Water Heater

***Thermo Top E* Parking Heater** E1 00 0002

***Thermo Top C* Parking Heater** E1 00 0003

Installation Documentation

Opel Vivaro

Diesel
from model year 2007
Left-hand drive vehicle

WARNING!

Hazard warning:

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

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.

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

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

Table of Contents

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 cm³
M9R	Diesel	66	1995
M9R	Diesel	84	1995
G9U	Diesel	107	2464

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

The installation location of the digital timer must be coordinated with the end customer before the installation!

Heater / Installation Kit

Quantity	Designation	Order No.:
1	Opel-specific heater delivery scope	See Opel price list
1	Installation kit for Opel Vivaro starting with 2001 Diesel	9002568J
1	Heater control	See Opel price list

Foreword

This installation documentation applies to the vehicles Opel Vivaro Diesel - 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 this installation documentation.

However, the stipulations in this "installation documentation" and "operating instructions" and the "installation instructions" for the *Thermo Top E / C* should 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. Insulate loose wires and tie back.
Sharp edges must be provided with rub protection (cut-open fuel hose)!
Spray unfinished body areas, e.g. drilled holes, with anti-corrosion wax (Tectyl 100K, Order No. 111329).
While installing an IPCU, the corresponding settings must be checked or adjusted before the installation!

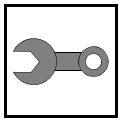
Special Tools

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

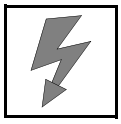
Explanatory Notes on Document

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

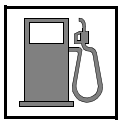


Electrical system

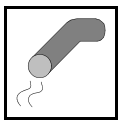


Coolant circuit

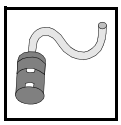
Fuel



Exhaust gas



Combustion air



Software

Special features are highlighted using the following symbols:

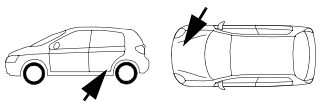
Specific risk of injury or fatal accidents.

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.

All dimensions are in mm!
Tightening torque of hose clamps = 2.0 + 0.5 Nm!
Tightening torque of Ejot screws, Ejot studs = 10 Nm!

Preliminary Work

WARNING!

- Open the fuel tank cap and vent the fuel tank.
- Close the fuel tank cap again.
- Disconnect the battery earth connection.
- Depressurise 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 26 "Operating Instructions for End Customer" and insert with vehicle operating instructions.

Heater Installation Location

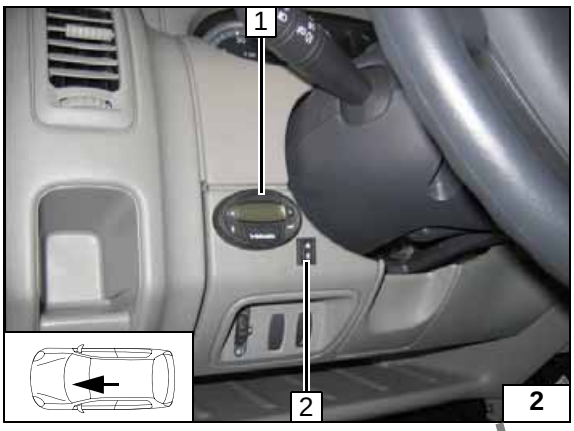
1 Heater

Installation location

Electrical Connections

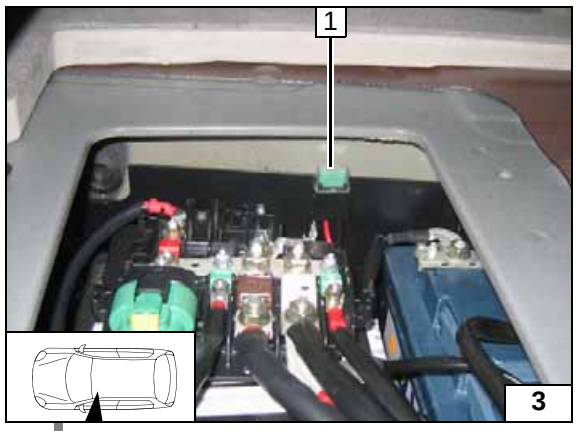
Digital timer, summer/winter switch option

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



Additional fuse F4

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 30A **1**.



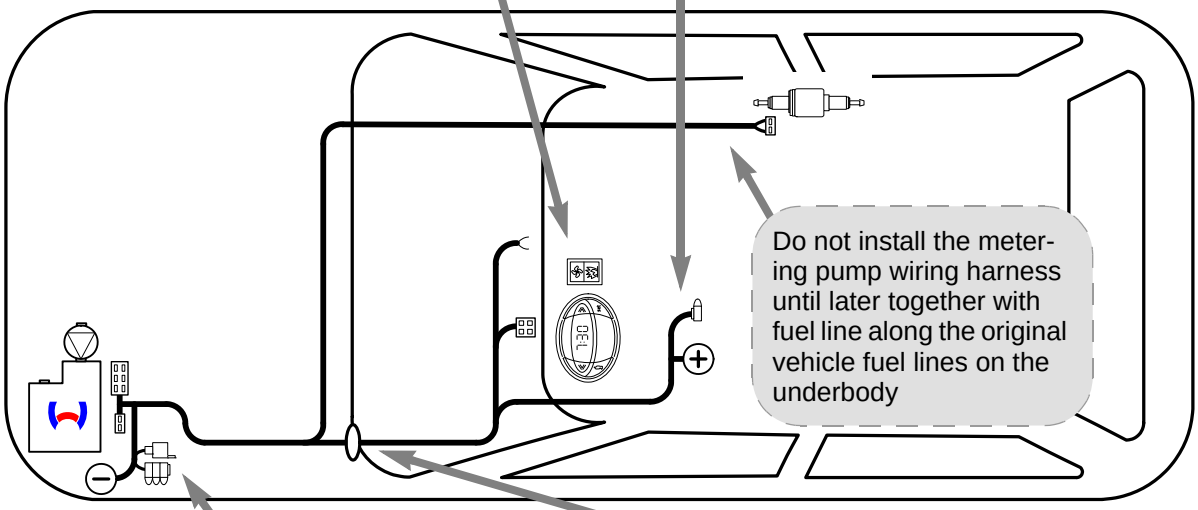
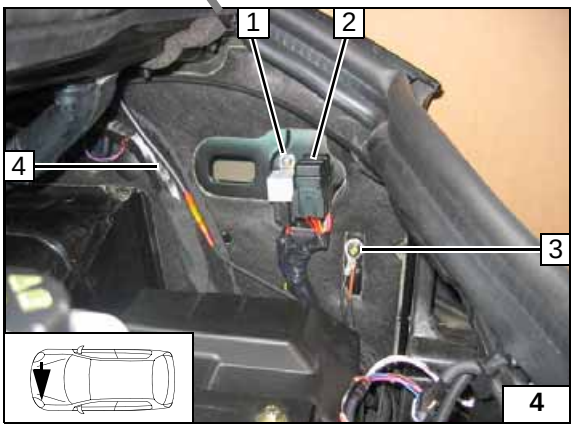
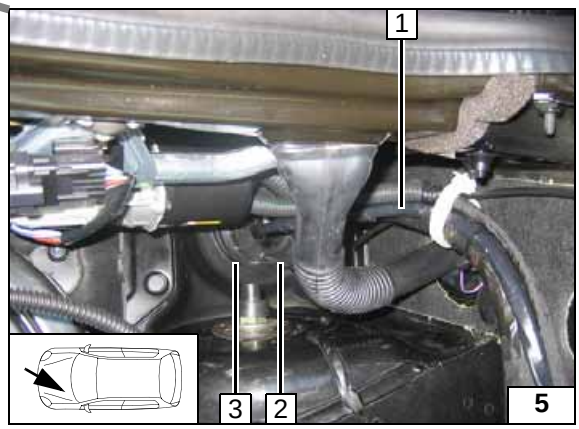


Diagram of wiring harness routing



Fuse holder, K3 relay

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

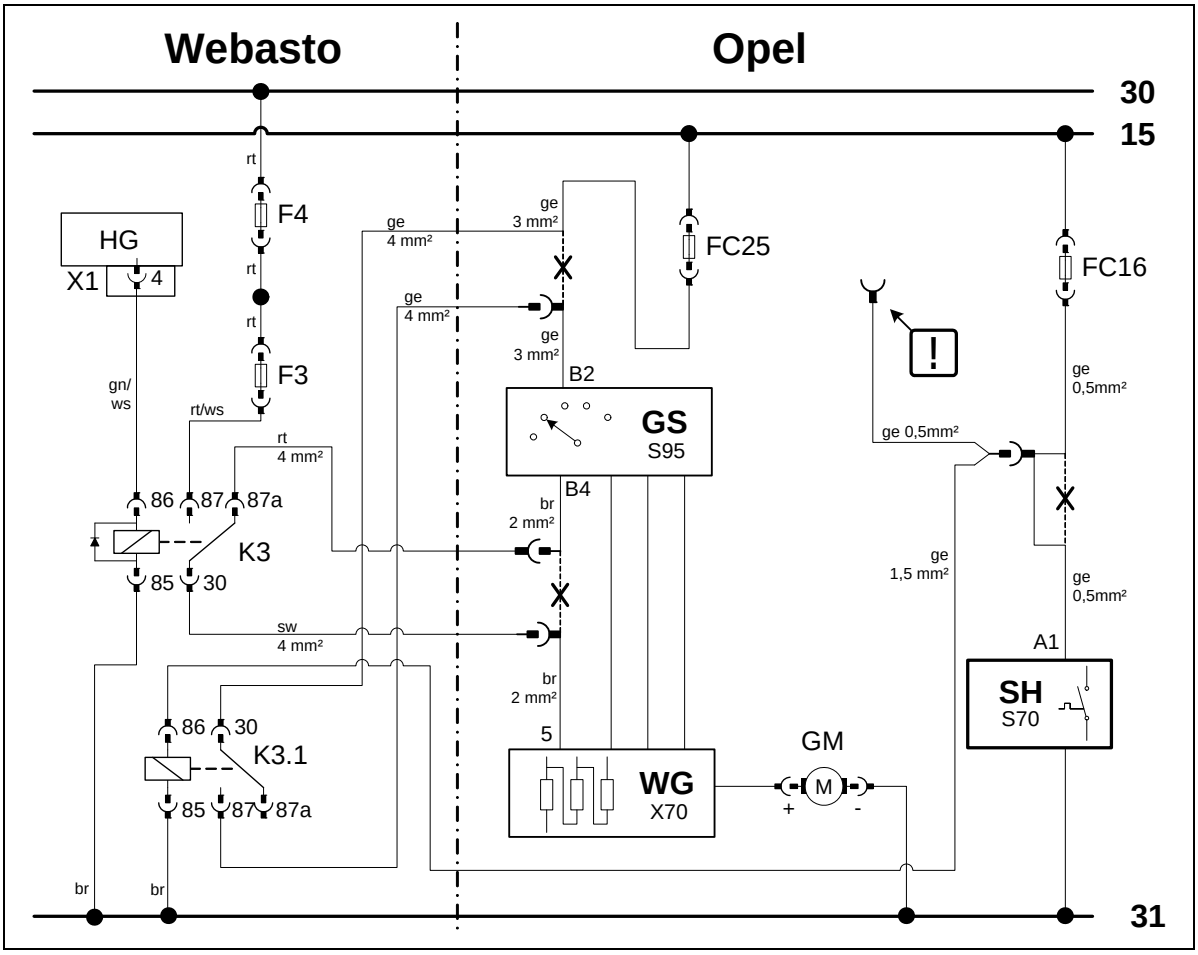


Wiring harness pass through

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

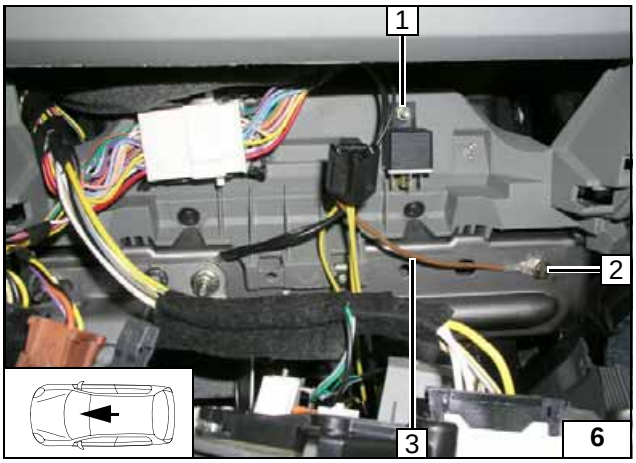
Fan Control

Wiring diagram



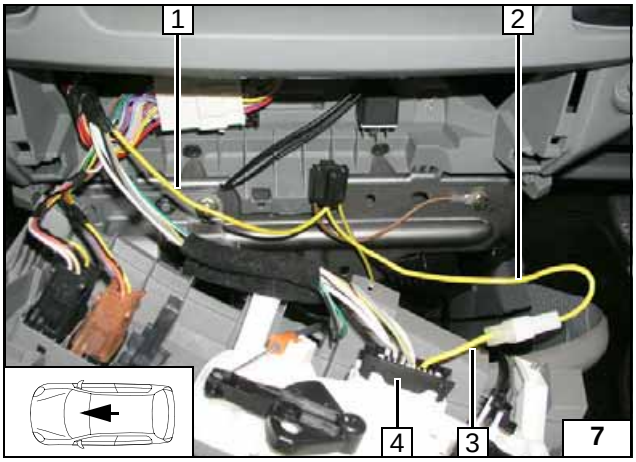
Legend

Webasto components		Vehicle components		Colours and symbols	
HG	Heater TT-C/E	GM	Fan motor	rt	red
X1	6-pin connector	WG	Resistor group X70	ws	white
F3	Fuse 25A	GS	Fan switch S95	sw	black
F4	Additional fuse, 30 A	FC25	25A fan fuse	br	brown
K3	Fan relay	FC16	Fuse 15A	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 colours may vary.	



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

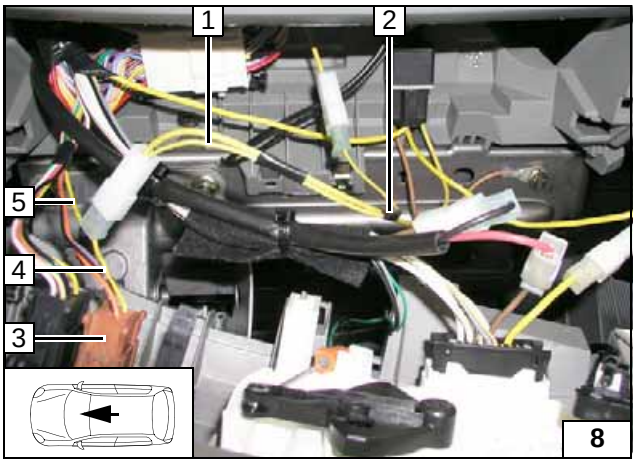
Installing isolating relay



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

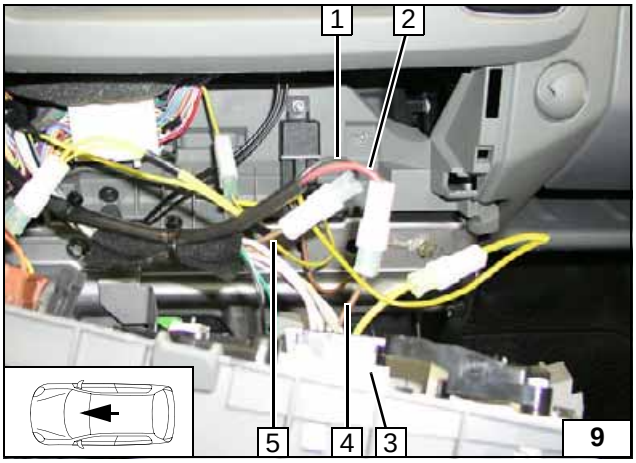
Connection to fan switch



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

Connection of rear-window heater switch



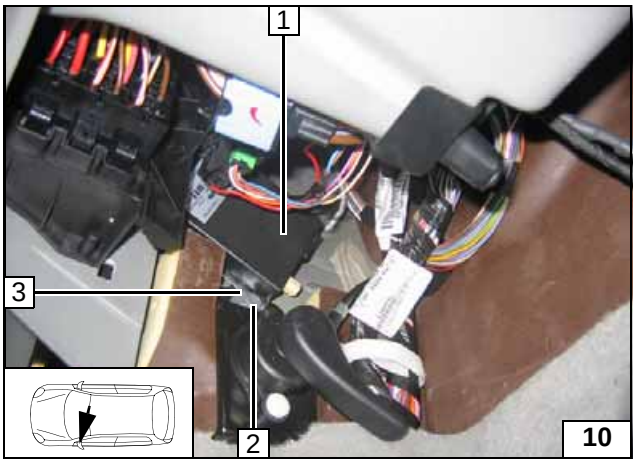
Connection to connector S95 **3** of fan switch. Produce connections as shown in wiring diagram.

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

Connection to fan switch

Remote Option (Telestart)

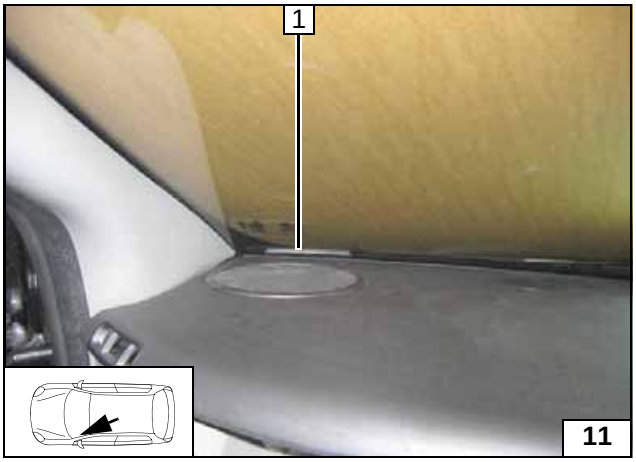
Mounting receiver



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

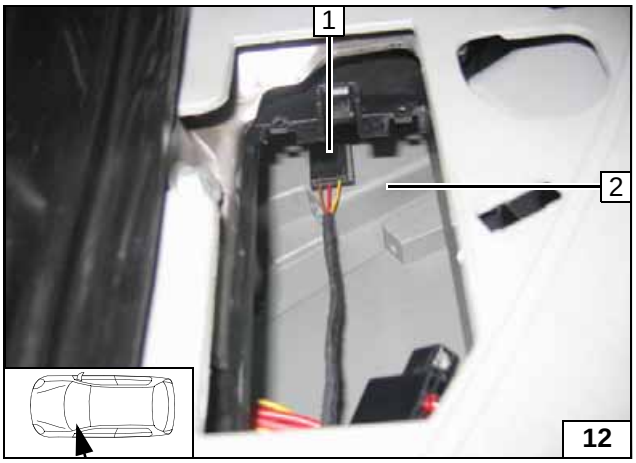
1 Receiver
2 M6x20 bolt in existing hole

Mounting antenna



1 Antenna

Installing temperature sensor

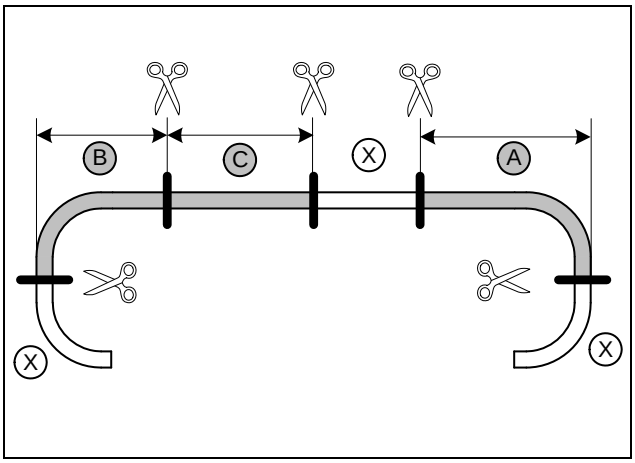


Temperature sensor only in case of T100 HTM

1 Fasten temperature sensor with suitable means
2 Ventilation duct

Preparing Heater

Cutting coolant hoses to length

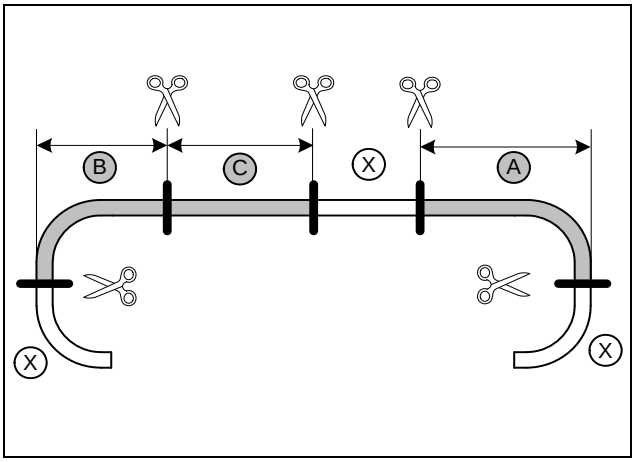


2,0 l dCi

Discard section **X**.

A = 650
B = 120
C = 470

Cutting coolant hoses to length

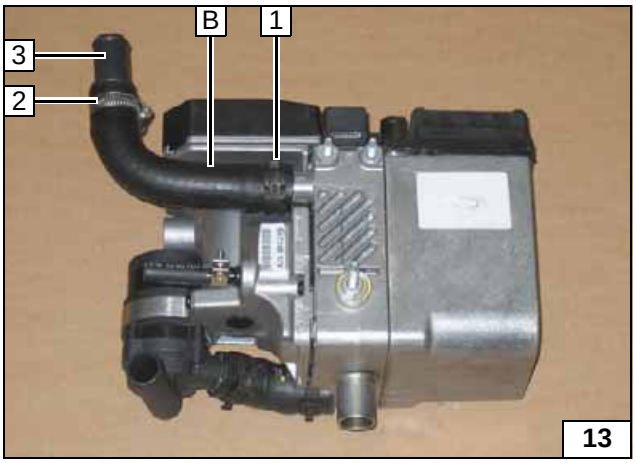


2.5 l dCi

Discard section **X**.

A = 825
B = 120
C = 655

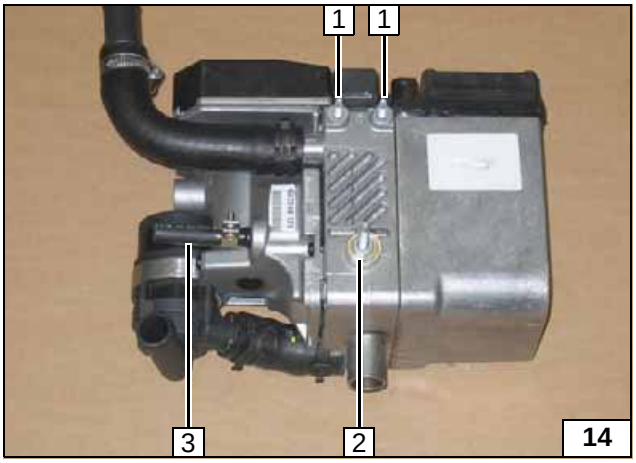
Premounting hose B



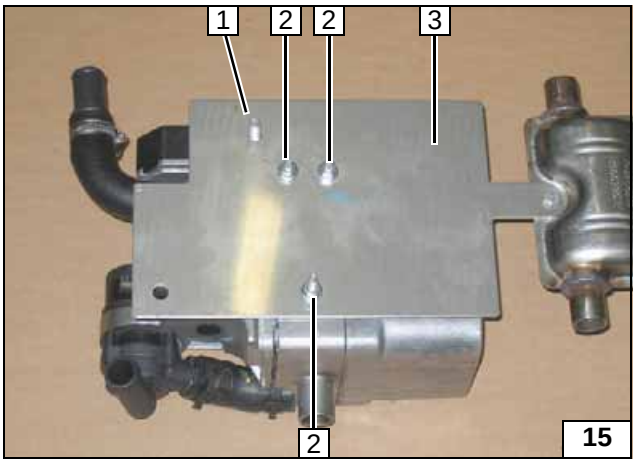
All vehicles

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

Premounting heater



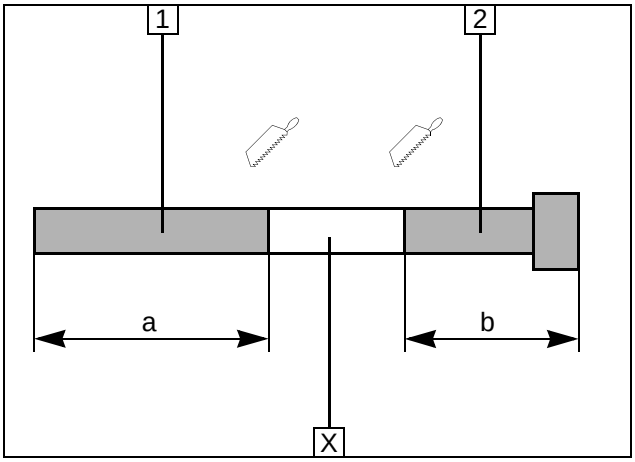
1 Short Ejot stud [2x], washer [2x each]
2 Long Ejot stud, 5 mm shim, washer
3 Hose section, 10 mm dia. hose clamp



Before installing, insert M8x20 bolt **1** in bracket **3**.

2 Flanged nut (3x)

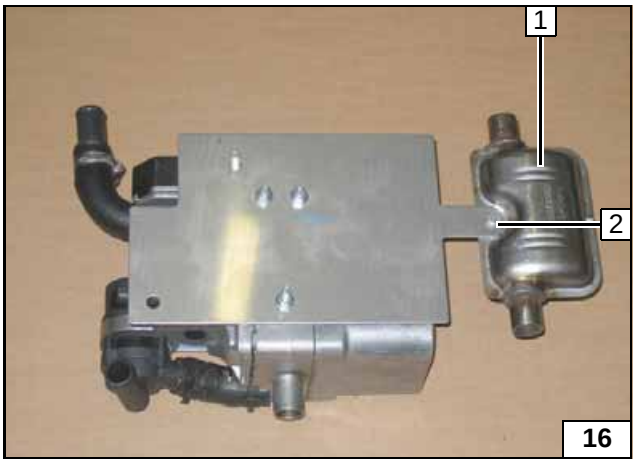
Premounting bracket on heater



1 Exhaust pipe
a = 330mm
2 Exhaust end section
b = 140mm

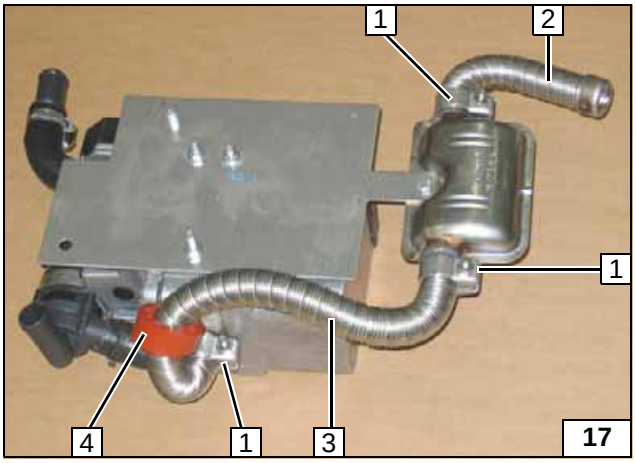
Discard section **X**.

Preparing exhaust pipe



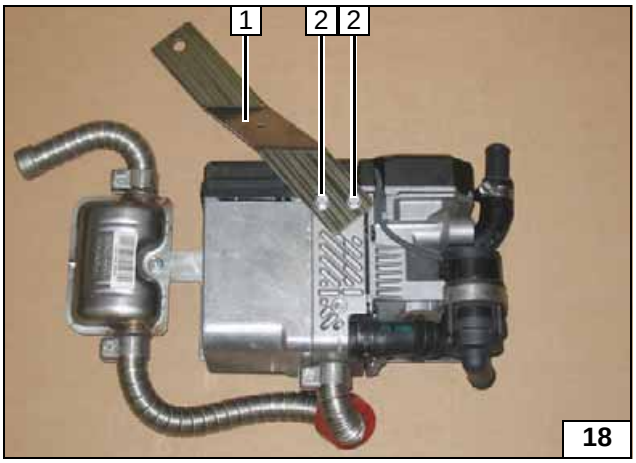
1 Exhaust silencer
2 M6x20 bolt, flanged nut

Premounting exhaust silencer



1 Hose clamp [3x]
2 Exhaust end section
3 Exhaust pipe
4 Spacer bracket

Premounting exhaust system

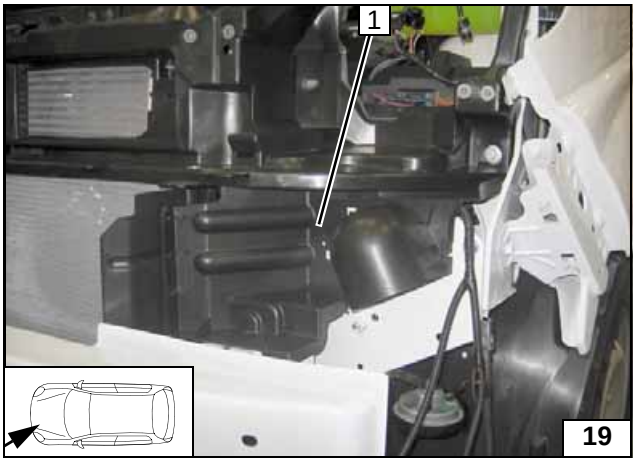


1 Strut
2 Loosely premount Ejot screw [2x]

Premounting strut on heater

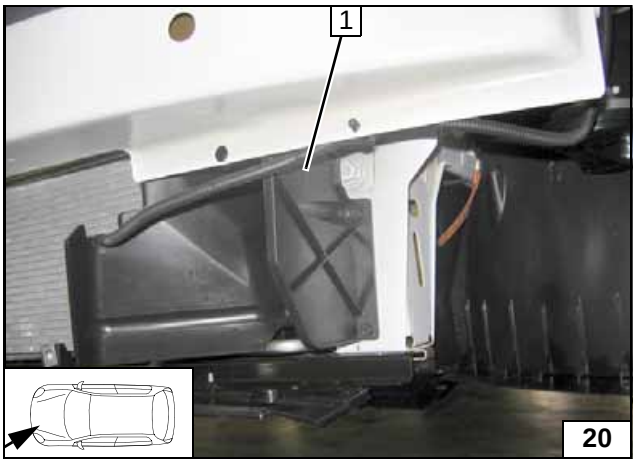
Installing Heater

1 Remove air ducting trim



Removing trim

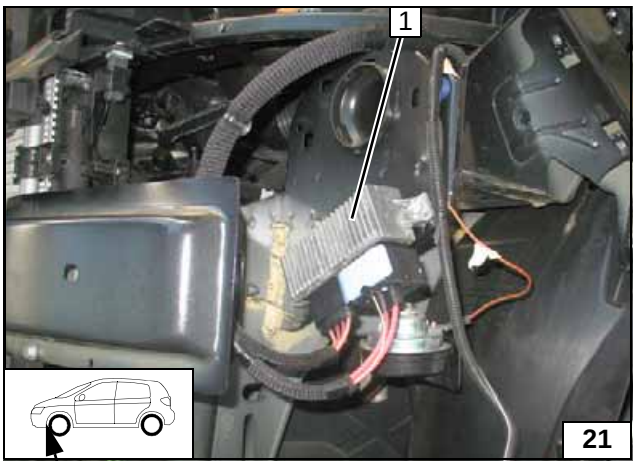
1 Remove trim



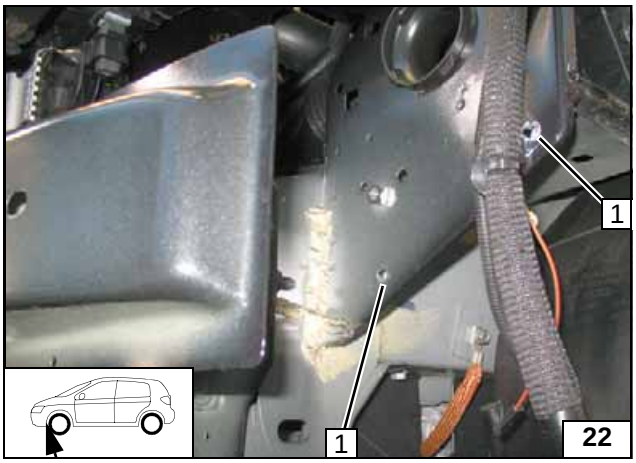
Removing trim

Remove control unit **1** (if present). Connector plugs may remain mounted. Discard fastening bolts [2x].

1 Control unit of electrical auxiliary heater

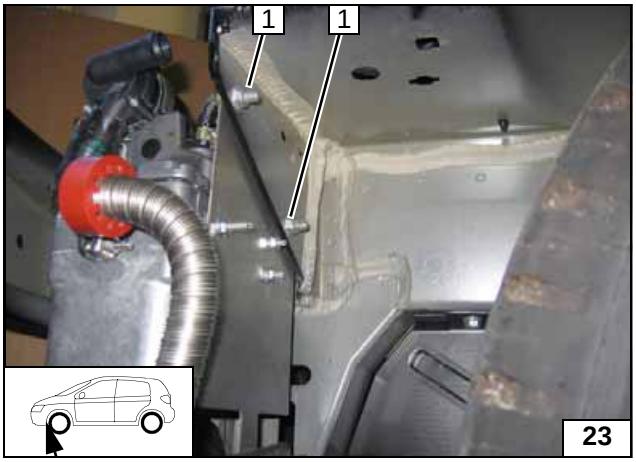


Removing control unit



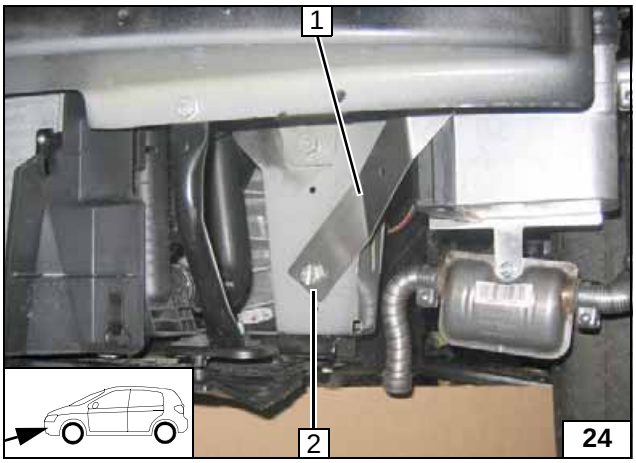
Remove and discard thread insert **1** [2x].

Removing thread insert



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

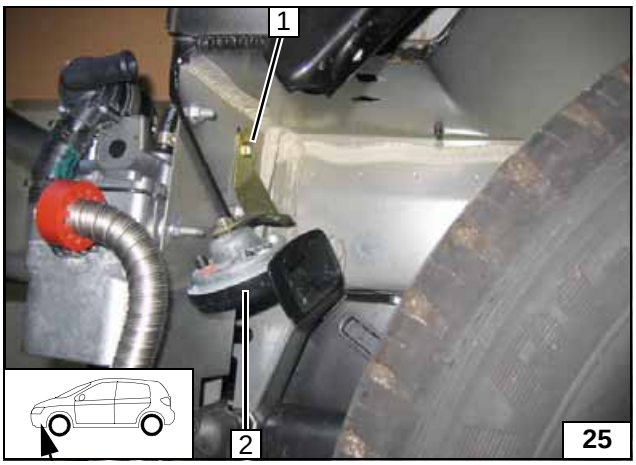
Mounting heater



Tighten Ejot screws on heater.
Connect wiring harness on heater.

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

Mounting bracket



Ensure sufficient distance from neighbouring components.

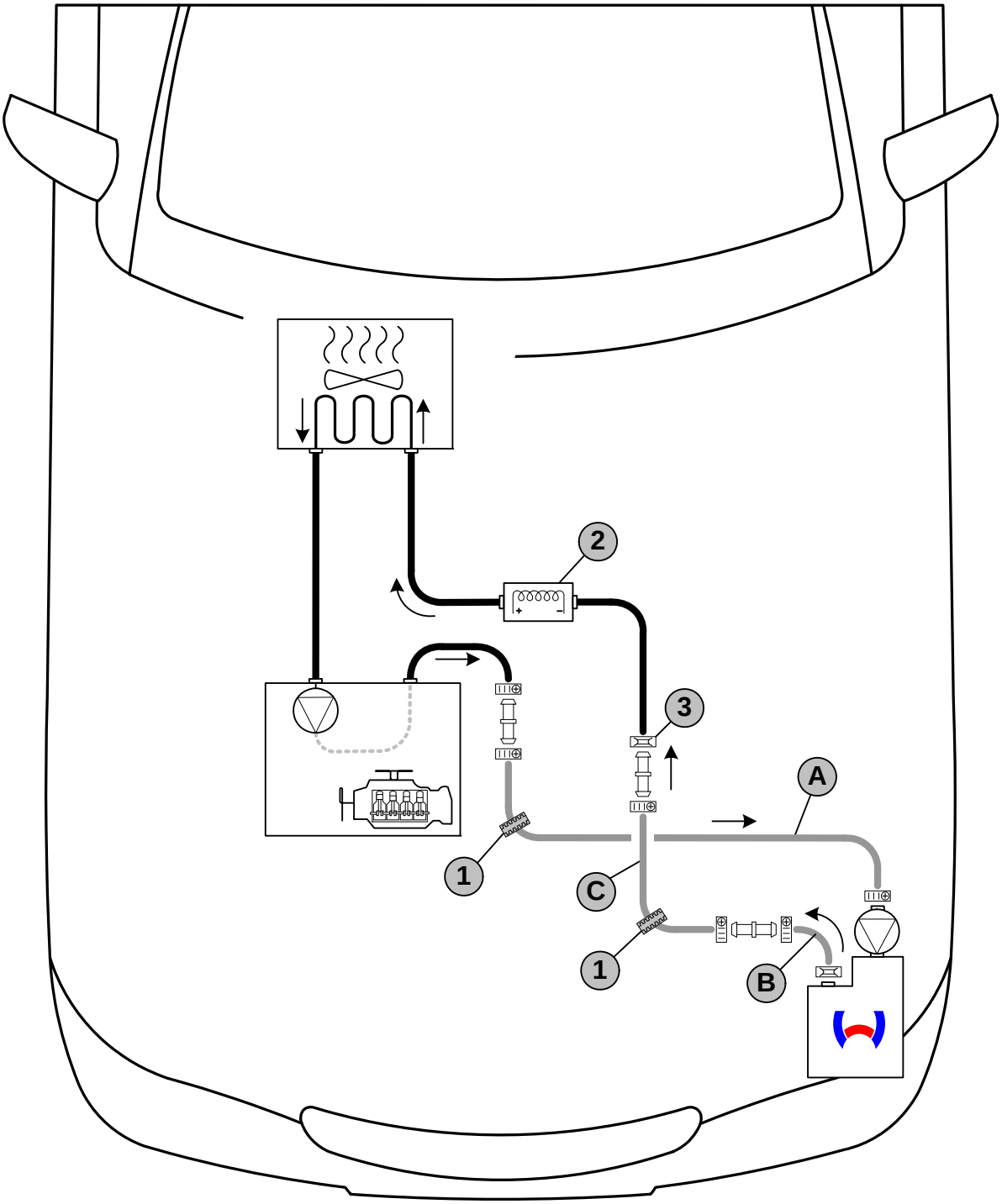
1 M8x12 bolt in existing threaded hole
2 Horn with bracket

Installing horn

Coolant Circuit, One Heat Exchanger

WARNING!
Any coolant running off should be collected using an appropriate container.
Route coolant hoses 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:

Hose installation diagram

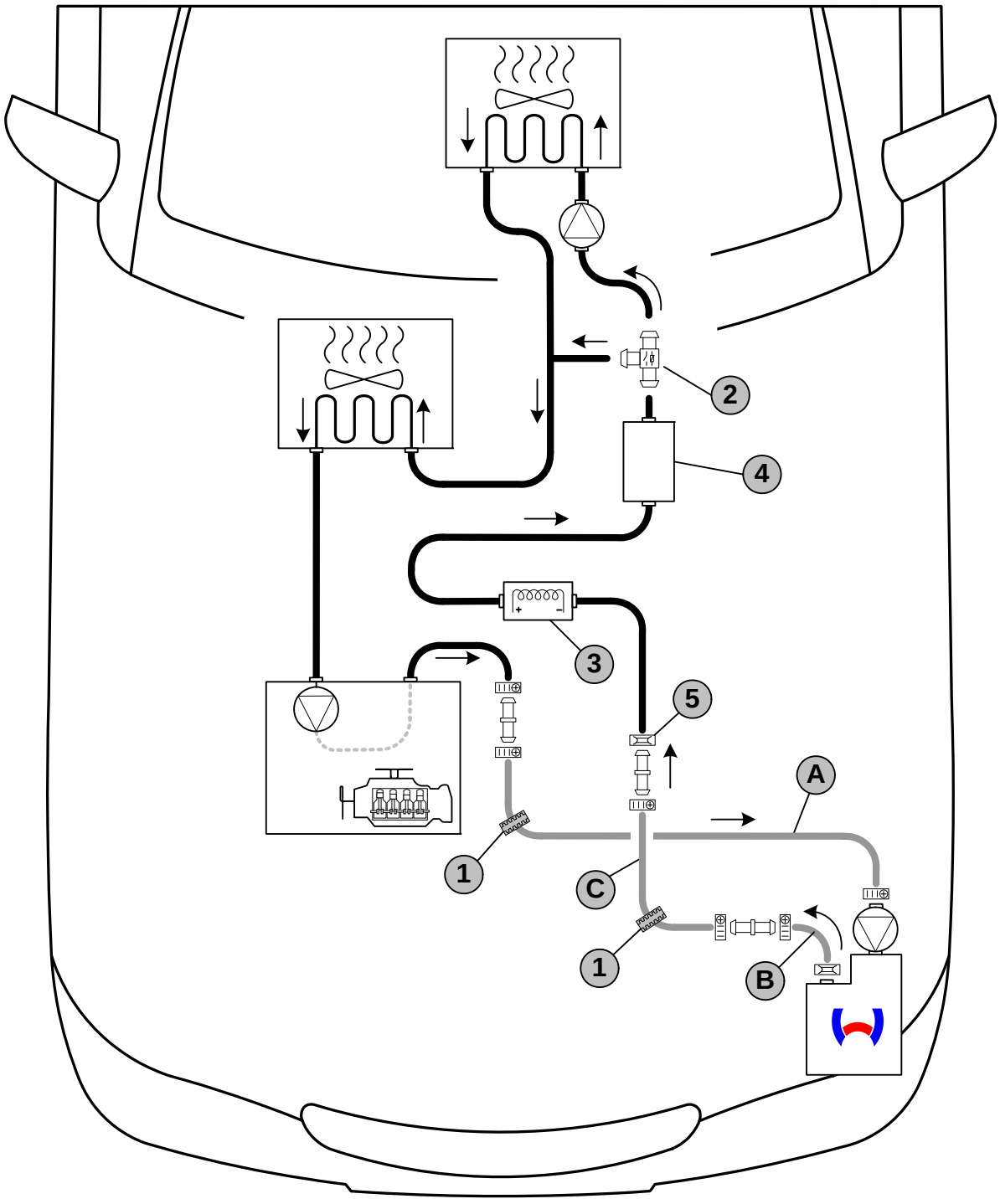


Spring clip = 27 mm dia. All hose clamps = 20-27 mm dia.!
All connecting pipes = dia. 20x20. **1** = Black (sw) rubber isolator . **2** = Electrical auxiliary heater (option).
3 = original vehicle spring clip (only 2.5 l dCi)

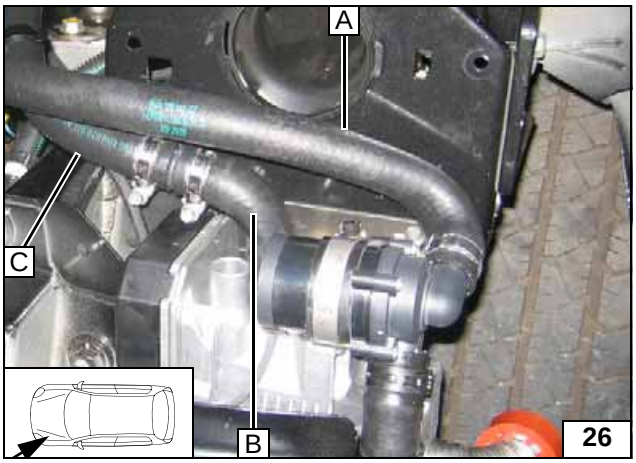
Coolant Circuit, Two Heat Exchangers

WARNING!
Any coolant running off should be collected using an appropriate container.
Route coolant hoses 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:

Hose installation diagram



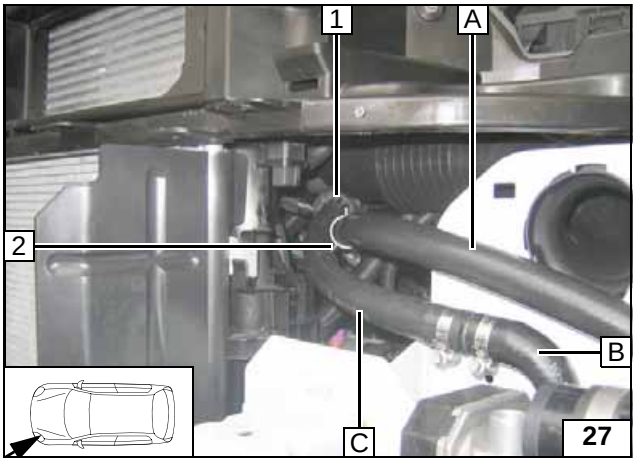
Spring clip = 27 mm dia. All hose clamps = 20-27 mm dia.!
All connecting pipes = dia. 20x20. **1** = Black (sw) rubber isolator. **2** = Solenoid valve .
3 = Electrical auxiliary heater (option). **4** = Fuel-driven auxiliary heater (option).
5 = in case of 2.5l dC, original vehicle spring clip, in case of 2.0l dCi, hose clamp = 20-27mm dia.



2.0 l dCi

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

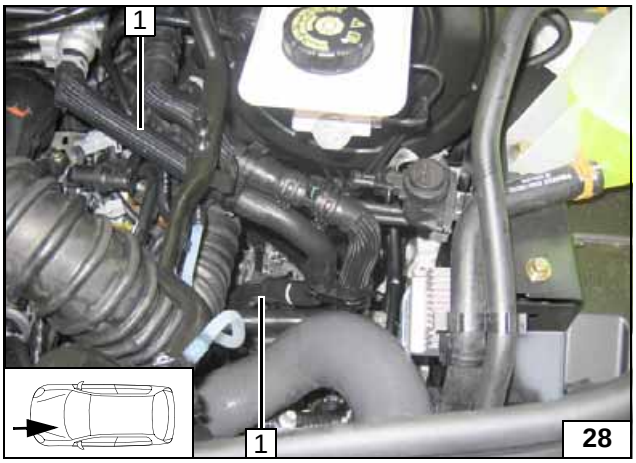
Connection to heater



Slide black (sw) rubber isolator **1** onto hose **C**. Slide black (sw) rubber isolator onto hose **A** (hidden in image).

2 Spacer bracket

Routing in engine compartment

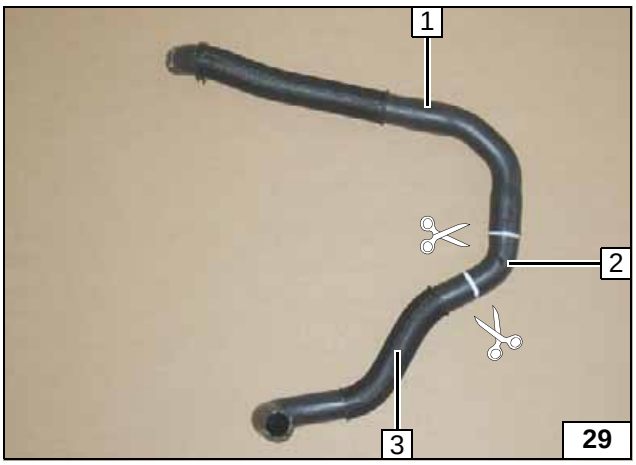


Cutting point, variant 1

Clamps will be re-used.

1 Original vehicle hose of engine outlet / heat exchanger inlet

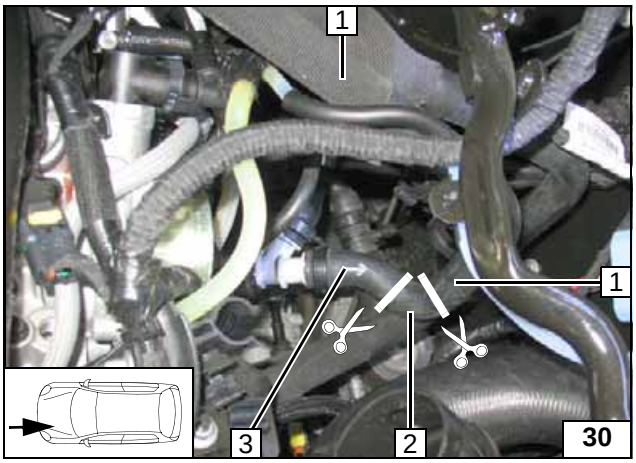
Removing original vehicle hose



After cutting to length, remount both hose section ends at their old position.

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

Cutting original vehicle hose to length

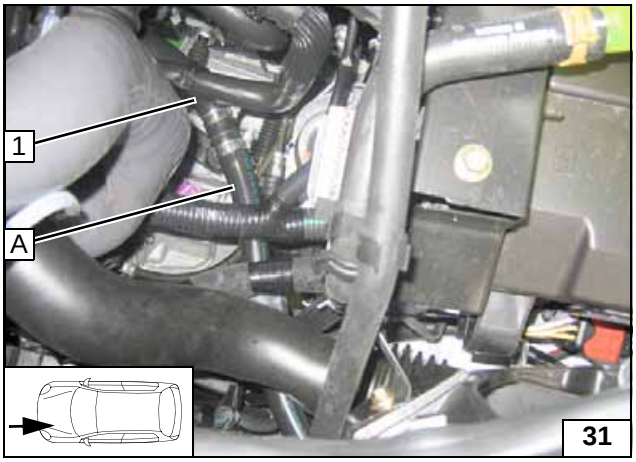


Cutting point, variant 2

Separate original vehicle hose **1** at the markings. Discard section **2**.

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

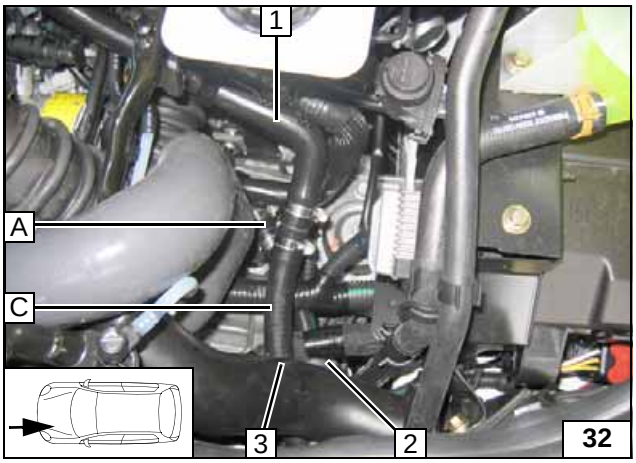
Cutting original vehicle hose to length



All variants

1 Engine outlet hose section

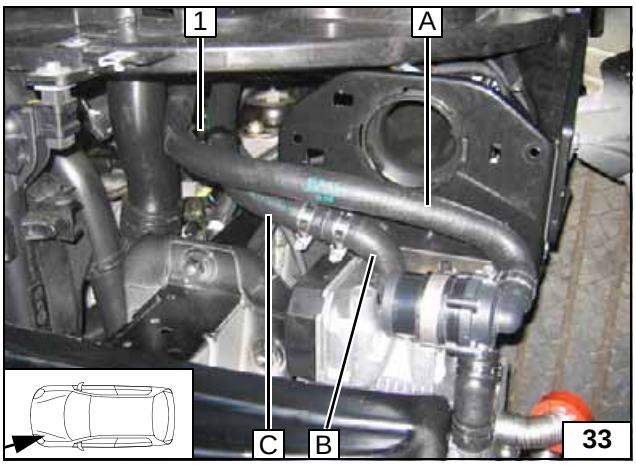
Connection on engine outlet



Before connecting, fill the coolant hoses with coolant.
Position rubber isolator **2** on hose **A** and rubber isolator **3** (hidden) on hose **C** on original vehicle wiring harness.

1 Hose section of heat exchanger inlet

Connection on heat exchanger inlet

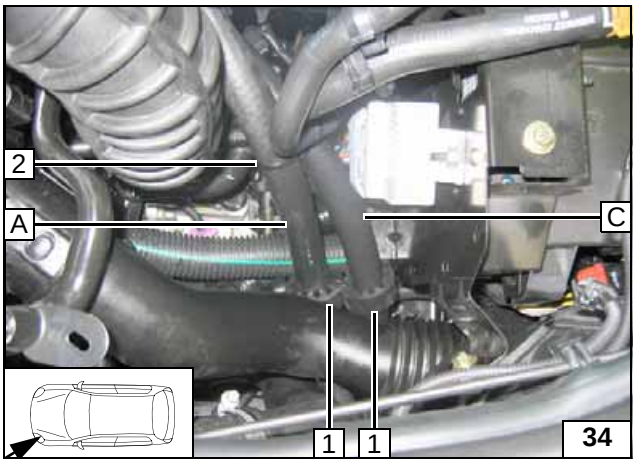


2.5 l dCi

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

1 Spacer bracket

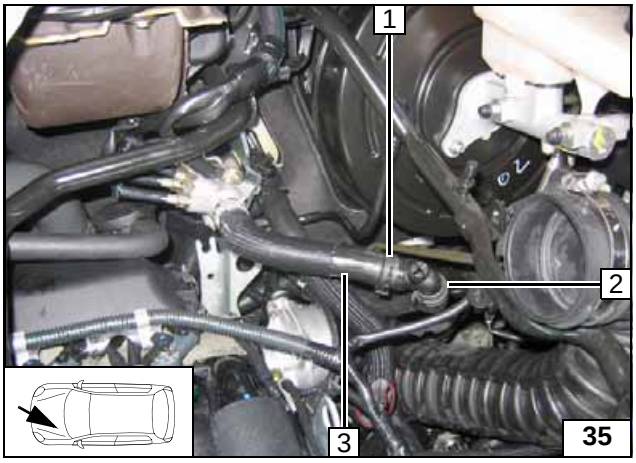
Connection to heater



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

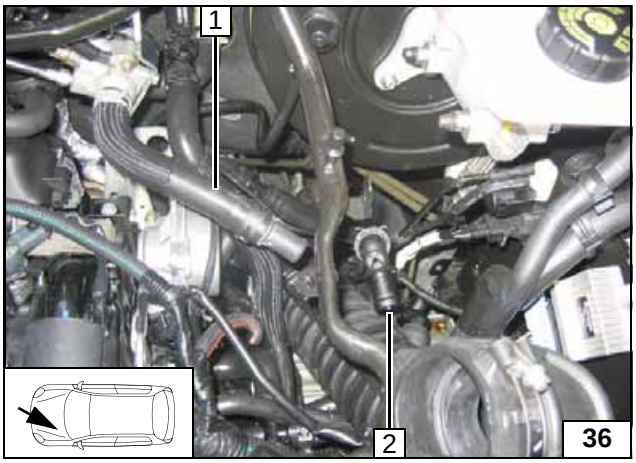
1 Rubber isolator [2x]
2 Cable tie

Routing in engine compartment



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

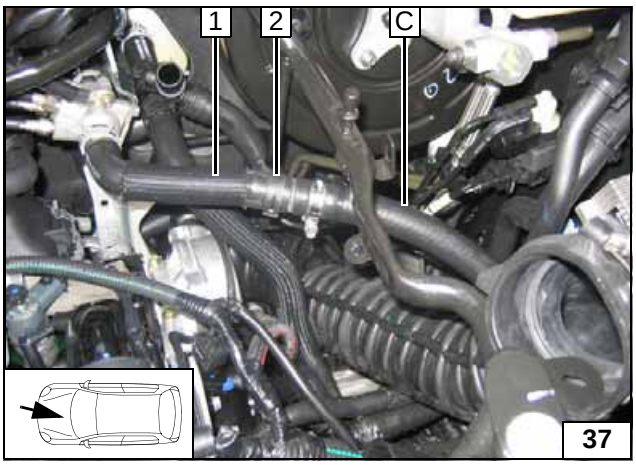
Pulling off original vehicle hose



Turn bleeder valve **2** towards front.

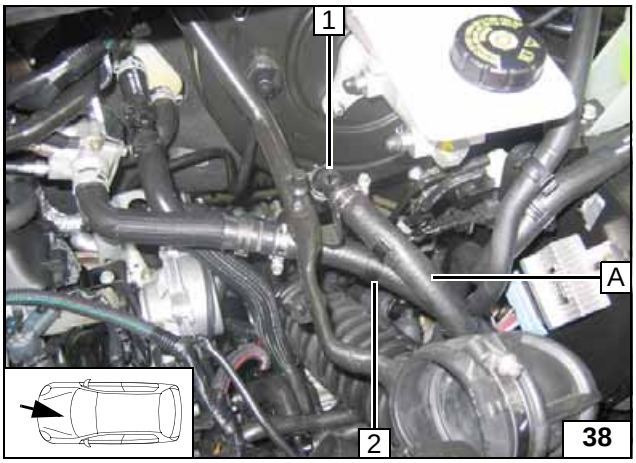
1 Hose section of heat exchanger inlet

Turning valve



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

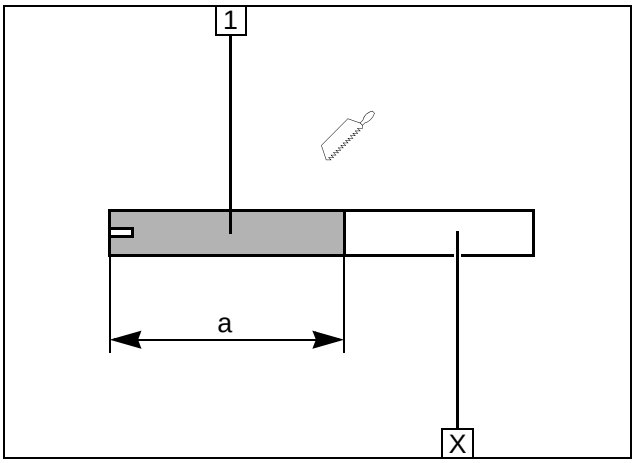
Connection on heat exchanger inlet



Before connecting, fill the coolant hoses with coolant.

1 Bleeder valve
2 Spacer bracket

Connection on engine outlet

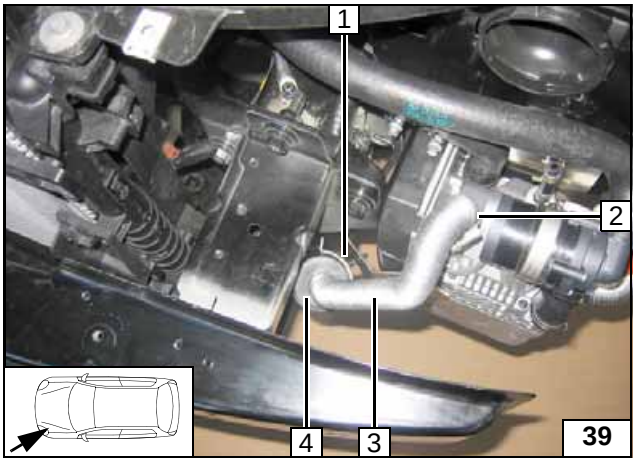


Combustion Air

1 Combustion air pipe
a = 300mm

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 pipe
4 Silencer

Mounting combustion air pipe

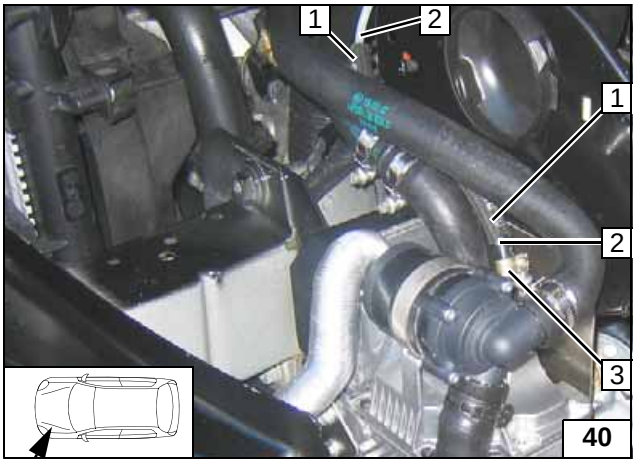
Fuel

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.

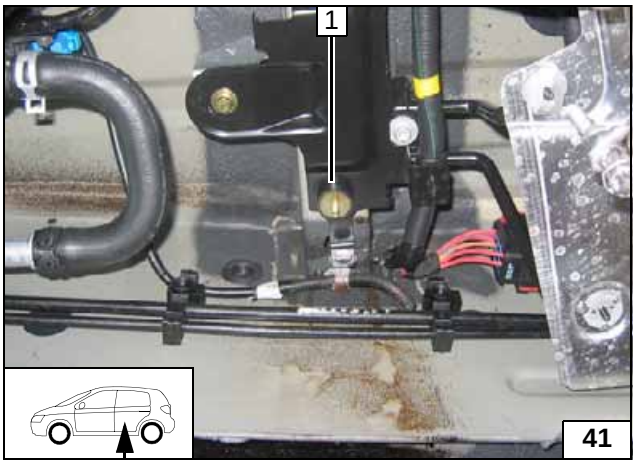
WARNING!
The fuel line and wiring harness are routed to the metering pump as shown in the wiring harness routing diagram.



Slide protective hose **1** onto fuel line **2**.

3 Hose section, 10 mm dia. hose clamp

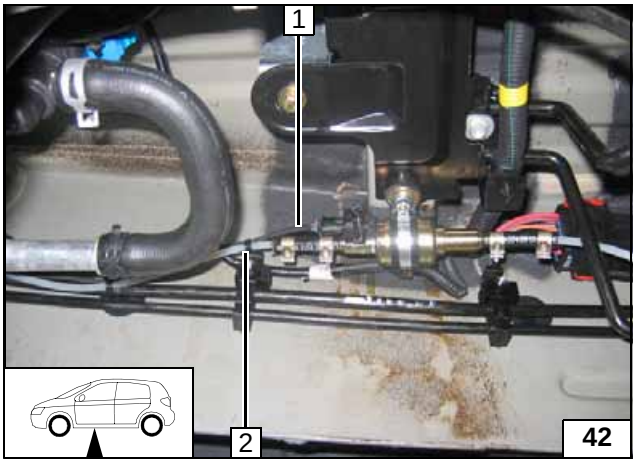
Connection to heater



Remove original vehicle bolt at position **1** and discard.

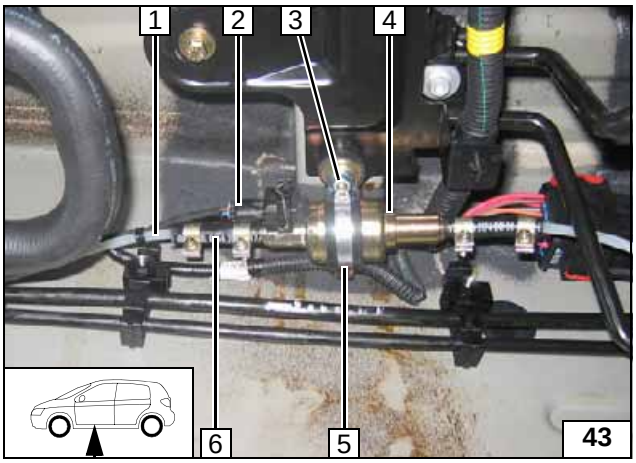
1 Silent block

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.

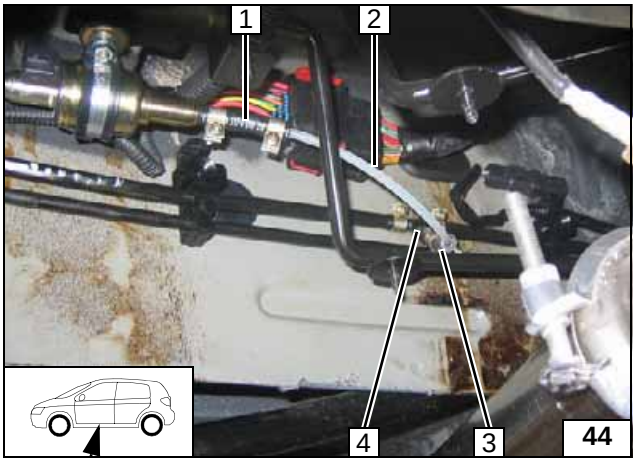
Routing lines



Ensure proper installation position of metering pump **4**, see "Installation Instructions". Connect fuel line from heater **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]

Installing metering pump



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 freedom of movement.

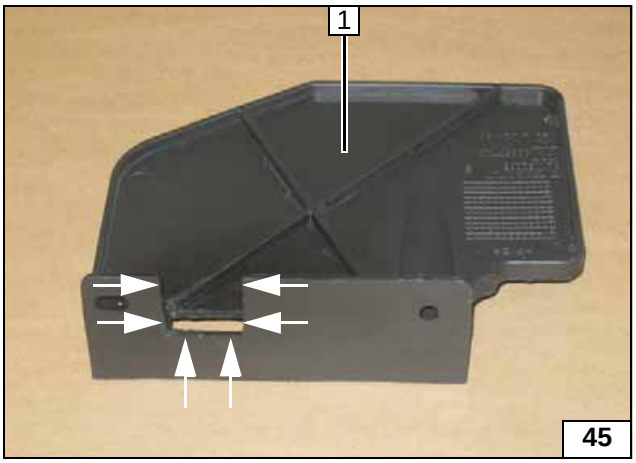
1 Hose section, 10 mm dia. hose clamp [2x]
3 Hose section, 10 mm dia. hose clamp [2x]
4 8x5x8 fuel standpipe, 10 mm dia. hose clamp [2x]

Fuel extraction

Installing Trim Pieces

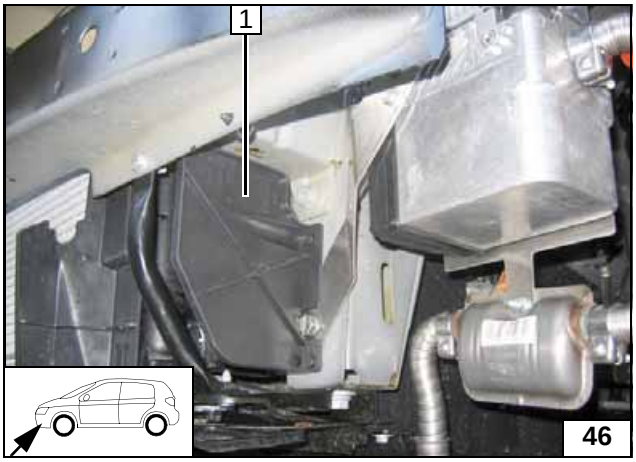
Cut out trim **1** (if present) in area of markings.

Cutting out trim



1 Trim

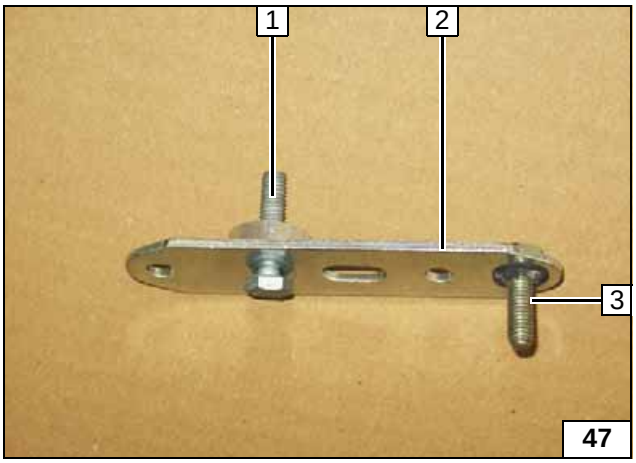
Mounting trim



Relocating control unit

1 M6x25 bolt, 5mm shim
2 Perforated bracket
3 M6x20 bolt, pin lock

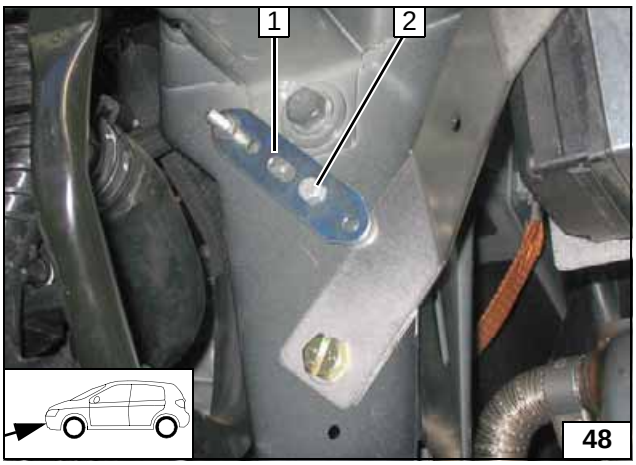
Preparing perforated bracket

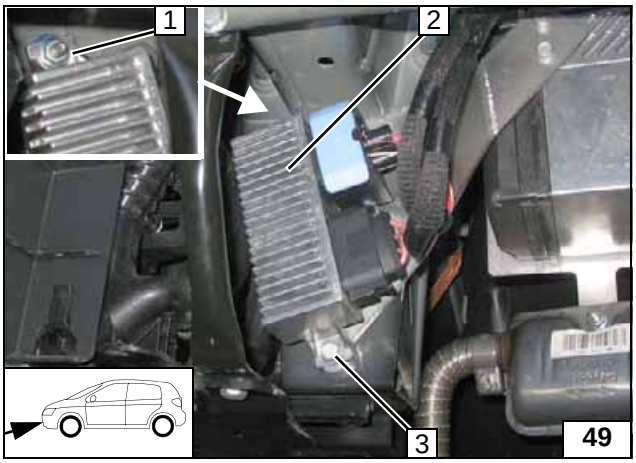


Align perforated bracket **1** and fasten using bolt **2**.

2 M6x20 bolt

Mounting perforated bracket

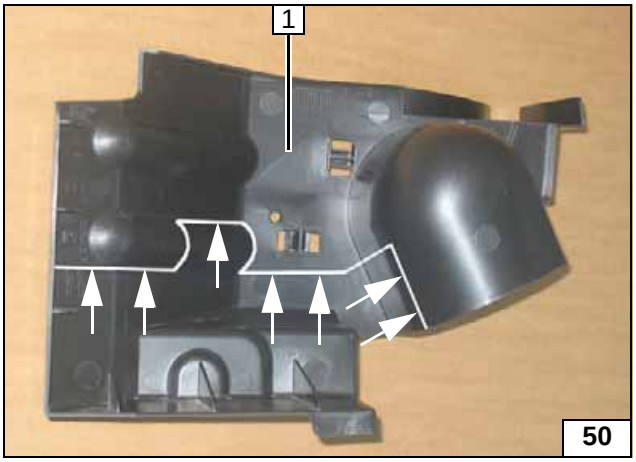




Fasten control unit **2** at position **1** using M6 flanged nut and at position **3** (original vehicle hole) with M6 bolt.

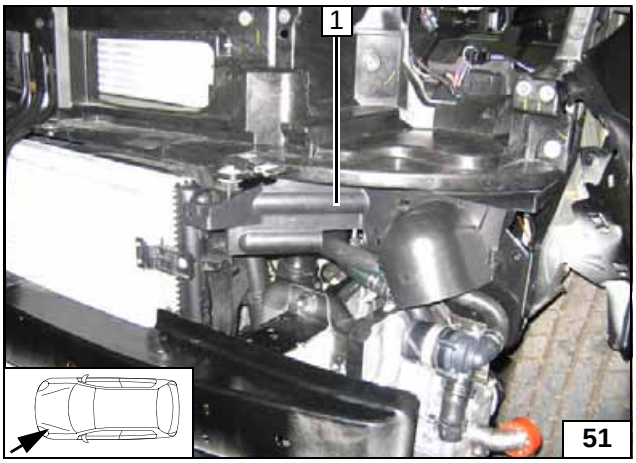
1 M6 flanged nut
3 M6x25 bolt, 8mm shim, flanged nut

Installing control unit



Cut out trim **1** in area of markings.

Cutting out trim



1 Trim

Mounting trim

Final Work

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

- **Connect the battery.**
- **Fill and bleed the coolant circuit according to the vehicle manufacturer's specifications.**
- **Set the 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" signboard in the area of the filler neck.**
- **For initial start-up and function check, see installation instructions.**

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

Operating Instructions for End Customer

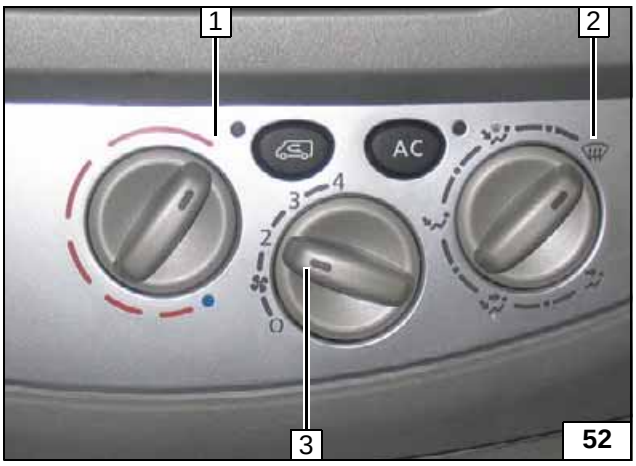
Please remove page and add to the vehicle operating instructions.

Note:
We recommend matching the heating time to the driving time.
Heating time = driving time
Example:
For a driving time of approx. 20 min. (in one direction), we recommend not exceeding a switch-on time of 20 min.

In vehicles with passenger compartment monitoring it must be deactivated in addition to the vehicle settings for the heating operation.
For information on deactivation, please see the vehicle owner's manual.

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

Before parking the vehicle, make the following settings:



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