

Water Heater



Thermo Top E Parking Heater


00 0003

Thermo Top C Parking Heater


00 0002

Thermo Top P Parking Heater


00 0104

Installation documentation

Kia Soul

Gasoline and Diesel
from Model Year 2009
Left-hand drive vehicle
Manual air conditioning



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, specialised tools and equipment are required to install and repair Webasto heating and cooling systems. Only original Webasto parts must be used. For this, also see the catalog of air and water heater accessories from Webasto.

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	Soul	AM	e4 * 2001 / 116 *0139 * ...

Engine type	Engine model	Output in kW	Displacement in cm ³
G4FC	Gasoline	93	1591
D4FB	Diesel	94	1582

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

The installation location of the digital timer is to be coordinated with the end-customer before installation.

Heater/Installation Kit

Quantity	Description	Order No.:
1	Retail accessories <i>Thermo Top E / C / P</i>	See Price list
1	Installation kit for Kia Soul 2009 Gasoline and Diesel	1315340A
1	Heater control	See Price list

Heater recommended for the respective vehicle class:

Vehicle	Heater
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 is based on the passenger compartment size of the vehicle and the level of comfort required by the customer!

**Foreword**

This installation documentation apply to vehicles Kia Soul Gasoline and Diesel - for validity, see page 2 - from model year 2009 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 documentation" and "operating and maintenance instructions" for the *Thermo Top E / C / P* 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).

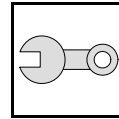
Special Tool

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

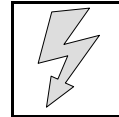
Explanatory Notes on Document

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.

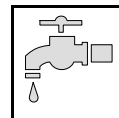
Mechanical system



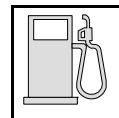
Electrical system



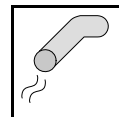
Coolant circuit



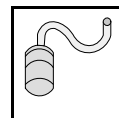
Fuel



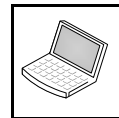
Exhaust gas



Combustion air



Software



Special features are highlighted using the following symbols:



Specific risk of injury or fatal accidents.



Specific risk of damage to components.



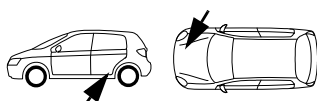
Specific risk of fire or explosion.



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



Reference to a special technical feature.



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

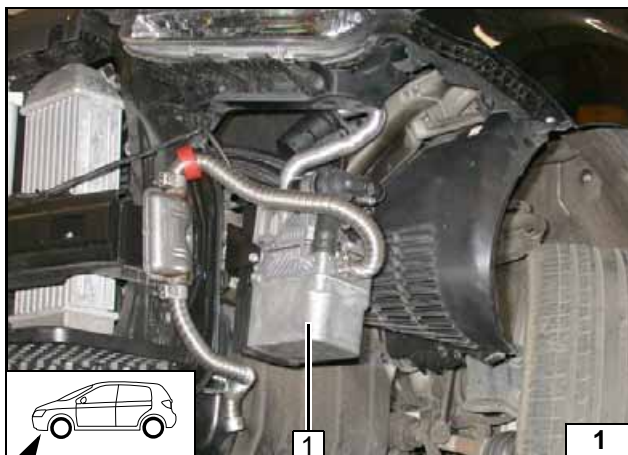
All dimensions are in mm!
Tightening torque of hose clamps = 2.0 + 0.5 Nm!
Tightening torque of Ejet screws, Ejet studs = 10 Nm!

Preliminary Work

WARNING!

- Open the fuel tank cap and vent the fuel tank.
- Close the tank cap again.
- Disconnect the battery "earth" or "ground" connection.
- Depressurize the cooling system.
- Copy the factory number from the original type label to the duplicate type label.
- Remove years that do not apply from the duplicate label.
- Attach the duplicate label (type label) in the appropriate place.
- Remove the engine cover.
- Completely remove the battery together with the battery carrier.
- Remove the air filter together with the intake hose.
- Detach the wheel well trim on the right and left.
- Remove bumper trim
- Remove underide protection
- Remove the lower instrument panel trim on the driver's side.
- Remove lateral instrument panel trim on the driver side

Remove page 26 "Operating Instructions for the End Customer" and insert with vehicle operating instructions.



Heater installation location

1 Heater

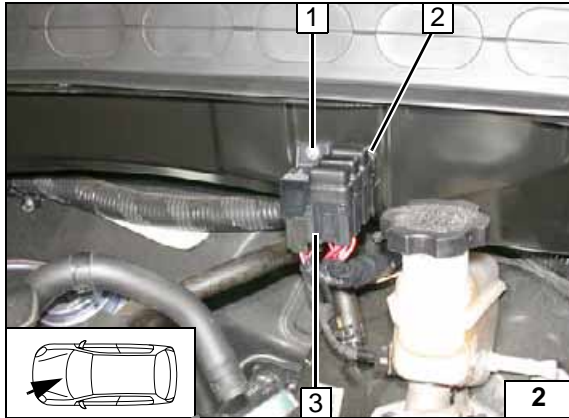
Installation location



Electrical system

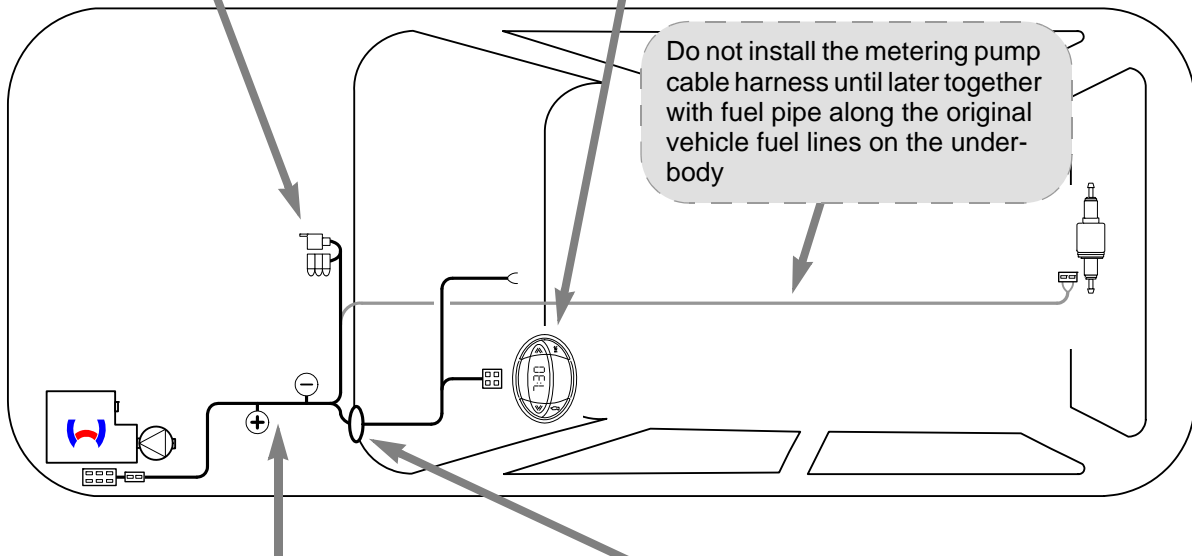
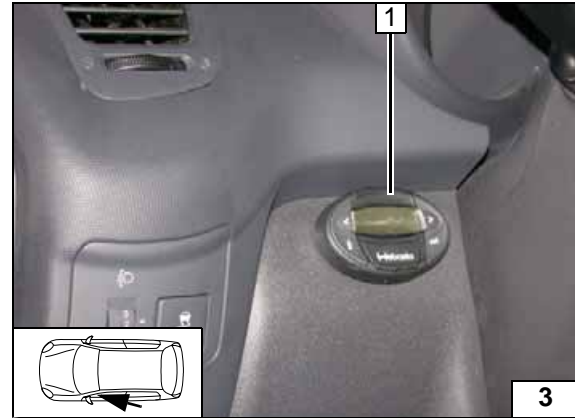
Fuse holder, K3 relay

- 1 4mm dia. hole, K3 relay, 5.5x13mm self-tapping screw
- 2 4mm dia. hole, retaining plate of fuse holder, 5.5x13mm self-tapping screw
- 3 F1-3 fuseholders mounted

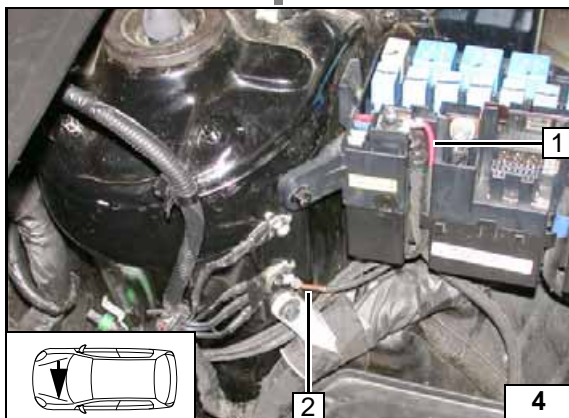


Digital timer

- 1 Digital timer

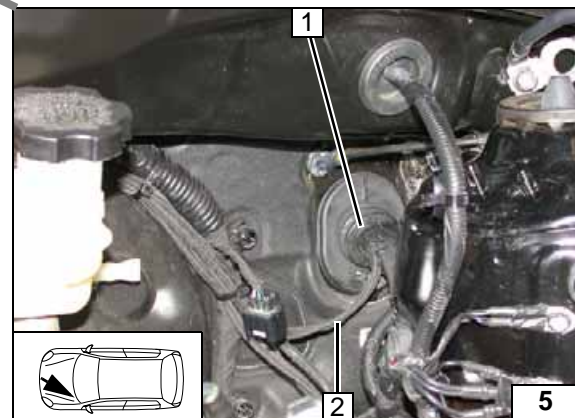


Wiring harness installation diagram



Positive and ground wire

- 1 Positive wire on original vehicle positive support point
- 2 Ground wire on original vehicle ground support point

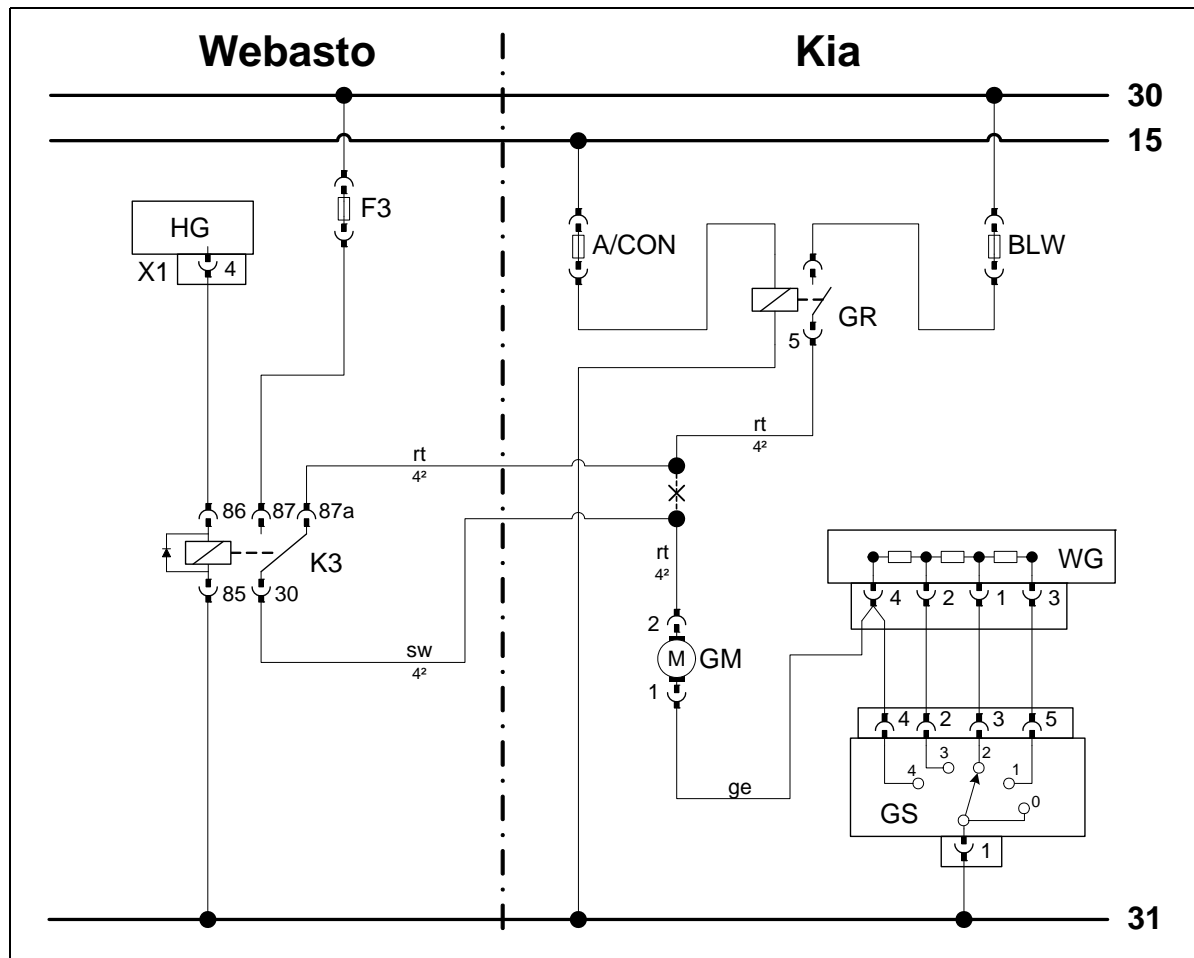


Wiring harness pass through

- 1 Protective rubber plug
- 2 Wiring harness of fan controller and digital timer



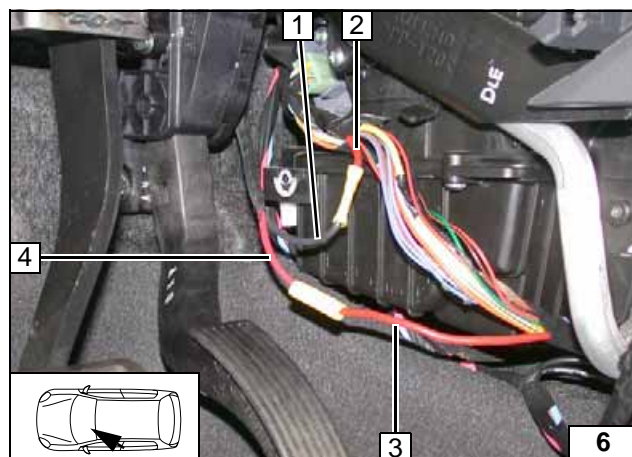
Fan controller



Wiring diagram for manual air conditioning

Webasto components		Vehicle components		Colours and symbols	
HG	Heater TT-C/E/P	GM	Fan motor	rt	red
X1	6-pin heater connector	GR	Fan relay	sw	black
F3	Fuse, 25A	WG	Resistor group	ge	yellow
K3	Fan relay	GS	Fan switch		
		BLW	Fuse, 40A		
		A/CON	Fuse, 10A		
				X	Cutting point
				Wiring colours may vary.	

Legends

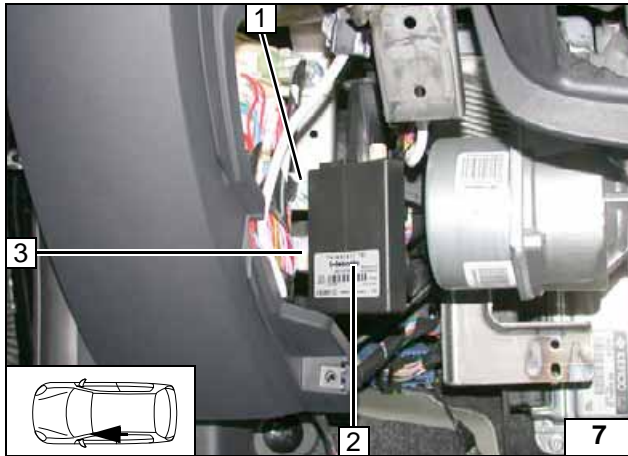


Disconnect wiring harness. Measure out red (rt) wire from fan relay to fan motor. Produce connections as shown in wiring diagram.

- 1 Black (sw) wire from K3/30
- 2 Red (rt) wire from fan motor
- 3 Red (rt) wire from fan relay
- 4 Red (rt) wire from K3/87a



Connecting fan motor



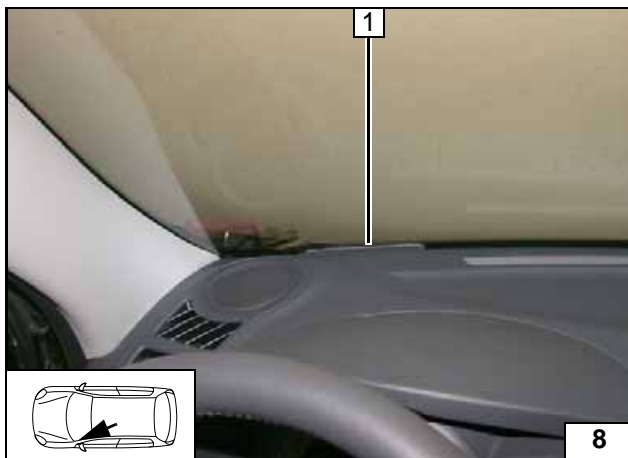
Telestart remote option

Drill bracket of receiver 3 at position 1 to 6.5 mm dia.

- 1 Original vehicle bolt, existing threaded hole
- 2 Receiver

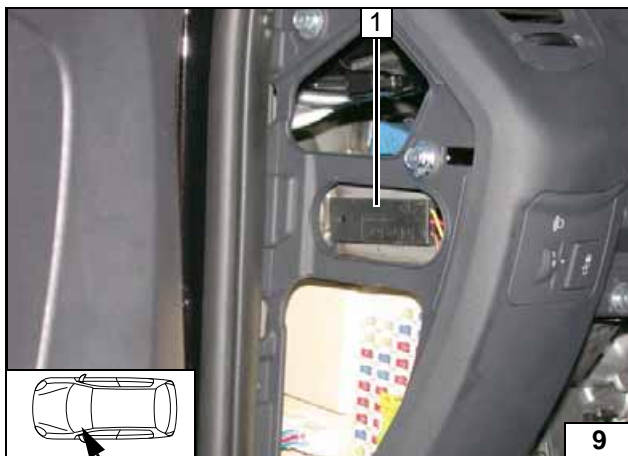


Installing receiver



- 1 Antenna

Installing antenna

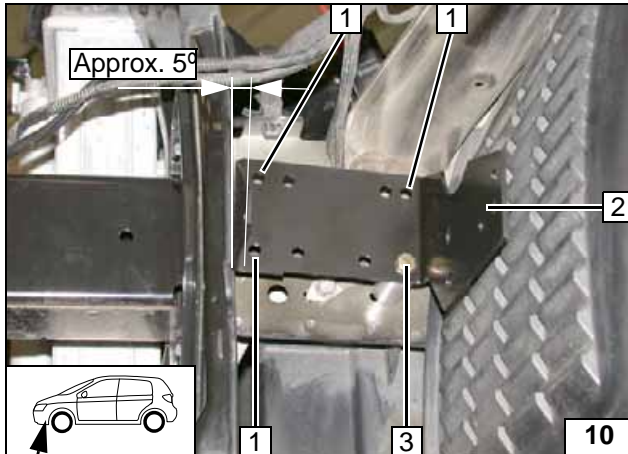
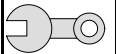


Temperature sensor T100 HTM

Fasten temperature sensor 1 with adhesive tape!



Installing temperature sensor



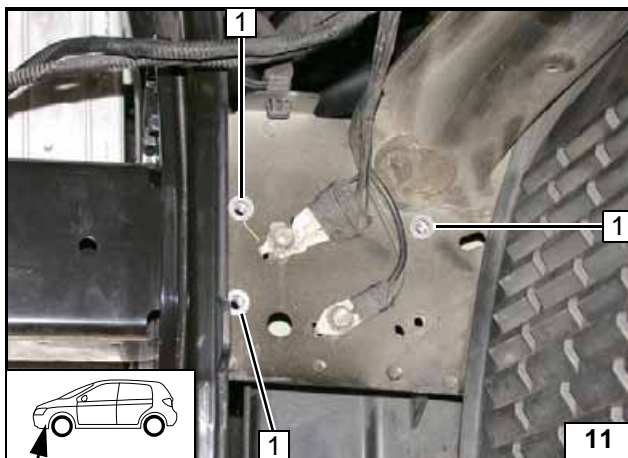
Preparing installation location

Install loosely and align bracket 2.

- 1 Copy hole pattern [3x]
- 3 M6x60 bolt, spring lockwasher, 40 mm shim, existing threaded hole



Copying hole pattern

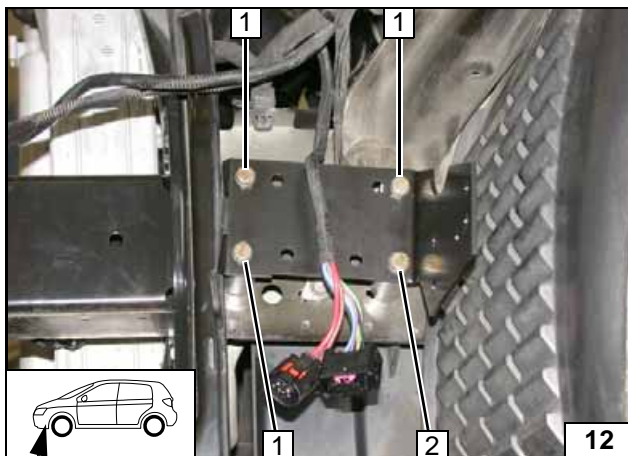


Dismantling bracket Please observe component lying behind the hole while drilling.

- 1 Dia. 9.1 mm hole; rivet nuts [3x each]

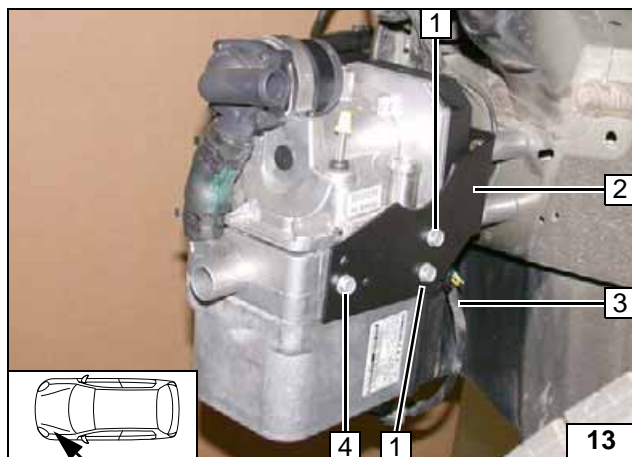
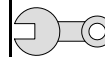


Installing rivet nut



- 1 M6x60 bolt, spring lockwasher, 40 mm shim [3x each]
- 2 M6x60 bolt, spring lockwasher, 40 mm shim, existing threaded hole

Installing bracket



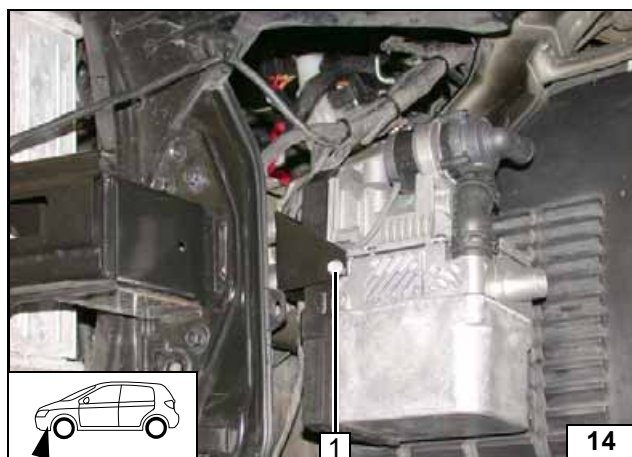
Installing heater

Before installing, connect wiring harness 3 on heater. Insert two washers between heater 2 and bracket at position 4.

- 1 Ejet screw [2x]
- 4 Ejet screw, washer [2x]

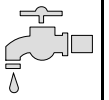


Installing heater



- 1 Ejet screw

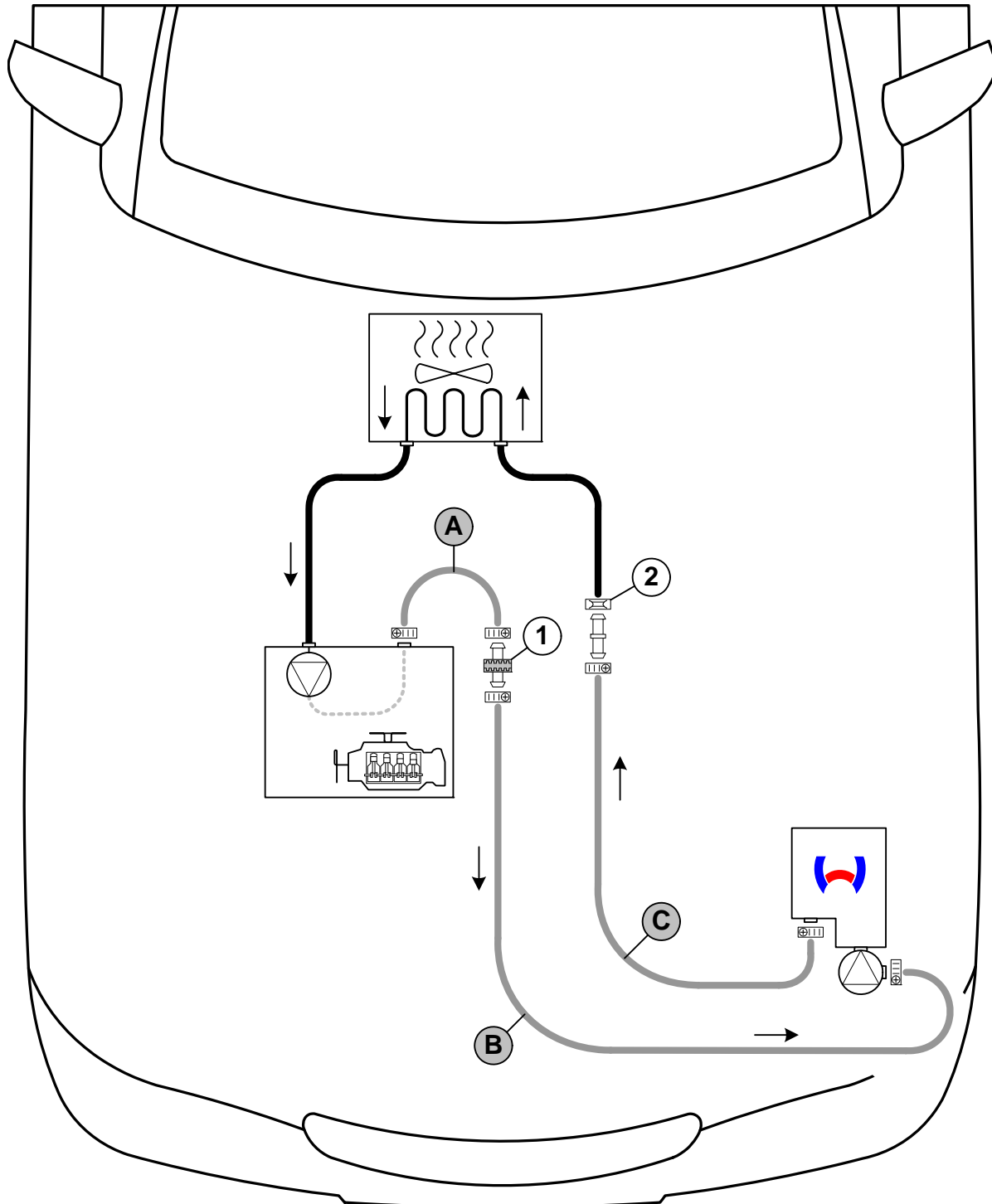
Installing heater



Coolant circulation gasoline

WARNING!

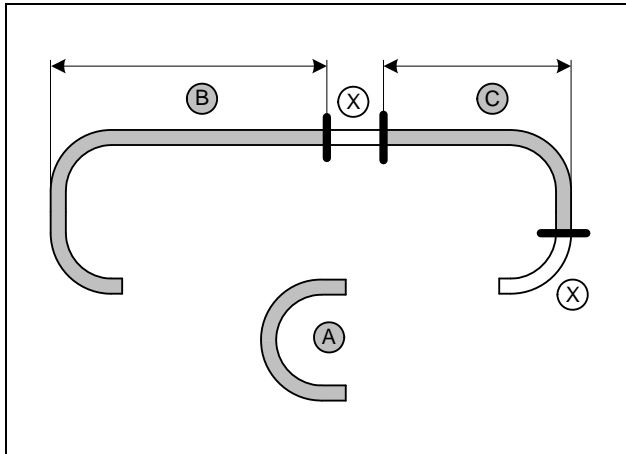
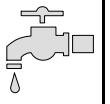
Any coolant running off should be collected using an appropriate container! Install hoses so that they are kink-free. Unless specified otherwise, always fasten using cable ties. Position clamps so that no other hose can be damaged! When installing the hoses, the heater must be filled with coolant. The connection should be "inline" based on the following diagram:



Hose installation diagram

All connecting pipes = 18x20 mm dia.! **2**= Original vehicle spring clip !
 All hose clamps = 20-27 mm dia. **1** = Black (sw) rubber isolator



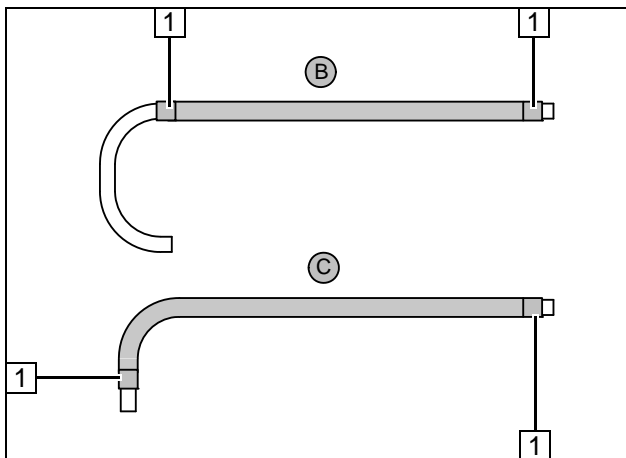


Discard section **X**
 Hose **A** =180°, 18x18 moulded hose
 Hose **B** with long 90° bend

B = 940
 C = 920



Cutting coolant hoses to length

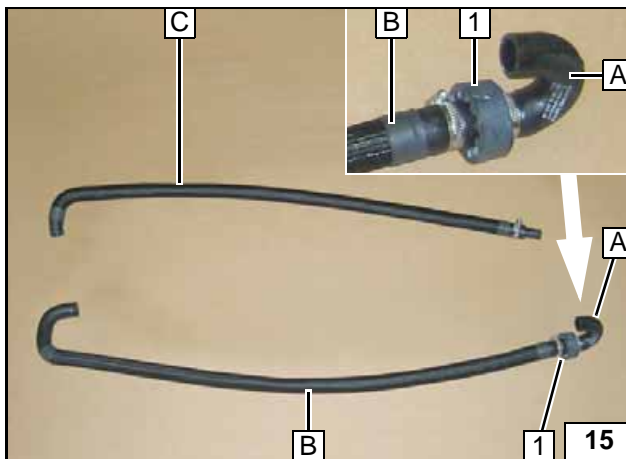


Push braided protection hose onto hose **B** and **C** and cut to length.
 Cut heat shrink plastic tubing to length.

1 Heat shrink plastic tubing, length 25mm [4x]



Preparing coolant hoses

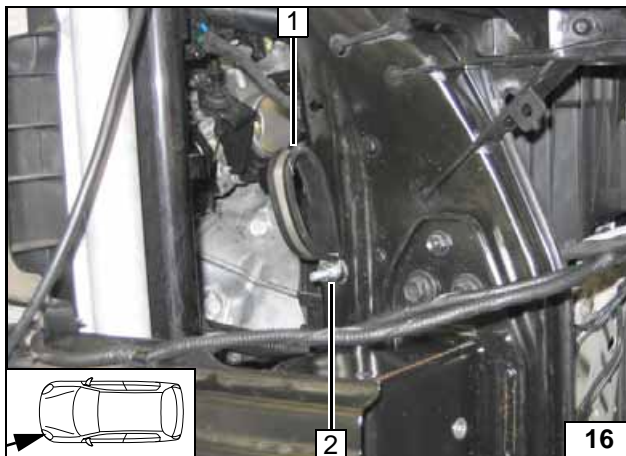


Connect hose **A** and **B**.

1 Black (sw) rubber isolator



Preparing coolant hoses

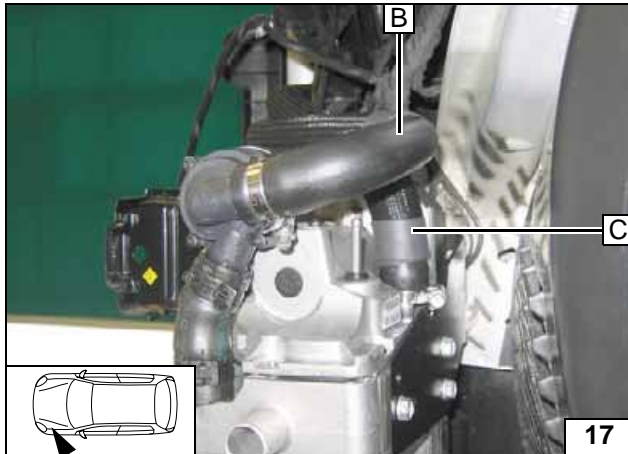


Mould pipe clamp as shown!

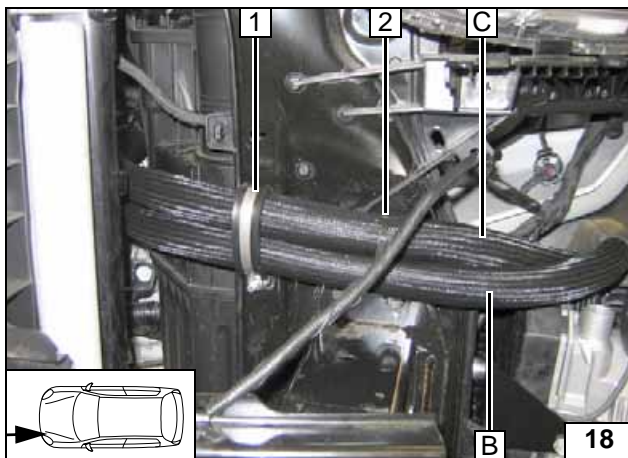
1 Rubber-coated pipe clamp, 48 mm dia.
2 M6x20 bolt, flanged nut, existing hole



Installing p-clamps

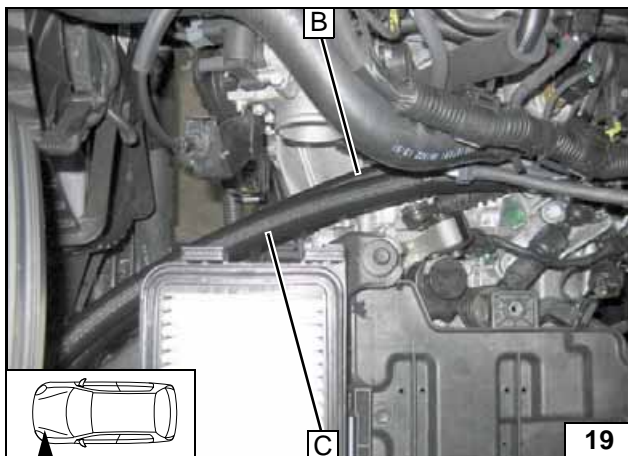


Connect-
ing heater

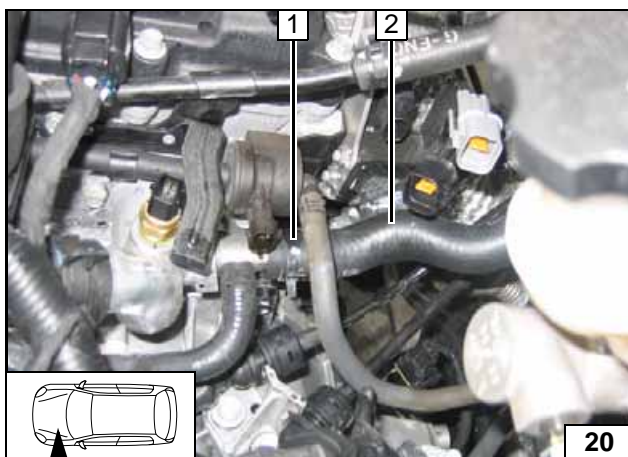


1 Rubber-coated pipe clamp, 48 mm dia.
2 Cable tie

Install-
ation in the
engine compart-
ment



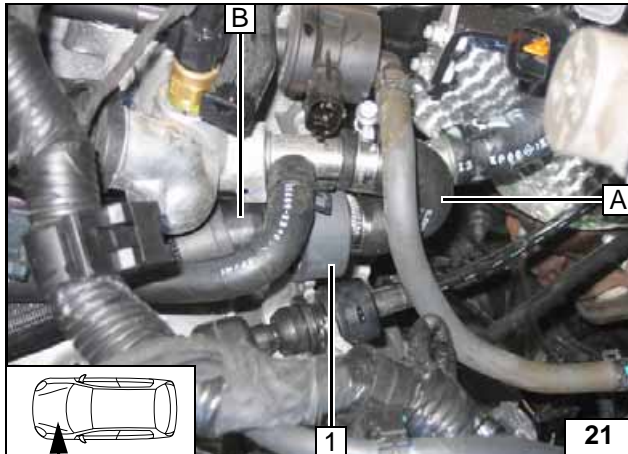
Routing in
engine compart-
ment



Remove heat exchanger inlet hose 2 on en-
gine outlet connection piece. Spring clip 1 will
be reused.

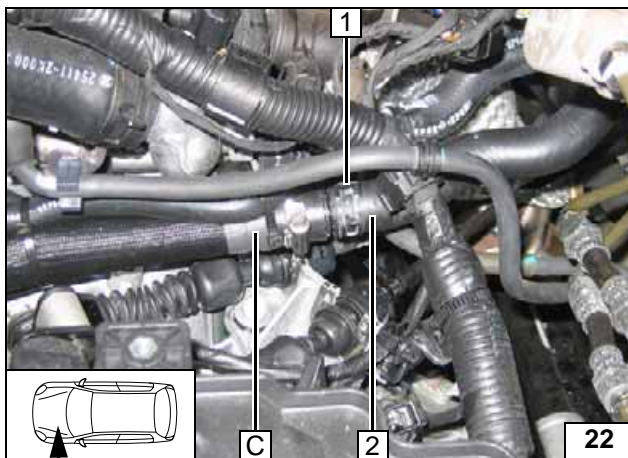


Cutting
point



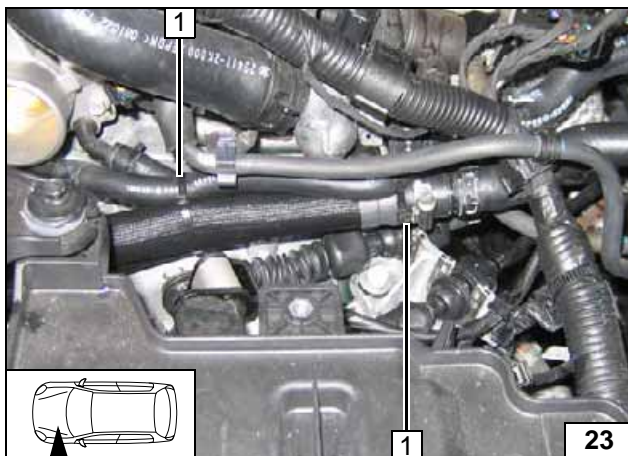
1 Position black (sw) rubber isolator

Connect-
ing engine
outlet



1 Original vehicle spring clip
2 Hose on heat exchanger inlet

Connect-
ing heat
exchanger
inlet

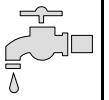


Ensure sufficient distance to neighbouring components.

1 Cable tie [2x]



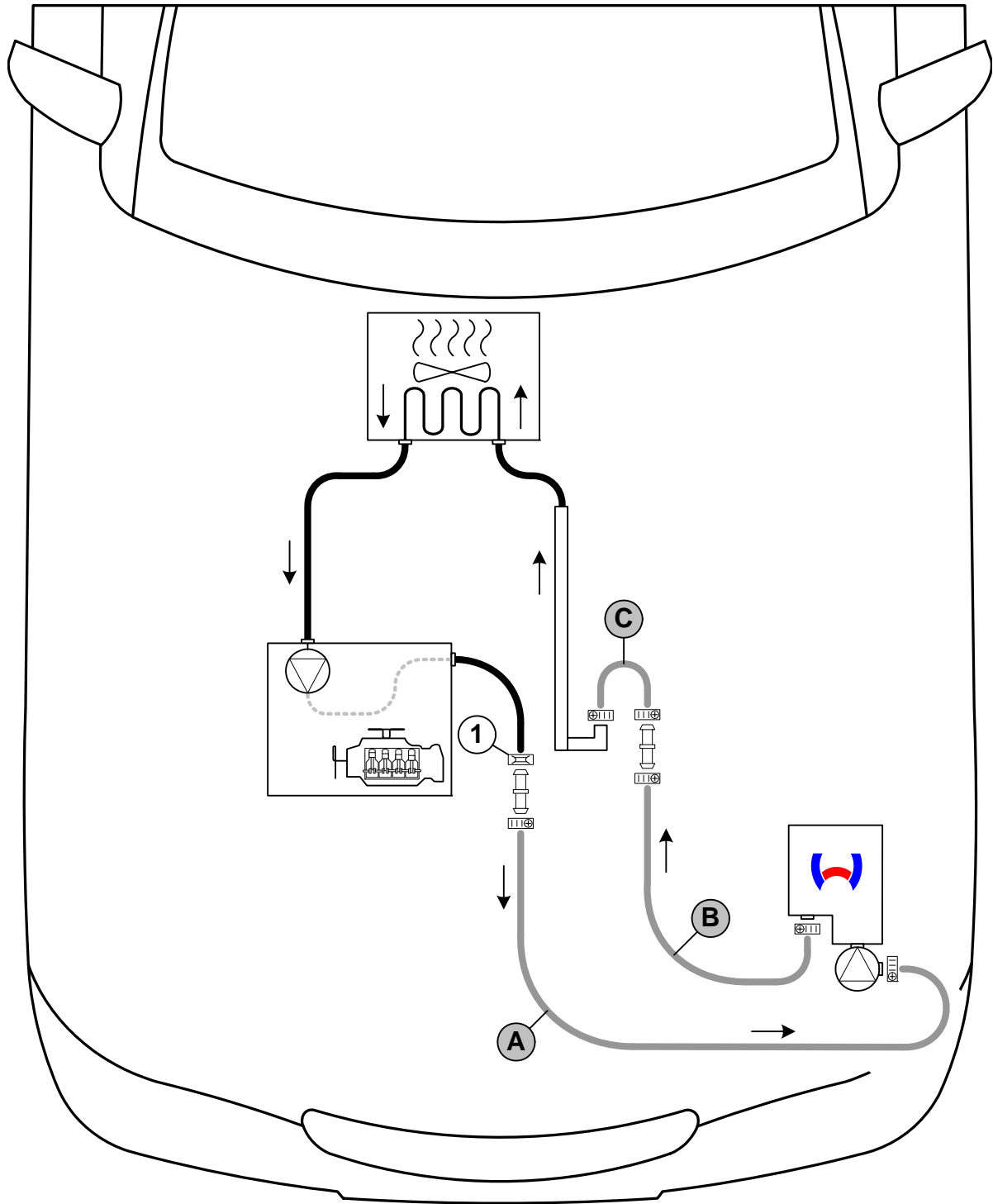
Fastening
hoses



Coolant circulation, diesel

WARNING!

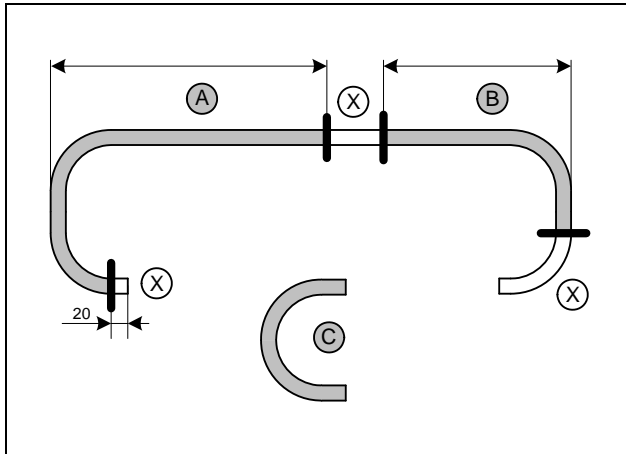
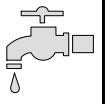
Any coolant running off should be collected using an appropriate container! Install hoses so that they are kink-free. Unless specified otherwise, always fasten using cable ties. Position clamps so that no other hose can be damaged! When installing the hoses, the heater must be filled with coolant. The connection should be "inline" based on the following diagram:



Hose installation diagram

All connecting pipes = 20x20 mm dia. 1= Original vehicle spring clip !
 All hose clamps = 20-27 mm dia.



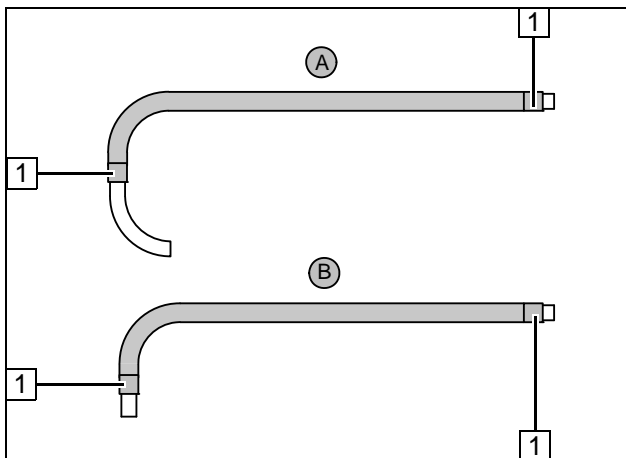


Discard section **X**
 Hose **C** = 180°, 20x20 moulded hose
 Hose **B** with long 90° bend
 Shorten hose **A**.

A = 750
 B = 750



Cutting coolant hoses to length

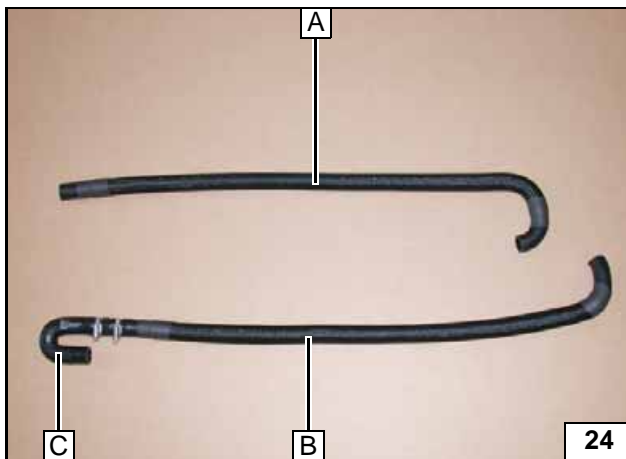


Push braided protection hoses onto hose **A** and **B** and cut to length.
 Cut heat shrink plastic tubing to length.

1 Heat shrink plastic tubing, length 25 mm [4x]



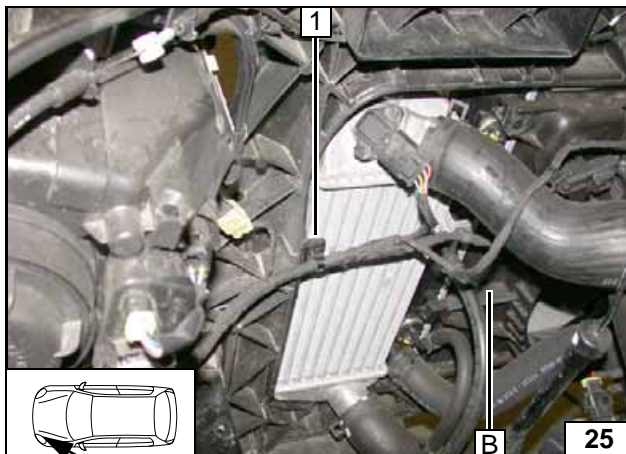
Preparing coolant hoses



Connect hoses **B** and **C**.



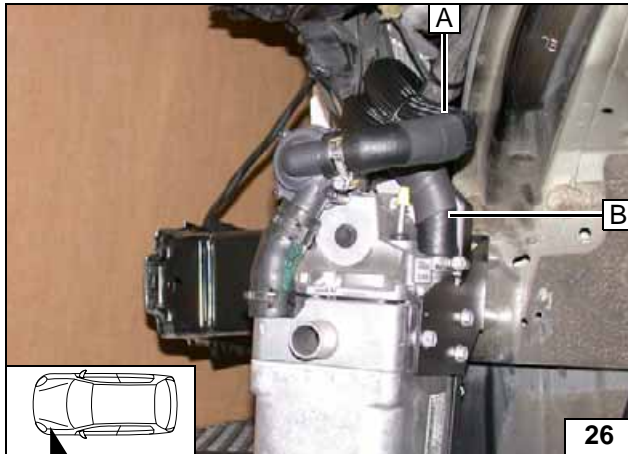
Preparing coolant hoses



Remove retaining clip **1** from original vehicle wiring harness and discard.

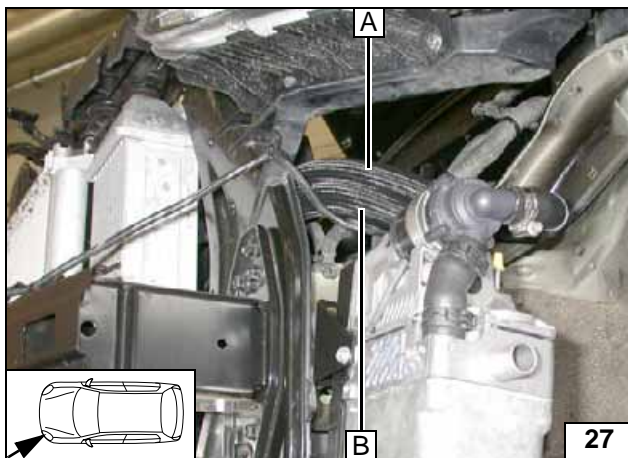


Removing retaining clip



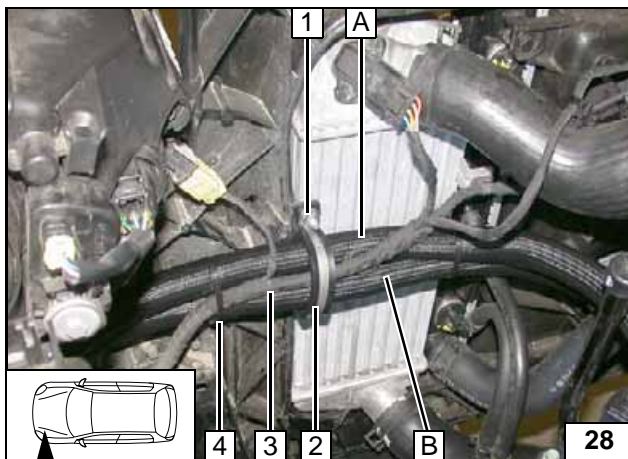
26

Connect-
ing heater



27

Installa-
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engine
compart-
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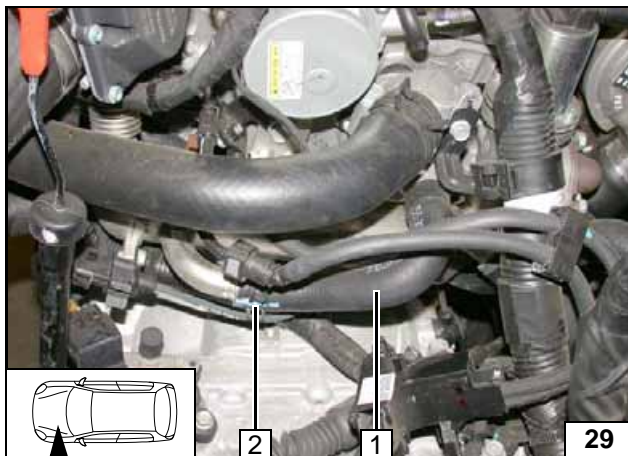
28

Route hose **A** and **B** as well as original vehicle wiring harness **3** through 48 mm dia. rubber-coated pipe clamp **2** and secure with cable tie **4**.

1 M6x20 bolt, flanged nut, existing hole



Routing in
engine
compart-
ment



29

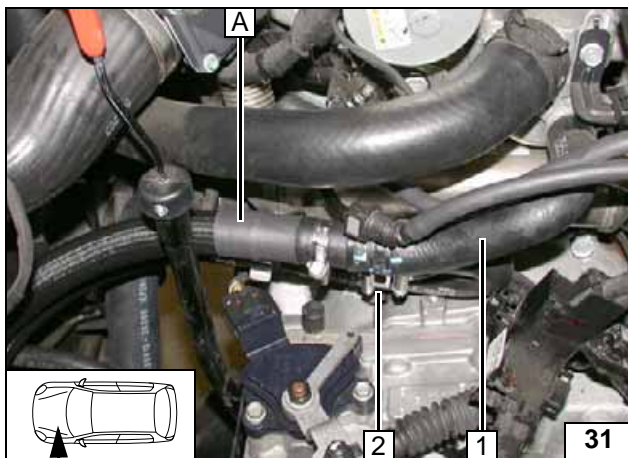
Remove engine outlet hose **2** on heat exchanger inlet connection piece. Spring clip **1** will be reused.



Cutting
point

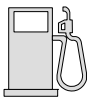


Connect-
ing heat
exchanger
inlet



- 1 Hose of engine outlet
- 2 Original vehicle spring clip

Connect-
ing engine
outlet



Fuel

CAUTION!

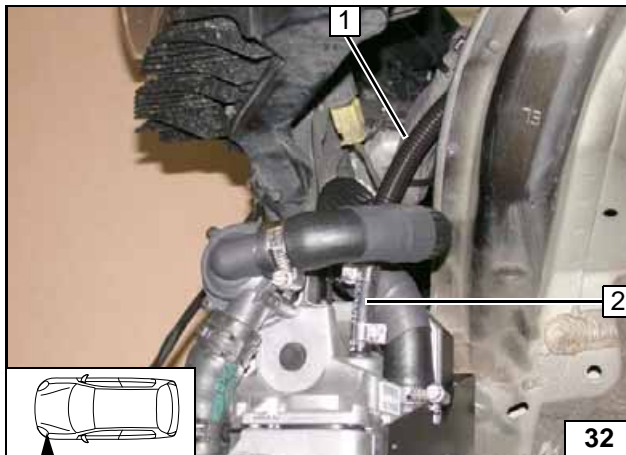
Open the vehicle's fuel tank cap, ventilate the tank and then re-close the tank lock.

Catch any fuel running off with an appropriate container.

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

WARNING!

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

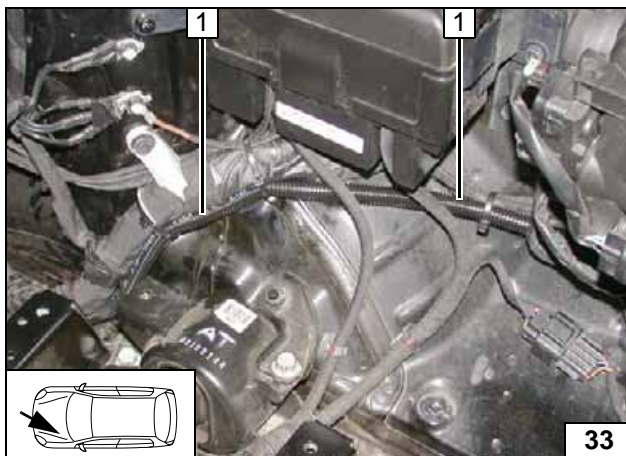


Push corrugated tube 1 on to fuel line.

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



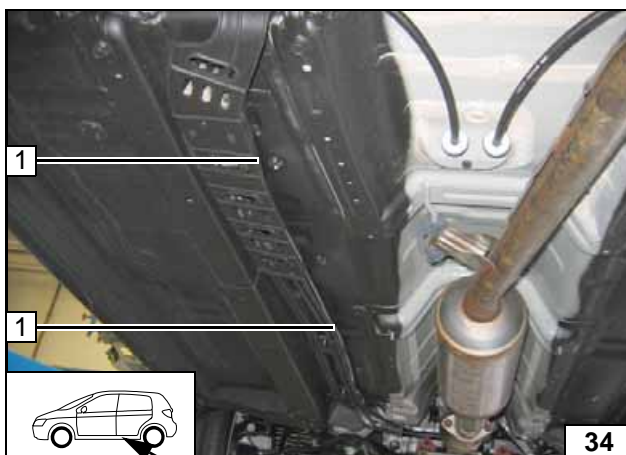
Connecting heater



Route fuel line in corrugated tube 1 to underbody.



Installing lines



Install fuel line and wiring harness of metering pump in corrugated tube 1 at installation location of metering pump.



Installing lines

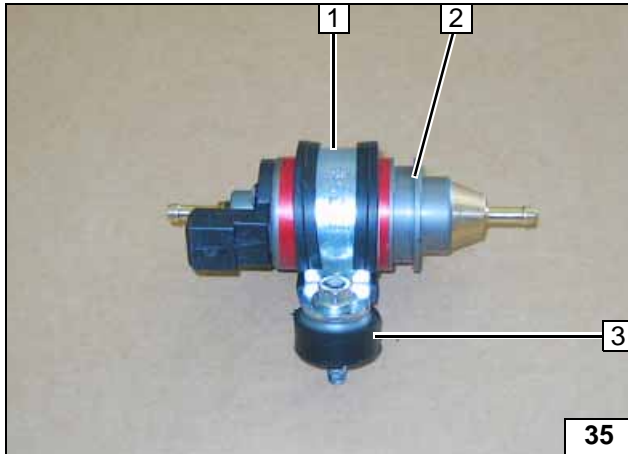
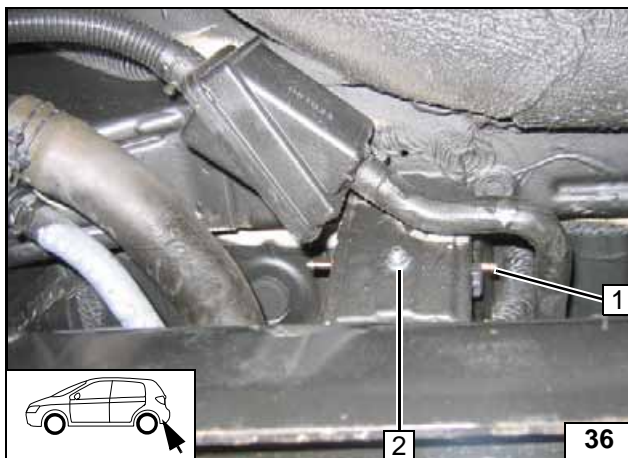


Figure shows metering pump for gasoline vehicles.

- 1 Rubber-coated pipe clamp
- 2 Metering pump
- 3 Silent block, flanged nut



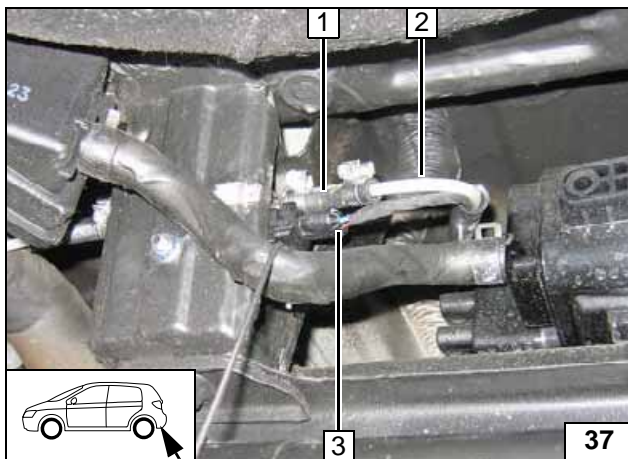
Premounting metering pump



- 1 Metering pump
- 2 Flanged nut, existing hole



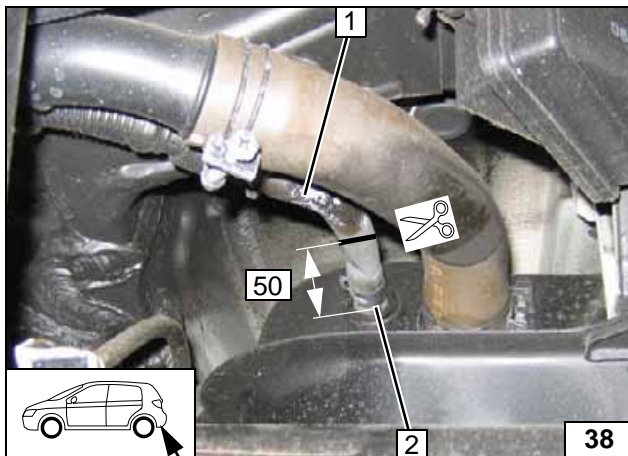
Installing metering pump



- 1 Hose section, 10 mm dia. clamp [2x]
- 2 Fuel line
- 3 Wiring harness of metering pump, connector mounted



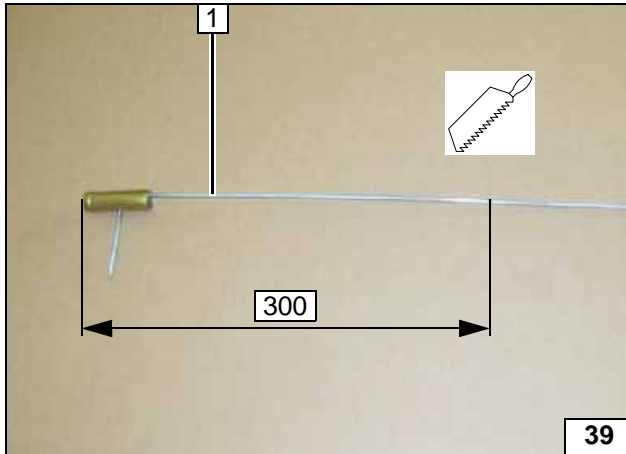
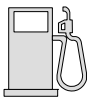
Connecting metering pump



Separate fuel tank vent line 1 approx. 50 mm before the fuel tank connection piece. Original vehicle spring clip 2 will be reused.

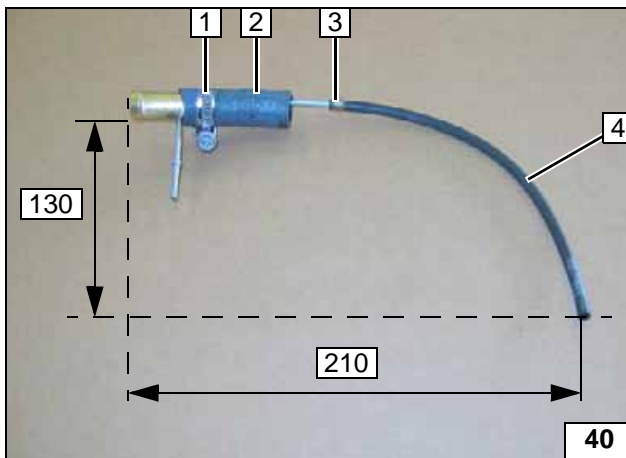


Removing fuel



1 Fuel standpipe

Cutting fuel tank standpipe to size

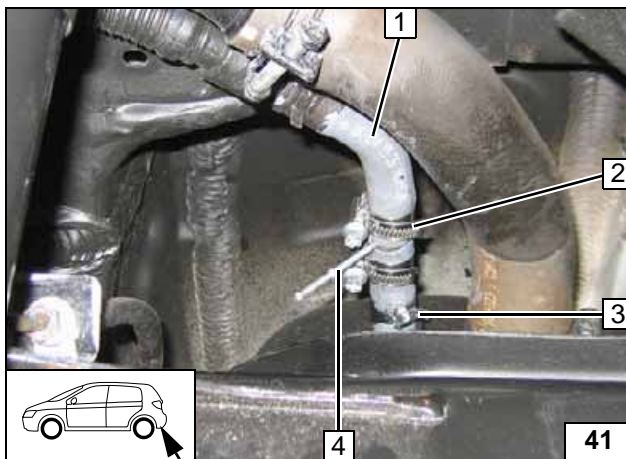


Slide fuel hose 4 on to fuel standpipe (projection at end is 2mm) and fasten with 6.6 mm dia. pipe clamp 3.



- 1 27 mm dia. hole
- 2 Venting line of hose section

Preparing fuel standpipe

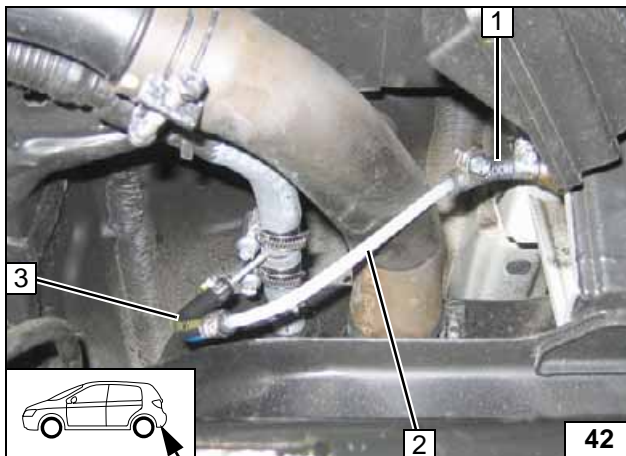


Insert fuel standpipe 4 in the venting line 1 carefully. Route fuel standpipe 4 through hole in baffle plate and align to fuel tank floor!



- 2 27 mm dia. hole
- 3 Original vehicle clamp

Installing fuel standpipe

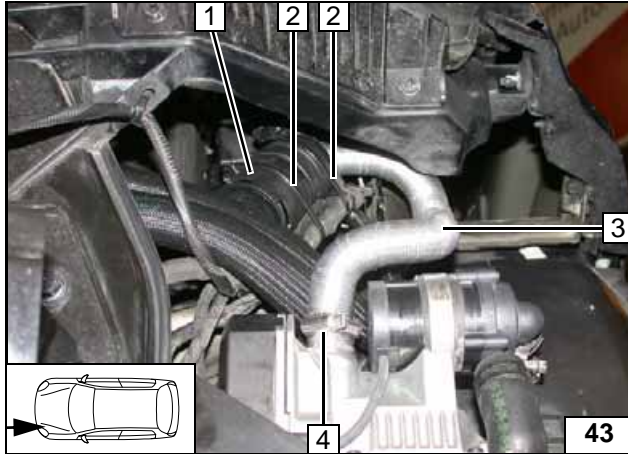
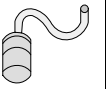


Check the position of the components; adjust if necessary. Check that they have free clearance.



- 1 Hose section, 10 mm dia. clamp [2x]
- 2 Fuel line
- 3 90° moulded hose, 10 mm dia. clamp [2x]

Connecting metering pump



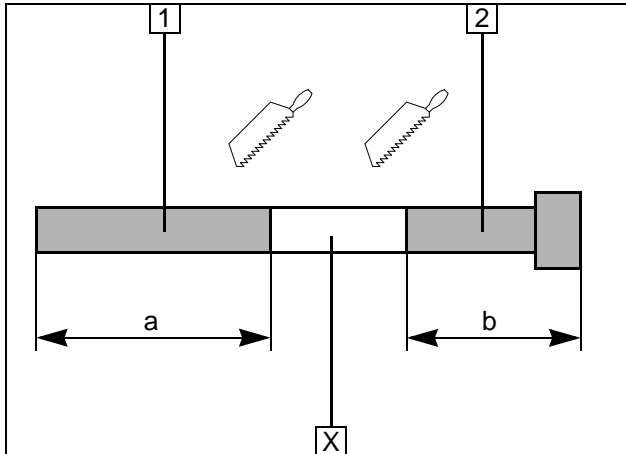
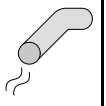
Combustion air

Fasten muffler **1** with cable tie **2** [2x] on to original vehicle wiring harness.

- 3** Combustion air pipe
- 4** 27 mm dia. clamp



Installing muffler

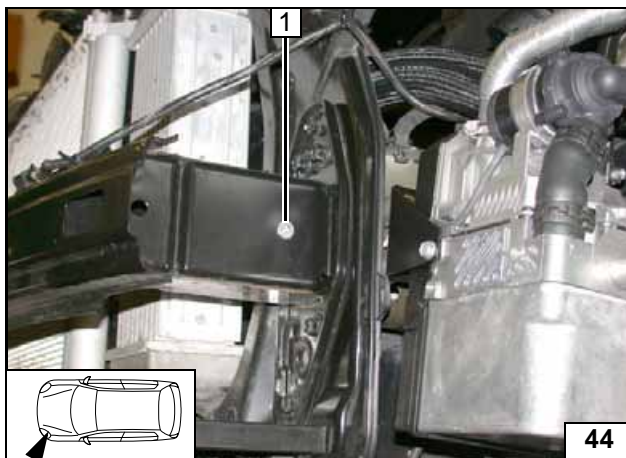


Exhaust gas

Discard section X

- 1 Exhaust pipe
a = 440
- 2 Exhaust end section
b = 310

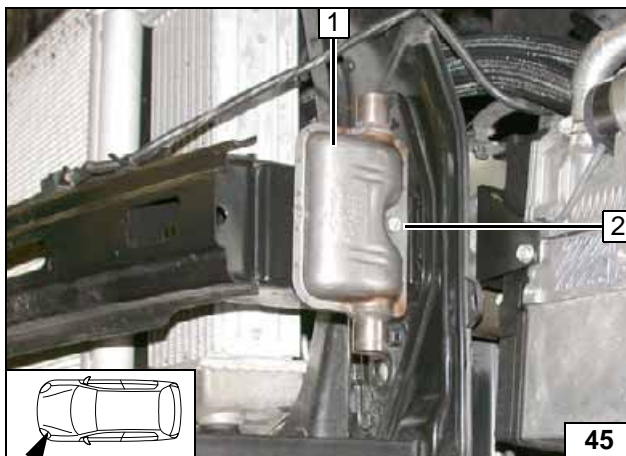
Preparing exhaust pipe



Drill out existing hole to 9.1 mm dia.

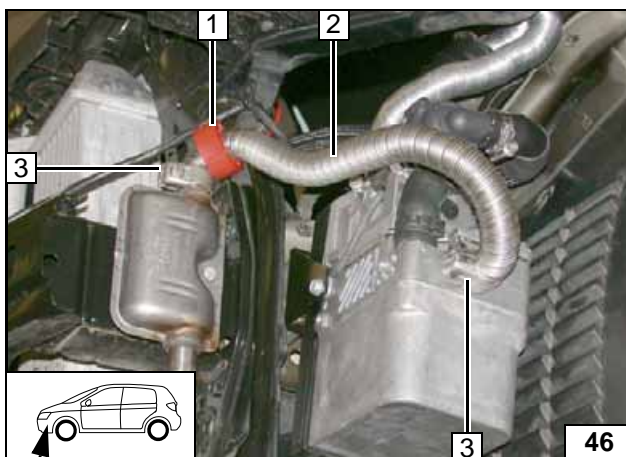
- 1 Rivet nut

Installing rivet nut



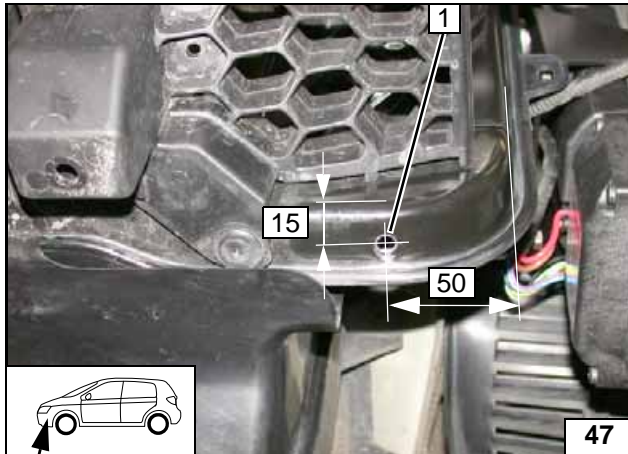
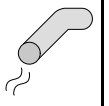
- 1 Muffler
- 2 M6x50 bolt, 30 mm shim

Installing muffler



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

Installing exhaust pipe

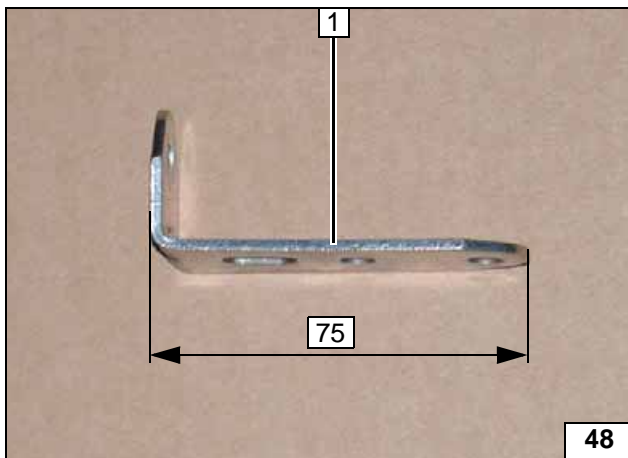


Please observe component lying behind the hole while drilling.

1 7 mm dia. hole



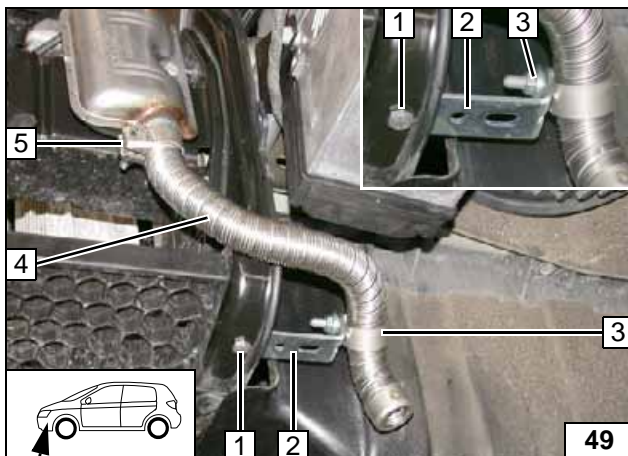
Drilling for



Bend perforated bracket 1 by approx. 90°!

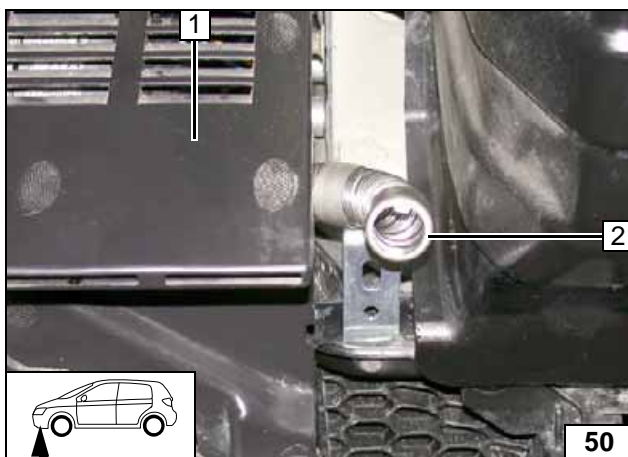


Angling down perforated bracket



- 1 M6x20 bolt, flanged nut
- 2 Perforated bracket
- 3 M6x20 bolt, pipe clamp, flanged nut
- 4 Exhaust end section
- 5 Hose clamp

Installing exhaust gas end-section

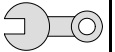


Installing underside protection 1 Ensure sufficient distance to neighbouring components, correct if necessary.

2 Exhaust end section



Aligning exhaust gas end-piece



Final Work

WARNING!

Reassemble the disassembled components in reverse order.

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

Secure all loose cables using cable ties.

Only use manufacturer-approved coolant.

Spray the heater 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 parking heater, see the operating instructions/installation instructions.
- Place signboard "Switch off parking heater before refuelling" in the area of the filling connection pieces



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Operating Instructions for the End Customer

Please remove page and add to the vehicle operating instructions.

Note:

We recommend matching the heating time to the driving time.

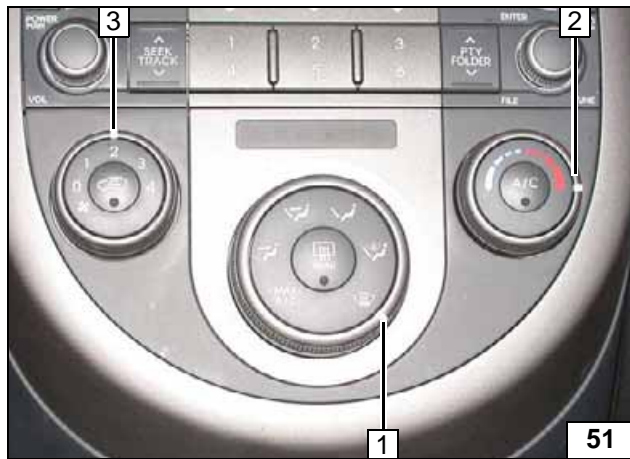
Heating time = driving time

Example:

For a driving time of approx. 20 min. (in one direction), we recommend not exceeding a switch-on time of 20 min.

The passenger compartment monitoring is to be disabled for vehicles with burglar alarm.
For instructions on deactivation, please refer to the operating instructions of the vehicle!

Before parking the vehicle, make the following settings:



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

Manual air
condition-
ing