

Water Heater Unit



Feel the drive

Thermo Top V Auxiliary Heating



Installation Instructions

Mercedes ML (W164) / GL (X164)

Gasoline and diesel

From model year 2005

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.

Mercedes ML (W164) / GL (X164)

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Validity

Manufacturer	Model	Type	EG-BE No. / ABE
Daimler-Chrysler	M class	W164	e1 * 2001 / 116 * 0315...
Daimler-Chrysler	GL class	X164	e1 * 2001 / 116 * 0340...

Engine type	Engine type	Power in kW	Engine capacity in cm ³
V6	Diesel	140	2987
V6	Diesel	165	2987
V6	Gasoline	200	3498
V8	Gasoline	225	4966

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.

Mercedes ML (W164) / GL (X164)

Heater Unit / Scope of Delivery

Amount	Description	Order no.:
1	Scope of delivery TT-V gasoline M/GL class from year 05	9013588B
1	Scope of delivery TT-V diesel M/GL class from year 05	9013589B

Optional you can order:

Thermo Call remote control	Order no.:
TC1.1	9001132B
TC2	9013656B

These installation instructions apply to Mercedes ML (W164) / GL (X164) vehicles with Gasoline and diesel engine – re. validity, see page 2 – from model year 2005 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, where this is the case the stipulations in the "installation instructions" and "operating and maintenance instructions" for the *Thermo Top V* should be observed. The corresponding rules of technology and any information from the vehicle manufacturer should be observed during the installation work.

General Instructions

Installation should be carried out according to the general, standard rules of technology. Unless specified otherwise, fasten hoses, lines and 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)!

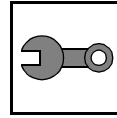
Special Tools

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

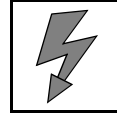
Explanatory Notes on the Document

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.

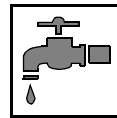
Mechanical work



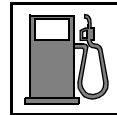
Electrical Connection



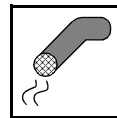
Water connection



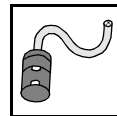
Fuel connection



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.



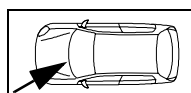
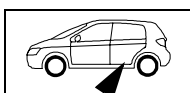
Specific risk of fire or explosion.



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



Reference to a special technical feature.

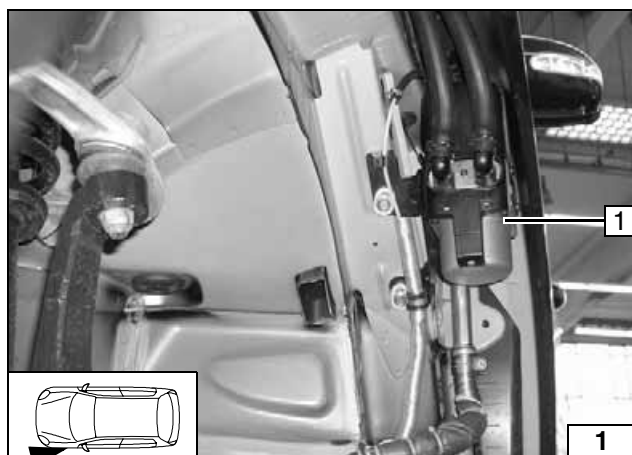


The arrow in the vehicle icon indicates the position on the vehicle and the viewing angle.

Preliminary Work

WARNING!

- Disconnect the battery. (Move passenger seat forward, remove battery cover under seat)
- 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.
- Open the tank cap, ventilate the tank.
- Close the tank cap again.
- Pull off the transverse front sealing strip over the engine compartment partition.
- Remove the segment of the left engine compartment partition in front of the brake fluid container.
- Remove the segment of the engine compartment partition next to it over the water hoses.
- Loosen the coolant equalizing reservoir.
- For gasoline engines, remove the engine designer cover complete with air filter with intake hoses.
- Only for GL or with a strut brace: Loosen the control unit on the engine together with the designer cover and remove.
- On diesel engines, only remove the design cover for the engine.
- On diesel engines, remove the air flow hose and the air filter box on the left side of the engine (2 screws).
- Remove the fuse box cover in the right of the engine compartment.
- ML only: Lift up the rear seat bench, pull off the carpet.
- GL only: Remove the rocker panel cover and rear, right seat, locking bolt panel, fold pack the floor cover, remove the control unit cover and control unit under the seat area.
- Remove the metal cover that is adhered to the **right** side of the tank mounting when looking in the direction of travel.
- Remove the sill cover on the driver's door.
- Loosen the lower footwell panel on the driver's side.
- Remove the A-pillar panel in the driver's side footwell.
- Open up the plug connector for the CAN junction in the A-pillar cutout.
- Remove the left front wheel.
- Remove the two-piece wheel-house panel for the front, left tire. Pull the fitted foam piece off of the back section and dispose.
- Remove the front and rear underride protection on the left side of the vehicle.



Heater Unit Installation Location

- 1 Heater unit

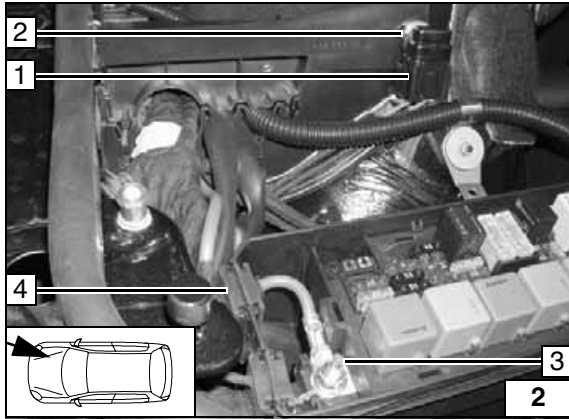
Installation location



Electrical Connections

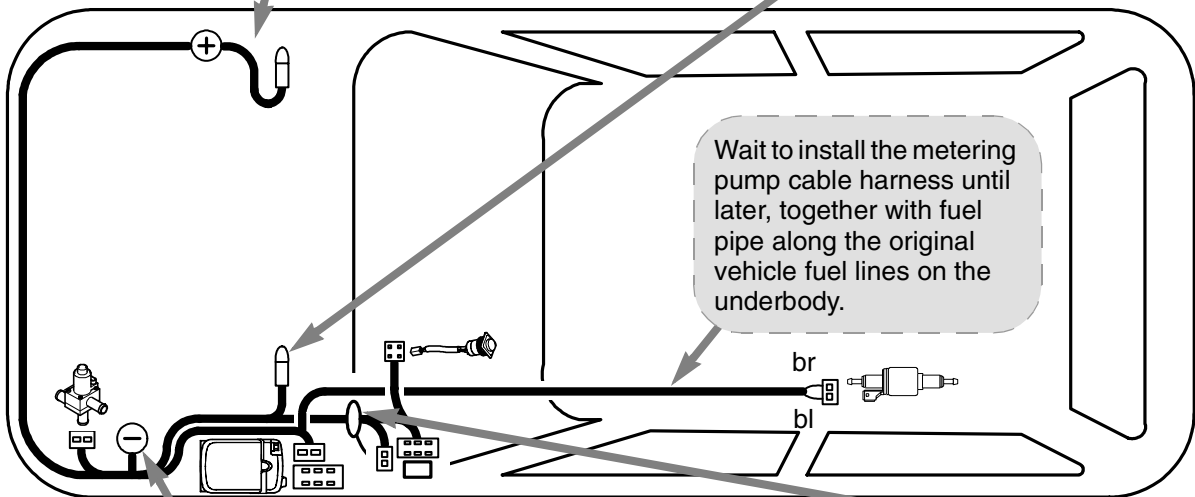
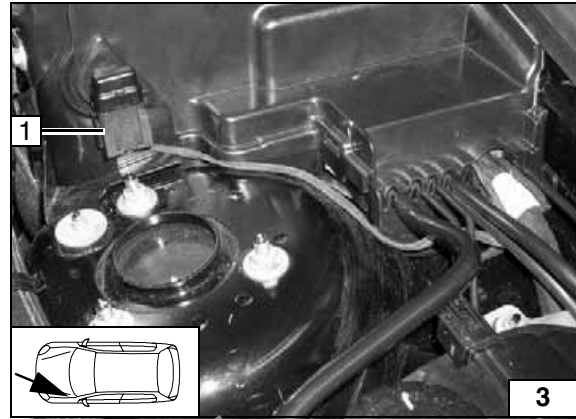
Fuse holder, power supply

- 1 20A fuse holder
- 2 Spacer washer, M6x16 bolt
- 3 Fuse box positive connection
- 4 Protective rubber sleeve

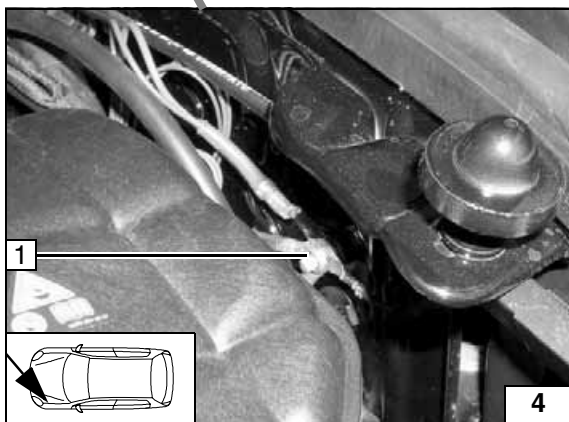


Remote start fuse holder

- 1 Fuse holder

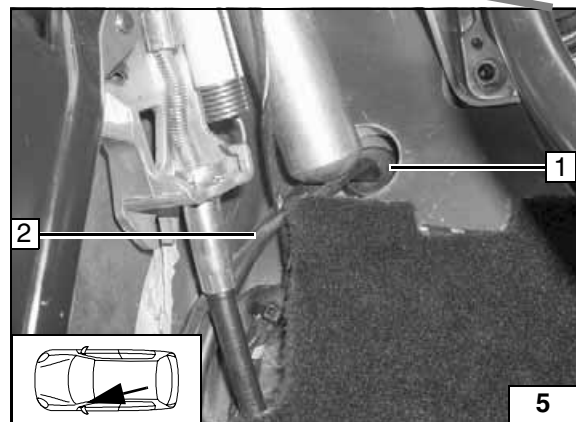


Cable harness wiring diagram



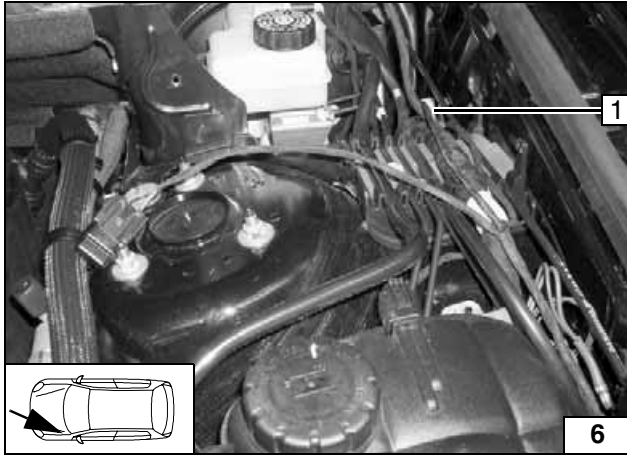
Ground connection

- 1 Grounding point



Cable harness feed-through

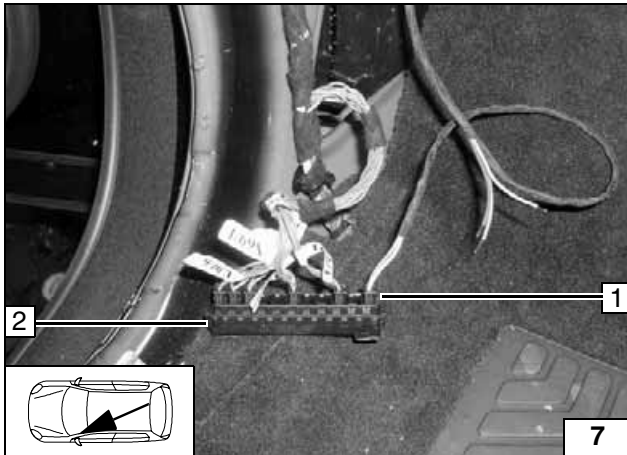
- 1 Protective rubber sleeve
- 2 Cable harness



Install the cable harness for the heater units, metering pump, and solenoid valve down into the wheel case. Install the cable harness for the remote start/CAN connection **1** in the cable feed-through.



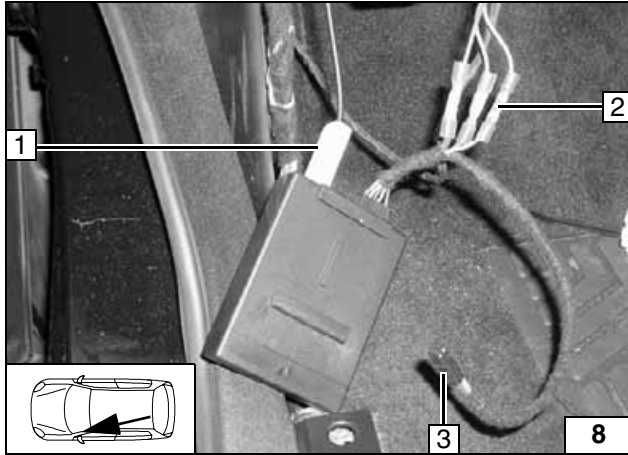
Installing cable harnesses



Plug the CAN connection plug **1** in the free slot in the plug connector **2**.



CAN connection



Remote start

Connect the cable harness with the same color remote start adapter cable harness.

- 1 Antenna plug
- 2 Butt connectors [3x]
- 3 Tip switch plug



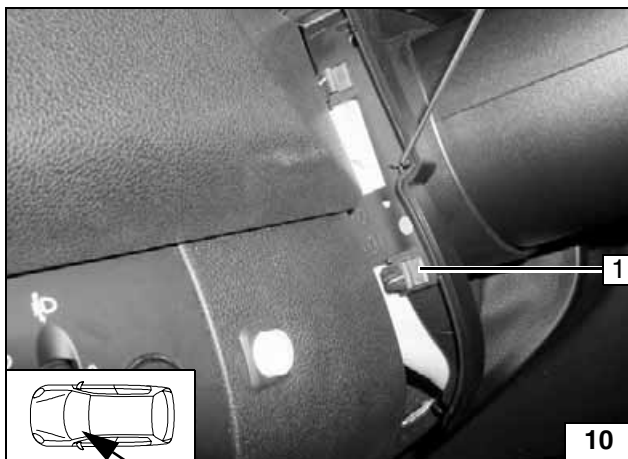
Remote start connection



Attach the remote start housing to the A-pillar with Velcro strips.



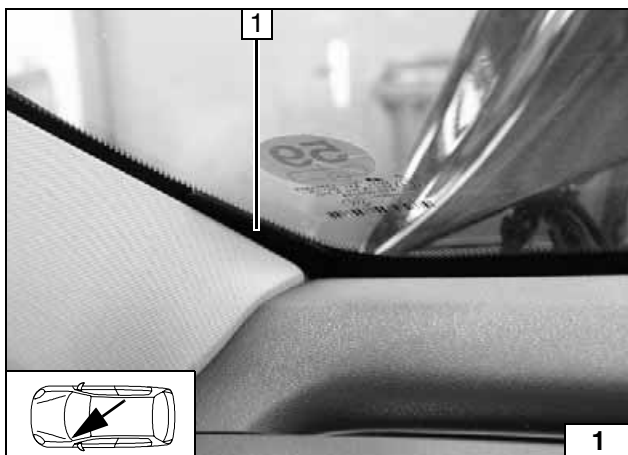
Assembling the remote start receiver



Loosen the frame by pulling out the fastening lugs 1 [4x]. Drill a Ø 15 mm bore hole [2x]



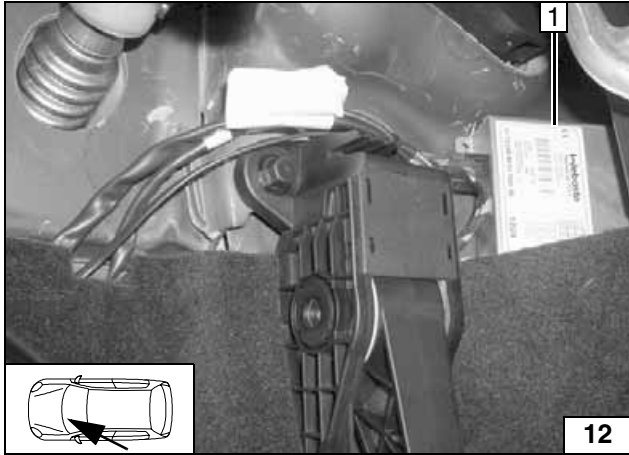
Assembling the tip switch



- 1 Antenna



Assembling the antenna

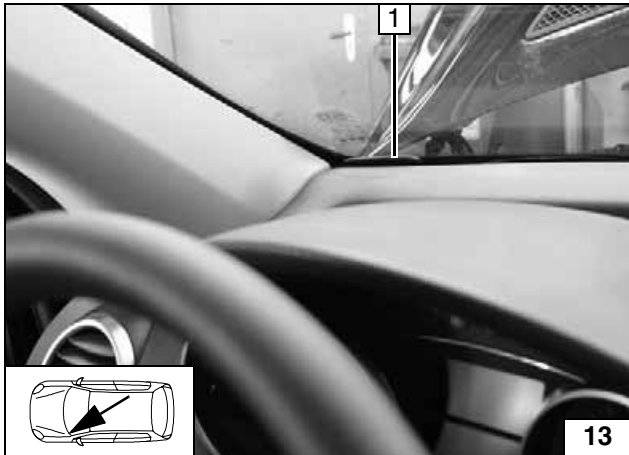


Thermo Call Option

Fasten the Thermo Call 1 to the engine compartment rear bulk insulation with a Velcro strip.



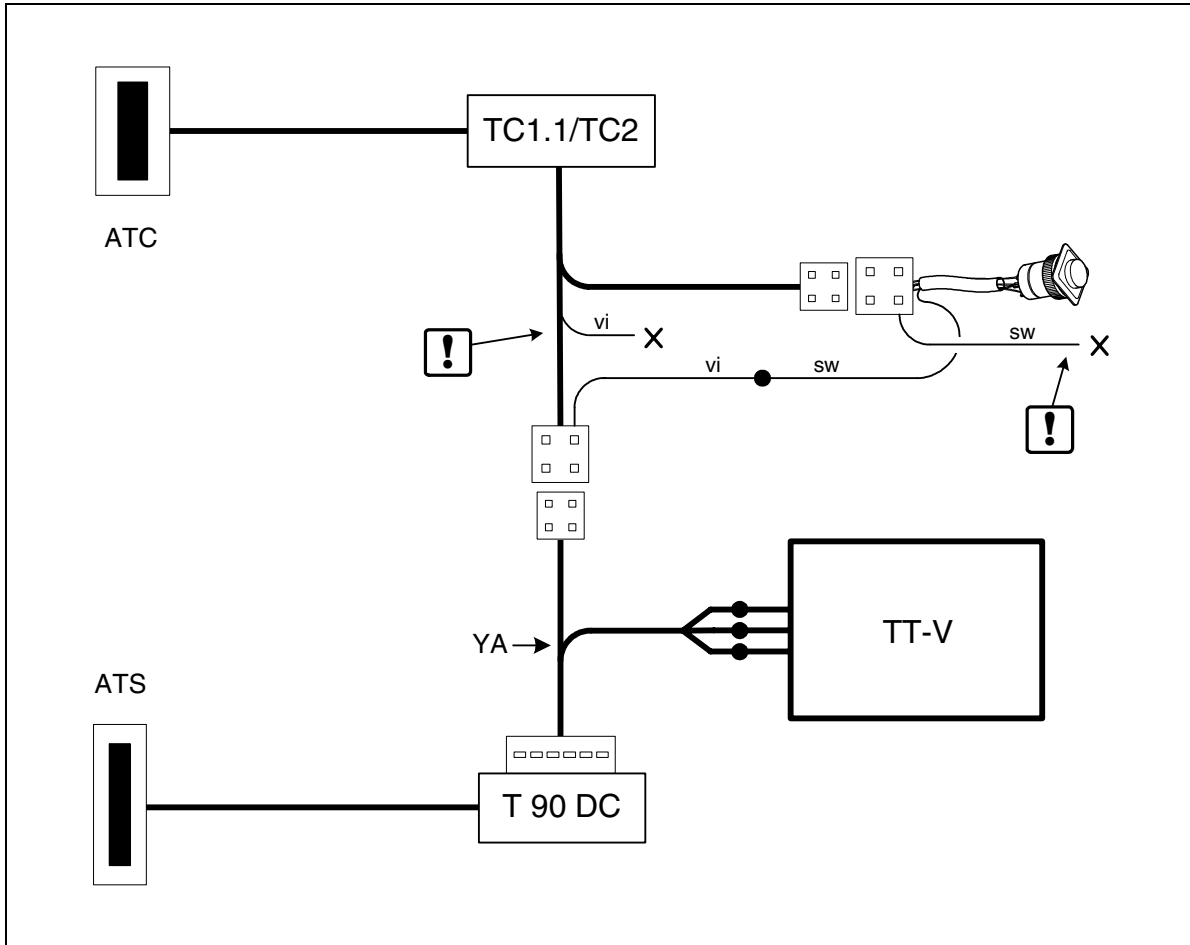
Assembling the Thermo Call



1 Antenna



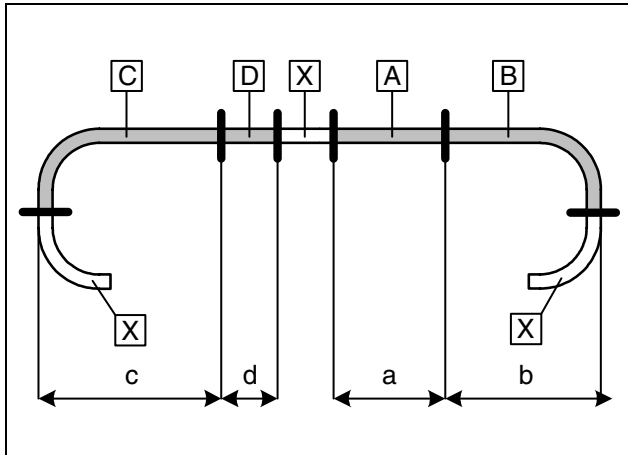
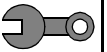
Assembling the antenna



Thermo Call circuit diagram

Webasto components		Colors and symbols	
TT-V	Heater unit	sw	black
YA	Y adapter	vi	purple
T90 DC	Remote start T90 DC configuration		Insulate wire ends and tie back
TC 1.1	Thermo Call 1.1	X	Splitting point
TC 2	Thermo Call 2		
ATC	Thermo Call antenna		
ATS	Remote start antenna		
	Butt connector		

Legend



Preparing the Heater Unit

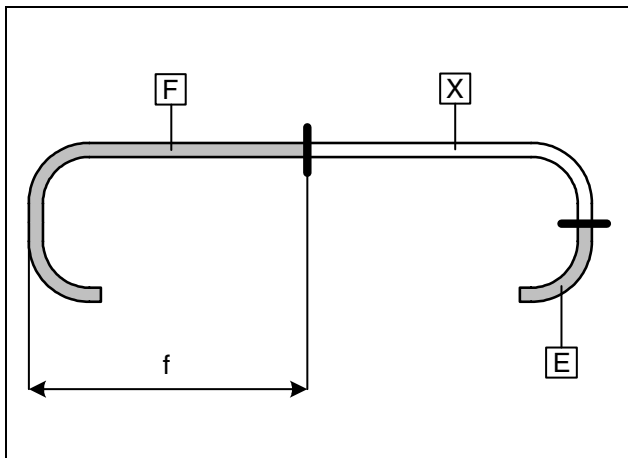
a = 220 mm
 b = 710 mm
 c = 730 mm
 d = 130 mm

Dispose of section X.

Divide the braided protective hose in the middle. Slice one half each onto hose B and hose C (up to the bend).



Cutting water hoses to length

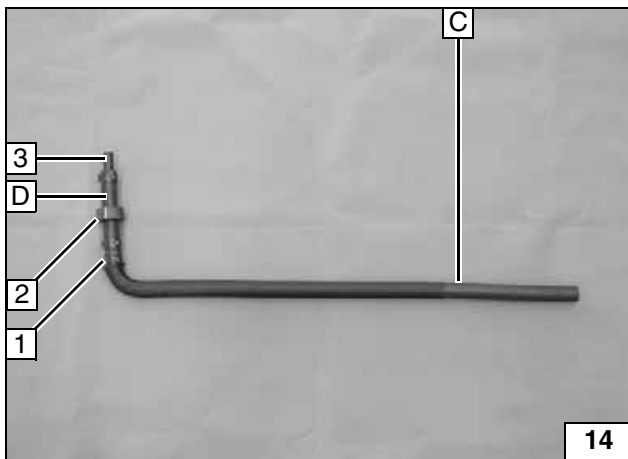


f = 950 mm

Dispose of section X.
 Slide the braided protective hose onto hose F and over the 180° bend.

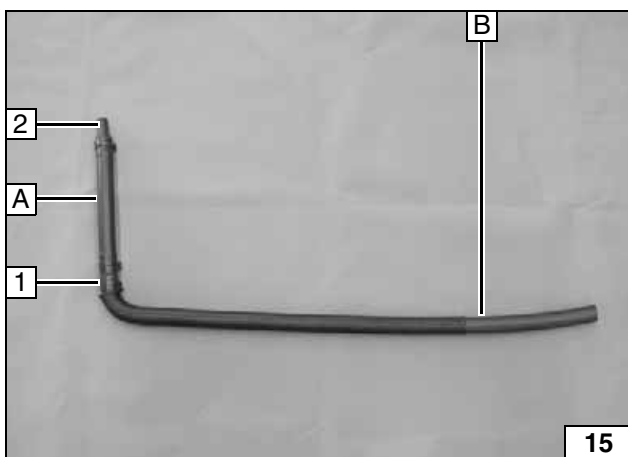


Cutting water hoses into sections



- 1 Connecting pipe Ø 18x18 mm, spring band clamp Ø 25 mm [2x]
- 2 Slide on rubber profile
- 3 Connecting pipe Ø 15x18 mm, spring band clamp Ø 25 mm

Pre-assembling the hose for the heater unit outlet



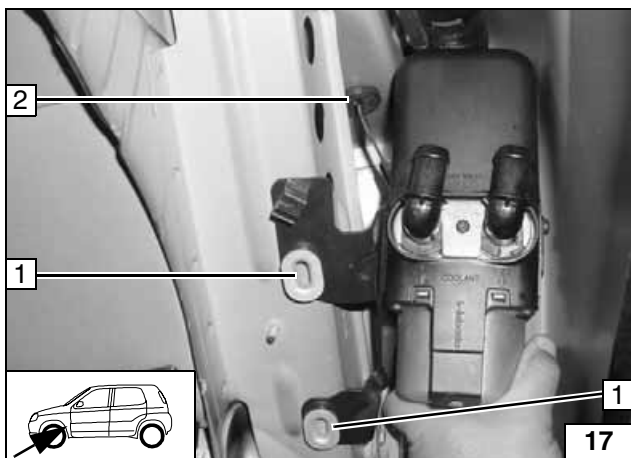
- 1 Connecting pipe Ø 18x18 mm, spring band clamp Ø 25 mm [2x]
- 2 Connecting pipe Ø 15x18 mm, spring band clamp Ø 25 mm

Pre-assembling the hose for the heater unit inlet



1 Spring band clamp Ø 25 mm

Preassembling the F hose

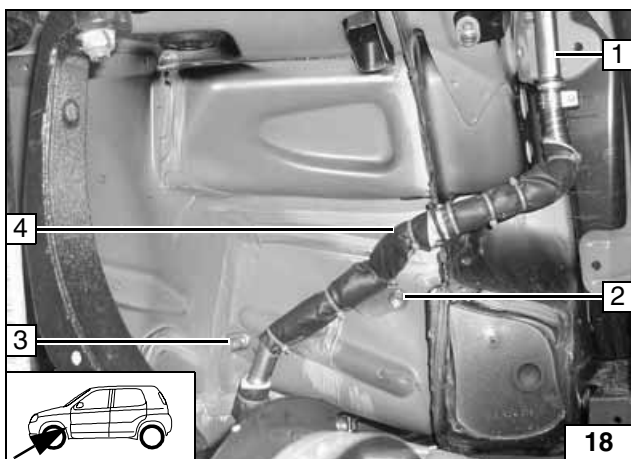


Preparing the Installation Location

Insert the rubber stopper **2** on the heater unit bucket into the indicated opening in the body. Transfer the hole image for the fastening points **1** [2x]. Drill Ø 9.2 mm holes, fasten rivet nuts.



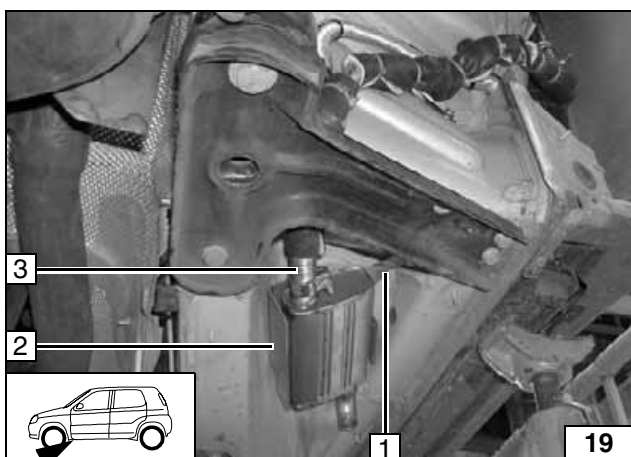
Inserting rivet nuts



Slip the exhaust pipe **4** onto the exhaust connecting piece **1**. Transfer the hole image for the fastening points to positions **2** and **3**. Insert rivet nuts M6.



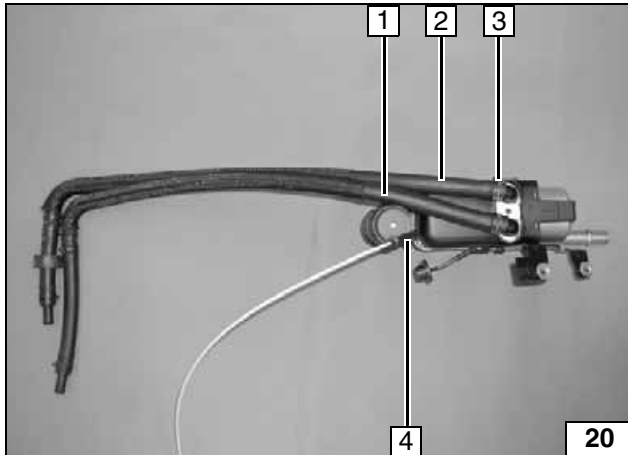
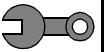
Drilling the exhaust fastening points



Slip exhaust silencer **2** onto the exhaust line **3**. Transfer the hole image for the fastening points for the brace **1**. Insert rivet nuts M6.



Drilling the exhaust fastening points



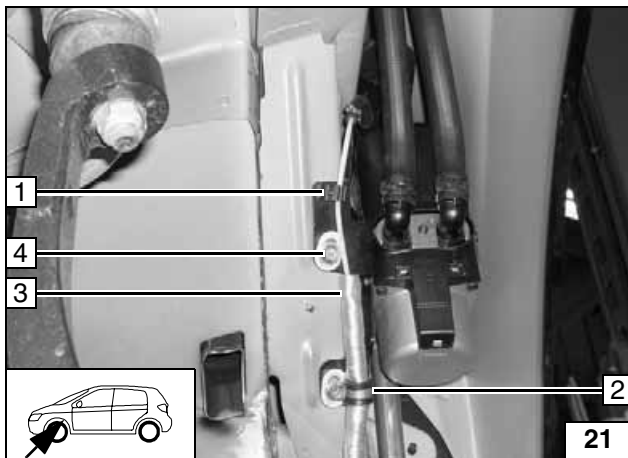
Preassembling the heater unit

Slip on the preassembled hoses and align according to the picture.

- 1 Pre-assembled heat unit inlet hose
- 2 Pre-assembled heater unit outlet hose
- 3 Spring band clamp Ø 25 mm [2x]
- 4 Fuel pipe, universal clip Ø 10mm



Assembling the water hoses



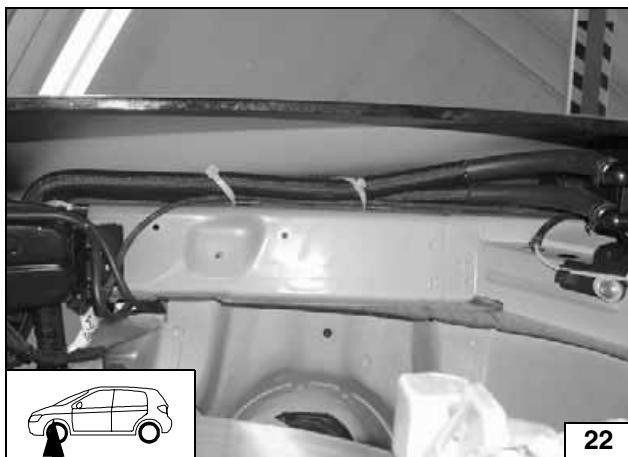
Installing the Heater Unit

Attach connector to heater unit Loosely tighten on the upper bolt. Insert the water hoses in the feed-thought to the engine compartment. Fasten the fuel pipe and the metering pump cable harness in the protective hose with a tube clamp on the lower bolt.

- 1 Fuel line fastening lug
- 2 Rubberized tube clamp Ø 15mm
- 3 Heat protection hose
- 4 Edged bolt M6x25 with washer [2x]



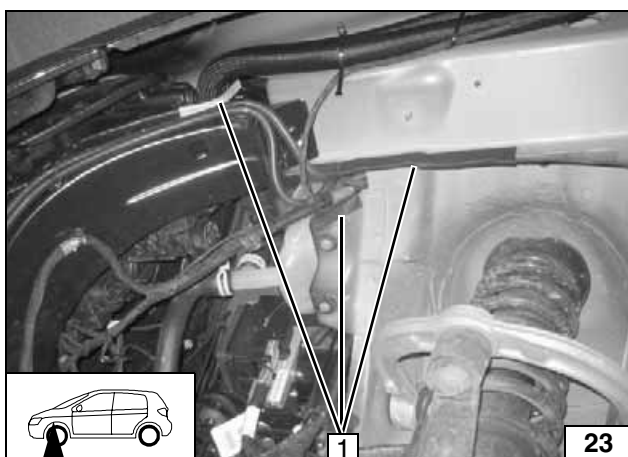
Installing the Heater Unit



Fasten the water hoses and heater unit cable harness to the openings in the body with cable clips.

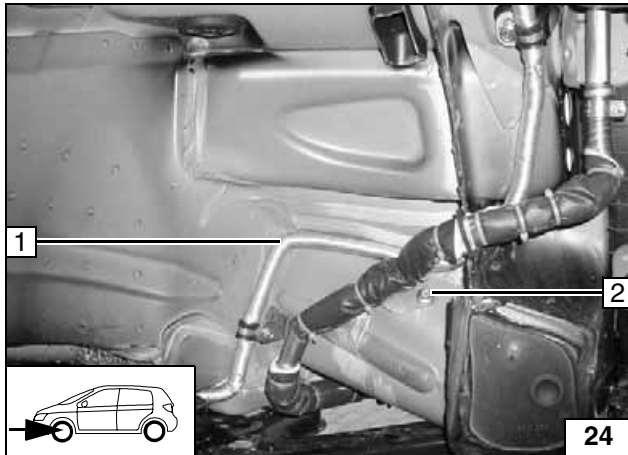
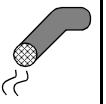


Fastening water hoses



- 1 Edge protection

Assembling the edge protection

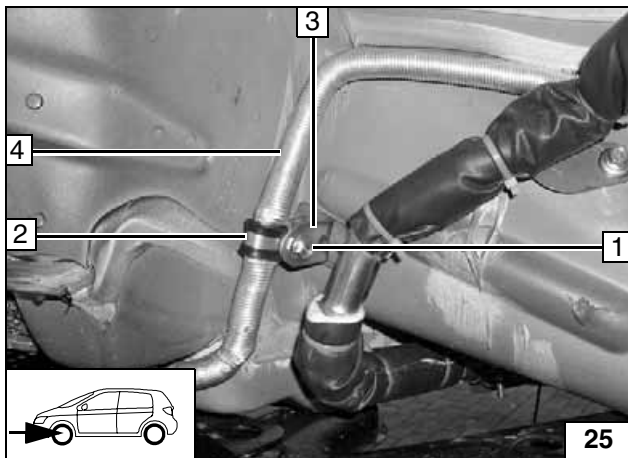


Exhaust placement

Place the heat protection hose 1 behind the exhaust pipe.

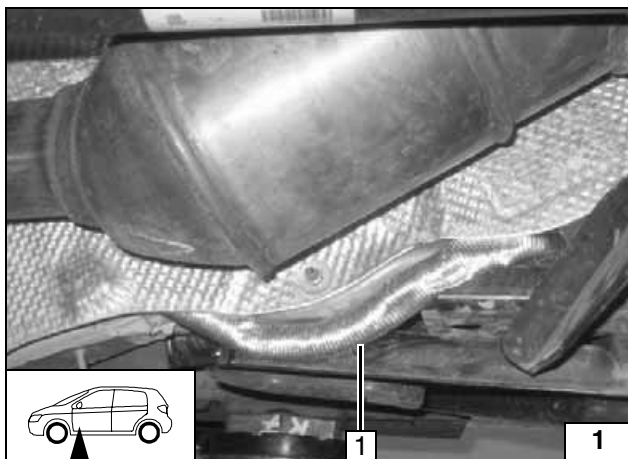


Assembling the protective hose and the exhaust pipe



- 1 Edged bolt M6x25, flanged nut M6
- 2 Rubberized tube clamp Ø 15mm
- 3 Angle bracket
- 4 Heat protection hose

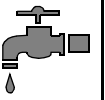
Assembling the protective hose



Place the heat protection hose 1 on the inside of the frame side rail behind the heat protection sheet.



Laying the protective hose



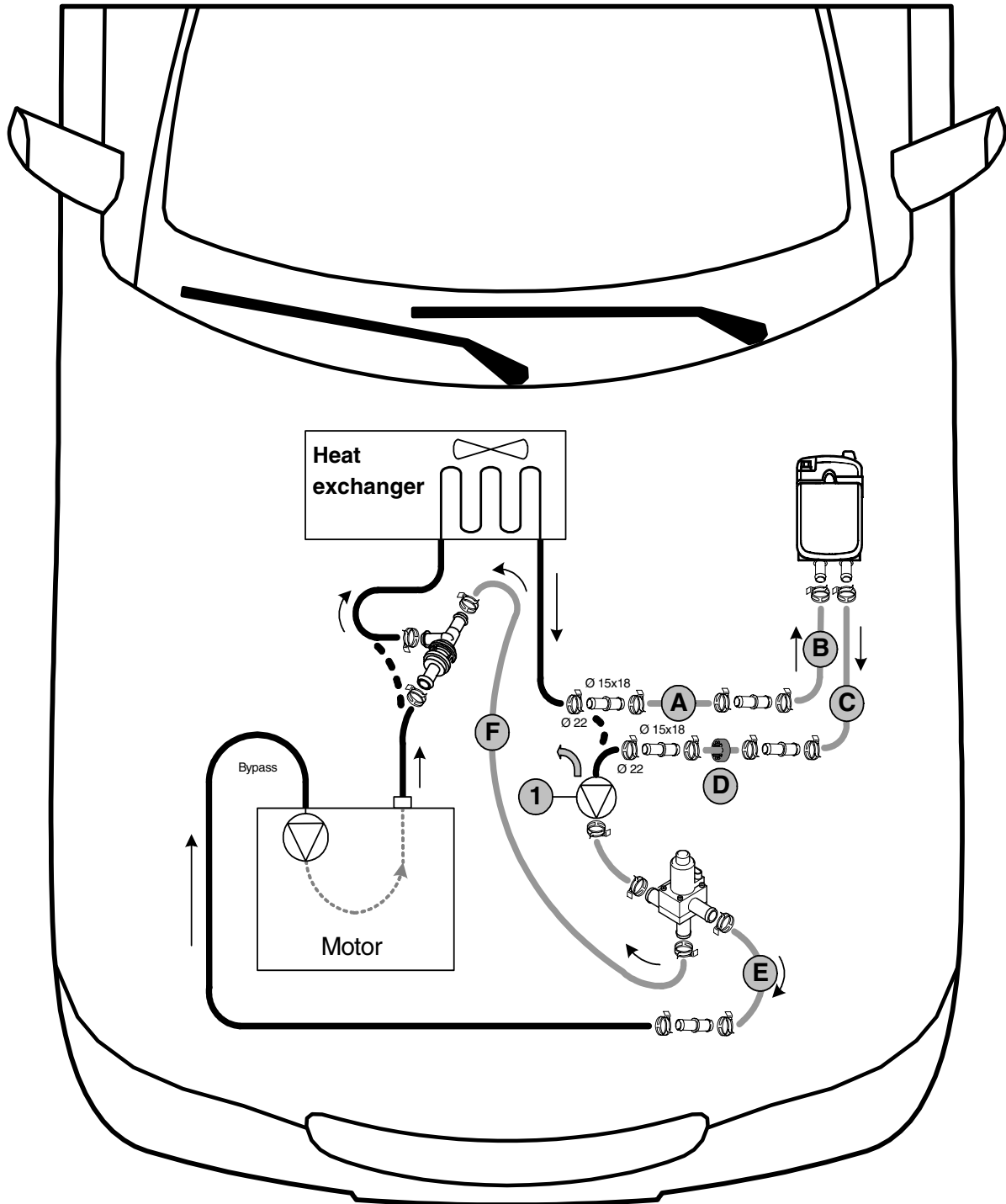
Water Connection



WARNING!

Any cold water 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 spring band clamps so that no other hose can be damaged!
 The connection is based on the following diagram:

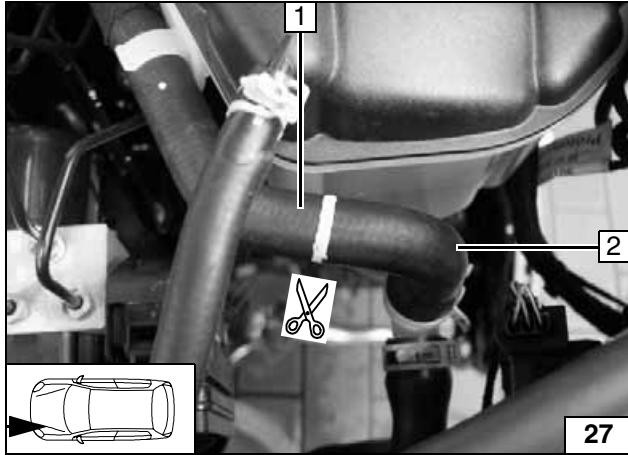
All vehicles



Water diagram

All undesigantated clamps are Ø 25mm spring band clamps!
 All undesigantated connecting pipes are Ø 18x18, 1 is the original vehicle circulation pump.





Turn the 90° bend **2** on the equalizing reservoir by 180°.

1 Heat exchanger outlet hose



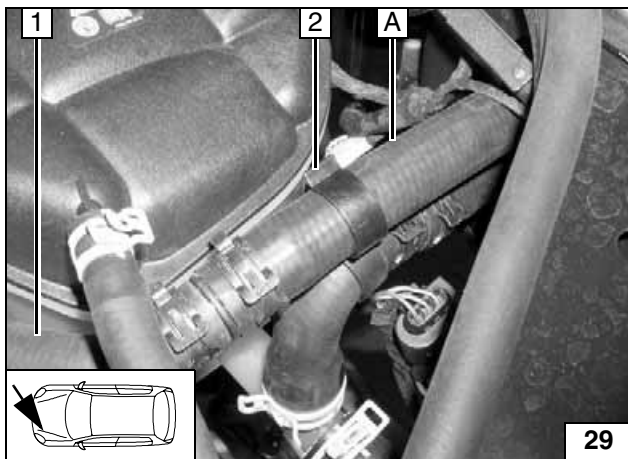
Splitting point



Fasten the heater unit outlet hose **D** on the turned hose bend. Align the rubber profile **1**.



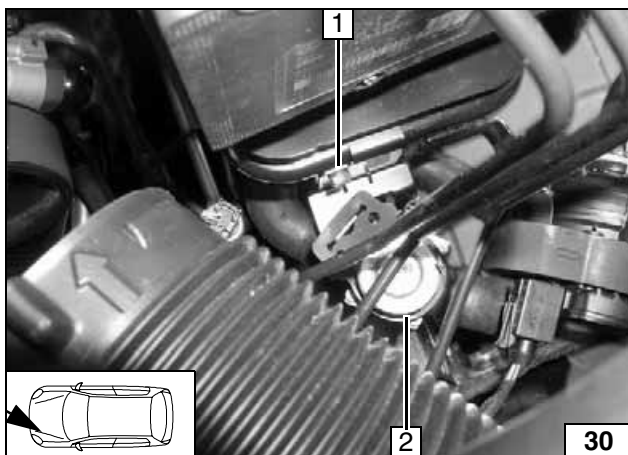
Connecting to the heater unit outlet



Fasten the heater unit inlet hose **A** on the heat exchanger inlet hose **1**. Align the spacer bracket **2**.

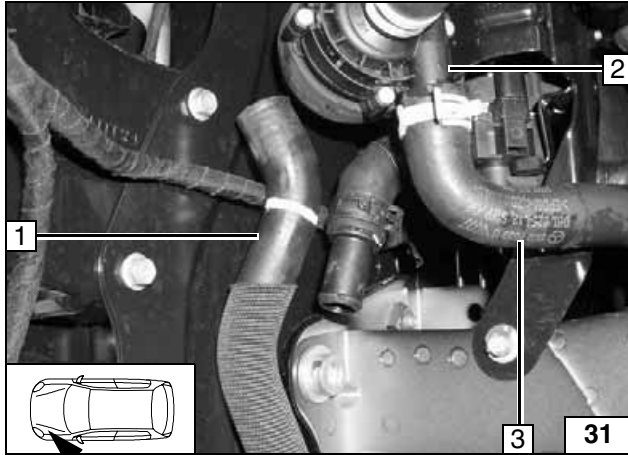


Connecting to the heater unit inlet



1 Bolt M5x12, spring washer
2 Solenoid valve

Assembling the solenoid valve

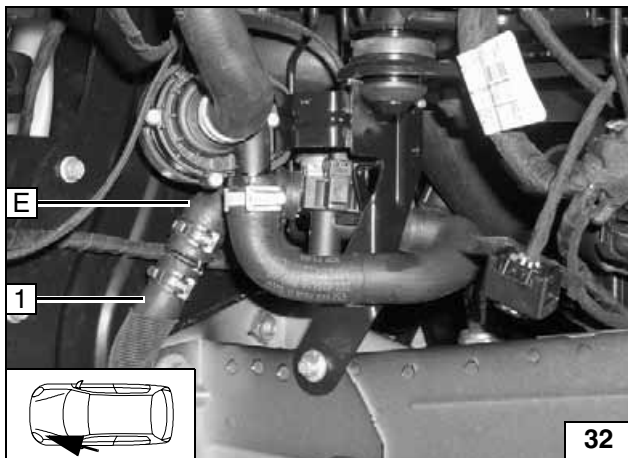


Solenoid valve connection

Pull the original vehicle hose 1 off of the pump outlet 2. Shorten the removed hose according to the picture. Slip the hose 3 from the solenoid valve onto the pump inlet 2.



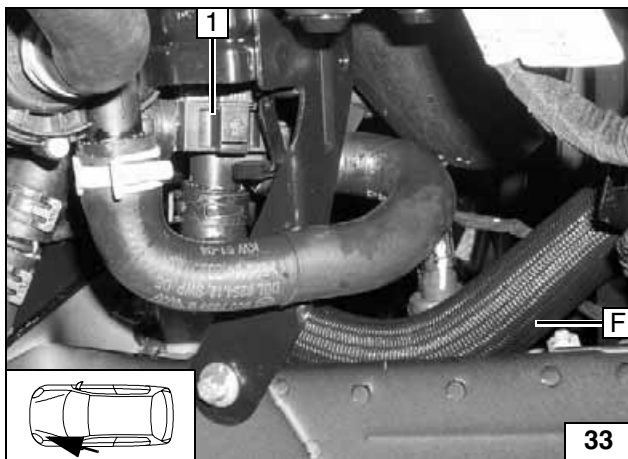
**Connec-
ting the
solenoid
valve**



Place hose E on the solenoid valve and connect to the short hose 1.



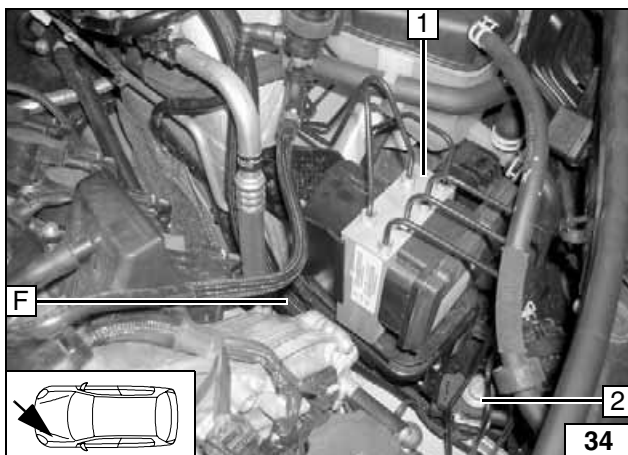
**Connec-
ting the
solenoid
valve**



Slip hose F with 180° bend on the solenoid valve 1 and align to the engine.

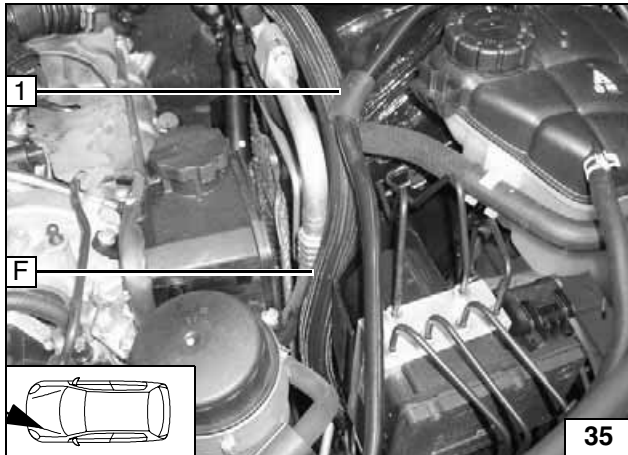


**Connec-
ting the
solenoid
valve**



- 1 ABS control unit
- 2 Solenoid valve

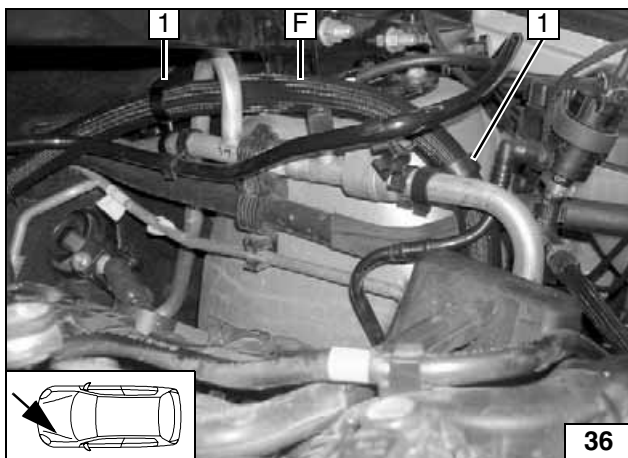
**Hose
placement
under the
ABS
control
unit**



Run the hose **F** along the air conditioning line. Position the rubber edge protector **1** for the vacuum line over hose **F**. (only 320CDI).



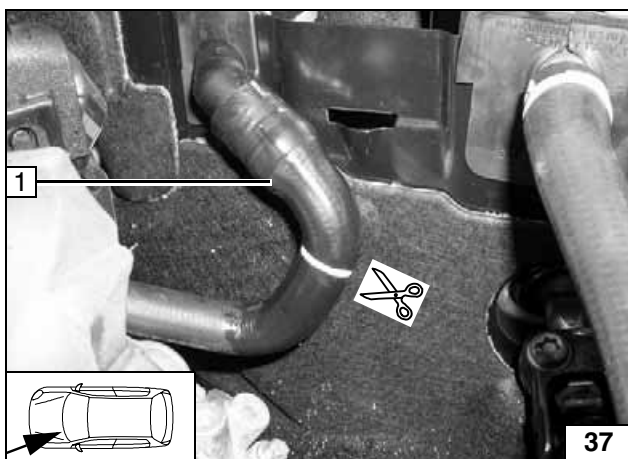
Installing in the engine compartment



The figure shows the GL model.

1 Spacer bracket [2x]

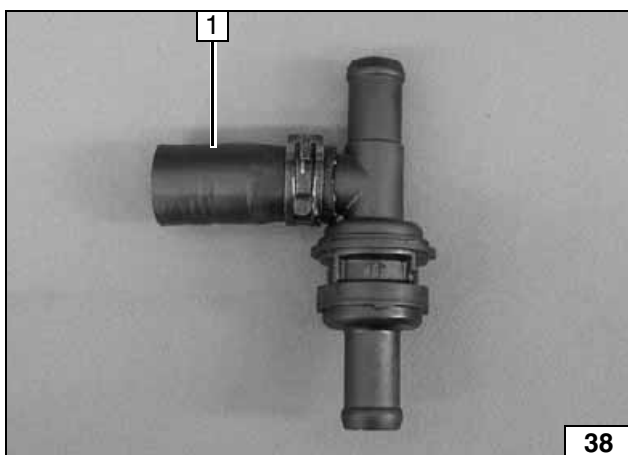
Placement on the air conditioner line



Check valve connection

Separate the water hose **1**. Pull the upper section off the connecting piece. The spring band clamp will be required again.

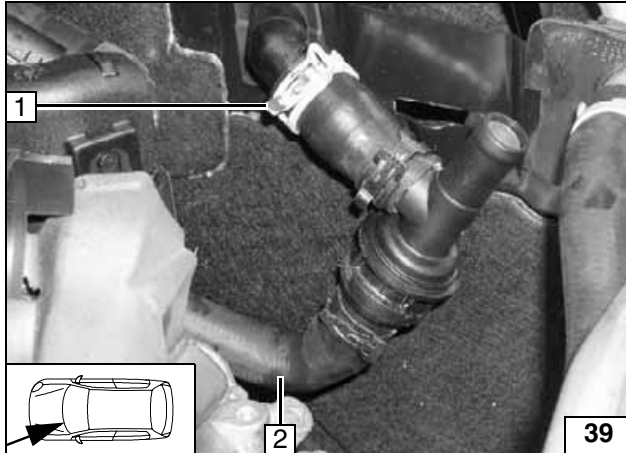
Separation location heat replacement inlet



Cut off the disassembled water hose **1** on the side with the small diameter and assemble. Total length after cutting not less than 60 mm. Connect shortened hose to the check valve.



Preassembling the check-back valve

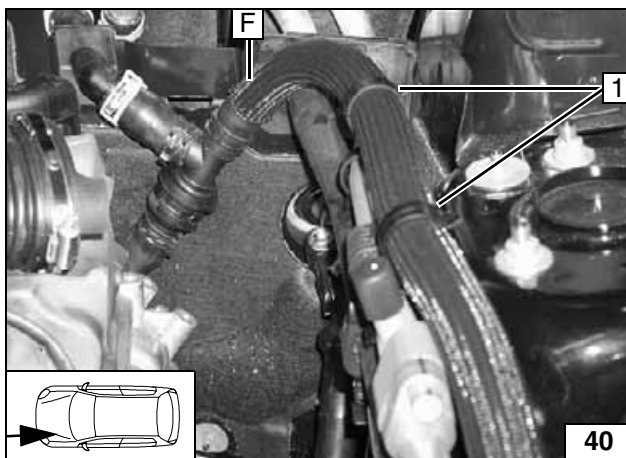


Connect the check-back valve to the hose **2** and the connecting piece to the heat exchanger.

1 Original vehicle spring band clamp



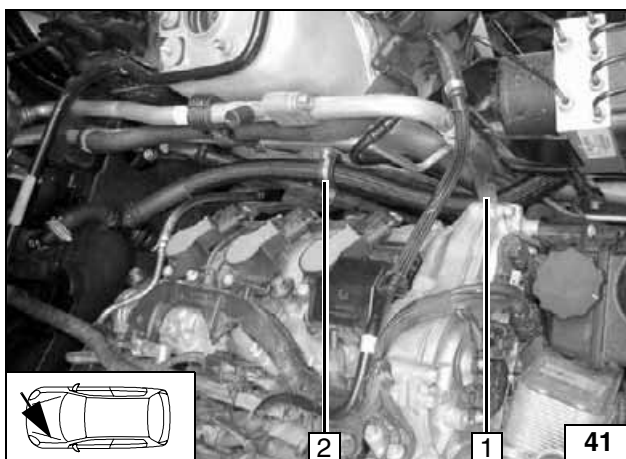
Assembling the check-back valve



Cut hose **F** into sections if necessary, align the spacer bracket **1** [2x].



Connecting the check-back valve

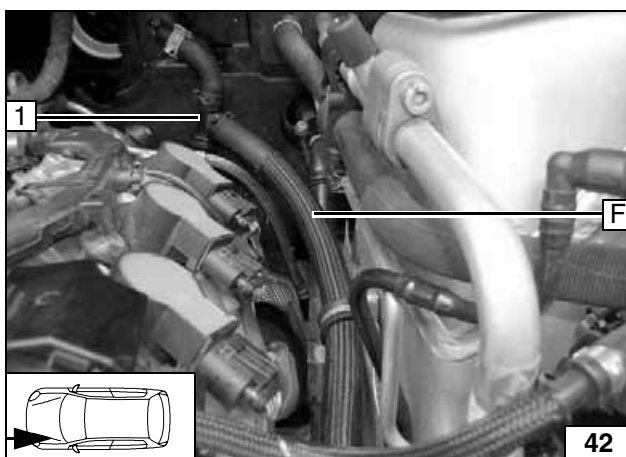


Only for ML350 gasoline

Slide rubber profile **1** onto hose **F**. Position the hose **F** on the bolt for the original vehicle bolt with the tube clamp **2**. Position the rubber profile on the air conditioner line.



Installing in the engine compartment



Cut hose **F** into sections if necessary and connect to the check-back valve **1**.



Connecting the check-back valve



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.

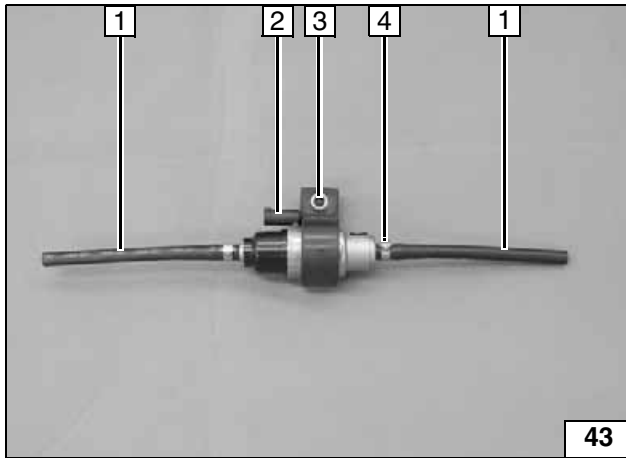
Install fuel line and metering pump cable harness so that they are protected against stone impact.

Unless specified otherwise, always fasten using cable clips.

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

WARNING!

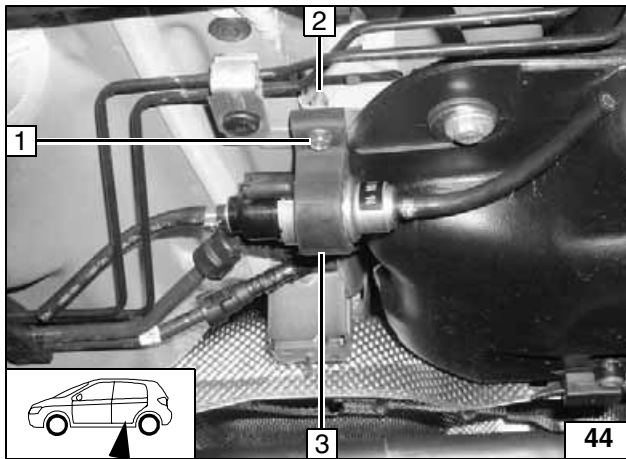
The fuel line and cable harness to the metering pump should be installed based on the cable harness installation diagram.



- 1 Hose section [2x]
- 2 Metering pump connection jack (pressure end)
- 3 Metering pump bracket
- 4 Universal clip Ø 10 mm (white color identification) [2x]



Preassembling the metering pump

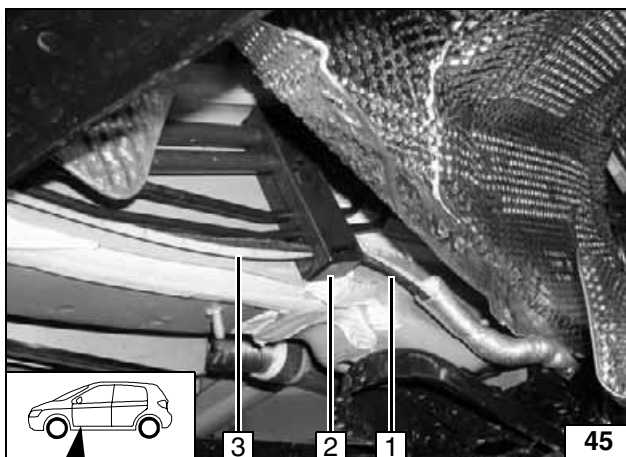


Drill a Ø 9.2mm bore hole [2x] into the tank holder strap. Insert rivet nuts 2.

- 1 M6x25 edged bolt
- 3 Metering pump bracket



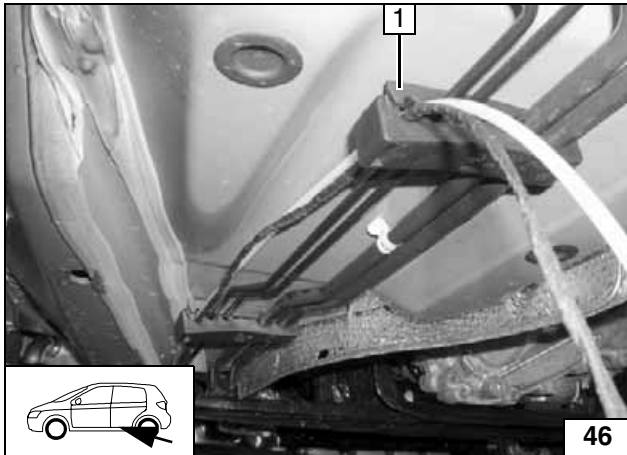
Assembling the metering pump



Install the metering pump cable harness 1 and the fuel pipe 3 in the original vehicle line guides 2.



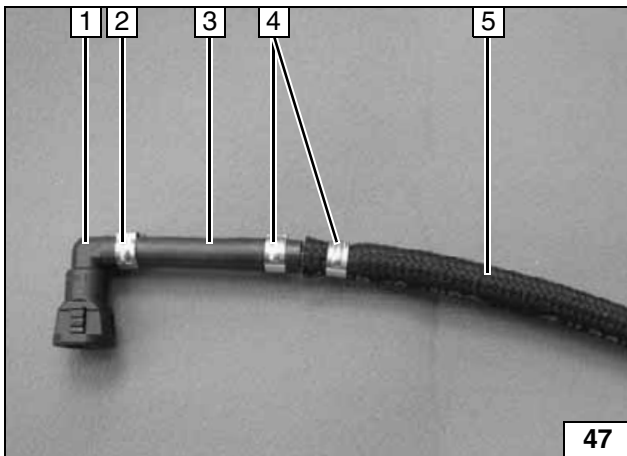
Installing lines



Fuel line from the heater unit in the original vehicle line ducts **1** on the pressure side of the metering pump [side with connector]. Check the position of the components; adjust if necessary. Check that they have free clearance.



Fastening the lines

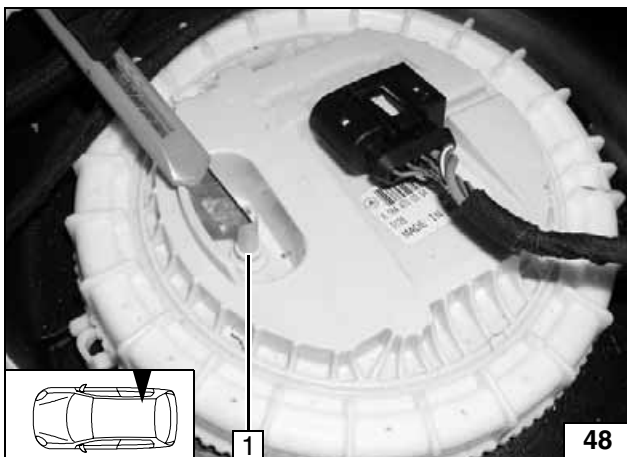


Slide the smaller diameter hose section **3** on the clutch **1**. Insert the fuel line in the other side of the hose section. Pull the protective hose **5** over the fuel line.



- 2** Universal clip Ø 8 mm (yellow color identification)
- 4** Universal clip Ø 10 mm (white color identification) [2x]

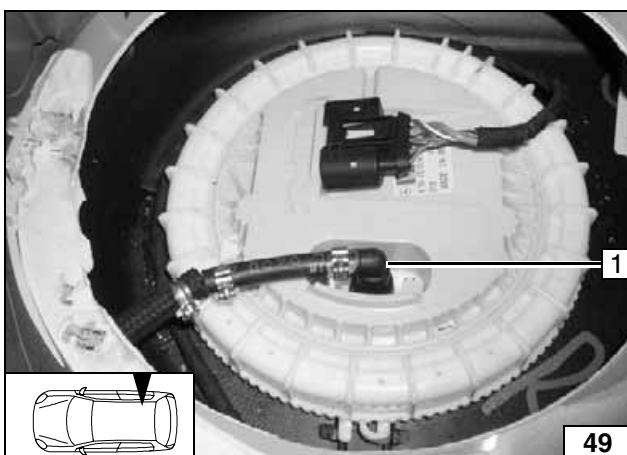
Preassembling the tank extracting device



Cut off the protruding nipple on the clutch connecting piece **1**.



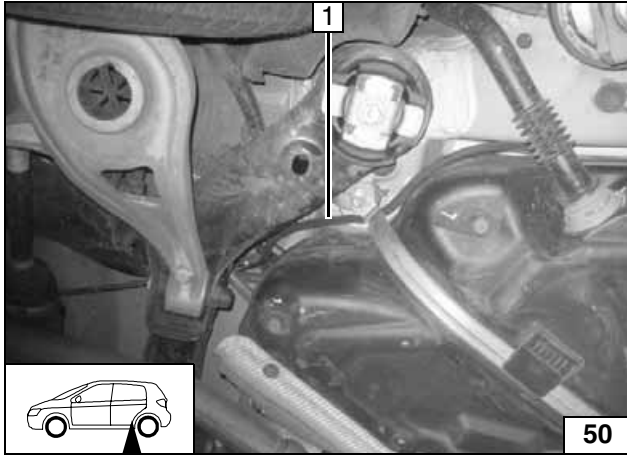
Preparing the tank mounting



Audibly snap the clutch **1** into the clutch connecting pieces. Align the metal cover on the tank mounting and reassemble this with body sealant.

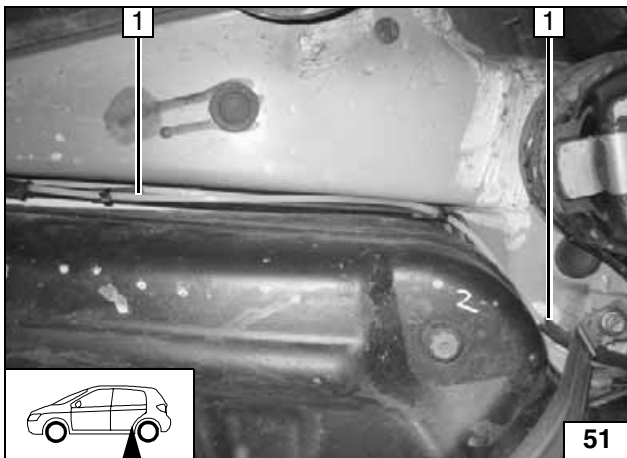


Connecting the clutch



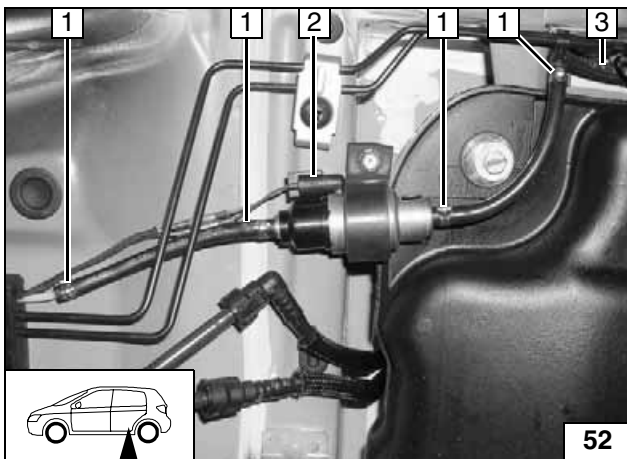
Run the fuel pipe 1 to the left side of the vehicle and fasten with cable clips.

Fuel
Installing
line



Run the fuel line 1 on the left side of the tank to the metering pump.

Fuel
Installing
line

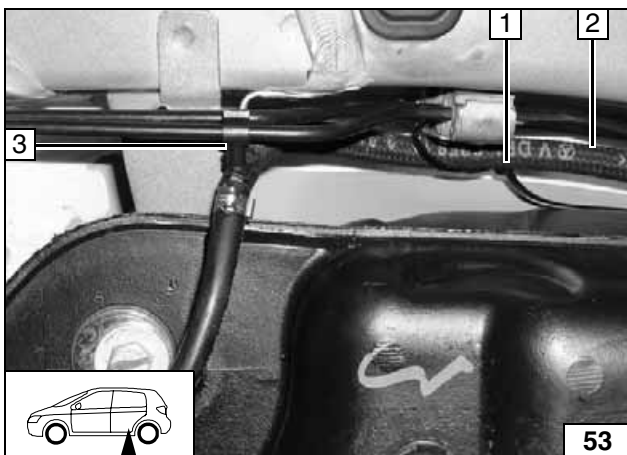


Connect the metering pump 2 connector with the cable harness and attach. Connect the fuel lines on the metering pump.



- 1 Universal clip Ø 10 mm (white color identification) [4x]
- 3 Vacuum side of protective hose

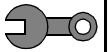
Connec-
ting to the
metering
pump



Use cable clips 1 to fasten the protective hose 2 to the fuel line brackets. Position the spacer bracket 3 on the brake line.



Fasten
fuel line



Final Work



Train the "remote start" control sender.

- Connect the battery.
- Pull the remote start fuse (1A) from the fuse holder in the left of the engine compartment and put it back after about 5 seconds.
- Within 7 seconds, press the "off" button (right) on the hand-held transmitter for about 1 second.

Reset the remote start parameter to the button function.

- Pull the remote start fuse (1A) from the fuse holder in the left of the engine compartment and put it back after about 5 seconds.
- Within 7 seconds, press the "off" button (right) on the hand-held transmitter for about 1 second.
- When this is pressed again (switch on), the button must remain lit; if not, repeat the procedure.

Only when Thermo Call is used

The remote start parameters are only to be reset to the clock function when the Thermo Call telephone remote control is added as a modification. The Remote Start control is configured to the clock function by default when delivered.

- Pull the remote start fuse (1A) from the fuse holder in the left of the engine compartment and put it back after about 5 seconds.
- Press and hold the button within the next 7 seconds.

WARNING!

Reassemble disassembled components in reverse order.

Check that all hose lines, hose, spring band clamps and universal clips, and all electrical connections are securely fastened.

Secure all loose cables using cable clips.

Check and adjust any disassembled or loose headlights after installation.

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

- Bleed and fill the coolant circuit according to the vehicle manufacturer's specifications.
- Warning! Only use manufacturer-approved coolant.
- Check the coolant system for leaks according to the manufacturer's instructions.
- Attach the "Switch off auxiliary heating before re-fuelling" sticker in the tank flap or the left side of the B-pillar.
- After assembly, follow the manufacturer's instructions for star diagnosis to activate the auxiliary heater.
- Open the vehicle error memory and delete any errors for the heater and air conditioning system.
- Check that the auxiliary heating operates properly, see operating instructions / installation instructions.

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Feel the drive

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