

Water Heater Unit



Thermo Top E Additional Heater e1 00 0003

Thermo Top C Additional Heater e1 00 0002

Thermo Top P Additional Heater e1 00 0104

Installation Instructions

Opel Vivaro

Diesel
from Model Year 2007
Left-hand drive vehicle



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 warnings.

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

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Validity

Manufacturer	Model	Type	EG-BE No./ABE
Opel	Vivaro	X83	e1 *98 / 14 * 0170 ...
Opel	Vivaro	F7	K830
Opel	Vivaro	E7	L048

Engine type	Engine model	Output in kW	Displacement in cm ³
M9R	Diesel	66	1995
M9R	Diesel	84	1995
G9U	Diesel	107	2464

Vehicle and engine types, equipment variants and national specifications not listed in these installation instructions have not been tested. However, installation according to these installation instructions may be possible.

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

Heater Unit/Installation Kit

Quantity	Description	Order No.:
1	Opel-specific heater unit delivery scope	See Opel price list
1	Installation Kit for Opel Vivaro from 2001 TT/C Diesel	9002568H

Optional heater control either:

Quantity	Description	Order No.:
1	Heater control	See Opel price list

Heater unit recommended for the respective vehicle class:

Vehicle	Heater unit
Compact car	Thermo Top E
Mid-size car, station wagon	Thermo Top C
Full-size car, van, offroader	Thermo Top P



The selection of the heater unit is based on the passenger compartment size of the vehicle and the level of comfort required by the customer!

Foreword

These installation instructions apply to Opel Vivaro Diesel vehicles - for validity, see page 2 - from model year 2007 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* must always be observed.

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 wiring harnesses to original vehicle lines and wiring harnesses using cable ties.

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

Spray unfinished body areas, e.g. drilled holes, with anti-corrosion wax (Tectyl 100K, Order No. 111329).

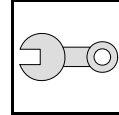
Special Tools

- Torque wrench for 2.0 - 10 Nm
- Hose clamping pliers
- Torx E5 nut

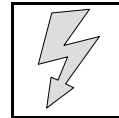
Explanatory Notes on Document

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.

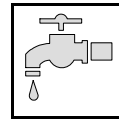
Mechanical system



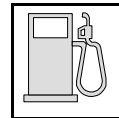
Electrical system



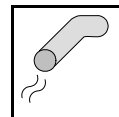
Coolant connection



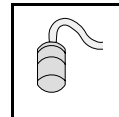
Fuel connection



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.



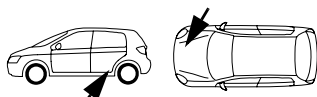
Specific risk of fire or explosion.



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



Reference to a special technical feature.



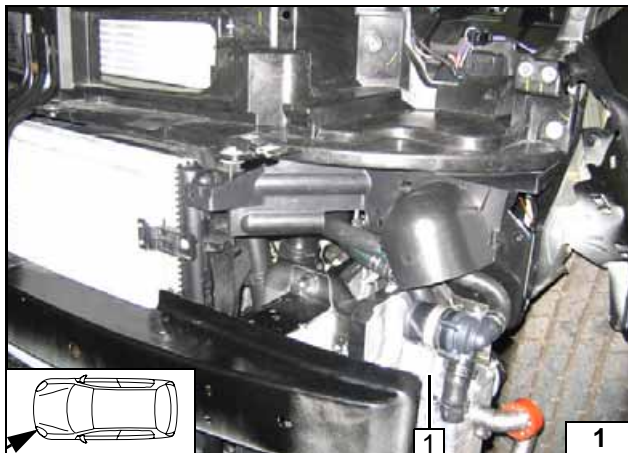
The arrow in the vehicle icon indicates the position on the vehicle and the viewing angle.

Preliminary Work

WARNING!

- Open the fuel tank cap, ventilate the tank.
- Close the tank cap again.
- Disconnect the battery "earth" or "ground" connection.
- Depressurize 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 entire air filter box together with the intake hose.
- Remove the front apron
- Remove the horn with the bracket
- Remove the left-hand headlight
- Detach and remove the right and left-hand wheel well trim
- Remove the bumper with trim pieces
- Remove the underride protection (2-piece)
- Remove the lower instrument panel trim on the front passenger side
- Take off the left-hand side trim of the instrument panel (only with HTM 100)
- Remove the A-pillar trim in the driver's side footwell (only with Telestart)

Remove page 23 "Operating Instructions for End Customer" and insert with vehicle operating instructions.



Heater unit installation location

- 1 Heater unit

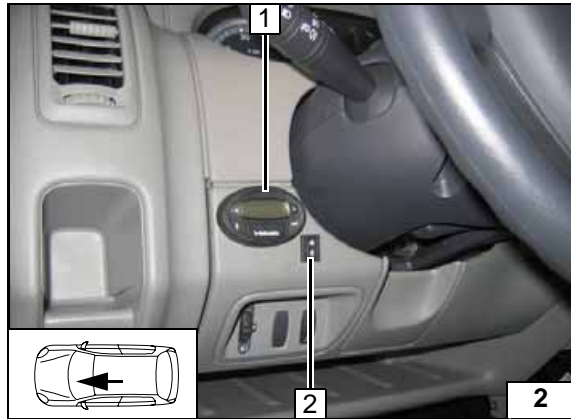
Installation
location



Electrical Connections

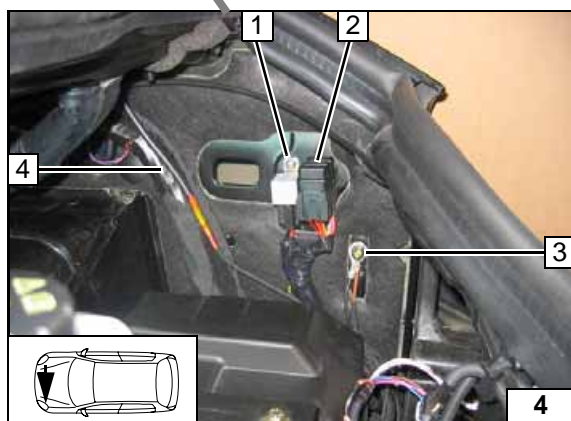
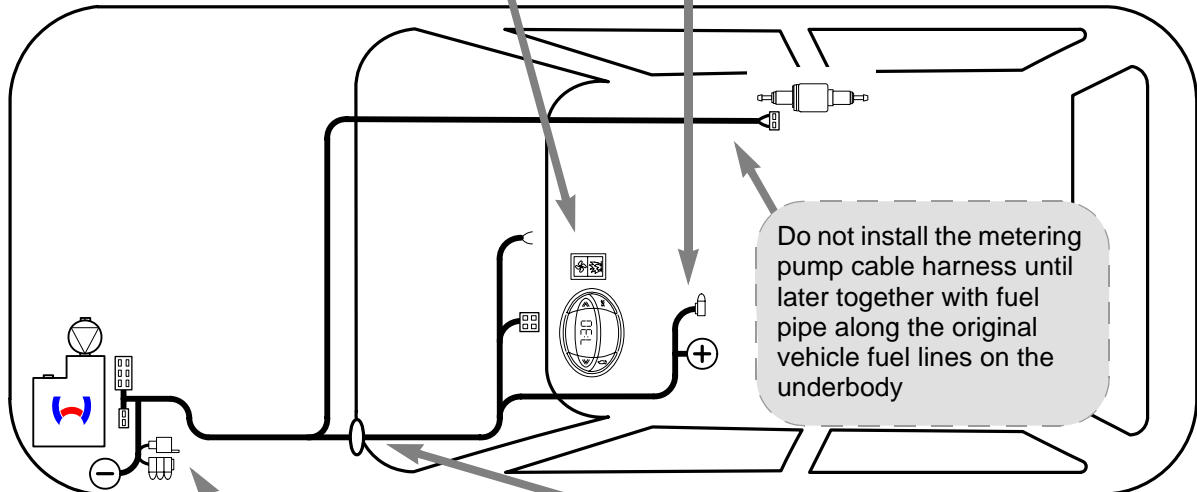
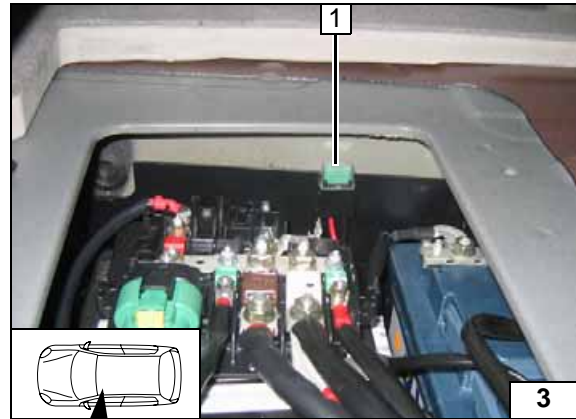
Digital timer and summer/winter switch option

- 1 Digital timer
- 2 Summer/winter switch, drilled hole 12 mm dia.



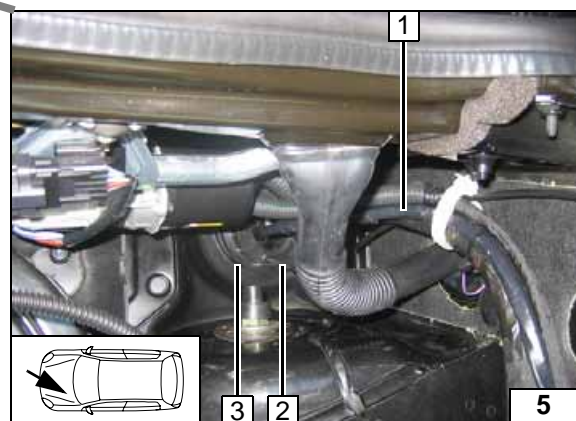
Connection of positive wire

Connect red (rt) positive wire, 4mm², to positive support point. Fasten retaining plate of fuse holder with 3x9 self-tapping screw on battery carrier. Mount fuse, F4 30 A 1.



Fuse holder, relay K3

- 1 4 mm dia. hole, 5.5x13 self-tapping screw; K3 relay
- 2 4 mm dia. hole, 5.5x13 self-tapping screw; retaining plate, fuse holder
- 3 Ground wire on ground support point
- 4 Extend positive wire with connector and red (rt) wire, 4mm² (crimp and shrink)



Wiring harness pass through

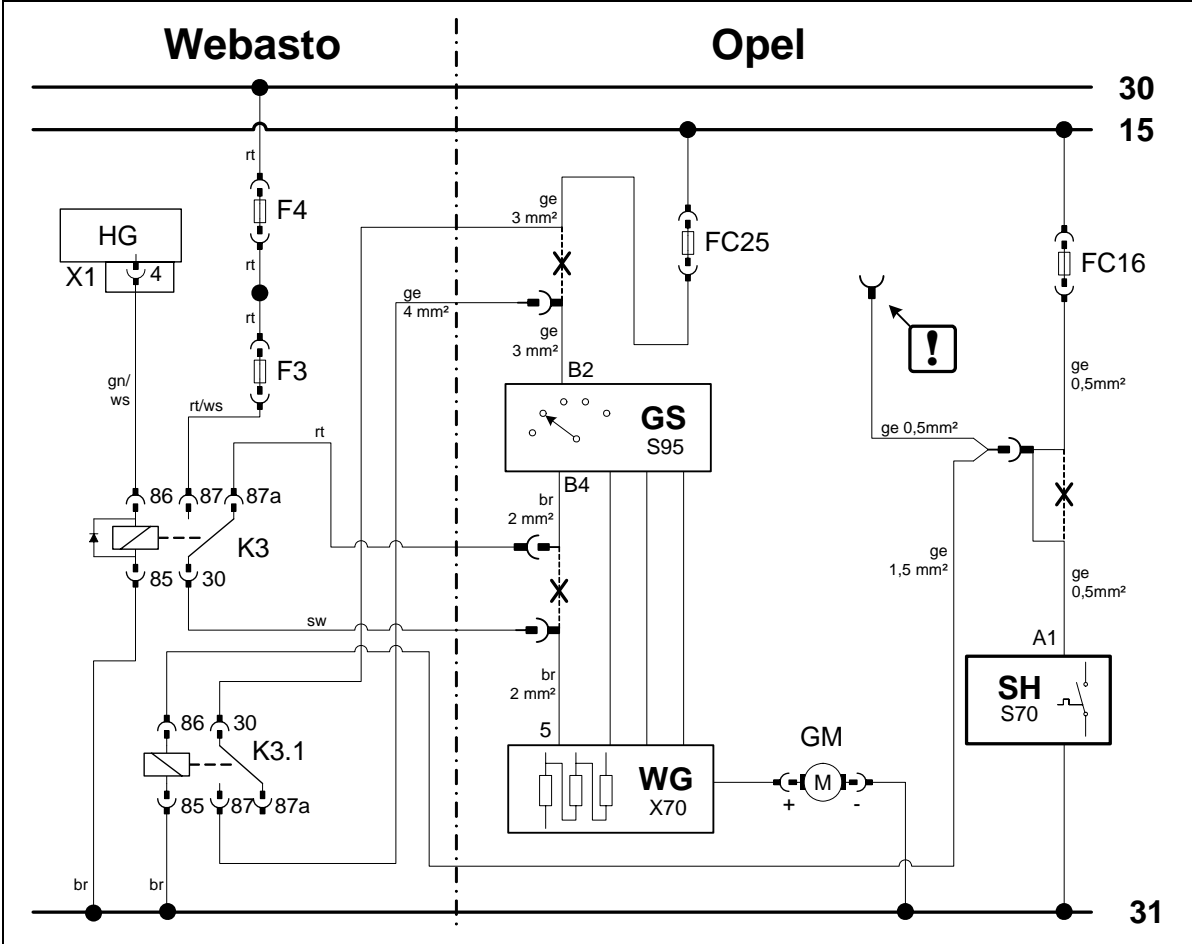
- 1 Wiring harness of fan controller, wiring harness of digital timer
- 2 Route extended positive wire in protective sleeving to battery box and connect to fuse F4
- 3 Protective rubber plug



Wiring harness installation diagram



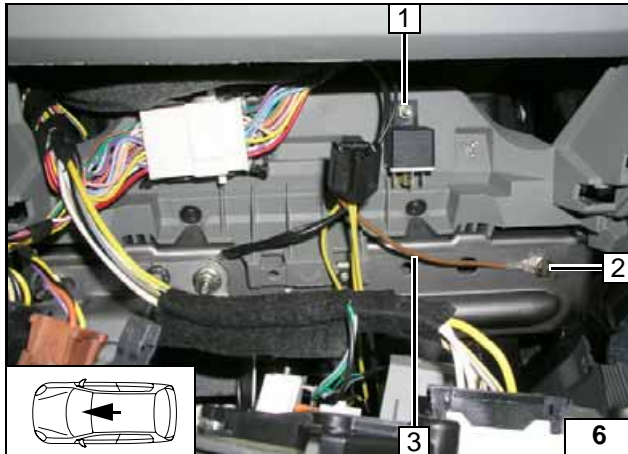
Fan controller



Wiring diagram

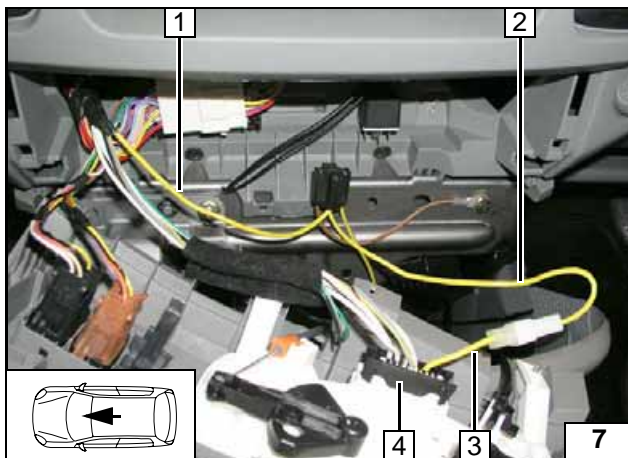
Webasto components		Vehicle components		Colors and symbols	
HG	Heater unit TT-C/E	GM	Fan motor	rt	red
X1	6-pin connector	WG	Resistor group X70	ws	white
F3	Fuse, 25 A	GS	Fan switch S95	sw	black
F4	Additional fuse, 30 A	FC25	25 A fan fuse	br	brown
K3	Fan relay	FC16	Fuse, 15 A	gn	green
K3.1	Isolating relay	SH	Switch for rear-window heater, connector S70	ge	yellow
					Insulate wire end and tie back
				X	Cutting point
				Wiring colors may vary.	

Legend



- 1 Isolating relay K3.1, M5x16 bolt, flanged nut on existing hole
- 2 Mount M8x16 bolt, flanged nut in existing hole
- 3 Brown (br) wire from K3.1/85, 8 mm dia. cable lug

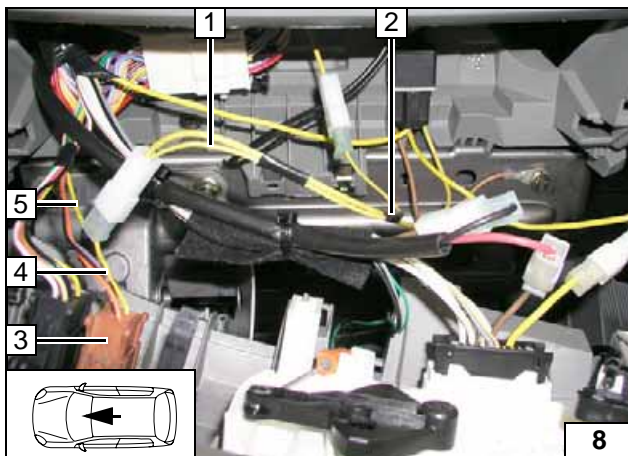
Installing isolating relay



Connection to connector S95 4 of fan switch. Produce connections as shown in wiring diagram.

- 1 Yellow (ge) wire from original vehicle fuse FC25
- 2 Yellow (ge) wire from K3.1/87
- 3 Yellow (ge) wire to connector S95 of fan switch, Pin B4

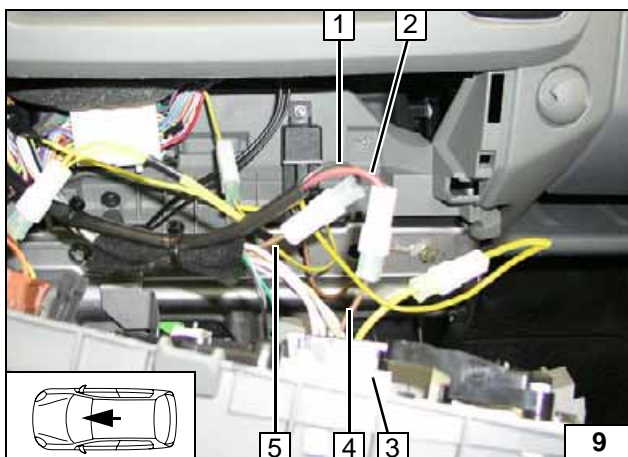
**Con-
nection to fan switch**



Connection to connector S70 3 of switch for rear-window heater. Produce connections as shown in wiring diagram.

- 1 Yellow (ge) wire from K3.1/86
- 2 Insulate free yellow (ge) wire and tie back
- 4 Yellow (ge) wire to connector S70 of switch for rear-window heater
- 5 Yellow (ge) wire from original vehicle fuse FC16

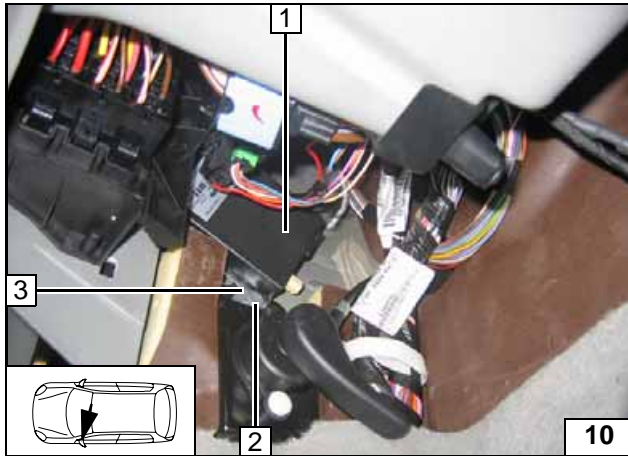
**Con-
nection of switch for rear-
window heater**



Connection to connector S95 3 of fan switch. Produce connections as shown in wiring diagram.

- 1 Black (sw) wire from K3/30
- 2 Red (rt) wire from K3/87a
- 4 Brown (br) wire to connector S95 of fan switch
- 5 Brown (br) wire to resistor group

**Con-
nection to fan switch**



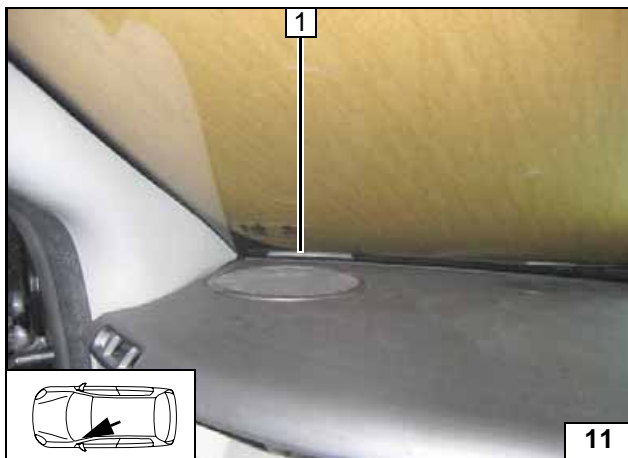
Remote option (Telestart)

Drill out bracket 3 to 6.5 mm dia. at position 2.

- 1 Receiver
- 2 M6x20 bolt in existing hole

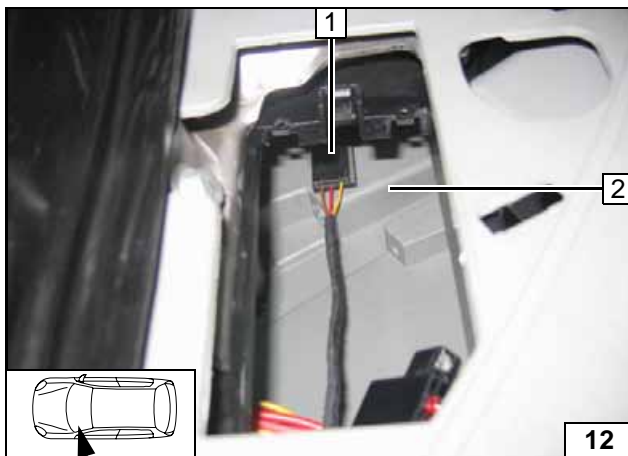


Installing receiver



- 1 Antenna

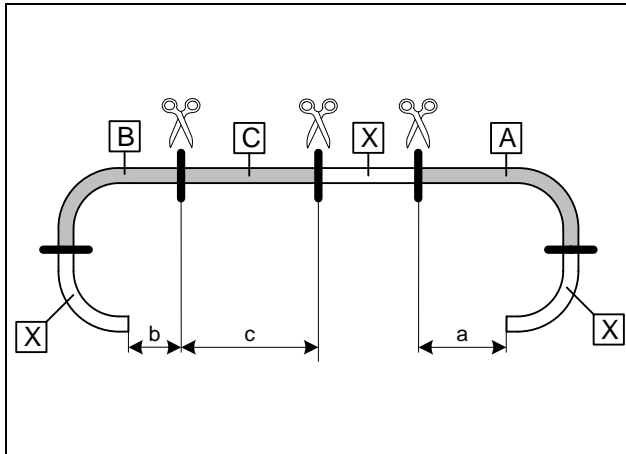
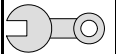
Installing antenna



Temperature sensor for HTM100 only

- 1 Fasten temperature sensor with suitable means
- 2 Ventilation duct

Installing temperature sensor

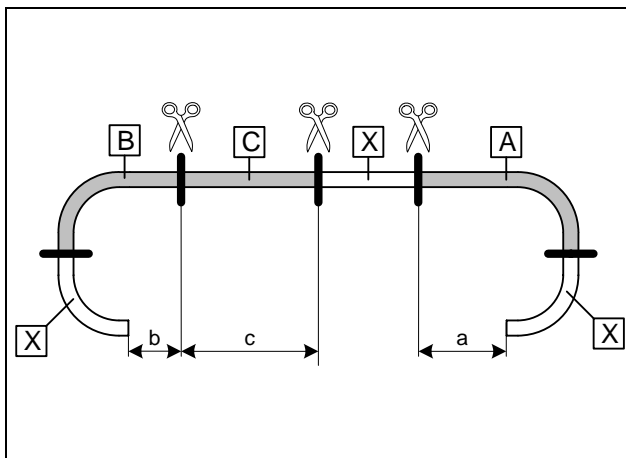


Preparing heater unit

2.0 l dCi

a = 580 mm
b = 50 mm
c = 470 mm

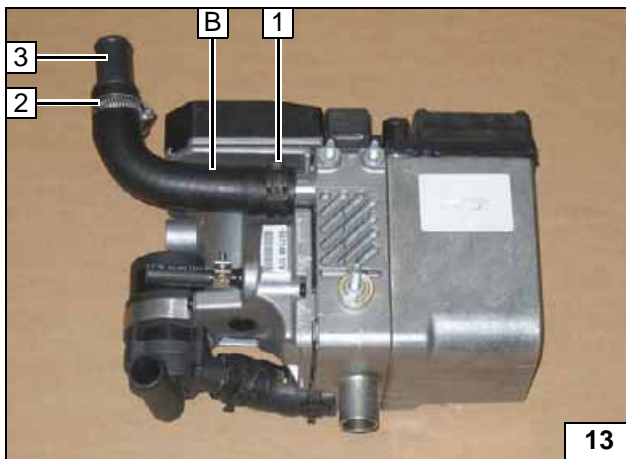
Discard section **X**.
Push braided protection hose onto hose **A** and **C**.



2.5 l dCi

a = 755 mm
b = 50 mm
c = 655 mm

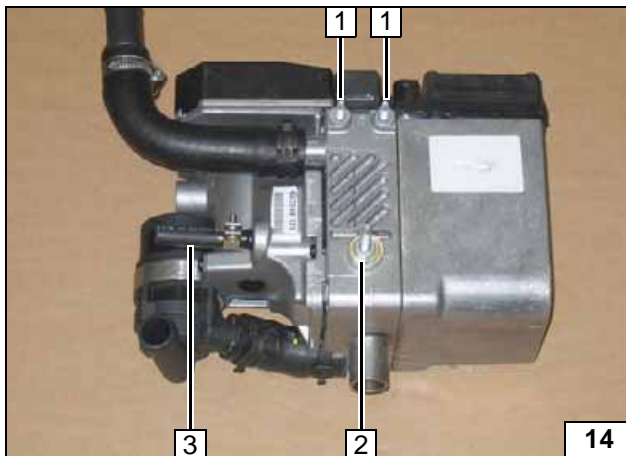
Discard section **X**.
Push braided protection hose onto hose **A** and **C**.



All vehicles

- 1 27 mm dia. spring clip
- 2 27 mm dia. hose clamp
- 3 20x20 connecting pipe

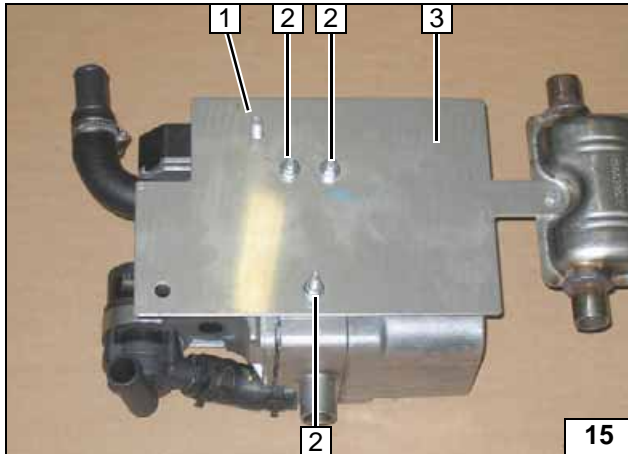
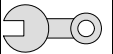
Preassembling hose B



Ejot stud, tightening torque 10 Nm.

- 1 Short Ejot stud [2x], washer [2x each]
- 2 Long Ejot stud, 5 mm shim, washer
- 3 Hose section, 10 mm dia. hose clamp

Preassembling heater unit

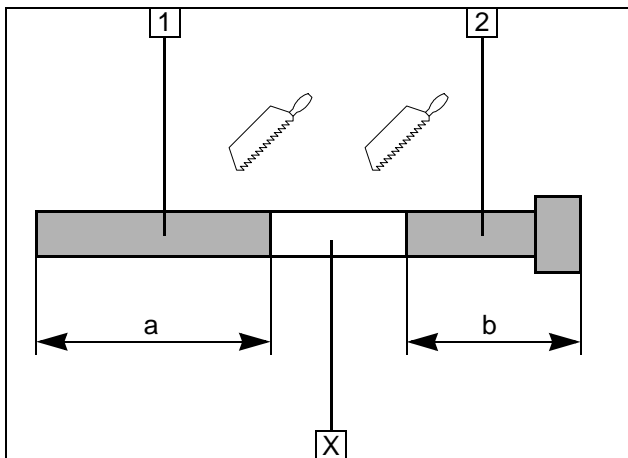


Before installing, insert M8x20 bolt 1 in bracket 3.

2 Flanged nut (3x)



Preassembling bracket on heater unit



1 Exhaust pipe

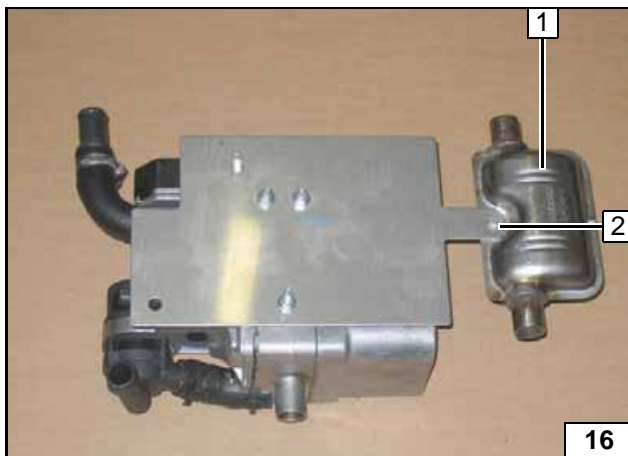
a = 330 mm

2 Exhaust end section

b = 140 mm

Discard section X

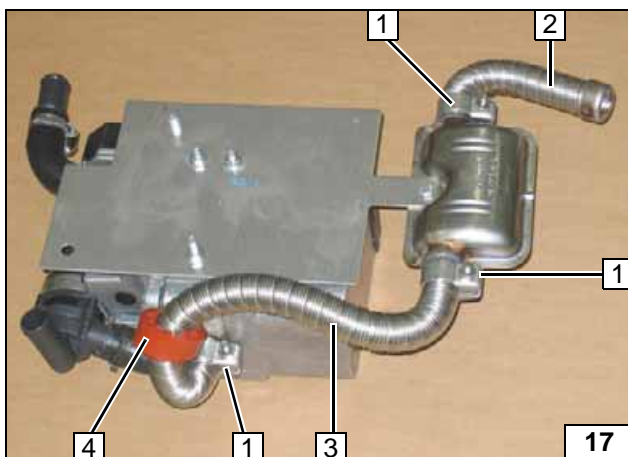
Preparing exhaust pipe



1 Exhaust muffler

2 M6x20 bolt, flanged nut

Preassembling exhaust muffler



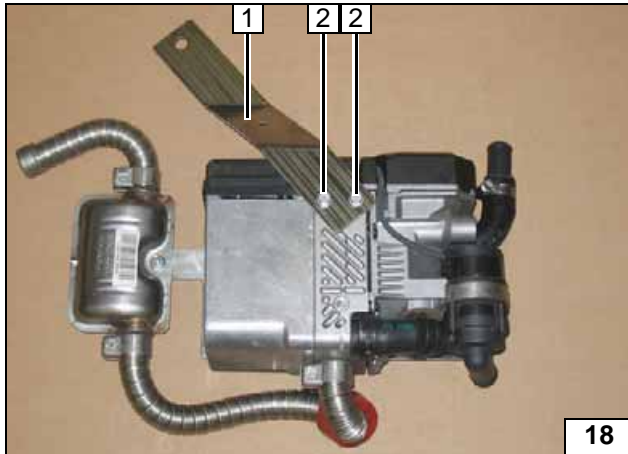
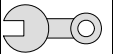
1 Hose clamp [3x]

2 Exhaust end section

3 Exhaust pipe

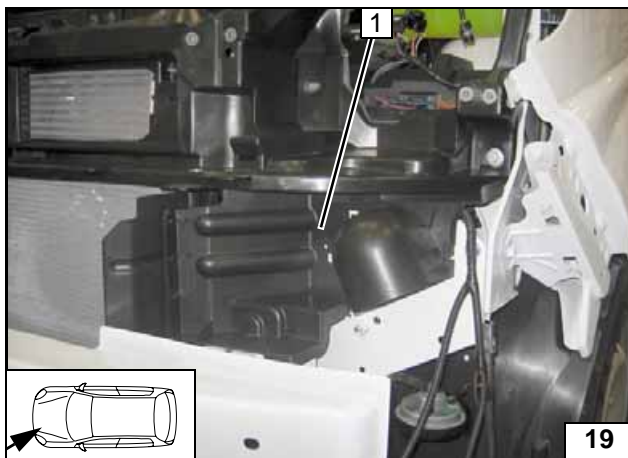
4 Red (rt) rubber isolator

Preassembling exhaust system



- 1 Strut
- 2 Loosely premount Eject screw [2x]

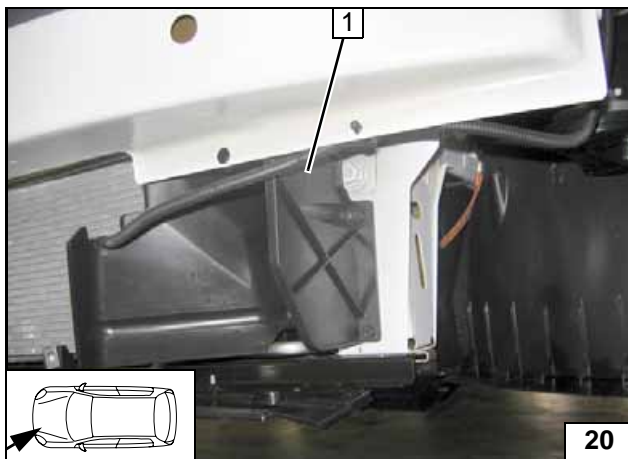
Preassembling strut on heater unit



Installing heater unit

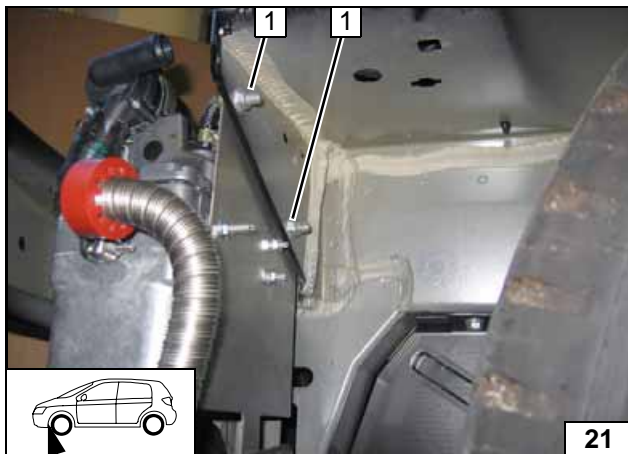
- 1 Remove air ducting trim

Removing trim



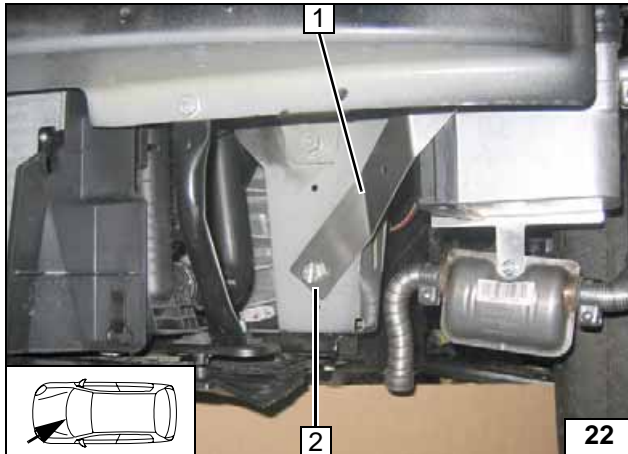
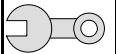
- 1 Remove trim

Removing trim



- 1 M8x20 bolt, flanged nut [2x each] on existing holes

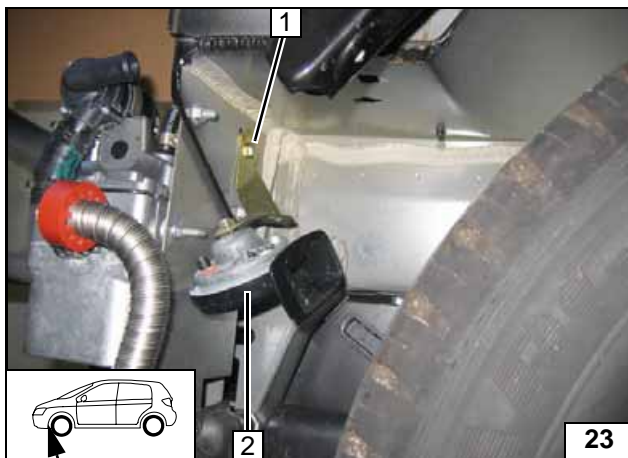
Installing heater unit



Tighten Ejet screws on heater unit, tightening torque 10 Nm.
Connect wiring harness on heater unit.

- 1 Premounted strut
- 2 M10x16 bolt, spring lockwasher in existing threaded hole

Installing bracket



Ensure sufficient distance to neighboring components.

- 1 M8x12 bolt in existing threaded hole
- 2 Horn with bracket

Installing horn





Coolant connection

WARNING!

Tighten all hose clamps to 2.0 + 0.5 Nm.

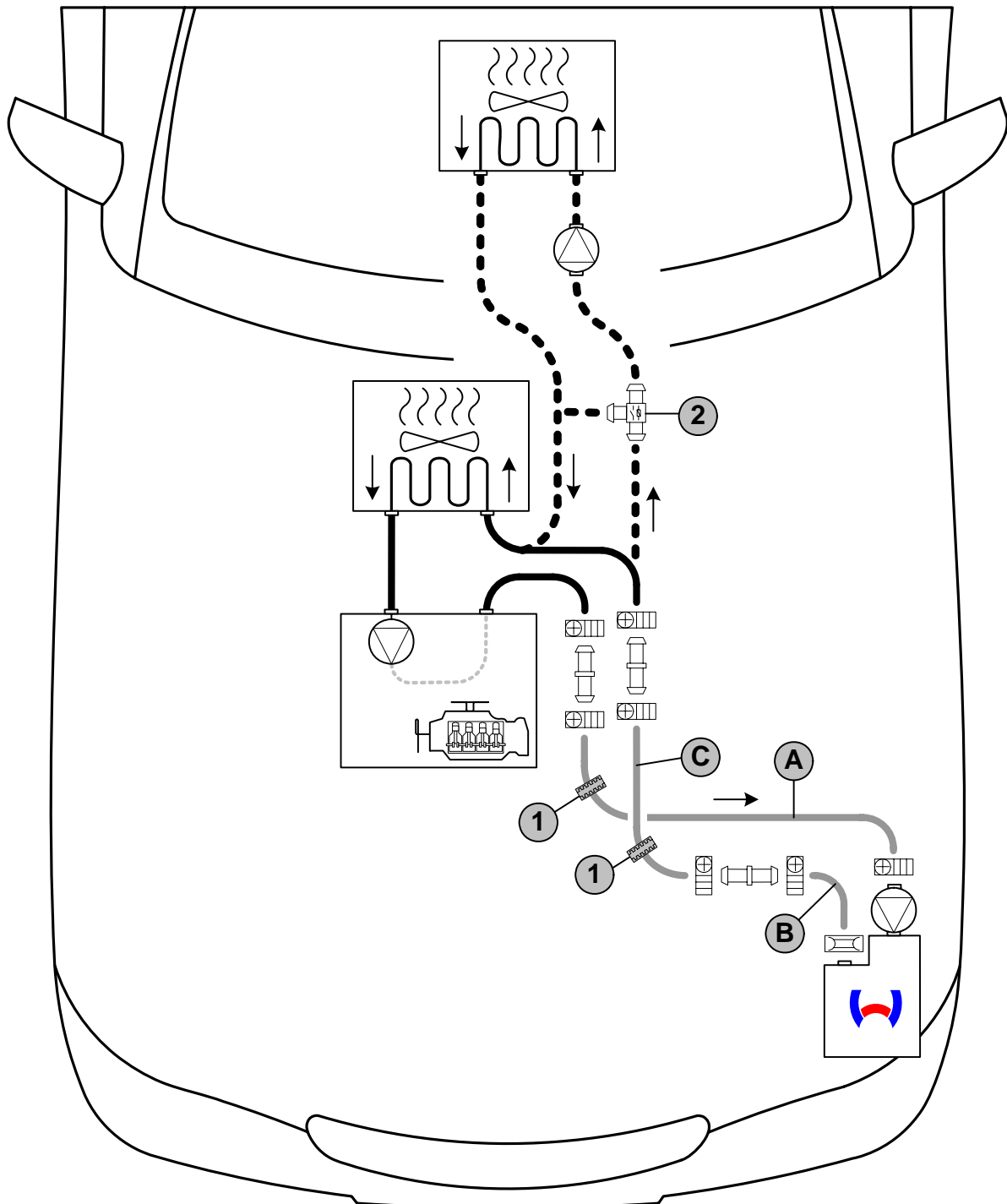
Any coolant running off should be collected using an appropriate container.

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



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:

(Second heat exchanger is dependent on equipment!)

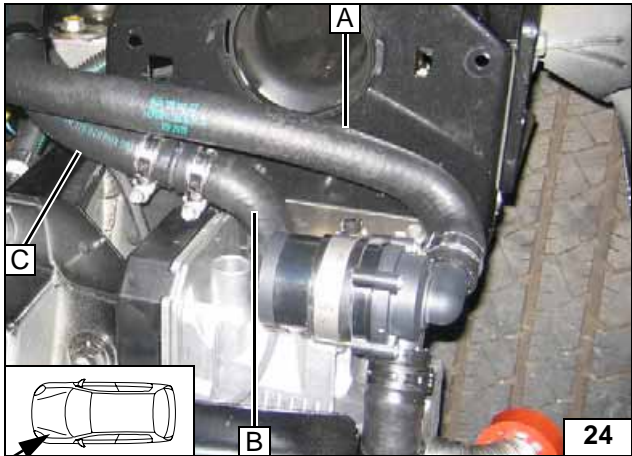


Coolant routing diagram

Spring clip  = 27 mm dia. All hose clamps  = 20-27 mm dia.!

All connecting pipes = dia. 20x20. Pos. 1 = black (sw) rubber isolator  . Pos. 2 = solenoid valve  .



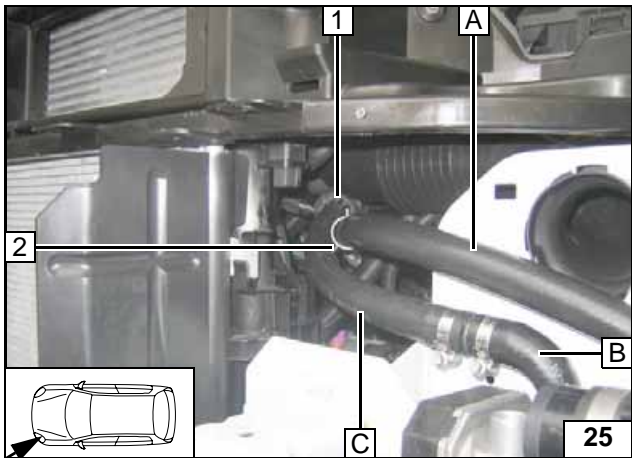


2.0 l dCi

Connect hose **B** and **C**.



**Con-
nection to
heater unit**

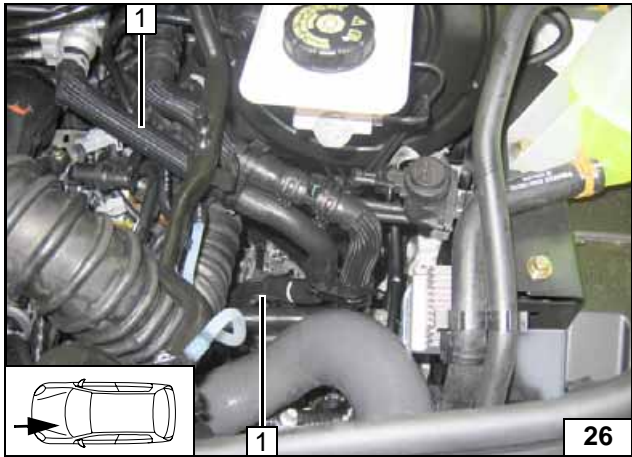


Slide rubber isolator **1** onto hose **C**. Slide rubber isolator onto hose **A** (hidden in photo).

2 Spacer bracket

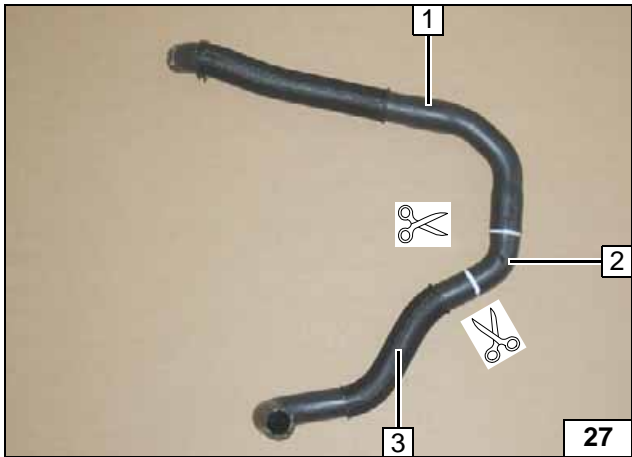


**Routing in
engine
compart-
ment**



1 Original vehicle hose of engine outlet/heat exchanger inlet

**Removing
original
vehicle
hose**

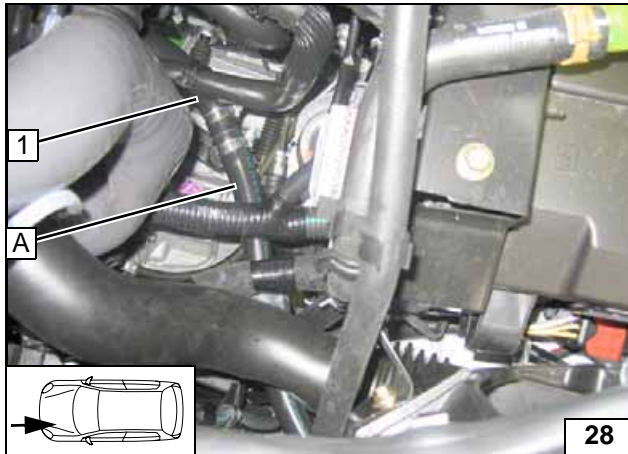


Remount both hose sections after cutting to length.

- 1** Hose section of heat exchanger inlet
- 2** Discard hose section
- 3** Engine outlet hose section

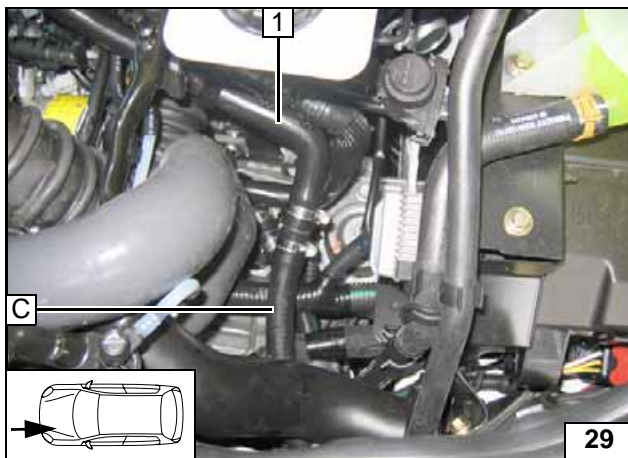


**Cutting
original
vehicle
hose to
length**



1 Engine-outlet hose section

Con-
nection on
engine
outlet

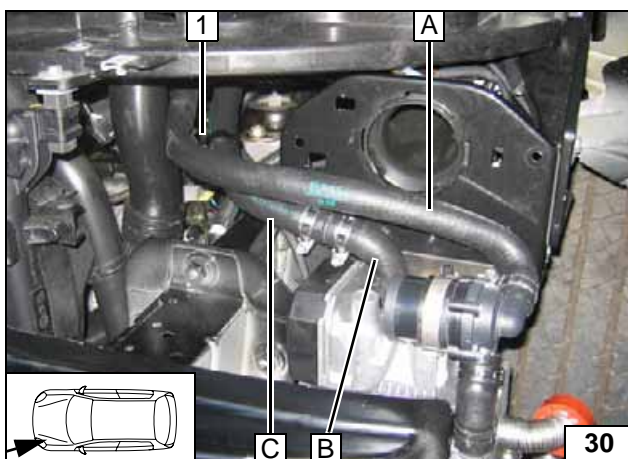


Before connecting, fill the coolant hoses with coolant.
Position rubber isolator on hose **A** and **C** on original vehicle wiring harness.



1 Hose section of heat exchanger inlet

Con-
nection on
heat
exchanger
inlet



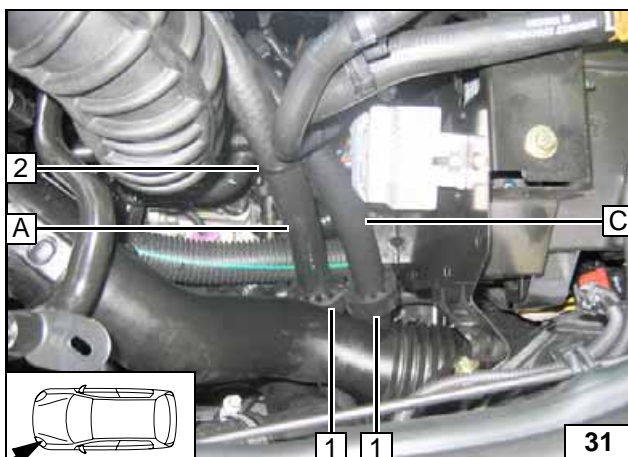
2.5 l dCi

Connect hose **B** and **C**.



1 Spacer bracket

Con-
nection to
heater unit

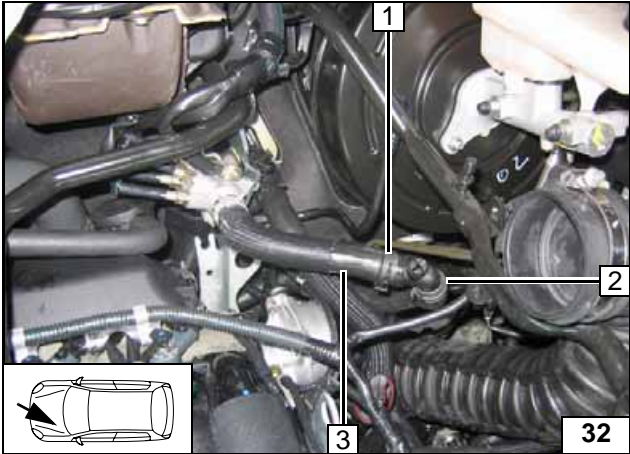


Slide rubber isolator **1** [2x] onto hose **A** and **C**.



1 Spacer bracket
2 Cable tie

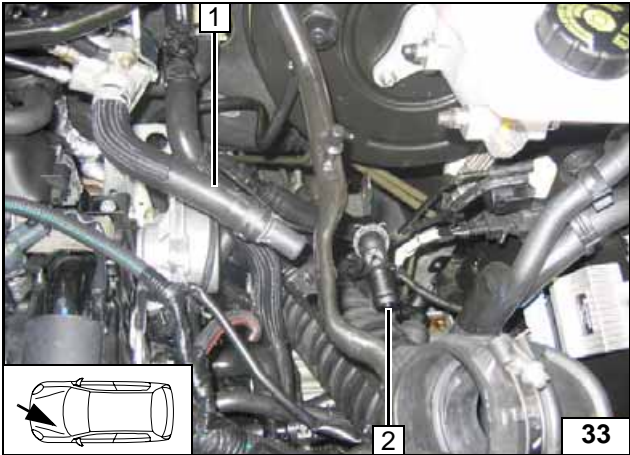
Routing in
engine
compartment



Pull original vehicle hose 3 of heat exchanger inlet off bleeder valve 2. Spring clip 1 will be reused.



Pulling off original vehicle hose

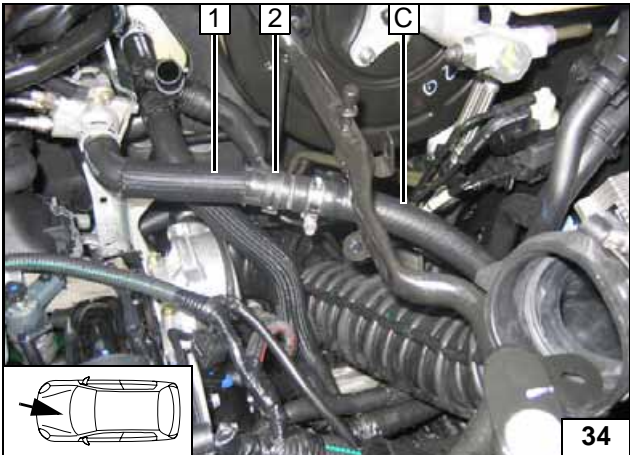


Turn bleeder valve 2 toward front.

1 Hose section of heat exchanger inlet

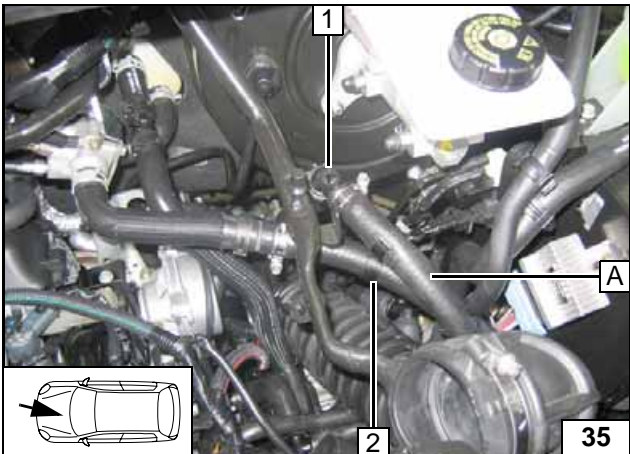


Turning valve



1 Hose section of heat exchanger inlet
2 Original vehicle spring clip

**Con-
nection on
heat
exchanger
inlet**

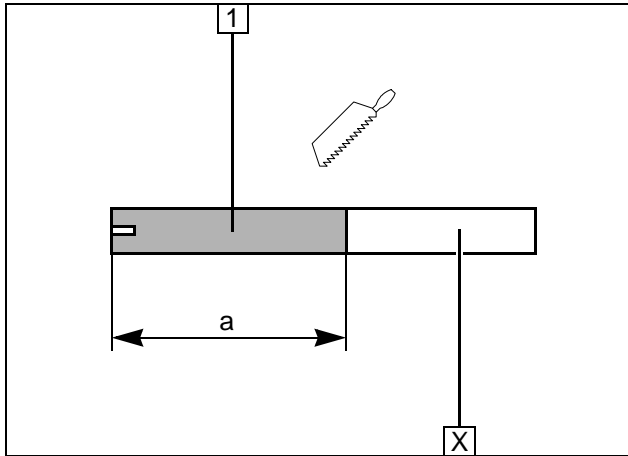


Before connecting, fill the coolant hoses with coolant.

1 Bleeder valve
2 Spacer bracket



**Con-
nection on
engine
outlet**

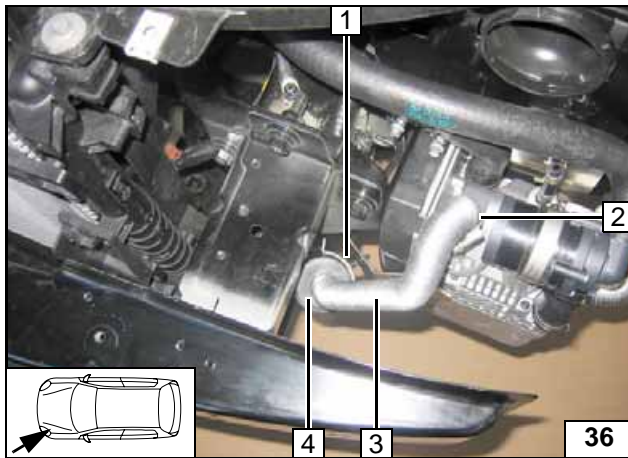


Combustion air

- 1 Combustion air pipe
a = 300 mm

Discard section X

Cutting combustion air pipe to length



- 1 Retaining clip in hole of strut
- 2 27 mm dia. hose clamp
- 3 Combustion-air intake pipe
- 4 Combustion-air intake muffler



Installing intake pipe



Fuel Connection

CAUTION!

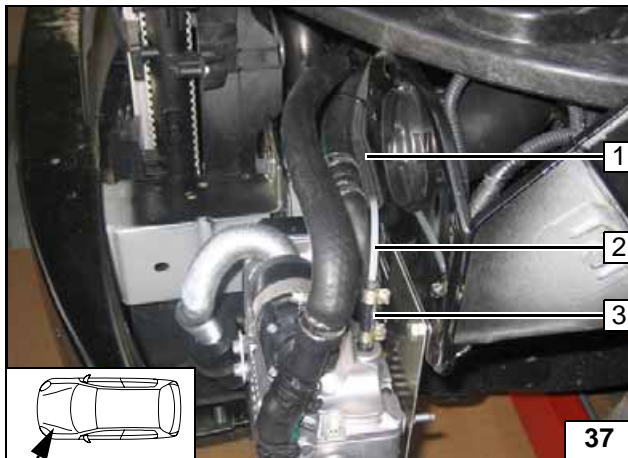
Open the vehicle's fuel tank cap, ventilate the tank and then re-close the tank lock.

Catch any fuel running off with an appropriate container.

Install fuel line and metering-pump wiring harness so that they are protected against stone impact. Unless specified otherwise, always fasten using cable ties. Mount the fuel line and wiring harness with rub protection on sharp edges.

WARNING!

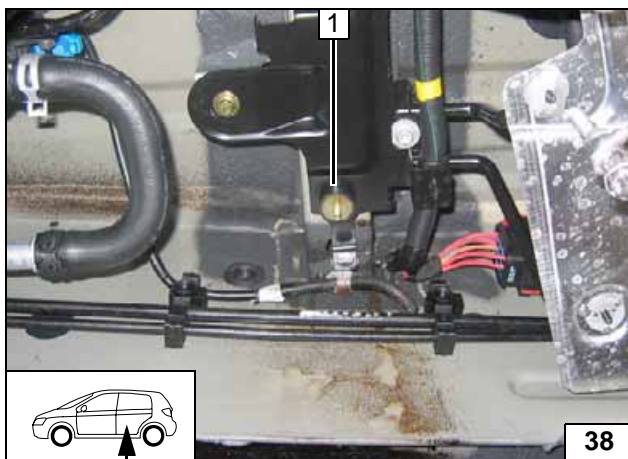
The fuel line and wiring harness are routed to the metering pump in as shown in the wiring harness routing diagram.



Slide protective hose 1 onto fuel line 2

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

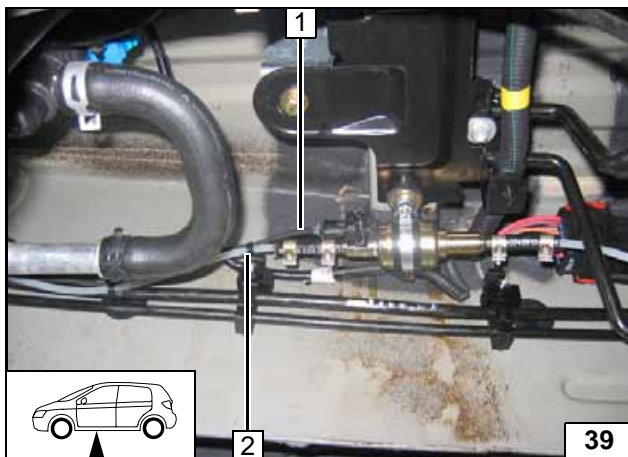
Con-
nection to
heater unit



Remove original vehicle bolt at position 1 and discard.

1 Silentblock

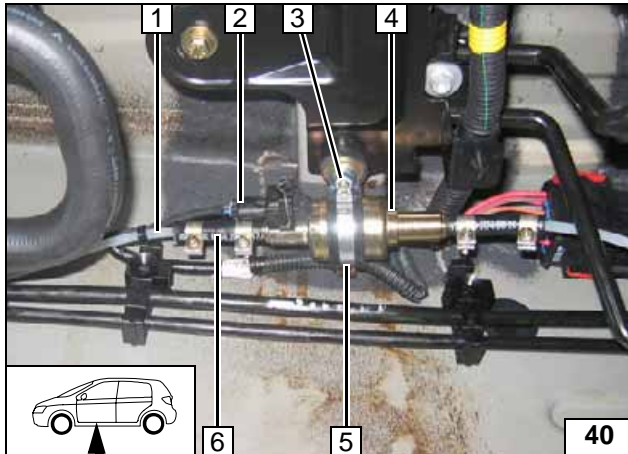
Installing
silent
block



Route fuel line 1 and wiring harness of metering pump 2 along original vehicle fuel lines on underbody to installation location of metering pump.



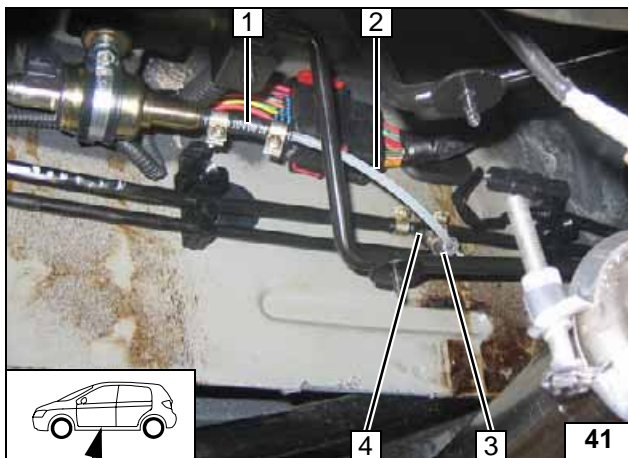
Installing
lines



Ensure proper installation position of metering pump 4, see "Installation Instructions".

Connect fuel line from heater unit 1 to pressure side of metering pump [end with connector].

- 2 Wiring harness of metering pump, single-wire seal, tab connector, connector housing
- 3 Flanged nut
- 5 Rubber-coated pipe clamp
- 6 Hose section, 10 mm dia. hose clamp [2x]



Disconnect fuel supply line at position 4. Fuel line 2 on intake side of metering pump [side without connector]. Check the position of the components; adjust if necessary. Check that they have free clearance.

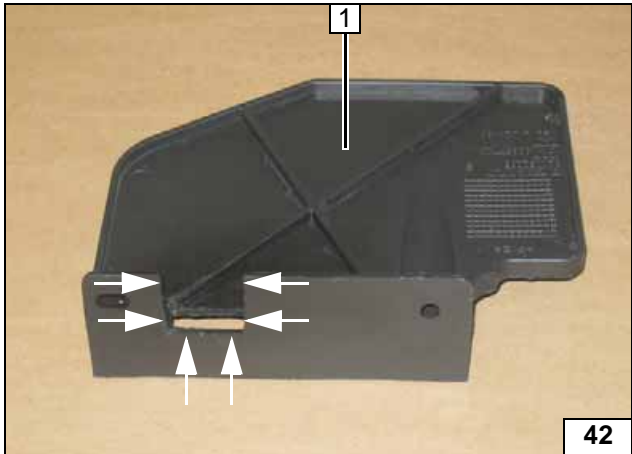
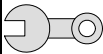
- 1 Hose section, 10 mm dia. hose clamp [2x]
- 3 Hose section, 10 mm dia. hose clamp [2x]
- 4 8x5x8 fuel standpipe, 10 mm dia. hose clamp [2x]



Installing metering pump



Removing fuel

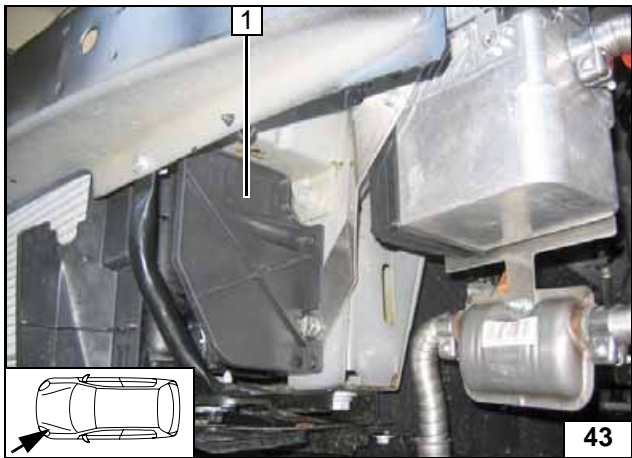


Installing trim pieces

Cut out trim piece 1 in area of markings.

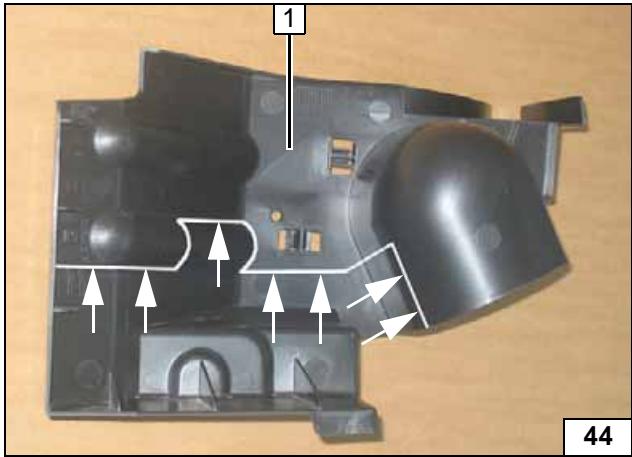


Cutting out trim piece



1 Trim piece

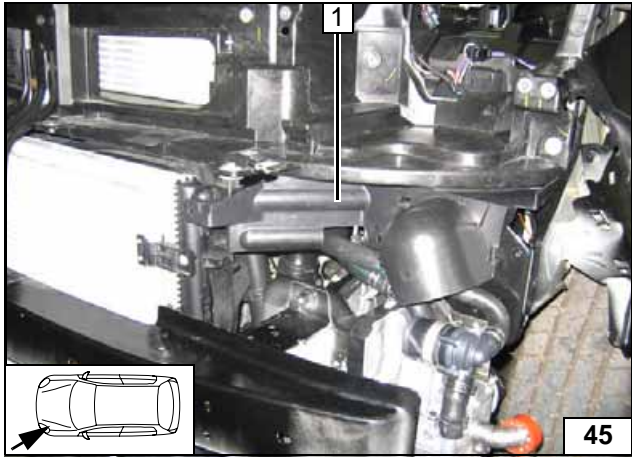
Installing trim piece



Cut out trim piece 1 in area of markings.

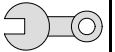


Cutting out trim piece



1 Trim piece

Installing trim piece



Final Work

WARNING!

Reassemble the disassembled components in reverse order.

Check all hoses, clamps and all electrical connections for firm seating.

Secure all loose cables using cable ties.

Only use manufacturer-approved coolant.

Spray the heater unit 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.
- Set the digital timer.
- Set the manual air conditioning or automatic air conditioning according to the "operating instructions for the end customer".
- Check the proper operation of the additional heater, see the operating instructions/installation instructions.
- Attach the "Switch off additional heater before refueling" sticker to the left-hand B-pillar.



Webasto AG
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<http://www.webasto.de>

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.

If the summer/winter switch option has been installed, this must be switched in accordance with the time of year. The heater unit will then only switch on the vehicle fan to ventilate the vehicle interior in the position Winter  heat or in the position Summer .

Before parking the vehicle, make the following settings:



- 1 Set temperature to "max."
- 2 Air outlet to windshield

Manual air
con-
ditioning