

# Water Heater Unit



Auxiliary heating *Thermo Top E* <sup>e1</sup><sub>00 0003</sub>

Auxiliary heating *Thermo Top C* <sup>e1</sup><sub>00 0002</sub>

Auxiliary heating *Thermo Top P* <sup>e1</sup><sub>00 0104</sub>

## Installation Instructions

### Citroen Jumper / Fiat Ducato / Peugeot Boxer

Diesel

From model year 2006

For left-hand drive vehicles only



#### **WARNING!**

Hazard warning:

Incorrect installation or repair of Webasto heating systems may cause a fire or result in the emission of carbon monoxide, which can be fatal. Serious or fatal injuries can be caused as a result.

Specialist company training, technical documentation, specialized tools and equipment are required to install and repair Webasto heating and cooling systems.

NEVER attempt to install or repair Webasto heating or cooling systems if you have not successfully completed the company training and thereby acquired the required technical skills or if you do not have access to the required technical documentation, tools and equipment needed to carry out correct installation and repairs.

ALWAYS follow all Webasto installation and repair instructions and observe all warning instructions.

Webasto does not accept any liability for defects and damage that are attributable to an installation by untrained staff.

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## Validity

Manufacturer	Model	Type	EG-BE No. / ABE
Citroen	Jumper	X2/50	L773
Peugeot	Boxer	X2/50	L773
Fiat	Ducato	250	L778
Fiat	Ducato	250	e3*2001/116*232* ...
Fiat	Ducato	250 L	L779

Engine type	Engine type	Power in kW	Engine capacity in cm <sup>3</sup>
4HV	Diesel	74	2198
4HU	Diesel	88	2198
F1AE0481D	Diesel	88	2287
F1CE0481N	Diesel	95,5	2287

Vehicle and engine types, equipment variants as well as national specifications, which are not listed in these installation instructions, have not been tested. Installation according to these installation instructions may, however, be possible.

The installation location of a time switch and summer / winter switch should be confirmed with the end customer before installation.

## Heater Unit / Installation Kit

Amount	Description	Order no.:
1	Commercial supply of required control	See price list
1	Installation kit for Citroen Jumper / Fiat Ducato / Peugeot Boxer Diesel	1311342B

### Recommended heater unit for the relevant vehicle class:

Vehicle	Heater unit
Compact car	Thermo Top E
Mid-class, station wagon	Thermo Top C
Luxury, van, off-roader	Thermo Top P

The choice of heater unit is based on the size of the vehicle passenger compartment and the customer's comfort requirements.



## Foreword

These installation instructions apply to vehicles Citroen Jumper / Fiat Ducato / Peugeot Boxer with Dieselengines.

– Re. validity, see page 2 – from model year 2006 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 these installation instructions.

However, the stipulations in the "installation instructions" and "operating and maintenance instructions" for the *Thermo Top C/P/E* are to be observed in any event.

The corresponding rules of technology and any information from the vehicle manufacturer should be observed during the installation work.

## General Instructions

Installation should be carried out according to the general, standard rules of technology. Unless specified otherwise, fasten hoses, lines and cable harnesses to original vehicle lines and cable harnesses using cable clips.

Sharp edges should be fitted with edge protectors (split open plastic hose).

Spray unfinished body areas, such as bore holes, with anti-corrosion wax (Tectyl 100K, Order no. 111329).

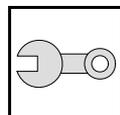
## Special Tools

- Torque spanner for 2.0 - 10 Nm
- Vice-grip wrench
- Riveting nut tool

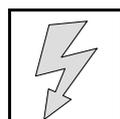
## Explanatory Notes on the Document

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

### Mechanics



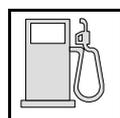
### Electrics



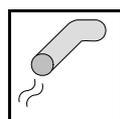
### Water Connection



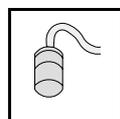
### Fuel connection



### Exhaust System



### combustion air



Special features are highlighted using the following symbols:



Specific risk of injury or fatal accidents.



Specific risk of damage to components.



Specific risk of fire or explosion.



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



Reference to a special technical feature.



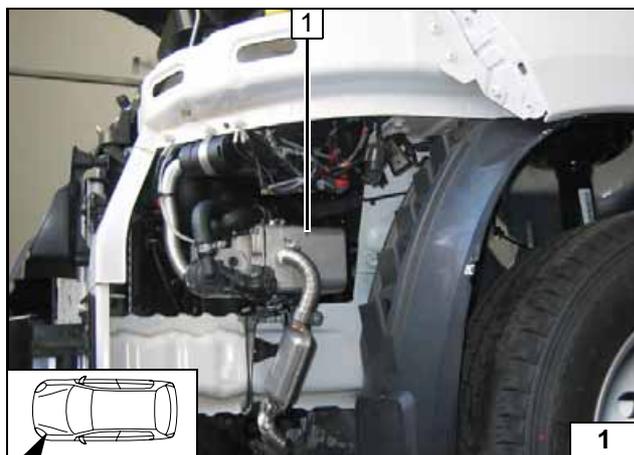
The arrow in the vehicle icon indicates the position on the vehicle and the viewing angle.

## Preliminary work

### WARNING!

- Open the tank cap, ventilate the tank.
- Close the tank cap again.
- Disconnect the battery.
- Let off pressure in the cooling system.
- Copy the factory number from the original type label to the duplicate type label.
- Remove years that do not apply from the duplicate label.
- Attach the duplicate label (type label) in the appropriate place.
- Remove the front grill
- Remove the left headlight.
- Remove the left bumper panel.
- Open right tank mounting service lid.
- Remove tank mounting according to manufacturer's instructions.
- Loosen the fuse and relay box (only with remote start)

Remove page 21 "Operating instructions for the end customer" and insert with vehicle operating instructions.



## Heater unit installation location

1 Heater unit

Installation location

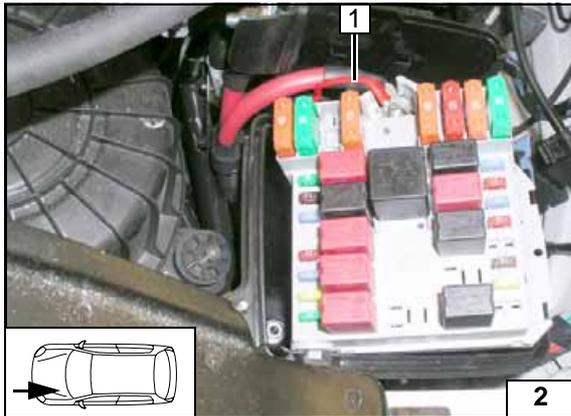


**Electrical Connection**

**Positive and ground connection**

Connect ground wire to the original vehicle chassis ground point.

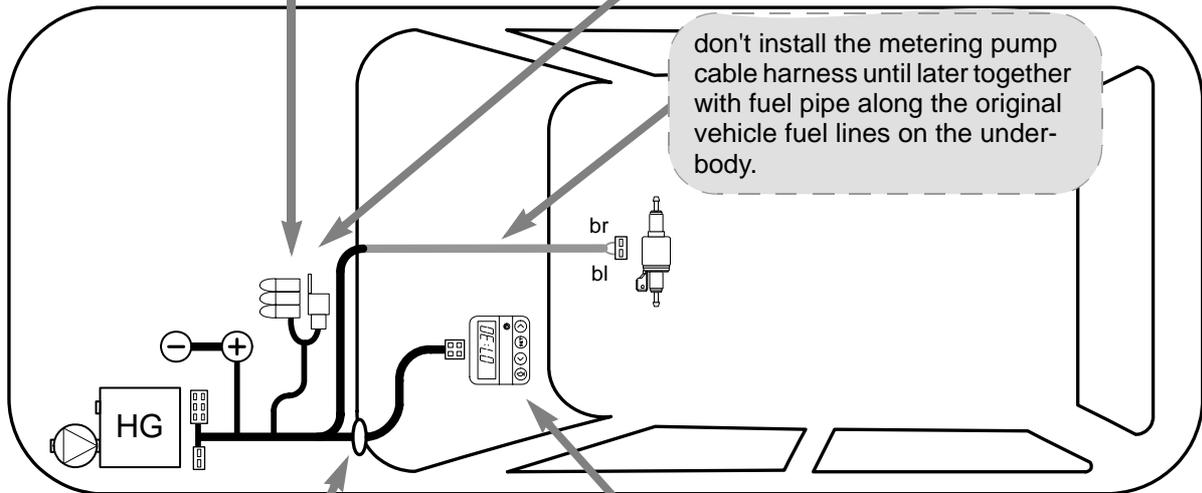
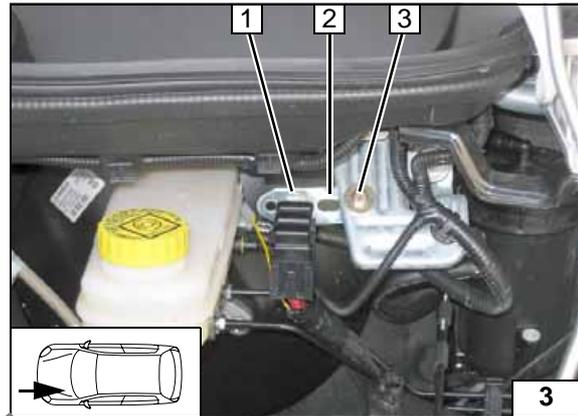
- 1 Positive wire to positive terminal.



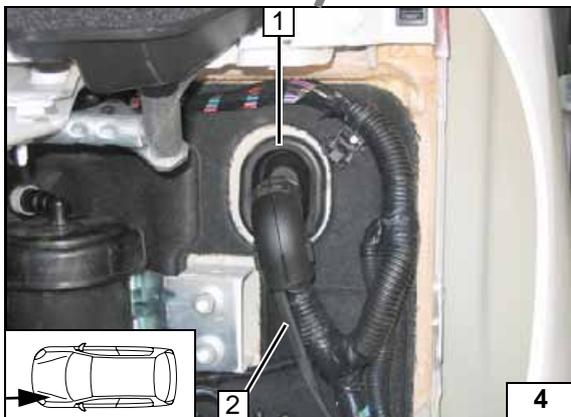
**Fuse holder, K3 relay**

Secure fastening strap 2 to the bracket with bolt M6x20 3, three body washers (1 above, 2 below) and M6 flanged nut. Position the fastening strap 2 as shown in the figure.

- 1 Fuse holder retaining plate, screw M5x16, K3 relay, flanged nut on the fastening strap.



**Cable harness installation diagram**



**Cable harness feed-through**

- 1 Protective rubber sleeve
- 2 Cable harnesses for the blower control and time switch

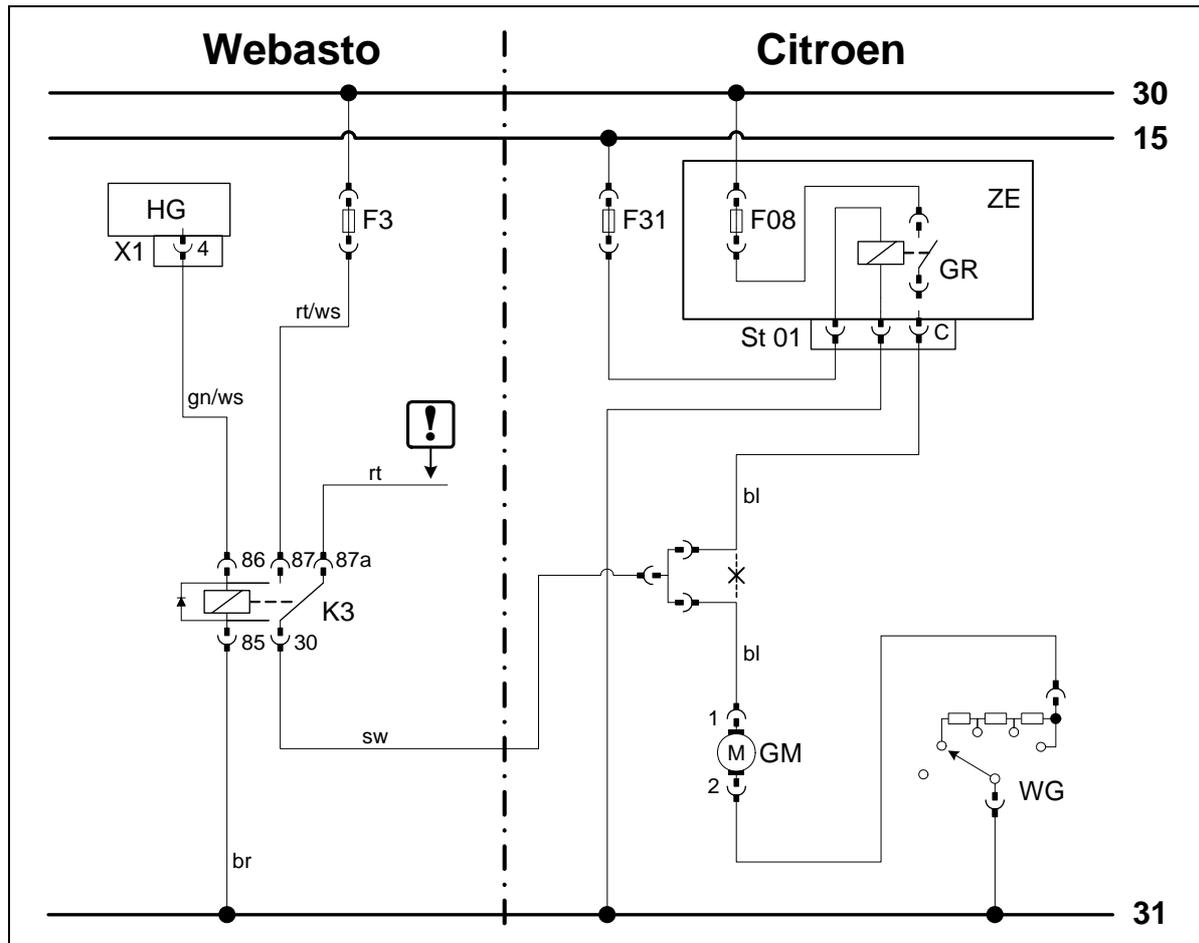


**Time switch**

- 1 Time switch



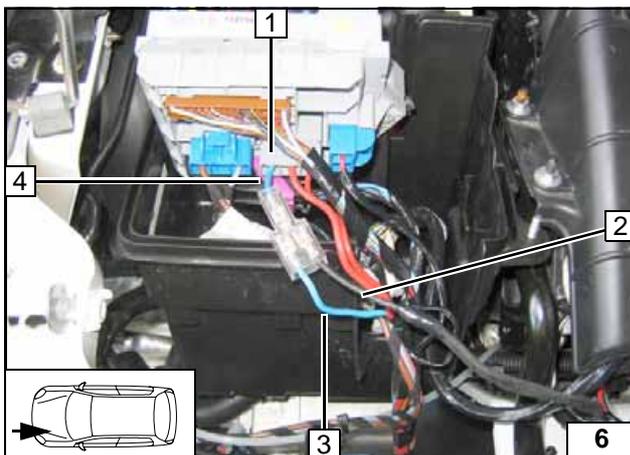
Manual air conditioning blower control



Circuit Diagram

Webasto components		Vehicle components		Colors and symbols	
HG	Heater unit TT-C/E	GM	Blower motor	rt	red
X1	6-pin connector	ZE	central electronics	ws	white
F3	Fuse 25A	St 01	Grey 3-pin connector	sw	black
K3	Blower relay	GR	Blower relay	br	brown
		WG	Resistor group	gn	green
		F08	Fuse 40A	bl	blue
		F31	Fuse 7.5A	!	Insulate and tie back wire ends
				X	Splitting point
					Cable colors may vary.

Legend

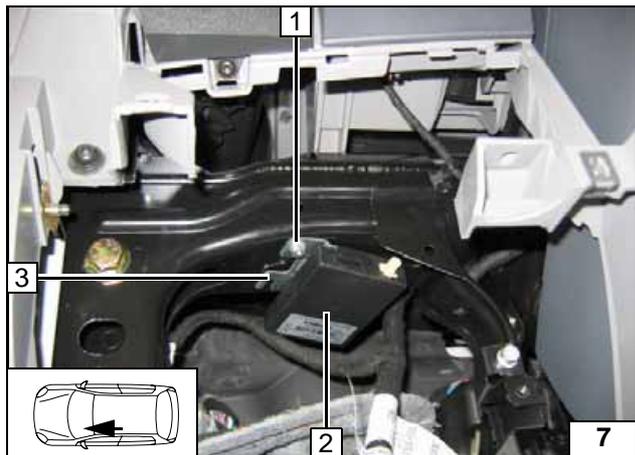


Connection to grey 3-pin connector 1 pin C from the engine compartment central electronics.  
Reconnect according to the circuit diagram. Insulate the red (rt) wire from K3/87a and tie back.

- 2 Wire (sw) from K3/30
- 3 Blue (bl) wire to blower motor.
- 4 Blue/white (bl/ws) wire from 3-pin connector for blower relay pin C.



Central electronics connection

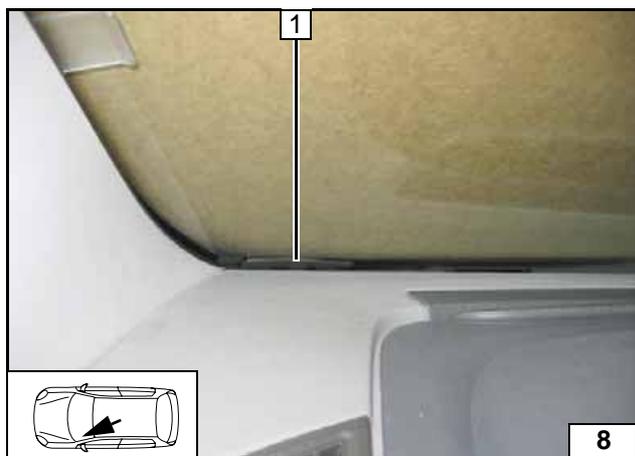


### Remote Start Option

- 3 Bracket
- 1 Bolt M5x16, flanged nut in previously drilled hole
- 2 Receiver

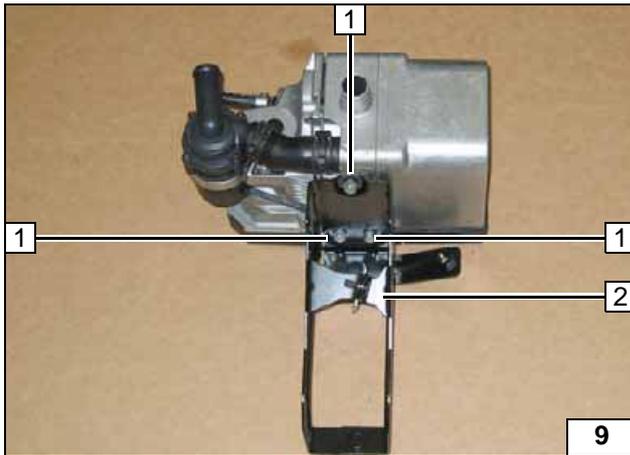
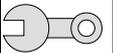


**Assembling the receiver**



- 1 Antenna

**Assembling the antenna**



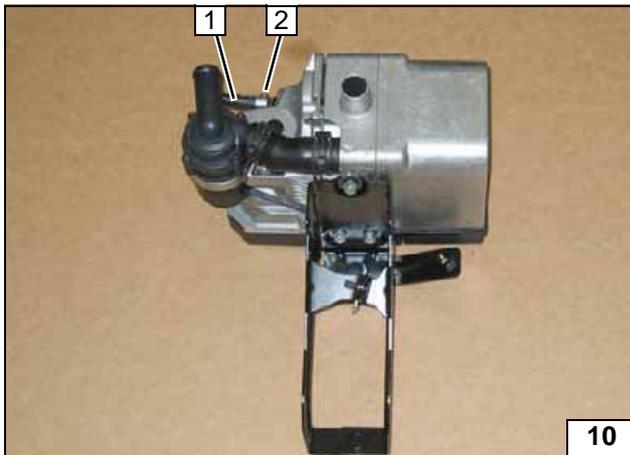
**Preparing the Heater Unit**

Ejot screw bolts tightening torque 10 Nm!

- 1 E-jot screw bolts [3x]
- 2 Bracket

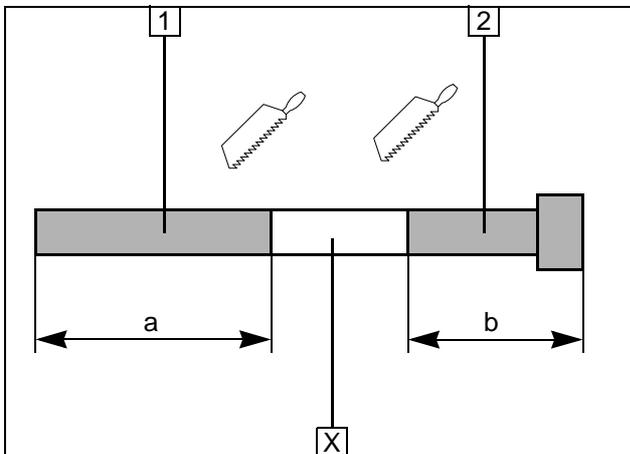


**Pre-assembling the bracket on the heater unit**



- 1 Sleeve
- 2 Ø 10mm hose clamp

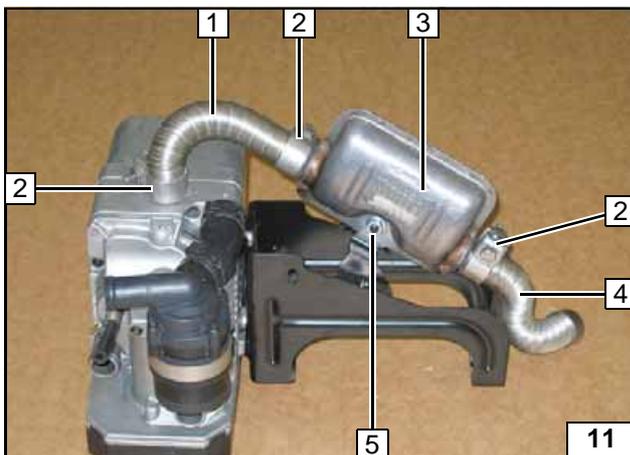
**Pre-assembling the fuel on the heater unit**



- 1 Exhaust pipe  
a = 160mm
- 2 Exhaust end section  
b = 140mm

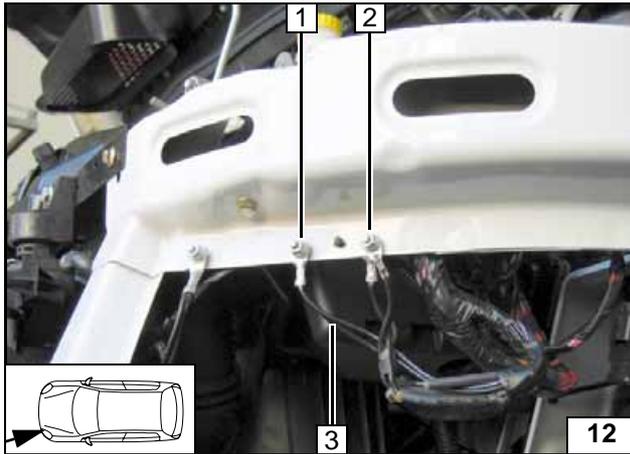
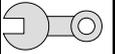
Dispose of section X

**Preparing the exhaust pipe**



- 1 Exhaust pipe
- 2 Hose clamps [3x]
- 3 Exhaust silencer
- 4 Exhaust end section
- 5 Flanged nut on existing stay bolt

**Pre-assembling the exhaust pipe**

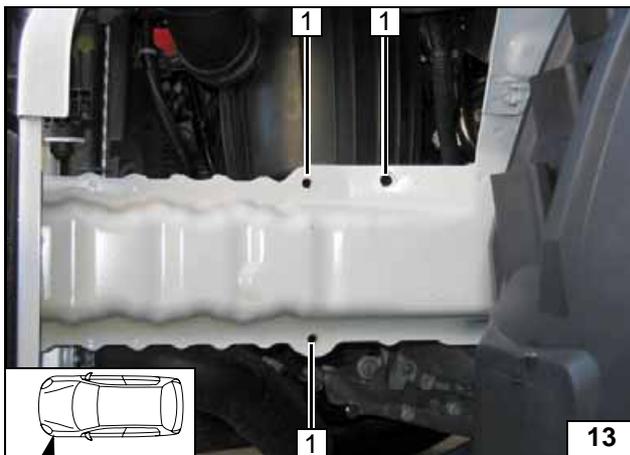


### Preparing the Installation Location

Move the ground wires **3** from position **1** to position **2**. The nuts will be required again.



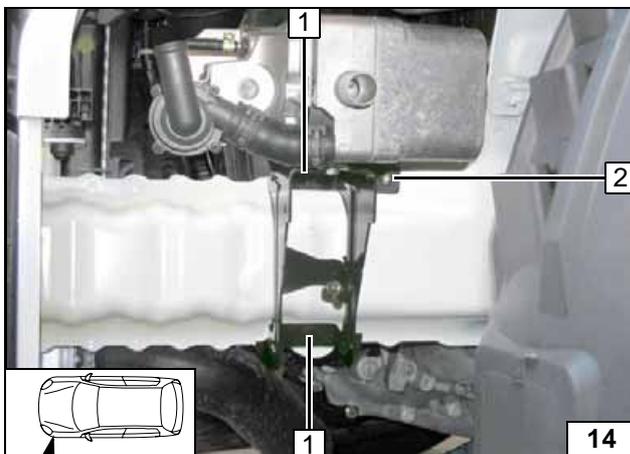
**Moving the chassis ground point**



The bore holes at position **1** are vehicle-dependant and may need to be widened to  $\varnothing$  8.5 mm.



**Bracket hole image**



### Installing the Heater Unit

Exhaust system removed here for a better view.

- 1** M8 flanged nut [2x] from behind on stay bolt from the bracket
- 2** M6x20 bolt (inserted from behind), spring washer, flanged nut M8



**Assembling the Heater Unit**



**Water connection for 2.2 l diesel engines**

**WARNING!**

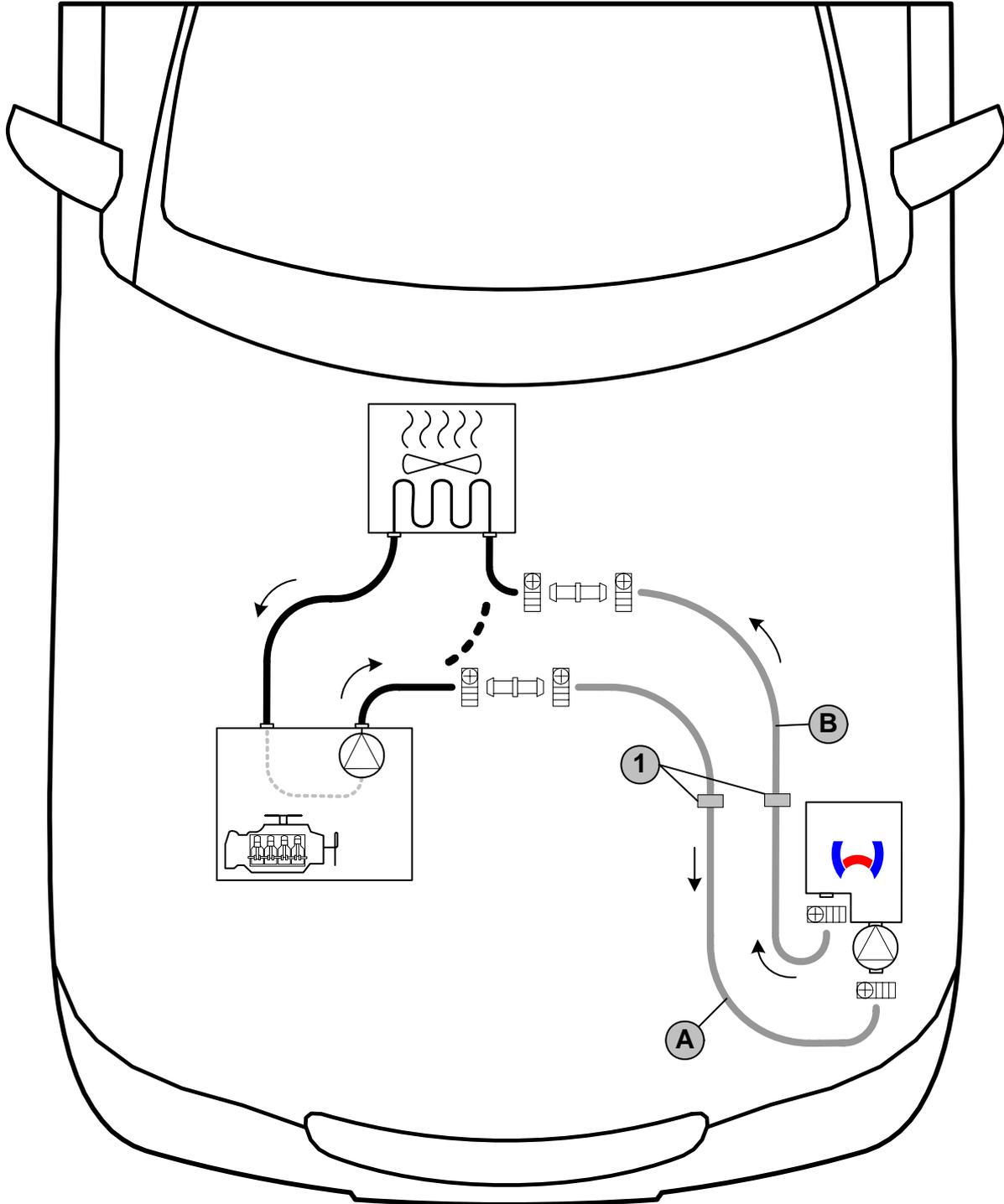
Tighten all hose clamps to 2.0 + 0.5 Nm.

Any coolant running off should be collected using an appropriate container!

Route hoses so that they are kink-free. Unless specified otherwise, always fasten using cable clips.

Position hose clamps and spring band clamps so that no other hose can be damaged.

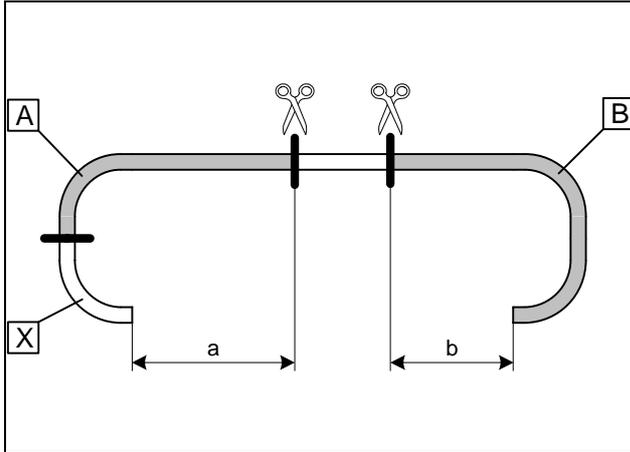
The connection should be "inline" based on the following diagram:



**Water installation diagram**

All hose clamps = Ø 20-27 mm. All connecting pipes = Ø 18x20.  
Position 1 = black rubber profile [2x].

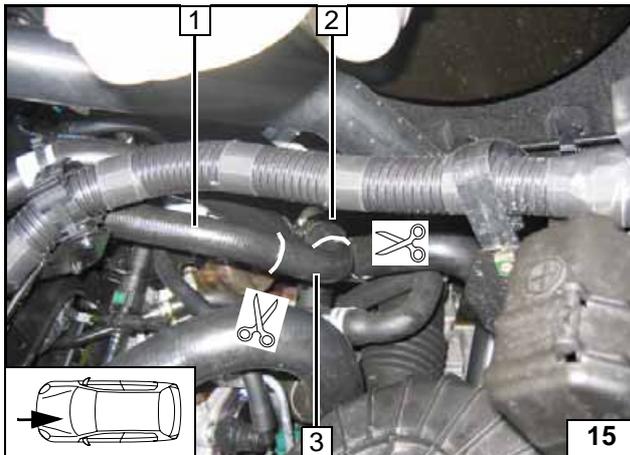




a = 620mm  
b = 590mm

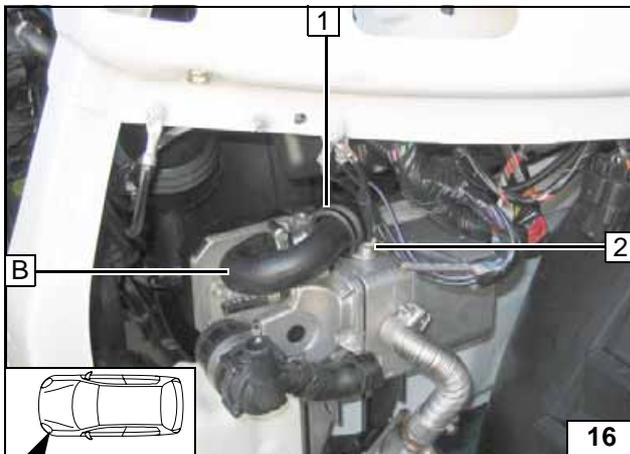
Dispose of section X

Cutting wa-  
ter hoses  
into sec-  
tions



- 1 Original vehicle engine outlet hose section
- 2 Original vehicle heat exchanger inlet hose section
- 3 Dispose of hose section

Splitting  
point

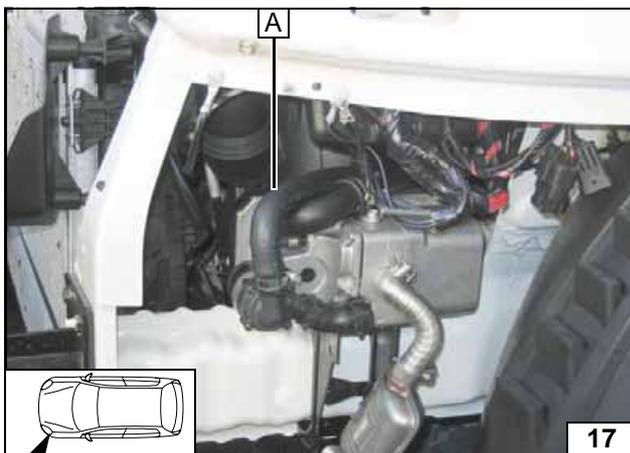


Ejot screw bolt 2, tightening torque 10 Nm.

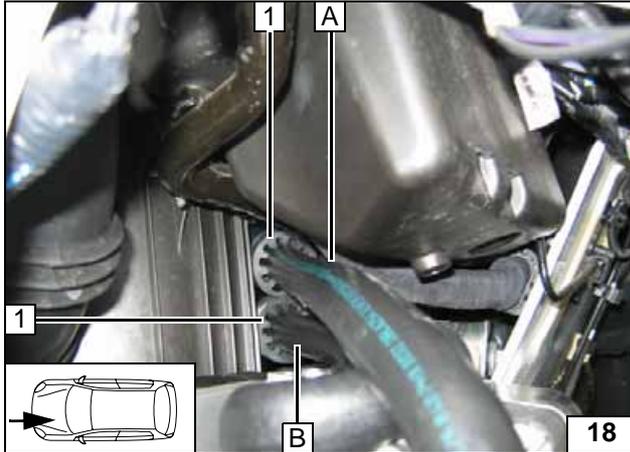
- 1 Rubberized tube clamp Ø 29 mm



Connect-  
ing the  
heater unit  
outlet



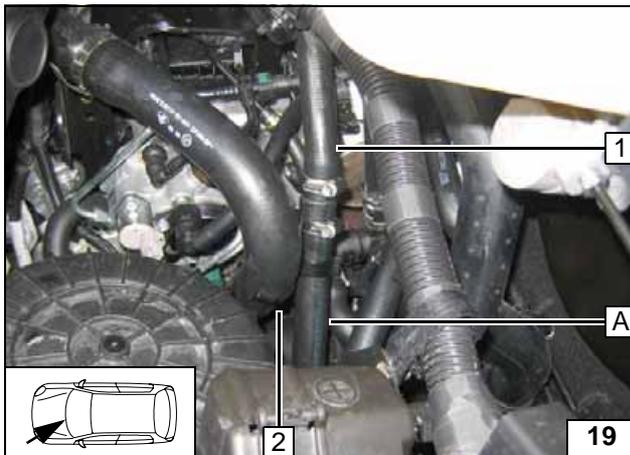
Connect-  
ing the  
heater unit  
inlet



Slide black rubber profile **1** onto hoses **A** and **B** and position on the control unit as shown in the figure.



**Slide on rubber profile**

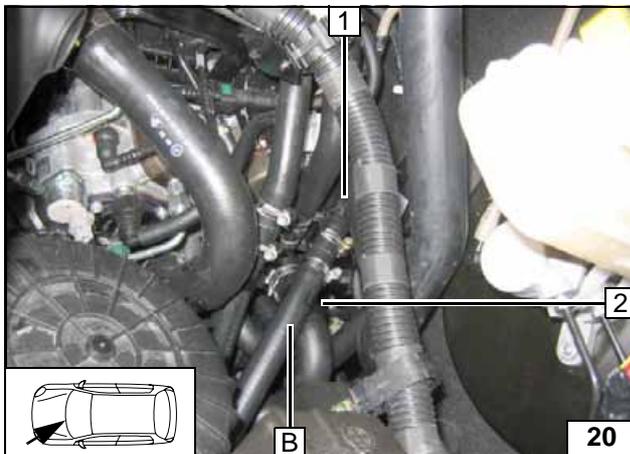


Before connecting, fill the water hoses with coolant.

- 1 Engine exhaust hose section
- 2 Spacer bracket



**Connecting engine outlet**



Before connecting, fill the water hoses with coolant.

- 1 Heat exchanger inlet hose section
- 2 Inserting spacer bracket



**Heat exchanger inlet connection**



**Water connection for 2.3l diesel engines**

**WARNING!**

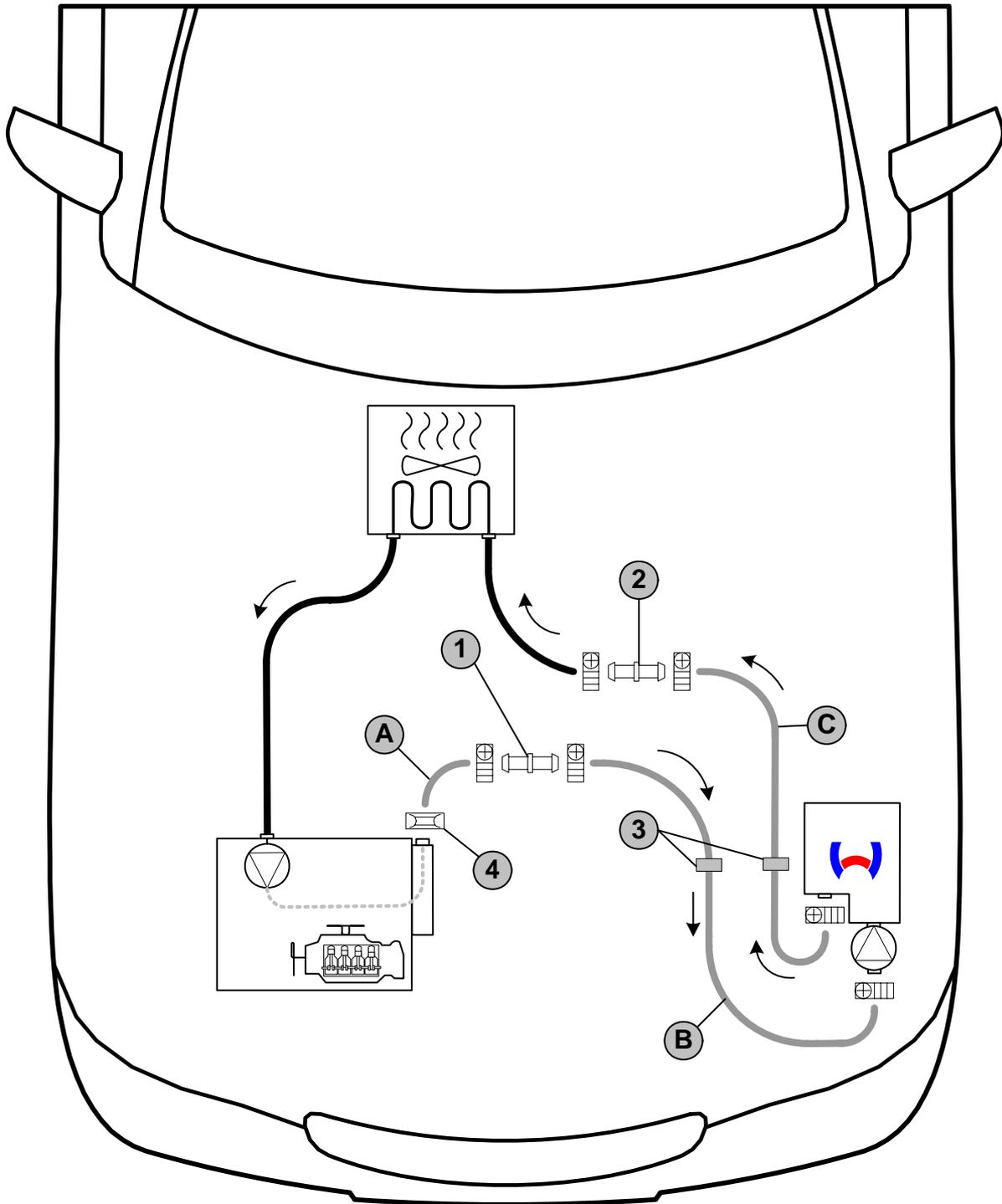
Tighten all hose clamps to 2.0 + 0.5 Nm.

Any coolant running off should be collected using an appropriate container!

Route hoses so that they are kink-free. Unless specified otherwise, always fasten using cable clips.

Position hose clamps and spring band clamps so that no other hose can be damaged.

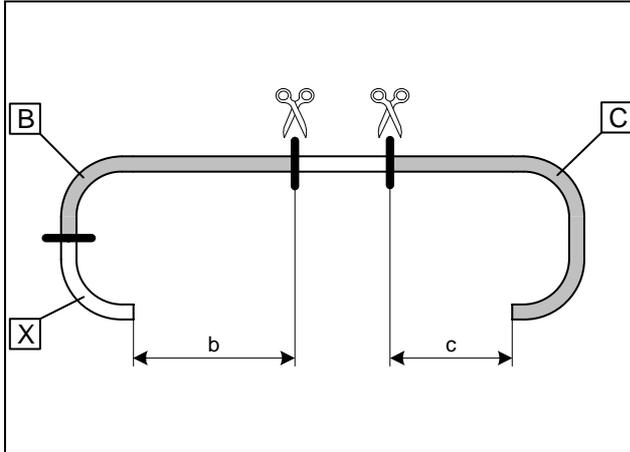
The connection should be "inline" based on the following diagram:



Water installation diagram

All hose clamps = Ø 20-27 mm. Connecting pipe 1 = Ø 18x20. Connecting pipe 2 = Ø 15x20. Position 3 = black rubber profile [2x]. Position 4 = Spring band clamp Ø 22mm

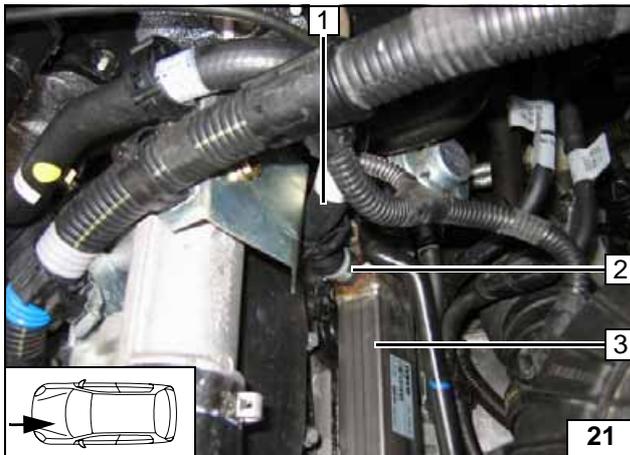




a = 550mm  
b = 440mm

Dispose of section X

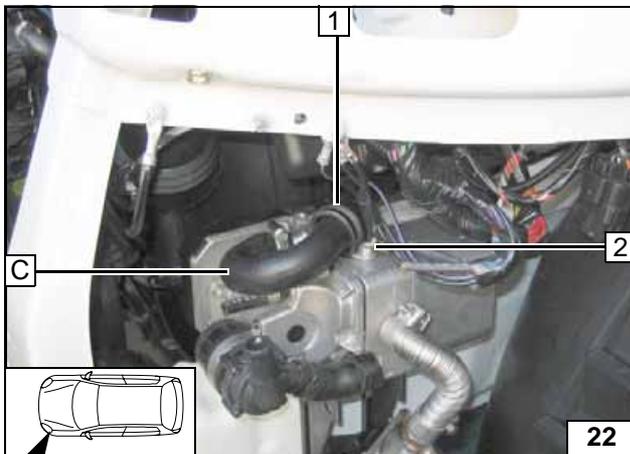
Cutting wa-  
ter hoses  
into sec-  
tions



Disassemble heater exchange inlet water hose 1 from the exhaust heat exchange connecting piece 3. Dispose of original vehicle clamp 2.



Splitting  
point

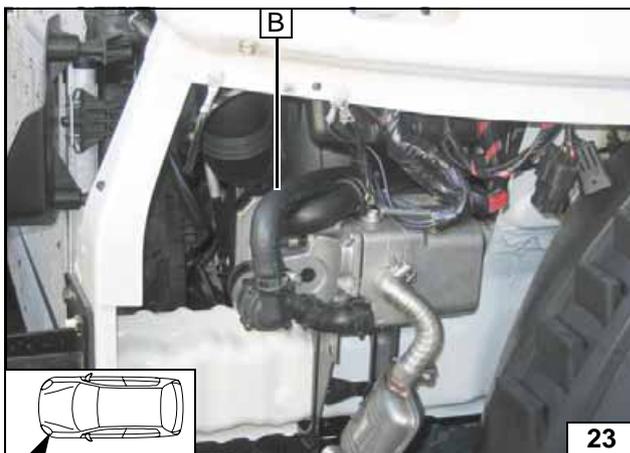


Ejet screw bolt 2, tightening torque 10 Nm.

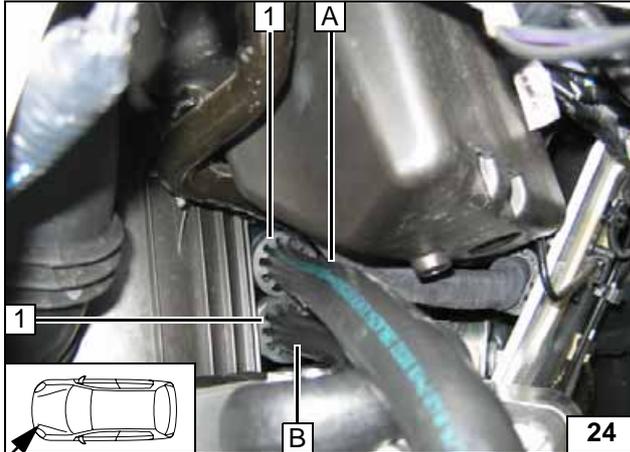
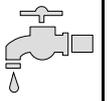
1 Rubberized tube clamp  $\varnothing$  29 mm



Connect-  
ing the  
heater unit  
outlet



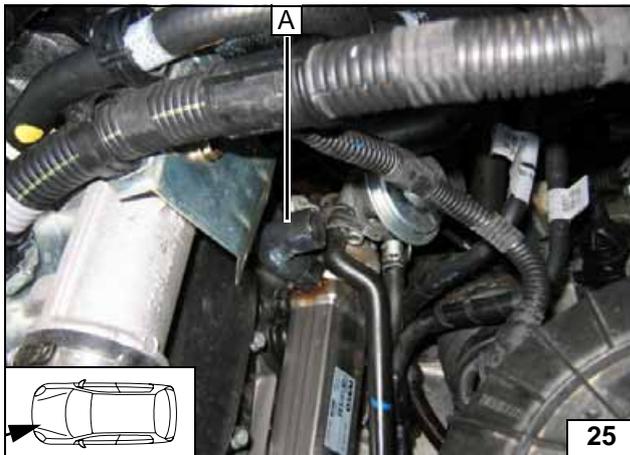
Connect-  
ing the  
heater unit  
inlet



Slide black rubber profile 1 [2x] onto hoses B and C and position as shown in the figure.



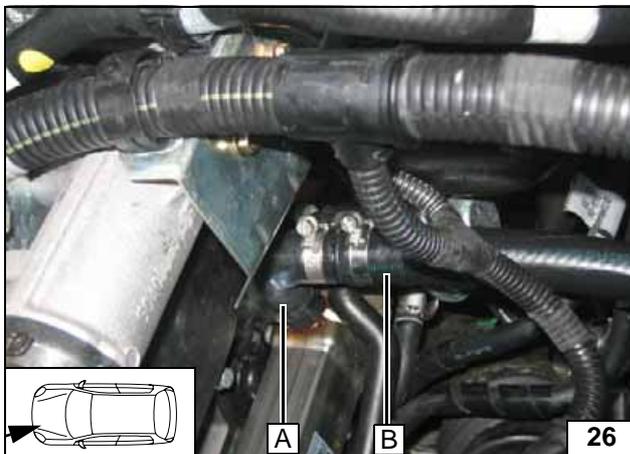
Slide on rubber profile



Assemble the enclosed moulded hose A on the exhaust heat exchange connecting piece.



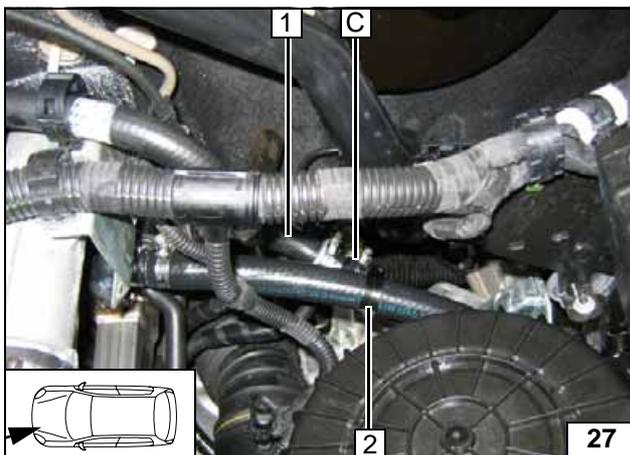
Connection to exhaust heat exchanger



Before connecting, fill the water hoses with coolant.



Connection to exhaust heat exchanger

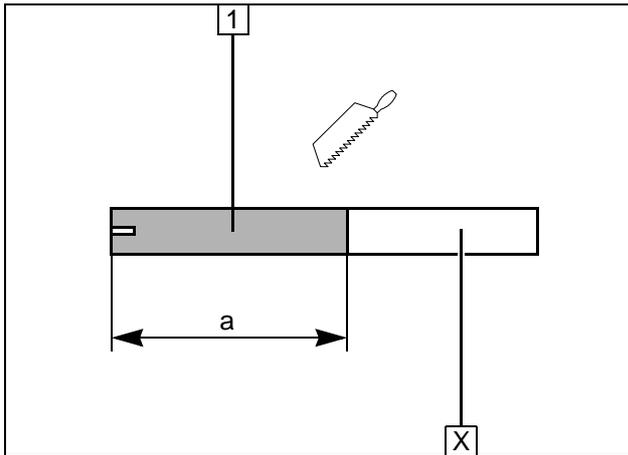


Before connecting, fill the water hoses with coolant.



- 1 Heat exchanger inlet hose
- 2 Inserting spacer bracket

Heat exchanger inlet connection

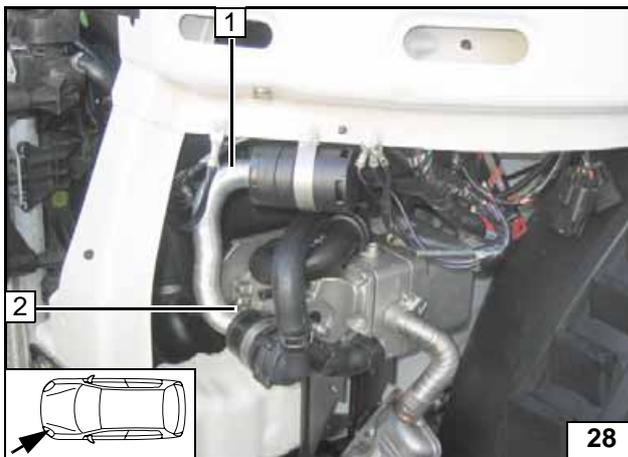


**Combustion Air**

- 1 Combustion air pipe  
a = 250mm

Dispose of section X

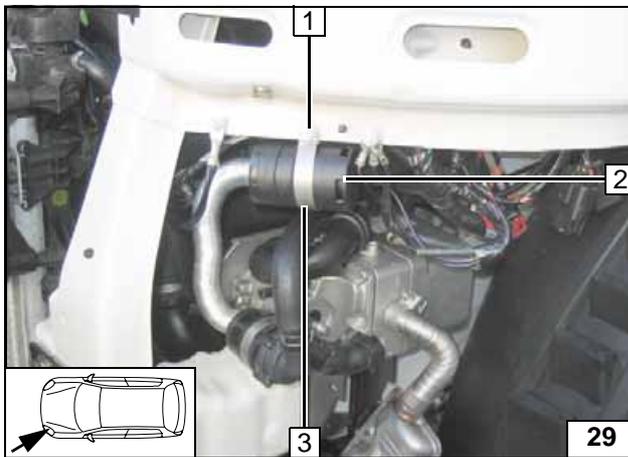
**Cutting the combustion air pipe to length**



- 1 Combustion air intake pipe
- 2 Ø 27mm hose clamp



**Assembling the vacuum line.**



- 1 Original vehicle stay bolts, nuts
- 2 Combustion air intake silencer
- 3 Tube clamp Ø 48 mm (without rubber)

**Assembling the silencer**



**Fuel Connection**

**CAUTION!**

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

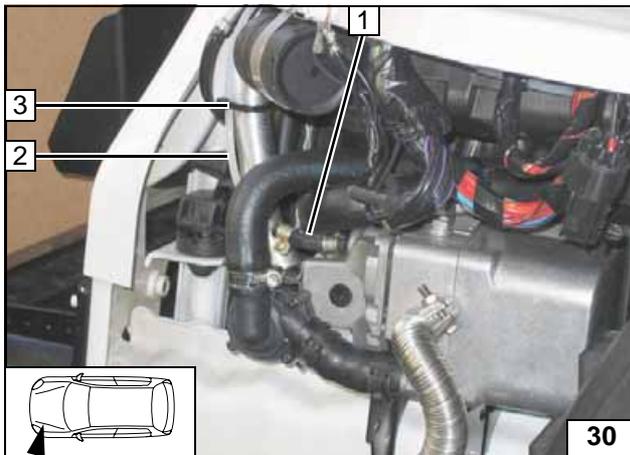
Catch any fuel running off with an appropriate container.

Install fuel line and metering pump cable harness so that they are protected against stone impact. Unless specified otherwise, always fasten using cable clips.

Fit the fuel line and cable harness with edge protectors around sharp edges.

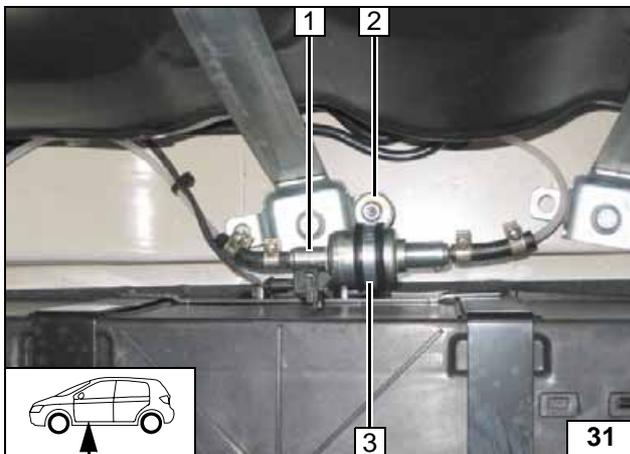
**WARNING!**

The fuel line and cable harness to the metering pump should be installed based on the cable harness installation diagram.



- 1 Hose section, Ø 10mm hose clamps [2x]
- 2 Mecanyl fuel line
- 3 Cable clips

**Connection to heater**

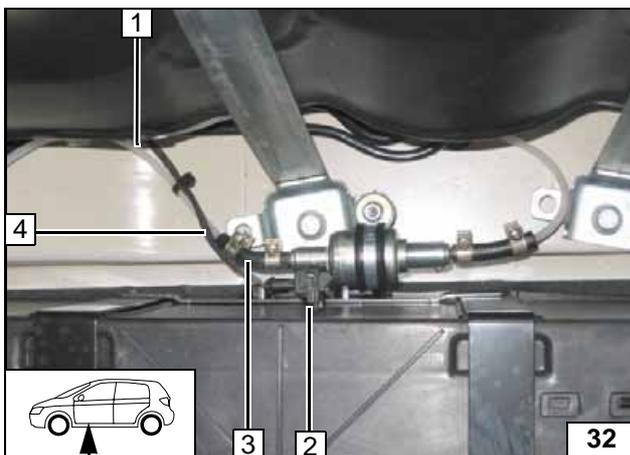


Note the installation position of the metering pump, see the Installation Instructions. Installation location between vehicle tank and battery box.

- 1 Metering pump
- 2 Silentblock, body washer [2x], flanged nut [2x] on existing bore hole.
- 3 Rubberized tube clamp



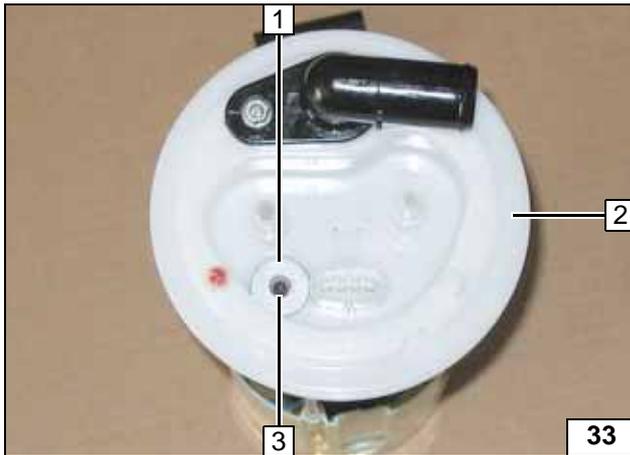
**Metering pump installation location**



Assemble fuel line from the heater unit 1 on the pressure side of the metering pump [side with connector].

- 2 Wire seals, flat connector, connector housing
- 3 Hose section, Ø 10mm hose clamps [2x]
- 4 Metering pump cable harness

**Assembling the metering pump**

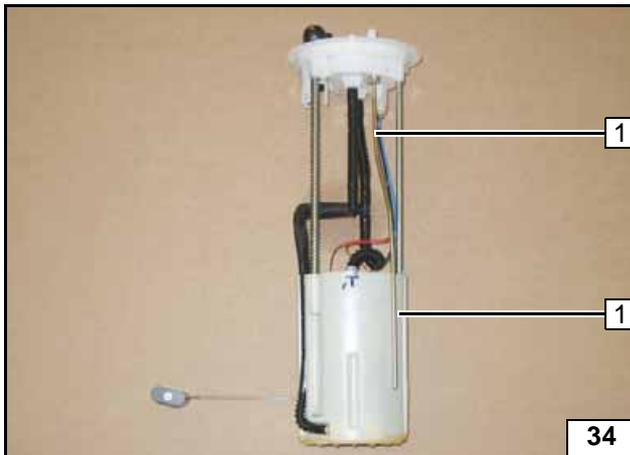


Remove the tank mounting<sup>2</sup> according to the manufacturer's instructions and take it apart.

- 1 Position the body washer
- 3 Copy the hole template, Ø 6mm bore hole



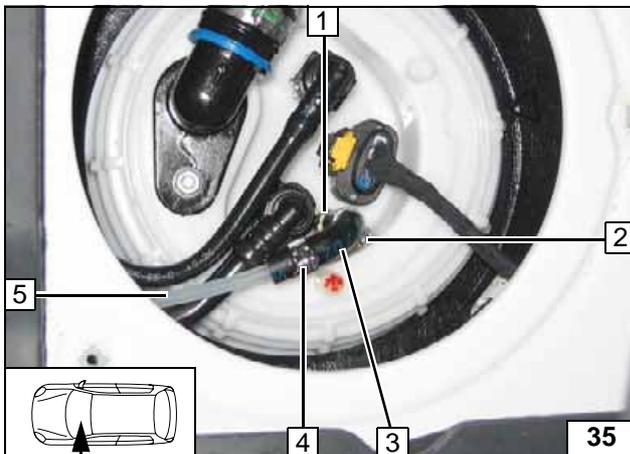
Fuel take-off



Shape, cut into sections, and insert the tank extracting device 1 according to the template, see the Installation Instructions.



Inserting tank extracting device

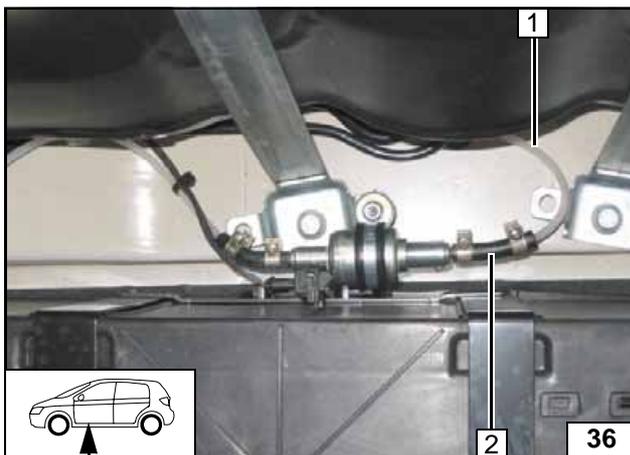


Install the tank mounting according to manufacturer's instructions.

- 1 Tank extracting device
- 2 Universal clip Ø 9mm
- 3 90°-Moulded hose Ø 3.5 mm x 4.5 mm
- 4 Universal clip Ø 10 mm
- 6 Residual section of Mecanyl fuel line



Connecting and disconnecting the fuel pipe

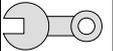


Fuel line from the tank extracting device 1 on the intake side of the metering pump [side without connector]. Check the position of the components; adjust if necessary. Check that they have free clearance.

- 2 Hose section, Ø 10mm hose clamps [2x]



Connection to metering pump



## Final Work

### **WARNING!**

Reassemble disassembled components in reverse order.

Check that all hose lines, clips, and all electrical connections are securely fastened.

Secure all loose cables using cable clips.

Only use manufacturer-approved coolant.

Spray heating unit components with anti-corrosion wax (Tectyl 100K, Order No. 111329).

- Connect battery
- Fill and bleed the coolant circuit according to the vehicle manufacturer's specifications.
- Set the time switch.
- Make settings according to "Operating instructions for the end customer".
- Check that the auxiliary heating operates properly, see operating instructions / installation instructions.
- Attach the "Switch off auxiliary heating before re-fuelling" sticker onto the left side of the B-pillar.



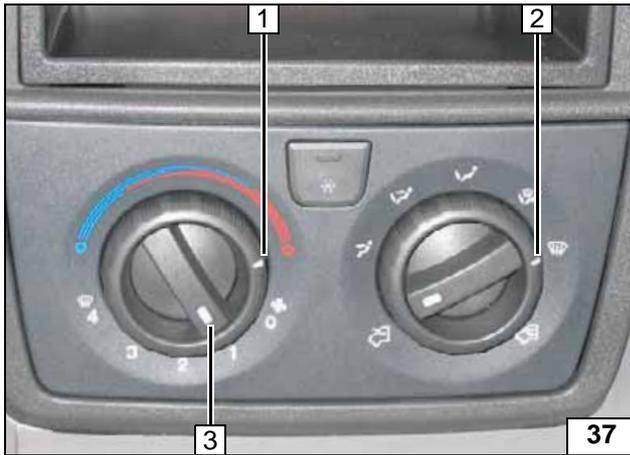
**Operating instructions for the end customer**

Please remove page and add to the vehicle operating instructions.



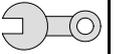
**Rule of thumb for operating the auxiliary heating: driving time = heating time.**

Before parking the vehicle, make the following settings:



- 2 Air outlet to windshield
- 3 Blower set to "1" or "2"
- 1 Temperature to "max."

For vehicles with manual air conditioning



### Tank Extracting Device Template

Note the length.  
Shown cut open in the straight area.

