Water Heater

Webasto
Feel the drive

Thermo Top C Parking Heater

e1
00 0002

Installation documentation

Opel
Astra / Astra Caravan / Astra GTC / Astra Twin Top

Petrol and Diesel
from Model Year 2004
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, 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.

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

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

Ident. No.: 1303051H_EN Fee Euro 10.00

Table of Contents

Validity

Manufacturer	Model	Type	EG-BE-No. / ABE
Opel	Astra H	A-H	e1*2001 / 116*0261
Opel	Astra H	A-H	e1*2001 / 116*0293
Opel	Astra H Twin Top	A-H/C	e4*2001 / 116*0094

Engine type	Engine model	Output in kW	Displacement in cm³
Z14XEL	Petrol	55	1364
Z14XEP	Petrol	66	1364
Z16XEP	Petrol	77	1598
Z16XER	Petrol	85	1598
Z16LET	Petrol	132	1598
Z18XER	Petrol	103	1796
Z18XE	Petrol	92	1796
Z20LEH	Petrol (OPC)	177	1998
Z20LEL	Petrol	125	1998
Z20LER	Petrol	147	1998
Z13DTH	Diesel	66	1248
Z17DTL	Diesel	59	1686
Z17DTH	Diesel	74	1686
Z17DTJ	Diesel	81	1686
A17DTJ	Diesel	81	1686
Z17DTR	Diesel	92	1686
A17DTR	Diesel	92	1686
Z19DTL	Diesel	74	1910
Z19DT	Diesel	88	1910
Z19DTH	Diesel	110	1910

Vehicle models, engine types, equipment variants as well as national specifications, which are not listed in this installation documenation, 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	Opel-specific delivery scope *Thermo Top C* Petrol	83343D
	Opel Catalogue No.:	1734010
1	Opel-specific delivery scope *Thermo Top C* Diesel	83344D
	Opel Catalogue No.:	1734011

Also required:

Quantity	Designation	Order No.:
1	Installation kit for Opel Astra 2004 Petrol and Diesel	1303047F
	Opel Catalogue No.:	1734115
1	Heater control	See Opel price list

Additionally required for 1.9 litre diesel

Quantity	Designation	Opel Order No.:
1	Bracket of vacuum valve	1734144

Foreword

This installation documentation applies to Open Astra H vehicles - for validity, see page 2 - from model year 2004 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, where this is the case the stipulations in this "installation documentation" and "operating instructions" and the "installation instructions" for the *Thermo Top C* should be observed.
The corresponding rules of technology and any information from the vehicle manufacturer should be observed during the installation work.

General Instructions

Installation should be carried out according to the general, standard rules of technology. Unless specified otherwise, fasten hoses, lines and wiring harnesses to original vehicle lines and wiring harnesses using cable ties.
Sharp edges must be provided with rub protection (cut-open fuel hose)!
Spray unfinished body areas, e.g. drilled holes, with anti-corrosion wax (Tectyl 100K, Order No. 111329).

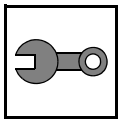
Special Tools

- Torque wrench for 2.0 - 10 Nm
- Hose clamping pliers
- Riveting pliers

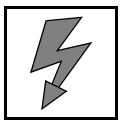
Explanatory Notes on Document

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

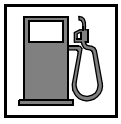


Electrical system

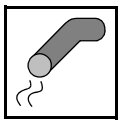


Coolant circuit

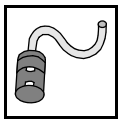
Fuel



Exhaust gas



Combustion air



Special features are highlighted using the following symbols:

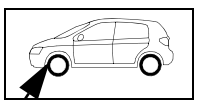
Specific risk of injury or fatal accidents.

Specific risk of damage to components.

Specific risk of fire or explosion.

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

Reference to a special technical feature.

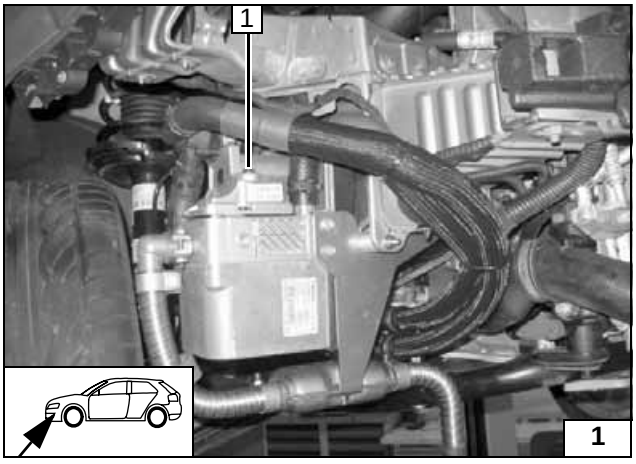


The arrow in the vehicle icon indicates the position on the vehicle and the viewing angle.

Preliminary Work

Warning!

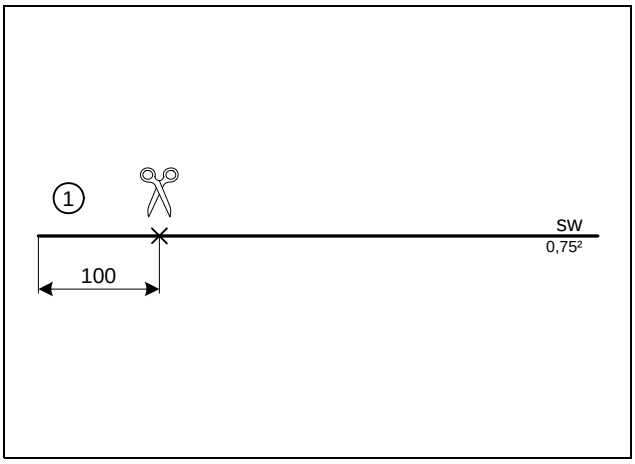
- Disconnect the battery earth connection.
- Remove the battery (only on 1.9 litre diesel vehicle).
- Depressurise the cooling system.
- Copy the factory number from the original type label to the duplicate type label.
- Remove years that do not apply from the duplicate label.
- Attach the duplicate label (type label) in the appropriate place.
- Remove the air filter together with the intake hose.
- Open the fuel tank cap and vent the fuel tank.
- Close the fuel tank cap again.
- Remove the front grill.
- Remove the bumper.
- Remove the front section of the wheel well trim on the right.
- Remove the horns.
- Remove the vacuum valve (only on 1.9 litre diesel vehicle).
- Remove the underride protection (depending on vehicle equipment).
- Remove the rear bench seat.
- Remove the service cover of the fuel-tank sending unit.
- Remove the lower instrument panel trim on the driver's side.
- Remove the glove compartment (only on vehicles with manual air conditioning).
- Remove the A/C control panel (only on vehicles with automatic air-conditioning).
- Remove the A-pillar trim in the footwell on the front passenger side.
- Remove the left-hand door sill cover completely (only on vehicles with alarm system).
- Open the cable duct under the door sill cover (only on vehicles with alarm system).



Heater installation location

(**1**) Heater

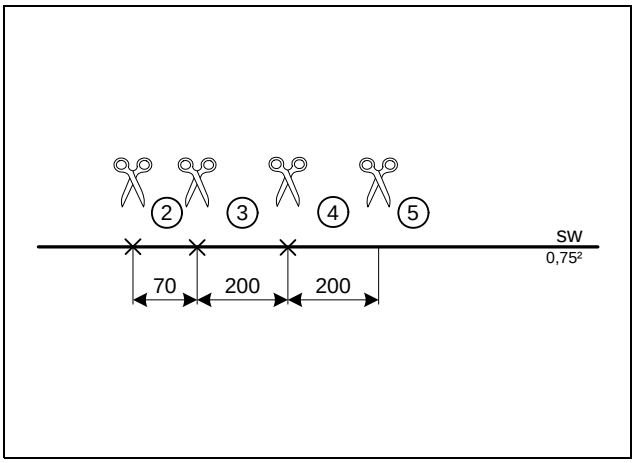
Preparing wiring harness



Vehicles with automatic air-conditioning (ECC and SAC)

Wire section **1** will be required later for connection on A/C control panel.

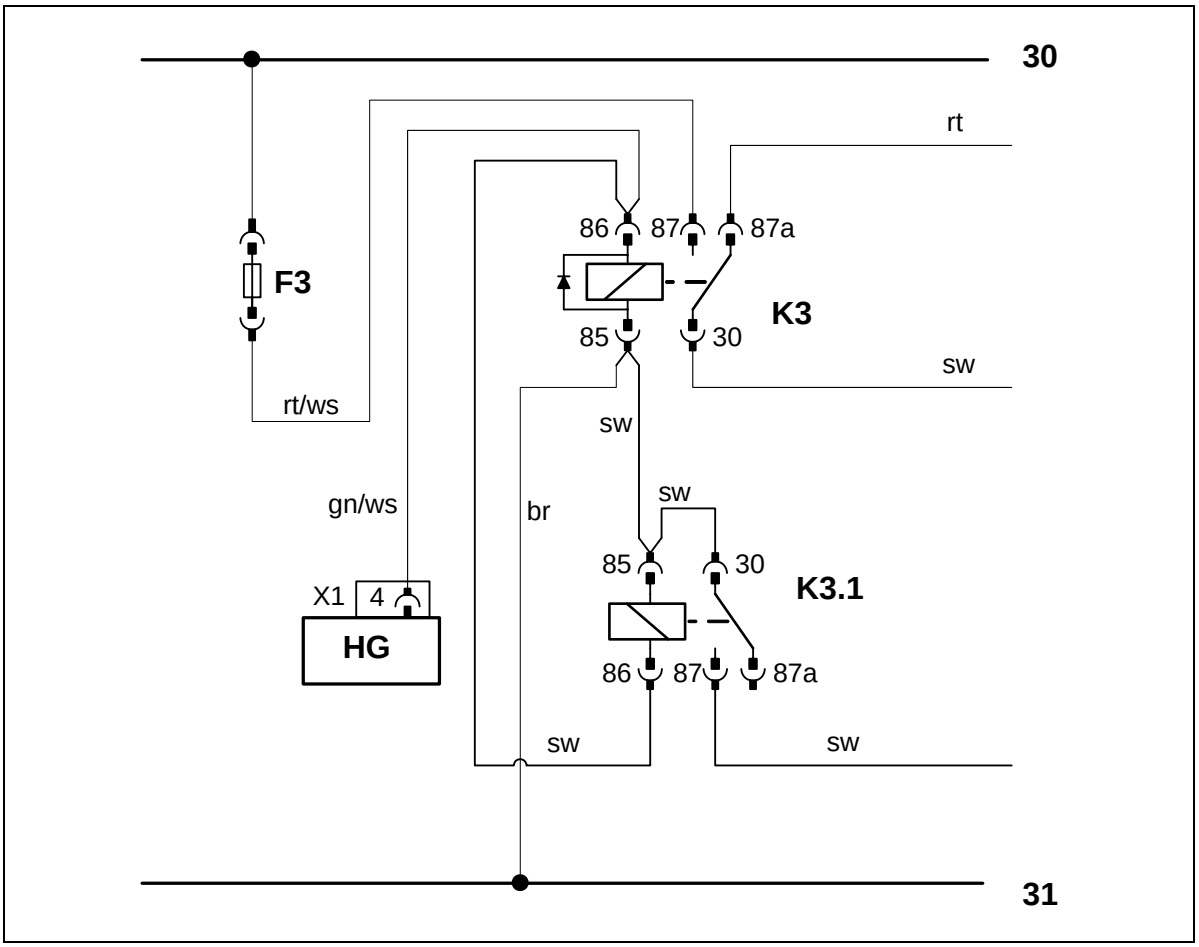
Cutting wires to length



Vehicles with passenger compartment monitoring

Wire sections **2, 3, 4 and 5** will be required later for switching off passenger compartment monitoring.

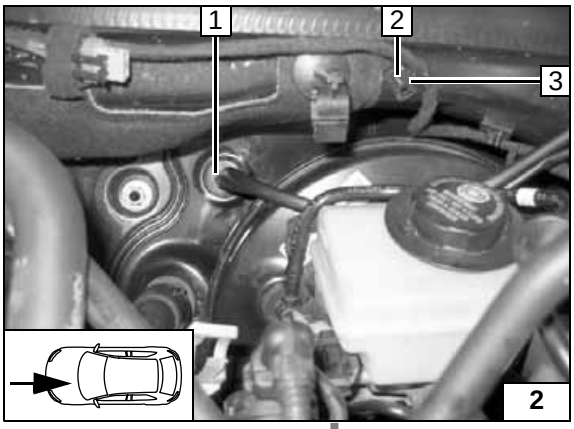
Cutting wires to length



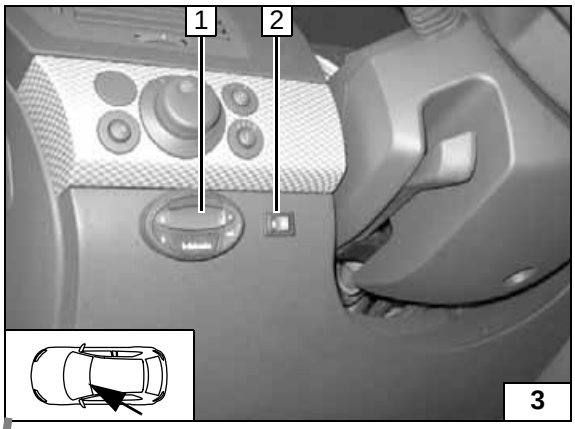
Premounting K3.1 relay with passenger compartment monitoring

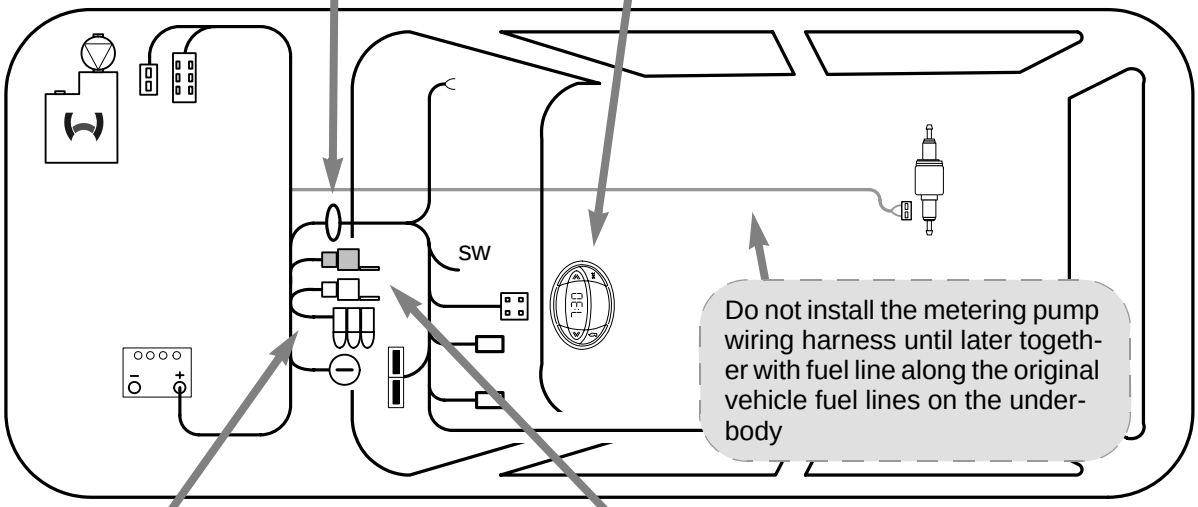
Electrical system

Wiring harness pass through
Detach bracket of wiring harness (**2**) **from stud bolt** (**3**).
(**1**) Protective rubber plug

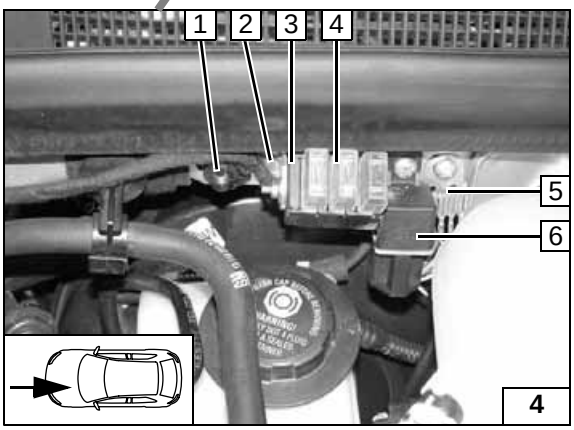


Digital timer, summer/winter switch option
(**1**) Digital timer, drilling template
(**2**) Summer/winter switch, 12 mm dia. hole

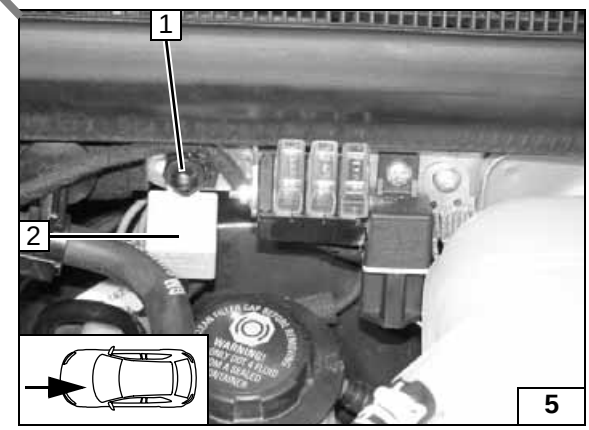




Electrical diagram



Fuse holder, K3 relay
(**1**) Original vehicle stud bolt (**2/2**), bracket of wiring harness (**2/3**), plastic nut
(**2**) Angle bracket
(**3**) Retaining plate of fuse holder, M4x10 bolt, washers, M4 nut
(**4**) Fuse holder
(**5**) Earth support point, 5.5x13 self-tapping screw
(**6**) k3 relay, 5.5x13 self-tapping screw



Additional K3.1 relay with passenger compartment monitoring
(**1**) Original vehicle stud bolt (**2/2**), bracket of wiring harness (**2/3**), K3.1 relay (**2**), plastic nut
(**2**) K3.1 relay

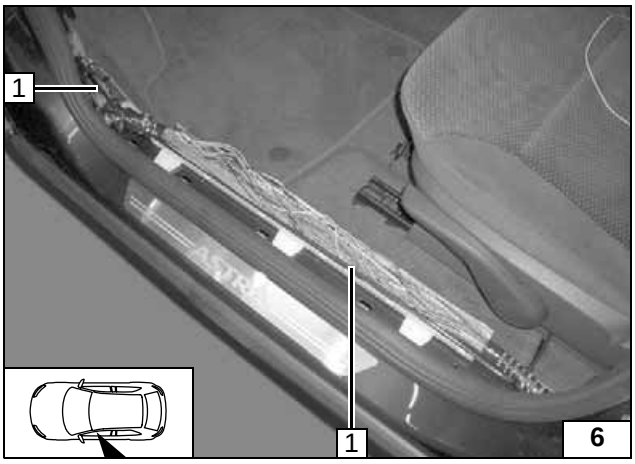
Fan control

Vehicles with passenger compartment monitoring

Push included protective sleeving onto additional line (wire section **5**) up to cable grommet in passenger compartment.
Route additional line along left-hand A-pillar in cable duct to rear

Routing additional line

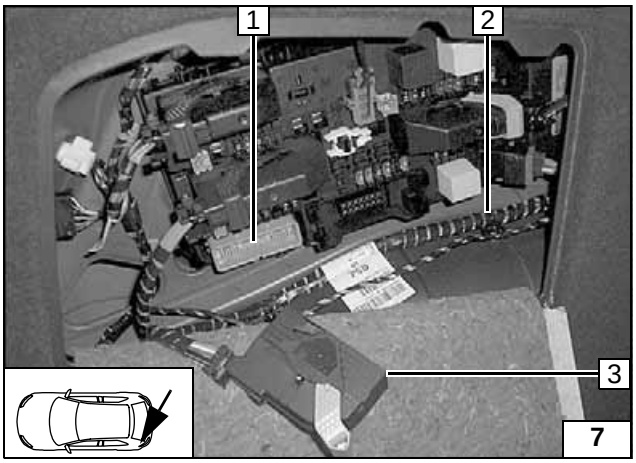
(**1**) Black (sw) 0.75 mm² wire section **5** from K3.1/87



Passenger compartment monitoring is switched off on rear zone module behind left-hand luggage compartment trim.

(**2**) Wire section **5**
(**3**) Connector X5 disconnected
(**1**) Socket of connector X5

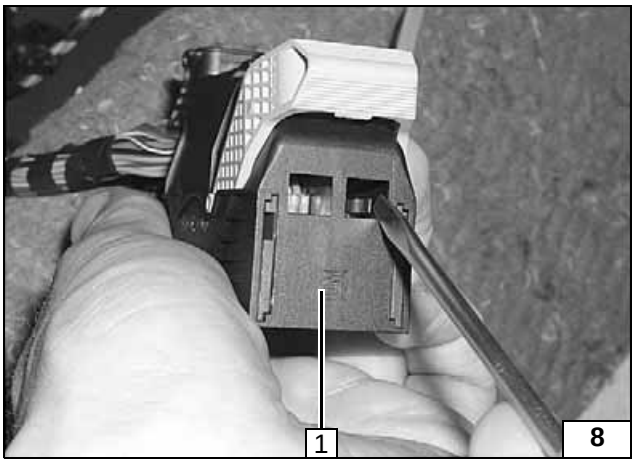
Disconnecting connector



Dismantle connector X5. Cut off front cable tie. Press both unlocking lugs toward rear with small screwdriver and pull off connector housing.

(**1**) Connector X5

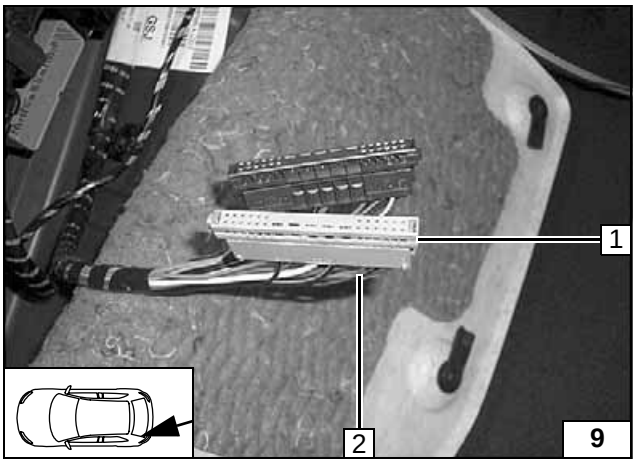
Unlocking connector



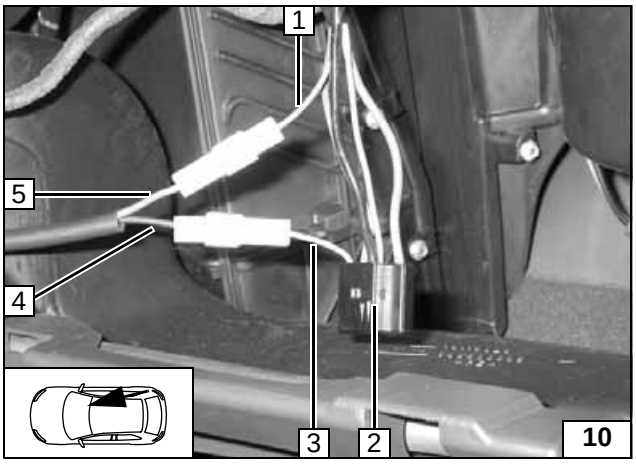
Connection on blue (bl) connector X5 from rear zone module.
Produce connections according to wiring diagram on Page 10 or 12, depending on vehicle equipment.

(**1**) Connector X5, Pin 12
(**2**) Wire section **5**

Connecting line



Passenger compartment monitoring must be reprogrammed to additional heating mode with TECH 2 tester **according to manufacturer's instructions**.

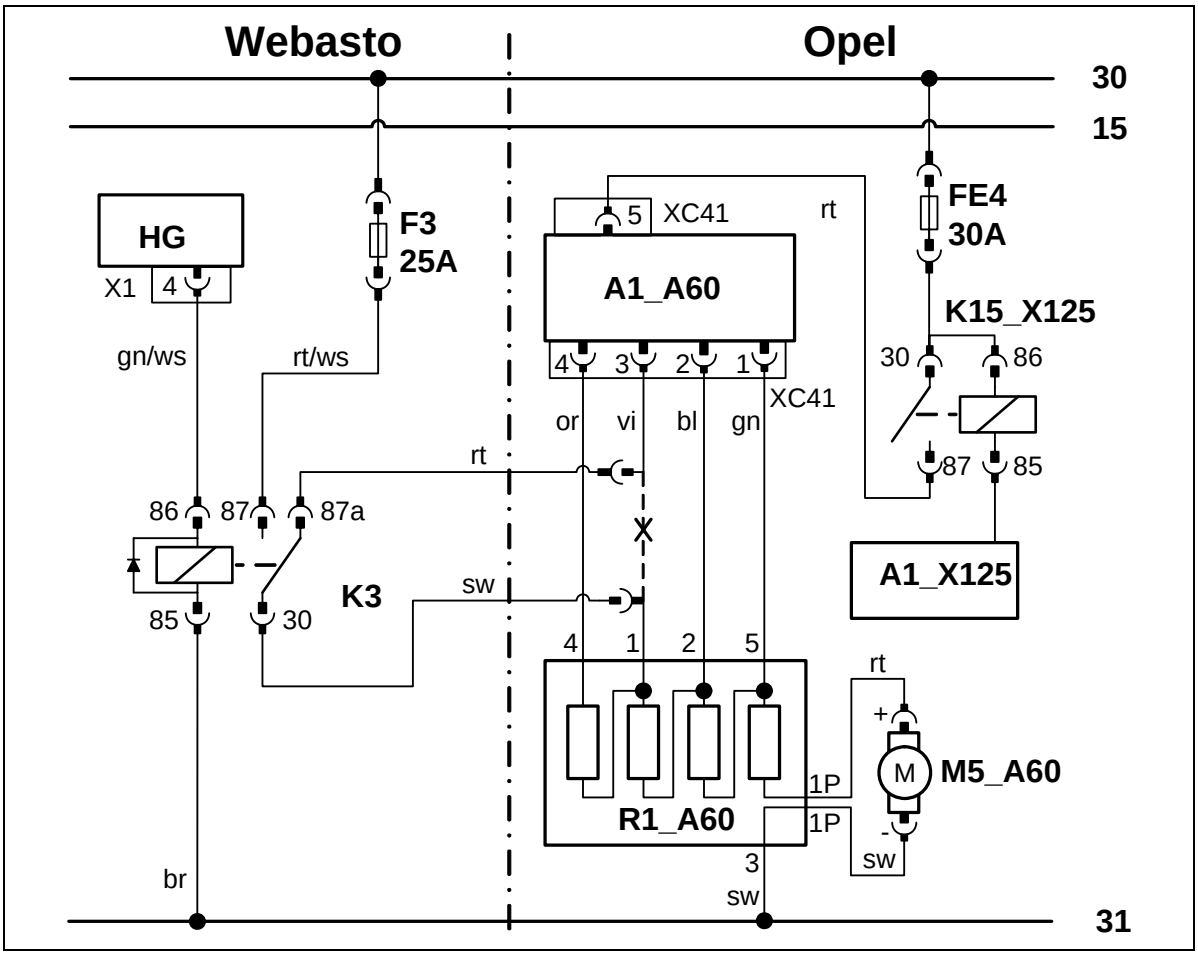


Manual air conditioning without passenger compartment monitoring

Connection on 5-pin connector of resistor group R1_A60.
Produce connections as shown in wiring diagram with blade connectors provided.

(**2**) 5-pin connector of resistor group
(**1**) Violet (vi) wire from fan controls
(**5**) Red (rt) wire from K3/87a
(**3**) Violet (vi) wire to resistor of speed 2
(**4**) Black (sw) wire from K3/30

Fan control



Wiring diagram of manual air conditioning without passenger compartment monitoring

Webasto components		Opel components		Colours and symbols	
HG	TT-C heater	FE4	Fan fuse	rt	red
X1	6-pin heater connector	K15_X125	Fan relay	ws	white
F3	Fan fuse	A1_A60	Fan controls	sw	black
K3	Fan relay	R1_A60	Resistor group	br	brown
		M5_A60	Fan motor	gn	green
				vi	violet
				or	orange
				bl	blue
				X	Cutting point
				Wiring colours may vary.	

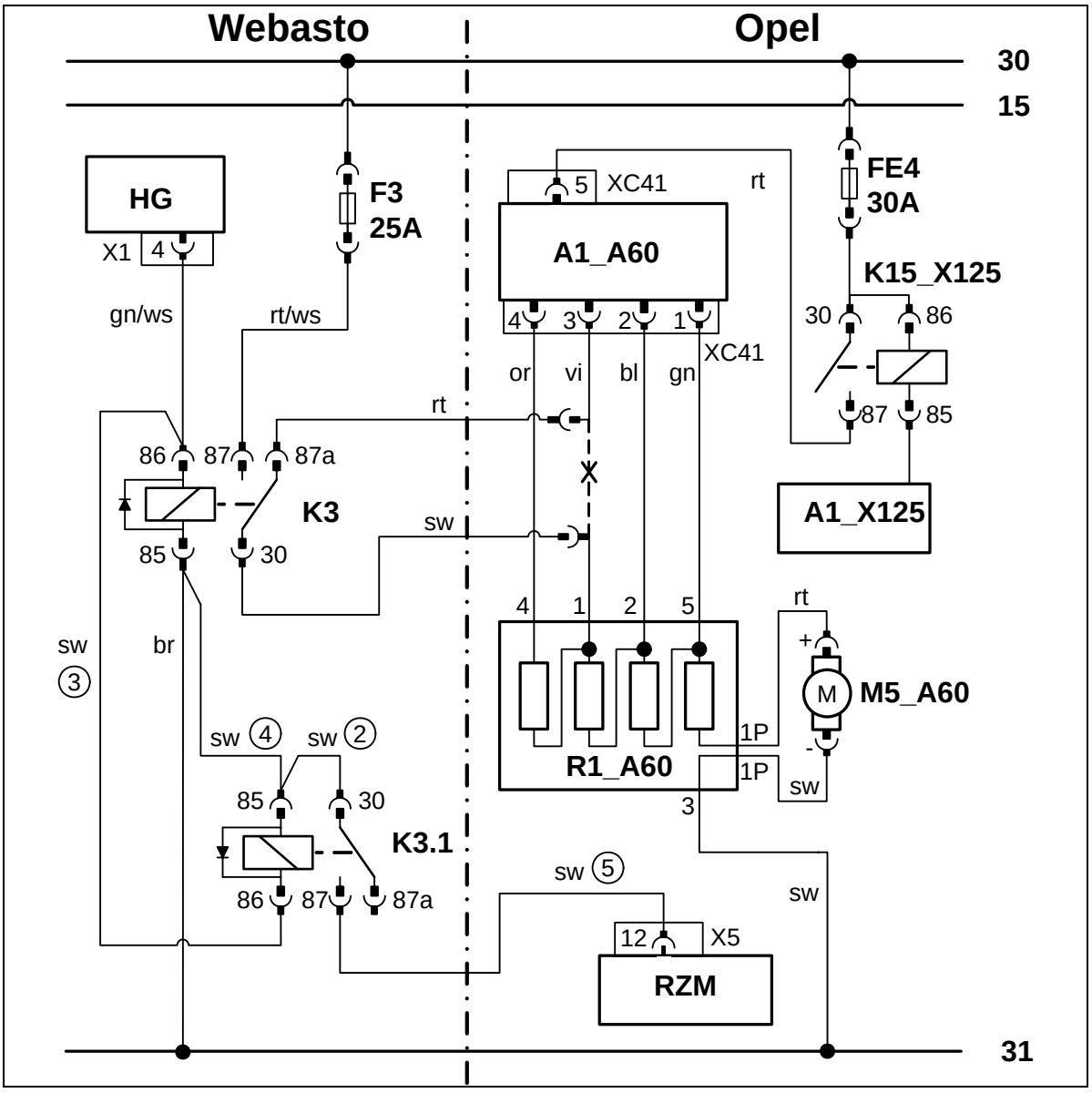
Legend

Manual air conditioning with passenger compartment monitoring

Produce connection in accordance with Figure 10 and Page 9.
Produce connections as shown in following wiring diagram with blade connectors provided.

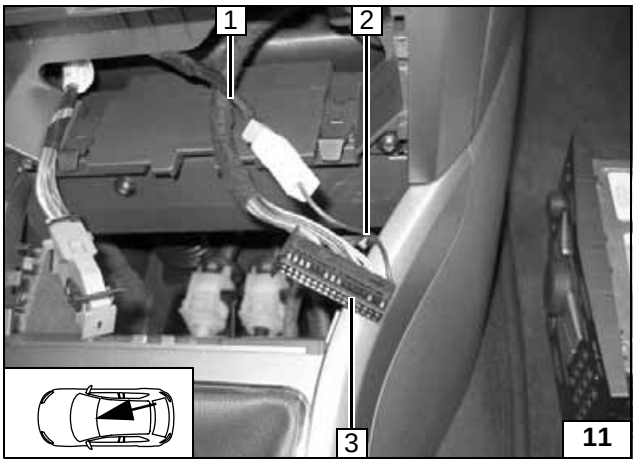
Fan control

Wiring diagram for manual air conditioning with passenger compartment monitoring



Webasto components		Opel components		Colours and symbols	
HG	TT-C heater	FE4	Fan fuse	rt	red
X1	6-pin heater connector	K15_X125	Fan relay	ws	white
F3	Fan fuse	A1_A60	Fan controls	sw	black
K3	Fan relay	R1_A60	Resistor group	br	brown
K3.1	Additional relay	M5_A60	Fan motor	gn	green
		RZM	Rear zone module	vi	violet
				or	orange
				bl	blue
				X	Cutting point
				Wiring colours may vary.	

Legend

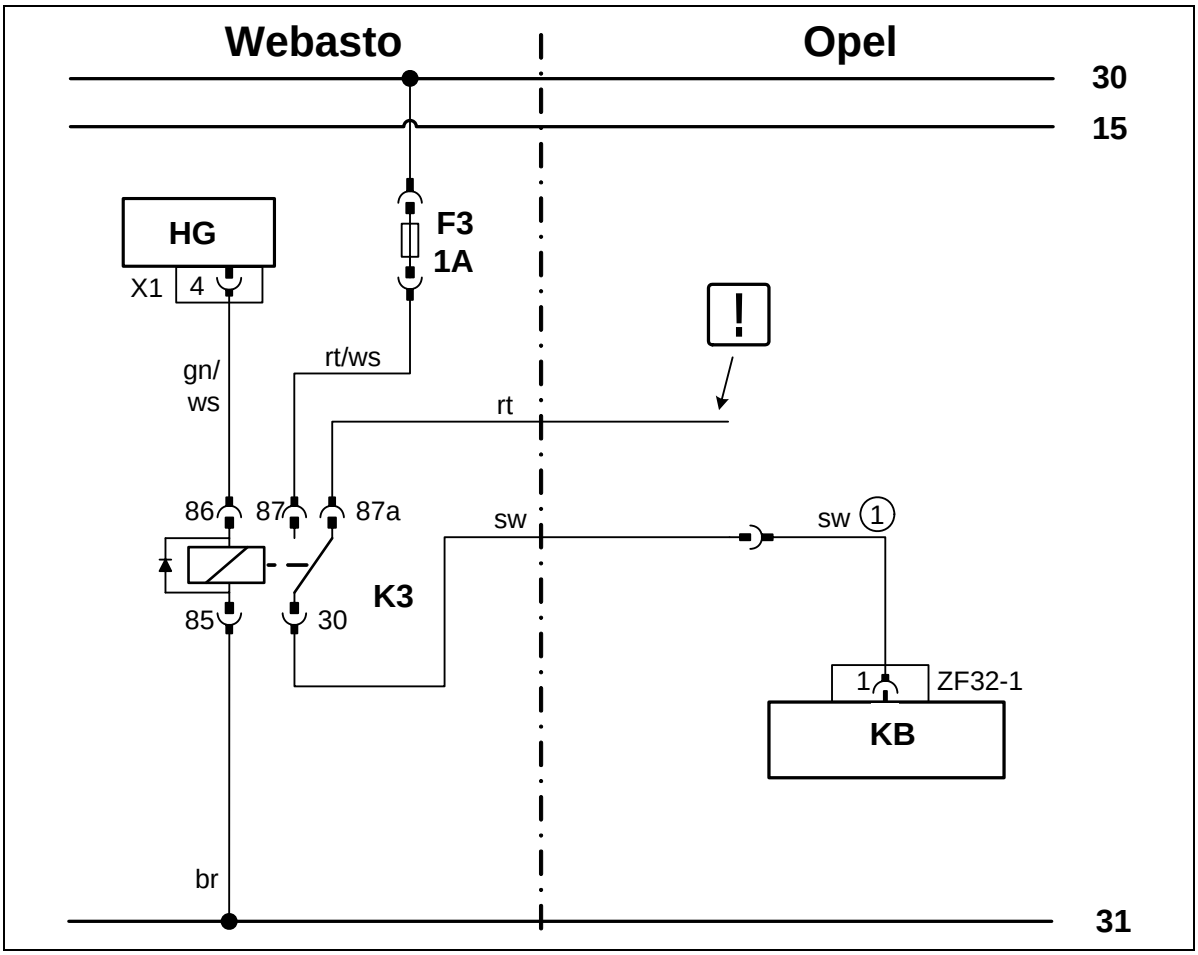


Automatic A/C without passenger compartment monitoring (ECC and SAC)

Connection on grey (gr) 32-pin connector ZF 32 - 1, Pin 1 from A/C control panel.
Produce connections as shown in following wiring diagram with blade connectors provided.
Replace F3 25 A fuse with 1 A fuse.

(**1**) Black (sw) wire from K3/30
(**2**) Wire section **1**
(**3**) 32-pin grey (gr) connector ZF 32 - 1

Fan control



Wiring diagram for automatic air-conditioning without passenger compartment monitoring (ECC and SAC)

Webasto components		Opel components		Colours and symbols	
HG	TT-C heater	KB	A/C control panel	rt	red
X1	6-pin heater connector	ZF 32 - 1	Grey (gr) connector KB	ws	white
F3	Replace 25 A with 1 A fuse.			sw	black
				br	brown
K3	Fan relay			gn	green
				!	Insulate wire end and tie back
				X	Cutting point
				Wiring colours may vary.	

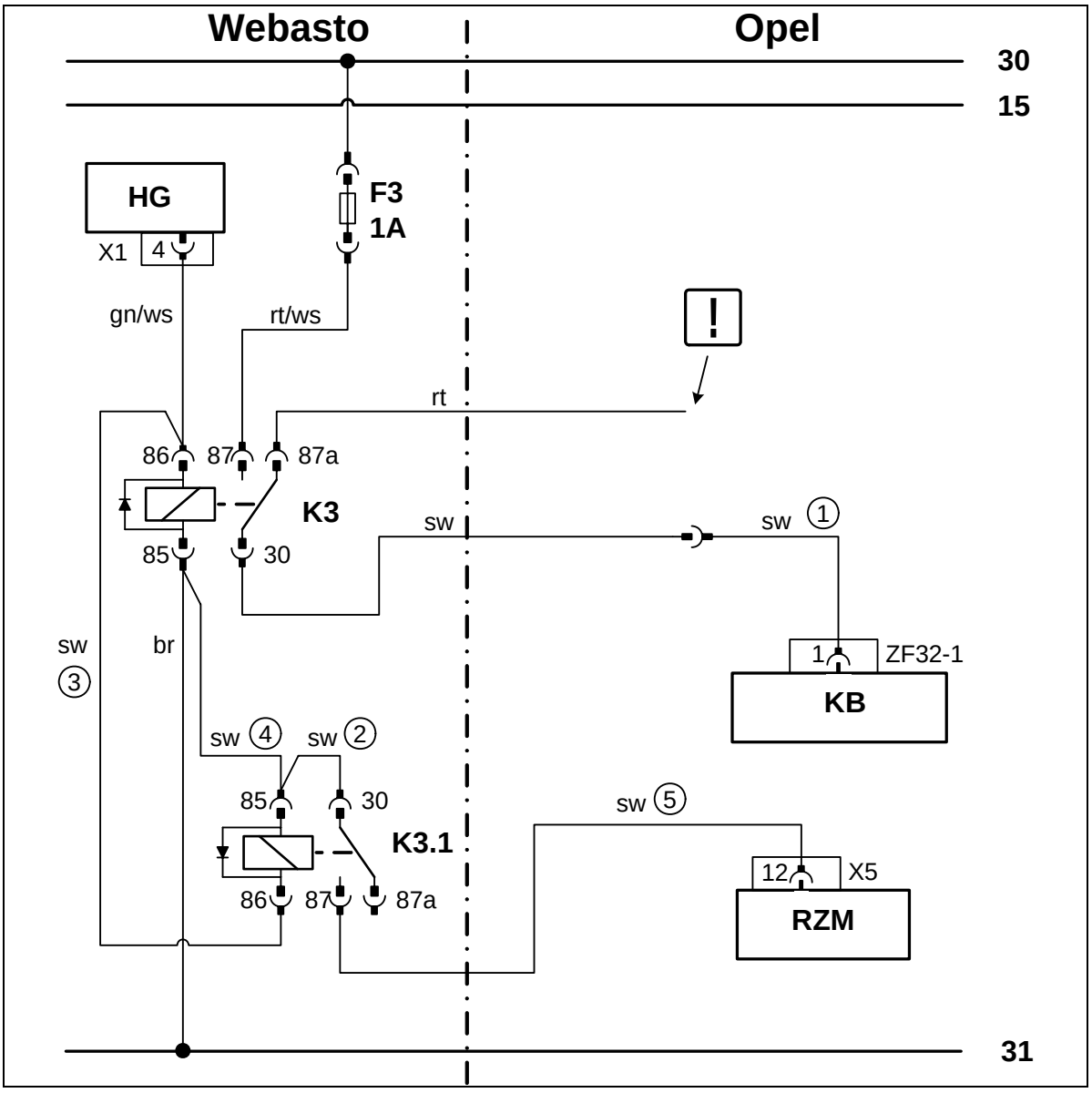
Legend

Automatic A/C with passenger compartment monitoring (ECC and SAC)

Produce connection in accordance with Figure 11 and Page 11.
Produce connections as shown in following wiring diagram with blade connectors provided.

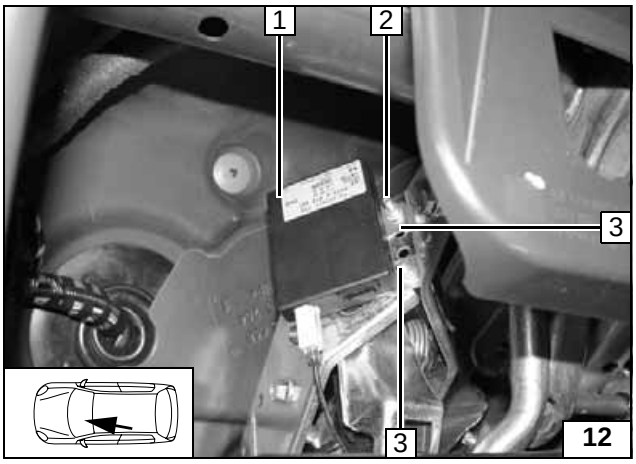
Fan control

Wiring diagram of automatic air-conditioning with passenger compartment monitoring (ECC and SAC)



Legend

Webasto components		Opel components		Colours and symbols	
HG	TT-C heater	KB	A/C control panel	rt	red
X1	6-pin heater connector	ZF 32 - 1	Grey (gr) connector KB	ws	white
F3	Replace 25 A with 1 A fuse.	RZM	Rear zone module with connector X5	sw	black
				br	brown
K3	Fan relay			gn	green
K3.1	Additional relay				
				!	Insulate wire end and tie back
				X	Cutting point
				Wiring colours may vary.	

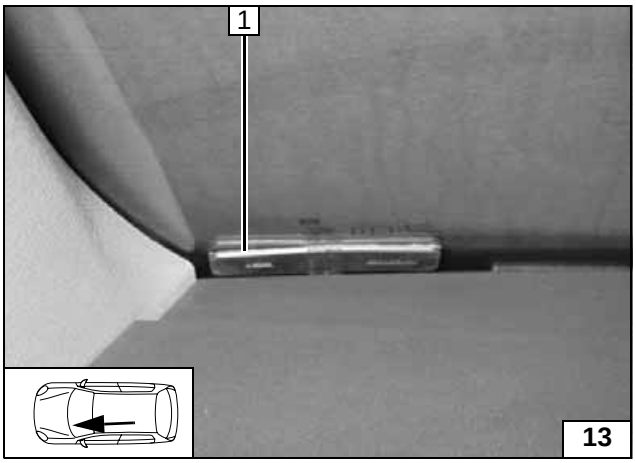


12

Remote option (Telestart)

1 Receiver
2 5.5 mm dia.hole, M5x12 bolt, flanged nut [2x]
3 Bracket

Mounting receiver

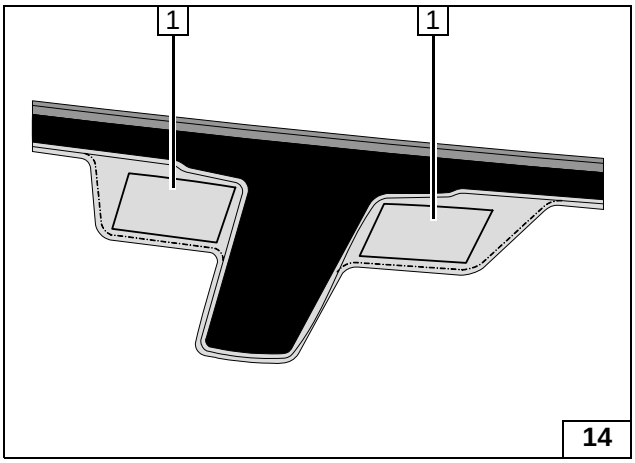


13

On vehicles without solar reflect windscreen.

1 Antenna

Mounting antenna



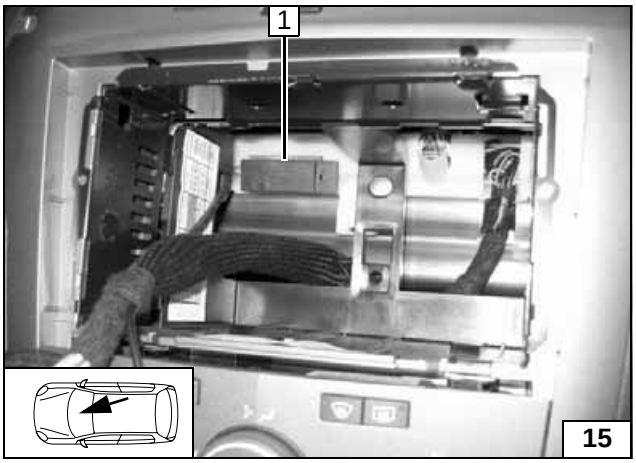
14

On vehicles with solar reflect windscreen (approval stamp on windscreen at lower left "C"

Use provided fields 70 x120 mm **1**.

Mounting antenna

Warning!
When routing antenna cable in area of airbags, observe instructions of vehicle manufacturer.

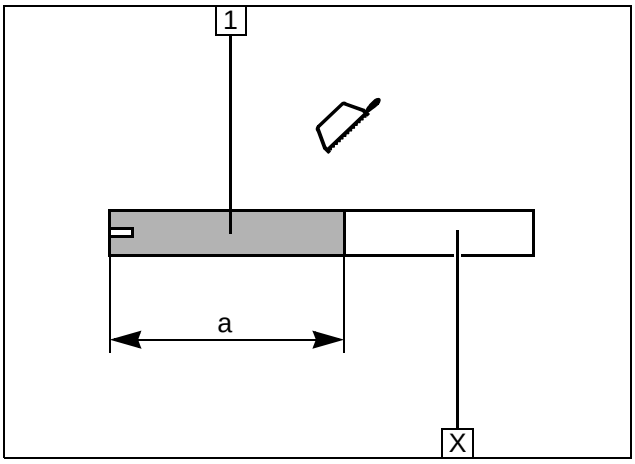


15

Only with T100HTM

1 Temperature sensor T100HTM

Mounting temperature sensor

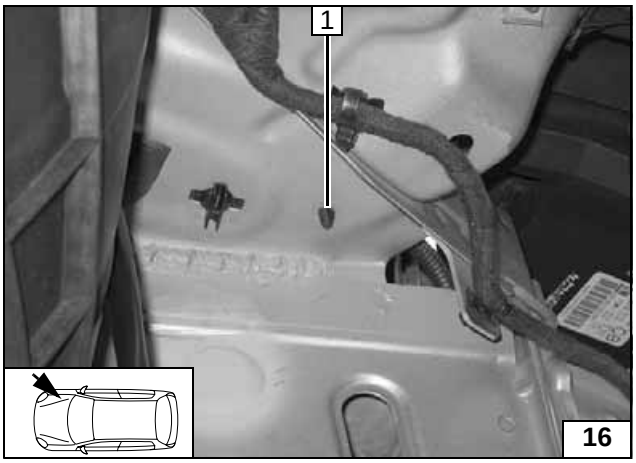


Combustion air

1 Combustion air pipe
a = 200mm

Discard section **X**

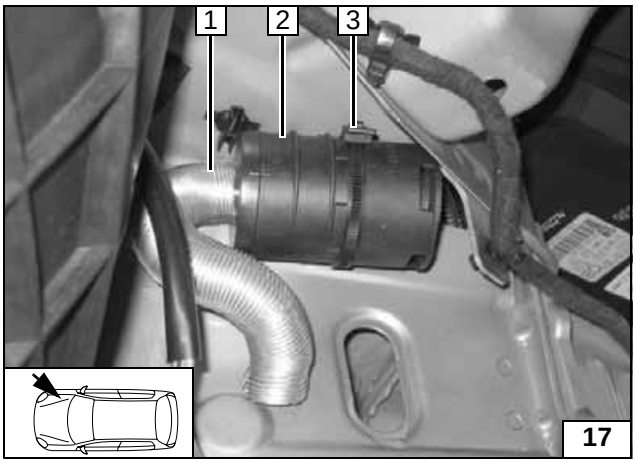
Cutting combustion air pipe to length



Ensure proper installation position of combustion-air intake silencer, see "Installation Instructions".

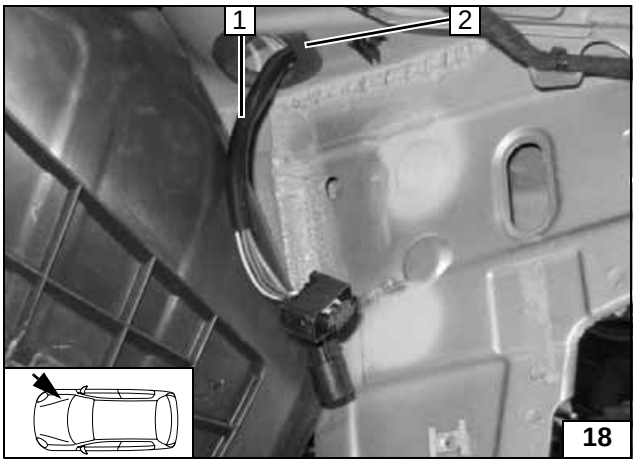
1 Remove retaining clip and fasten wiring harness above wheel well with cable tie

Premounting intake silencer



1 Combustion-air intake hose shortened
2 Intake silencer
3 Included clip with cable tie in existing hole

Premounting intake silencer

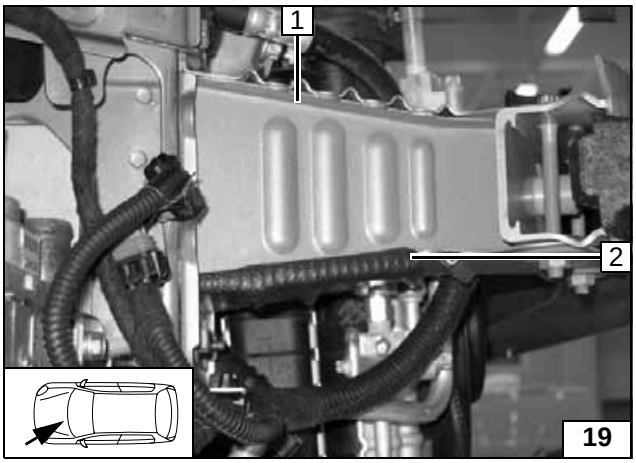


Preparing installation location

Cut included 200 mm long edge protection in centre.

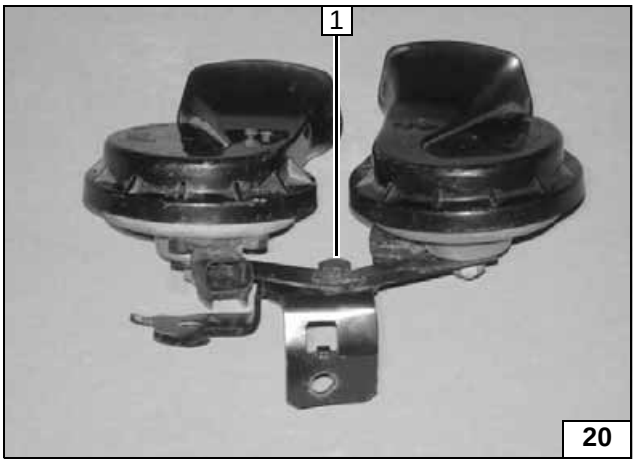
1 Wiring harness of heater
2 100 mm long edge protection

Mounting edge protection



1 Cross member of bumper
2 100 mm long edge protection

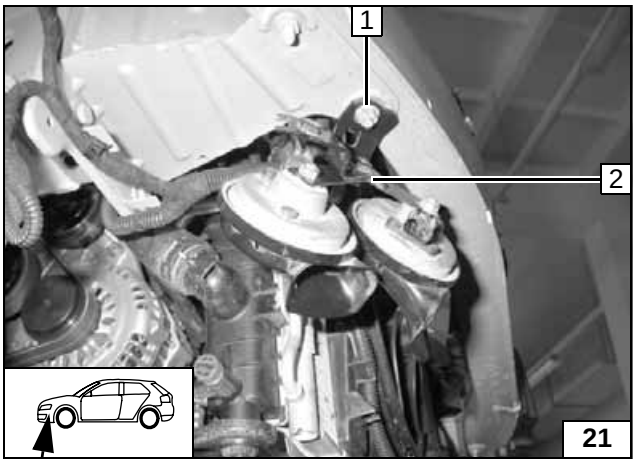
Mounting edge protection



With 2 horns, mount brackets as shown (depending on vehicle equipment).

(**1**) Original vehicle bolt

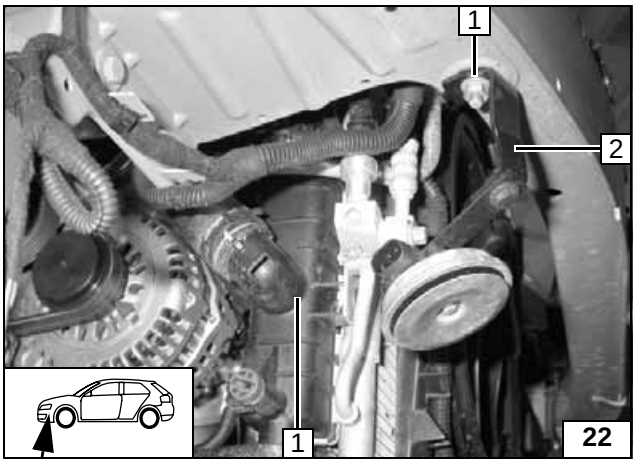
Premounting horns



Ensure freedom of movement of neighbouring components.

(**1**) Original vehicle stud bolt, flanged nut
(**2**) Horn bracket

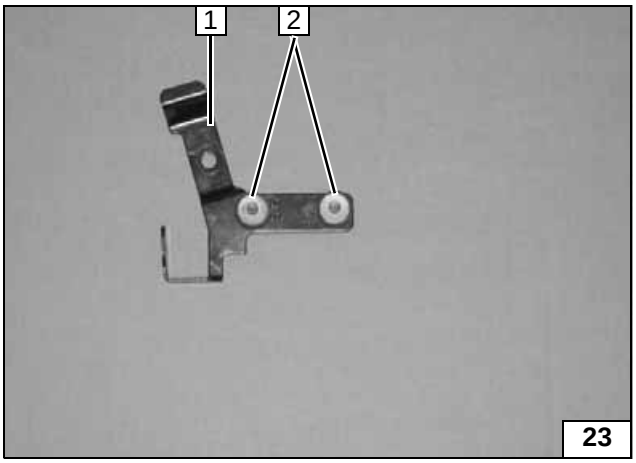
Mounting horns



With 1 horn, mount bracket as shown. (depending on vehicle equipment).
Ensure freedom of movement of neighbouring components.

(**1**) Original vehicle stud bolt, flanged nut
(**2**) Horn bracket

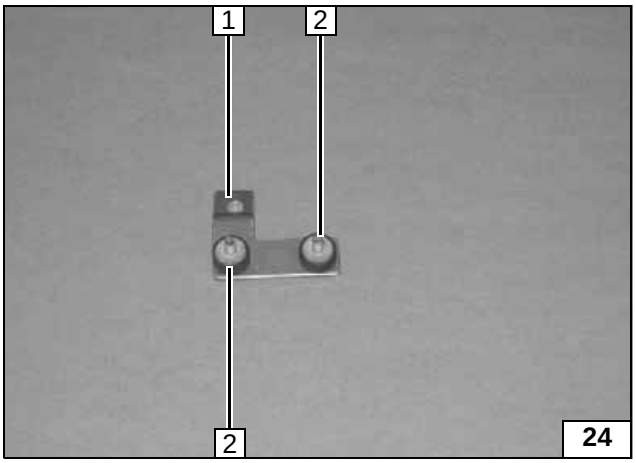
Mounting horns



1.9 litre diesel

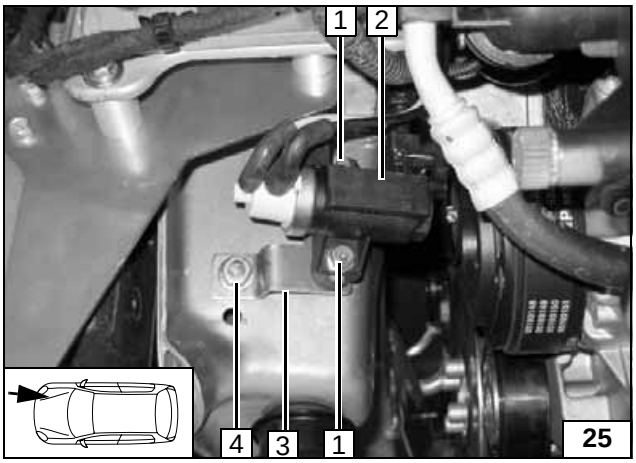
2 Screw out silent block
1 Discard original vehicle bracket of vacuum valve

Removing original vehicle bracket



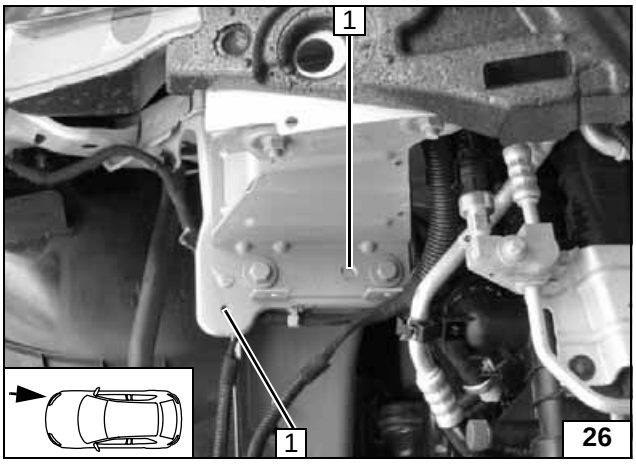
1 Bracket of vacuum valve: Opel Catalogue No.: 1734144
2 Screw in silent block [2x]

Mounting included bracket



3 Bracket of vacuum valve
4 Original vehicle stud bolt, flanged nut of horn bracket
2 Vacuum valve
1 Original vehicle flanged nuts

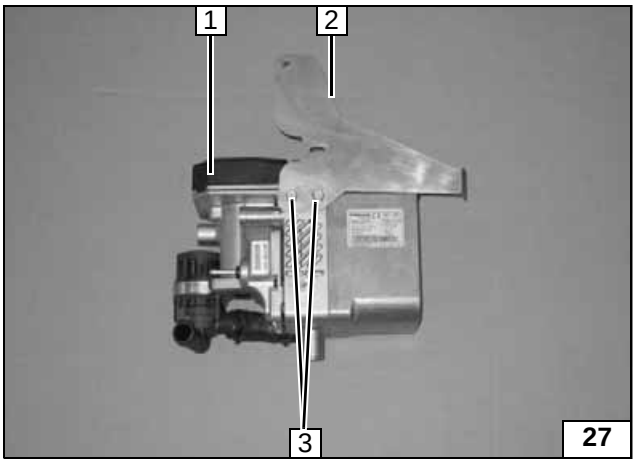
Mounting vacuum valve



All vehicles

Existing holes **1** [2x] will be used for installation of heater.

Mounting bracket

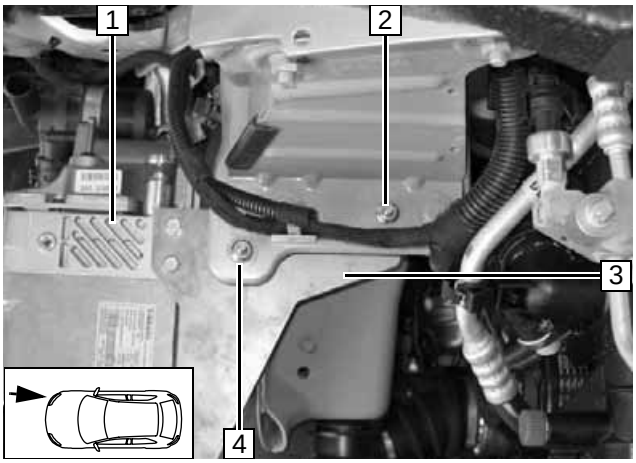


Preparing heater

Tighten Ejot screws to 10 Nm.

1 Heater
2 Bracket
3 Ejot screw [2x]

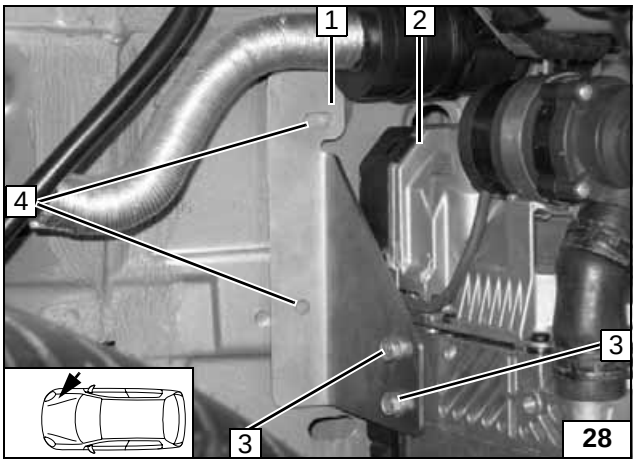
Preparing heater



Installing heater

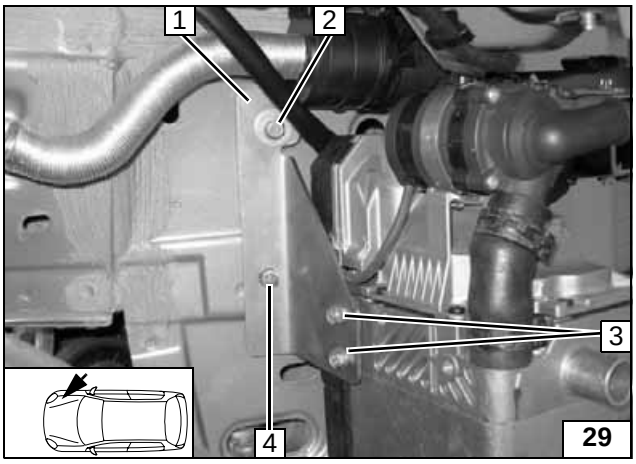
1 Heater
3 Bracket
2 M6x50 bolt, 30 mm long spacer sleeve, M6 flanged nut
4 M6x50 bolt, large diameter washer, outside diameter 22 mm, 30 mm long spacer sleeve, large diameter washer, outside diameter 17.6 mm, M6 flanged nut

Mounting heater



1 Loosely mount bracket
2 Heater
3 Ejot screw [2x]
4 Copy hole pattern, drill 9 mm hole [2x]

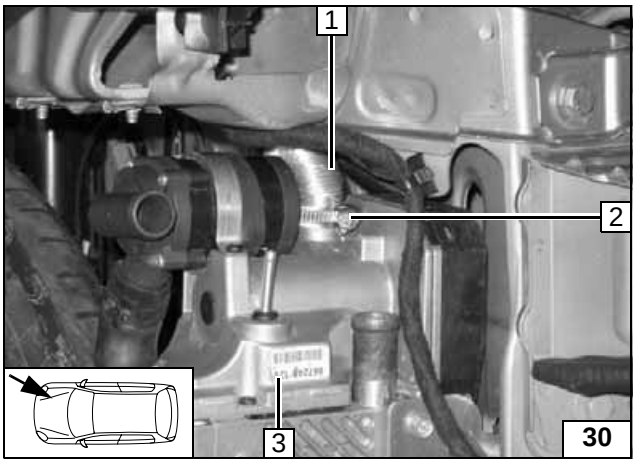
Mounting heater



Install bracket **1** on heater again.
Tighten Ejot screws to 10 Nm.

2 M6x20 bolt, spring lockwasher, large diameter washer, M6 rivet nut
3 Ejot screw [2x]
4 M6x20 bolt, spring lockwasher, M6 rivet nut

Mounting heater



1 Flexible pipe
2 27 mm dia. clamp
3 Heater

Mounting combustion-air intake pipe

Fuel

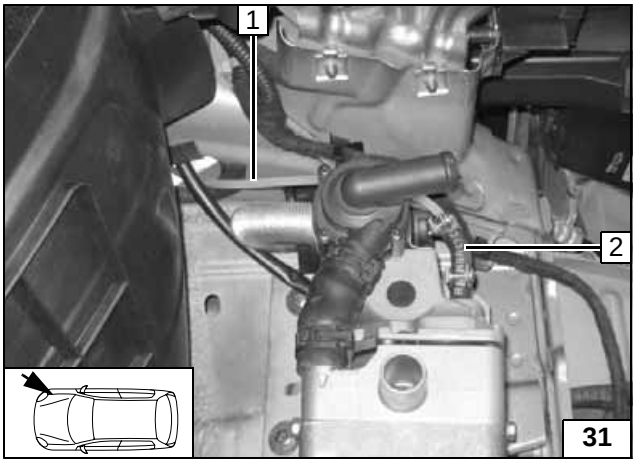
CAUTION!
Open the vehicle's fuel tank cap, ventilate the tank and then re-close the tank lock.

Catch any fuel running off with an appropriate container.

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

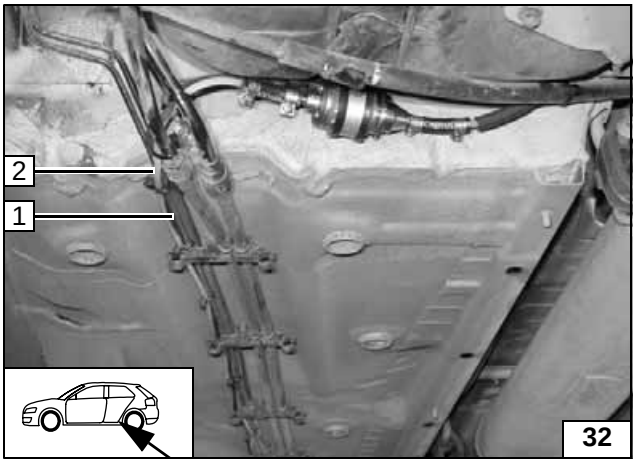
WARNING!
The fuel line and wiring harness are routed to the metering pump as shown in the wiring harness routing diagram.

Connection to heater



(**1**) Mecanyl fuel line
(**2**) Hose section, 10 mm dia. hose clamp [2x]

Routing lines

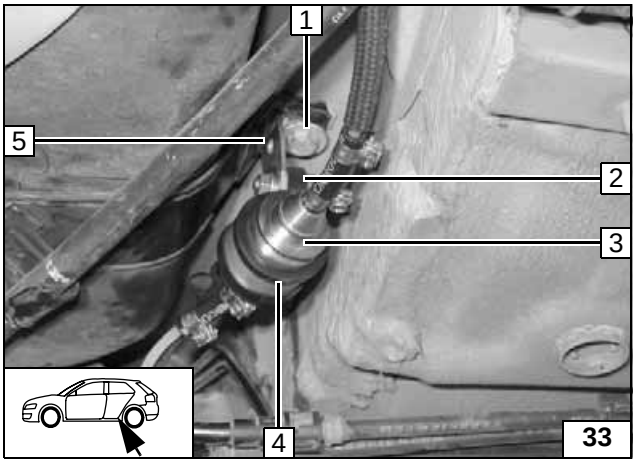


(**2**) Mecanyl fuel line
(**1**) Metering pump wiring harness

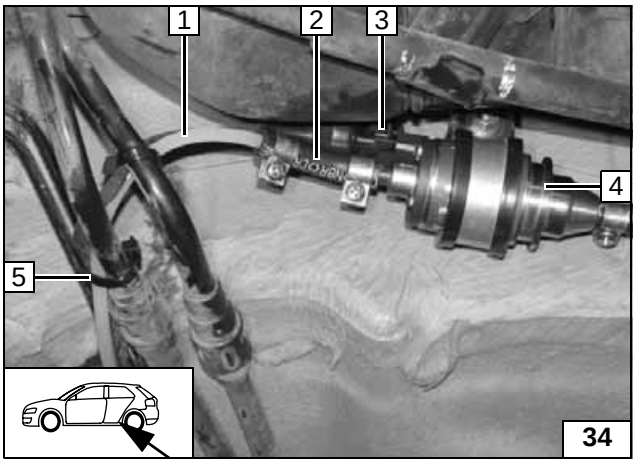
Installation location of metering pump

Metering pump

Ensure proper installation position of metering pump, see "Installation Instructions". Installation location on left in front of vehicle fuel tank.



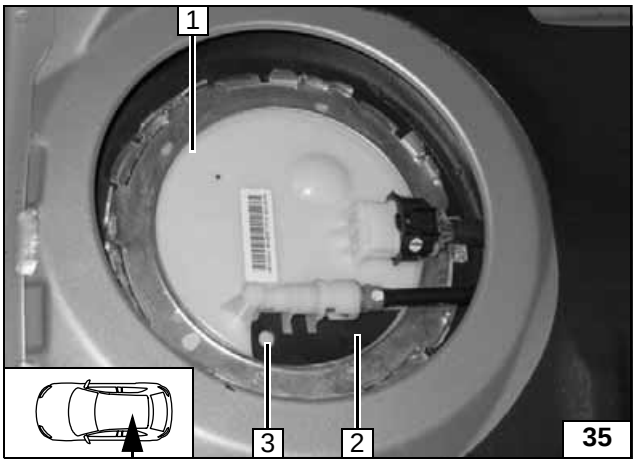
(**5**) Angle bracket, drill out to 8.5 mm dia. on short leg
(**1**) Original vehicle bolt
(**4**) Rubber-coated p-clamp
(**3**) Metering pump
(**2**) Silent block, flanged nut [2x]



Fuel line from heater **1** on pressure side of metering pump **4**.

(**2**) Hose section, 10 mm dia. hose clamp [2x]
(**3**) Wiring harness of metering pump, connector mounted
(**5**) Cable tie

Connection to metering pump



Fuel extraction

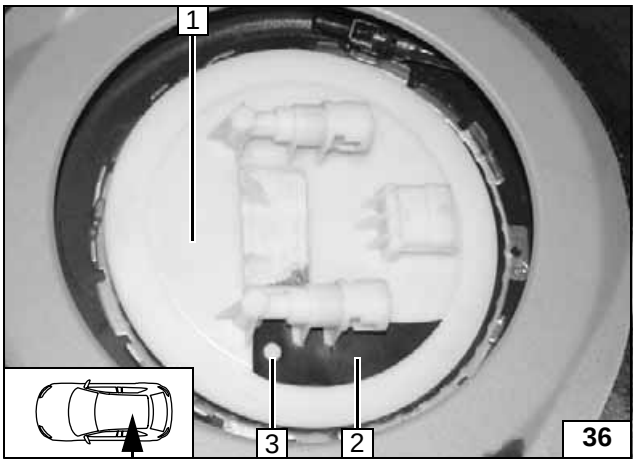
Vehicles with single-line system

Detach cover of fuel-tank sending unit and lay slightly to one side for drilling. Watch for splinters when drilling.

(**1**) Fuel-tank sending unit
(**2**) Lay on template
(**3**) Copy hole pattern, drill 6 mm dia. hole

Preparing fuel-tank sending unit

Further installation corresponds to that for two-line system, as everything is identical.

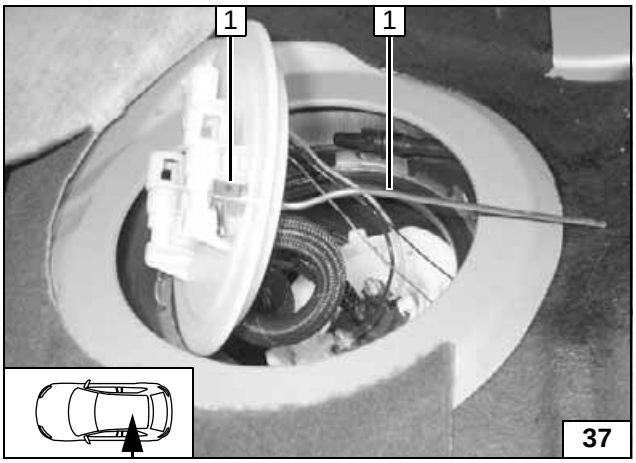


Vehicles with two line system except Z17DTR / A17DTR and Z17DTJ/A17DTJ

Detach cover of fuel-tank sending unit and lay slightly to one side for drilling. Watch for splinters when drilling.

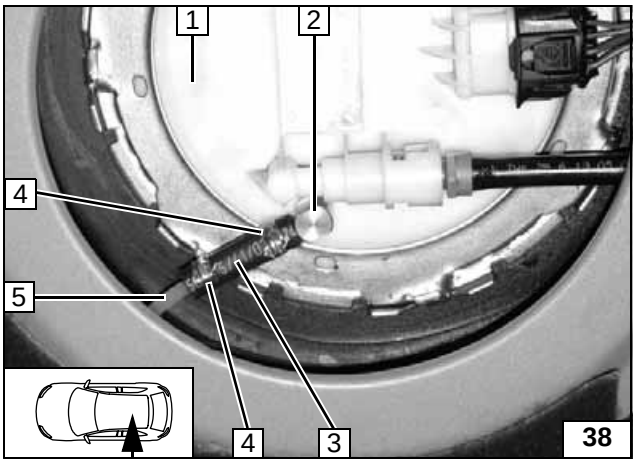
(**1**) Fuel-tank sending unit
(**2**) Lay on template
(**3**) Copy hole pattern, drill 6 mm dia. hole

Preparing fuel-tank sending unit



Shape fuel standpipe **1** according to template, cut to length and install, see "installation instructions".

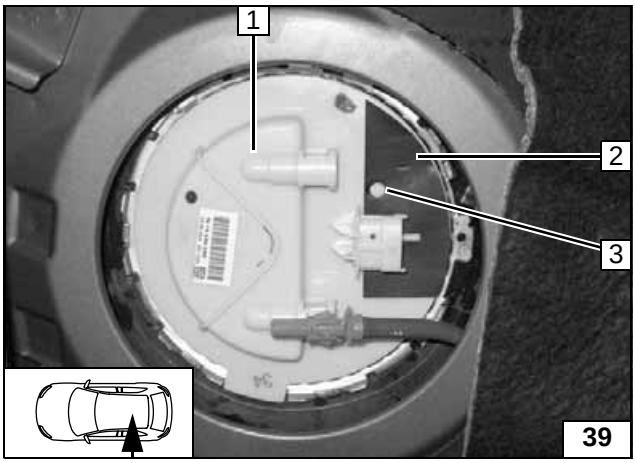
Installing fuel standpipe



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

(**1**) Fuel-tank sending unit
(**2**) Fuel standpipe
(**5**) Remaining section of Mecanyl fuel line
(**3**) Hose section
(**4**) 10 mm dia. Caillau clamp [2x]

Connecting fuel line

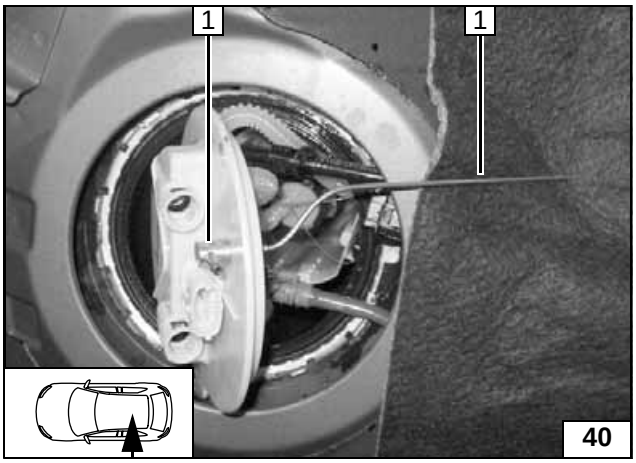


1.7 litre Diesel Z17DTR / A17DTR and Z17DTJ / A17DTJ

Detach cover of fuel-tank sending unit **1** and lay slightly to one side for drilling. Watch for splinters when drilling.

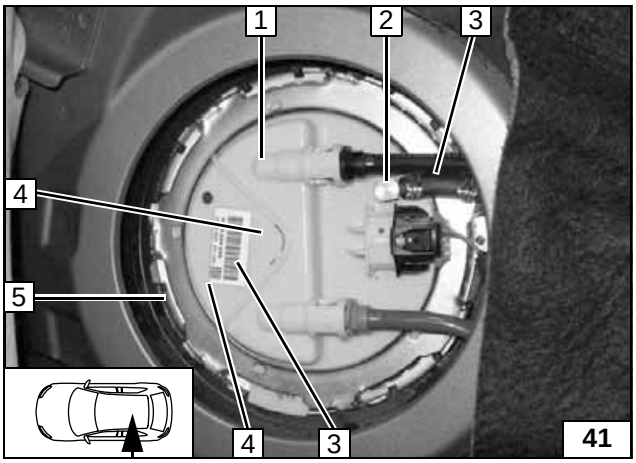
(**2**) Lay on template
(**3**) Copy hole pattern, drill 6 mm dia. hole

Preparing fuel-tank sending unit



Shape fuel standpipe **1** according to template, cut to length and install, see "installation instructions".

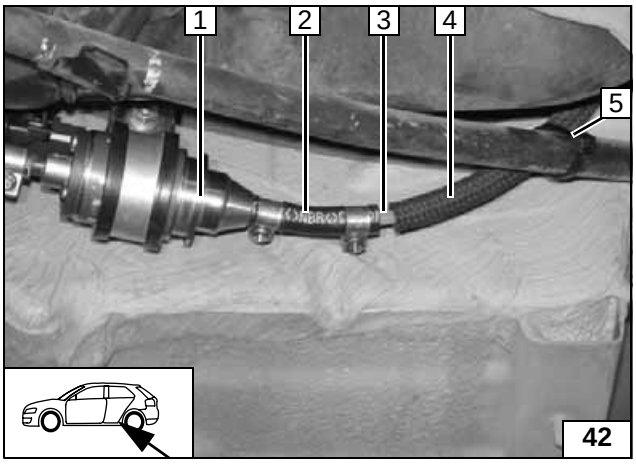
Installing fuel standpipe



Install fuel-tank sending unit **1** in accordance with manufacturer's instructions.

(**2**) Fuel standpipe
(**3**) Fuel line, hose section, 10 mm dia. Caillau clamp [2x]

Connecting fuel line



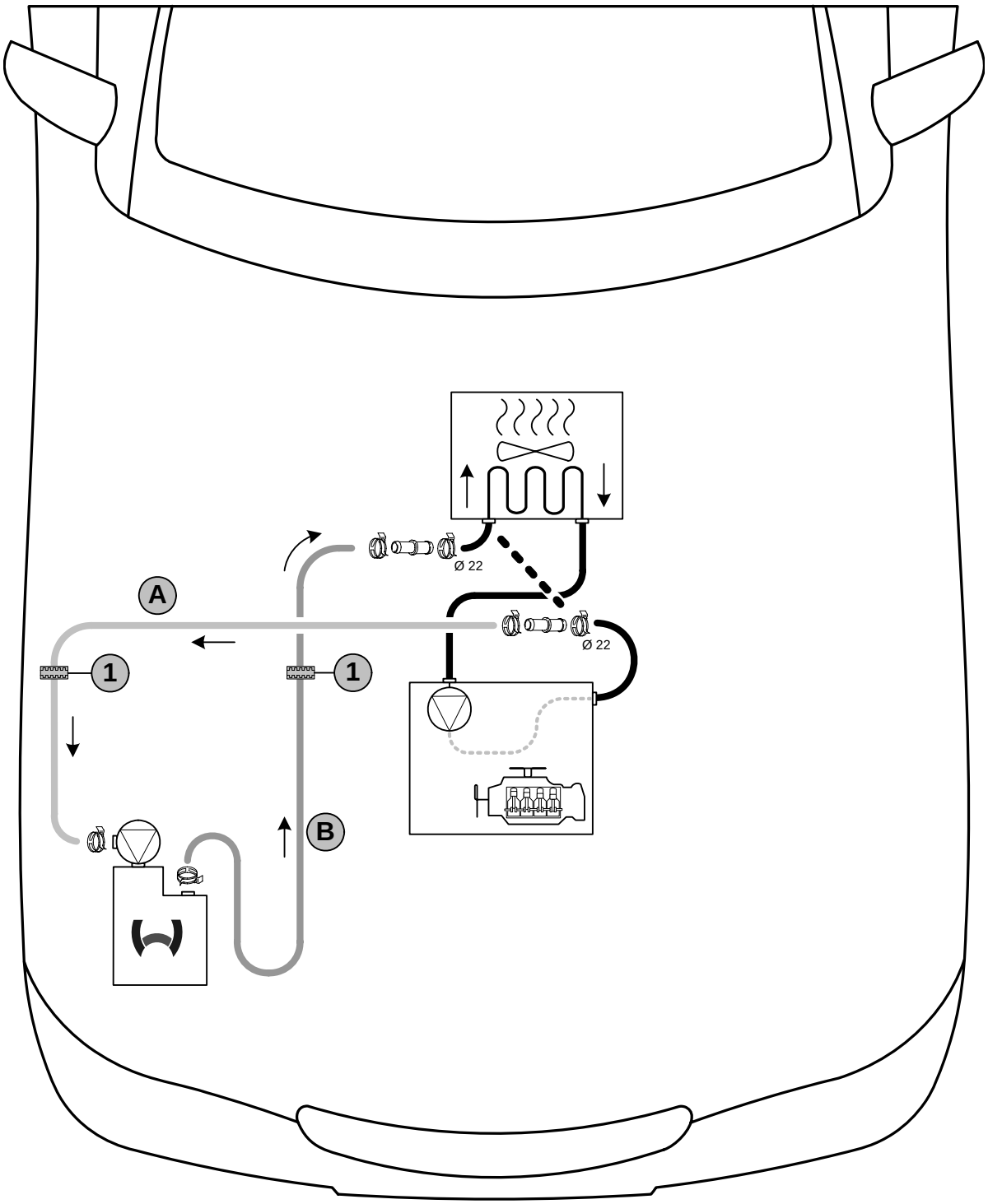
Fuel line from fuel standpipe **3** on intake side of metering pump **1**. Slide fuel hose **4** as protective hose onto fuel line **3**.
Check the position of the components; adjust if necessary. Check that they have freedom of movement.

(**2**) Hose section, 10 mm dia. hose clamps [2x]
(**5**) Cable tie

Connection to metering pump

Coolant circuit 1.4 litre; 2.0 litre petrol

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

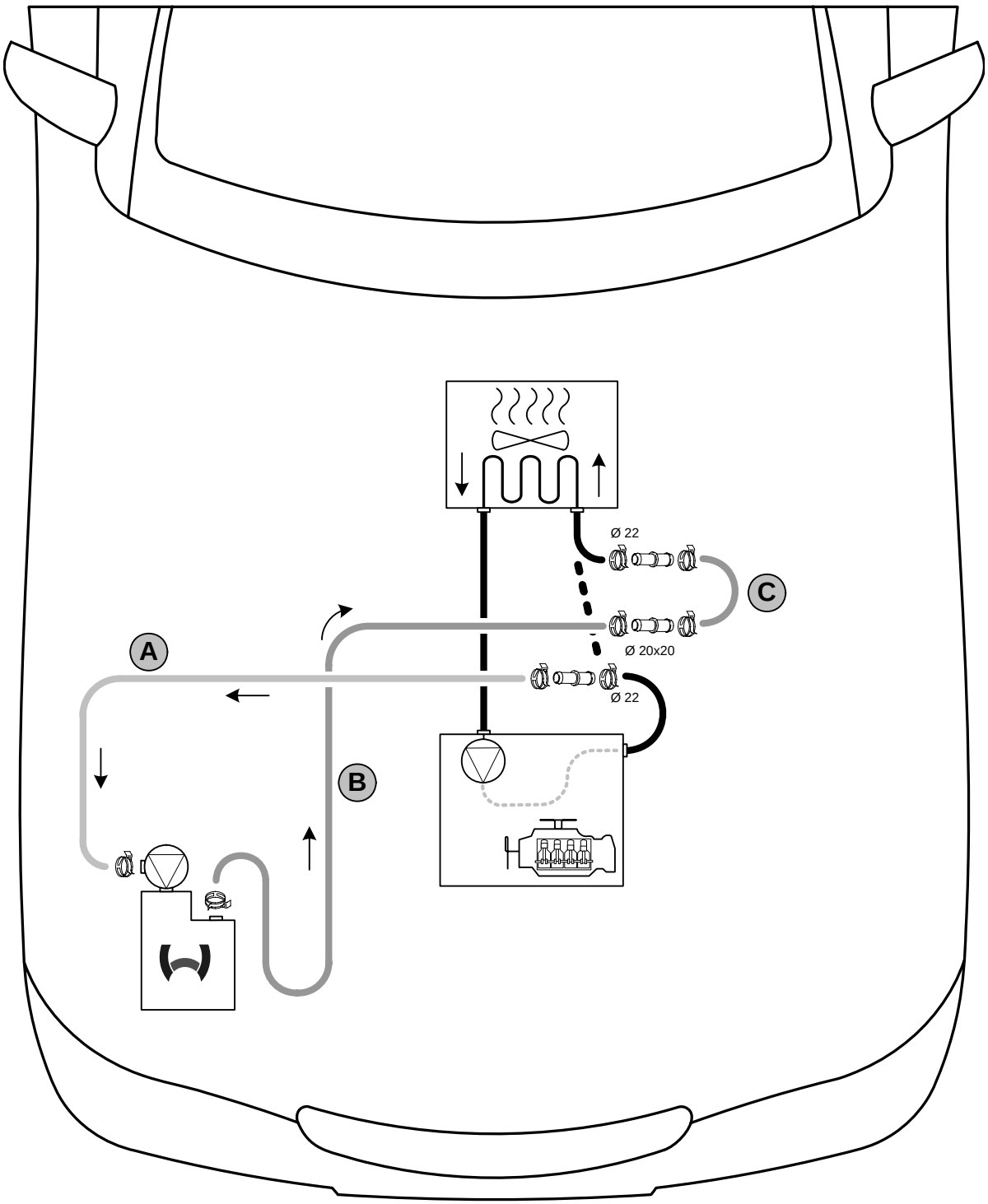


Hose installation diagram

All spring clips without a specific designation = 27 mm dia.
All connecting pipes = 15x20 mm dia.
1 = Black (sw) rubber isolator [2x] only with 2.0 litre petrol.

Coolant circuit of 1.6 litre Z16XEP; 1.8 litre petrol and 1.3 litre; 1.7 litre diesel

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



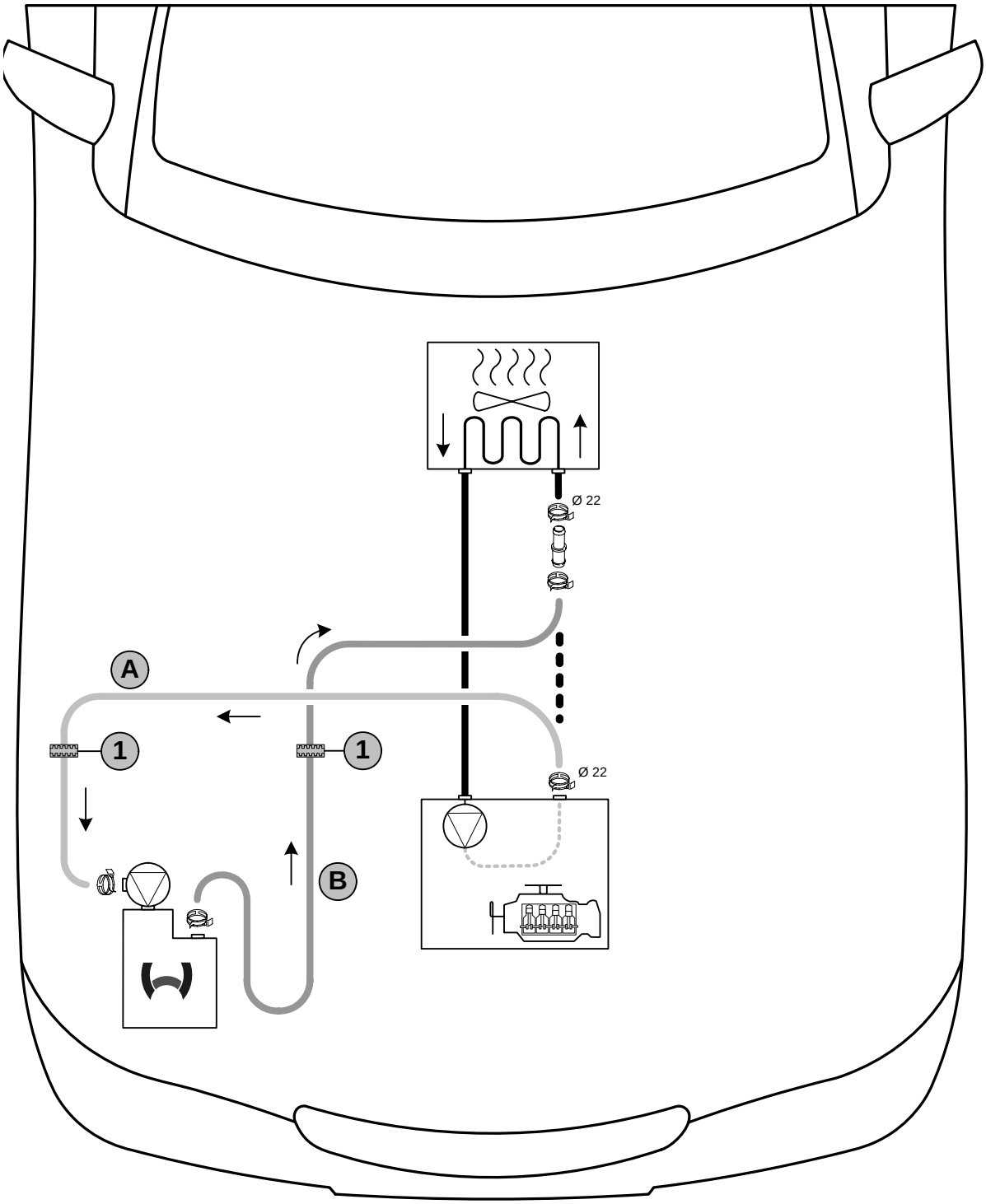
Hose installation diagram

All spring clips without a specific designation = 27 mm dia.
All connecting pipes without a specific designation = 15x20 mm dia.

Coolant circuit 1.6 litre Z16XER

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

Hose installation diagram

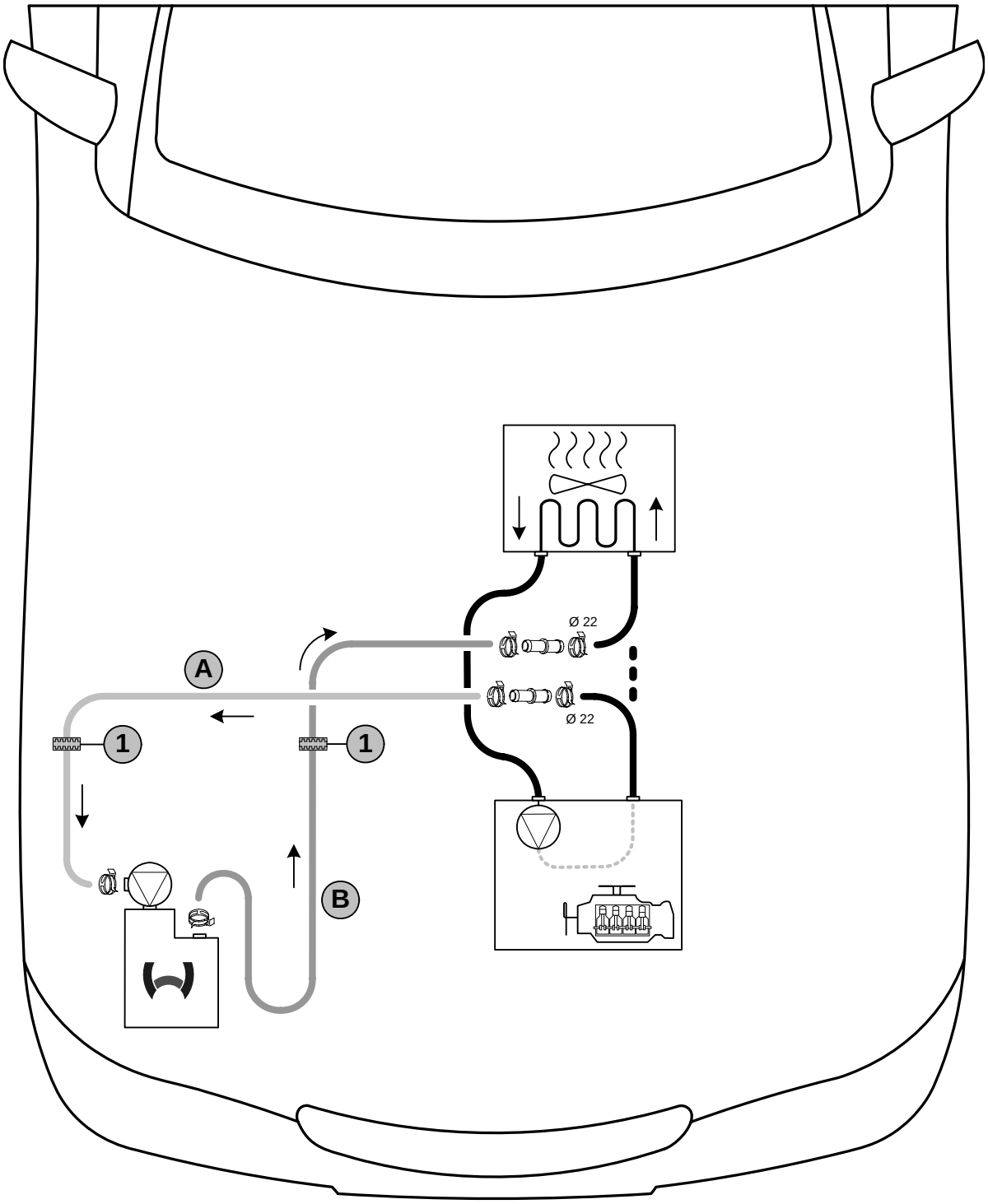


All spring clips without a specific designation = 27 mm dia.
Connecting pipe = 15x20 mm dia.
1 = Black (sw) rubber isolator [2x].

Coolant circuit 1.6 litre Z16LET

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

Hose installation diagram

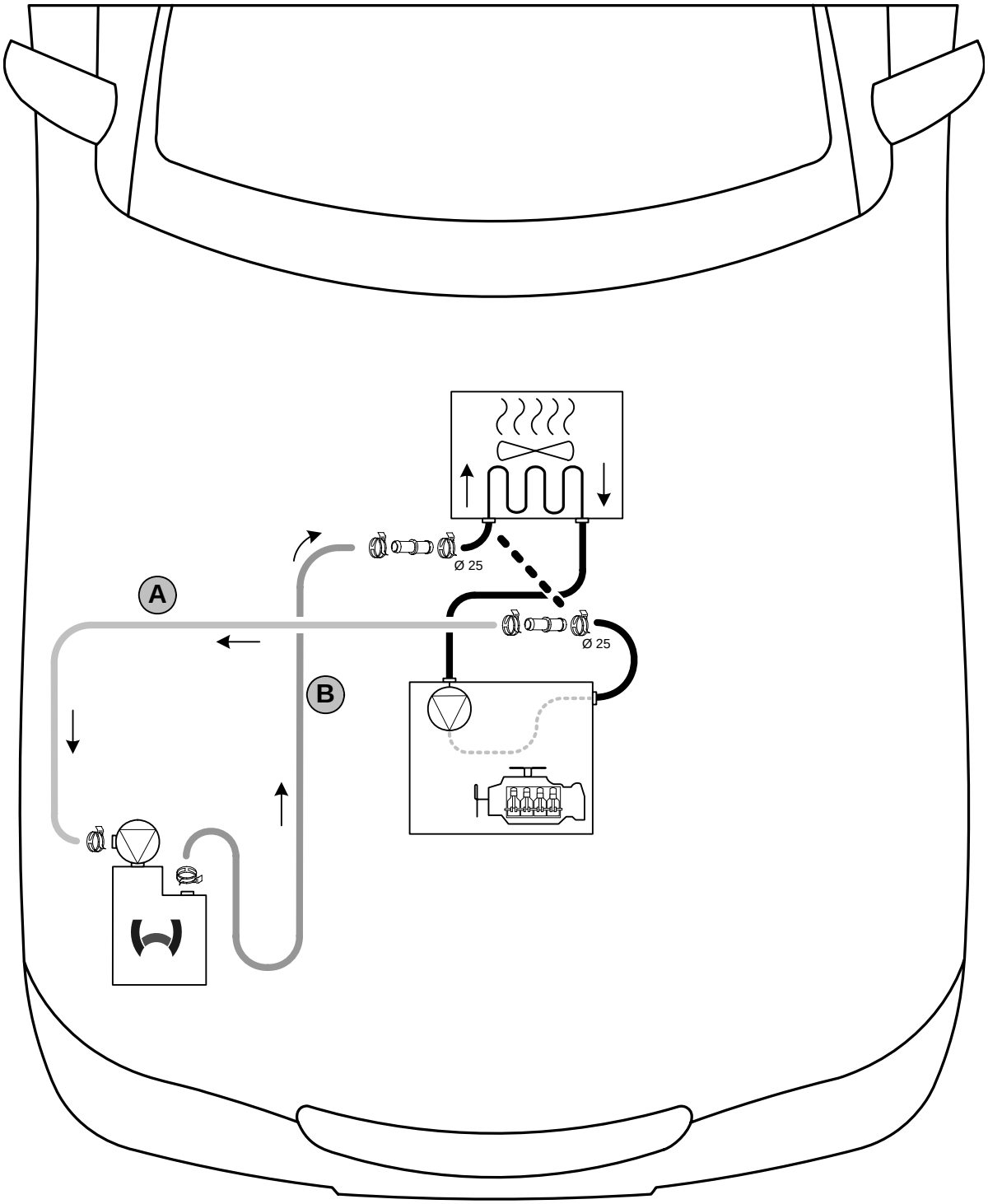


All spring clips without a specific designation = 27 mm dia.
All connecting pipes = 15x20 mm dia.
1 = Black (sw) rubber isolator [2x].

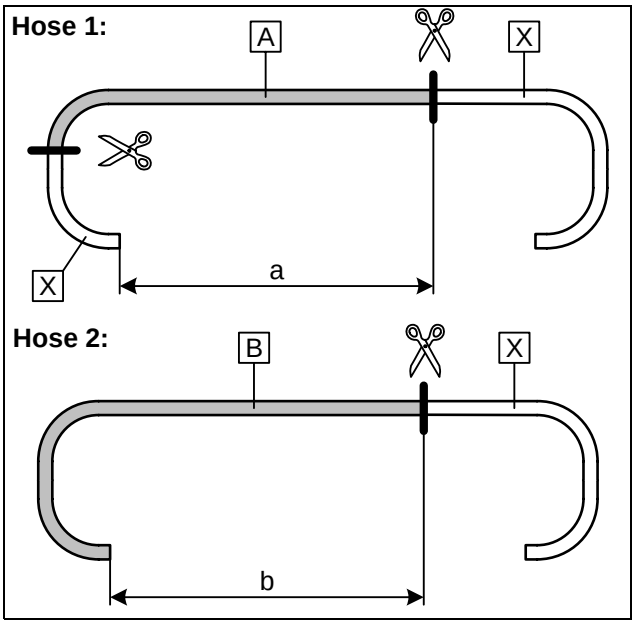
Coolant circuit 1.9 litre diesel

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

Hose installation diagram



All spring clips without a specific designation = 27 mm dia.
All connecting pipes = 18x20 mm dia.



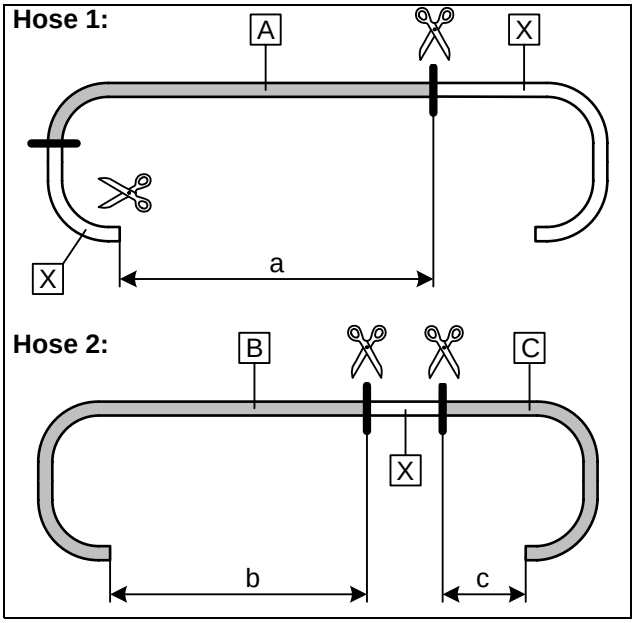
Cutting hoses to length

1.4 litre petrol

Cut away hose **A** just behind elbow.

a = 1600mm
b = 1500mm

Discard section **X**

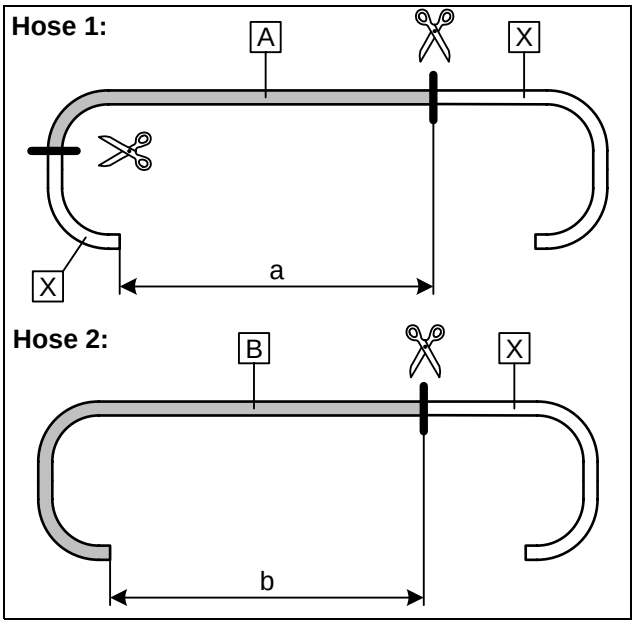


1.6 litre petrol Z16XEP

Cut away hose **A** just behind elbow.

a = 1600mm
b = 1600mm
c = 100mm

Discard section **X**

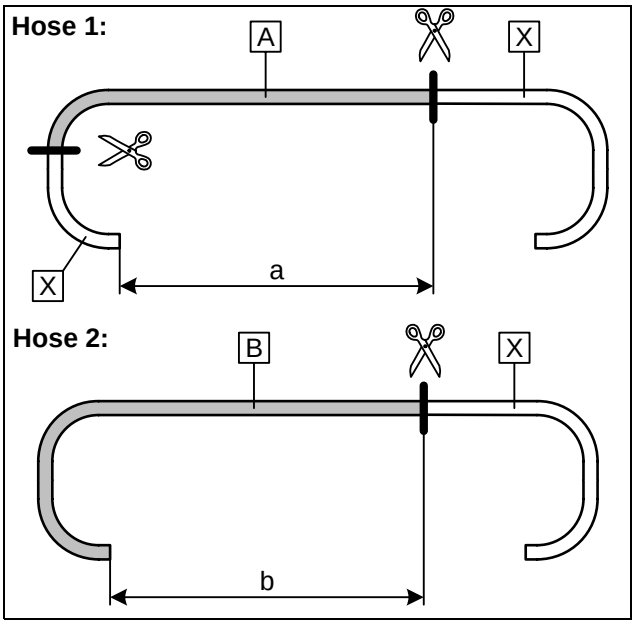


1.6 litre petrol Z16XER

Cut away hose **A** just behind elbow.

a = 1800mm
b = 1460mm

Discard section **X**



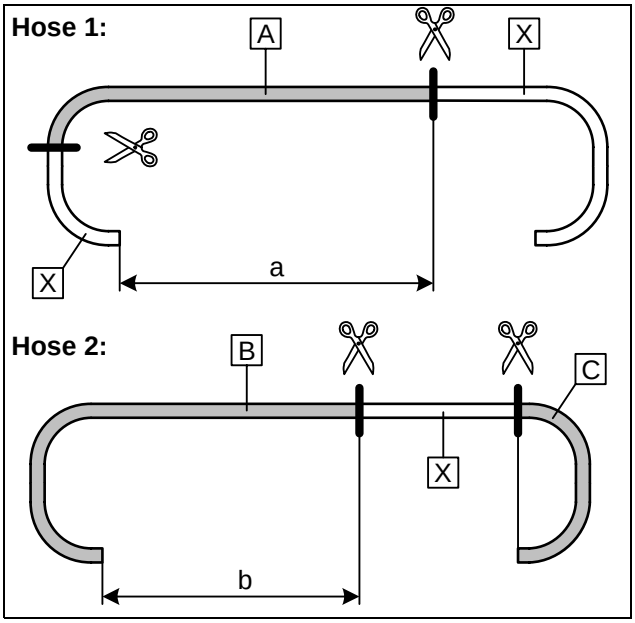
1.6 litre petrol Z16LET

Cut away hose **A** just behind elbow.

a = 1440mm
b = 1280mm

Discard section **X**

Cutting hoses to length



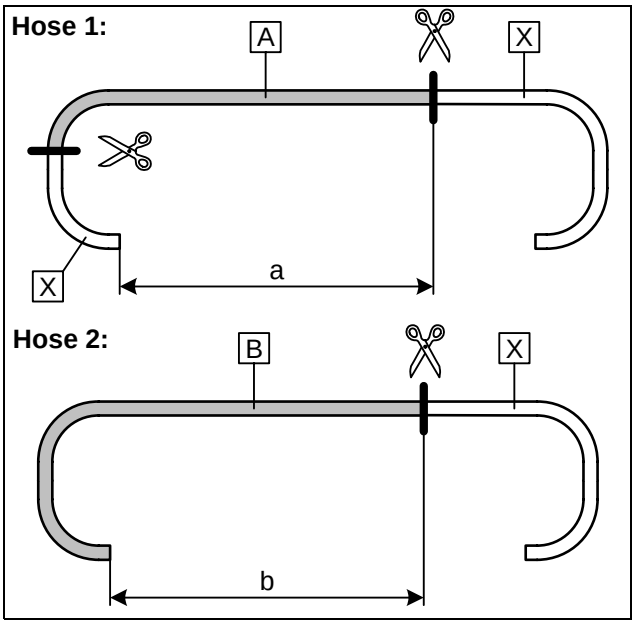
1.8 litre petrol

Cut away hose **A** just behind elbow.

a = 1700mm
b = 1600mm

Discard section **X**

Cutting hoses to length



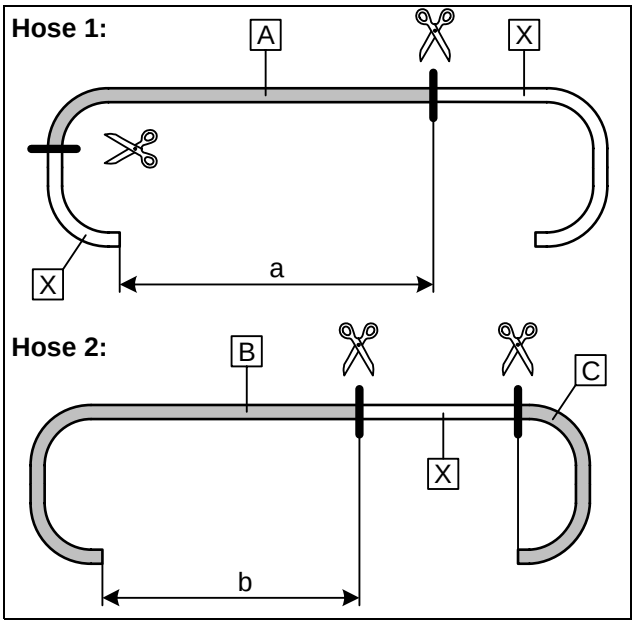
2.0 litre petrol

Cut away hose **A** just behind elbow.

a = 1400mm
b = 1300mm

Discard section **X**

Cutting hoses to length



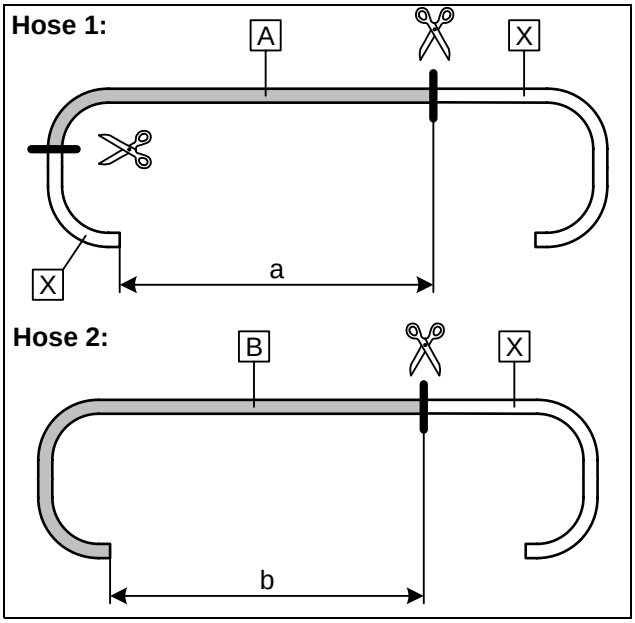
1.3 litre and 1.7 litre diesel

Cut away hose **A** just behind elbow.

a = 1700mm
b = 1550mm

Discard section **X**

Cutting hoses to length



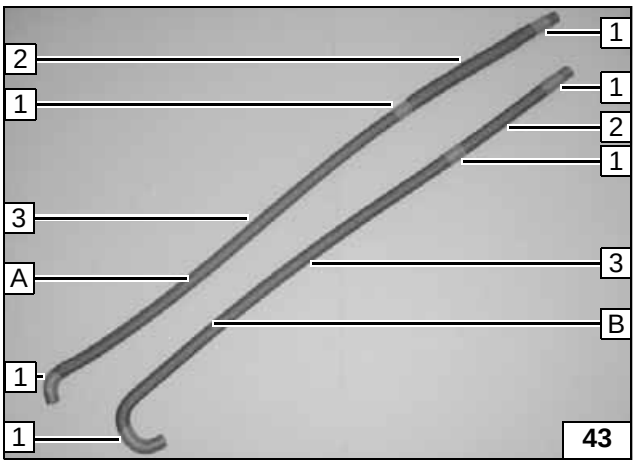
1.9 litre diesel

Cut away hose **A** just behind elbow.

a = 2000mm
b = 1520mm

Discard section **X**

Cutting hoses to length



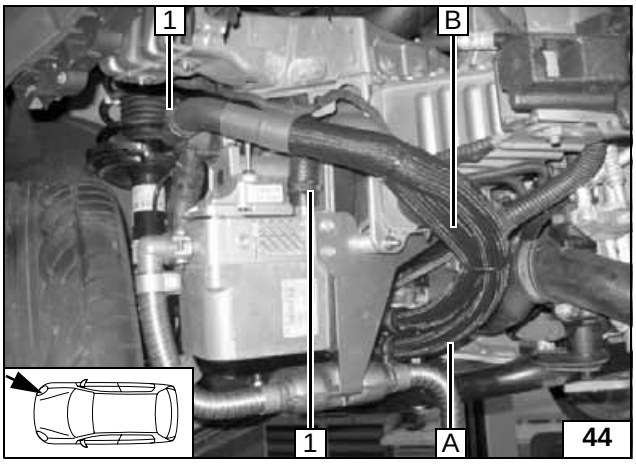
Preparing hoses

Divide braided protection hose in centre.

(**3**) Braided protection hose complete [2x]
(**2**) Braided protection hose cut to length [2x]
(**1**) Cut heat shrink plastic tubing [6x] in centre

Preparing hoses

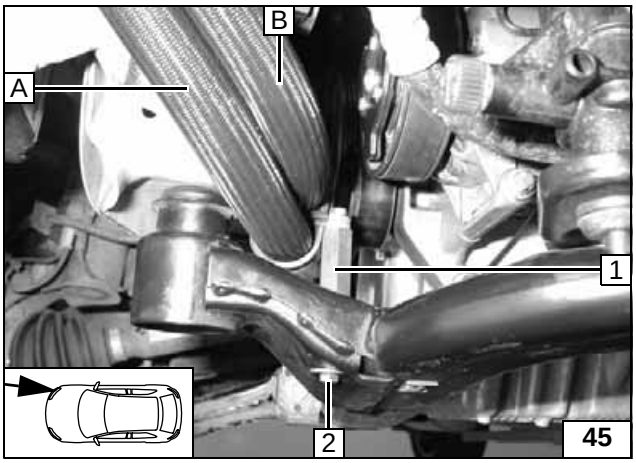
Routing hoses



All vehicles

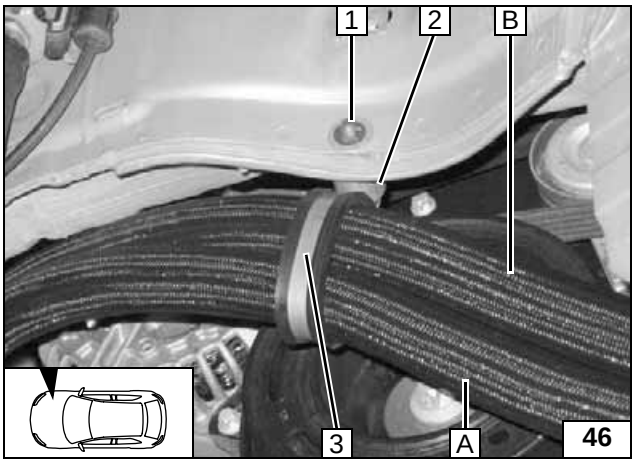
1 27 mm dia. spring clip [2x]

Connection to heater



(**1**) 40 mm spacer nut, rubber-coated p-clamp [2x], M6x20 bolt, spring lockwasher
(**2**) M6x50 bolt, spring lockwasher, large diameter washer

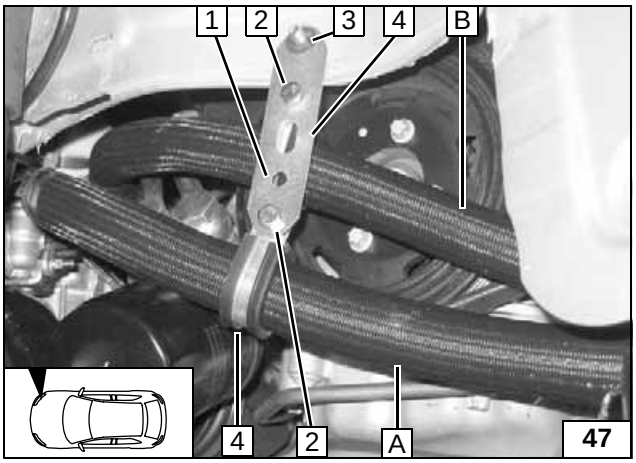
Fastening on engine support



All vehicles except 2.0 litre petrol

(**1**) M6x50 bolt (engine side to wheel well), large diameter washer, pin lock
(**2**) 20 mm shim
(**3**) Rubber-coated p-clamp, 48 mm dia.

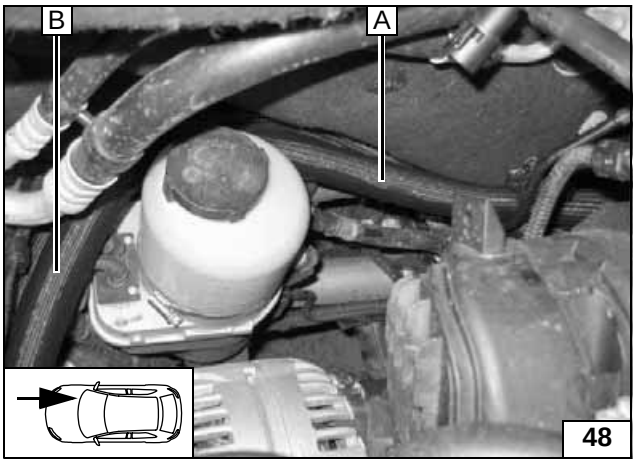
Fastening on frame side carrier



2.0 litre petrol

(**1**) Perforated bracket
(**3**) M6x20 bolt (engine side to wheel well), pin lock
(**2**) M6x20 bolt (wheel well to engine side), flanged nut [2x each]
(**4**) 29 mm dia. rubber-coated p-clamp [2x]

Fastening on frame side carrier

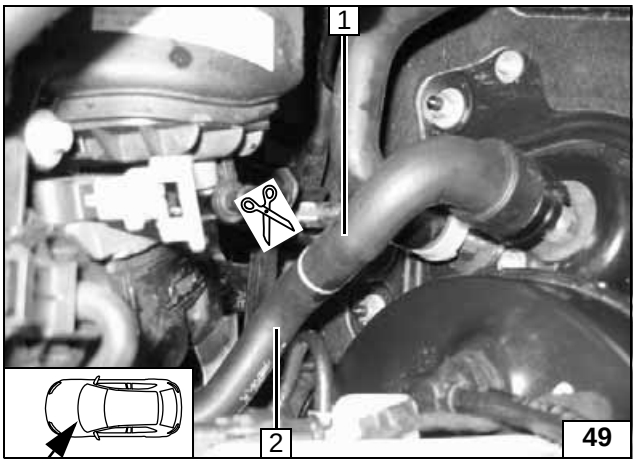


Hose installation

1.4 litre petrol

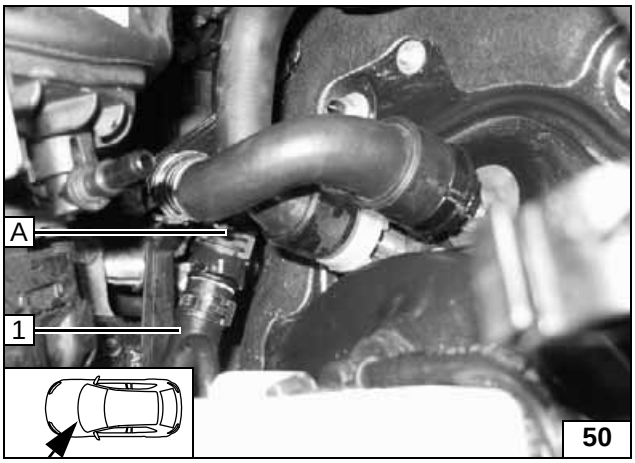
Route coolant hose to cutting point.

Routing in engine compartment



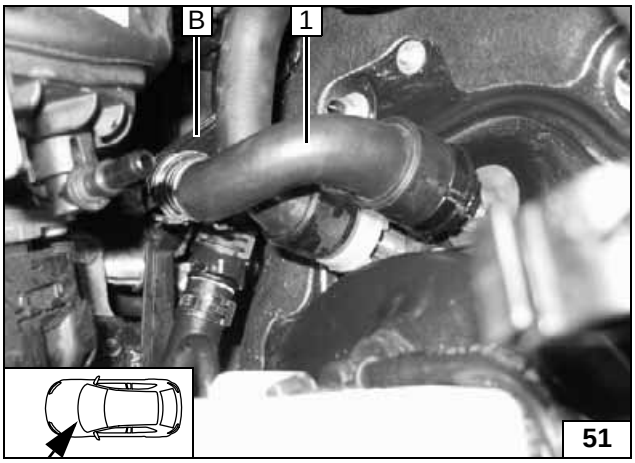
(**1**) Hose section of heat exchanger inlet
(**2**) Engine outlet hose section

Cutting point



(**1**) Hose of engine outlet

Connection to engine outlet

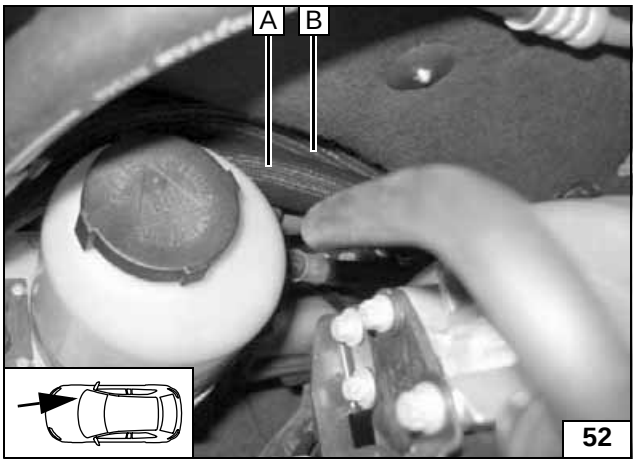


Before connecting, fill the water hoses with coolant.

(**1**) Hose on heat exchanger inlet

Connection to heat exchanger inlet

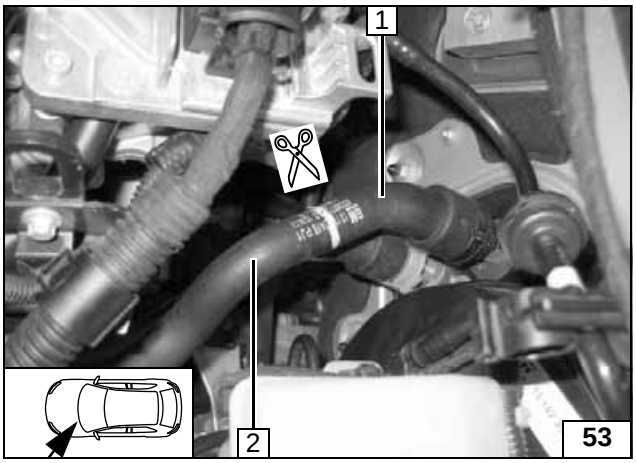
Align hoses **A** and **B** over entire length and fix in place with cable ties.



1.6 litre petrol Z16XEP

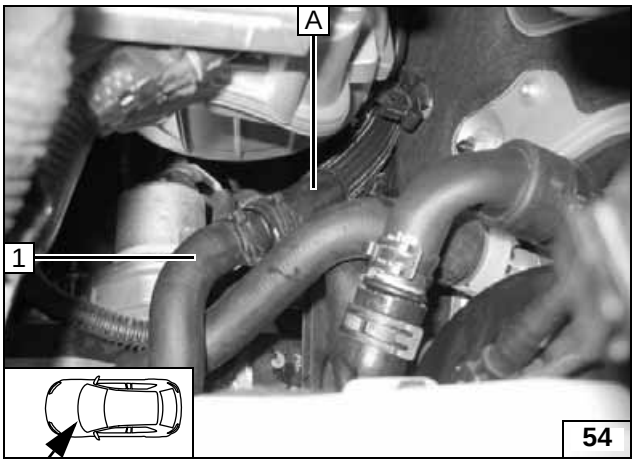
Route coolant hose to cutting point.

Routing in engine compartment



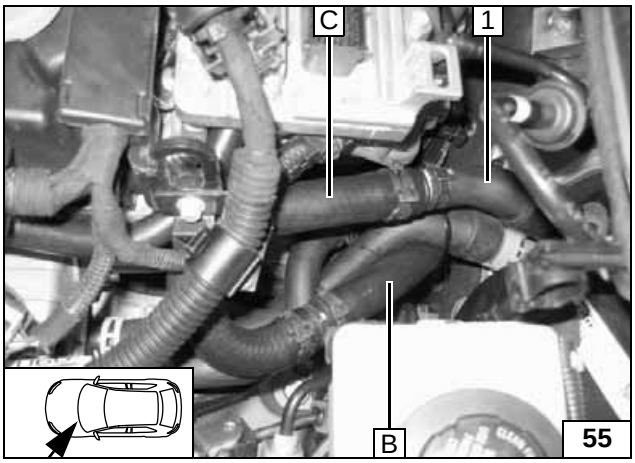
(**1**) Hose section of heat exchanger inlet
(**2**) Engine outlet hose section

Cutting point



(**1**) Hose of engine outlet

Connection to engine outlet

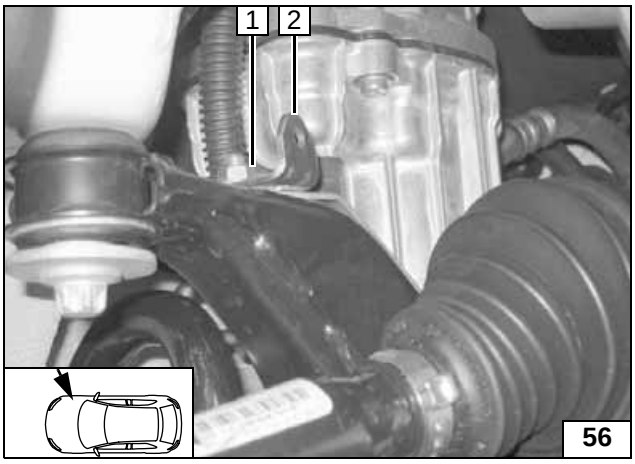


Before connecting, fill the water hoses with coolant.
Long side of 180° elbow on hose (**1**).

(**1**) Hose on heat exchanger inlet

Connection to heat exchanger inlet

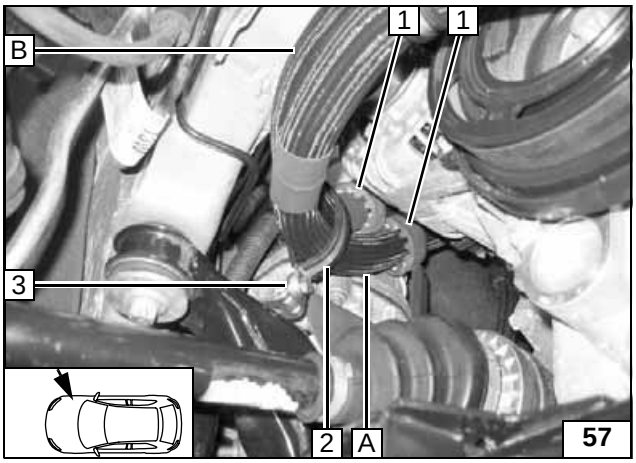
Align hose **A**, **B** and **C** over entire length and fix in place with cable ties.



1.6 litre petrol Z16XER

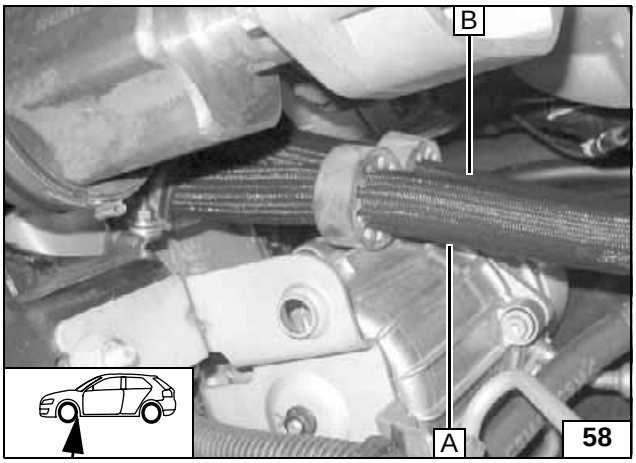
(**1**) Original vehicle nut
(**2**) Angle bracket

Routing in engine compartment



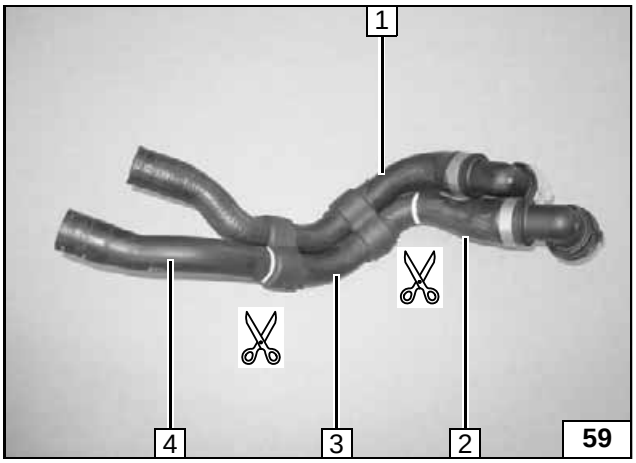
(**1**) Black (sw) rubber profile [2x]
(**2**) Rubber-coated p-clamp, 48 mm dia.
(**3**) M6x20 bolt, flanged nut

Routing in engine compartment



Position rubber profiles as shown

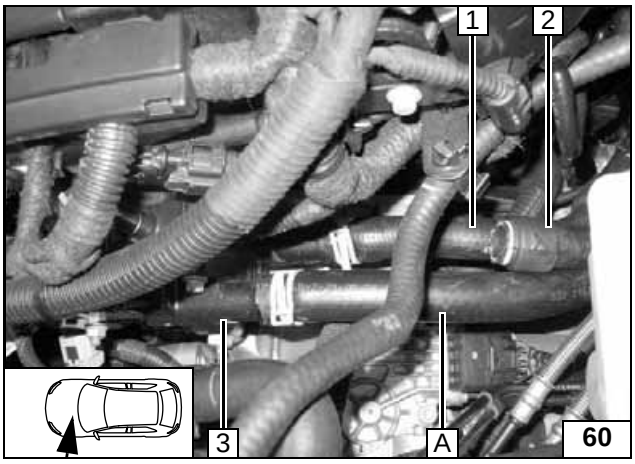
Routing in engine compartment



Remove engine/heat exchanger hose group **1** and cut off at markings. Centre section **3** is vulcanized and remains on hose group (without function).

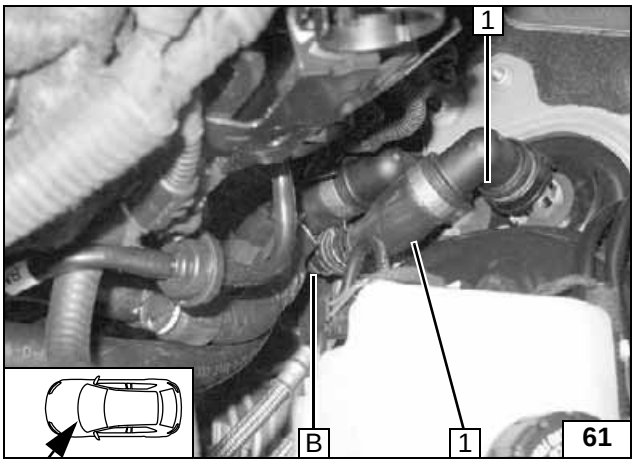
(**1**) Remount engine/heat exchanger hose group
(**2**) Remount hose section on engine outlet
(**4**) Discard hose section

Cutting point



(**1**) Engine/heat exchanger hose group mounted
(**2**) Centre section of hose group (without function)
(**3**) Connection piece on engine outlet

Connection to engine outlet



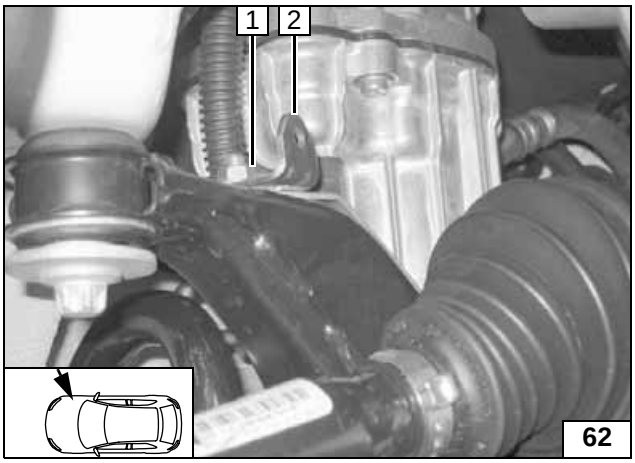
Before connecting, fill the water hoses with coolant.

(**1**) Hose section on heat exchanger inlet mounted

Connection to heat exchanger inlet

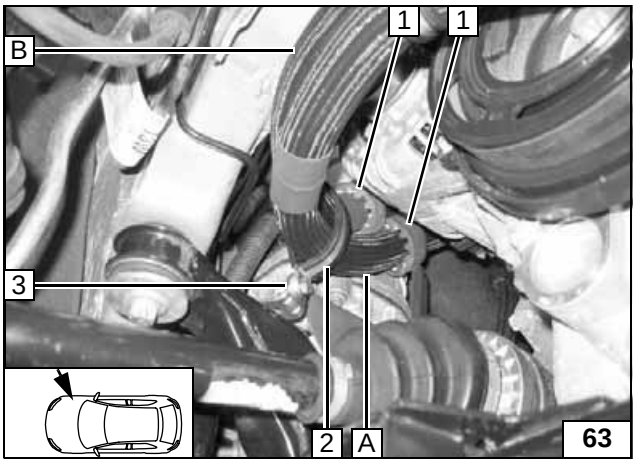
Align hoses **A** and **B** over entire length and fix in place with cable ties.
Align black (sw) rubber profiles.

1.6 litre petrol Z16LET



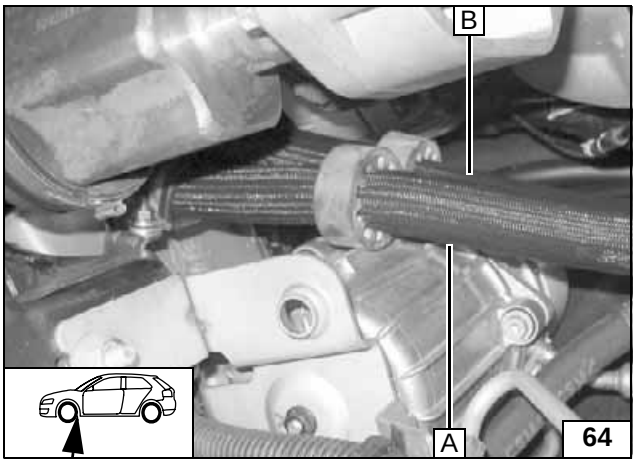
(**1**) Original vehicle nut
(**2**) Angle bracket

Routing in engine compartment



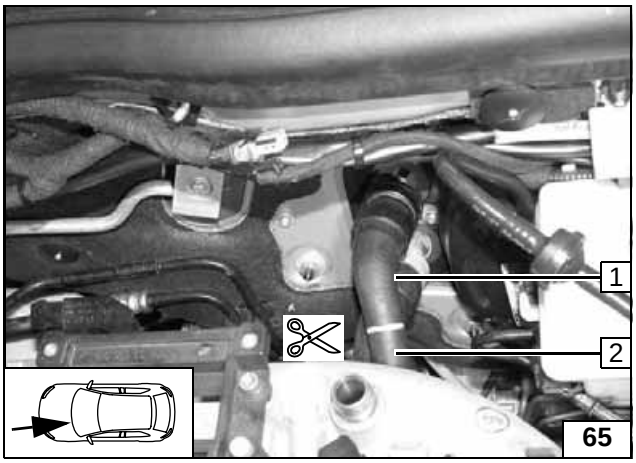
(**1**) Black (sw) rubber profile [2x]
(**2**) Rubber-coated p-clamp, 48 mm dia.
(**3**) M6x20 bolt, flanged nut

Routing in engine compartment



Position rubber profiles as shown

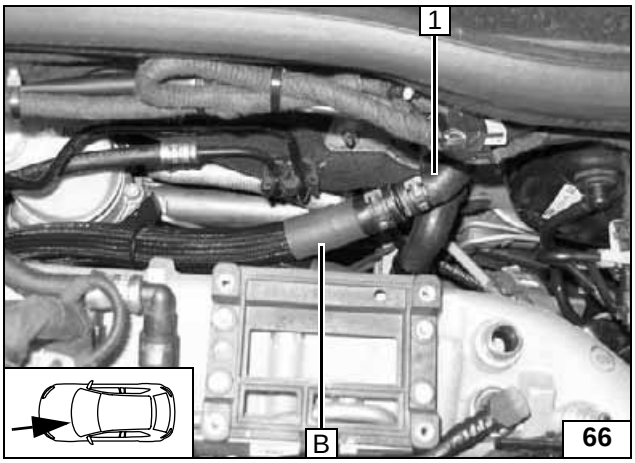
Routing in engine compartment



Cut off hose on engine outlet/heat exchanger inlet at marking.

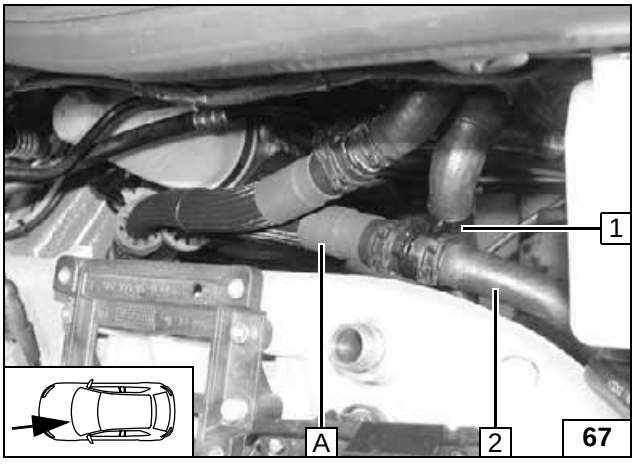
(**1**) Hose section of heat exchanger inlet
(**2**) Engine outlet hose section

Cutting point



(**1**) Hose section on heat exchanger inlet turned approx. 90° to right

Connection to heat exchanger inlet

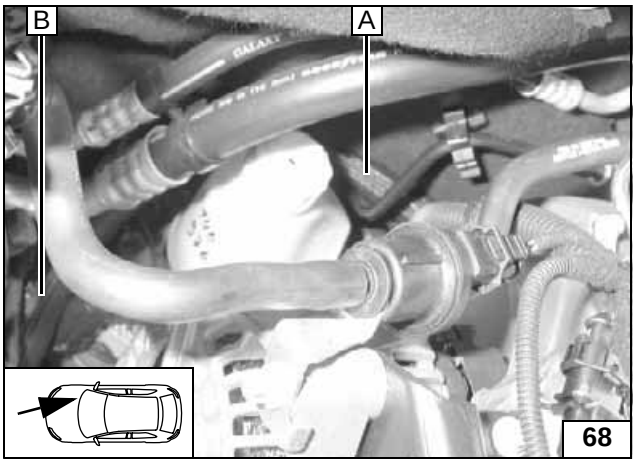


Before connecting, fill the water hoses with coolant.

(**2**) Engine outlet hose section
(**1**) Insert spacer bracket

Connection to engine outlet

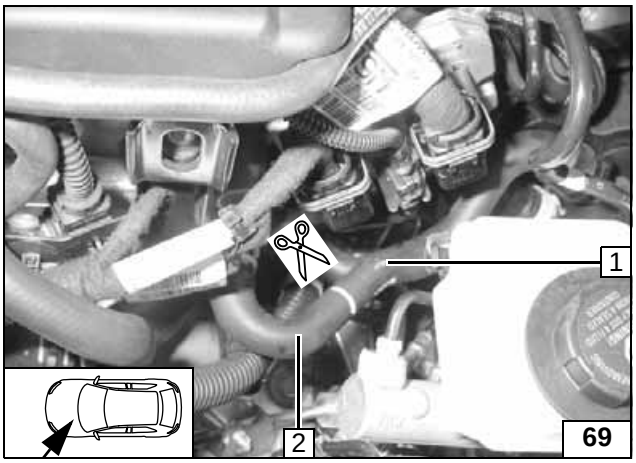
Align hoses **A** and **B** over entire length and fix in place with cable ties.
Align black (sw) rubber profiles.



1.8 litre petrol

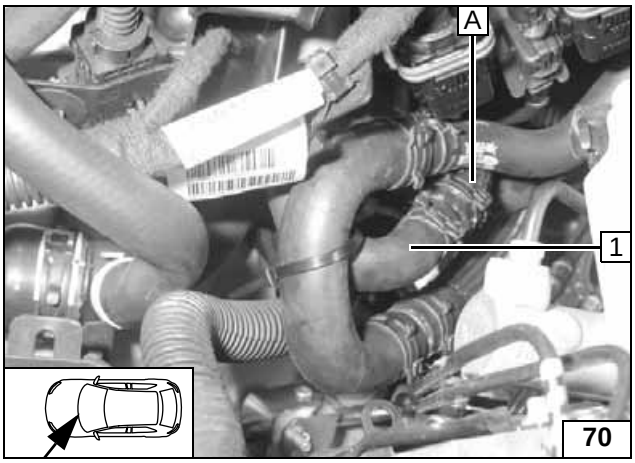
Route coolant hose to cutting point.

Routing in engine compartment



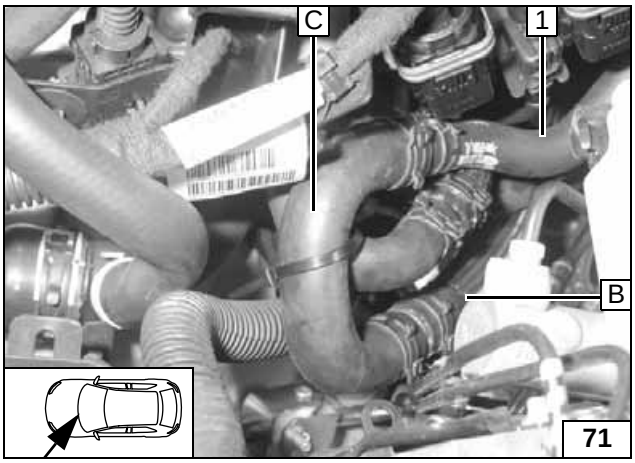
(**1**) Hose section of heat exchanger inlet
(**2**) Engine outlet hose section

Cutting point



(**1**) Hose of engine outlet

Connection to engine outlet

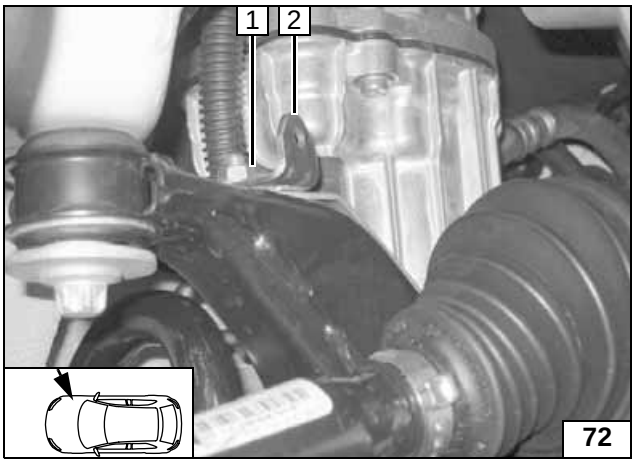


Before connecting, fill the water hoses with coolant.
Long side of 180° elbow on hose (**1**).

(**1**) Hose on heat exchanger inlet

Connection to heat exchanger inlet

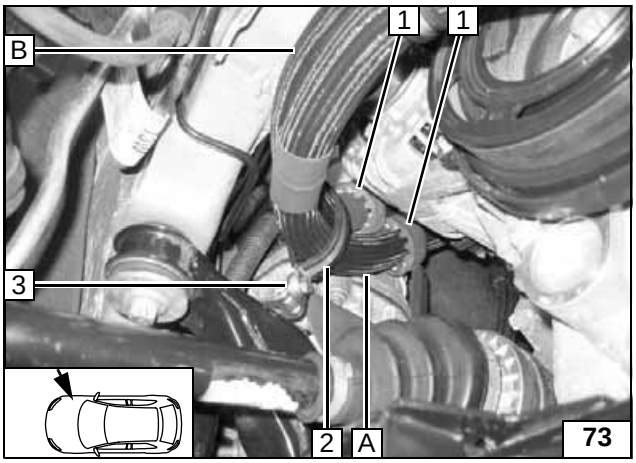
Align hose **A**, **B** and **C** over entire length and fix in place with cable ties.



2.0 litre petrol

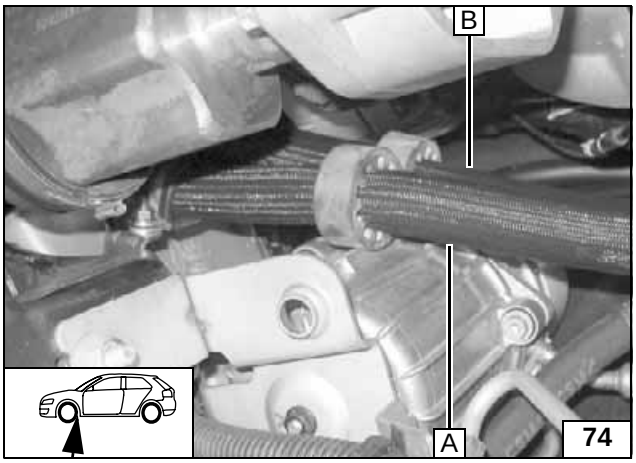
(**1**) Original vehicle nut
(**2**) Angle bracket

Routing in engine compart-ment



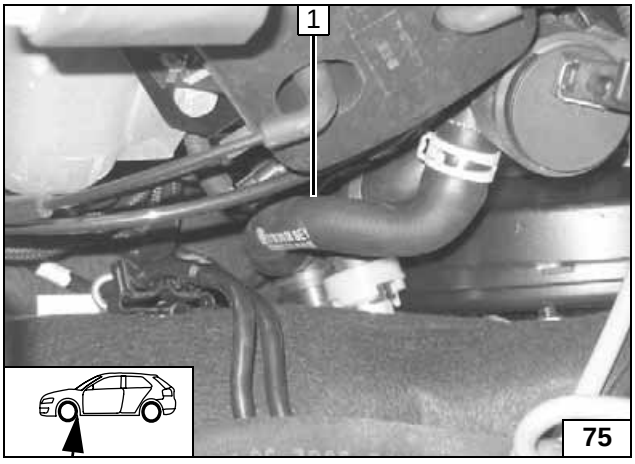
(**1**) Black (sw) rubber profile [2x]
(**2**) Rubber-coated p-clamp, 48 mm dia.
(**3**) M6x20 bolt, flanged nut

Routing in engine compart-ment



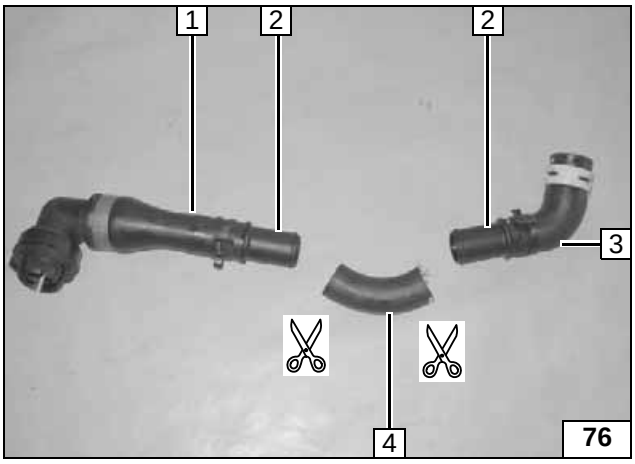
Position black (sw) rubber isolator as shown

Routing in engine compart-ment



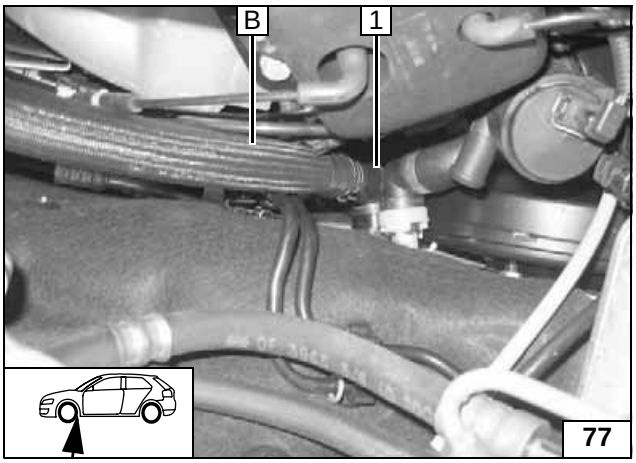
(**1**) Engine outlet hose to heat exchanger inlet

Removing hose



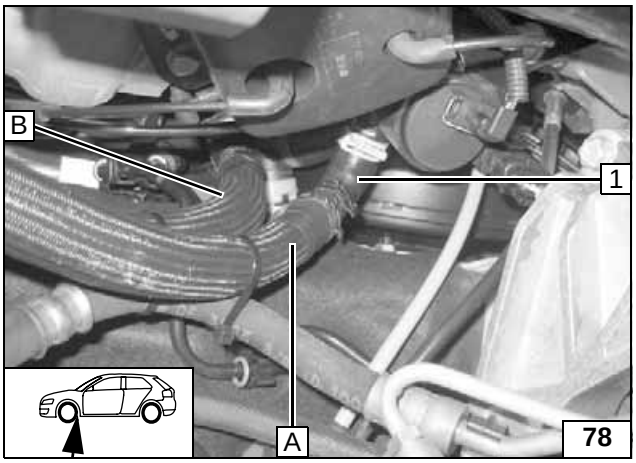
(**1**) Hose section of heat exchanger inlet
(**2**) 15x20 mm dia. connecting pipe; 22 mm dia. spring clip [2x]
(**3**) Engine outlet hose section
(**4**) Discard section

Cutting point



(**1**) Premounted hose section on heat exchanger inlet

Connection to heat exchanger inlet



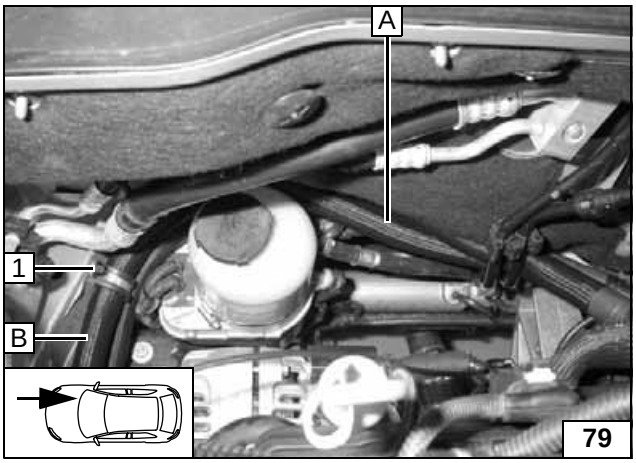
Before connecting, fill the water hoses with coolant.

(**1**) Premounted hose section on engine outlet

Connection to engine outlet

Align hoses **A** and **B** over entire length and fix in place with cable ties.
Align black (sw) rubber profiles

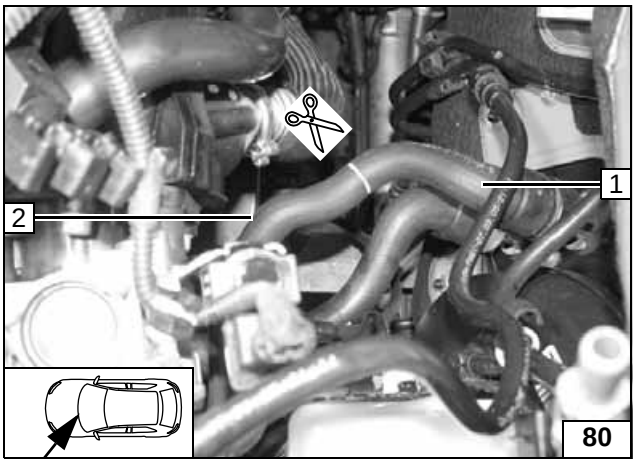
1.3 litre diesel



Route coolant hose to cutting point.

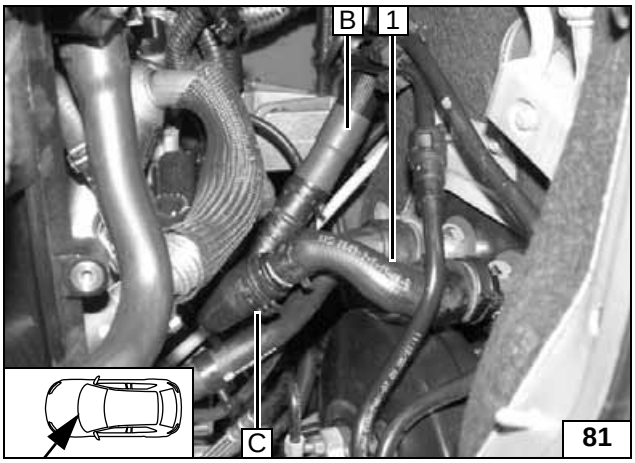
(**1**) Original vehicle stud bolt, rubber-coated p-clamp, plastic nut

Routing in engine compartment



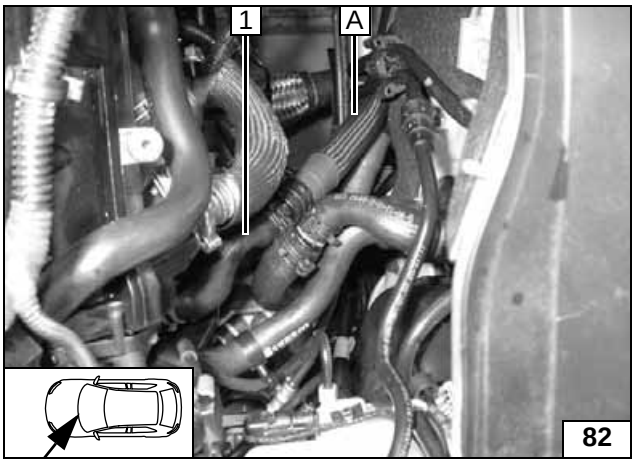
(**1**) Hose section of heat exchanger inlet
(**2**) Engine outlet hose section

Cutting point



(**1**) Hose on heat exchanger inlet

Connection to heat exchanger inlet



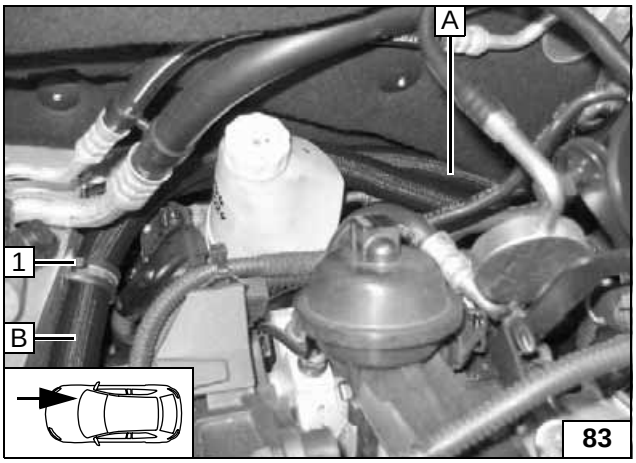
Before connecting, fill the water hoses with coolant.

(**1**) Hose of engine outlet

Connection to engine outlet

Align hose **A**, **B** and **C** over entire length and fix in place with cable ties.

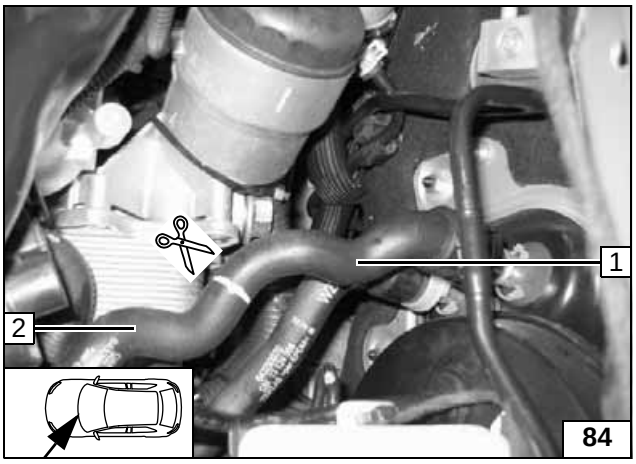
1.7 litre diesel



Route coolant hose to cutting point.

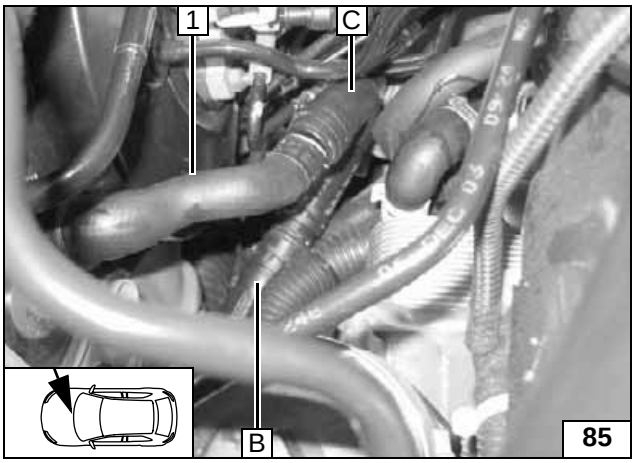
(**1**) Original vehicle stud bolt, rubber-coated p-clamp, 29 mm dia. plastic nut

Routing in engine compartment



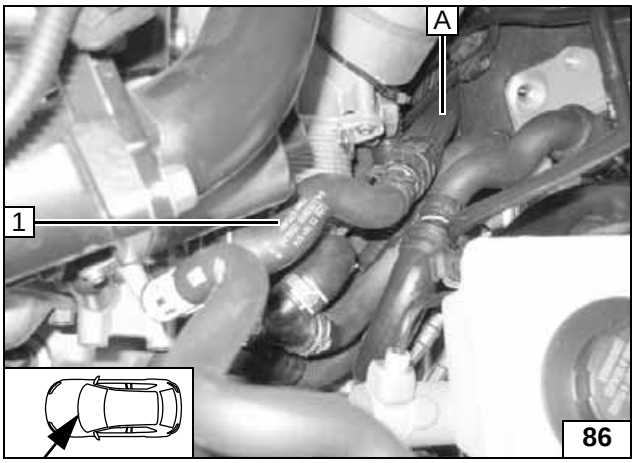
(**1**) Hose section of heat exchanger inlet
(**2**) Engine outlet hose section

Cutting point



(**1**) Hose on heat exchanger inlet

Connection to heat exchanger inlet



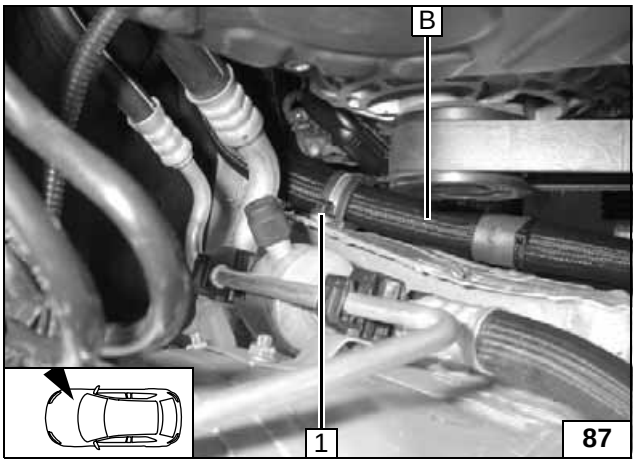
Before connecting, fill the water hoses with coolant.

(**1**) Hose of engine outlet

Connection to engine outlet

Align hose **A**, **B** and **C** over entire length and fix in place with cable ties.

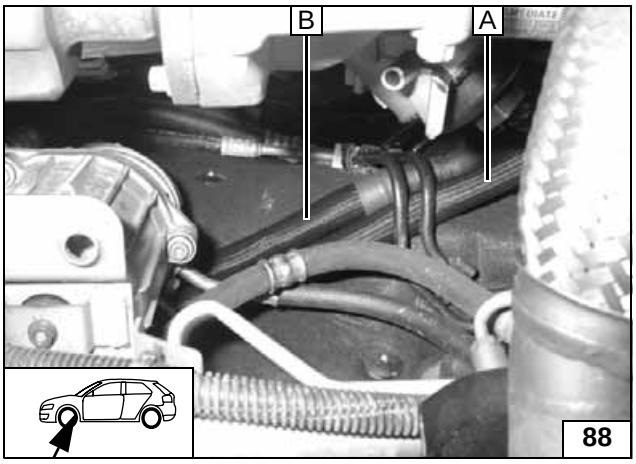
1.9 litre diesel



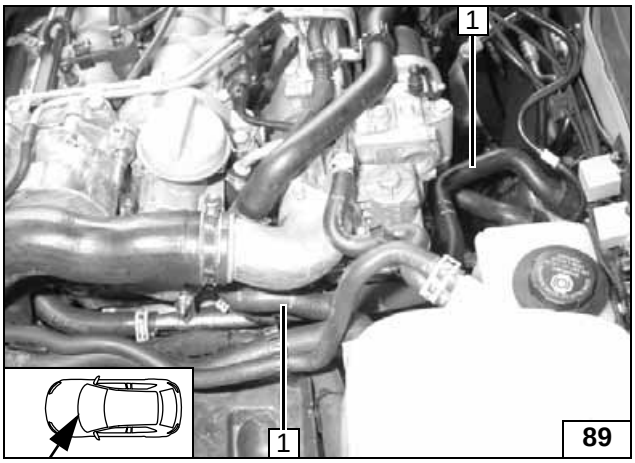
Route coolant hose to cutting point.

(**1**) Original vehicle stud bolt, rubber-coated p-clamp, plastic nut

Routing in engine compartment

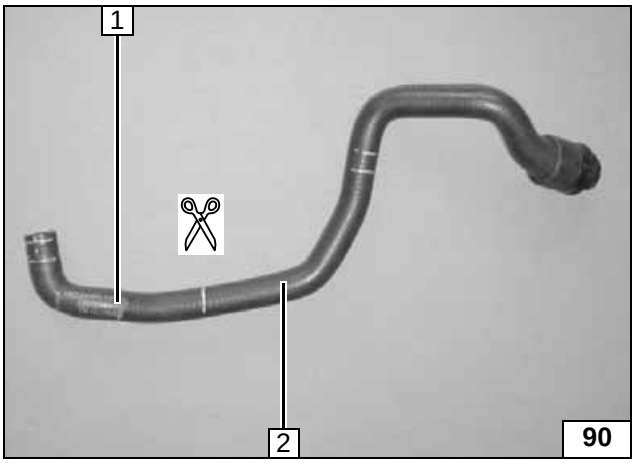


Routing in engine compartment



(**1**) Engine outlet hose to heat exchanger inlet

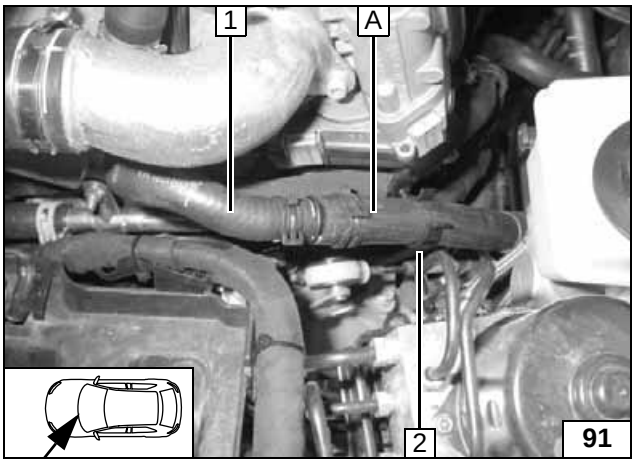
Removing hose



Protective hose removed before cutting.

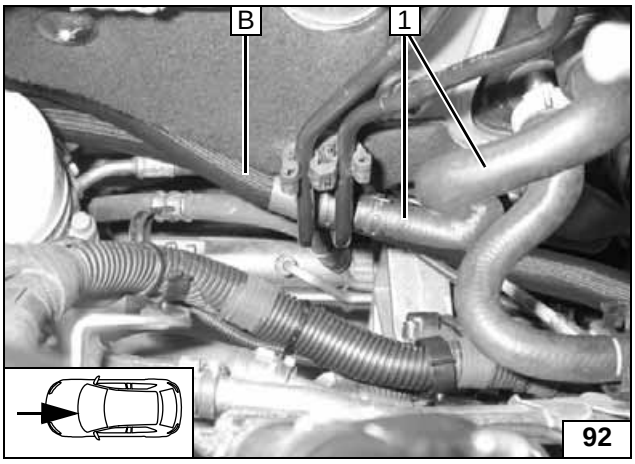
(**1**) Engine outlet hose section
(**2**) Hose section of heat exchanger inlet

Cutting point



(**1**) Hose of engine outlet
(**2**) Spacer bracket

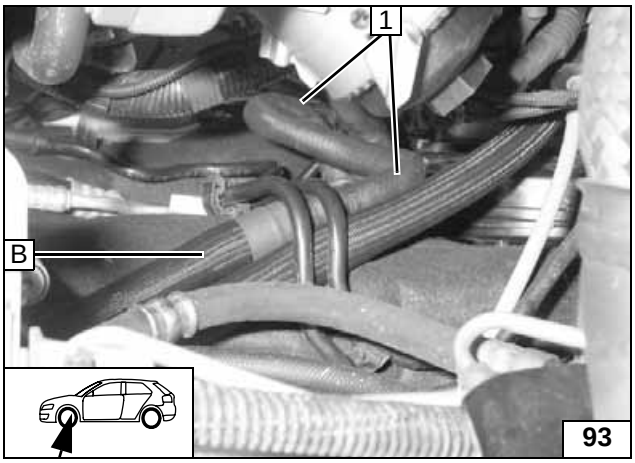
Connection to engine outlet



Before connecting, fill the water hoses with coolant.
Align hose section from heat exchanger inlet (**1**) to right when installing.

(**1**) Hose on heat exchanger inlet

Connection to heat exchanger inlet

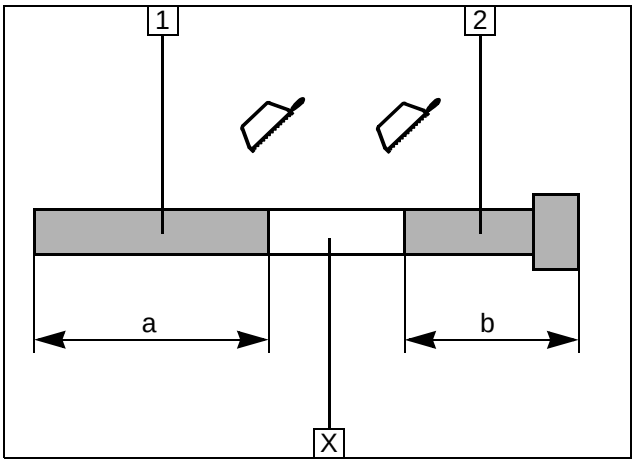


View from below.

(**1**) Hose on heat exchanger inlet

Connection to heat exchanger inlet

Align hoses **A** and **B** over entire length and fix in place with cable ties.

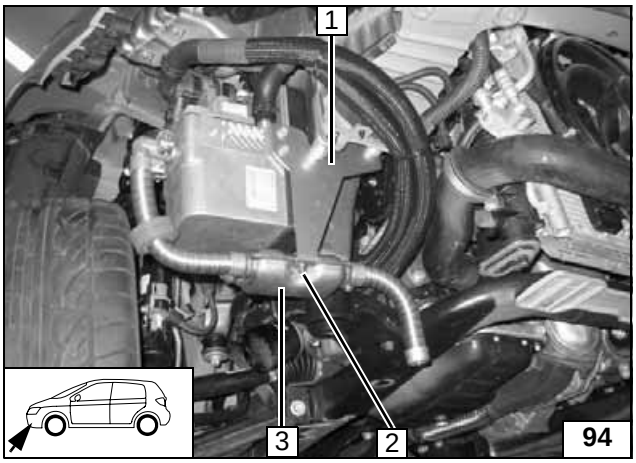


Exhaust gas

(**1**) Exhaust pipe
a = 200mm
(**2**) Exhaust end section
b = 100mm

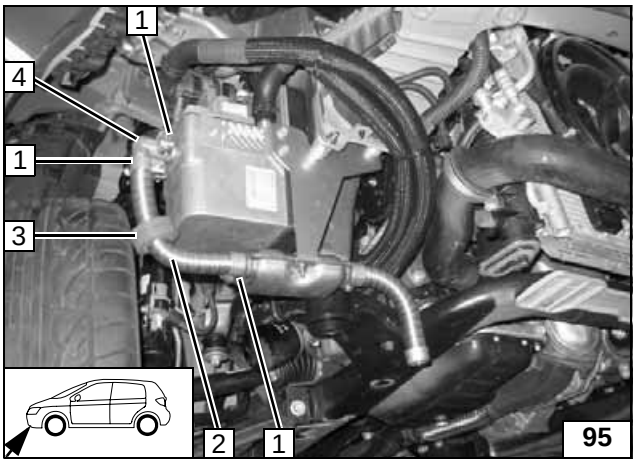
Discard section **X**

Preparing exhaust pipe



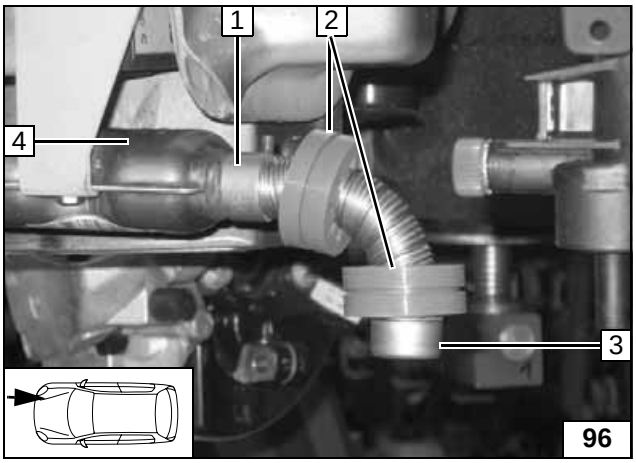
1 Bracket
2 M6x20 bolt, flanged nut
3 Silencer

Installing silencer



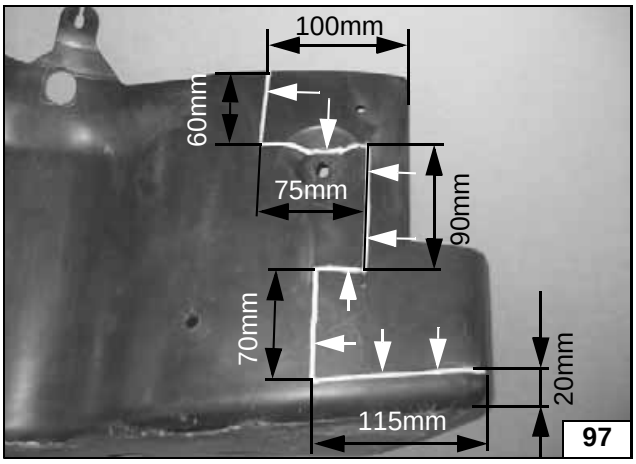
4 Exhaust elbow
2 Exhaust pipe
3 Red (rt) rubber isolator
1 Hose clamp [3x]

Mounting exhaust pipe



4 Exhaust silencer
3 Exhaust end section
1 Hose clamp
2 Position red (rt) rubber isolator [2x]

Mounting exhaust pipe and end section

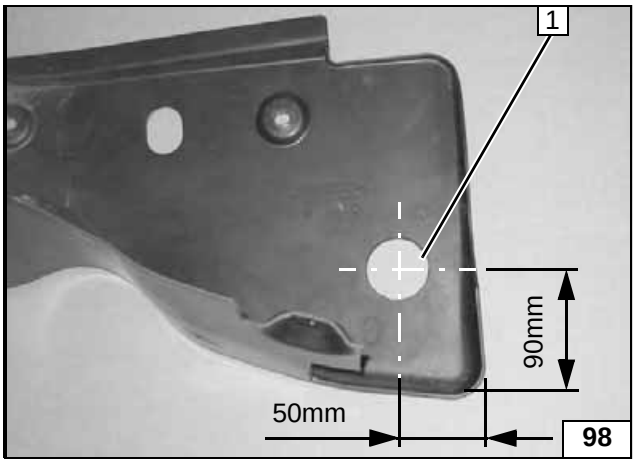


Petrol

Design of underride protection/wheel well trim is dependent on vehicle equipment

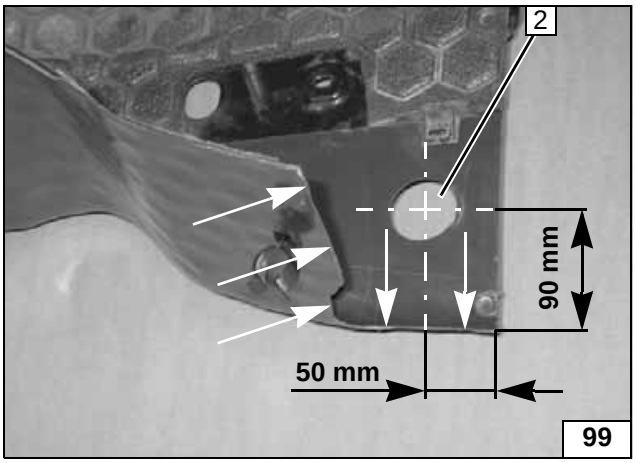
Cut out underride protection/wheel well trim on marking.

Underride protec-tion/wheel well trim



(**1**) 42 mm dia. hole

Underride protection / wheel well trim



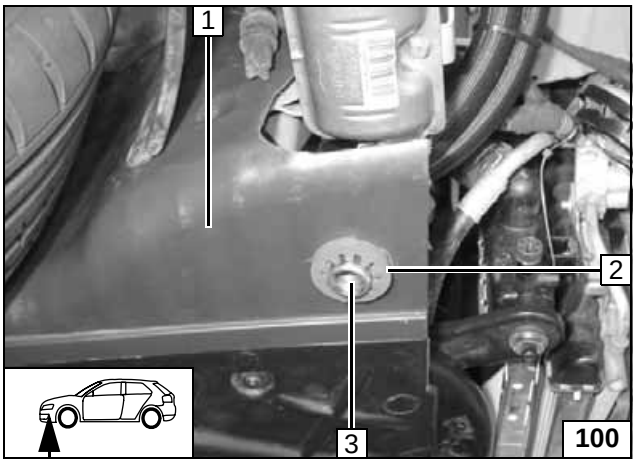
Diesel

Design of underride protection/wheel well trim is dependent on vehicle equipment

Cut out underride protection/wheel well trim on marking.

(**1**) 42 mm dia. hole

Underride protec-tion/wheel well trim

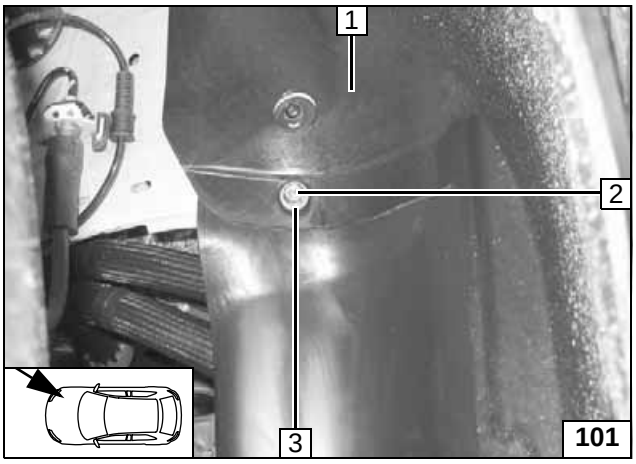


All vehicles

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

(**1**) Underride protection / wheel well trim
(**2**) Red (rt) rubber isolator positioned with groove in trim
(**3**) Exhaust end section

Underride protec-tion/wheel well trim



(**1**) Wheel well trim
(**2**) Premounted bolt from fastening of coolant hoses
(**3**) Flanged nut and large diameter washer 22mm dia.

Final Work

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

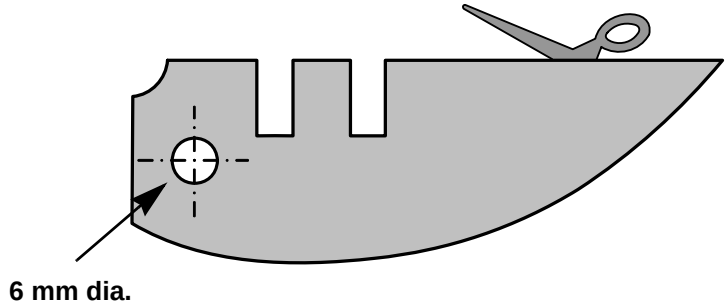
- **Connect the battery.**
- **Fill and bleed the coolant circuit according to the vehicle manufacturer's specifications.**
- **Set the digital timer, teach Telestart transmitter**
- **Make settings on A/C control panel according to the "Operating Instructions for End Customer".**
- **Place the "Switch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

Webasto AG
Postfach 80
D-82132 Stockdorf / Germany
National Hotline: 01805 93 22 78
(14 Cent aus dem deutschen Festnetz)
Hotfax: 0395 5592 353
Hotmail: technikcenter@webasto.com
http://www.webasto.com

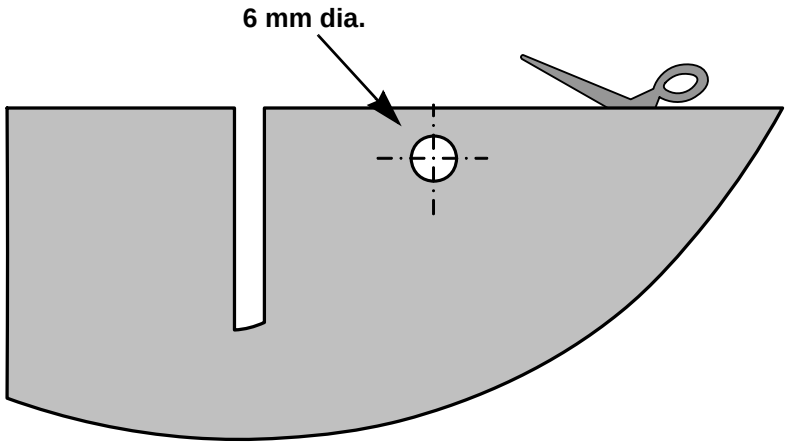
Template for fuel-tank sending unit

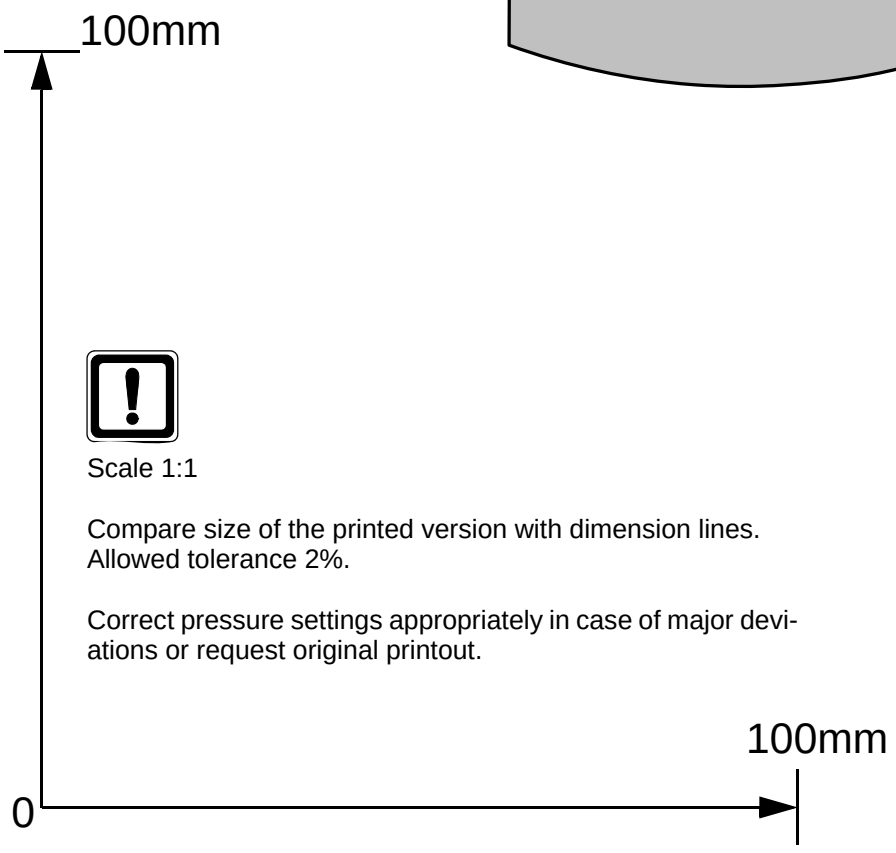
The template is dependent on the respective vehicle equipment.

All vehicles except Z17DTR / A17DTR and Z17DTJ / A17DTJ:



Z17DTR / A17DTR and Z17DTJ / A17DTJ:



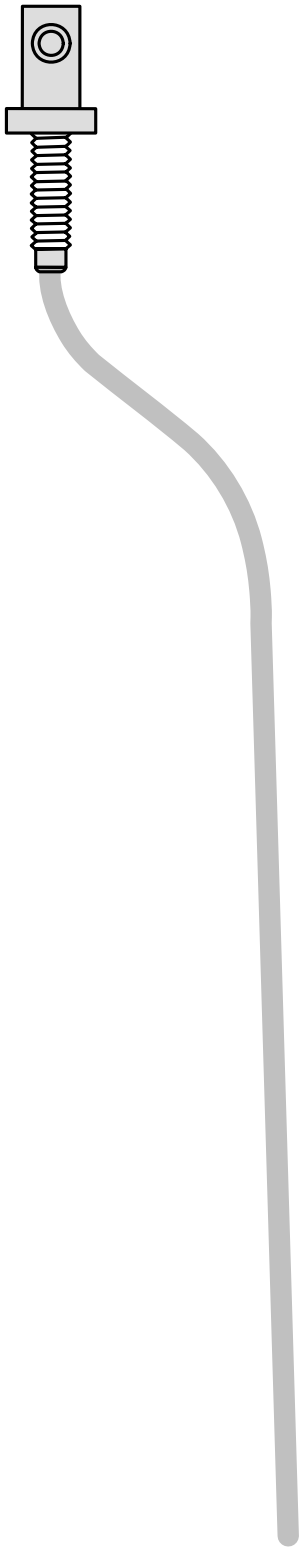


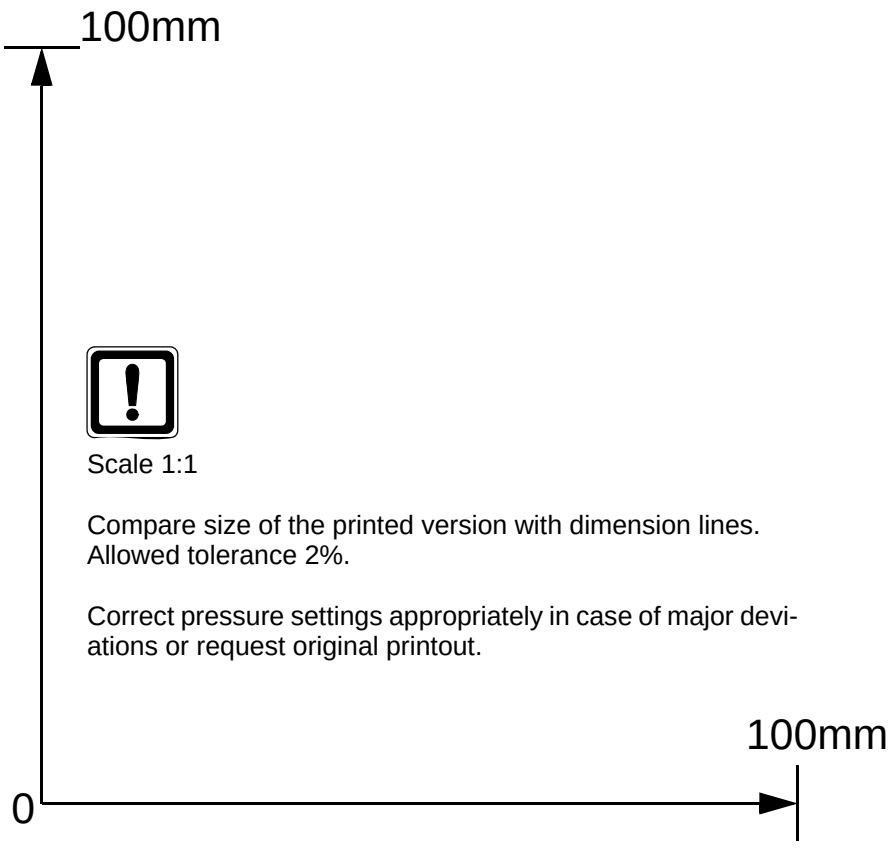
Scale 1:1

Compare size of the printed version with dimension lines.
Allowed tolerance 2%.

Correct pressure settings appropriately in case of major deviations or request original printout.

Template for Fuel Standpipe





Scale 1:1

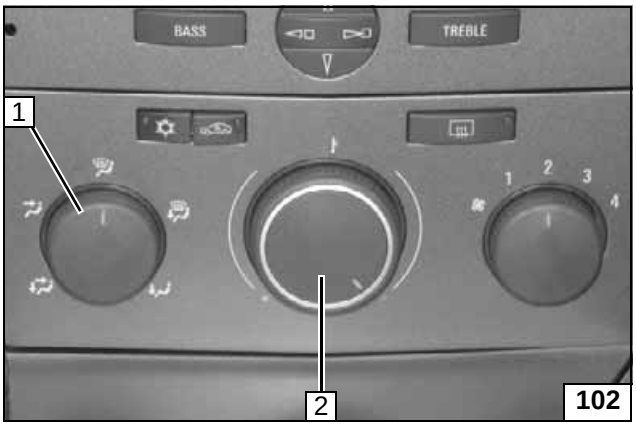
Compare size of the printed version with dimension lines.
Allowed tolerance 2%.

Correct pressure settings appropriately in case of major deviations or request original printout.

Operating Instructions for End Customer

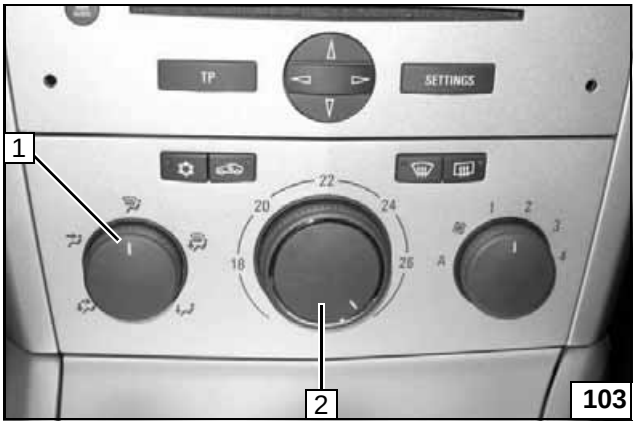
Please remove page and add to the vehicle operating instructions.

Passenger compartment monitoring, when installed, is deactivated when operating the parking heater.
Before parking the vehicle, make the following settings:



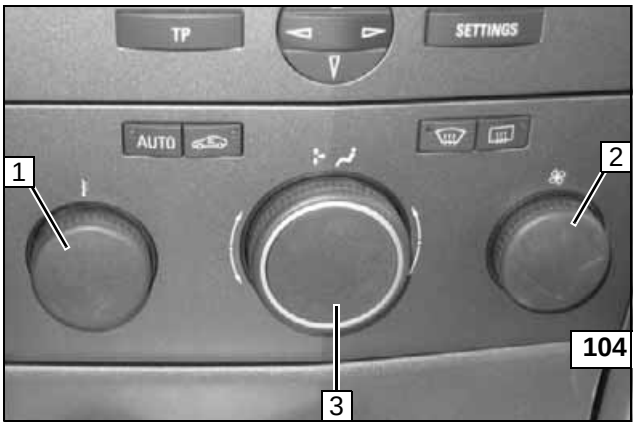
(**1**) Set air distribution to "Defrost"
(**2**) Set temperature to "max."

Vehicles with "Heating and ventilation system"



(**1**) Set air distribution to "Defrost"
(**2**) Set temperature to "max."

Vehicles with "Automatic air conditioning" (SAC)



Observe the sequence of the settings (see following figure).

(**3**) Air distribution upward
(**1**) Set temperature to "max."
(**2**) Set fan to level "3"

Vehicles with "automatic air-conditioning“ (ECC)

Vehicles with "automatic air-conditioning" (ECC)