silencer



1 Perforated bracket

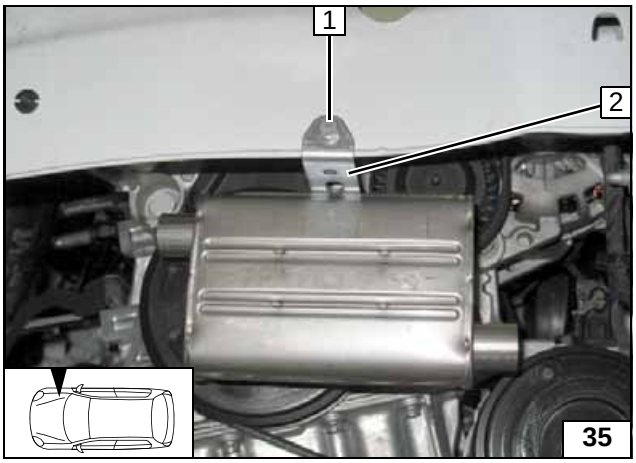
Angling down perforated bracket



1 Silencer
2 M6x16 bolt, spring lockwasher
3 Perforated bracket

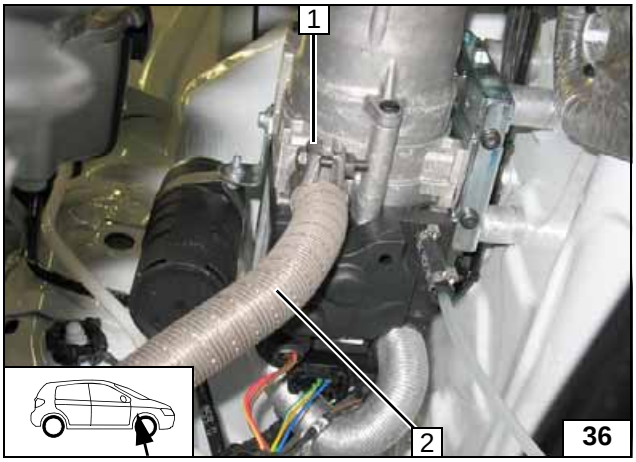
Premounting silencer

 © Webasto Thermo & Comfort SE



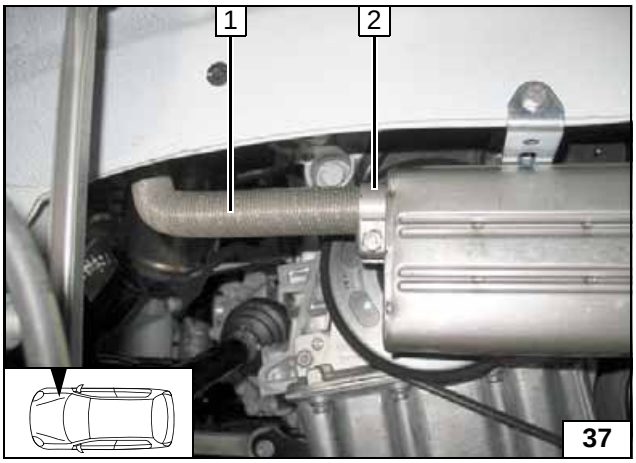
1 M6x20 bolt, flanged nut
2 Perforated bracket

Installing silencer



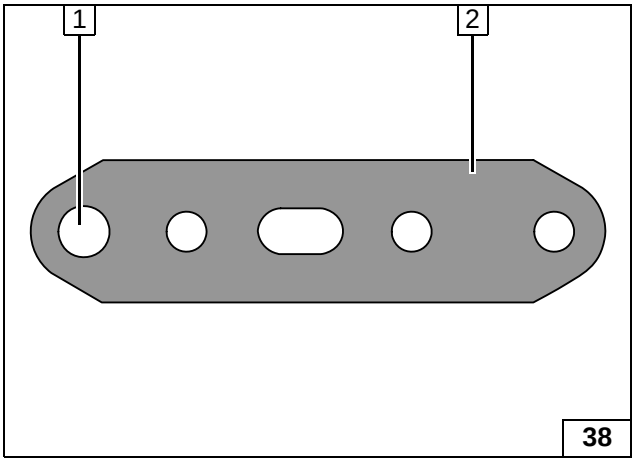
1 Hose clamp
2 Exhaust pipe

Installing exhaust pipe



1 Exhaust pipe
2 Hose clamp

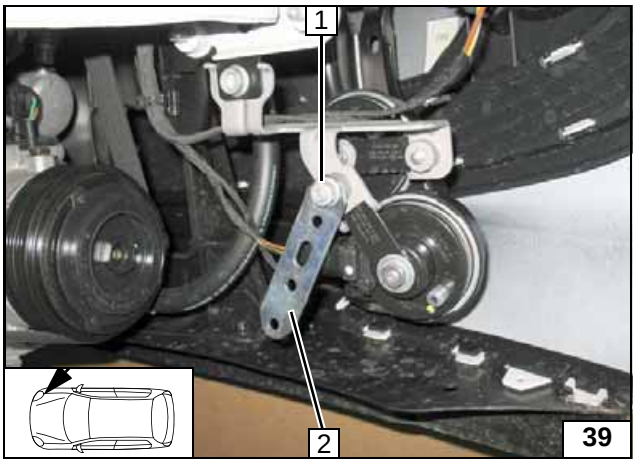
Installing exhaust pipe



1 8.5 mm dia. hole
2 Perforated bracket

Drilling out perforated bracket

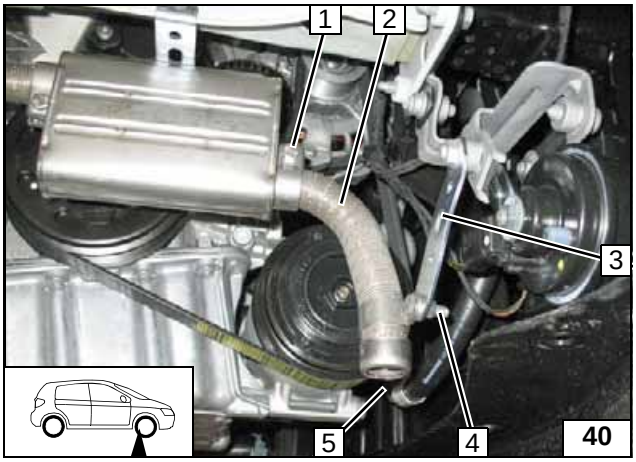
 © Webasto Thermo & Comfort SE



Remove original vehicle bolt (if present) at position **1** and discard.

1 M8x30 bolt, flanged nut
2 Perforated bracket

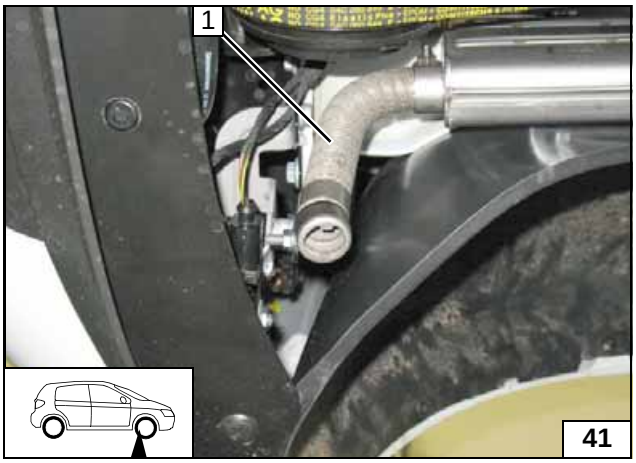
Installing perforated bracket



Ensure sufficient distance to neighbouring components, especially at position **5**, correct if necessary.

1 Hose clamp
2 Exhaust end section
3 Perforated bracket
4 M6x20 bolt, p-clamp, flanged nut

Installing exhaust end section



Ensure sufficient distance from neighbouring components, correct if necessary.

1 Exhaust end section

Aligning exhaust end section

 © Webasto Thermo & Comfort SE

Fuel

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

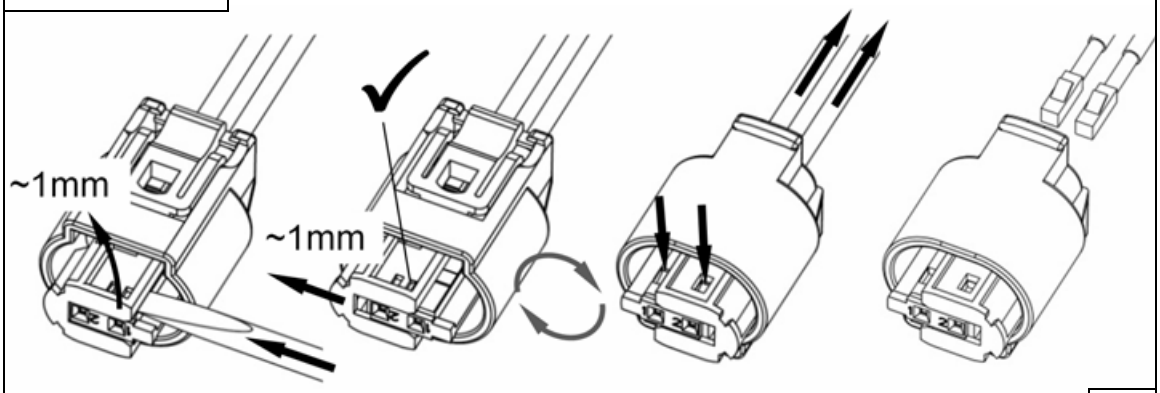
Catch any fuel running off in an appropriate container.

Route 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.

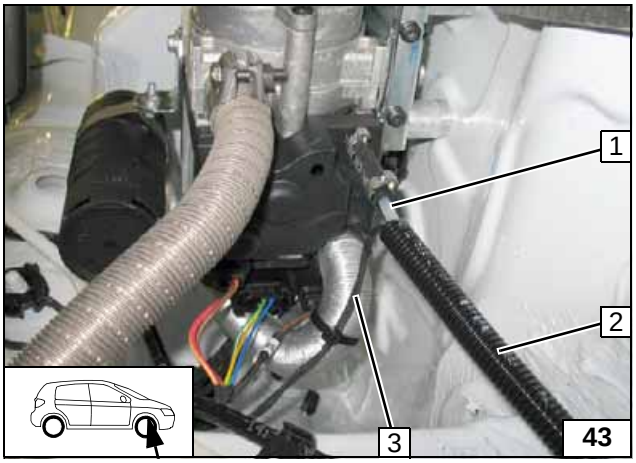
The fuel line and wiring harness are routed to the metering pump as shown in the wiring harness routing diagram.

Dismantling metering pump connector

Connector X7



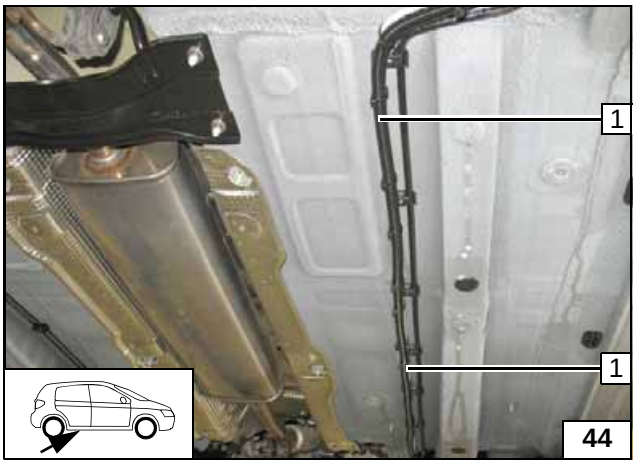
42



43

Route fuel line **1** and wiring harness of metering pump **3** to the underbody in 10 mm dia. corrugated tube **2**.

Routing lines

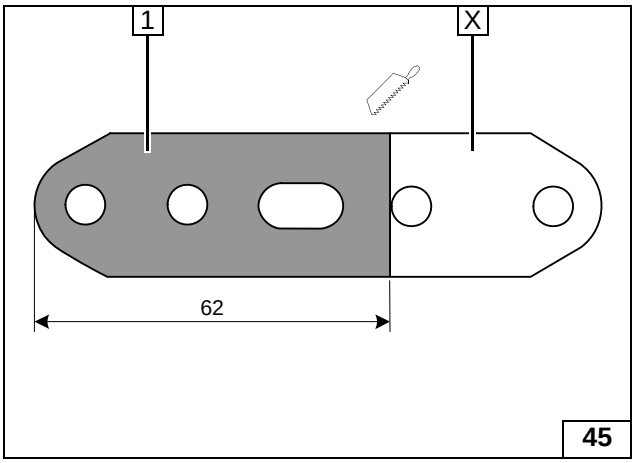


44

Route fuel line and wiring harness of metering pump in 10mm dia. corrugated tube **1** to the installation location of the metering pump along original vehicle lines.

Routing lines

 © Webasto Thermo & Comfort SE

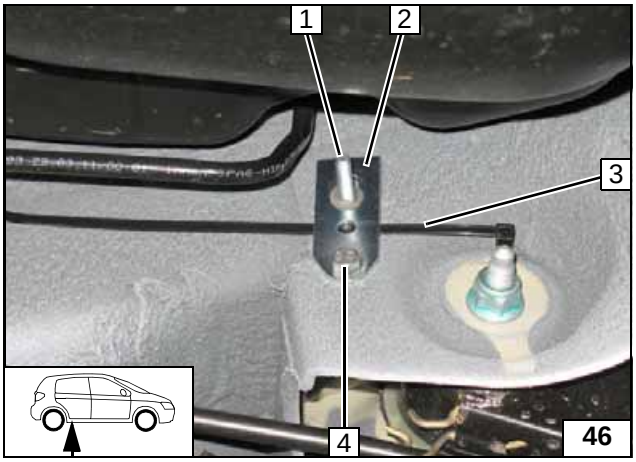


45

Discard section **X** .

1 Perforated bracket

Cutting perforated bracket to length

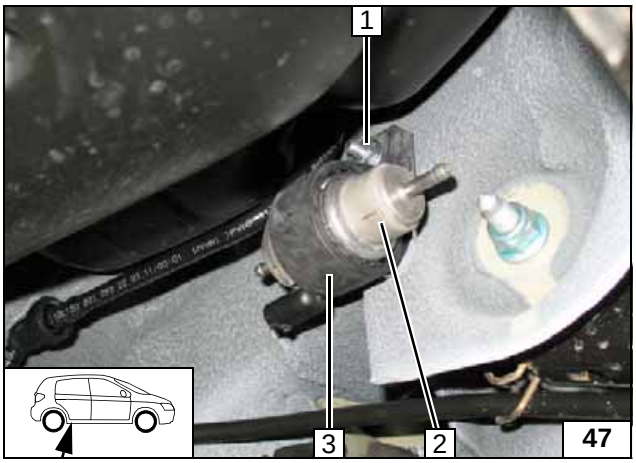


46

Insert cable tie**3** between perforated bracket **2** and body.

1 Premount M6x25 bolt, pin lock
4 M6x20 bolt, flanged nut, existing hole

Installing perforated bracket



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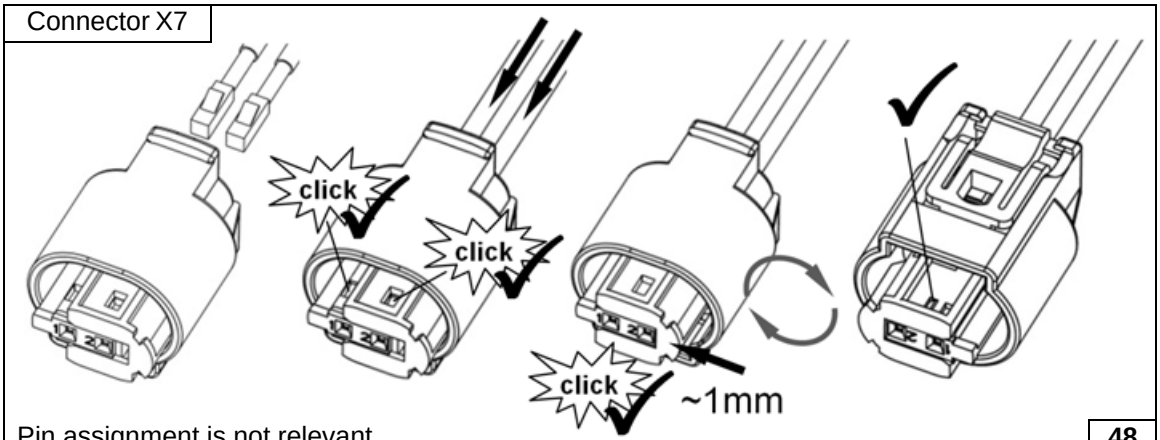
Close cable tie around metering pump mount **3**.

1 M6 flanged nut
2 Metering pump

Installing metering pump

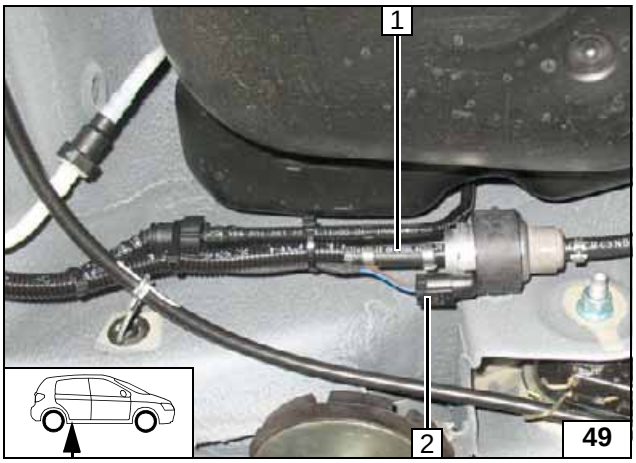
Connector X7



Pin assignment is not relevant.

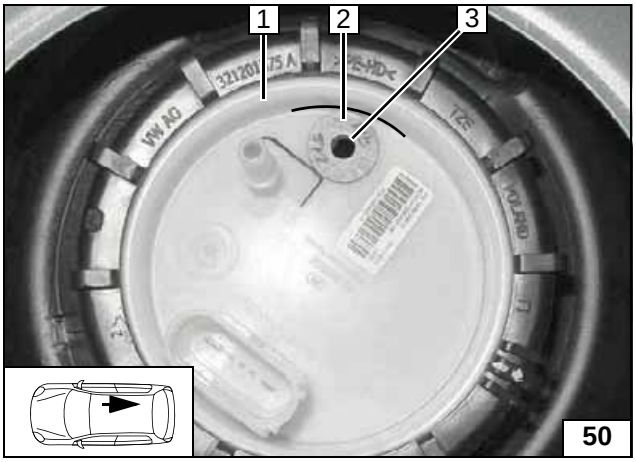
48

Completing metering pump connector



1 Fuel line of heater, hose section, 10mm dia. clamp [2x]
2 Metering pump wiring harness, connector X7 mounted

Connecting metering pump

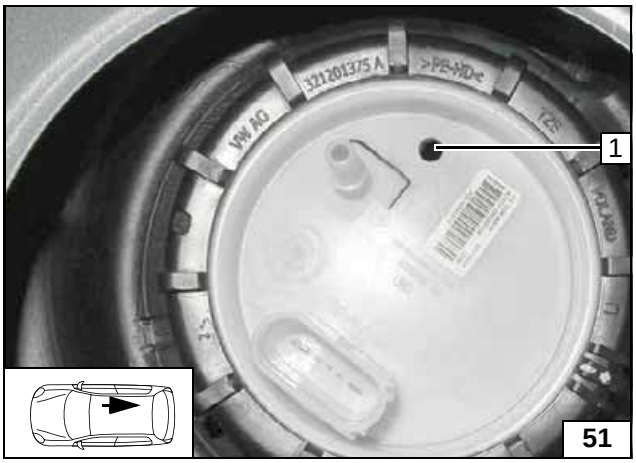


Installing FuelFix

Work steps F1 and F2.

1 Fuel tank sending unit
2 Position washer with outer dia. d_a = 21.6mm as template against the raised parts.
3 Hole pattern

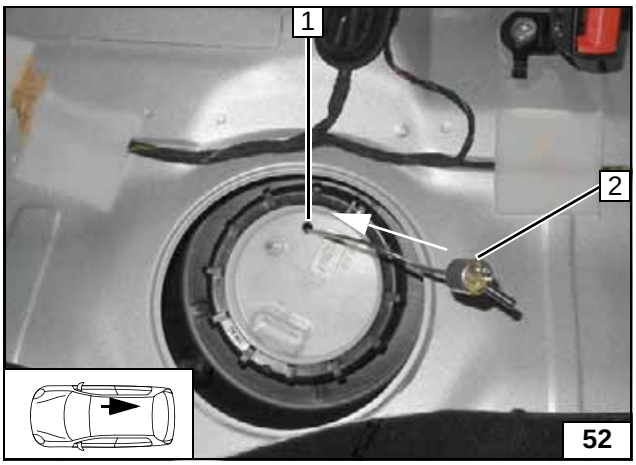
Fuel extraction



Work step F3.

1 Hole made with provided drill

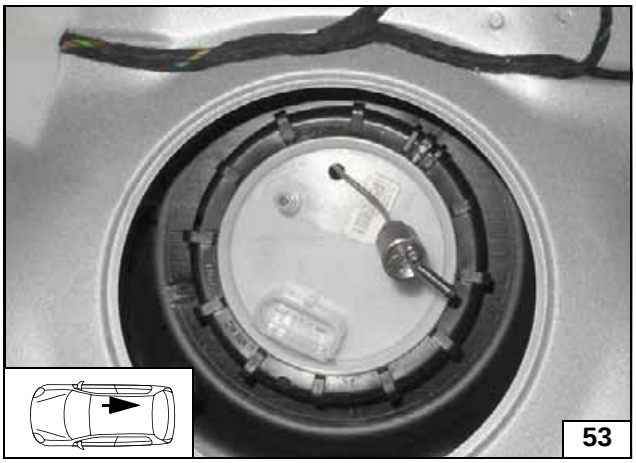
Hole for FuelFix



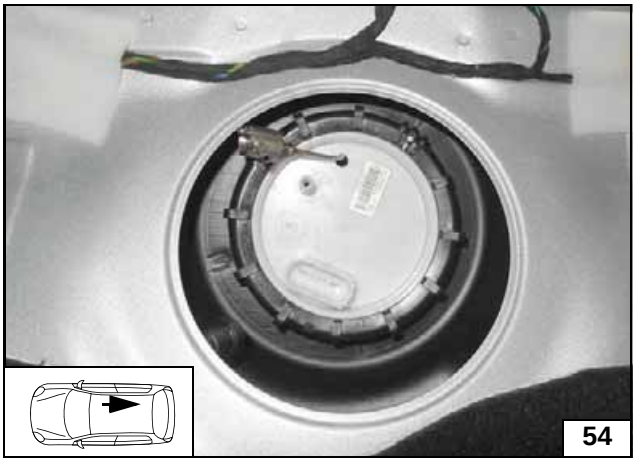
Work steps F4 and F5.

Bend FuelFix **2** according to template and cut to length.
Insert into hole **1**.

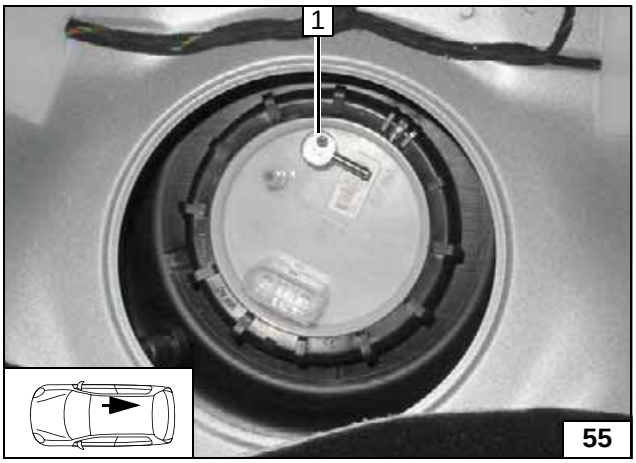
Inserting FuelFix



Inserting FuelFix



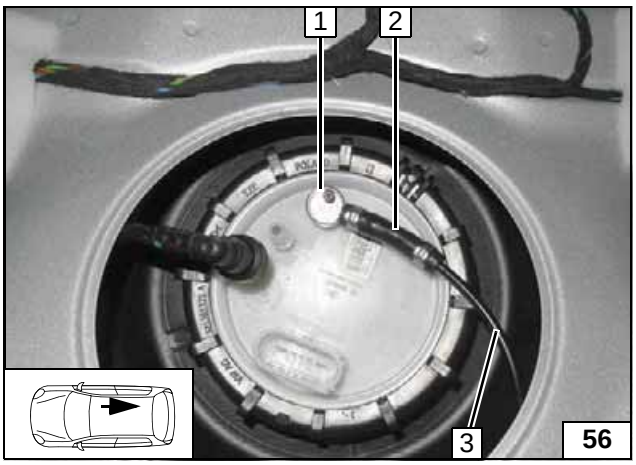
Inserting FuelFix



Work steps F5.3 and F5.4.

Turn FuelFix **1** in position as shown.

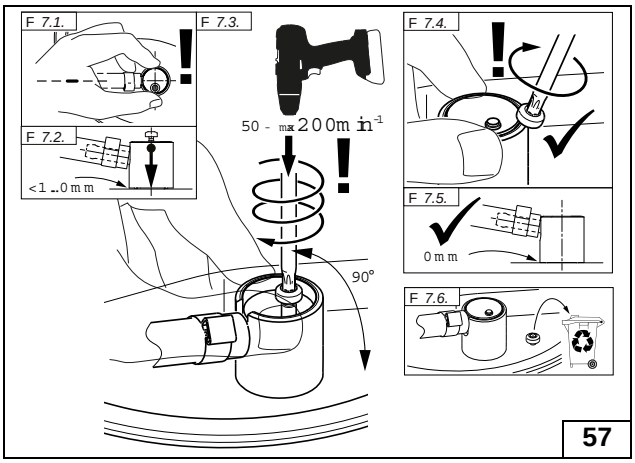
Aligning FuelFix



Work step F6.

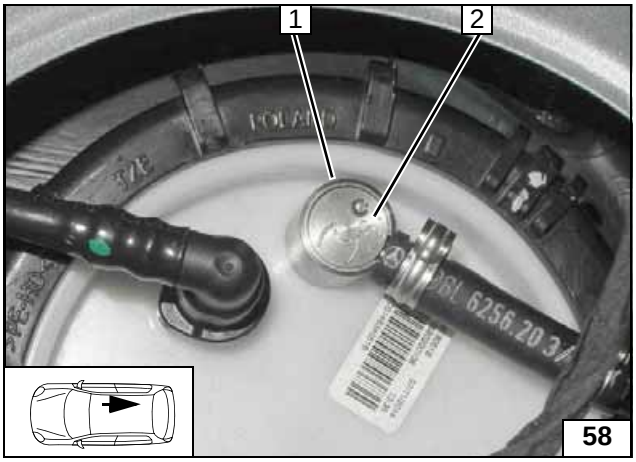
1 FuelFix
2 Hose section, 10 mm dia. clamp [2x]
3 Fuel line

Connecting fuel line



Work step F7.

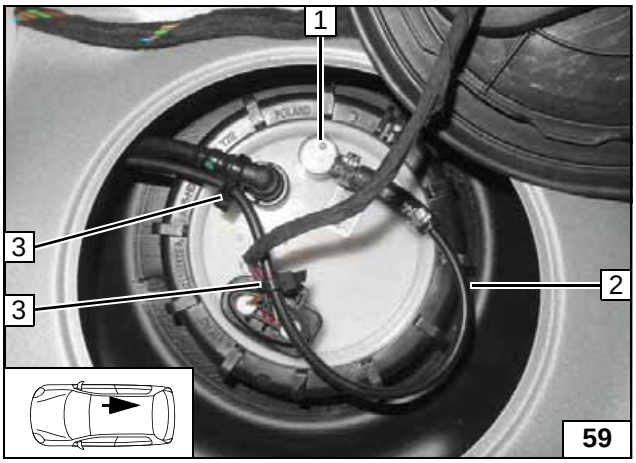
Installing FuelFix



Work step F8.

Ensure firm seating of the FuelFix and check the positioning of clamping piece **2** with respect to upper edge **1** of the housing.

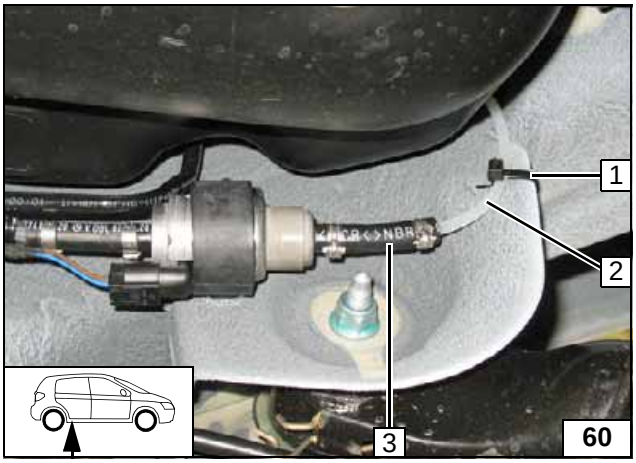
Checking final position



Work step F8.

1 FuelFix mounted
2 Fuel line of FuelFix
3 Cable tie as tension relief [2x]

Securing fuel line



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

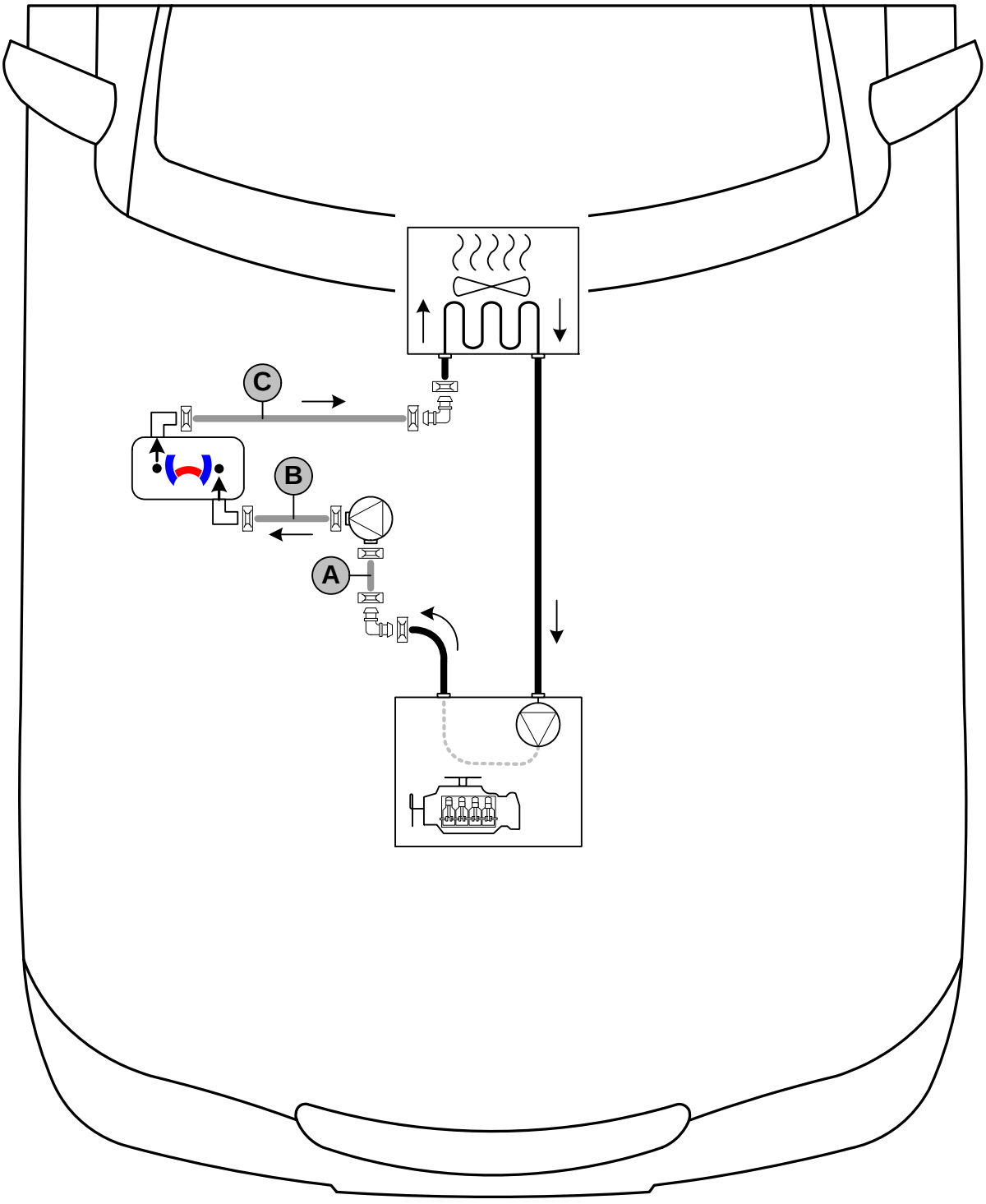
1 Cable tie through existing hole
2 Fuel line of FuelFix
3 Hose section, 10 mm dia. clamp [2x]

Connecting metering pump

Coolant Circuit

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. The heater must be filled with coolant when installing the hoses.

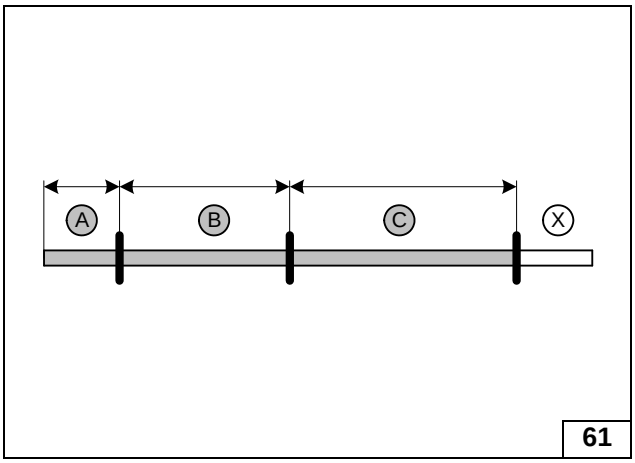
The connection should be modelled on an ‘inline’ circuit and based on the following diagram:



Hose routing diagram

All spring clips without a specific designation = 25 mm dia.
All connecting pipes = 18x18 mm dia.

© Webasto Thermo & Comfort SE



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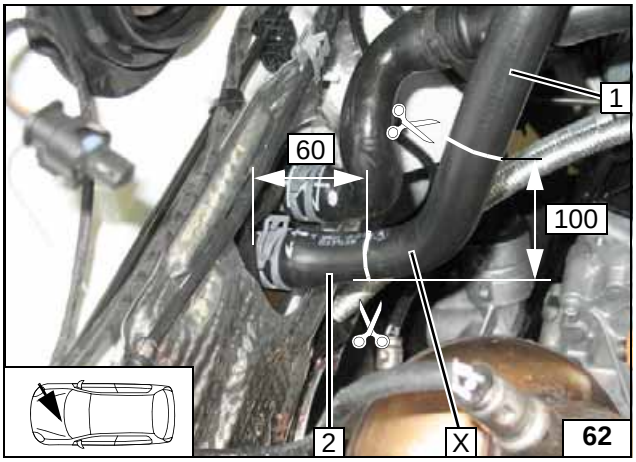
Discard section **X**.

A = 60
B = 210
C = 370

Cutting hoses to length



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The positions of the hoses on the heat exchanger may vary.
Figure shows vehicle with hose of engine outlet on right heat exchanger inlet connection.
Cut off hose on engine outlet at the markings.
Discard section **X**.

1 Engine outlet hose section
2 Heat exchanger inlet hose section

Cutting point, version 1

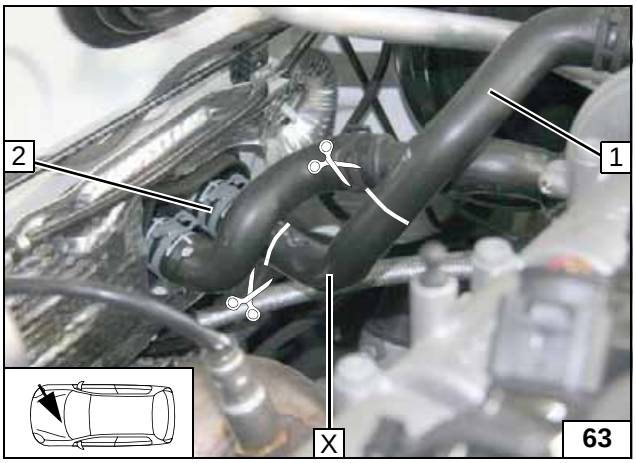

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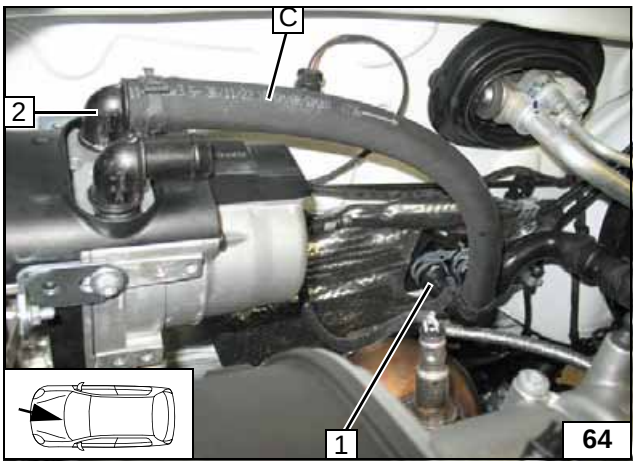
Figure shows vehicle with hose of engine outlet on left heat exchanger inlet connection.
Cut hose of engine outlet at the markings (take measurements from previous figure).
Discard section **X**.

1 Engine outlet hose section
2 Heat exchanger inlet hose section

Cutting point, version 2



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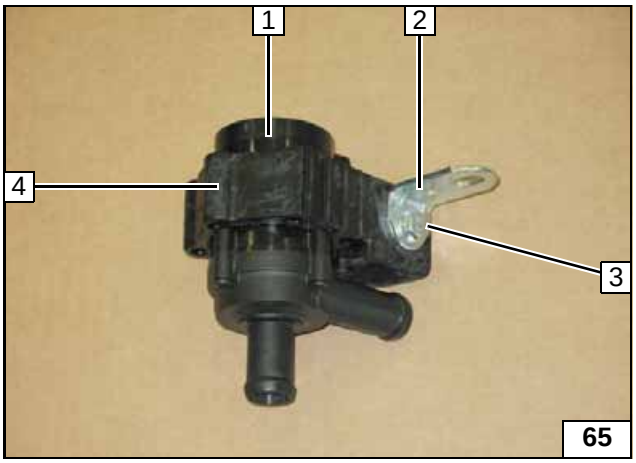
In the following images, the connection is portrayed on the right side of the heat exchanger. In case of connection on the left side, act accordingly.

1 Heat exchanger inlet hose section
2 Connection piece of heater outlet

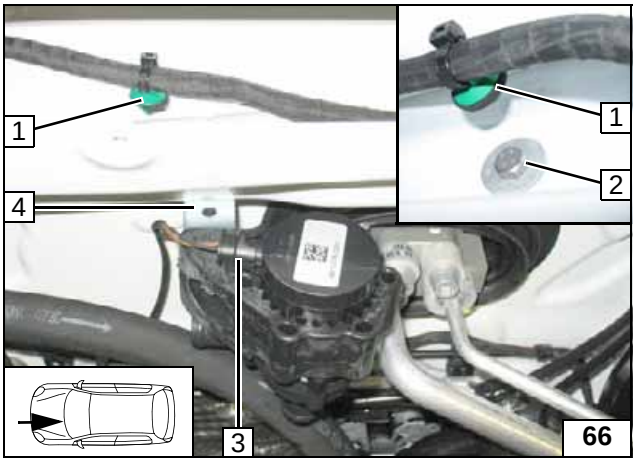
Connecting heat exchanger inlet

 © Webasto Thermo & Comfort SE



1 Circulating pump
2 Angle bracket
3 M6x25 bolt, flanged nut
4 Circulating pump mount

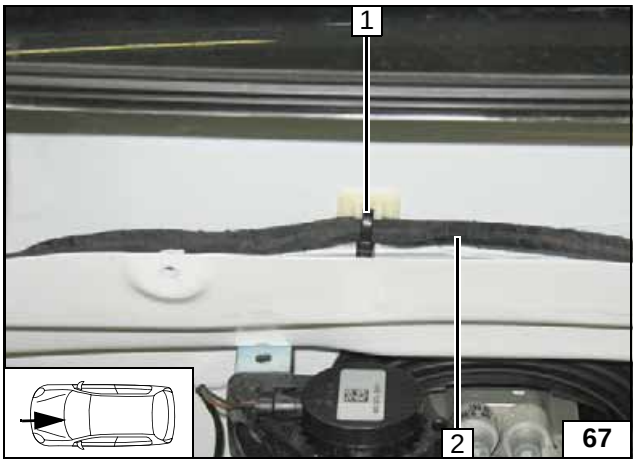
Premounting circulating pump



Detach retaining clip **1** from original vehicle wiring harness and fasten angle bracket **4** of circulating pump in hole.

2 M6x20 bolt, large diameter washer [2x], flanged nut
3 Connector of circulating pump wiring harness

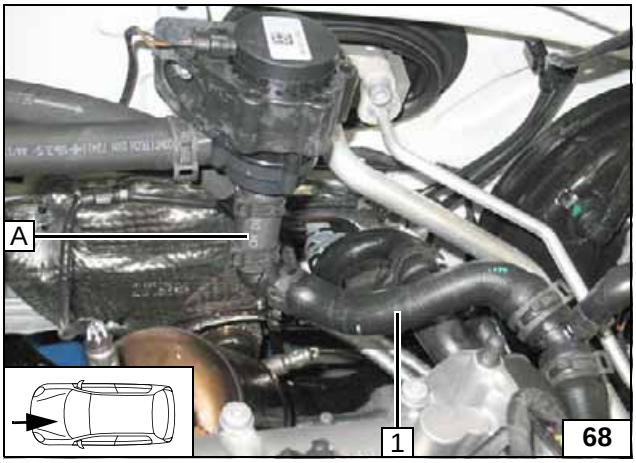
Installing circulating pump



Clean adhesive surface.

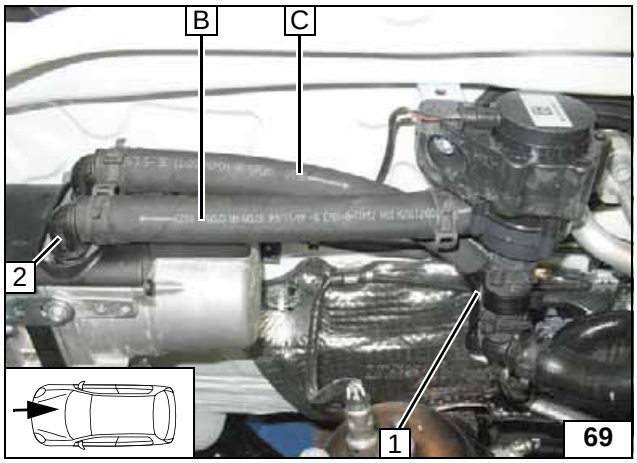
1 Adhesive base with cable tie
2 Original vehicle wiring harness

Fastening wiring harness



1 Engine outlet hose section

Connecting engine outlet



Align hoses. Insert spacer bracket **1** between hoses **B** and **C**.
Ensure sufficient distance from neighbouring components, correct if necessary.

1 Spacer bracket
2 Connection piece of heater inlet

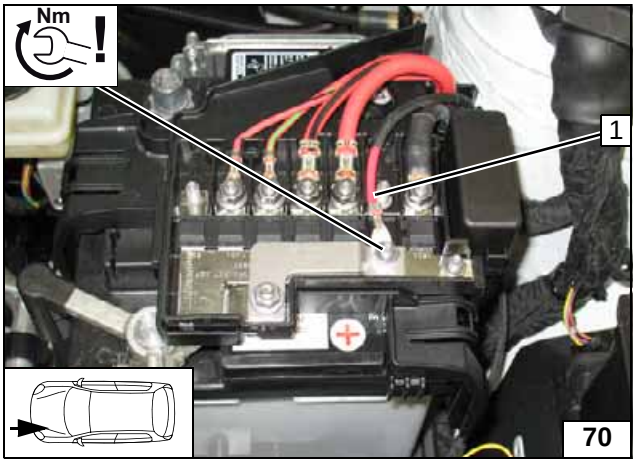
Connecting heater

 © Webasto Thermo & Comfort SE

Final Work

Reassemble the components in reverse order. Check all hoses, clamps and all electrical connections for firm seating. Insulate and tie back all loose lines.
Only use manufacturer-approved coolant. Spray the 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 digital timer, 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 near the filler neck.**
- **For initial startup and function check, please see installation instructions.**



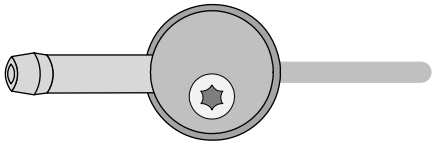
Connect positive wire **1** to original vehicle positive distributor.

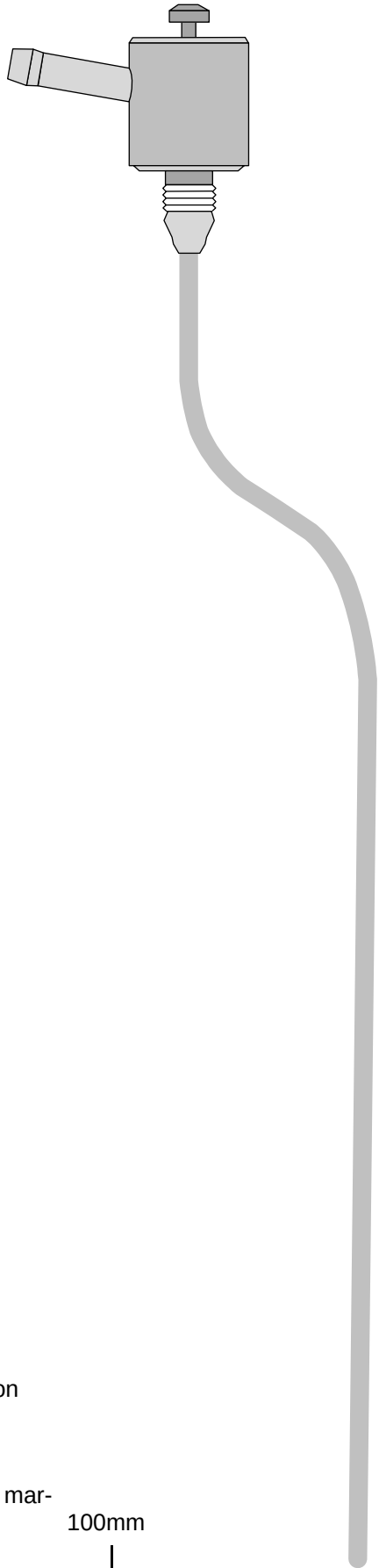
Connecting positive wire

Webasto Thermo & Comfort SE
Postfach 1410
82199 Gilching
German
Internet:
Technical Extranet:

Template for FuelFix

Top view





100mm

Scale 1:1

Compare size of the printed version with dimension lines.
Permitted tolerance a maximum of 2%.

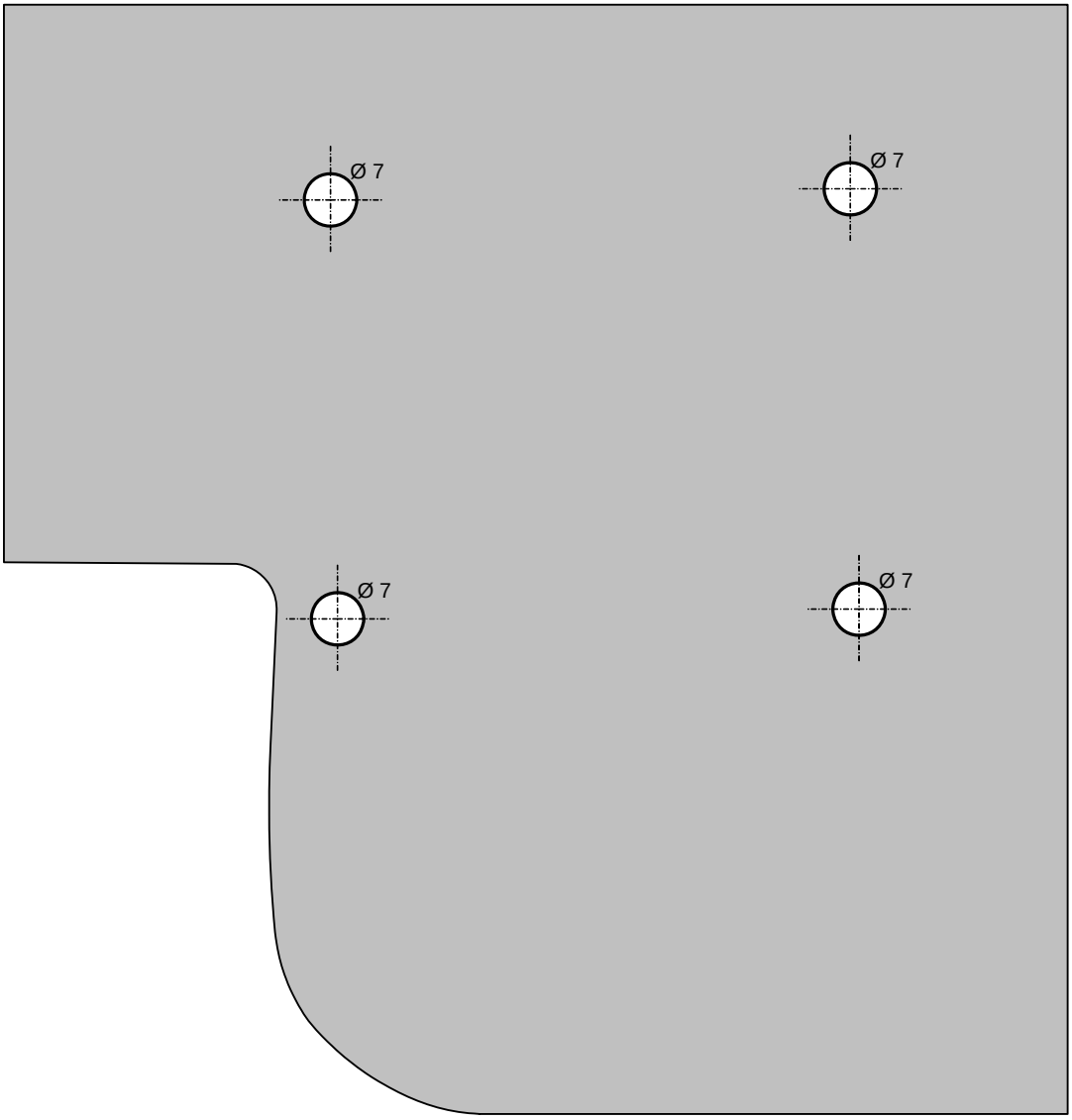
Set the printer settings to 'no margin' or 'minimise margins' and 100% of the normal size.

100mm

0

 © Webasto Thermo & Comfort SE

Drilling Template of Bracket



100mm

Scale 1:1

Compare size of the printed version with dimension lines.
Permitted tolerance a maximum of 2%.

Set the printer settings to 'no margin' or 'minimise margins' and 100% of the normal size.

100mm

0

Operating Instructions for End Customer

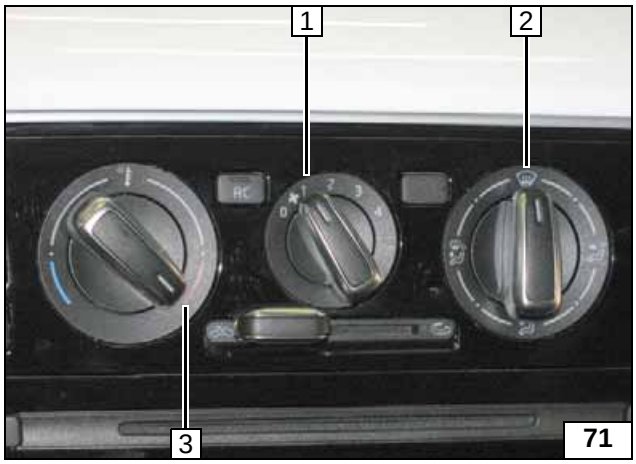
Please remove page and add to the vehicle operating instructions.

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 the vehicle settings for the heating operation.
For instructions on deactivation, please refer to the operating instructions of the vehicle.

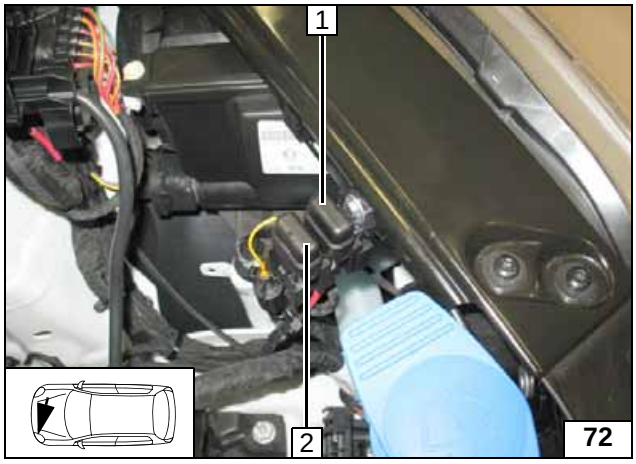
Before parking the vehicle, make the following settings:

A/C control panel



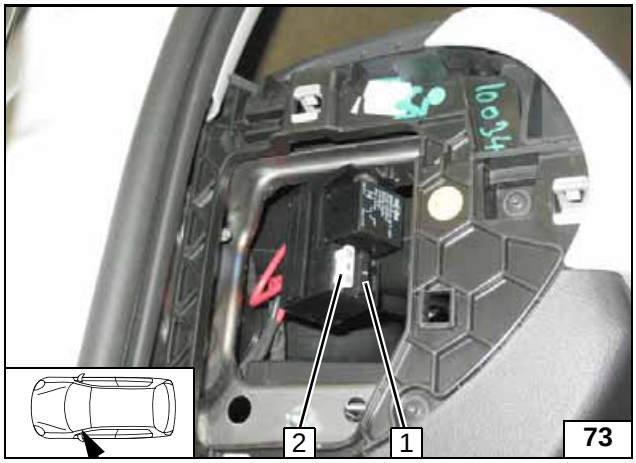
1 Set fan to level ‘1’, or max. ‘2’
2 Air outlet to windscreen
3 Set temperature to ‘max.’

Engine compartment fuses



1 30A main fuse F2 of passenger compartment
2 20A heater fuse F1

Passenger compartment fuses



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