Water Heater

Webasto
Feel the Drive

***Thermo Top Evo* Parking Heater**

E1
00 0258

Installation Documentation
Renault Scenic / Grand Scenic / Megane

Validity

Manufacturer	Model	Type	EG BE No. / ABE
Renault	Scenic	JZ	e2 * 2001 / 116 * 0379 * ...
Renault	Grand Scenic	JZ	e2 * 2001 / 116 * 0379 * ...
Renault	Megane	KZ/Z/BZ/DZ	e2 * 2001 / 116 * 0373 * ...

Motorisation	Fuel	Transmission type	Output in kW	Displacement in cm³	Engine code
1.5 D	Diesel	5-speed SG	66	1461	K9K
1.5 D	Diesel	6-speed SG	81	1461	K9K
1.5 D	Diesel	6-gear EDC	81	1461	K9K
1.6 D	Diesel	6-speed SG	96	1598	R9M
2.0 D	Diesel	6-speed SG	118	1995	M9R
2.0 D	Diesel	6-speed AG	110	1995	M9R
2.0 D	Diesel	6-speed SG	120	1995	M9R

SG = manual transmission
EDC = dual clutch transmission
AG = automatic transmission

From model year 2012
Left-hand drive vehicle

Verified equipment variants:
Manual / automatic air-conditioning system
Front fog lights
Bi-Xenon with headlight washer system
Daytime Running Lights / LED Daytime Running Lights
Start / Stop
Bumper, GT optics
Euro 5 Emission standard
XMOD package

Not verified: Passenger compartment monitoring

Exclusion: 1.5 D and 2.0 D with electric fuel feed pump

Total installation time: approx. 10 hours

Renault Scenic / Grand Scenic / Megane

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Necessary Components

- Basic delivery scope of *Thermo Top Evo* based on price list
- Installation kit Renault Scenic / Grand Scenic / Megane 2012 Diesel: **1318635C**
- to be ordered additionally in case of 2.0 automatic transmission:
  Exhaust silencer: **1320488**_
- Heater control in accordance with price list and upon consultation with end customer
- In case of Telestart, indicator lamp in accordance with price list and in consultation with end customer

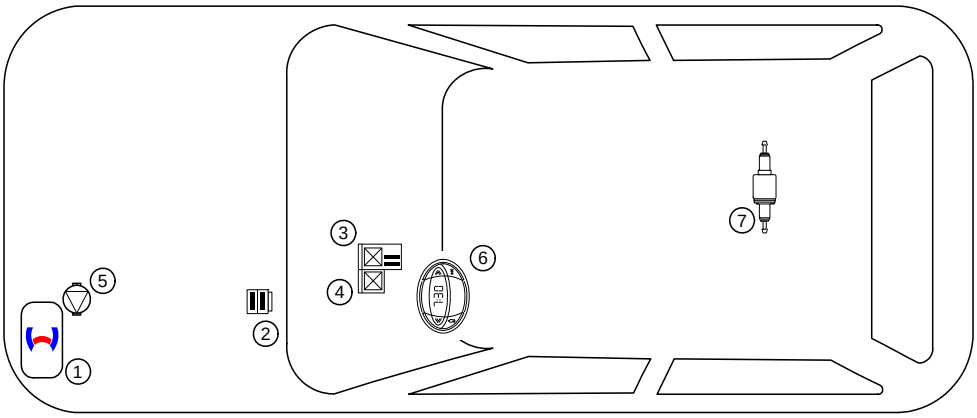
Installation instructions:

- 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 available space and manufacturer's instructions, we recommend the use of a vehicle battery with more electrical capacity.

Installation Overview

Legend:

1. Heater
2. Engine compartment fuse holder
3. Passenger compartment relay and fuse holder
4. PWM Gateway
5. Circulating pump
6. Digital timer (Scenic installation location)
7. 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.

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 have to audibly click into place during installation.

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 startup 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.

Renault Scenic / Grand Scenic / Megane

Information on Validity

This installation documentation applies to Renault Scenic / Grand Scenic / Megane Diesel vehicles - for validity, see page 1 - from model year 2012 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

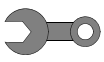
Special Tools
- Hose clamp pliers for auto-tightening hose clamps
- Hose clamp pliers for Clic hose clamps of type W
- Automatic wire stripper, 0.2 - 6mm²
- Crimping pliers for cable lug / tab connector, 0.5 - 6mm²
- Torque wrench for 2.0 - 10 Nm
- Hose clamping pliers
- Metric thread-setter kit
- Deep-hole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

Dimensions
- All dimensions are in mm.

Tightening torque values
- Tightening torque values of 5x13 heater bolts = 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-

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 injury or fatal accidents. 

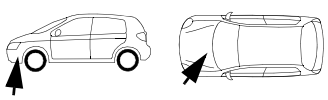
Specific risk due to electrical voltage. 

Specific risk of damage to components. 

Specific risk of fire and explosion. 

Reference to general installation instructions of the 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. 

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

Renault Scenic / Grand Scenic / Megane

Preliminary Work

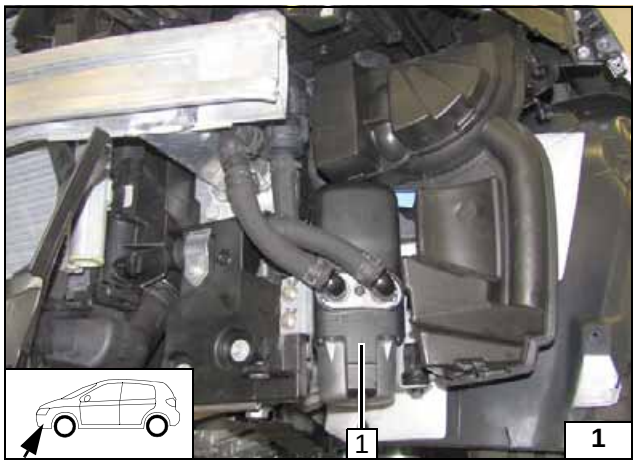
All "Scenic" and "Grand Scenic" will be referred to as "Scenic" from this point forward.

Vehicle

- Open the fuel tank cap.
- Ventilate the fuel tank.
- Close the fuel tank cap again.
- Depressurise the cooling system.
- Completely remove the battery together with the carrier.
- Remove the air filter completely, together with the intake hose.
- Drain the coolant.
- Remove the air resonator.
- Remove the wheel well trim on the left side.
- Remove the front bumper trim.
- Remove the underride protection.
- Remove the instrument panel trim on the driver's side.
- Remove the accelerator pedal.
- Remove the side trim centre console on the driver's side.

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

Image shows 1.5 manual transmission and 2.0 with manual and automatic transmission.

1 Heater

Installation location

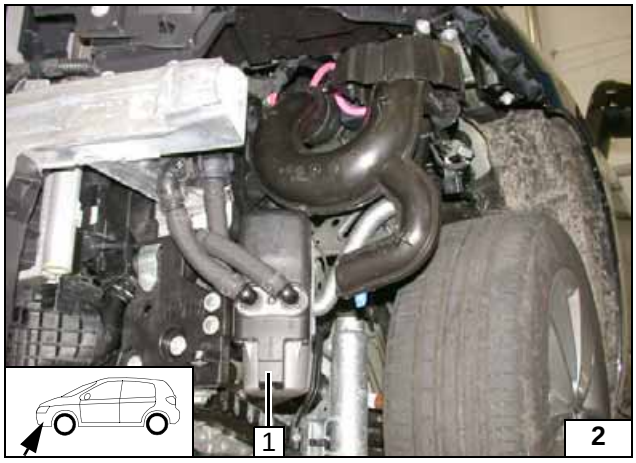
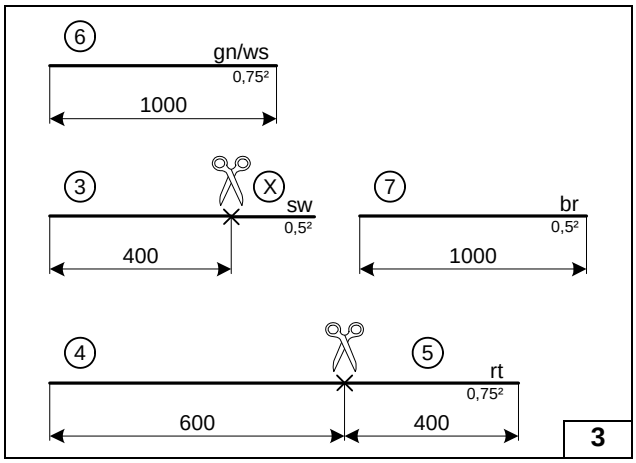


Image shows 1.5 with EDC transmission and 1.6 with manual transmission.

1 Heater

Installation location



3

Preparing Electrical System

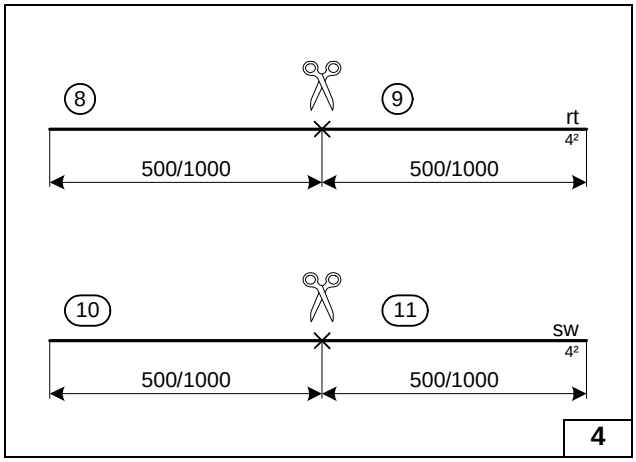
Wire sections retain their numbering in the entire document.

Produce all following electrical connections as shown in the wiring diagram.

Discard section **X**.

The provided fan wiring harness contains a red (rt) wire 4² ① and a black (sw) wire 4² ②.

Cutting wires to length

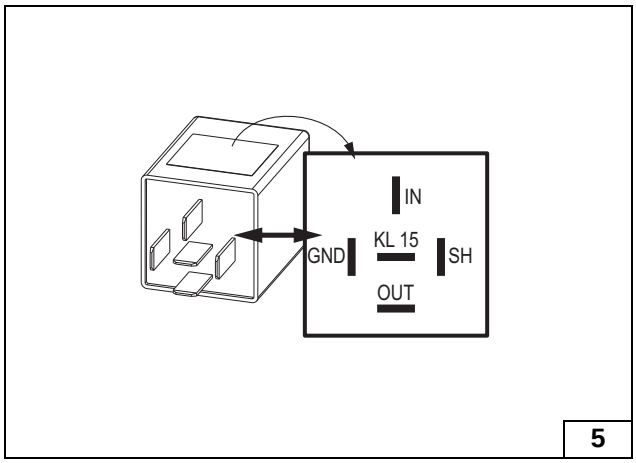


4

All wire sections will be needed to connect the auxiliary heater.

All wires are 500mm long for all vehicles except for 2.0 Automatic transmission vehicles. All wires are 1000mm long for 2.0 automatic transmission (AG) vehicles.

Cutting wires to length



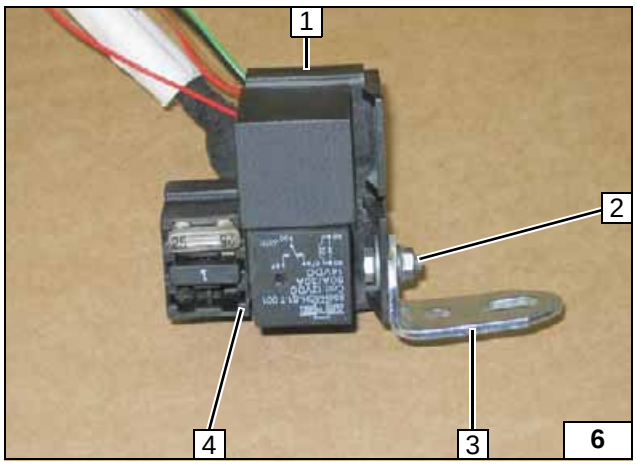
5

Check the PWM Gateway settings when starting up the heater and adjust if necessary.

Settings:

Duty cycle: 65%
Frequency: 400Hz
Voltage: not relevant
Function: Low side

Preparing PWM Gateway



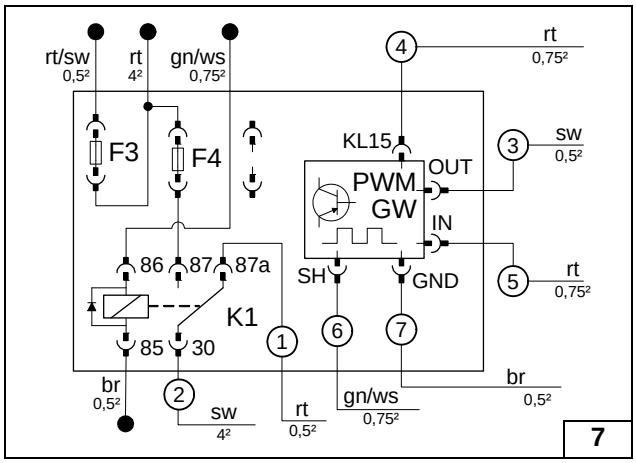
6

Passenger compartment relay and fuse holder

Interlock PWM gateway socket **1** and relay and fuse holder of passenger compartment **4**.

2 M5x16 bolt, washer [2x], nut
3 Angle bracket

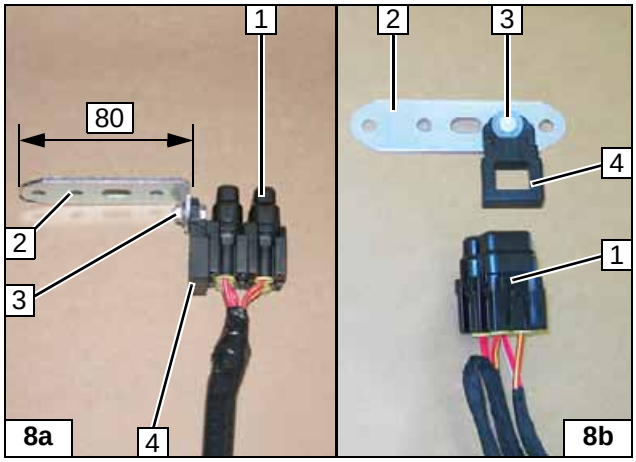
Preparing passenger compartment relay and fuse holder



7

Pull wires ③ and ⑤ as well as wire ④ into one protective sleeving each.
Insert PWM Gateway, K1 relay and 25A fuse F4.

Preparing passenger compartment relay and fuse holder



Engine compartment fuse holder

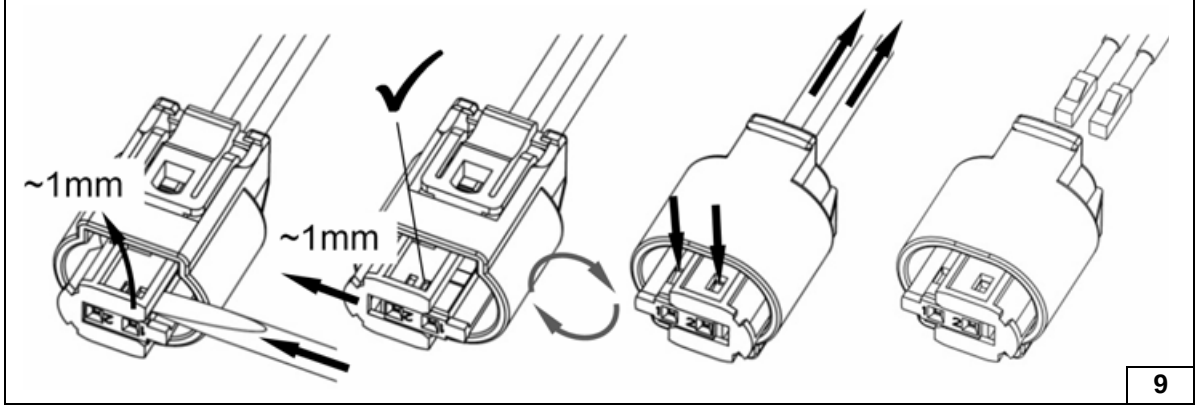
Figure **8a** = Megane
Figure **8b** = Scenic

1 Fuses F1-2
2 Perforated bracket (angle down by 90° for Megane.)
3 M5x16 bolt, washer [2x], nut
4 Retaining plate of fuse holder

Preparing fuse holder

All vehicles

Connector X7



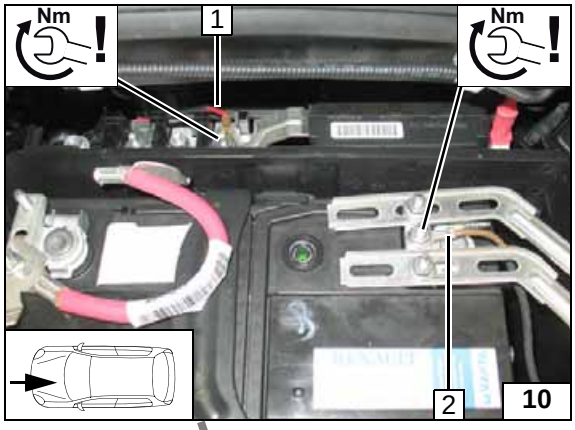
9

Dismantling metering pump connector

Electrical System

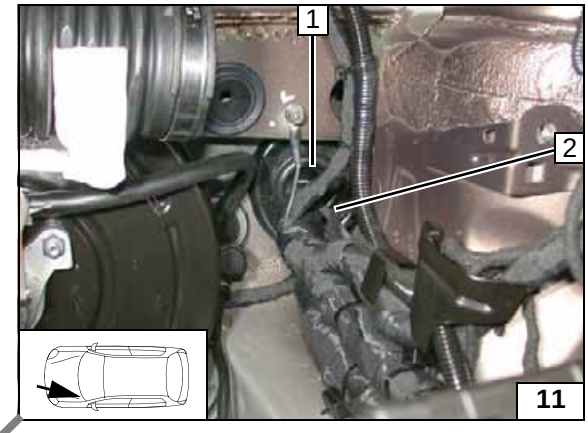
Positive and earth wire

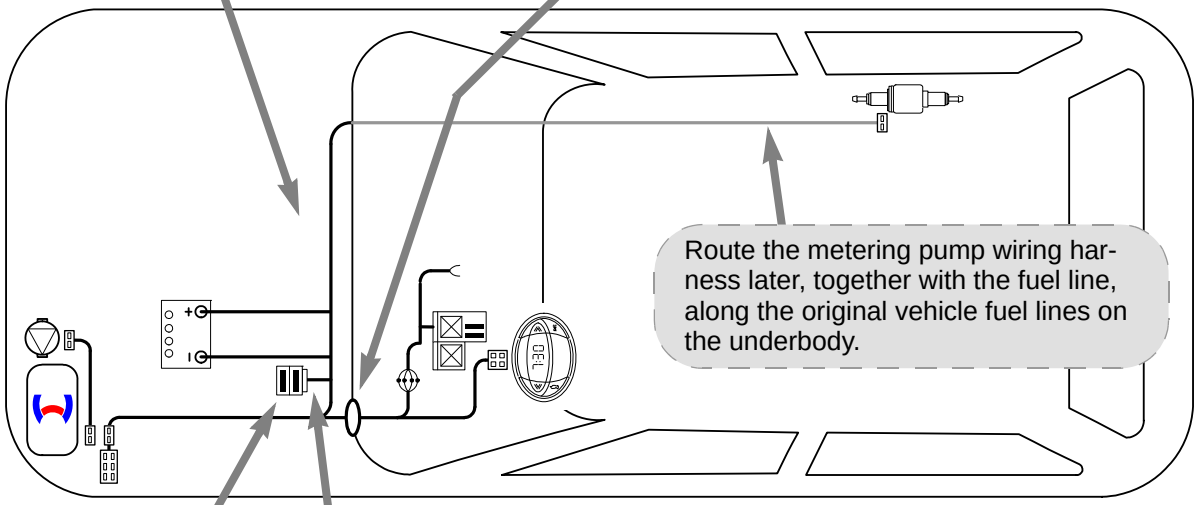
1 Positive wire on positive support point
2 Earth wire on negative battery terminal



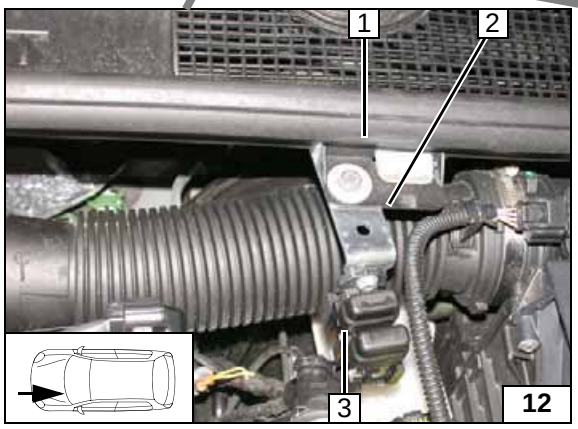
Wiring harness pass through

1 Protective rubber plug
2 Wiring harness of fan controller, heater control



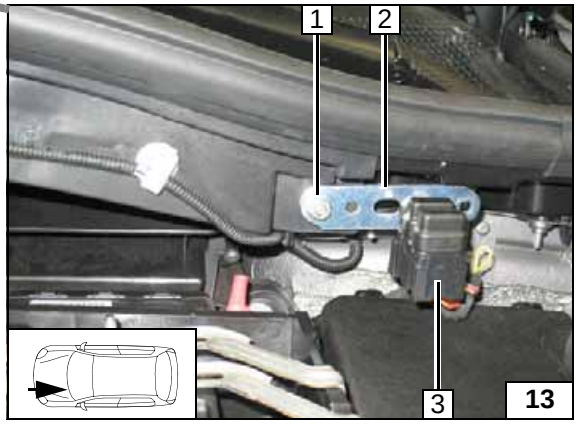


Wiring harness routing diagram



Fuse holder in engine compartment of the Megane

1 M6x20 bolt, large diameter washer, flanged nut
2 Perforated bracket
3 Fuses F1 and F2

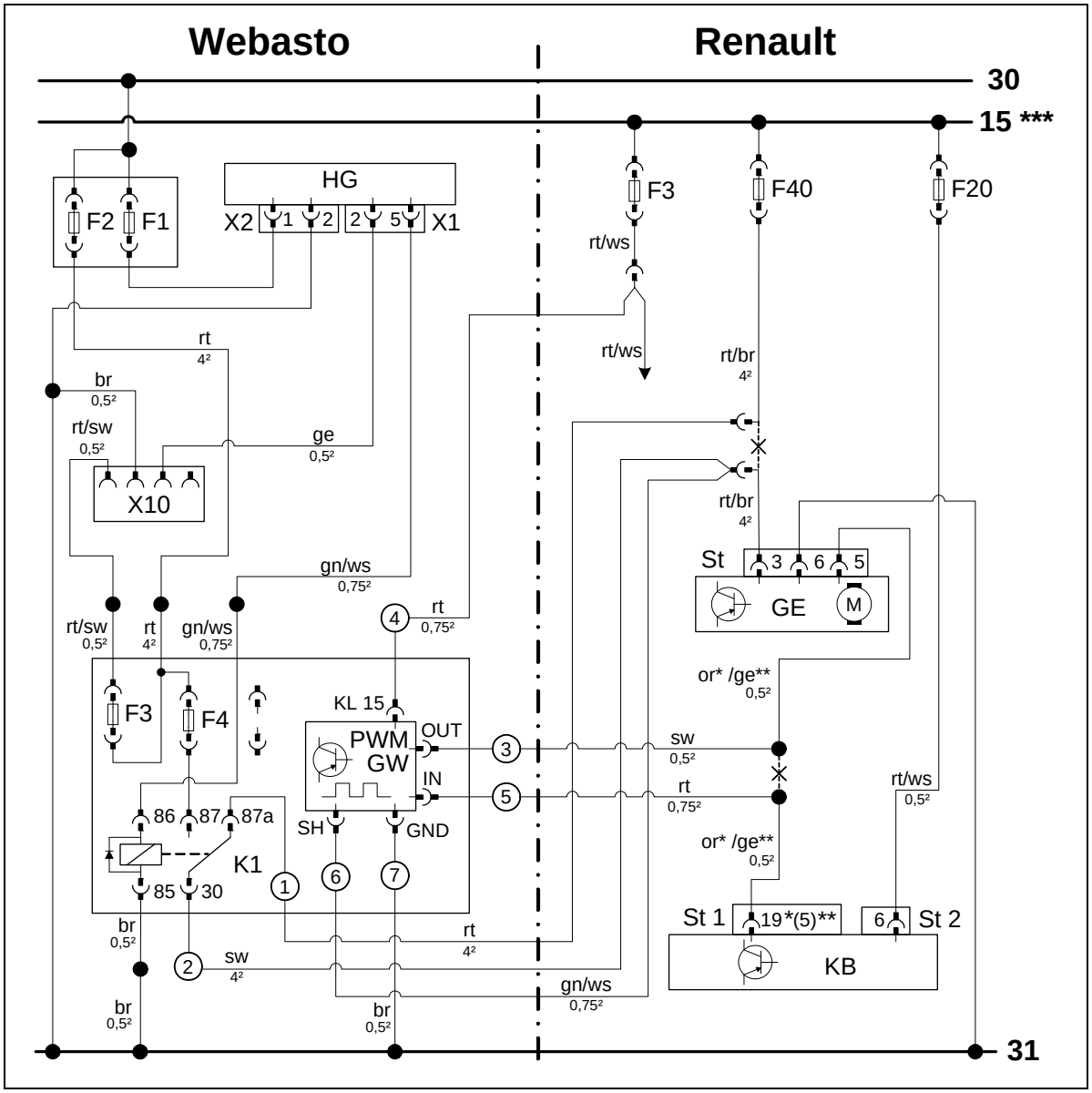


Fuse holder in the engine compartment of the Scenic

1 Original vehicle stud bolt, flanged nut
2 Perforated bracket
3 Fuses F1 and F2

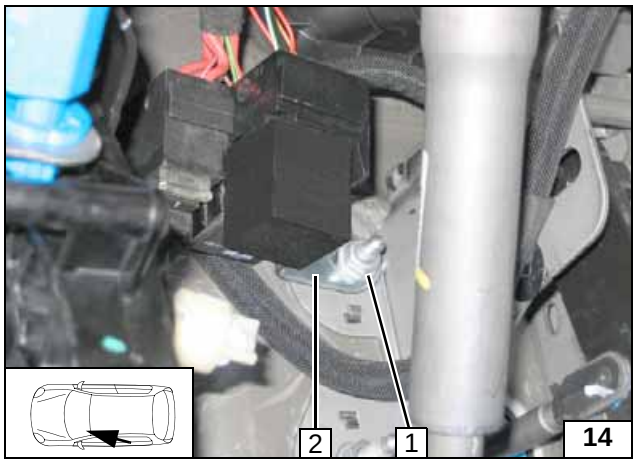
Fan Controller

Wiring diagram



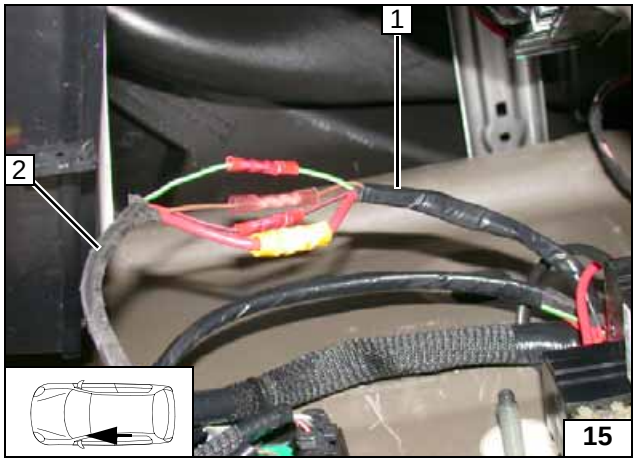
Webasto components		Vehicle components		Colours and symbols	
HG	TT-Evo heater	F3	15A fuse Cigarette lighter	rt	red
X1	6-pin heater connector			sw	black
X2	2-pin heater connector	F40	40A fuse	ge	yellow
X10	4-pin connector of heater control	F20	5A fuse	gn	green
		GE	Fan unit	or	orange
K1	Fan relay	St	6-pin connector of GE	ws	white
F1	20A fuse	KB	A/C control panel	br	brown
F2	30A fuse	St 1	40-pin connector of KB		
F3	1A fuse	St 2	24-pin connector of KB		
F4	25A fuse				
PWM GW	Pulse width modulator				
PWM Gateway settings:				*	Automatic air-conditioning
Duty cycle:	65%			**	Manual air-conditioning
Frequency:	400Hz			***	delayed
Voltage:	not relevant			**X**	Cutting point
Function:	Low side			Wiring colours may vary.	

Legend



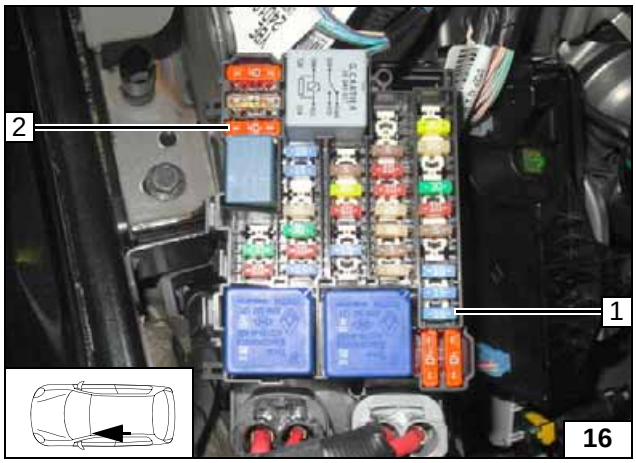
1 Original vehicle stud bolt, flanged nut
2 Angle bracket

Installing passenger compartment relay and fuse holder



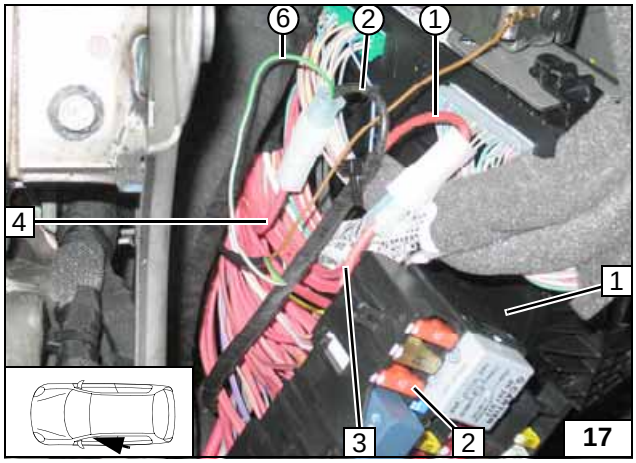
1 Passenger compartment relay and fuse holder wiring harness
2 Heater wiring harness

Connecting same colour wires of wiring harnesses



1 Socket for fuse F3
2 Socket for fuse F40

Socket for fuses

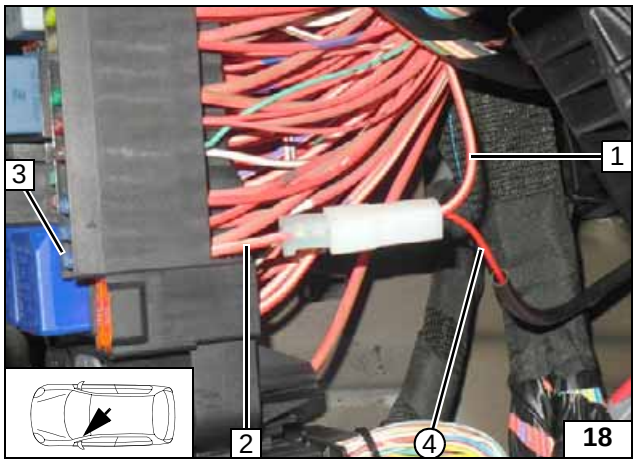


Connection to fuse and relay box **1**. Cut wires to length.

Warning:
Output fuse F40 switches off after a delay.

2 Socket for fuse F40
3 Red/brown (rt/br) wire of fuse F40
4 Red/brown (rt/br) wire of fan unit
① Red (rt) wire of K1/87a
② Black (sw) wire of K1/30
⑥ Green/white (gn/ws) wire of PWM Gateway/SH

Connecting fuse box



Connection to fuse F3 **3**.

Warning:
Output fuse F3 switches off after a delay.

1 Red/white (rt/ws) wire of cigarette lighter
2 Red/white (rt/ws) wire of fuse F3
④ Red (rt) wire of PWM Gateway/terminal 15 (KL 15)

Terminal 15 of PWM Gateway

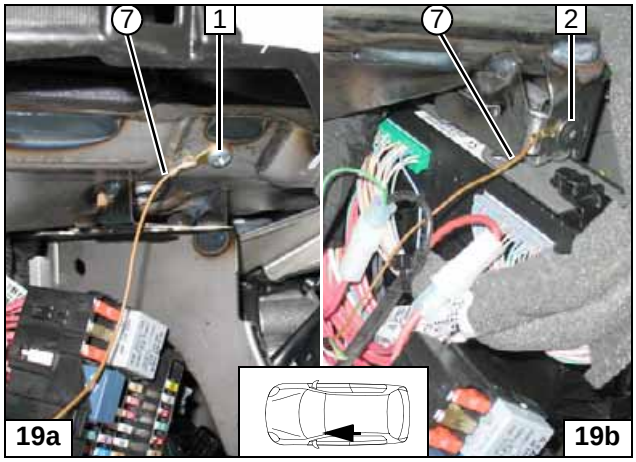
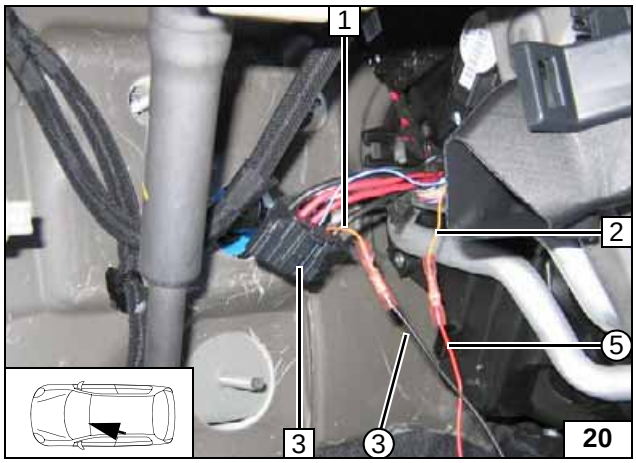


Figure **19a** = Megane
Figure **19b** = Scenic

1 5.5x13 self-tapping screw; existing hole or 4 mm dia. hole, if not available
2 Original vehicle bolt
⑦ Brown (br) wire of PWM Gateway/GND, cable lug

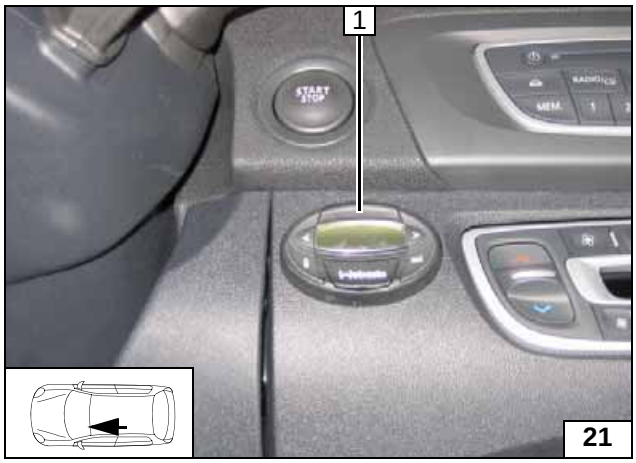
PWM Gateway earth connection



Connection to 6-pin connector **3** from fan unit. Orange (or) wire for automatic air-conditioning or yellow (ge) wire for manual air-conditioning system.

1 Orange (or) or yellow (ge) wire of fan unit connector, pin 5
2 Orange (or) or yellow (ge) wire of A/C control panel
③ Black (sw) wire of PWM Gateway/OUT
⑤ Red (rt) wire of PWM Gateway/IN

Connecting fan unit

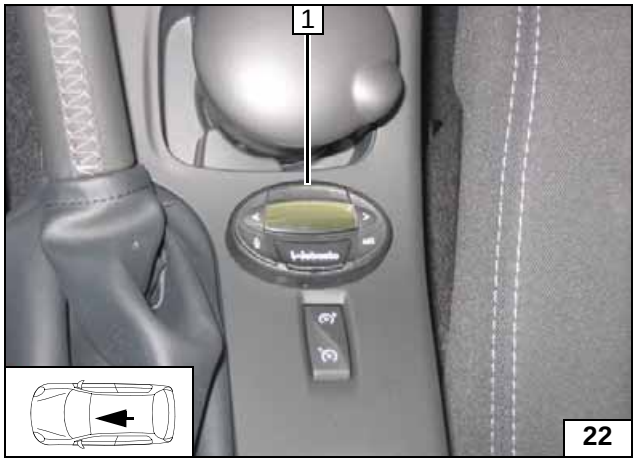


Digital Timer

Scenic

1 Digital timer

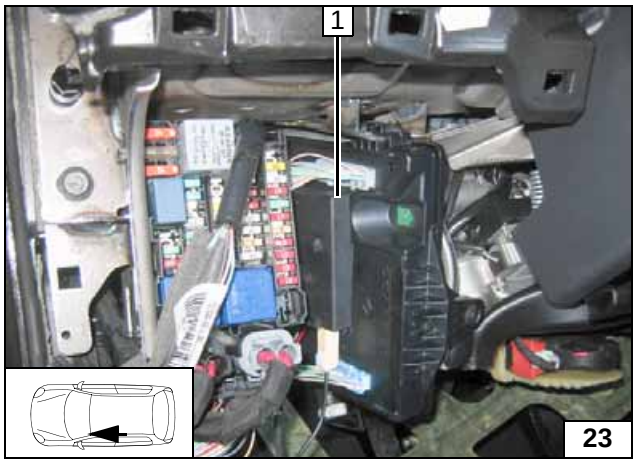
Installing digital timer



Megane

1 Digital timer

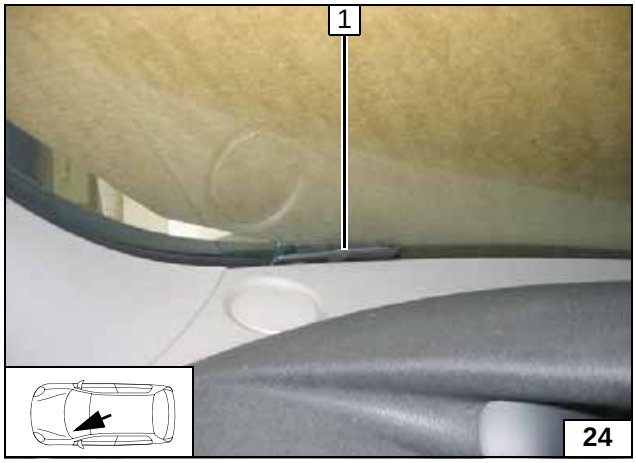
Installing digital timer



Remote Option (Telestart)

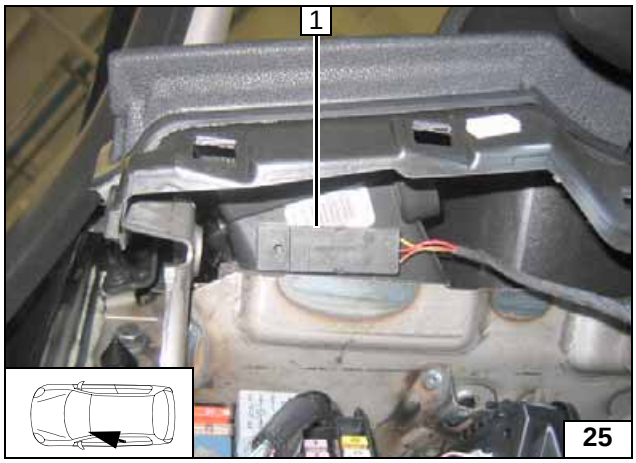
1 Fasten receiver with adhesive tape

Installing receiver



1 Aerial

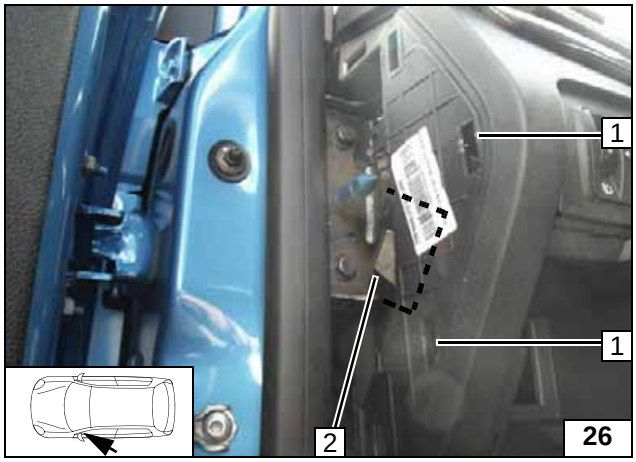
Installing aerial



Temperature sensor T100 HTM

Fasten temperature sensor **1** with adhesive tape.

Installing temperature sensor

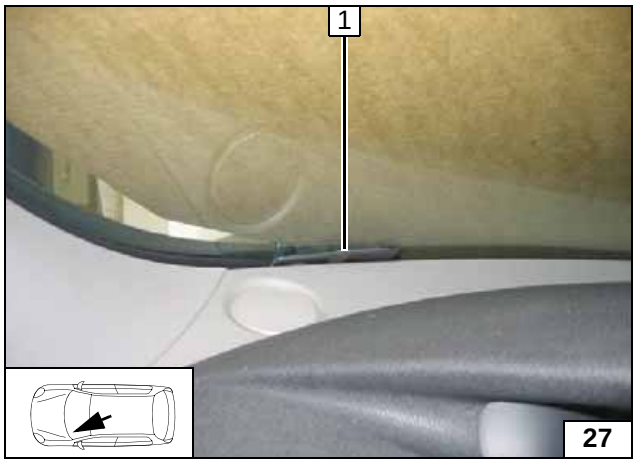


ThermoCall Option

Keep openings for retaining clips **1** free.

2 Fasten receiver to instrument panel from the inside with adhesive tape

Installing receiver



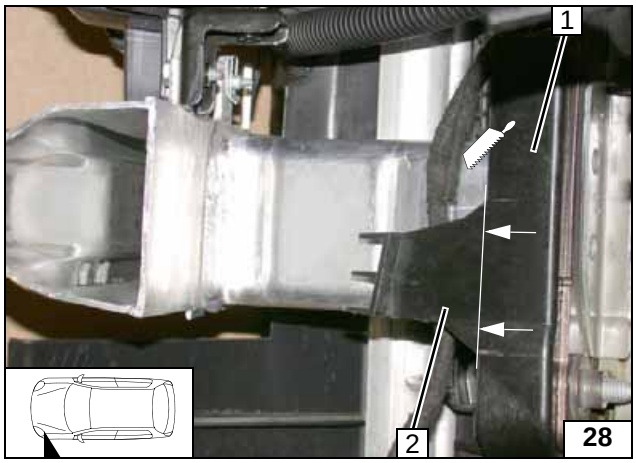
1 Aerial

Installing aerial

Preparing Installation Location

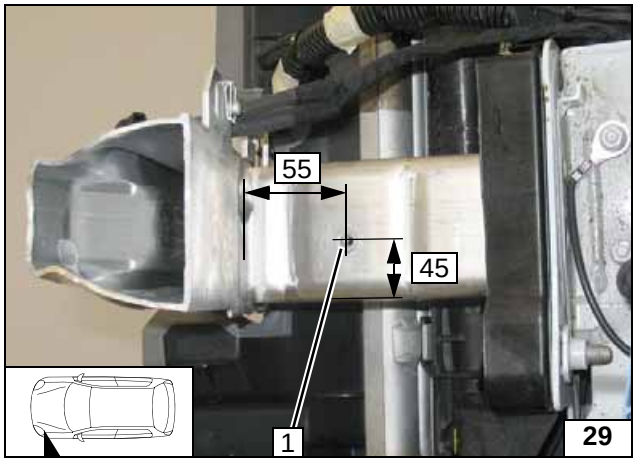
Cut original vehicle bracket **1** at the marking.

2 Discard section



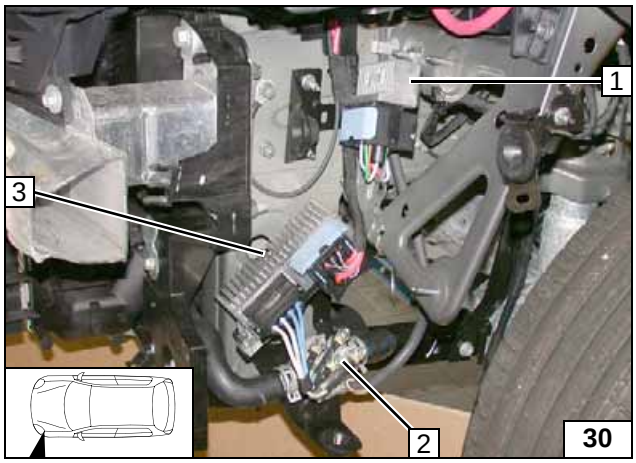
Cutting bracket

1 9.1mm dia. hole; rivet nut



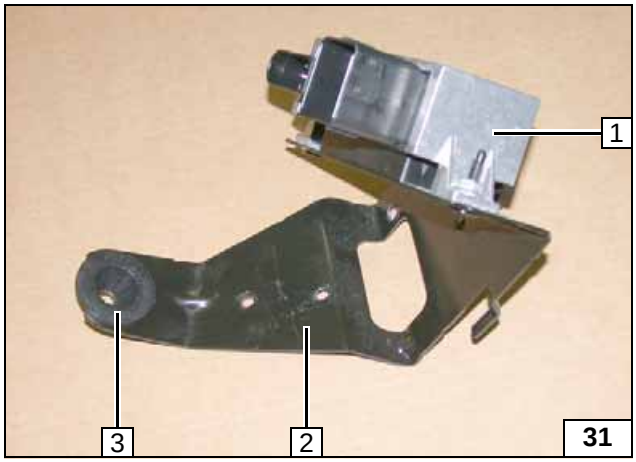
Installing rivet nut

Remove electric auxiliary heater **2** with bracket (loosen water connections, remove wiring, original vehicle bolts will be re-used). Remove control unit of electrical auxiliary heater **3** with bracket. Remove control unit **1** - not in case of 2.0 AG.

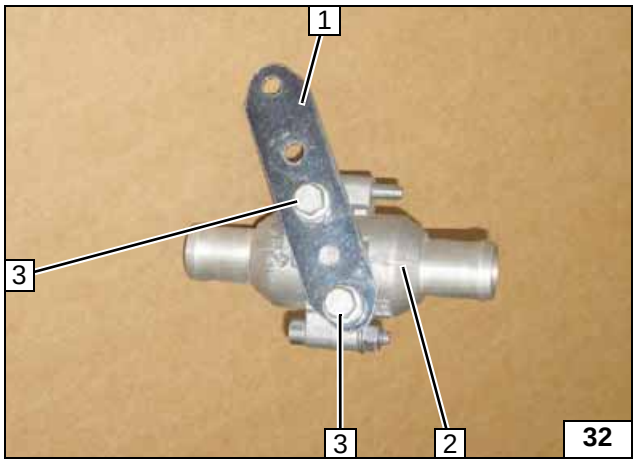


Preparing installation location

Remove control unit of electrical auxiliary heater **1**. Remove rubber plug **3** (will be re-used), discard bracket **2**.



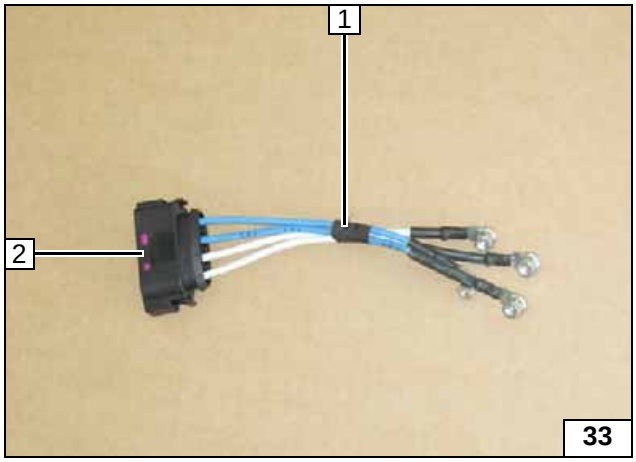
Installing perforated bracket



All vehicles except 2.0 AG

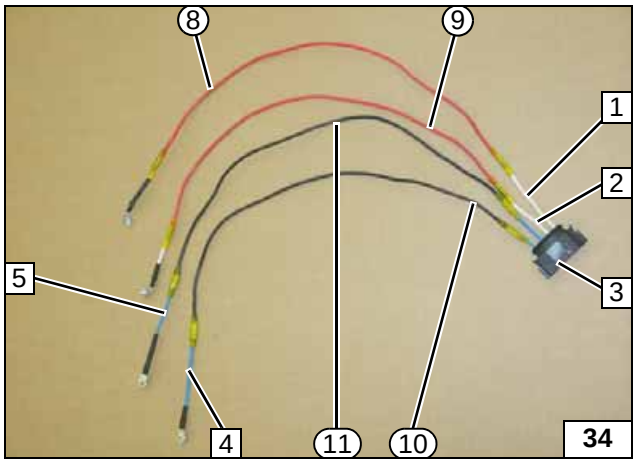
1 Perforated bracket
2 Electrical auxiliary heater
3 Original vehicle bolts

Installing perforated bracket



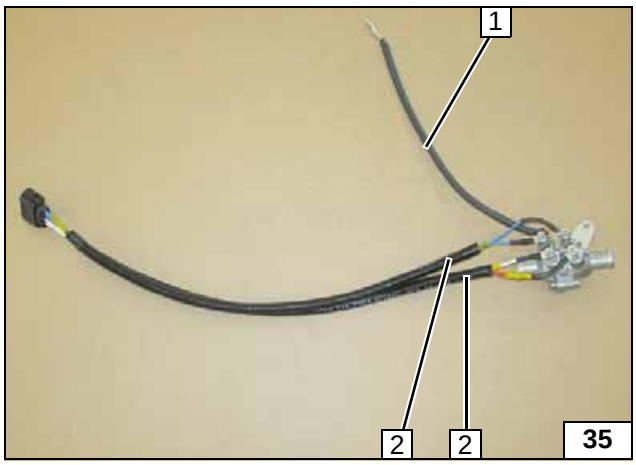
Separate white (ws) and blue (bl) wires [2x each] of auxiliary heater control unit connector **2** at position **1**.

Separating blue (bl) and white (ws) wires



Extend white (ws) wires **1** and **2** of auxiliary heater control unit connector **3** with red (rt) wires ⑧ and ⑨ as well as with shrink connectors. Extend blue (bl) wires **4** and **5** of auxiliary heater control unit connector **3** with red (rt) wires ⑩ and ⑪ as well as with shrink connectors.

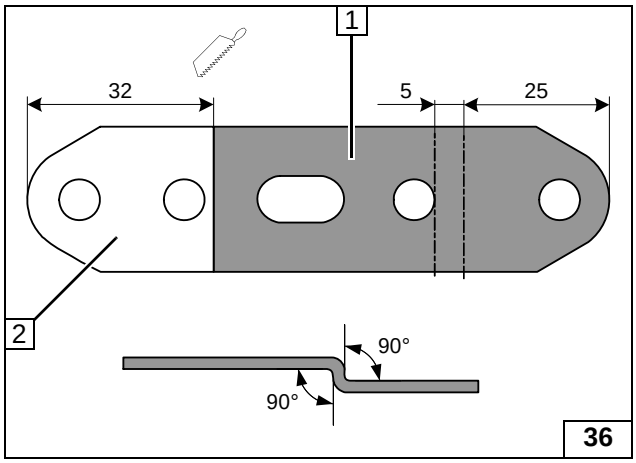
Extending auxiliary heater wiring



Slide one 10mm dia. corrugated tube **2** [2x 500mm long] each onto red (rt) and black (sw) wires. Re-install white (ws) and blue (bl) wires [2x each] to the auxiliary heater.

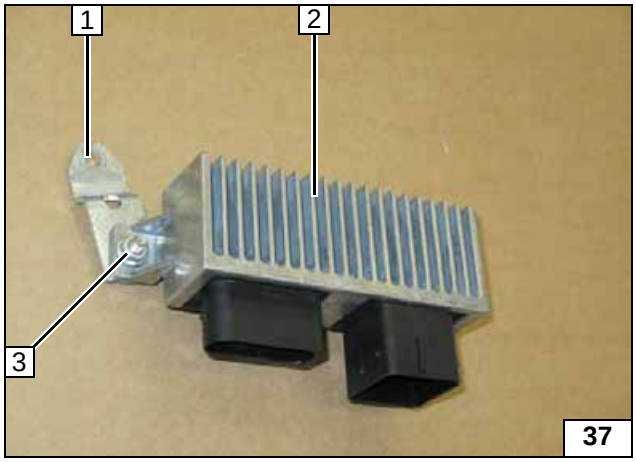
1 Earth wire of auxiliary heater

Connecting auxiliary heater



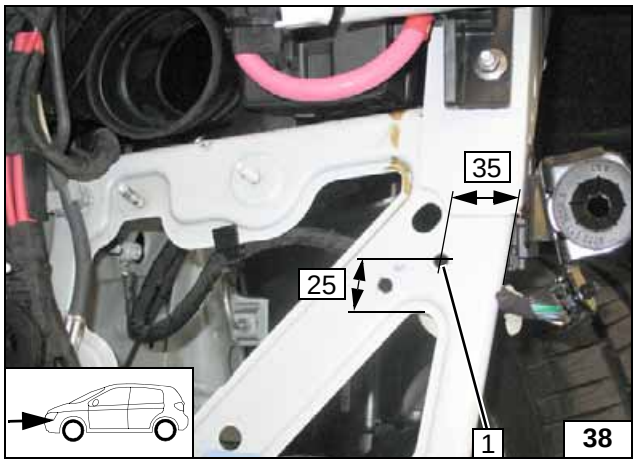
1 Perforated bracket
2 Discard section

Preparing perforated bracket



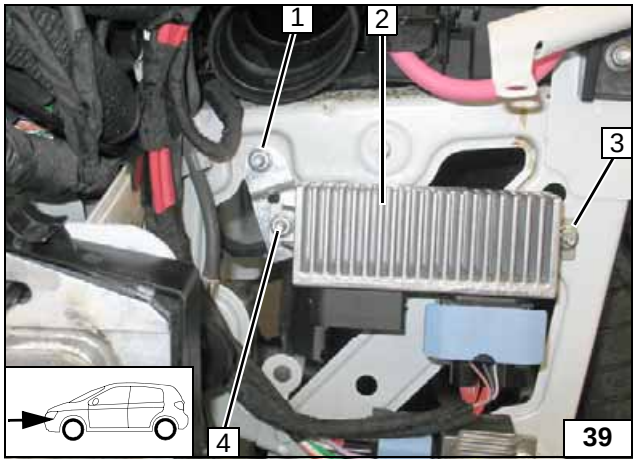
3 Loosely mount original vehicle bolt,flanged nut

Premounting auxiliary heater control unit



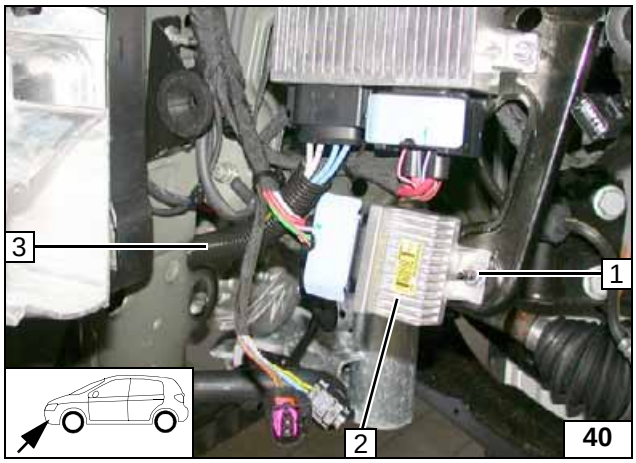
1 7 mm dia. hole

Hole for control unit



1 Original vehicle stud bolt, flanged nut
2 Control unit of electric auxiliary heater
3 Original vehicle bolt, flanged nut
4 Tighten bolt

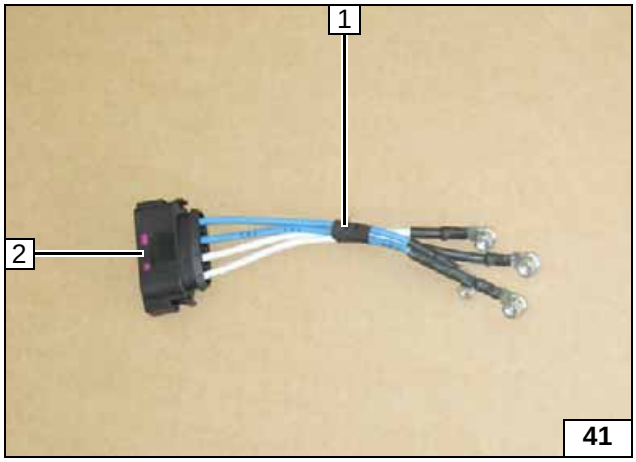
Installing control unit



Mount connectors on control units. Route corrugated tubes **3** [2x] with feed lines of auxiliary heater to the underbody along the cross member.

1 Original vehicle stud bolt, flanged nut
2 Control unit

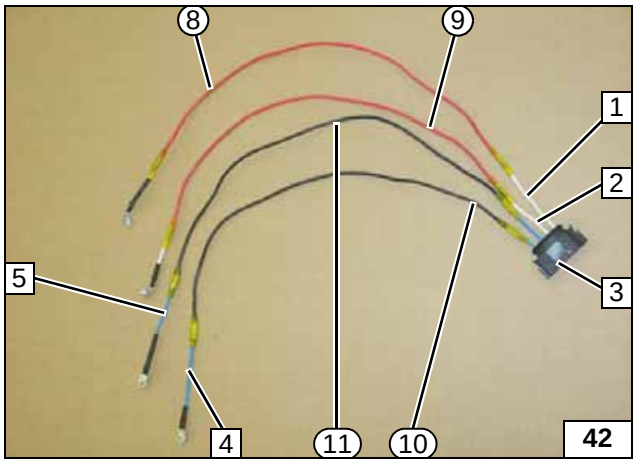
Installing control unit



2.0 AG

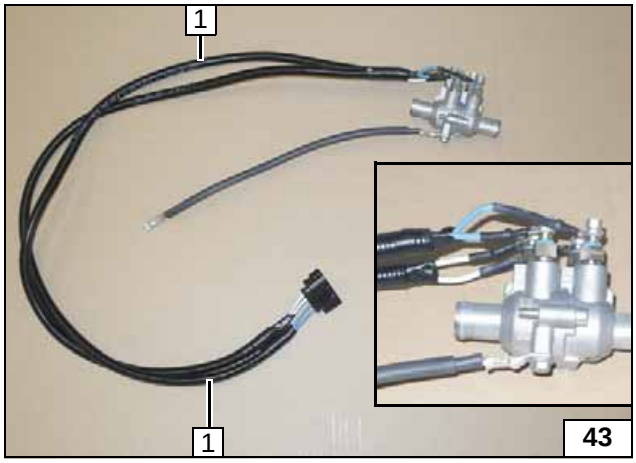
Separate white (ws) and blue (bl) wires [2x each] of auxiliary heater control unit connector **2** at position **1**.

Separating blue (bl) and white (ws) wires



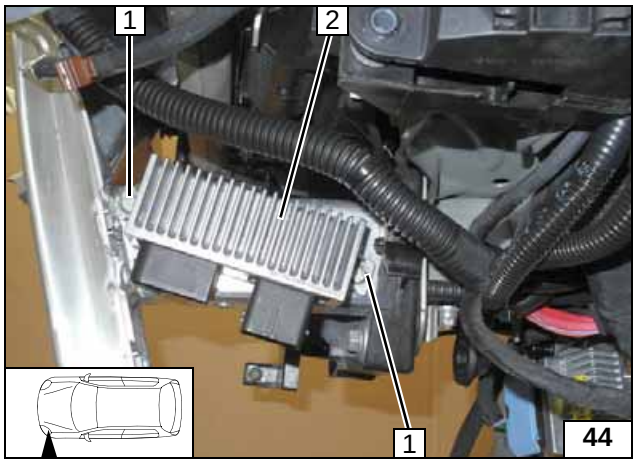
Extend white (ws) wires **1** and **2** of auxiliary heater control unit connector **3** with red (rt) wires ⑧ and ⑨ as well as with shrink connectors. Extend blue (bl) wires **4** and **5** of auxiliary heater control unit connector **3** with red (rt) wires ⑩ and ⑪ as well as with shrink connectors.

Extending auxiliary heater wiring



Cut 10mm dia. corrugated tube **1** in half [2x 1050mm long] and slide onto red (rt) and black (sw) wires. Re-install white (ws) and blue (bl) wires [2x each] to the auxiliary heater.

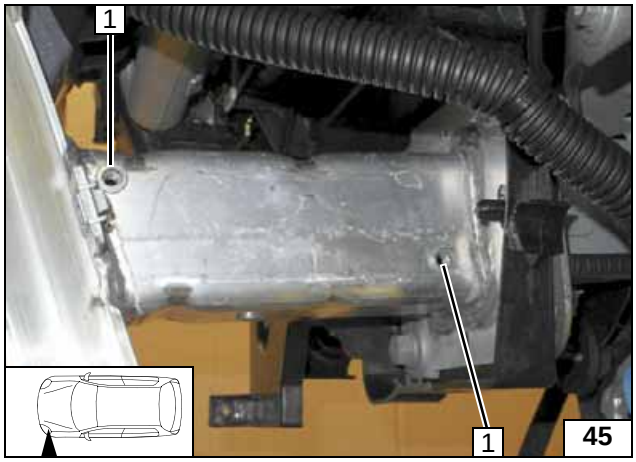
Connecting auxiliary heater



Position control unit **2** on the frame side member as shown.

1 Copy hole pattern [2x]

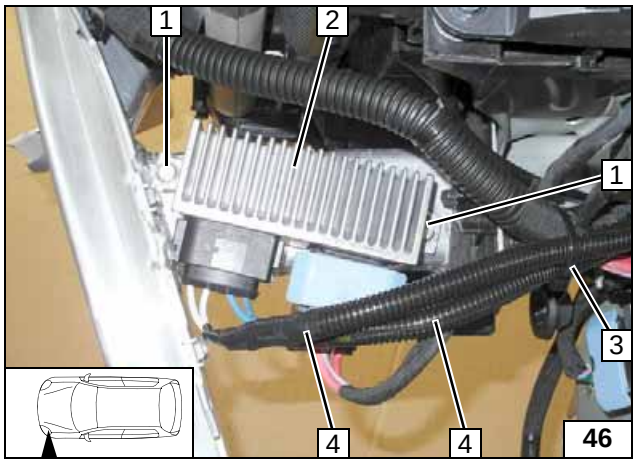
Copying hole pattern



Remove control unit.

1 9.1 mm dia. hole; rivet nut [2x each]

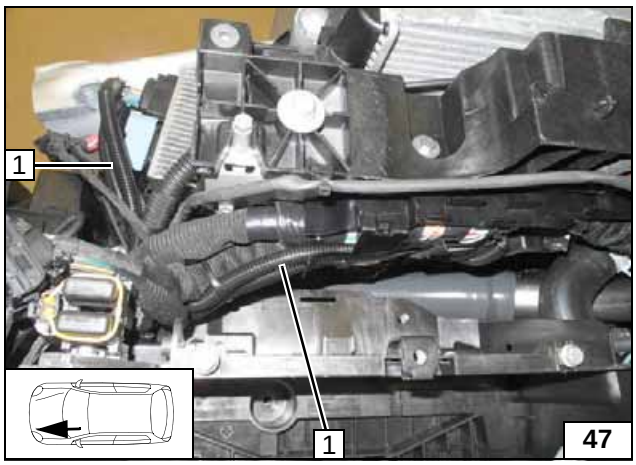
Installing rivet nuts



Attach connector to control unit of electrical auxiliary heater **2**. Fasten corrugated tubes **4** [2x] with supply lines of auxiliary heater using cable tie **3**.

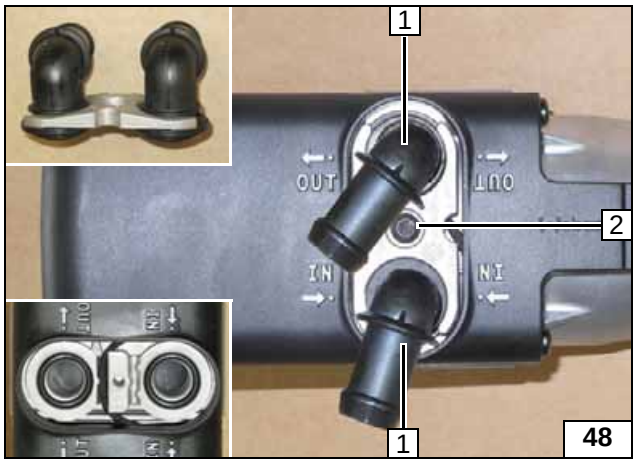
1 M6x20 bolt, spring lockwasher [2x each]

Installing control unit



Route corrugated tubes **1** [2x] with supply lines of auxiliary heater.

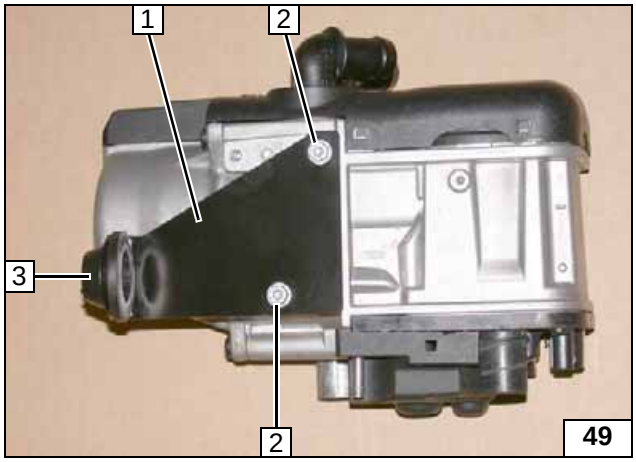
Routing lines



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

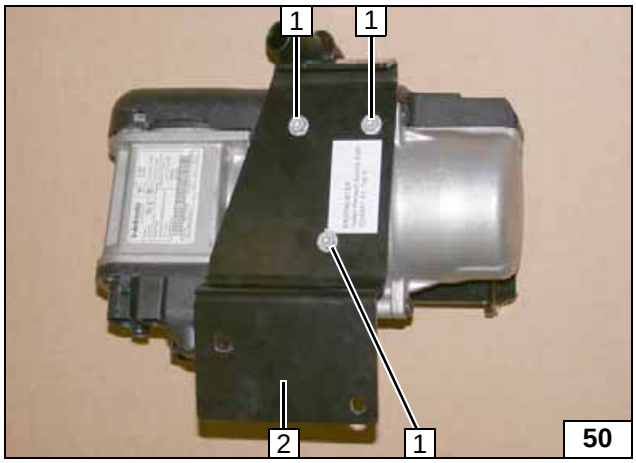


1.5 and 2.0

Only install bracket **A** in case of 1.5 with SG and 2.0 with SG and AG.
Insert rubber plug **3** into bracket **1**.

1 Part **A** of bracket
2 5x13 self-tapping bolt [2x]

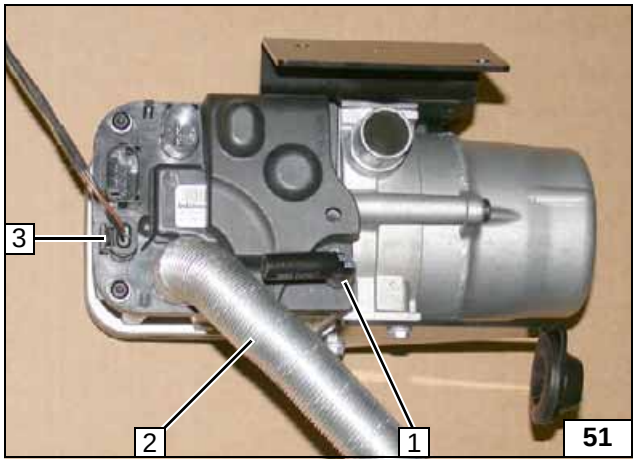
Premounting heater



All vehicles

1 5x13 self-tapping bolt [3x]
2 Part **B** of bracket

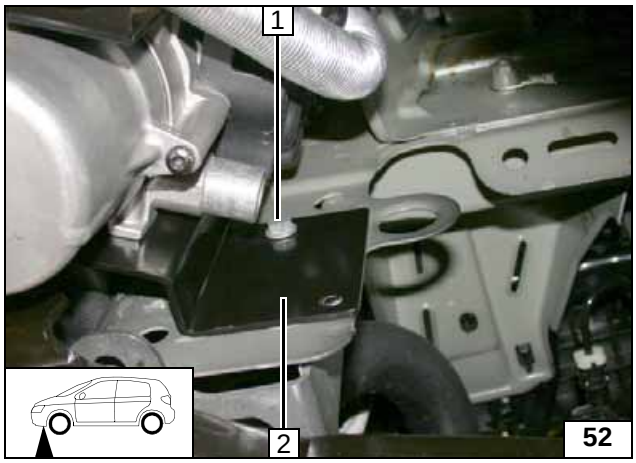
Installing bracket B



Shorten combustion air pipe **2** to 180mm only in case of 2.0 AG.

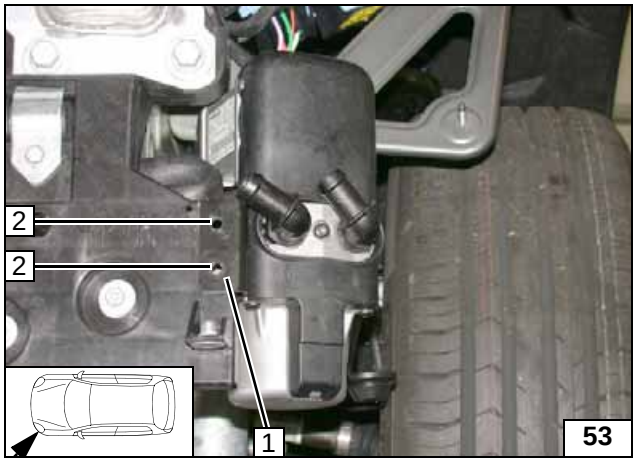
1 90° moulded hose, 10 mm dia. clamp
3 Wiring harness of circulating pump,mounted

Premounting heater



1 Original vehicle bolt, existing threaded holes
2 Part **B** of bracket

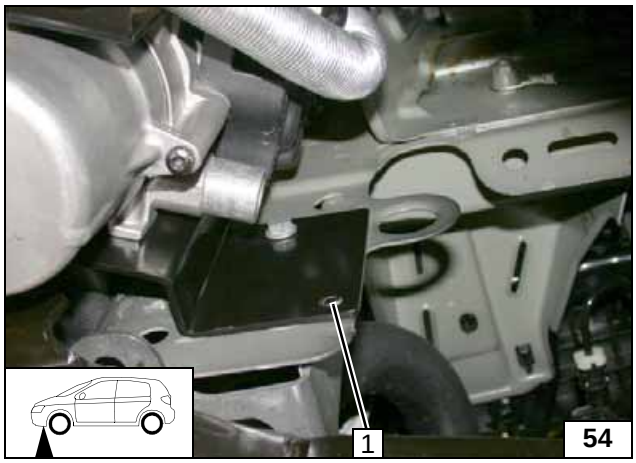
Loosely installing heater



Align heater as shown.

1 Part **B** of bracket
2 Copy hole pattern, 7mm dia. hole [2x]

Holes for heater



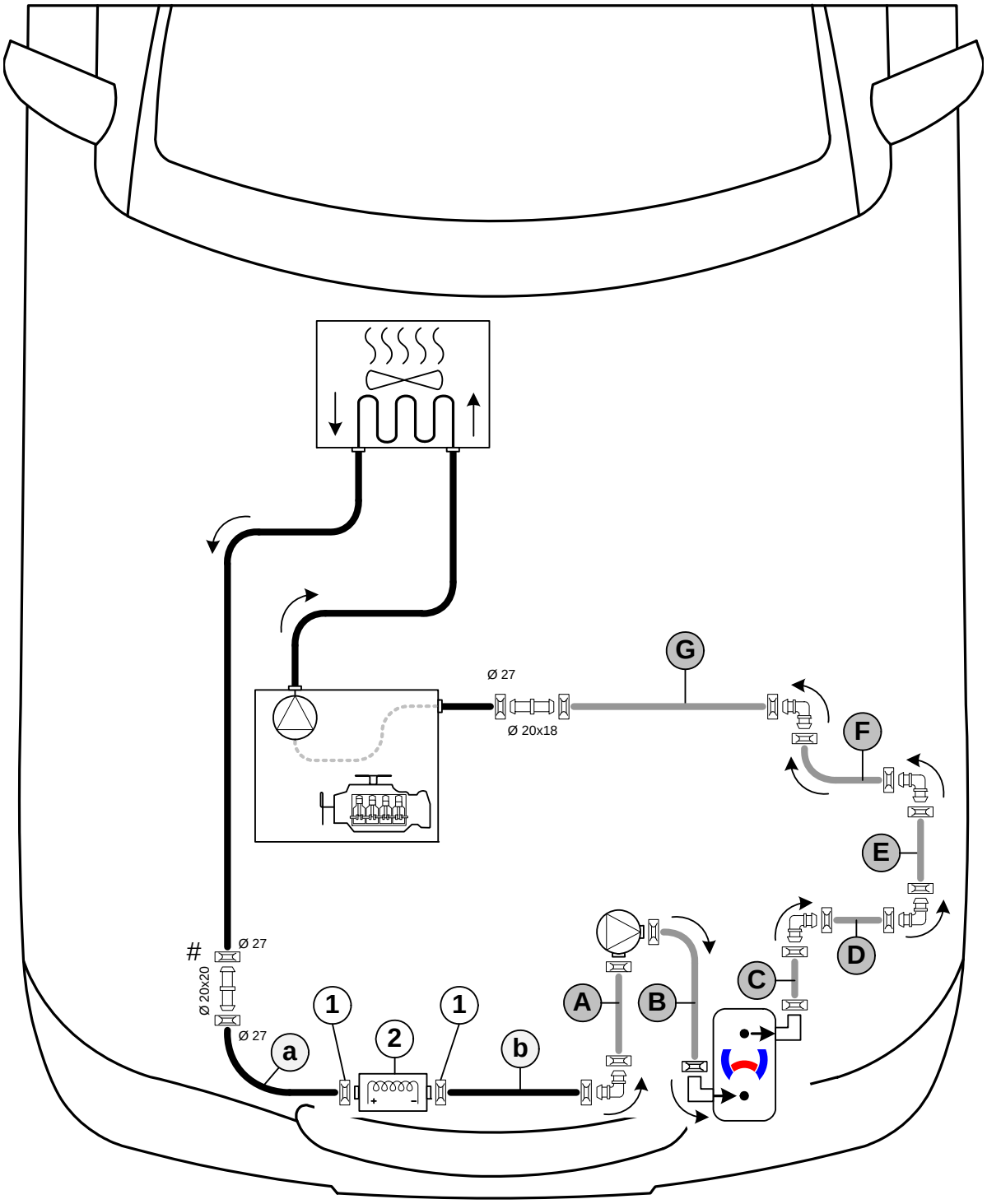
Copy hole pattern at position **1** Remove heater and drill 7mm dia. hole into cross member at position **1**.

Hole for heater

Coolant Circuit of Manual and EDC Transmissions

WARNING!
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 'inline' circuit and based on the following diagram:

Hose routing diagram

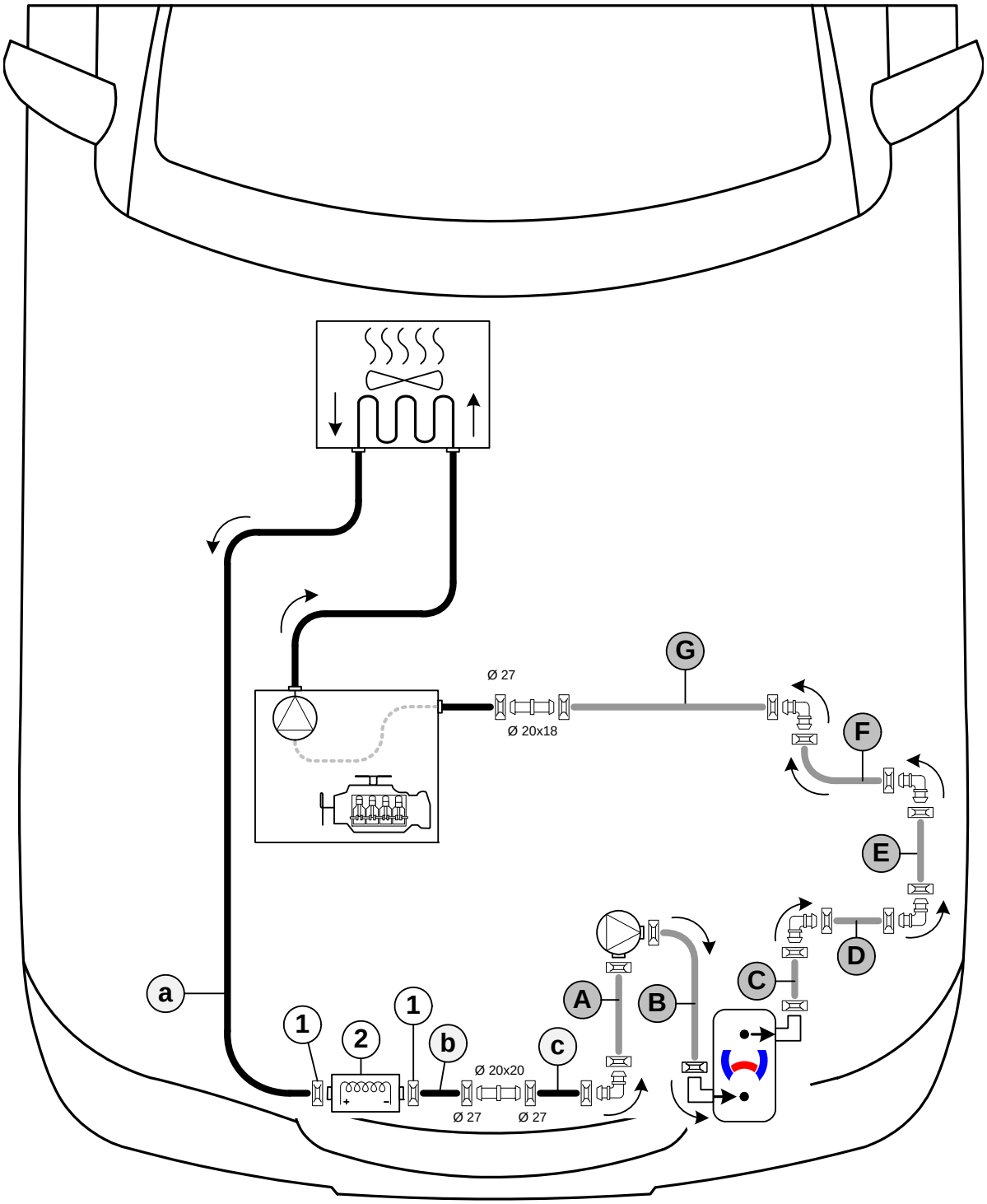


All spring clips without a specific designation = 25 mm dia. **1** = Original vehicle spring clip .
= Connecting pipe and spring clips only in case of 1.5 and 1.6
All connecting pipes without a specific designation and = 18x18mm dia. **2** = Electrical auxiliary heater.

Coolant Circuit of Automatic Transmission

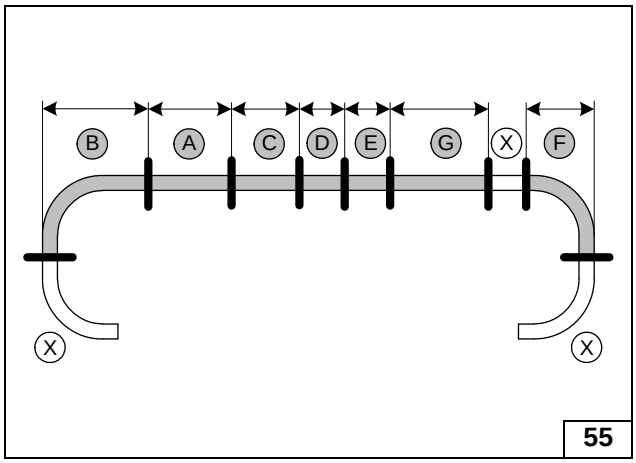
WARNING!
Any coolant running off should be collected in an appropriate container. Route hoses kink-free. Unless specified otherwise, always fasten using cable ties. Position clamps so that other hoses cannot be damaged. The heater must be filled with coolant when installing the hoses.
The connection should be modelled on an 'inline' circuit and based on the following diagram:

Hose routing diagram



All spring clips without a specific designation = 25 mm dia. **1** = Original vehicle spring clip .
All connecting pipes without a specific designation and = 18x18mm dia. **2** = Electrical auxiliary heater.

Cutting hoses to length



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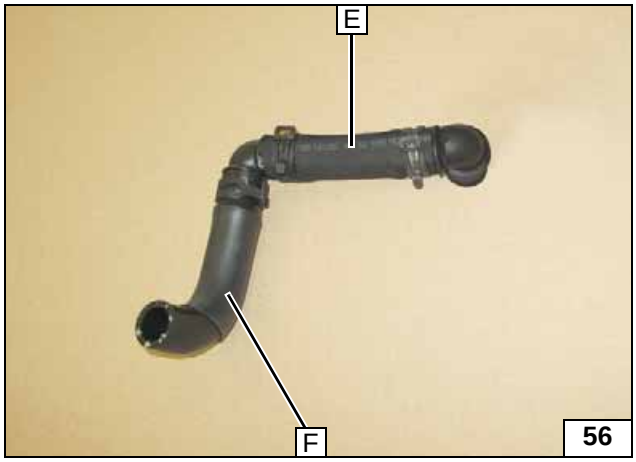
Discard section **X**.

A = 120
B = 200
C = 110
D = 60
E = 90
F = 110
G = 200

Premounting hoses E and F



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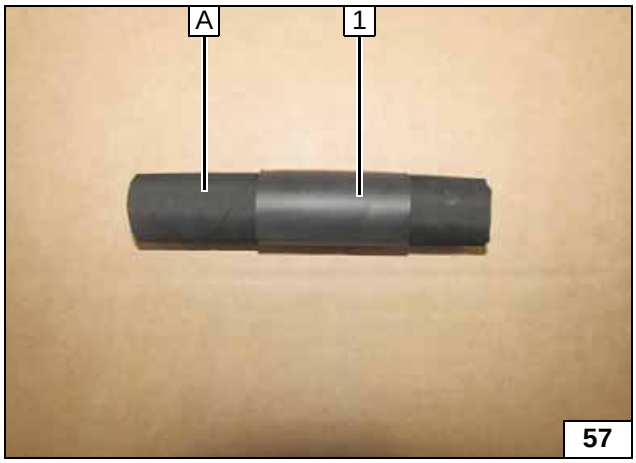
1 80mm heat shrink plastic tubing

Preparing hose A



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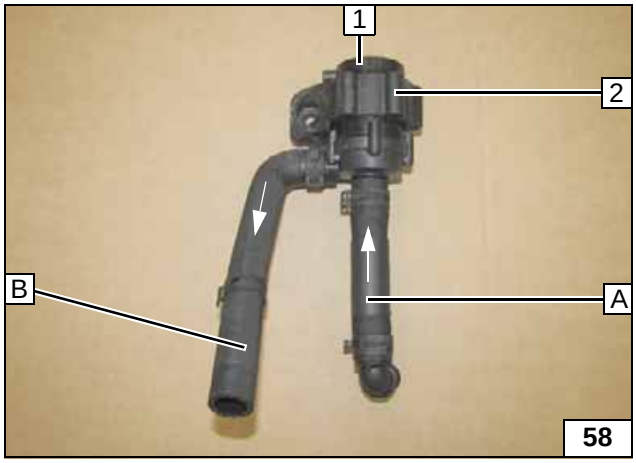
1 50mm heat shrink plastic tubing

Premounting circulating pump



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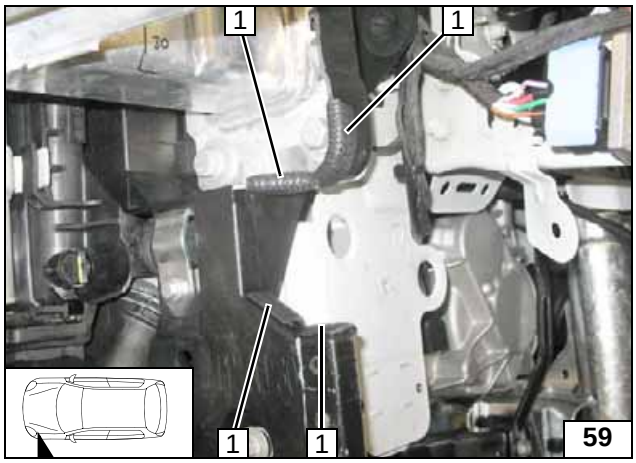
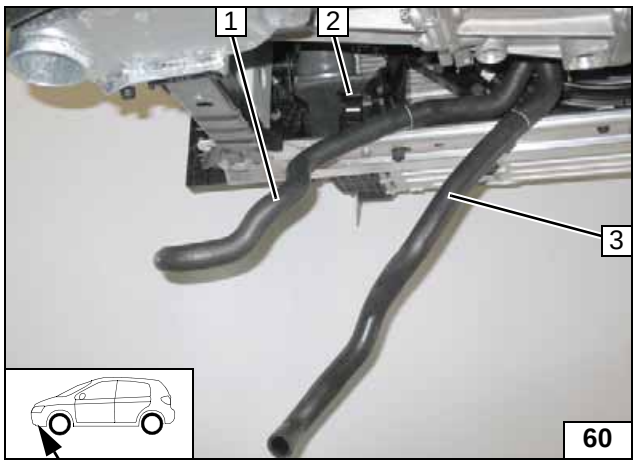
1 Circulating pump
2 Circulating pump mount



1 Mount 50mm edge protection [4x]

Installing edge protection

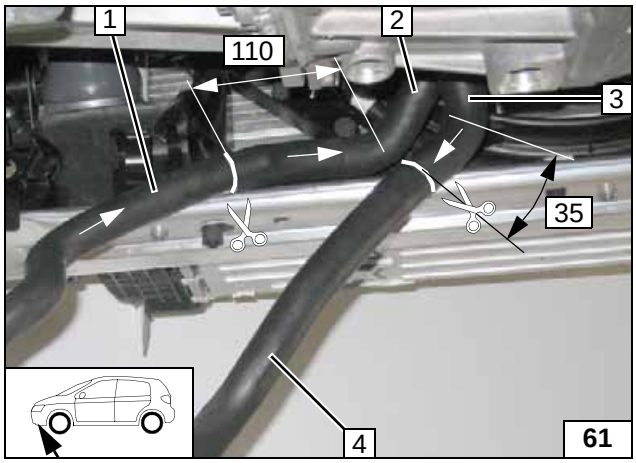


2.0 SG

Route hoses downwards.

1 Hose of auxiliary heater outlet / engine inlet
2 Remove hose bracket and discard
3 Hose on auxiliary heater inlet / heat exchanger outlet

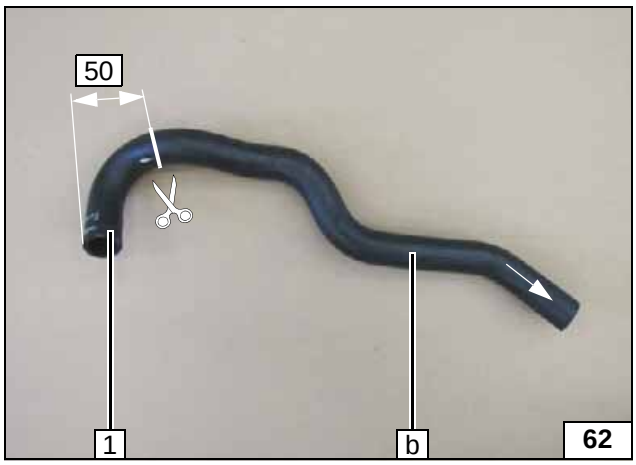
Cutting point



Mark directions of flow on the hoses. Cut hoses at the markings.

1 Hose section will be reused.
2 Hose section of engine inlet
3 Hose section of heat exchanger outlet
4 Discard section

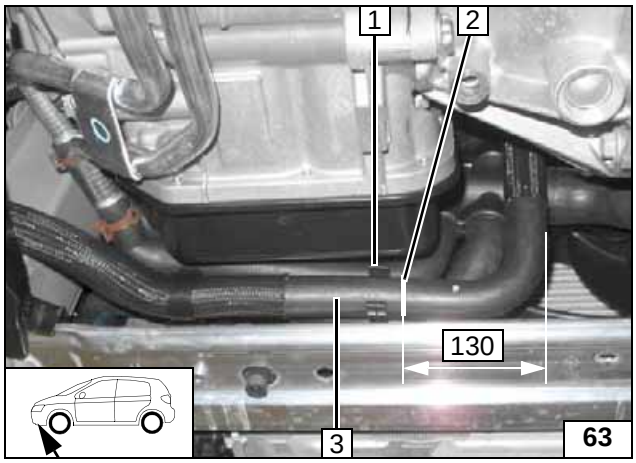
Cutting point



Cut hose of auxiliary heater outlet at the marking

1 Discard section
b Hose section will be re-used.

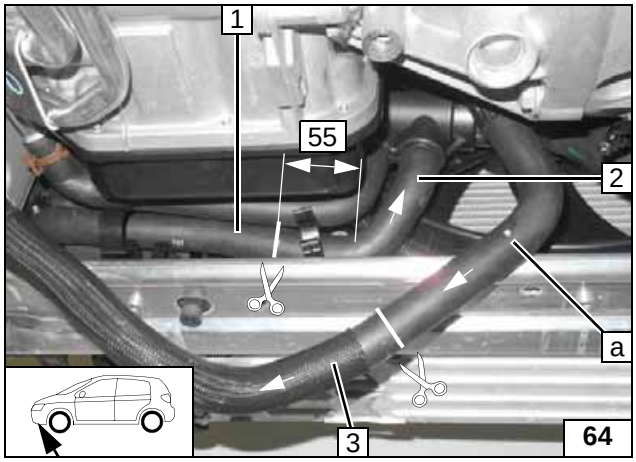
Preparing hose



2.0 AG

1 Remove hose bracket and discard
2 Mark cutting line
3 Hose on heat exchanger outlet / auxiliary heater inlet

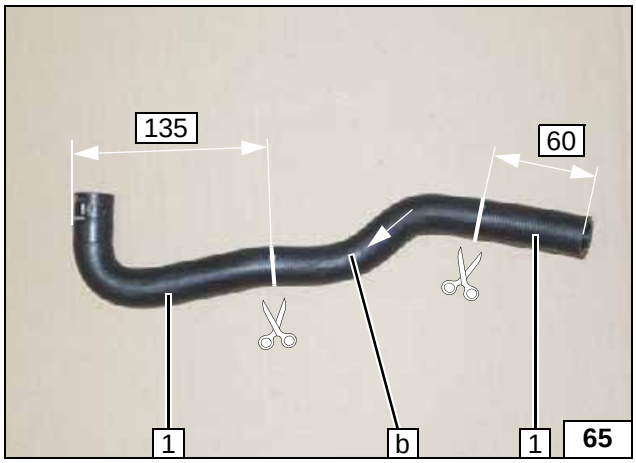
Marking cutting point



Mark directions of flow on the hoses. Cut hoses at the markings.

1 Hose section of auxiliary heater outlet will be reused
2 Hose section of engine inlet
3 Hose section of auxiliary heater inlet will be reused.
a Hose section of heat exchanger outlet

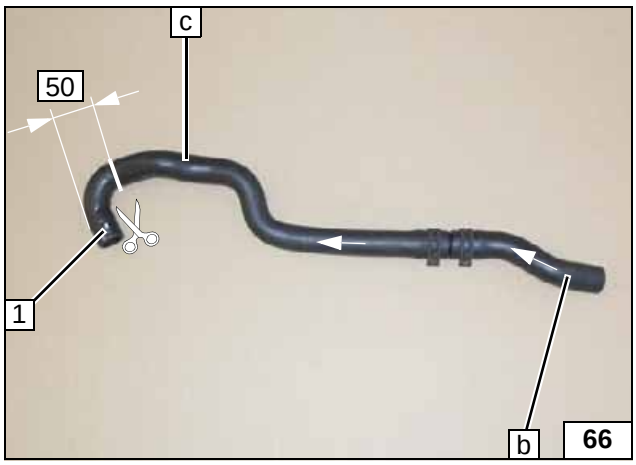
Cutting point



Cut hose of auxiliary heater inlet at the markings.

1 Discard cut-off section
b Hose section will be re-used.

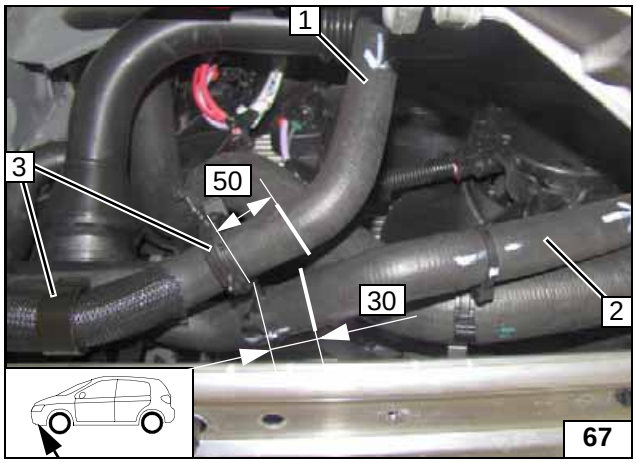
Preparing hose



Cut hose of auxiliary heater outlet at the marking Connect hose sections **b** and **c**.

1 Discard section

Preparing hoses

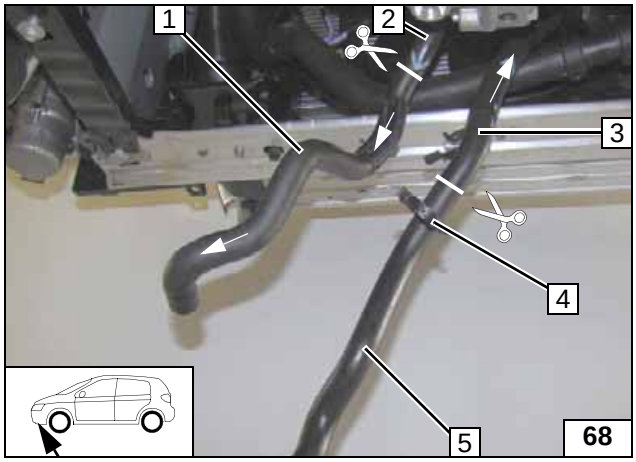


1.5

Mark separation lines.

1 Hose on auxiliary heater inlet / heat exchanger outlet
2 Hose of auxiliary heater outlet / engine inlet
3 Remove hose bracket [2x] and discard

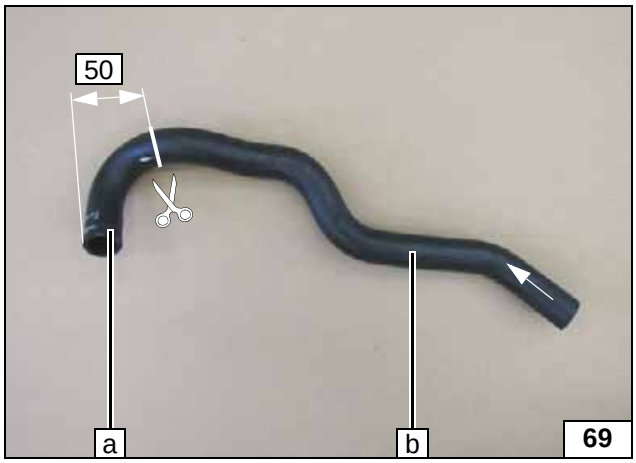
Marking cutting point



Mark directions of flow on the hoses. Route hoses downwards and cut at the markings.

1 Hose section of auxiliary heater inlet will be reused
2 Hose section of heat exchanger outlet
3 Hose section of engine inlet
4 Discard hose bracket
5 Discard section

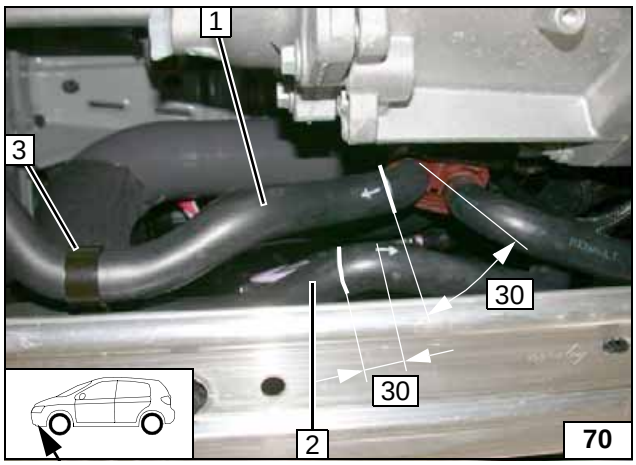
Cutting point



Cut hose of auxiliary heater inlet at the marking.

a Hose section will be re-used.
b Hose section will be re-used.

Preparing hose

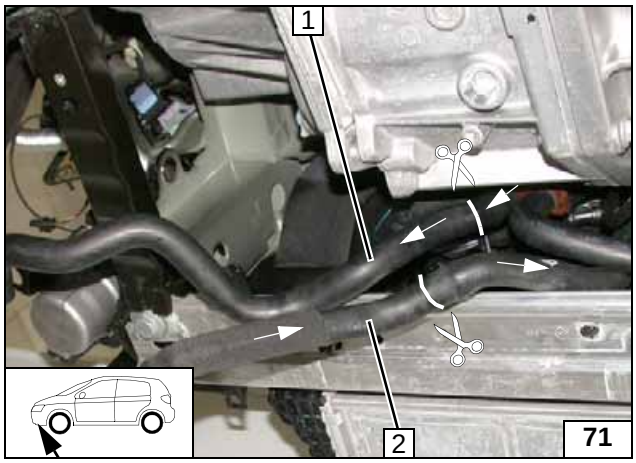


1.6

Mark cutting line.

1 Hose on auxiliary heater inlet / heat exchanger outlet
2 Hose of auxiliary heater outlet / engine inlet
3 Remove hose bracket and discard

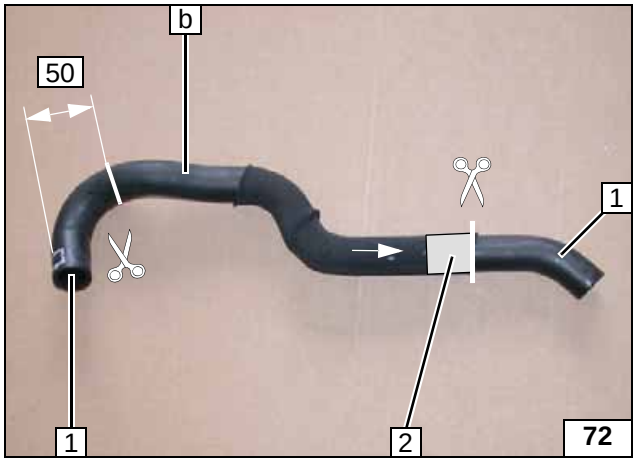
Marking cutting point



Mark directions of flow on the hoses. Separate hoses.

1 Hose section of auxiliary heater inlet will be reused
2 Hose section of auxiliary heater outlet will be reused

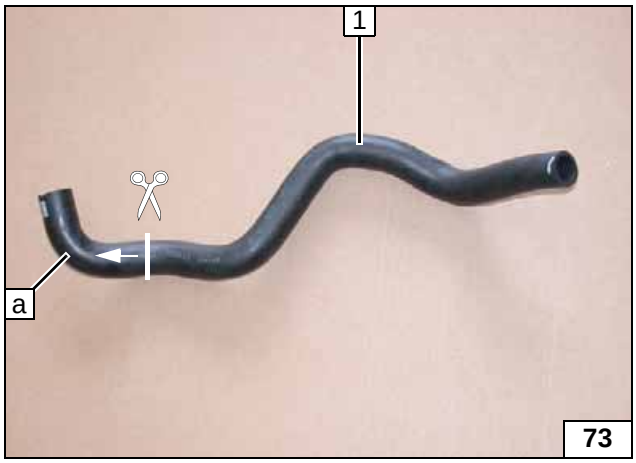
Cutting point



Remove fabric protective hose **2** in the area of the cutting point. Cut hose of auxiliary heater outlet at the markings.

1 Discard cut-off section
b Hose section will be re-used.

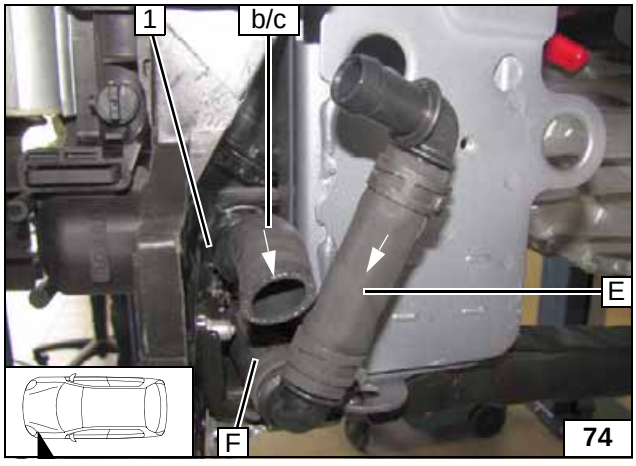
Preparing hose



Cut hose of auxiliary heater inlet **2** at the marking.

1 Discard section
a Hose section will be re-used.

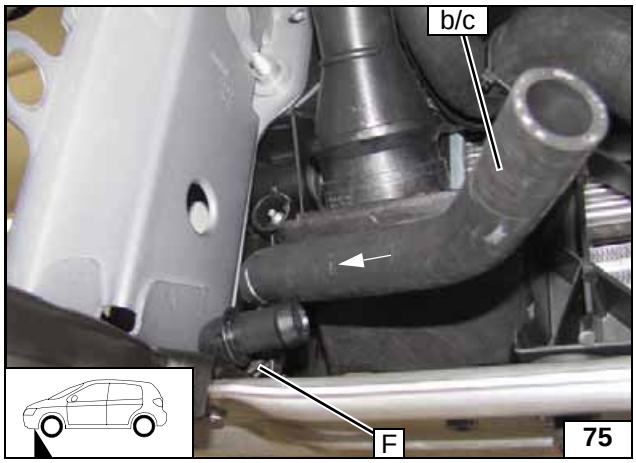
Preparing hose



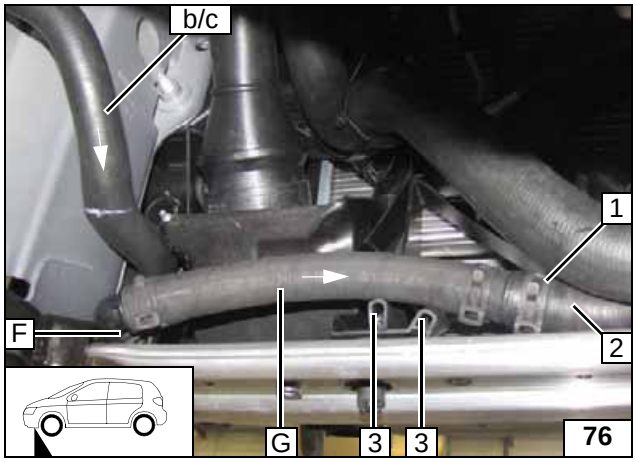
All vehicles

Hose **b** = all vehicles except 2.0 AG.
Hose **b / c** = 2.0 AG.
Insert hose group **E** / **F** beneath hose bracket **1** and route behind the cross member. Route hose **b / c** through hose bracket **1** in the engine compartment alongside hose **F** (see following image).

Premounting hoses



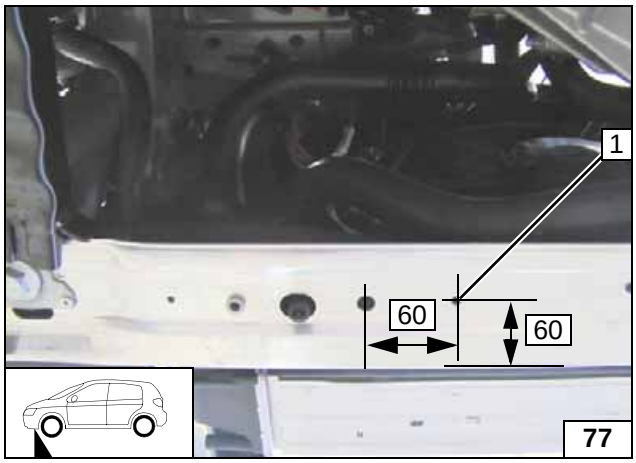
Routing in engine compartment



Hose **b / c** has been put back to provide a better view.

1 Original vehicle clamp
2 Hose section of engine inlet
3 50 mm edge protection [2x]

Connecting engine outlet

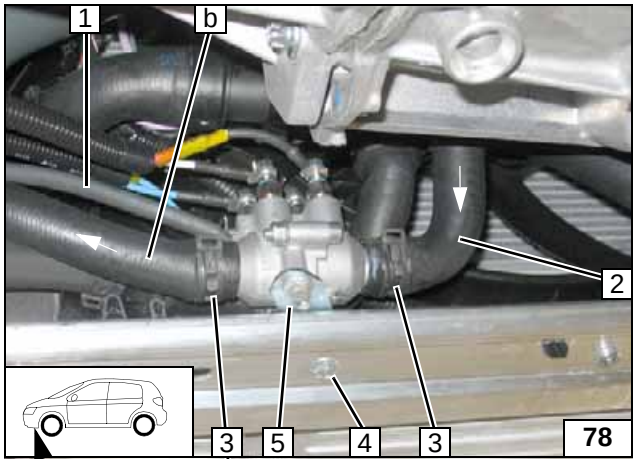


2.0 SG

Mind components located behind.

1 7 mm dia. hole

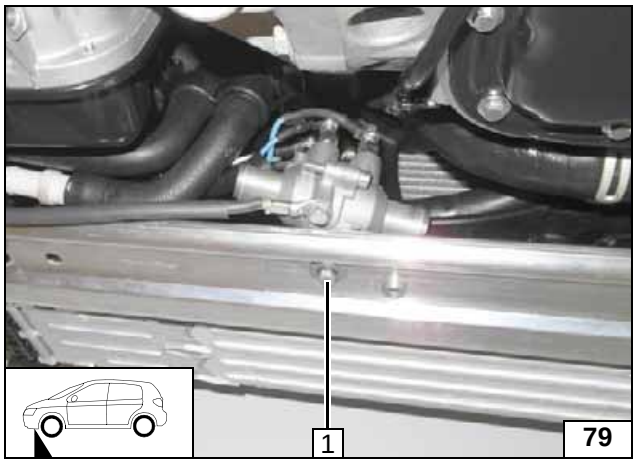
Hole for auxiliary heater



Route earth wire **1** to the left side of the vehicle. Insert 8mm shim between cross member and perforated bracket **5**.

2 Hose on heat exchanger outlet
3 Original vehicle spring clip [2x]
4 M6x25 bolt, 8 mm shim, flanged nut

Installation and connection of auxiliary heater

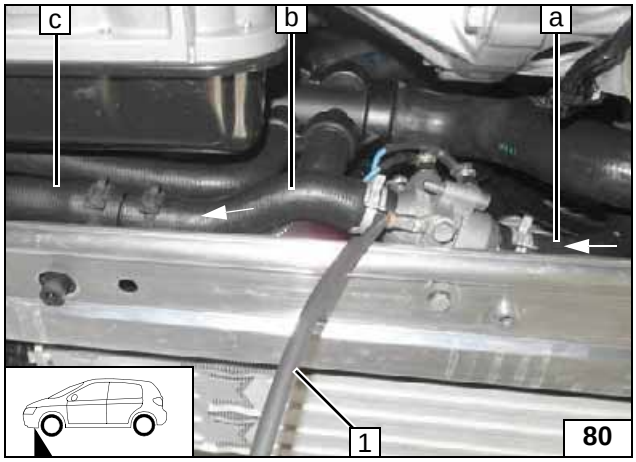


2.0 AG

Remove original vehicle clip at position **2**. Insert 10mm shim between cross member and auxiliary heater.

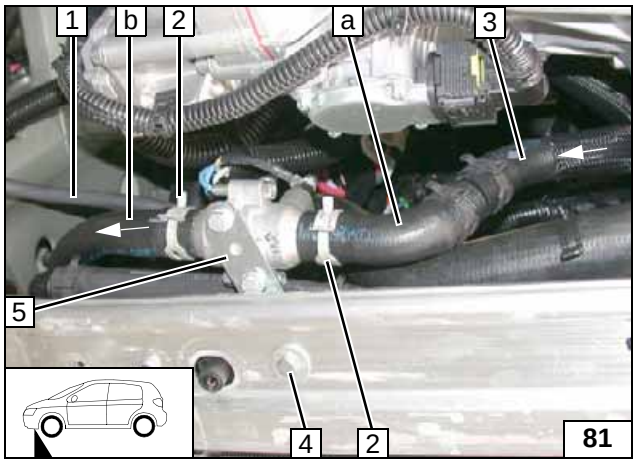
1 M6x25 bolt, spring lockwasher, large diameter washer, 10mm shim, existing threaded hole of auxiliary heater

Installing auxiliary heater



Route earth wire **1** to the left side of the vehicle.

Installation and connection of auxiliary heater

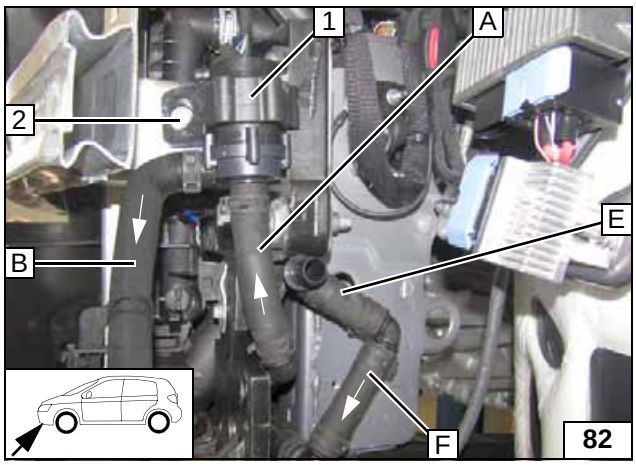


1.5 and 1.6

Route earth wire **1** to the left side of the vehicle. Insert 8mm shim between cross member and perforated bracket **5**. Hose **a** with long leg on auxiliary heater inlet.

2 Original vehicle spring clip [2x]
3 Hose on heat exchanger outlet
4 M6x25 bolt, large diameter washer, 8 mm shim, flanged nut

Installation and connection of auxiliary heater

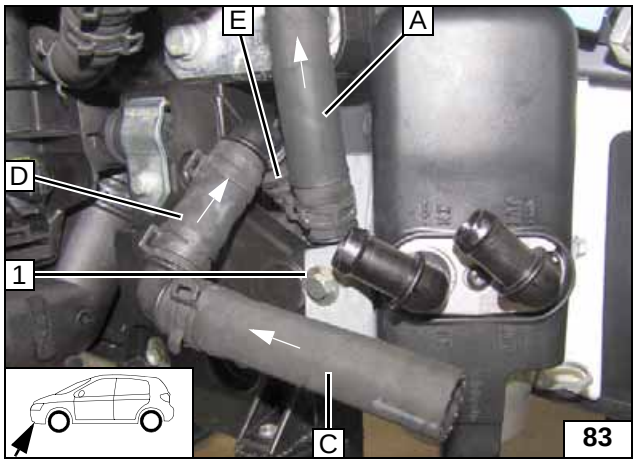


All vehicles

Align hoses. Connect hoses **A** and **b** or **A** and **c** in case of 2.0 AG. Ensure sufficient distance from neighbouring components, correct if necessary.

1 Circulating pump mount
2 M6x25 bolt, spring lockwasher, large diameter washer

Installation and connection of circulating pump



Installing Heater

Position heater and fasten it using bolt **1**. Connect hoses **D** and **E**. Align hoses **A** and **D** behind the heater.

1 M6x20 bolt, large diameter washer, flanged nut

Installing heater

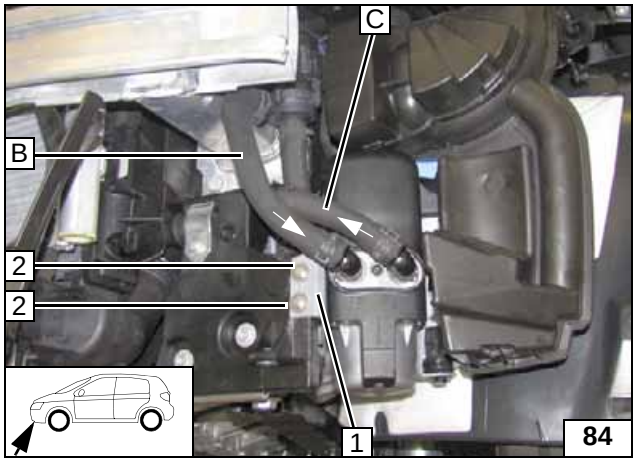
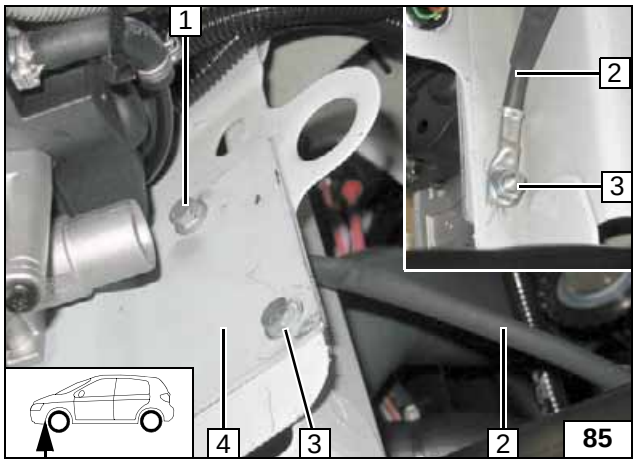


Image shows 1.5 with SG.
Align hose **C** to heater.

1 Part **B** of bracket
2 M6x20 bolt, large diameter washer, flanged nut [2x each]

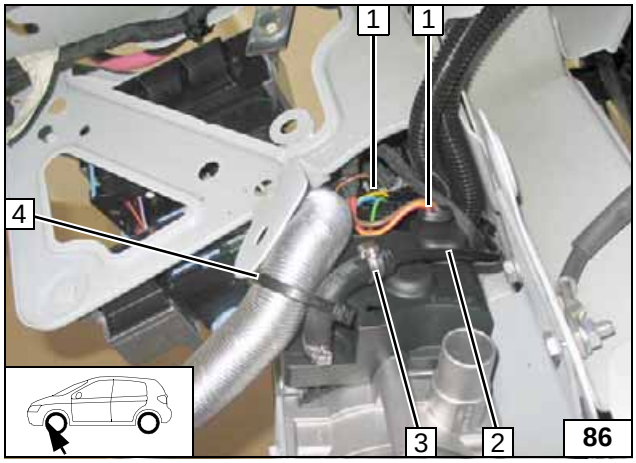
Installing and connecting heater



For all vehicles except 2.0 AG, at position **3** the earth wire of the auxiliary heater **2** is also-fastened (see small image).

1 Original vehicle bolt, existing threaded holes
3 Original vehicle bolt, flanged nut
4 Part **B** of bracket

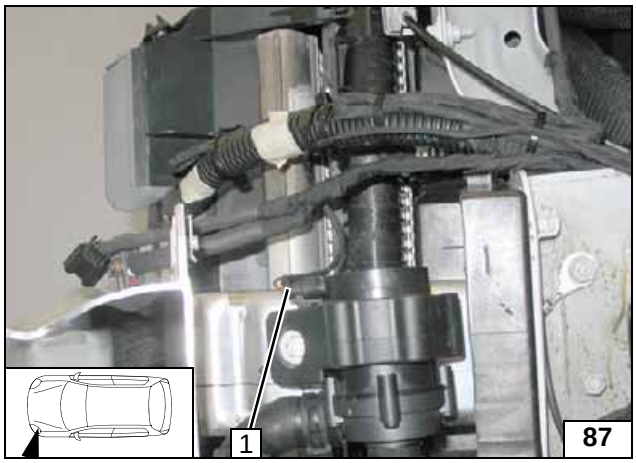
Installing heater



All vehicles

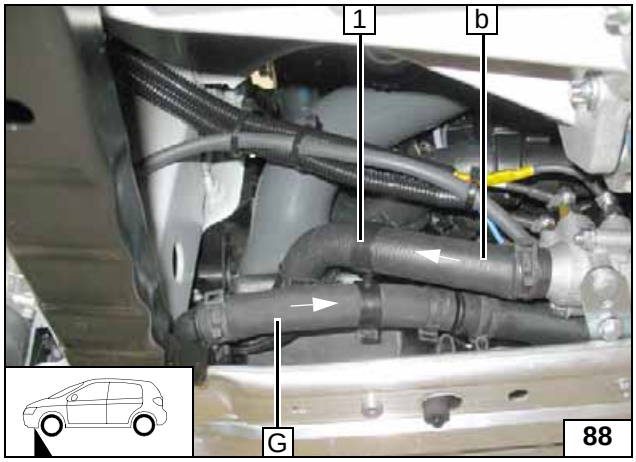
1 Install wiring harness of heater [2x]
2 Fuel line
3 10 mm dia. clamp
4 Cable tie

Connection of fuel line



1 Circulating pump wiring harness

Installing wiring harness

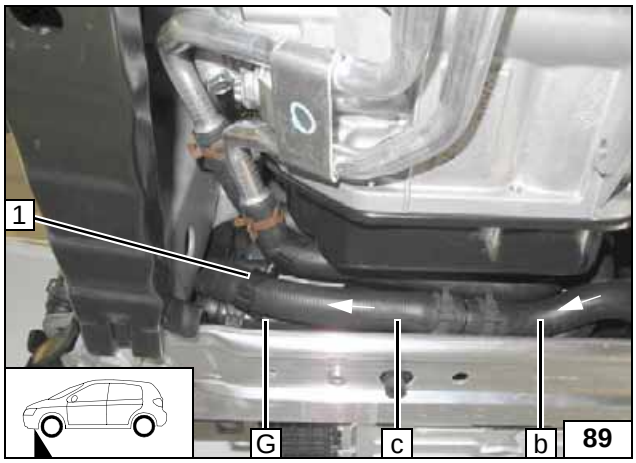


All vehicles except 2.0 AG

Align hoses. Ensure sufficient distance from neighbouring components, correct if necessary.

1 Hose bracket

Installing hose bracket



2.0 AG

Align hoses. Ensure sufficient distance from neighbouring components, correct if necessary.

1 Hose bracket

Installing hose bracket

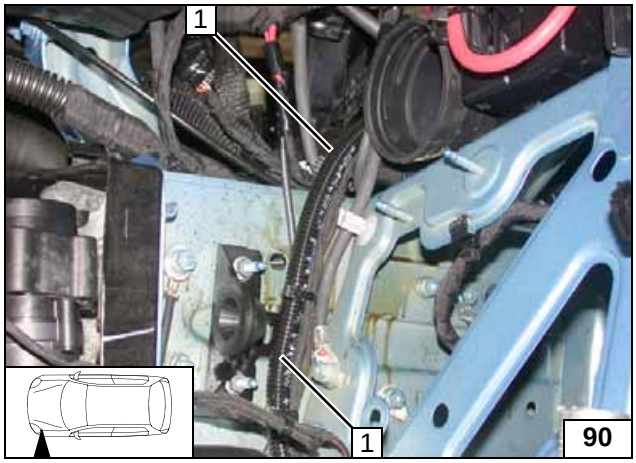
Fuel

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.

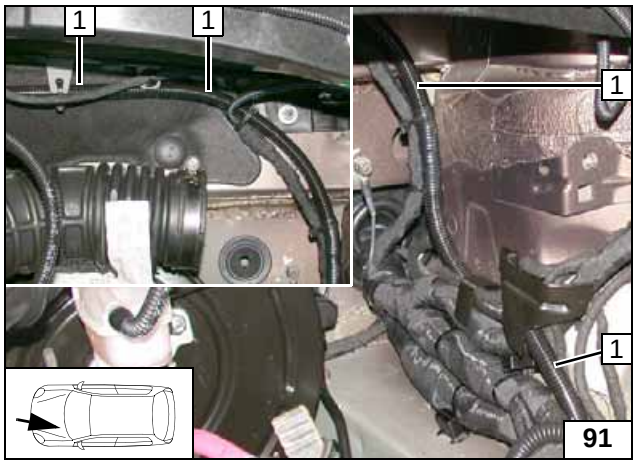
Route fuel line and metering pump wiring harness so that they are protected against stone impact. Unless specified otherwise, always fasten using cable ties.
Provide rub protection for fuel line and wiring harness in areas where there are sharp edges.

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



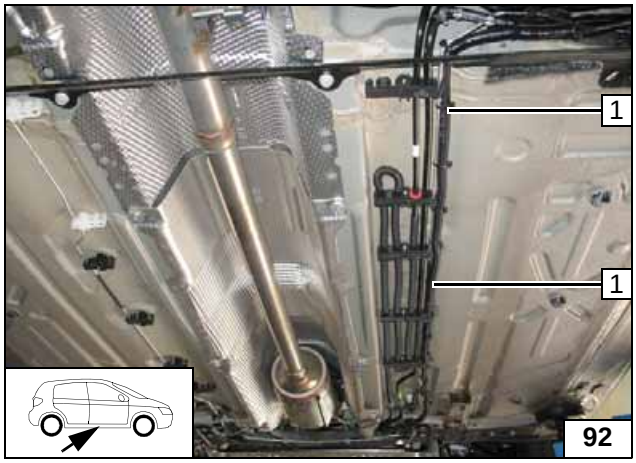
Route fuel line and wiring harness of metering pump in 10mm dia., 2100mm long corrugated tube **1** in the engine compartment.

Routing lines



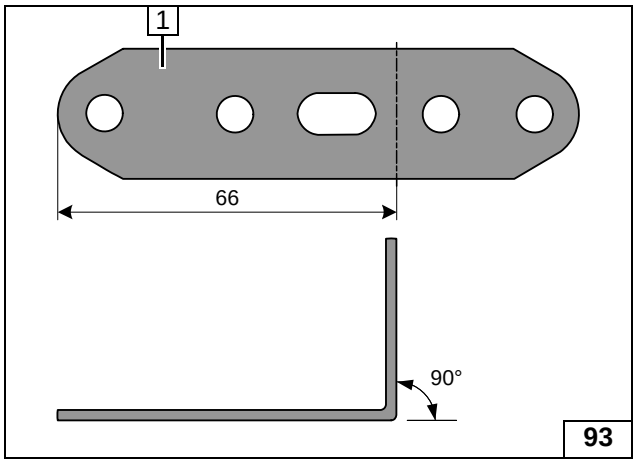
Pull fuel line and wiring harness of metering-pump into corrugated tube**1** and route it tothe underbody along original vehicle lines and behind the insulation mat.

Routing lines



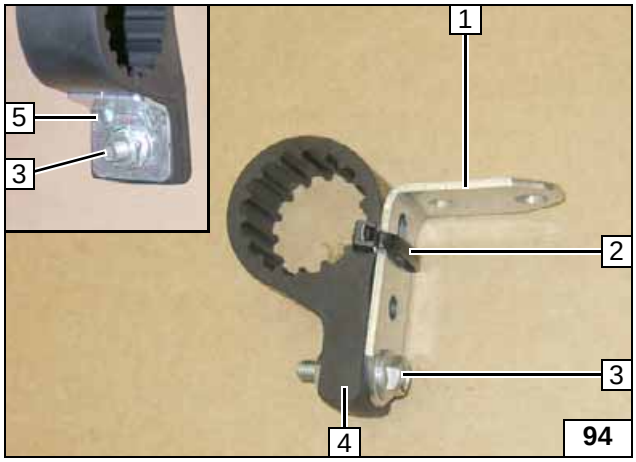
Route fuel line and wiring harness of metering pump in 2100 mm corrugated tube **1** to installation location of metering pump.

Routing lines



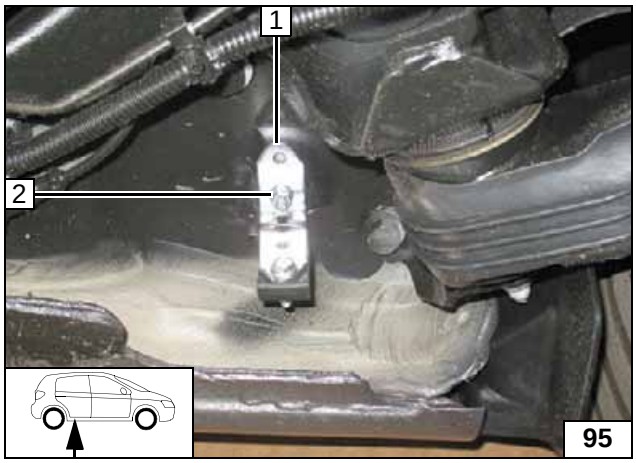
1 Perforated bracket

Angling down perforated bracket



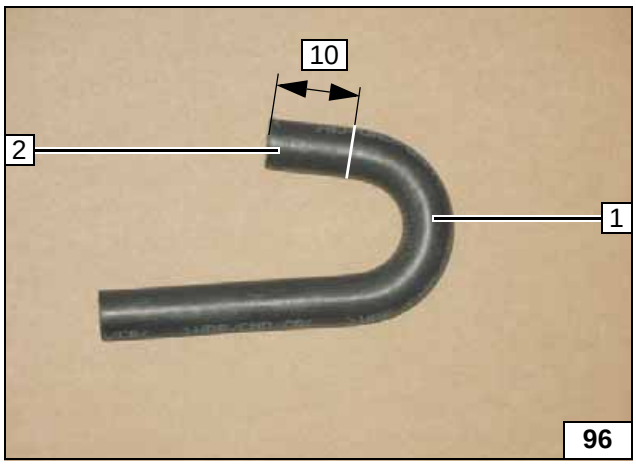
1 Angled down perforated bracket
2 Cable tie
3 M6x25 bolt, support angle bracket, flanged nut
4 Metering pump mount

Preinstalling metering pump mount



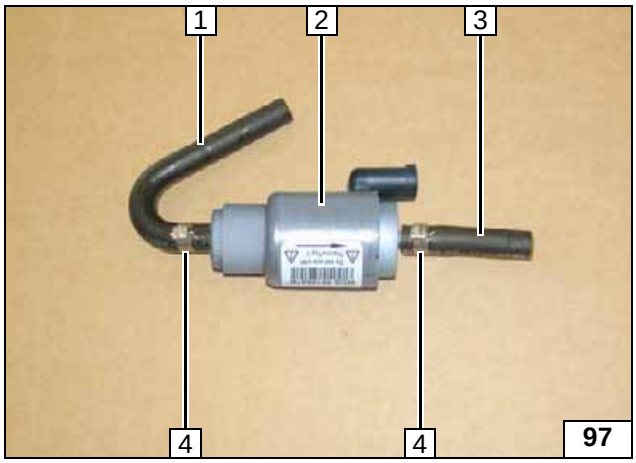
1 Perforated bracket
2 M6x20 bolt, large diameter washer, flanged nut, existing hole of axis suspension bracket

Installing metering pump mount



1 180° moulded hose
2 Discard section

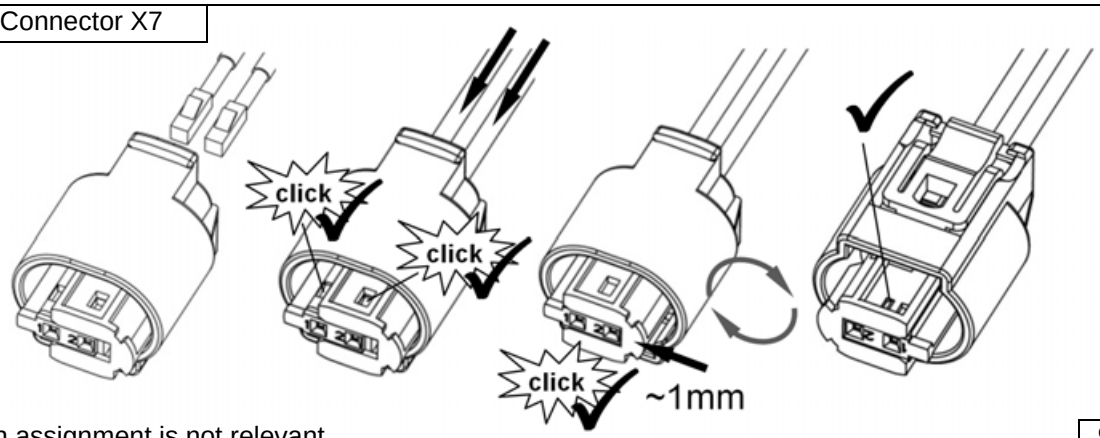
Cutting moulded hose to length



1 180° moulded hose
2 Metering pump
3 Hose section
4 10 mm dia. clamp [2x]

Premounting metering pump

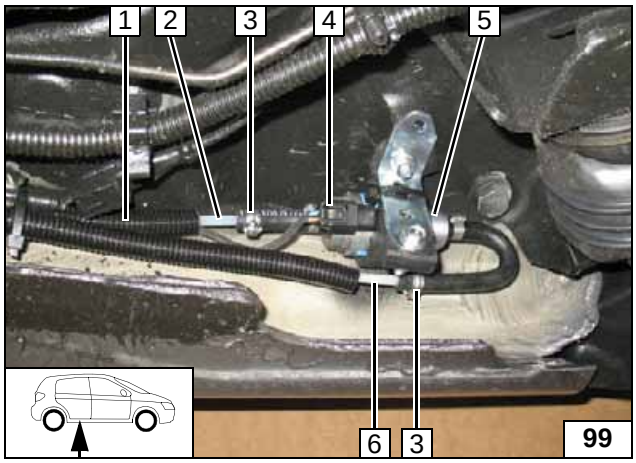
Connector X7



Pin assignment is not relevant.

98

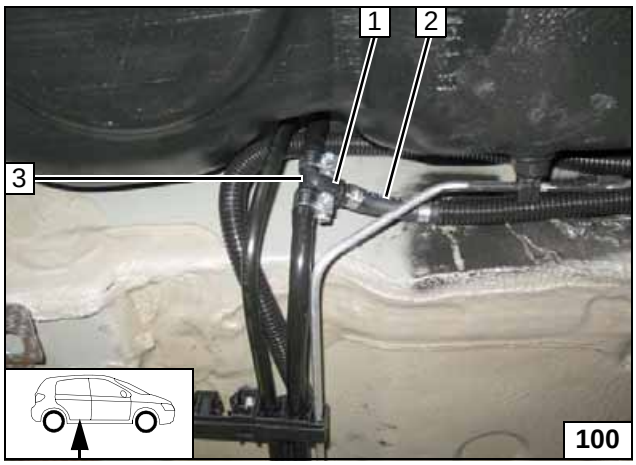
Completing metering pump connector



Cut 2100 mm corrugated tube **1** to length and slide onto fuel line towards fuel standpipe **6**. Check the position of the components; correct if necessary. Check that they have freedom of movement.

2 Fuel line of heater
3 10 mm dia. clamp [2x]
4 Metering pump wiring harness, connector mounted
5 Metering pump

Connecting metering pump

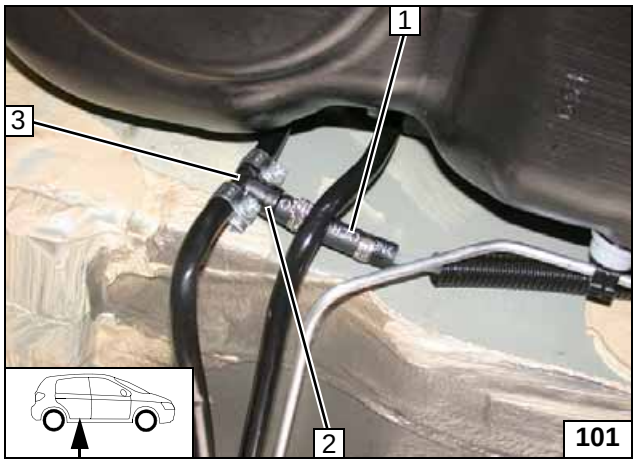


2.0 and 1.5

Check the position of the components; correct if necessary. Check that they have freedom of movement.

1 8x5x8 fuel standpipe, 10mm dia. Screw clamp [2x]
2 Fuel line, hose section, 10 mm dia. clamp [2x]
3 Cutting point of fuel supply line.

Fuel extraction



1.6

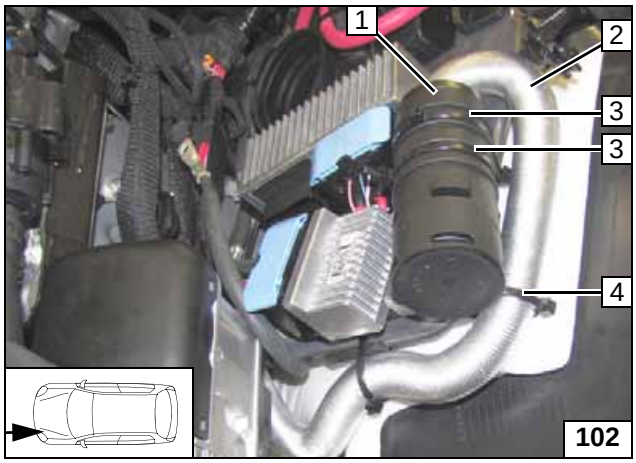
Check the position of the components; correct if necessary. Check that they have freedom of movement.

1 Fuel line, hose section, 10 mm dia. clamp [2x]
2 8x5x8 fuel standpipe, 10mm dia. Screw clamp [2x]
3 Cutting point of fuel return line.

Fuel extraction

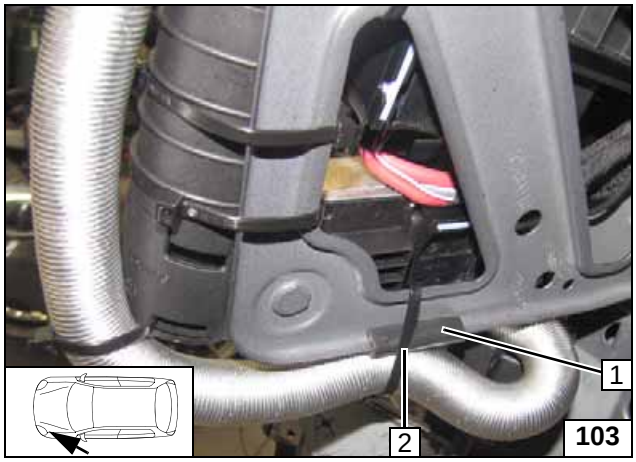
Combustion Air

All vehicles except 2.0 AG



1 Silencer
2 Combustion air pipe
3 Cable tie [2x] on retaining plate
4 Cable tie on silencer

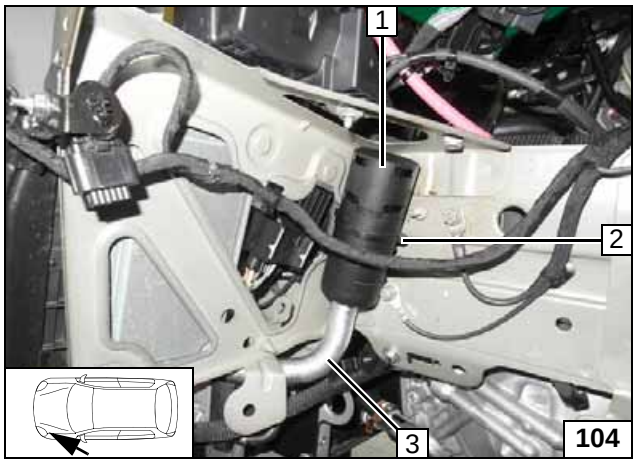
Installing silencer



1 50 mm edge protection
2 Cable tie

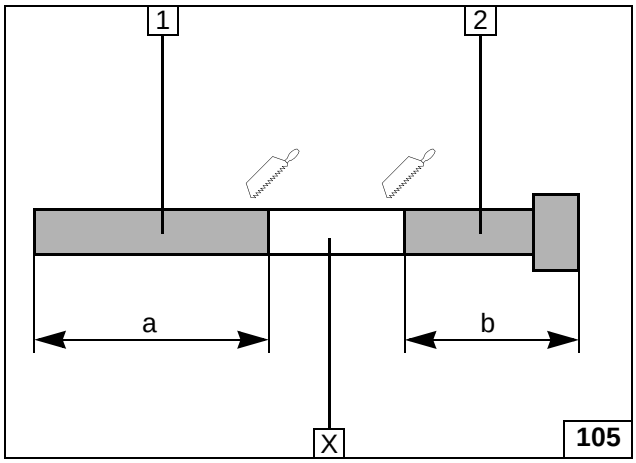
Fastening combustion air pipe

2.0 AG



1 Silencer
2 Cable tie, original vehicle hole
3 Combustion air pipe

Installing silencer



Exhaust Gas

Discard section **X**.

Manual transmission

1 Exhaust pipe a = 170
2 Exhaust end section b = 110

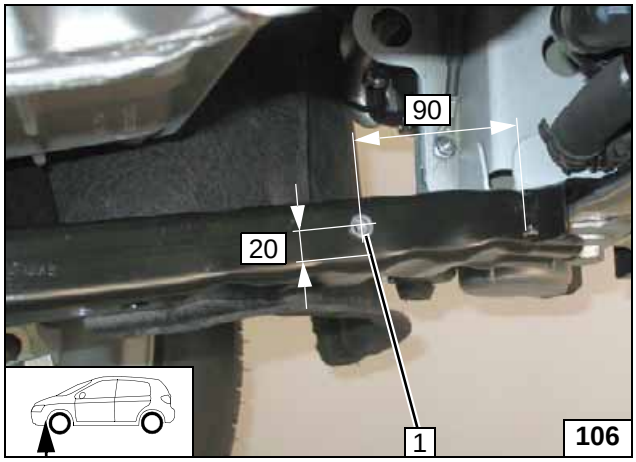
EDC transmission

1 Exhaust pipe a = 200
2 Exhaust end section b = 70

Automatic transmission

1 Exhaust pipe a = 105
2 Exhaust end section b = 50

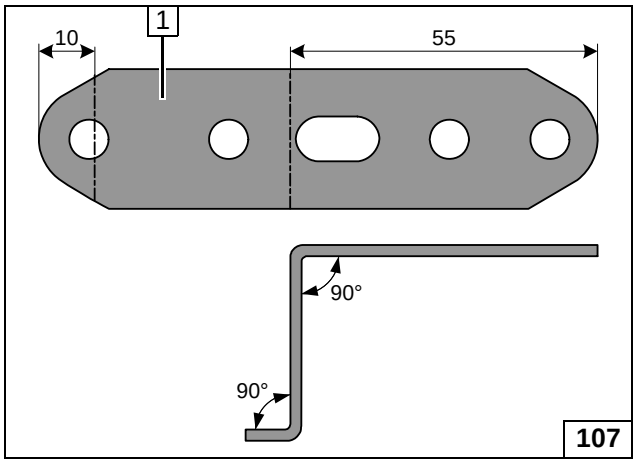
Preparing exhaust pipe



Manual and EDC transmissions

1 9.1mm dia. hole; rivet nut

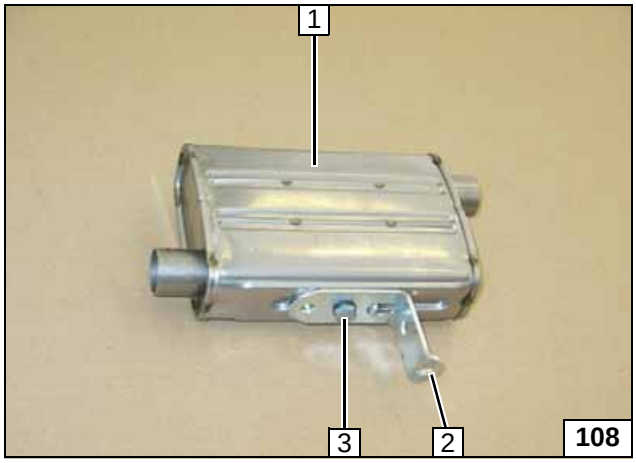
Installing rivet nut



Manual transmission

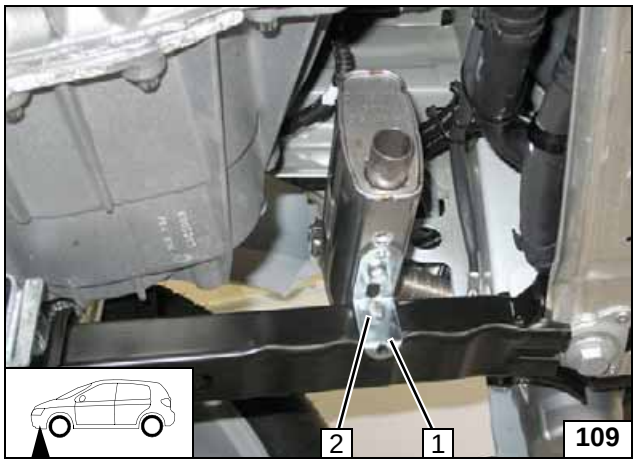
1 Perforated bracket

Angling down perforated bracket



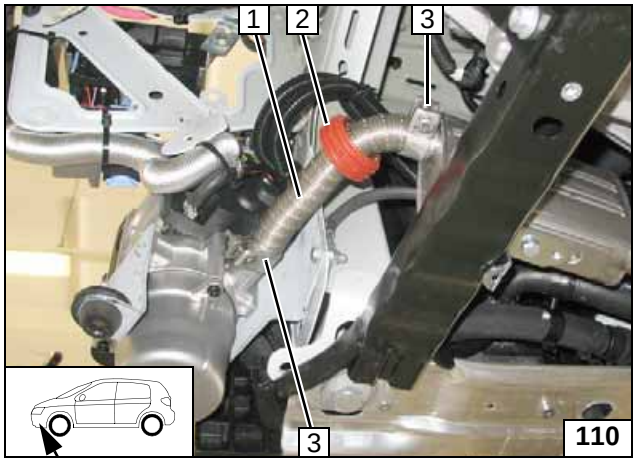
1 Silencer
2 Perforated bracket
3 M6x16 bolt, spring lockwasher

Premounting silencer



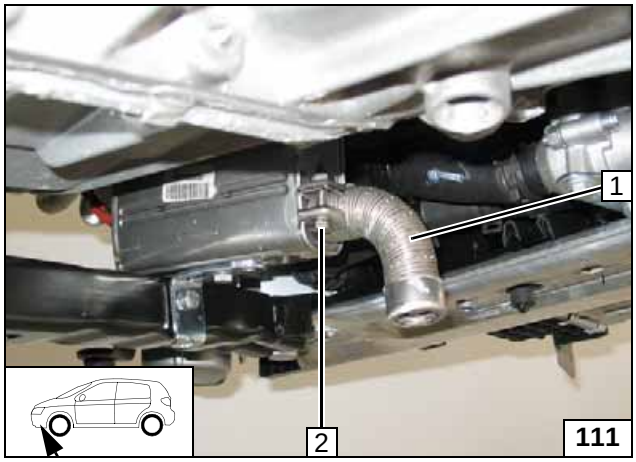
1 Perforated bracket
2 M6x20 bolt, spring lockwasher

Installing silencer



1 Exhaust pipe
2 Spacer bracket
3 Hose clamp [2x]

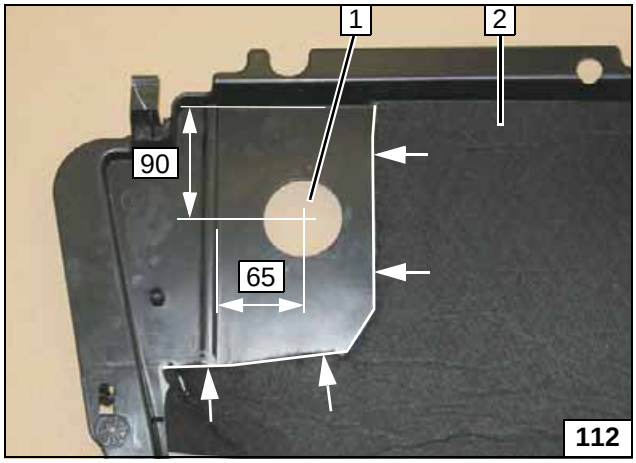
Installing exhaust pipe



Align exhaust system. Ensure sufficient distance (at least 20mm) from neighbouring components, correct if necessary.

1 Exhaust end section
2 Hose clamp

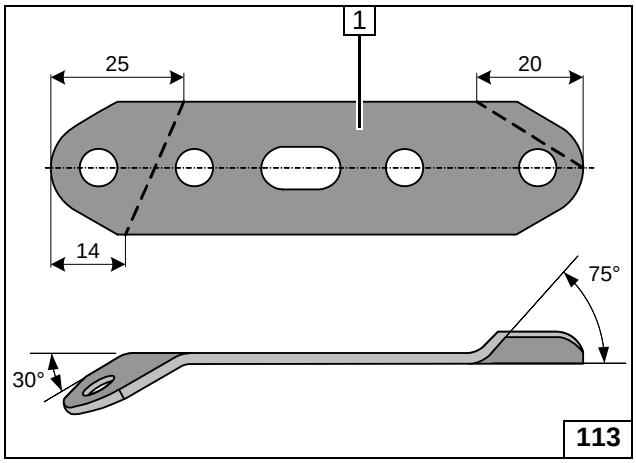
Installing exhaust end section



Cut out insulation along the markings.

1 60 mm dia. hole
2 Underride protection

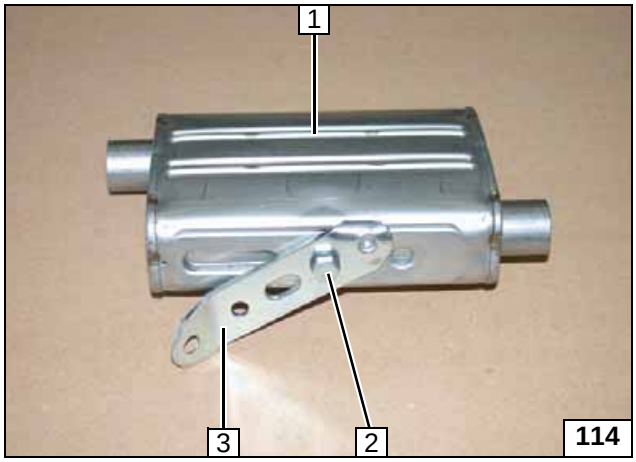
Cutting out underride protection



EDC transmission

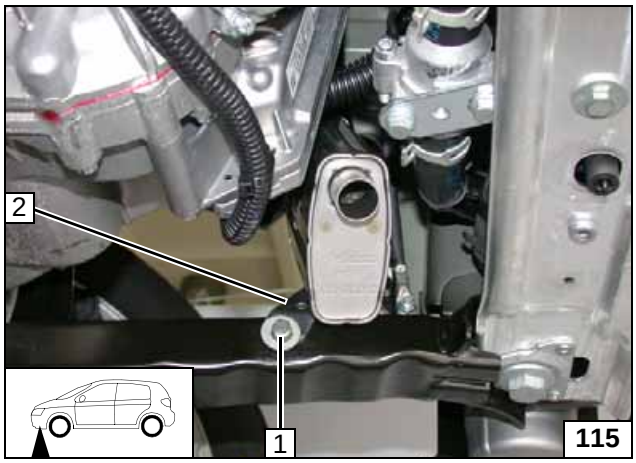
1 Perforated bracket

Preparing perforated bracket



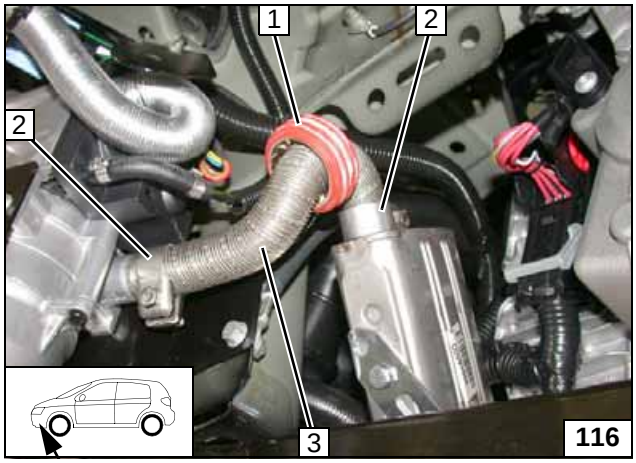
1 Silencer
2 M6x16 bolt, spring lockwasher
3 Perforated bracket

Premounting silencer



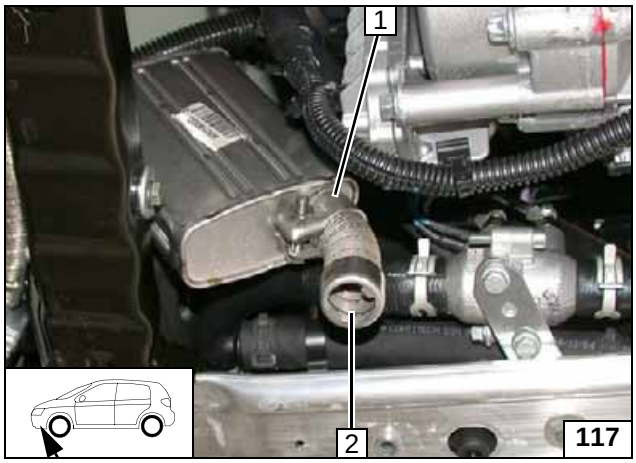
1 M6x20 bolt, spring lockwasher, large diameter washer
2 Perforated bracket

Installing silencer



1 Spacer bracket
2 Hose clamp [2x]
3 Exhaust pipe

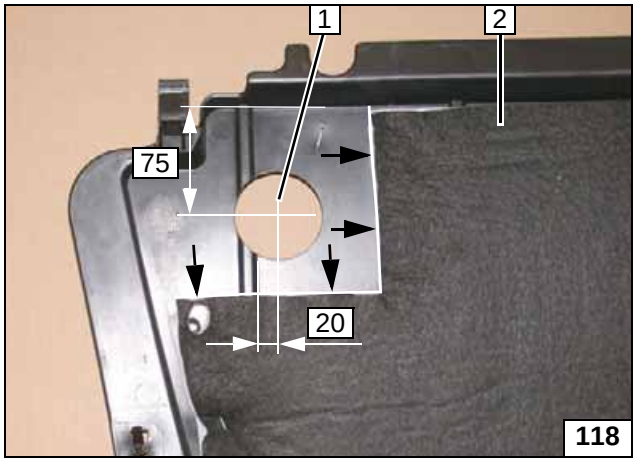
Installing exhaust pipe



Align exhaust system. Ensure sufficient distance (at least 20mm) from neighbouring components, correct if necessary.

1 Hose clamp
2 Exhaust end section

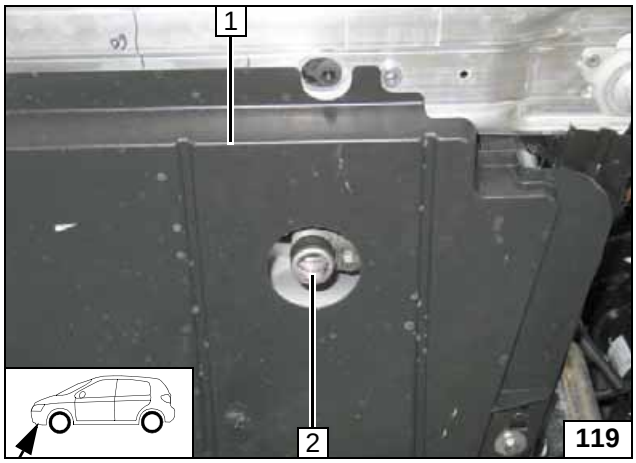
Installing exhaust end section



Cut out insulation along the markings.

1 60 mm dia. hole
2 Underride protection

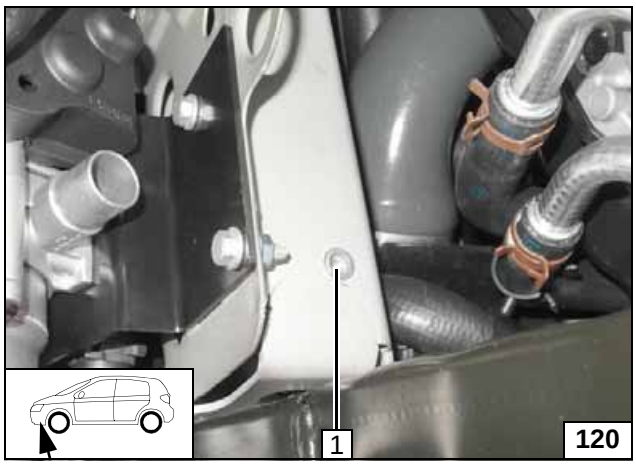
Cutting out underride protection



Manual and EDC transmissions

Image shows manual transmission
Install underride protection **1**. Align exhaust end section **2** with centre of hole.

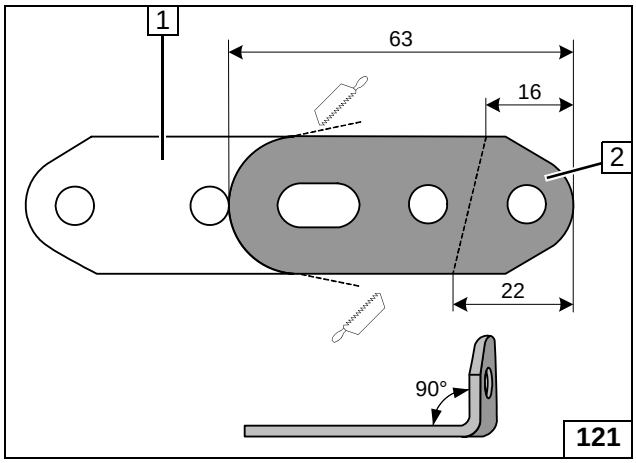
Aligning exhaust end section



Automatic transmission

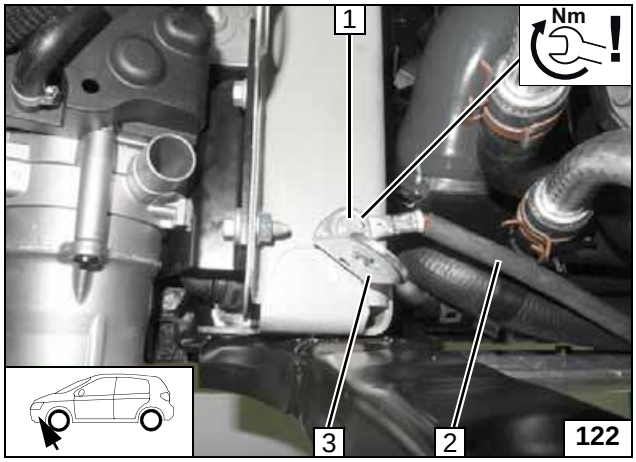
1 9.1mm dia. hole; rivet nut

Installing rivet nut



1 Discard section
2 Perforated bracket

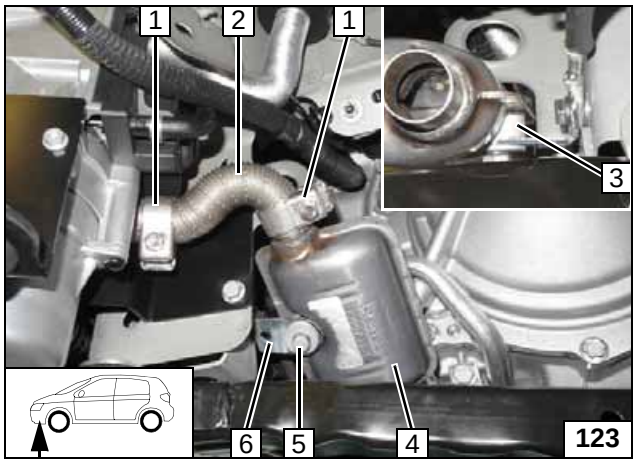
Preparing perforated bracket



The earth wire of auxiliary heater **2** is also fastened at position **1**.

1 M6x20 bolt, toothed washer
3 Angle bracket

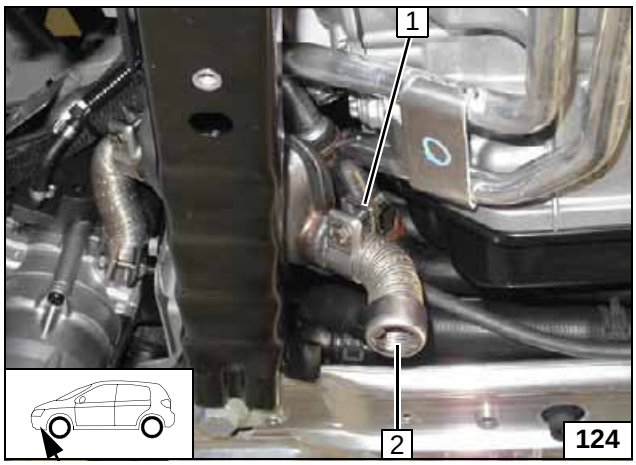
Installing angle bracket



Insert 10mm shim **3** between angle bracket **6** and exhaust silencer **4**. Align exhaust pipe, insert spacer bracket if necessary.

1 Hose clamp [2x]
2 Exhaust pipe
5 M6x25 bolt, large diameter washer, 10mm shim, flanged nut

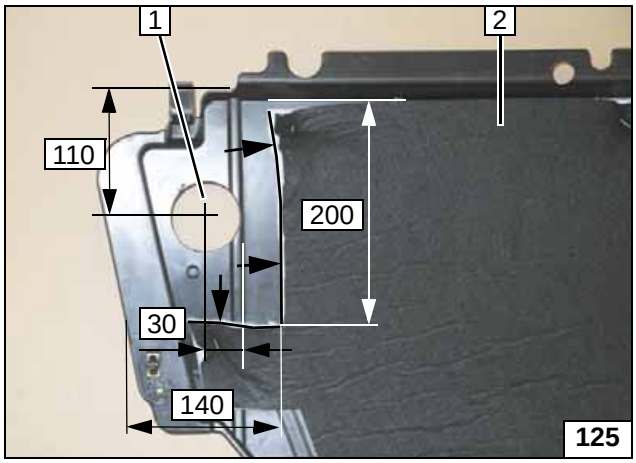
Installing exhaust pipe and silencer



Align exhaust system. Ensure sufficient distance (at least 20mm) from neighbouring components, correct if necessary.

1 Hose clamp
2 Exhaust end section

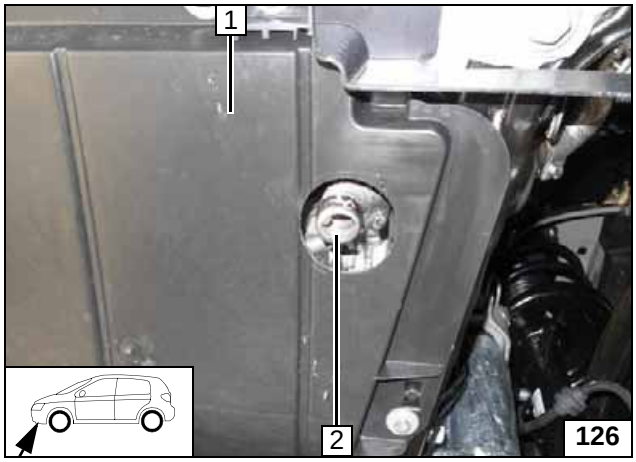
Installing exhaust end section



Cut out insulation along the markings.

1 60 mm dia. hole
2 Underride protection

Cutting out underride protection



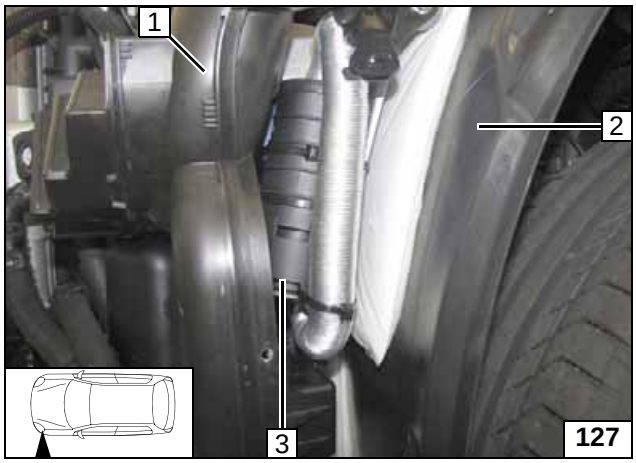
Install underride protection **1**. Align exhaust end section **2** with centre of hole.

Aligning exhaust end section

Final Work

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

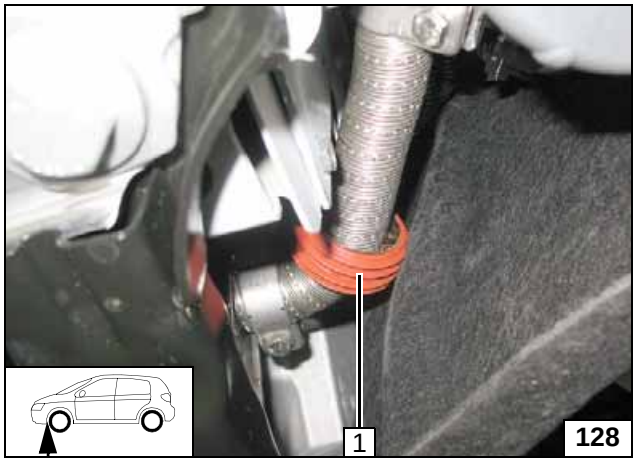
- **Connect the battery.**
- **Fill and bleed the coolant circuit according to the vehicle manufacturer's instructions.**
- **Adjust digital timer, teach Telestart transmitter.**
- **Make settings on A/C control panel according to the 'Operating Instructions for End Customer'.**
- **Place the 'Switch off parking heater before refuelling' caution label near the filler neck.**
- **For initial startup and function check, please see installation instructions.**



All vehicles except 2.0 AG

Install resonator **1** and wheel-well inner panel **2**. Ensure sufficient distance between combustion air silencer **3** and resonator, correct if necessary.

Installing components



Align spacer bracket **1** with wheel well trim.

Aligning spacer bracket

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

Webasto
Feel the Drive

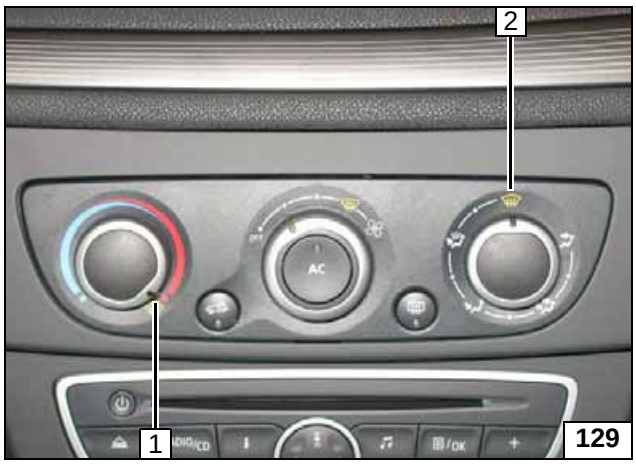
Operating Instructions for Manual Air-Conditioning

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.

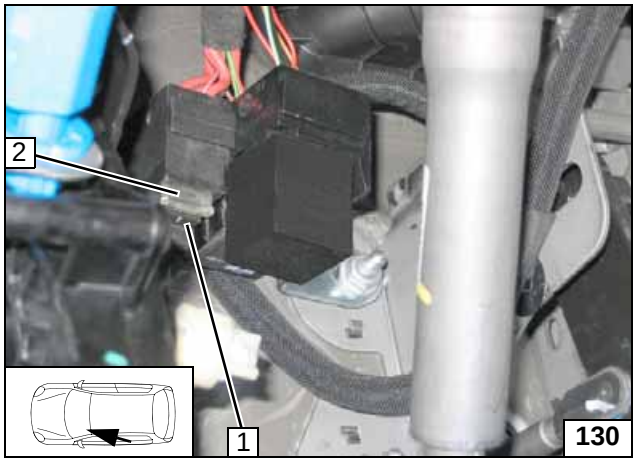
While unlocking the vehicle (when the parking heater is on) the fan controller is deactivated by the parking heater. The original functionalities are available on activating the A/C control panel or switching the ignition on.
After locking the vehicle, it takes the parking heater several minutes to activate the fan controller.

Before parking the vehicle, make the following settings:



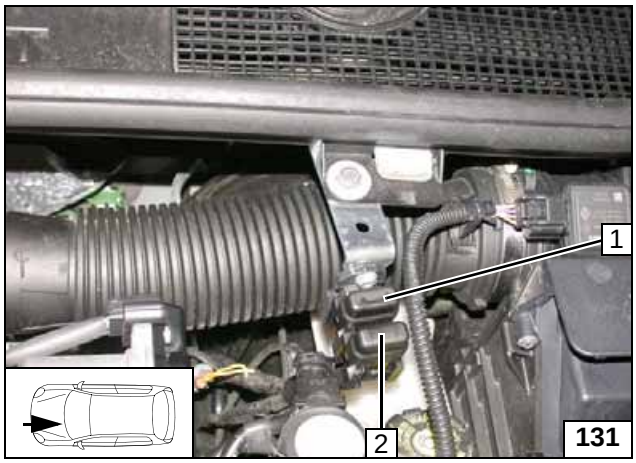
1 Set temperature to ‘max.’
2 Air outlet to windscreen

A/C control panel



1 1A heater control fuse F3
2 25A fan fuse F4

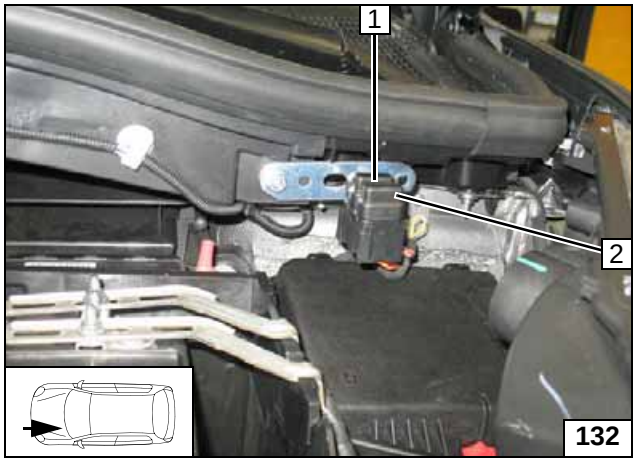
Passenger compartment fuses



Megane

1 30A passenger compartment main fuse F2
2 20A heater fuse F1

Engine compartment fuses



Scenic

1 30A passenger compartment main fuse F2
2 20A heater fuse F1

Engine compartment fuses

Webasto
Feel the Drive

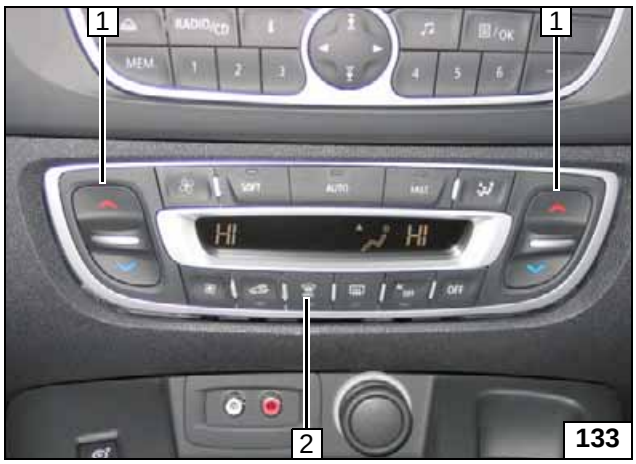
Operating Instructions for Automatic A/C

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.

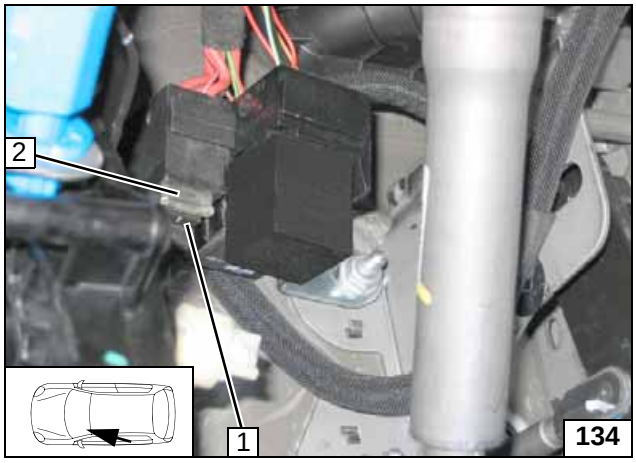
While unlocking the vehicle (when the parking heater is on) the fan controller is deactivated by the parking heater. The original functionalities are available on activating the A/C control panel or switching the ignition on.
After locking the vehicle, it takes the parking heater several minutes to activate the fan controller.

Before parking the vehicle, make the following settings:



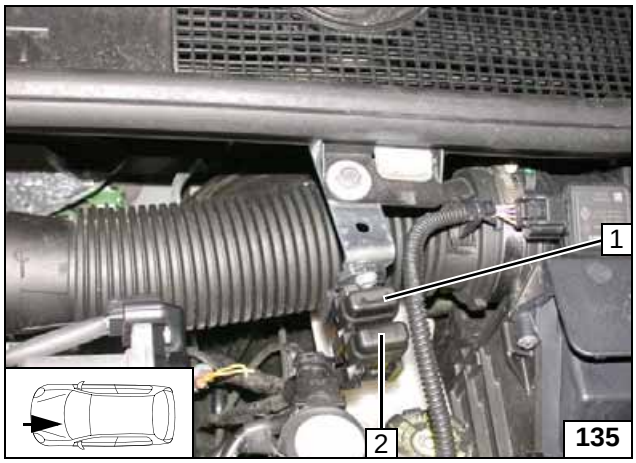
1 Set temperature on both sides to 'HI'
2 Air outlet to windscreen

A/C control panel



1 1A heater control fuse F3
2 25A fan fuse F4

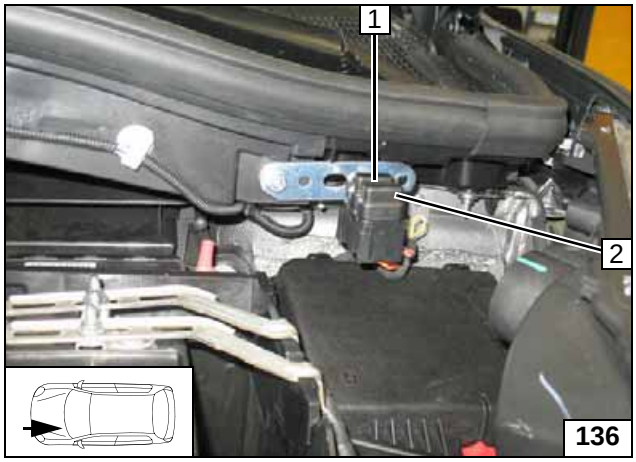
Passenger compartment fuses



Megane

1 30A passenger compartment main fuse F2
2 20A heater fuse F1

Engine compartment fuses



Scenic

1 30A passenger compartment main fuse F2
2 20A heater fuse F1

Engine compartment fuses