Water Heater

***Thermo Top V* Parking Heater** e1 00 0018

Installation Documentation

Mercedes R-Class (W251)

Petrol and diesel
from model year 2006
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	R Class	W251	e1 * 2001 / 116* 0341

Engine type	Engine model	Output in kW	Displacement in cm³
280 CDI	Diesel	140	2987
320 CDI	Diesel	165	2987
350	Petrol	200	3498
500	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	Delivery scope, TT-V (B) DC R-Class	9015892 B
1	Delivery scope, TT-V (D) DC R-Class	9015893 B

Optional heater control either:

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

Foreword

This installation documentation applies to Mercedes R-Class (W251) Petrol and diesel vehicles - for 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 this installation documentation.

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).

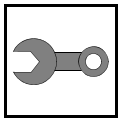
Special Tools

- Torque wrench for 2.0 - 10 Nm
- Hose clamping pliers
- Metric thread-setter kit
- 20mm hollow punch

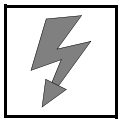
Explanatory Notes on Document

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



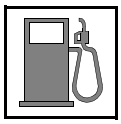
Electrical system



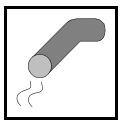
Coolant circuit



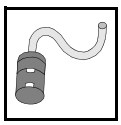
Fuel



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.



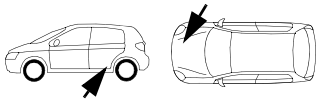
Specific risk of fire or explosion.



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



Reference to a special technical feature.



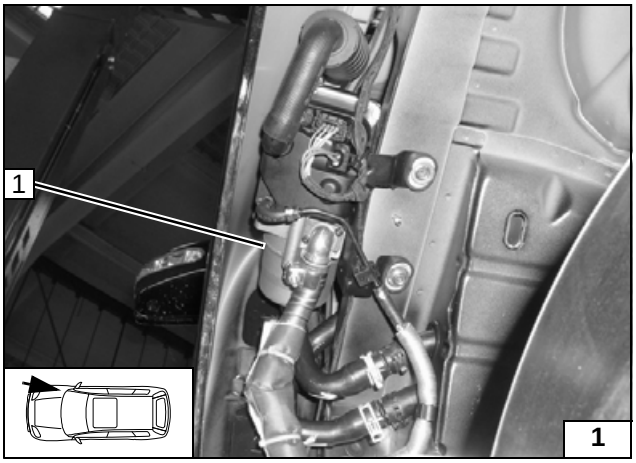
The arrow in the vehicle icon indicates the position on the vehicle and the viewing angle

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!

- Open the fuel tank cap, ventilate the tank.
- Disconnect the battery earth connection.
- Remove the front right door sill strip.
- Remove the front right footwell trim.
- Remove the A-pillar trim on the right.
- Remove the lateral instrument panel cover on the right.
- Remove the right-hand side seat rail cover in the rear.
- Remove the connector of the seat plug connector.
- Remove the right rear seat.
- Fold back the floor covering, detach and remove the glued metal cover of the fuel-tank sending unit located on the **right** in the driving direction.
- 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.
- Remove the windscreen wiper arms.
- Remove the coolant reservoir cover.
- Remove the wiper linkage together with the motor.
- Remove the transverse rubber gasket of the engine cover.
- Remove the metal engine cover.
- Remove the design engine cover.
- Remove the two-part housing of the interior filter.
- Remove the plate cover above the cable duct behind the expansion tank.
- Remove the left segment of the engine partition wall next to the wiper motor.
- Open the fuel tank cap, ventilate the tank.
- Close the fuel tank cap again.
- Remove the right-hand front wheel.
- Remove the 2-part wheel-well inner panel in the front, on the right side.
- Remove the underbody trim on the right.
- Remove the A-pillar trim of the front passenger's side footwell.



Heater installation location

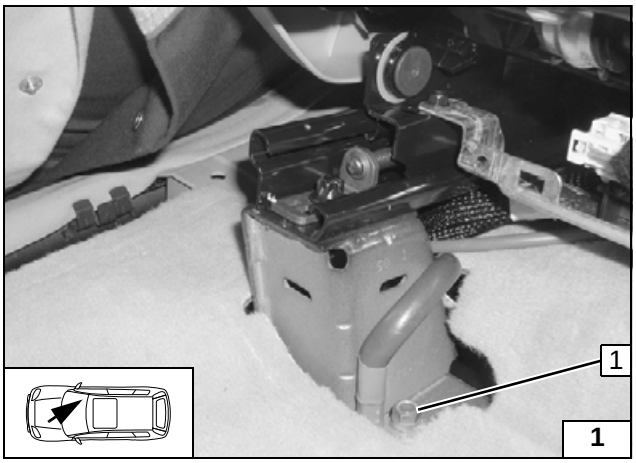
1 Heater

Installation location

Special Technical Information

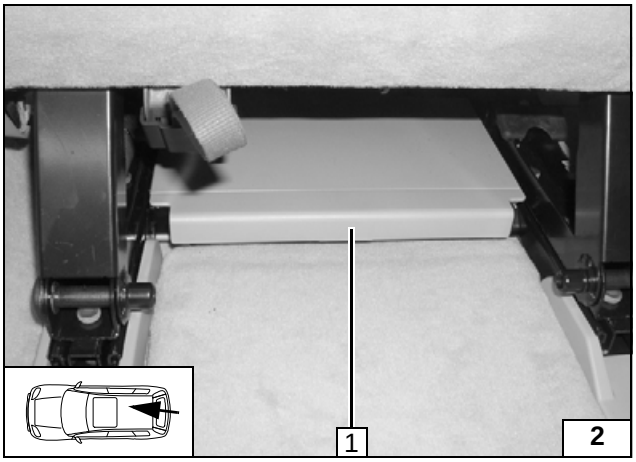
Remove the right seat rail cover of the front passenger's seat, loosen earth connection **1** of fastening socket.

Earth connection of battery

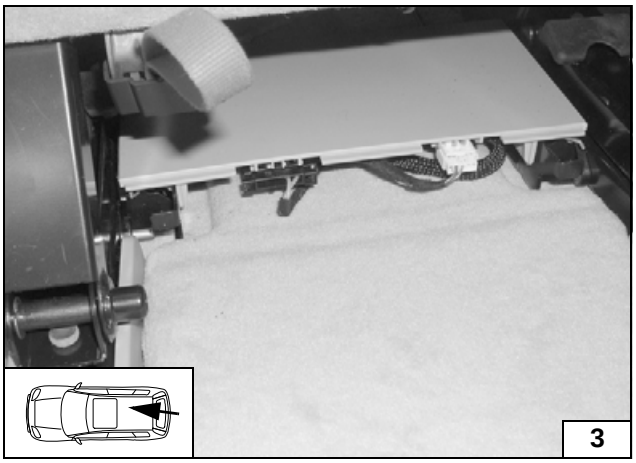


1 Cover of plug connector, rear seats

Removing cover for seat removal



Plug connector of rear seats



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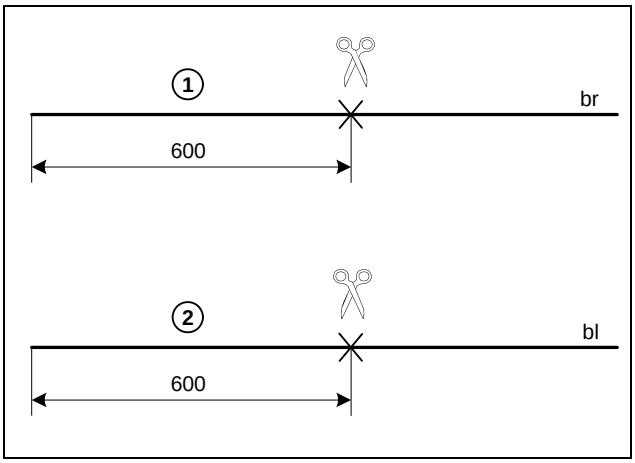
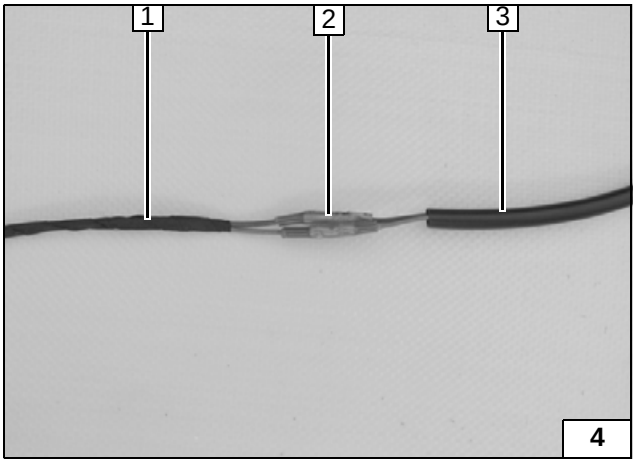
Preparing Electrical System

Pull lines 1 and 2 into protective pipe.

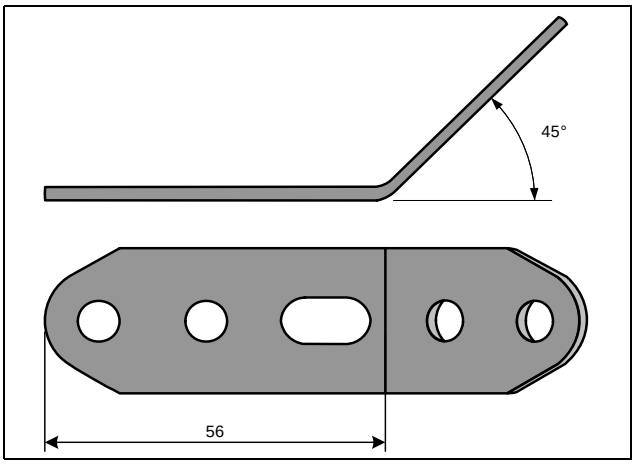
Cutting wires to length





1 Metering pump wiring harness
2 Crimp connector [2x]
3 Protective pipe

Extending metering pump wiring harness

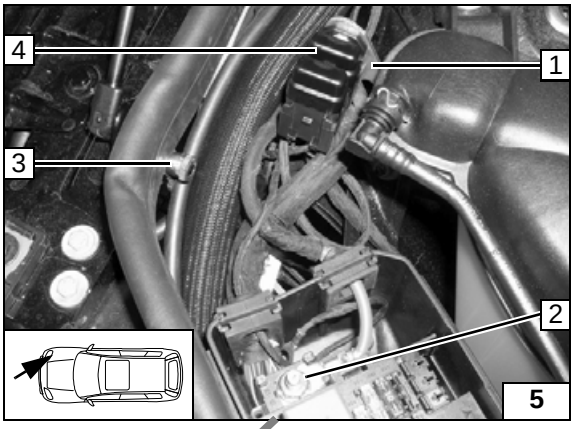


Bending perforated bracket of fuse holder

Electrical Connections

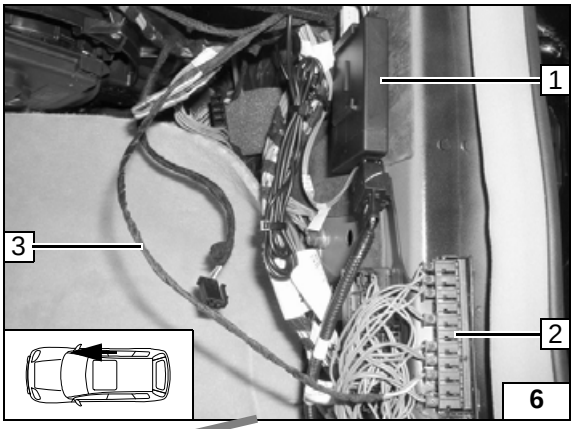
Fuse holder, power supply, earth point

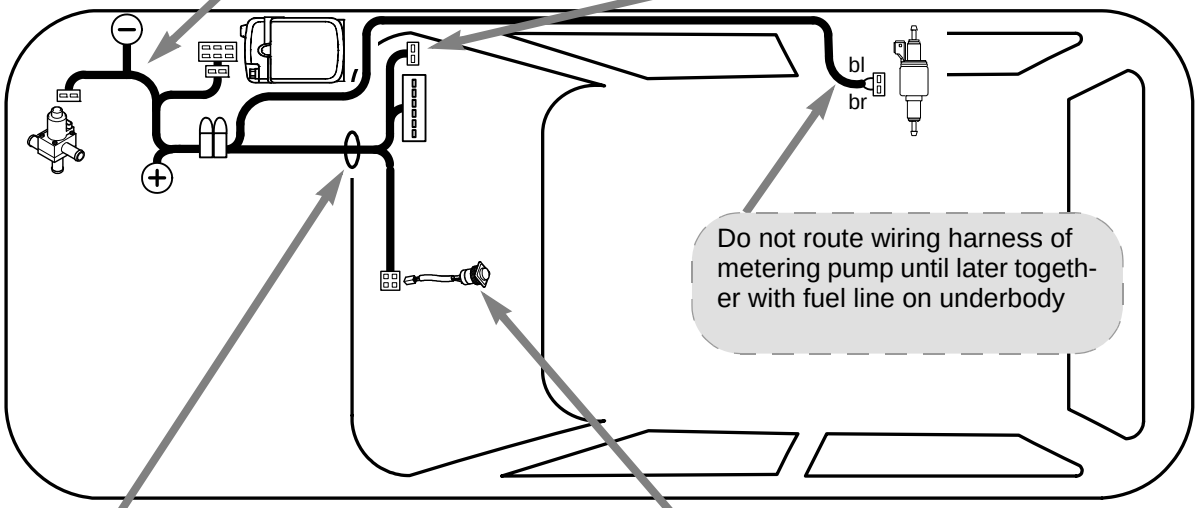
1 Original vehicle stud bolt, perforated bracket, flanged nut
2 Positive connection of fuse box
3 Earth point
4 Retaining plate of fuse holder, M5x16 bolt, washers, nut



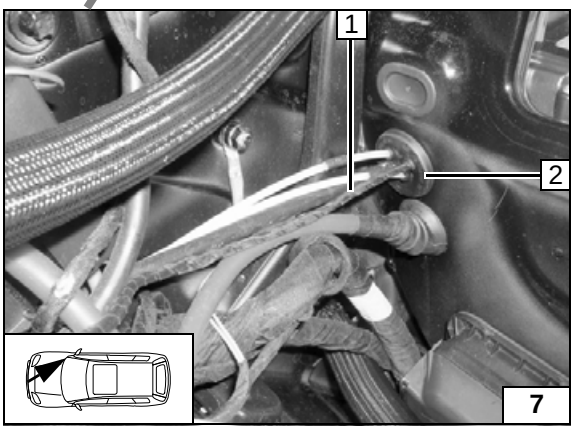
CAN bus, Telestart

1 Telestart
2 CAN bus plug connector
3 Wiring harness of CAN bus



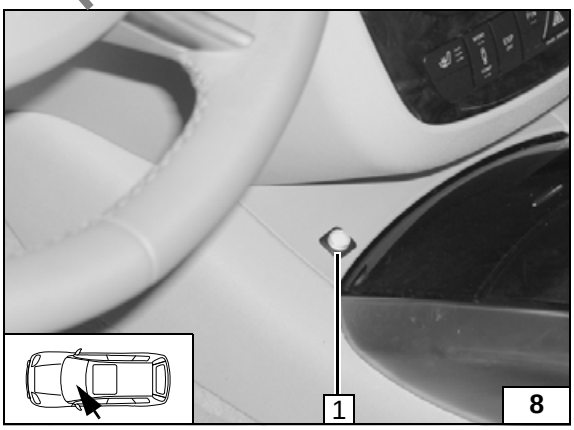


Wiring harness routing diagram



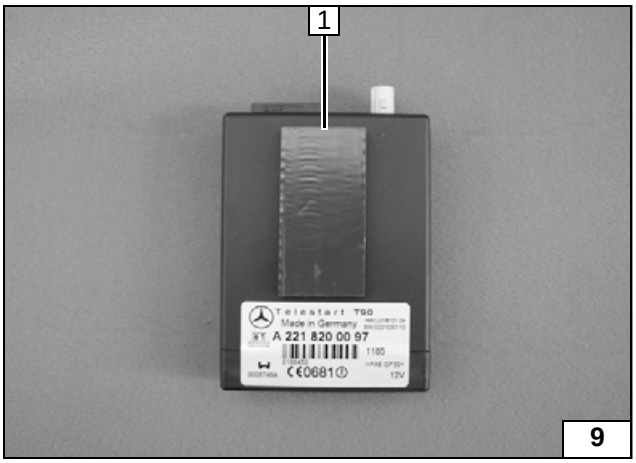
Wiring harness pass through

1 Wiring harness
2 Protective rubber plug



Push button / operation indicator

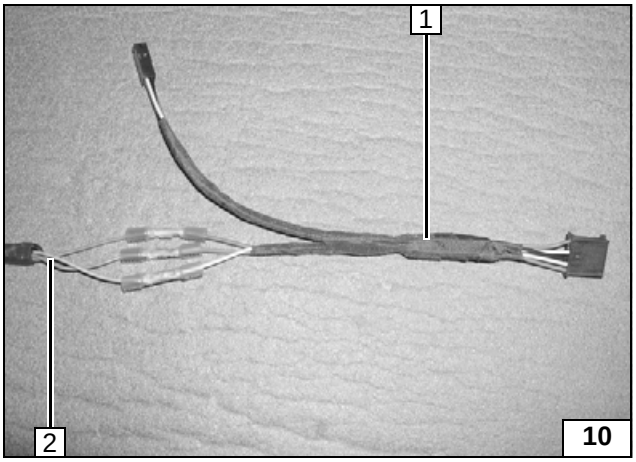
1 Push button



Telestart

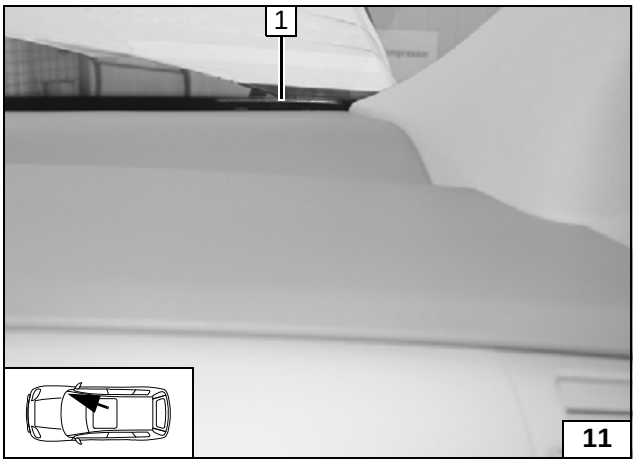
1 Velcro strip

Gluing on Velcro strips



Connect red (rt) and brown (br) wires of Y-adapter **1** with Telestart wiring harness **2** using same-colour wires. Connect yellow (ge) wire of Y-adapter with grey-blue (gr/bl) wire of Telestart wiring harness.

Connecting Y-adapter



1 Antenna

Installing antenna

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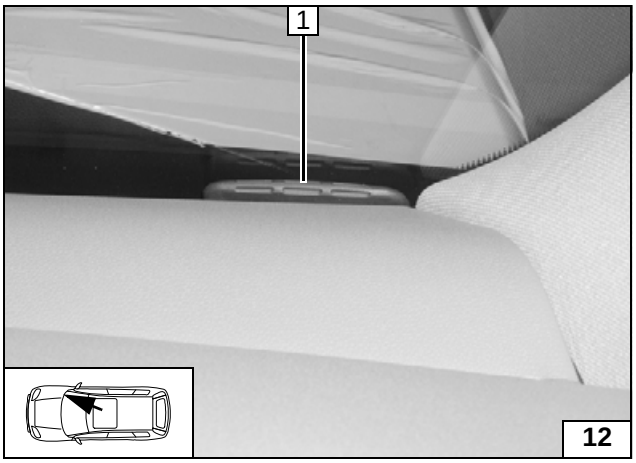
Remote Option (Thermo Call)

Installing antenna



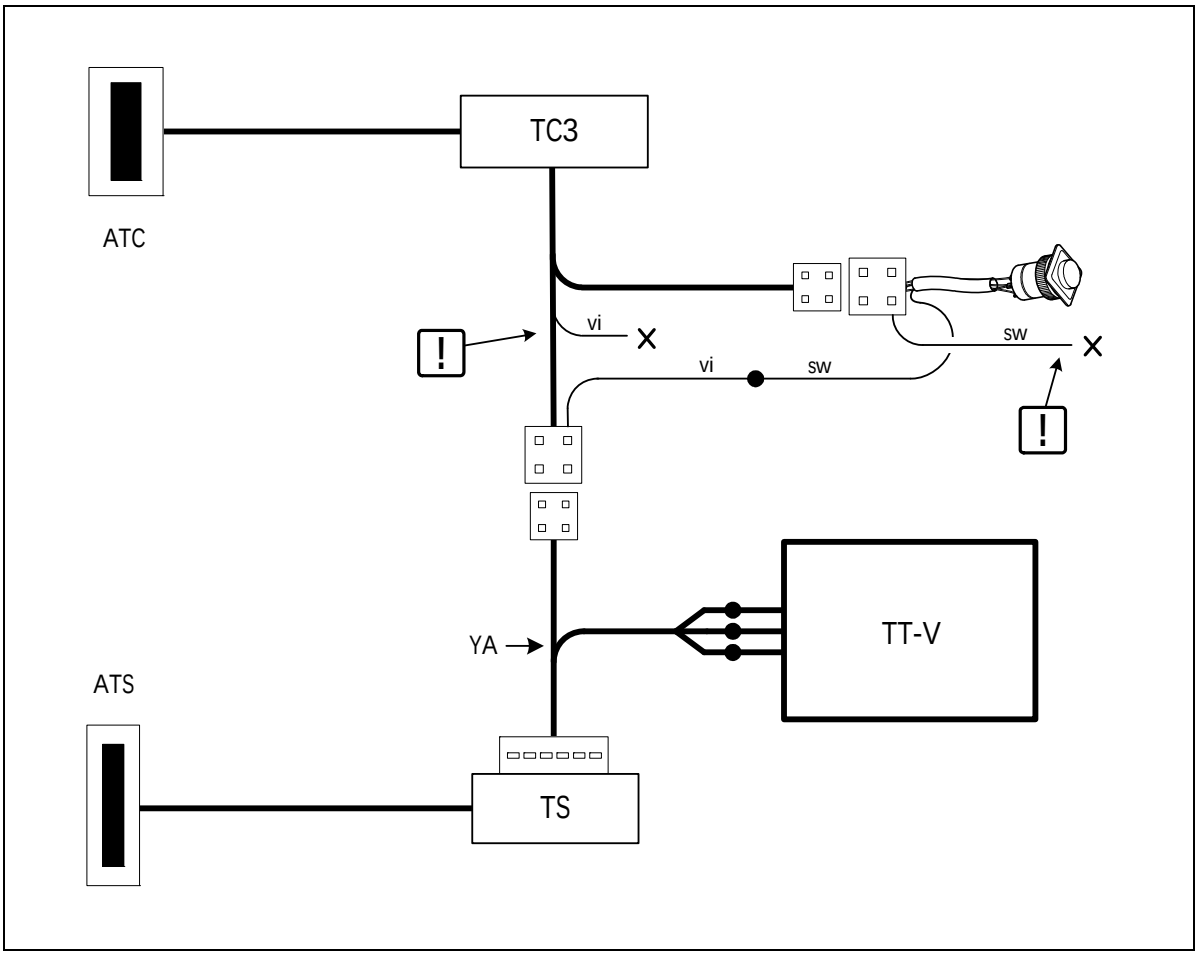
1 Antenna

Installing Thermo-Call



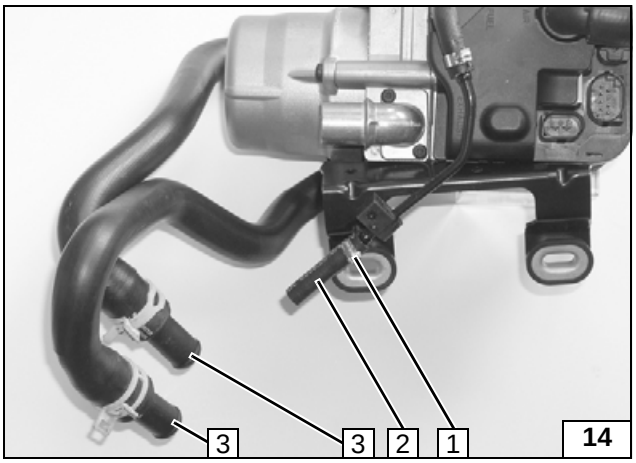
1 Thermo Call

Wiring diagram for Thermo-Call



Legend

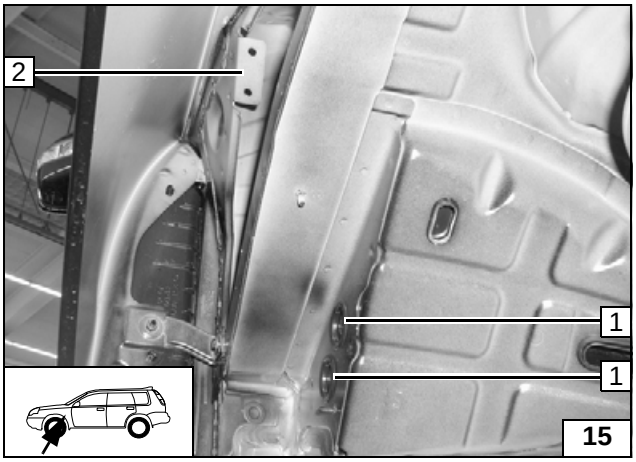
Webasto components		Colours and symbols	
TT-V	Heater	sw	black
YA	Y-adapter 9014604A	vi	violet
TS	Telestart receiver DAG configuration	!	Insulate wire ends and tie back
TC3	Thermo Call	X	Cutting point
ATC	Thermo-Call antenna		
ATS	Telestart antenna		
●	Connector		



Preparing Heater

Replace fuel line by hose section **2** and fasten it using 10mm dia. hose clamp **1** . Push 18x20mm dia. connecting pipe **3** [2x] into water hose and fasten it using hose clamp.

Inserting fuel hose, connecting pipes

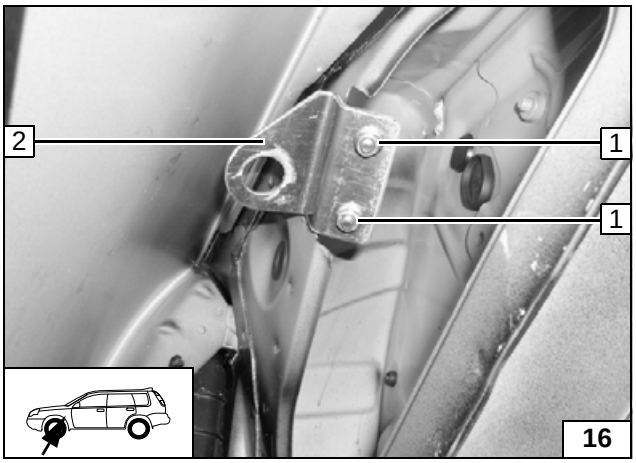


Preparing Installation Location

Centrally punch in the grommets using the 20mm dia. hollow punch.

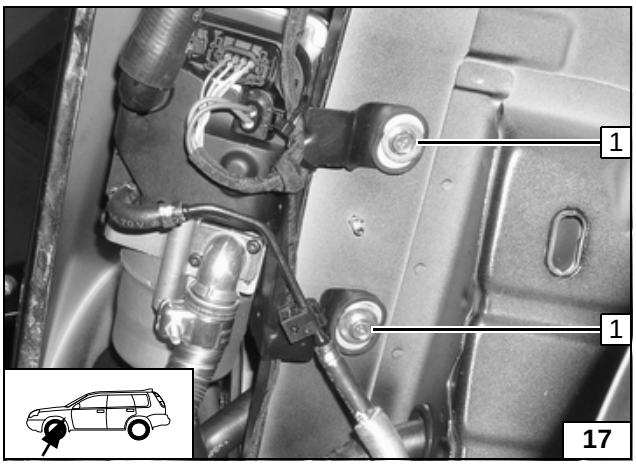
1 Grommets [2x]
2 Mounting tab of angle bracket

Removing grommets



1 M6x12 bolt, flanged nut [2x]
2 Angle bracket

Mounting angle bracket

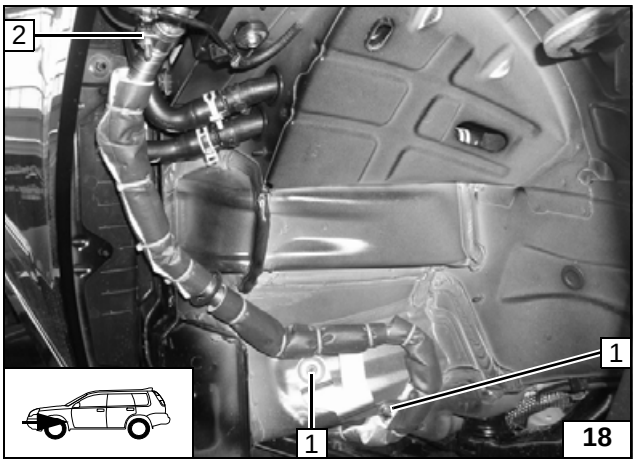


Installing Heater

Insert rubber mould piece of bracket into angle bracket, copy hole pattern, 9.1mm dia. hole [2x], install rivet nuts.

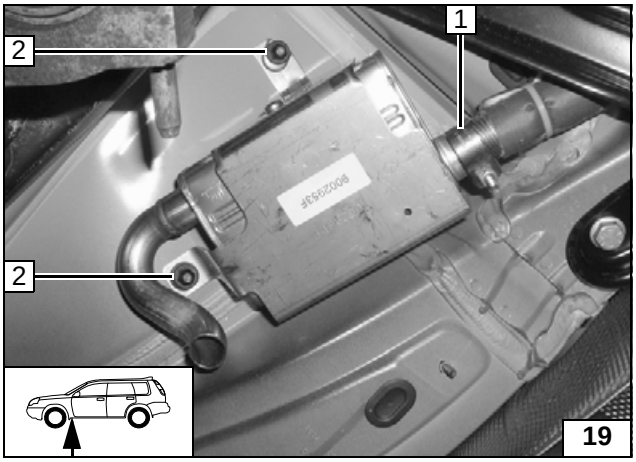
1 M6x25 bolt [2x], large diameter washer [2x]

Installing heater



1 Original vehicle stud bolt, M6 flanged nut [2x]
2 Hose clamp

Mounting exhaust pipe



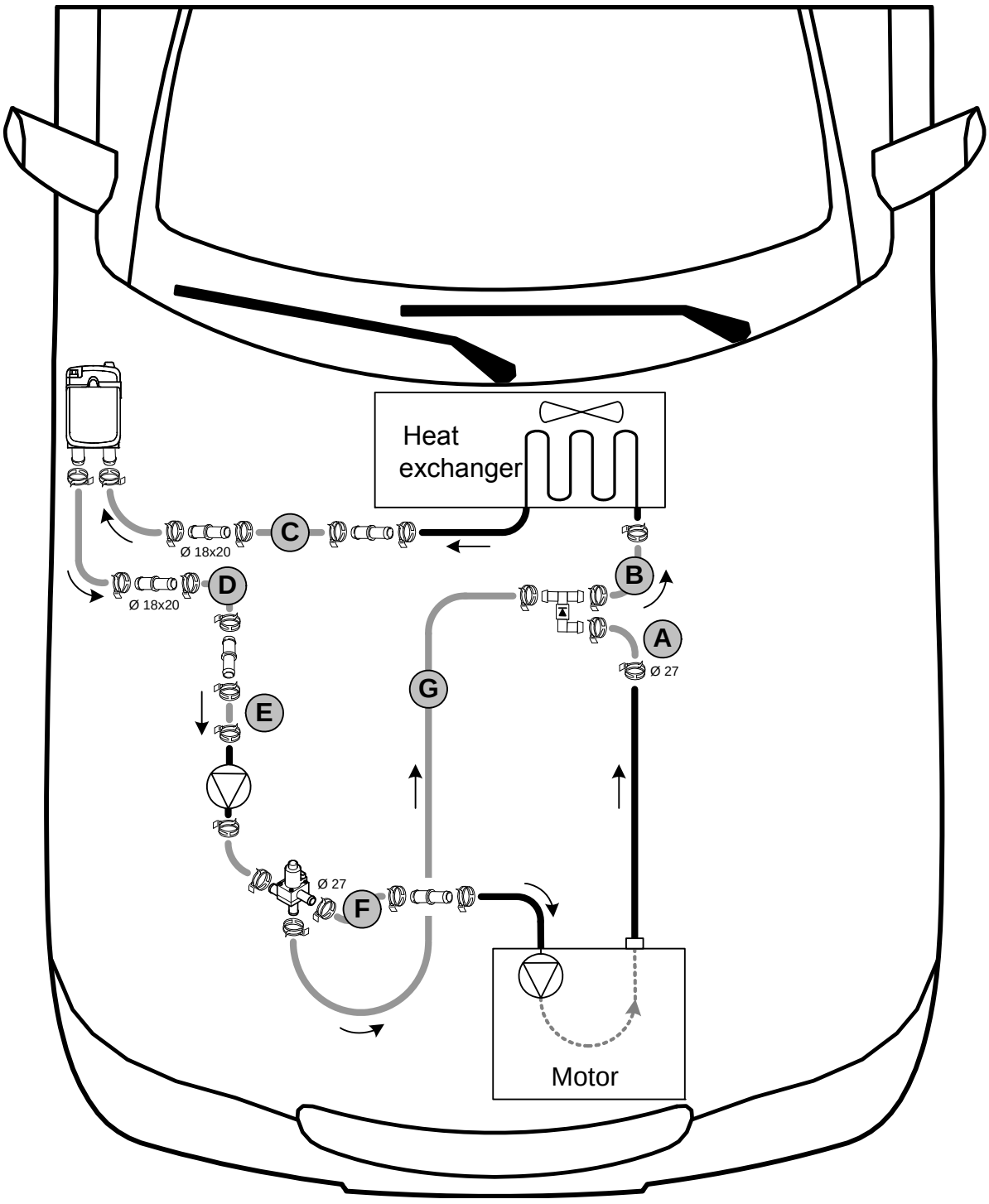
1 Hose clamp
2 Original vehicle stud bolt, plate nut [2x]

Mounting silencer

Coolant Connection

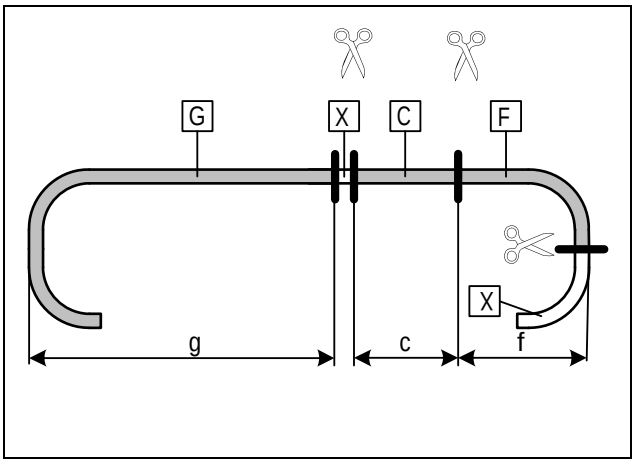
WARNING!
Tighten all hose clamps to 2.0 + 0.5 Nm.
Any coolant running off should be collected using an appropriate container.
Install hoses so that they are kink-free. Unless specified otherwise, always fasten using cable ties. Position hose clamps and spring band clamps so that no other hose can be damaged.
The connection should be based on the following diagram:

Coolant routing diagram



All clamps without a specific designation = 25mm dia. spring clips.
All connecting pipes without a specific designation = 18x18mm dia.

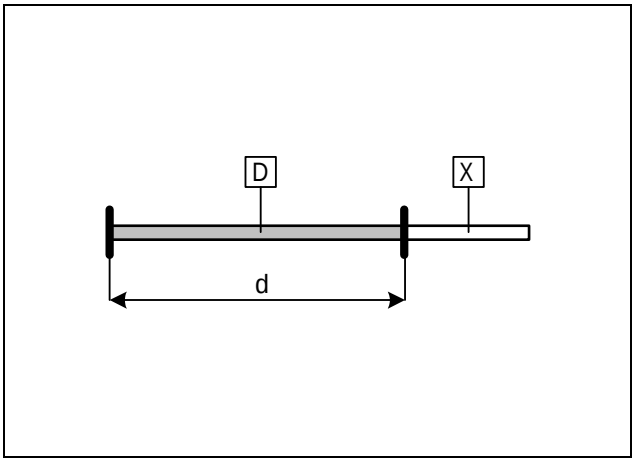
Cutting water hoses to length



c = 250mm
f = 130mm
g = 1800mm

Discard section **X**
Push short braided protection hoses onto hose **C** . Push long braided protection hoses onto hose **G** and cut them to length.

Cutting water hoses to length

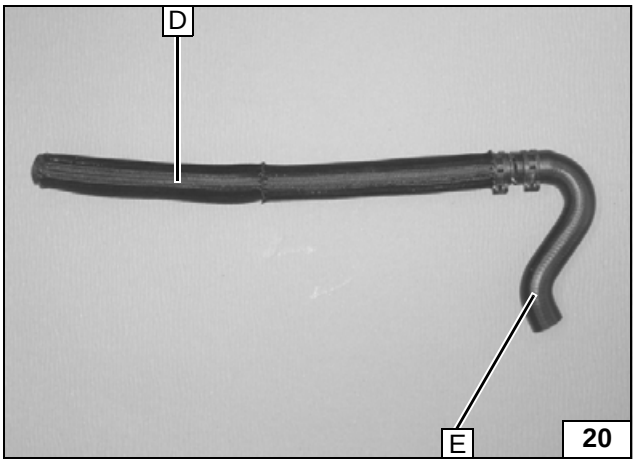


d = 370mm

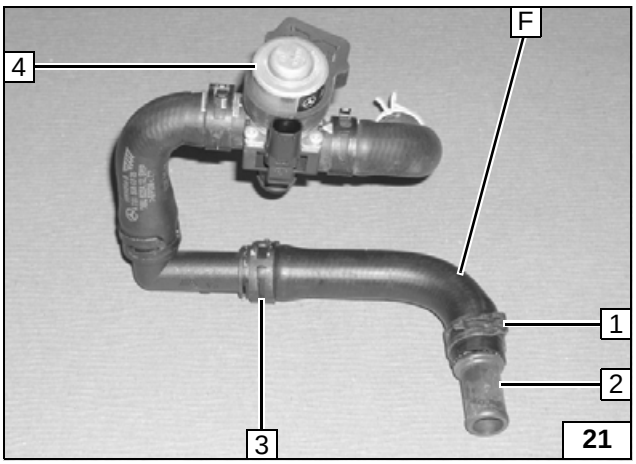
Push 2 short braided protection hoses onto hose **D**.

Moulded hose **A** = No. 63159A
Moulded hose **B** = No. 431397
Moulded hose **E** = No. 88383A

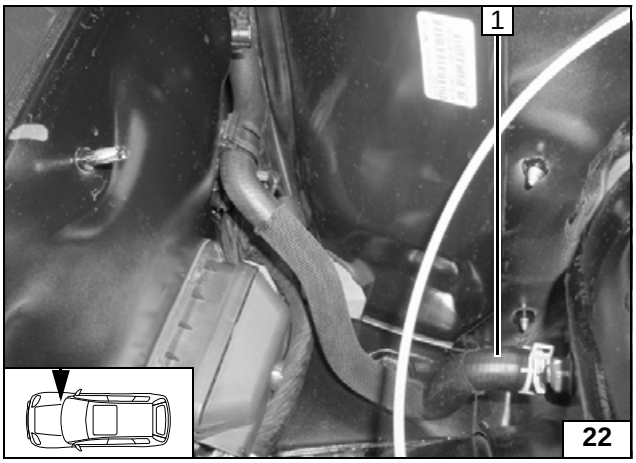
Connecting water hoses



Preparing solenoid valve

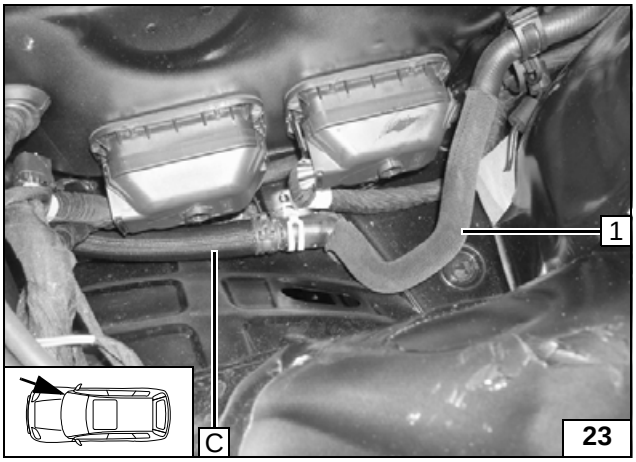


F Moulded hose
1 25 mm dia. spring clip
2 18x18 connecting pipe
3 27mm dia. spring clip
4 Premounted solenoid valve



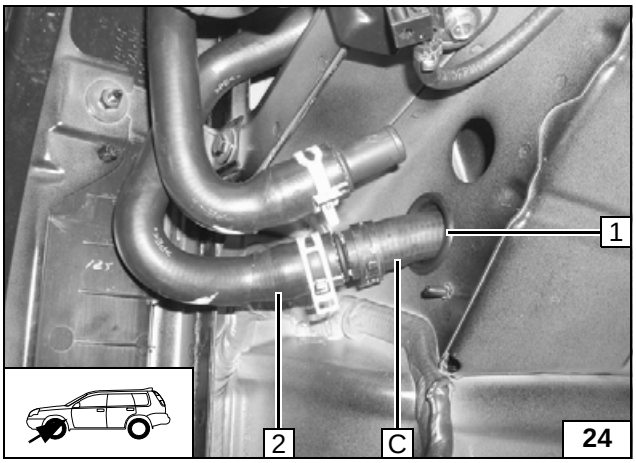
1 Hose of heat exchanger outlet

Removing hose of water pipe



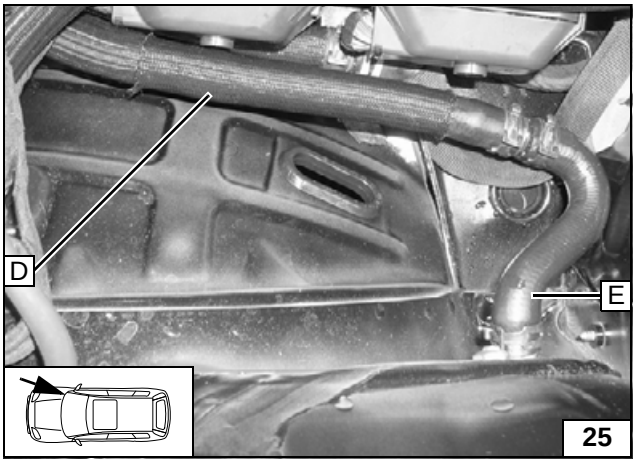
1 Hose of heat exchanger outlet
C Hose

Routing in engine compartment

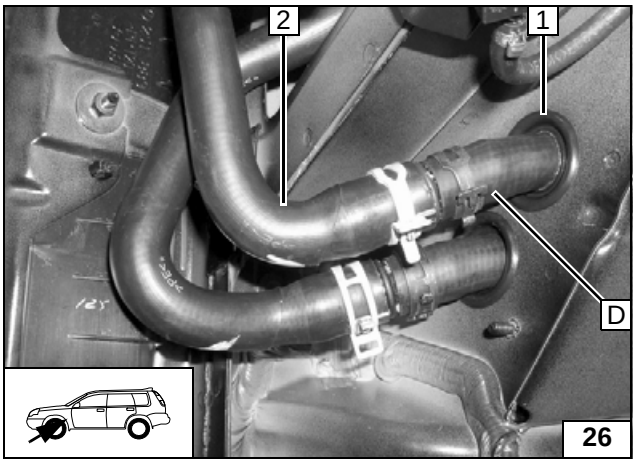


1 Grommet
C Hose
3 Hose of heater inlet

Connection to heater inlet

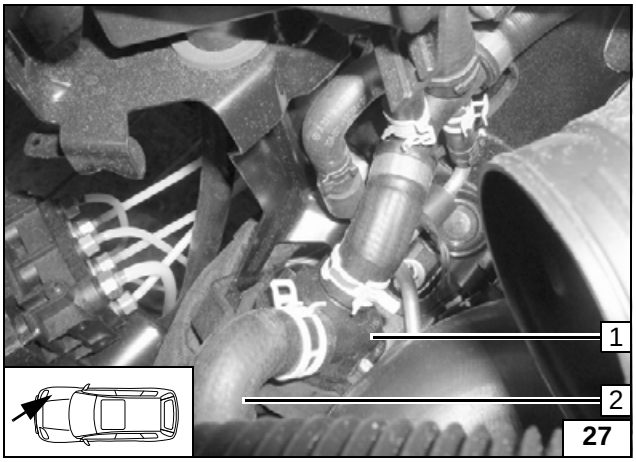


Connecting hose group to water pipe



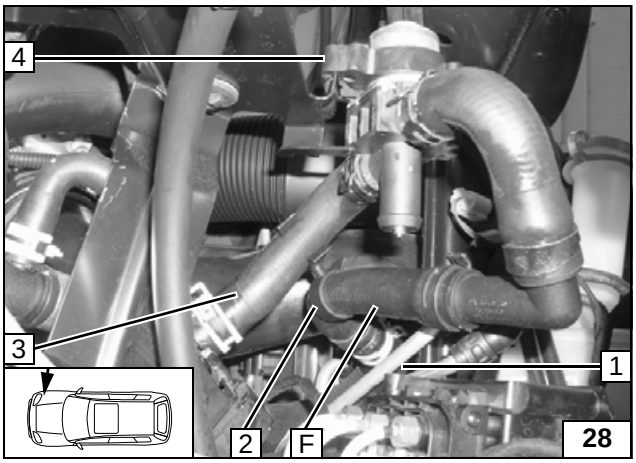
1 Grommet
D Hose
2 Hose of heater outlet

Connection to heater outlet



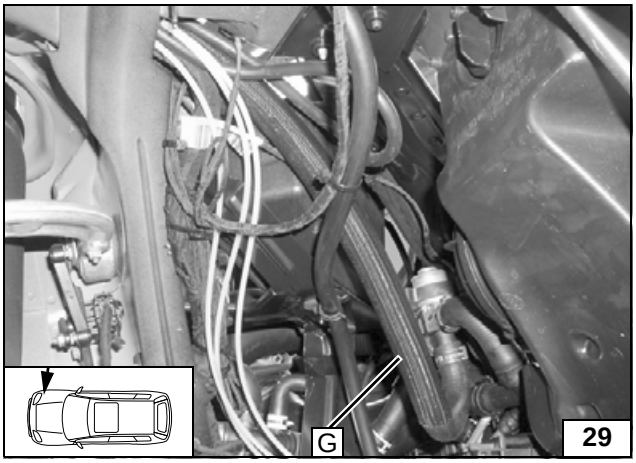
Remove hose **2** of original vehicle circulating pump **1**.

Dismantling hose



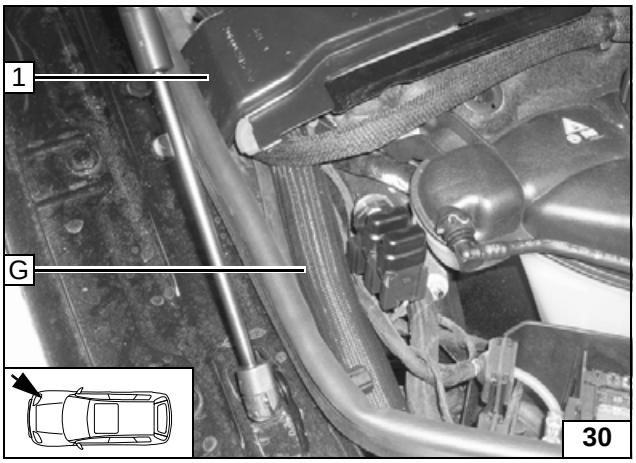
Push bracket of solenoid valve **4** onto mounting tab, mount hose **3** on circulating pump, connect hose **F** to engine **1** with the hose detached, install spacer **2**.

Mounting solenoid valve



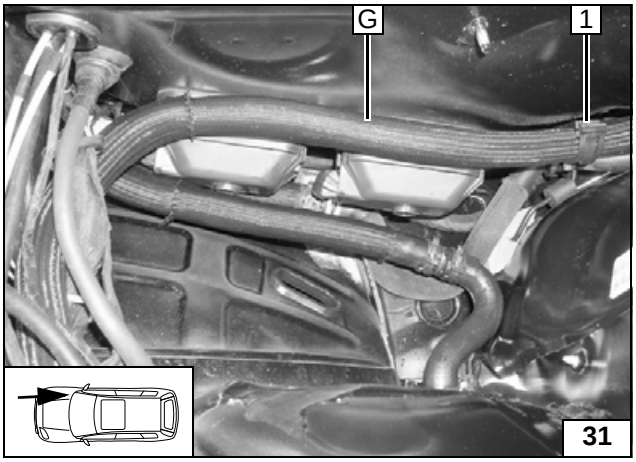
G Hose leading to heat exchanger

Installing hose on solenoid valve



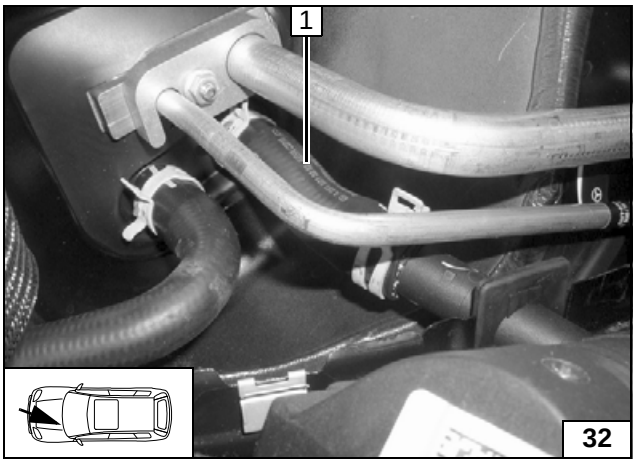
G Hose
1 Cover plate

Routing water hose beneath cover plate



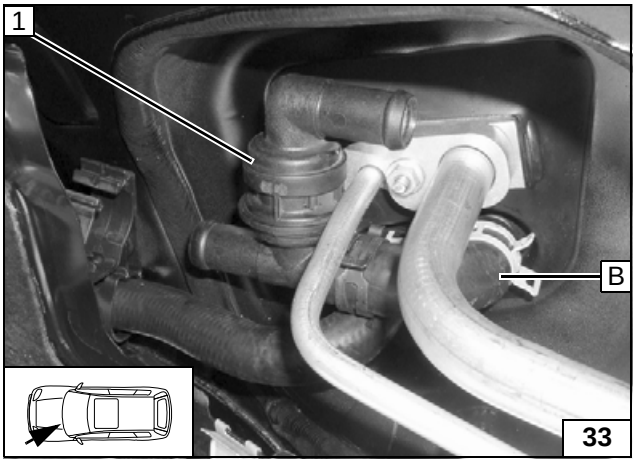
Fasten hose **G** in upper hose bracket **1**, insert original vehicle hose into lower bracket.

Routing in engine compart-ment



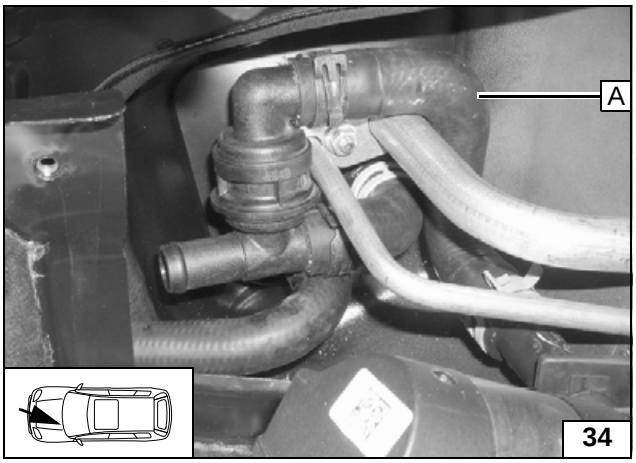
1 Hose of engine outlet leading to the heat exchanger inlet

Removing hose



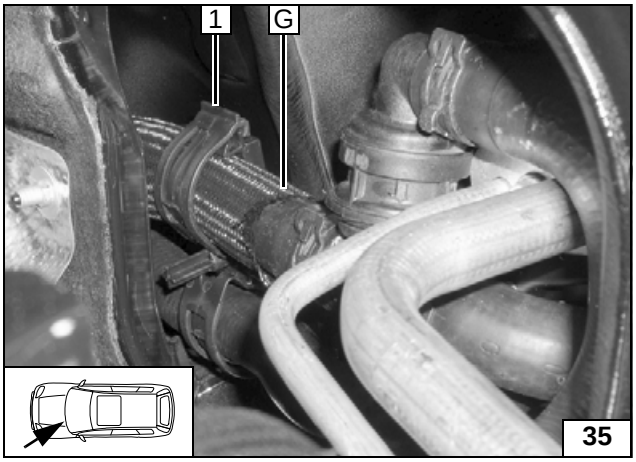
B Moulded hose
1 Check valve.

Mounting check valve



A Moulded hose

Mounting moulded hose



1 Original vehicle hose bracket
G Hose

Fastening check valve

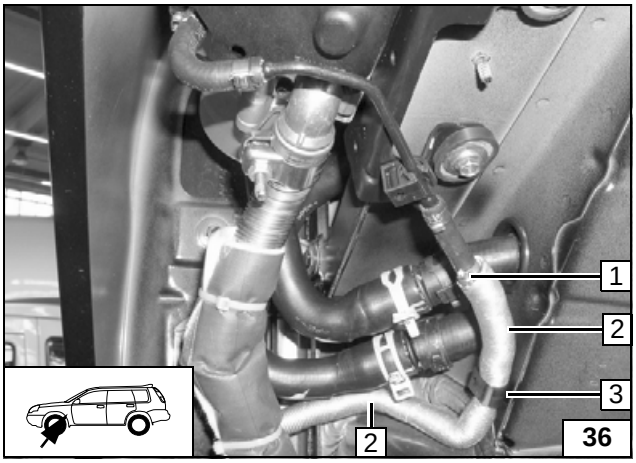
Fuel Connection

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.

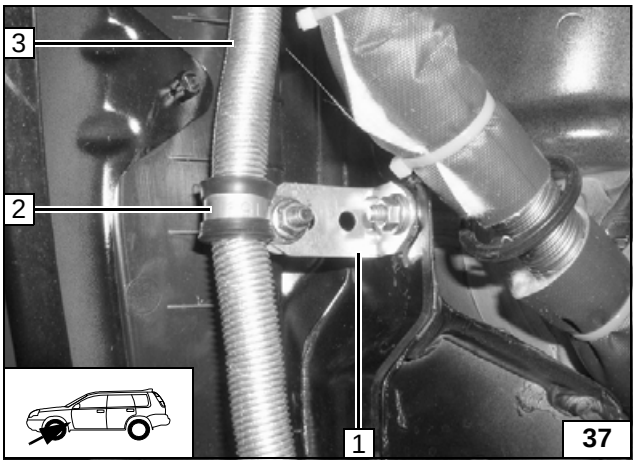
WARNING!
The fuel line and wiring harness are routed to the metering pump as shown in the wiring harness routing diagram.



Pull fuel line into heat protection hose. Screw fastening clip **3** onto original vehicle stud bolt.

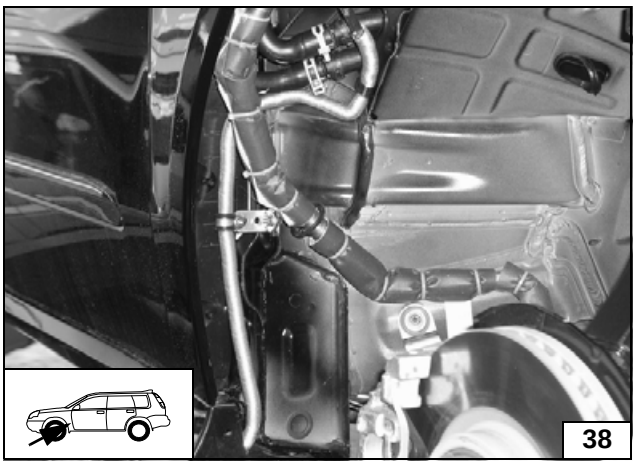
1 10mm dia. hose clamp
2 Heat protection hose

Connection on heater

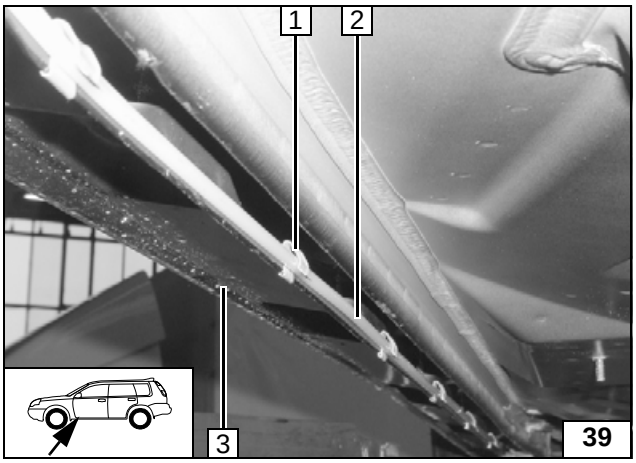


1 Angle bracket, M6x16 bolt, large diameter washer, flanged nut
2 P-clamp, M6x16 bolt, flanged nut
3 Heat protection hose

Fastening angle bracket

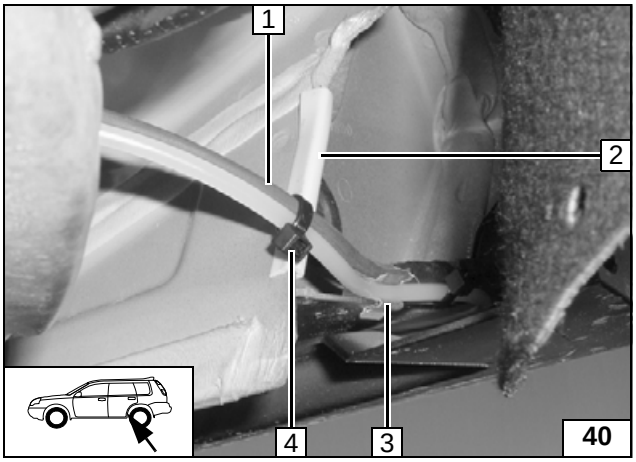


Routing of heat protection hose



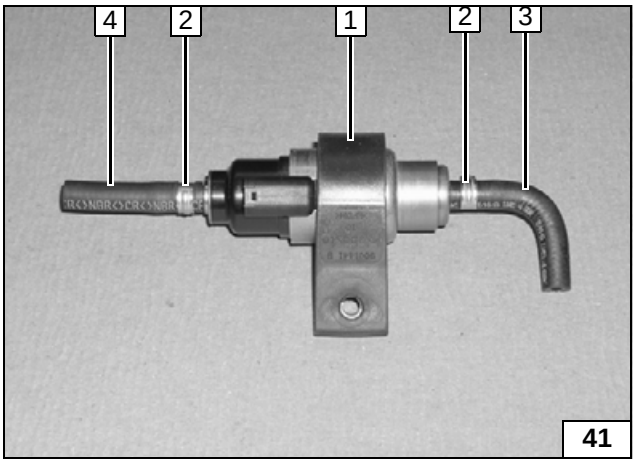
Fasten fuel line **2** to door sill cover **3** using clips **1** [6x] together with the metering pump wiring harness.

Routing fuel line



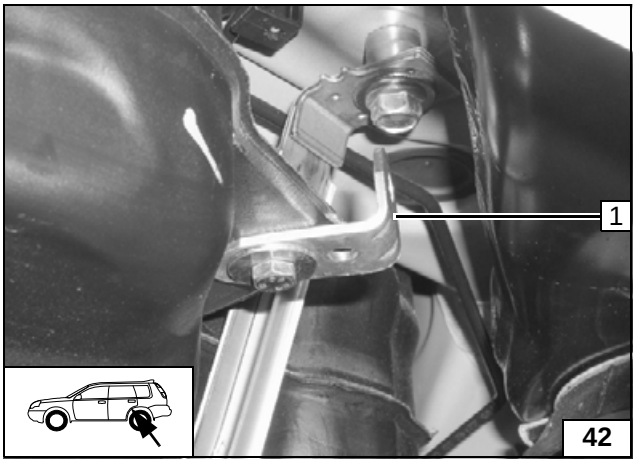
1 Metering pump wiring harness
2 Edge protection
3 Fastening clip
4 Cable tie

Routing fuel line



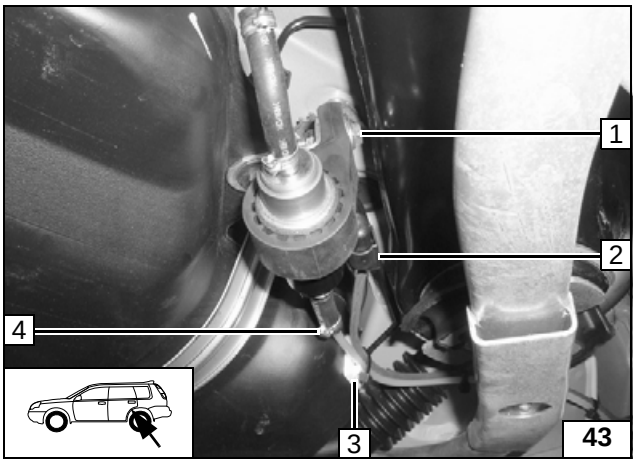
1 Bracket of metering pump
2 10 mm dia. hose clamp [2x]
3 Moulded hose
4 Hose section

Premounting metering pump



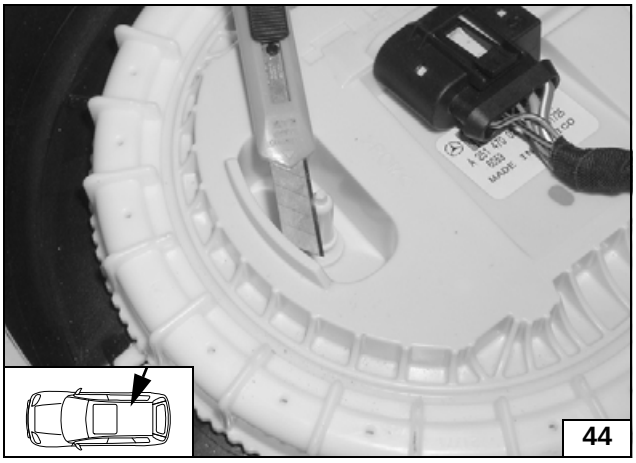
1 Angle bracket, M6x20 bolt, large diameter washer, flanged nut

Mounting angle bracket

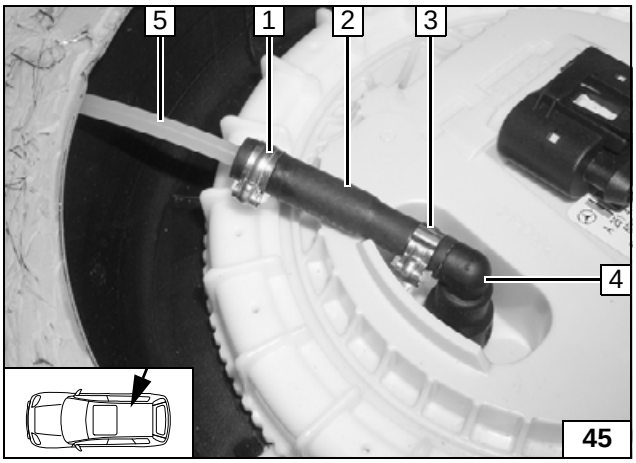


1 M6x30 bolt, flanged nut
2 Metering pump connector
3 Adhesive base, cable tie
4 10 mm dia. hose clamp

Mounting metering pump

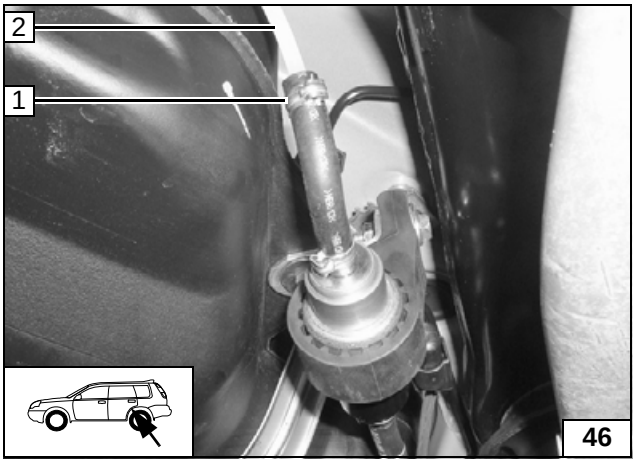


Cutting off nipple of fuel connection piece



1 10mm dia. hose clamp
2 Moulded hose 3.5mm x 4.5mm dia.
3 8mm dia. hose clamp
4 Fuel coupling
5 Fuel line

Connection to fuel-tank sending unit



1 10mm dia. hose clamp
2 Fuel line

Connection to intake side

Final Work

Teaching transmitter of radio remote control "Telestart"

- Connect the battery.
- Pull the fuse (1A) of Telestart out of fuse holder of 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.

Webasto Thermo & Comfort SE
Postfach 1410
82199 Gilching
Germany
Internet: www.webasto.com
Technical Extranet:
http://dealers.webasto.com

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