Water Heater Unit

Feel the drive

***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

Citroen Berlingo / Peugeot Partner

Gasoline and Diesel
from Model Year 2008
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.

Ident. No.:1313674B_EN Fee Euro 10.00

Table of Contents

Validity

Manufacturer	Model	Type	EG-BE No./ABE
Citroen	Berlingo	7	e1 * 2001/116 * 0366 * ...
Peugeot	Partner	7	e2 * 2001/116 * 0365 * ...

Engine type	Engine model	Output in kW	Displacement in cm³
NFU	Gasoline	80	1587
9HX	Diesel	66	1560

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	Retail accessories with desired heater control	See price list
1	Installation Kit for PSA Berlingo/Partner Gasoline AC	1313670B
or		
1	Installation Kit for PSA Berlingo/Partner Gasoline ACC	1313671B
or		
1	Installation Kit for PSA Berlingo/Partner Diesel AC	1313672B
or		
1	Installation Kit for PSA Berlingo/Partner Diesel ACC	1313673B

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 Citroen Berlingo / Peugeot Partner Gasoline and Diesel vehicles - for validity, see page 2 - from model year 2008 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).

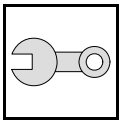
Special Tools

- Torque wrench for 2.0 - 10 Nm
- Hose clamping pliers
- Metric thread-setter kit

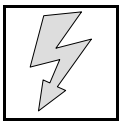
Explanatory Notes on Document

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

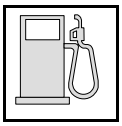


Electrical system



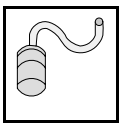
Coolant

Fuel



Exhaust gas

Combustion air



Special features are highlighted using the following symbols:

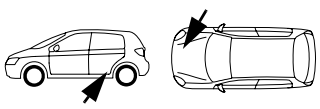
Specific risk of injury or fatal accidents.

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.

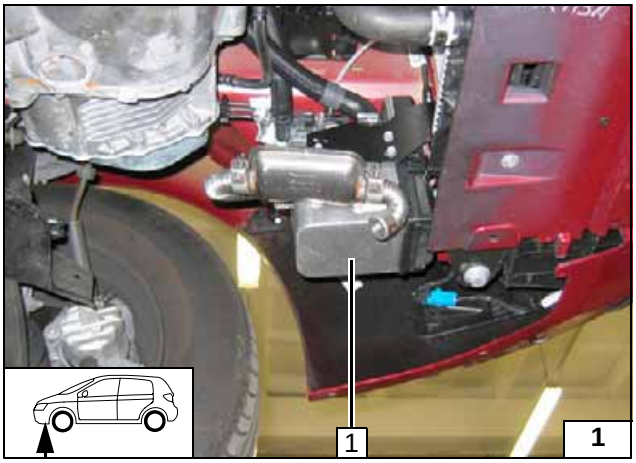
All dimensions are in mm!
Tightening torque of hose clamps = 2.0 + 0.5 Nm!
Tightening torque of Ejot screws, Ejot studs = 10 Nm!

Preliminary Work

WARNING!

- 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.
- Open fuel tank cap, ventilate tank.
- Close the tank cap again.
- Remove the engine cover (depending on the vehicle equipment, if installed)
- Remove the air cleaner box with the intake hose and resonator (depending on the vehicle equipment, if installed)
- Completely remove the battery and the battery carrier.
- Remove the exhaust system (only on gasoline vehicles)
- Lower the fuel tank (only on gasoline vehicles).
- Detach the wheel well trim on the right and left.
- Remove the bumper.
- Detach the rear left wheel well trim.
- Remove the underride protection (if present).
- Remove the lower instrument panel trim on the driver's and front passenger side
- Remove the glove compartment.

Remove page 29 "Operating Instructions for End Customer" and add to the vehicle operating instructions.



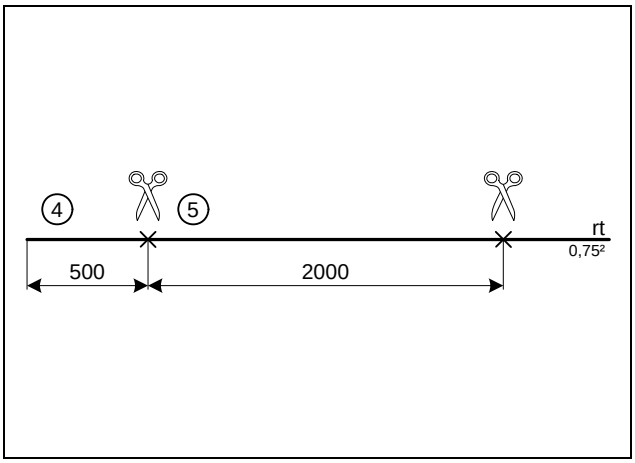
Heater unit installation location

1 Heater unit

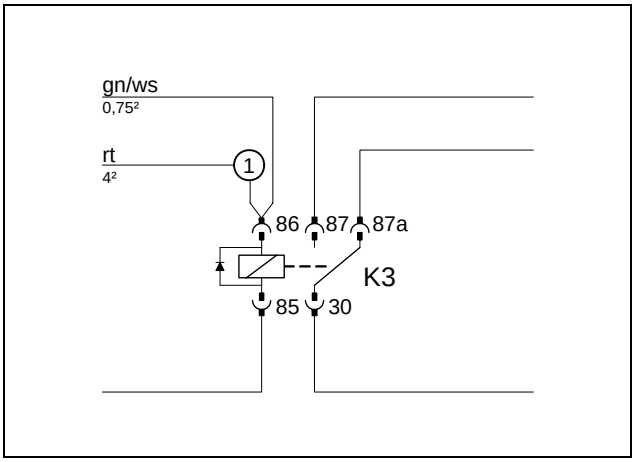
Installation location

Preparing electrical system

Automatic air-conditioning

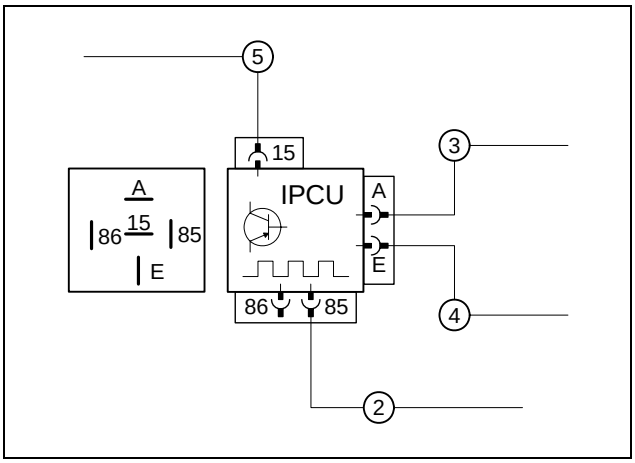


Cutting red (rt) wire, 0.75² to length



Produce connections as shown in wiring diagram. Uncrimp wire section **1** from K3/87a and connect to K3/86 together with green/white (gn/ws) wire.

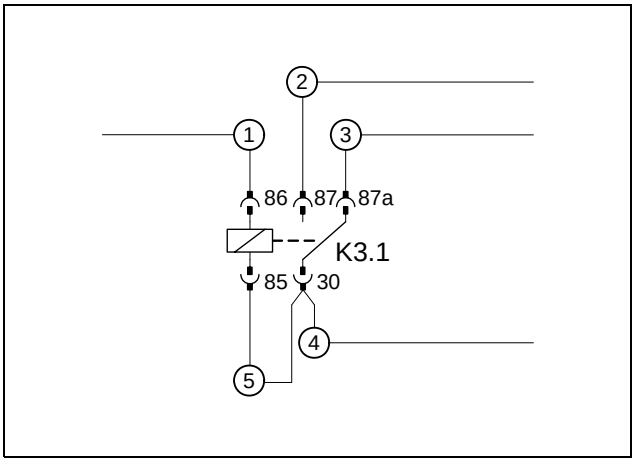
Preparing K3 relay



Connect wires to IPCU (IPCU view on contact side).
Pull wire **5** into the protective sleeving provided and route to OBD socket outlet.

2 Brown (br) wire, 0.75² - 500
3 Black (sw) wire, 0.75² - 500
4 Red (rt) wire, 0.75² - 500
5 Red (rt) wire, 0.75² - 2000

Preassembling IPCU



Manual air conditioning

Cut one end of 0.75² brown (br) wire, to approx. 80 mm.
Produce connections as shown in wiring diagram.

1 Red (rt) wire, 0.75² - 1000
2 Black (sw) wire, 4² - 1000
3 Blue (bl) wire, 1.5² - 300
4 Brown (br) wire, 4² - 1000
5 Brown (br) wire, 0.75² - 80

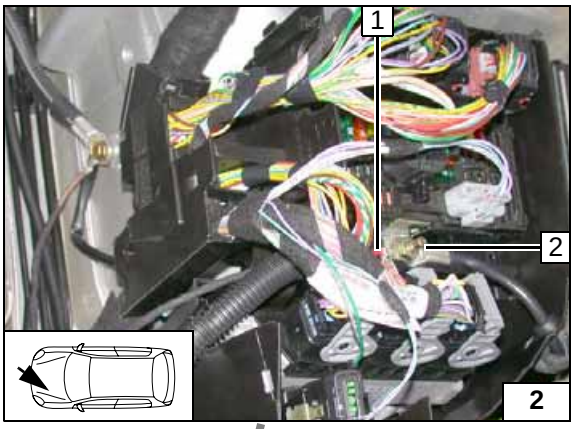
Preparing additional relay K3.1

Electrical system

Connecting positive wire

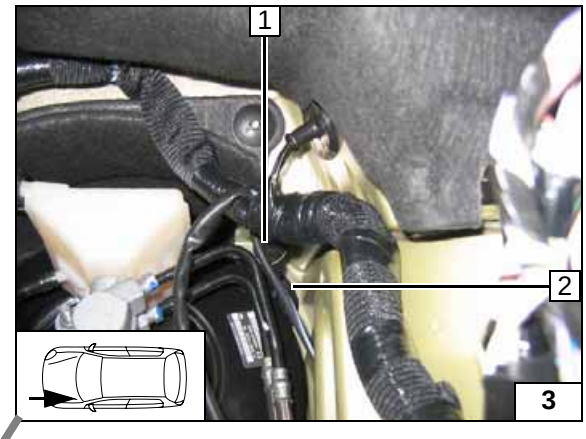
Before installing, crimp 8 mm dia. cable lug onto positive wire.

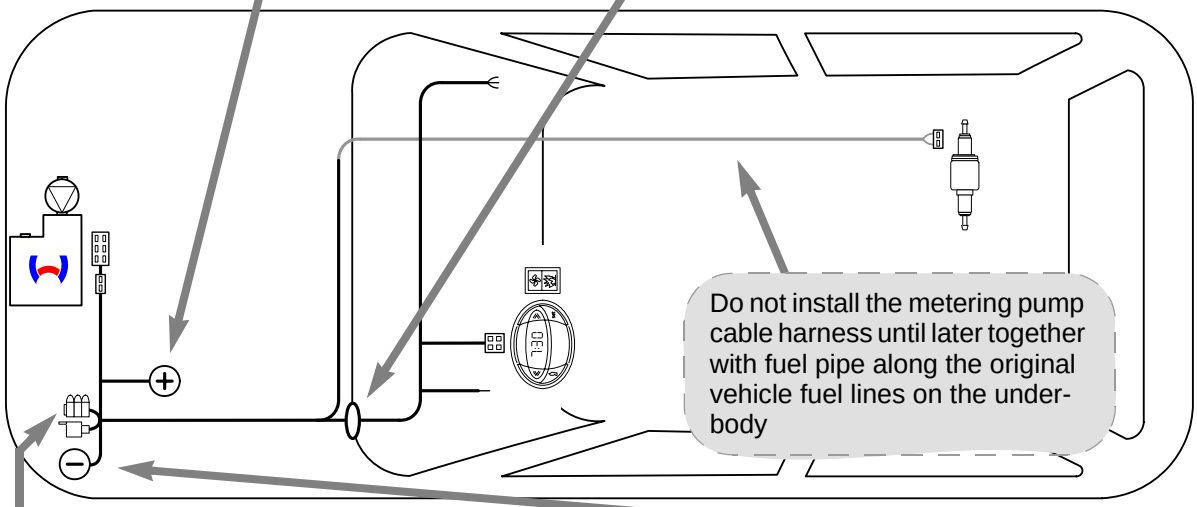
1 Red (rt) wire
2 Original vehicle positive support point (10 Nm)



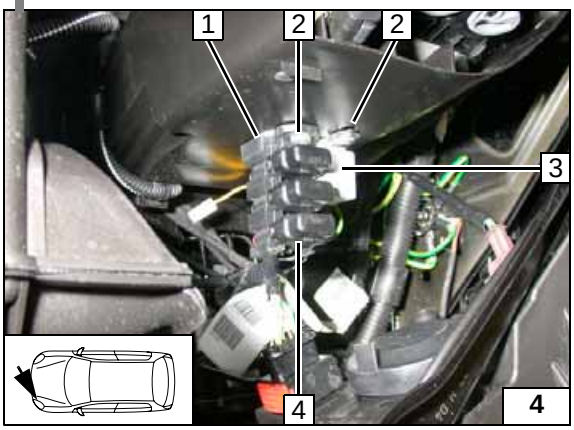
Wiring harness pass through

Route wiring harnesses (digital timer, fan controller and green/white (gn/ws wire in protective sleeving) on original vehicle wiring harness **1** to protective rubber plug **2** and route into passenger compartment.



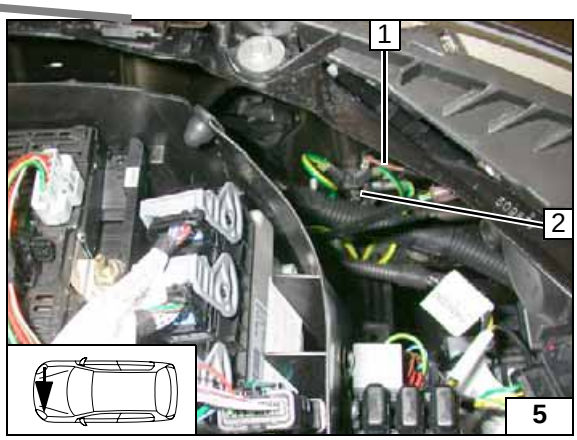


Wiring harness installation diagram



Fuse holder, relay K3

1 Retaining plate for fuse holder
2 4 mm dia. hole, 5.5x13 self-tapping screw; plastic nut [2x each]
3 K3 relay
4 Fuse holder

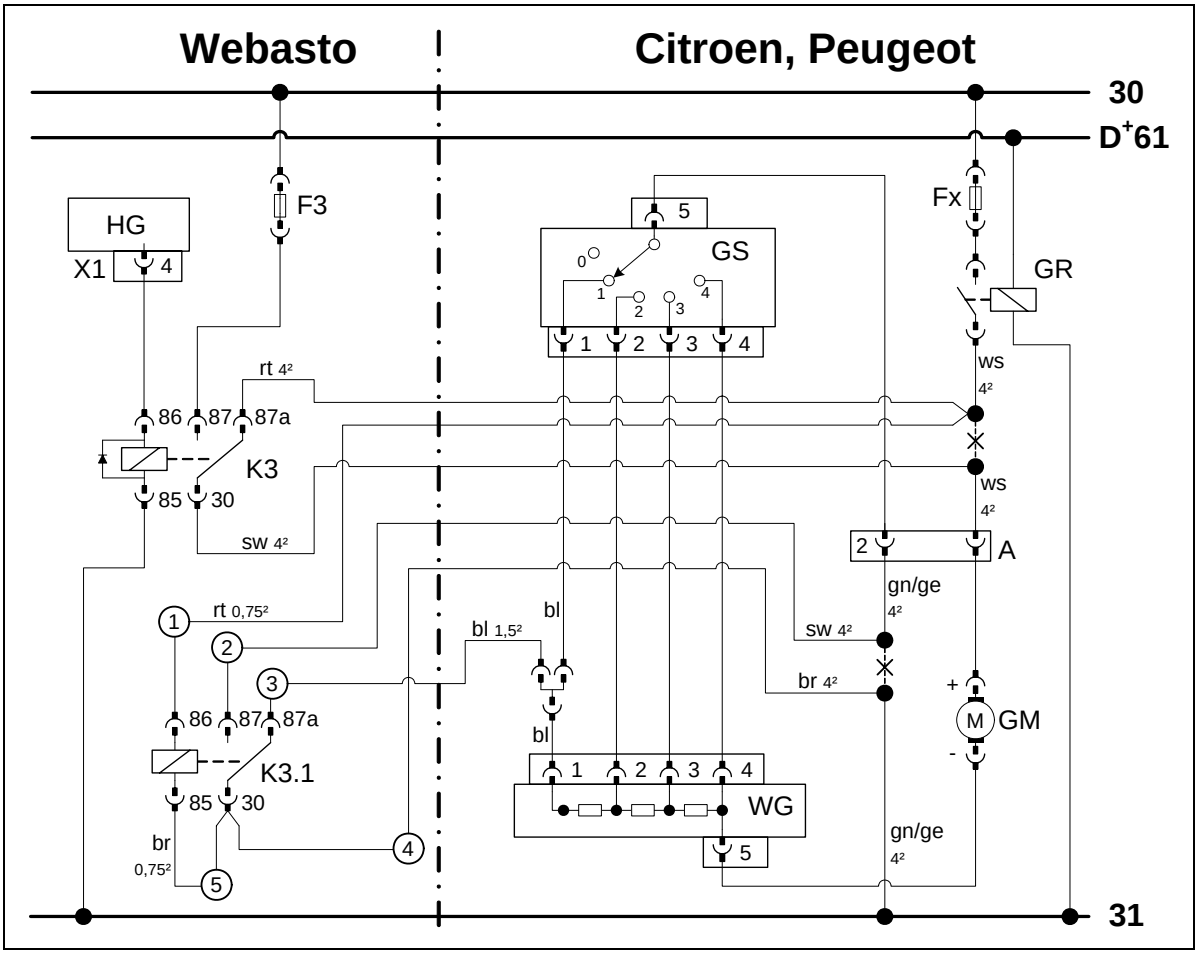


Connecting ground wire

1 Brown (br) wire
2 Original vehicle ground support point

Fan controller for manual air conditioning

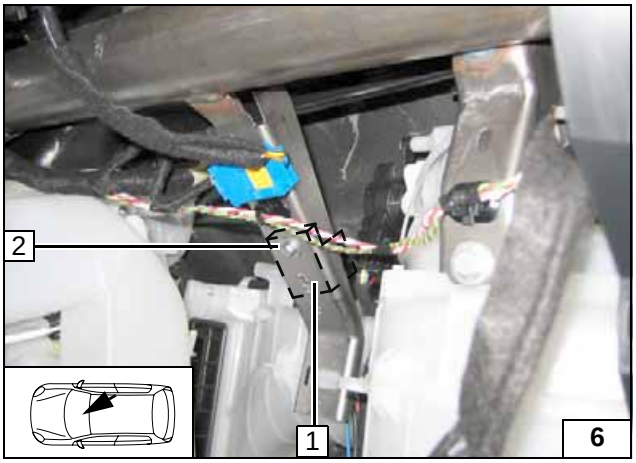
Wiring diagram



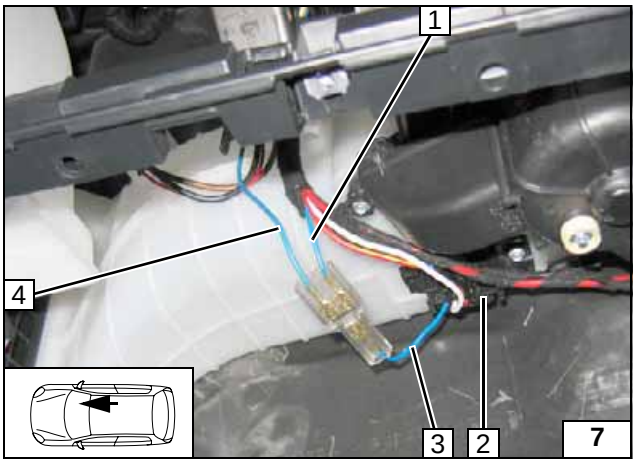
Legend

Webasto components		Vehicle components		Colors and symbols	
HG	Heater unit TT-C/E	GM	Fan motor	rt	red
X1	6-pin heater unit connector	GRs	Fan relay	ws	white
F3	25 A fuse	GS	Fan switch	sw	black
K3	Fan relay	WG	Resistor group	br	brown
K3.1	Additional relay	A	6-pin connector	bl	blue
		Fx	Fuse	bl	blue
				X	Cutting point
				Wiring colors may vary.	

Installing K3.1 relay



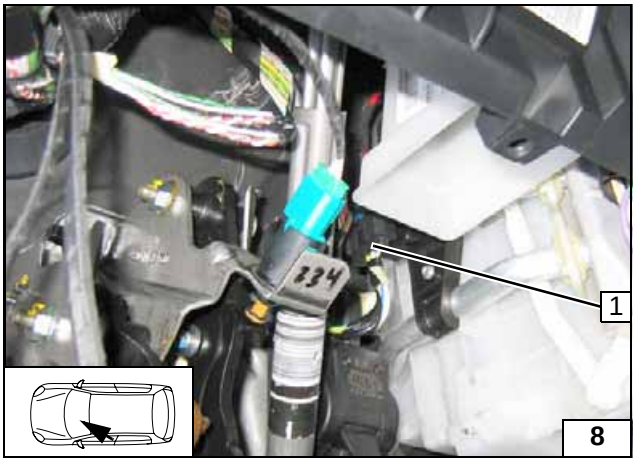
1 K3.1 relay covered (installed behind original vehicle strut)
2 M5x16 bolt, large diameter washer, flanged nut



Connection to 5-pin connector **2** from resistor group.
Produce connections as shown in wiring diagram.

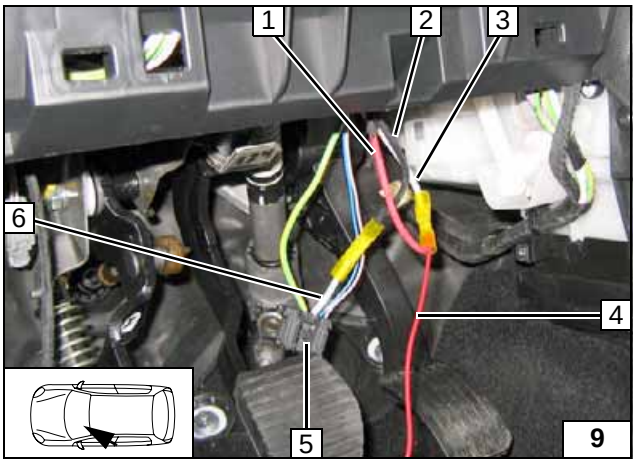
1 Blue (bl) wire of fan switch
3 Blue (bl) wire of connector, Pin 1, disconnected
4 Blue (bl) wire to K3.1/87a

Connection to resistor group



Connection on 6-pin connector A!

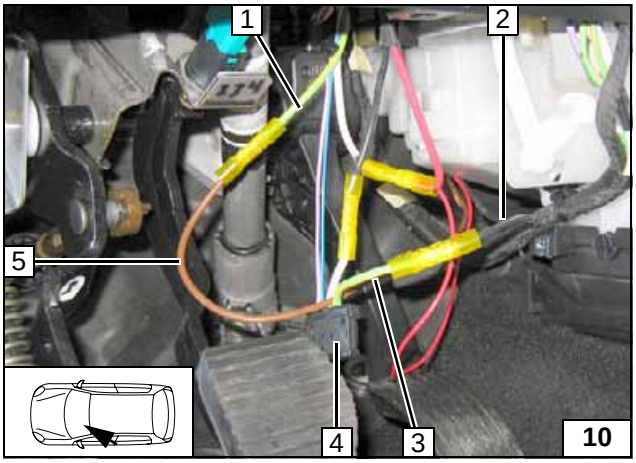
Disconnecting connector A



Connection on 6-pin connector A **5**.
Produce connections as shown in wiring diagram.

1 Red (rt) wire from K3/87a
2 Black (sw) wire from K3/30
3 White (ws) wire of fan relay
4 Red (rt) wire to K3.1/86
6 White (ws) wire 6-pin connector A

Connecting fan-motor



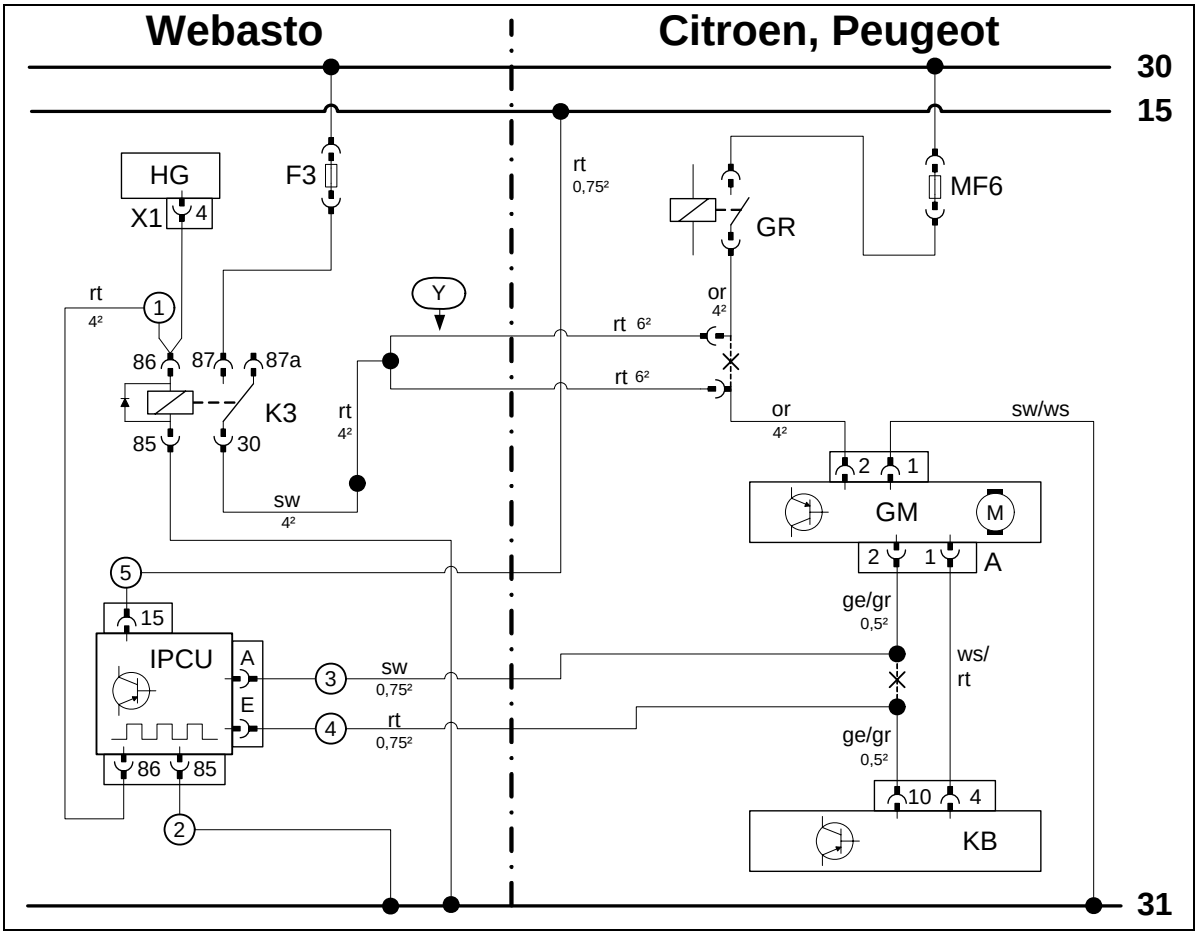
Connection on 6-pin connector A **4**.
Produce connections as shown in wiring diagram.

1 Green/yellow (gn/ge) wire of ground wire
2 Black (sw) wire K3.1/87
3 Green/yellow (gn/ge) wire of 6-pin connector A
5 Brown (br) wire K3.1/30

Connection of fan switch

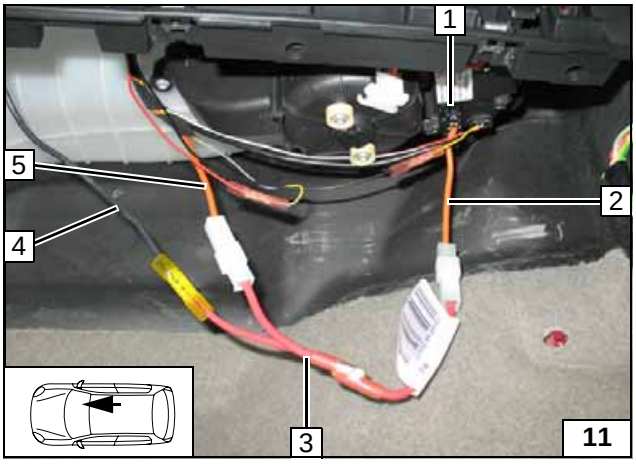
Automatic air-conditioning fan controller

Wiring diagram



Webasto components		Vehicle components		Colors and symbols	
HG	Heater unit TT-C/E	KB	Air-conditioning control unit	rt	red
X1	6-pin heater unit connector	GR	Fan relay	ws	white
F3	25 A fuse	GM	Fan module	sw	black
K3	Fan relay	A	2-pin connector GM	ge	yellow
IPCU	Pulse width modulator	MF6	Fuse	gr	gray
Y	Wiring adapter	Ter. 15	Measure (e.g. 16-pin OBD socket outlet, Pin 1)	or	orange
IPCU adjustment values:					
Duty cycle:	42 %				
Frequency:	1000 Hz				
Voltage:	5 V			**X**	Cutting point
Function:	High-side			Wiring colors may vary.	

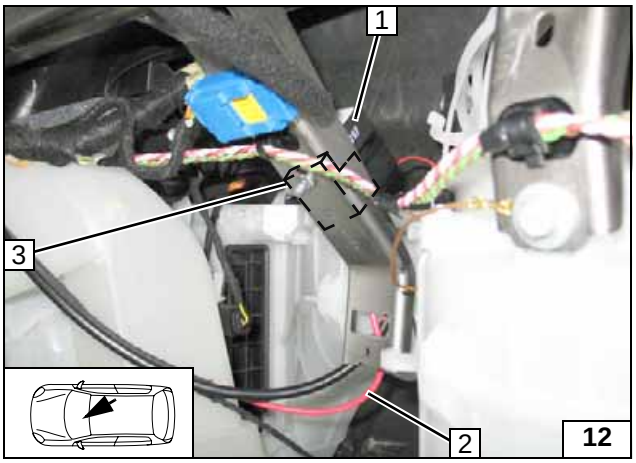
Legend



Fan motor is controlled on 2-pin connector A **1** of fan module.
Produce connections as shown in wiring diagram.

2 Orange (or) wire of connector A, Pin 2
3 Y-adapter
4 Black (sw) wire from K3/30
5 Orange (or) wire of GR

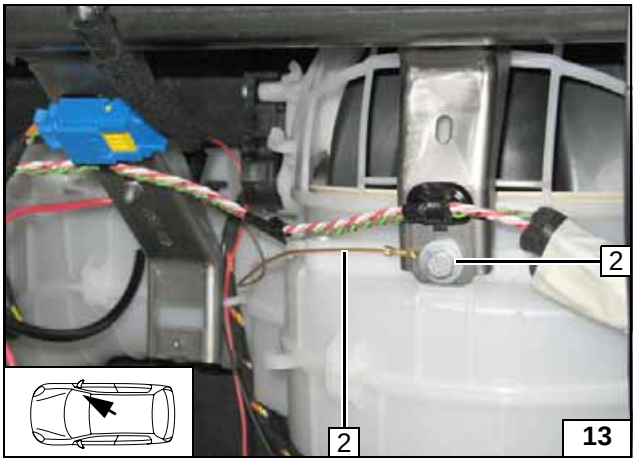
Connection to fan module



Before installing, connect red (rt) wire **2** from K3/86 to socket of IPCU terminal 86.

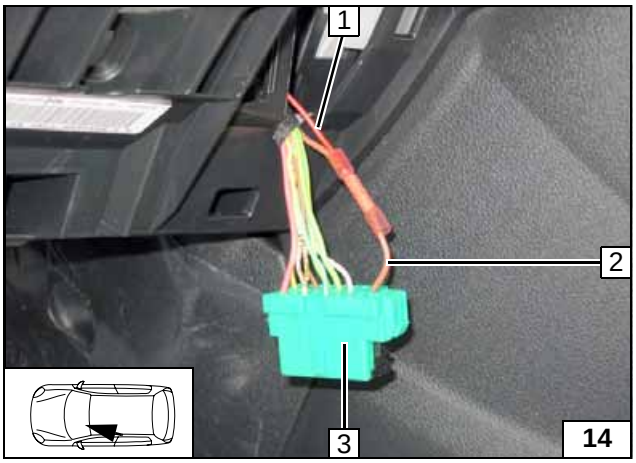
1 IPCU covered (installed behind original vehicle strut)
3 M5x16 bolt, large diameter washer, flanged nut

Installing IPCU



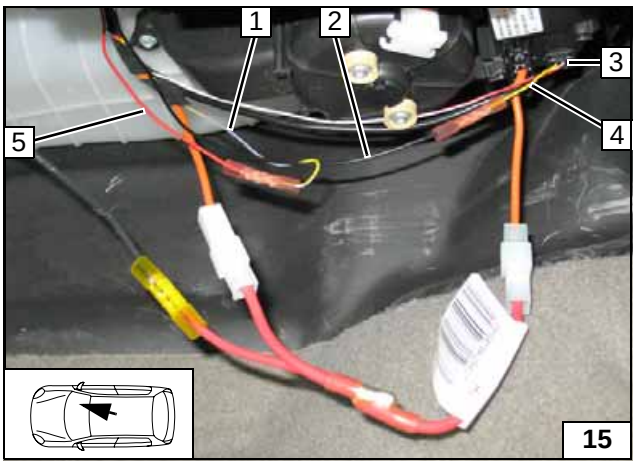
1 Original vehicle bolt
2 Brown (br) wire of IPCU/85, cable lug

Connecting IPCU



1 Red (rt) wire IPCU/15
2 Brown (br) wire of terminal 15 of OBD socket outlet, Pin1
3 OBD socket outlet disconnected

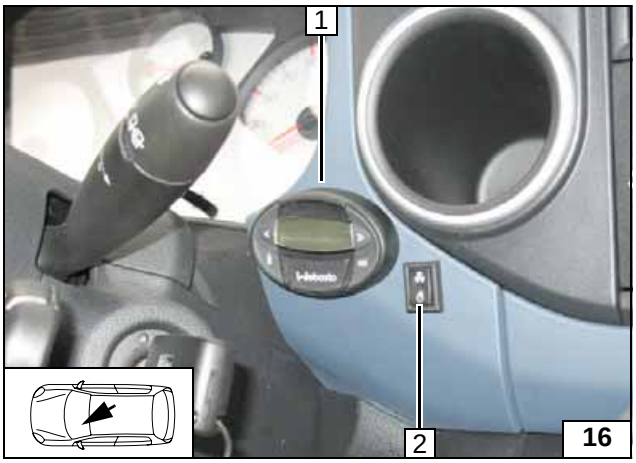
Connecting IPCU



Fan controller is controlled before 2-pin connector **3** of fan module.
Produce connections as shown in wiring diagram.

1 Yellow/gray (ge/gr) wire on connector of A/C control panel
2 Black (sw) wire of IPCU/A
4 Yellow/gray (ge/gr) wire of connector 2V NR, Pin 2
5 Red (rt) wire of IPCU/E

Connecting fan controller

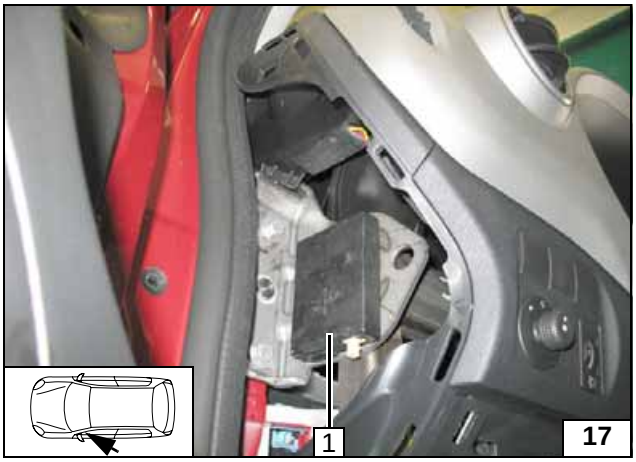


Digital timer, summer/winter switch option

Installation location shown is a recommendation. Agree upon with final customer before installing.

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

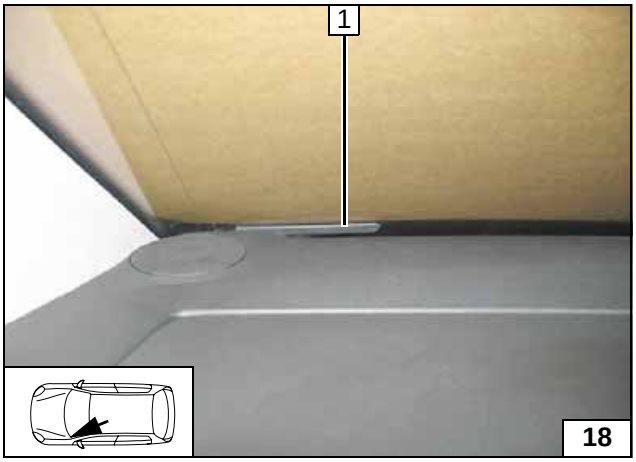
Installing digital timer



Remote option (Telestart)

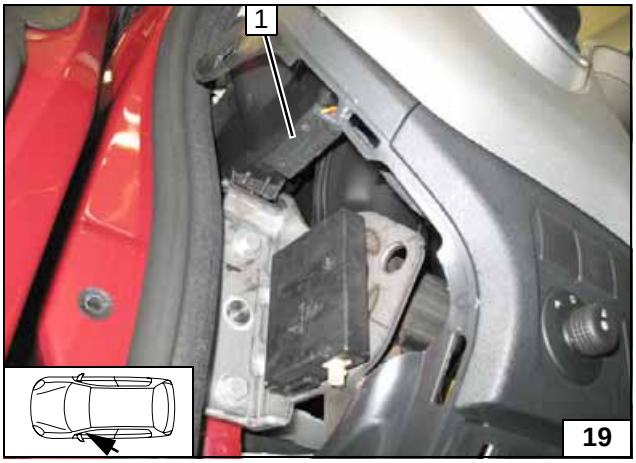
Fasten receiver **1** with double-sided adhesive tape.

Installing receiver



1 Antenna

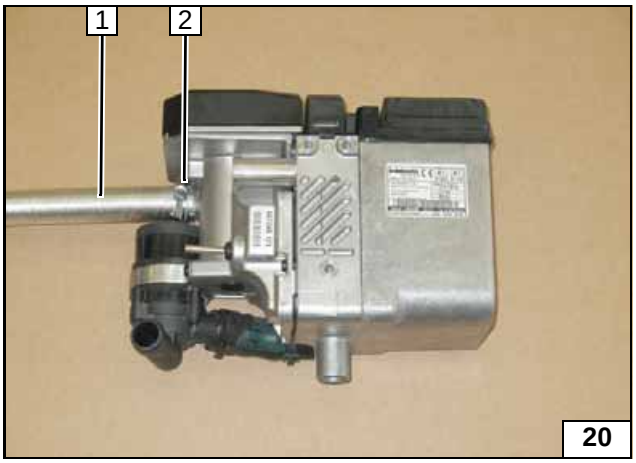
Installing antenna



Temperature sensor for HTM100 only

1 Fasten temperature sensor with adhesive tape

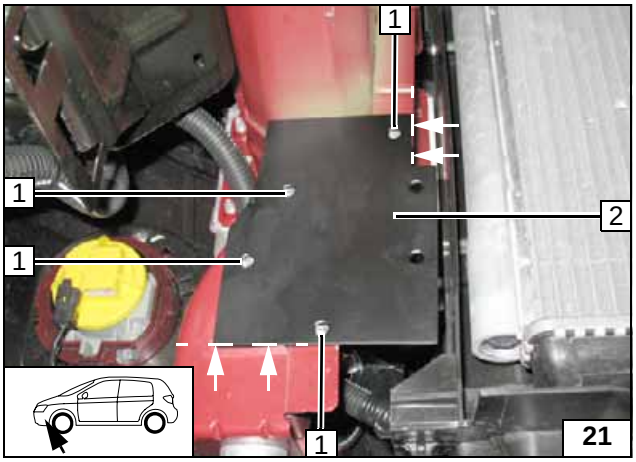
Installing temperature sensor



Preparing heater unit

1 Combustion air pipe
2 27 mm dia. hose clamp

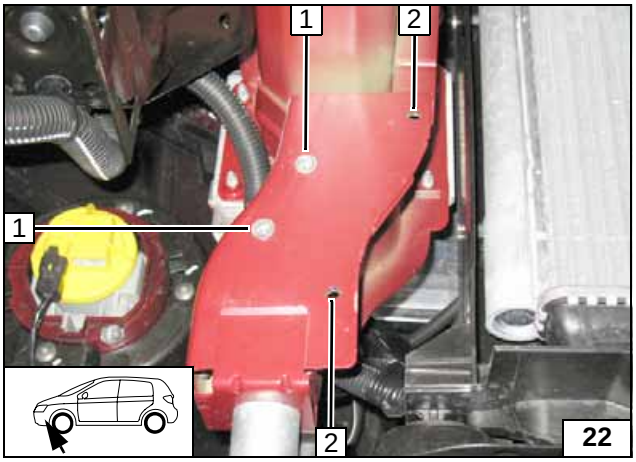
Preparing combustion air pipe



Preparing installation location

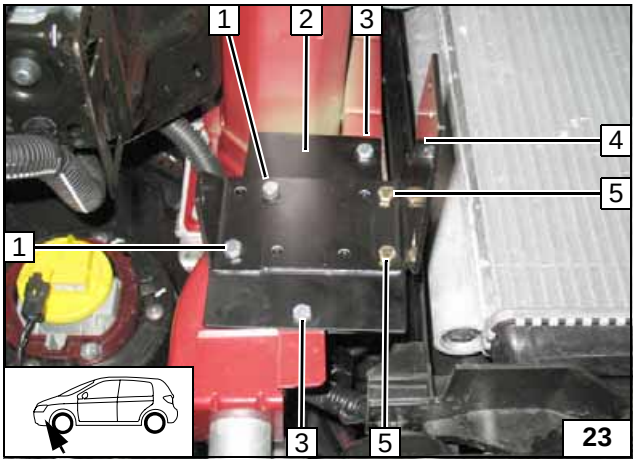
Retaining plate **2** placed on markings and hole pattern copied at position **1** [4x].

Copying hole pattern



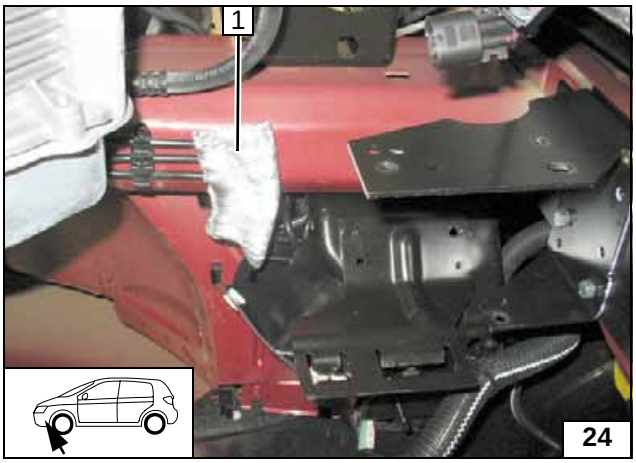
1 9.1 mm dia. hole; rivet nut [2x each]
2 7 mm dia. hole [2x]

Installing rivet nut



1 Mount M6x20 bolt, spring lockwasher on rivet nut [2x each]
2 Retaining plate
3 M6x20 bolt, flanged nut [2x each]
4 Bracket
5 M6x12 bolt, flanged nut [2x each]

Installing bracket and retaining plate

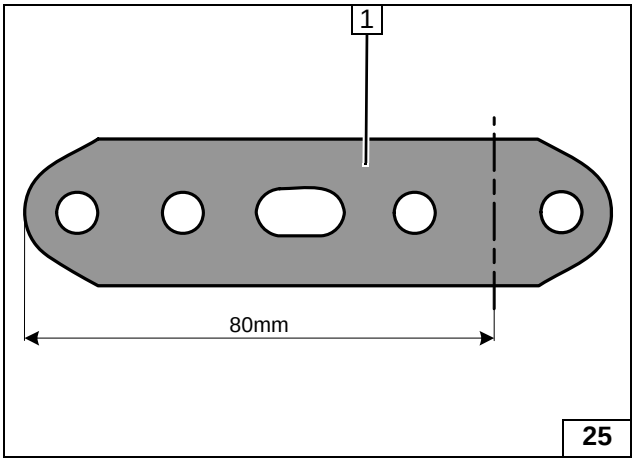


Pull on heat shield **1** over brake lines.

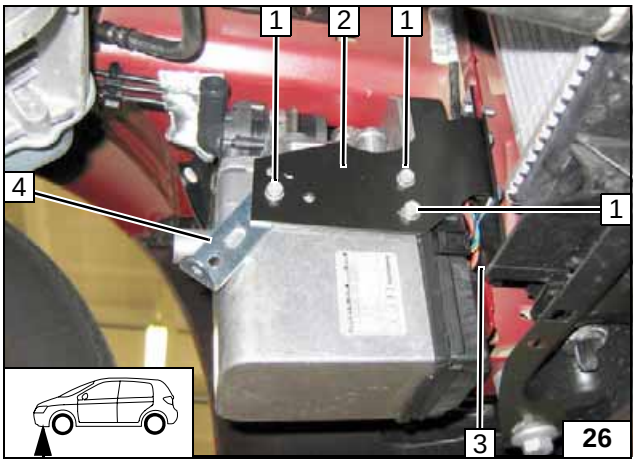
Installing heat shield

Installing heater unit

Angle down perforated bracket **1** by 90°.



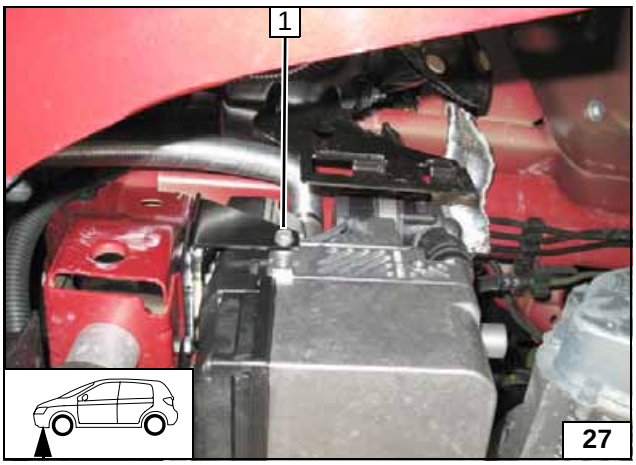
Preparing perforated bracket



Mount wiring harness **3** on heater unit. Install perforated bracket **4** between heater unit and bracket **2**.

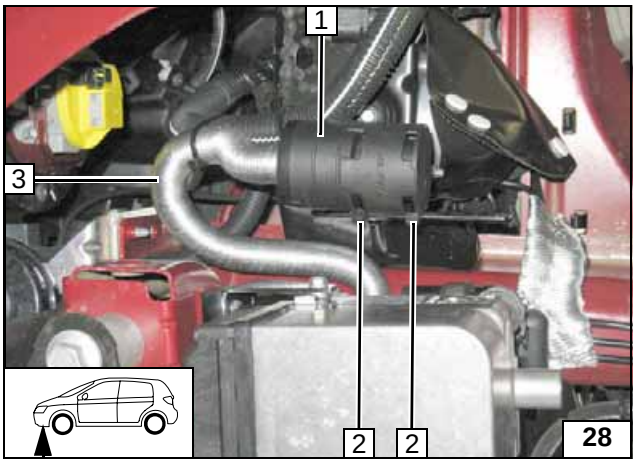
1 Ejot screw [3x]

Installing heater unit



1 Ejot screw

Installing heater unit



Combustion air

1 Muffler
2 Cable tie [2x]
3 Combustion air pipe

Installing muffler

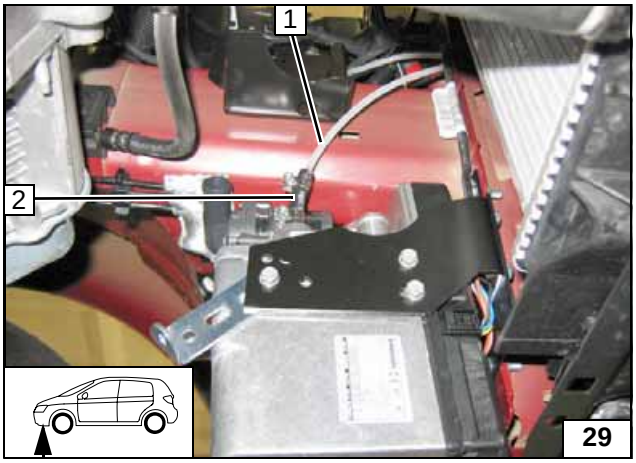
Fuel

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 in as shown in the wiring harness routing diagram.



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

Connection on heater unit

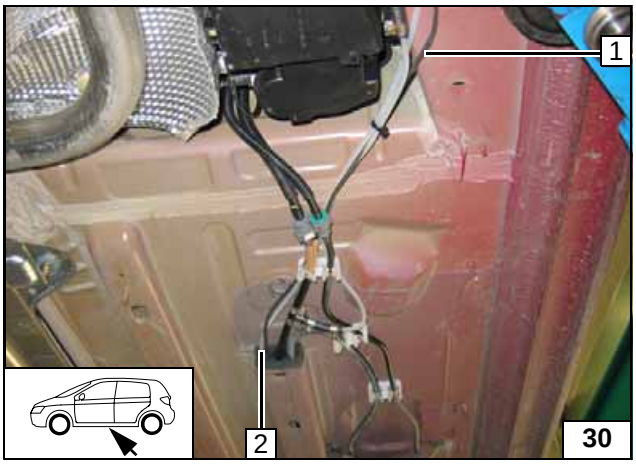
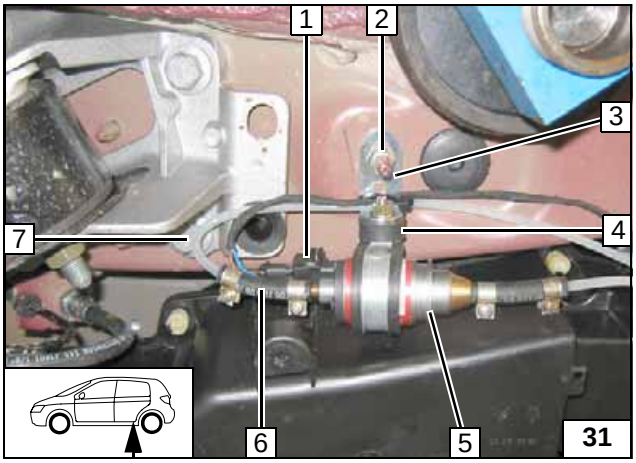


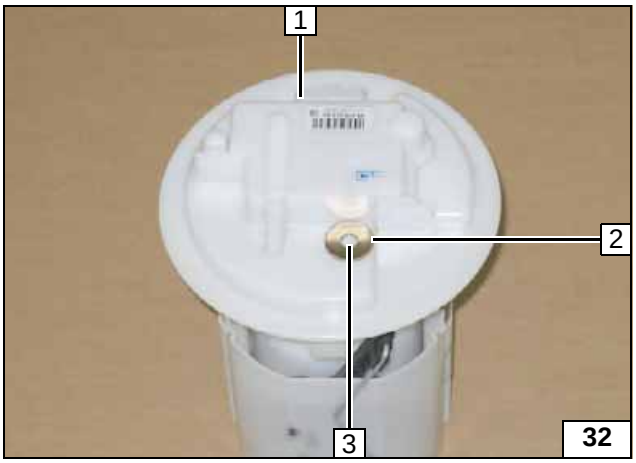
Photo shows diesel vehicle!
Route wiring harness of metering pump **1** together with fuel line **2** along original vehicle fuel lines to installation location of metering pump.

Installing lines



1 Wiring harness of metering pump, connector mounted
2 Original vehicle stud bolt; M8 flanged nut
3 Angle bracket
4 Rubber-coated p-clamp, silent block, flanged nut [2x]
5 Metering pump
6 Hose section, 10 mm dia. clamps [2x]
7 Fuel line

Installing metering pump

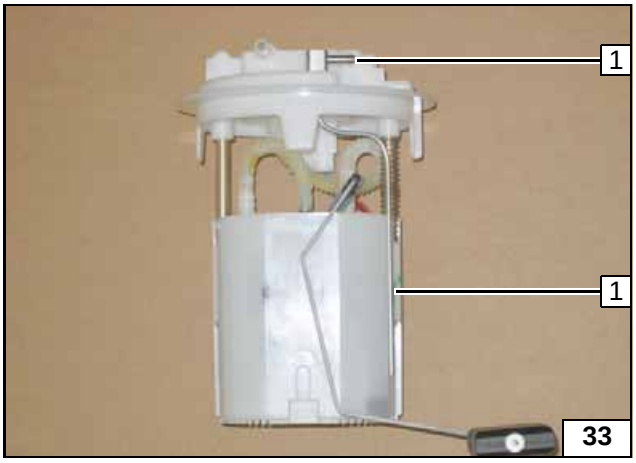


Gasoline

Lower fuel tank and fuel-tank sending unit **1** according to manufacturer's information.

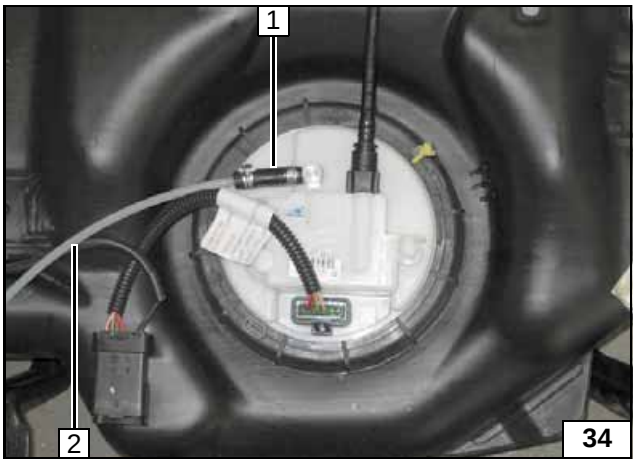
2 Large diameter washer
3 Copy hole pattern, 6 mm dia. hole

Removing fuel



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

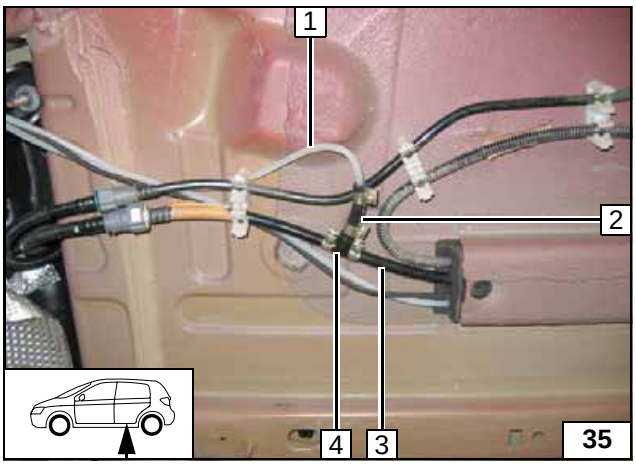
Installing fuel standpipe



Fuel tank removed for improved depiction. Install fuel-tank sending unit according to manufacturer's specifications.
Install fuel tank in accordance with manufacturer's specifications.

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

Connecting fuel line

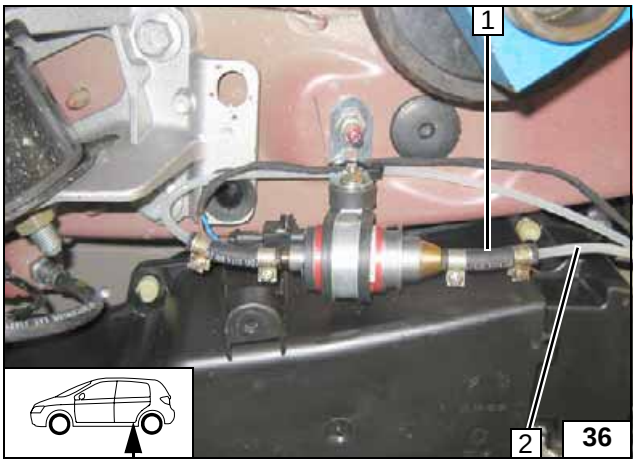


Diesel

Fuel is removed from original vehicle fuel supply line **3**.

1 Fuel line
2 Hose section, 10 mm dia. clamps [2x]
4 8x5x8 fuel standpipe

Removing fuel



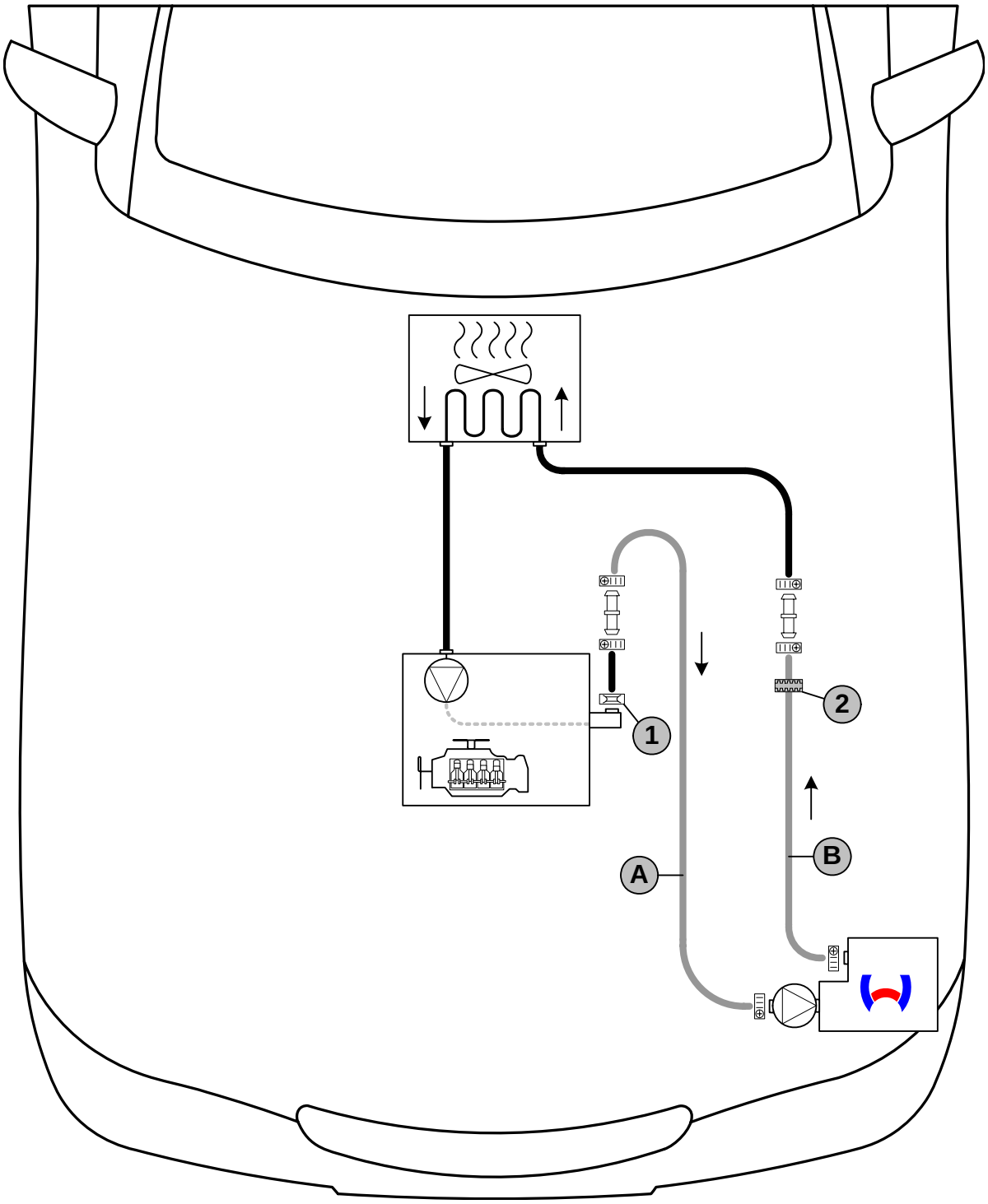
All vehicles

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

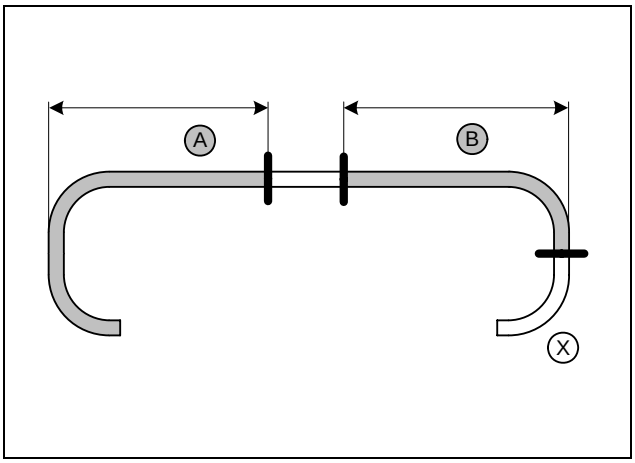
Coolant for gasoline engine

WARNING!
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 clamps so that no other hose can be damaged! When installing the coolant hose, the heater unit must be filled with coolant.
The connection should be "inline" based on the following diagram:

Coolant routing diagram



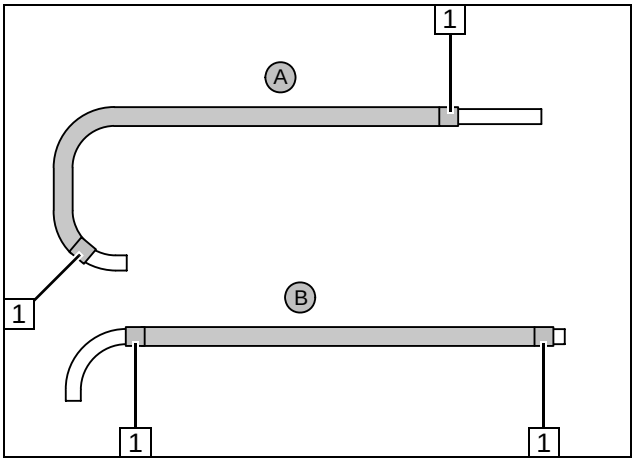
All hose clamps = 20-27 mm dia.! All connecting pipes = 17x20 dia.
1 = Original vehicle spring clip .
2 = Black (sw) rubber isolator .



a = 470 mm
b = 570 mm

Discard section **X**

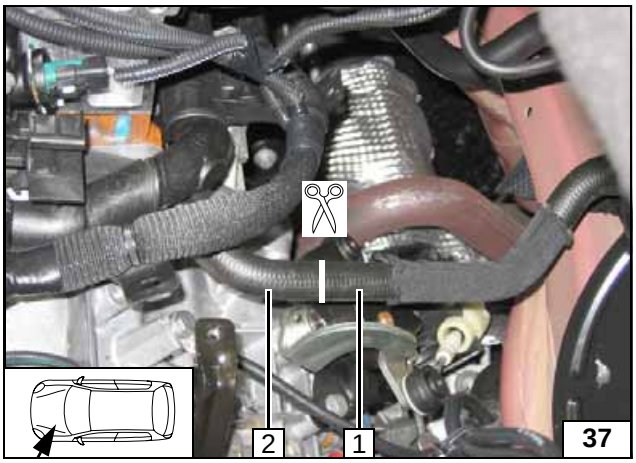
Cutting coolant hoses to length



Cut braided protection hose in center and slide onto hose **A** and **B**.
Cut heat shrink plastic tubing to length and shrink to size.

1 25 mm long heat shrink plastic tubing [4x]

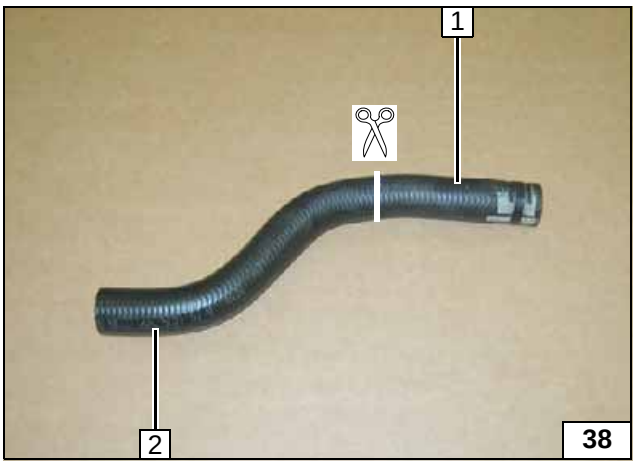
Preparing coolant hoses



Lay aside original vehicle plastic bracket (remove side bolt, loosen rear bolt).
Original vehicle spring clip will be reused.

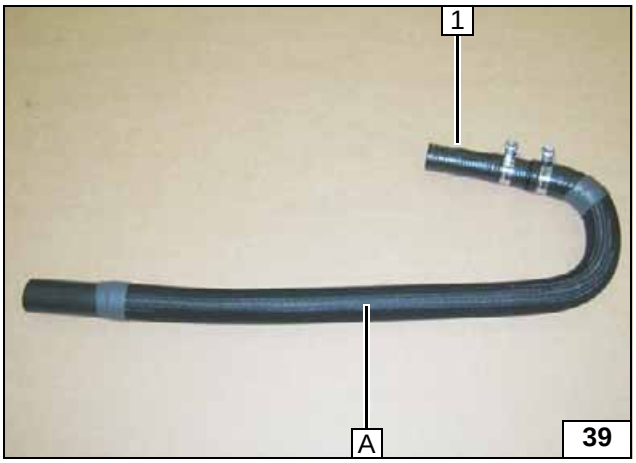
1 Hose section of heat exchanger inlet
2 Remove hose section of engine outlet

Cutting point



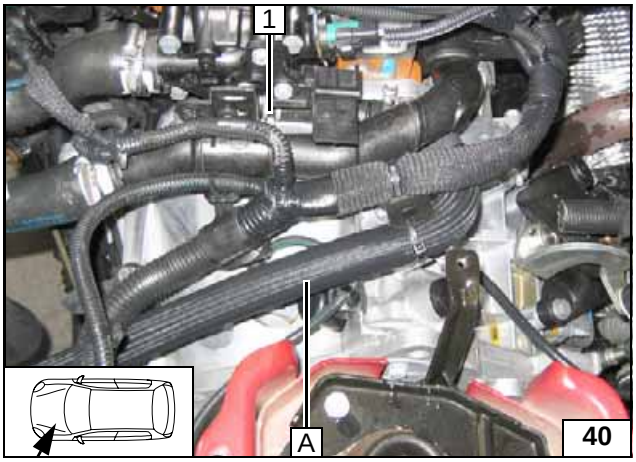
1 Engine-outlet hose section
2 Discard hose section

Preparing hose



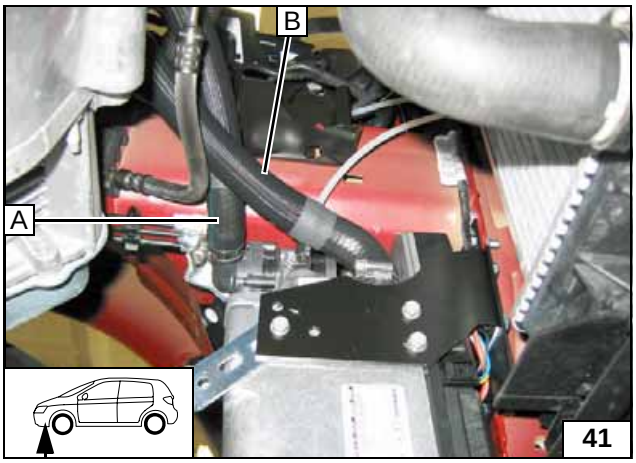
1 Engine-outlet hose section

Preparing hose A



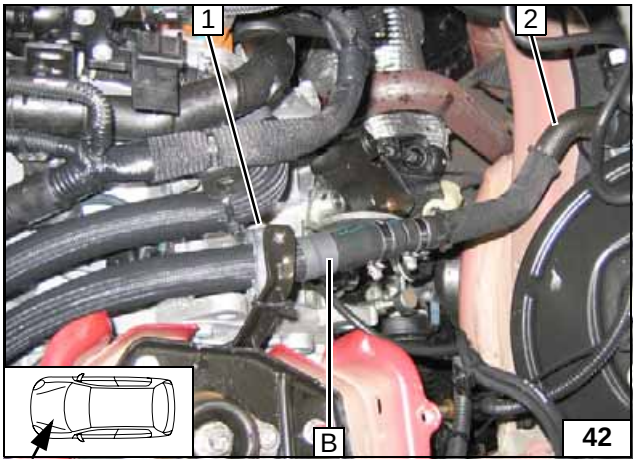
1 Original vehicle spring clip

Connecting engine outlet



Ensure sufficient distance to hydraulic line; correct if necessary.

Connecting heater unit



Slide black (sw) rubber isolator **1** onto hose **B** and fasten on battery carrier with cable tie. Ensure sufficient distance to adjacent components; correct if necessary.

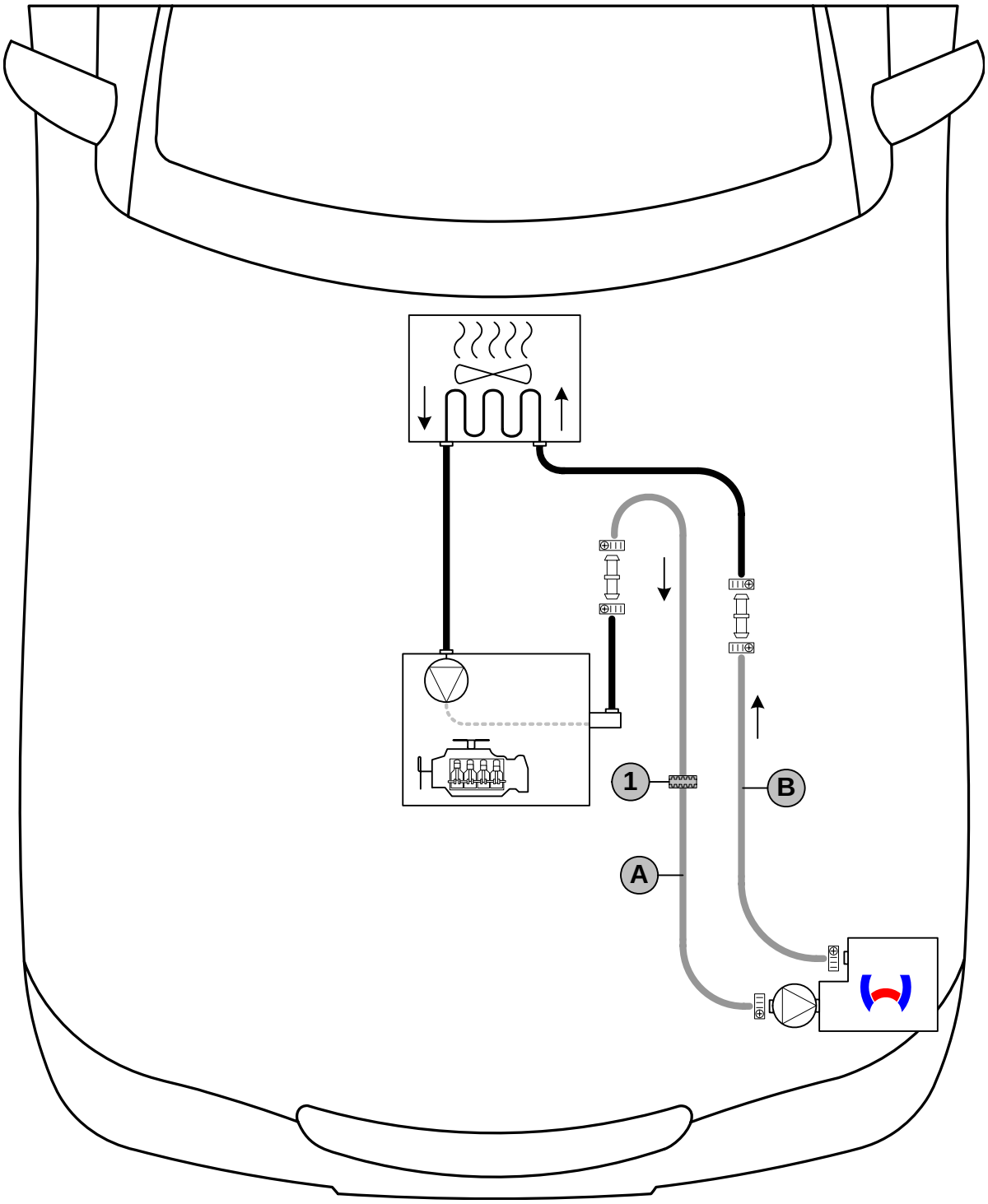
2 Hose section of heat exchanger inlet

Connecting heat exchanger inlet

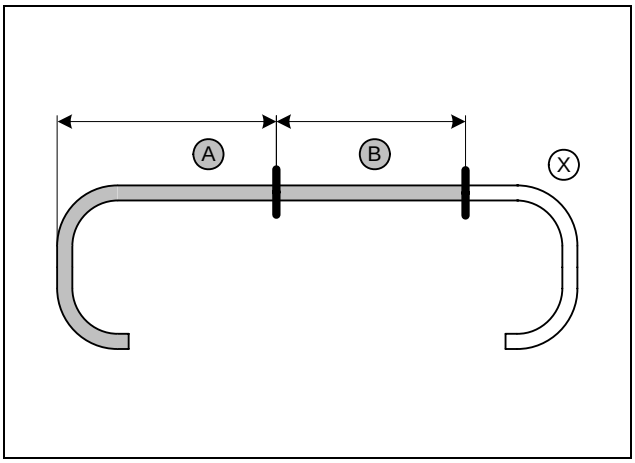
Coolant for diesel engine

WARNING!
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 clamps so that no other hose can be damaged! When installing the coolant hose, the heater unit must be filled with coolant.
The connection should be "inline" based on the following diagram:

Coolant routing diagram



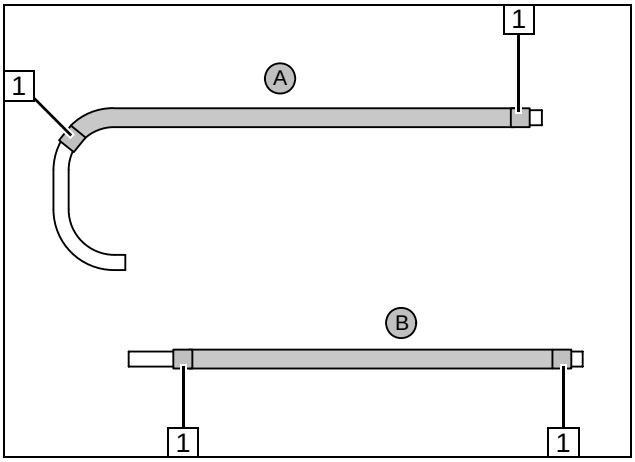
All hose clamps = 20-27 mm dia.! All connecting pipes = 18x20 mm dia.
1 = Black (sw) rubber isolator .



a = 600 mm
b = 650 mm

Discard section **X**

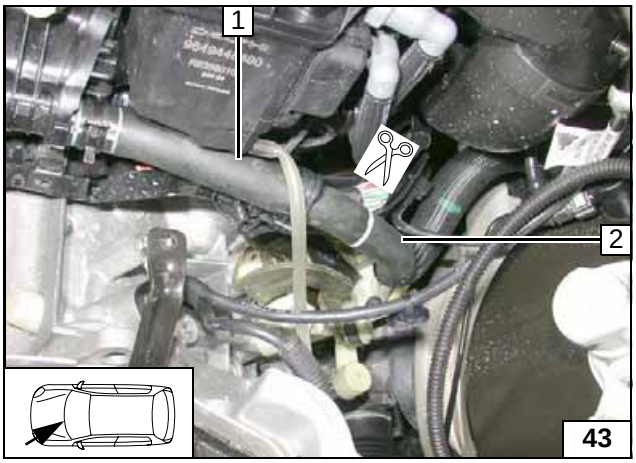
Cutting coolant hoses to length



Push braided protection hoses onto hose **A** and **B** and cut to length.
Cut heat shrink plastic tubing to length and shrink to size.

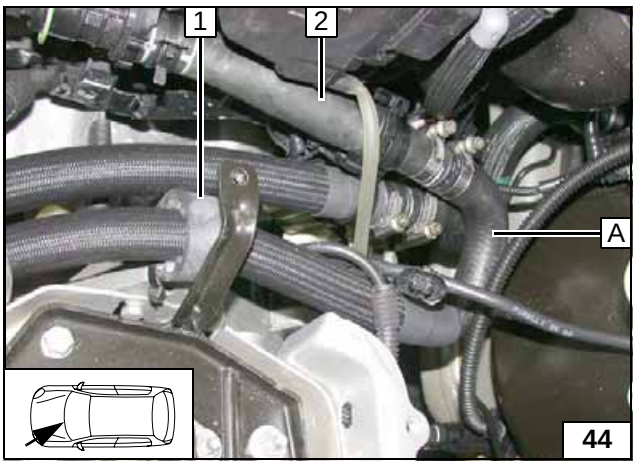
1 25 mm long heat shrink plastic tubing [4x]

Preparing coolant hoses



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

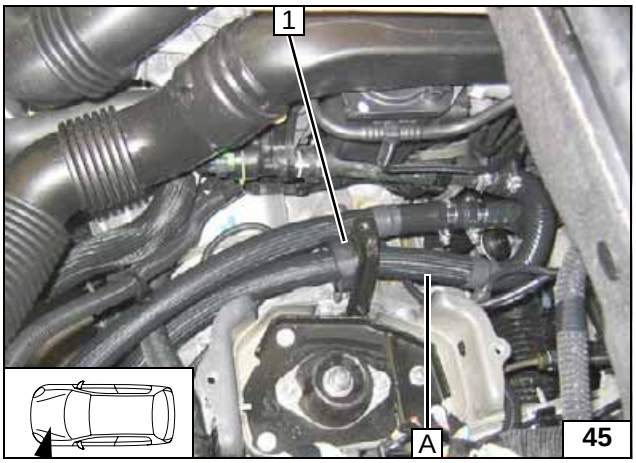
Cutting point



Before installation, push black (sw) rubber isolator **1** onto hose **A**.

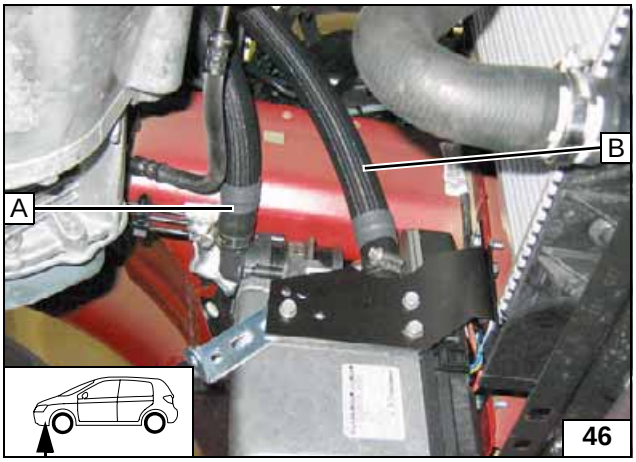
2 Engine outlet hose section

Connecting engine outlet



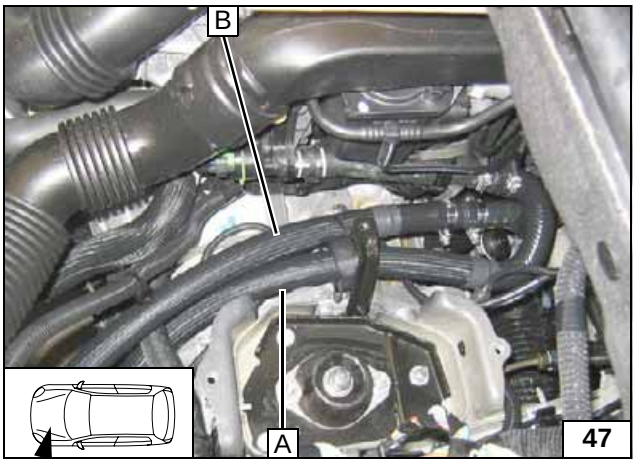
Fasten black (sw) rubber isolator **1** on hole of transmission block with cable tie.

Routing in engine compartment

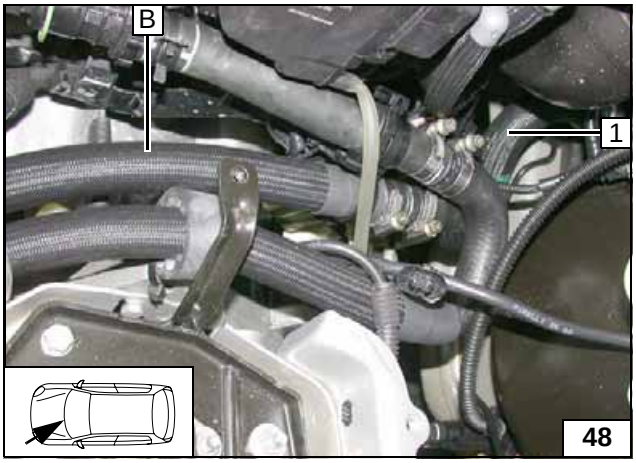


Ensure sufficient distance to hydraulic line; correct if necessary.

Connecting heater unit



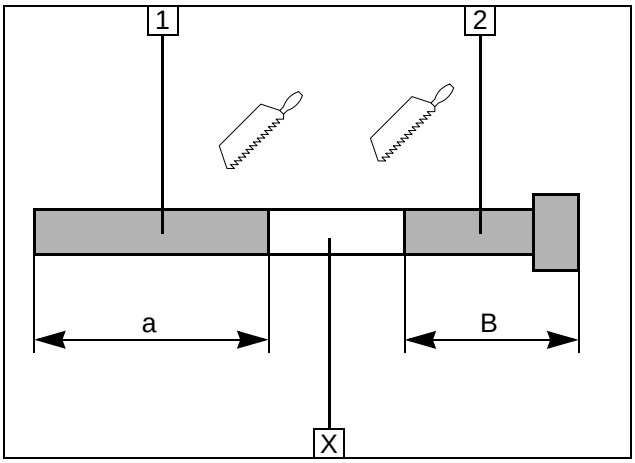
Routing in engine compartment



Ensure sufficient distance to adjacent components; correct if necessary.

1 Hose section of heat exchanger inlet

Connecting heat exchanger inlet



Exhaust gas

Vehicle without underride protection

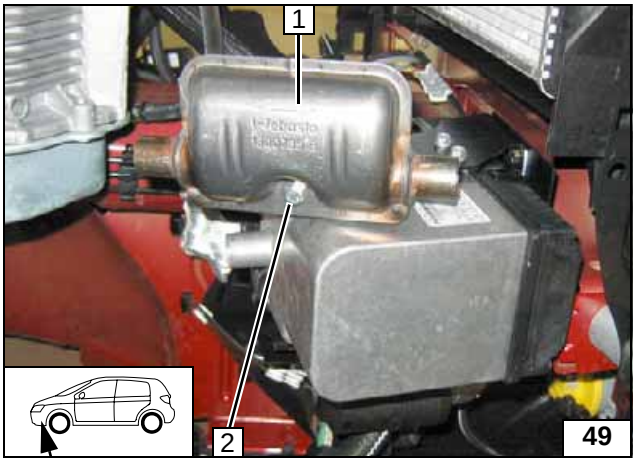
1 Exhaust pipe
a = 170
2 Exhaust end section
b = 90

Vehicle with underride protection

1 Exhaust pipe
a = 170
2 Exhaust end section
b = 180

Discard section **X**

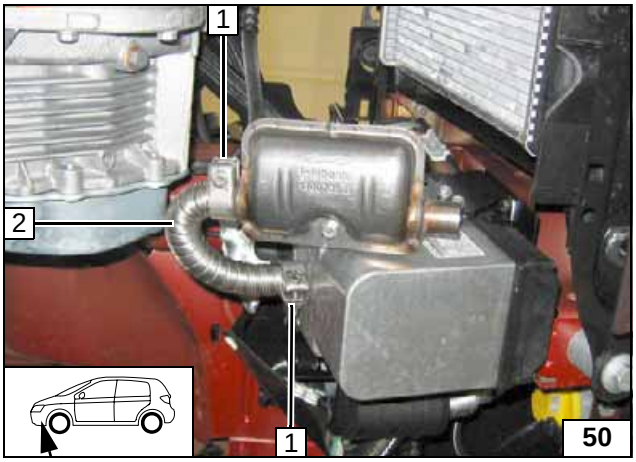
Preparing exhaust pipe



All vehicles

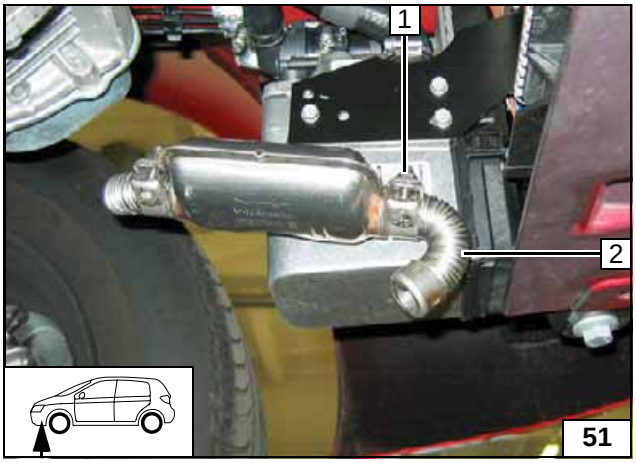
1 Muffler
2 M6x20 bolt, flanged nut on perforated bracket

Installing muffler



1 Hose clamp [2x]
2 Exhaust pipe

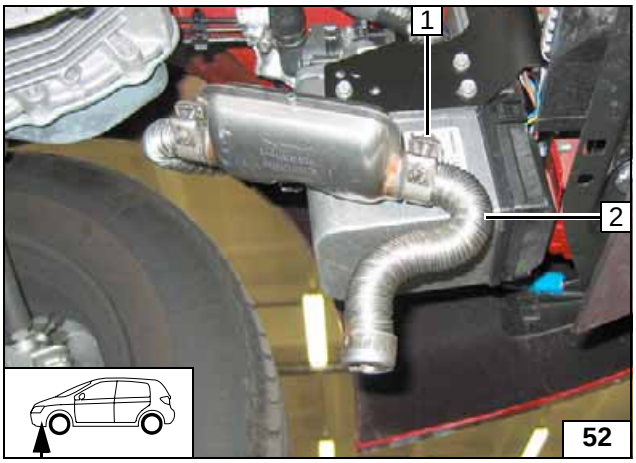
Installing exhaust pipe



Vehicle without underride protection

1 Hose clamp
2 Exhaust end section

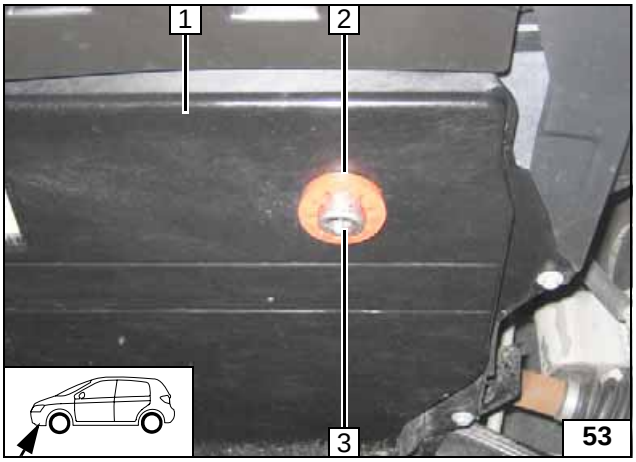
Installing exhaust end section



Vehicle with underride protection

1 Hose clamp
2 Exhaust end section

Installing exhaust end section



Drill 42 mm dia. hole in underride protection **1** at position **3**. Mount red (rt) rubber isolator with groove **2**. Align exhaust end section **3** flush on red rubber isolator **2**.
Check the position of the components; adjust if necessary. Check that they have free clearance.

Mounting underride protection

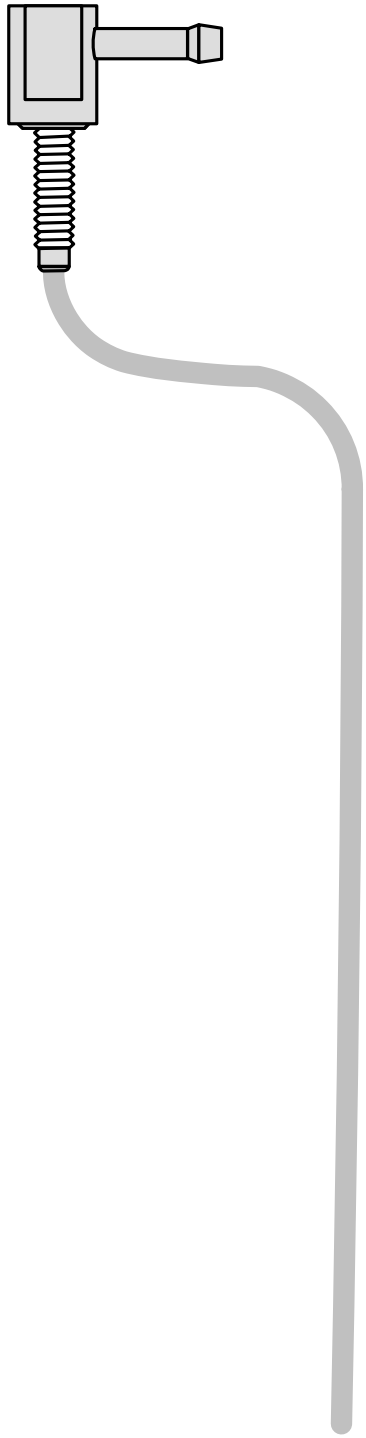
Final Work

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.
- Make settings on A/C control panel according to the "Operating Instructions for 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
Feel the drive

Template for Gasoline Fuel Standpipe



100 mm

Scale 1:1

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

Set the printer settings to “no margin” or “minimize margins” and 100% of the normal size.

100 mm

0

Operating Instructions for End Customer

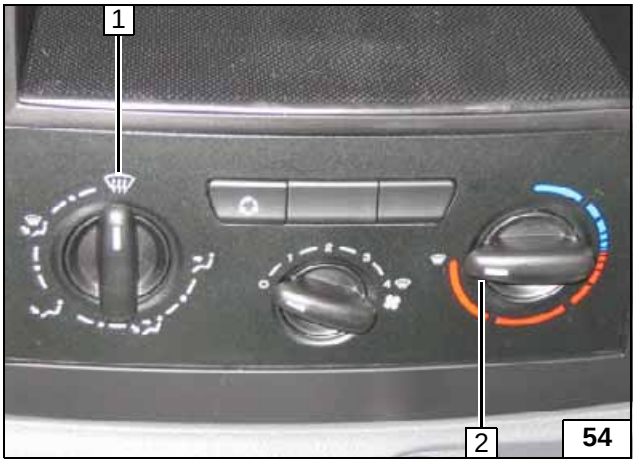
Please remove page and add to the vehicle operating instructions.

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

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 and in the position Summer .

Before shutting off the engine, make the following settings:

Manual air conditioning



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

Automatic air-conditioning

No specific settings necessary.

Webasto
Feel the drive

Webasto AG
Postfach 80 - 82132 Stockdorf
Hotline 01805 / 932278 - Hotfax 0395 / 5592-353
http://www.webasto.de