

Water Heater Unit

Thermo Top E Auxiliary Heating


00 0003

Thermo Top C Auxiliary Heating


00 0002

Thermo Top P Auxiliary Heating


00 0104

Installation Instructions

Suzuki Grand Vitara

Diesel

From model year 2006

Valid for vehicle frame no.: JSAJTD44...

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
Suzuki	Grand Vitara	JT	e4 * 2001 / 116 * 0091 * ...

Engine type	Engine	Power in kW	Engine capacity in cm ³
F9Q	Diesel	95	1870

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 / Scope of Delivery

Amount	Description	Order No.:
1	Suzuki-specific heater scope of delivery	See Suzuki price list

Also required:

Amount	Description	Order No.:
1	Installation kit for Suzuki Grand Vitara Diesel from year 06	1 310 827A

Optional control element selection:

Description	Order No.:
Control elements	See Suzuki price list

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

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



Foreword

These installation instructions apply to vehicles Suzuki Grand Vitara with Diesel engines.

– Re. 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 for example bore holes, with anti-corrosion wax (Tectyl 100K, Order No. 111329)!

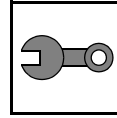
Special Tools

- Torque spanner for 2.0 - 10 Nm
- Vise-grip wrench
- Riveting nut tool
- Angle drill

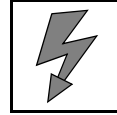
Explanatory Notes on the Document

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.

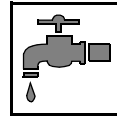
Mechanics



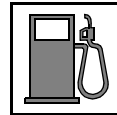
Electrics



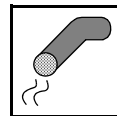
Water connection



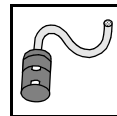
Fuel connection



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.



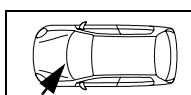
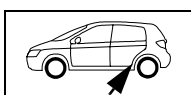
Specific risk of fire or explosion.



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



Reference to a special technical feature.

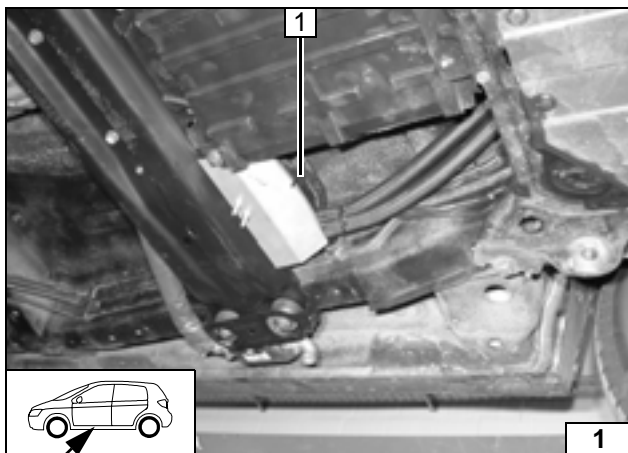


The arrow in the vehicle icon indicates the position on the vehicle and the viewing angle.

Preliminary Work

WARNING!

- 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.
- Completely remove the battery.
- Open the tank cap, ventilate the tank.
- Close the tank cap again.
- Remove the underride protection
- Remove air conditioning control according to manufacturer's instructions.
- Remove the lower cover to the passenger-side footwell
- Remove the lower cover to the driver-side footwell (for Thermo Call only)
- Remove panel on A-pillar on passenger side (only for Telestart and / or Thermo Call)



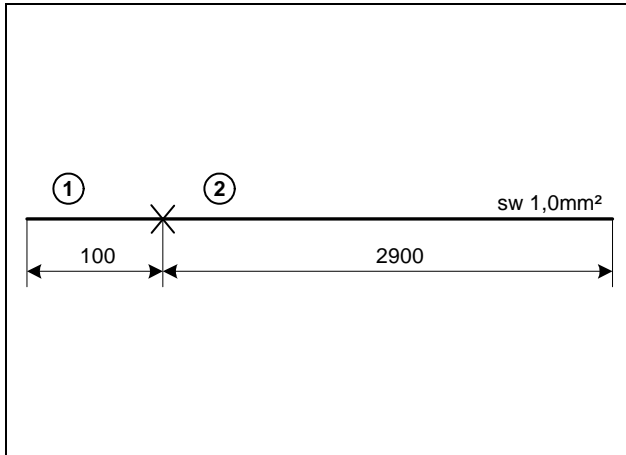
Heater Unit Installation Location

- 1 Heater unit

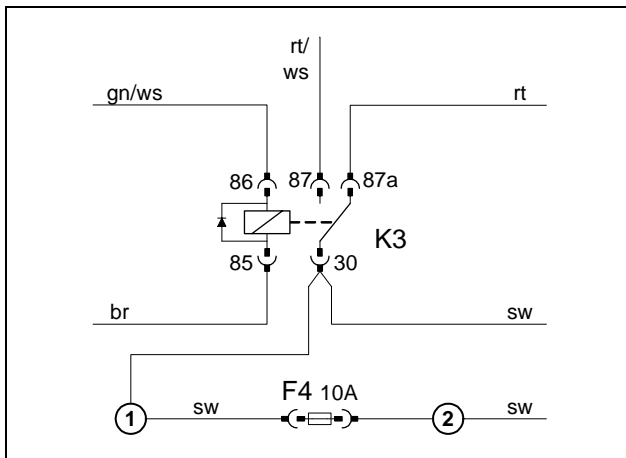
Installation
location



Preparing the Electronics



Cutting wire into sections



Connect according to the circuit diagram. Pull the wire section 2 into the enclosed insulation hose and, later, in the passenger compartment.



Preparing fuse F4

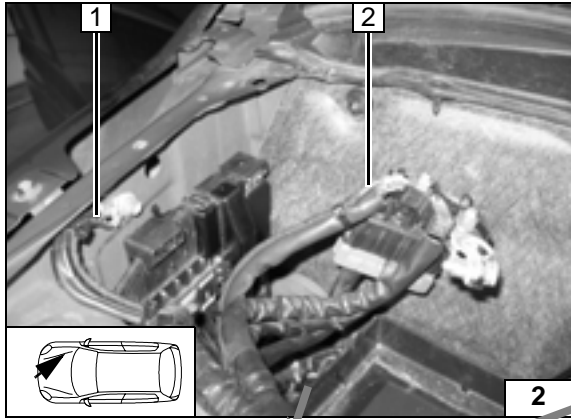


Electrical Connections



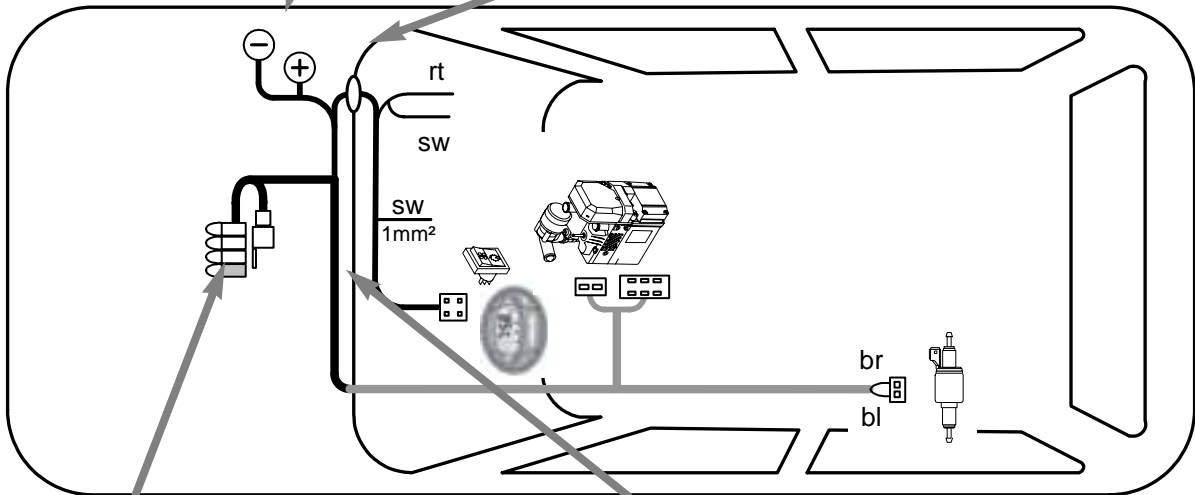
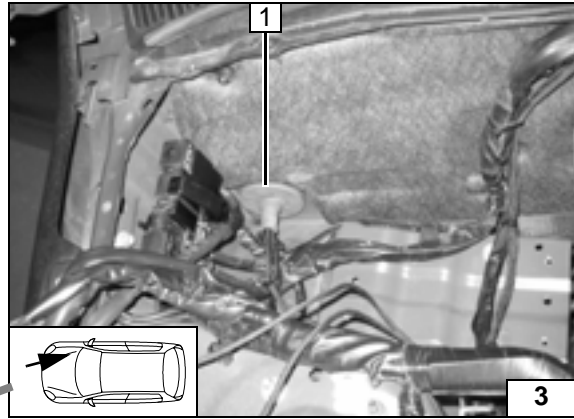
Positive and ground connection

- 1 Ground wire to the original vehicle chassis ground point
- 2 Positive wire to battery positive terminal distributor

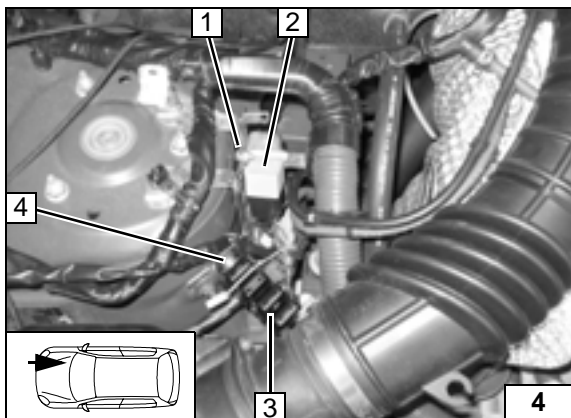


Cable harness feed-through

- 1 Protective rubber sleeve
- 2 Blower controller cable harness, time switch and sw (black) additional line in the insulation hose

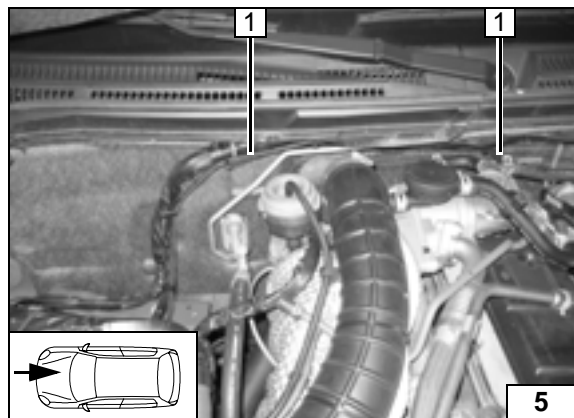


Cable harness installation diagram



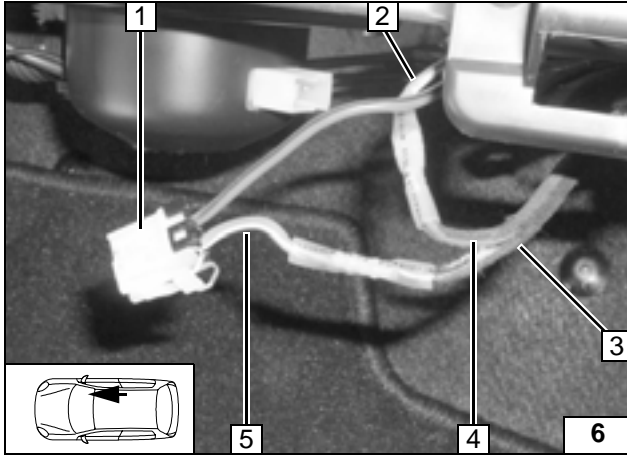
Fuse holder, K3 relay

- 2 K3 relay
- 1 Bend up the shackle, M5x12 bolt, washer [2x], flanged nut on existing bore hole
- 4 Fuse holder retaining plate, M5x12 bolt, washer [2x], flanged nut on existing bore hole
- 3 Fuse holder



Installing the cable harnesses

- 1 Run the heater unit cable harness to the metering pump installation location (see figure 16)



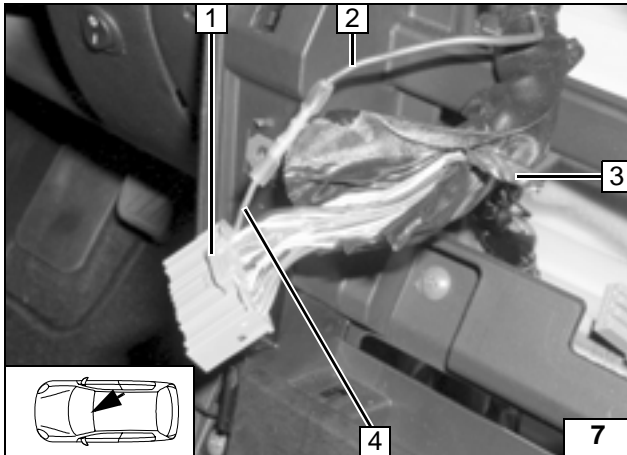
Automatic air conditioning blower control

Connection to 2-pin connector 1 from the blower motor.
Connect with enclosed butt connectors according to the circuit diagram.

- 2 Blue/white (bl/ws) wire from blower relay
- 4 Red (rt) wire from K3/87a
- 5 Blue/white (bl/ws) wire to blower motor plug
- 3 Black (sw) wire from K3/30



**Connect-
ing the
blower
motor**

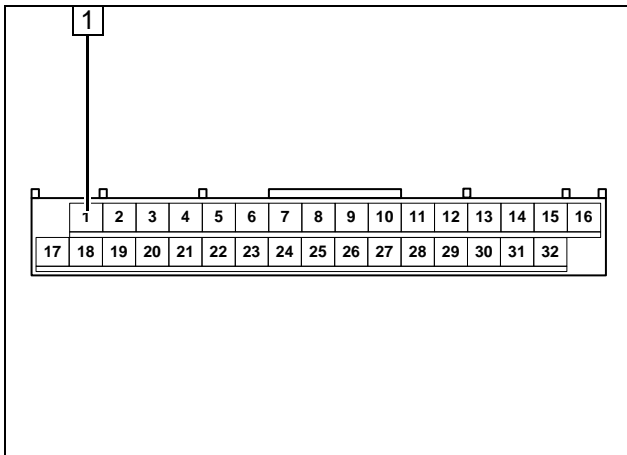


Connection to 32-pin connector 1 G52 grey.
Connect with enclosed butt connector according to the circuit diagram.

- 2 Black (sw) wire from fuse F4
- 4 Original vehicle wire violet/red (vi/rt) from connector G52 pin 1
- 3 Original vehicle wire violet/red (vi/rt) from fuse F40



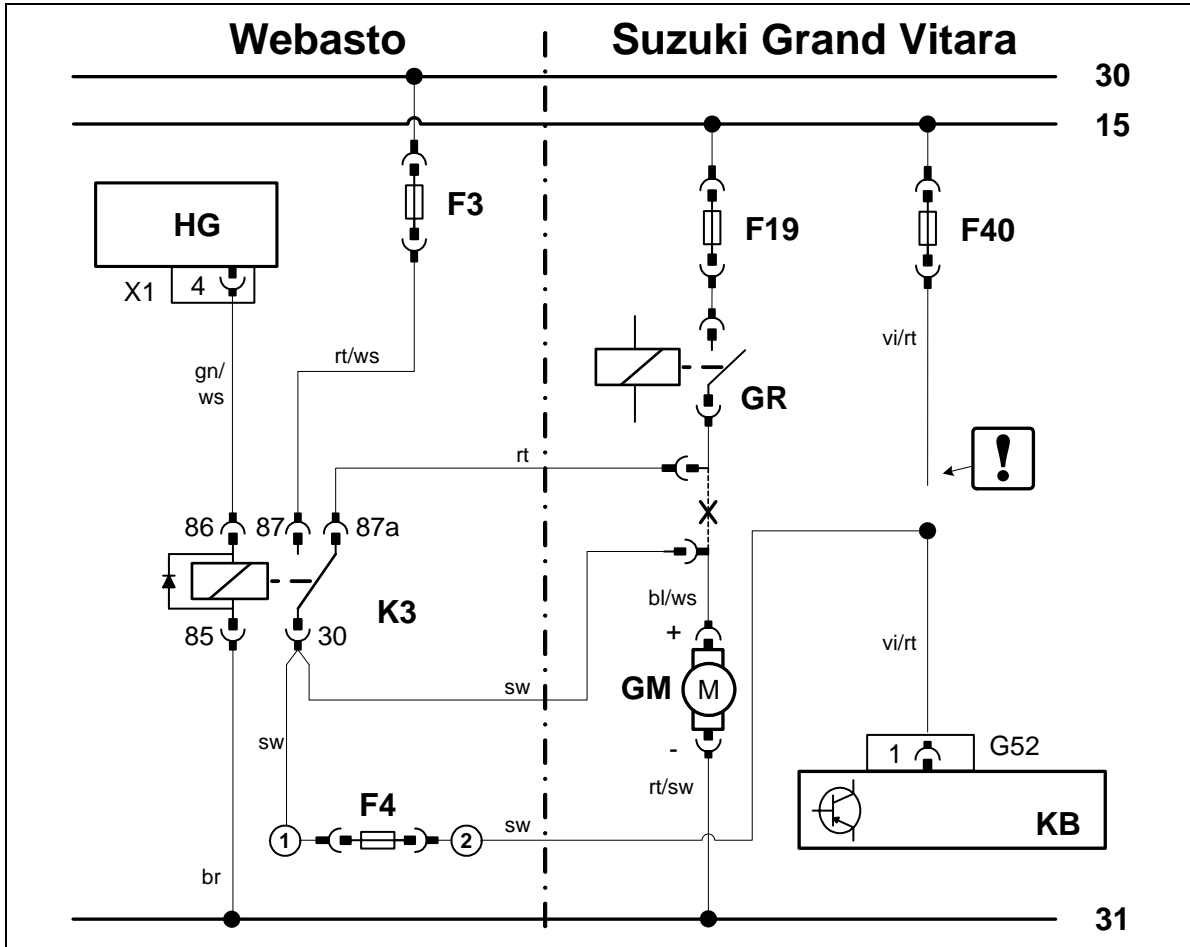
**Connect-
ing the air
condition-
ing control**



- 1 Pin 1 from connector G52 contact side



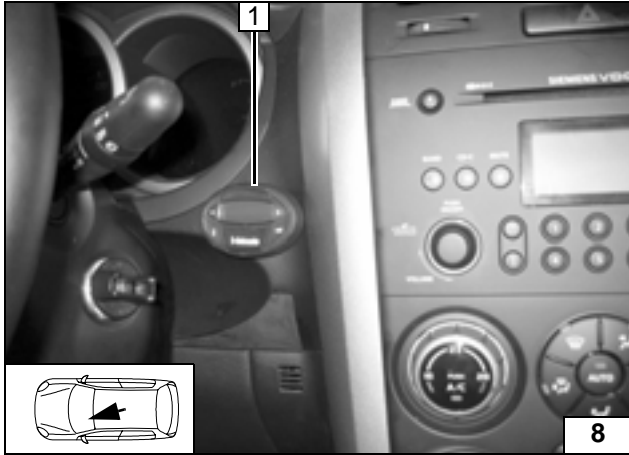
**Air
condition-
ing control
connector**



Automatic air conditioning circuit diagram

Webasto components		Suzuki components		Colors and symbols	
HG	Heater unit TT-C/E	GM	Blower motor	rt	red
X1	6-pin heater unit connector	GR	Blower relay	ws	white
F3	Fuse	KB	Air conditioning control	sw	black
K3	Blower relay 25A	G52	32-pin air conditioning control connector	br	brown
F4	Additional fuse 10A	F19	Fuse, 40A	gn	green
		F40	Fuse, 10A	bl	blue
				vi	purple
				!	Insulate and tie back wire ends
				X	Splitting point
					Cable colors may vary.

Legend

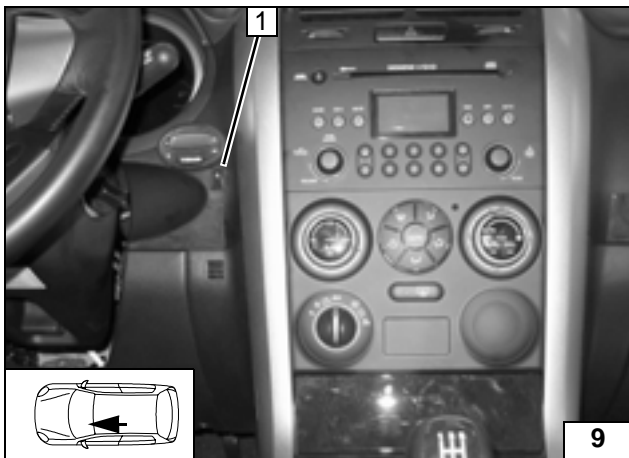


Time switch

- 1 Time switch



Assembling the time switch

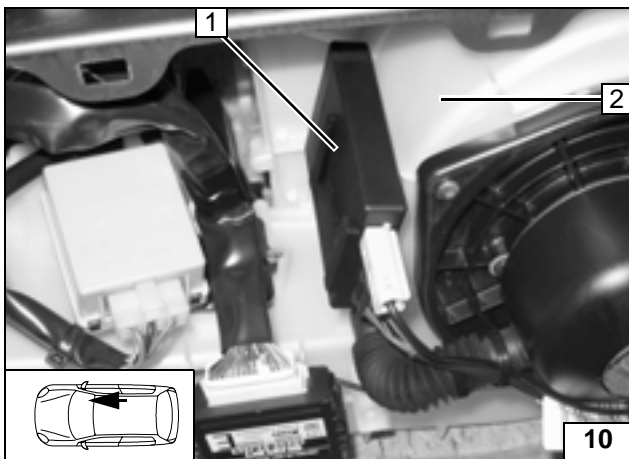


Summer / winter switch option

- 1 Summer / winter switch, bore hole Ø12 mm



Assembling the summer / winter switch

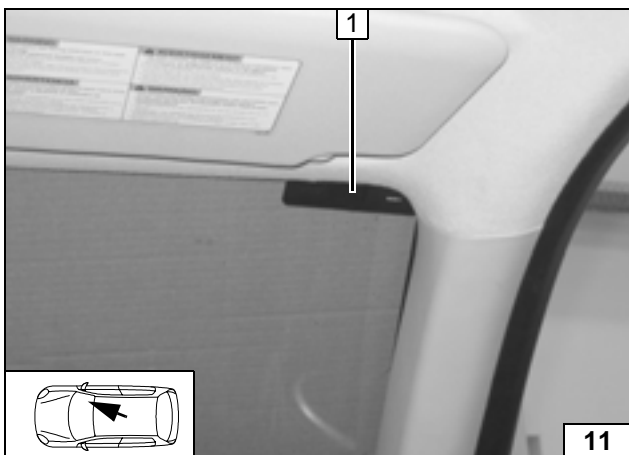


Remote Start Option

- 2 Fan housing
- 1 Receiver, Velcro tape (self adhesive)

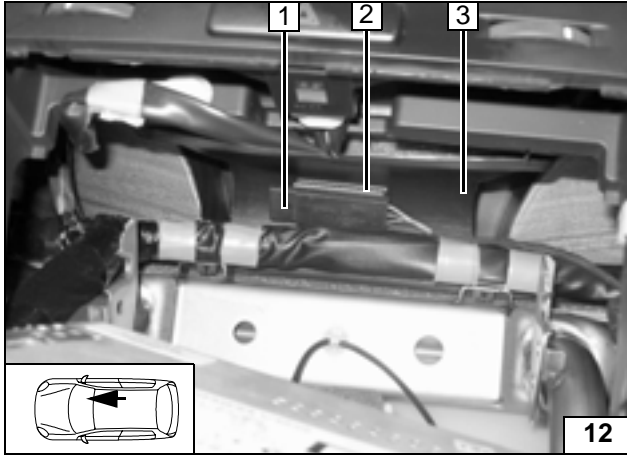


Assembling the receiver



- 1 Antenna

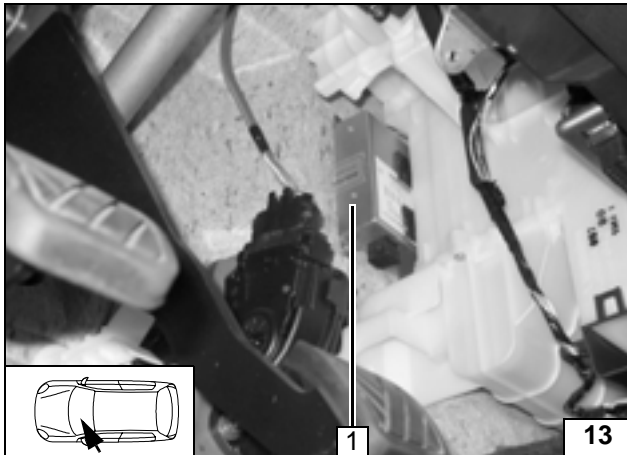
Assembling the antenna



Temperature gauge (only for HTM 100)

- 1 Temperature gauge
- 2 Velcro tape (self adhesive)
- 3 Air duct

Assembling the temperature gauge

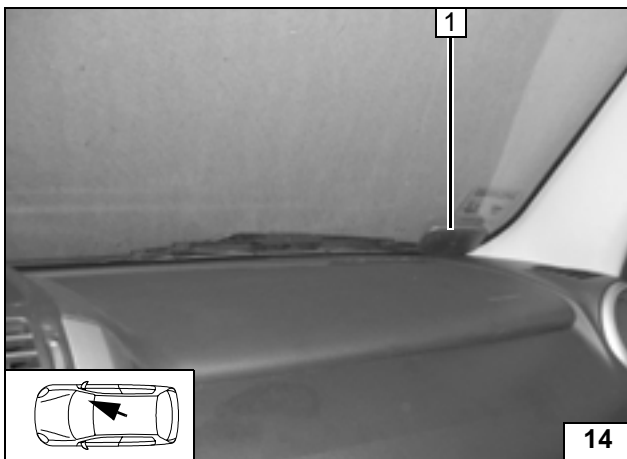


Thermo Call Option

- 1 Receiver, Velcro tape (self adhesive 2x)

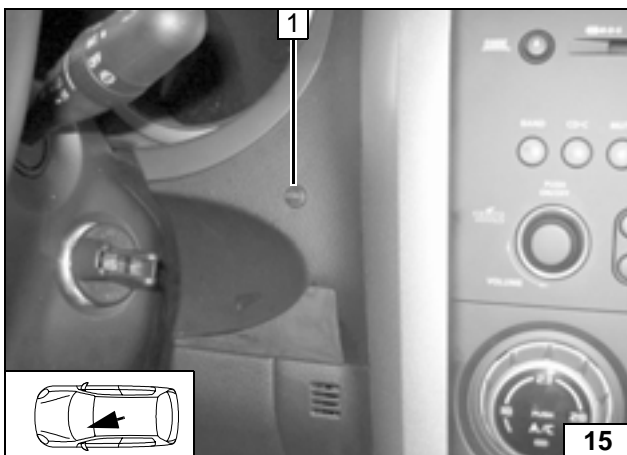


Assembling the receiver



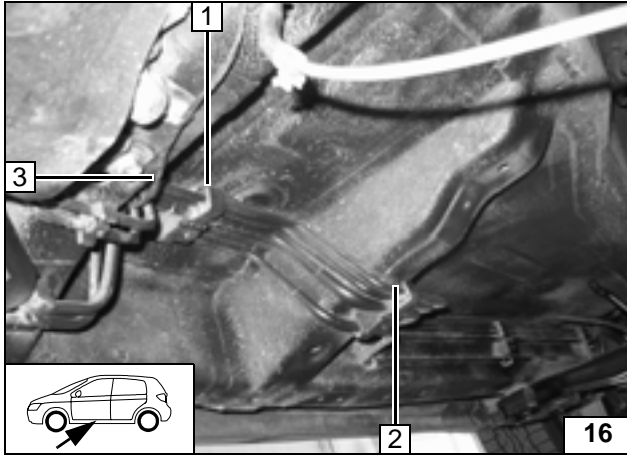
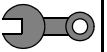
- 1 Antenna

Assembling the antenna



- 1 Tip switch

Assembling the tip switch

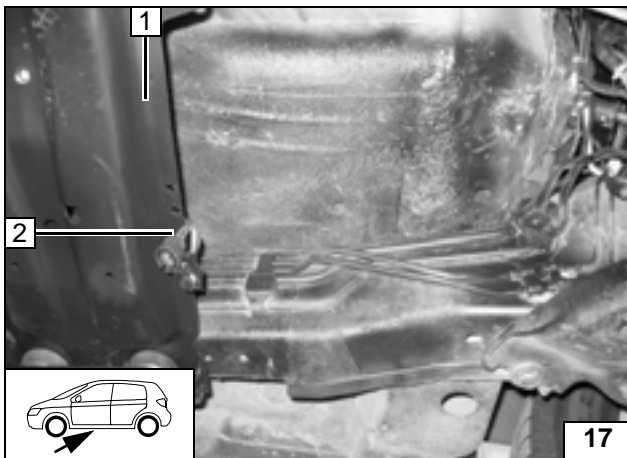


Preparing the Installation Location

Run the heater unit cable harness **2** to position **1**, make loop, run back to the heater unit installation location. Run the metering pump cable **3** to the metering pump installation location.

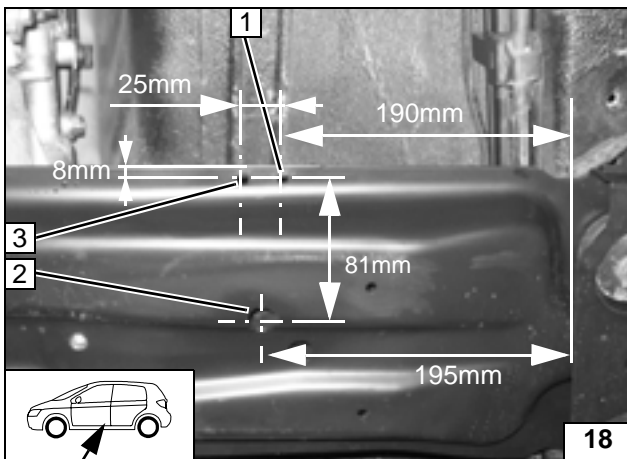


Installing the cable harness



- 1 Heater Unit Installation Location
- 2 Heater unit cable harness

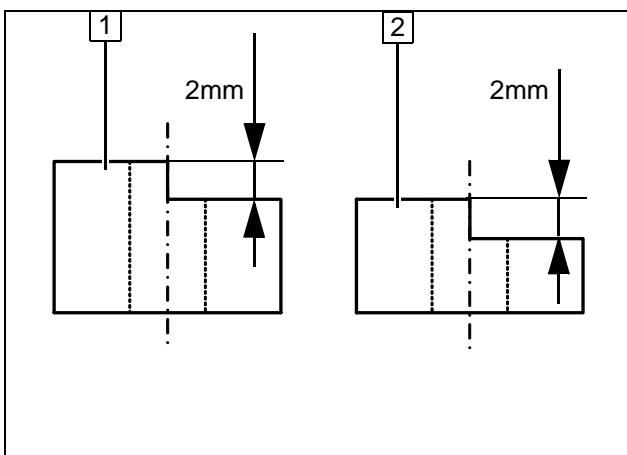
Installing the cable harness



Transfer hole image according to figure Drill \varnothing 7mm holes at position **1** and **3**. First drill \varnothing 7mm holes through the first two levels at position **3** and later drill the lower level to \varnothing 16mm.



Drilling holes

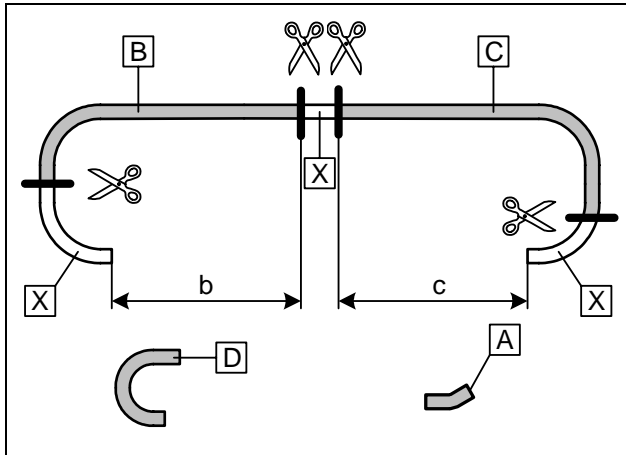
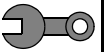


Finish the enclosed spacer washers according to the figure.

- 1 8mm spacer
- 2 5mm spacer



Finishing the spacer washers



Preparing the Heater Unit

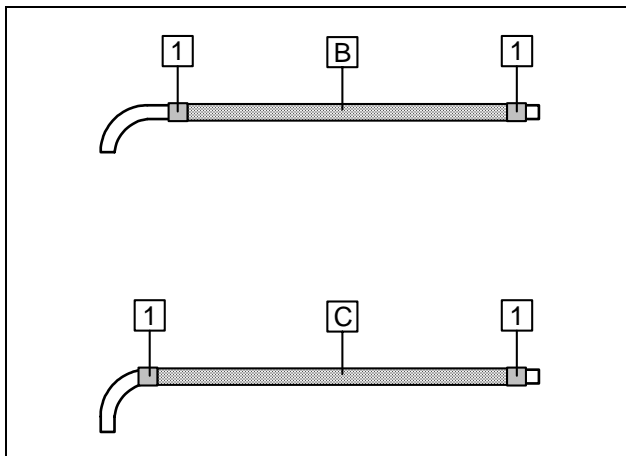
Enclosed hose 30° Ø 20mm
Enclosed molded hose 180° Ø 20mm

b = 975mm
c = 780mm

Dispose of sections **X**
Cut off hose **C** just after the bend



Cutting water hose into sections

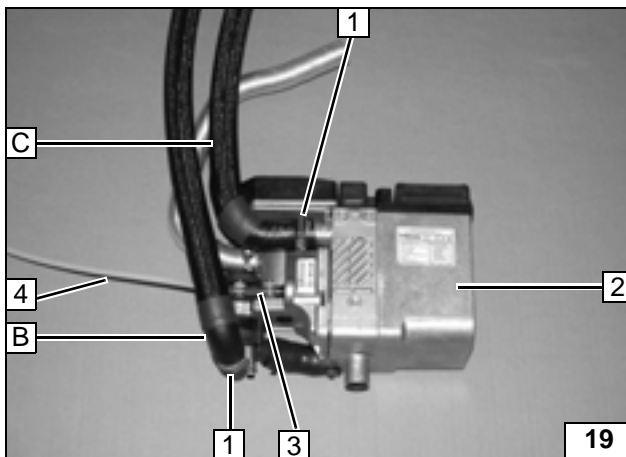


Slide the braided protective hose onto hose **B** and hose **C** and cut into sections.
Divide the shrink-fit hose into 4 equal ends, slide on and shrink.

1 Shrink-fit hose [4x]



Preparing the water hoses

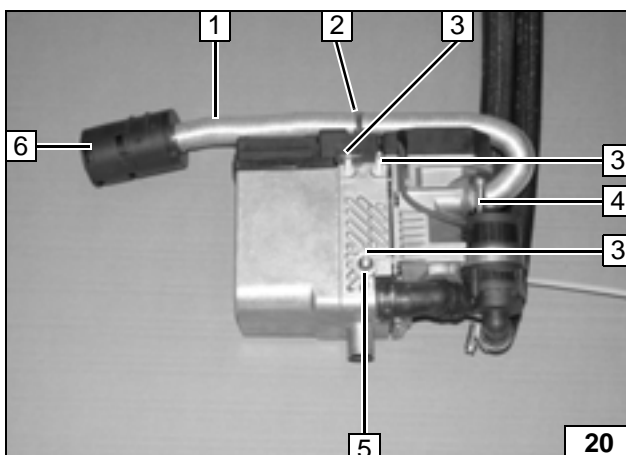


Fasten the hose **C** with 90° bend onto the heater unit water outlet, fasten hose **B** with 90° bend to the circulation pump.

1 Ø 27mm hose clamps [2x]
2 Heater unit
4 Mecanyl fuel line
3 Hose section, Ø 10 mm hose clamps [2x]



Preassembling the heater unit

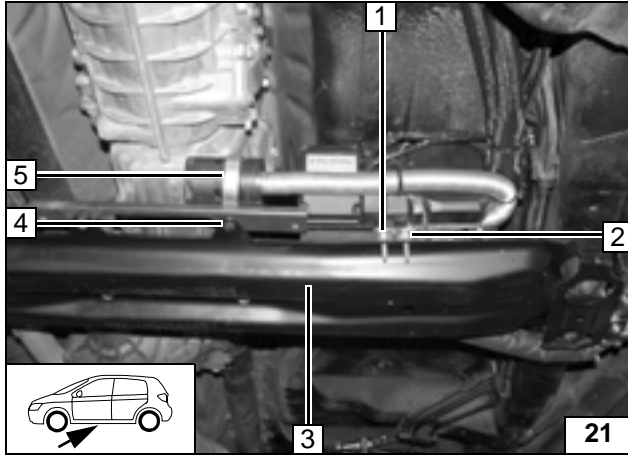
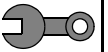


Note the installation position of the air intake silencer, see the Installation Instructions.
Punch out the perforation in the header unit cover, insert the retaining clip **2**.

1 Combustion air intake pipe
3 Ejot stay bolts [3x]
4 Ø 27 mm hose clamp
5 10mm spacer, bolt protector
6 Combustion air intake silencer



Pre-assembling the intake silencer



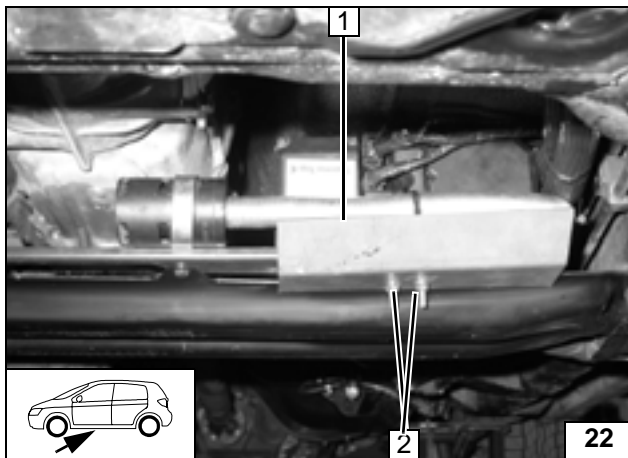
Installing the Heater Unit

Before assembling the heater unit, lower the crossarm **3** and replace the original vehicle bolt at position **4** with an M6x30 bolt.

- 1 Spacer with recess 8 mm
- 2 Spacer with recess 5mm, body washer
- 5 Ø 48 clip with rubber removed, 5 mm spacer, MG flanged nut

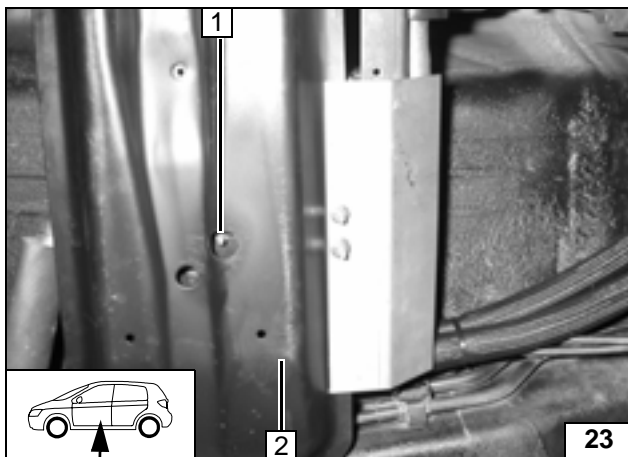


Loosely assembling the heater unit



- 1 Wind deflector
- 2 M6 flanged nuts [2x]

Assembling the wind deflector

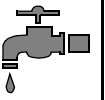


- 1 Flanged nut M6

Assembling the heater unit

Tighten the crossarm **2** again.





Water Connection

WARNING!

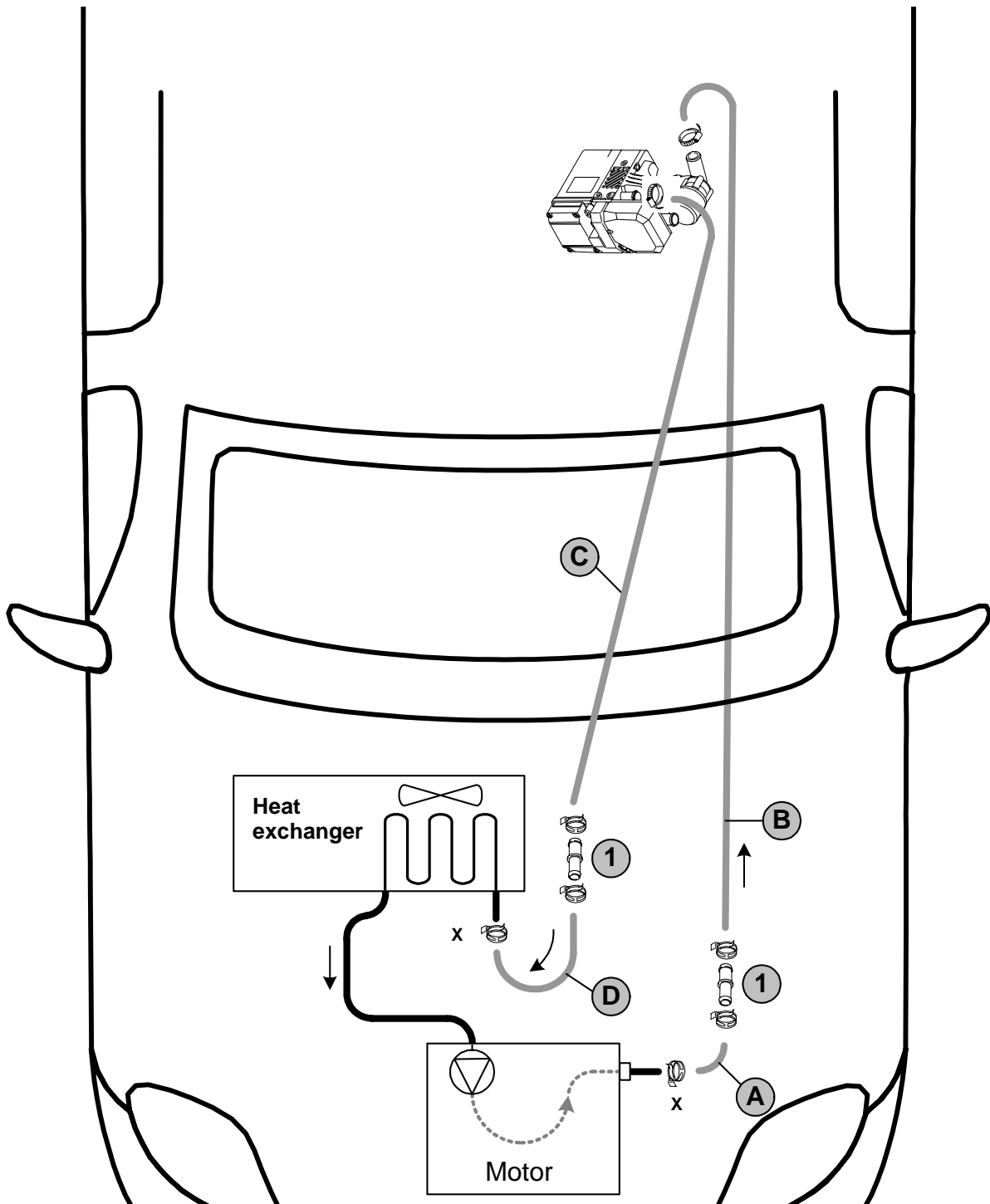
Tighten all hose clamps with 2.0 + 0.5 Nm.

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

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

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

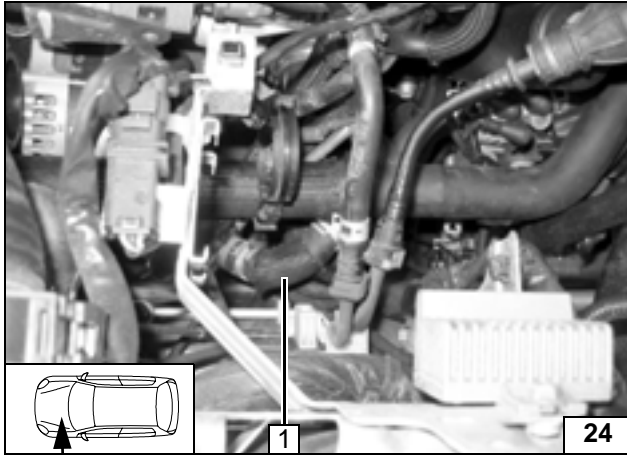
The connection should be "inline" based on the following diagram:



Water installation diagram

All undesignated clamps are Ø 20-27 mm hose clamps. Position X = original vehicle spring band clamps. 1 Connecting pipes = Ø 20x20 with spring band clamps Ø 27.

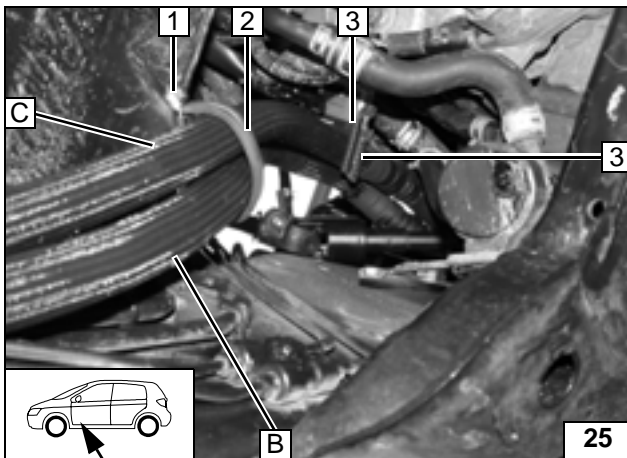




Remove the original vehicle hose 1 from the motor outlet to the heat exchanger inlet and dispose. The spring band clamps will be used again.



Splitting point

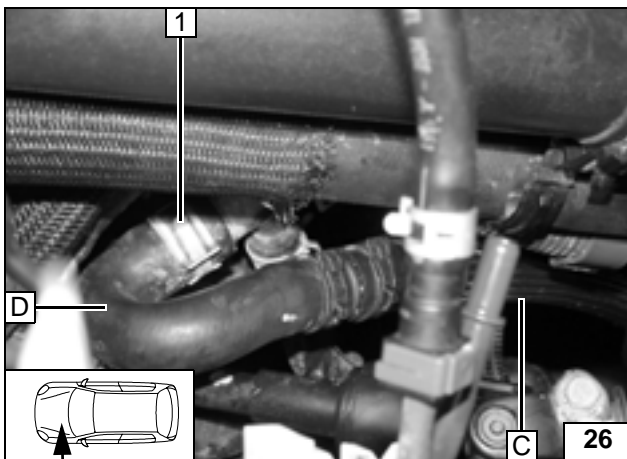


Ensure sufficient distance from adjacent components.

- 1 Bore hole Ø 9.1mm, M6 rivet nut, M6x20 bolt, spring washer
- 2 Rubberized tube clamp Ø 48mm
- 3 Edge protection [2x]

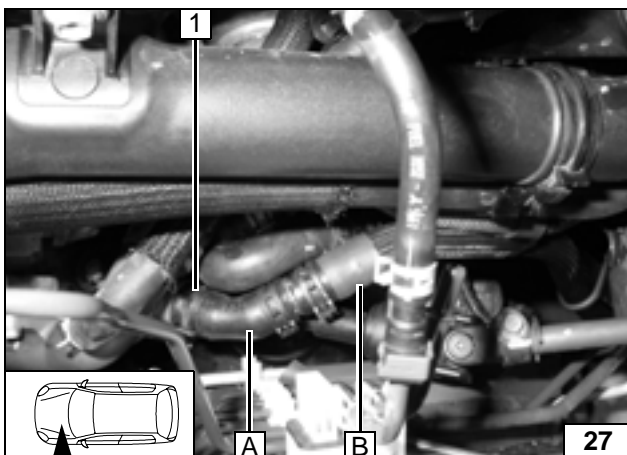


Placement on the underbody



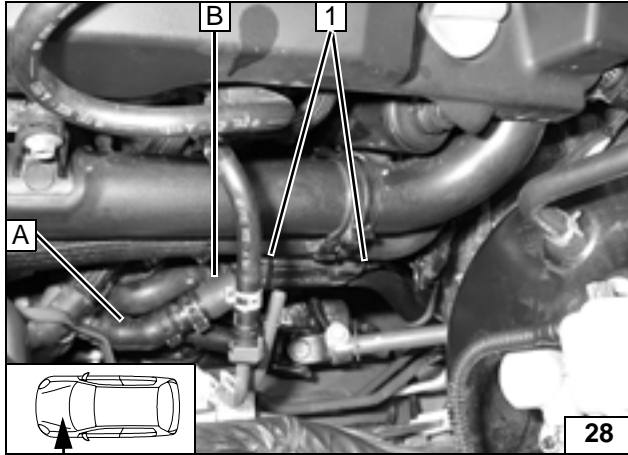
1 Original vehicle spring band clamp.

Connecting to the heat exchanger inlet



1 Original vehicle spring band clamp.

Connecting to the engine outlet



Check the entire length of the water hoses and correct if necessary. Fasten the water hose **B** to the cable harness with cable ties **1**.



**Installing
in the
engine
compartment**



Fuel Connection

CAUTION!

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

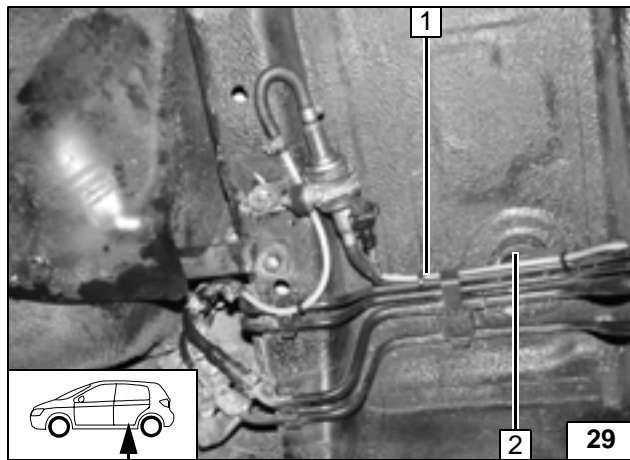
Catch any fuel running off with an appropriate container.

Install fuel line and metering pump cable harness so that they are protected against stone impact. Unless specified otherwise, always fasten using cable clips.

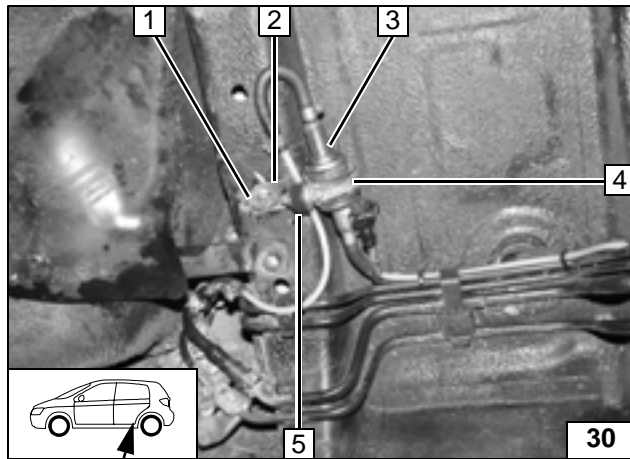
Fit the fuel line and cable harness with edge protectors around sharp edges.

WARNING!

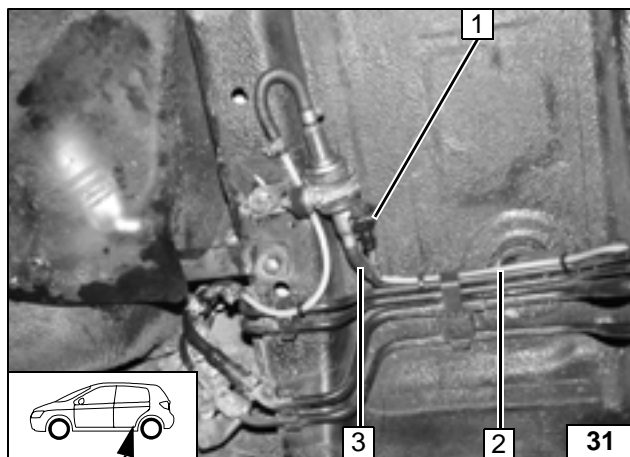
The fuel line and cable harness to the metering pump should be installed based on the cable harness installation diagram.



- 1 Fuel line from the heater unit
- 2 Metering pump cable harness



- 1 M8x20 washer, washer, spring washer on existing threaded hole
- 2 Angle bracket
- 3 Metering pump
- 4 Rubberized tube clamp
- 5 Silent block, flanged nut [2x]



Fuel line from the heater unit on the pressure side of the metering pump [side with connector].

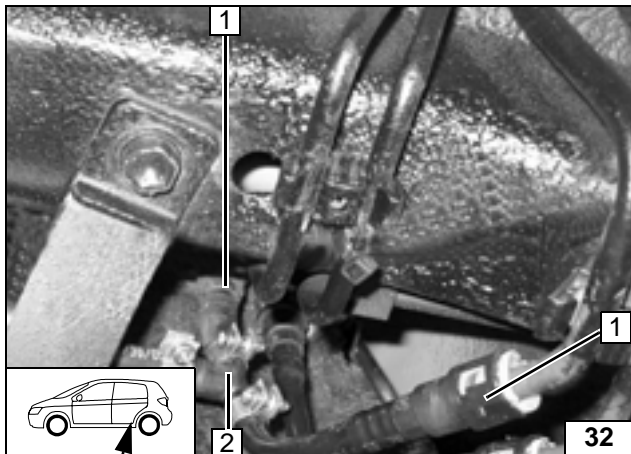
- 2 Mecanyl fuel line
- 3 Hose section, Ø 10 mm hose clamps [2x]
- 1 Metering pump cable harness, wire seals, flat connector [2x], connector housing

Installing lines

Assembling the metering pump



Connecting to metering pump

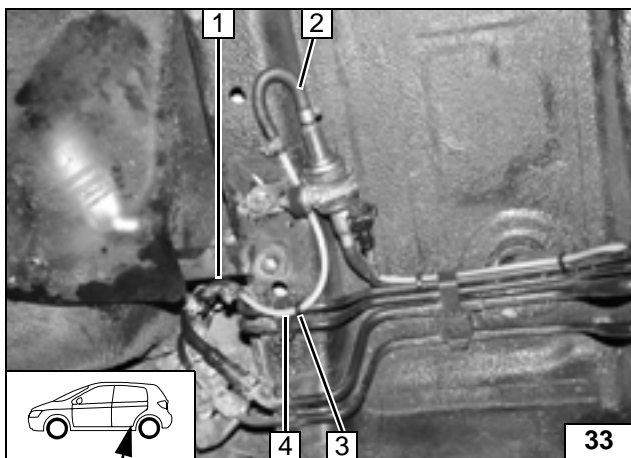


Separate the leading fuel line 1 according to the figure and insert the fuel extractor.

2 Separation location, fuel extractor, Ø 10 mm hose clamps [2x].

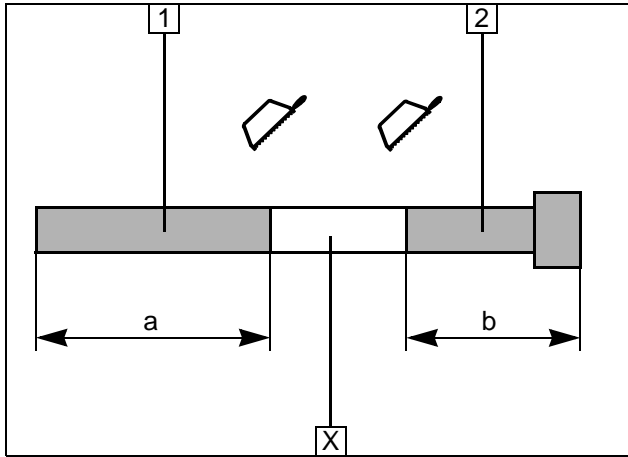
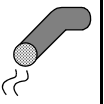


Fuel take-off



- 1 Hose section, Ø 10 mm hose clamps [2x].
- 2 180° molded hose, hose clamps [2x]
- 3 Cable clip
- 4 Mecanyl fuel line

Connecting to metering pump

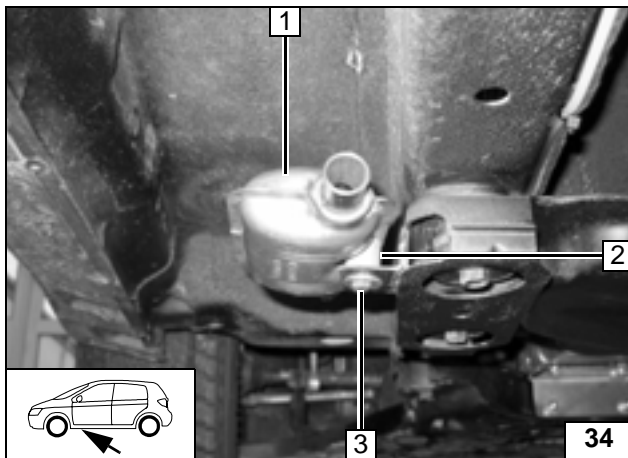


Exhaust System

- 1 Exhaust pipe
a = 560mm
- 2 Exhaust end section
b = 90mm

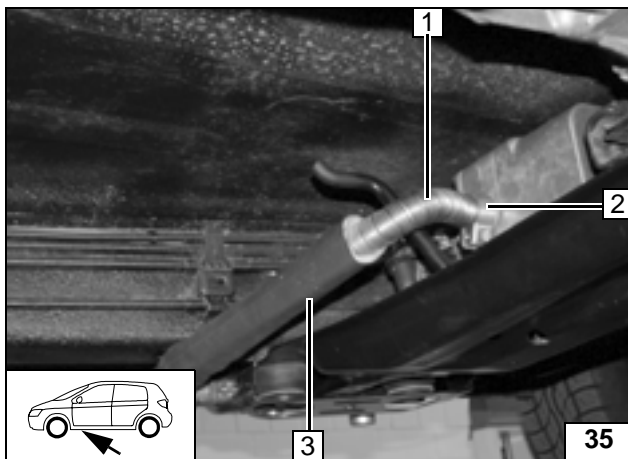
Dispose of section X

Preparing the exhaust pipe



- 1 Silencer
- 2 20mm spacer
- 3 M6x40 bolt, body washer, M6 flanged nut on existing hole

Assembling the silencer

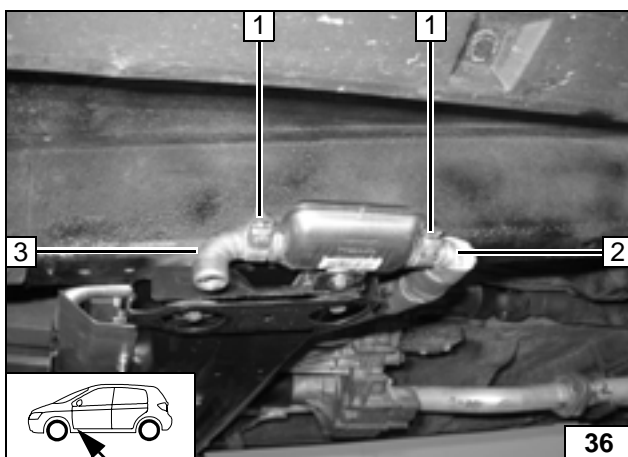


Slide the exhaust insulation 3 on the exhaust line.

- 1 Exhaust pipe
- 2 Hose clamp [2x]

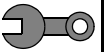


Assembling the exhaust pipe



- 2 Exhaust pipe
- 3 Exhaust end section
- 1 Hose clamp [2x]

Assembling the exhaust line and end piece



Final Work

WARNING!

Reassemble disassembled components in reverse order.

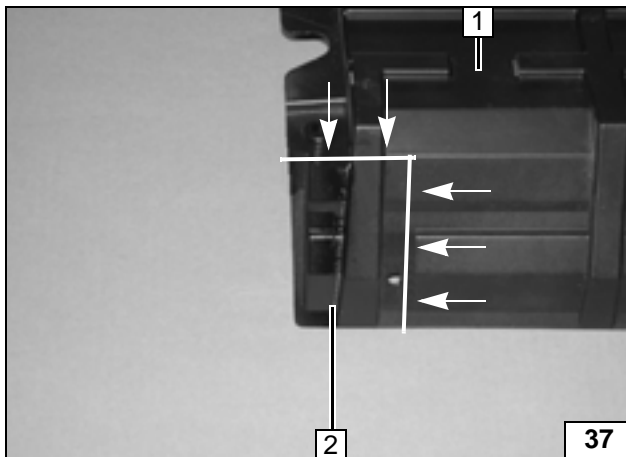
Check that all hose lines, clips, and all electrical connections are securely fastened.

Secure all loose lines using cable clip.

Only use manufacturer-approved coolant.

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

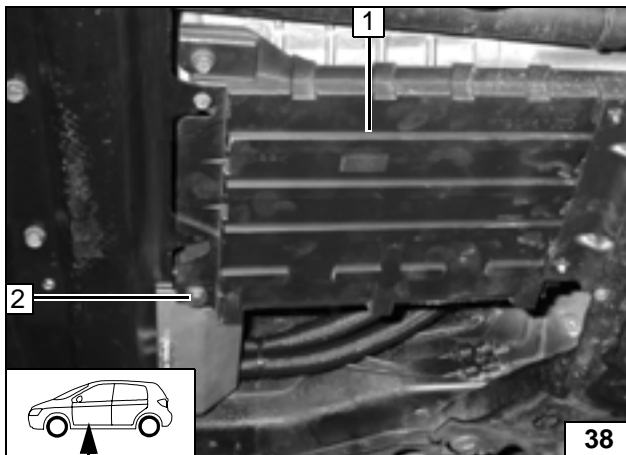
- Connect battery.
- Fill and bleed the coolant circuit according to the vehicle manufacturer's specifications.
- Set the time switch.
- Set vehicle heating according to "Operating instructions for the end customer"
- Check that the auxiliary heating operates properly, see operating instructions / installation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



Cut out the underbody protection 1 on the marking

2 Dispose of section

Cut out the underbody protection



1 Underride protection

2 M6x30 bolt, body washer, 10 mm spacer

Assembling the underbody protection



Feel the drive

Webasto AG
Postfach 80 - 82132 Stockdorf - Hotline 0 18 05 / 93 22 78
Hotfax (0395) 55 92-353 - <http://www.webasto.de>

Operating instructions for the end customer

Please remove page and add to the vehicle operating instructions.



WARNING!

The installation of the auxiliary heating on the underbody compromises the wading and off-road capabilities of the vehicle.

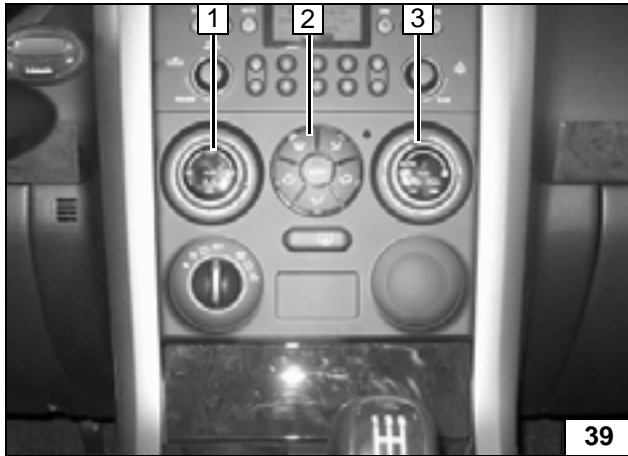
Avoid major mechanical effects on the underbody (for example, scraping bottom)!

The vehicle may not drop below the lower edge of the vehicle body. The heater unit may not be operated when driving through water.

Non-observance of these instructions may result in damage to the heater unit.

Damages caused in this manner are not subject to guarantee.

Before parking the vehicle, make the following settings:



- 1 Temperature to max. "28°"
- 2 Air outlet to windscreen
- 3 Blower to max. 1/3

Note:

The "recirculation" display blinks when the heater is on.

For vehicles with automatic air conditioning