Water Heater Unit

Webasto
Feel the drive

***Thermo Top C* Additional Heater** e1 00 0002

***Thermo Top P* Additional Heater** e1 00 0104

Installation Instructions

Dodge Journey (JC)

Gasoline and Diesel
from Model Year 2008
Left-hand drive vehicle

WARNING!

Hazard warning:

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

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

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

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

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

Ident. No.:1314082B_EN Fee Euro 10.00

Table of Contents

Validity

Manufacturer	Model	Type	EG-BE No./ABE
Chrysler (USA)	Dodge Journey	JC	e1 1* 2001/116 * 0145 * ...

Engine type	Engine model	Output in kW	Displacement in cm³
b	Gasoline	125	2360
BWD	Diesel	103	1968

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

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

Heater Unit/Installation Kit

Quantity	Description	Order No.:
1	Retail accessories with desired heater control	See price list
1	Installation kit for Dodge Journey (JC) Gasoline and Diesel	1314071A
1	Kit for with Automatic Air-Conditioning	1313906A

Heater unit recommended for the respective vehicle class:

Vehicle	Heater Unit
Mid-size car, station wagon	Thermo Top C
Full-size car, van, offroader	Thermo Top P

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

Foreword

These installation instructions apply to Dodge Journey (JC) Gasoline and Diesel vehicles - for validity, see page 2 - from model year 2008 and later, assuming technical modifications to the vehicle do not affect installation, any liability claims excluded. Depending on the vehicle version and equipment, modifications may be necessary during installation with respect to these installation instructions.

However, the stipulations in the "installation instructions" and "operating and maintenance instructions" for the *Thermo Top C/P* 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 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).

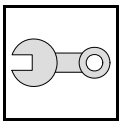
Special Tools

- Torque wrench for 2.0 - 10 Nm
- Hose clamping pliers
- Metric thread-setter kit
- Chrysler Special Tool for Fuel-Tank Sending Unit

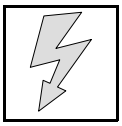
Explanatory Notes on Document

To provide you with a quick overview of the individual working steps, you will find an identification mark on the outside top right corner of the page in question.

Mechanical system

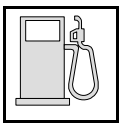


Electrical system

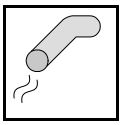


Coolant

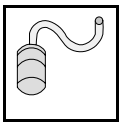
Fuel



Exhaust gas



Combustion air



Software

Special features are highlighted using the following symbols:

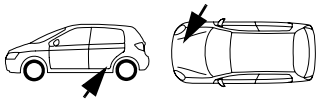
Specific risk of injury or fatal accidents.

Specific risk of damage to components.

Specific risk of fire or explosion.

Reference to general installation instructions of 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.

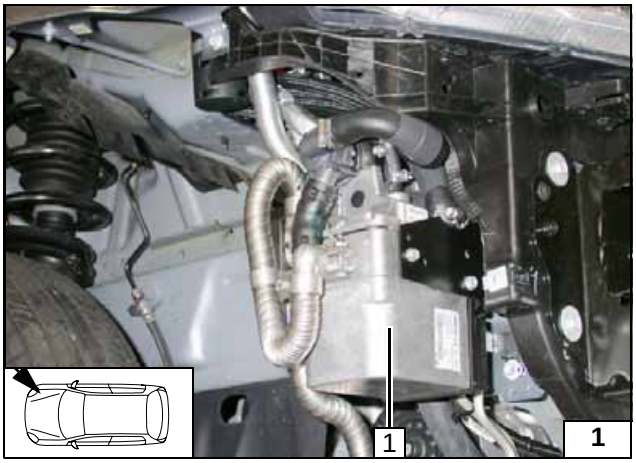
All dimensions are in mm!
Tightening torque of hose clamps = 2.0 + 0.5 Nm!
Tightening torque of Ejot screws, Ejot studs = 10 Nm!

Preliminary Work

WARNING!

- 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.
- Detach the servo reservoir.
- Detach the coolant expansion tank.
- Detach the fuse and relay box in the engine compartment.
- Detach and remove the right and left-hand wheel well trim.
- Remove the bumper.
- Remove the underride protection.
- Remove the fuel tank in accordance with the manufacturer's instructions (empty if necessary).
- Remove the lower instrument panel trim in the driver's side footwell.
- Remove the trim below the steering wheel.

Remove page 34 "Operating Instructions for End Customer" and add to the vehicle operating instructions.



Heater unit installation location

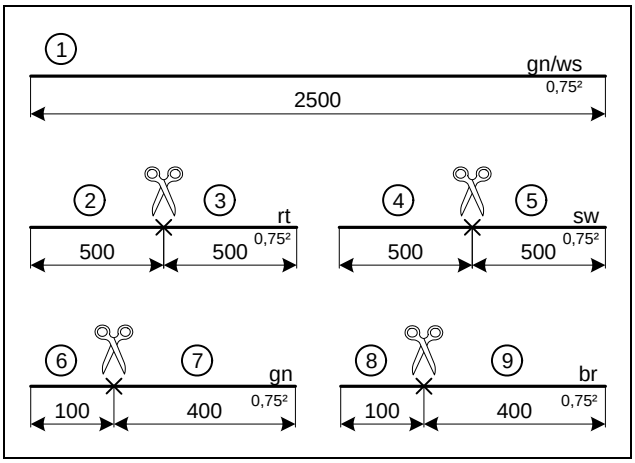
1 Heater unit

Installation location

Preparing electrical system

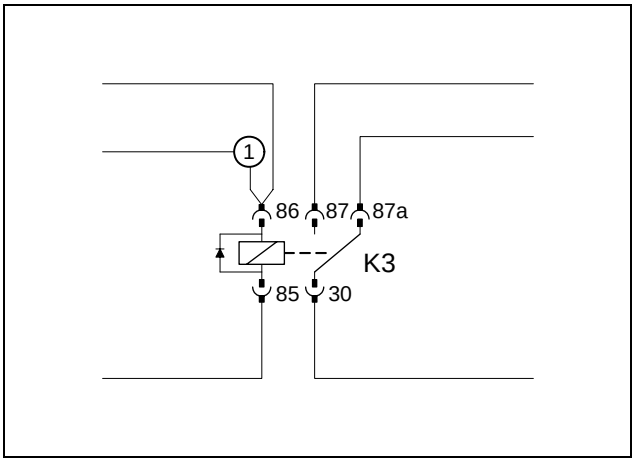
Automatic air-conditioning

Cutting wires to length



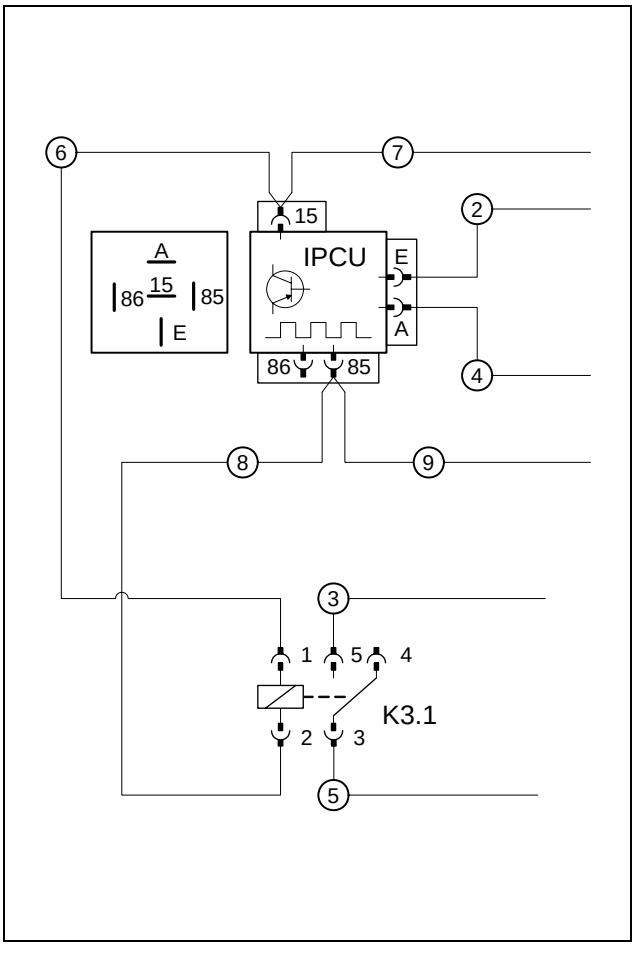
Produce connections as shown in wiring diagram. Cut 400 mm from protective sleeving. Pull wire section **1** into 2,100 mm protective sleeving.

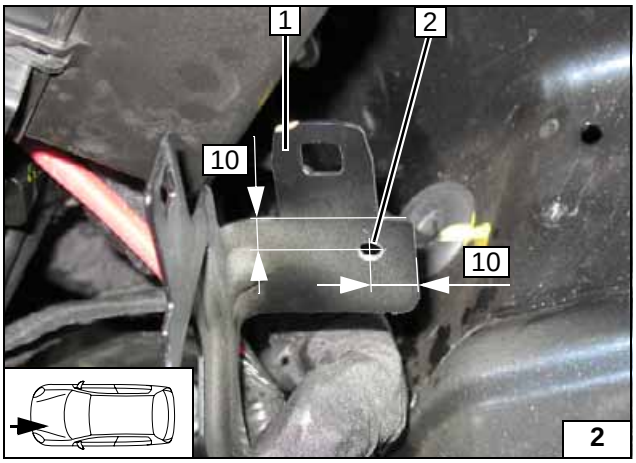
Preparing K3



Produce connections as shown in wiring diagram. Connect wires to IPCU.
IPCU view on contact side!
Pull wiring sections **3** and **5** into 400 mm protective sleeving.

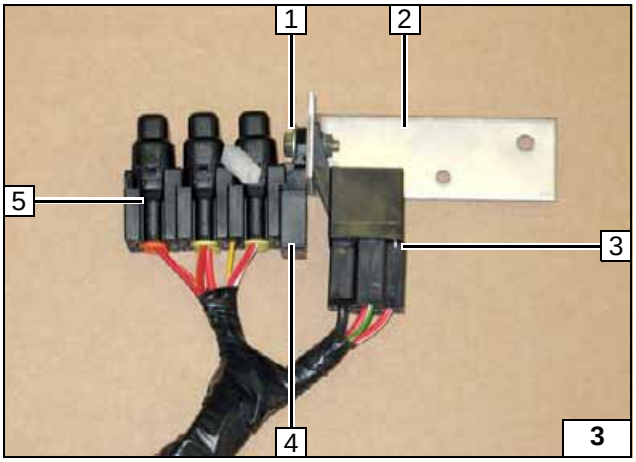
Preparing IPCU and K3.1





1 Bracket of fuse and relay box
2 5.5 mm dia. hole

Hole for angle bracket



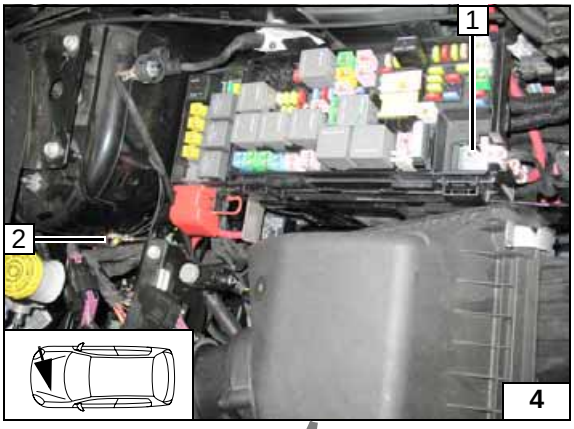
1 M5x16 bolt, washer, flanged nut
2 Fuse holder
3 K3 relay
4 Retaining plate for fuse holder
5 Fuses pushed on

Premount wiring harness

Electrical system

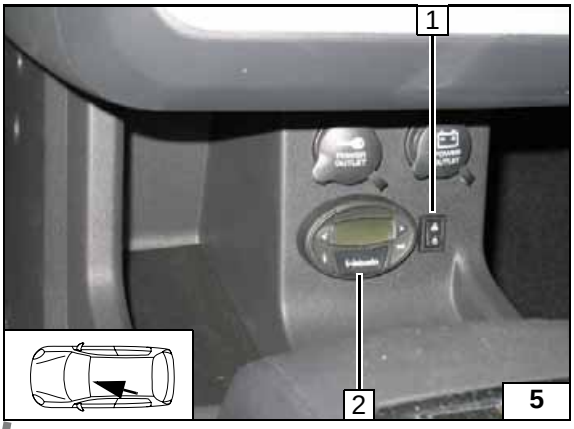
Positive and ground connection

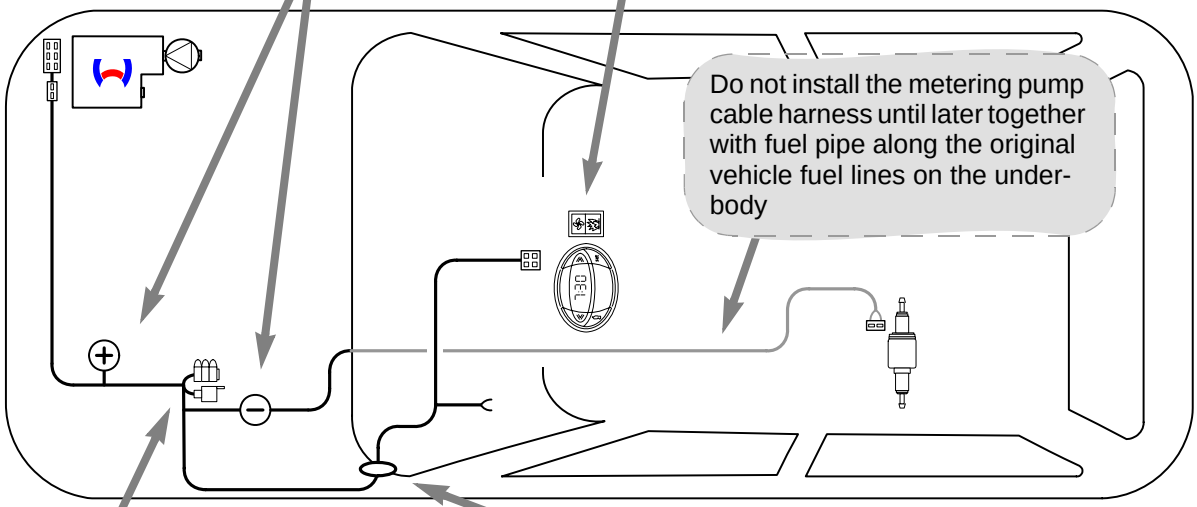
1 Positive wire on original vehicle positive support point
2 Ground wire on original vehicle ground support point



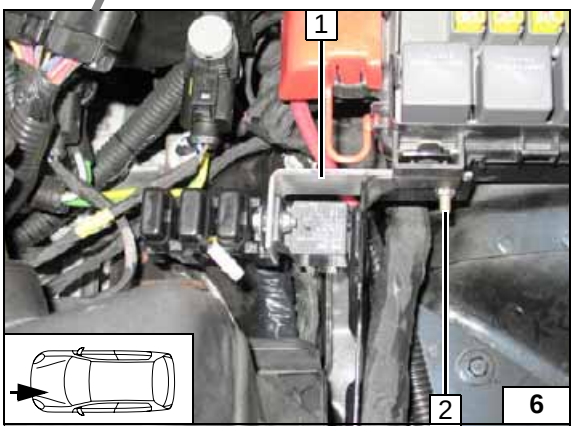
Digital timer and summer/winter switch option

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



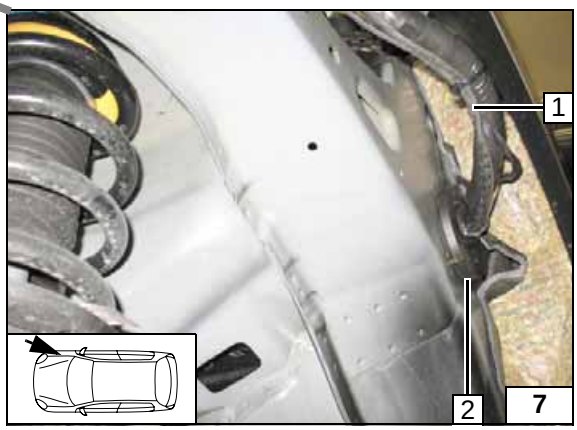


Wiring harness installation diagram



Fuse holder, K3 relay

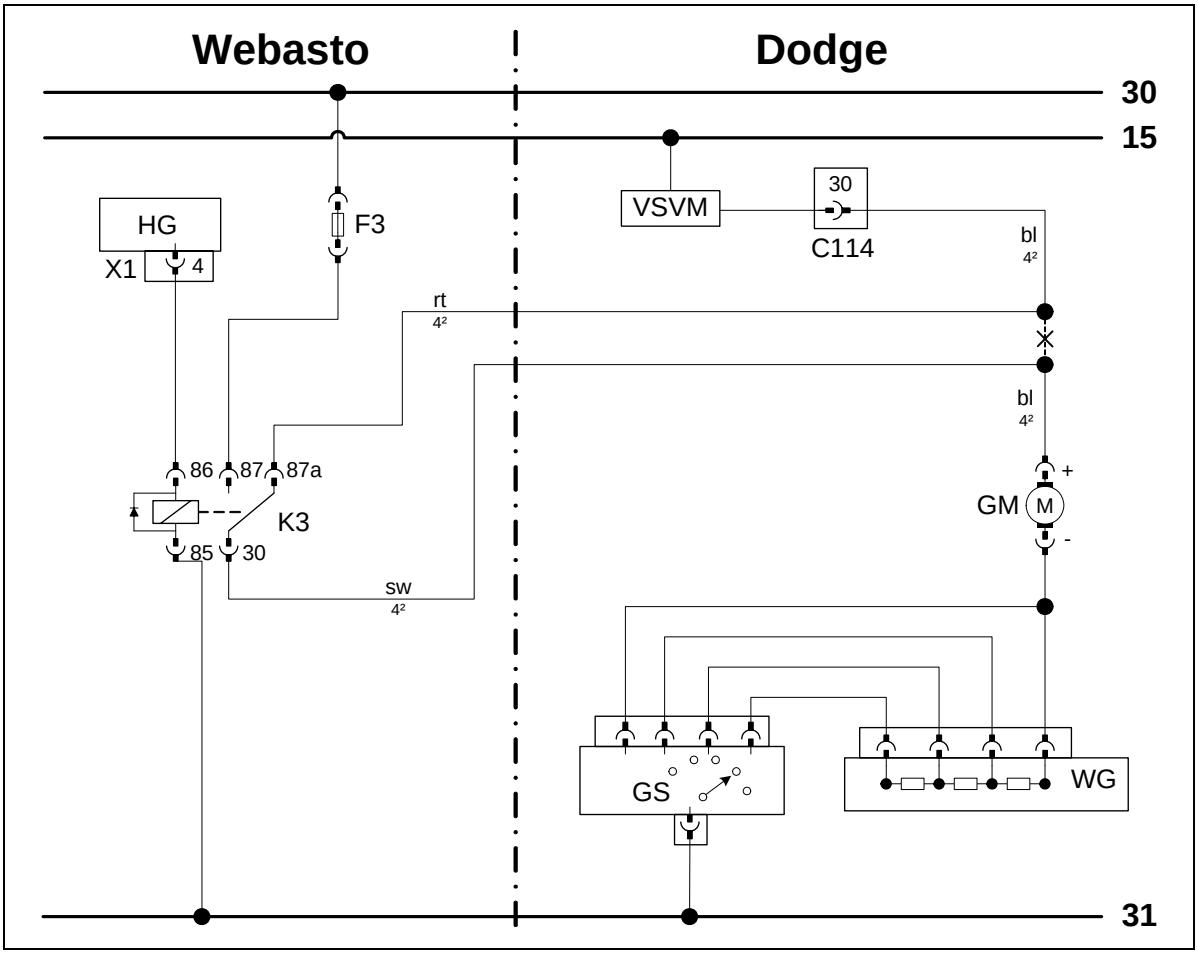
1 Angle bracket
2 M5x16 bolt, washers, M5 flanged nut



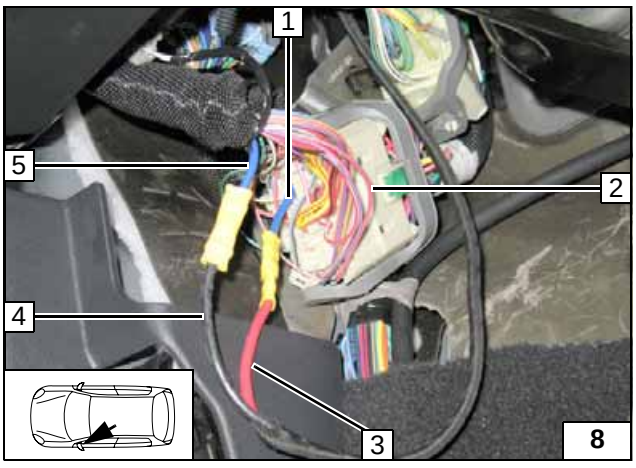
Wiring harness pass through

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

Fan controller for manual air conditioning



Webasto components		Vehicle components		Colors and symbols	
HG	Heater unit TT-C/E	GM	Fan motor	rt	red
X1	6-pin heater unit connector	WG	Resistor group	bl	blue
F3	25 A fuse	GS	Fan switch	sw	black
K3	Fan relay	VSVM	Power supply module		
		C114	57-pin connector		
				X	Cutting point
				Wiring colors may vary.	



Connection on 57-pin connector C114 **2** in driver's side footwell.
Produce connections as shown in wiring diagram.

1 Blue (bl) wire connector C114/30
3 Red (rt) wire from K3/87a
4 Black (sw) wire from K3/30
5 Blue (bl) wire of fan motor

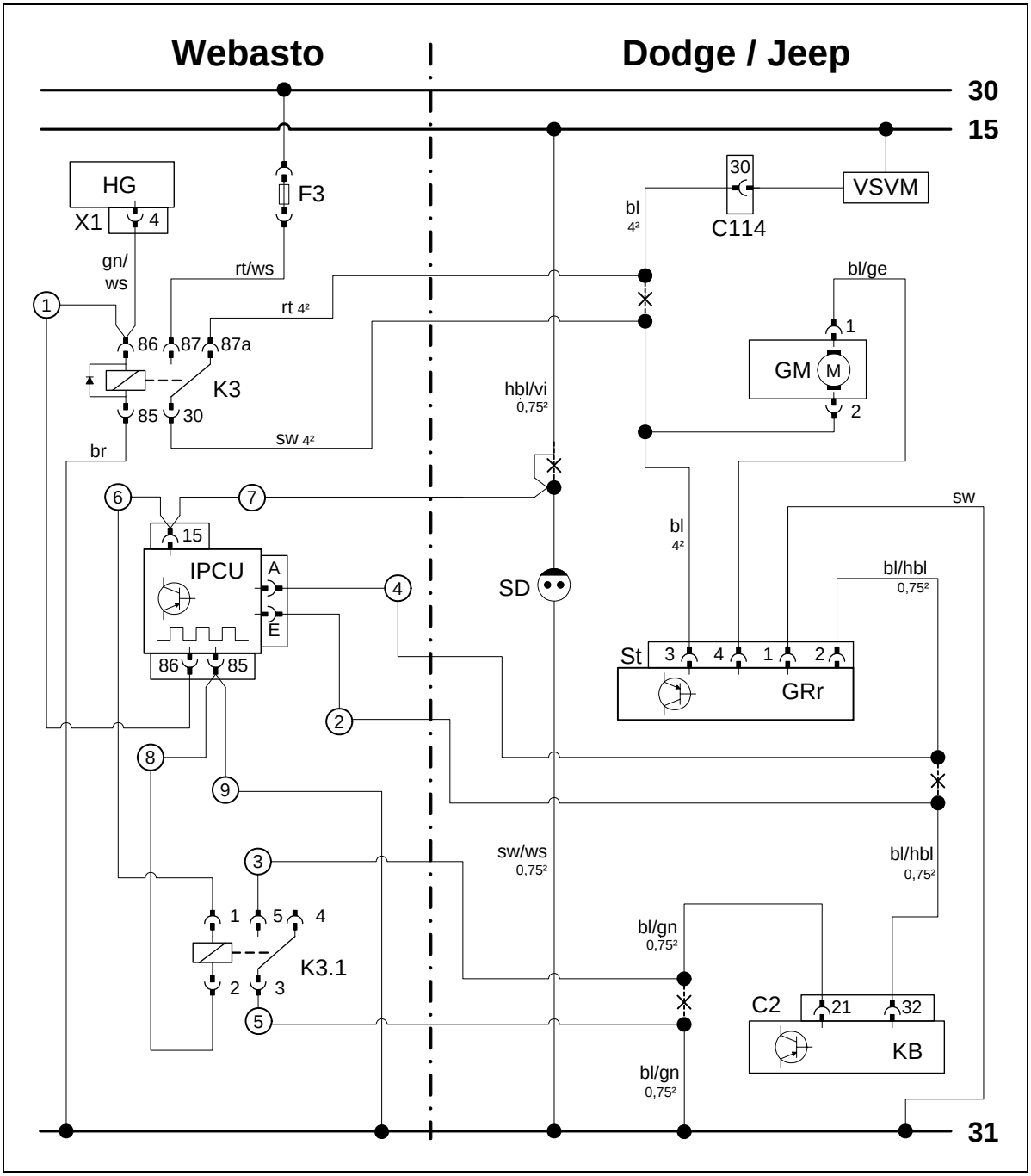
Wiring diagram

Legend

Connecting fan-motor

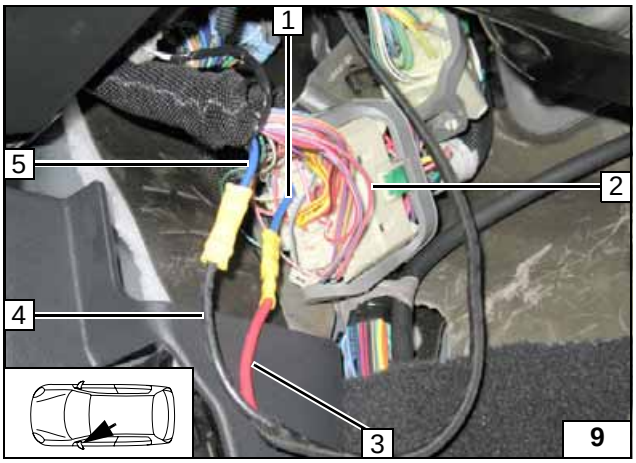
Automatic air-conditioning fan controller

Wiring diagram



Webasto components		Vehicle components		Colors and symbols	
HG	Heater unit TT-C/E	GM	Fan motor	rt	red
X1	6-pin heater unit connector	GRr	Fan controller	ws	white
F3	25 A fuse	KB	A/C control panel	sw	black
K3	Fan relay	ST	4-pin connector, GRr	br	brown
K3.1	Additional relay	C2	32-pin connector KB	ge	yellow
IPCU	Pulse width modulator	C114	57-pin connector	bl	blue
		VSVM	Power supply module	hbl	light blue
IPCU adjustment values:				vi	violet
Duty cycle:	55 %	SD	Socket outlet of instrument panel	gn	green
Frequency:	100 Hz				
Voltage:	6,2 V			**X**	Cutting point
Function:	Low-side			Wiring colors may vary.	

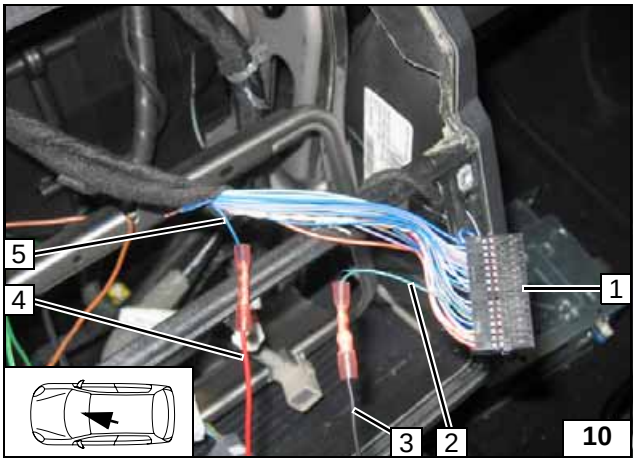
Legend



Connection on 57-pin connector C114 **2** in driver's side footwell.
Produce connections as shown in wiring diagram.

1 Blue (bl) wire connector C114/30
3 Red (rt) wire from K3/87a
4 Black (sw) wire from K3/30
5 Blue (bl) wire of fan motor

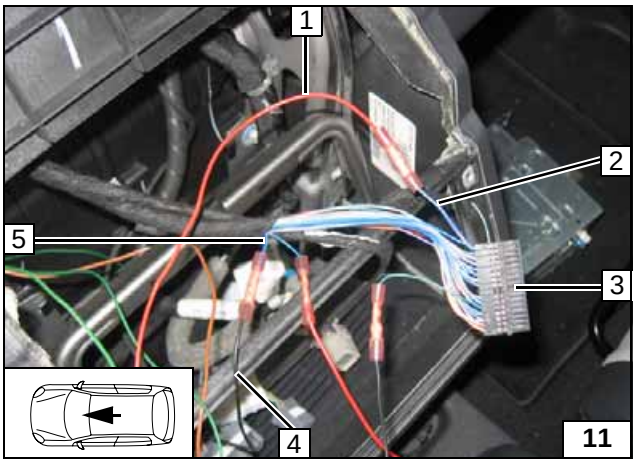
Connecting fan-motor



Connection K3.1 on 32-pin connector **1** from A/C control panel. Connector housing removed!

2 Blue/green (bl/gn) wire, Pin 21
3 Black (sw) wire K3.1/3
4 Red (rt) wire to K3.1/5
5 Blue/green (bl/gn) wire of vehicle ground

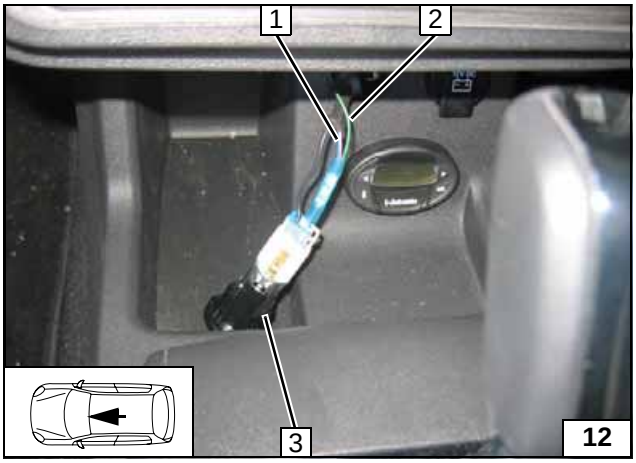
Connection to flap controller



Connection to IPCU on 32-pin connector **3** from A/C control panel. Connector housing removed!

1 Red (rt) wire of IPCU/E
2 Blue/light blue (bl/hbl) wire, Pin 32
4 Black (sw) wire of IPCU/A
5 Blue/light blue (bl/hbl) wire of fan controller, Pin 2

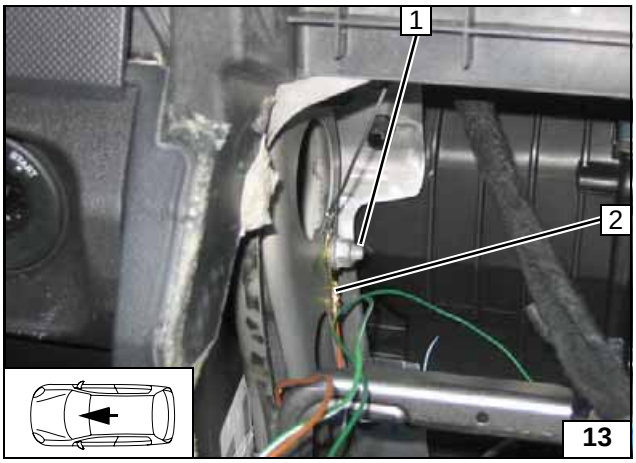
Connecting fan controller



Connection on left-hand socket outlet **3** +15.

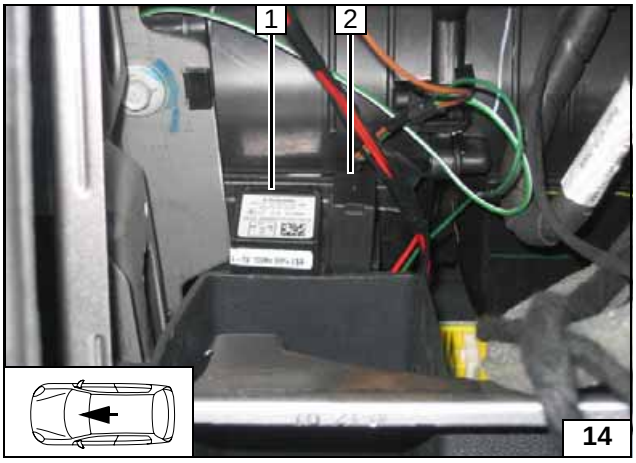
1 Light blue/violet (hbl/vi) positive wire of socket outlet (Terminal 15)
2 Green (gn) wire IPCU/15

Connection of Terminal 15



1 Ground support point
2 Ground wire for IPCU and K3.1

Connection to terminal 31



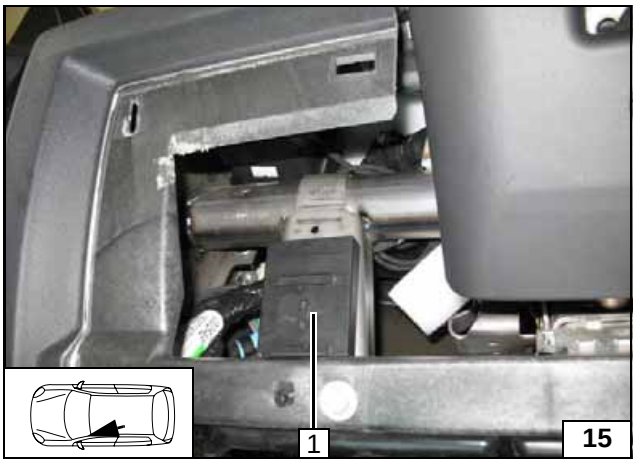
Interconnect socket of IPCU **1** and socket of relay K3.1 **2** and fasten with adhesive tape.

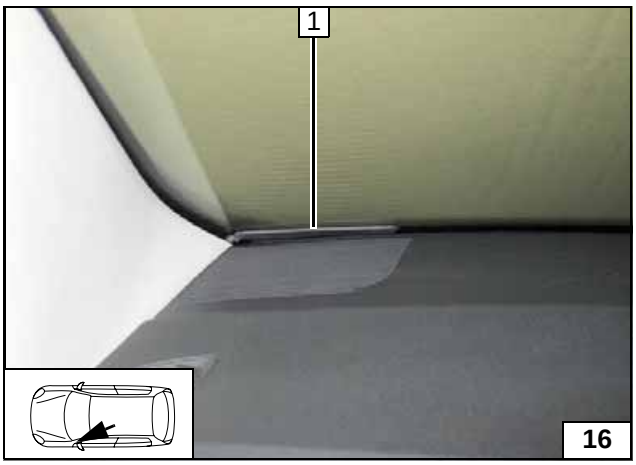
Fastening IPCU

Remote option (Telestart)

Fasten receiver **1** with adhesive tape.

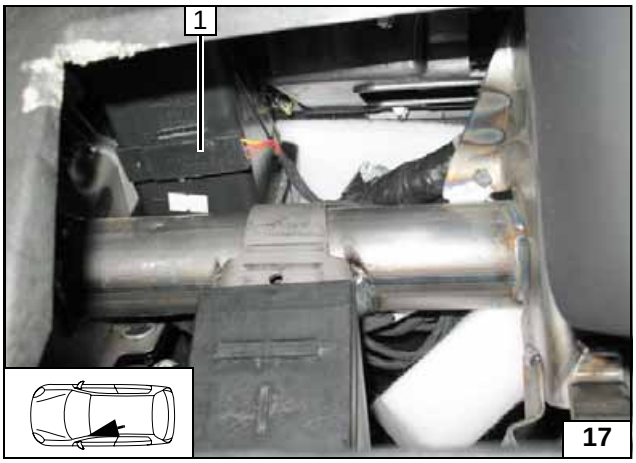
Installing receiver





1 Antenna

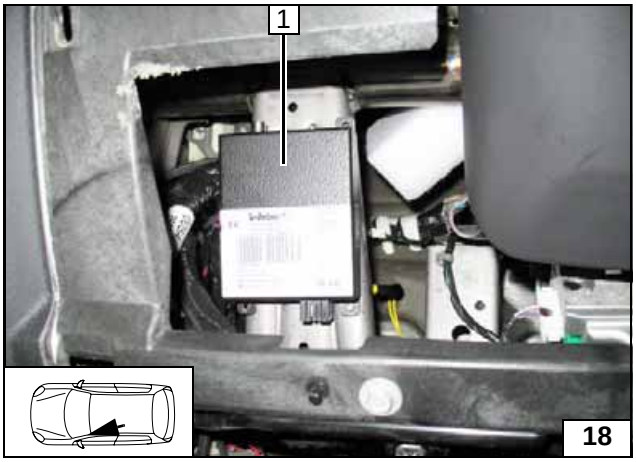
Installing antenna



Temperature sensor for HTM100 only

Fasten temperature sensor **1** with adhesive tape.

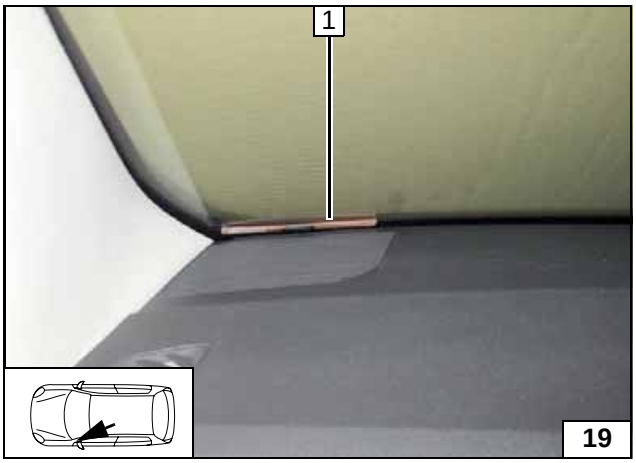
Installing temperature sensor



Thermo Call option

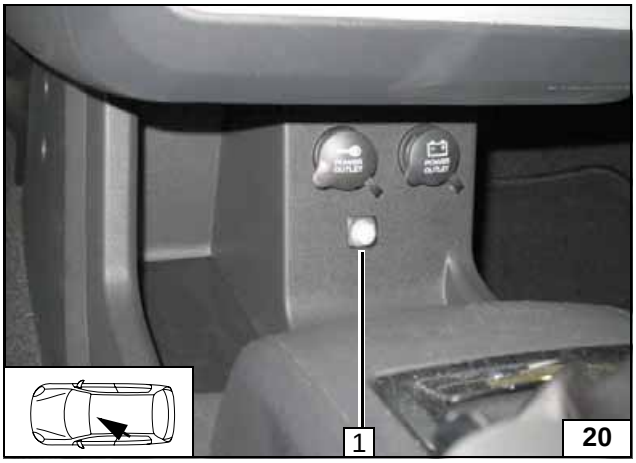
Fasten receiver **1** with adhesive tape.

Installing receiver



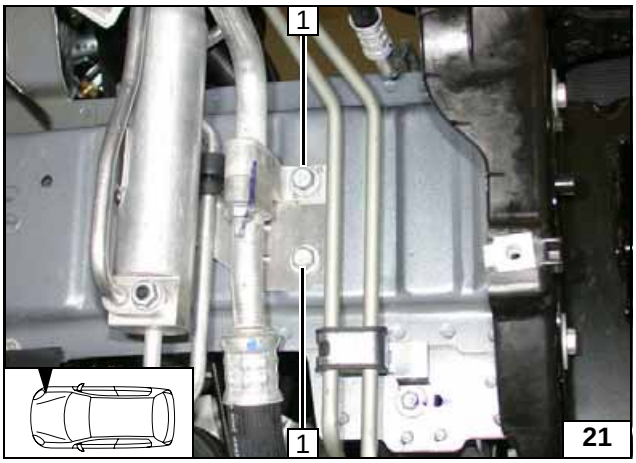
1 Antenna

Installing antenna



1 Push button

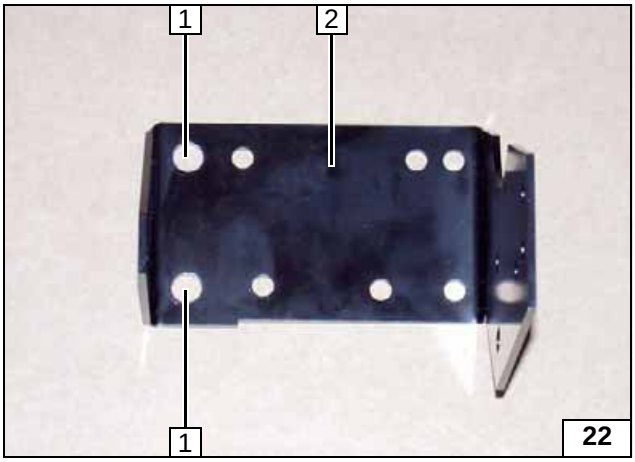
Installing push button



Preparing installation location

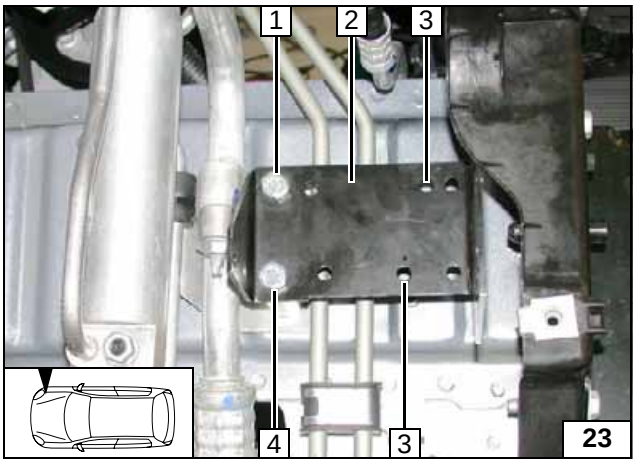
Remove original vehicle bolts at position **1** [2x] and discard.

Removing bolts



Drill out bracket **2** to 9.5 mm dia. at position **1** [2x].

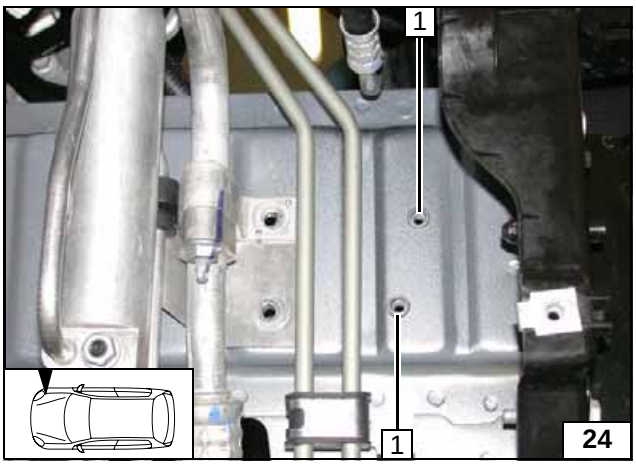
Preparing bracket



Copy hole pattern to battery tray at position **3** [2x] on frame side member.

1 M8x70 bolt, 40 mm shim
2 Bracket
4 M8x70 bolt, 40 mm shim, 5 mm shim

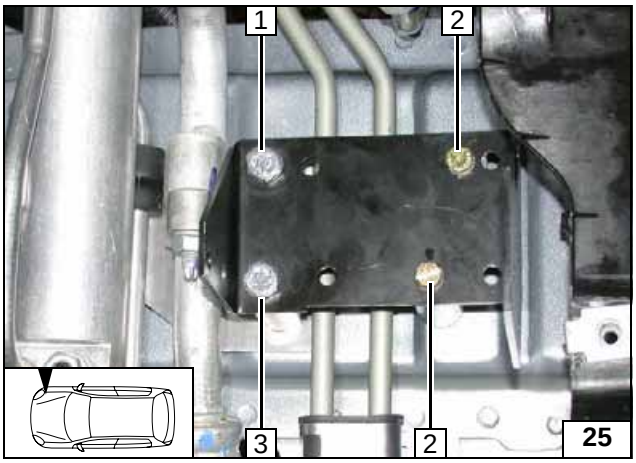
Loosely mount bracket



Remove bracket.

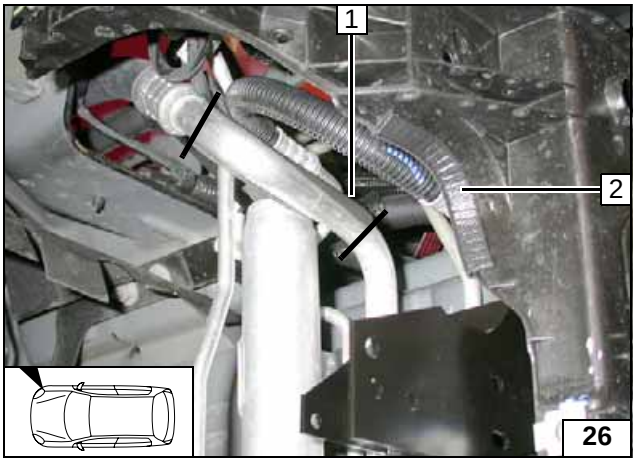
1 9.1 mm dia. hole; mount rivet nut [2x each]

Installing rivet nut



1 M8x70 bolt, spring lockwasher, 40 mm shim
2 M6x70 bolt, spring lockwasher, 40 mm shim, 5 mm shim [2x each]
3 M8x70 bolt, spring lockwasher, 40 mm shim, 5 mm shim

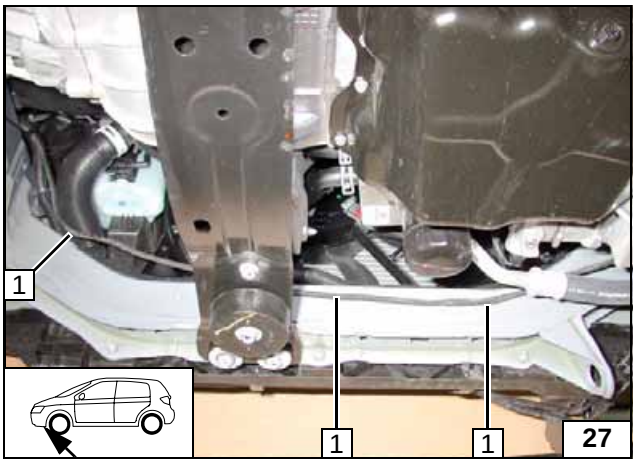
Installing bracket



Glue on a foam strip in area of marking at position **1**. Cut 120 mm off edge protection **2** and mount.

Preassembling bracket on heater unit

Installing heater unit



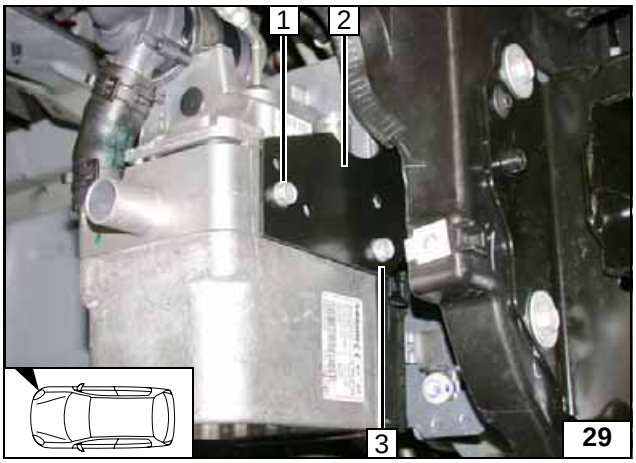
Loosely route wiring harness of heater unit **1** (will be fastened later with fuel line).

Routing wiring harness

Mount connector before installing heater unit.

1 Wiring harness of heater unit

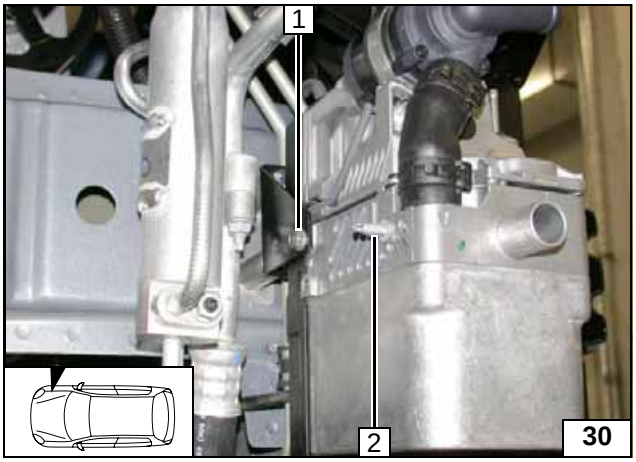
Routing wiring harness



Insert two washers between heater unit and bracket **2** at Position **1**.

1 Ejot screw, washer [2x]
3 Ejot screw

Installing heater unit



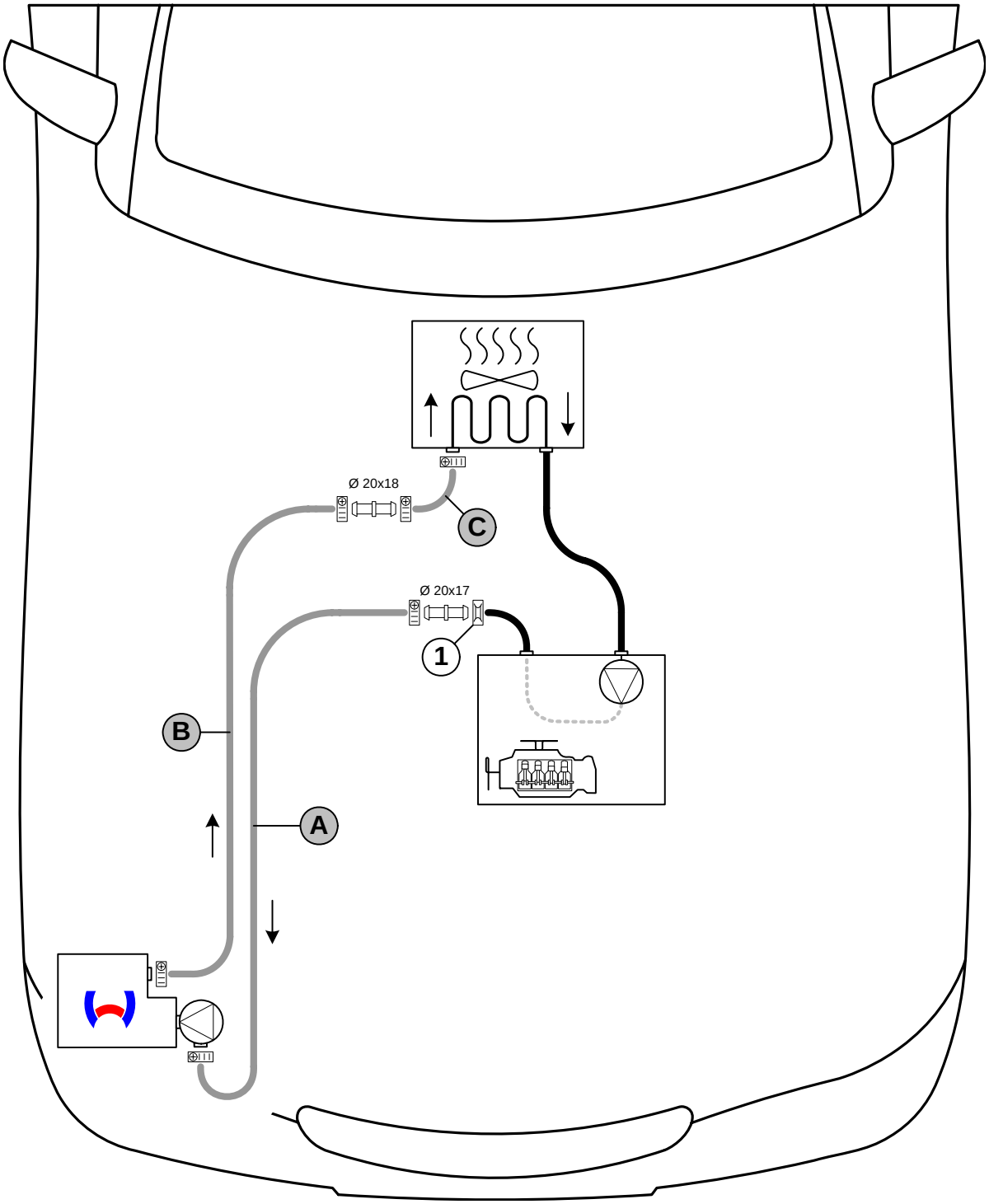
1 Ejot screw
2 Ejot stud

Installing heater unit

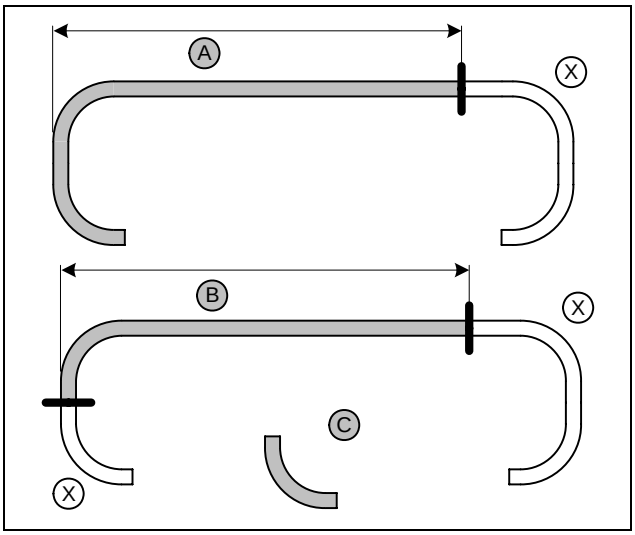
Coolant

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

Coolant routing diagram



Connecting pipe ⟷. All hose clamps ⊕ = 20-27 mm dia.
1 = Original vehicle spring clip !

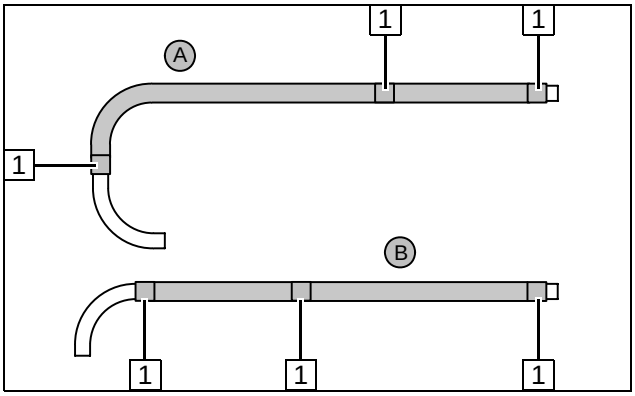


Gasoline

a = 1300
b = 1440

Hose **C** = 90° elbow, 18x18
Discard section **X**

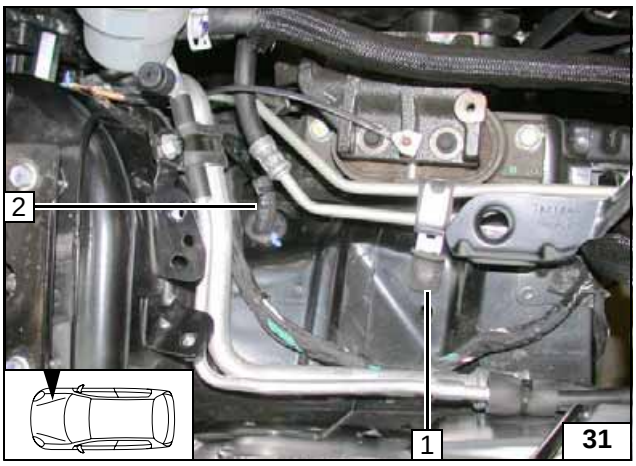
Cutting coolant hoses to length



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

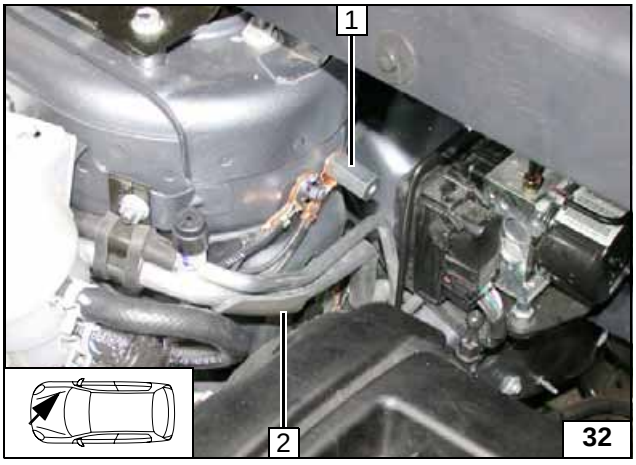
1 50 mm long heat shrink plastic tubing [6x]

Preparing coolant hoses



Cut 40 mm off second foam strip and glue onto original vehicle bolt **1**. Cut open fabric protective hose **2** and fasten on brake line with cable tie.

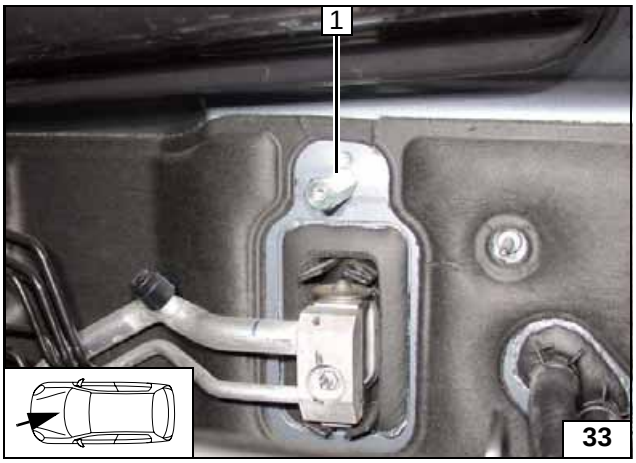
Installing rub protection



Remove original vehicle nut at position **1** and discard.

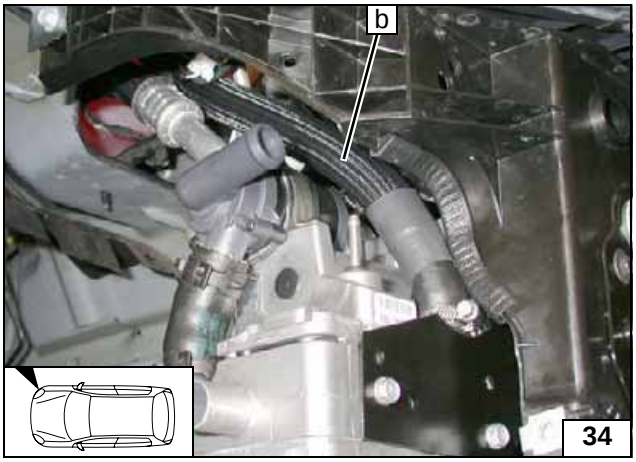
1 Original vehicle stud bolt, M6x30 spacer nut
2 85 mm foam strip

Installing spacer nut

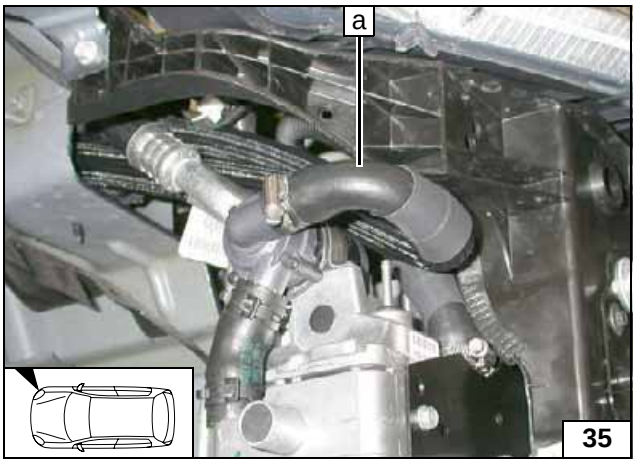


1 Original vehicle stud bolt, M6x40 spacer nut

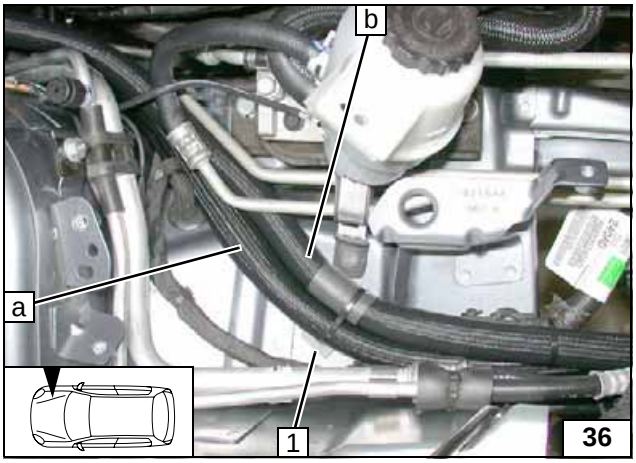
Installing spacer nut



Connecting heater unit outlet

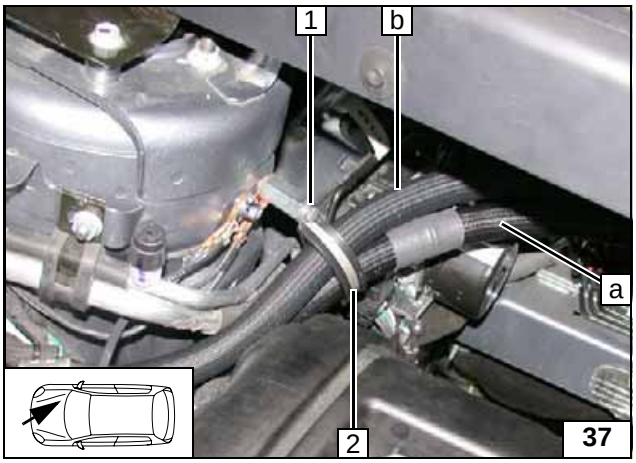


Connecting heater unit inlet



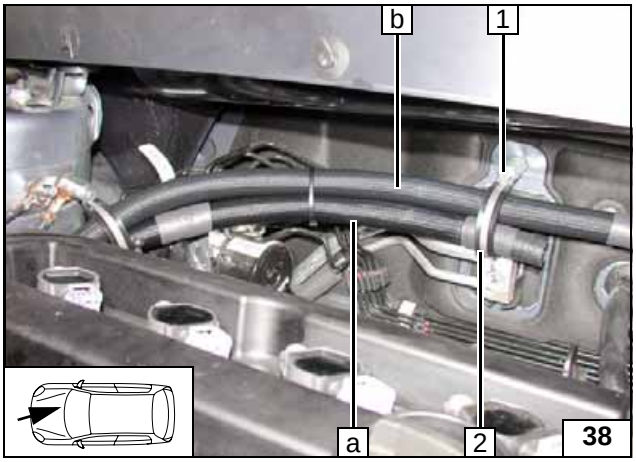
Glue on adhesive base **1**, secure hoses **A** and **B** with cable tie

Routing in engine compartment



1 Spacer nut, M6x20 bolt, spring lockwasher
2 48 mm dia. rubber-coated p-clamp

Routing in engine compartment

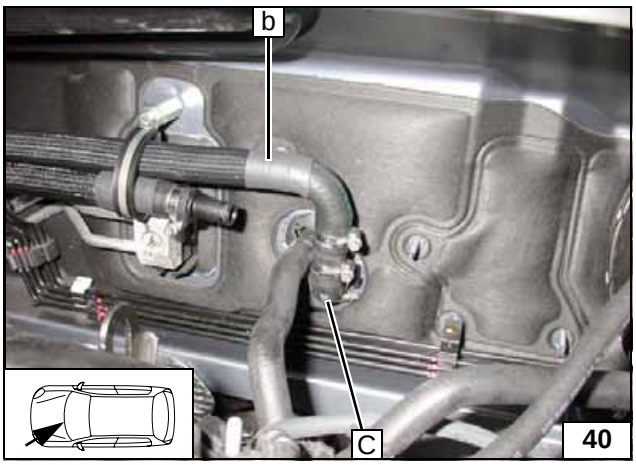


1 Spacer nut, M6x20 bolt, spring lockwasher
2 48 mm dia. rubber-coated p-clamp

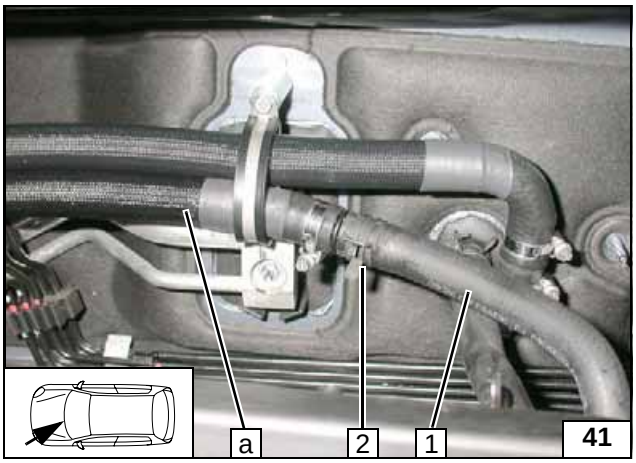
Routing in engine compartment

Disconnect hose to engine outlet/heat exchanger inlet **2** at connection piece on heat exchanger inlet. Spring clip **1** will be reused.

Cutting point



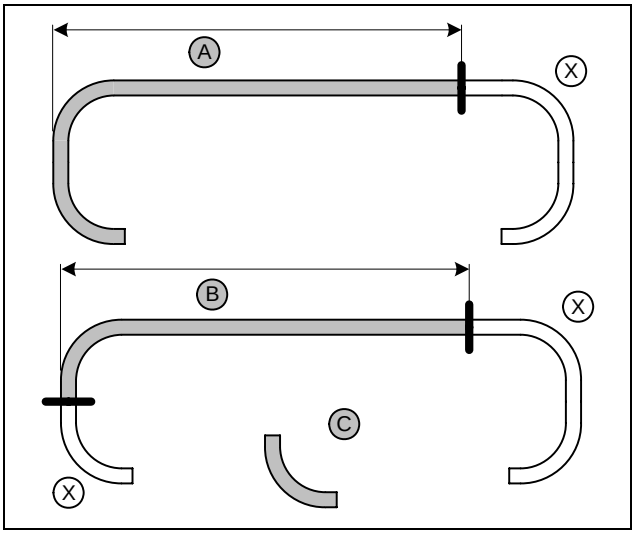
Connecting heat exchanger inlet



Ensure sufficient distance to neighboring components.

1 Hose of engine outlet
2 Original vehicle spring clip

Connecting engine outlet

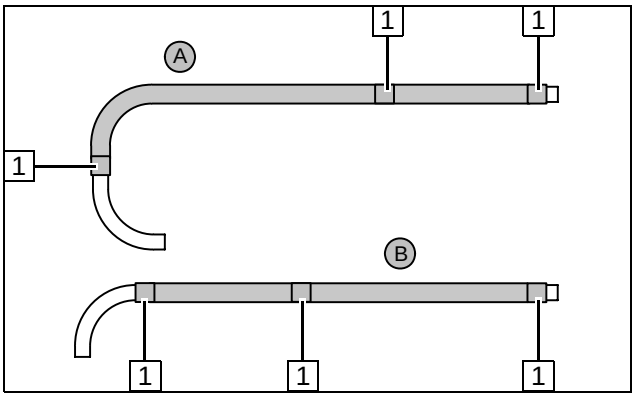


Diesel

a = 1400
b = 1440

Hose **C** = 90° elbow, 18x18
Discard section **X**

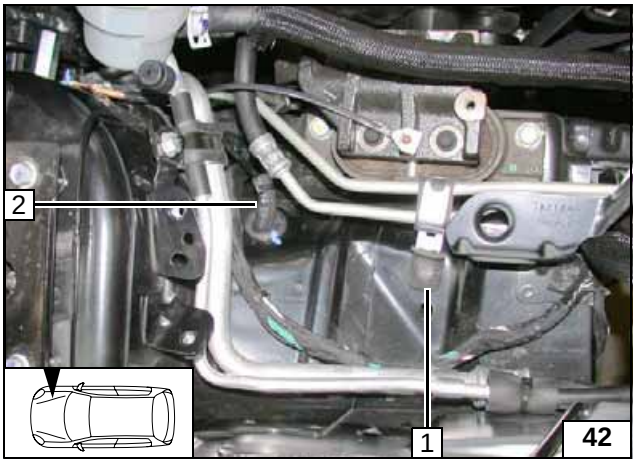
Cutting coolant hoses to length



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

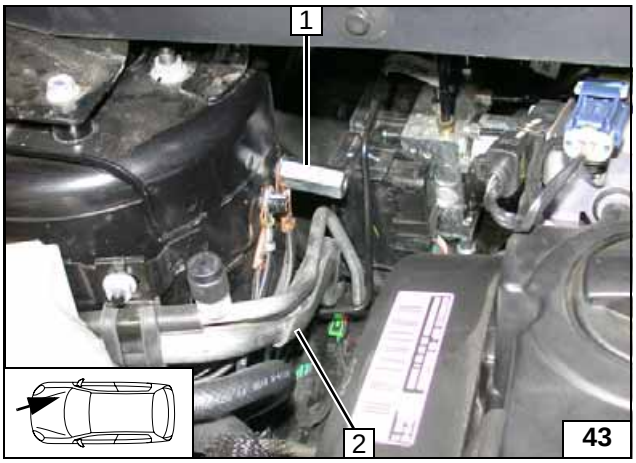
1 50 mm long heat shrink plastic tubing [6x]

Preparing coolant hoses



Cut 30 mm off second foam strip **1** and glue onto original vehicle bolt. Cut open fabric protective hose **2** and fasten on brake line with cable tie.

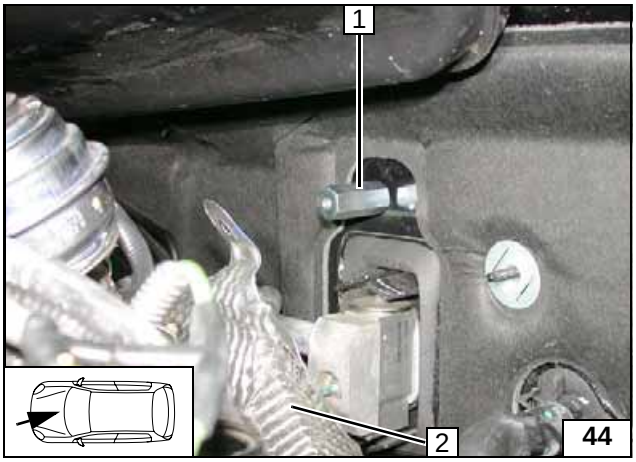
Installing rub protection



Remove original vehicle nut at position **1** and discard.

1 Original vehicle stud bolt, M6x30 spacer nut
2 85 mm foam strip

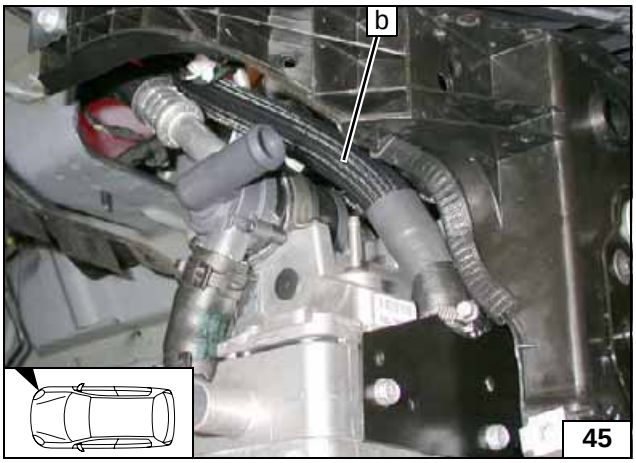
Installing spacer nut



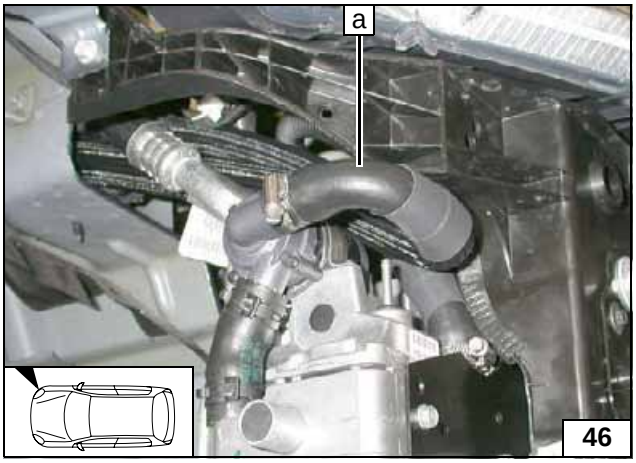
Remove original vehicle nut at position **1** and discard.

1 Original vehicle stud bolt, M6x40 spacer nut
2 Heat guard plate detached

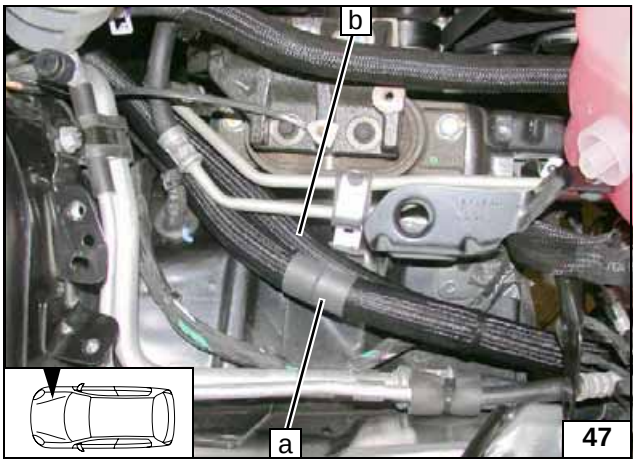
Installing spacer nut



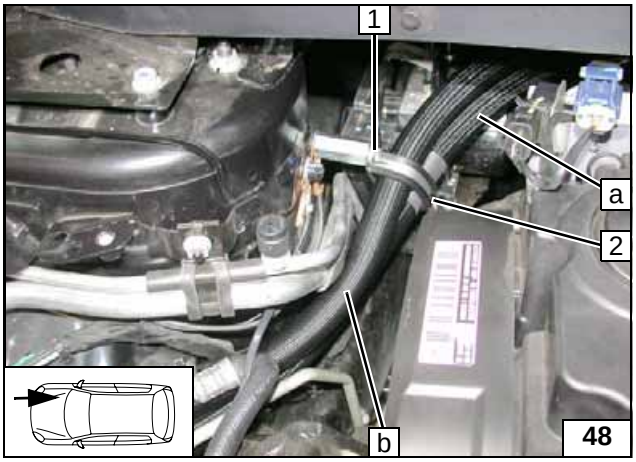
Connecting heater unit outlet



Connecting heater unit inlet

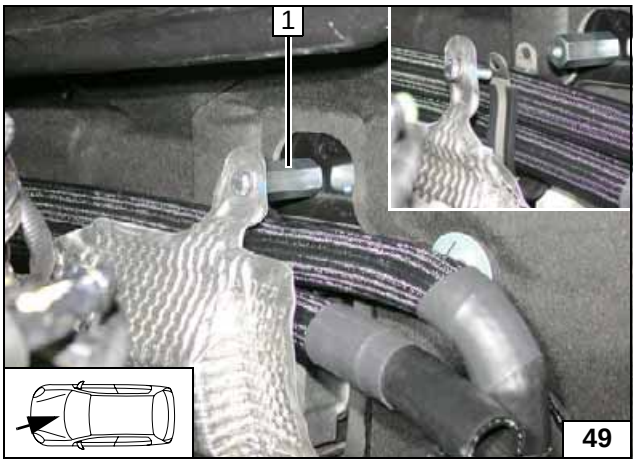


Routing in engine compartment



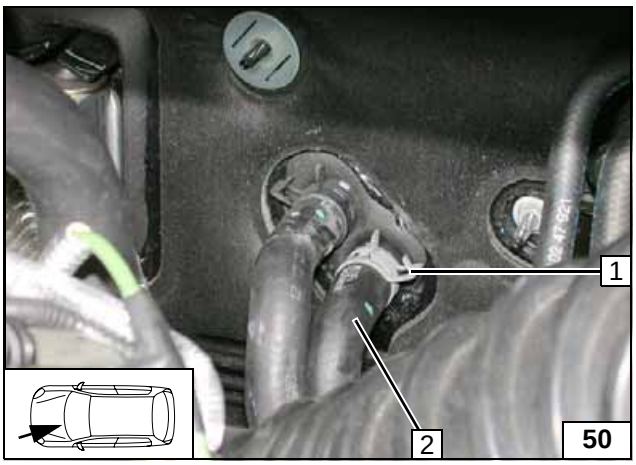
1 Spacer nut, M6x20 bolt, spring lockwasher
2 48 mm dia. rubber-coated p-clamp

Routing in engine compartment



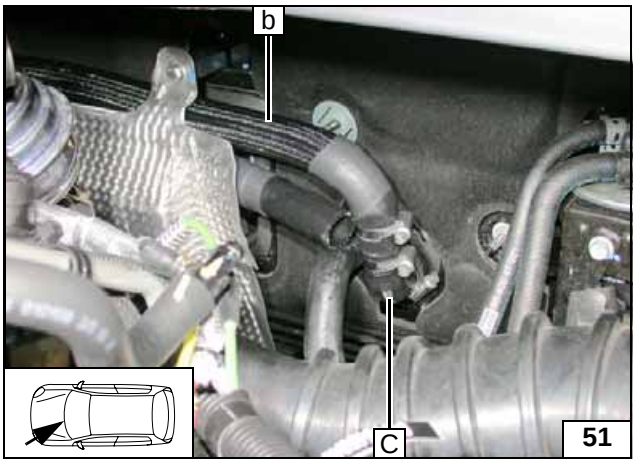
1 Spacer nut, M6x20 bolt, spring lockwasher, 48 mm dia. rubber-coated p-clamp, heat guard plate

Routing in engine compartment

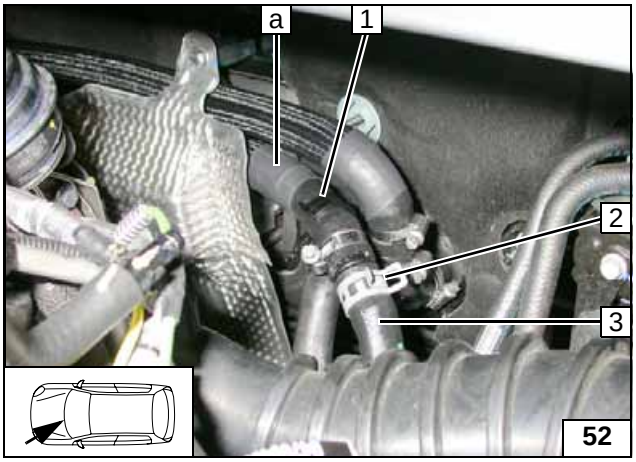


Disconnect hose to engine outlet/heat exchanger inlet **2** at connection piece on heat exchanger inlet. Spring clip **1** will be reused.

Cutting point



Connecting heat exchanger inlet



Ensure sufficient distance to neighboring components.

1 Spacer bracket
2 Original vehicle spring clip
3 Hose of engine outlet

Connecting engine outlet

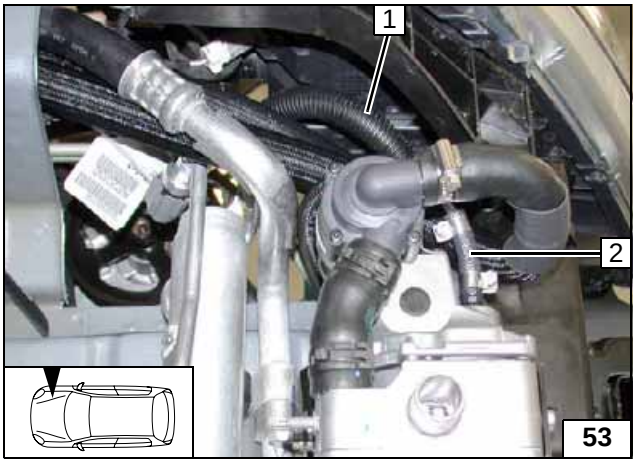
Fuel

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.

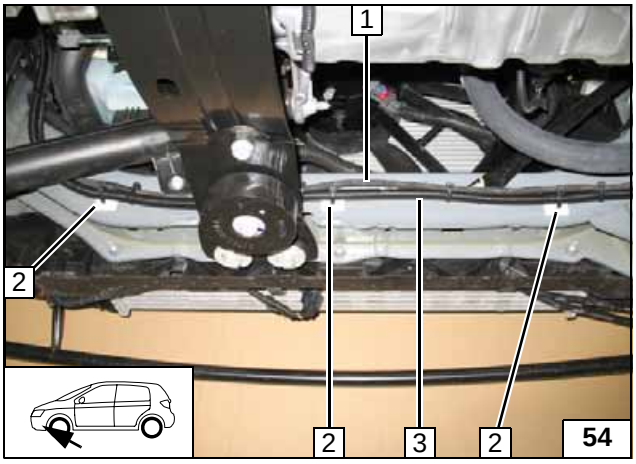
Install fuel line and metering-pump wiring harness so that they are protected against stone impact. Unless specified otherwise, always fasten using cable ties.
Mount the fuel line and wiring harness with rub protection on sharp edges.

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



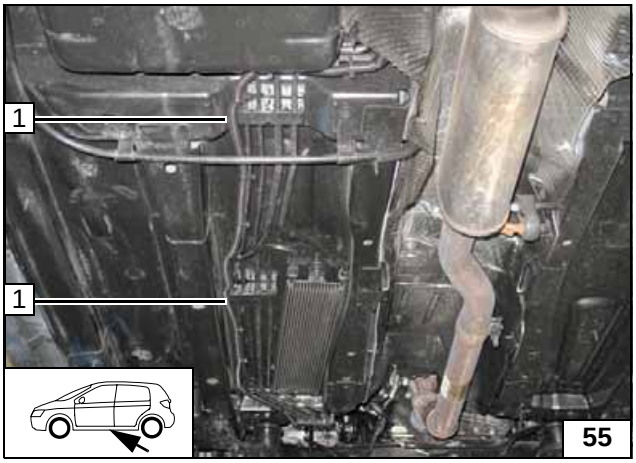
1 Fuel line in 2,100 mm corrugated tube
2 Hose section, 10 mm dia. clamp [2x]

Connecting heater unit



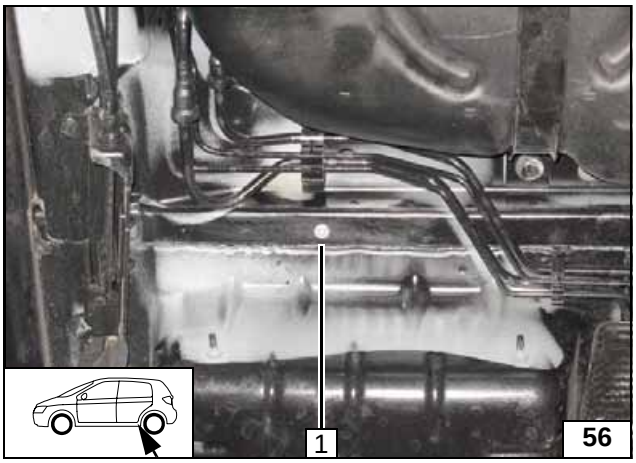
Fasten wiring harness of heater unit **1** and fuel line in corrugated tube **3** with adhesive base **2** and cable tie.

Installing lines



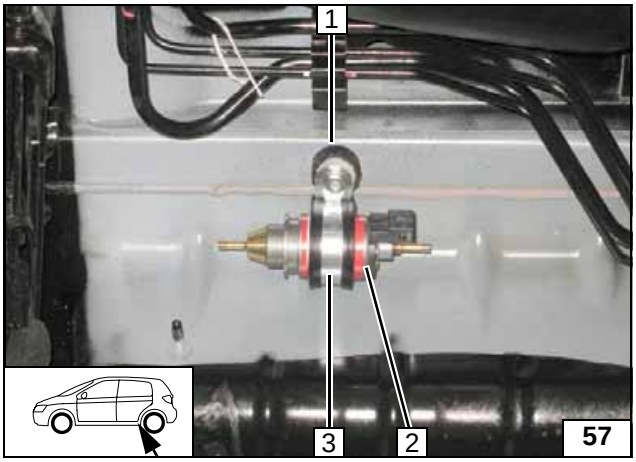
Fasten wiring harness of metering pump and fuel line in corrugated tube **1** on original vehicle lines.

Installing lines



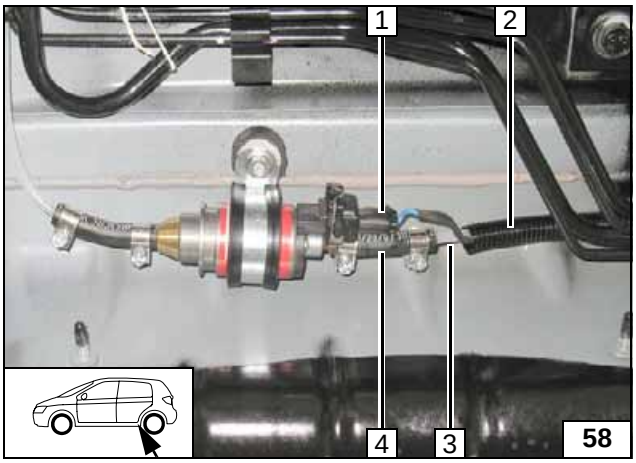
1 Drill 9.1 mm dia. hole; install rivet nut

Installing rivet nut



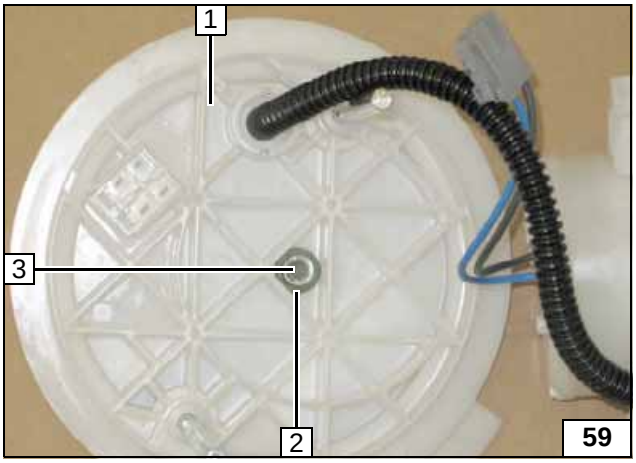
1 Silent block, flanged nut, rivet nut
2 Metering pump
3 Rubber-coated pipe clamp

Installing metering pump



1 Wiring harness of metering pump, connector mounted
2 Wiring harness of metering pump, fuel line in corrugated tube
3 Fuel line
4 Hose section, 10 mm dia. clamp [2x]

Connecting metering pump

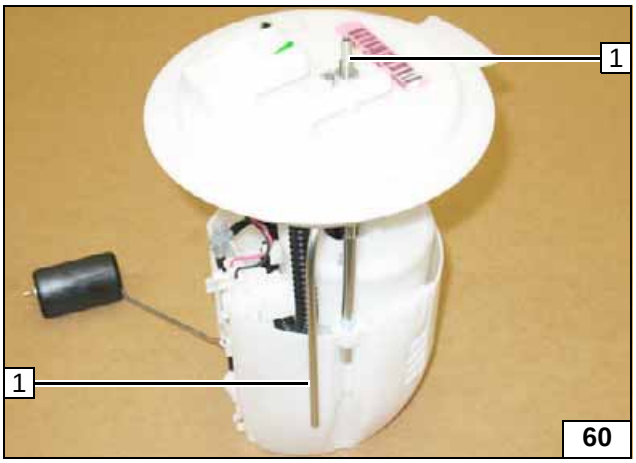


Gasoline

Remove and dismantle fuel-tank sending unit **1** according to manufacturer's instructions.

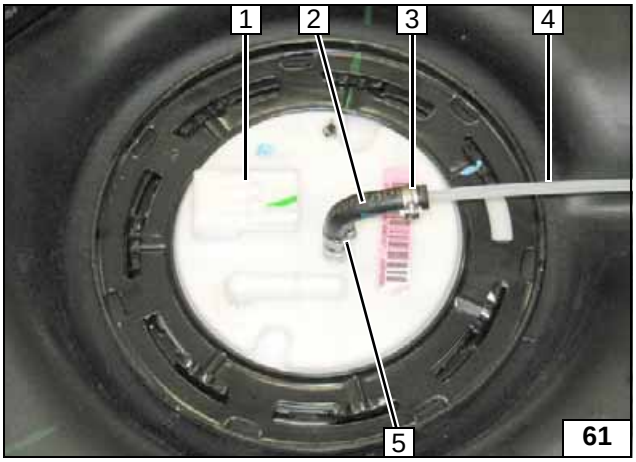
2 Flanged nut
3 Copy hole pattern, 6 mm dia. hole

Removing fuel



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

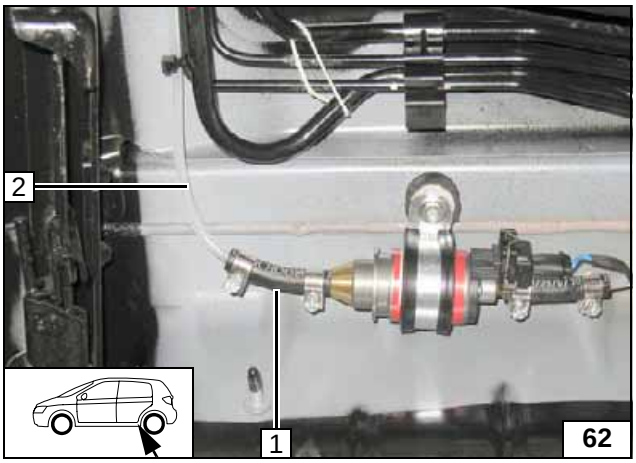
Installing fuel standpipe



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

2 90° molded hose
3 10 mm dia. clamp
4 Fuel line
5 9 mm dia. clamp

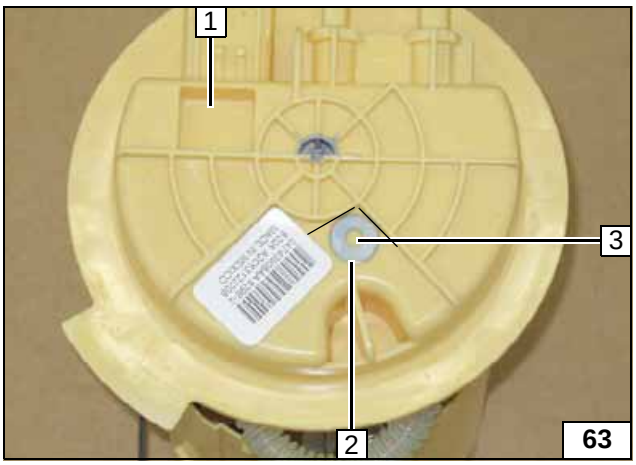
Connecting fuel line



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

Connecting metering pump

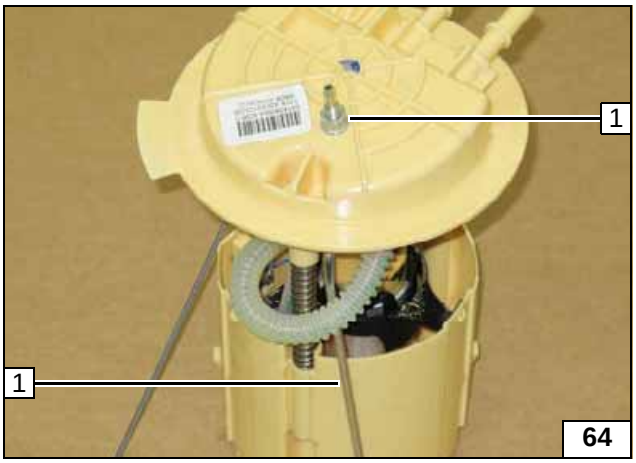


Diesel

Remove fuel-tank sending unit **1** according to manufacturer's specifications. Place 5.5 mm dia. large diameter washer **2** on bars.

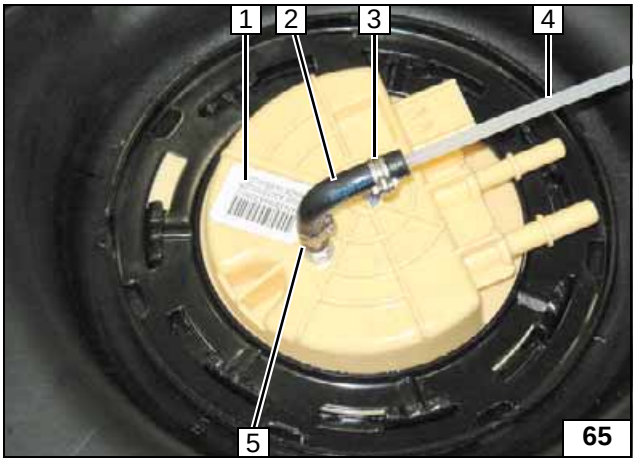
3 Copy hole pattern, 6 mm dia. hole

Removing fuel



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

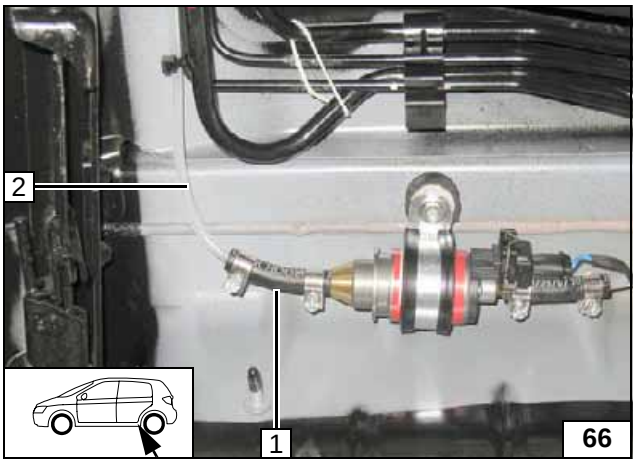
Installing fuel standpipe



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

2 90° molded hose
3 10 mm dia. clamp
4 Fuel line
5 9 mm dia. clamp

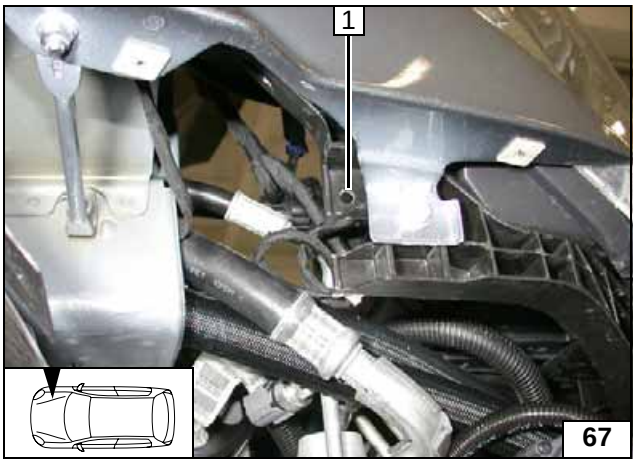
Connecting fuel line



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

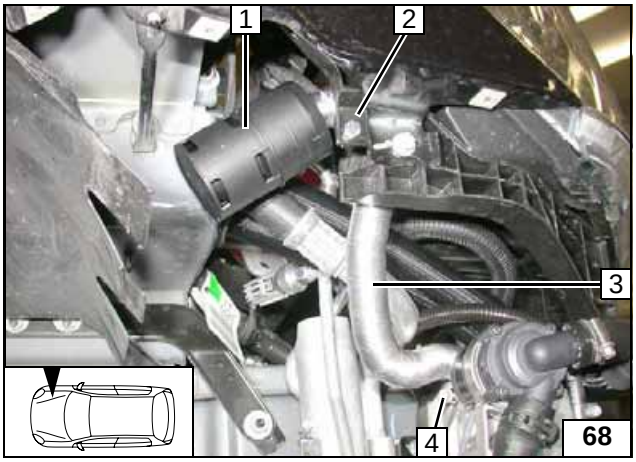
Connecting metering pump



Combustion air

1 6.5 mm dia. hole

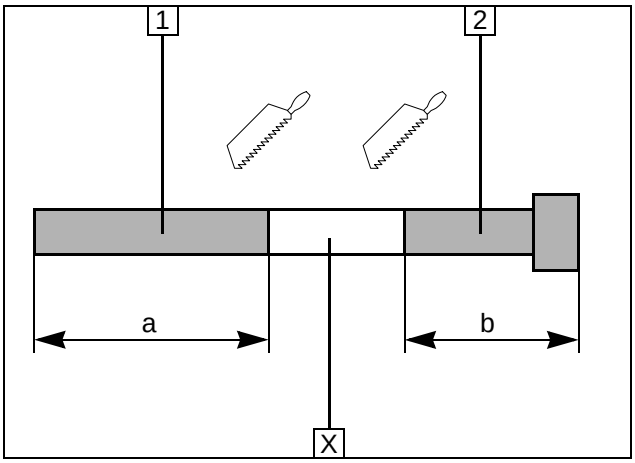
Hole in bumper trim



1 Muffler
2 M6x20 bolt, p-clamp, flanged nut
3 Combustion air pipe
4 27 mm dia. clamp

Installing muffler

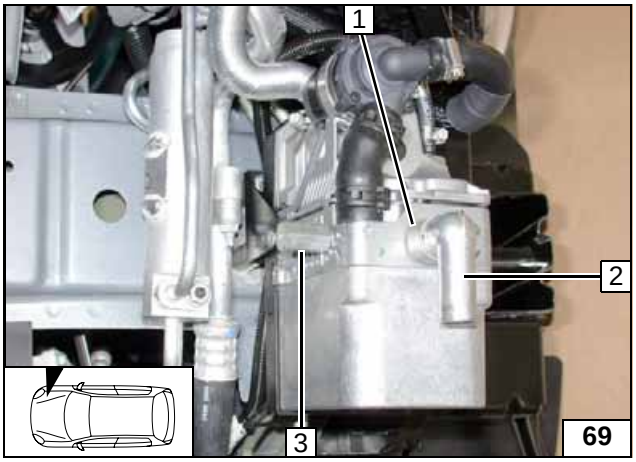
Exhaust gas



1 Exhaust pipe
a = 360
2 Exhaust end section
b = 195

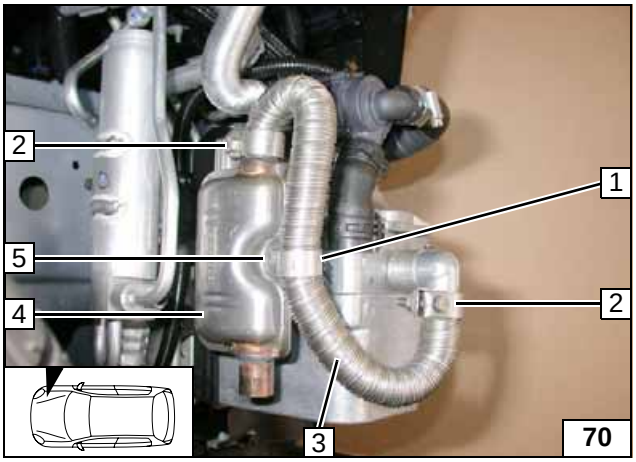
Discard section **X**

Preparing exhaust pipe



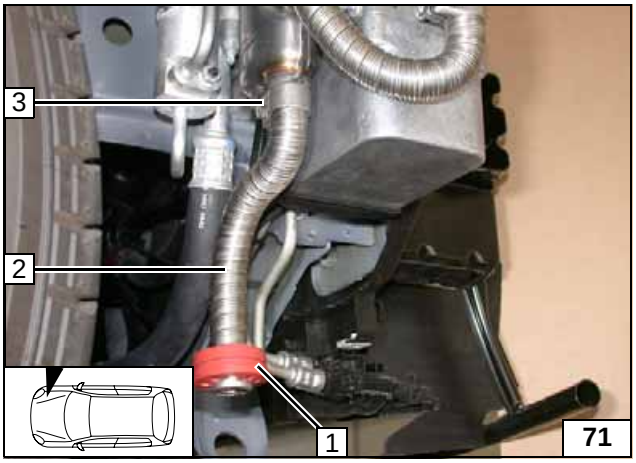
1 Hose clamp
2 Exhaust manifold
3 M6x30 spacer nut, Ejot stud

Installing exhaust manifold



1 P-clamp
2 Hose clamp [2x]
3 Exhaust pipe
4 Muffler
5 Spacer nut, M6x16 bolt, spring lockwasher

Installing exhaust pipe and muffler



1 Red (rt) rubber isolator with groove
2 Exhaust end section
3 Hose clamp

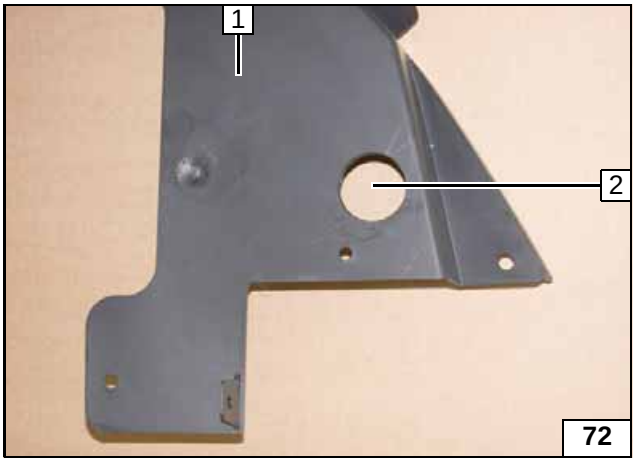
Installing exhaust end section

Final Work

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

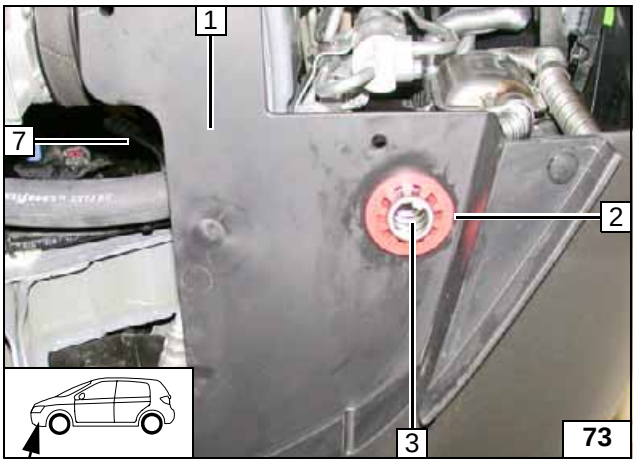
- Connect the battery.
- Fill and bleed the coolant circuit according to the vehicle manufacturer's specifications.
- Set the digital timer.
- Make settings on A/C control panel according to the "Operating Instructions for End Customer".
- Check the proper operation of the additional heater, see the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

Cutting out underride protection



1 Underride protection
2 42 mm dia. hole

Mounting rubber isolator

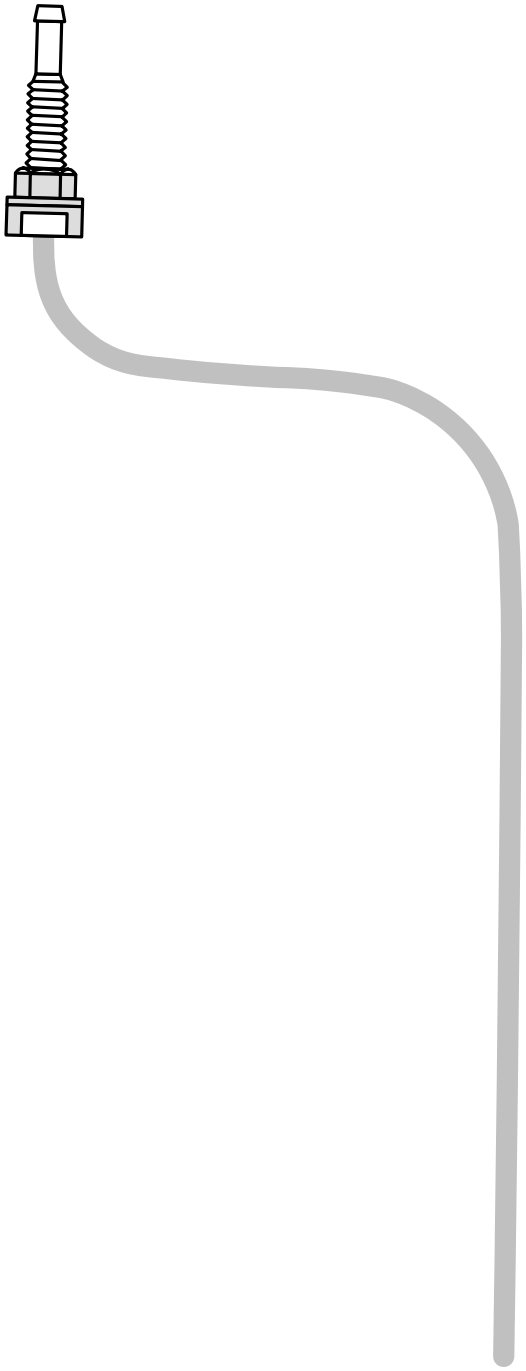


Align exhaust end section **3** flush on red rubber isolator **2**.

1 Underride protection

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

Template for Gasoline Fuel Standpipe



100 mm

Scale 1:1

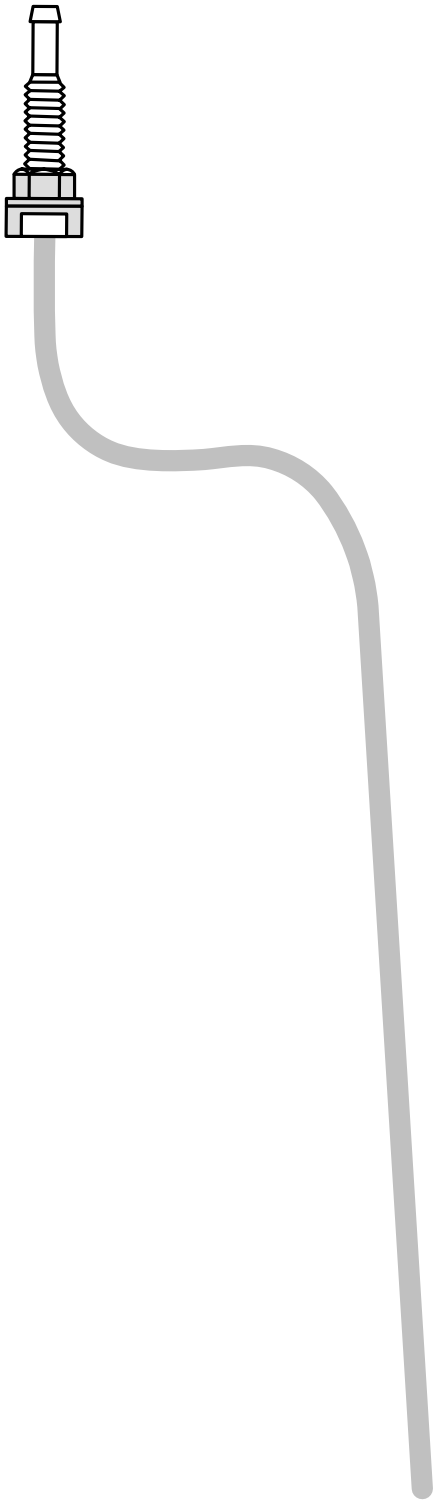
Compare the size of the printed version with dimension lines.
Permitted tolerance a maximum of 2%.

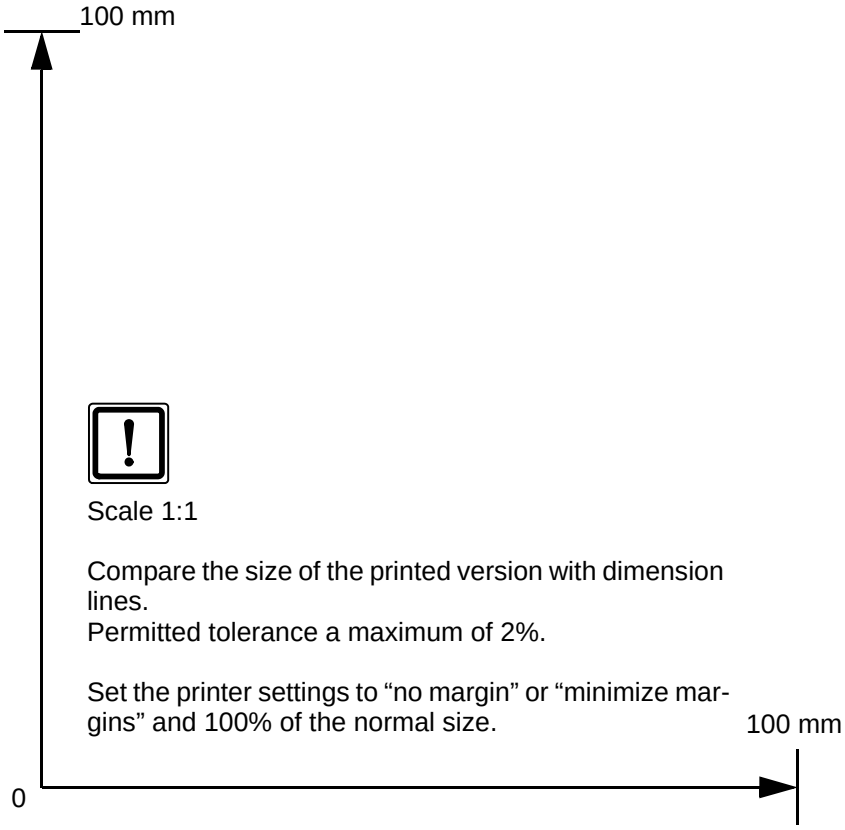
Set the printer settings to “no margin” or “minimize margins” and 100% of the normal size.

100 mm

0

Template for Diesel fuel standpipe





Scale 1:1

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

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

Operating Instructions for End Customer

Please remove page and add to the vehicle operating instructions.

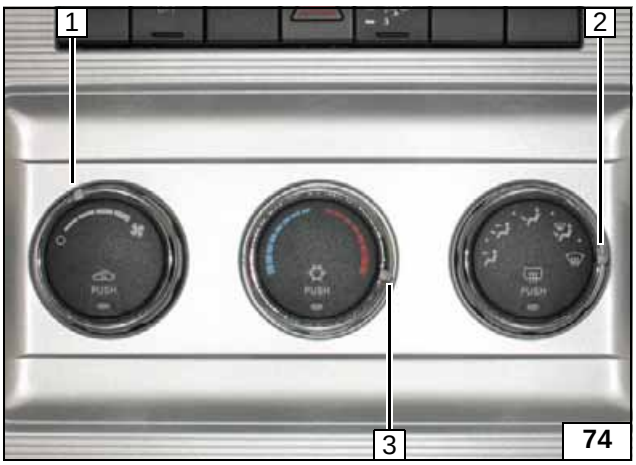
Note:
We recommend matching the heating time to the driving time.
Heating time = driving time
Example:
For a driving time of approx. 20 min. (in one direction), we recommend not exceeding a switch-on time of 20 min.

On vehicles with passenger compartment monitoring, this must be deactivated during heating!

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

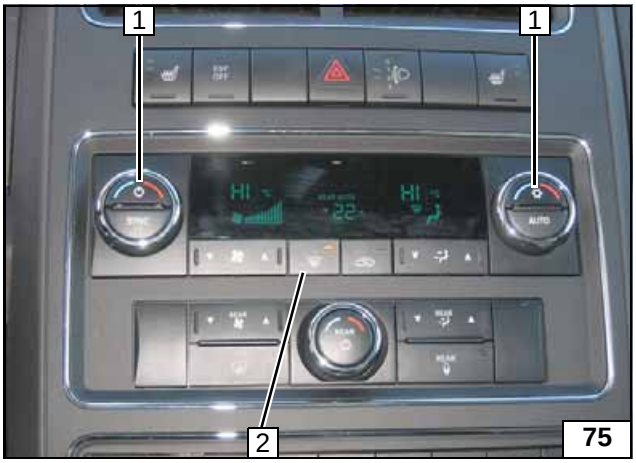
Before parking the vehicle, make the following settings:

Manual air conditioning



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

Automatic air-conditioning



1 Set temperature to "HI" [2x]
2 Air outlet to windshield