

Water Heater Unit



Thermo Top E Additional Heater e1 00 0003

Thermo Top C Additional Heater e1 00 0002

Thermo Top P Additional Heater e1 00 0104

Installation Instructions

Kia cee'd

Gasoline and Diesel
from Model Year 2007
Left-hand drive vehicle



WARNING!

Hazard warning:

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

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

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

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

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

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Validity

Manufacturer	Model	Type	EG-BE No./ABE
Kia	cee'd	ED	e4 * 2001/116 * 0121

Engine type	Engine model	Output in kW	Displacement in cm ³
G4FC	Gasoline	90	1591
D4FB	Diesel	85	1582

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 Kia cee'd gasoline	1312333A
or		
1	Installation kit for Kia cee'd diesel	1312744A

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 Kia cee'd Gasoline and Diesel vehicles - for validity, see page 2 - from model year 2007 and later, assuming technical modifications to the vehicle do not affect installation, any liability claims excluded. Depending on the vehicle version and equipment, modifications may be necessary during installation with respect to these installation instructions.

However, the stipulations in the "installation instructions" and "operating and maintenance instructions" for the *Thermo Top C/P/E* must always be observed.

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

General Instructions

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

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

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

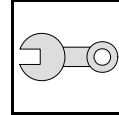
Special Tools

- Torque wrench for 2.0 - 10 Nm
- Hose clamping pliers
- Metric thread-setter kit
- Flexible socket wrench, 7 mm

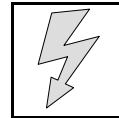
Explanatory Notes on Document

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.

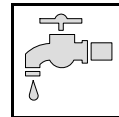
Mechanical system



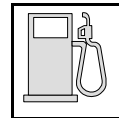
Electrical system



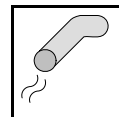
Water



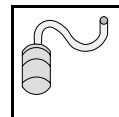
Fuel



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.



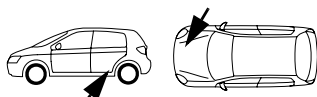
Specific risk of fire or explosion.



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



Reference to a special technical feature.



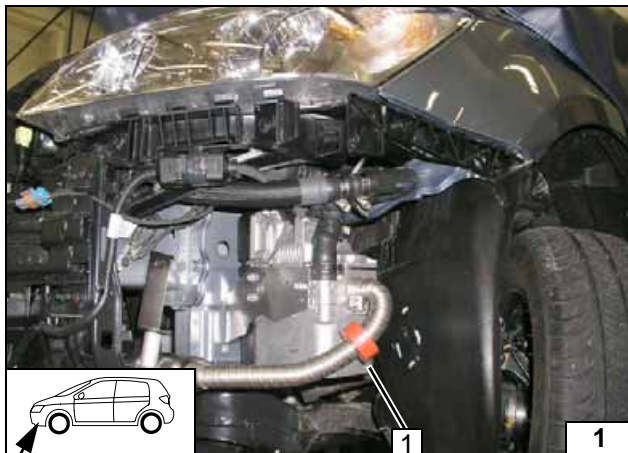
The arrow in the vehicle icon indicates the position on the vehicle and the viewing angle.

Preliminary Work

WARNING!

- Open the fuel tank cap, ventilate the tank.
- Close the tank cap again.
- Disconnect the battery "earth" or "ground" connection.
- Depressurize the cooling system.
- Copy the factory number from the original type label to the duplicate type label.
- Remove years that do not apply from the duplicate label.
- Attach the duplicate label (type label) in the appropriate place.
- Remove door sill trim on front passenger side.
- Remove the A-pillar trim in the footwell on the front passenger side.
- Remove the trim for radio/A/C control panel.
- Remove the lower instrument panel trim on the driver's side.
- Remove the rear bench seat.
- Open the tank-fitting service lid
- Remove the air filter together with the intake hoses.
- Detach the trim of the cable pass through on the firewall.
- Detach the wheel well trim on the right and left.
- Remove the bumper.
- Remove the rear left tank trim.

Remove page 33 "Operating Instructions for End Customer" and add to the vehicle operating instructions.



Heater unit installation location

- 1 Heater unit

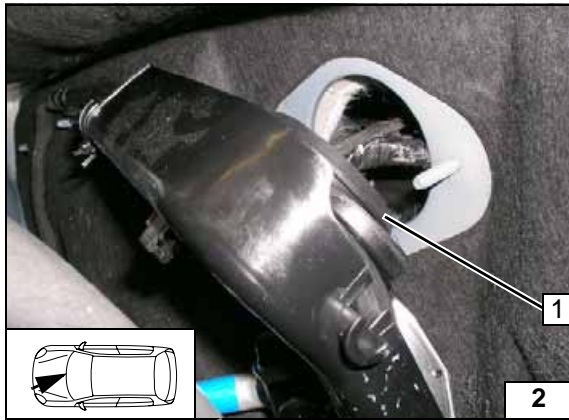
Installation
location



Electrical Connections

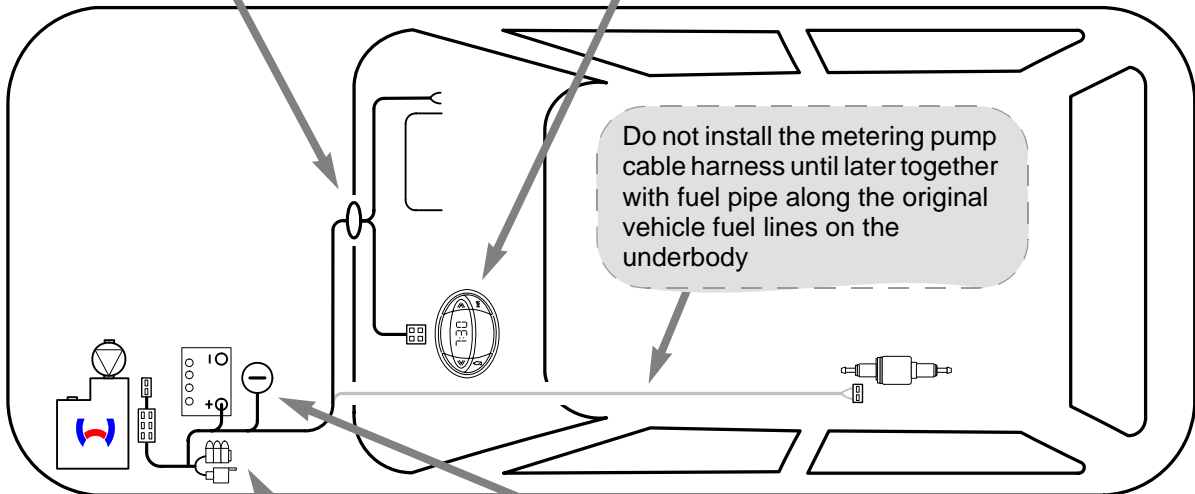
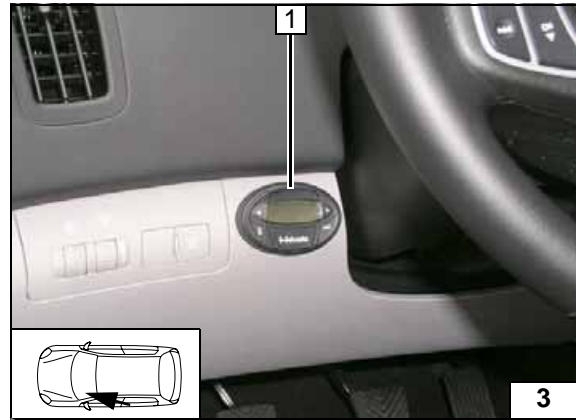
Wiring harness pass through

1 Protective rubber plug

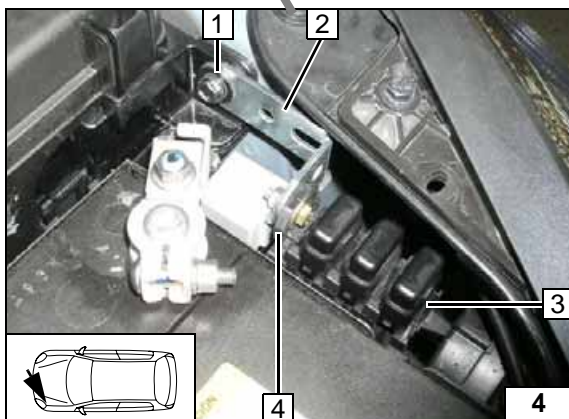


Digital timer

1 Digital timer



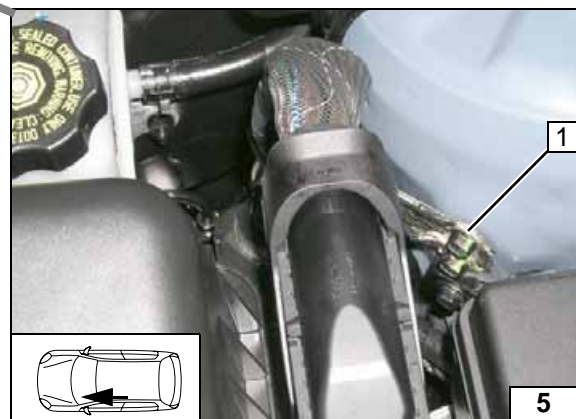
Wiring harness installation diagram



Fuse holder, relay K3

Angle down perforated bracket 2 according to template.

- 1 Original vehicle bolt
- 3 Fuse holder, replace F3 25 A fuse with 5 A fuse.
- 4 M5x16 bolt, washer, retaining plate of fuse holder, K3 relay, nut

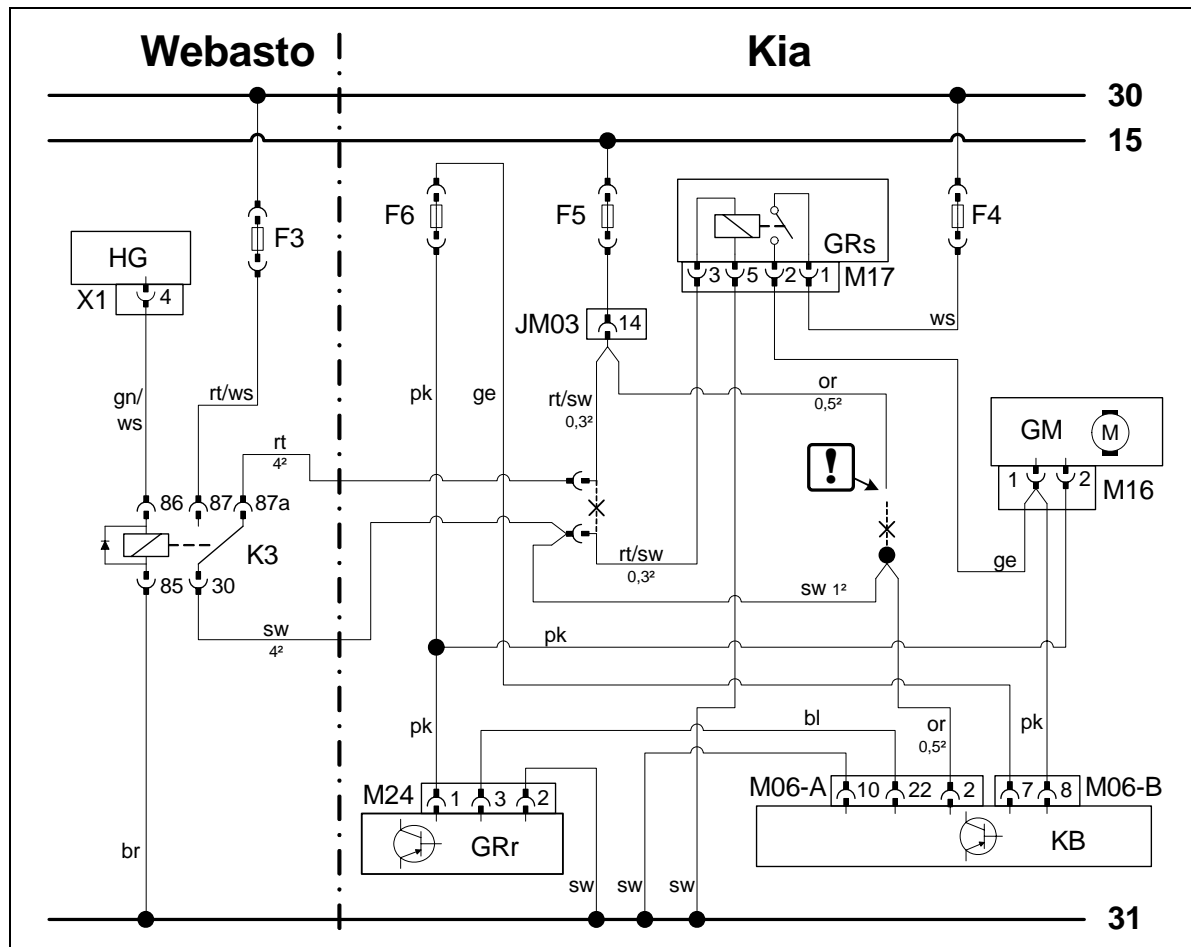


Ground connection

1 Ground point on strut tower



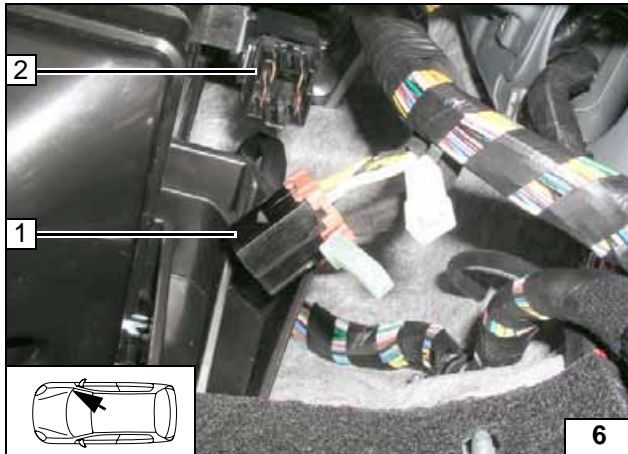
Fan controller for manual air conditioning



Wiring diagram

Webasto components		Vehicle components		Colors and symbols	
HG	Heater unit TT-C/E	GM	Fan motor	rt	red
X1	6-pin heater unit connector	M16	Connector GM	ws	white
F3	25 A replaced with 5 A fuse.	KB	Air-conditioning control element	sw	black
K3	Fan relay	M06-A	23-pin connector KB	or	orange
K3	Fan relay	M06-B	Connector KB	gn	green
		F4	Fuse 40A	bl	blue
		F5	10 A fuse	ge	yellow
		F6	10 A fuse	pk	pink
		GRs	Fan relay		
		M17	5-pin connector GRs		
		JM03	Connector	!	Insulate wire end and tie back
		GRr	Fan controller		
		M24	Connector GRr	X	Cutting point
				Wiring colors may vary.	

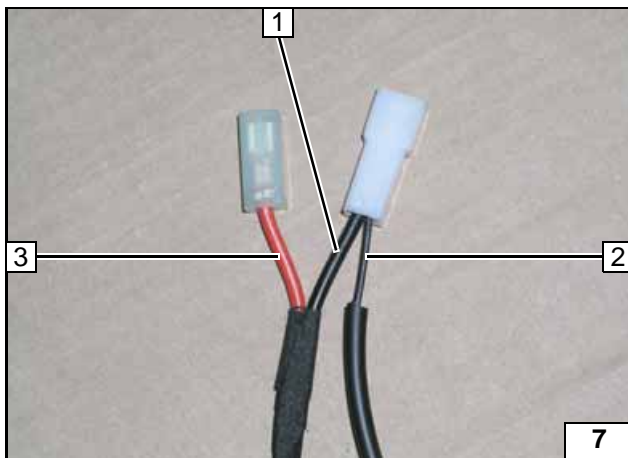
Legend



Connection on connector M17 1 of fan relay 2 on right next to glove compartment. Pull off connector M17. Disconnect red/black (rt/sw) wire, 0.3², at Pin 3.



Connector of fan relay M17

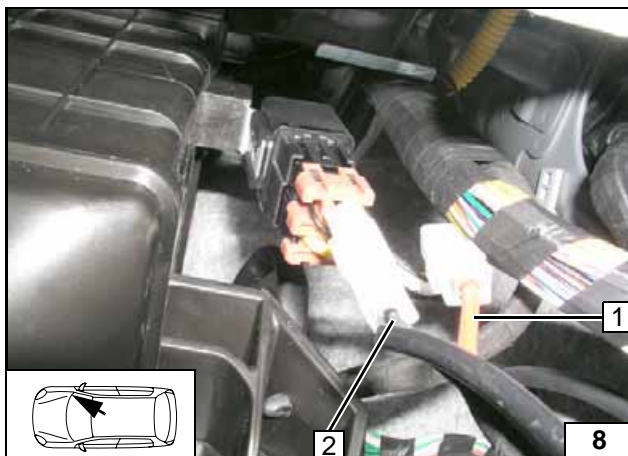


Produce connection as shown in wiring diagram. Install additional black (sw) wire 2 in protective sleeving.



Preparing additional wire

- 1 Black (sw) wire from K3/30
- 3 Red (rt) wire from K3/87a

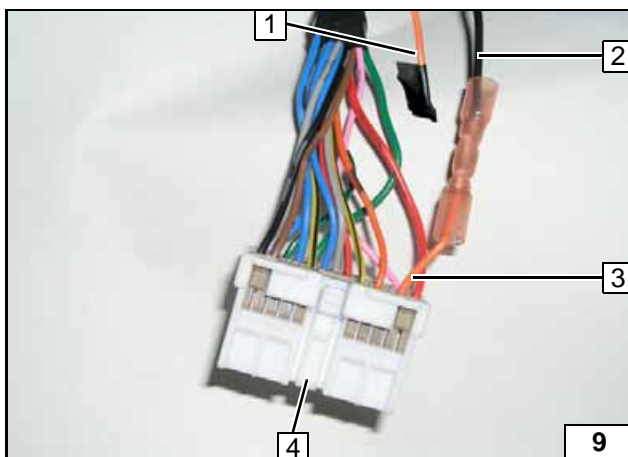


Produce connections as shown in wiring diagram.



Connecting fan relay

- 1 Red (rt) wire from K3/87a
- 2 Black (sw) wire from K3/30

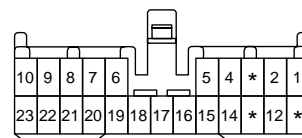


Connection on connector M06-A 4 of A/C control panel. Produce connections as shown in wiring diagram.



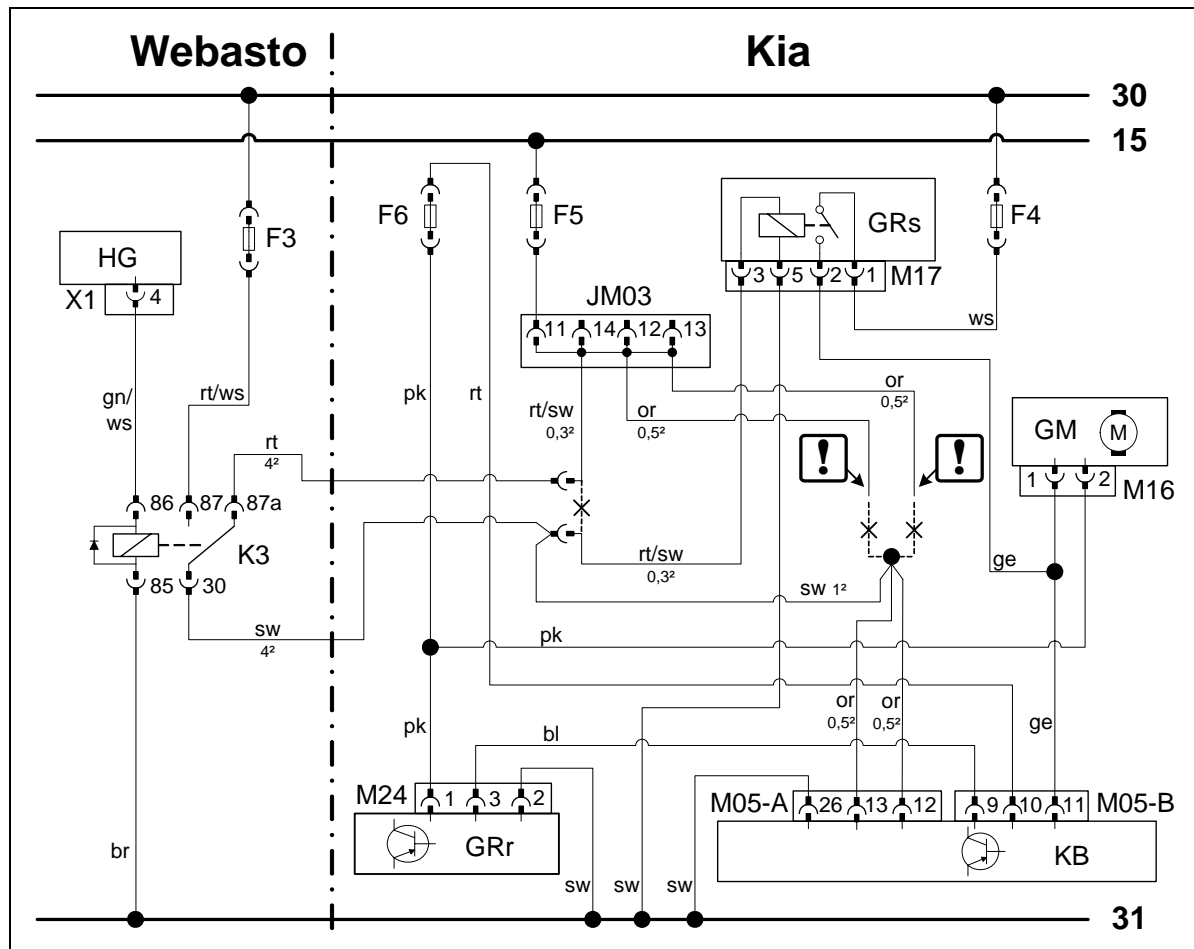
Connecting A/C control panel

- 1 Insulate orange (or) wire of connector JM03, PIN 14 and tie back
- 2 Black (sw) additional wire
- 3 Orange (or) wire, PIN 2





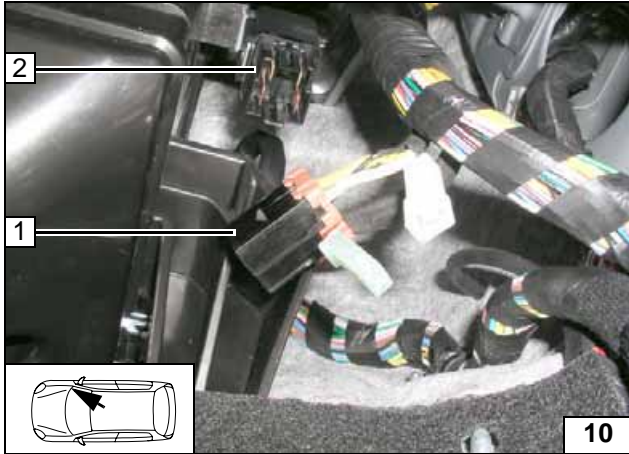
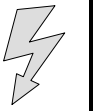
Automatic air-conditioning fan controller



Wiring diagram

Webasto components		Vehicle components		Colors and symbols	
HG	Heater unit TT-C/E	GM	Fan motor	rt	red
X1	6-pin heater unit connector	M16	Connector GM	ws	white
F3	25 A replaced with 5 A fuse.	KB	Air-conditioning control element	sw	black
K3	Fan relay	M05-A	26-pin connector KB	or	orange
		M05-B	Connector KB	gn	green
		F4	Fuse 40A	bl	blue
		F5	10 A fuse	ge	yellow
		F6	10 A fuse	pk	pink
		GRs	Fan relay		
		M17	5-pin connector GRs		
		JM03	Connector	!	Insulate wire end and tie back
		GRr	Fan controller		
		M24	Connector GRr	X	Cutting point
				Wiring colors may vary.	

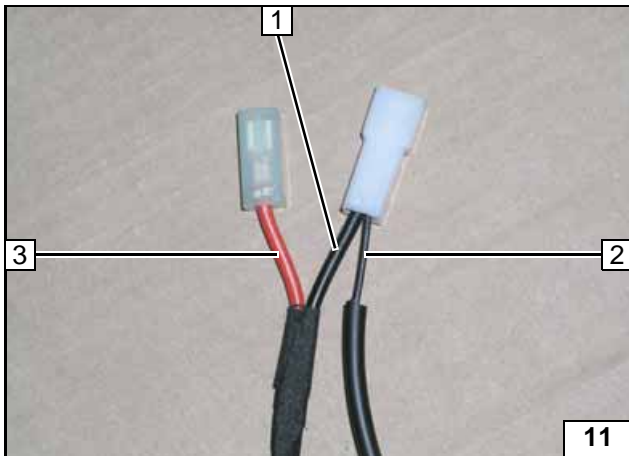
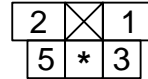
Legend



Connection on connector M17 1 of fan relay 2 on right next to glove compartment. Pull off connector M17. Disconnect red/black (rt/sw) wire, 0.3², at Pin 3.



Connector of fan relay M17

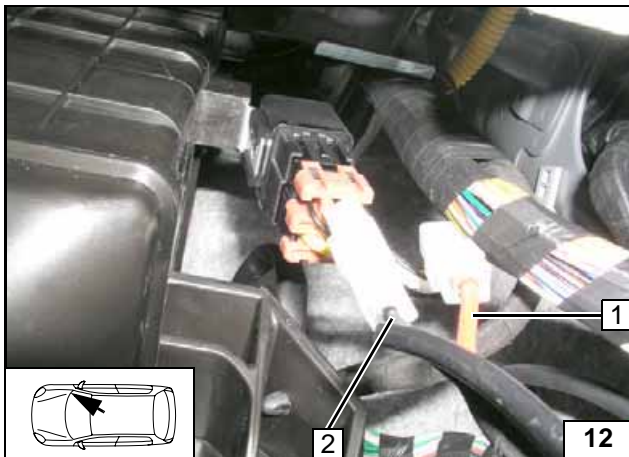


Produce connection as shown in wiring diagram.
Install additional black (sw) wire 2 in protective sleeving.



- 1 Black (sw) wire from K3/30
- 3 Red (rt) wire from K3/87a

Preparing additional wire

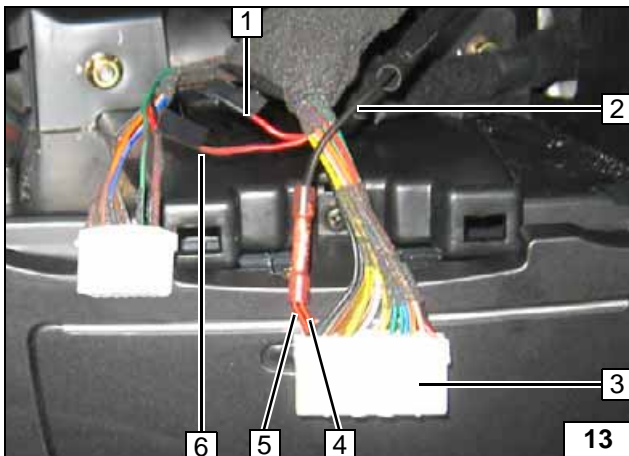


Produce connections as shown in wiring diagram.



- 1 Red (rt) wire from K3/87a
- 2 Black (sw) wire from K3/30

Connecting fan relay

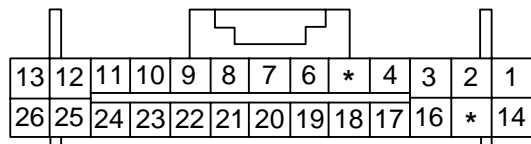


Connection on connector M05-A 3 of A/C control panel. Insulate orange (or) wires 1, 6 of connector JM03, PIN 12; 13 and tie back. Produce connections as shown in wiring diagram.



- 2 Black (sw) additional wire
- 4 Orange (or) wire, PIN 12
- 2 Orange (or) wire, PIN 13

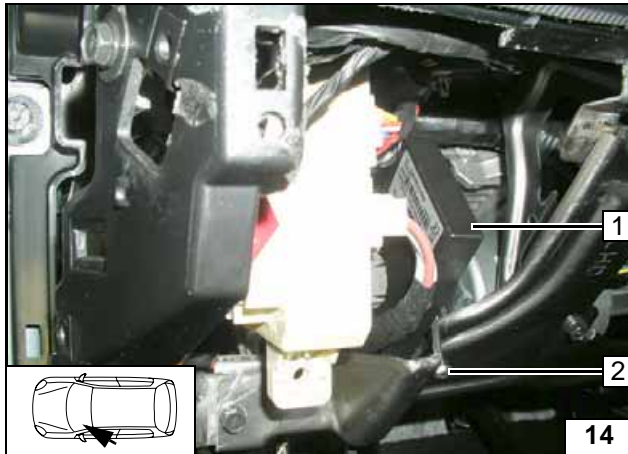
Connecting A/C control panel





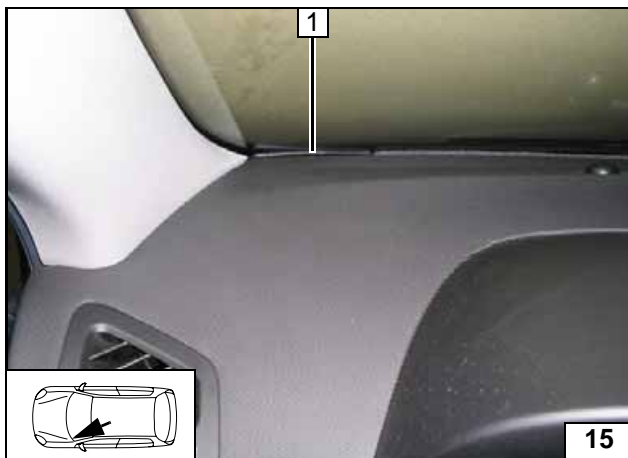
Remote option (Telestart)

- 1 Receiver, bracket angled down
- 2 5.5 mm dia. hole, M5x16 bolt, flanged nut



Installing receiver

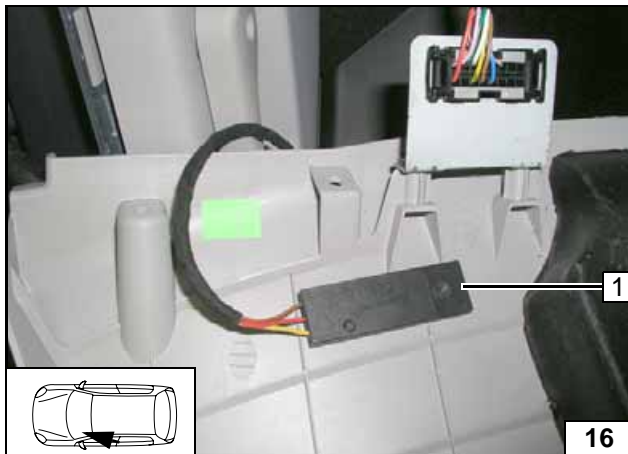
- 1 Antenna



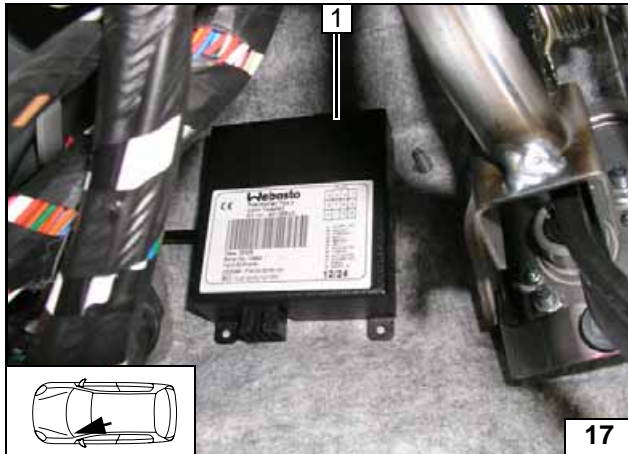
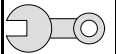
Installing antenna

Temperature sensor for HTM100 only

- 1 Temperature sensor, fasten with suitable means



Installing temperature sensor

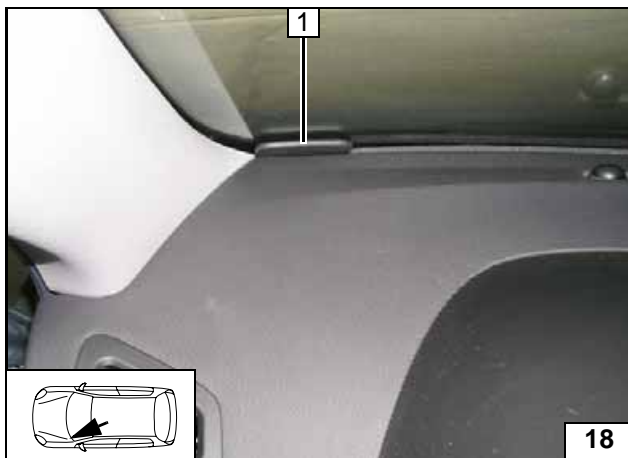


Remote option (Thermo Call)

1 Receiver, Velcro strip

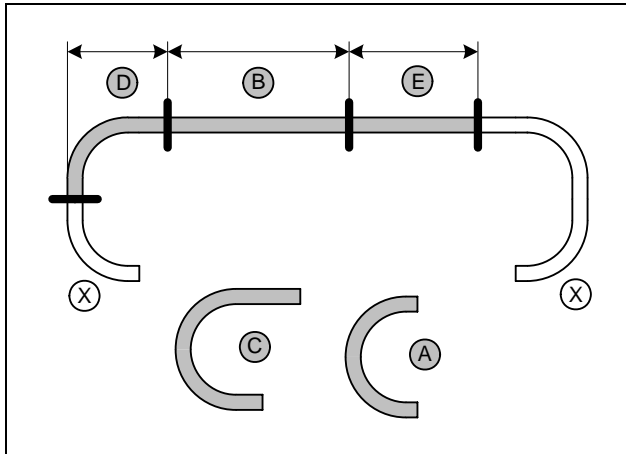
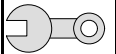


Installing receiver



1 Antenna

Installing antenna



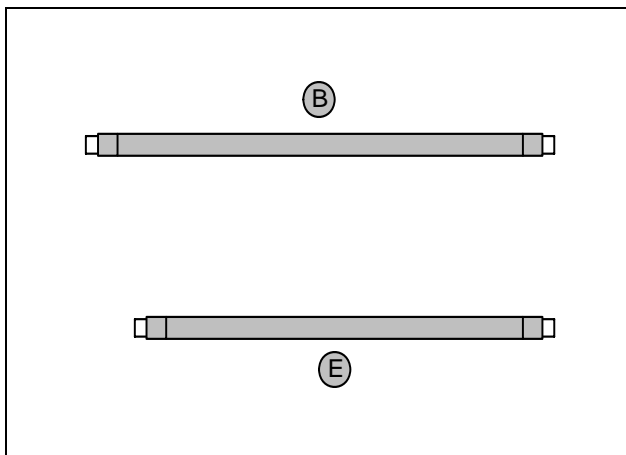
Preparing heater unit for gasoline vehicles

b = 1020 mm
d = 110 mm
e = 920 mm

Discard section X



Cutting coolant hoses to length

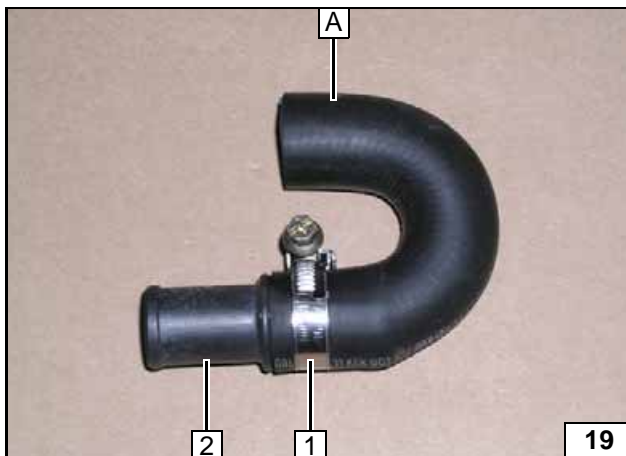


Push braided protection hose onto hose B and E and cut to length.
Cut heat shrink plastic tubing to length.

1 25 mm heat shrink plastic tubing [4x]

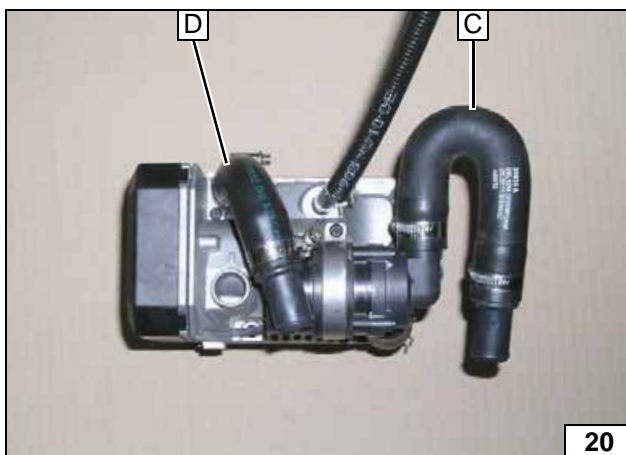


Preparing coolant hoses



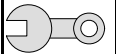
A 180° molded hose 403474
1 27 mm dia. clamp
2 Connecting pipe, dia. 18x20 mm

Preparing hose A



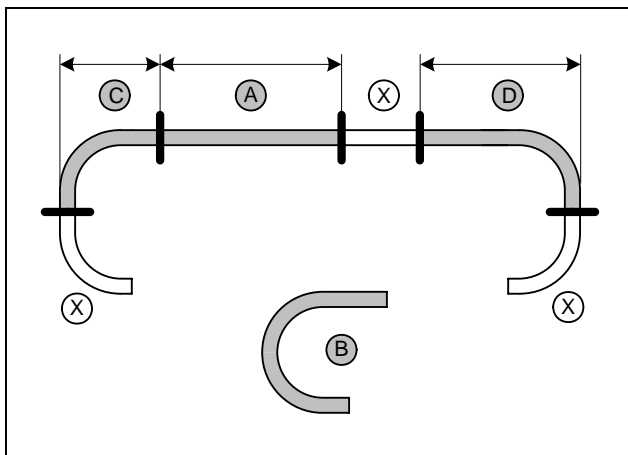
D Hose section, connecting pipe, dia. 20x20 mm, 27 mm dia. clamp [2x]
C 180° molded hose 29938, connecting pipe, dia. 20x20 mm, 27 mm dia. clamp [2x]

Preassembling coolant hoses on heater unit



- 1 Hose section, 10 mm dia. clamp [2x]
- 2 Fuel line in corrugated hose

Pre-mounting fuel hose on heater unit



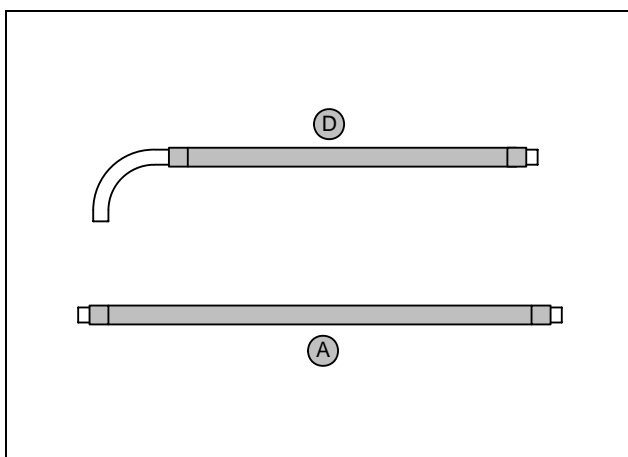
Preparing heater unit for diesel vehicles

- a = 840 mm
- c = 130 mm
- d = 790 mm

Discard section X



Cutting coolant hoses to length

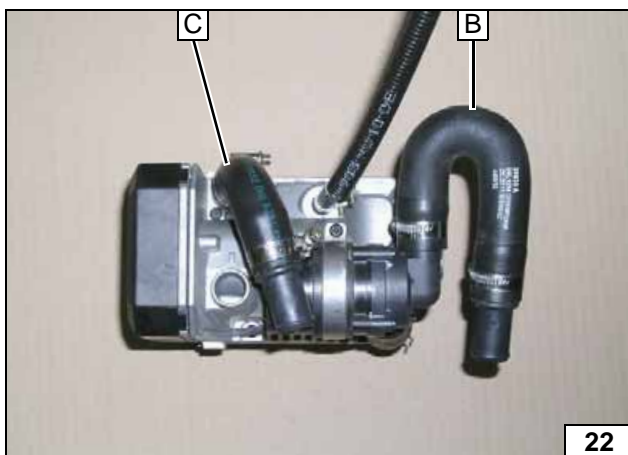


Push braided protection hoses onto hose A and D and cut to length.
Cut heat shrink plastic tubing to length.

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

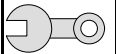


Preparing coolant hoses



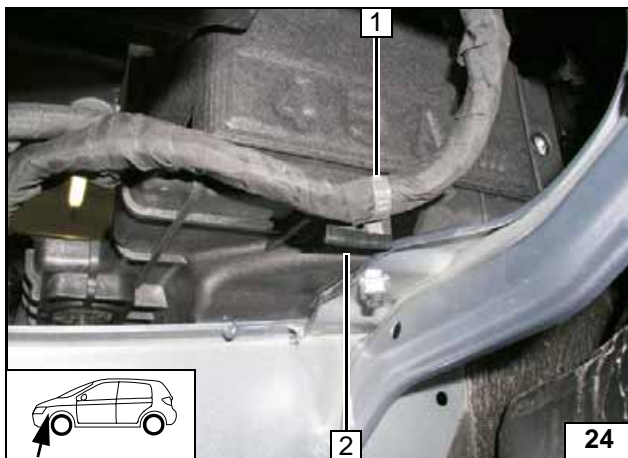
- C Hose section, connecting pipe, dia. 20x20 mm, 27 mm dia. clamp [2x]
- B 180° molded hose 29938, connecting pipe, dia. 20x20 mm, 27 mm dia. clamp [2x]

Preassembling coolant hoses on heater unit



- 1 Hose section, 10 mm dia. clamp [2x]
- 2 Fuel line in corrugated hose

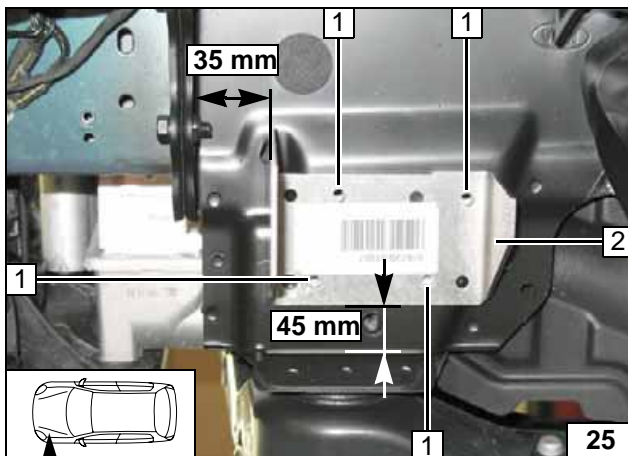
Pre-mounting fuel hose on heater unit



Preparing installation location

- 1 Original vehicle retaining clip released
- 2 Insert 30 mm edge protection

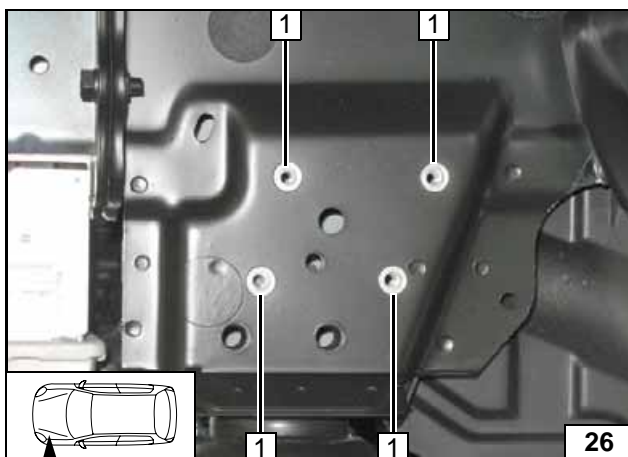
Moving wiring harness



Align bracket 2, copy hole pattern 1 [4x]

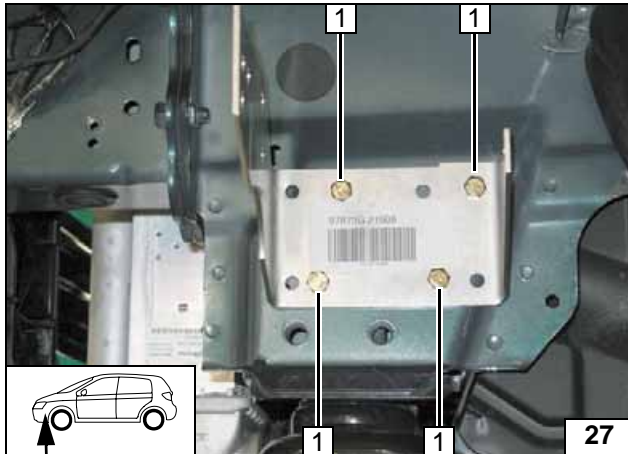
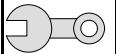


Copying hole pattern



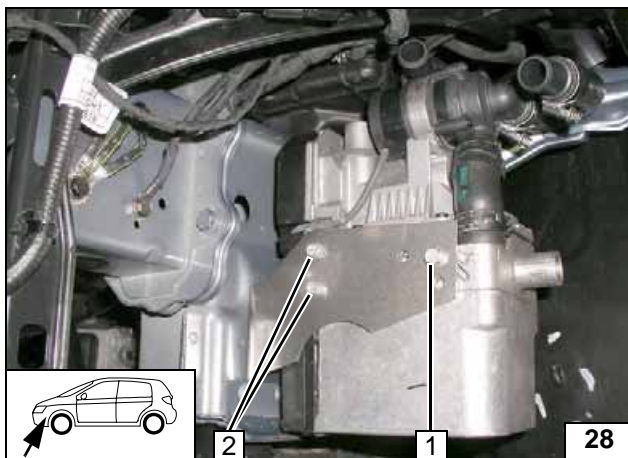
- 1 9.1 mm dia. hole; mount rivet nut [4x each]

Installing rivet nut



1 M6x25 bolt, spring lockwasher [4x each]

Installing bracket



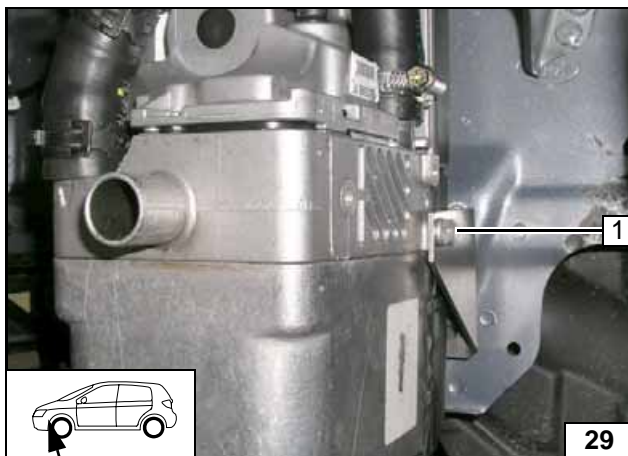
Installing heater unit

Tighten E-JOT screws to 10 Nm! Insert two washers between heater unit and bracket at position 1.

- 1 E-jot screw, washer [2x]
- 2 E-jot screw [2x]



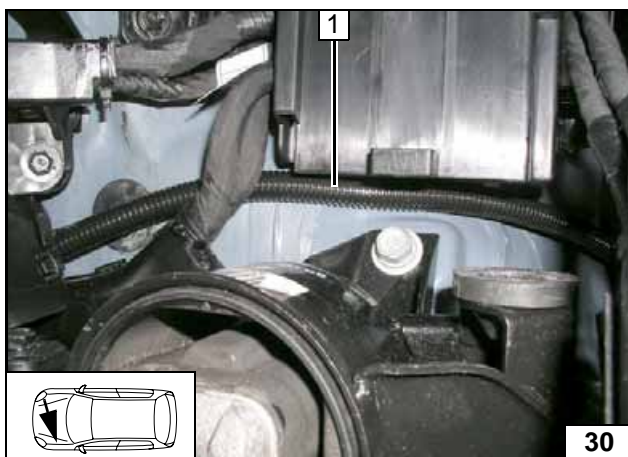
Installing heater unit



E-jot screw bolt 1, tightening torque 10 Nm.



Installing heater unit



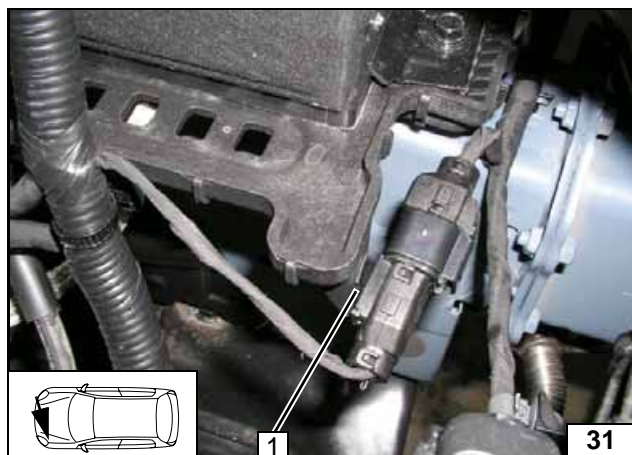
Route fuel line and wiring harness of metering pump in corrugated tube 1 to firewall and along original vehicle fuel lines to underbody. Cut fuel line to length at installation location of metering pump.



Routing fuel line and wiring harness

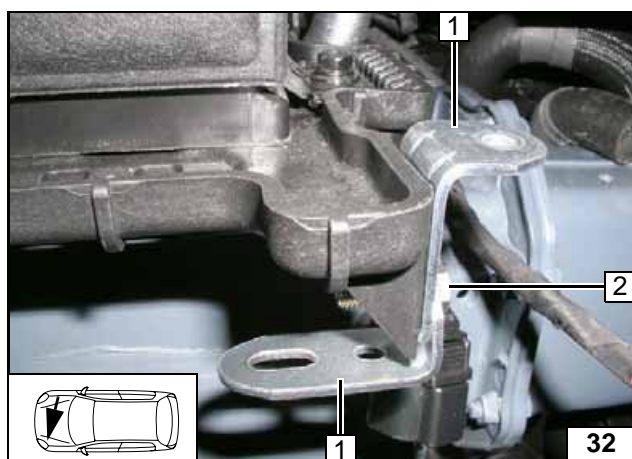


Combustion air



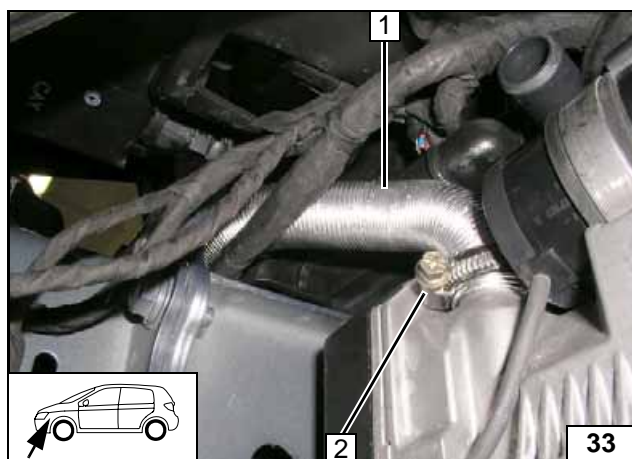
- 1 Retaining clip

Releasing retaining clip of connector



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

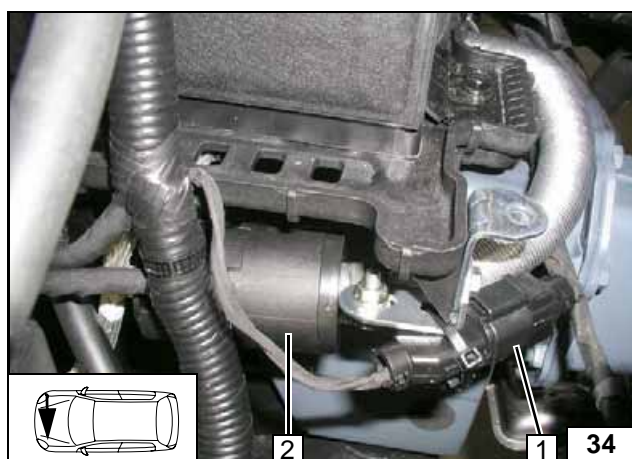
Installing angle bracket



- 1 Combustion-air intake pipe
- 2 27 mm dia. hose clamp



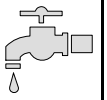
Installing intake pipe



- 1 Original vehicle connector, cable tie
- 2 Combustion-air intake muffler, 25 mm dia. p-clamp, M6x20 bolt, flanged nut



Installing muffler



Coolant for gasoline engine

WARNING!

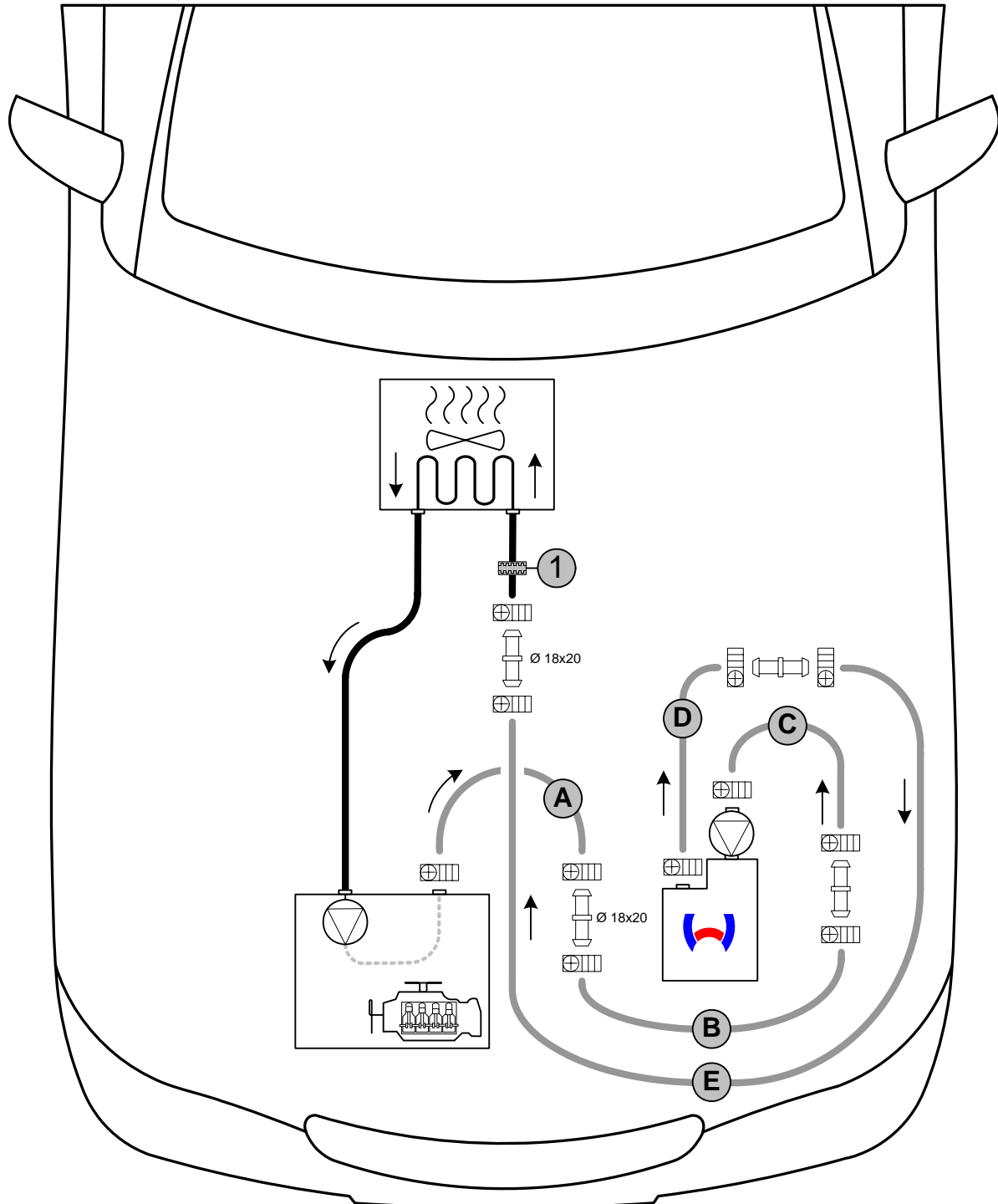
Tighten all hose clamps to $2.0 + 0.5$ Nm.

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

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


Position hose clamps so that no other hose can be damaged!

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



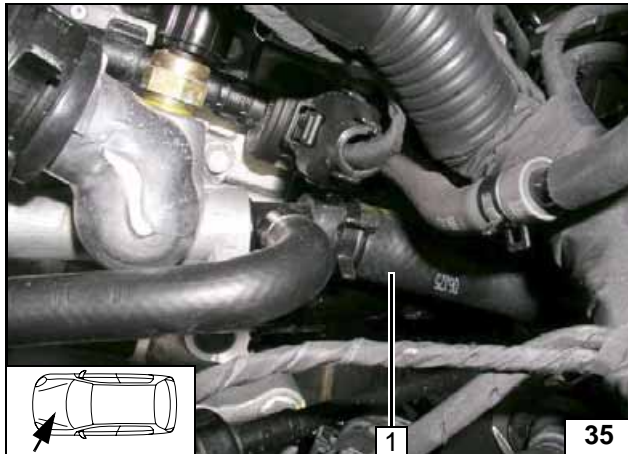
Coolant routing diagram

All hose clamps  = 20-27 mm dia.!

1 = Black (sw) rubber isolator 

All connecting pipes without a specific designation  = 20x20 mm.

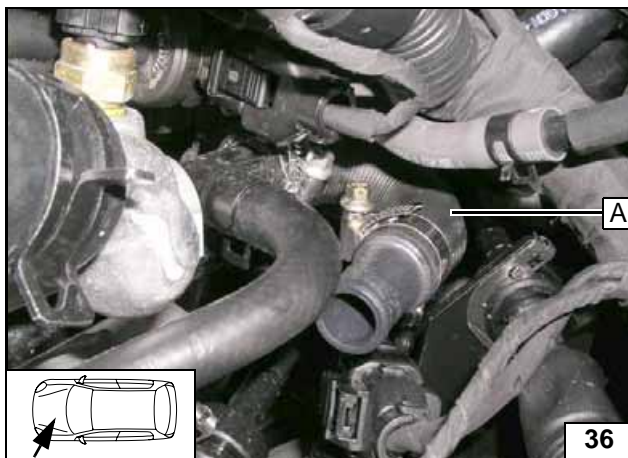




Pull original vehicle hose 1 off connection piece of engine outlet.



Cutting point

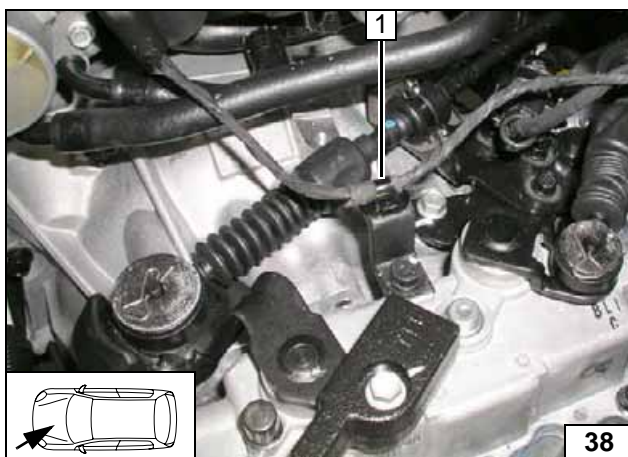


Connecting engine outlet



1 Hose section of heat exchanger inlet
2 Black rubber isolator

Installing rubber isolator



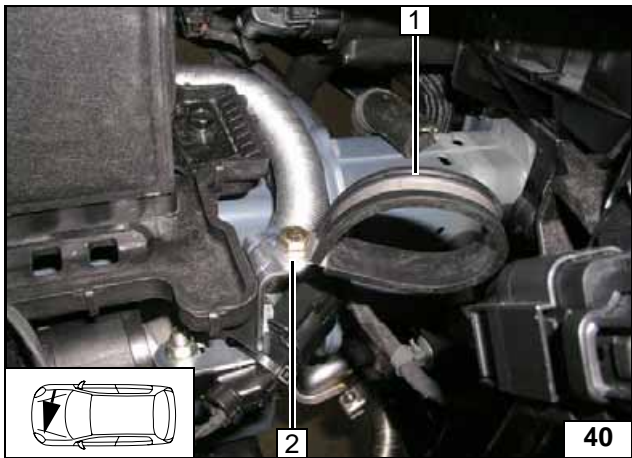
1 Retaining clip

Releasing retaining clip



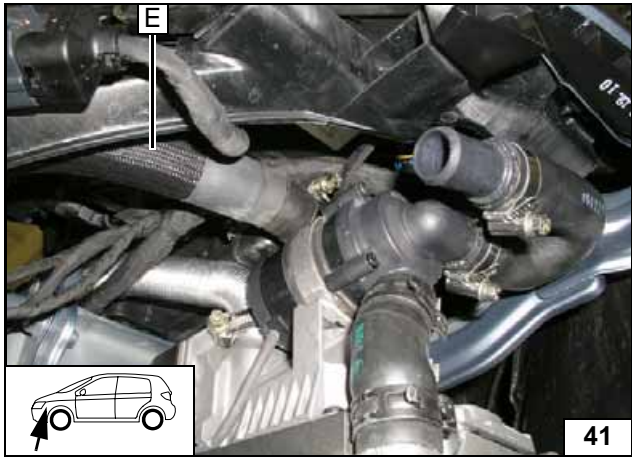
- 1 M6x20 bolt, flanged nut
- 2 Rubber-coated pipe clamp, 48 mm dia.

Installing p-clamp

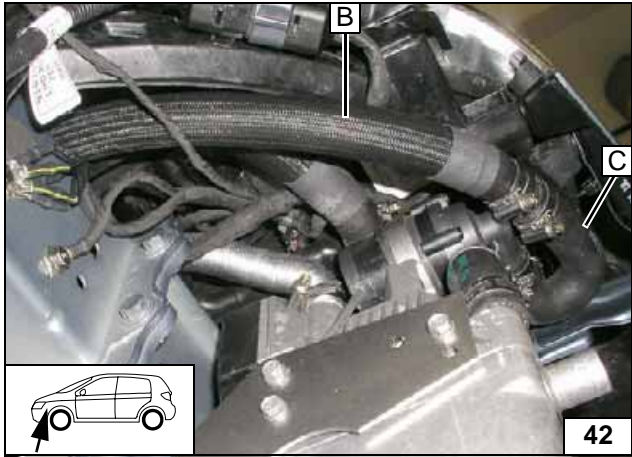


- 1 Rubber-coated pipe clamp, 48 mm dia.
- 2 M6x20 bolt, flanged nut

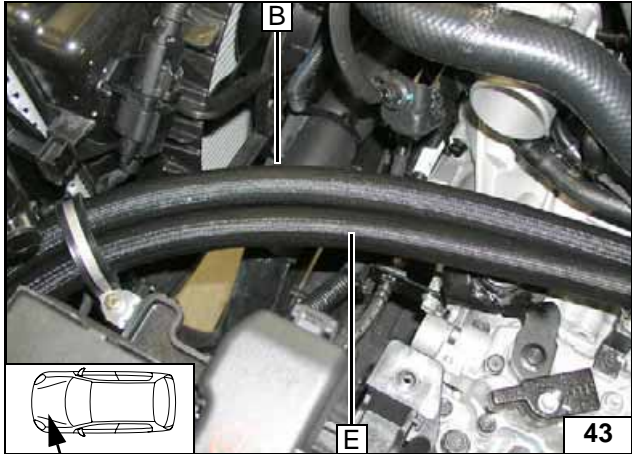
Installing p-clamp



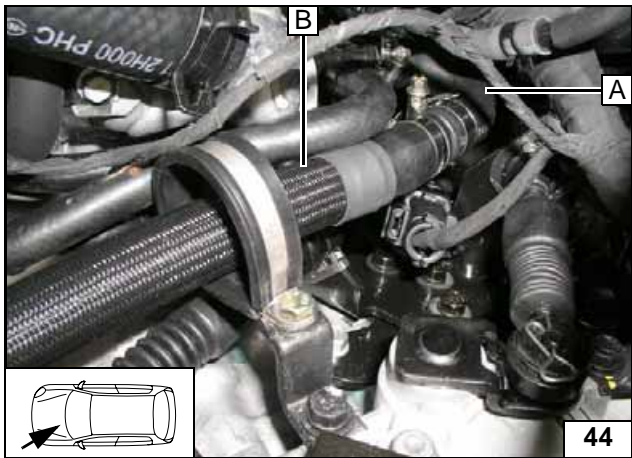
Connecting heater unit outlet



Connecting heater unit inlet



Routing in engine compartment



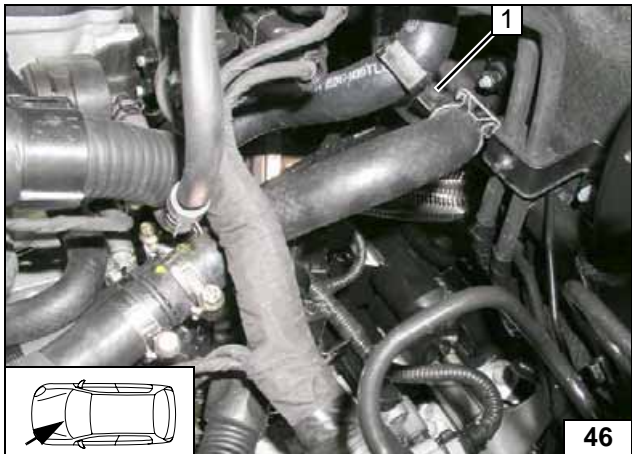
Connecting engine outlet

Before connecting, fill the coolant hoses with coolant.



- 1 Hose section of heat exchanger inlet
- 2 Original vehicle wiring harness, retaining clip removed, cable tie

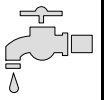
Connecting heat exchanger inlet



Ensure sufficient distance to adjacent components; correct if necessary. Install spacer 1 and align black (sw) rubber isolator (covered).



Aligning hoses



Coolant for diesel engine

WARNING!

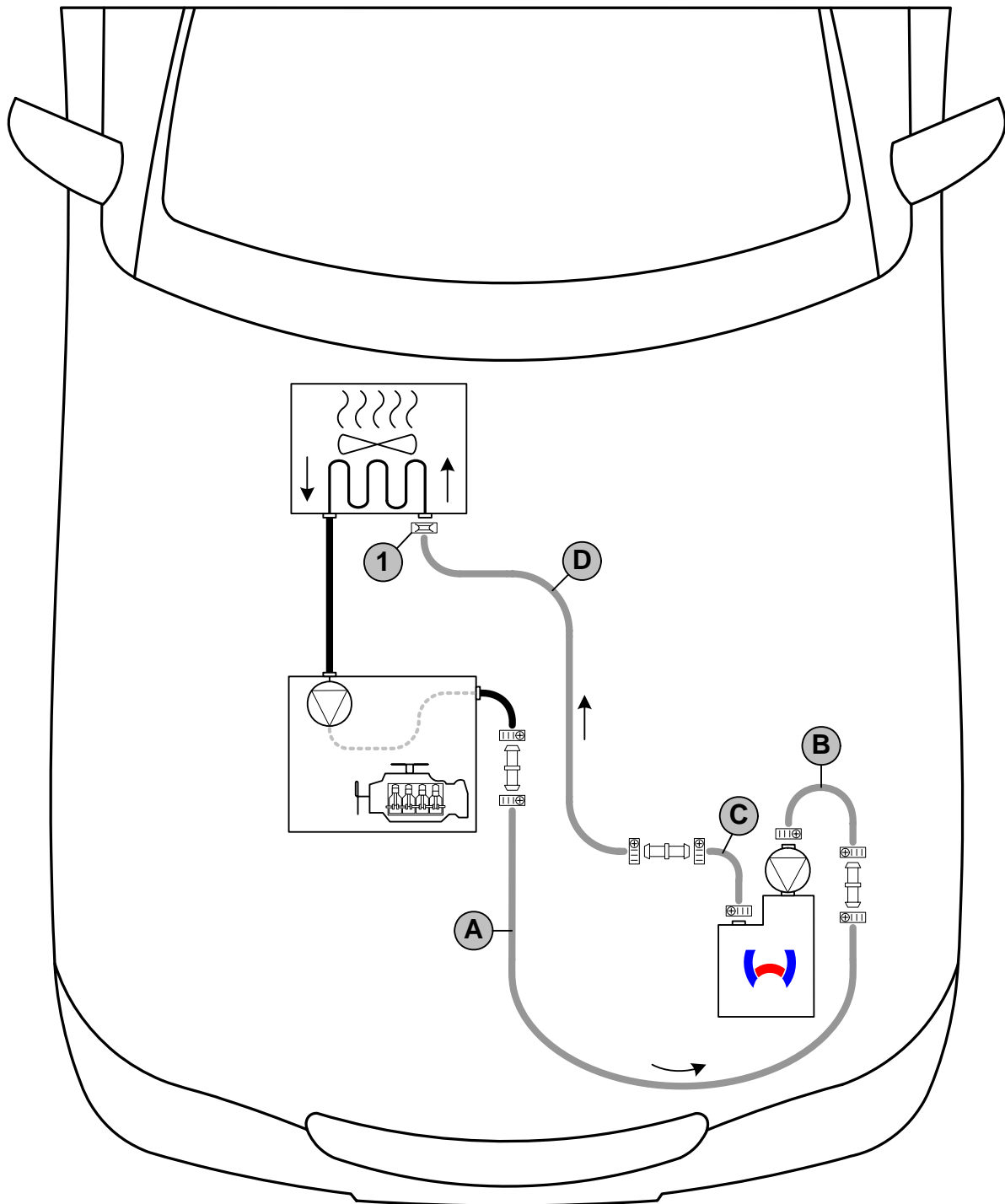
Tighten all hose clamps to $2.0 + 0.5$ Nm.

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

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


Position hose clamps so that no other hose can be damaged!


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



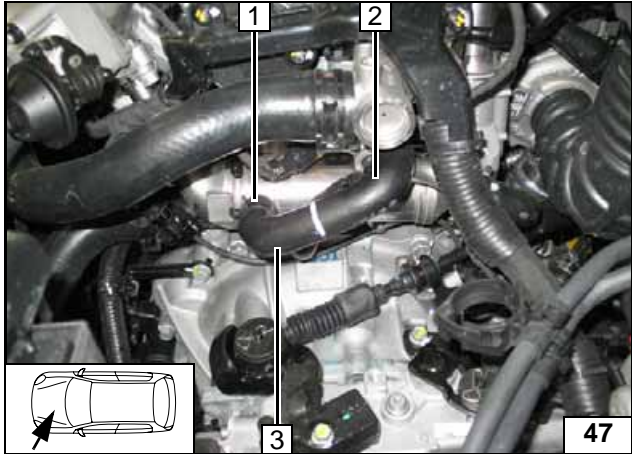
Coolant routing diagram

All hose clamps  = 20-27 mm dia.!

1 = original vehicle spring clip 

All connecting pipes  = 20x20 mm



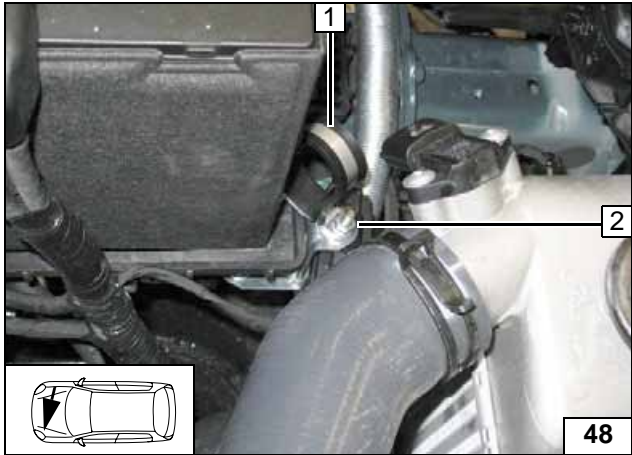


Remove hose section from heat exchanger inlet **3** and discard. Original vehicle spring clip **1** will be reused.

2 Engine outlet hose section

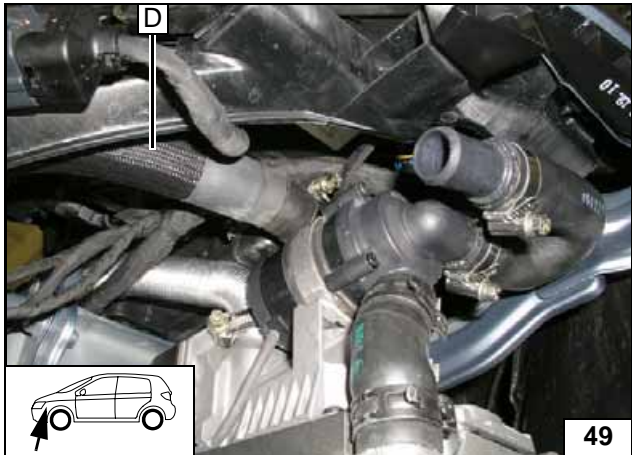


Cutting point

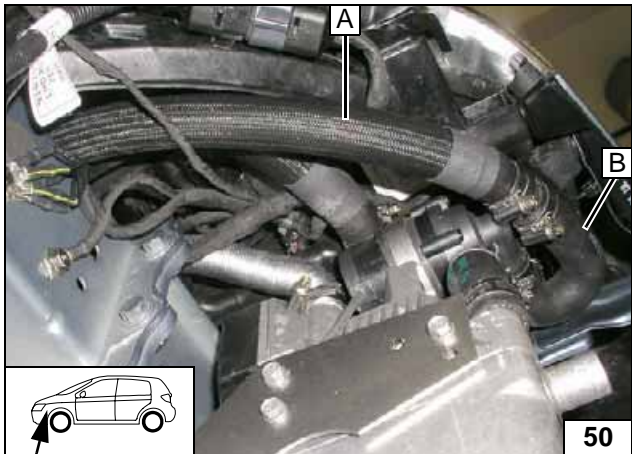


1 Rubber-coated pipe clamp, 48 mm dia.
2 M6x20 bolt, flanged nut

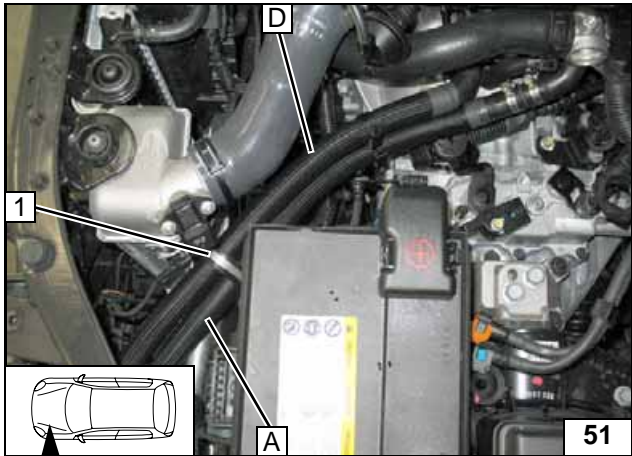
Installing p-clamp



Connecting heater unit outlet



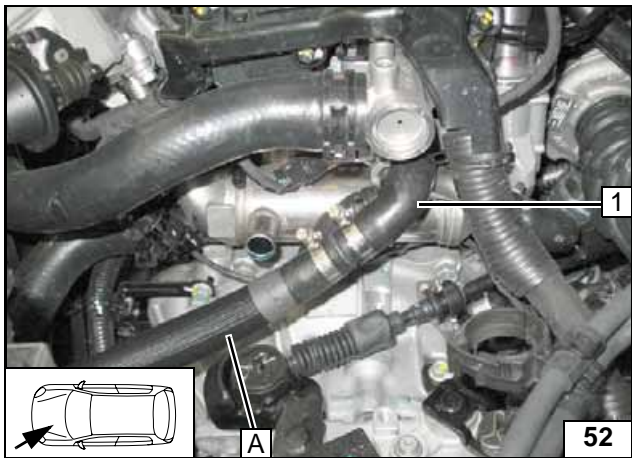
Connecting heater unit inlet



Route hose **A** and **D** through rubber-coated p-clamp **1**.
Ensure sufficient distance to neighboring components.

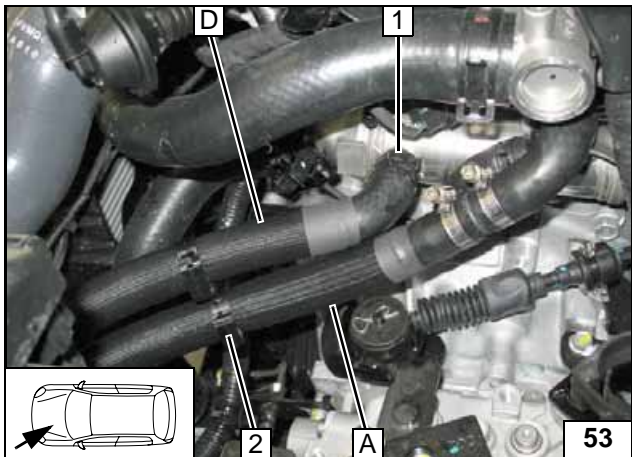


Routing in engine compartment



1 Engine-outlet hose section

Connecting engine outlet



Before connecting, fill the coolant hoses with coolant.

- 1** Original vehicle spring clip
- 2** Spacer bracket



Connecting heat exchanger inlet



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.



Copying hole pattern



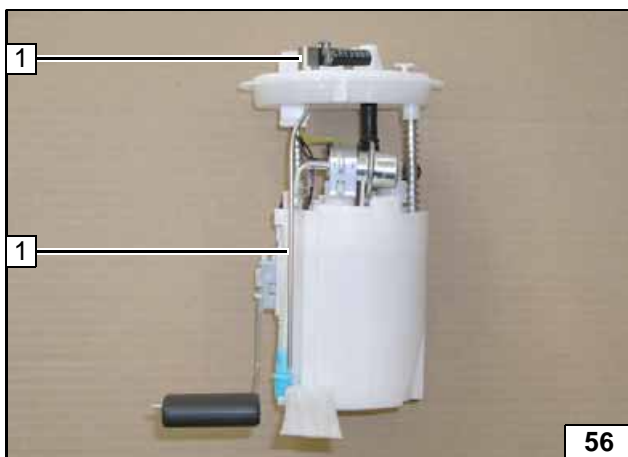
Removing gasoline

Remove and dismantle fuel-tank sending unit according to manufacturer's instructions. Mount rivet nut **2** for centering in center of cover segment **1** and predrill 5.5 mm dia.

1 Drill out 6 mm dia. hole



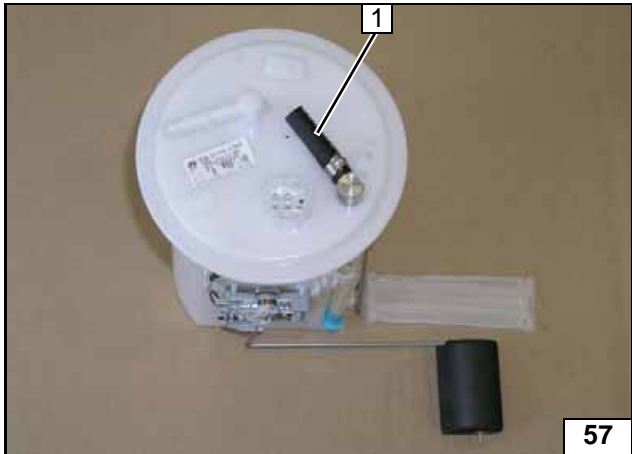
Drilling hole in fuel-tank sending unit



Shape fuel standpipe **1** according to template, cut to length and install, see "installation instructions". Insert 4x 6 mm dia. washers between cover of fuel-tank sending unit and nut of fuel standpipe to adjust height.



Installing fuel standpipe



1 Hose section, 10 mm dia. Caillau clamp



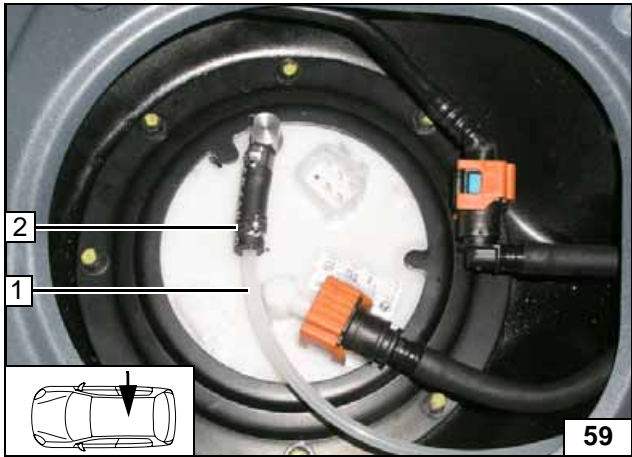
Aligning fuel standpipe



Cut out mounting flange 1 in area of marking



Laying on mounting flange

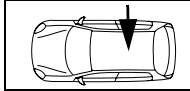


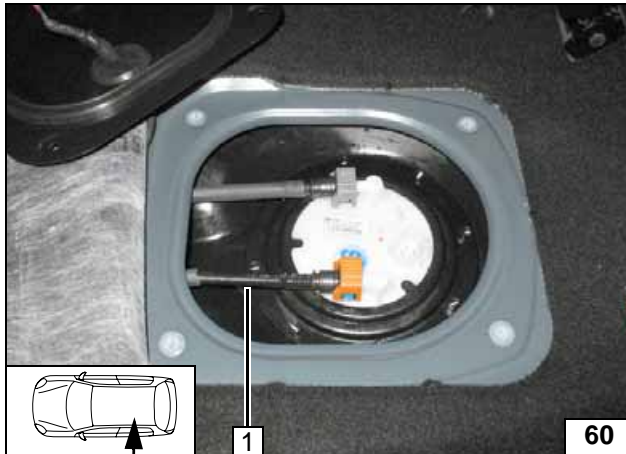
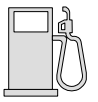
Install fuel-tank sending unit according to manufacturer's specifications.

- 1 Fuel line
- 2 Hose section, 10 mm dia. Caillau clamp



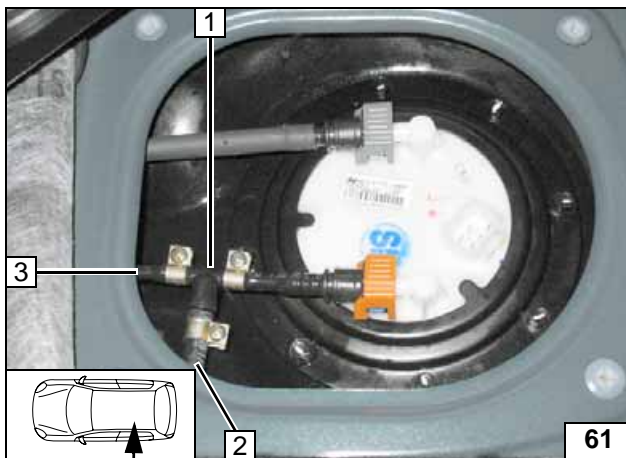
Connecting fuel line





Removing diesel

- 1 Remove protective sleeving on fuel supply line



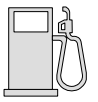
Cut off fuel supply line **3** approx. 50 mm before coupling and insert fuel standpipe.

- 1 6x5x6 fuel standpipe, 8 mm dia. clamp [2x]
- 2 Fuel line, hose section, 10 mm dia. clamp [2x]



Removing protective sleeving

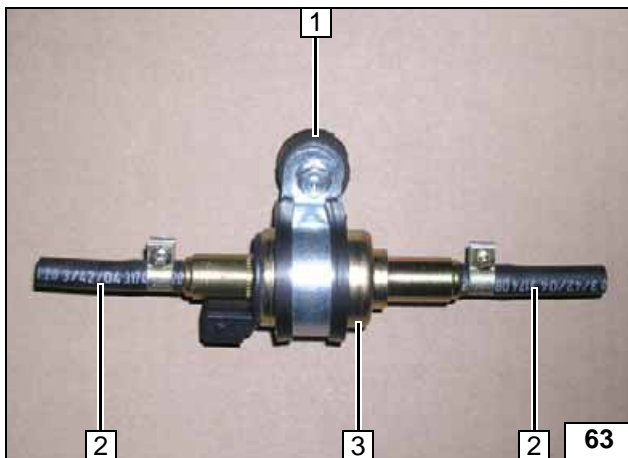
Mounting fuel standpipe



All vehicles

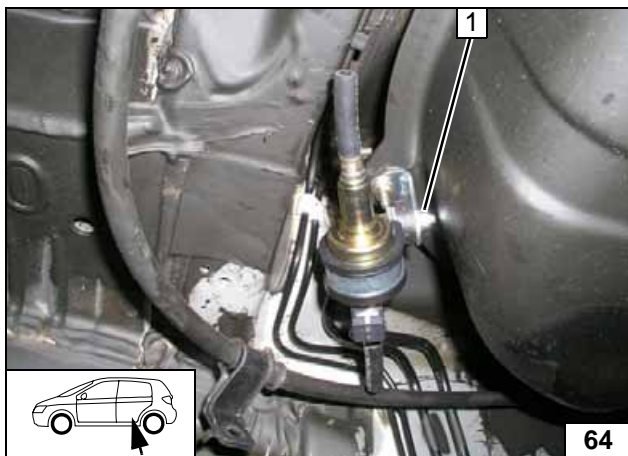
- 1 Angle bracket, M6x20 bolt, large diameter washer, flanged nut on existing hole
- 2 Fuel line from fuel standpipe

Installing angle bracket



- 1 Silent block, rubber-coated p-clamp, flanged nut
- 2 Hose section, 10 mm dia. clamp [2x each]
- 3 Metering pump

Preassembling metering pump



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

- 1 M6 flanged nut on angle bracket



Installing metering pump

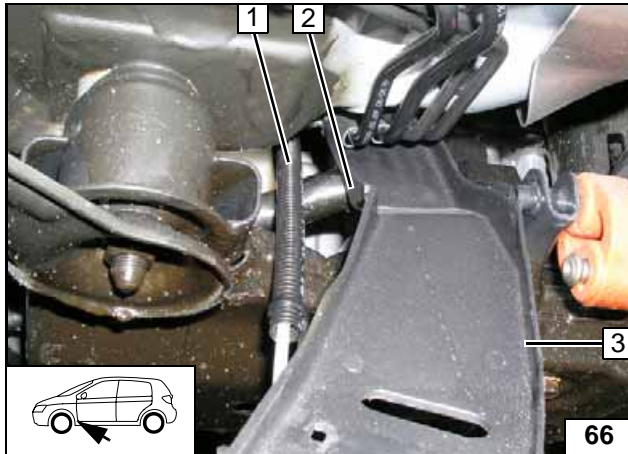
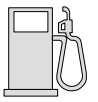


Fuel line from fuel standpipe on intake side of metering pump. Check the position of the components; adjust if necessary. Check that they have free clearance.

- 1 Hose section (scuff guard), cable tie [2x]
- 2 10 mm dia. clamp



Connecting fuel line

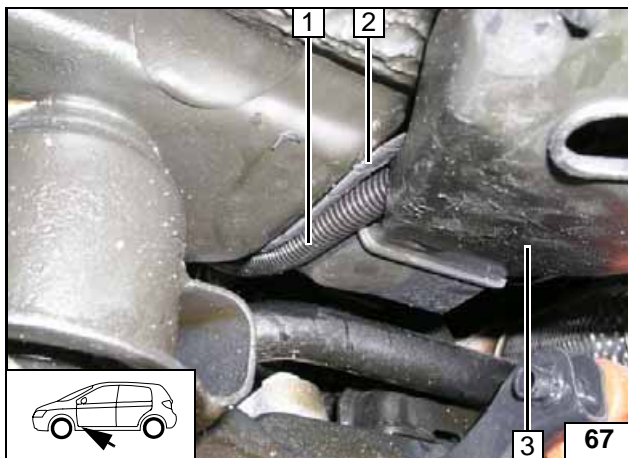


Detach line duct **3** and fold down, cut out edge at Pos. **2** for corrugated tube.

- 1** Fuel line from heater unit in corrugated tube



Cutting out line duct



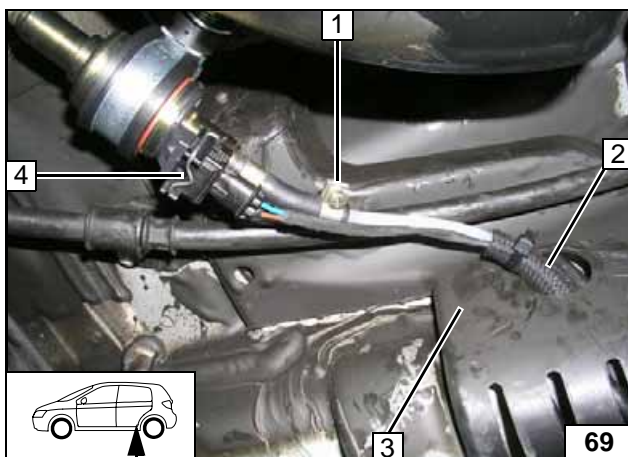
- 1** Fuel line in corrugated tube
- 2** Metering pump wiring harness
- 3** Line duct

Guiding lines into cover



- 1** Metering pump wiring harness
- 2** Fuel line

Installing lines on underbody



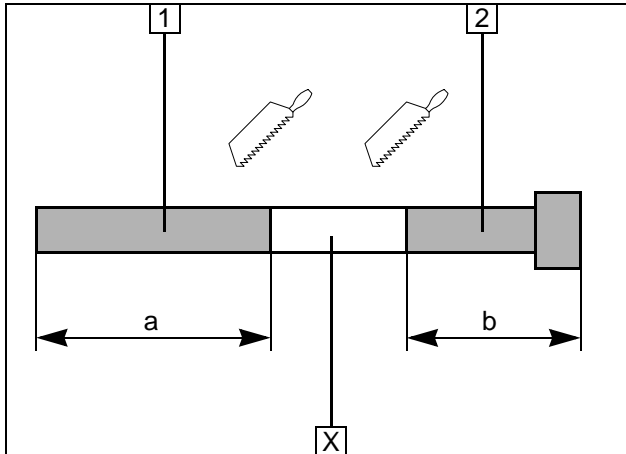
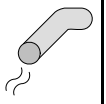
Fuel line from heater unit on pressure side of metering pump.

Check the position of the components; adjust if necessary. Check that they have free clearance.

- 1** 10 mm dia. clamp
- 2** Hose section (scuff guard), cable tie [2x]
- 3** Installed line duct
- 4** Wiring harness of metering pump, connector mounted



Connecting to metering pump

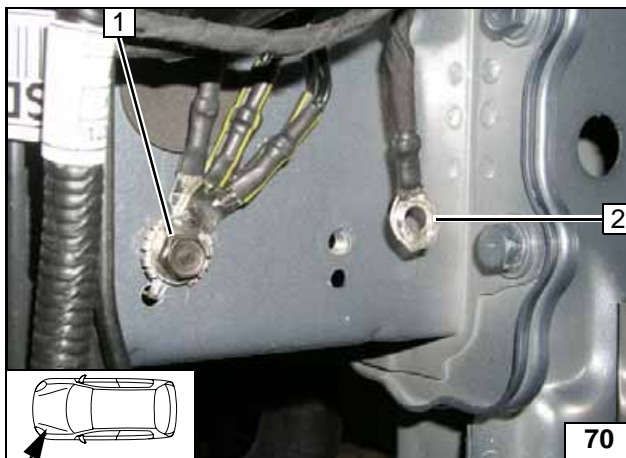


Exhaust gas

- 1 Exhaust pipe
a = 310 mm
- 2 Exhaust end section
b = 175 mm

Discard section X

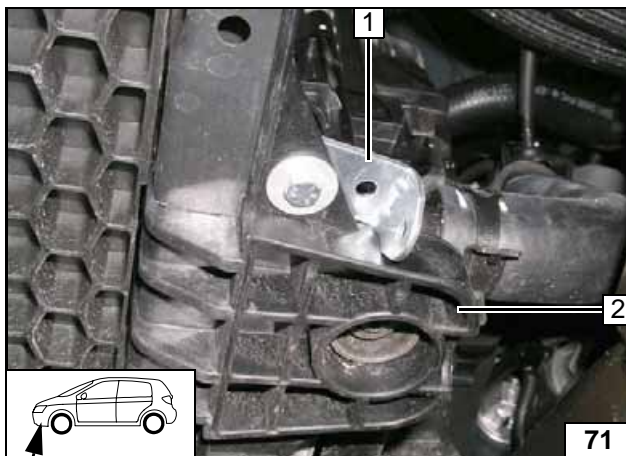
Preparing exhaust pipe



Disconnect ground cable 2 and fasten to adjacent ground point 1.

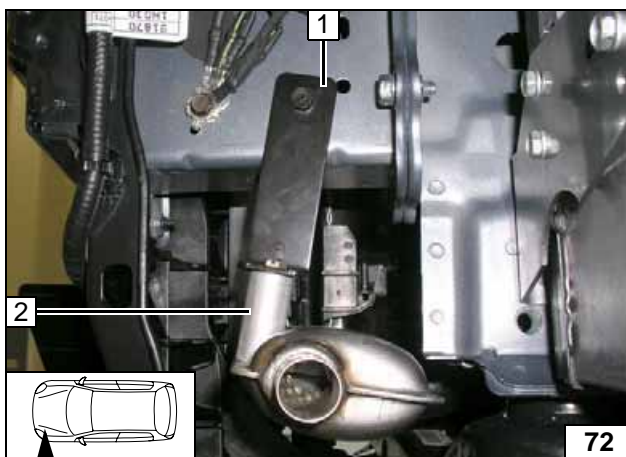


Re-fastening ground wire



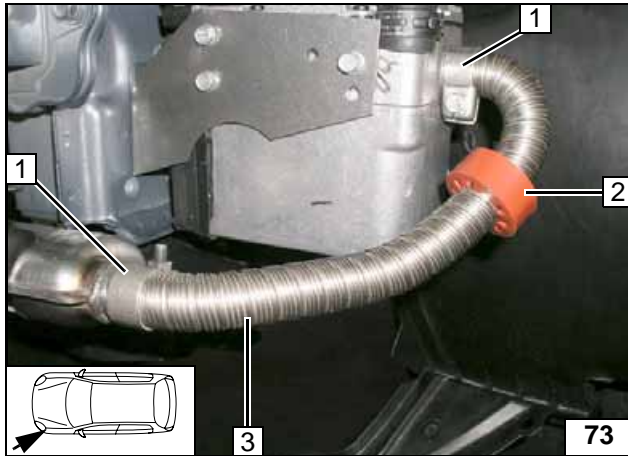
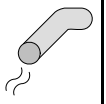
- 1 Angle bracket, M6x20 bolt, large diameter washer, flanged nut
- 2 Radiator cross member

Installing angle bracket



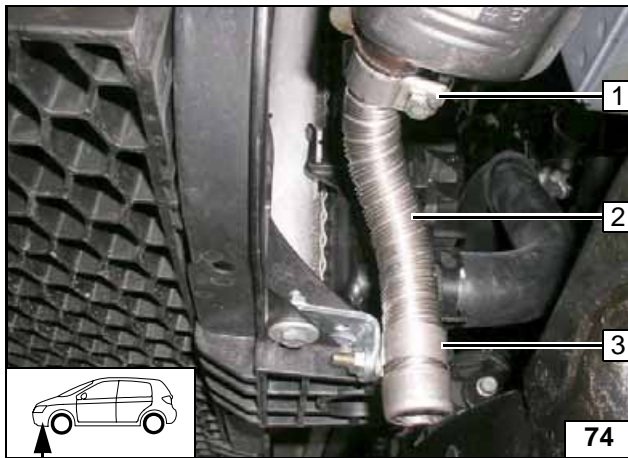
- 1 Angle bracket, original vehicle bolt
- 2 Exhaust muffler, 40 mm spacer, M6x50 bolt, flanged nut

Installing muffler



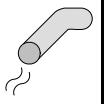
- 1 Hose clamp [2x]
- 2 Red (rt) rubber isolator
- 3 Exhaust pipe

**Installing
exhaust
pipe**



- 1 Hose clamp
- 2 Exhaust end section
- 3 P-clamp, M6x20 bolt, flanged nut on angle bracket

**Installing
exhaust
end
section**



Final Work

WARNING!

Reassemble the disassembled components in reverse order.

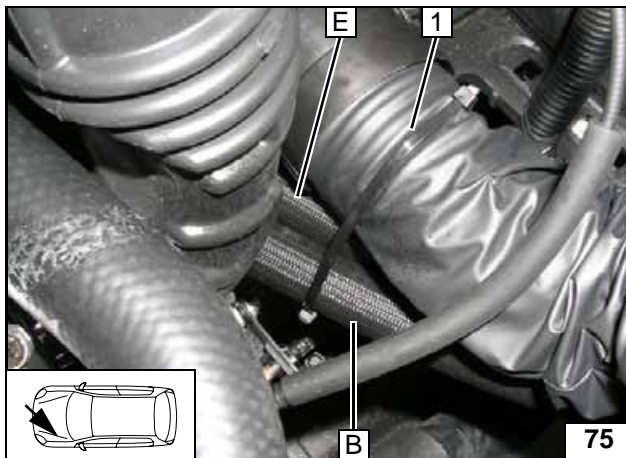
Check all hoses, clamps and all electrical connections for firm seating.

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).

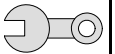
- Connect the battery
- Fill and bleed the coolant circuit according to the vehicle manufacturer's specifications.
- Set the digital timer.
- Make settings on A/C control panel according to the "Operating Instructions for End Customer".
- Check the proper operation of the additional heater, see the operating instructions/installation instructions.
- Attach the "Switch off additional heater before refueling" sticker to the left-hand B-pillar.



Gasoline

1 Cable tie

Fastening
hoses



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.

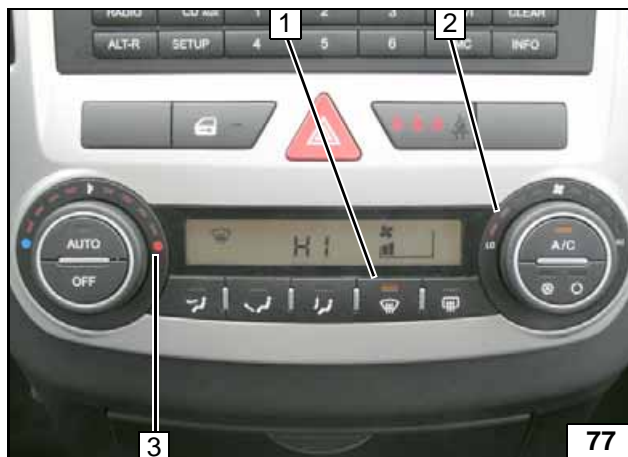
If the summer/winter switch option has been installed, this must be switched in accordance with the time of year. The heater unit will then only switch on the vehicle fan to ventilate the vehicle interior in the position Winter heat and in the position Summer .

Before parking the vehicle, make the following settings:



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

Manual air
conditioning

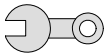


- 1 Air outlet to windshield
- 2 Set fan to level "1", or possibly "2"
- 3 Set temperature to "HI"

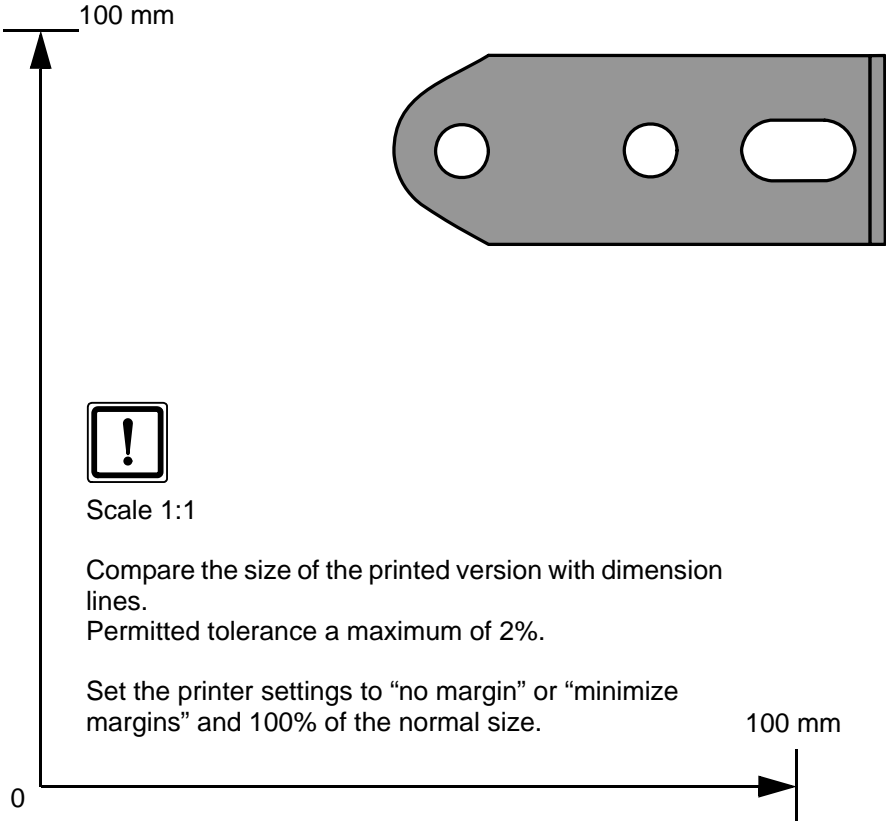
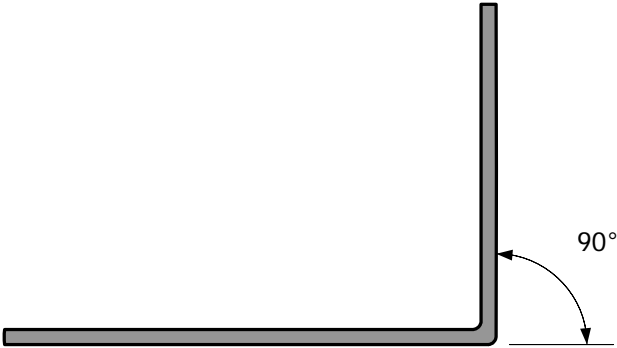
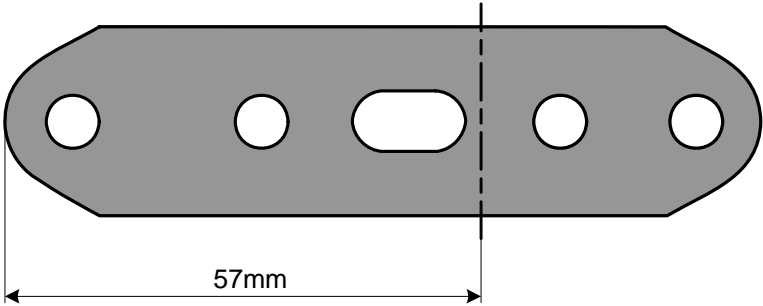
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Webasto AG
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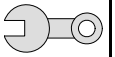


Template for Perforated Fastening Strap

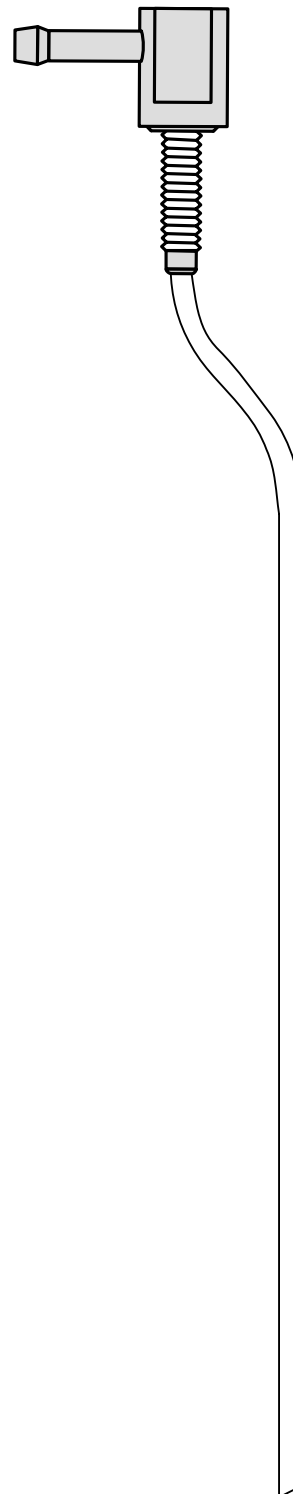


Scale 1:1
Compare the size of the printed version with dimension lines.
Permitted tolerance a maximum of 2%.

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



Template for Fuel Standpipe of Gasoline Engines



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