Water Heater

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

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

Installation Documentation

Citroen Berlingo / Peugeot Partner

1.6 HDI
from model year 2008
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.

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
Citroen	Berlingo	7	e1 * 2001/116 * 0366 * ...
Peugeot	Partner	7	e2 * 2001/116 * 0365 * ...

Engine type	Engine model	Output in kW	Displacement in cm³
9HX	Diesel	66	1560
9 HZ	Diesel	80	1560
9HL	Diesel	84	1560

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

Heater/Installation Kit

Quantity	Designation	Order No.:
1	Retail accessories with desired heater control	See price list
1	Installation Kit for PSA Berlingo/Partner AC Diesel	1313672C
or		
1	Installation Kit for PSA Berlingo/Partner ACC Diesel	1313673C

Heater recommended for the respective vehicle class:

Vehicle	Heater
Compact car	Thermo Top E
Mid-size car, estate car	Thermo Top C

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

Foreword

This installation documentation applies to Citroen Berlingo /Peugeot Partner 1.6 HDI 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 this installation documentation.

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.
When installing an IPCU, the corresponding settings must be checked or adjusted before the installation.

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 rub protection (split-open fuel hose).
Spray unfinished body areas, e.g. drilled holes, with anti-corrosion wax (Tectyl 100K, Order No. 111329).

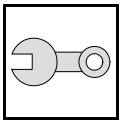
Special Tools

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

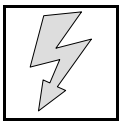
Explanatory Notes on Document

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

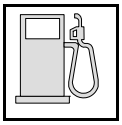


Electrical system



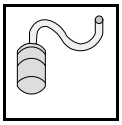
Coolant circuit

Fuel



Exhaust gas

Combustion air



Special features are highlighted using the following symbols:

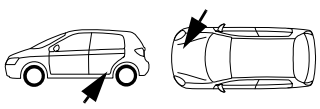
Specific risk of injury or fatal accidents.

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.

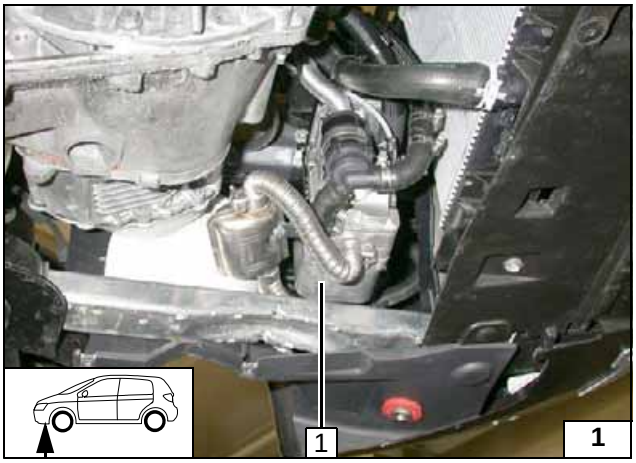
All dimensions are in mm!
Tightening torque of hose clamps = 2.0 + 0.5 Nm!
Tightening torque of Ejot screws, Ejot studs = 10 Nm!

Preliminary Work

WARNING!

- Disconnect the battery "earth" 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.
- Open the fuel tank cap and vent the fuel tank.
- Close the fuel tank cap again.
- Remove the engine cover (depending on the vehicle equipment, if installed).
- Remove the air filter box with the intake hose and resonator (depending on the vehicle equipment, if installed).
- Completely remove the battery and the battery carrier.
- Remove the left-hand wheel-well inner panel.
- Remove the underride protection (if present).
- Remove the lower instrument panel trim on the driver's and front passenger's side.
- Remove the glove compartment.

Remove page 23 "Operating Instructions for End Customer" and add to the vehicle operating instructions.



Heater Installation Location

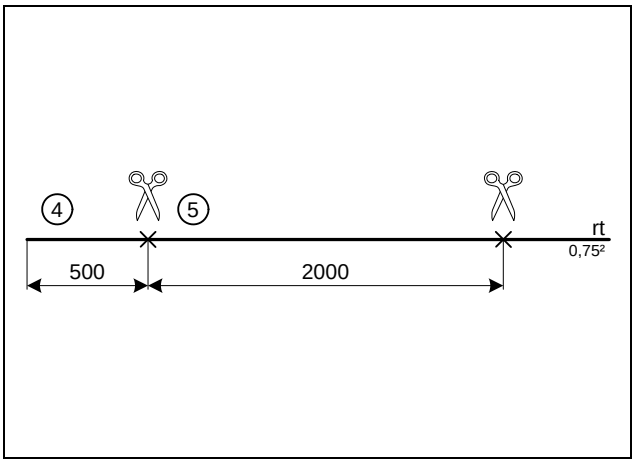
1 Heater

Installation location

Preparing Electrical System

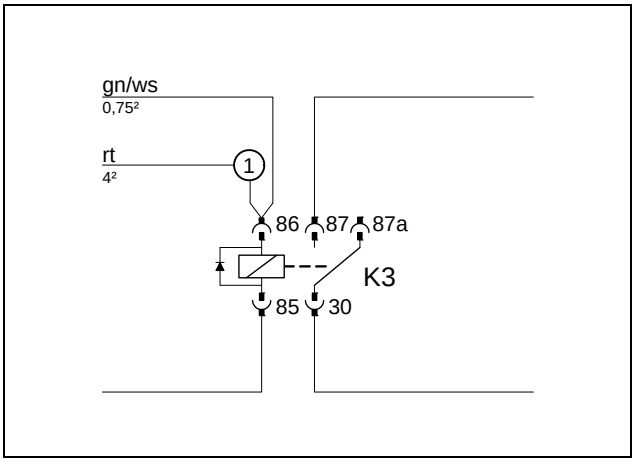
Automatic air-conditioning

Cutting wire to length



Preparing K3 relay

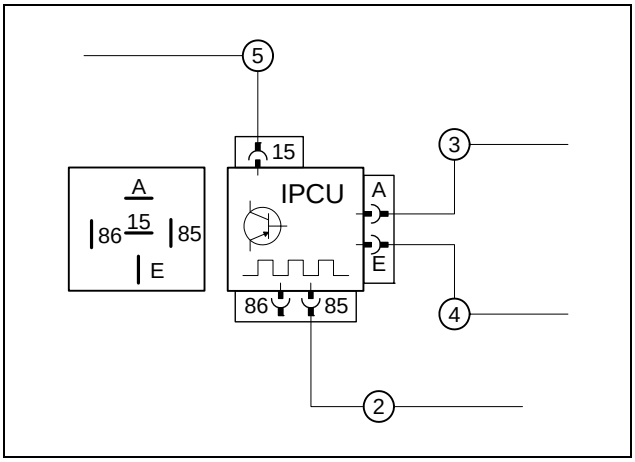
Produce connections as shown in wiring diagram. Uncrimp wire section **1** from K3/87a and connect to K3/86 together with green/white (gn/ws) wire.



Premounting IPCU

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

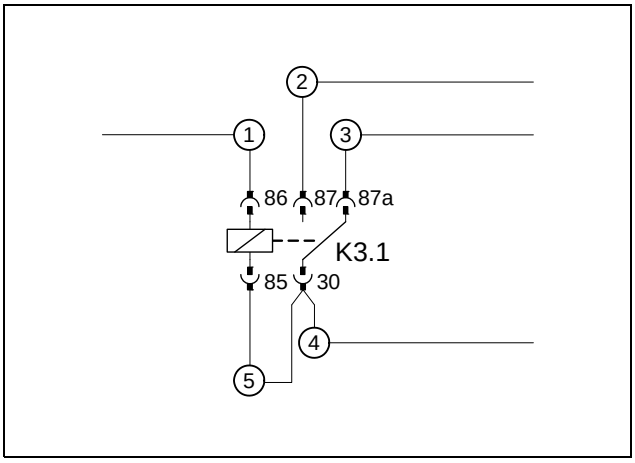


Preparing additional relay K3.1

Manual air-conditioning

Cut a length of approx. 80mm from the brown (br) 0.75² wire.
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

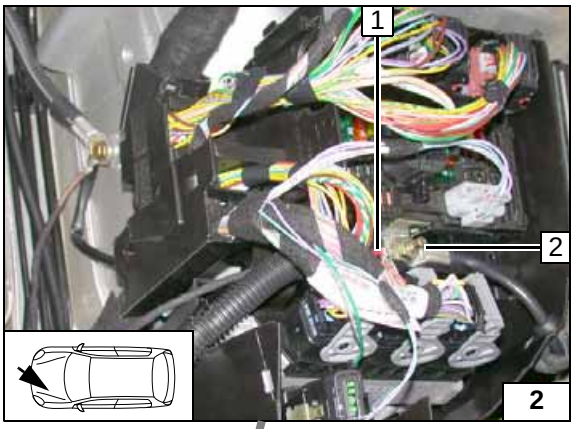


Electrical System

Connecting positive wire

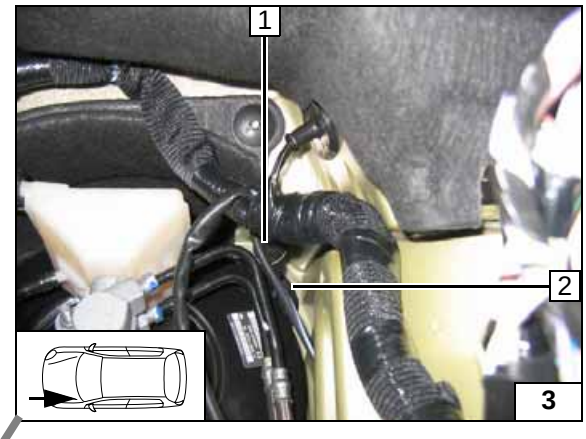
Before installing, crimp 8 mm dia. cable lug onto positive wire.

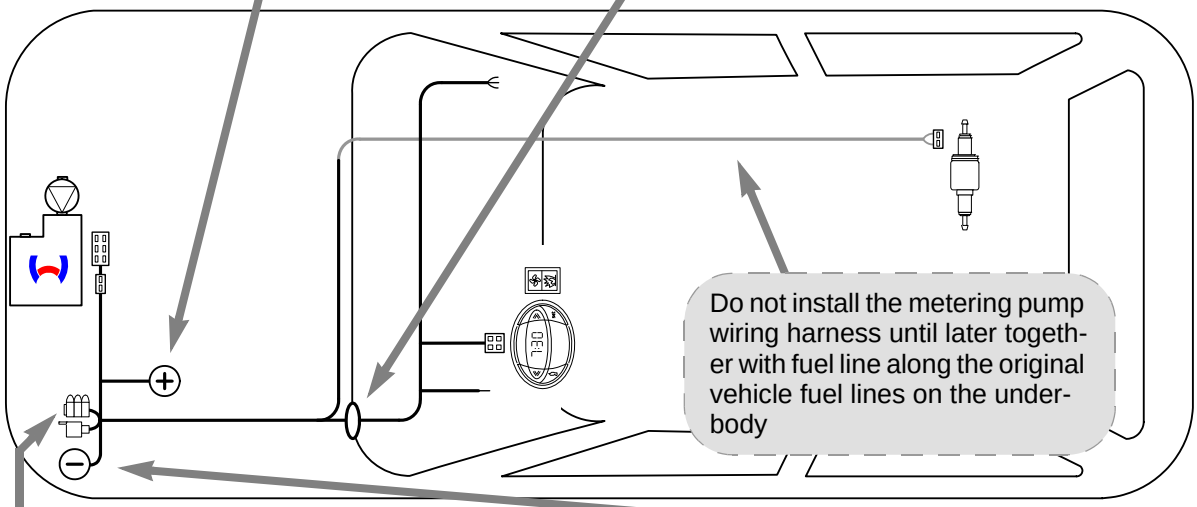
1 Red (rt) wire
2 Original vehicle positive support point (10 Nm)



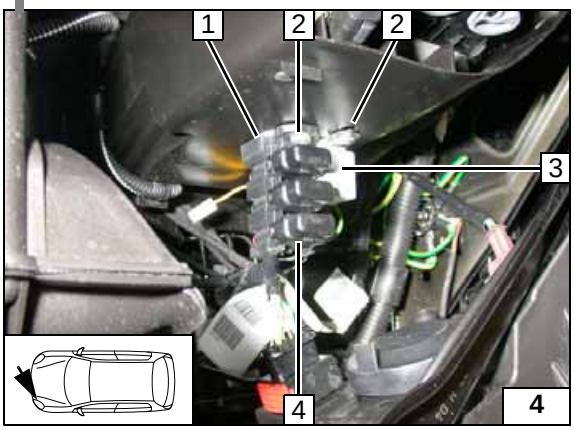
Wiring harness pass through

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.



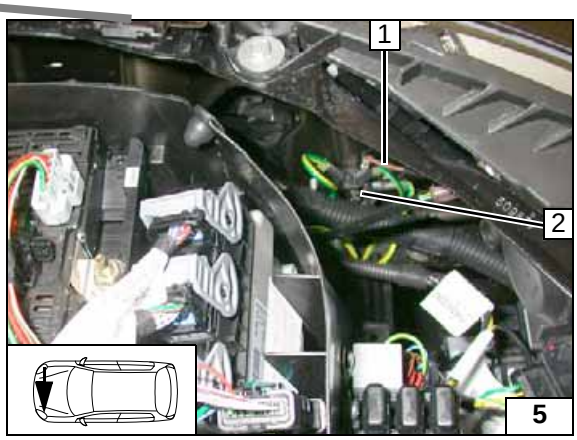


Wiring harness routing diagram



Fuse holder, K3 relay

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

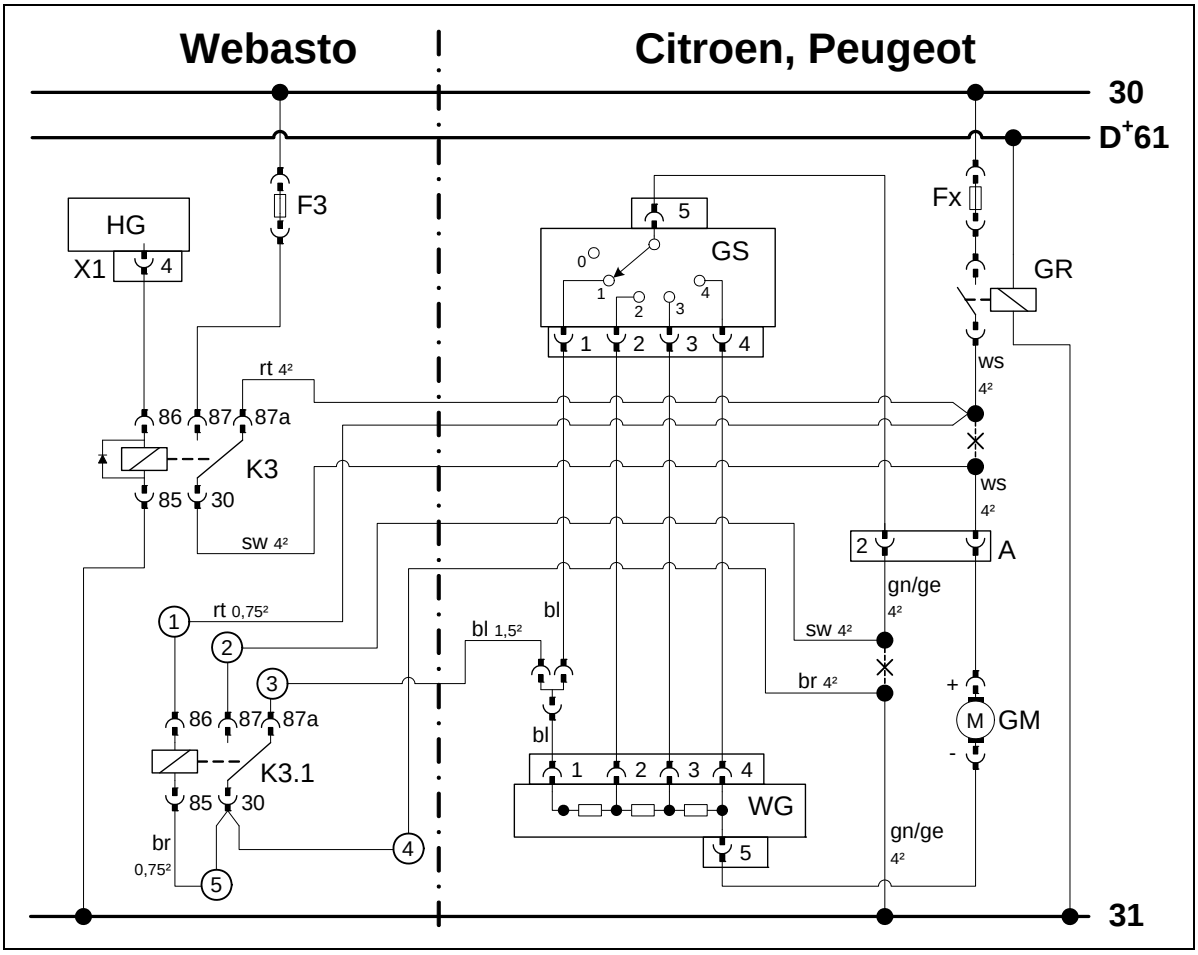


Connecting earth wire

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

Fan Controller for Manual Air-Conditioning

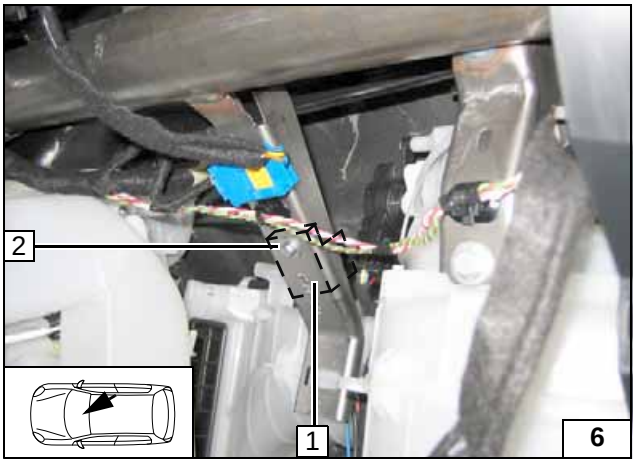
Wiring diagram



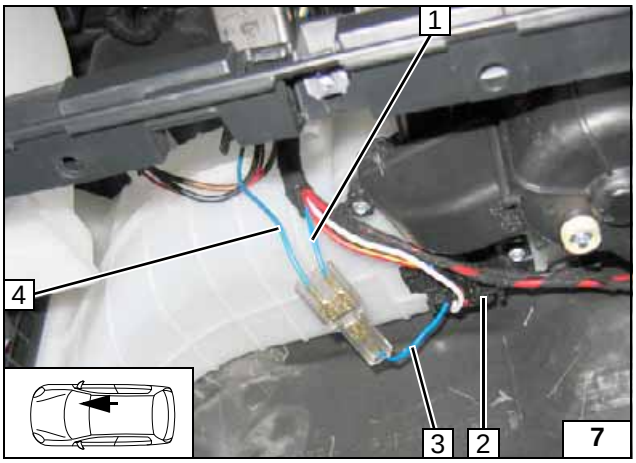
Legend

Webasto components		Vehicle components		Colours and symbols	
HG	Heater TT-C/E	GM	Fan motor	rt	red
X1	6-pin heater 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 colours may vary.	

Installing K3.1 relay



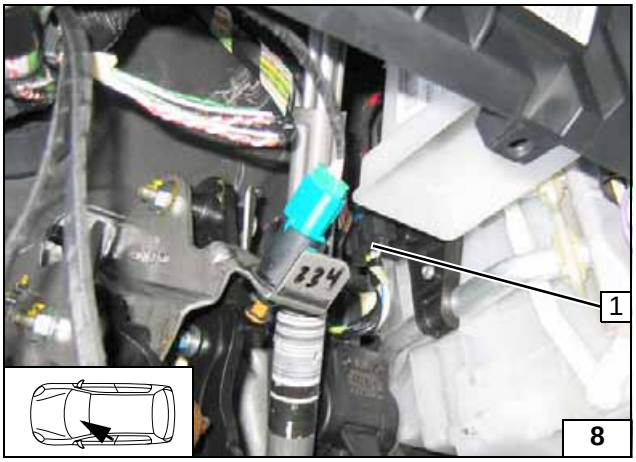
1 K3.1 relay covered (installed behind original vehicle strut)
2 M5x16 bolt, large diameter washer, flanged nut



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

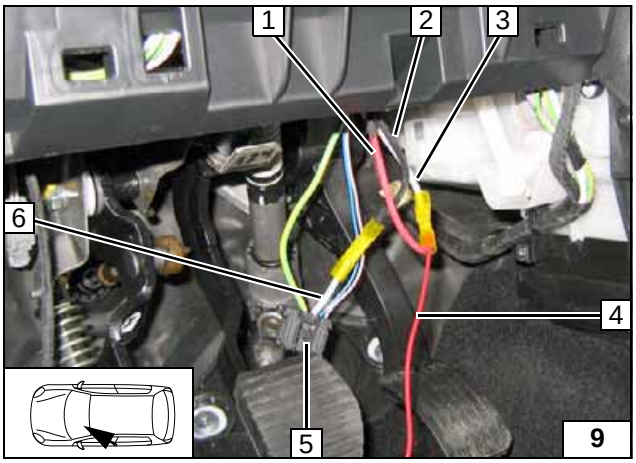
1 Blue (bl) wire of fan switch
3 Blue (bl) wire of connector, Pin 1, disconnected
4 Blue (bl) wire to K3.1/87a

Connecting resistor group



Connection on 6-pin connector A!

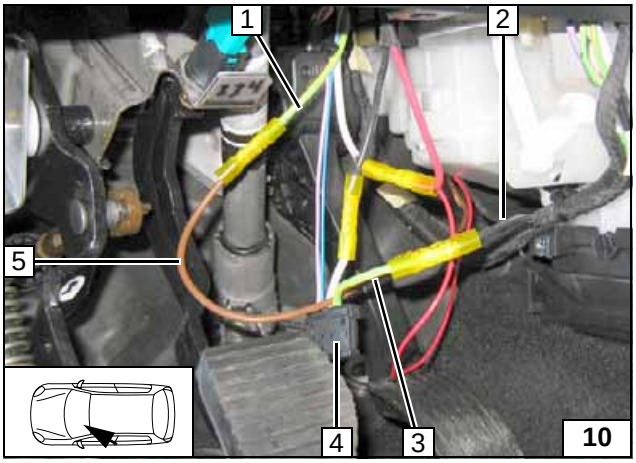
Disconnecting connector A



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

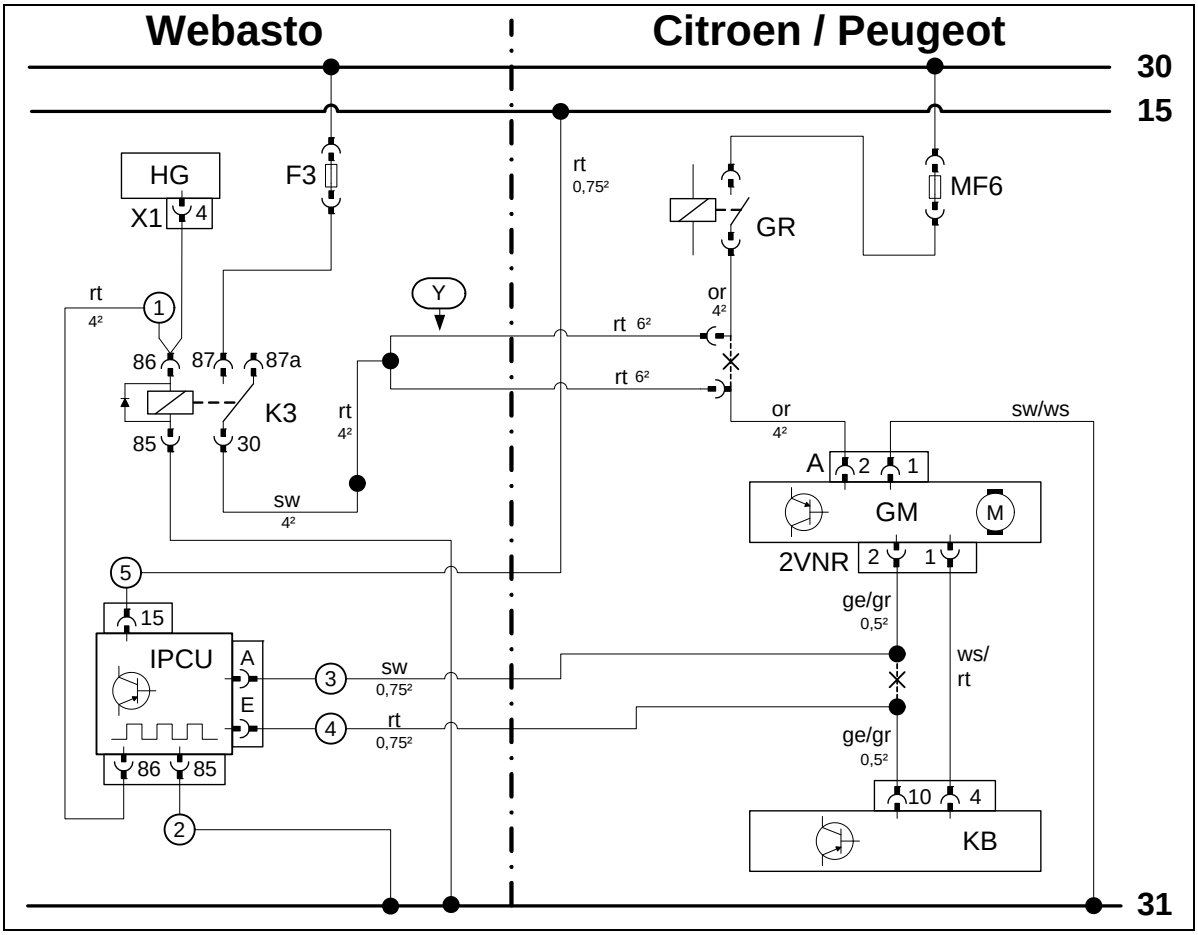


Connection on 6-pin connector A **4**.
Produce connections as shown in wiring diagram.

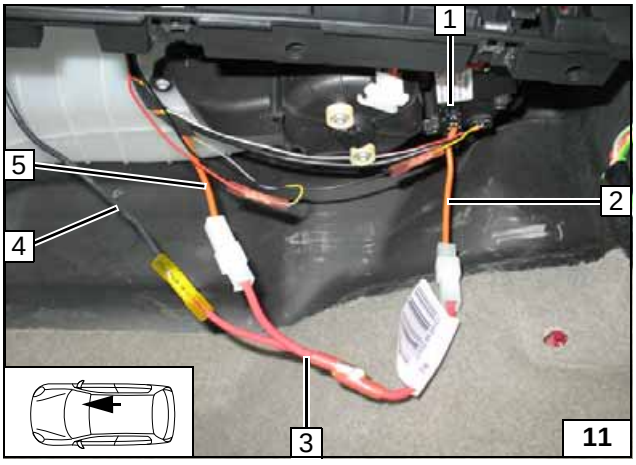
1 Green/yellow (gn/ge) wire of earth wire
2 Black (sw) wire from K3.1/87
3 Green/yellow (gn/ge) wire of 6-pin connector A
5 Brown (br) wire from K3.1/30

Connecting fan switch

Fan Controller for Automatic Air-Conditioning



Webasto components		Vehicle components		Colours and symbols	
HG	Heater TT-C/E	KB	A/C control unit	rt	red
X1	6-pin heater 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	grey
Y	Wiring adapter	Ter. 15	Measure (e.g., 16-pin OBD socket outlet, Pin 1)	or	orange
IPCU adjustment values:					
Duty cycle:	42%				
Frequency:	1,000Hz				
Voltage:	5V			**X**	Cutting point
Function:	High-side			Wiring colours may vary.	



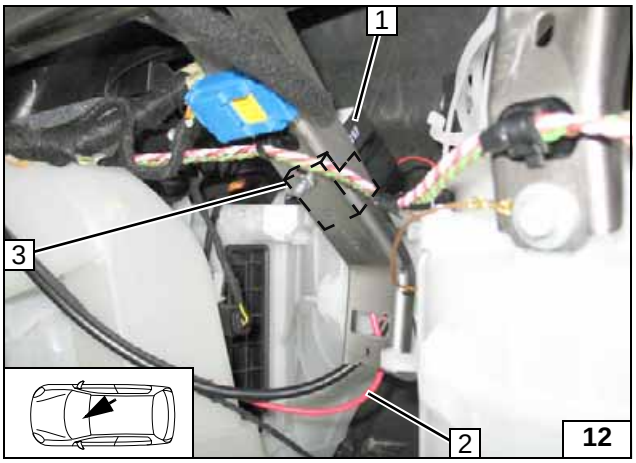
Fan motor is controlled on 2-pin connector A **1** of fan module.
Produce connections as shown in wiring diagram.

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

Wiring diagram

Legend

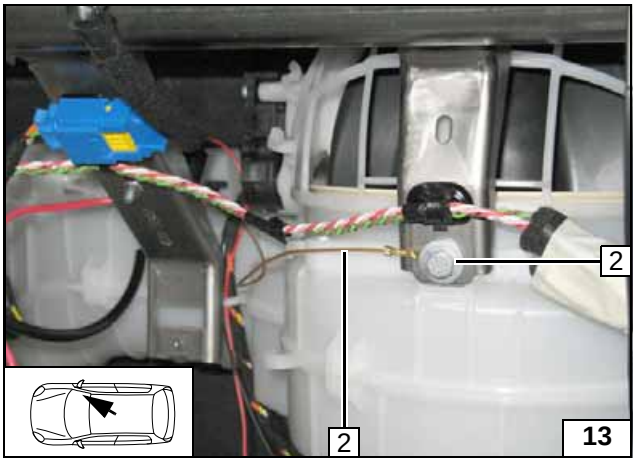
Connection to fan module



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

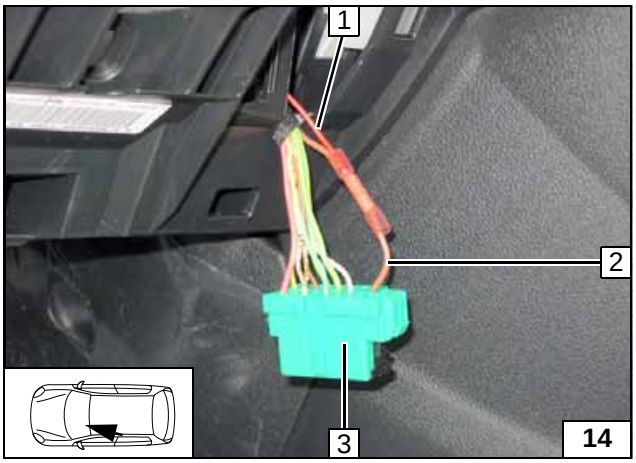
1 IPCU covered (installed behind original vehicle strut)
3 M5x16 bolt, large diameter washer, flanged nut

Installing IPCU



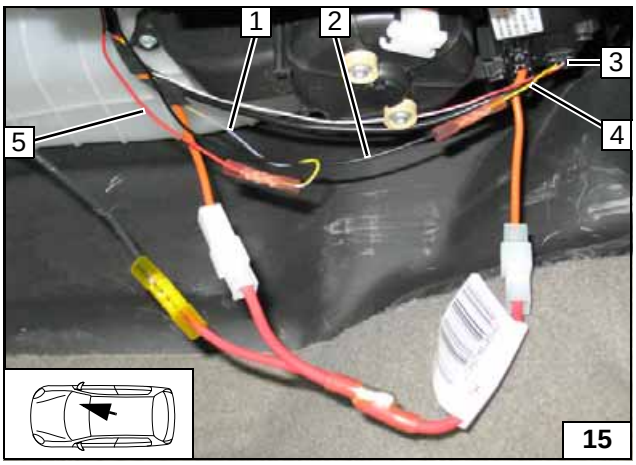
1 Original vehicle bolt
2 Brown (br) wire of IPCU/85, cable lug

Connecting IPCU



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

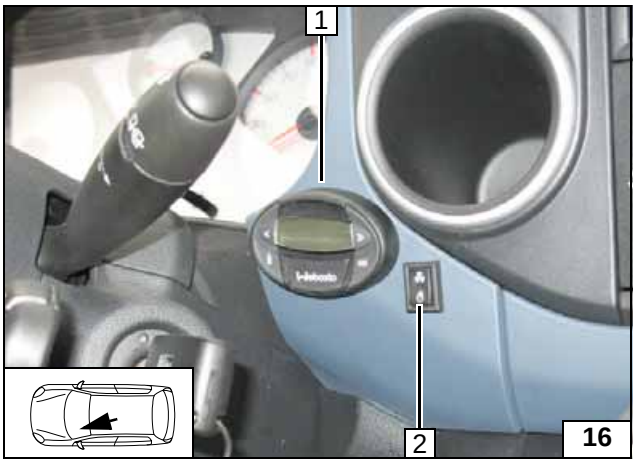
Connecting IPCU



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

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

Connecting fan controller

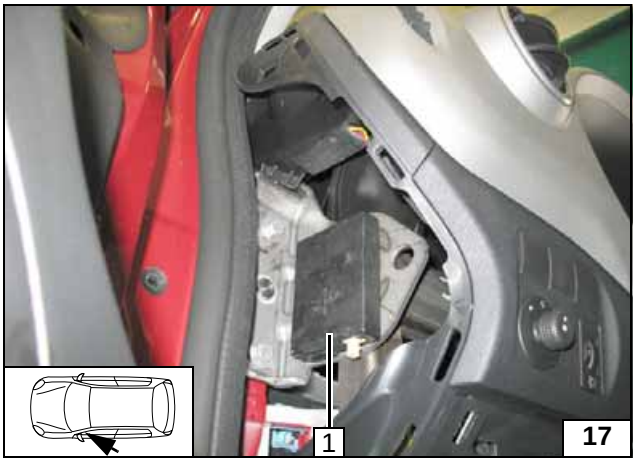


Digital Timer, Summer/Winter Switch Option

The installation location shown is a recommendation. Agree upon with end customer before installing.

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

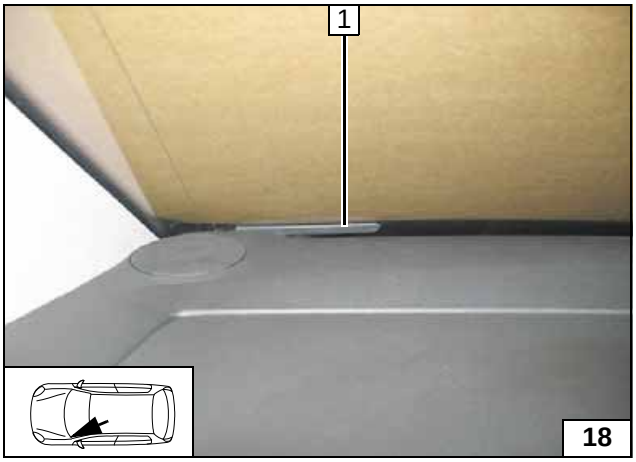
Installing digital timer



Remote Option (Telestart)

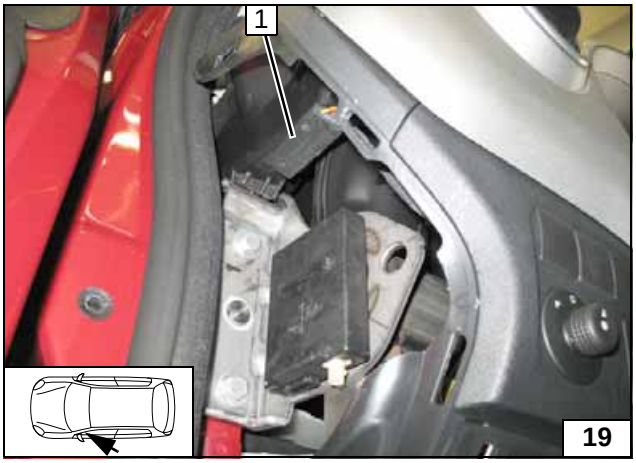
Fasten receiver **1** with double-sided adhesive tape.

Installing receiver



1 Antenna

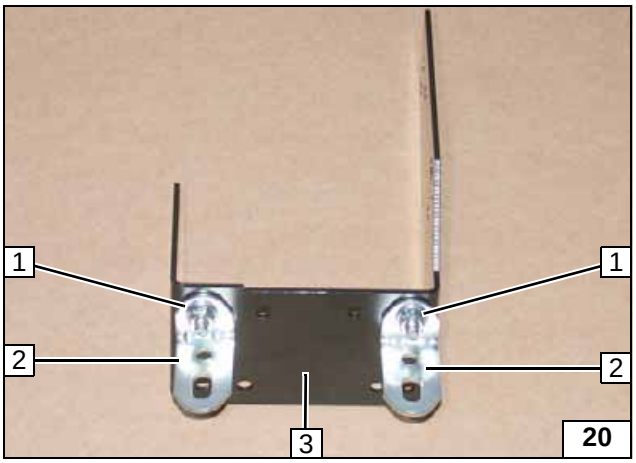
Installing antenna



Temperature sensor for HTM100 only

1 Fasten temperature sensor with adhesive tape

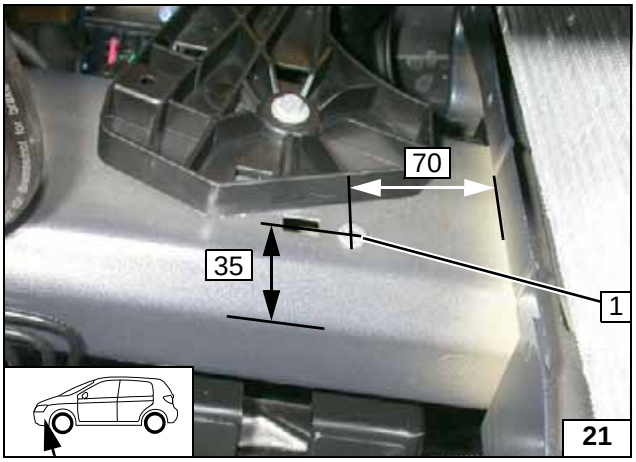
Installing temperature sensor



Preparing Bracket

1 M6x20 bolt, flanged nut
2 Angle bracket [2x]
3 Bracket

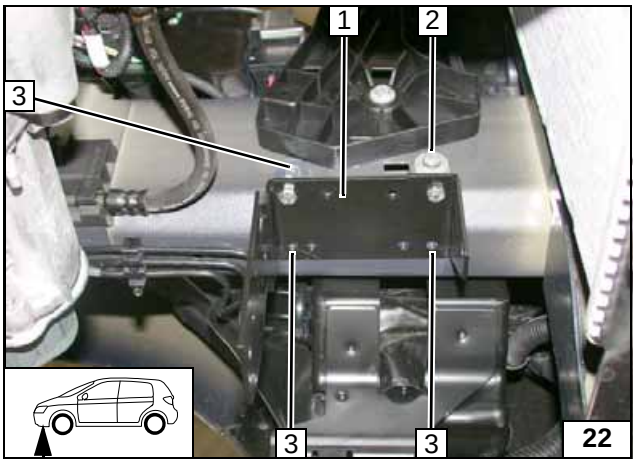
Preparing bracket



Preparing Installation Location

1 9.1 mm dia. hole; rivet nut

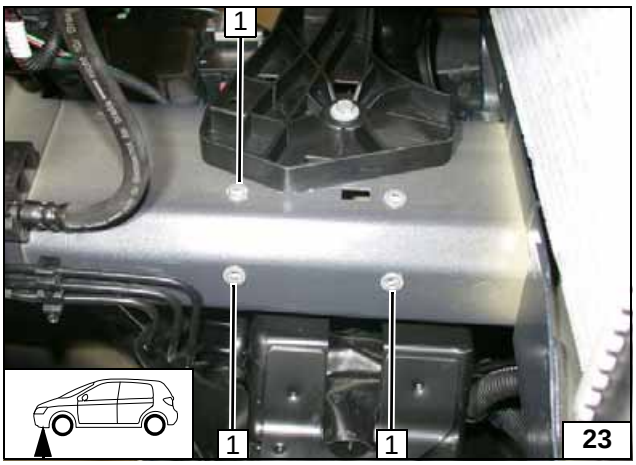
Installing rivet nuts



Loosely mount bracket **1**.

2 M6x20 bolt, large diameter washer on rivet nut
3 Copy hole pattern [3x]

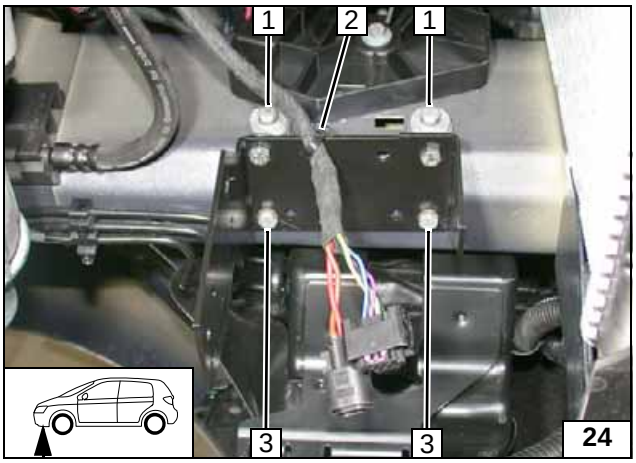
Copying hole pattern



Remove bracket.

1 9.1 mm dia. hole; rivet nut [3x]

Installing rivet nuts



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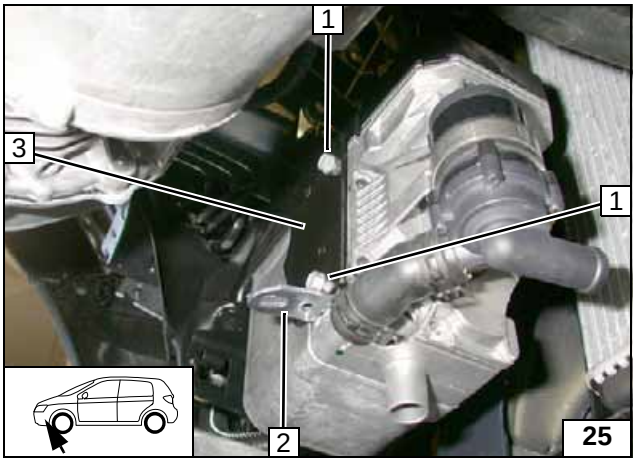
Fasten wiring harness of heater on existing hole in bracket with cable tie **2**.

1 M6x20 bolt, large diameter washer, spring lockwasher on rivet nut [2x each]
3 Mount M6x20 bolt, spring lockwasher on rivet nut [2x each]

Installing bracket

Installing Heater

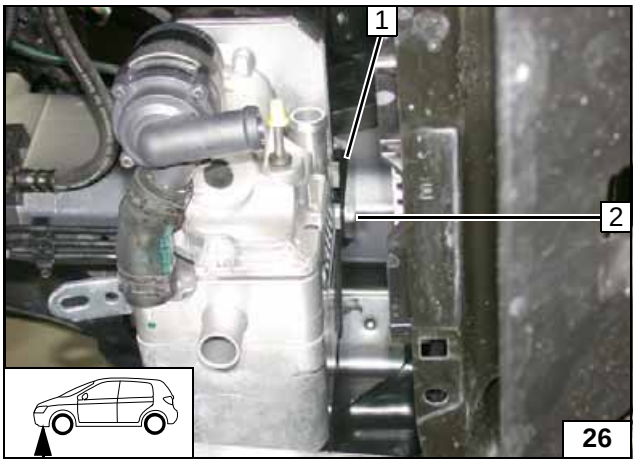


25

Mount wiring harness on heater before installing. Install angle bracket **2** between heater and bracket **3**.

1 Ejot screw [2x]

Installing heater



26

1 Bracket
2 Ejot screw

Installing heater

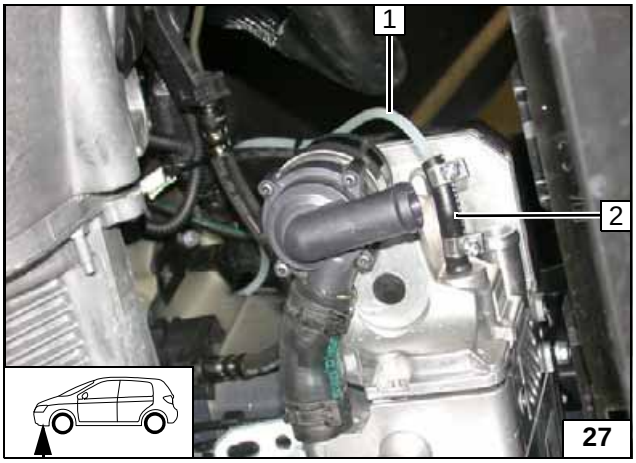
Fuel

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

Catch any fuel running off in an appropriate container.

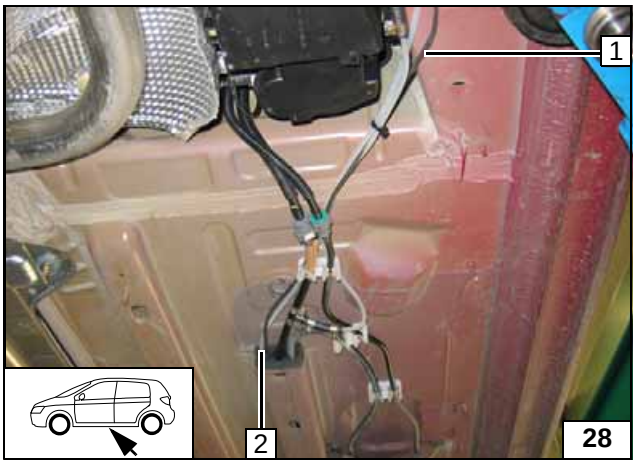
Install fuel line and metering pump wiring harness so that they are protected against stone impact. Unless specified otherwise, always fasten using cable ties.
Mount the fuel line and wiring harness with rub protection on sharp edges.

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



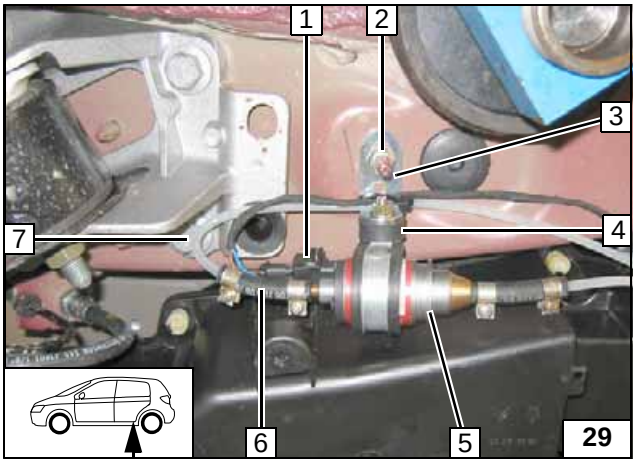
1 Fuel line
2 Hose section, 10 mm dia. clamp [2x]

Connecting heater



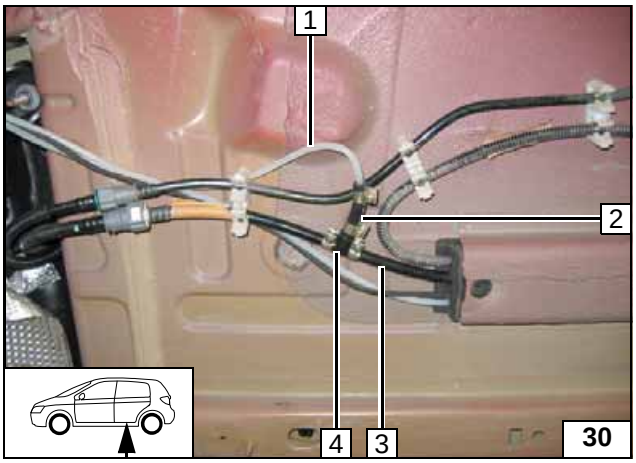
Route wiring harness of metering pump **1** together with fuel line **2** along original vehicle fuel lines to installation location of metering pump.

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

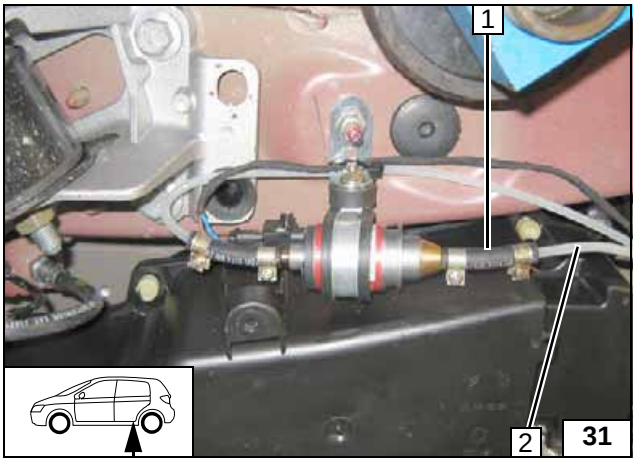
Mounting metering pump



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, 10mm dia. clamps [2x]

Fuel extraction



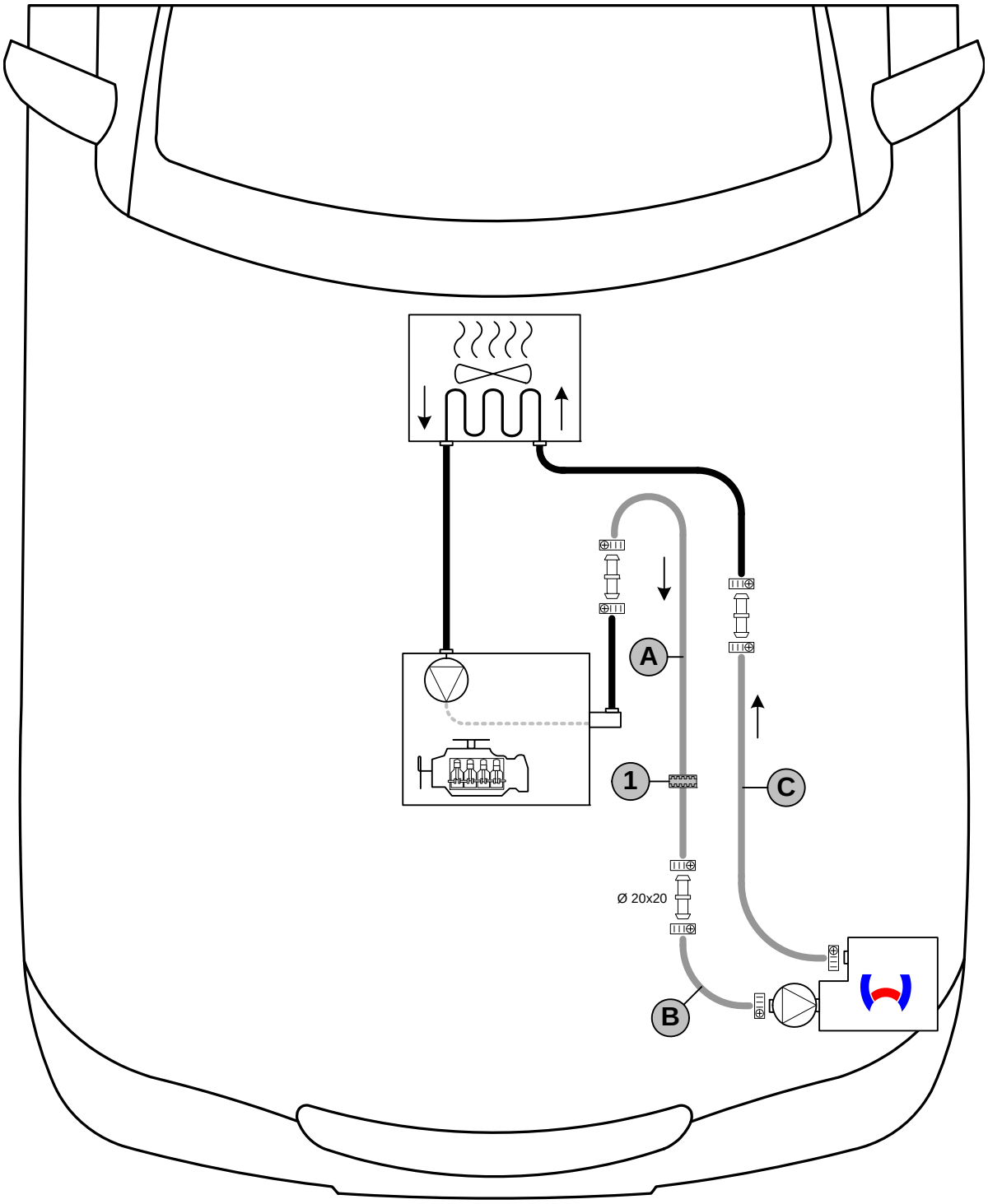
1 Hose section, 10 mm dia. clamps [2x]
2 Fuel line

Connecting metering pump

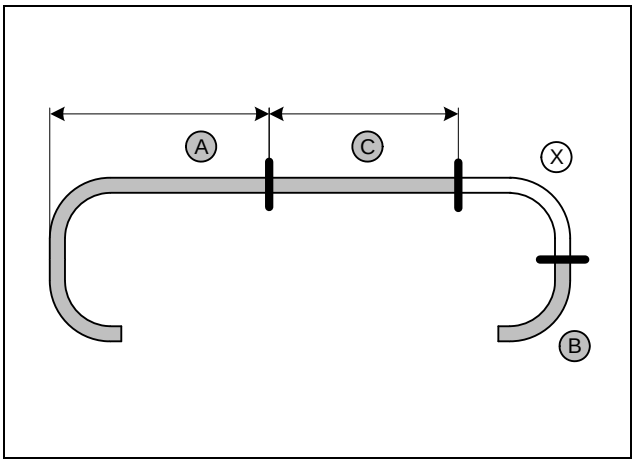
Coolant Circuit

WARNING!
Any coolant running off should be collected in an appropriate container. Route hoses so that they are kink-free. Unless specified otherwise, always fasten using cable ties. Position clamps so that other hoses cannot be damaged. When installing the hoses, the heater must be filled with coolant.
The connection should be "inline" based on the following diagram:

Coolant routing diagram



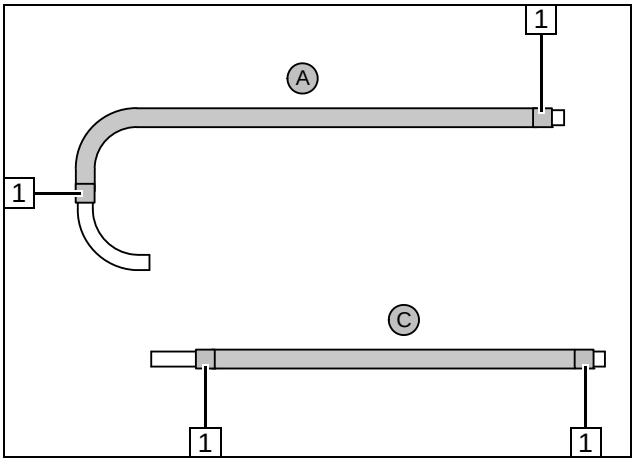
All hose clamps = 20-27 mm dia. All connecting pipes without a specific designation = dia. 17x20.
1 = Black (sw) rubber isolator .



Hose **B** = 90° elbow
Discard section **X**.

A = 700mm
C = 610mm

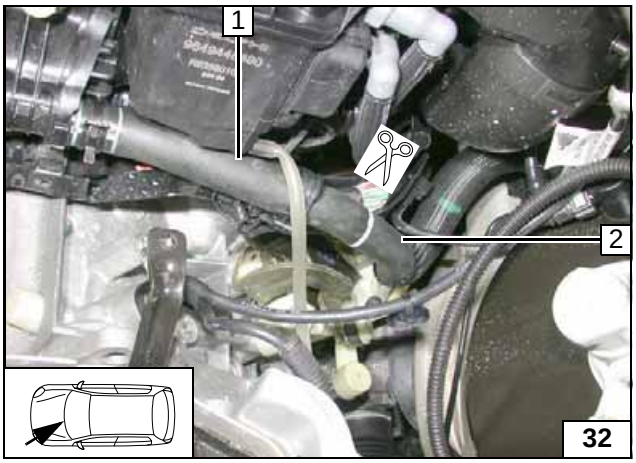
Cutting coolant hoses to length



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

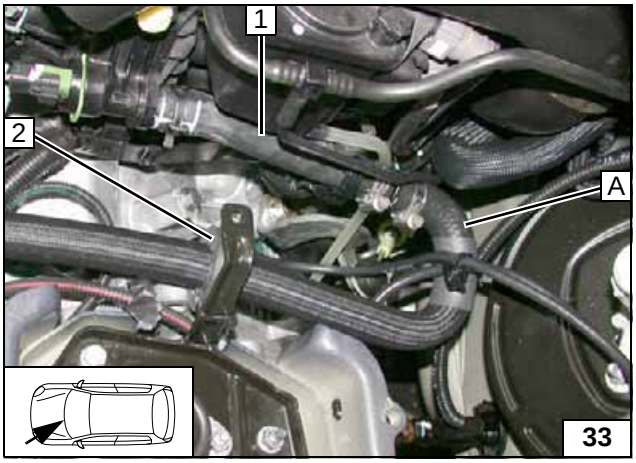
1 25 mm long heat shrink plastic tubing [4x]

Preparing coolant hoses



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

Cutting point

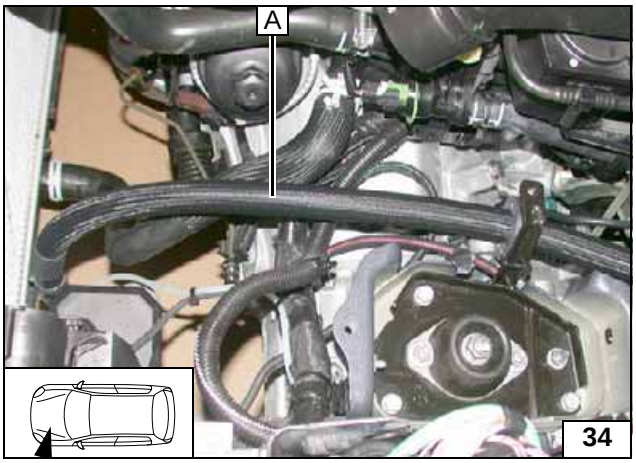


Before installation, push black (sw) rubber isolator **2** onto hose **A** and fasten on hole of transmission block with cable tie.

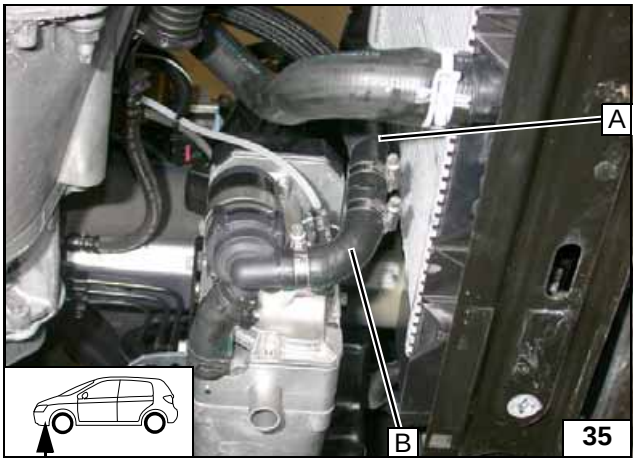
1 Engine outlet hose section

Connecting engine outlet

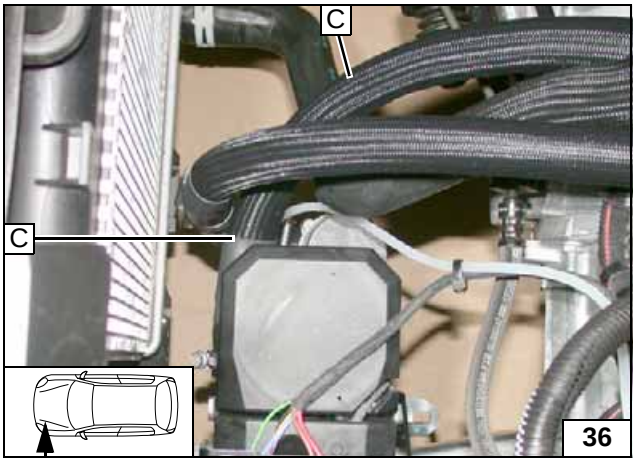
Routing in engine compartment

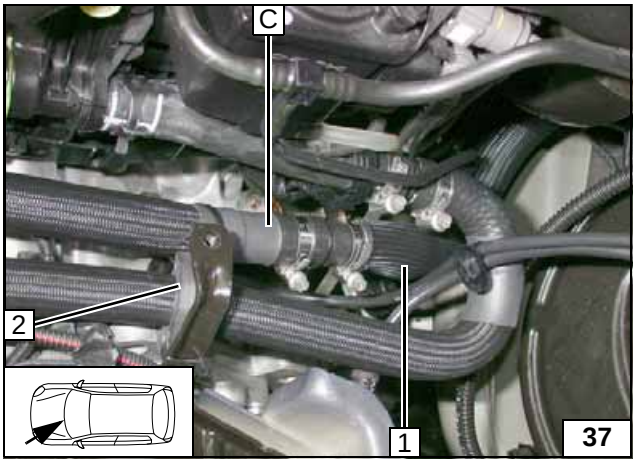


Connecting heater inlet



Connecting heater outlet

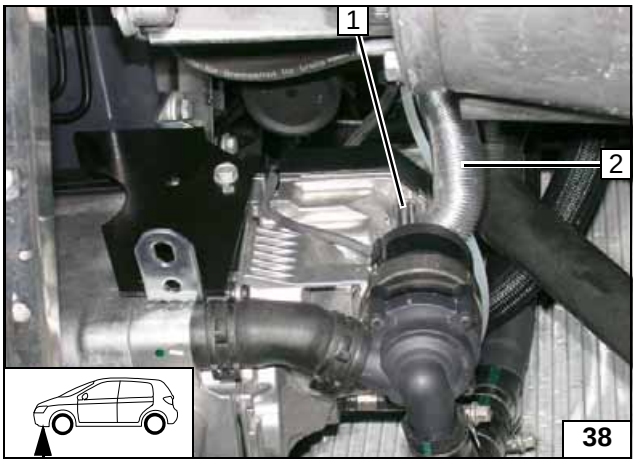




Fasten hose **C** on black (sw) rubber isolator **2** with cable tie.
Ensure sufficient distance to adjacent components; correct if necessary.

1 Hose section of heat exchanger inlet

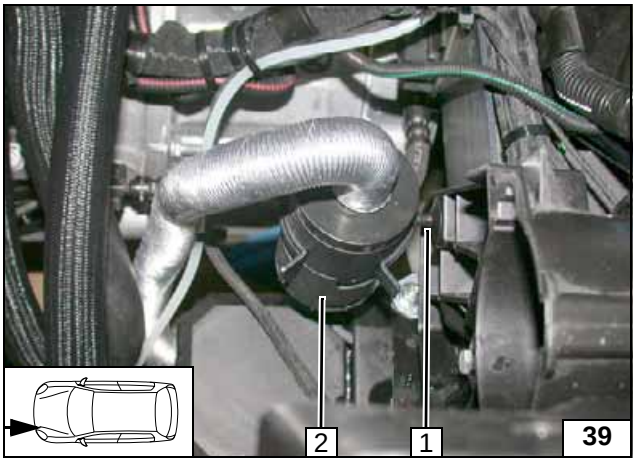
Connecting heat exchanger inlet



Combustion Air

1 27 mm dia. hose clamp
2 Intake pipe

Installing intake pipe

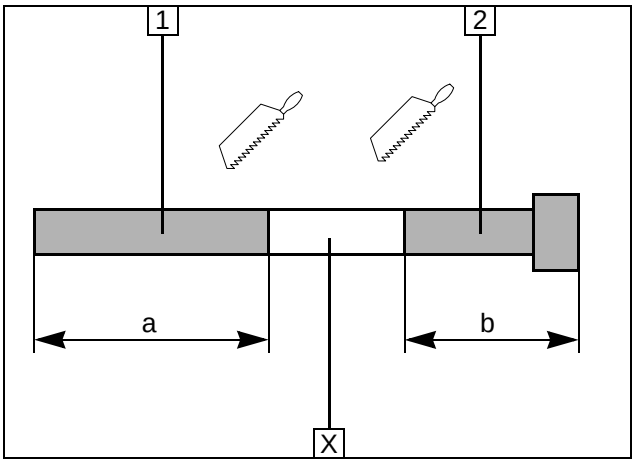


Insert retaining clip **1** in existing hole.

2 Silencer

Mounting silencer

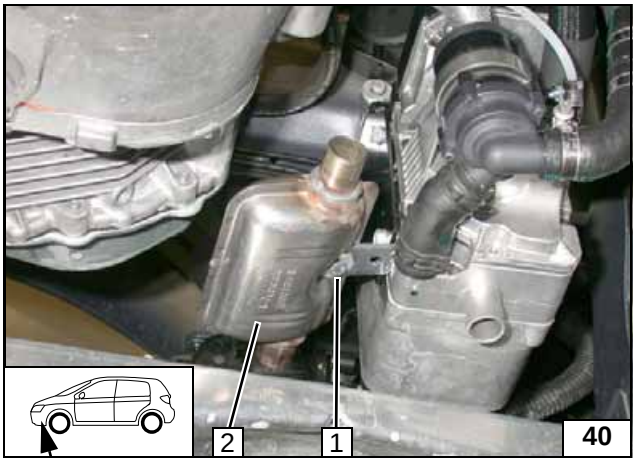
Exhaust Gas



1 Exhaust pipe
a = 250
2 Exhaust end section
b = 300

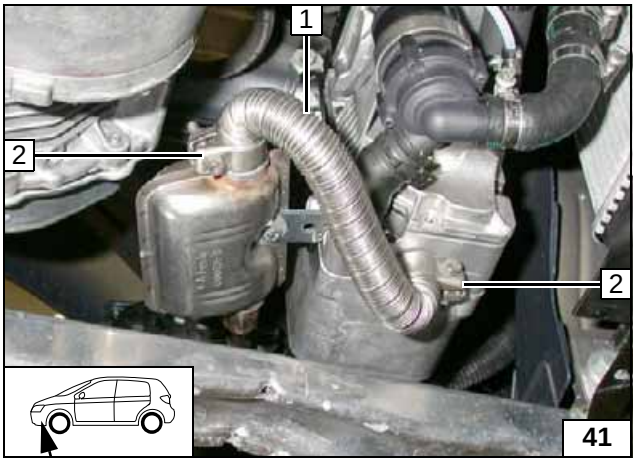
Discard section **X**.

Preparing exhaust pipe



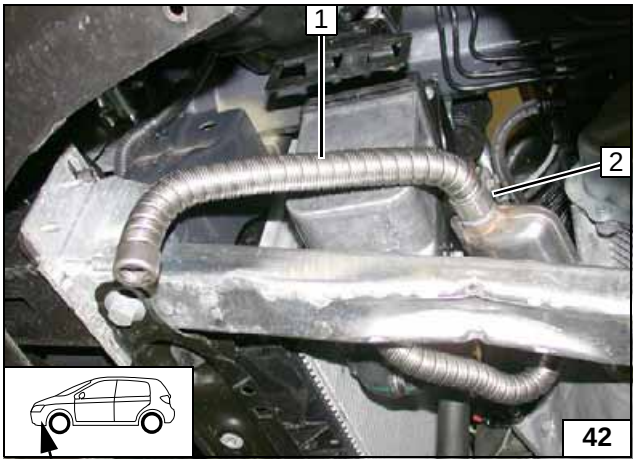
1 Perforated bracket, M6x20 bolt, flanged nut
2 Silencer

Mounting silencer



1 Exhaust pipe
2 Hose clamp [2x]

Installing exhaust pipe



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

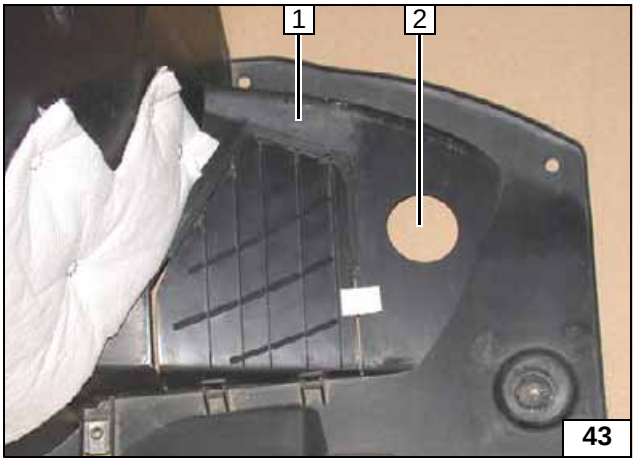
1 Exhaust end section
2 Hose clamp

Installing exhaust end section

Final Work

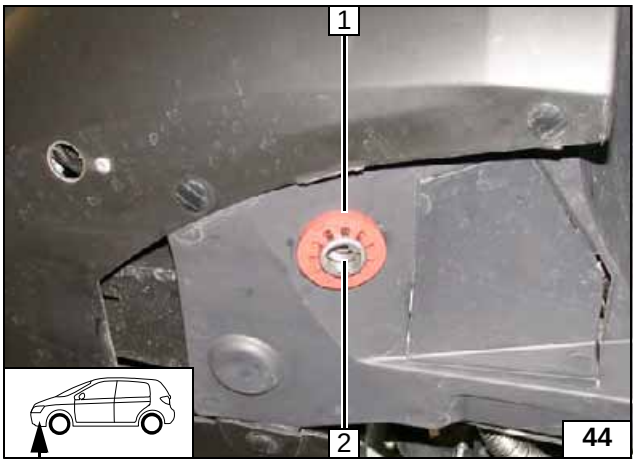
WARNING!
Mount removed parts in reverse order.
Check all hoses, clamps and all electrical connections for firm seating.
Secure all loose wires using cable ties.
Only use manufacturer-approved coolant.
Spray the heater components with anti-corrosion wax (Tectyl 100K, Order No. 111329).

- Connect the battery.
- Fill and bleed the coolant circuit according to the vehicle manufacturer's specifications.
- Set the digital timer.
- Make settings on A/C control panel according to the "Operating Instructions for the End Customer".
- Place the "Switch off parking heater before refuelling" signboard in the area of the filler neck.
- Check the proper function of the parking heater, see the operating instructions/installation instructions.



42 mm dia. hole in wheel-well inner panel **1** at position **2**.

Hole in wheel-well inner panel



Insert red (rt) rubber isolator with groove **1**. Align exhaust end section **2** flush on red rubber isolator **1**.

Installing wheel-well inner panel

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.

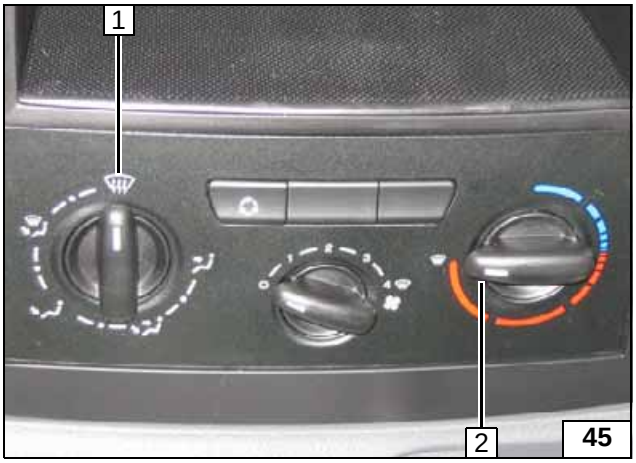
Note:
We recommend matching the heating time to the driving time.
Heating time = driving time
Example:
For a driving time of approx. 20 min. (in one direction), we recommend not exceeding a switch-on time of 20 min.

Passenger compartment monitoring, if installed, must be deactivated in addition to the vehicle settings for the heating operation.
For instructions on deactivation, please refer to the operating instructions of the vehicle.

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 shutting off the engine, make the following settings:

Manual air-conditioning



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

Automatic A/C

No specific settings necessary.