

Water Heater Unit



Thermo Top E Auxiliary Heating  00 0003

Thermo Top C Auxiliary Heating  00 0002

Installation Instructions

Mazda 3 MPS

Gasoline

From model year 2006

For left-hand drive vehicles only



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 warning instructions.

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

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Validity

Manufacturer	Model	Type	EG-BE No. / ABE
Mazda	3 MPS	BK	e1 * 2001 / 116 * 0234 * ...

Engine type	Engine type	Power in kW	Engine capacity in cm ³
L3	Gasoline	191	2261

Vehicle and engine types, equipment variants as well as national specifications, which are not listed in these installation instructions, have not been tested. Installation according to these installation instructions may, however, be possible.

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

Heater Unit / Installation Kit

Amount	Description	Order no.:
1	Commercial supply of required control	See price list
1	Installation kit for Mazda 3 MPS Gasoline	1,311,467A

Recommended heater unit for the relevant vehicle class:

Vehicle	Heater unit
Compact car	Thermo Top E
Mid-class, station wagon	Thermo Top C
Luxury, van, off-roader	Thermo Top P

The choice of heater unit is based on the size of the vehicle passenger compartment and the customer's comfort requirements.



Foreword

These installation instructions apply to Mazda vehicles with 3 MPS Gasoline – validity, see page 2 – from model year 2006 and later, assuming technical modifications to the vehicle do not affect installation, any liability claims excluded. Depending on the vehicle version and equipment, modifications may be necessary during installation with respect to these installation instructions.

However, the stipulations in the "installation instructions" and "operating and maintenance instructions" for the *Thermo Top C/P/E* are to be observed in any event.

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 cable harnesses to original vehicle lines and cable harnesses using cable clips.

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

Spray unfinished body areas, such as bore holes, with anti-corrosion wax (Tectyl 100K, Order no. 111329).

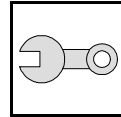
Special Tools

- Torque spanner for 2.0 - 10 Nm
- Vice-grip wrench
- Riveting nut tool

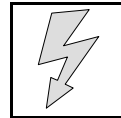
Explanatory Notes on the Document

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.

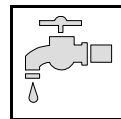
Mechanics



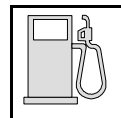
Electrics



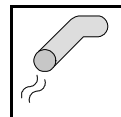
water connection



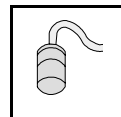
Fuel connection



Exhaust System



combustion air



Special features are highlighted using the following symbols:



Specific risk of injury or fatal accidents.



Specific risk of damage to components.



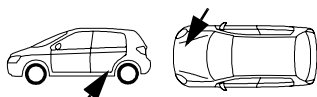
Specific risk of fire or explosion.



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



Reference to a special technical feature.



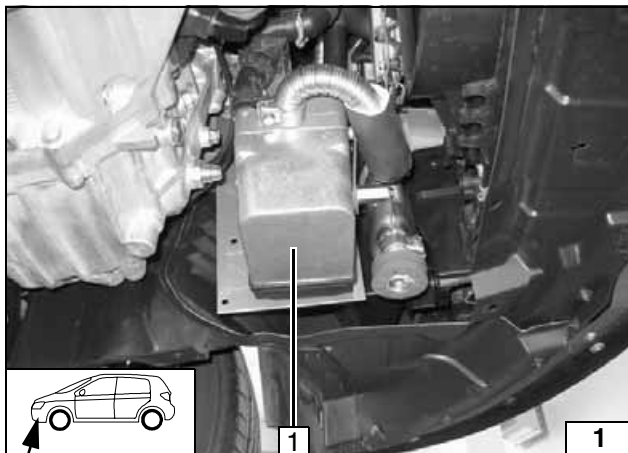
The arrow in the vehicle icon indicates the position on the vehicle and the viewing angle.

Preliminary Work

WARNING!

- Open the tank cap, ventilate the tank.
- Close the tank cap again.
- Disconnect the battery.
- Let off pressure in 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 design cover.
- Completely remove the battery.
- Completely remove the air filter with intake hose.
- Loosen the top of the thermal insulation cover in the right of the engine compartment.
- Remove the thermal insulation cover in the middle of the engine compartment (2x plastic nuts)
- Hang the hydraulic oil container for servo steering out
- Remove lower engine cover
- Remove the panelling for the rear right axle
- Remove fuel tank according to manufacturer's instructions
- Remove tank mounting according to manufacturer's instructions.
- Remove the glove compartment on the passenger side.
- Remove the A-pillar panel in the passenger side footwell.
- Remove the left cooling water reservoir cover

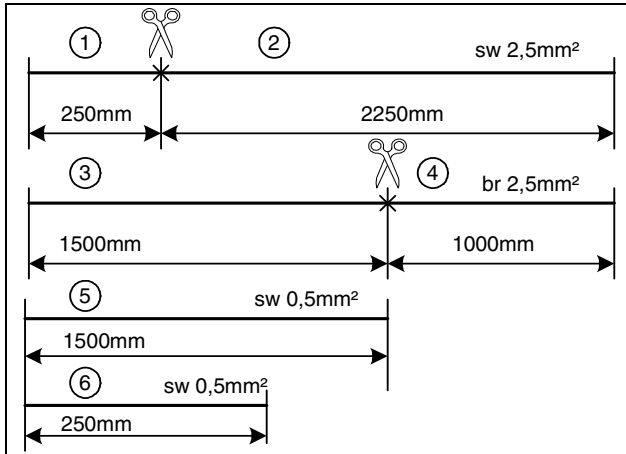
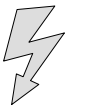
Remove page 27 "Operating instructions for the end customer" and insert with vehicle operating instructions.



Heater Unit Installation Location

- 1 Heater unit

Installation location



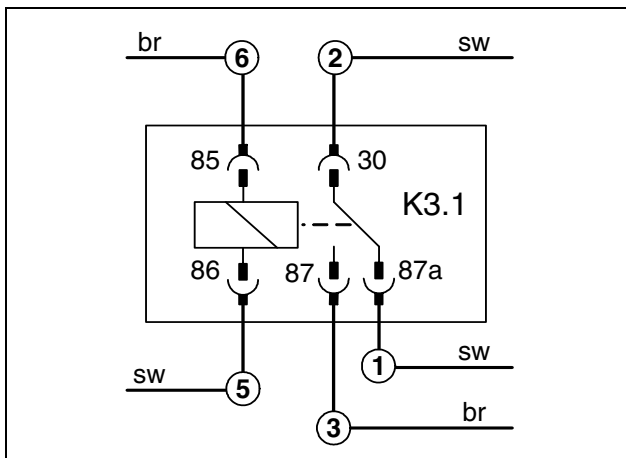
Preparing the Electronics

Only for automatic air conditioning

Wire section 4 will be needed later for connecting the resistor.



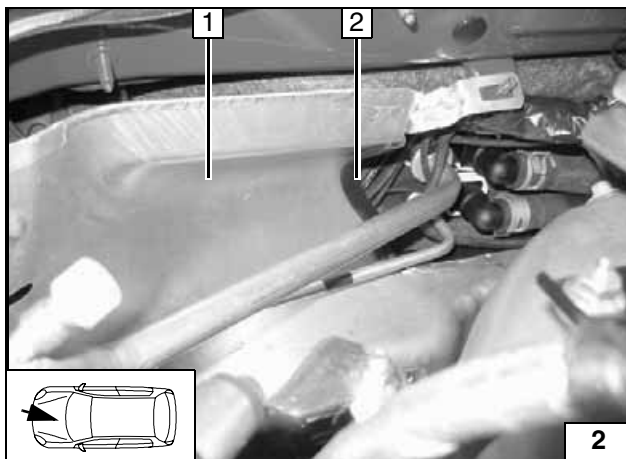
Cutting wires into sections



Wire sections



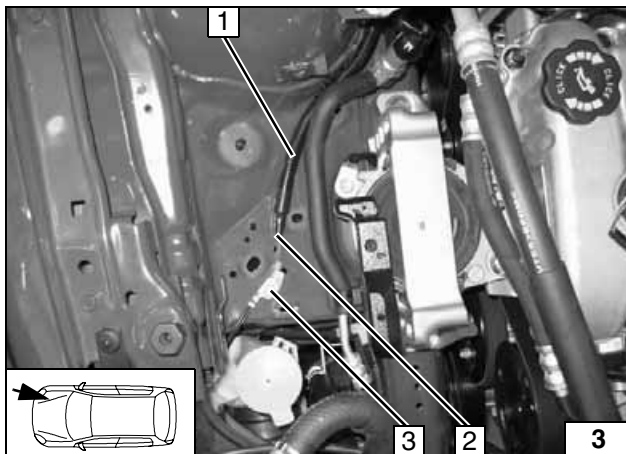
Pre-assemble the K3.1 relay



- 1 Thermal insulation cover
- 2 Edge protection profile



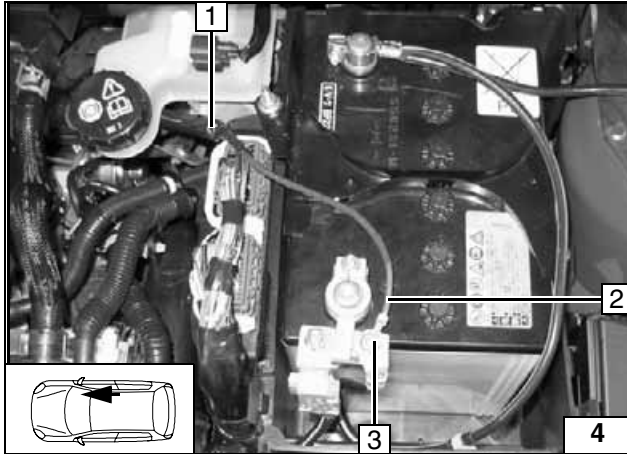
Inserting edge protection



Cut the accompanying flexible hose 1 in the middle and pull on the ground cable for the heater unit cable harness / ground cable resistance 0.9 Ohm 2. Connect the ground cable to ground 3. Note the circuit diagram page 9.



Ground connection



Put the remaining flexible hose **1** on the positive cable on the heater unit cable harness **2**.
Connect the positive cable to the positive battery terminal **3**.



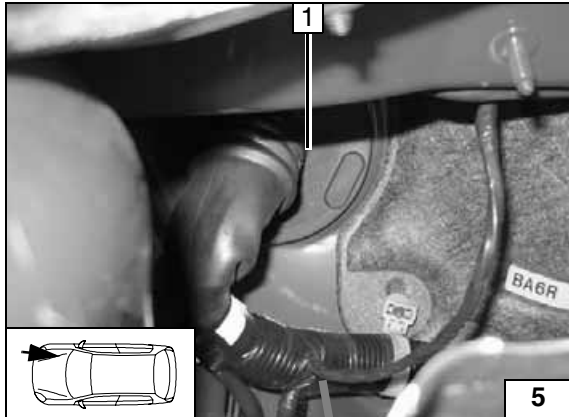
Positive connection



Electrical Connections

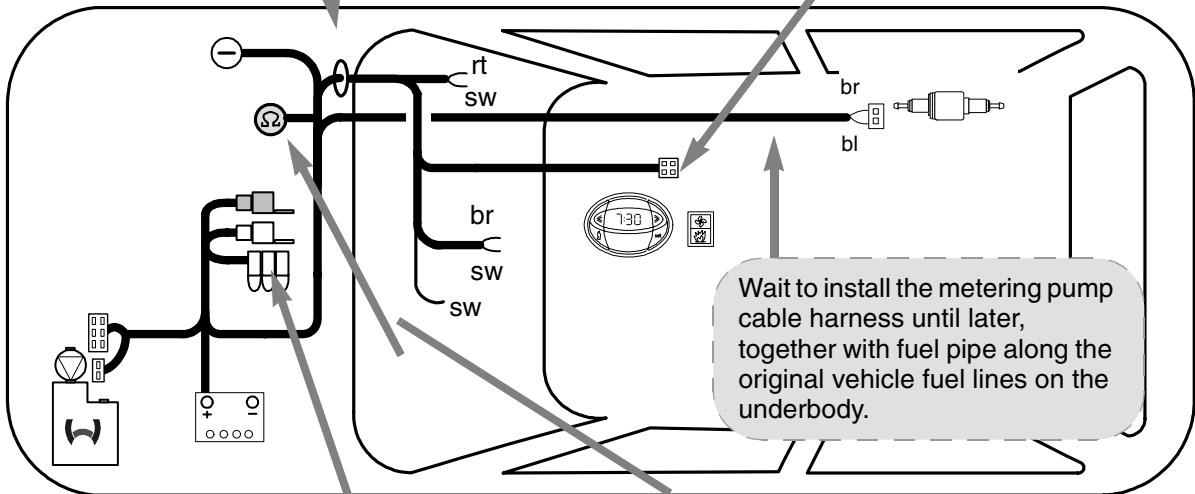
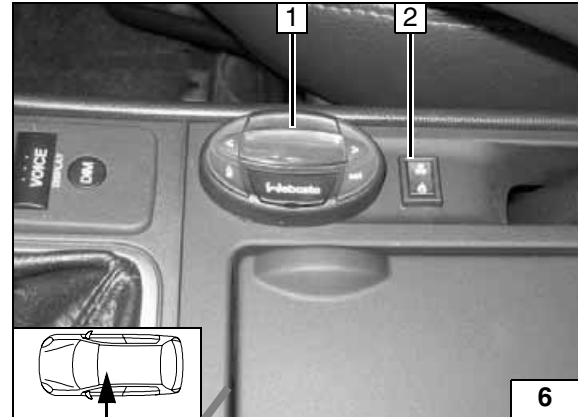
Cable harness feed-through

- 1 Protective rubber sleeve

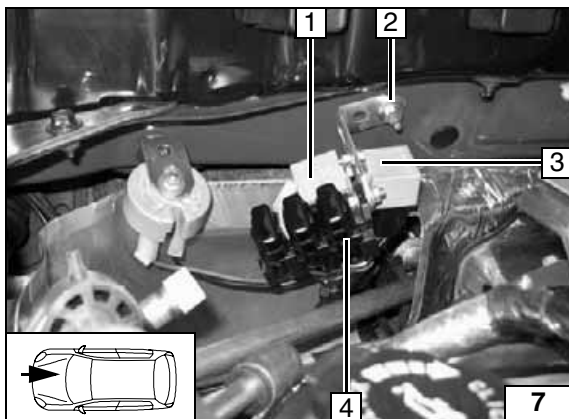


Time switch and summer / winter switch option

- 1 Time switch
- 2 Summer / winter switch

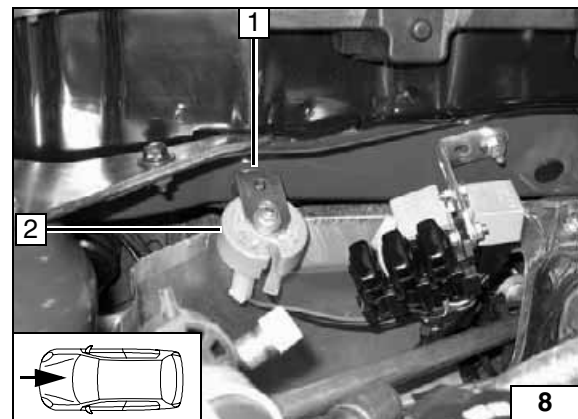


Cable harness installation diagram



Fuse holder, K3 relay, K3.1 relay

- 1 K3 relay, M5x16 bolt, washers, M5 nut
 - 2 Original vehicle stay bolts, fastening strap bent according to the figure, M6 flanged nut
 - 3 K3.1 relay fastened to the fastening strap together with the K3 relay.
 - 4 Fuse holder, M5x16 bolt, nut
- Run the cables behind the thermal protection panels.



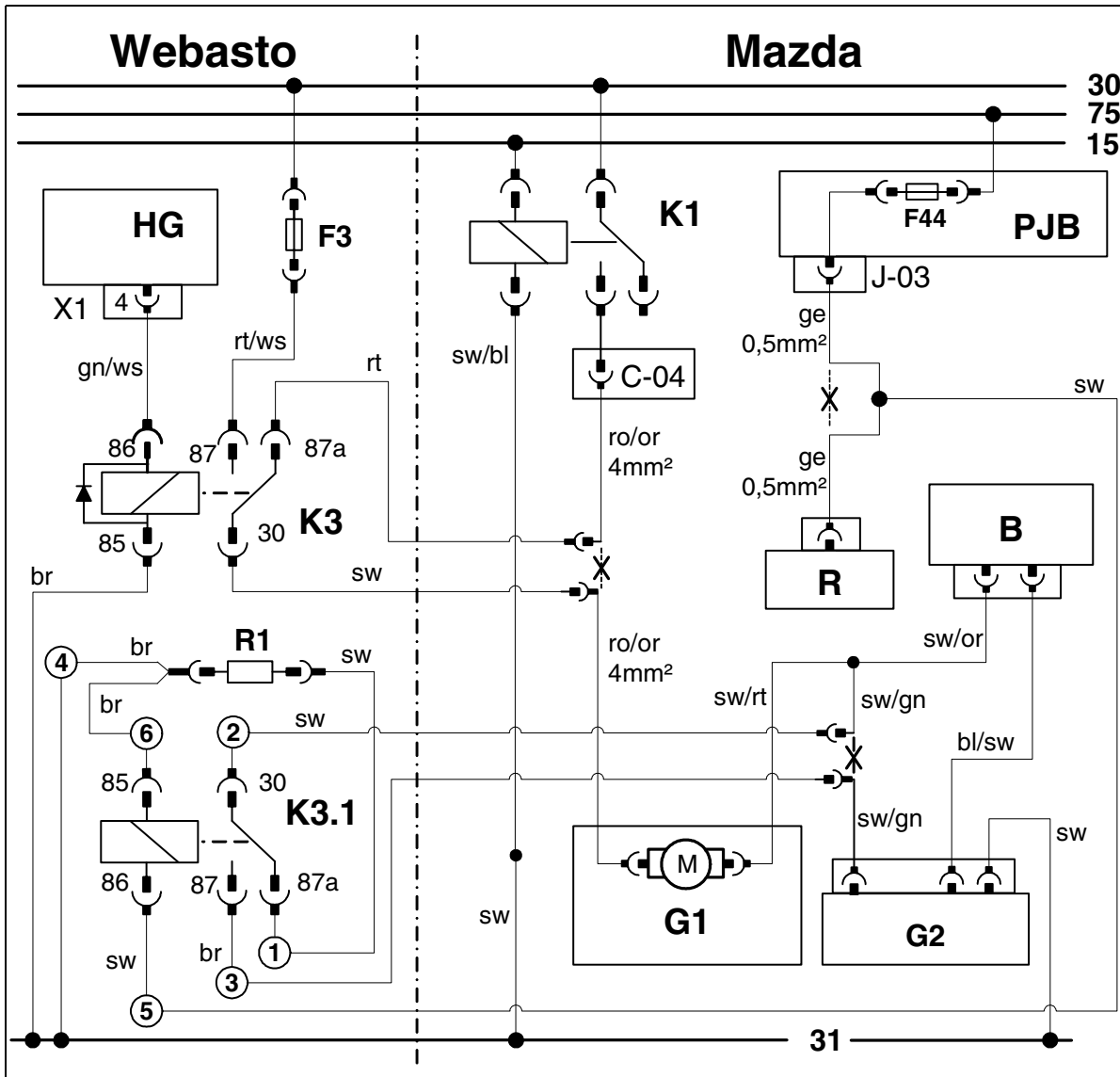
0.9 Ohm resistor

- 1 Original vehicle stay bolts, body washer [2x], angle bracket, M6 flanged nut
- 2 0.9 Ohm resistor, M5 flanged nut, washer, M5x20 bolt

Connect 0.9 Ohm² resistor according to page 9 in the circuit diagram.



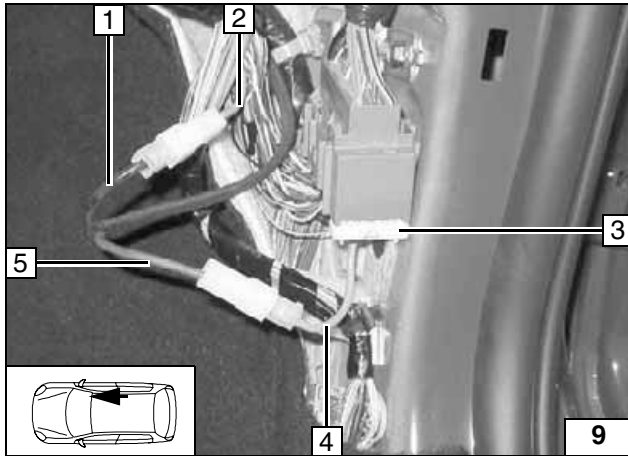
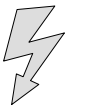
Automatic air conditioning blower control



Circuit diagram

Webasto components		Vehicle components		Colors and symbols	
HG	Heater unit TT-C/E	K1	Blower relay	rt	red
X1	6-pin connector	C-04	Connector C-04	ws	white
F3	Fuse, 25A	G1	blower motor	sw	black
K3	Blower relay	G2	Blower controller	br	brown
K3.1	Supplementary relay	B	air conditioning control	gn	green
R1	0.9 Ohm resistor	R	Radio unit	bl	blue
		F44	Fuse, 7.5A	or	orange
				ro	pink
		PJB	Fuse and relay support		
					Insulate and tie back wire ends
				X	Splitting point
					Cable colors may vary.

Legend

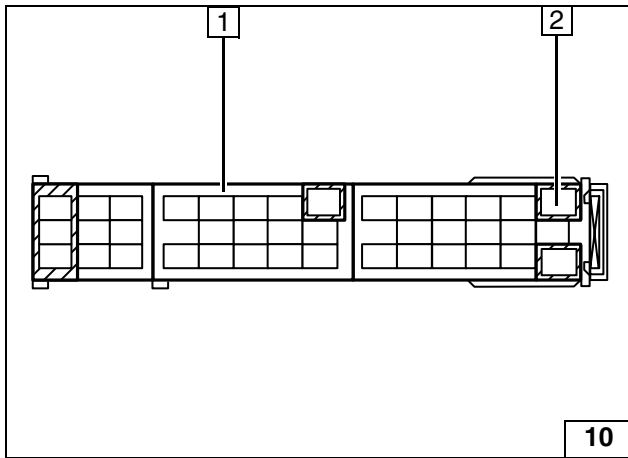


Connection to the connector **3** C-04
Connect with enclosed connectors according to the circuit diagram.

- 1 Wire (sw) from K3/30
- 2 Pink/orange (ro/or) wire to blower motor.
- 4 Pink/orange (ro/or) wire to connector C-04.
- 5 Red (rt) wire from F3/87a

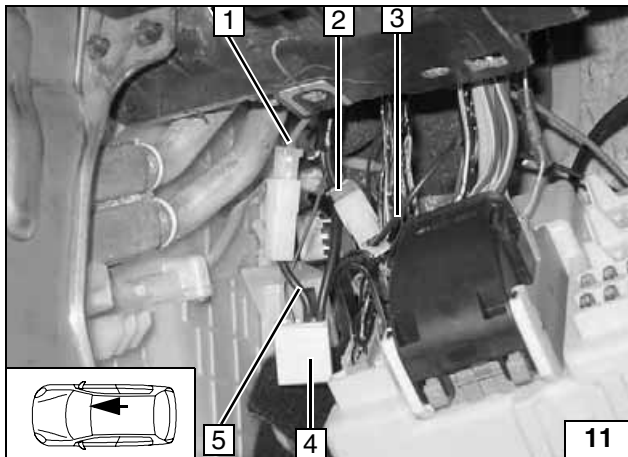


Positive connection to the blower motor



- 1 Connector C-04
- 2 Pink/orange (ro/or) slot.

Connector C-04

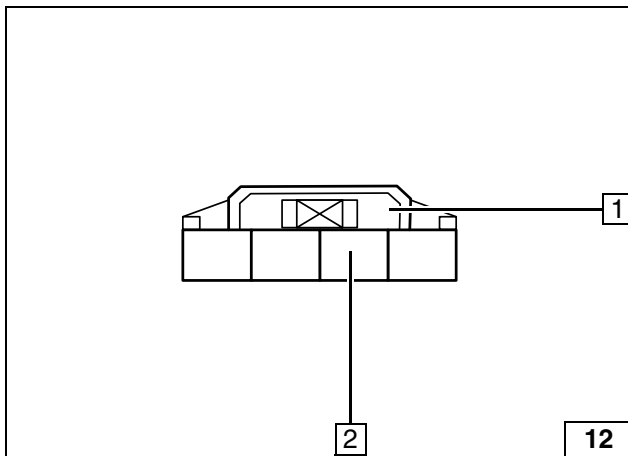


Connection to 6-pin connector **4** from the blower control.

- 1 Brown (br) wire from K3.1/87
- 2 Black/green (sw/gn) wire
- 3 Black (sw) wire from K3.1/87a
- 5 Black/green (sw/gn) wire



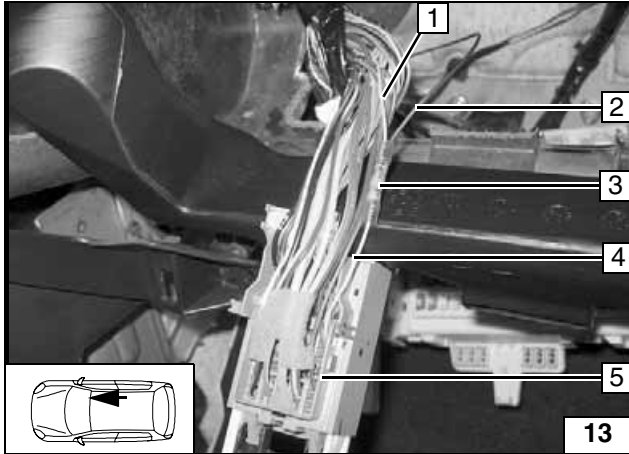
Positive connection to the blower motor



Connection to 6-pin connector **1** from the blower control.

- 2 Black/green (sw/gn) wire

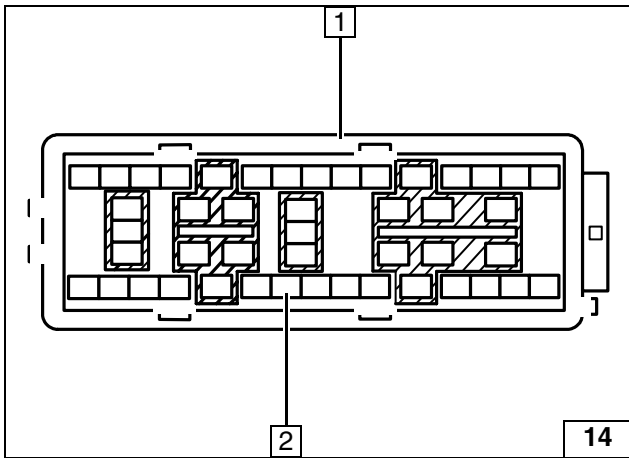
Blower controller connector



Pull the connection to connector 5 J-03 from the PJB fuse and relay support. Connect with enclosed butt connector 3 according to the circuit diagram.

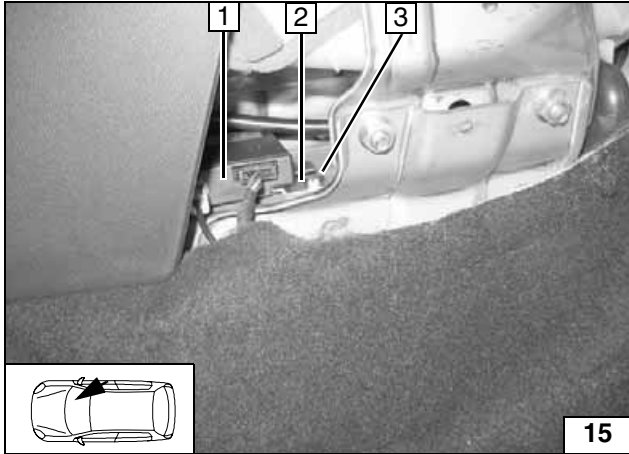
- 1 Yellow (ge) wire
- 2 Black (sw) wire from K3.1/86
- 4 Yellow (ge) wire

Relay K3.1 control



- 1 Connector J-03
- 2 Yellow (ge) plug-in position

Connector J-03

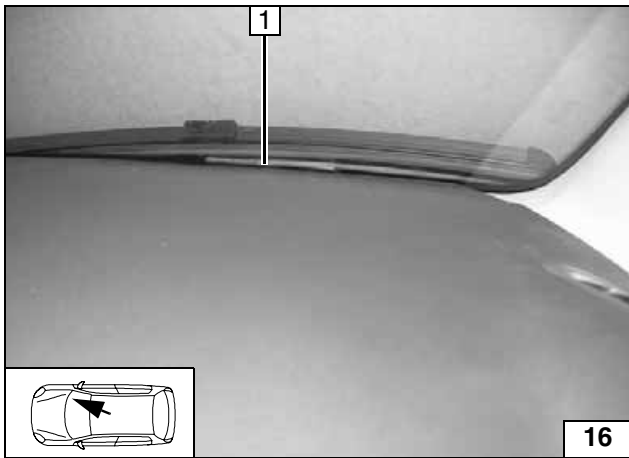


Remote Start Option

- 1 Receiver
- 2 Bracket, drill hole in bracket to $\text{\O}6.5\text{mm}$.
- 3 M6x12 bolt, original vehicle threaded insert

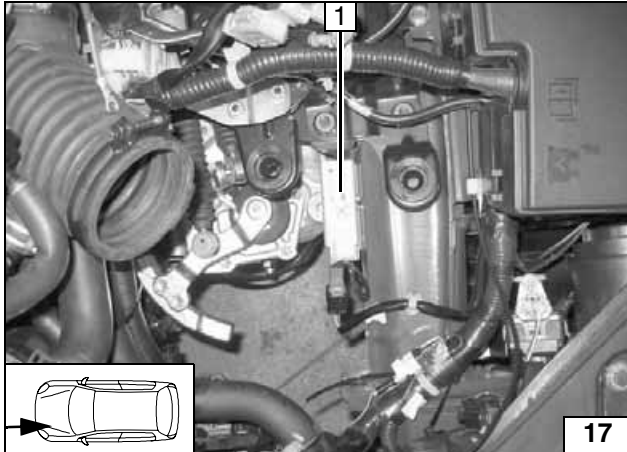
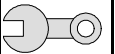


Assembling the receiver



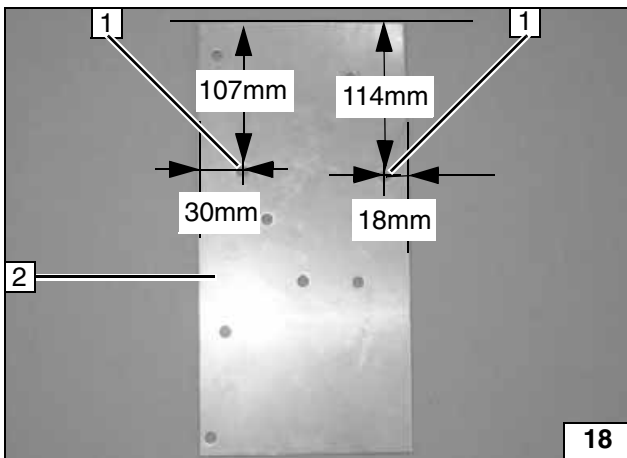
- 1 Antenna

Assembling the antenna



Preparing the Installation Location

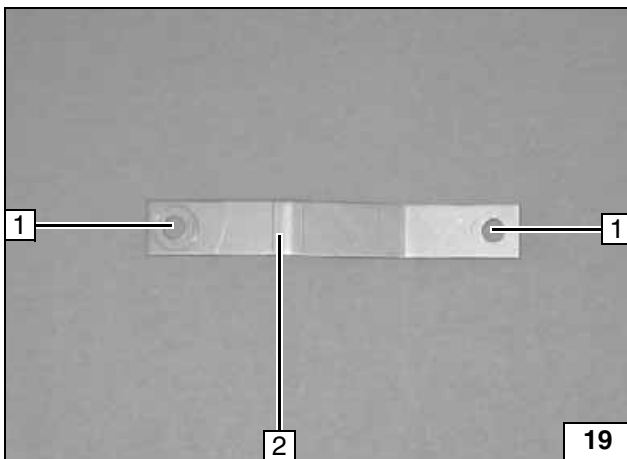
Remove the blower resistor 1



Drill Ø 7mm holes 1 [2x] in the bracket 2 according to the illustration.



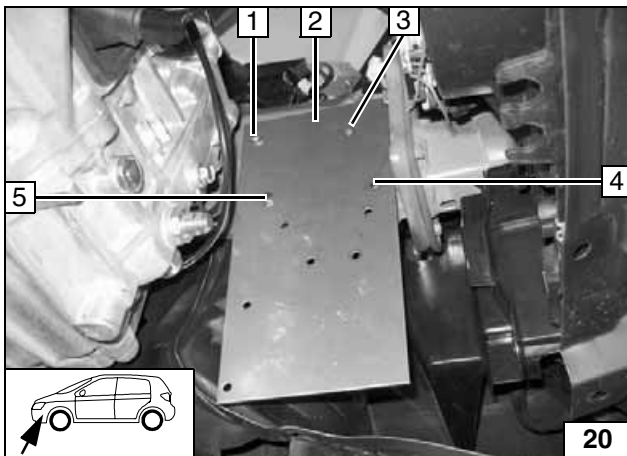
Preparing the bracket



Drill open holes 1[2x] in the strut 2 to Ø10mm.



Preparing the strut

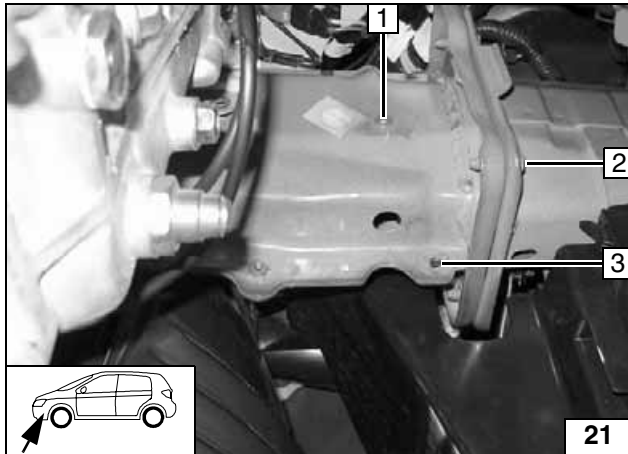
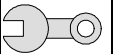


Assemble the bracket 2 according to the image, transfer hole images 3 and 4.

- 1 M6x20 bolt, 5 mm spacer washer, original vehicle threaded insert
- 3 Hole image for Ø 9.1 mm hole
- 4 Hole image for Ø 7 mm hole
- 5 M6x70 bolt, 15mm spacer nut, 30 mm spacer, original vehicle threaded insert



Copying the hole image

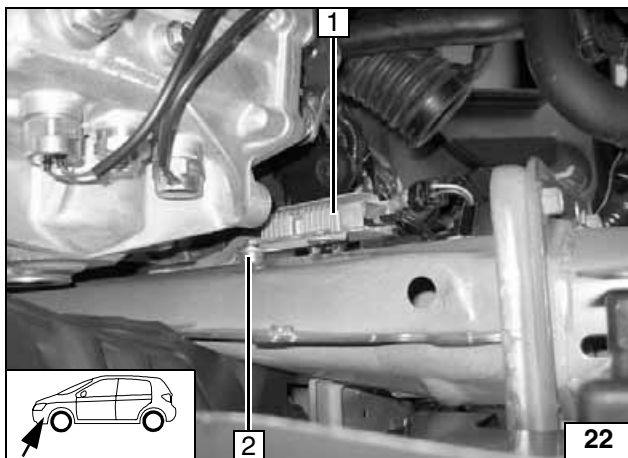


Remove original vehicle bolt 2, this will be used again.

- 1 M6 rivet nut
- 3 Hole Ø 7mm

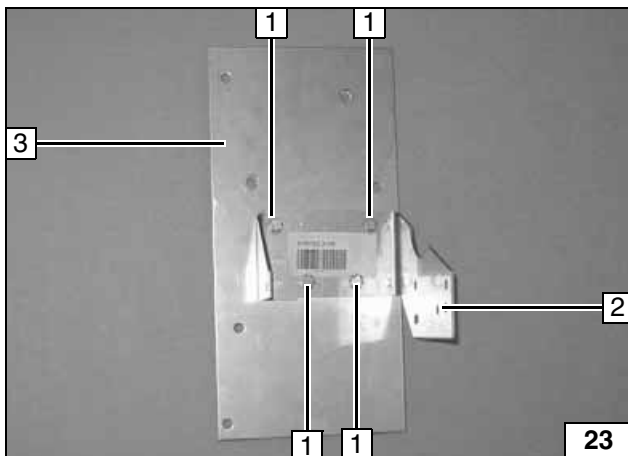


Tighten the rivet nut; remove the screw



- 1 Blower resistance
- 2 M6x20 bolt, spring washer, body washer, 8mm spacer washer, original vehicle threaded insert

Assemble blower resistor

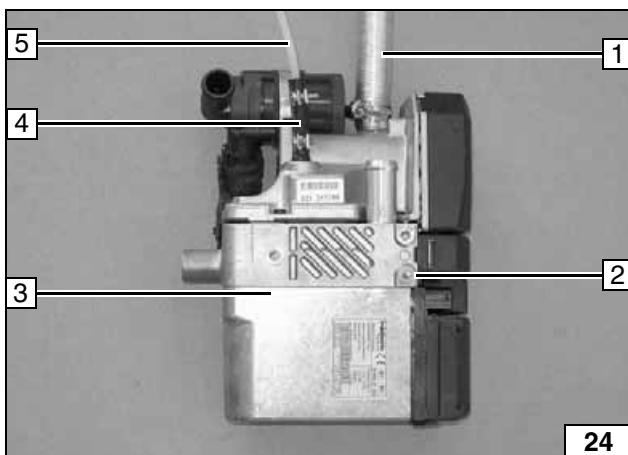


Preassemble the bracket 3 with the bracket 2 according to the illustration.

- 1 M6x12 bolt [4x], flanged nut [4x]



Pre-assemble the bracket

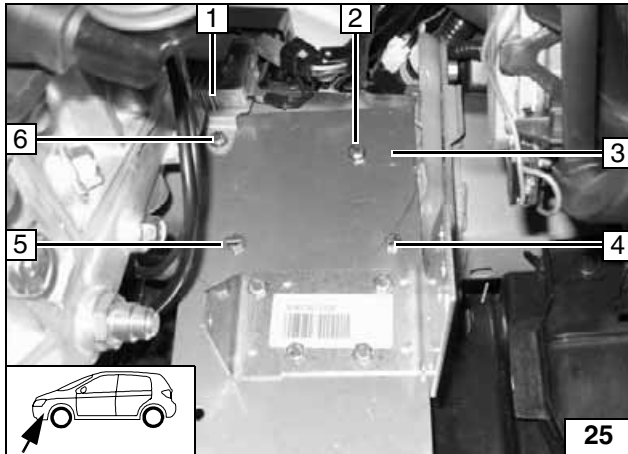
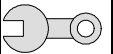


Ejoj screw bolt tightening torque 10 Nm!

- 1 Combustion air intake silencer, Ø27mm hose clamp
- 2 Ejoj stay bolts
- 3 Heater unit
- 4 Hose section, Ø 10 mm hose clamps [2x]
- 5 Fuel line



Preassemble the Heater Unit



Installing the Heater Unit

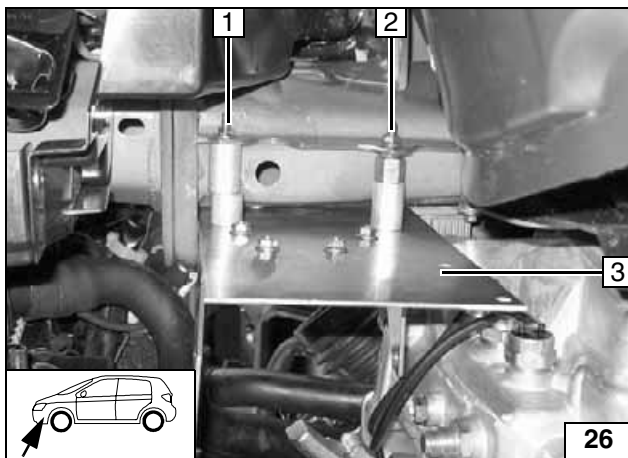
Assemble the pre-assembled bracket according to the illustration. Resistor retaining plate **1** is assembled together with the bracket **3**, spring washer **6**, body washer **6**, spacer 5mm **6**, original vehicle threaded insert **6**.

- 2** M6x20 bolt, spring washer, rivet nut
- 4** M6x70 bolt, 20 mm spacer, 30 mm spacer, M6 flanged nut
- 5** M6x70 bolt, 15mm spacer nut, 30 mm spacer, M6 flanged nut



Assembling the bracket

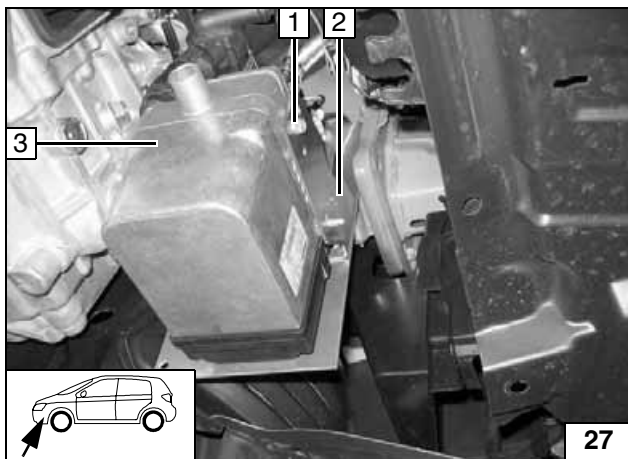
Figure 18 is the rear view of figure 17.



- 1** M6x70 bolt, 20 mm spacer, 30 mm spacer, M6 flanged nut
- 2** M6x70 bolt, 15mm spacer, 30 mm spacer, M6 flanged nut
- 3** Bracket



Assembling the bracket

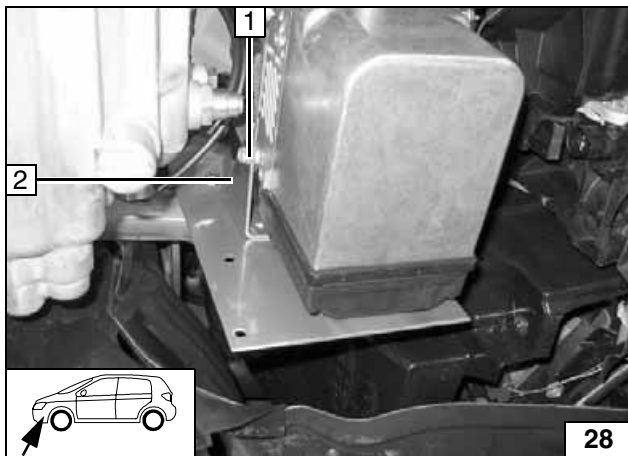


Ejot screw bolt tightening torque 10 Nm!
Before assembling the heater unit **3**, plug the header unit cable harness.

- 1** Ejot screw bolt
- 2** Bracket



Assembling the Heater Unit

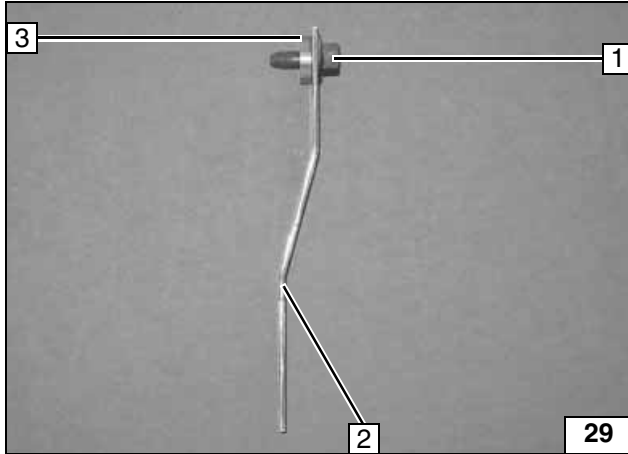
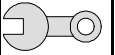


Ejot screw bolt tightening torque 10 Nm!

- 1** Ejot screw bolt
- 2** Bracket



Assembling the strut

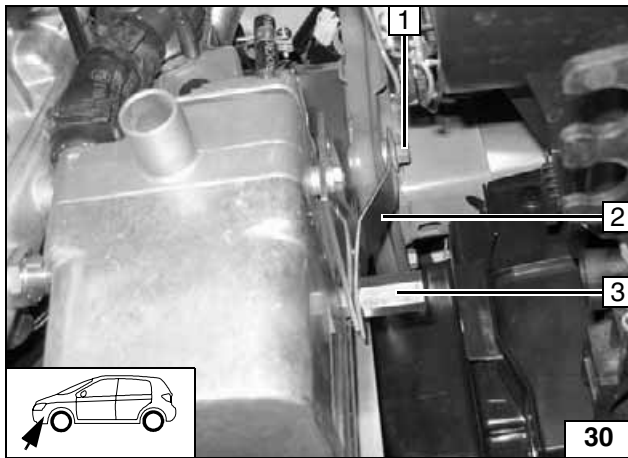


Prepare the strut according to the illustration

- 1 Original vehicle bolt [see page 14, figure 21]
- 2 Strut
- 3 5mm spacer disc

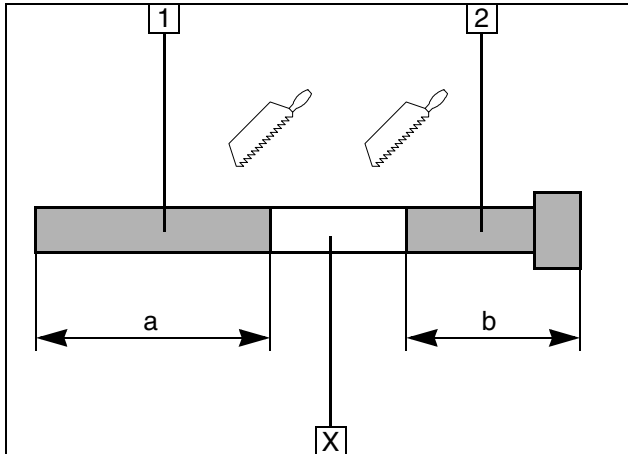
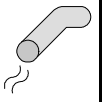


Assembling the strut



- 1 Original vehicle bolt
- 2 Strut
- 3 Spacer nut M6x30

Assembling the strut

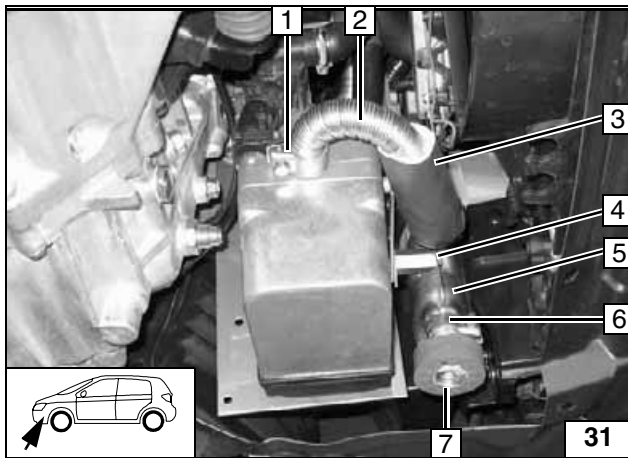


Exhaust System

- 1 Exhaust pipe
a = 440mm
- 2 Exhaust end section
b = 50mm

Dispose of section X

Preparing the exhaust pipe

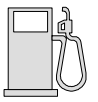


Ensure sufficient distance from adjacent components.



- 1 Hose bracket
- 2 Exhaust line, hose clamp on the exhaust silencer [covered]
- 3 Heat insulation
- 4 M6x16 bolt, spring washer
- 5 Exhaust silencer
- 6 Exhaust end section, hose clamp
- 7 Red (rt) rubber profile with groove

Assembling the silencer



Fuel Connection

CAUTION!

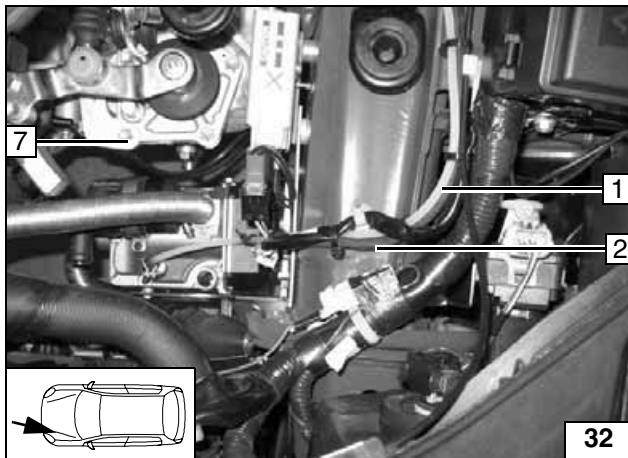
Open the vehicle's tank-cap lock, ventilate the tank and then re-close the tank lock.

Catch any fuel running off with an appropriate container.

Install fuel line and metering pump cable harness so that they are protected against stone impact. Unless specified otherwise, always fasten using cable clips. Fit the fuel line and cable harness with edge protectors around sharp edges.

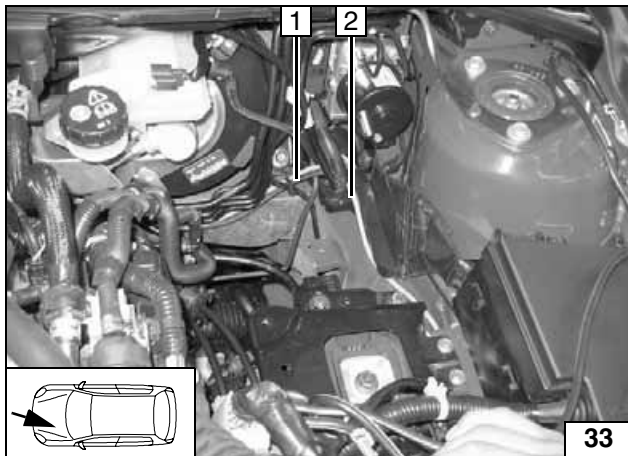
WARNING!

The fuel line and cable harness to the metering pump should be installed based on the cable harness installation diagram.



Install the fuel line **1** and the heater unit cable harness **2** on the original vehicle fuel lines and secure with cable ties.

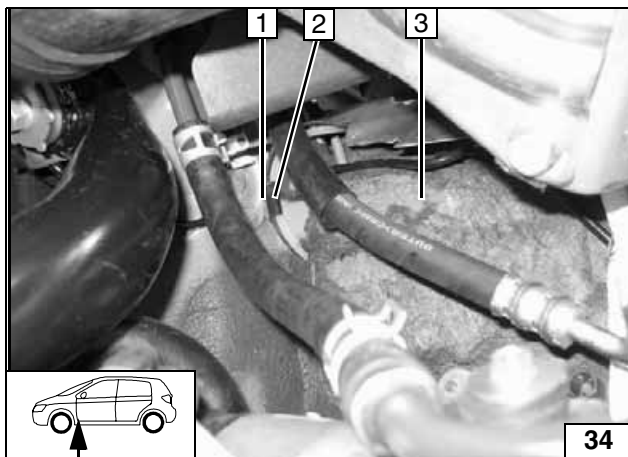
Placement of the fuel line in the engine compartment



Install the fuel line **1** and the heater unit cable harness **2** on the original vehicle fuel lines and secure with cable ties. Run this along the right side of the vehicle, behind the thermal insulation covers and along the original vehicle lines.



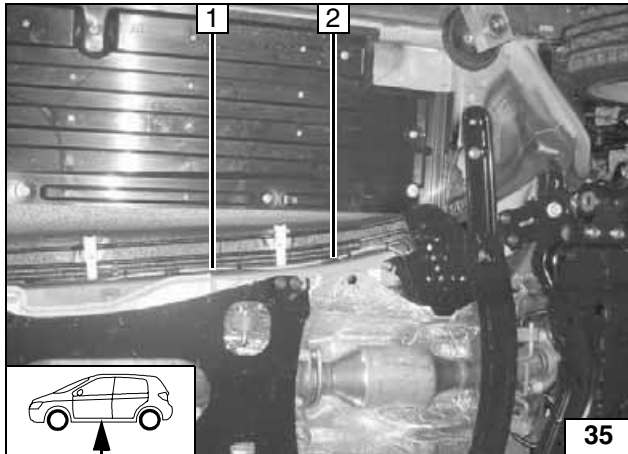
Placing the fuel pipe



Placement of the fuel pipe **2** is done together with the metering pump cable harness **1** to the vehicle underbody behind the insulation **3**.



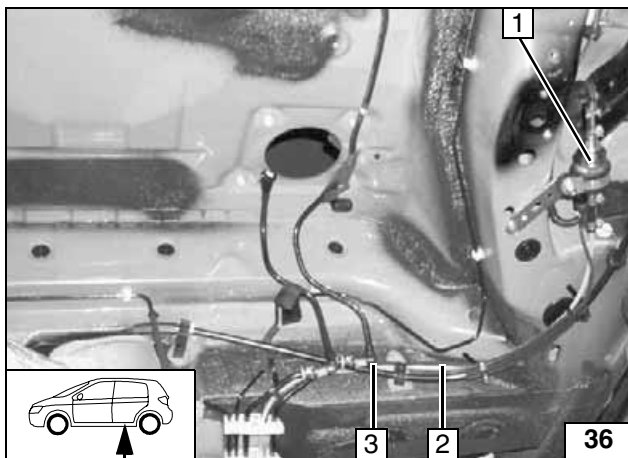
Placing the fuel pipe



Placement of the fuel pipe 2 is done together with the metering pump cable harness 1 to the vehicle underbody along the original vehicle lines, secure with cable ties.



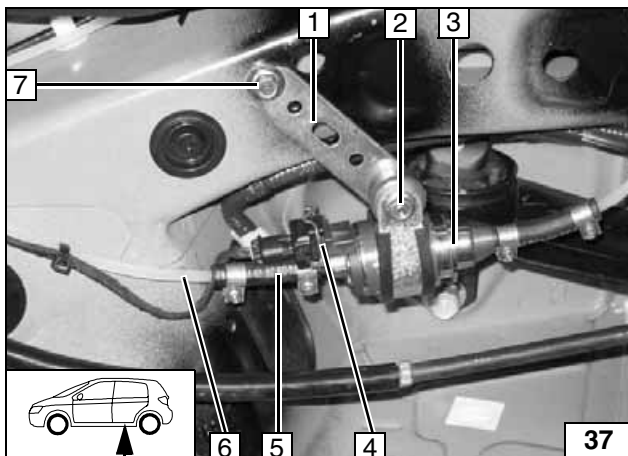
Placing the fuel pipe



Installation location of the metering pump 1 is to the right next to the vehicle tank. Run the fuel pipe from the heater unit 2 and metering pump cable harness 3 to the metering pump installation location 1.



Placing the fuel pipe

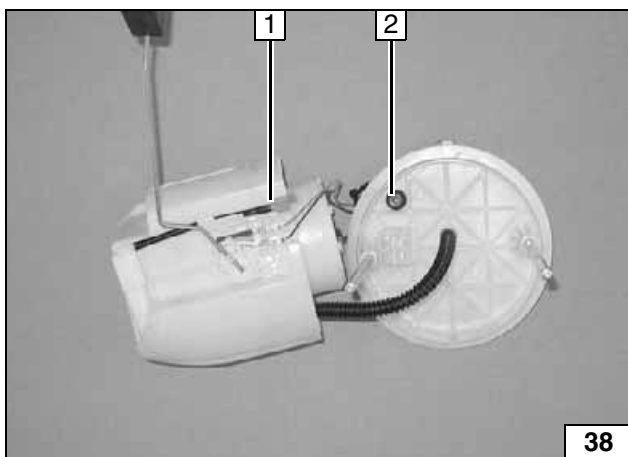


Fuel pipe 6 from the heater unit on the outtake side of the metering pump 3 [side with connector]. Check the position of the components; adjust if necessary. Check that they have free clearance.



Assembling the metering pump

- 1 Fastening strap with holes
- 2 Rubber tube clamp, silentblock, flanged nut M6 [2x]
- 4 Metering pump cable harness, connector
- 5 Hose section, hose clamps [2x].
- 7 Original vehicle bolt, loosely fitted

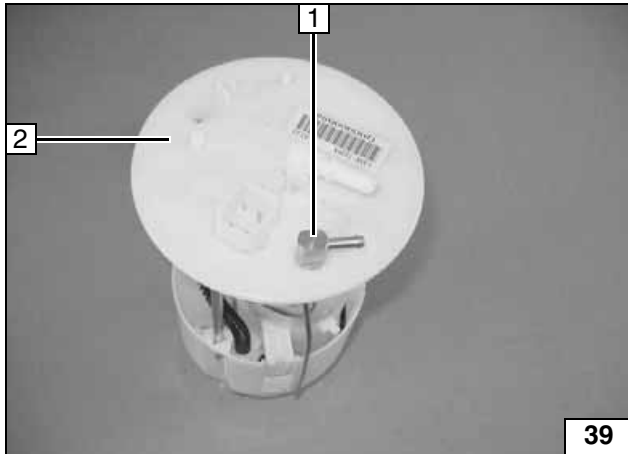


Remove the tank mounting according to the manufacturer's instructions and take it apart. Attach the M6 flanged nut 2 according to the illustration, transfer the hole image for the Ø 6.0 mm hole.



Fuel take-off

- 1 Tank mounting

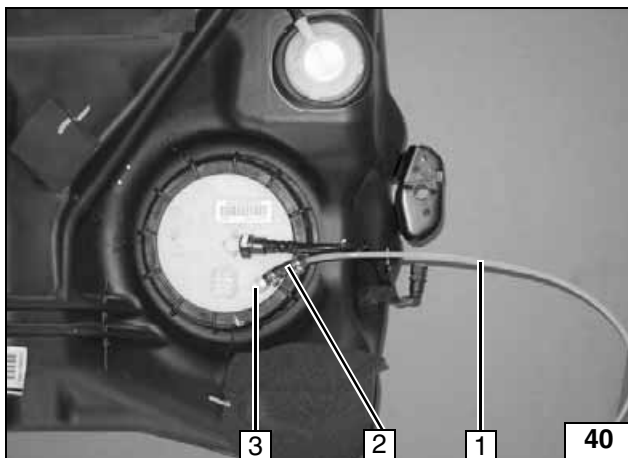


Shape, cut into sections, and insert the tank extracting device according to the template, see the Installation Instructions.
Re-assemble tank mounting!

- 1 Tank extracting device
- 2 Tank mounting



Inserting tank extracting device

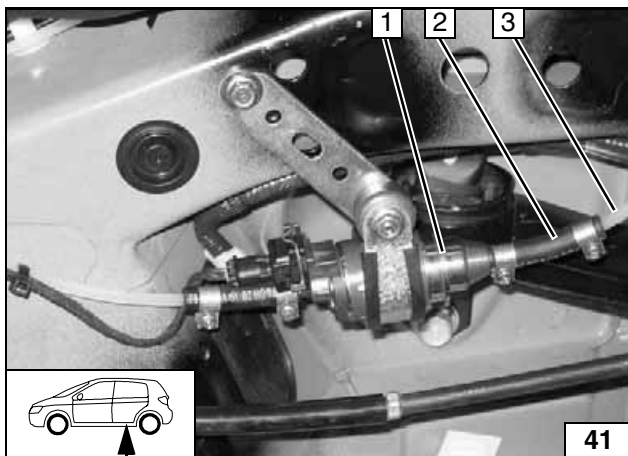


Install the tank mounting according to manufacturer's instructions.

- 1 Fuel line 1500 mm
- 2 Hose section, Ø 10 mm hose clamps [2x]
- 3 Tank extracting device



Connecting and disconnecting the fuel pipe

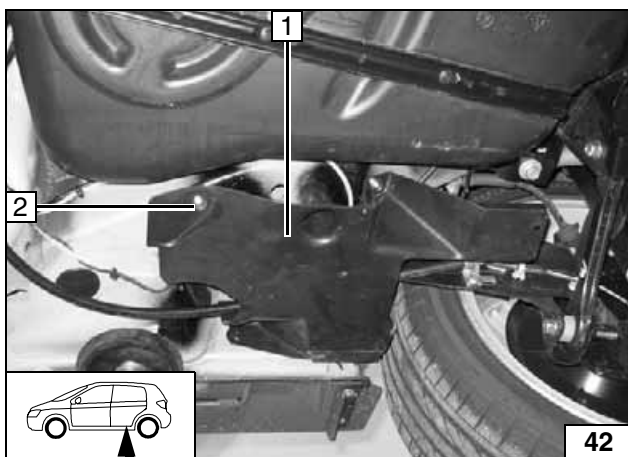


Assemble fuel tank according to manufacturer's instructions.
Fuel line from the tank extracting device on the intake side of the metering pump 1 [side without connector].
Check the position of the components; adjust if necessary. Check that they have free clearance.

- 2 Hose section, Ø 10mm hose clamps [2x]
- 3 Fuel pipe, cut into sections



Connection to metering pump

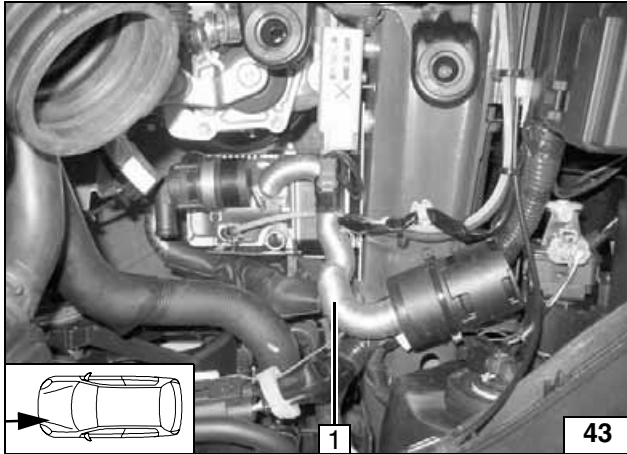


Assemble the panelling on the rear axle 1.

- 2 Original vehicle bolt (see page 19 figure 37).



Assembling the panelling for the rear axle

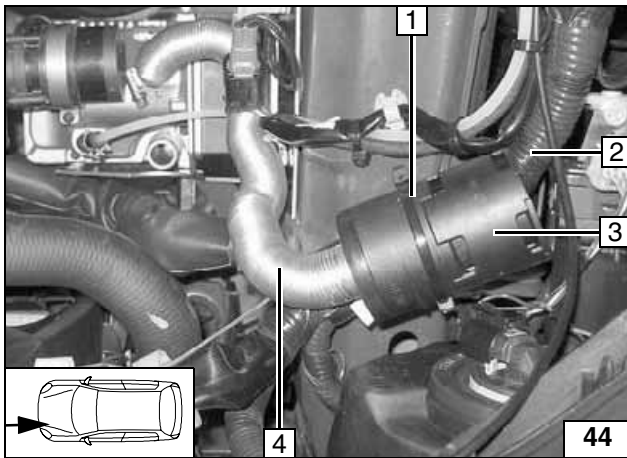


Combustion Air

Run the combustion air line 1 according to the figure.



Placement of the combustion air line



Note the spatial requirements for the engine filter housing.
Fasten the intake silencer 3 to the cable harness 2 with cable ties 1.



1 Combustion air intake pipe

Assemble the intake silencer



Water Connection for Gasoline Engines

WARNING!

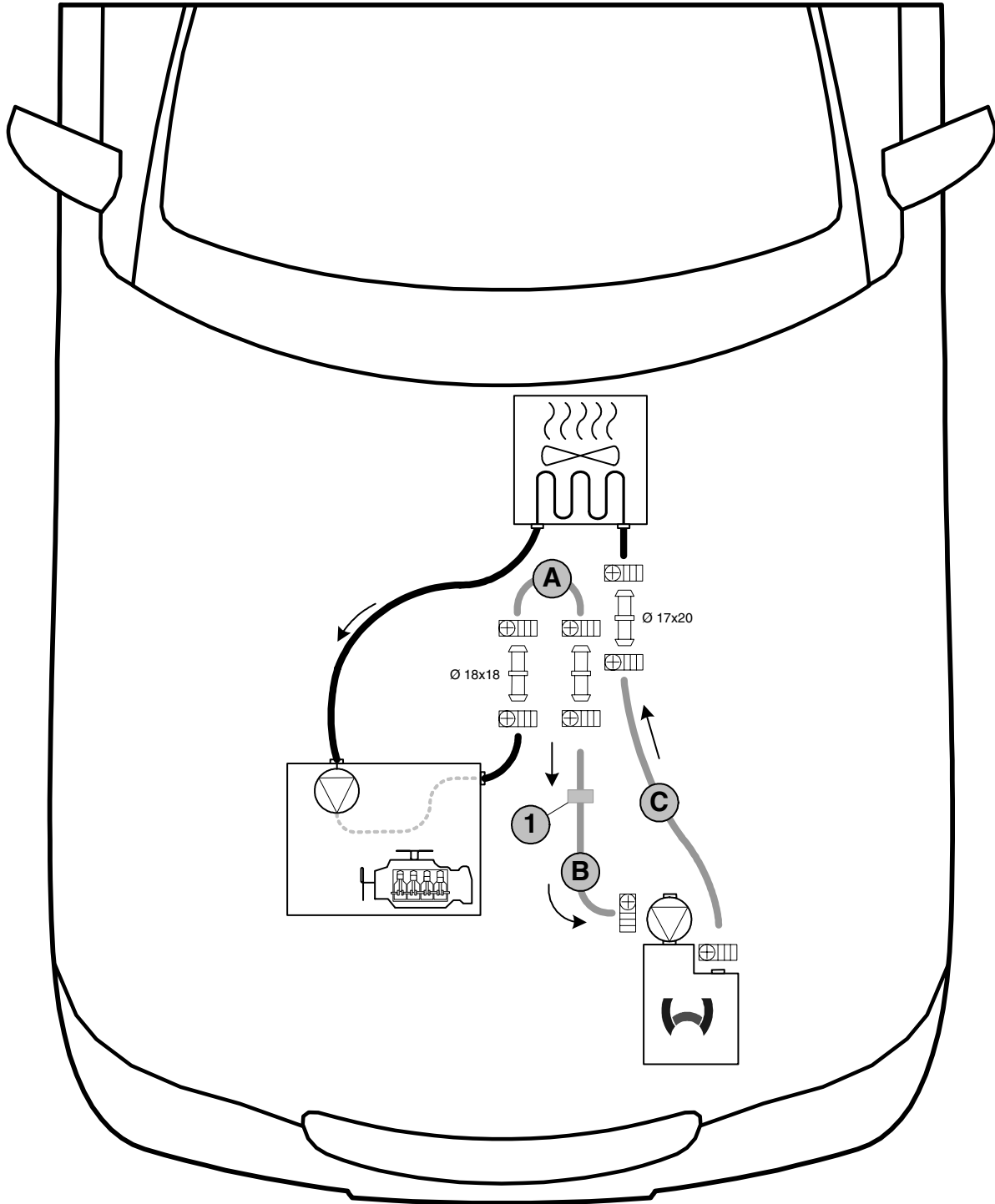
Tighten all hose clamps to 2.0 + 0.5 Nm.

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



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

Position hose clamps and spring band clamps so that no other hose can be damaged.

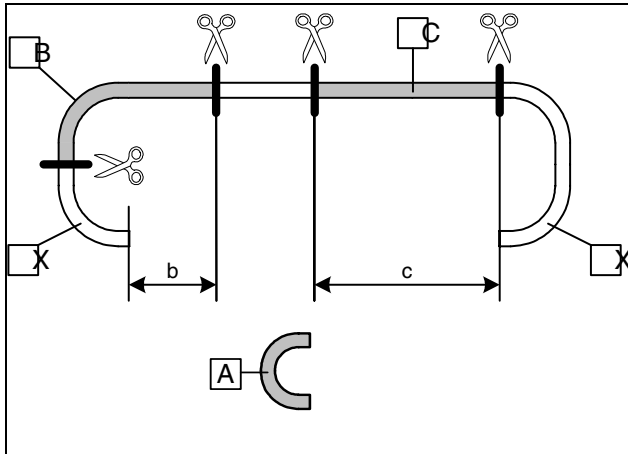
The connection should be "inline" based on the following diagram:



Water installation diagram

All hose clamps = Ø 20-27 mm. 
 All undesignated connecting pipes = Ø 18x20. 
 1 = Rubber profile (sw)

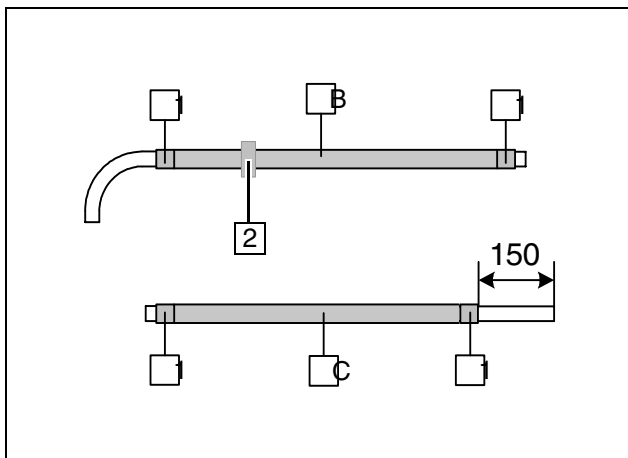




b = 450mm
c = 660mm

Dispose of section X
Cut the braided protective hose into sections and slide it onto hose B and hose C.

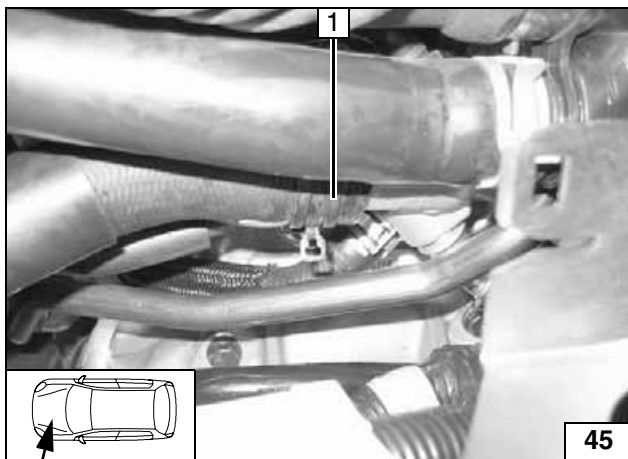
Cutting water hoses into sections



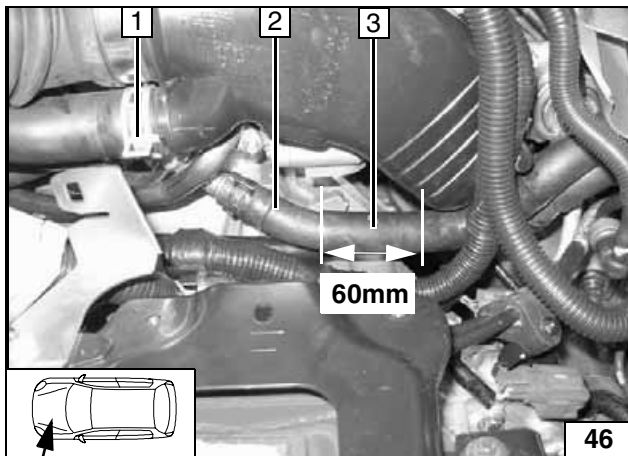
Cut the braided protective hose in the middle and slide it onto hose B and hose C.
Cut shrink-fit hose to size.

- 1 25 mm shrink-fit hose [4x]
- 2 Black (sw) rubber profile

Preparing the water hoses



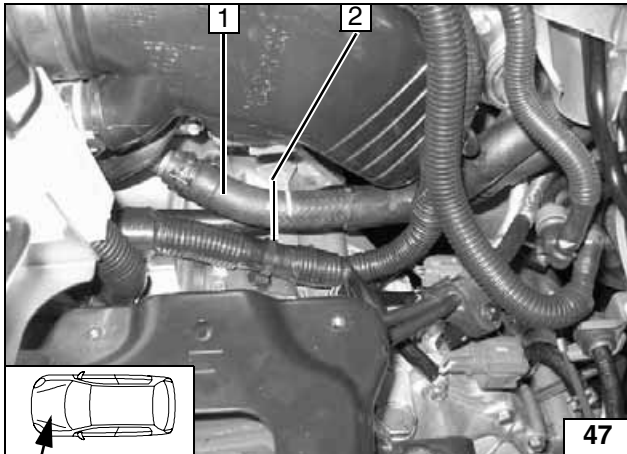
Turn the original vehicle clamp 1 down.



Remove the hose coating 3 from the engine exhaust hose 2.

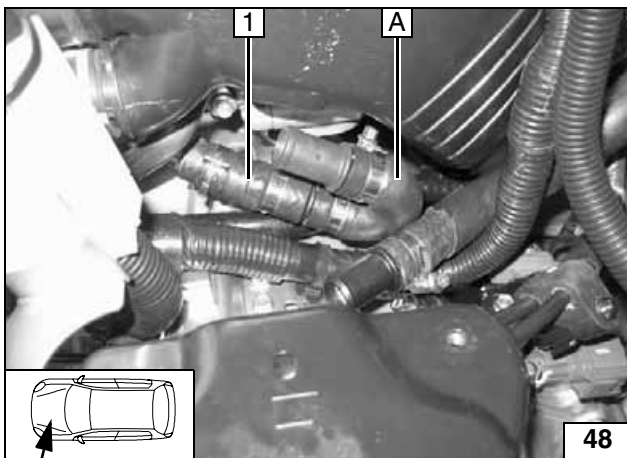
- 1 Turn the original vehicle clamp up.

Preparing the splitting point



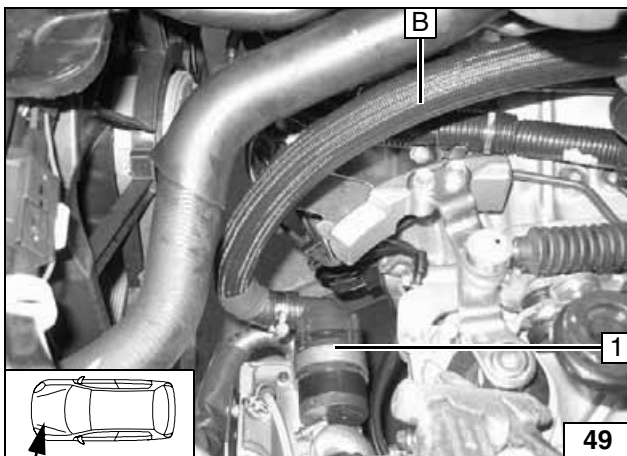
- 1 Original vehicle engine exhaust hose
- 2 Cut location

Splitting point



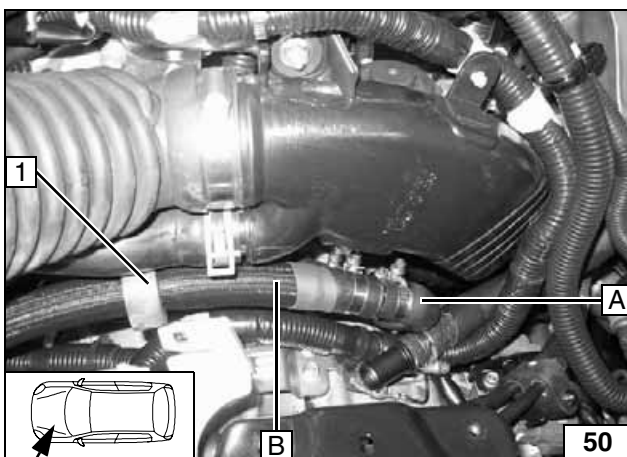
- 1 Engine exhaust hose section

Connection of moulded hose A:



- 1 Heater unit

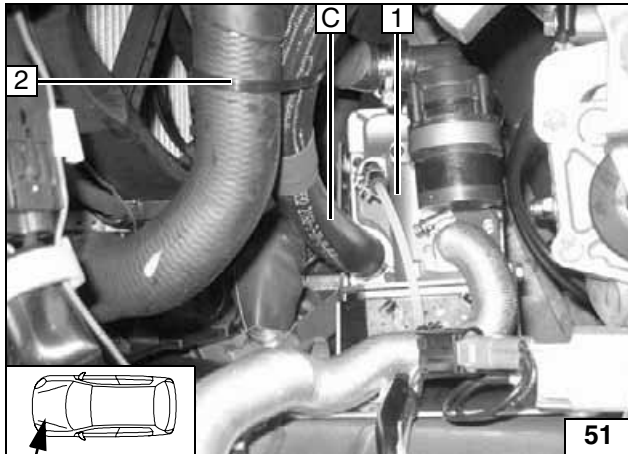
Connecting hose B on the heater unit



Align the rubber profile 1.

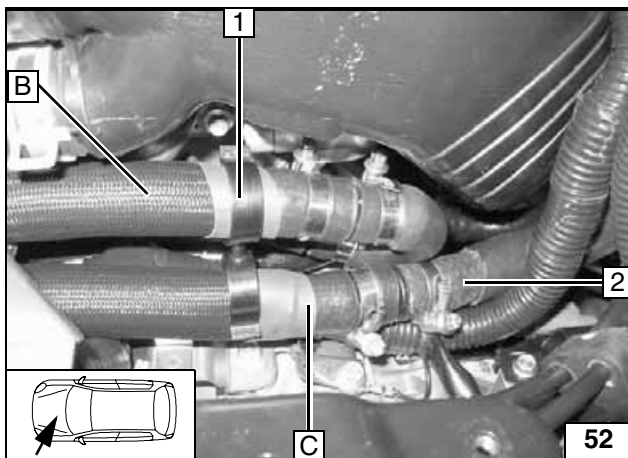


Connecting hose B to moulded hose A



- 1 Heater unit
- 2 Cable clips

Connect-
ing hose C
on the
heater unit

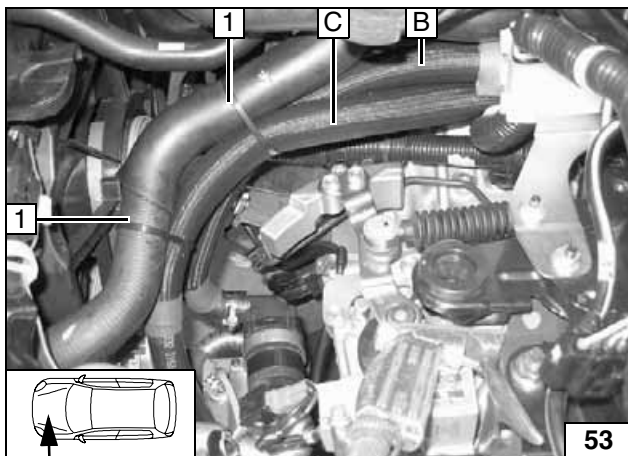


Before connecting, fill the water hoses with coolant.
Insert the hose bracket 1 as shown in the figure.



- 2 Heat exchanger inlet hose section

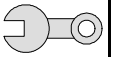
Connect-
ing to the
heat
exchanger
inlet



Prepare the water hoses with cable clips 1 according to the figure.



Hose
placement



Final Work

WARNING!

Reassemble disassembled components in reverse order.

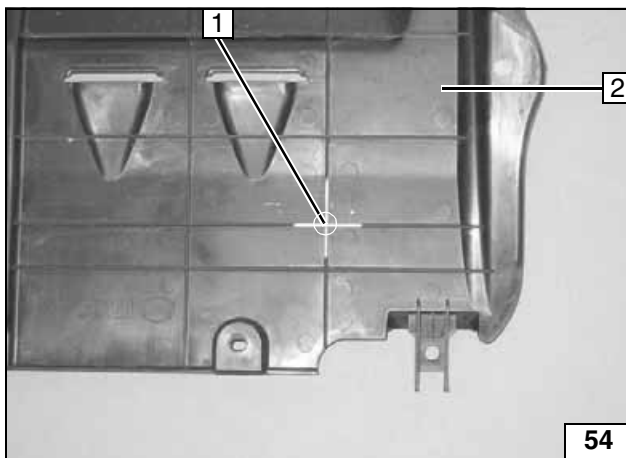
Check that all hose lines, clips, and all electrical connections are securely fastened.

Secure all loose cables using cable clips.

Only use manufacturer-approved coolant.

Spray heating unit components with anti-corrosion wax (Tectyl 100K, Order No. 111329).

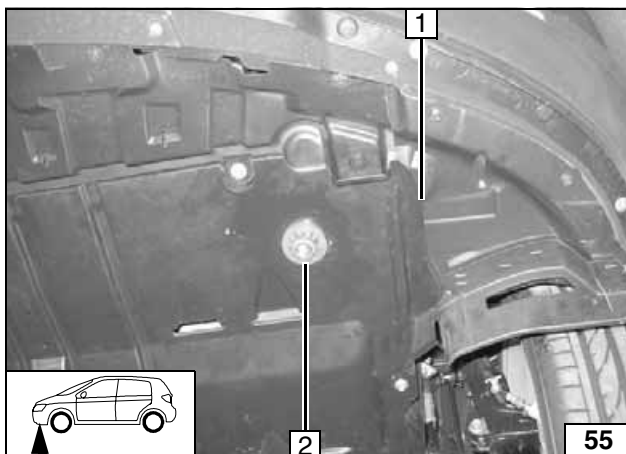
- Connect battery.
- Fill and bleed the coolant circuit according to the vehicle manufacturer's specifications.
- Set the time switch.
- Set the manual air conditioning or automatic air conditioning according to the "operating instructions for the end customer".
- Check that the auxiliary heating operates properly, see operating instructions / installation instructions.
- Attach the "Switch off auxiliary heating before re-fuelling" sticker onto the left side of the B-pillar.



- 1 Hole Ø 42mm
- 2 Lower engine cover



**Cut out the
underride
protection**



Assemble the lower engine cover **1**, insert red rubber profile with nut **2**.



**Inserting
rubber
profile**

Webasto
Feel the drive

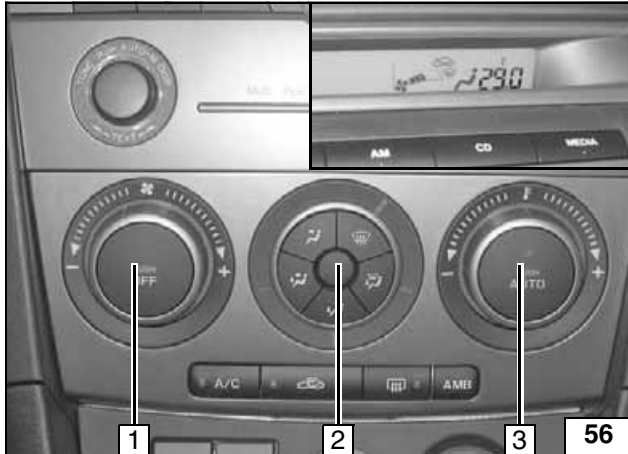
Webasto AG
PO Box 80 - 82132 Stockdorf
Hotline 01805 / 932278 - Hotfax 0395 / 5592-353
<http://www.webasto.de>

Operating instructions for the end customer

Please remove page and add to the vehicle operating instructions.



Before parking the vehicle, make the following settings:

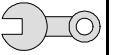


- 1 Blower rpm is pre-set in auxiliary heating operation
- 2 Air outlet to windscreen
- 3 Temperature to "max."

For vehicles with automatic air conditioning

For short distance trips, it is not recommended that the rear window heating be used.

Rule of thumb for operating the auxiliary heating: driving time = heating time.



Tank Extracting Device Template

