

Water Heater

Thermo Top V Parking Heater



00 0018

Installation Documentation

Mercedes ML (W164) / GL (X164)

Petrol and diesel
from model year 2005
Left-hand drive vehicle



WARNING!

Hazard warning:

The improper installation or repair of Webasto heating and cooling systems can cause fire or the leakage of deadly carbon monoxide, leading to serious injury or death.

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



Only use genuine Webasto parts. See the Webasto air and water heaters accessories catalogue for this purpose.

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

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

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

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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 model	Output in kW	Displacement in cm ³
V6	Diesel	140	2987
V6	Diesel	165	2987
V8	Diesel	225	3996
V6	Petrol	200	3498
V8	Petrol	225	4966

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

The installation location of the push button should be confirmed with the end customer before installation.

Heater/Delivery Scope

Quantity	Description	Order No.:
1	SOD of TT-V Petrol M/GL from MY 05 with Telestart	9013588 F
1	SOD of TT-V Diesel M/GL from MY 05 with Telestart	9013589 F

Optional heater control either:

Quantity	Description	Order No.:
1	Thermo-Call TC3	See price list

Foreword

This installation documentation applies to Mercedes ML (W164) / GL (X164) Petrol and diesel vehicles - for validity, see page 2 - from model year 2005 and later, assuming technical modifications to the vehicle do not affect installation, any liability claims excluded. Vehicle and engine types, equipment variants and national specifications not listed in these installation instructions have not been tested. The installation must be undertaken according to these "installation instructions" - modifications are not allowed.

However, where this is the case, the stipulations of this "installation documentation", the "operating instructions" and the "installation instructions" of 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 wiring harnesses to original vehicle lines and wiring harnesses using cable ties. Insulate loose wires and tie back. Connectors on electronic components have to audibly click into place.

Sharp edges should be fitted with rub protection. Spray unfinished body areas, e.g. drilled holes, with anti-corrosion wax (Tectyl 100K, Order No. 111329).

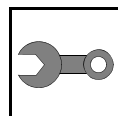
Special Tools

- Torque wrench for 2.0 - 10 Nm
- Hose clamping pliers
- Metric thread-setter kit

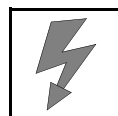
Explanatory Notes on Document

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

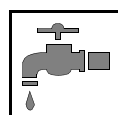
Mechanical system



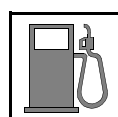
Electrical system



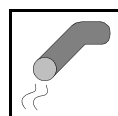
Coolant circuit



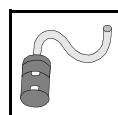
Fuel



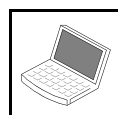
Exhaust gas



Combustion air



Software



Special features are highlighted using the following symbols:



Specific risk of injury or fatal accidents.



Specific risk of damage to components.



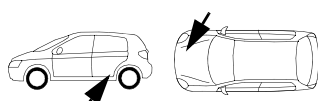
Specific risk of fire or explosion.



Reference to general installation instructions of 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.

All dimensions are in mm! Install fuel connections without impacts.

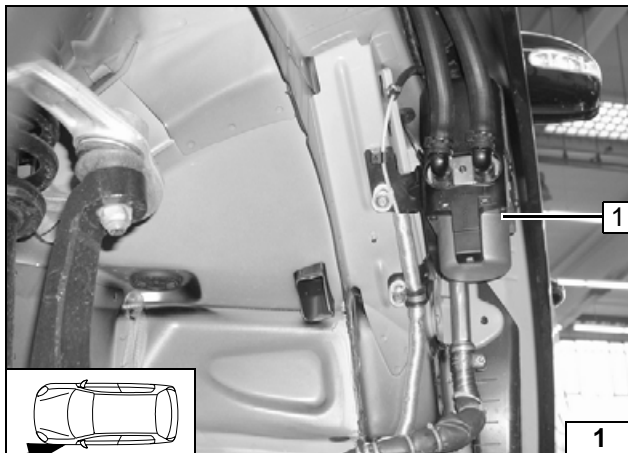
Tightening torque of 5x13 heater bolts = 8Nm!

Tightening torque of 5x15 bolt of water connection piece retaining plate = 7Nm!

Preliminary Work

WARNING!

- Disconnect the battery earth connection. (Move the front passenger's seat forward and remove the battery cover under the seating).
- Depressurise the cooling system.
- Copy the factory number from the original type label to the duplicate type label.
- Remove years that do not apply from the duplicate label.
- Attach the duplicate label (type label) in the appropriate place.
- Open the fuel tank cap, ventilate the tank.
- Close the fuel tank cap again.
- Pull off the front lateral sealing strip over the engine compartment partition wall.
- Remove the segment of the engine compartment partition wall on the left in front of the brake fluid reservoir.
- Remove the adjacent segment of the engine compartment partition wall over the water hoses.
- Detach the coolant expansion tank.
- Remove the design cover of the engine with the air filter and intake hoses on the petrol engine.
- Only on GL or with existing strut brace: Detach the control unit on the engine together with the design cover and remove.
- Remove the design cover of the engine on diesel engines.
- Remove the air routing hose and the air filter box of the left-hand engine side (2 bolts) on diesel engines.
- Remove the cover of the fuse box on the right-hand side in the engine compartment.
- ML only: Fold up the rear bench seat and pull off the carpeting.
- GL only: Remove the rear right door sill cover and seat, remove the trim pieces of the locking pins, fold back the floor covering and remove the cover of the control unit and the control unit under the seat cushion.
- Remove SAM "rear" from the bracket, remove the bracket [ML only].
- Detach and remove the glued metal cover of the fuel-tank sending unit located on the **right** in the driving direction (heat adhesive seam carefully with hot air pistols).
- Remove the door sill cover of the driver's door.
- Detach the lower footwell trim on the driver's side.
- Remove the A-pillar trim in the driver's side footwell.
- Expose the plug connector of the CAN node point in the A-pillar cut-out.
- Remove the left-hand front wheel.
- Remove the two-piece wheel well trim of the left front wheel. Pull off the moulded foam piece on the rear section and discard.
- Remove the front and rear underride protection on the left-hand side of the vehicle.



Heater installation location

- 1 Heater

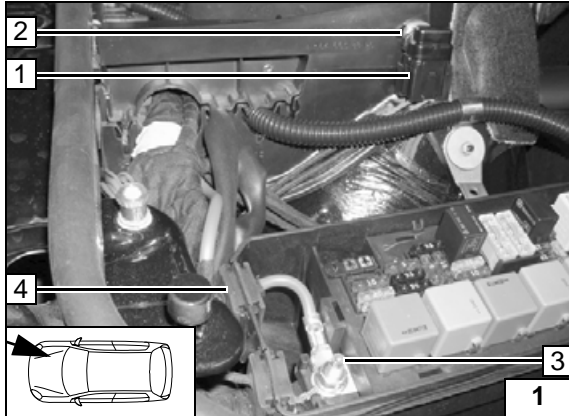
Installation location



Electrical Connections

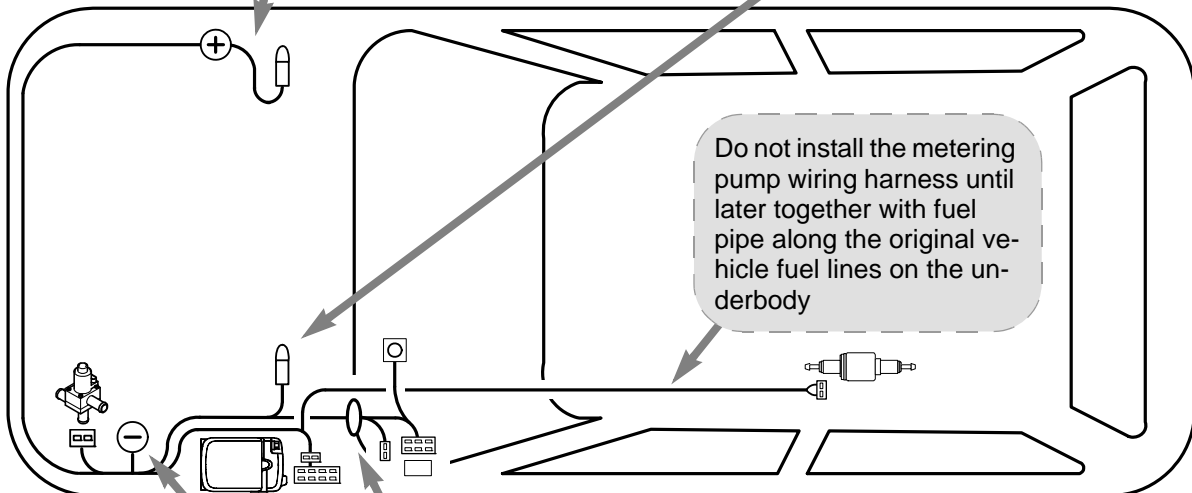
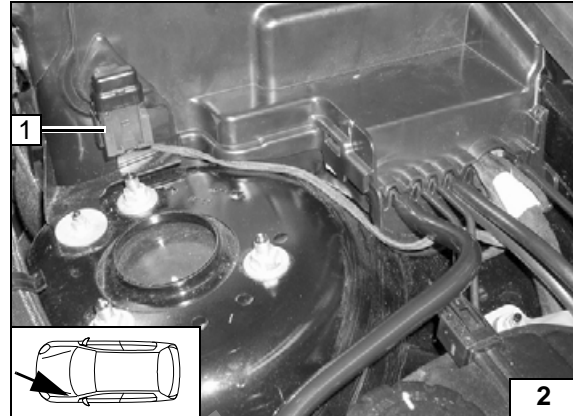
Fuse holder, power supply

- 1 20 A fuse holder
- 2 Shim, M6x16 bolt
- 3 Positive connection of fuse box (shape of fuse box may vary).
- 4 Protective rubber plug

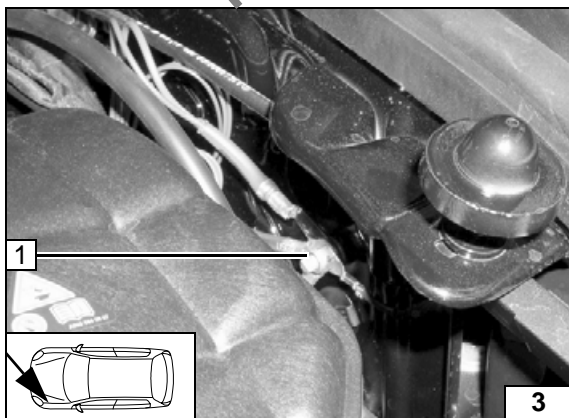


Fuse holder of Telestart

- 1 Fuse holder

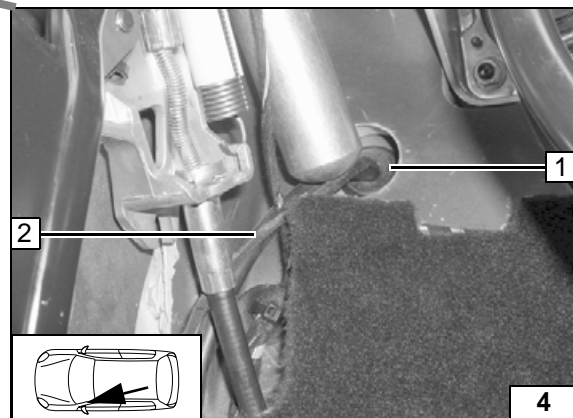


Wiring harness routing diagram



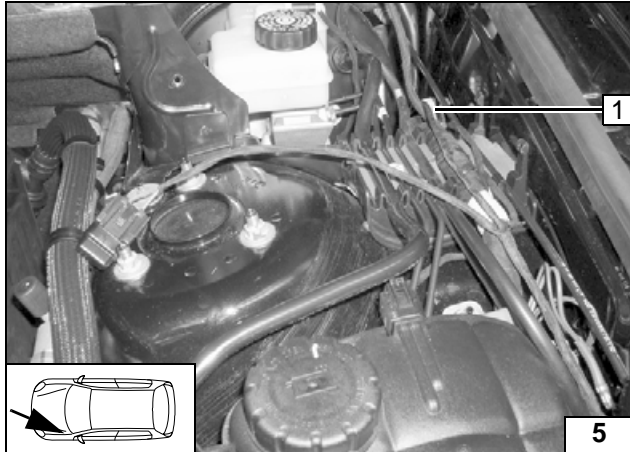
Earth connection

- 1 Earth point



Wiring harness pass through

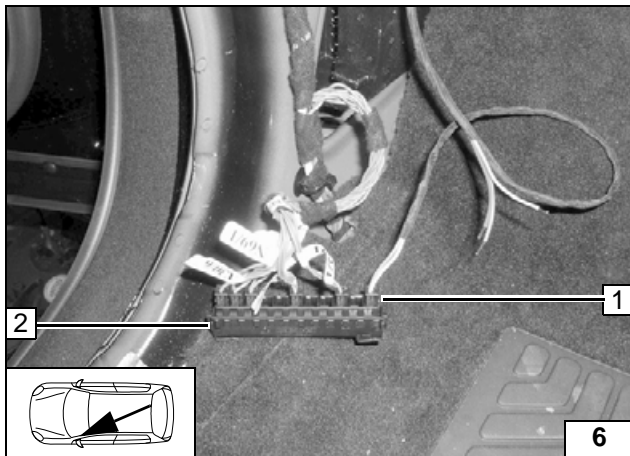
- 1 Protective rubber plug
- 2 Wiring harness



Route wiring harnesses of heater, metering pump and solenoid valve downward into wheel well. Route wiring harness of Telestart/CAN connection 1 into cable duct.



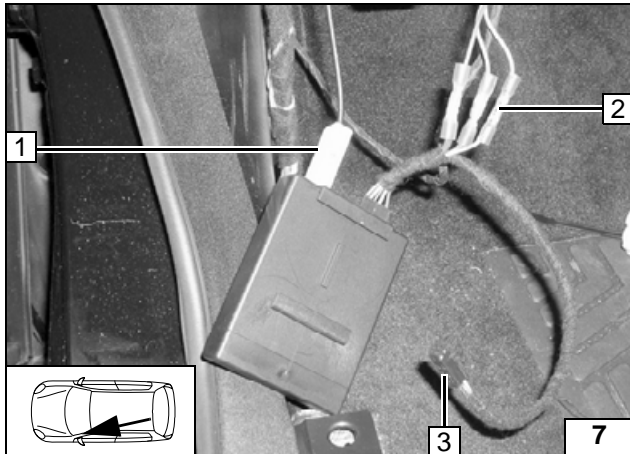
Routing of wiring harnesses



Insert connector 1 of CAN connection in free socket of plug connector 2.



CAN connection



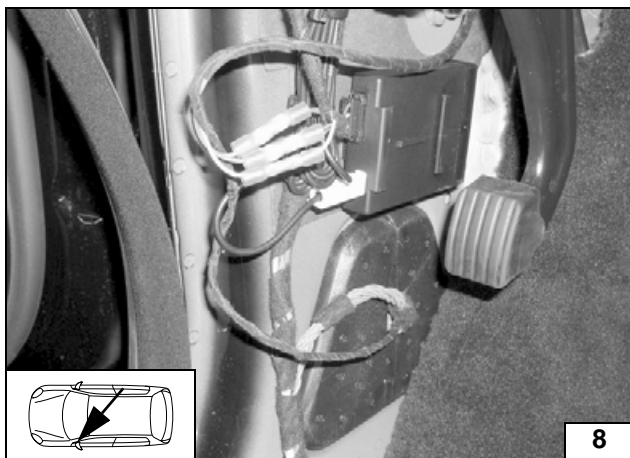
Telestart

Connect wiring harness to same colours of adapter wiring harness of Telestart.

- 1 Antenna connector
- 2 Connector [3x]
- 3 Connector of push button



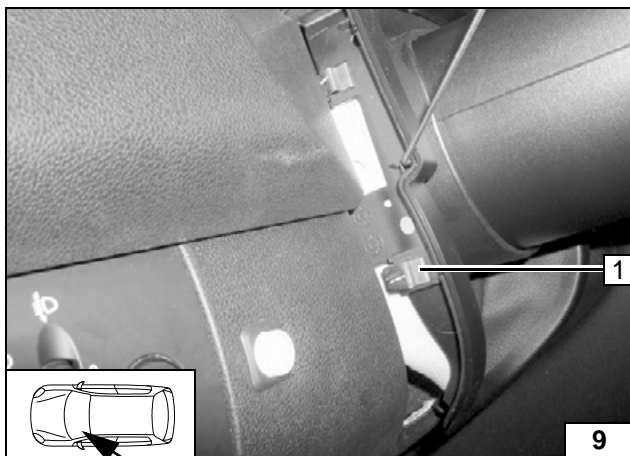
**Conne-
ction on Tel-
estart**



Fasten Telestart housing to A-pillar with Velcro strips.



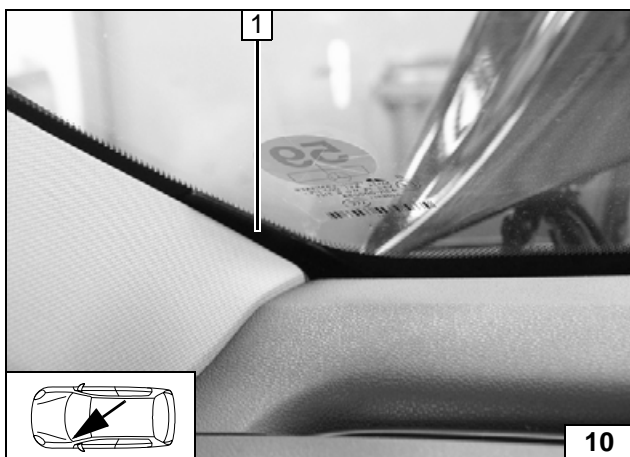
**Mounting
Telestart
receiver**



Detach frame by pulling out fastening clips 1 [4x]. Drill 15mm dia. hole.



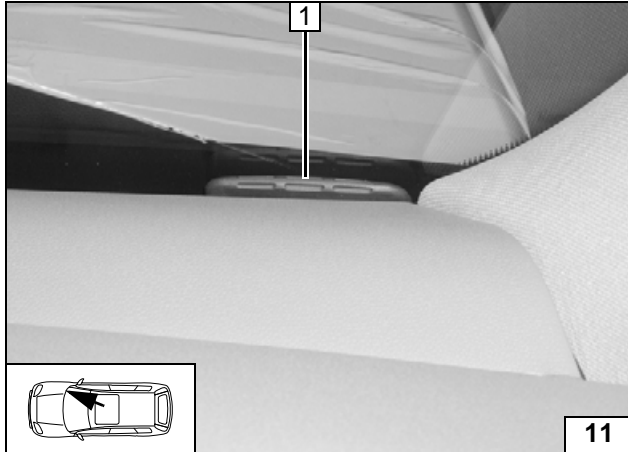
**Mounting
push but-
ton**



- 1 Antenna



**Installing
antenna**



Remote Option (Thermo Call)

1 Antenna

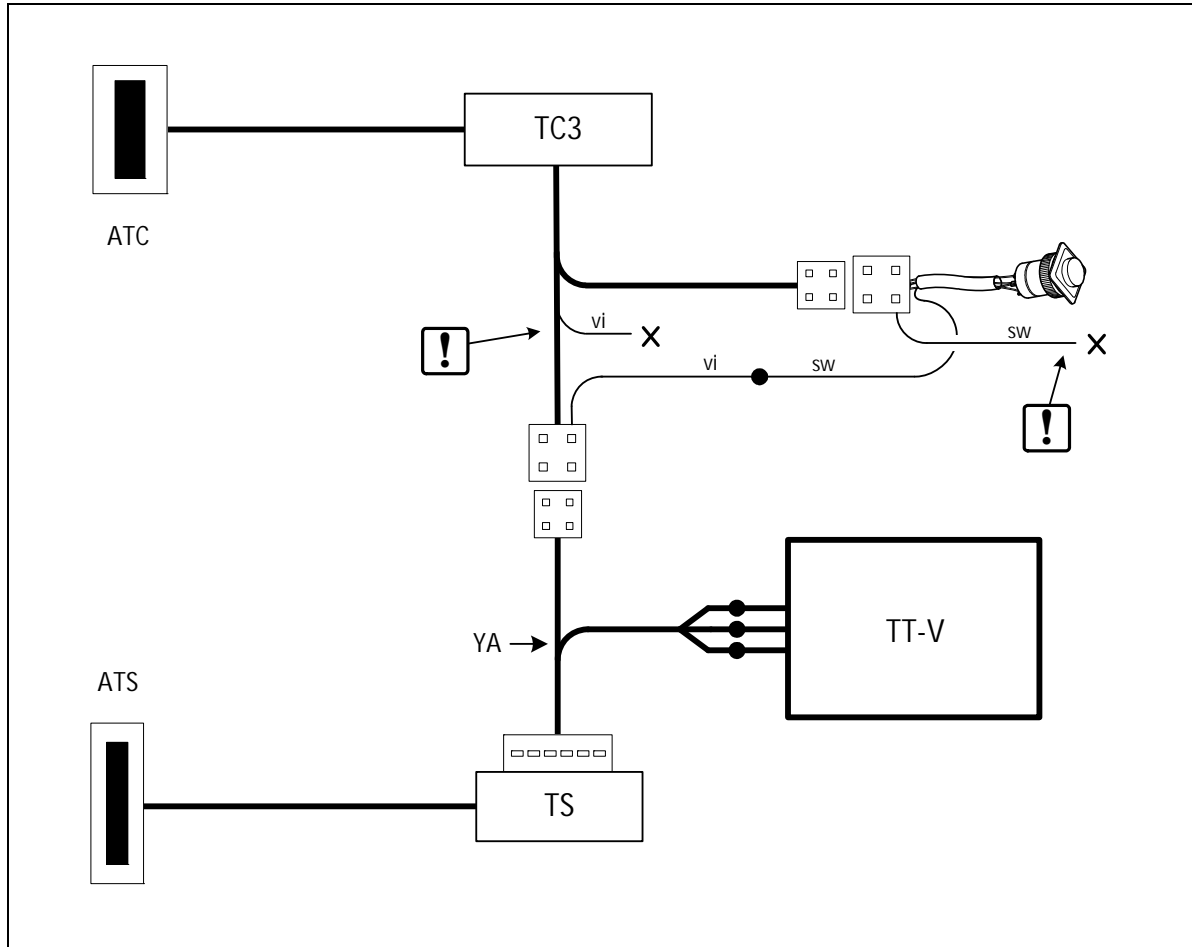


Installing antenna



1 Thermo Call

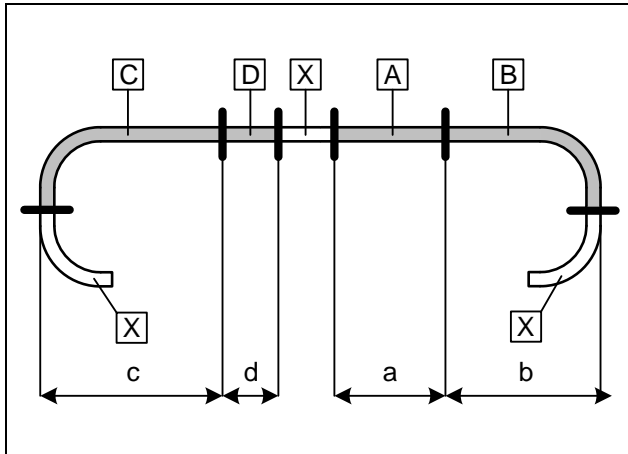
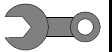
Installing Thermo-Call



Wiring diagram for Thermo-Call

Webasto components		Colours and symbols	
TT-V	Heater	sw	black
YA	Y-adapter 9014604A	vi	violet
TS	Telestart receiver DAG configuration		Insulate wire ends and tie back
TC3	Thermo Call	X	Cutting point
ATC	Thermo-Call antenna		
ATS	Telestart antenna		
●	Connector		

Legend

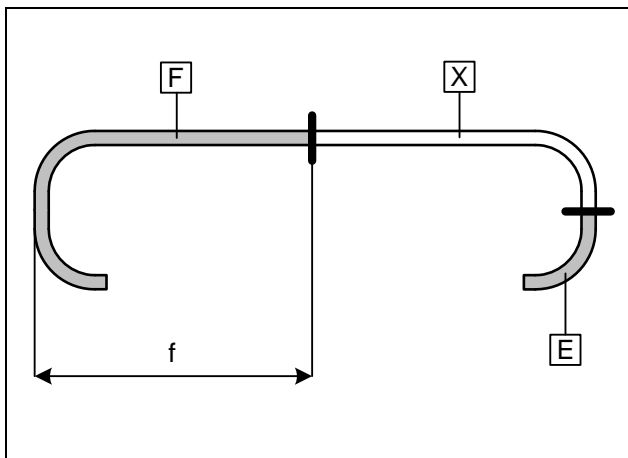


Preparing Heater

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

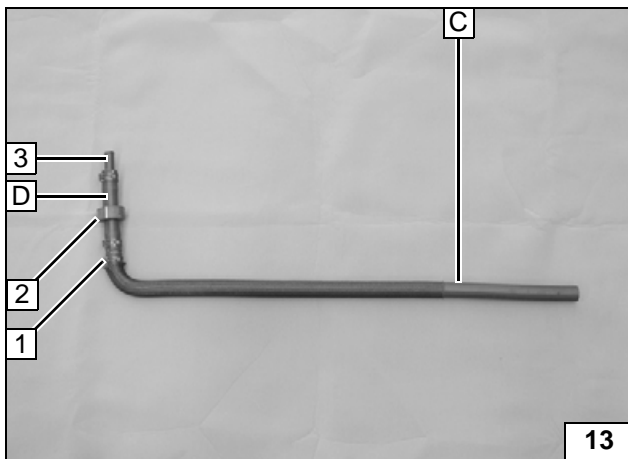
Discard section X.

Cut braided protection hose in half. Push one half each onto hose B and C (up to and over elbow)

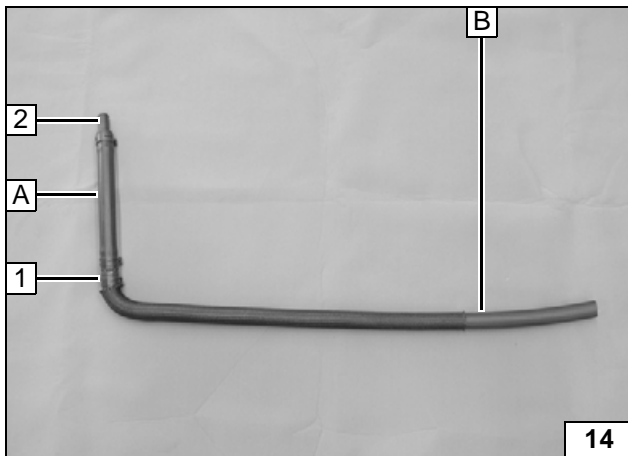


f = 950 mm

Discard section X.
 Push braided protection hose onto hose F over 180° elbow.



- 1 18x18 mm dia. connecting pipe, 25 mm dia. spring clip [2x]
- 2 Push on rubber isolator
- 3 15x18 mm dia. connecting pipe, 25 mm dia. spring clip



- 1 18x18 mm dia. connecting pipe, 25 mm dia. spring clip [2x]
- 2 15x18 mm dia. connecting pipe, 25 mm dia. spring clip



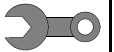
Cutting hoses to length



Cutting hoses to length

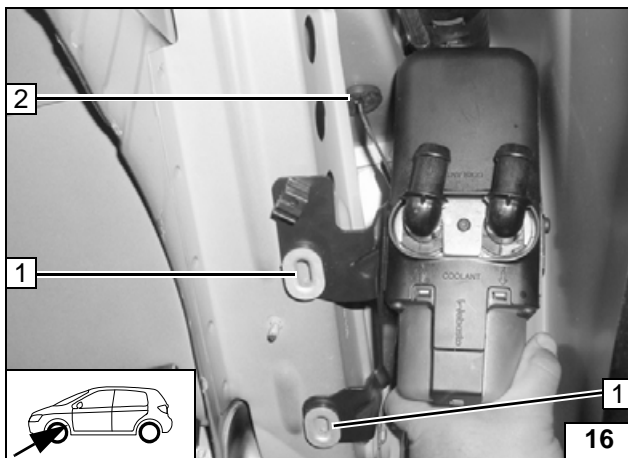
Premounting hose of heater outlet

Premounting hose of heater inlet



1 25 mm dia. spring clip

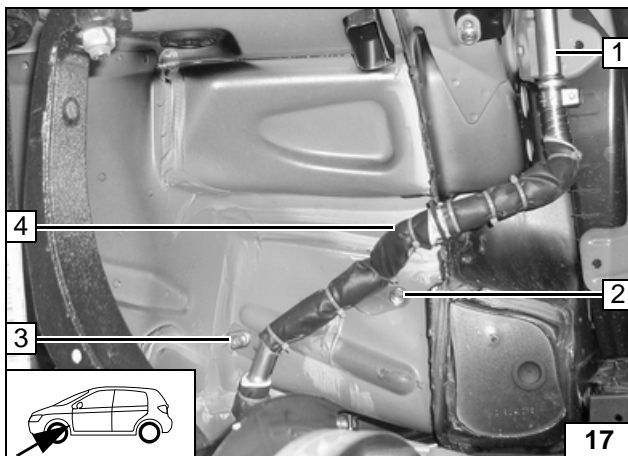
Premounting hose F



Preparing Installation Location

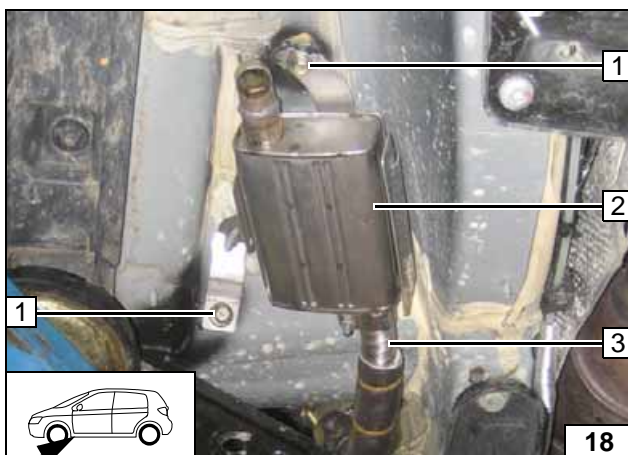
Guide rubber mushroom 2 on bracket of heater into specified body opening. Copy hole pattern of fastening points 1 [2x]. Drill 9.1 mm dia. holes and mount M6 rivet nuts [2x]. If stud bolts are already installed at provided fastening points, work steps of figures 17-19 should be ignored. Fastening can then be carried out with flanged nuts.

Fastening points of heater



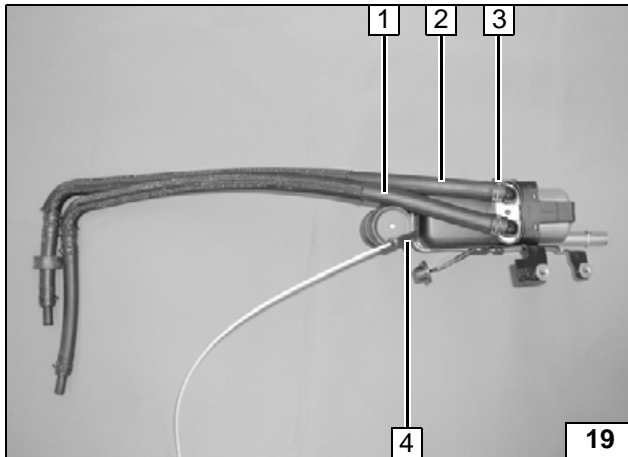
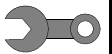
Mount exhaust pipe 4 on exhaust connection piece 1. Copy hole pattern of fastening points at position 2 and 3. Drill 9.1 mm dia. holes and mount M6 rivet nuts [2x].

Drilling fastening holes for exhaust



Mount exhaust silencer 2 on exhaust pipe 3. Copy hole pattern of fastening point for retaining strut 1 [2x]. Drill 9.1 mm dia. holes and mount M6 rivet nuts [2x].

Drilling fastening holes for exhaust



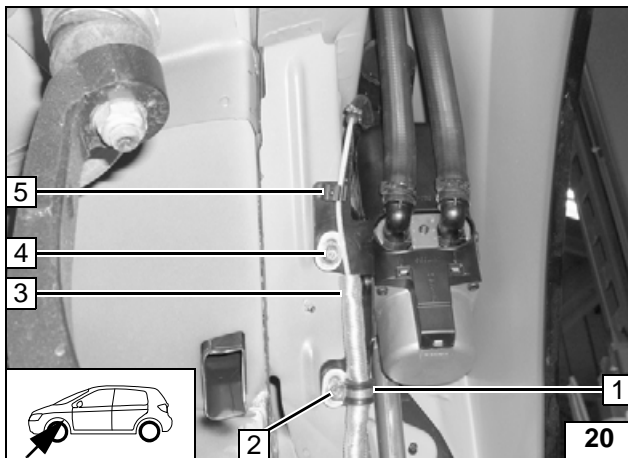
Premounting Heater

Push on premounted hoses and align as shown.

- 1 Premounted hose to heater inlet
- 2 Premounted hose to heater outlet
- 3 25 mm dia. spring clip [2x]
- 4 Fuel line, 10 mm dia. Caillau clamp



**Mounting
water hoses**



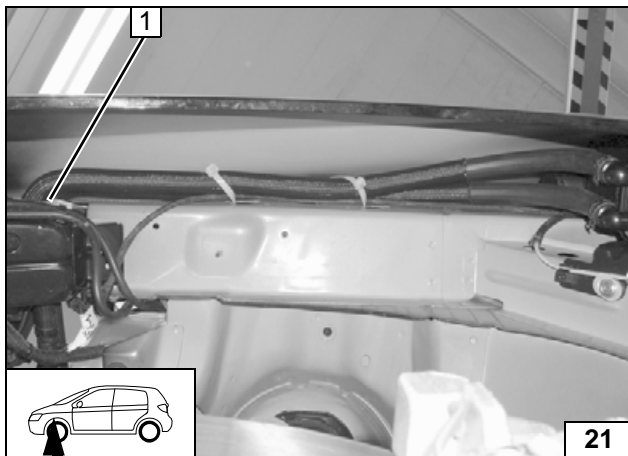
Installing Heater

Connect connector of heater. Loosely fasten heater with upper bolt 4. Route water hoses in pass through to engine compartment. Pull fuel line with wiring harness of metering pump into heat protection hose 3. Fasten heat protection hose on lower bolt 2 with clamp 1.

- 1 15 mm dia. rubber-coated p-clamp
- 2 M6x25 detent edged bolt with washer
- 4 M6x25 detent edged bolt with washer
- 5 Fastening clip of fuel line



**Installing
heater**

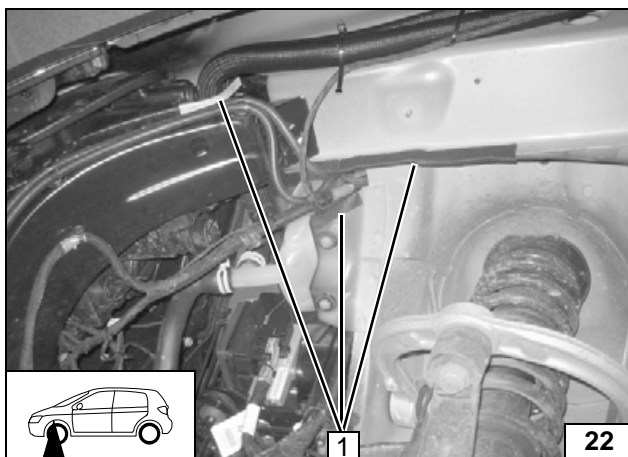


Mount water hoses and wiring harness of heater on body openings with cable ties.

- 1 Pass through to engine compartment

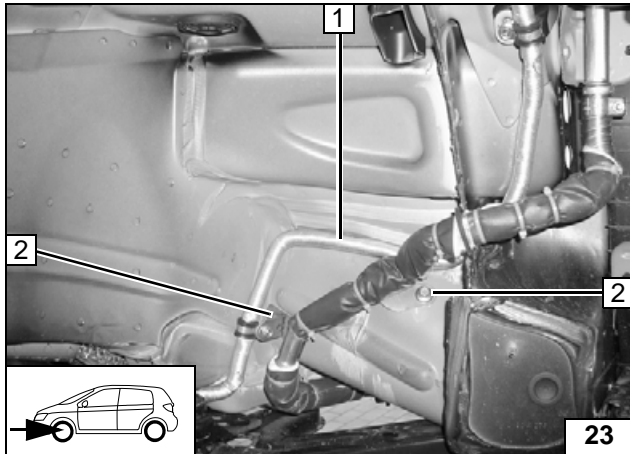


**Fastening
water hoses**



- 1 Edge protection

**Mounting
edge protection**

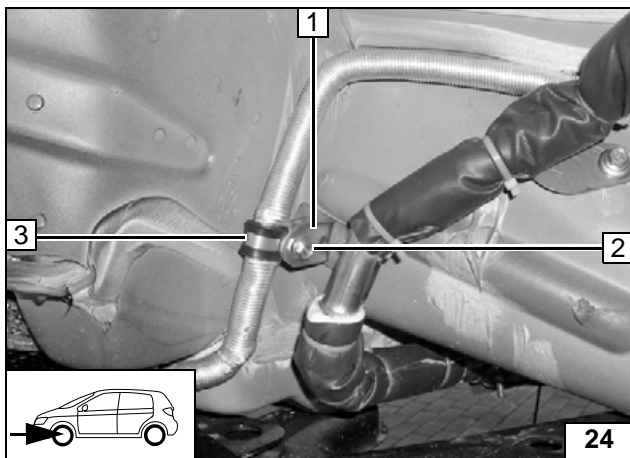


Exhaust Gas

Route heat protection hose 1 behind exhaust pipe.

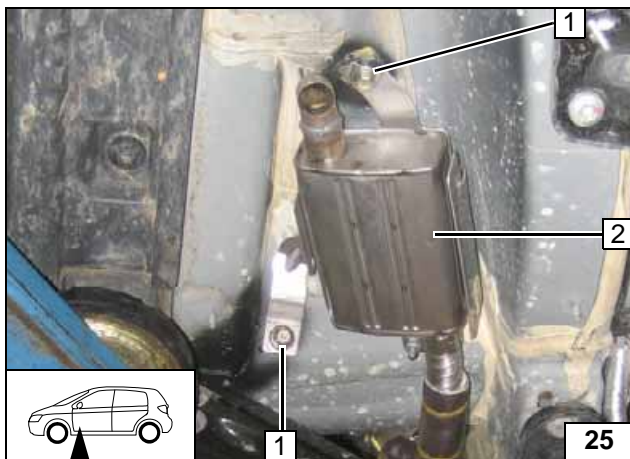
- 2 M6x25 detent edged bolt with washer [2x]

Mounting exhaust pipe and protection hose



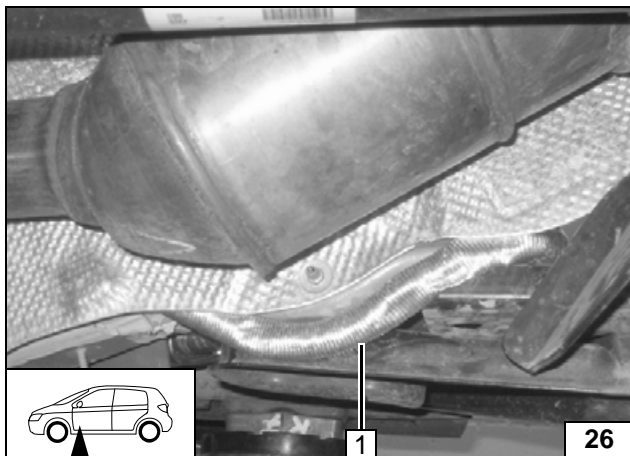
- 1 Angle bracket
- 2 M6x25 detent edged bolt, M6 flanged nut
- 3 15 mm dia. rubber-coated p-clamp

Mounting clamp of protection hose



- 1 M6x25 detent edged bolt with washer [2x]
- 2 Exhaust silencer

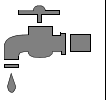
Installing exhaust silencer



Route heat protection hose 1 on inside of frame side member behind heat shield plate.

Routing protection hose





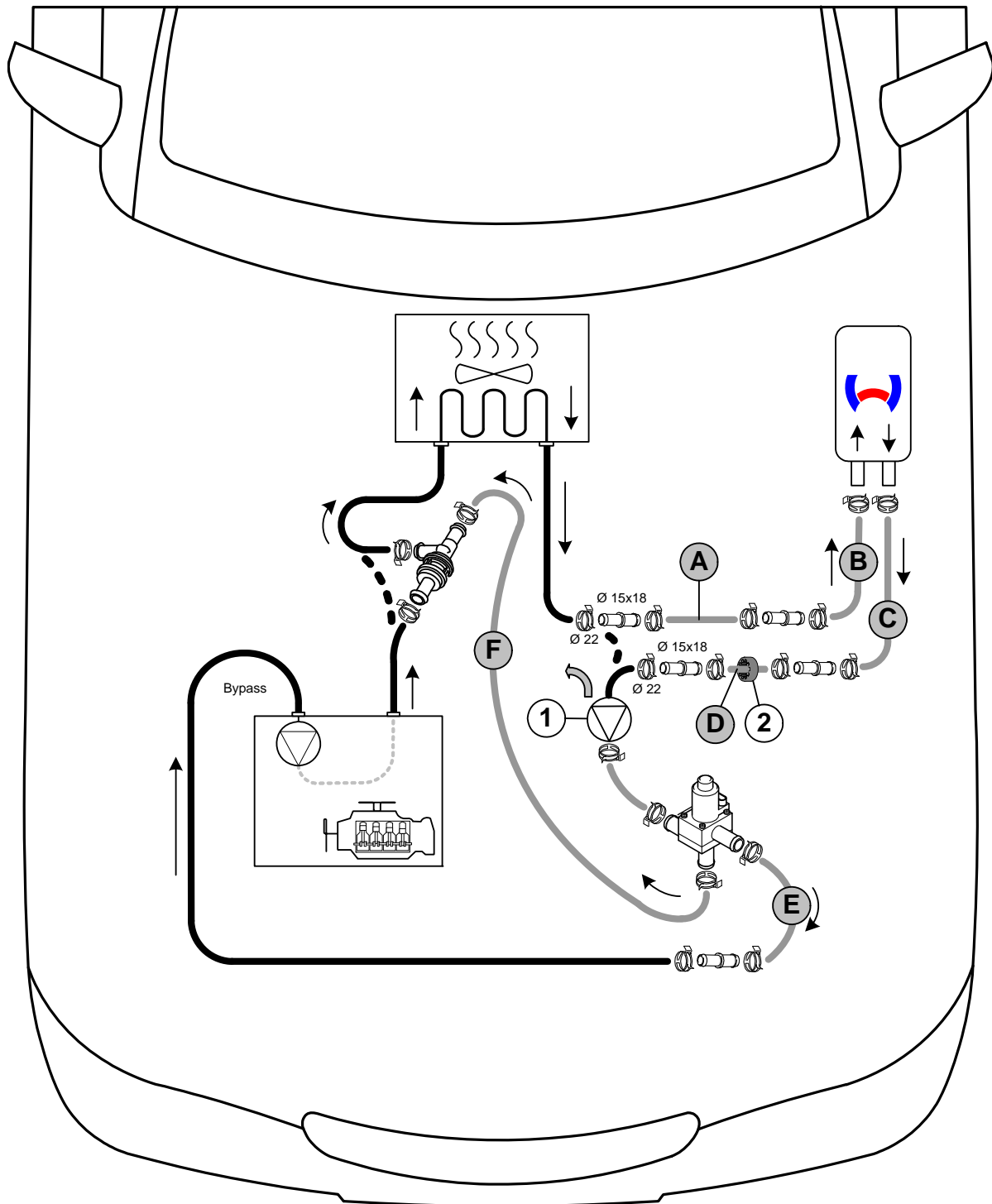
Coolant Circuit




WARNING!

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 ties. Position clamps so that no other hose can be damaged. When installing the hoses, the heater must be filled with coolant. The connection is undertaken according to the following diagram:

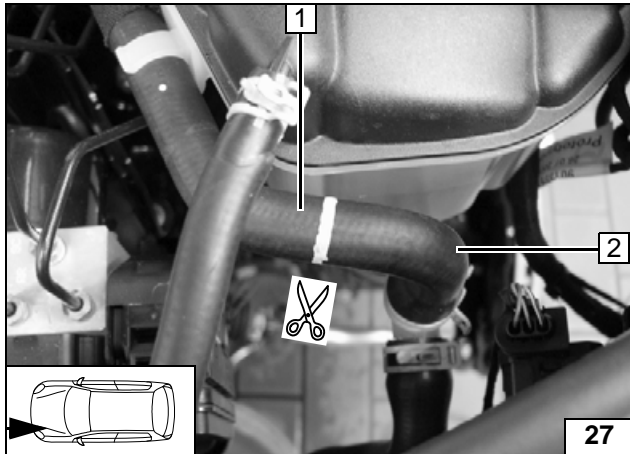


Hose routing diagram



All spring clips without a specific designation  = 25 mm dia.
 All connecting pipes without a specific designation  = 18x18 mm dia.
 1 = Original vehicle circulating pump 2 = Black (sw) rubber isolator .





Turn 90° elbow **2** on expansion tank by 180°.

1 Hose on heat exchanger outlet



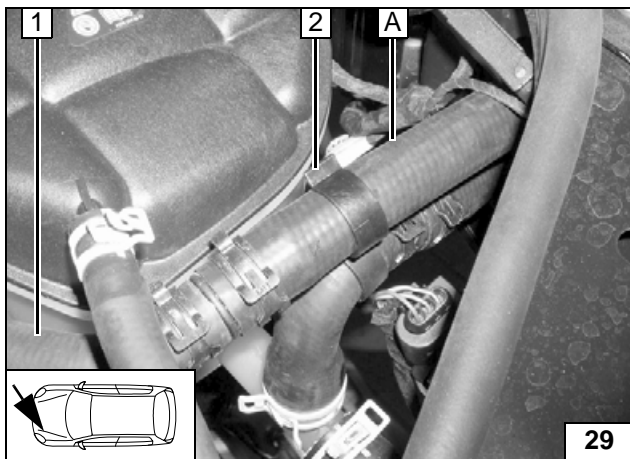
Cutting point



Fasten hose of heater outlet **D** to turned hose elbow. Align rubber isolator **1**.

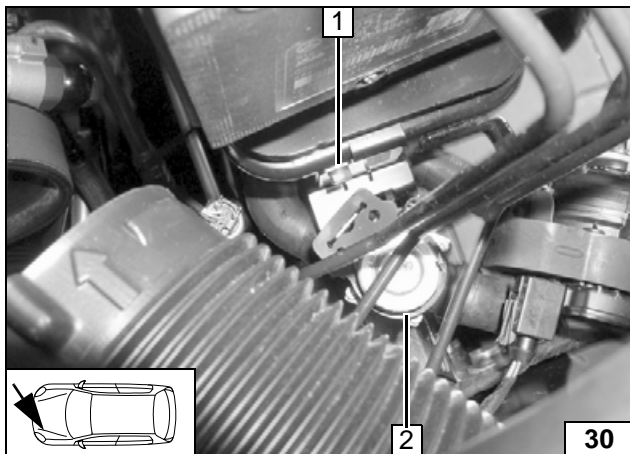


Connection to heater outlet



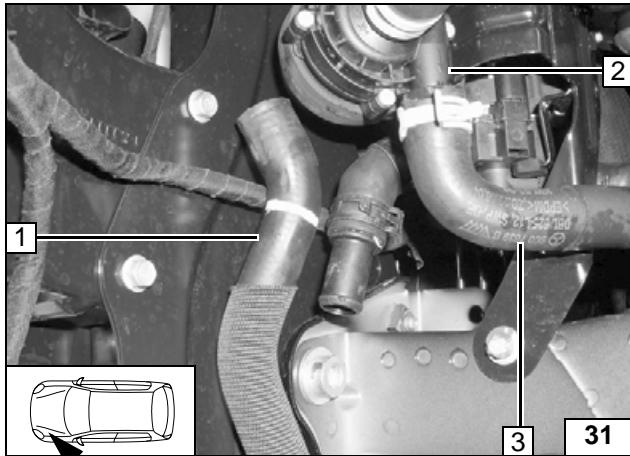
Fasten hose of heater inlet **A** to hose of heat exchanger outlet **1**. Align spacer **2**.

Connection to heater inlet



1 Original vehicle threaded hole, M5x12 bolt, spring lockwasher
2 Solenoid valve

Mounting solenoid valve

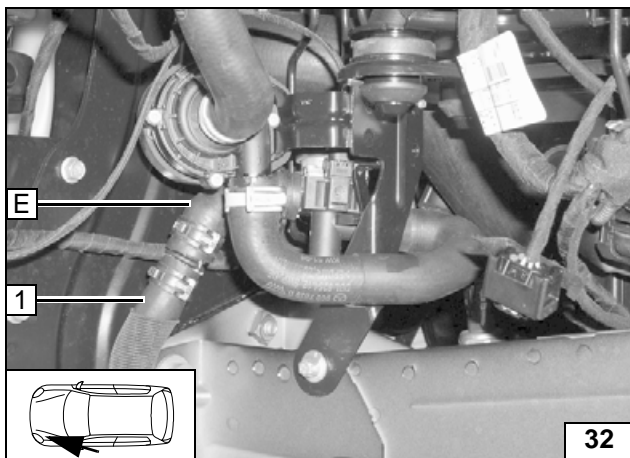


Connection to Solenoid Valve

Disconnect original vehicle hose 1 from pump outlet 2. Shorten disconnected hose as shown. Connect hose 3 from solenoid valve to pump inlet 2 (photo shows vehicle without wash-water heater).



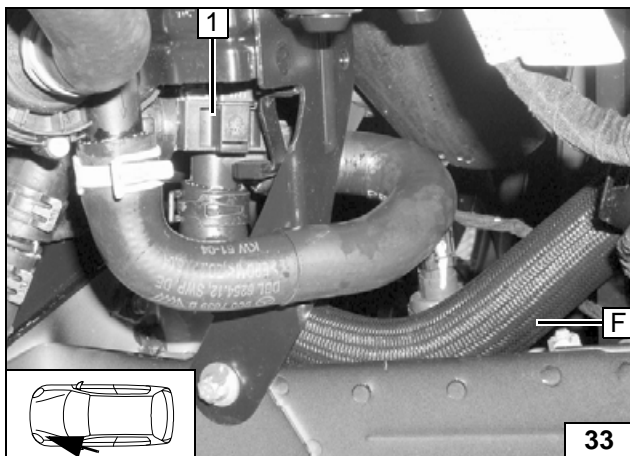
**Connec-
tion to sole-
noid valve**



Connect hose E to solenoid valve and connect to shortened hose 1.



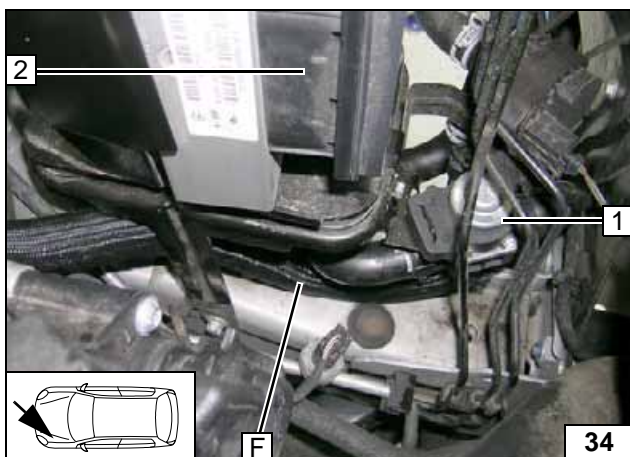
**Connec-
tion to sole-
noid valve**



Push 180° elbow side of hose F onto solenoid valve 1 and align relative to engine.

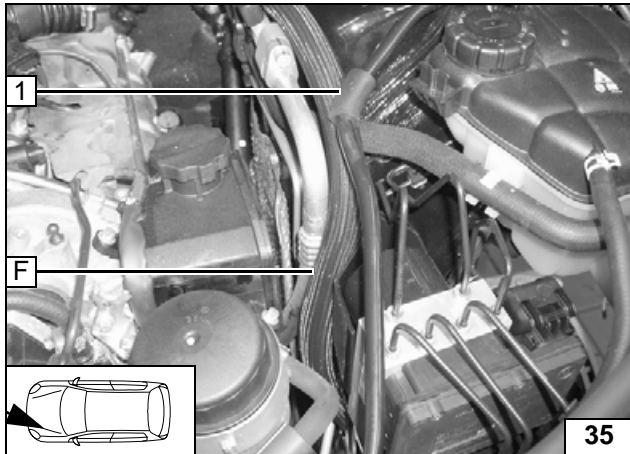


**Connec-
tion to sole-
noid valve**



- 1 Solenoid valve
- 2 ABS control unit

**Hose rout-
ing be-
neath ABS
control unit**



Route hose **F** along A/C line. Position rub protection **1** of vacuum line over hose **F** (320 CDI only).



Routing in engine compartment

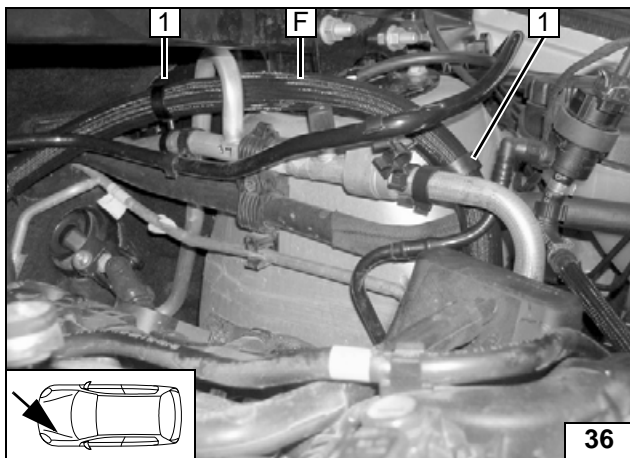
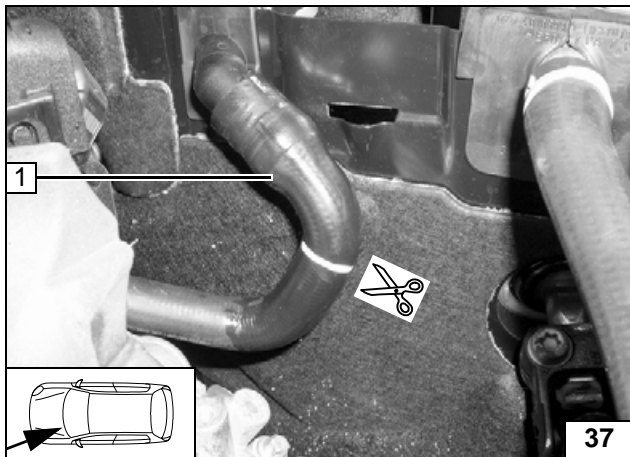


Photo shows GL model.

1 Spacer [2x]

Routing along A/C line

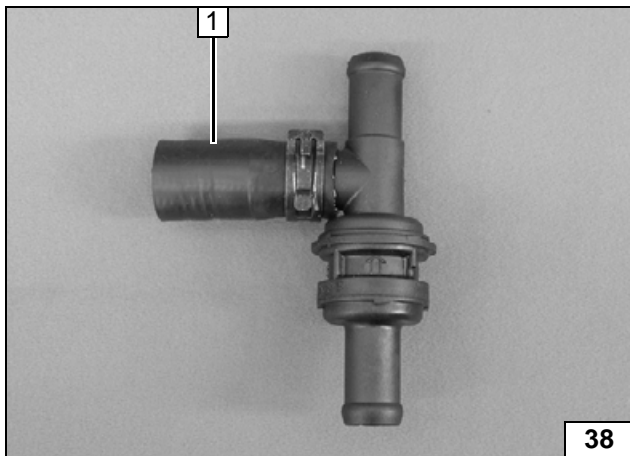


Connection to Check Valve

Cut water hose **1**. Pull upper section off connection piece. Spring clip will be reused.



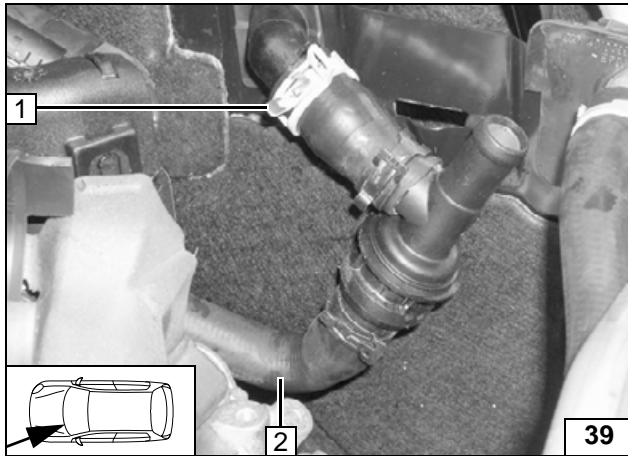
Cutting point of heat exchanger inlet



Cut off removed water hose **1** on side with smaller diameter. Total length after cutting off must not be less than 60 mm. Fasten shortened hose on check valve.



Premounting of check valve

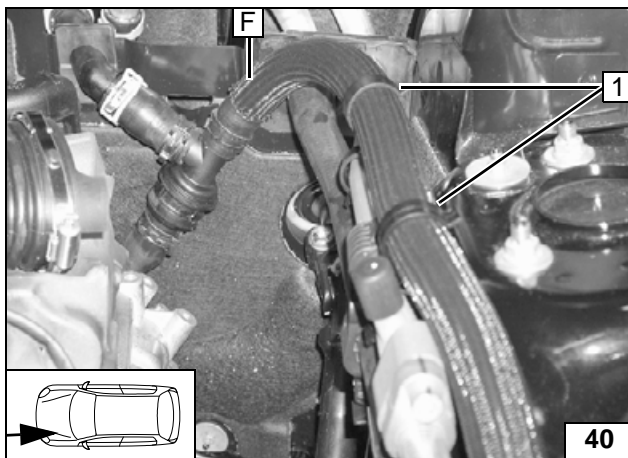


Connect check valve to hose 2 and connection piece to heat exchanger.

1 Original vehicle spring clip



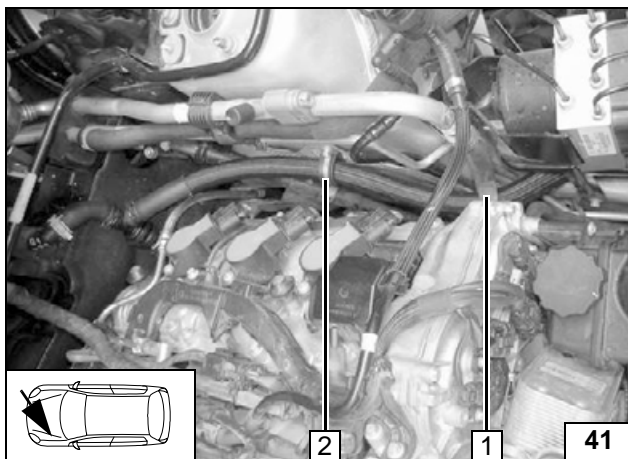
Mounting check valve



Cut hose F to length if necessary and align spacer 1 [2x].



Connection to check valve

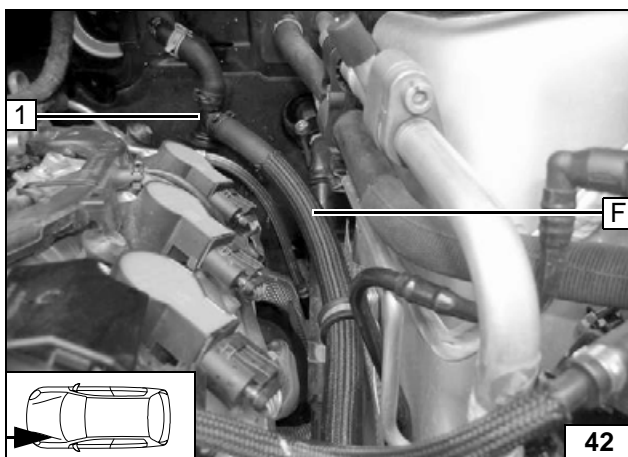


ML350 petrol only

Push rubber isolator 1 onto hose F. Fasten hose F with rubber-coated p-clamp 2 on original vehicle bolt. Position rubber isolator on A/C line.



Routing in engine compartment



Cut hose F to length if necessary and connect to check valve 1.



Connection to check valve



Fuel

CAUTION!

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

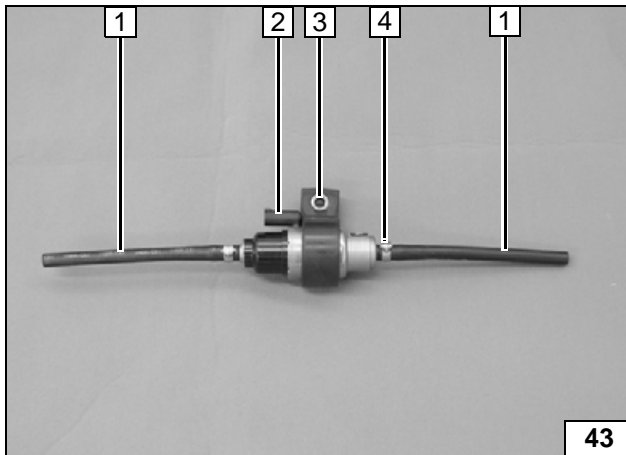
Catch any fuel running off in an appropriate container.

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

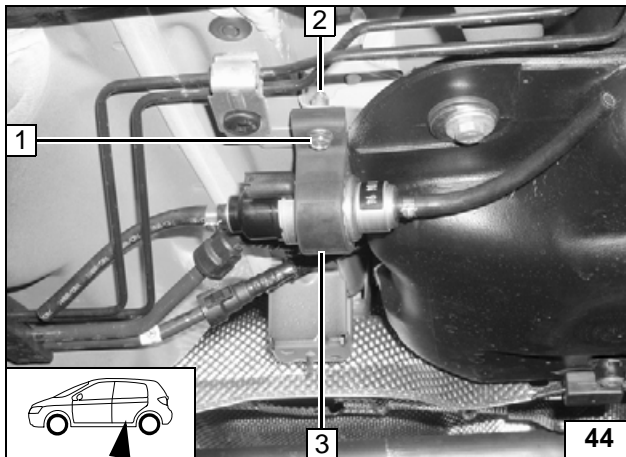
Mount the fuel line and wiring harness with rub protection on sharp edges.

WARNING!

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

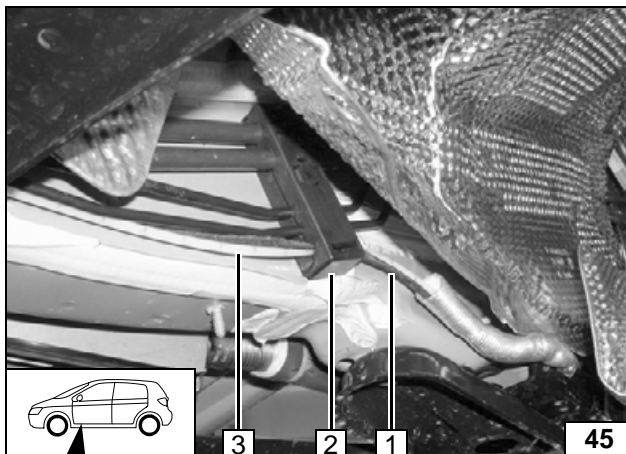


- 1 Hose section [2x]
- 2 Connection bushing of metering pump (pressure side)
- 3 Bracket of metering pump
- 4 10 mm dia. Caillau clamp (white colour code) [2x]



Drill 9.1 mm dia. hole in tab of fuel tank bracket. Mount rivet nut 2.

- 1 M6x25 detent edged bolt
- 3 Bracket of metering pump



Route wiring harness of metering pump 1 and fuel line 3 in original vehicle cable ducts 2.

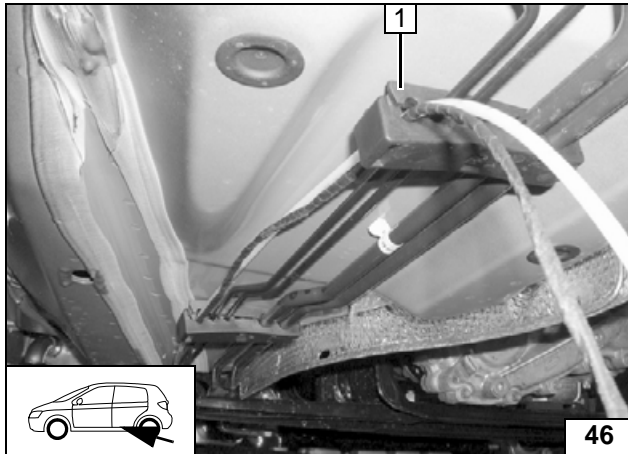


Premounting metering pump



Installing metering pump

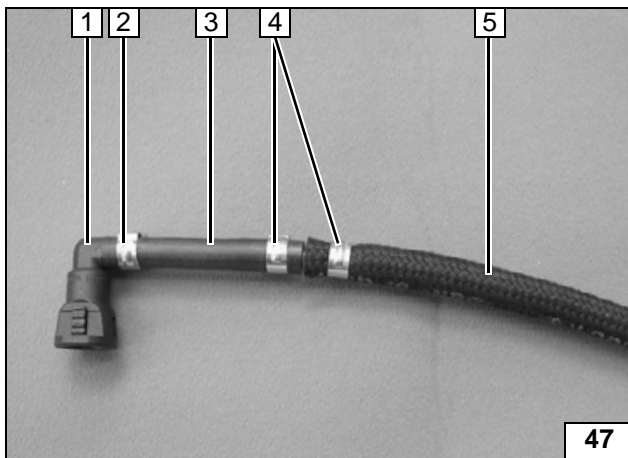
Wiring routing



Route fuel line and wiring harness of metering pump in original vehicle cable ducts **1** to metering pump and cut to length.



Routing on underbody

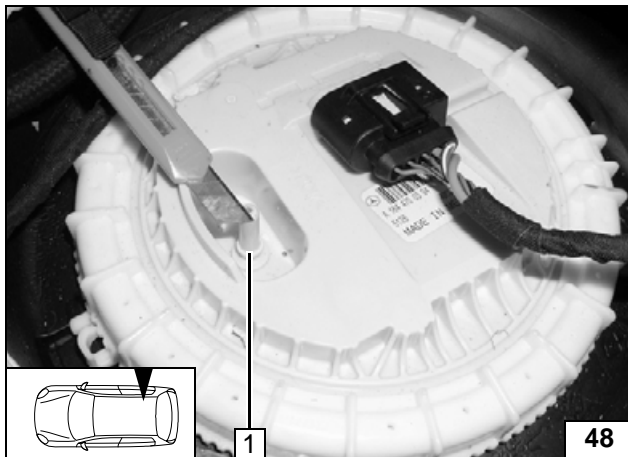


Push hose section **3** with smaller diameter onto coupling **1**. Push fuel line into other side of hose section. Pull protective hose **5** over fuel line.



Premounting fuel standpipe

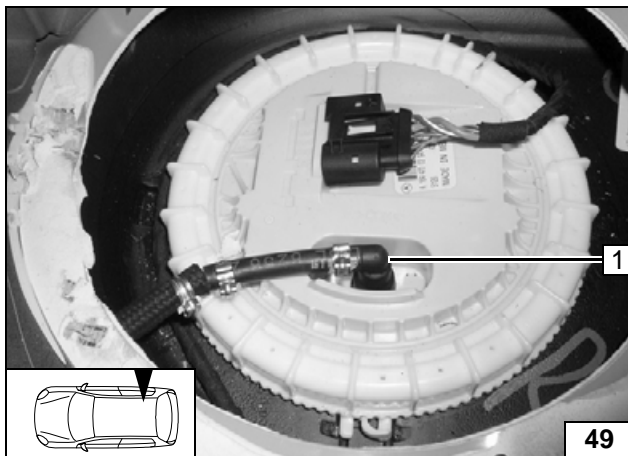
- 2** 8 mm dia. Caillau clamp (yellow colour code)
- 4** 10 mm dia. Caillau clamp (white colour code) [2x]



Cut off protruding nipple on coupling connection piece **1**.



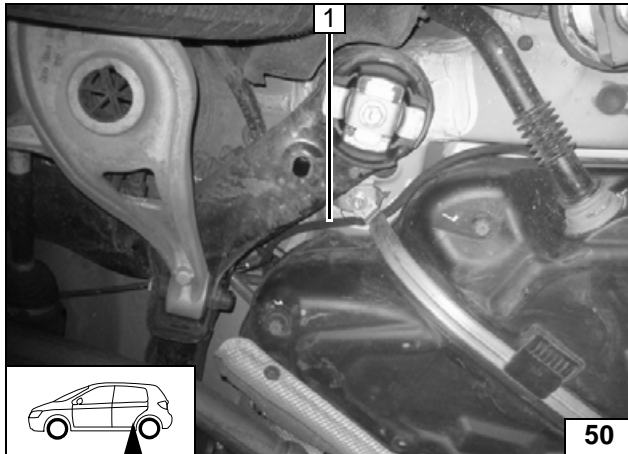
Processing fuel-tank sending unit



Audibly engage coupling **1** on coupling connection piece. Mount tank-fitting service lid with body sealing compound.



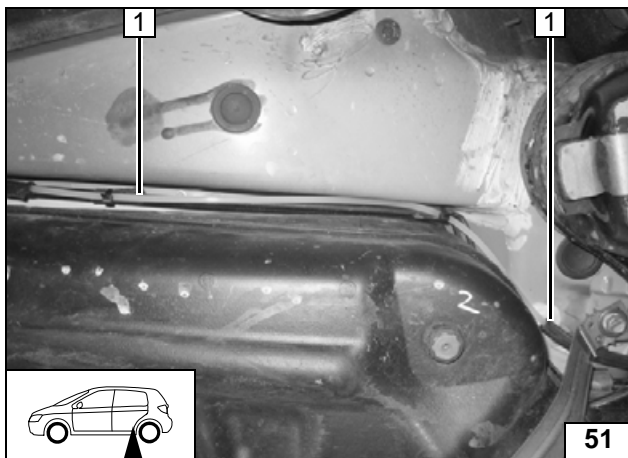
Connection of coupling



Route fuel line 1 to left-hand side of vehicle and fasten with cable ties.



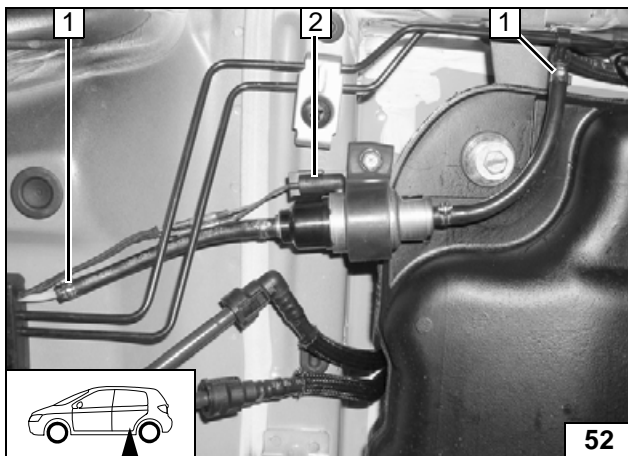
Routing fuel line



Route fuel line 1 on left-hand side of fuel tank to metering pump.



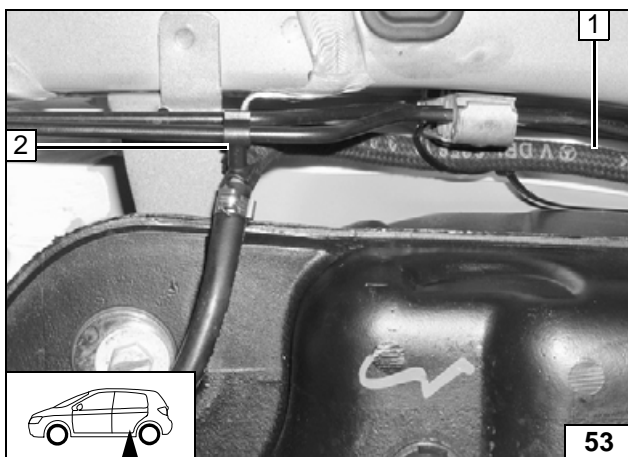
Routing fuel line



- 1 10 mm dia. Caillau clamp (white colour code) [X2]
- 2 Connector of metering pump mounted



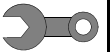
Connection to metering pump



Fasten protective hose 2 with cable ties. Mount spacer 1 on brake line.



Fastening fuel line



Final Work

Teaching transmitter of radio remote control "Telestart"

- Connect the battery.
- Pull the fuse (1A) of the Telestart out of the fuse holder on the left-hand side of the engine compartment and reinstall after approx. 5 seconds.
- Press the "Off" button of the hand-held transmitter (on right) 1x for approx. one second within the next 7 seconds.

WARNING!

Reassemble the disassembled components in reverse order. Check all hoses, clamps and all electrical connections for firm seating. Insulate and tie back all loose wires.

Only use manufacturer-approved coolant. Spray the heater components with anti-corrosion wax (Tectyl 100K, Order No. 111329).

Check the removed or disconnected headlight after the reinstallation and adjust if necessary.

- Start the engine, bleed the coolant circuit according to the vehicle manufacturer's instructions and top up coolant.
- Check the coolant circuit for leaks according to the manufacturer's specifications.
- Mount caution label "Switch off parking heater before refueling" in area of filler neck.
- Following installation, the additional heating function must be activated with the star diagnosis according to the manufacturer's specifications.
- Read out the vehicle fault memory and delete the stored faults of the heating/air conditioning system if necessary.
- Check the proper operation of the parking heater, see the operating instructions/installation instructions.

