Water Heater

Thermo Top Evo Parking Heater
‘Island based circuit’

E1
00 0258

Installation Documentation
Mercedes Benz GLE 450 (166) / GLE 450 Coupe (292)

Validity

Manufacturer	Model	Type	EG BE No. / ABE
Mercedes Benz	GLE 450 AMG	166	e1 * 2007 / 46 * 0598 * ...
Mercedes Benz	GLE 450 AMG Coupe	292	e1 * 2007 / 46 * 0598 * ...

Motorisation	Fuel	Transmission type	Output in kW	Displacement in cm³	Engine code
3.0 B	Petrol	9G-Tronic	270	2996	M276

9G-Tronic = automatic transmission

From Model Year 2016
Left-hand drive vehicle

Verified equipment variants:
Automatic air-conditioning Thermotronic
Headlight washer system
LED daytime running lights
LED main headlights
ECO start-stop function
Front fog lights
4 Matic
AMG Styling package code 772
Euro 6

Not verified: Passenger compartment monitoring

Total installation time: approx. 13 hours

Mercedes Benz GLE 450 (166) / GLE 450 Coupe (292)

Table of Contents

Necessary Components

- Basic delivery scope Thermo Top Evo 4kW according to price list
- Installation kit for Mercedes Benz GLE 450 (166) / GLE 450 Coupe (292) Petrol: **1325924A**
- In case of Telestart, heater control as well as indicator lamp in accordance with price list and in consultation with end customer

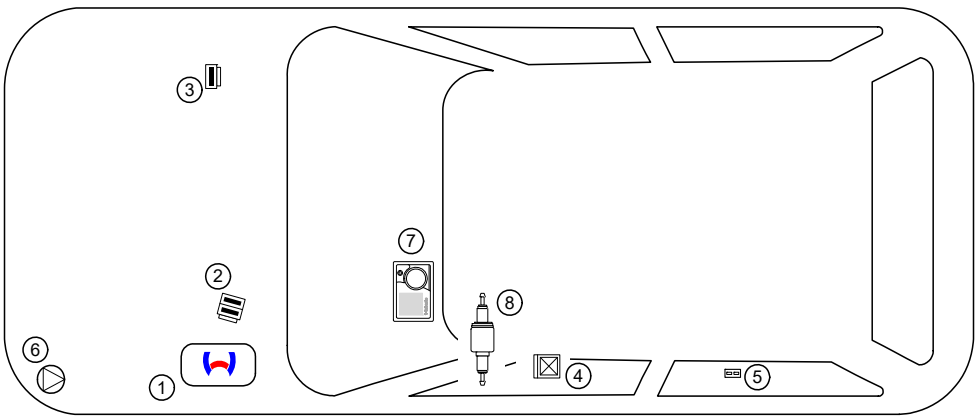
Installation instructions:

- Arrange for the vehicle to be delivered with the tank only about ¼ full.
- The installation location of the push button in case of Telestart or ThermoCall should be confirmed with the end customer.
- Depending on the space required and the vehicle manufacturer's instructions, we recommend the use of a vehicle battery with a higher electrical capacity.
- The heater will be integrated into the ‘island’ coolant circuit and is used to heat up the passenger compartment. The engine is not pre-heated.

Installation Overview

Legend:

1. Heater
2. Engine compartment fuse holder
3. Main fuse
4. CAN Module
5. CAN node
6. Circulating pump
7. MultiControl CAR
8. Metering pump



Information on Total Installation Time

The total installation time includes the time needed for mounting and demounting the vehicle-specific components, the heater specific installation time and all other times required for the system integration and initial start-up of the heater.
The total installation time may vary for vehicle equipment other than provided.

Mercedes Benz GLE 450 (166) / GLE 450 Coupe (292)

Information on Operating and Installation Instructions

1 Important information (not complete)

1.1 Installation and repair

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.

To install and repair Webasto heating and cooling systems you need to have completed a special company training course and have the appropriate technical documentation, special tools and special equipment.

Installation and repair may ONLY be carried out by persons trained and certified in a Webasto training course. NEVER try to install or repair Webasto heating or cooling systems if you have not completed a Webasto training course, you do not have the necessary technical skills and you do not have the technical documentation, tools and equipment available to ensure that you can complete the installation and repair work properly.

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

1.2 Operation

To ensure safe operation, we recommend having the heater checked every two years by an authorised Webasto dealer, especially when used over a long period and/or under extreme environmental conditions.

Do not operate the heater in closed rooms due to the danger of poisoning and suffocation.

Always switch off the heater before refuelling.

The heater may only be used with the prescribed fuel diesel (DIN EN 590) or petrol (DIN EN 228).

The heater may not be cleaned with a high-pressure cleaner.

1.3 Please note

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

To become familiar with and understand all functions and properties of the heater, the operating instructions must be read carefully and observed at all times.

For proper, safe installation and repair work, the installation instructions with all warnings and safety information must be carefully read and observed at all times. Please always contact a workshop authorised by Webasto for all installation and repair work.

Important

Webasto shall assume no liability for defects, damage and injuries resulting from a failure to observe the installation, repair and operating instructions of the information contained in them.

This liability exclusion particularly applies to improper installations and repairs, installations and repairs by untrained persons or in the case of a failure to use genuine spare parts.

The liability due to culpable disregard to life, limb or health and due to damage or injuries caused by a wilful or reckless breach of duty remain unaffected, as does the obligatory product liability.

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 wire ends and tie back. Connectors on electronic components must audibly snap into place during assembly.

Sharp edges should be fitted with rub protection. Spray unfinished body areas, e.g. drilled holes, with anti-corrosion wax (Tectyl 100K).

Observe the instructions and guidelines of the respective vehicle manufacturer for demounting and mounting vehicle specific components!

The initial start-up is to be executed with the Webasto Thermo Test Diagnosis.

When installing a programmable control module (e.g. a PWM Gateway), the corresponding settings must be checked or adjusted.

2 Statutory regulations governing installation

Guidelines	Thermo Top Evo
Heating Directive ECE R122	E1 00 0258
EMC Directive ECE R10	E1 04 5627

Note

The regulations of these guidelines are binding in the scope of the Directive 70/156/EEC and/or 2007/46/EC (for new vehicle models from 29/04/2009) and should also be observed in countries in which there are no special regulations.

Important

Failure to follow the installation instructions will result in the invalidation of the type approval for the heater and therefore invalidation of the general **homologation of the vehicle**.

Note

The heater is licensed in accordance with paragraph 19, section 3, No. 2b of the StVZO (German Road Traffic Licensing Authority).

2.1 Excerpt from ECE regulation 122 (heating system) paragraph 5 for the installation of the heater

Beginning of excerpt.

ANNEX VII

REQUIREMENTS FOR COMBUSTION HEATERS AND THEIR INSTALLATION

1. GENERAL REQUIREMENTS

1.7.1. A clearly visible tell-tale in the operator's field of view shall inform when the combustion heater is switched on or off.

2. VEHICLE INSTALLATION REQUIREMENTS

2.1. Scope

2.1.1. Subject to paragraph 2.1.2. combustion heaters shall be installed according to the requirements of this Annex.

2.1.2. Vehicles of category O having liquid fuel heaters are deemed to comply with the requirements of this Annex.

2.2. Positioning of heater

2.2.1. Body sections and any other components in the vicinity of the heater must be protected from excessive heat and the possibility of fuel or oil contamination.

2.2.2. The combustion heater shall not constitute a risk of fire, even in the case of overheating. This requirement shall be deemed to be fulfilled if the installation ensures an adequate distance to all parts and suitable ventilation, by the use of fire resistant materials or by the use of heat shields.

2.2.3. In the case of M2 and M3 vehicles, the heater must not be positioned in the passenger compartment. However, an installation in an effectively sealed envelope which also complies with the conditions in paragraph 2.2.2 may be used.

2.2.4. The label referred to in paragraph 1.4 or a duplicate, must be positioned so that it can be easily read when the heater is installed in the vehicle.

2.2.5. Every reasonable precaution should be taken in positioning the heater to minimise the risk of injury and damage to personal property.

2.3. Fuel supply

2.3.1. The fuel filler must not be situated in the passenger compartment and must be provided with an effective cap to prevent fuel spillage.

2.3.2. In the case of liquid fuel heaters, where a supply separate to that of the vehicle is provided, the type of fuel and its filler point must be clearly labelled.

2.3.3. A notice, indicating that the heater must be shut down before refuelling, must be affixed to the fuelling point. In addition a suitable instruction must be included in the manufacturer's operating manual.

2.4. Exhaust system

2.4.1. The exhaust outlet must be located so as to prevent emissions from entering the vehicle through ventilators, heated air inlets or opening windows.

2.5. Combustion air inlet

2.5.1. The air for the combustion chamber of the heater must not be drawn from the passenger compartment of the vehicle.

2.5.2. The air inlet must be so positioned or guarded that blocking by rubbish or luggage is unlikely.

2.6. Heating air inlet

2.6.1. The heating air supply may be fresh or recirculated air and must be drawn from a clean area not likely to be contaminated by exhaust fumes emitted either by the propulsion engine, the combustion heater or any other vehicle source.

2.6.2. The inlet duct must be protected by mesh or other suitable means.

2.7. Heating air outlet

2.7.1. Any ducting used to route the hot air through the vehicle must be so positioned or protected that no injury or damage could be caused if it were to be touched.

2.7.2. The air outlet must be so positioned or guarded that blocking by rubbish or luggage is unlikely.

End of excerpt.

In multilingual versions the German language is binding.

Mercedes Benz GLE 450 (166) / GLE 450 Coupe (292)

Information on Validity

This installation documentation applies to Mercedes Benz GLE 450 (166) / GLE 450 Coupe (292) Petrol vehicles - for validity, see page 1 - from model year 2016 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.

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

Technical Information

Special Tools
- Hose clamp pliers for auto-tightening hose clamps
- Hose clamp pliers for Clic hose clamps of type W
- Automatic wire stripper, 0.2 - 6mm²
- Crimping pliers for cable lug / tab connector, 0.5 - 6mm²
- Torque wrench for 2.0 - 10 Nm
- Hose clamping pliers
- Metric thread-setter kit
- Deep-hole marker
- Webasto Thermo Test Diagnosis with current software

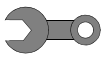
Dimensions
- All dimensions are in mm.

Tightening torque values
- Tightening torque values of 5x13 heater bolts and 5x11 heater stud bolts = 8Nm.
- Tightening torque value of 5x15 water connection piece retaining plate bolt = 7Nm.
- Tighten other bolt connections in accordance with manufacturer's instructions or in accordance with state-of-the-art-technology.

Explanatory Notes on Document

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

Mechanical System



Electrical System

Coolant Circuit

Combustion Air

Fuel

Exhaust Gas

Software

Special features are highlighted using the following symbols:

Specific risk of damage to components.

Specific risk due to electrical voltage.

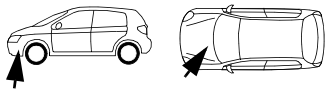
Specific risk of injury or fatal accidents.

Specific risk of fire or explosion.

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

Reference to a special technical feature.

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



Tightening torque according to the manufacturer's vehicle-specific documents.

Preliminary Work

Vehicle

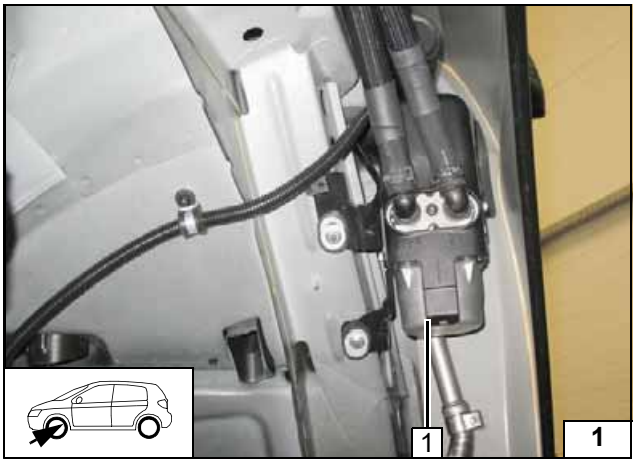
- Open the fuel tank cap, ventilate the tank.
- Close the fuel tank cap again.
- Disconnect the battery. (Move the front passenger's seat forward and remove the battery cover under the seating).
- Depressurise the cooling system.
- Pull off the front transversal sealing strip of the coolant reservoir, remove the trim on the left and right-hand sides.
- Remove the lateral segment of the engine compartment partition wall over the water hoses.
- Detach the coolant expansion tank.
- Remove the design cover of the engine.
- Remove the cover of the fuse box on the right-hand side in the engine compartment.
- Remove the left-hand front wheel.
- Remove the two-piece wheel well trim of the left front wheel.
- Remove the lower engine trim.
- Remove the vehicle underbody trim.
- Remove the A-pillar trim in the driver's side footwell.
- Detach the upper B-pillar trim on the driver's side.
- Remove the lower B-pillar trim on the driver's side.
- Detach the lower footwell trim on the driver's side.
- Remove the footmat on the driver's side and remove the footwell trim.
- Remove the door sill cover on the driver's side in the front and in the rear on the left.

The following work should only be performed during the corresponding installation sequence:

- Remove the fuel tank according to the manufacturer's instructions.

Heater

- Remove years that do not apply from the type and duplicate label.
- Attach the duplicate label (type label) visibly in the appropriate place in the engine compartment.



Heater Installation Location

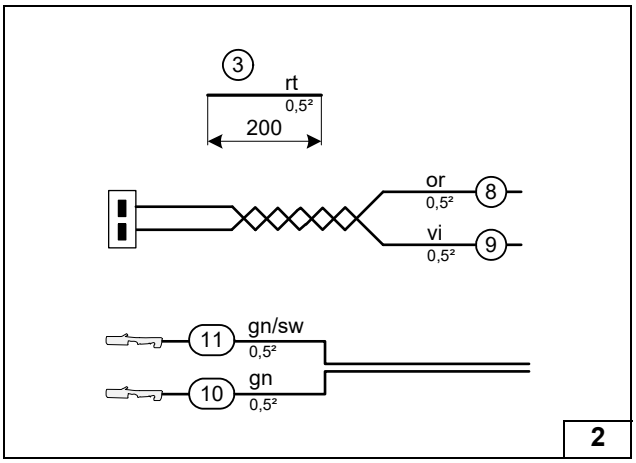
1 Heater

Installation location

Preparing Electrical System

Wire sections retain their numbering in the entire document.
Produce all following electrical connections as shown in the wiring diagram.

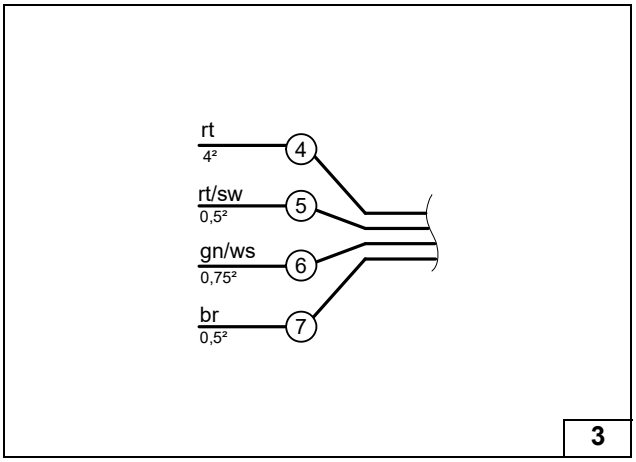
Cutting to length / assigning wires



2

- ⑧ Orange (or) wire of CAN wiring harness
- ⑨ Violet (vi) wire of CAN wiring harness
- ⑩ Green (gn) wire of residual heat pump wiring harness
- ⑪ Green/black (gn/sw) wire of residual heat pump wiring harness

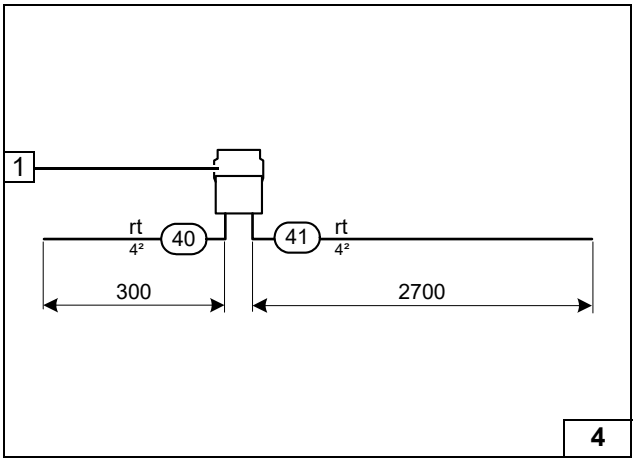
Assigning wiring harness



3

- ④ Red (rt) wire of heater wiring harness, F2
- ⑤ Red/black (rt/sw) wire of heater wiring harness, X10
- ⑥ Green/white (gn/ws) wire of heater wiring harness, X1/5
- ⑦ Brown (br) wire of heater wiring harness, earth 31

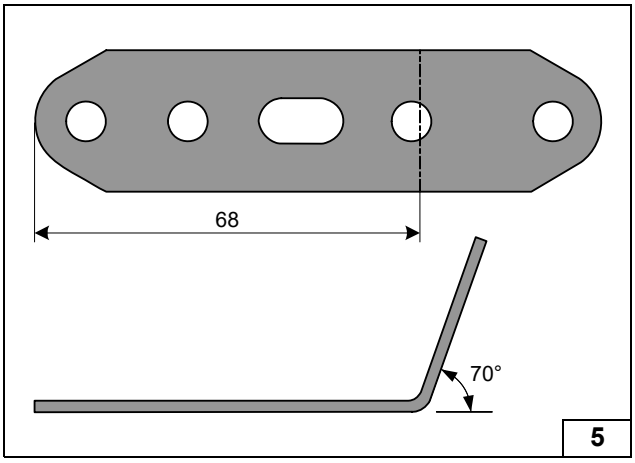
Preparing wiring harness for positive extension cable with fuse F0



4

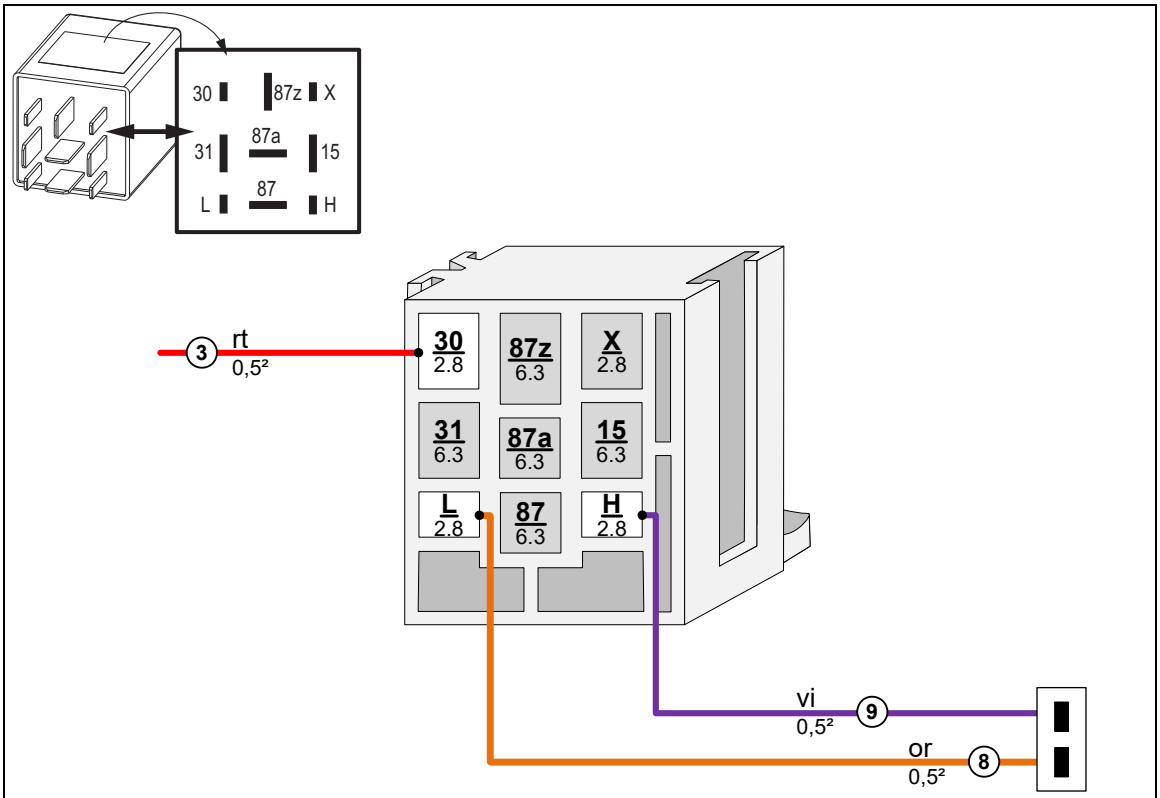
1 30A fuse F0

Angling down fuse holder perforated bracket of engine compartment



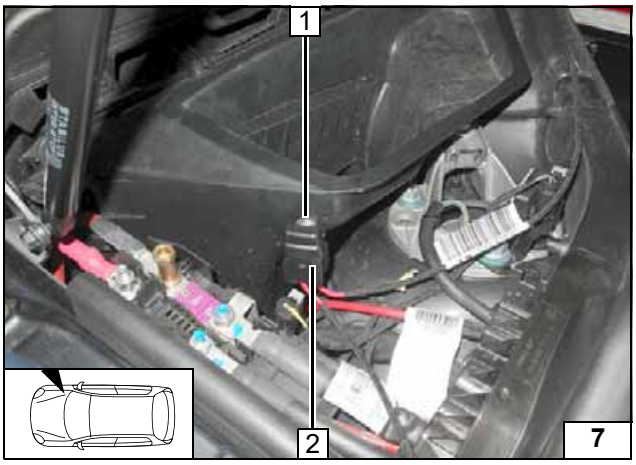
5

Preparing CAN-module socket



6

Installing fuse F0

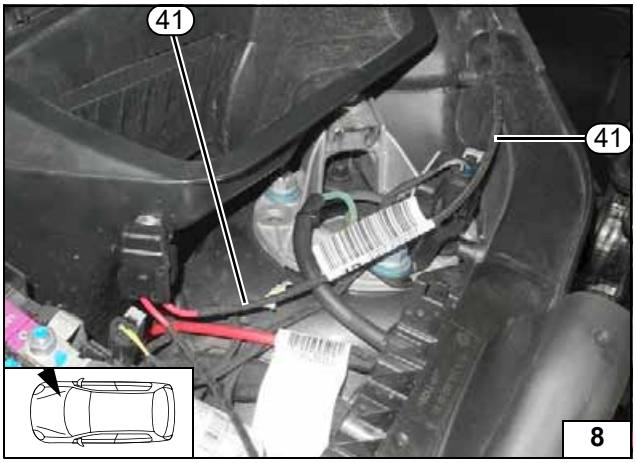


7

When drilling, watch components located behind.

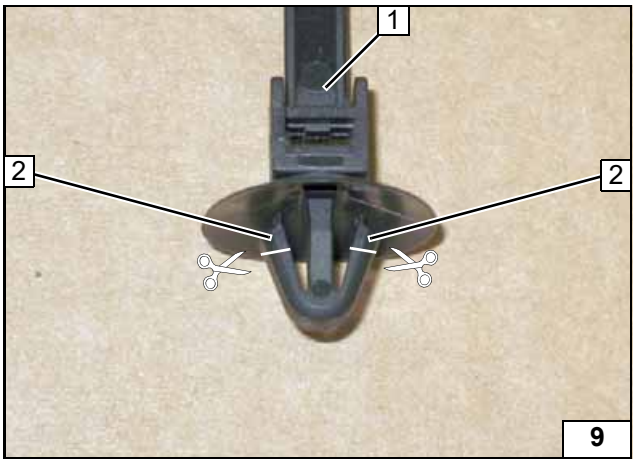
1 5.5 mm dia. hole; M5x16 bolt, washers, retaining plate of fuse holder, nut
2 Main fuse F0 30A (insert only during 'final work')

Routing lines



8

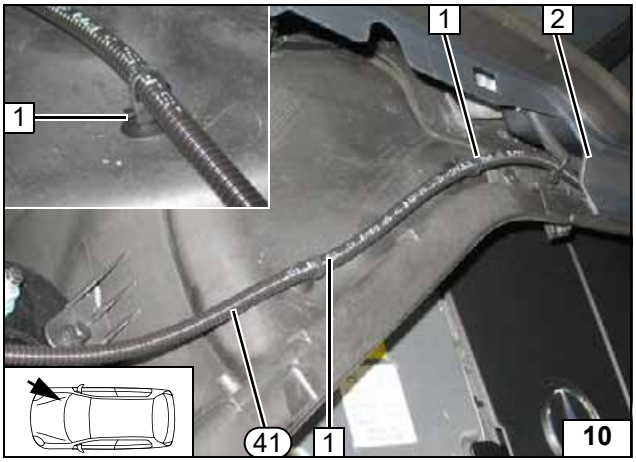
(41) Red (rt) wire from wiring harness of positive extension cable



Prepare the clip-type cable tie [2x] for attaching the positive extension cable.

1 Shorten clip-type cable tie
2 Discard sections

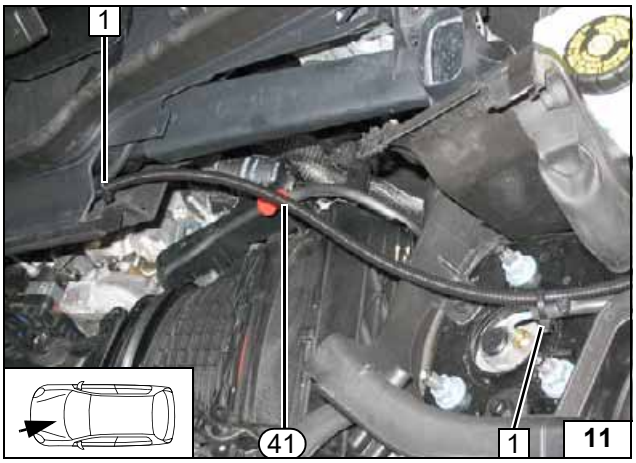
Preparing clip-type cable tie [2x]



6 mm hole [2x] at position **1**.
When drilling, watch components located behind.

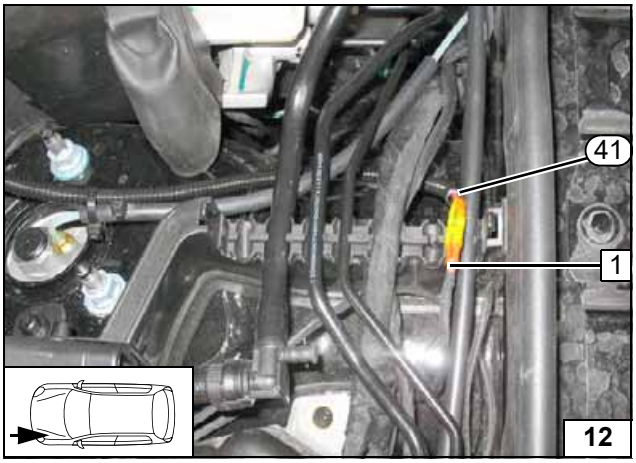
1 Clip-type cable tie [2x]
2 Cable tie
(41) Red (rt) wire from wiring harness of positive extension cable

Routing positive extension cable



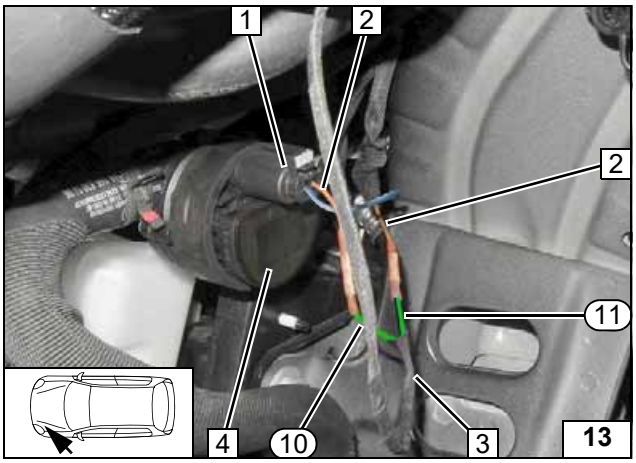
1 Cable tie [2x]
(41) Red (rt) wire from wiring harness of positive extension cable

Routing positive extension cable



Connect positive wire of heater wiring harness **1** and (41) red (rt) wire from wiring harness of positive extension cable.

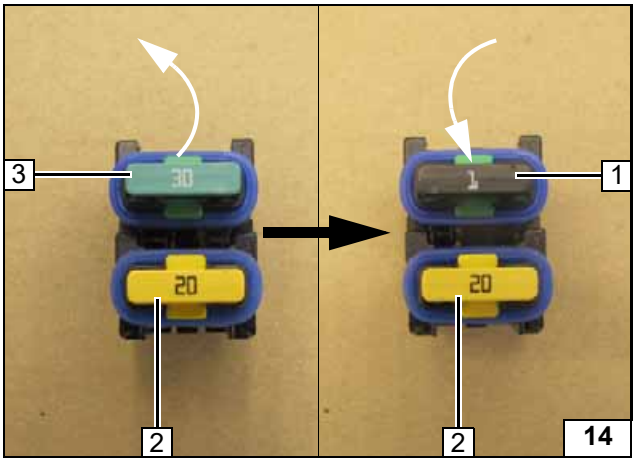
Connecting positive extension cable



Cut off brown (br) wire **2** from residual heat pump connector **1** and connect to green (gn) (10) and green/black (gn/sw) (11) wires.

3 Residual heat pump wiring harness
4 Residual heat pump

Connection of residual heat pump wiring harness



Replace 30A passenger compartment main fuse F2 **3** with 1A fuse **1**.

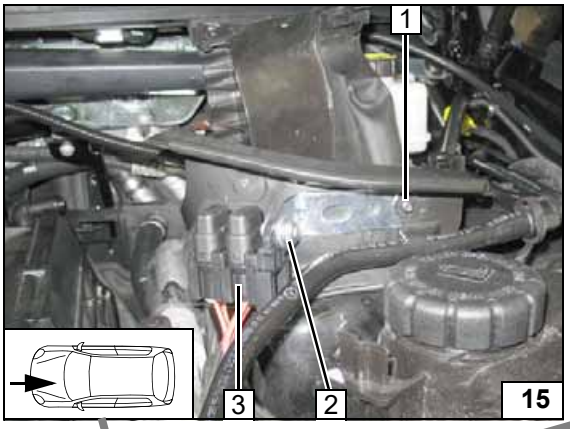
2 20A heater fuse F1

Preparing engine compartment fuses

Electrical System

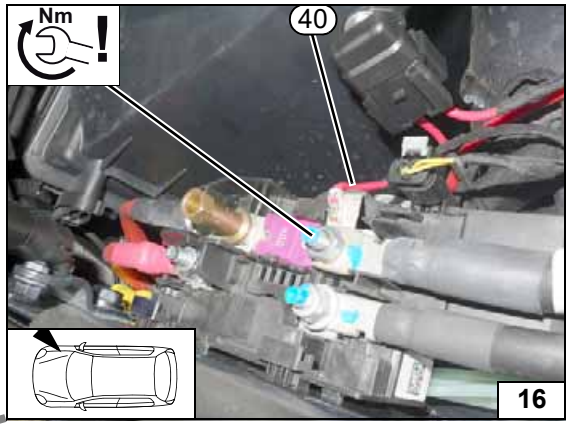
Engine compartment fuse holder

1 Original vehicle bolt, perforated bracket
2 M5x16 bolt, washers, retaining plate of fuse holder, nut
3 Engine compartment fuse holder

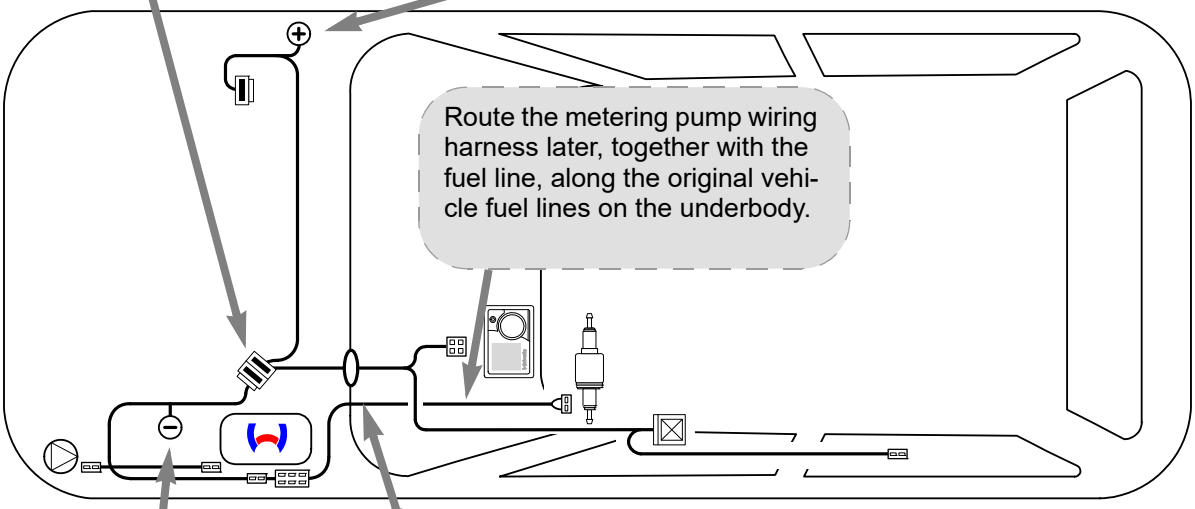


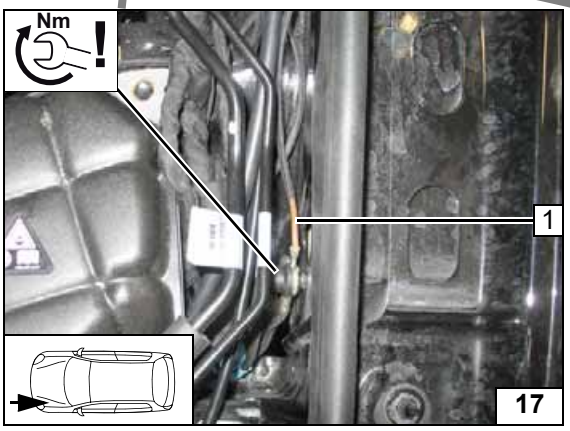
Positive wire

(40) Red (rt) wire of fuse F0 from wiring harness of positive extension cable, original vehicle positive support point



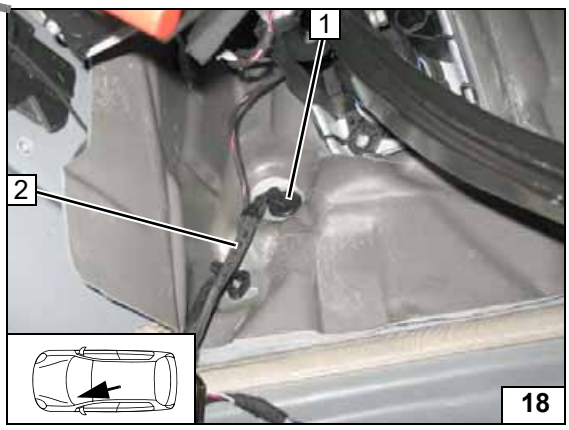
Wiring harness routing diagram





Earth wire

1 Earth wire on original vehicle earth support point

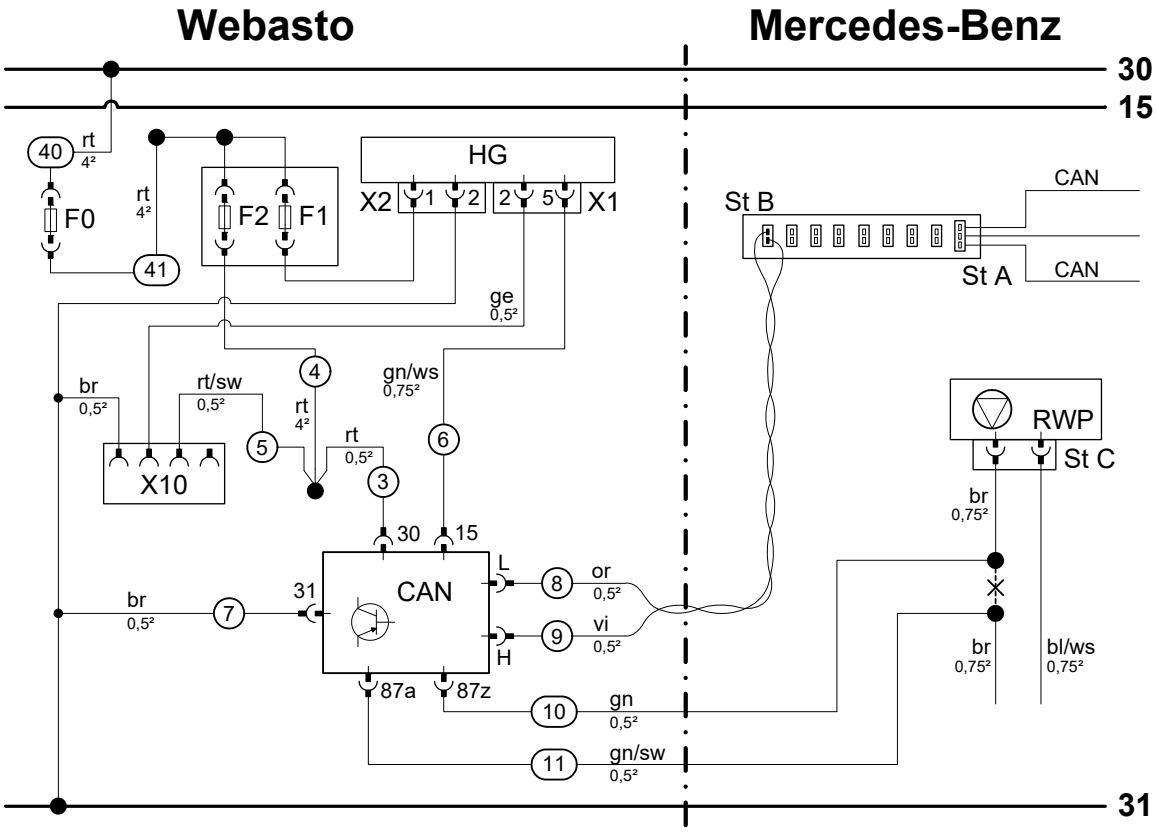


Wiring harness pass through

1 Protective rubber plug
2 Heater wiring harness, heater control and residual heat pump

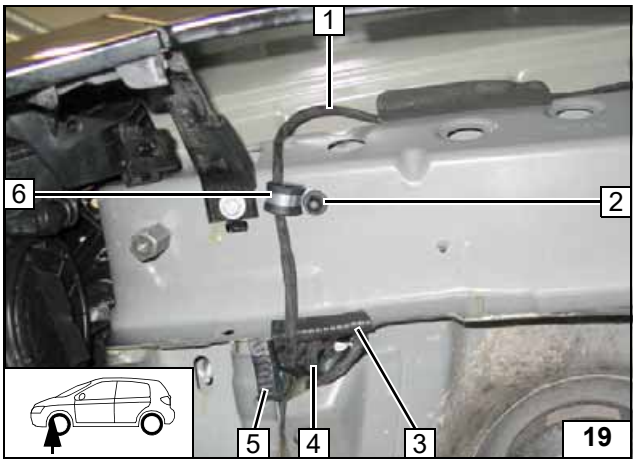
Fan Controller

Wiring diagram



Webasto components		Vehicle components		Colours and symbols	
HG	TT-Evo heater	St A	CAN node	rt	red
X1	6-pin heater connector	RWP	Residual heat pump	sw	black
X2	2-pin heater connector	ST C	2-pin connector RWP	ge	yellow
F1	20A fuse			gn	green
F2	1A fuse			bl	blue
F0	30A main fuse			ws	white
ST B	Connector of CAN module			br	brown
X10	4-pin socket of heater control			or	orange
				vi	violet
CAN	CAN Module				
				Wiring colours may vary.	

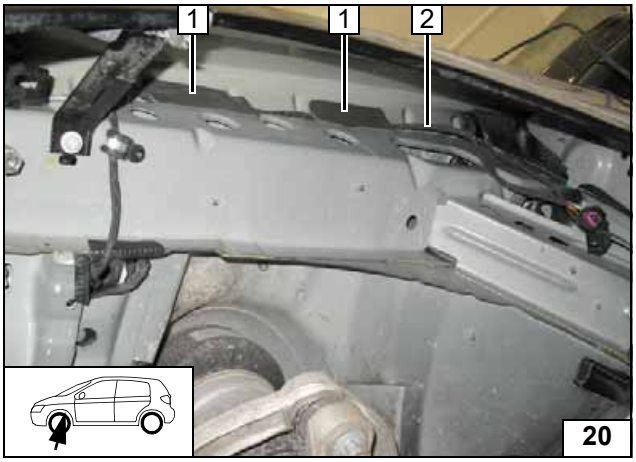
Legend



Separate edge protection.

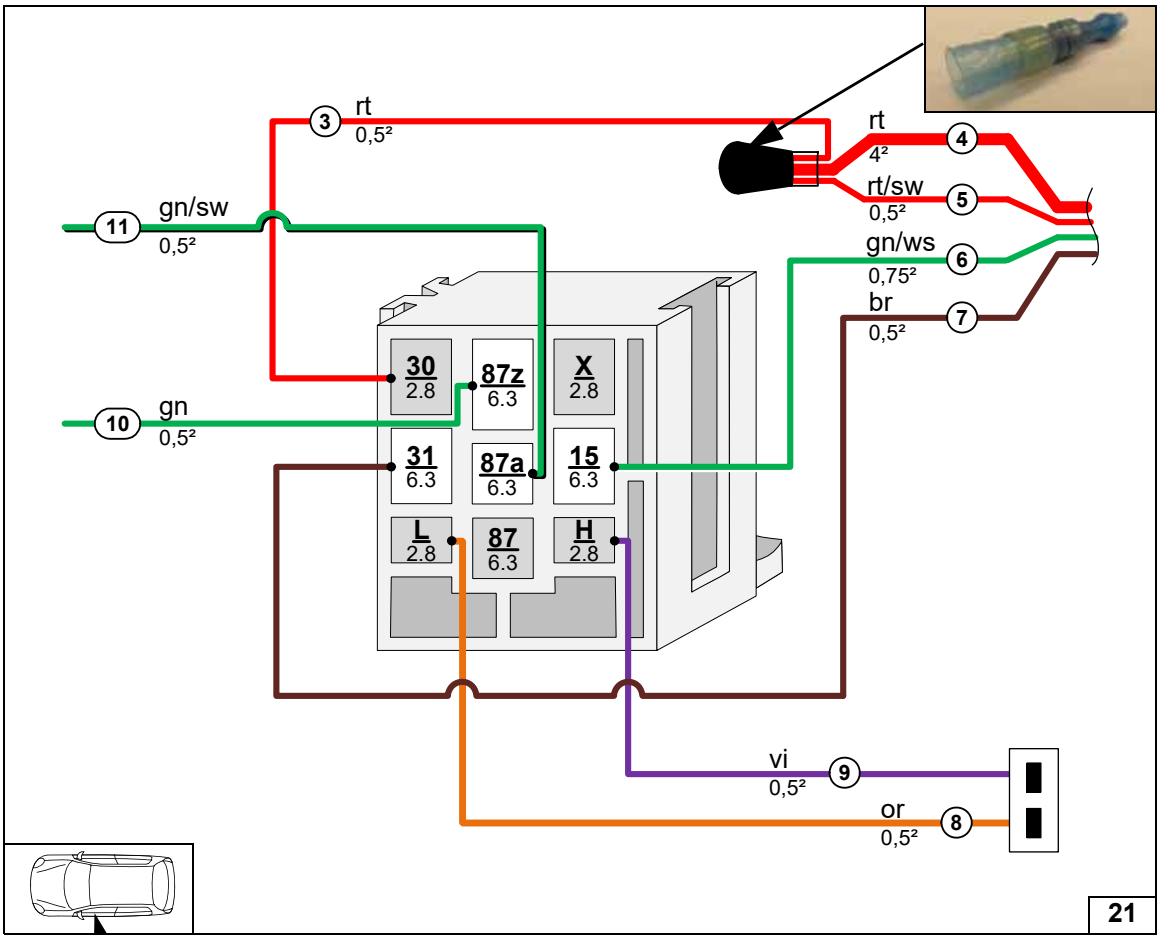
1 Heater wiring harness
2 Original vehicle stud bolt, plastic nut
3 60 mm edge protection
4 Original vehicle pass through
5 40 mm edge protection
6 10 mm dia. rubber-coated p-clamp

Routing heater wiring harness

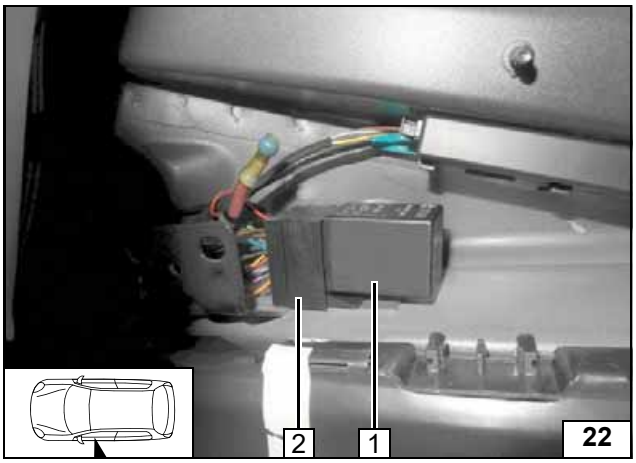


Fasten heater wiring harness **2** to body using insulation protection strips [2x] **1**.

Routing heater wiring harness



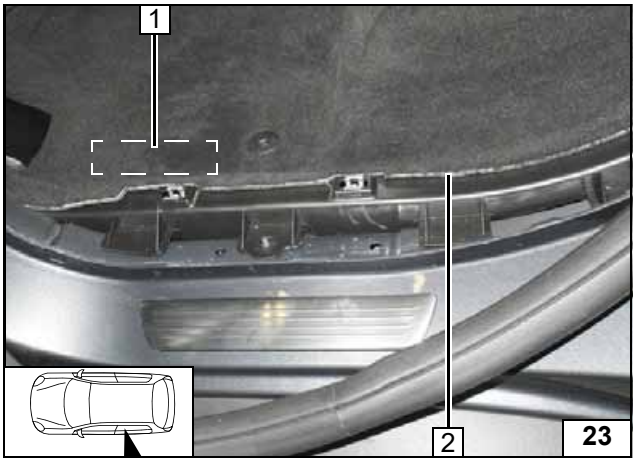
Connecting wires to CAN Module socket in passenger compartment



Route wires of CAN-bus ⑧ and ⑨ back below the left door sill cover.

1 CAN-Module mounted
2 Fasten socket of CAN module with double-sided adhesive tape

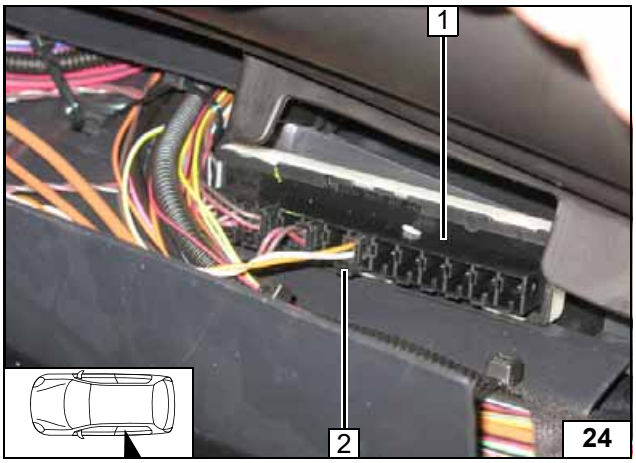
Installing CAN Module



The CAN node is situated below the footwell cover of the left rear bench seat in the direction of the centre of the vehicle.

1 CAN-node
2 Lift the carpet border

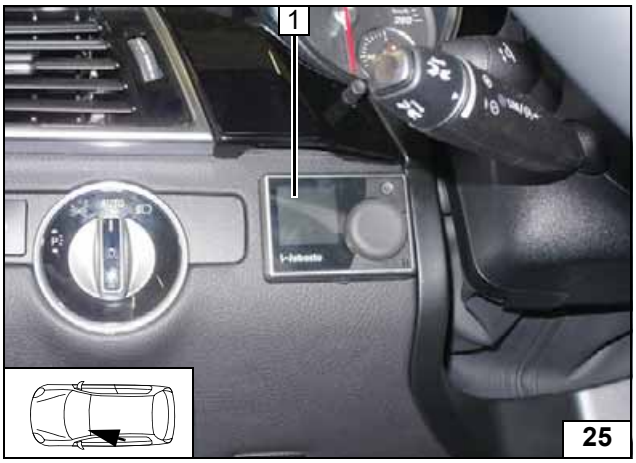
Installation location CAN-node



Insert connector of CAN module into free socket. Re-install the door sill cover of the entrance strip in the back left.

1 CAN-node
2 Connector of CAN module (St B)

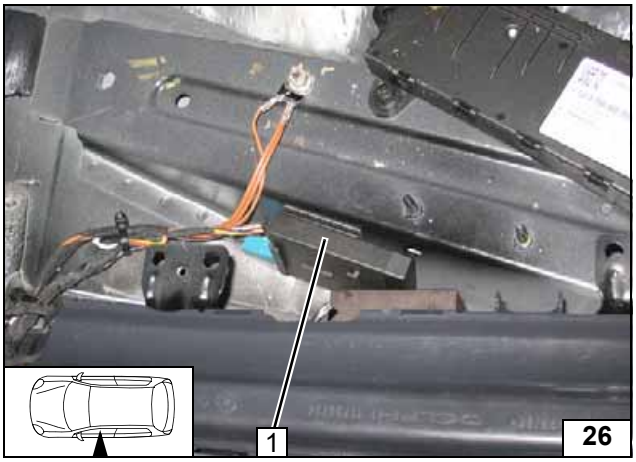
Connection of CAN bus



MultiControl CAR Option

1 MultiControl CAR

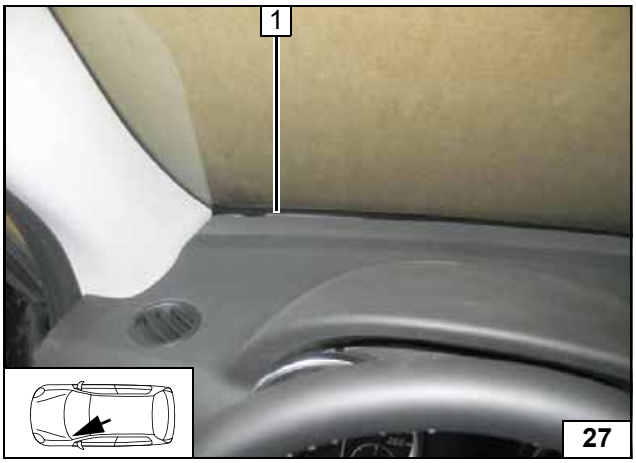
Installing MultiControl CAR



Remote Option (Telestart)

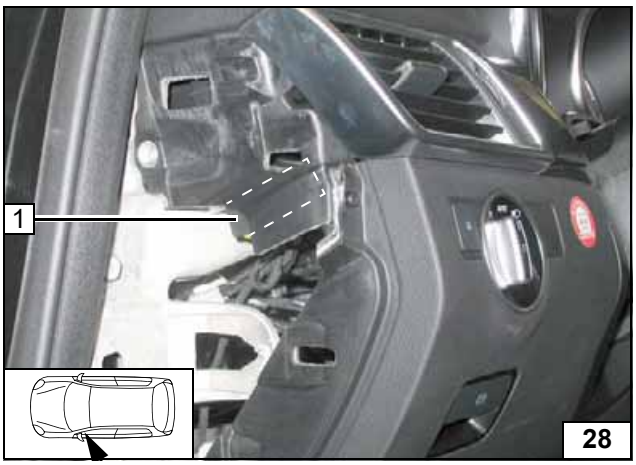
Fasten receiver **1** with double-sided adhesive tape.

Installing receiver



1 Aerial

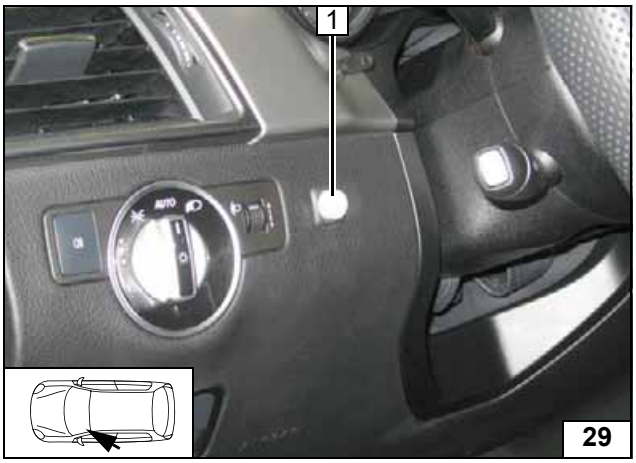
Installing aerial



Temperature sensor T100 HTM

Fasten temperature sensor **1** with double-sided adhesive tape.

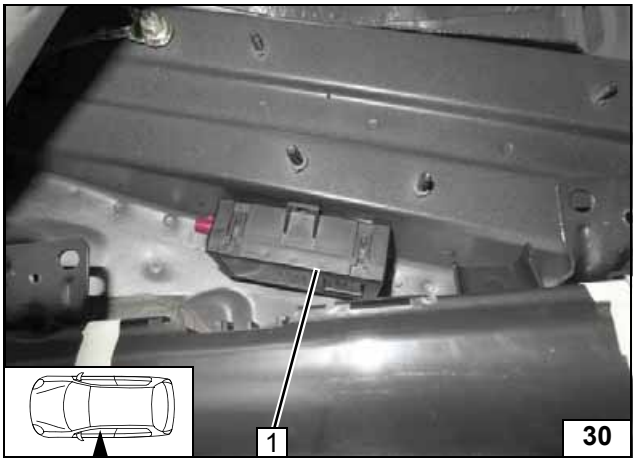
Installing temperature sensor



Push Button Option

1 Push button

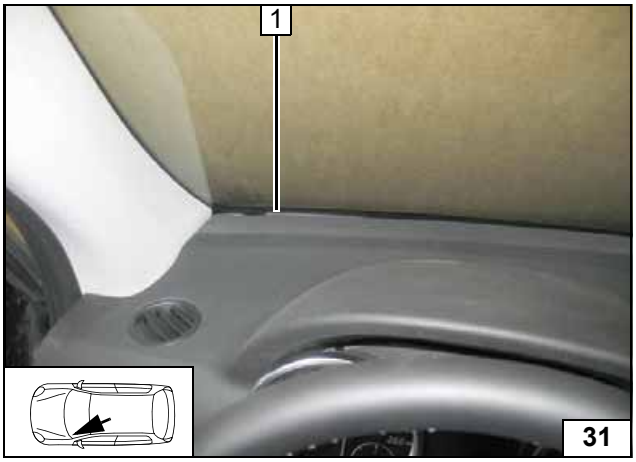
Mounting push button



ThermoCall Option

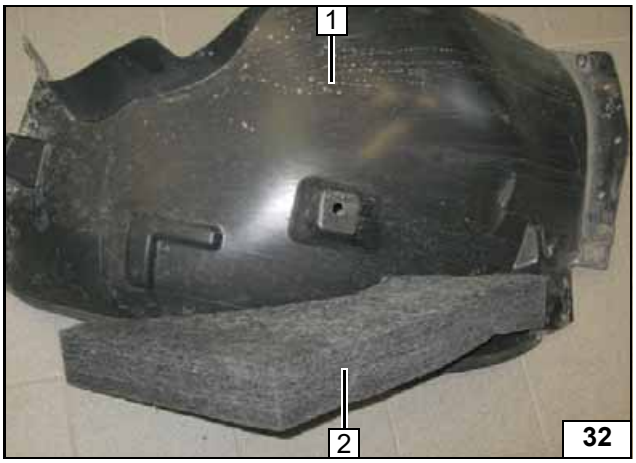
Fasten receiver **1** with double-sided adhesive tape.

Installing receiver



1 Aerial (optional)

Installing aerial

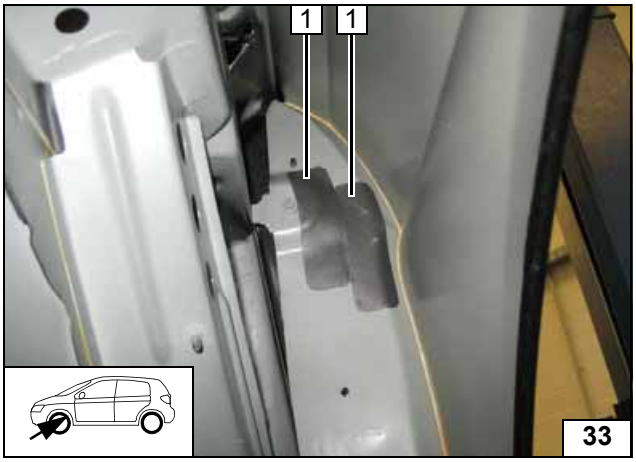


Preparing Installation Location

Pull off insulation **2** and discard.

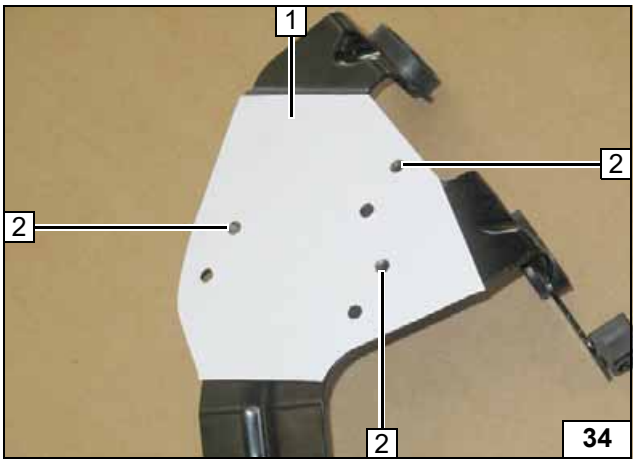
1 Wheel well trim of left front wheel

Removing insulation



1 Insulation protection strips [2x]

Sticking on insulation protection strips

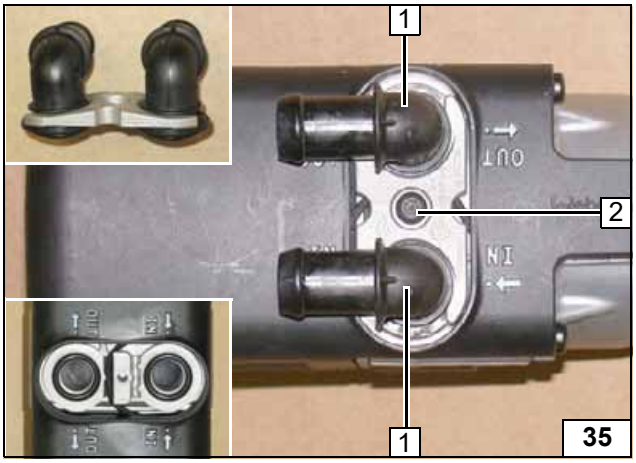


Preparing Bracket

Cut out template **1**, place it and align it with the existing holes.

2 Copy hole pattern, 5.5 mm dia. hole [3x each]

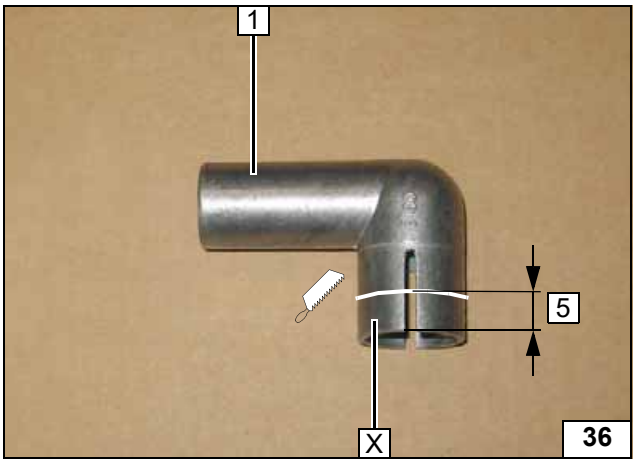
Holes in bracket



Preparing Heater

1 Water connection piece, sealing ring [2x each]
2 5x15 self-tapping bolt, retaining plate of water connection piece

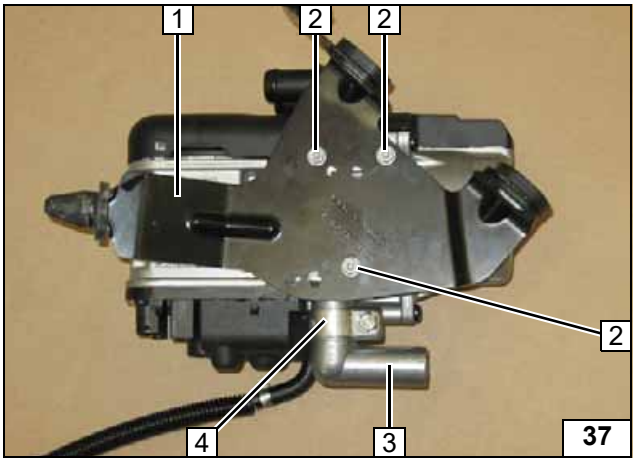
Installing water connection piece



Shorten exhaust elbow **1** as shown.

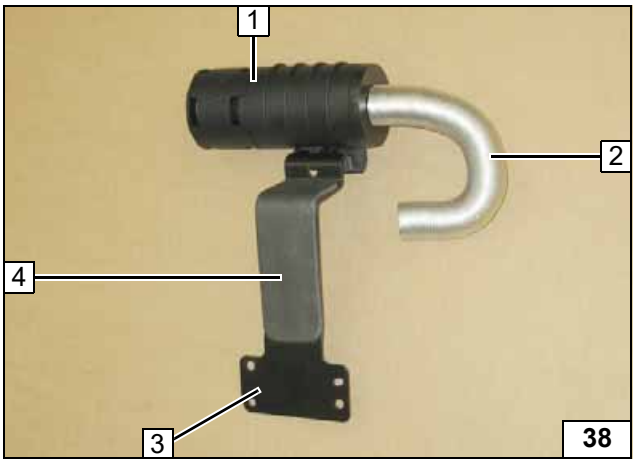
X=

Shortening exhaust elbow



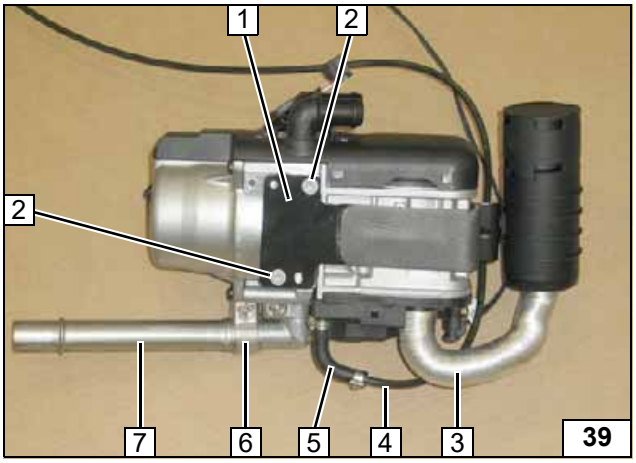
1 Bracket of heater
2 5x13 self-tapping bolt [3x]
3 Exhaust elbow
4 Loosely install hose clamp

Installing bracket



1 Combustion air silencer
2 180 mm combustion air pipe
3 Bracket of silencer
4 Glue on insulation strip

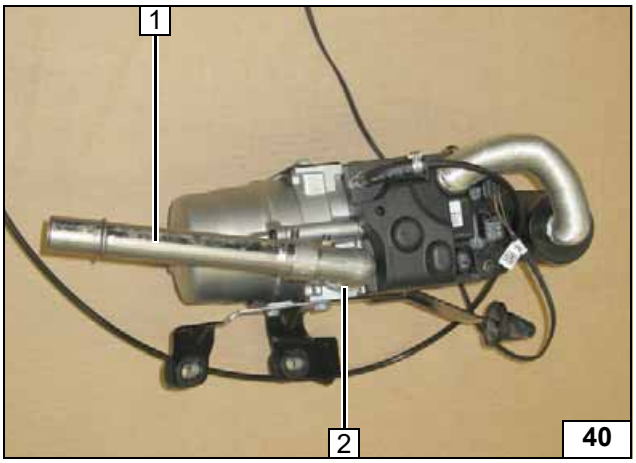
Premounting combustion air silencer bracket



Mind cover of slits at position **6**.

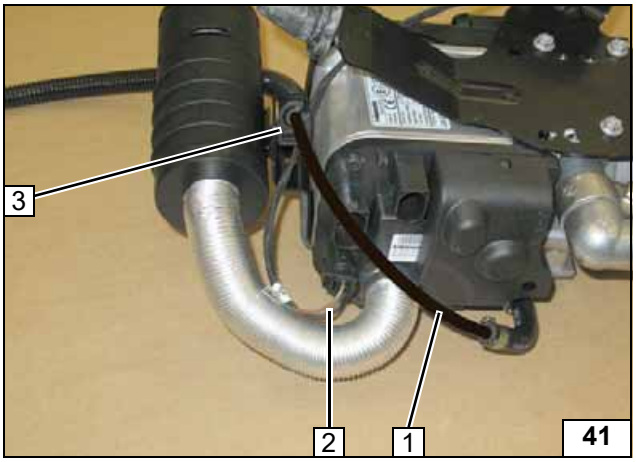
1 Bracket of silencer
2 5x13 self-tapping bolt [2x]
3 Combustion air pipe
4 Fuel line
5 90° moulded hose, 10mm dia. clamp [2x]
6 Hose clamp
7 Exhaust tube

Premounting heater



1 Exhaust tube
2 Tighten hose clamp

Aligning exhaust tube

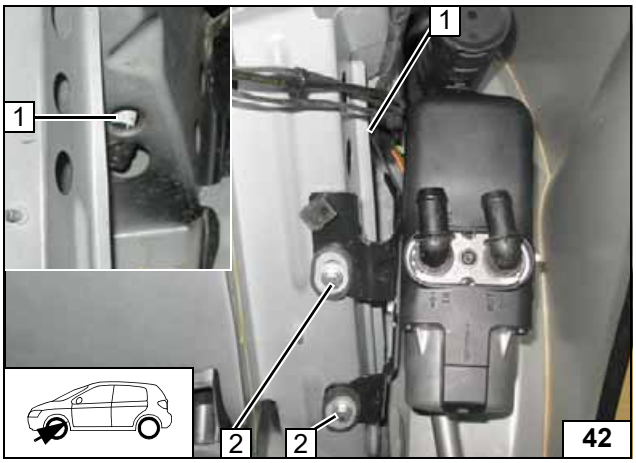


Insert fuel line **1** into retaining clip **3**.

2 Connect circulating pump wiring harness

Fastening fuel line

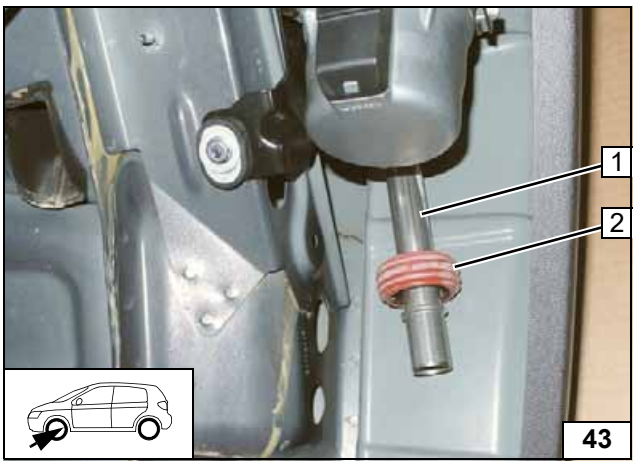
Installing Heater



Attach wiring harness of heater [2x] prior to installation. Insert rubber bearing in original vehicle hole at position **1**. Align heater. Ensure sufficient distance to neighbouring components.

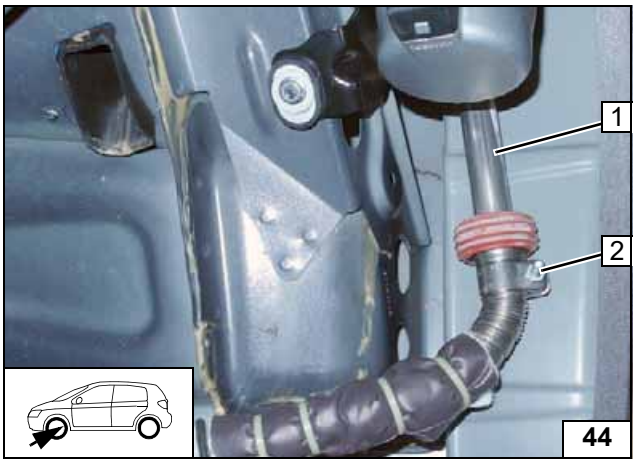
2 Original vehicle stud bolt, large diameter washer, M6 flanged nut [2x each]

Installing heater



1 Exhaust tube
2 Spacer bracket

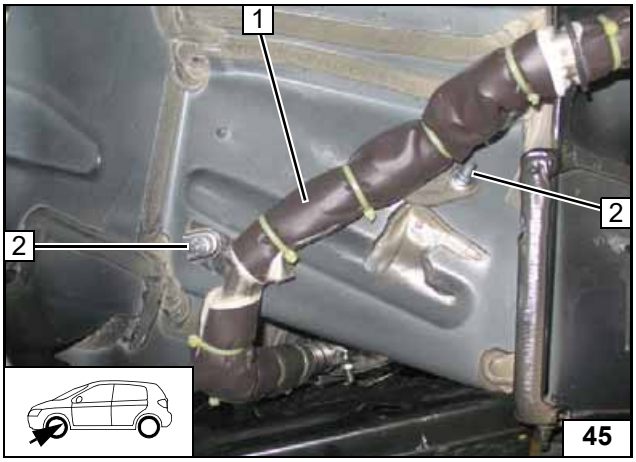
Positioning spacer bracket



Exhaust Gas

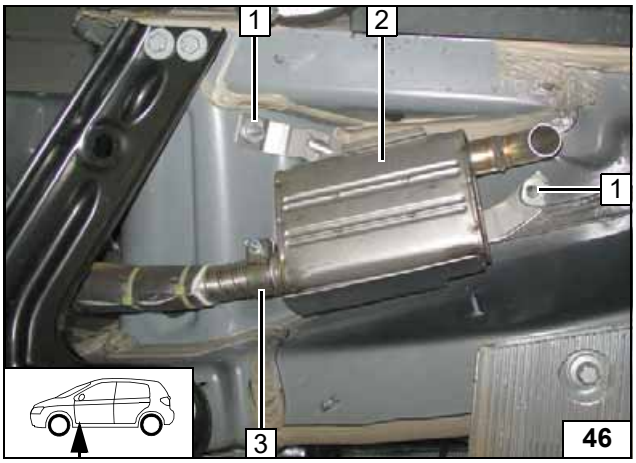
1 Exhaust tube
2 Tighten hose clamp

Installing exhaust system



1 Exhaust pipe
2 Original vehicle stud bolt, bracket of exhaust pipe, M6 flanged nut [2x each]

Installing exhaust pipe



Align silencer **2**.
Ensure sufficient distance to neighbouring components.

1 Original vehicle stud bolt, black (sw) plate nut 8 [2x each]
3 Hose clamp

Installing silencer

Fuel

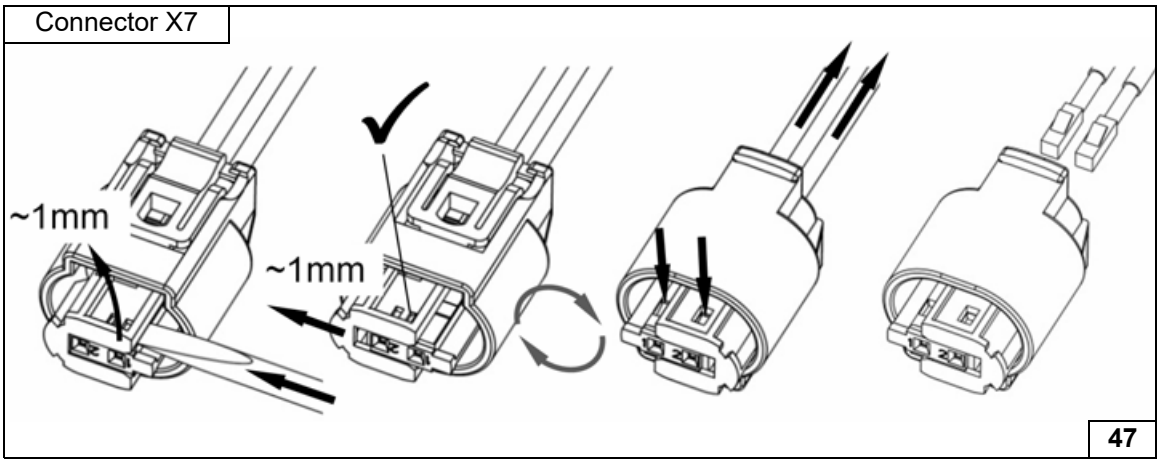
Open the vehicle's fuel tank cap, ventilate the tank and then re-close the tank lock.

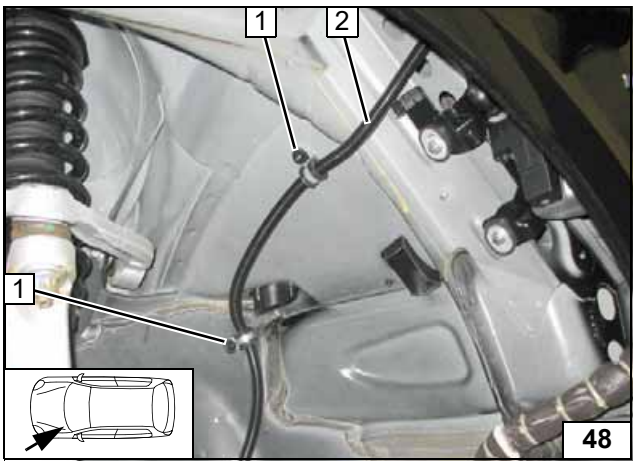
Catch any fuel running off in an appropriate container.

Route fuel line and metering pump wiring harness so that they are protected against stone impact.
Unless specified otherwise, always fasten using cable ties.
Provide rub protection for fuel line and wiring harness in areas where there are sharp edges.

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

Dismantling metering pump connector

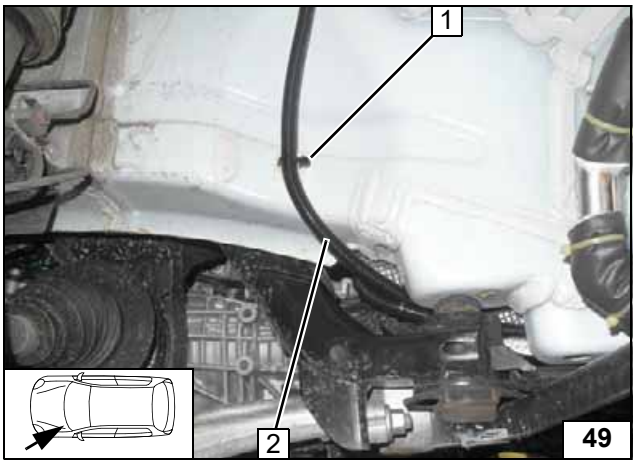




Pull fuel line and metering pump wiring harness into 10 mm dia. corrugated tube **2**.

1 Original vehicle stud bolt, 15 mm dia. rubber-coated p-clamp, plastic nut [2x each]

Routing in wheel well

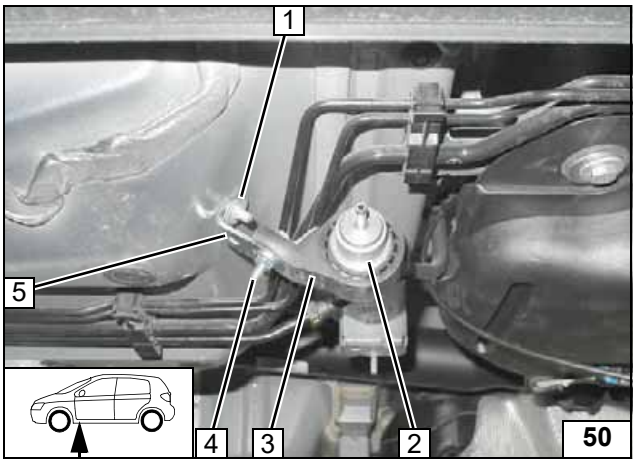


Clean bonding surfaces prior to glueing. Route fuel line and metering pump wiring harness in 10 mm dia. corrugated tube **2** behind the heat guard plate to the rear.

1 Adhesive base, cable tie

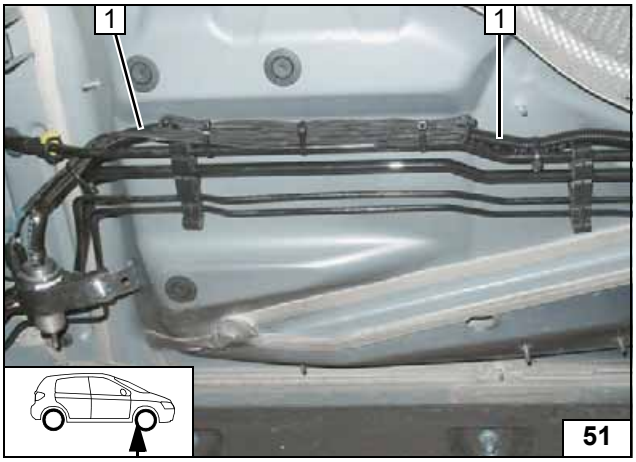
Routing in wheel well

Installing metering pump



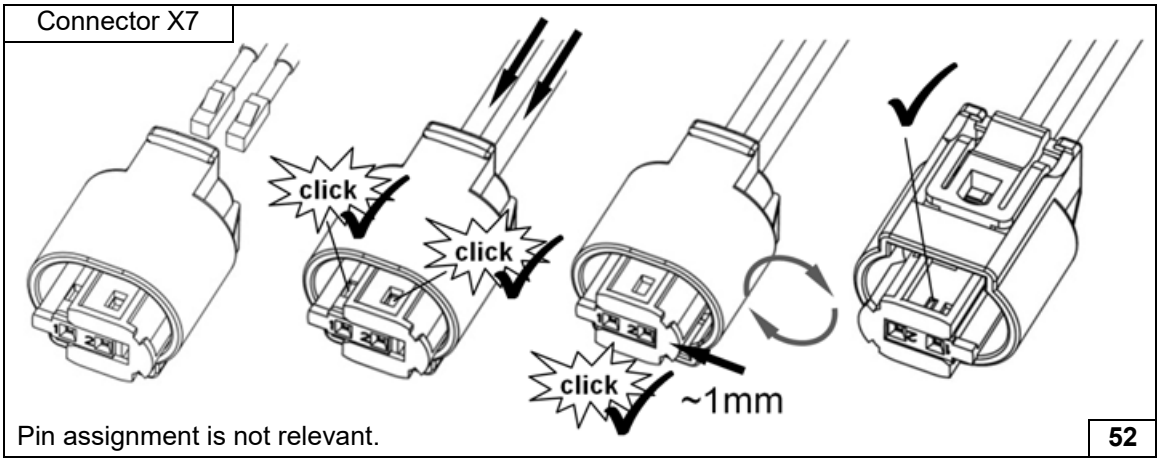
1 Original vehicle stud bolt, original vehicle nut
2 Metering pump
3 Metering pump mount
4 M6x25 bolt, support angle bracket, flanged nut
5 Angle bracket

Routing lines

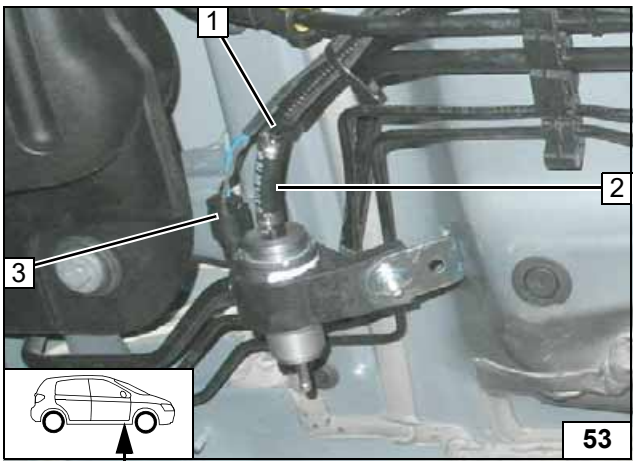


Route corrugated tube with fuel line and metering pump wiring harness **1** along original vehicle fuel lines to the installation location of the metering pump. Secure with cable tie.

Completing metering pump connector



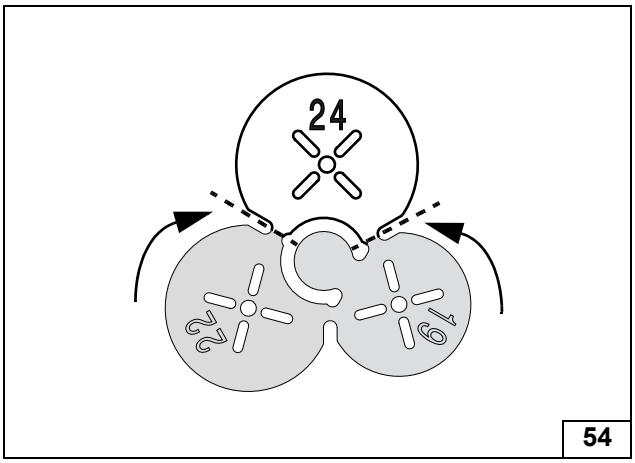
Connecting metering pump



Ensure sufficient distance from neighbouring components, correct if necessary.

1 Heater fuel line
2 Hose section, 10mm dia. clamp [2x]
3 Metering pump wiring harness, connector X7 mounted

Installing FuelFix



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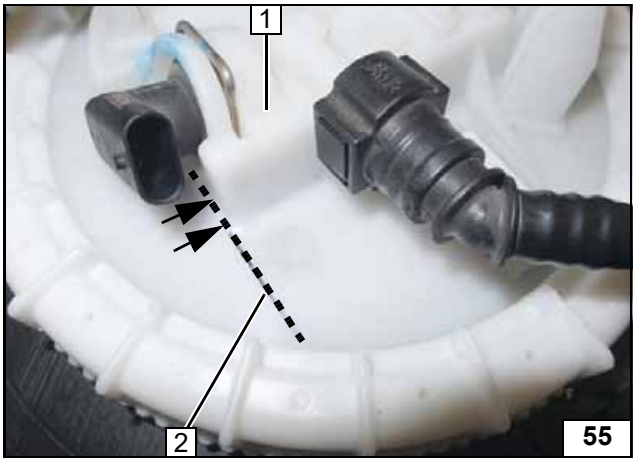
Preparing drilling template

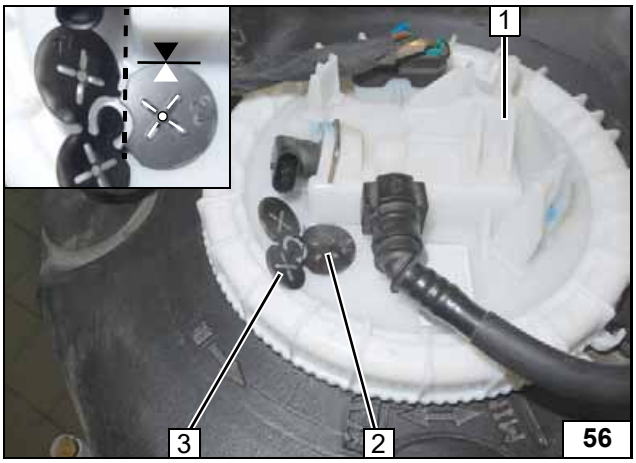


55

Remove the fuel tank according to the manufacturer's instructions.

1 Fuel tank sending unit
2 Guide line

Drawing guide line



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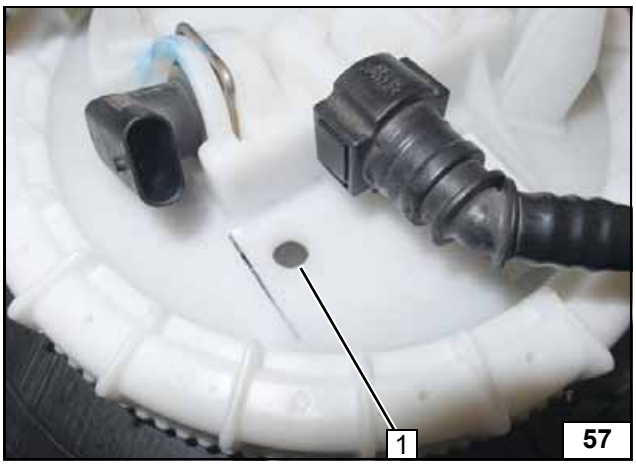
Work steps F1 and F2.

1 Fuel tank sending unit
2 Copy hole pattern
3 Bend and place 24 mm dia. drilling template as shown

Copying hole pattern



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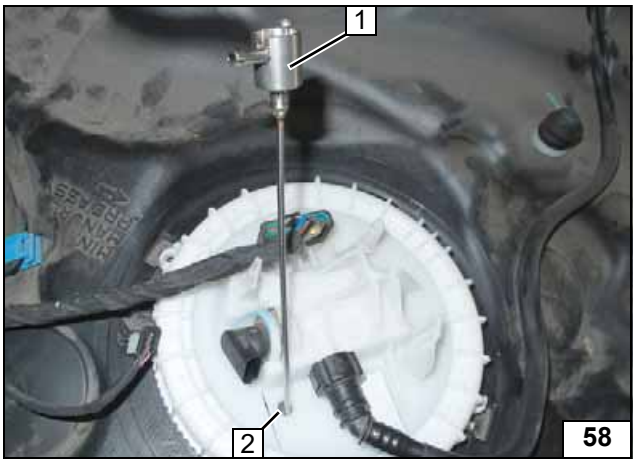
Work step F3.

1 Hole made with provided drill

Hole for FuelFix



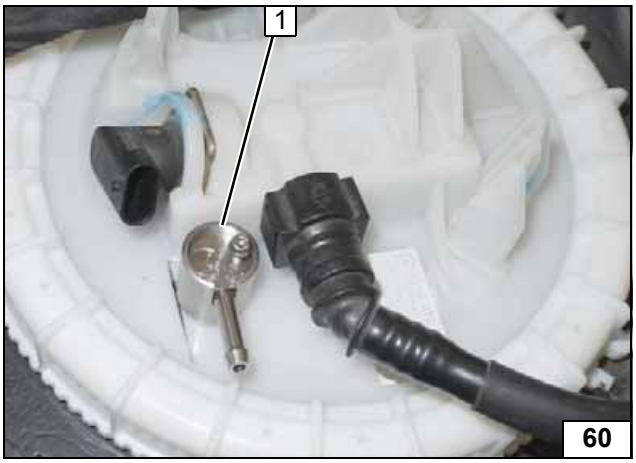
Work steps F4 and F5.

Cut FuelFix **1** to length according to template.
Insert into hole **2**.

Inserting FuelFix

Work step F5.

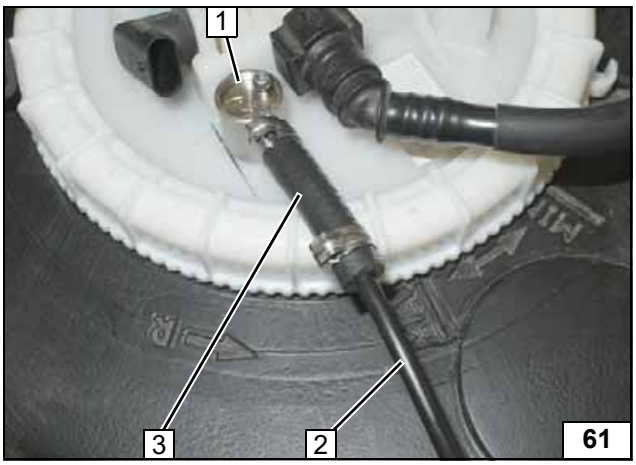
Inserting FuelFix



Work steps F5.3 and F5.4.

Align FuelFix **1** as shown.

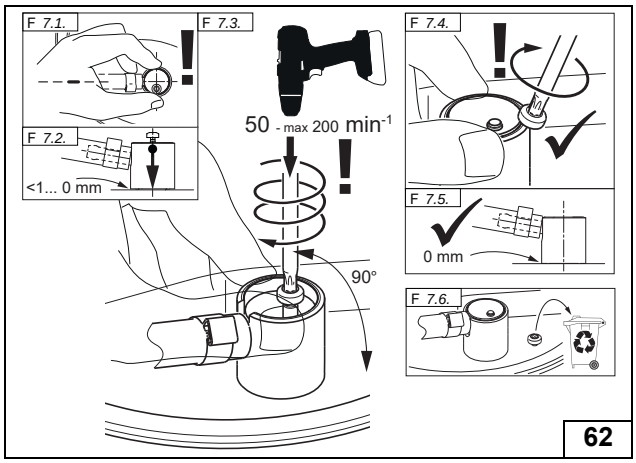
Aligning FuelFix



Work step F6.

1 FuelFix
2 Fuel line
3 Hose section, 10mm dia. clamp [2x]

Connecting fuel line

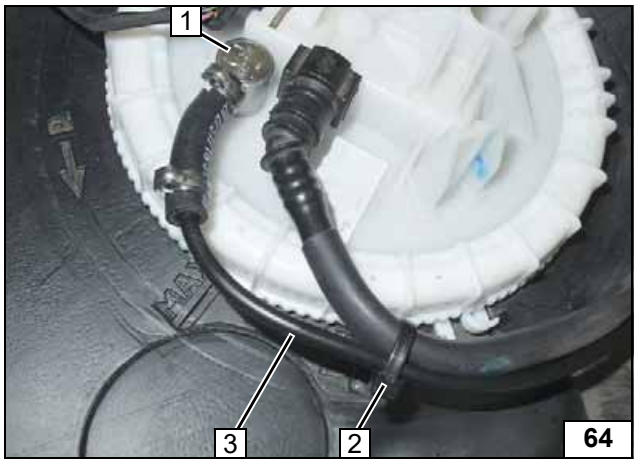


Work step F7.

Installing FuelFix

Work step F8.

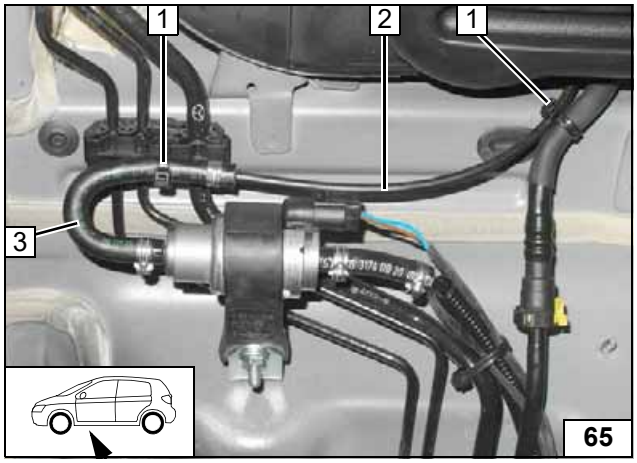
Checking firm seating of FuelFix



1 FuelFix installed
2 Cable tie as tension relief
3 Fuel line of FuelFix

Install fuel tank in accordance with manufacturer's instructions.

Securing fuel line



Ensure sufficient distance from neighbouring components, correct if necessary.

1 Cable tie [2x]
2 Fuel line of FuelFix
3 180° moulded hose, 10mm dia. clamp [2x]

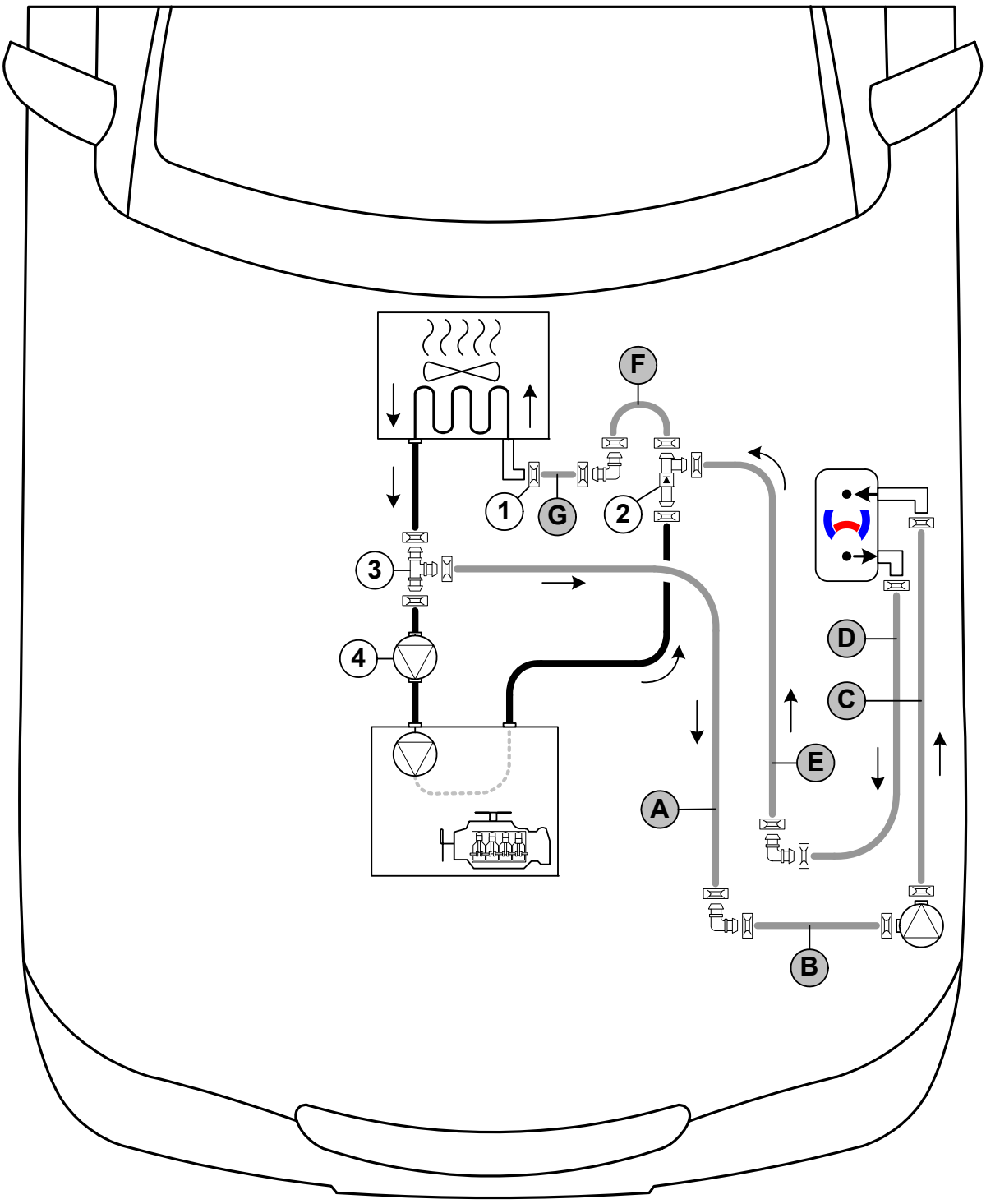
Connecting metering pump

Coolant Circuit

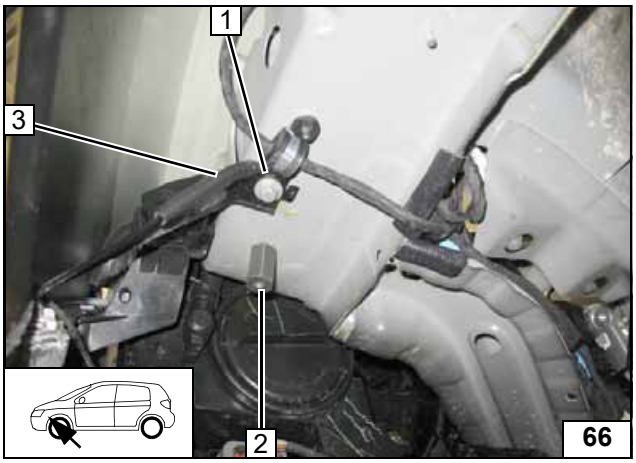
Any coolant running off should be collected in an appropriate container. Route hoses kink-free. Unless specified otherwise, always fasten using cable ties. Position clamps so that other hoses cannot be damaged. The heater must be filled with coolant when installing the hoses.

The connection should be modelled on an ‘island’ circuit and based on the following diagram:

Hose routing diagram



1 = Original vehicle spring clip. **2** = Check valve. **3** = T-piece
4 = Original vehicle circulating pump.
All spring clips without a specific designation = 25 mm dia. All connecting pipes = 18x18 mm dia.

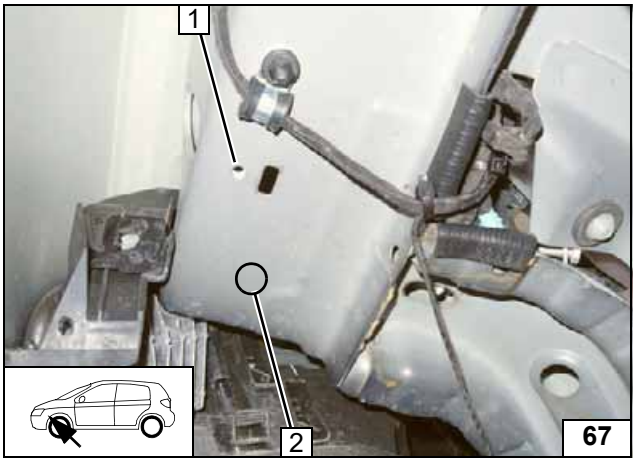


Version 1

Vehicle with bracket in position **1** and stud bolt in position **2**

2 Original vehicle stud bolt, M6x30 spacer nut
3 100 mm edge protection

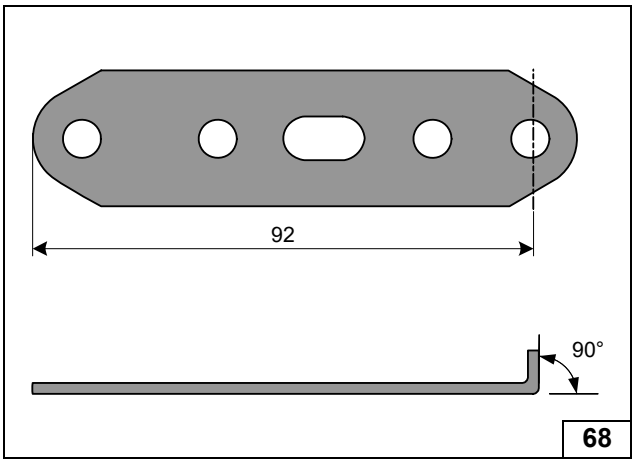
Installing edge protection



Version 2

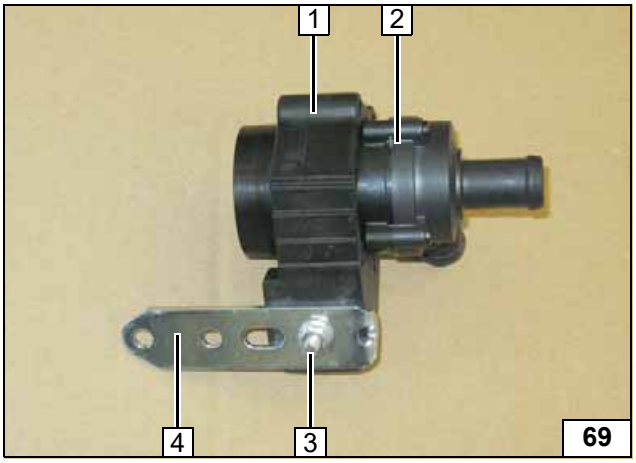
Vehicle without bracket in position **1** and without stud bolt in position **2**

Version without stud bolt



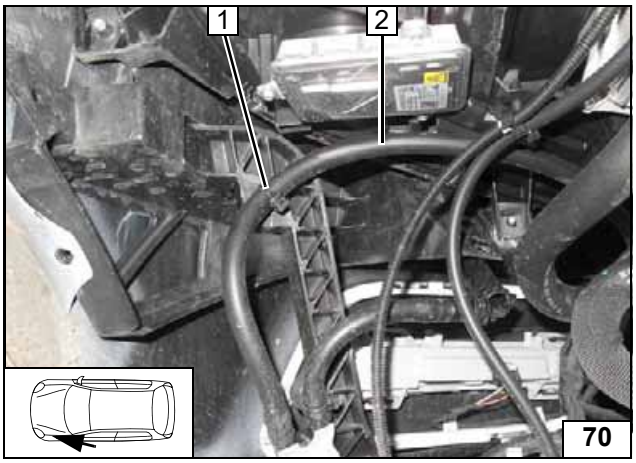
All vehicles

Angling down perforated bracket



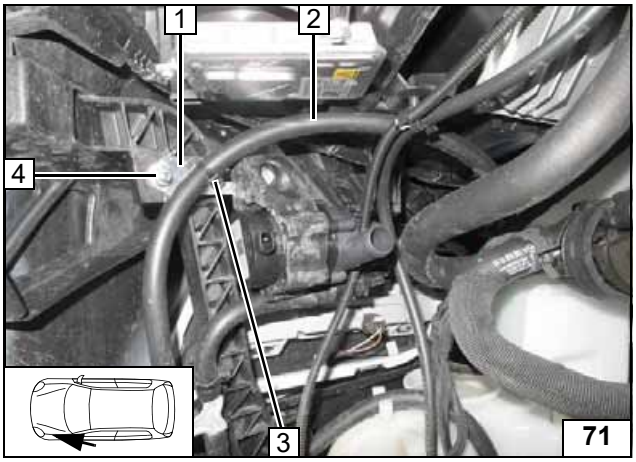
1 Circulating pump mount
2 Circulating pump
3 M6x25 bolt, flanged nut
4 Perforated bracket

Premounting circulating pump



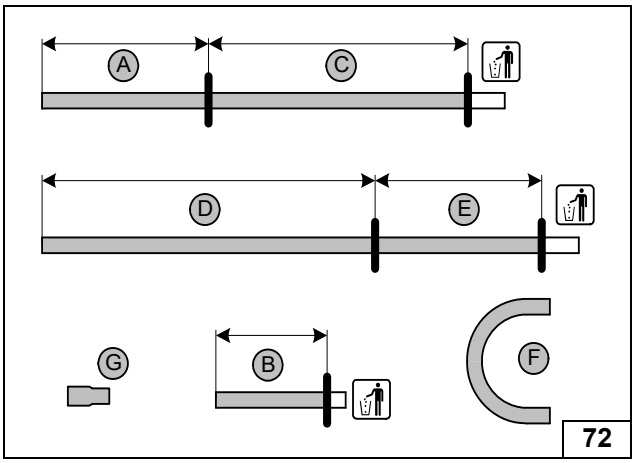
1 Detach clip-type cable tie
2 Hose on headlight washer system

Detaching clip-type cable tie in case of existing headlight washer system



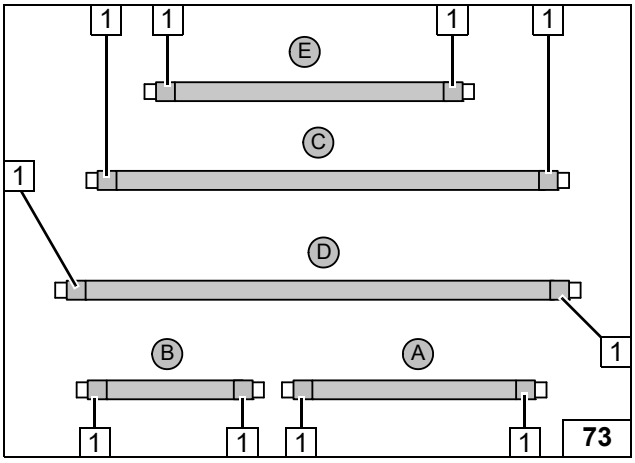
1 Perforated bracket
2 Hose of headlight washer system, if present
3 Clip-type cable tie, existing hole, perforated bracket
4 M6x20 bolt, large diameter washer, flanged nut, existing hole

Installing circulating pump



A = 450
B = 350
C = 1045
D = 1250
E = 760
F = 180°, 18mm dia.
G = 18x20mm dia.

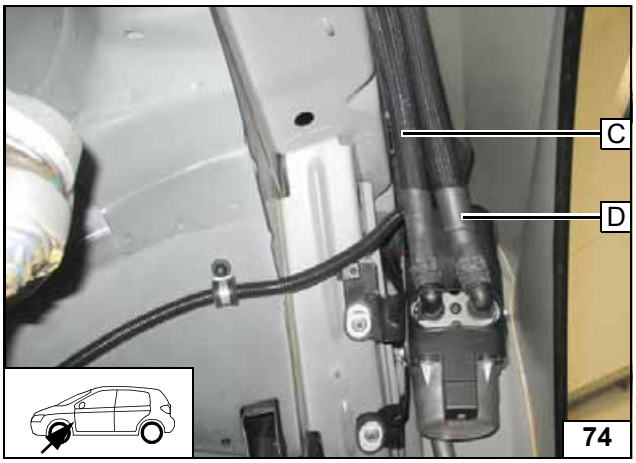
Cutting hoses to length



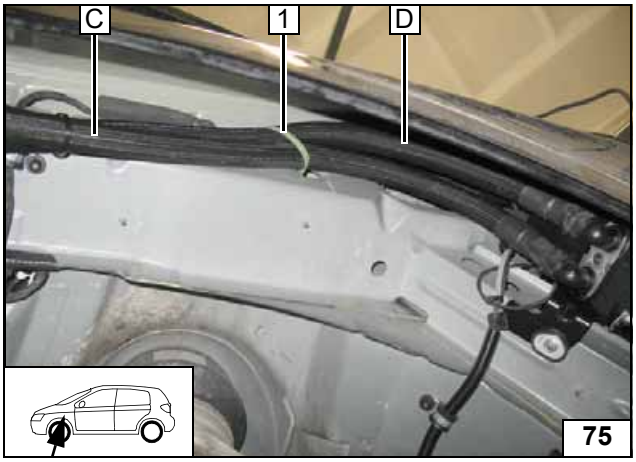
Slide on braided protection hoses and cut to length.

1 Cut heat shrink plastic tubing to size, 50mm long [10x]

Preparing hoses

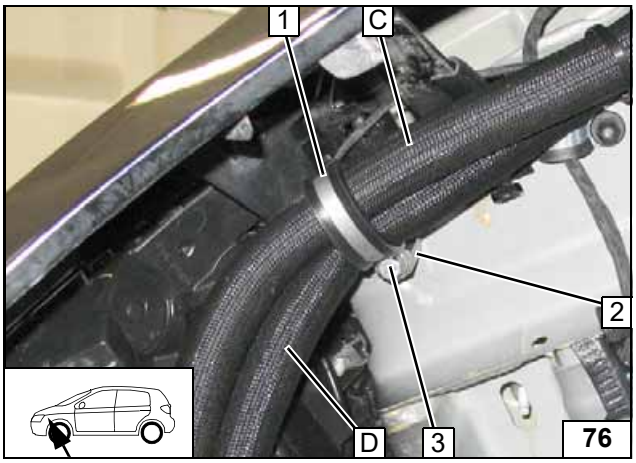


Connecting heater



Fasten hoses **C** and **D** to existing holes of wheel well using white (ws) cable tie **1**.

Routing wheel well

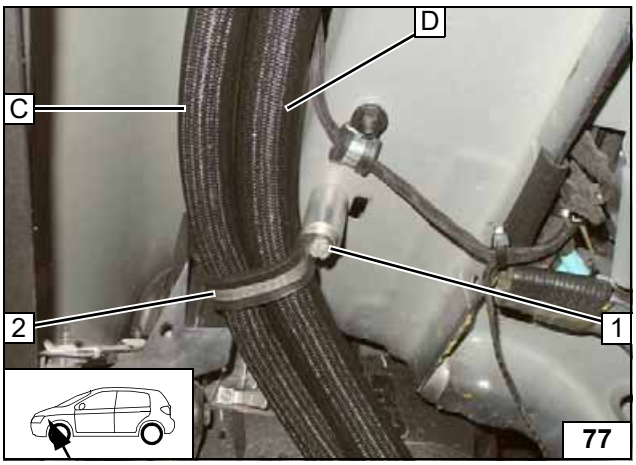


Version 1

Route hoses **C** and **D** through 38 mm dia. rubber-coated p-clamp **1**.

2 premounted spacer nut M6x30
3 M6x16 bolt, spring lockwasher

Routing wheel well

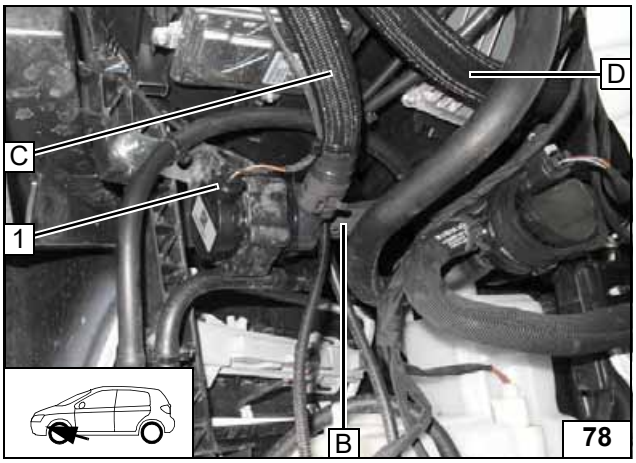


Version 2

Route hoses **C** and **D** through 38 mm dia. rubber-coated p-clamp **2**.

1 M6x50 bolt, spring lockwasher, 30 mm shim, original vehicle hole

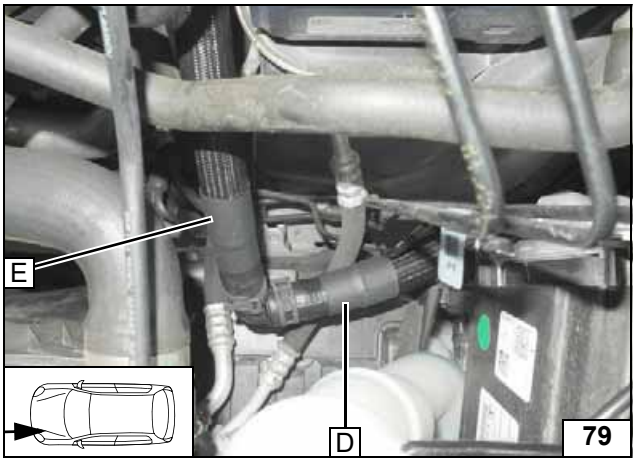
Routing wheel well



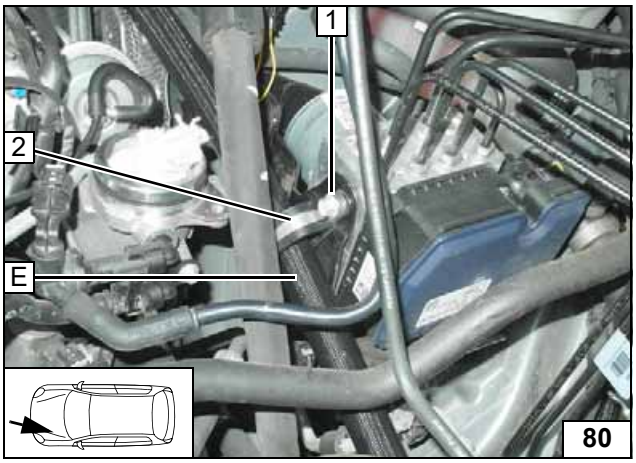
All vehicles

Route circulating pump wiring harness **1** along hose **C** and attach it to the circulating pump. Route hose **B** and **D** to the engine compartment.

Connecting circulating pump

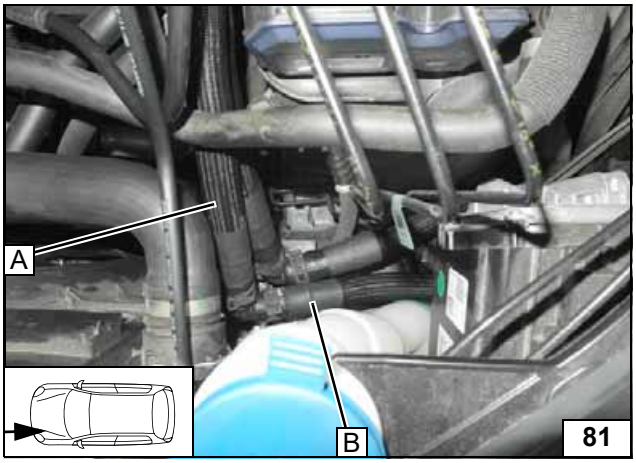


Connecting hoses D and E

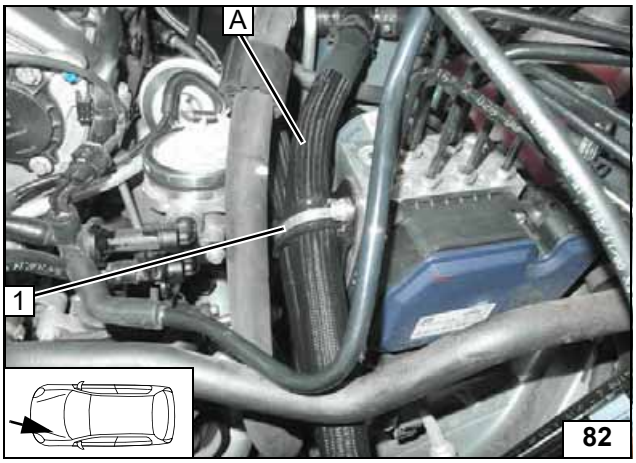


1 Original vehicle bolt
2 Loosely install 38 mm dia. rubber-coated p-clamp

Routing in engine compartment

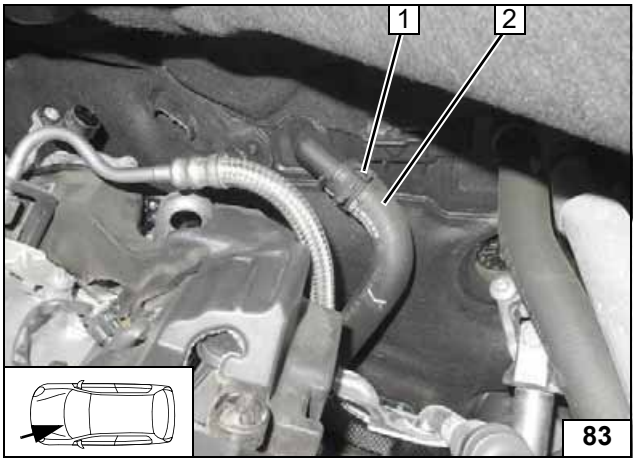


Connecting hoses A and B



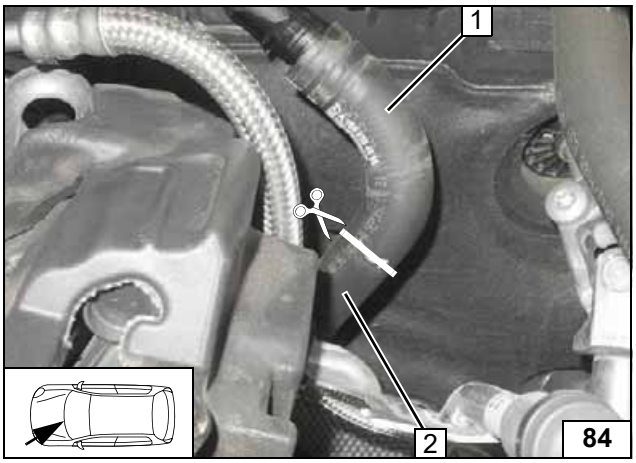
Route hose **A** through 38mm dia. rubber-coated p-clamp **1**.

Routing in engine compartment



Pull off hose of engine outlet / heat exchanger inlet **2** on connection piece of heat exchanger inlet. Spring clip **1** will be reused.

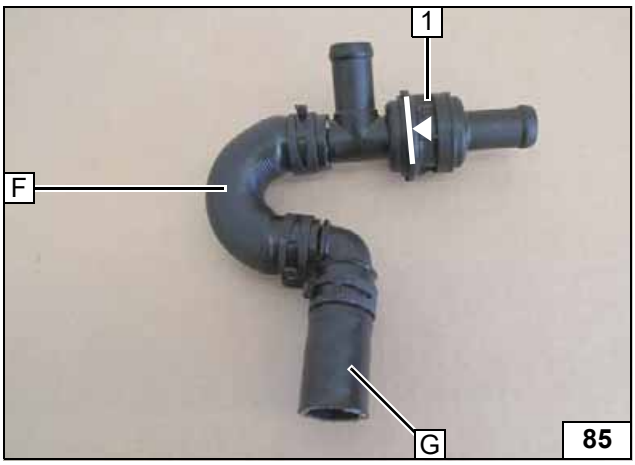
Cutting point heat exchanger inlet



Detach hose section of heat exchanger inlet **1** as shown and discard it.

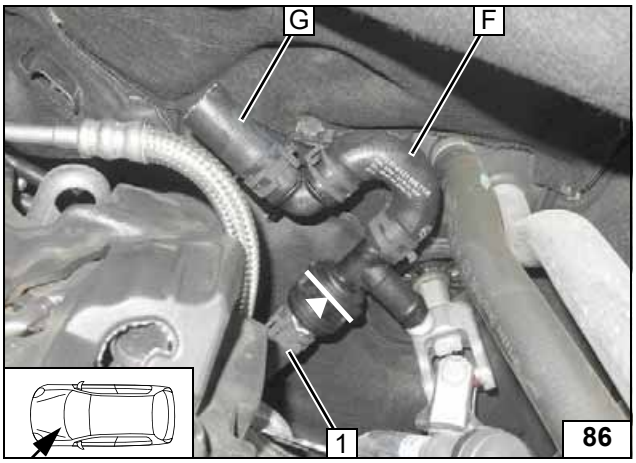
2 Hose of engine outlet

Cutting point heat exchanger inlet



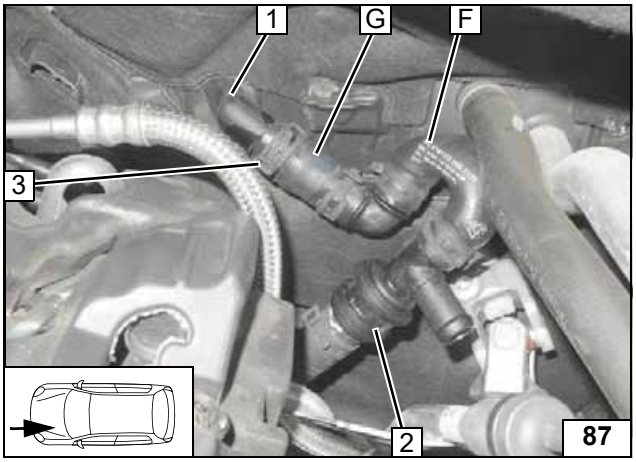
1 Check valve

Premounting check valve



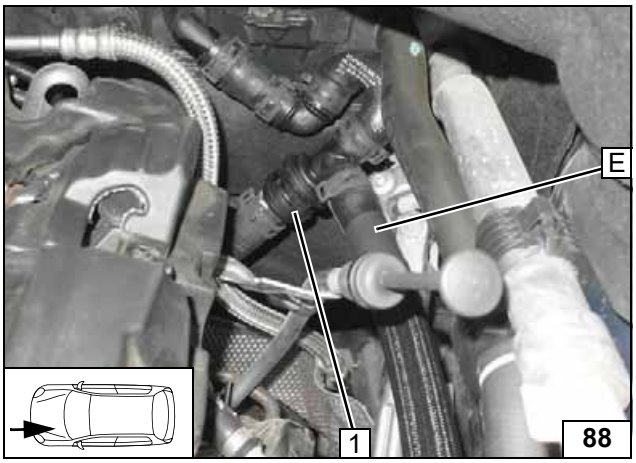
1 Hose of engine outlet

Connecting engine outlet



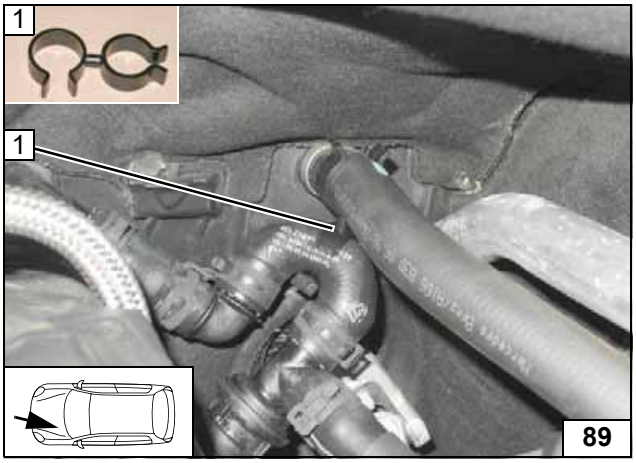
1 Connection piece of heat exchanger inlet
2 Check valve
3 Original vehicle spring clip

Connecting heat exchanger inlet



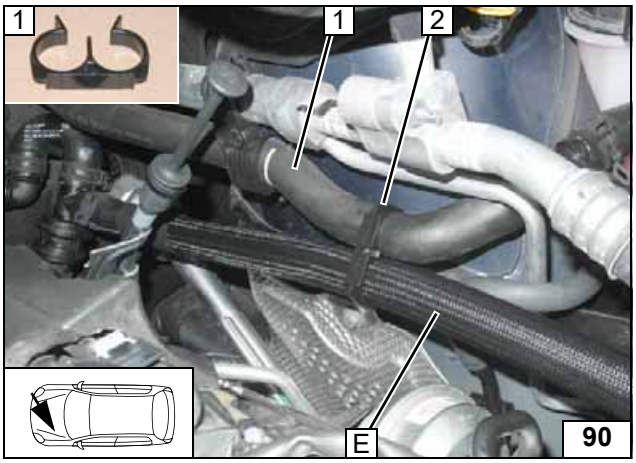
1 Check valve

Connecting hose E



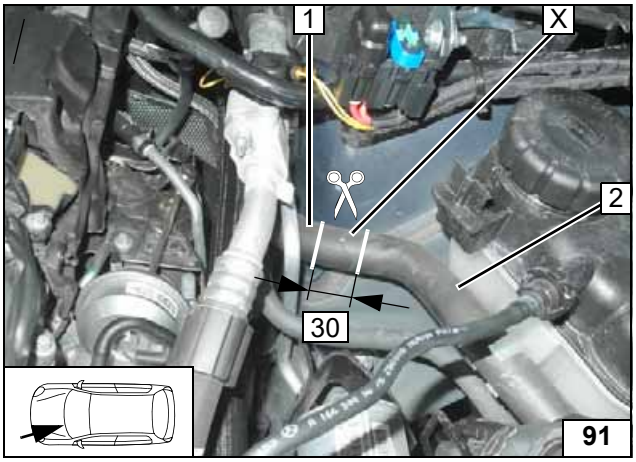
1 Hose bracket

Inserting hose bracket



1 Hose of heat exchanger outlet
2 Hose bracket

Inserting hose bracket

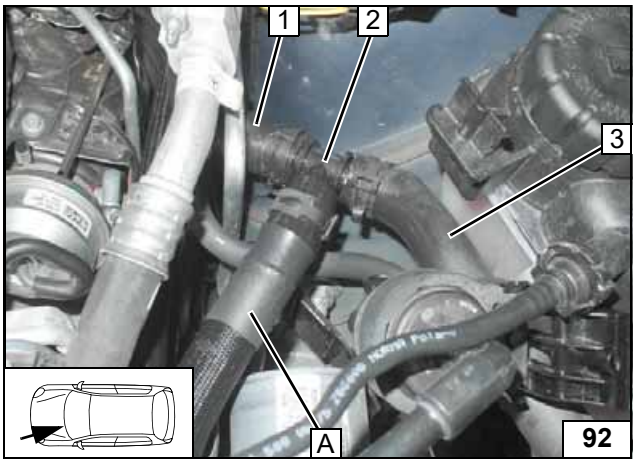


Cut hose of heat exchanger outlet / engine inlet as shown.

1 Hose section on heat exchanger outlet
2 Hose section of engine inlet

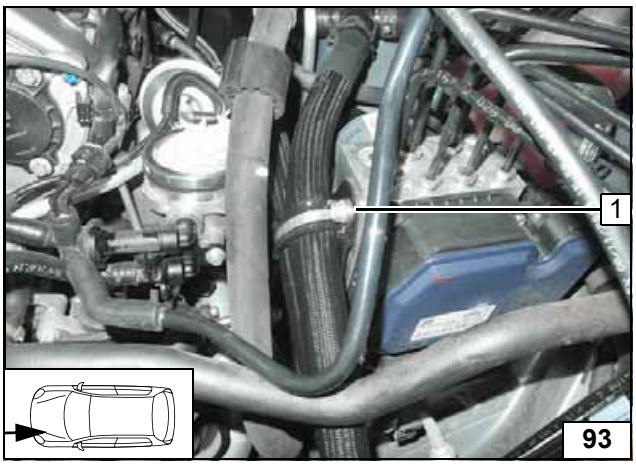
X = 

Cutting point heat exchanger outlet



1 Hose section on heat exchanger outlet
2 Install 18x18x18 mm dia. T-piece
3 Hose section of engine inlet

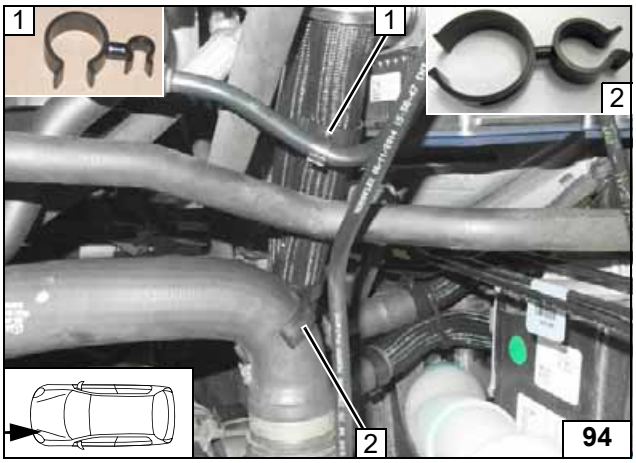
Connection on heat exchanger outlet



Align hoses. Ensure sufficient distance to neighbouring components.

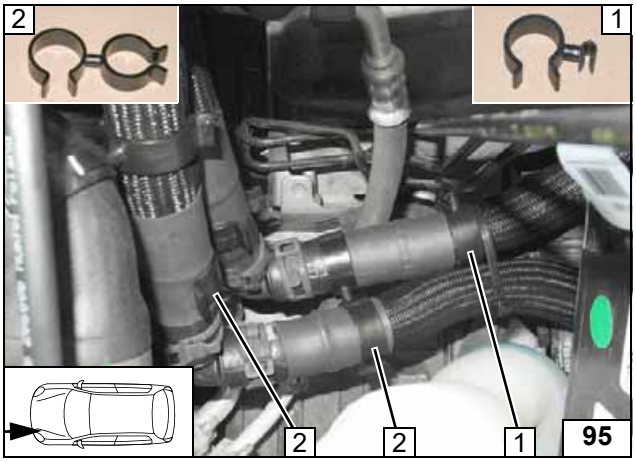
1 Tighten bolt

Fastening hoses



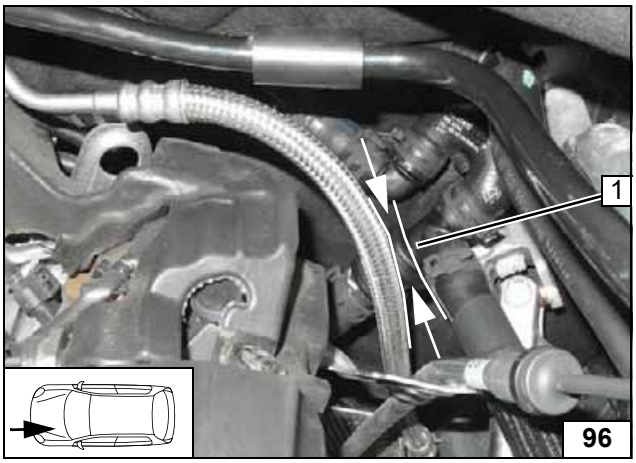
1 Hose bracket
2 Hose bracket

Inserting hose bracket



1 Hose bracket
2 Hose bracket [2x]

Inserting hose bracket



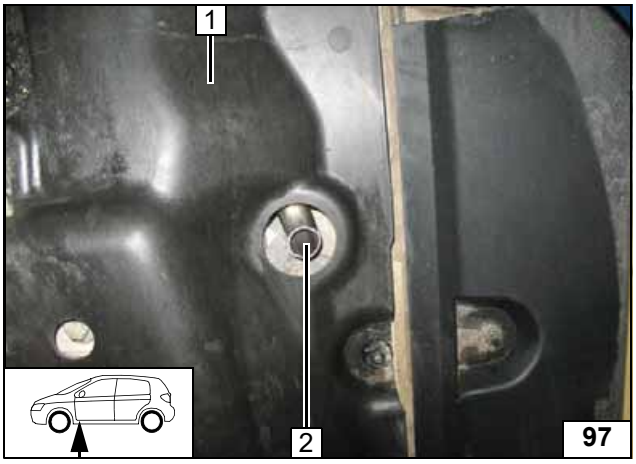
Ensure sufficient distance between original vehicle line and check valve **1**.

Checking distance

Final Work

Reassemble the components in reverse order. Check all hoses, clamps and all electrical connections for firm seating. Insulate and tie back loose lines.
Only use manufacturer-approved coolant. Spray the heater components with anti-corrosion wax (Tectyl 100K).

- **Connect the battery.**
- **Inserting 30A main fuse F0**
- **Fill and bleed the coolant circuit according to the vehicle manufacturer's instructions.**
- **Program MultiControl CAR, teach Telestart transmitter.**
- **For initial start-up and function check, please see installation instructions.**
- **Make settings on the A/C control panel according to the 'Operating Instructions'.**
- **Place the 'Switch off parking heater before refuelling' caution label near the filler neck.**



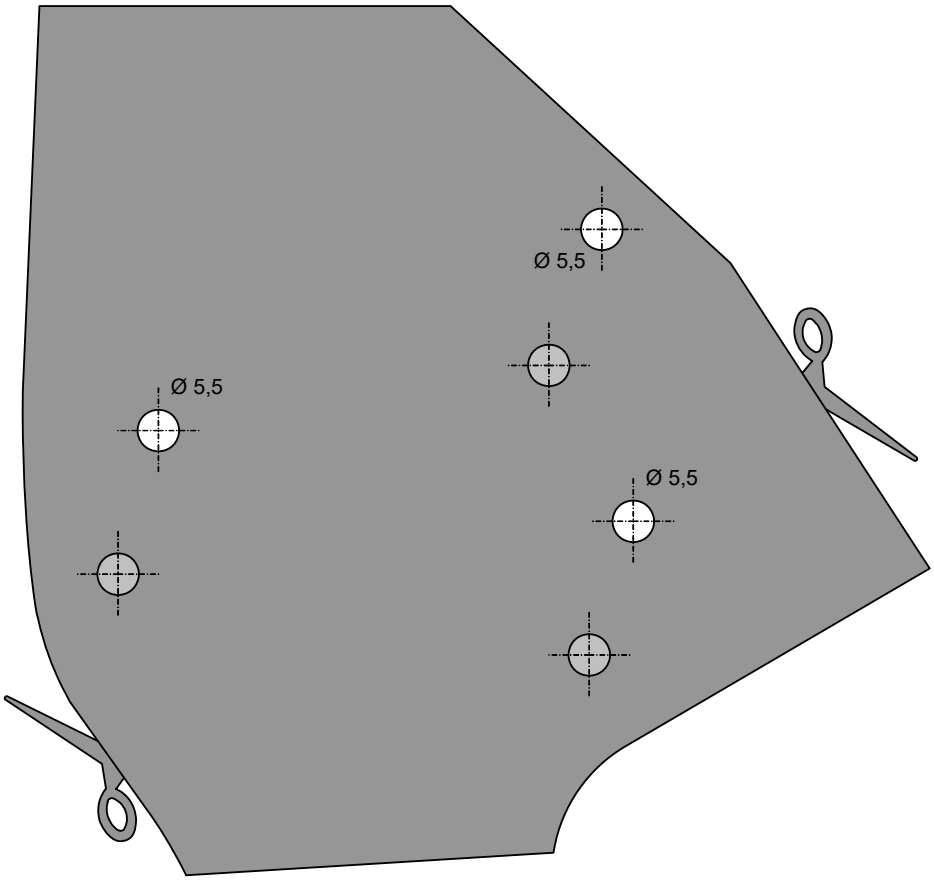
Ensure sufficient distance from neighbouring components, correct if necessary.

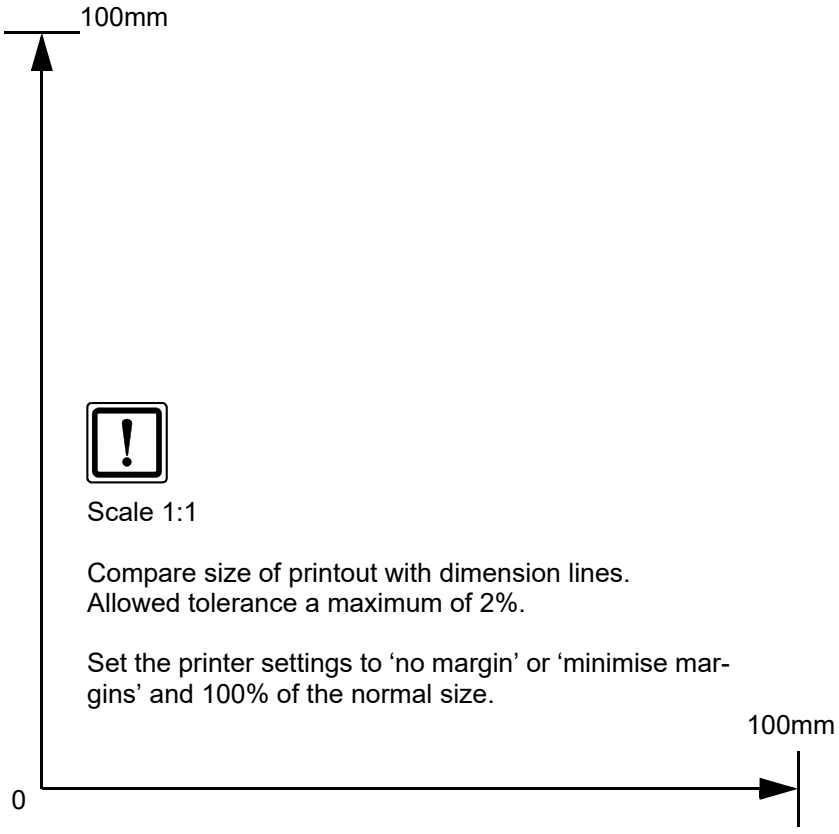
1 Underride protection mounted
2 Exhaust end section

Aligning exhaust end section

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

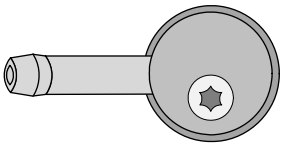
Drilling Template of Bracket

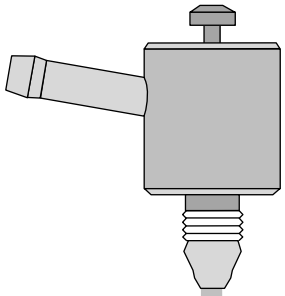




FuelFix Template

Top view





100mm

Scale 1:1

Compare size of printout with dimension lines.
Allowed tolerance a maximum of 2%.

Set the printer settings to ‘no margin’ or ‘minimise margins’ and 100% of the normal size.

100mm

0

Operating Instructions

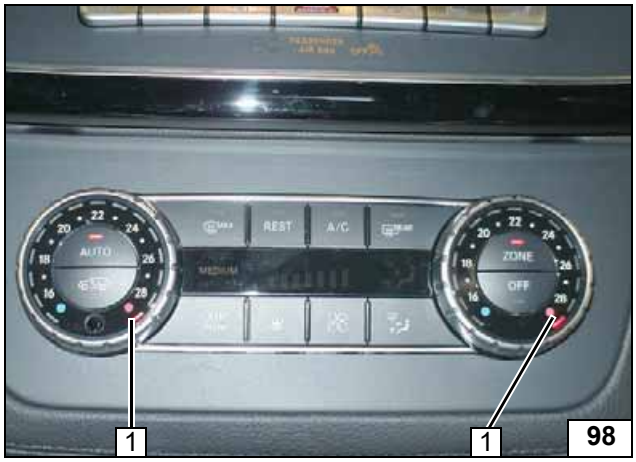
Please remove page and add to the vehicle operating instructions.

Note:
We recommend matching the heating time to the driving time. Heating time = driving time
Example:
For a driving time of approx. 20 min. (in one direction), we recommend not exceeding a switch-on time of 20 min.

To guarantee the proper operation of the parking heater, fill the fuel tank at least to a quarter.

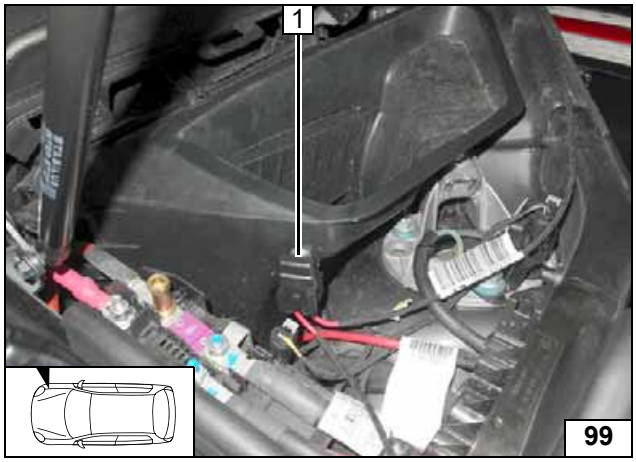
Passenger compartment monitoring, if installed, must be deactivated in addition to the vehicle settings for the heating operation. For instructions on this subject, please refer to the operating instructions of the vehicle.

Before parking the vehicle, make the following settings:



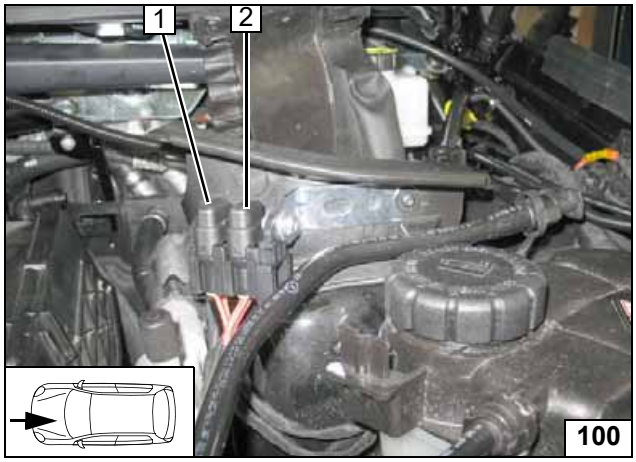
1 Set temperature on both sides to ‘HI’

A/C control panel



1 30A main fuse F0

Engine compartment main fuse



1 1A heater control / fan controller fuse F2
2 20A heater fuse F1

Engine compartment fuses