Water Heater

Thermo Top Evo Parking Heater

E1
00 0258

With FuelFix

Installation Documentation
Peugeot 308 / 308 SW

Validity

Manufacturer	Model	Type	EG BE No. / ABE
Peugeot	308	L	e2 * 2007 / 46 * 0405 * ...
Peugeot	308 SW	L	e2 * 2007 / 46 * 0405 * ...

Motorisation	Fuel	Transmission type	Output in kW	Displacement in cm³	Engine code
1.2 VTi	Petrol	5-speed SG	60	1199	HM01
1.6 THP	Petrol	6-speed SG	92	1598	5F02
1.6 THP	Petrol	6-speed SG	115	1598	5FVG
1.6 eHDi	Diesel	6-speed SG	85	1560	9H05
1.6 eHDi	Diesel	6-speed AG	85	1560	9HCG
2.0 GT Blue HDi FaAP	Diesel	AG	133	1997	AH01

SG = manual transmission
AG = automatic transmission

From model year 2014
Left-hand drive vehicle

Verified equipment variants:
Automatic air-conditioning
Front fog lights
Start-Stop
LED daytime running lights
Full LED headlight
Euro 6 (2.0 GT)

Not verified:
Manual air-conditioning
Passenger compartment monitoring
Headlight washer system

Total installation time: approx. 8.5 hours

Peugeot 308 / 308 SW

Table of Contents

Necessary Components

- Basic delivery scope for Thermo Top Evo according to price list
- Installation kit with FuelFix for Peugeot 308 / 308 SW 2014 Petrol and diesel: **1321756F**
- Heater control in accordance with price list and upon consultation with end customer
- To be ordered additionally in case of MultiControl CAR option: Wiring harness extension **1319724_**
- In case of Telestart, indicator lamp in accordance with price list and in consultation with end customer

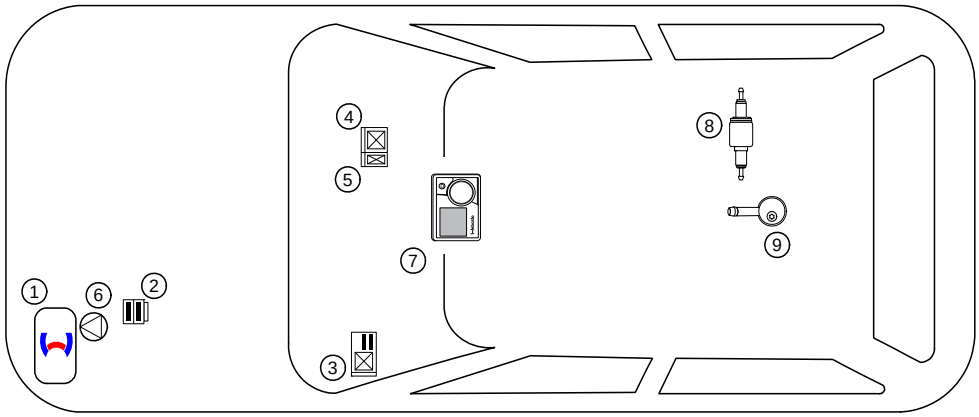
Installation instructions:

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

Installation Overview

Legend:

1. Heater
2. Engine compartment fuse holder
3. Passenger compartment relay and fuse holder
4. PWM Gateway
5. Relay K2
6. Circulating pump
7. MultiControl CAR
8. Metering pump
9. FuelFix



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 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 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.

Information on Validity

This installation documentation applies to Peugeot 308 / 308 SW Petrol and diesel vehicles - for validity see page 1 - from model year 2014 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

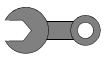
Dimensions
- All dimensions are in mm.

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.

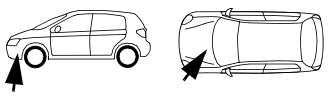
Specific risk of injury or fatal accidents.

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.

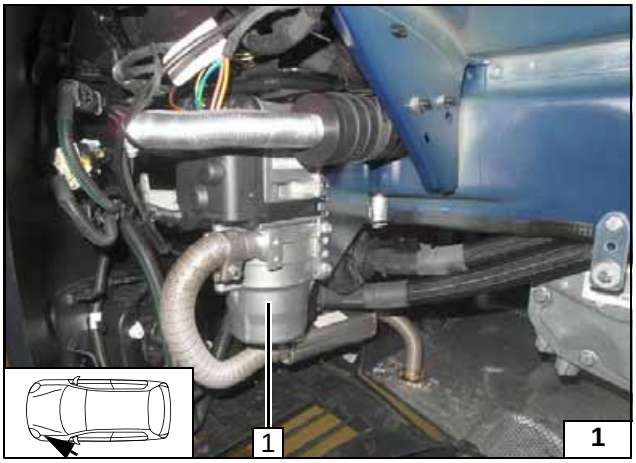
Preliminary Work

Vehicle

- Open the fuel tank cap.
- Ventilate the fuel tank.
- Close the fuel tank cap again.
- Depressurise the cooling system.
- Remove the windscreen wipers.
- Remove the coolant reservoir cap.
- Remove the cowl cover on the engine side.
- Detach the engine control unit.
- Disconnect and remove the battery completely together with the carrier.
- Remove the air filter box completely.
- Remove the left front wheel.
- Remove the left-hand wheel well trim.
- Remove the lower engine cover (if present).
- Remove the underride protection in front of the tank on the right rear side.
- Remove the A-pillar trim on the driver's side (only in case of Telestart / ThermoCall).
- Remove the lower instrument panel trim on the driver's side.
- Remove the steering column trim and footwell trim next to the accelerator pedal.
- Remove the A/C control unit (see installation aid).
- Remove the rear bench seat (all vehicles except for SW models).
- Detach the rear bench seat on the left and fold up (see installation aid for SW models).
- Open the tank-fitting service lid.

Heater

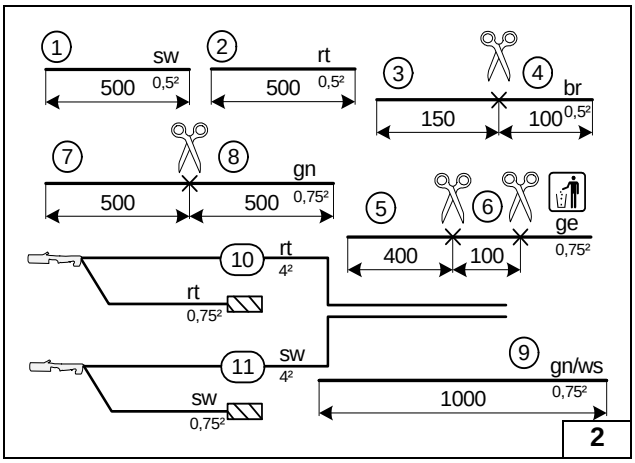
- Remove years that do not apply from the type and duplicate label.
- Attach the duplicate label (type label) visibly in the appropriate place in the engine compartment.



Heater Installation Location

1 Heater

Installation location



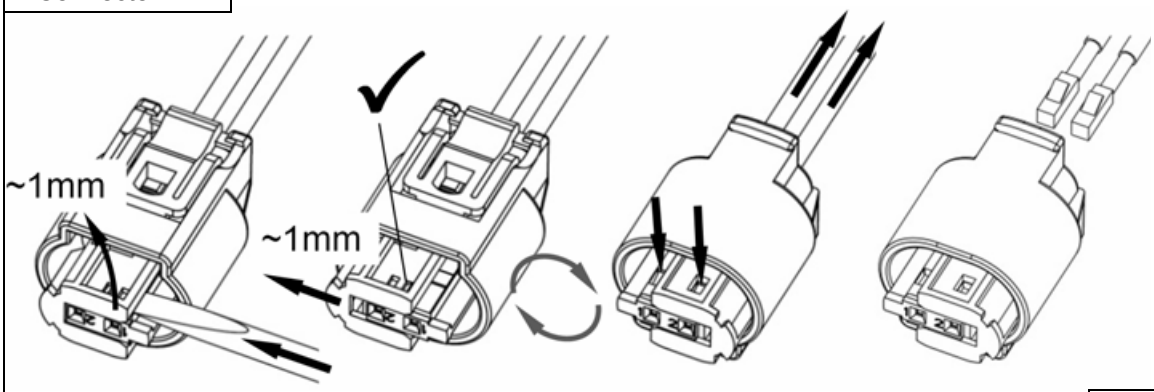
Preparing Electrical System

Wire sections retain their numbering in the entire document.

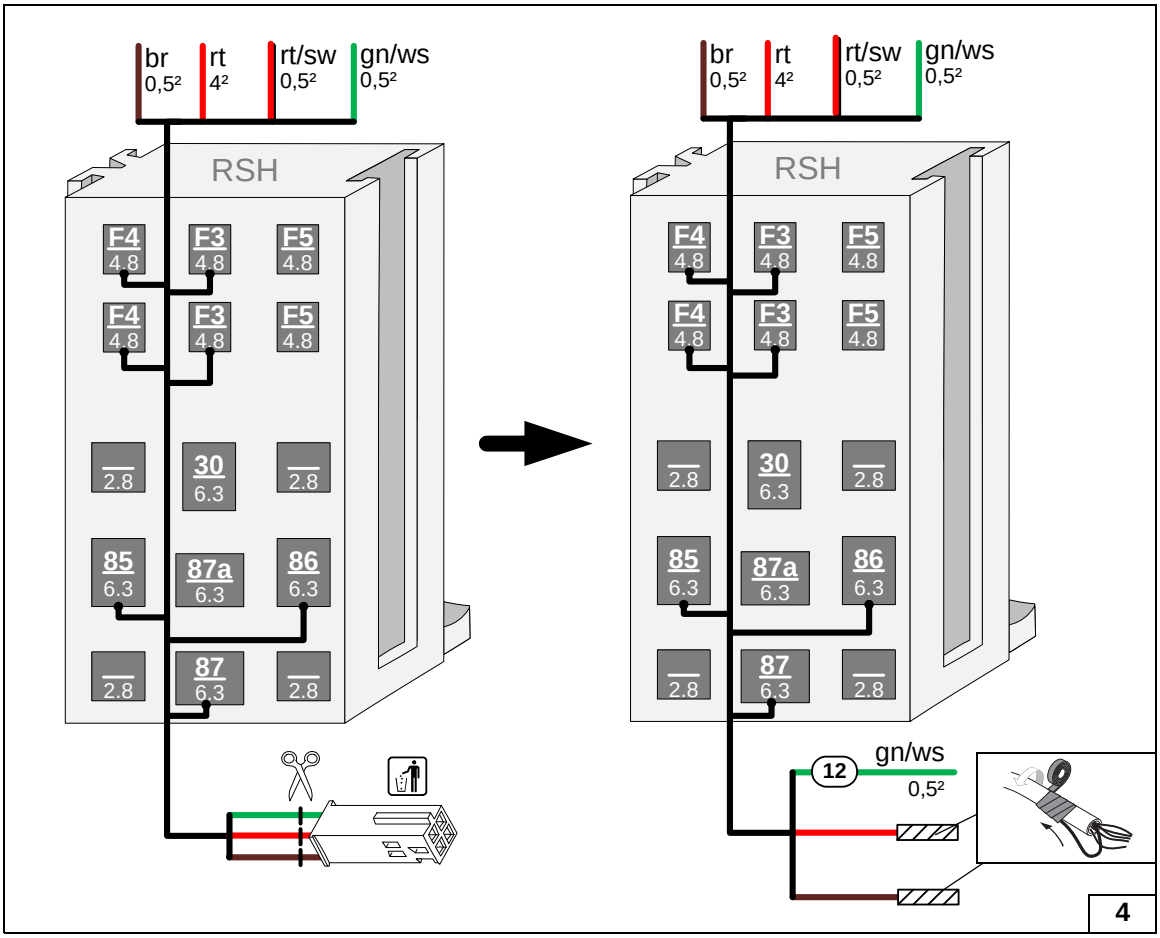
(10) Red (rt) wire of fan wiring harness
(11) Black (sw) wire of fan wiring harness

Cutting to length / assigning wires

Connector X7

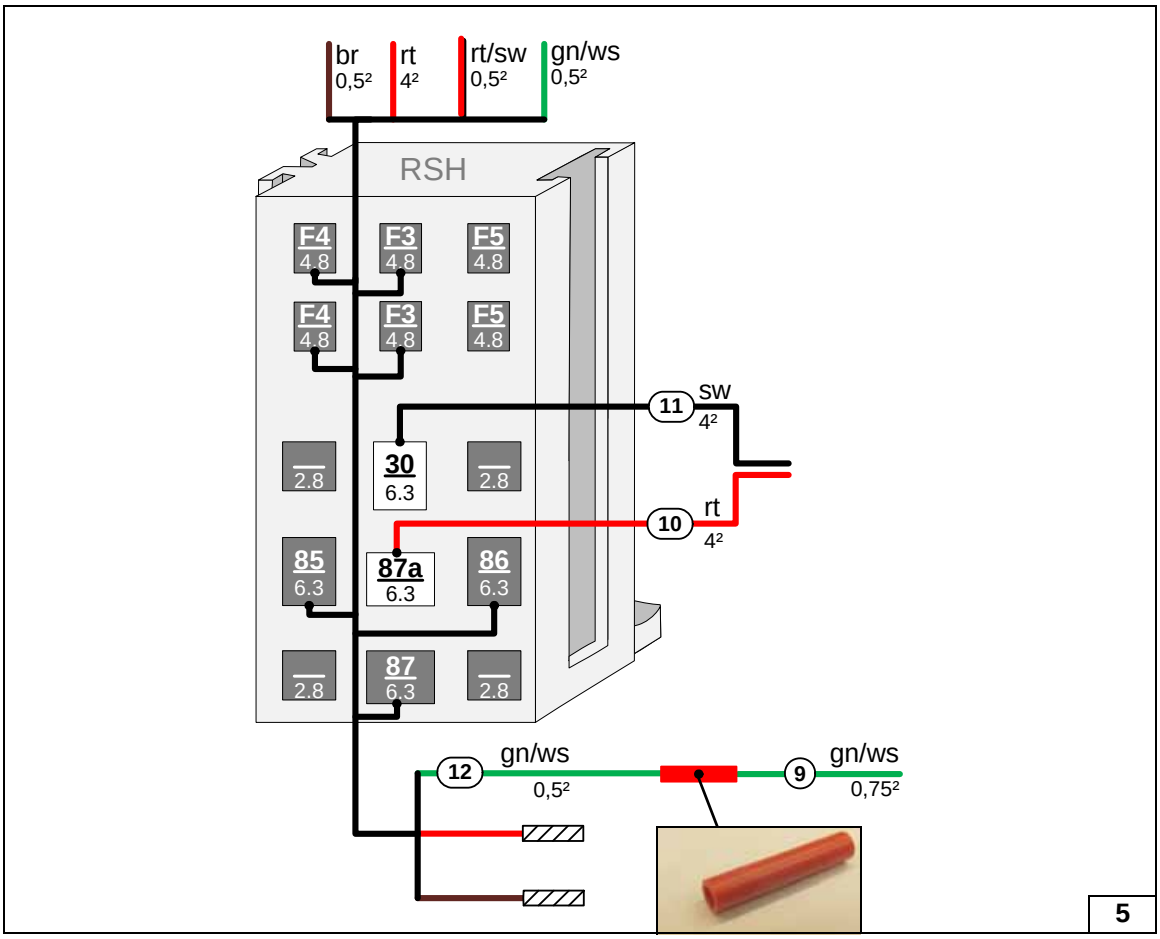


Removing metering pump connector



Preparing passenger compartment relay and fuse holder

Connecting wires to passenger compartment relay and fuse holder



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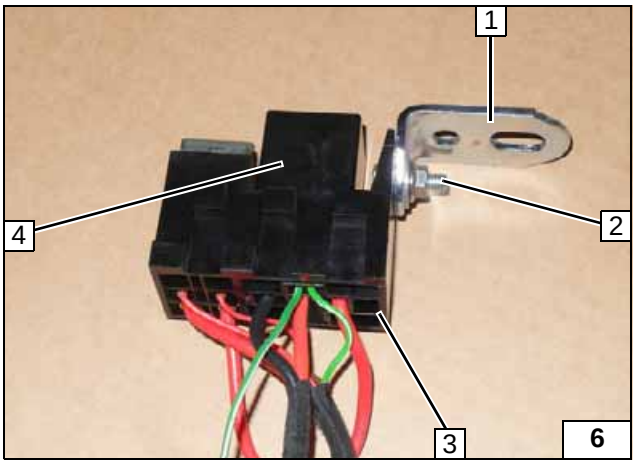
Preparing passenger compartment relay and fuse holder



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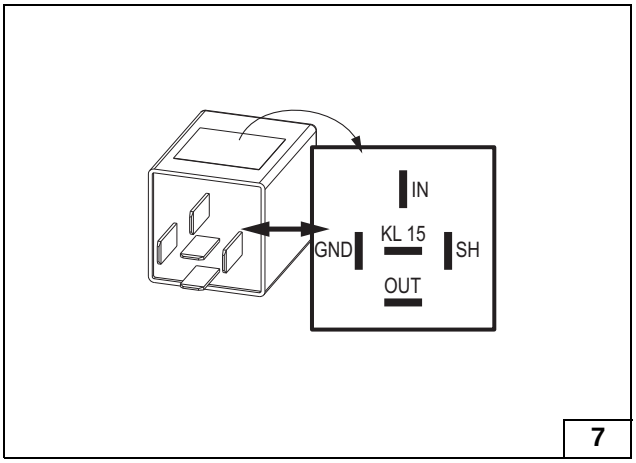
1 Angle bracket
2 M5x16 bolt, large diameter washer [2x], nut
3 Passenger compartment relay and fuse holder
4 Relay K1

Reprogramming PWM-GW



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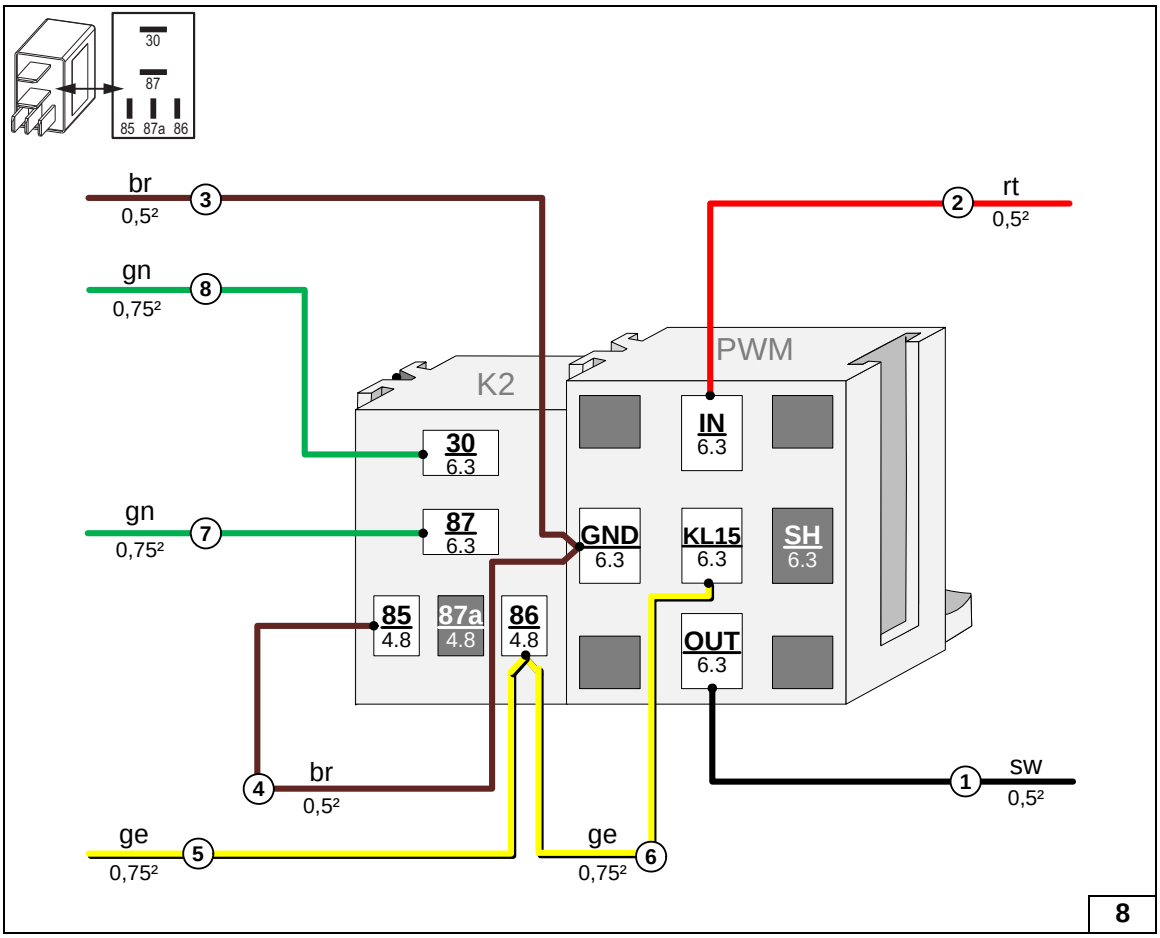
The pre-programmed settings of the provided PWM GW should be modified with the Webasto Thermo Test Diagnosis (WTT) using the following values:

Duty cycle: 75%
Frequency: 400Hz
Voltage: not relevant
Function: Low side



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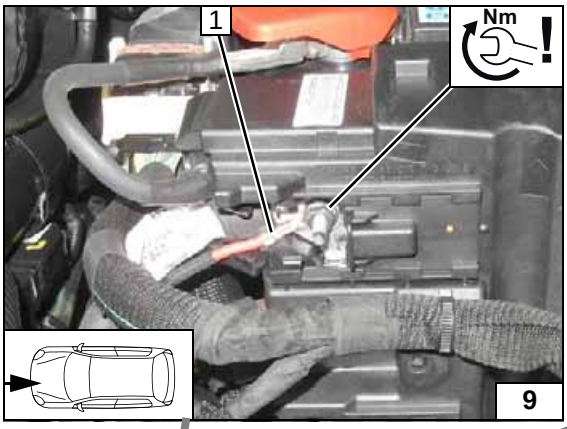
Interlocking sockets of PWM GW and relay K2, connecting wires

Electrical System

Positive wire

Version **1**

1 Positive wire on original vehicle positive distributor

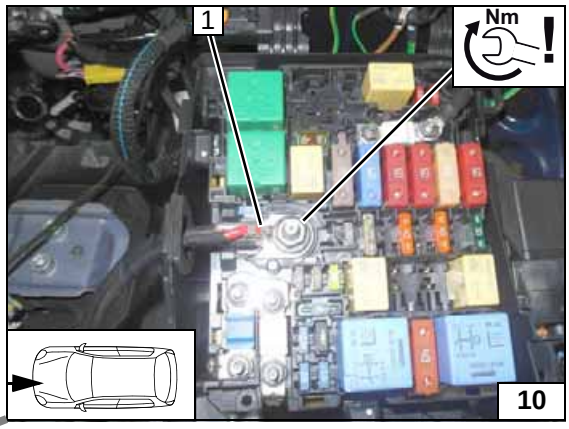


Positive wire

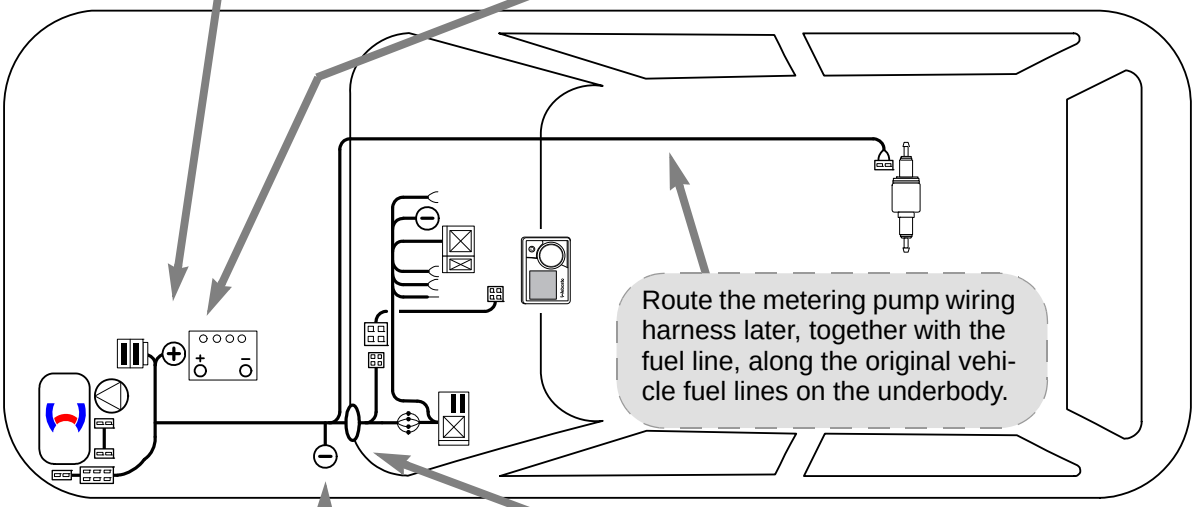
Version **2**

Only possible, if power on the positive side (30+) is constant and doesn't switch on or off after a 2 minute time-delay!

1 Positive wire on original vehicle positive distributor

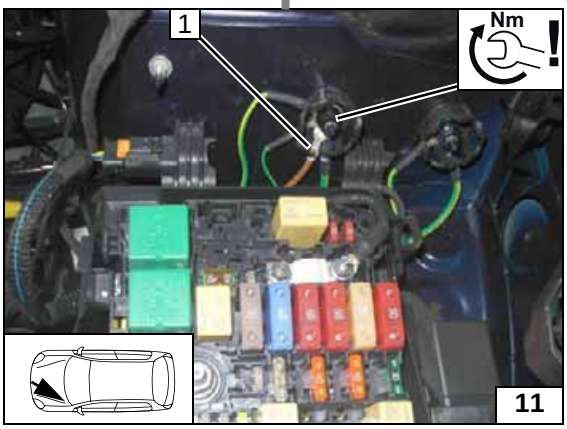


Wiring harness routing diagram



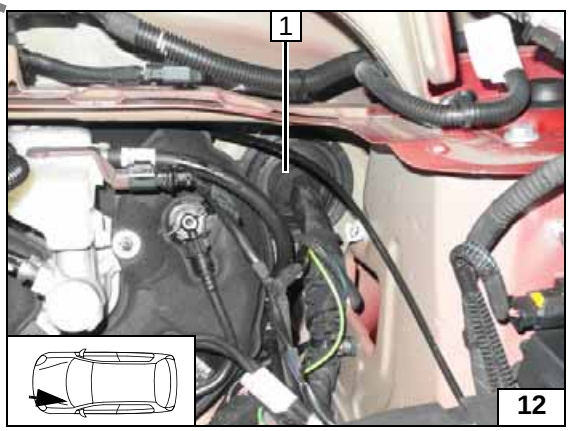
Earth wire

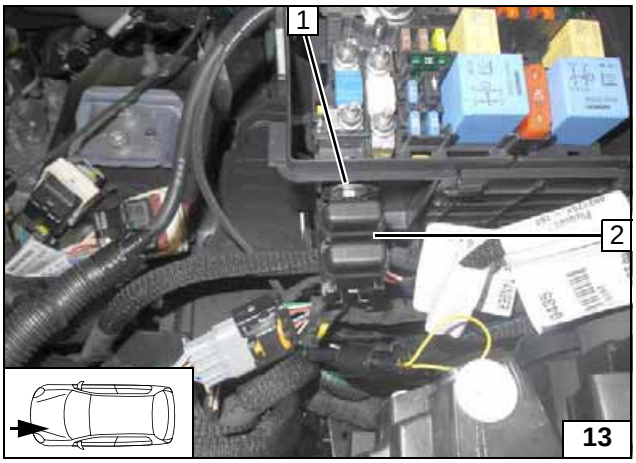
1 Earth wire on original vehicle earth support point, all vehicles



Wiring harness pass through

1 Protective rubber plug for all vehicles



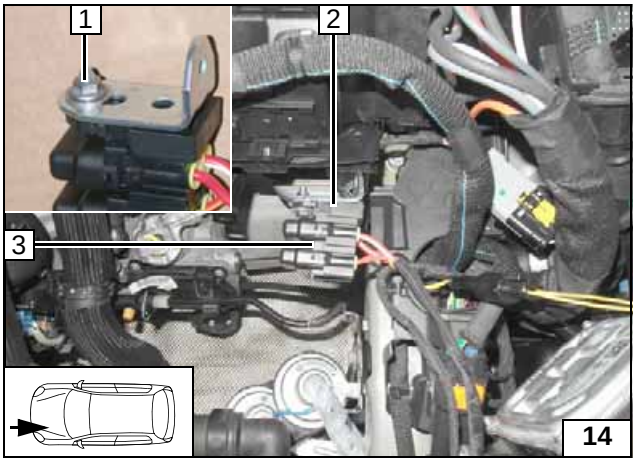


All vehicles apart from 2.0 GT

Version 1

1 5.5mm dia. hole; M5x16 bolt, large diameter washer [2x], nut
2 Fuses F1-2

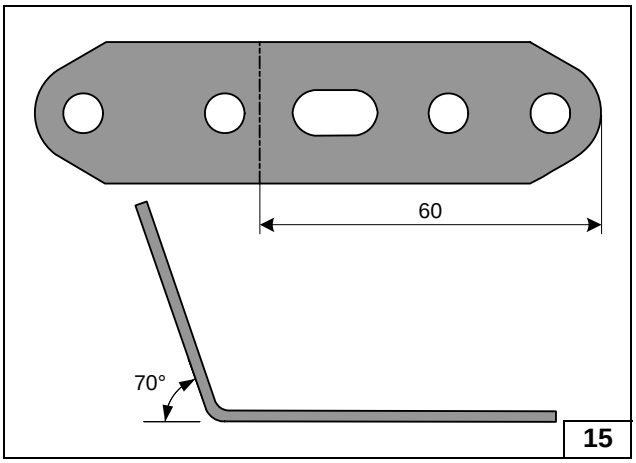
Installing engine compartment fuse holder



Version 2

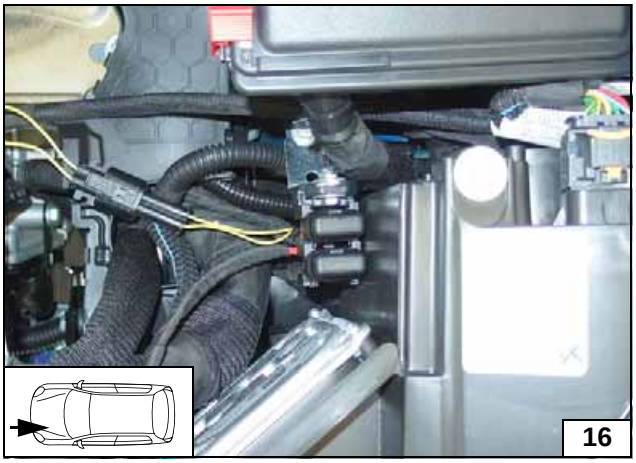
1 M5x16 bolt, large diameter washer, fuse holder retaining plate, angle bracket, large diameter washer, nut
2 Position fuse holder (will be mounted during the "Final Work" phase)
3 Fuses F1-2

Positioning engine compartment fuse holder

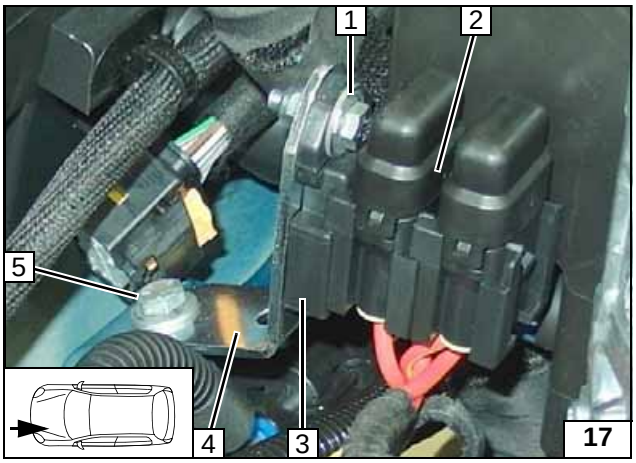


2.0 GT

Preparing perforated bracket



View of engine compartment fuse holder

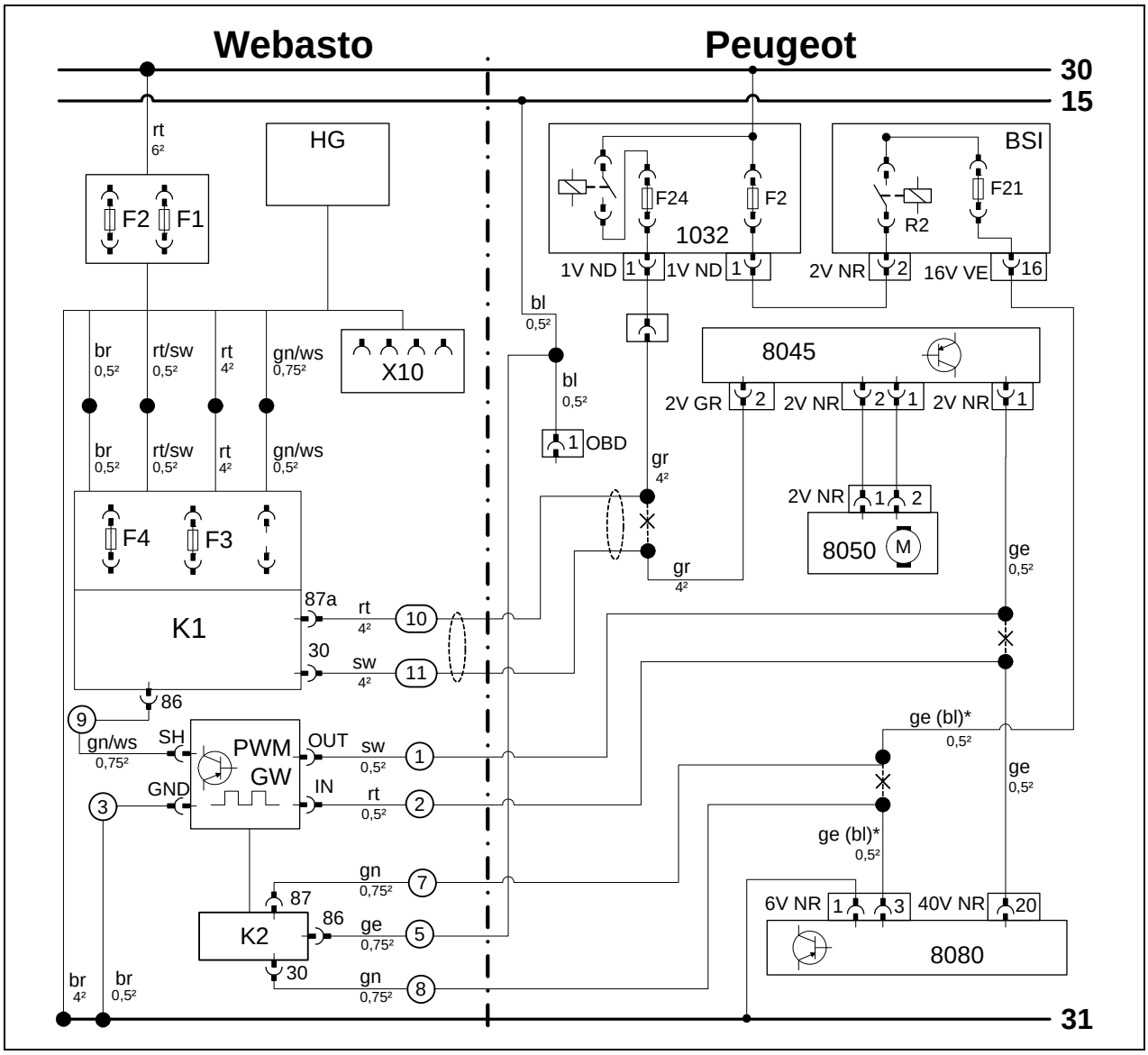


1 M5x16 bolt, large diameter washer [2x], nut
2 Fuses F1-2
3 Retaining plate of fuse holder
4 Perforated bracket
5 5.5mm dia. hole; M5x16 bolt, large diameter washer [2x], nut

Installing engine compartment fuse holder

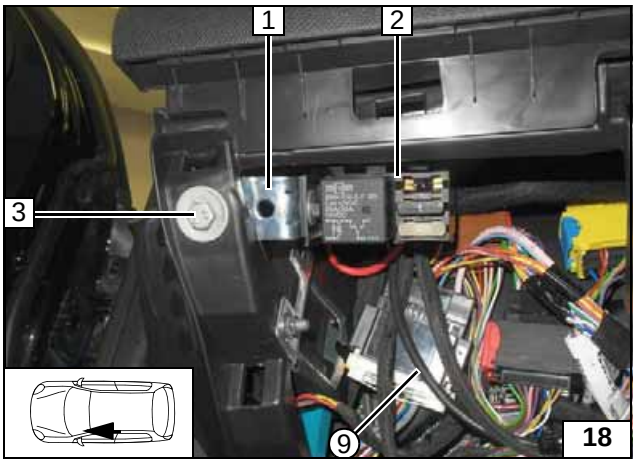
Fan controller

System wiring diagram



Webasto components		Vehicle components		Colours and symbols	
HG	TT-Evo heater	1032	Main power supply	rt	red
F1	20A fuse	F24	Fuse	sw	black
F2	30A fuse	F2	Fuse	ge	yellow
X10	4-pin connector of heater control	1V ND	1-pin connector 1032	gn	green
		BSI	Central electrical box for passenger compartment	ws	white
F3	1A fuse	R2	Relay	br	brown
F4	25A fuse	F21	Fuse	gr	grey
K1	Fan relay	2V NR	2-pin connector of BSI	bl	blue
PWM GW	PWM-Gateway	16V VE	16-pin connector of BSI		
		8045	Fan controller		
K2	Additional relay	2V GR	2-pin connector 8045		
		2V NR	2-pin connector 8045		
		OBD	OBD socket outlet		
PWM-GW settings:		8050	Fan motor		
Duty cycle:	75%	2V NR	2-pin connector 8050		
Frequency:	400Hz	8080	A/C control unit	*	Wiring colours may vary.
Voltage:	not relevant	6V NR	6-pin connector 8080		
Function:	Low side	40V NR	40-pin connector 8080	X	Cutting point

Legend

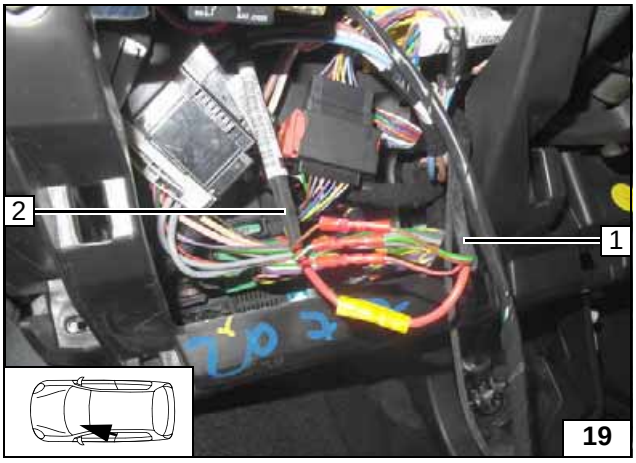


Produce all following electrical connections as shown in the wiring diagram.

Route green/white (gn/ws) wire ⑨ of K1/86 in protective sleeving behind the instrument panel trim to the front passenger's side.

Installing passenger compartment relay and fuse holder

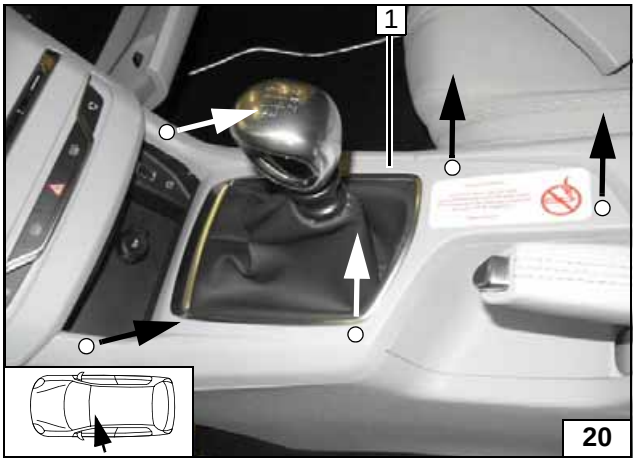
1 Premounted angle bracket
2 Passenger compartment relay and fuse holder
3 6.5mm dia. hole; M6x25 bolt, large diameter washer, 10 mm shim, flanged nut



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

Connecting same colour wires of wiring harnesses

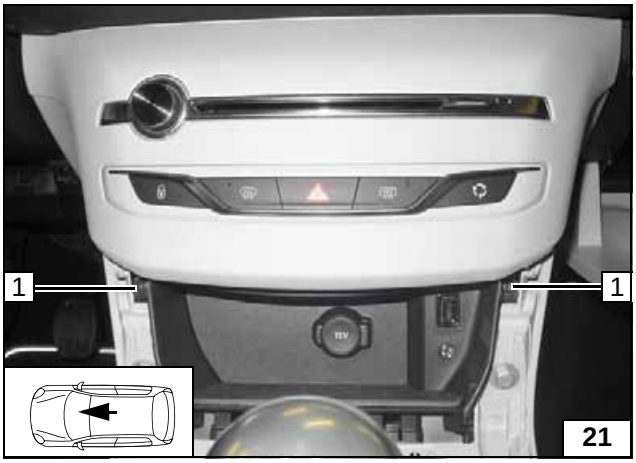
Installation Aid for A/C Control Unit



Remove trim **1** in the rear area by pulling upwards, then remove as a whole in the opposite direction of travel (clipped on).

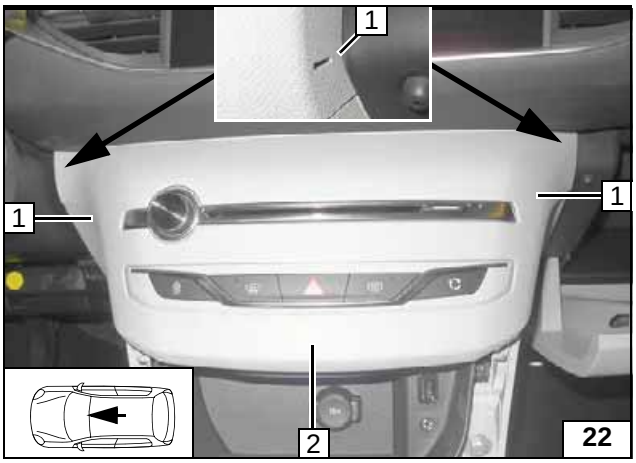
○ Fastening points

Removing trim of centre console



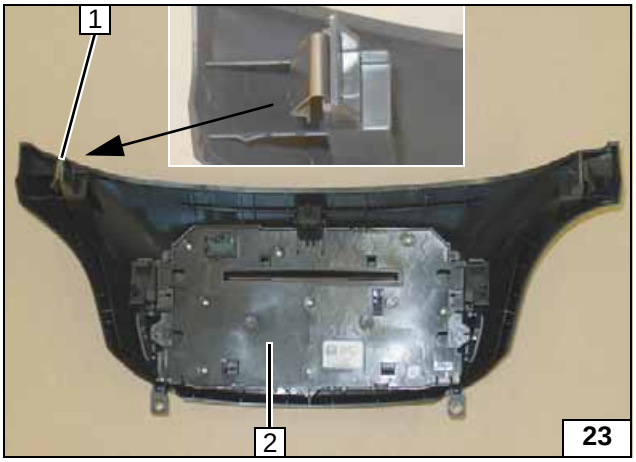
1 Remove original vehicle bolt [2x]

Detaching trim piece



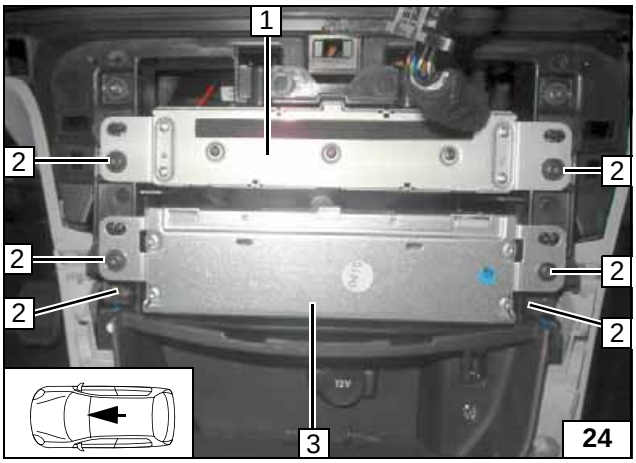
Unlatch trim piece **2** on the right and left at position **1** in the opposite direction of travel through the existing openings and by using an unlocking tool.

Removing trim piece



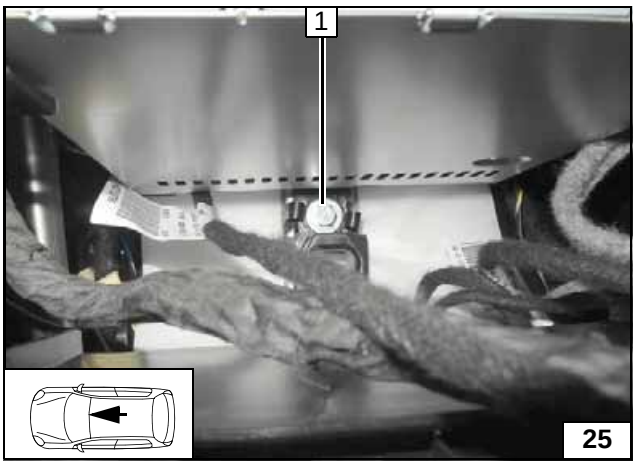
1 Trim piece latch
2 Inner side of trim piece

View of inner side of trim piece



1 CD player
2 Remove original vehicle bolt [6x]
3 Multimedia device

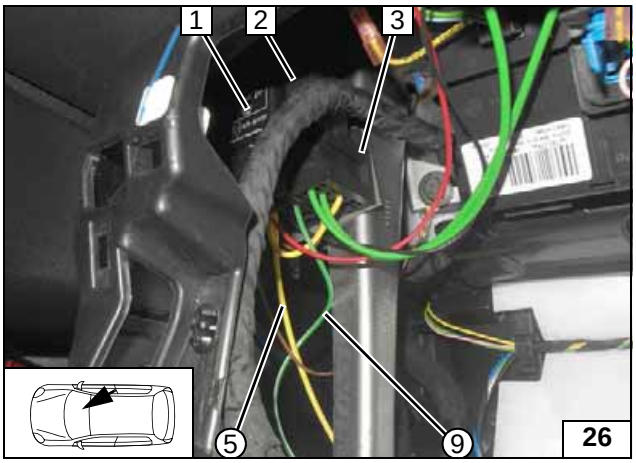
Dismantling CD player and multimedia device



A/C control unit is located behind installation frame for CD player / multimedia device.

1 Remove original vehicle bolt and frame

Dismantling frame

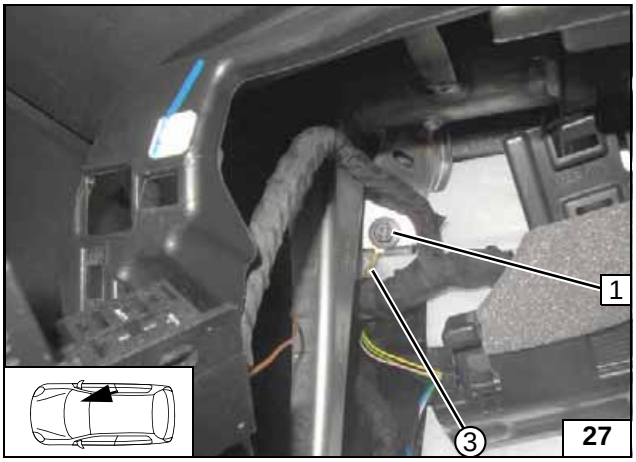


Fan controller

Connect green/white (gn/ws) wire ⑨ of K1/86 to PWM Gateway/SH socket. Route yellow (ge) ⑤ wire of K2/86 to the OBD socket outlet.

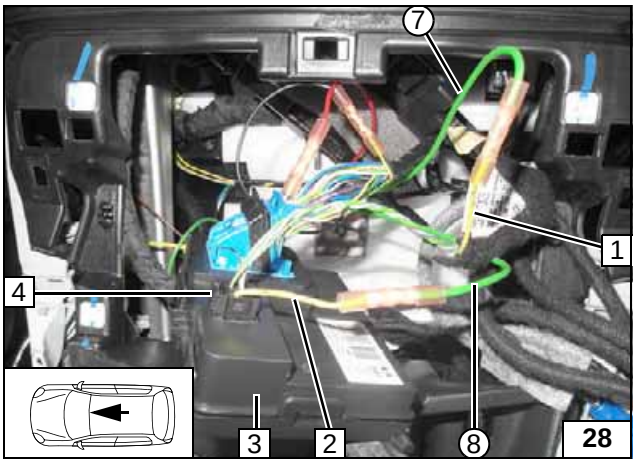
1 PWM-Gateway
2 Relay K2
3 Fasten PWM Gateway socket using double-sided adhesive tape

Installing relay K2 and PWM GW



1 Original vehicle bolt
③ Brown (br) wire of PWM Gateway/GND

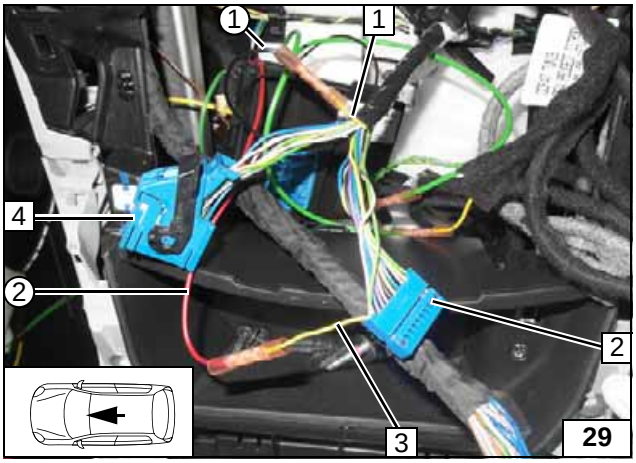
Earth connection of PWM Gateway



Connection on 6-pin connector 6V NR **4** from A/C control unit **3**.

1 Yellow (ge) or blue (bl) wire of BSI 16V VE/16
2 Yellow (ge) or blue (bl) wire of A/C control unit 6V NR, pin 3
⑦ Green (gn) wire of K2/87
⑧ Green (gn) wire of K2/30

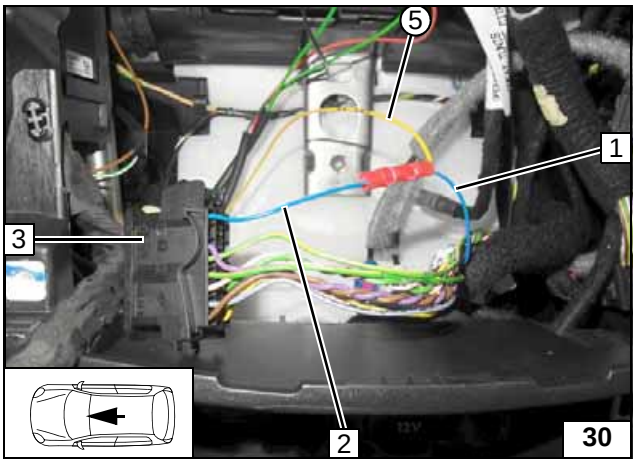
Connecting relay K2



Connection on blue (bl) 40-pin connector 40V NR Part 1 **2** of A/C control unit.

1 Yellow (ge) wire of fan controller 2V NR, pin 1
3 Yellow (ge) wire of A/C control unit 40V NR, pin 20
4 40-pin connector of A/C control unit (disassembled)
① Black (sw) wire of PWM Gateway/OUT
② Red (rt) wire of PWM Gateway/IN

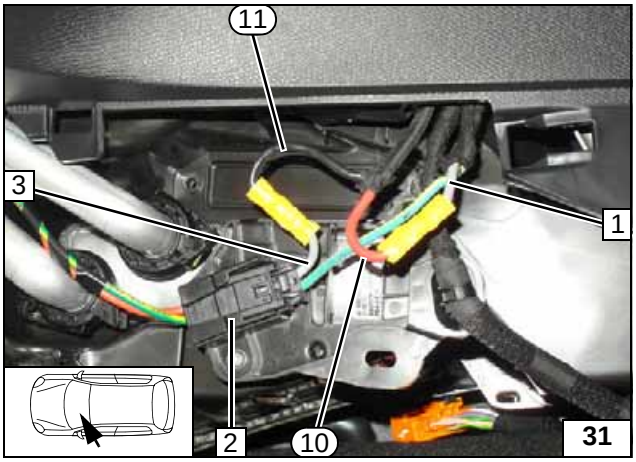
Connecting PWM Gateway



Detach OBD connector from bracket.
Connection to OBD socket outlet **3**, pin 1.

1 Blue (bl) wire of terminal 15
2 Blue (bl) wire of OBD socket outlet/1
Ⓢ Yellow (ge) wire of K2/86

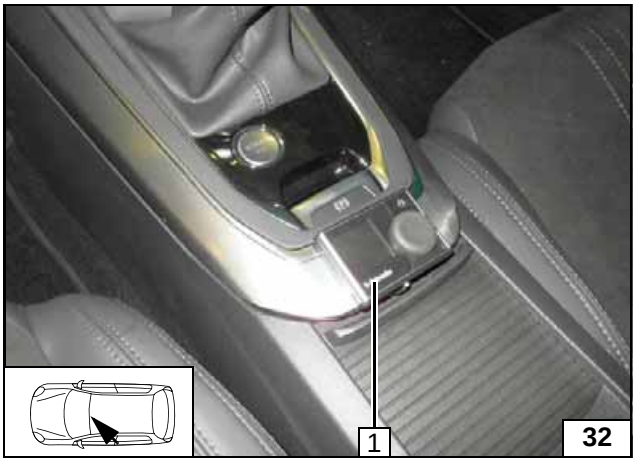
Connecting relay K2



Connection on 2-pin connector 2V GR **2** from fan controller.

1 Grey (gr) wire of main power supply 1V ND, pin 1
3 Grey (gr) wire of fan controller 2V GR, pin 2
⑩ Red (rt) wire of K1/87a, fan wiring harness
⑪ Black (sw) wire of K1/30, fan wiring harness

Connecting relay K1 and PWM Gateway

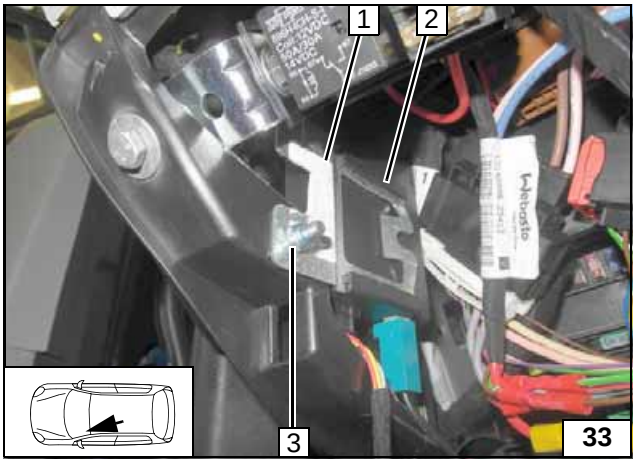


MultiControl CAR Option

Figure shows 308 SW with electric handbrake.

1 MultiControl CAR

Installing MultiControl CAR

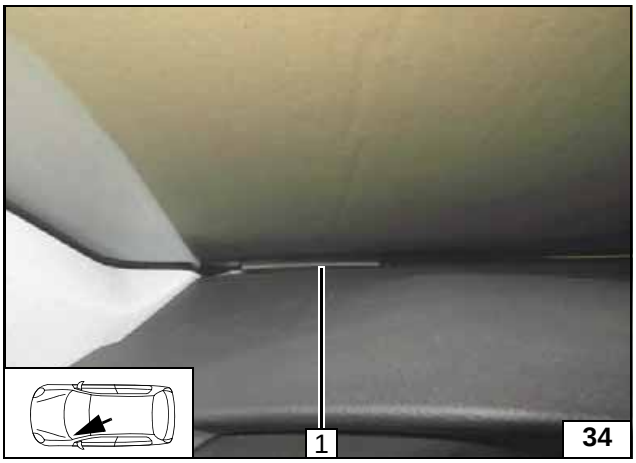


Remote Option (Telestart)

Place bracket **1** with receiver **2** on instrument panel trim and copy hole pattern at position **3**.

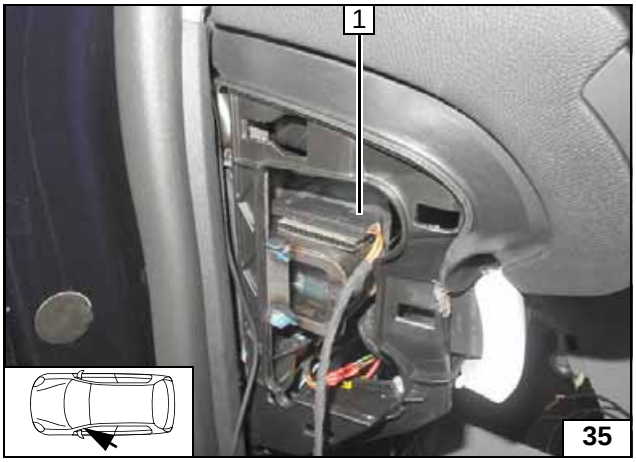
3 5.5 mm dia. hole; M5x16 bolt, nut

Installing receiver



1 Aerial

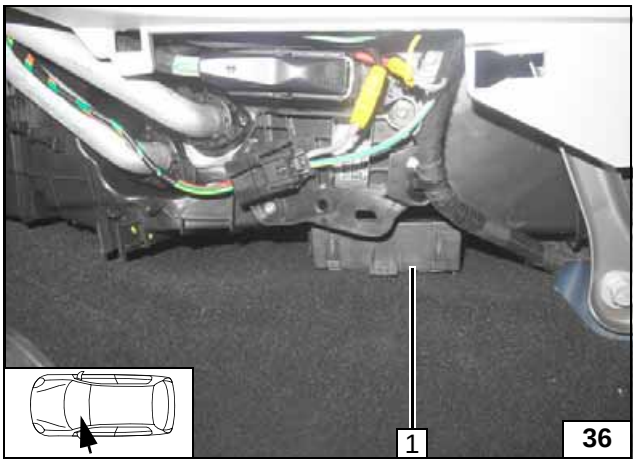
Installing aerial



Temperature sensor T100 HTM

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

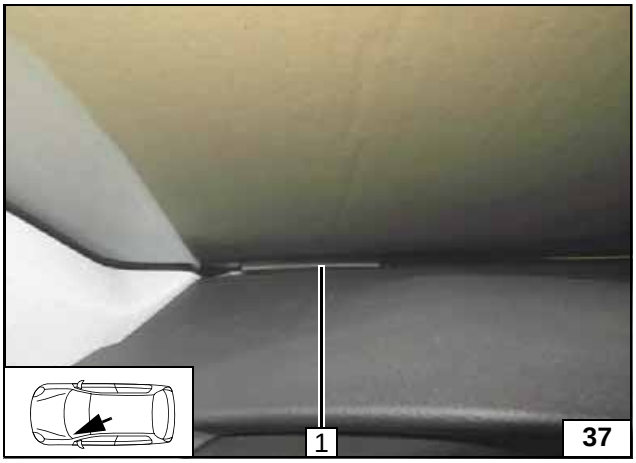
Installing temperature sensor



ThermoCall Option

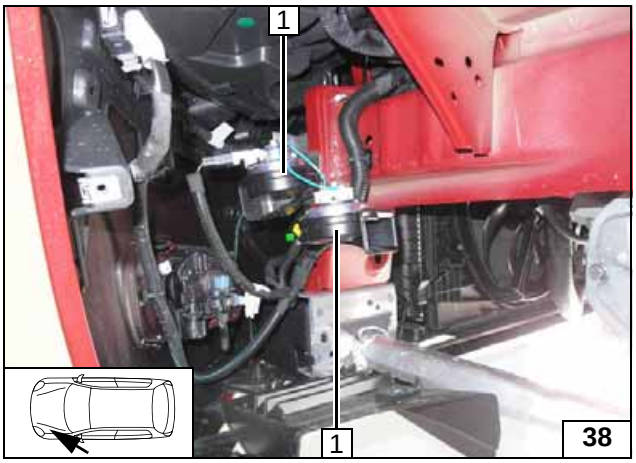
Fasten receiver **1** with self-adhesive hook and loop fastening to the carpet.

Installing receiver



1 Aerial (optional)

Installing aerial

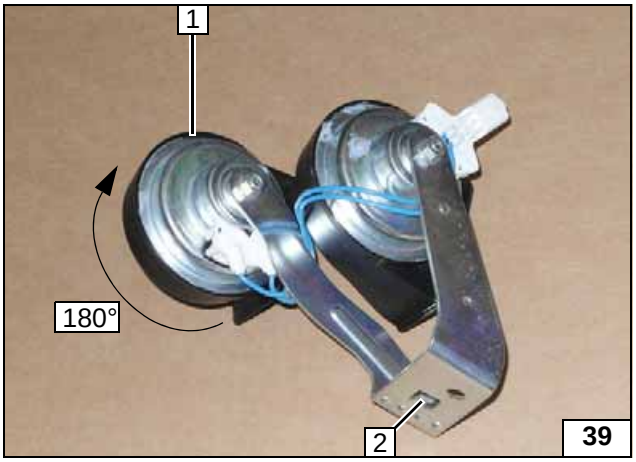


Preparing Installation Location

Move the horns (when there are two horns)!

1 Horns [2x] **1** with bracket

Removing horns

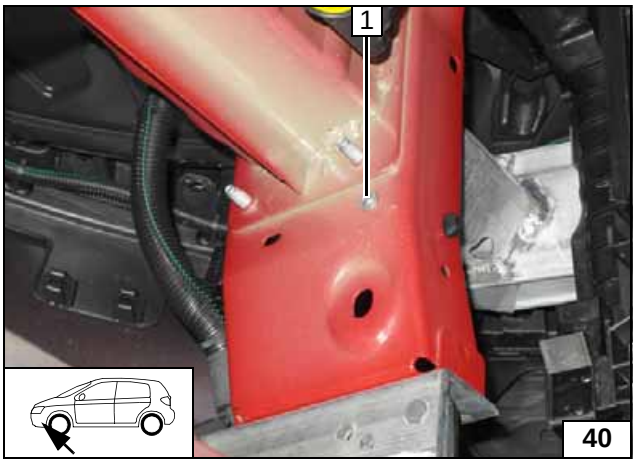


All vehicles apart from 2.0 GT

(Horns are repositioned in case of 2.0 GT, see section 'Final Work'.)

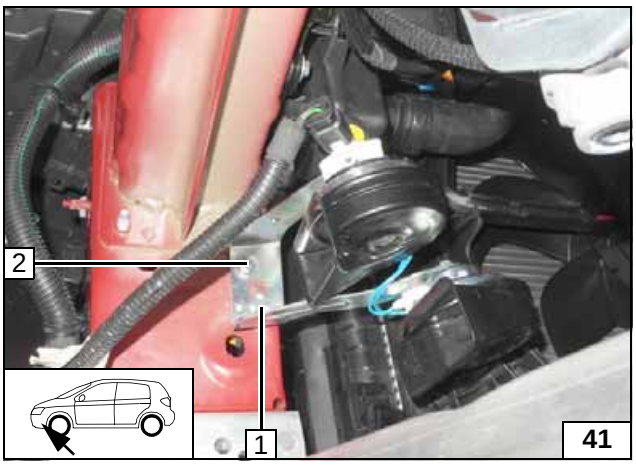
1 Rotate horn by 180°
2 Flatten tab of original vehicle bracket

Rotating horn



1 Drill out hole to 9.1mm dia., rivet nut for horn bracket

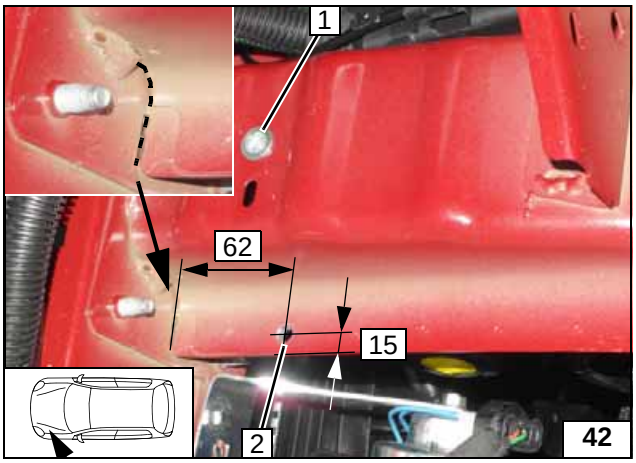
Installing rivet nut



Check that there is freedom of movement, align horns if necessary!

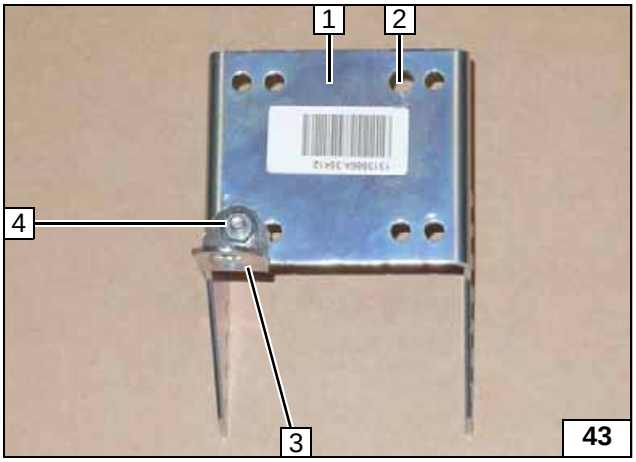
1 Horn bracket
2 M6x20 bolt, spring lockwasher, large diameter washer

Installing horns



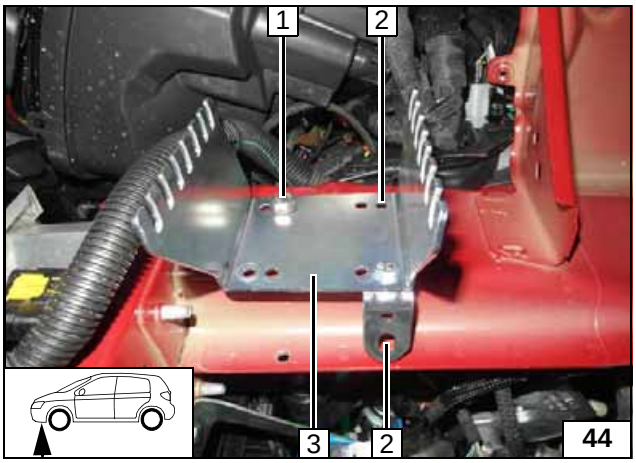
1 Drill out hole to 12.5 mm, M8 rivet nut
2 7 mm dia. hole for circulating pump

Installing rivet nut M8



1 Bracket
2 Drill out hole to 8.5 mm dia.
3 Angle bracket
4 M6x16 bolt, flanged nut

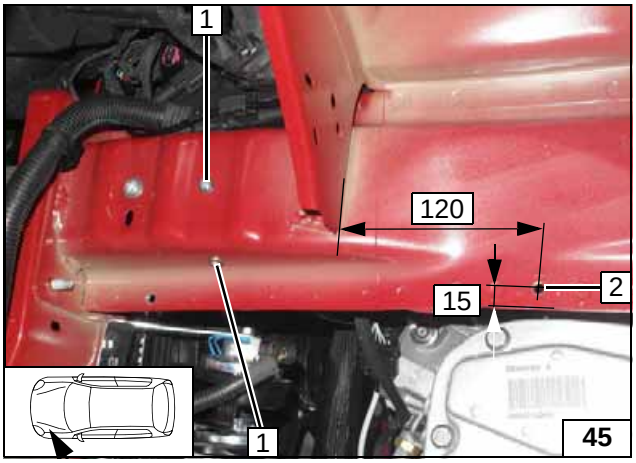
Preparing bracket



Install bracket**3** loosely.

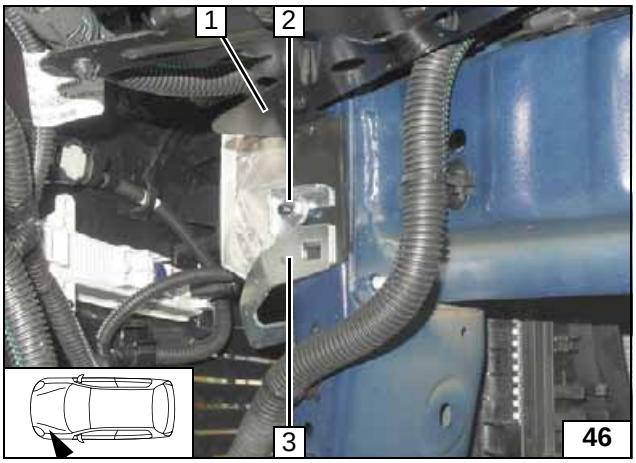
1 M8x25 bolt, spring lockwasher, bracket, 5 mm shim
2 Copy hole pattern [2x]

Copying hole pattern



1 9.1 mm dia. hole; M6 rivet nut [2x each]
2 7 mm dia. hole for hose mounting

Inserting M6 rivet nut

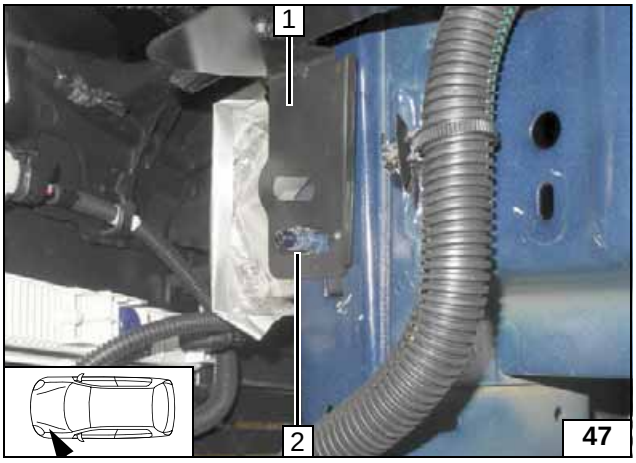


Only for original vehicle's retaining brackt at position 1

Remove original vehicle nut **2**, will be re-used. Put aside horn bracket **3**.

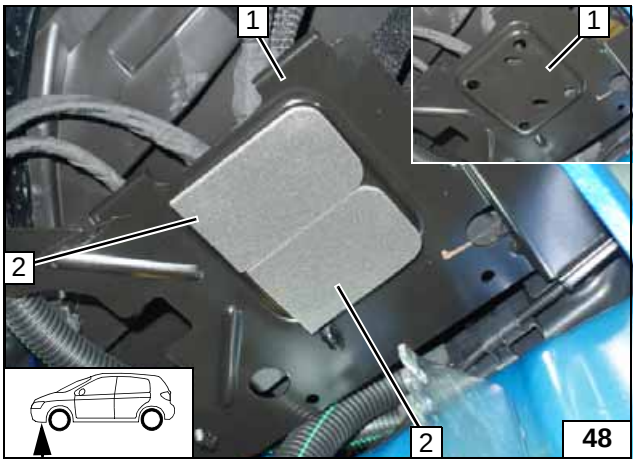
1 Retaining bracket

Moving retaining bracket



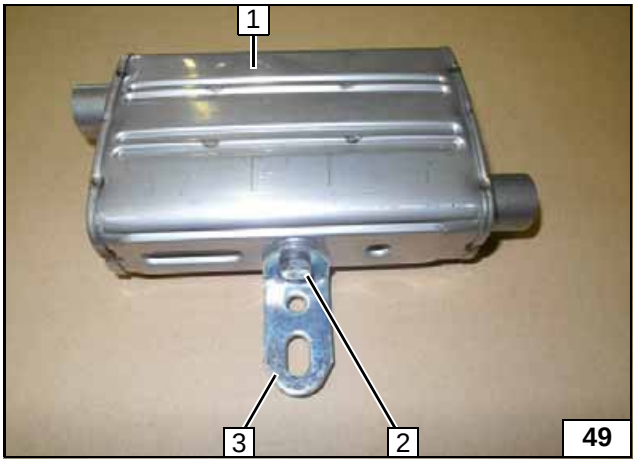
Drill out oblong hole in original vehicle retaining bracket **1** in position **2** to 8 mm dia., put on one hole higher and mount again together with horn bracket using original vehicle nut.

Moving retaining bracket



1 Retaining bracket
2 Insulation protection strip cut in half [2x]

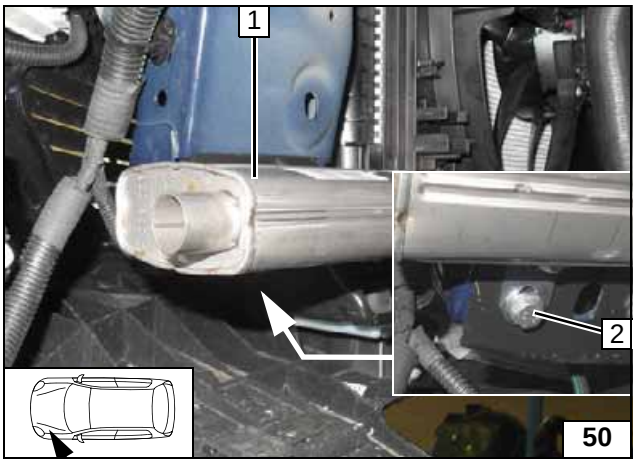
Sticking on insulation protection strips



All vehicles

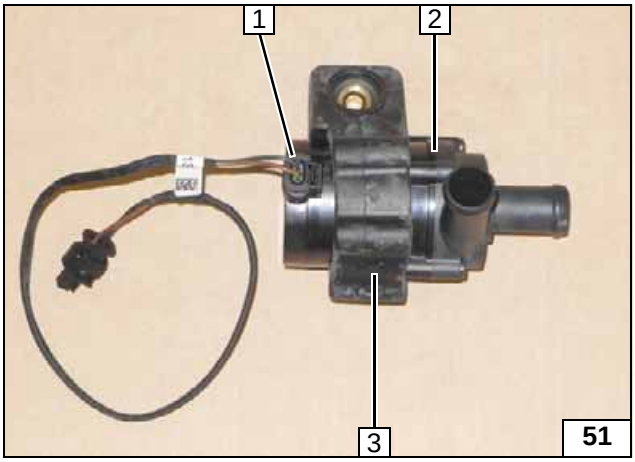
1 Exhaust silencer
2 M6x16 bolt, spring lockwasher
3 Angle bracket

Premounting exhaust silencer



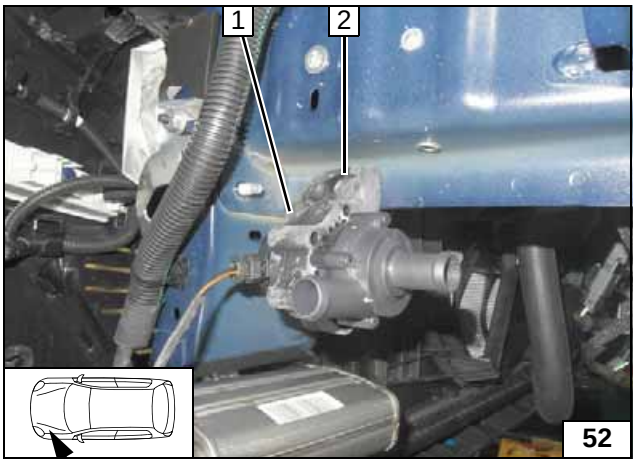
1 Exhaust silencer
2 Original vehicle bolt

Installing exhaust silencer



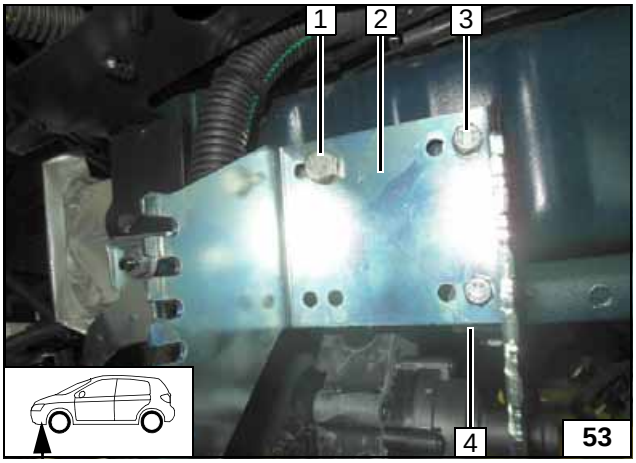
1 Connector of circulating pump wiring harness
2 Circulating pump
3 Circulating pump mount

Premounting circulating pump



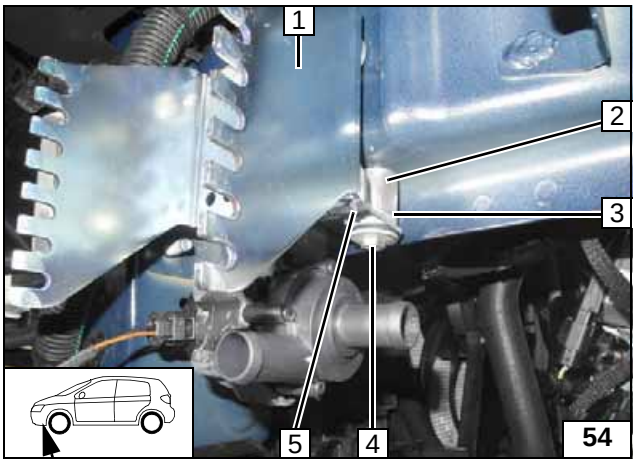
1 Circulating pump mount
2 M6x25 bolt, flanged nut

Installing circulating pump



1 Premount M8x25 bolt, spring lock-washer, 5 mm shim loosely
2 Bracket
3 Premount M6x25 bolt, spring lock-washer, 5 mm shim loosely
4 Premounted angle bracket

Installing bracket

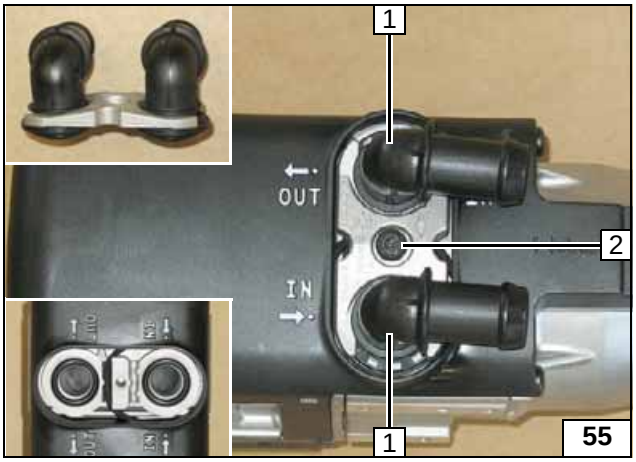


1 Bracket
2 20 mm shim
3 5 mm shim
4 M6x40 bolt, spring lockwasher, large diameter washer
5 Premounted angle bracket

Align bracket and tighten all premounted bracket bolts.

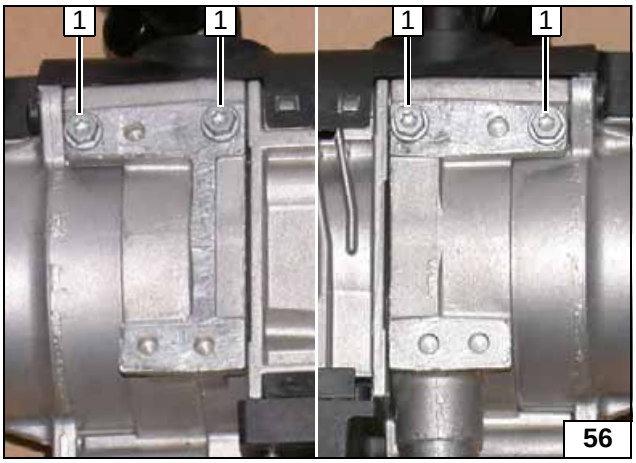
Installing bracket

Preparing Heater



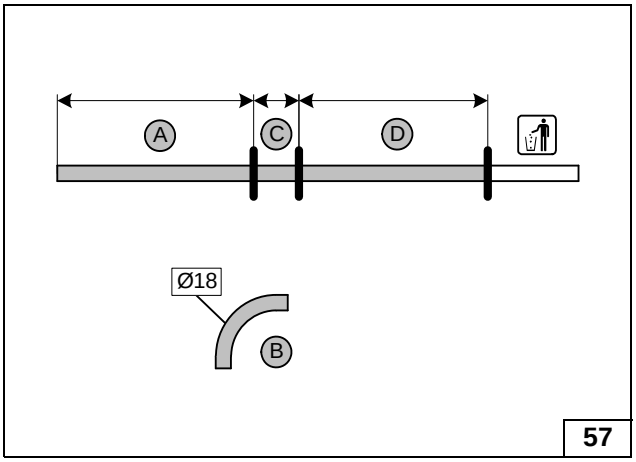
1 Water connection piece, sealing ring [2x each]
2 5x15 self-tapping bolt, retaining plate of water connection piece

Installing water connection piece



Screw 5x13 self-tapping bolts **1** [4x] into existing holes by a maximum of 3 thread turns.

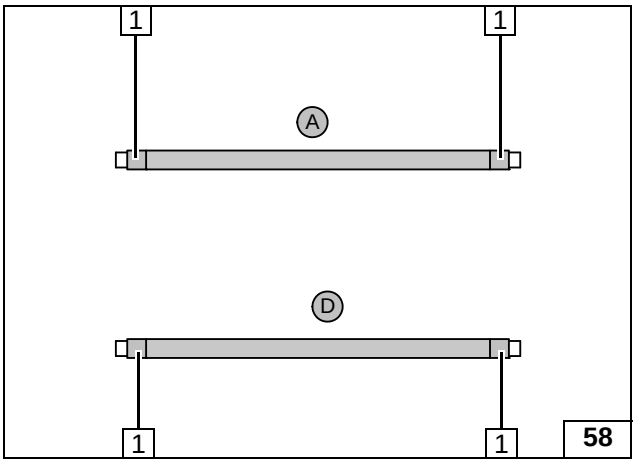
Loosely premounting bolts



All vehicles apart from engine codes: AH01/ 9HCG / HN02	
A=	850
C=	70
D=	850

	Engine code: AH01	Engine code: 9HCG	Engine code: HN02
A=	750	800	850
C=	70	70	70
D=	830	830	830

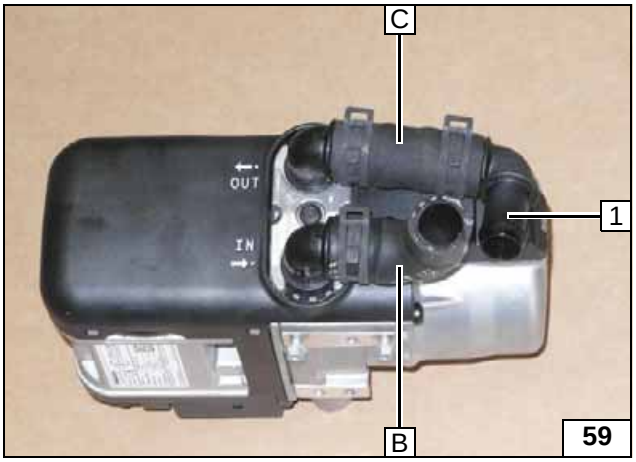
Cutting hoses to length



Push braided protection hoses onto hoses **A** and **D** and cut to length. Cut heat shrink plastic tubing to size.

1 50 mm long heat shrink plastic tubing [4x]

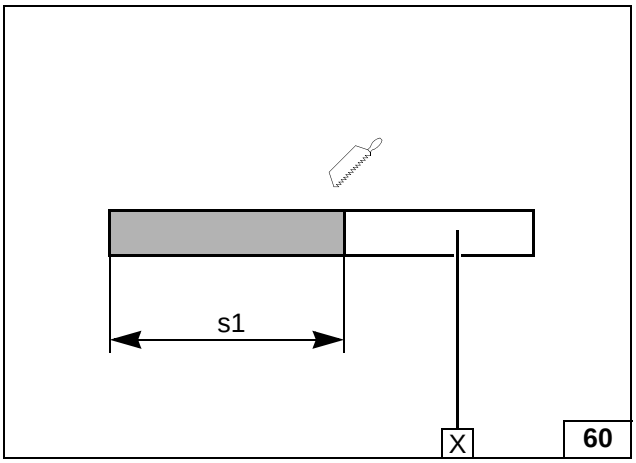
Preparing hoses



All spring clips = 25 mm dia.

1 90°, 18x18 mm dia. connecting pipe

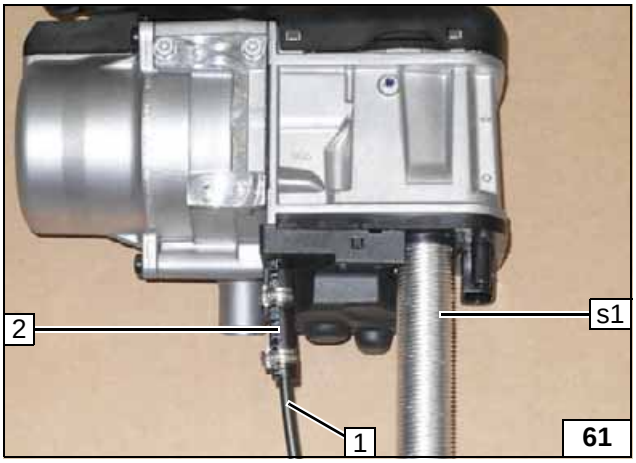
Premounting hoses



s1 = 260

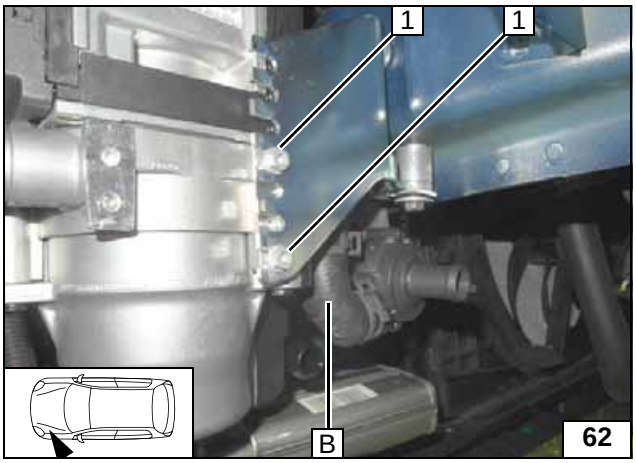
X =

Cutting combustion air pipe to length



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

Preparing heater

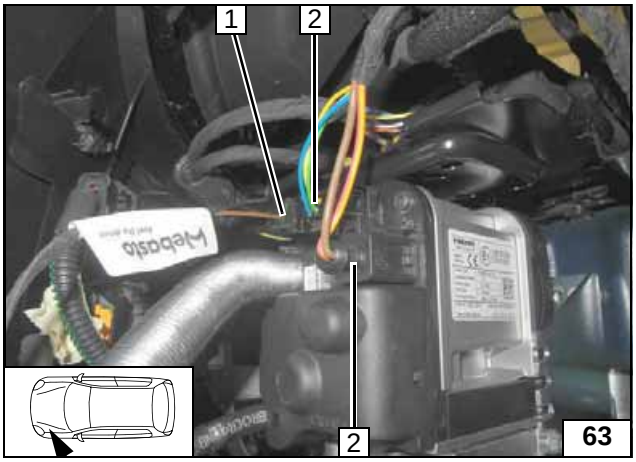


Installing Heater

Connect hose**B** with 25 mm dia. spring clip to circulating pump.

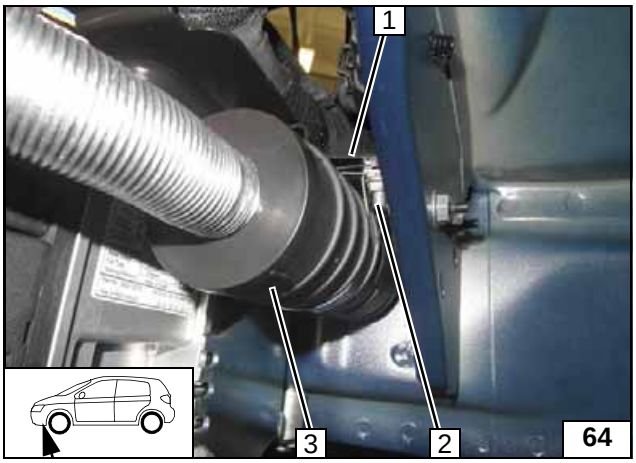
1 Tighten 5x13 self-tapping bolt [4x] (the 2 front bolts are covered)

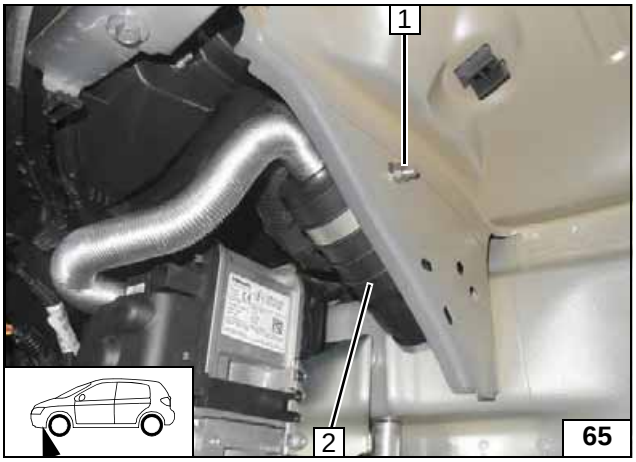
Installing heater



1 Connector of circulating pump wiring harness
2 Heater wiring harness connector [2x]

Installing wiring harnesses





Combustion Air

Version 1

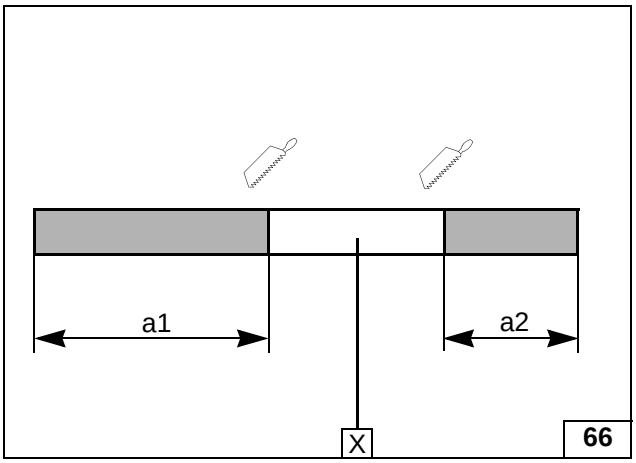
1 Original vehicle retaining bracket (if present)
2 M5x16 bolt, large diameter washer, original vehicle hole, 51 mm dia. clamp, flanged nut
3 Silencer

Installing silencer

Version 2

1 M5x16 bolt, large diameter washer, existing hole, 51 mm dia. clamp, flanged nut
2 Silencer

Installing silencer

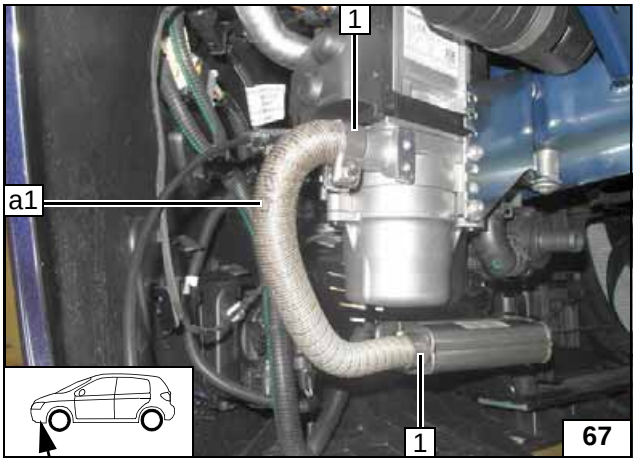


Exhaust Gas

a1 = 350
a2 = 210

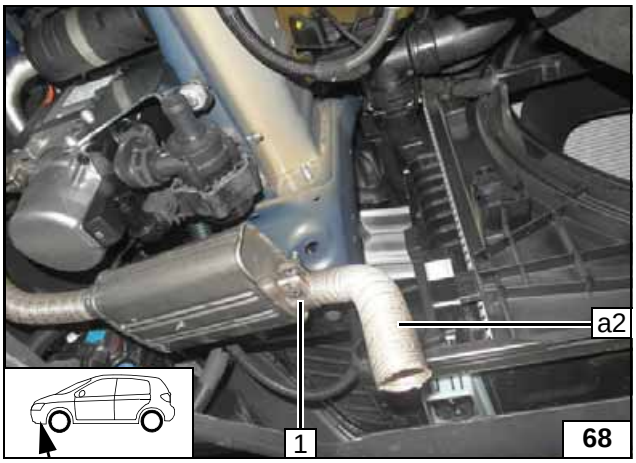
X =

Preparing exhaust pipe



1 Hose clamp [2x]

Installing exhaust pipe a1



1 Hose clamp

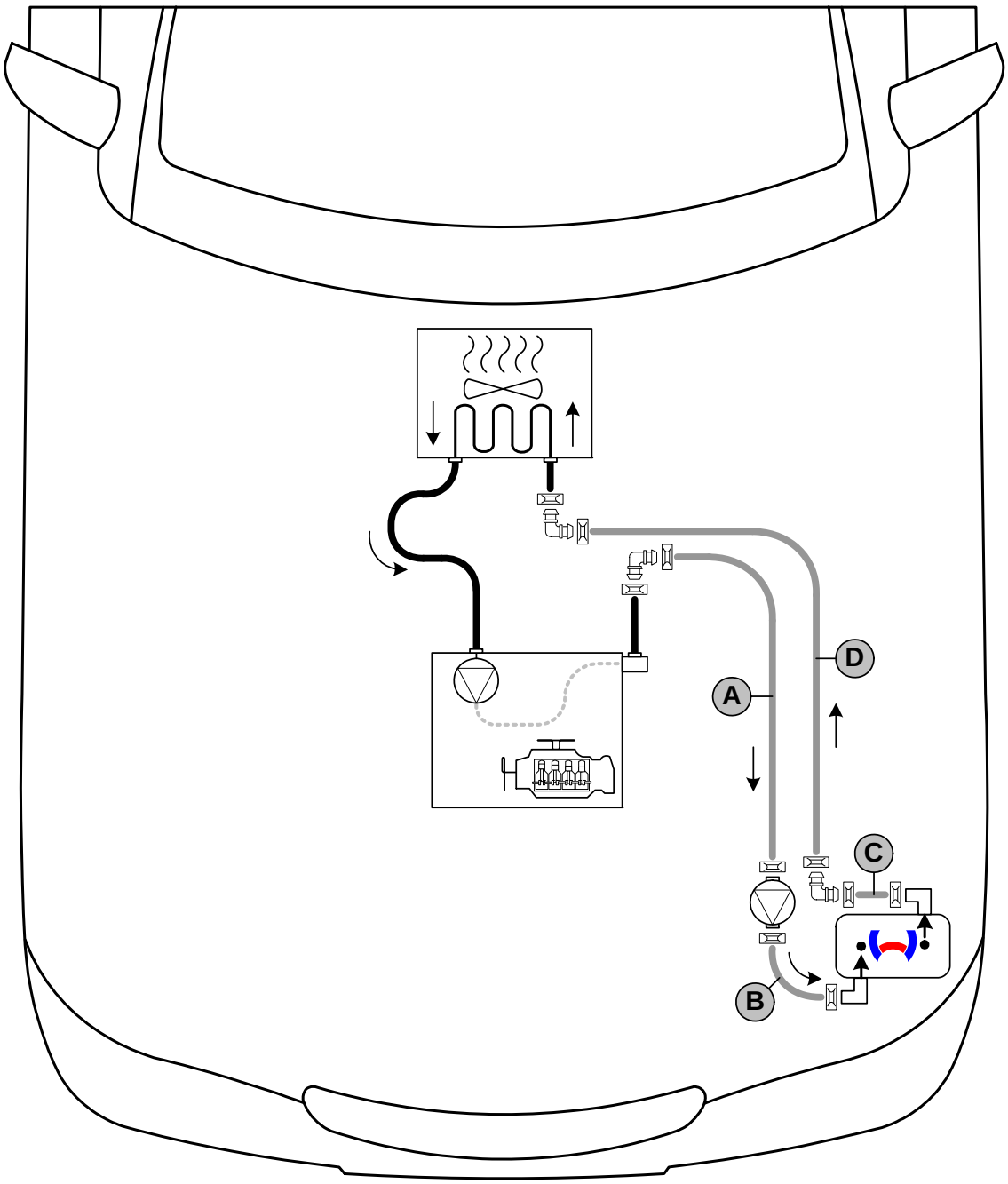
Installing exhaust pipe a2

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.

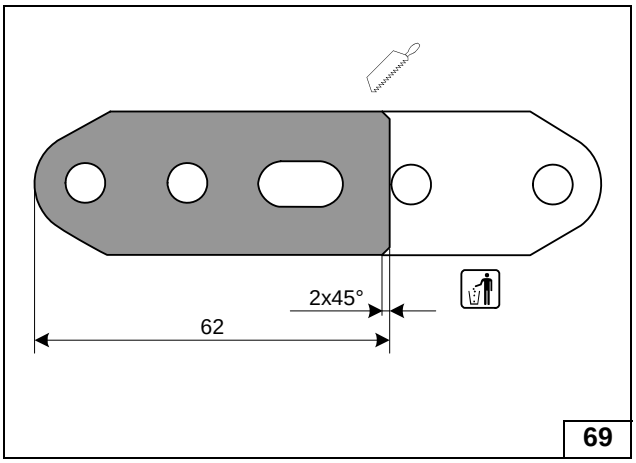
The connection should be modelled on an ‘inline’ circuit and based on the following diagram:

Hose routing diagram

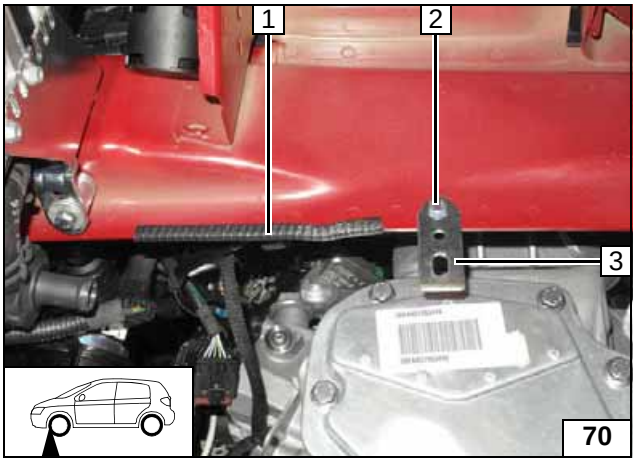


All spring clips = 25 mm dia.
All connecting pipes = 18x18 mm dia.

Preparing perforated bracket

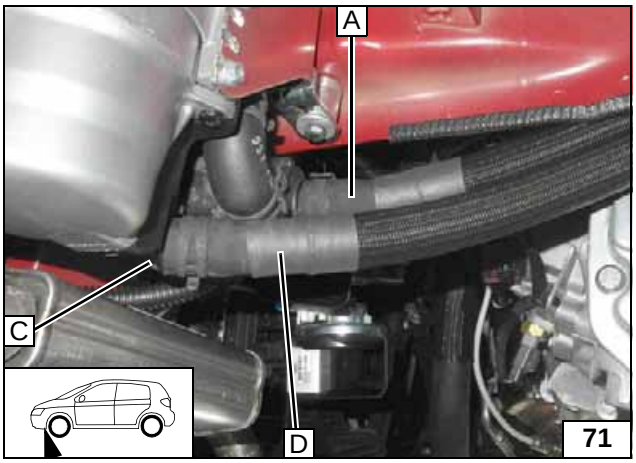


Installing perforated bracket



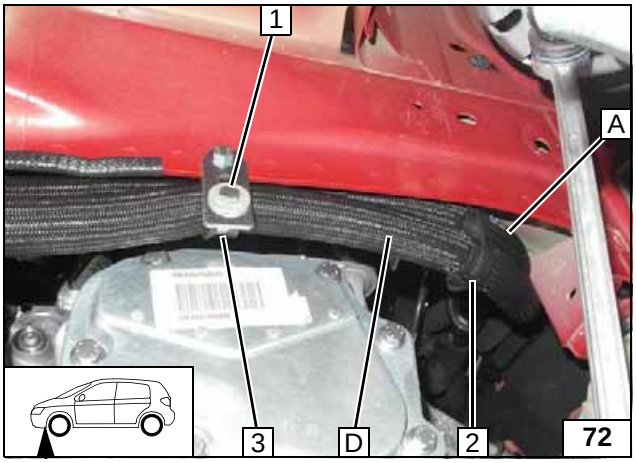
1 200 mm edge protection
2 M6x16 bolt, flanged nut
3 Perforated bracket

Connecting heater

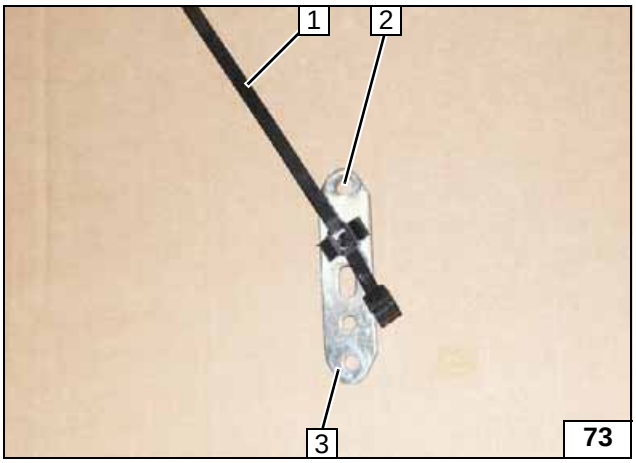


Connect hose **A** to circulating pump. Connect hose **C** and **D**.

Routing in engine compartment



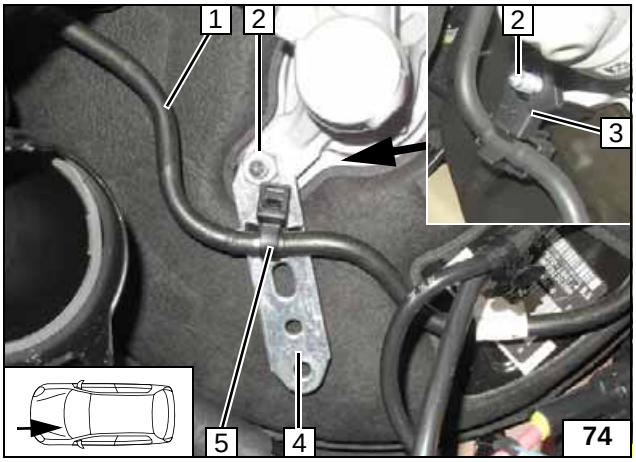
1 M6x16 bolt, large diameter washer, flanged nut
2 Lockable hose bracket
3 38 mm dia. rubber-coated p-clamp



Drill out perforated bracket **3** at position **2** to 8.5 mm.

1 Clip-type cable tie

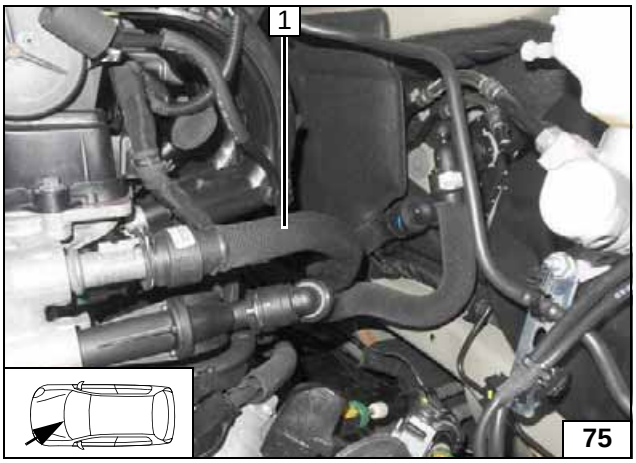
Preparing perforated bracket



Remove original vehicle's bracket of vacuum line **3** from position **2** and discard. Do not remove original vehicle nut!

1 Vacuum line
2 Original vehicle stud bolt and nut, flanged nut
4 Perforated bracket
5 Close clip-type cable tie

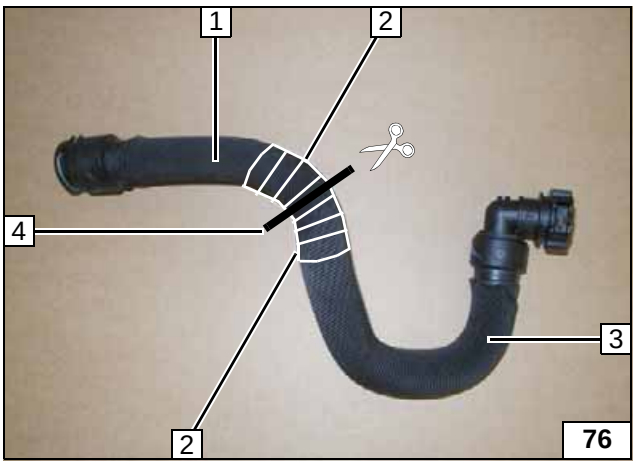
Installing perforated bracket



1.2 VTi 60kW

Remove hose on engine outlet / heat exchanger inlet **1**.

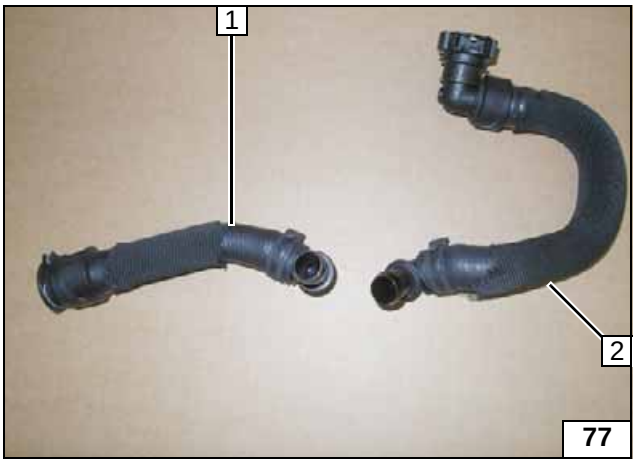
Cutting point



Remove marked area of protective hose **2**.

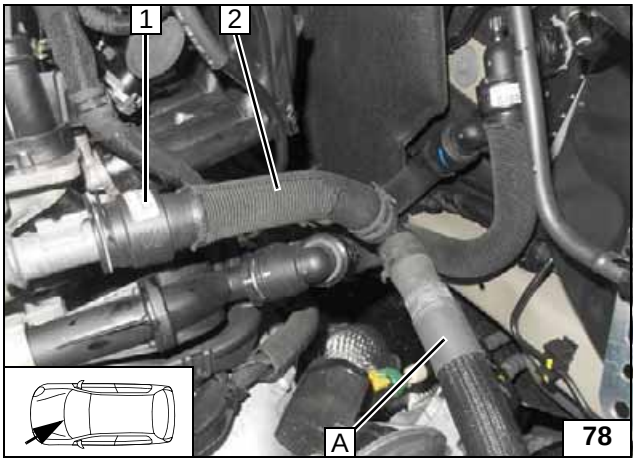
1 Engine outlet hose section
3 Heat exchanger inlet hose section
4 Cutting point

Preparing hose



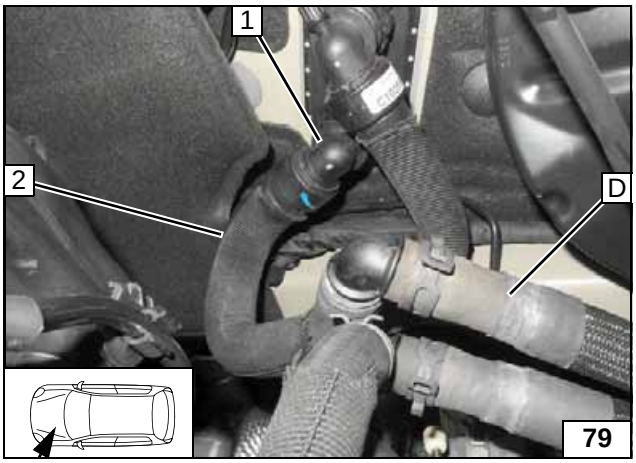
1 Engine outlet hose section
2 Heat exchanger inlet hose section

Premounting hose sections of engine outlet and heat exchanger inlet



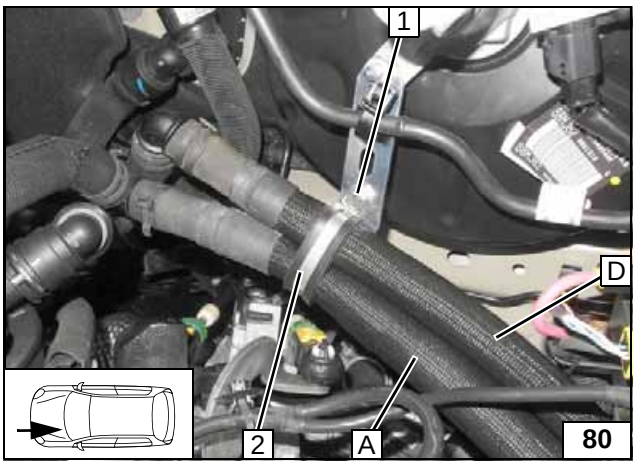
1 Coupling piece on engine outlet connection piece
2 Engine outlet hose section

Connecting engine outlet



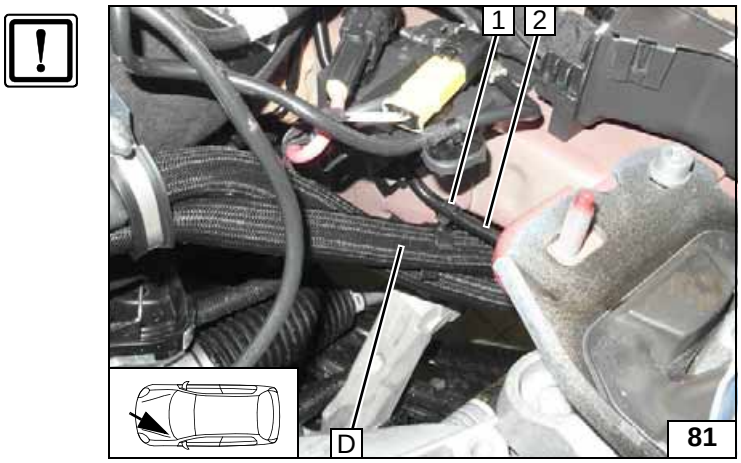
1 Coupling piece on heat exchanger inlet connection piece
2 Heat exchanger inlet hose section

Connecting heat exchanger inlet



1 M6x20 bolt, flanged nut
2 38 mm dia. rubber-coated p-clamp

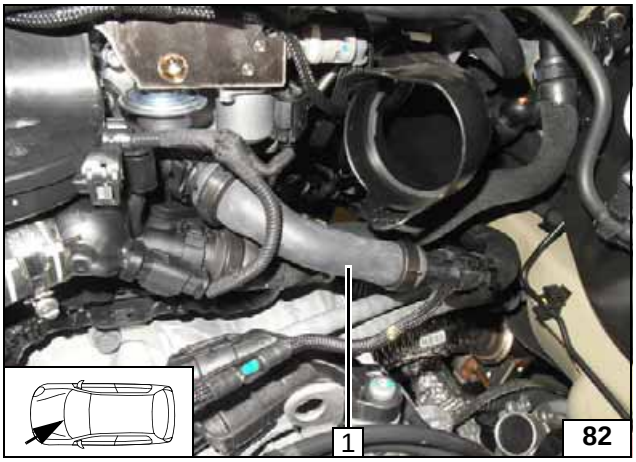
Routing in engine compartment



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

1 9x23 hose bracket, rotatable
2 Original vehicle coupling line

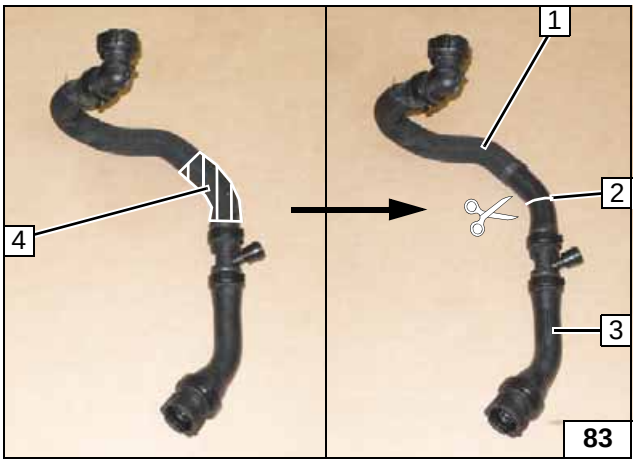
Installing hose bracket



1.6 THP

Remove hose on engine outlet / heat exchanger inlet **1**.

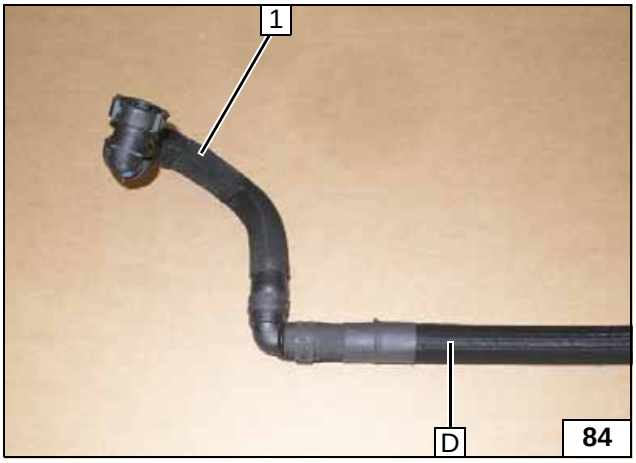
Cutting point



Remove marked area of protective hose **4**.

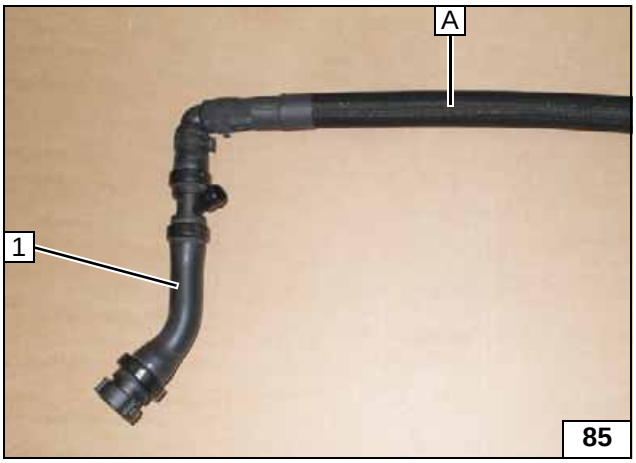
1 Heat exchanger inlet hose section
2 Cutting point
3 Engine outlet hose section

Cutting point



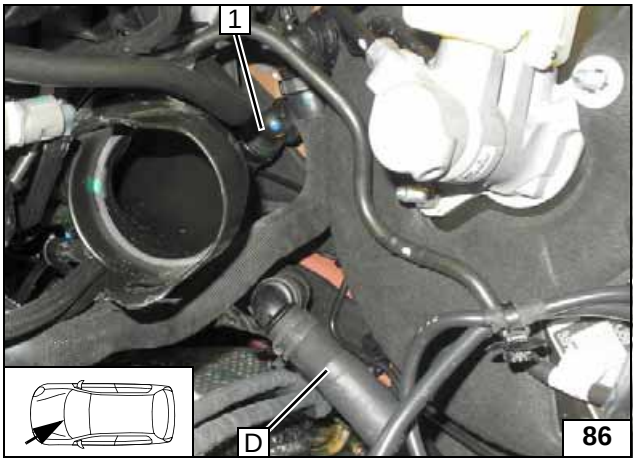
1 Heat exchanger inlet hose section

Premounting hose D



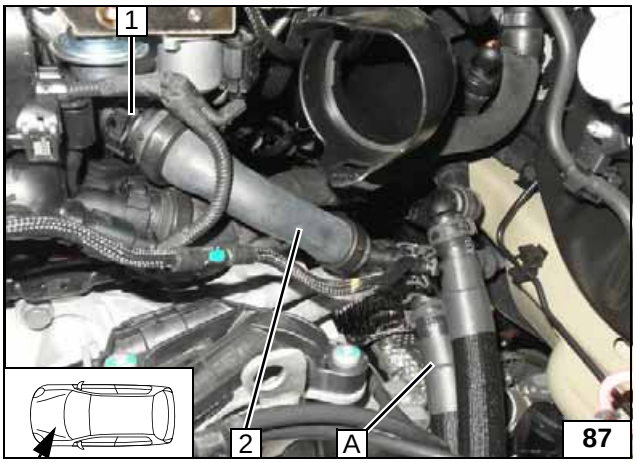
1 Engine outlet hose section

Premounting hose A



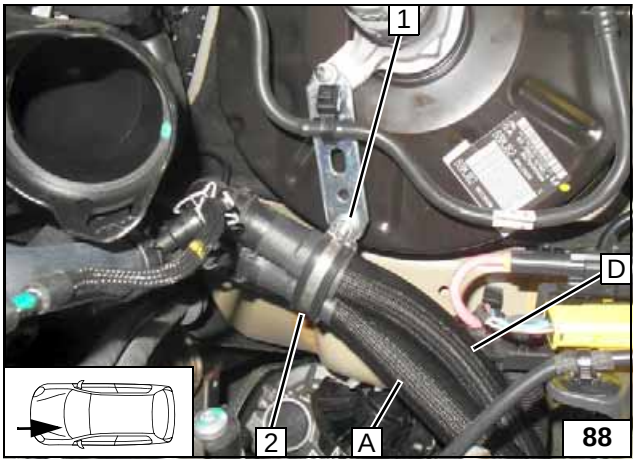
1 Coupling piece on heat exchanger inlet connection piece

Connecting heat exchanger inlet



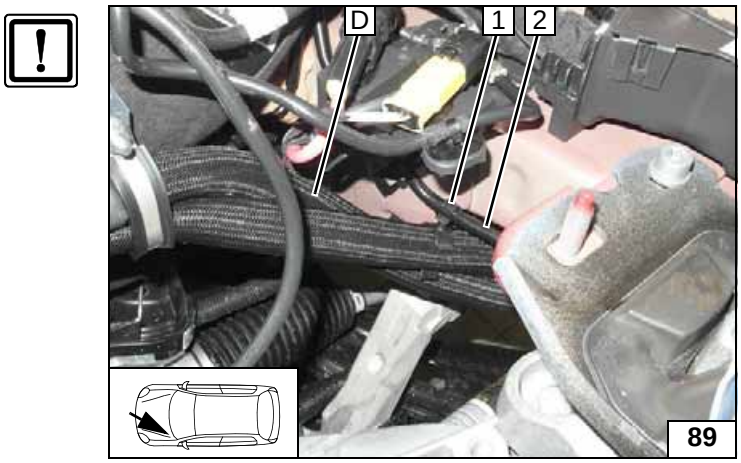
1 Coupling piece on engine outlet connection piece
2 Engine outlet hose section

Connecting engine outlet



1 M6x20 bolt, flanged nut
2 38 mm dia. rubber-coated p-clamp

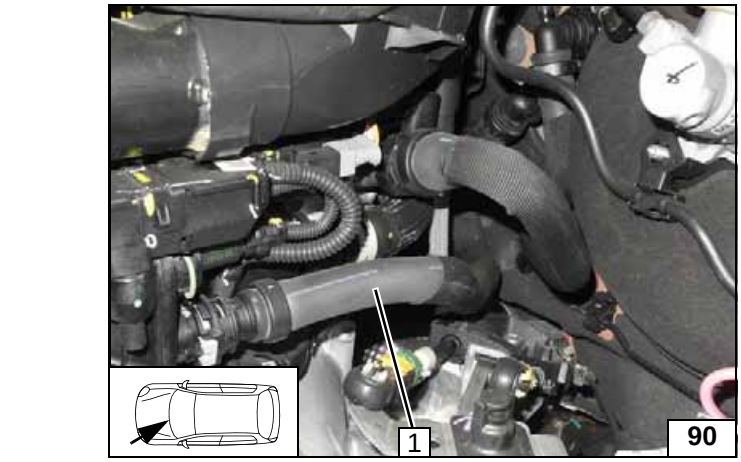
Routing in engine compartment



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

1 9x23 hose bracket, rotatable
2 Original vehicle coupling line

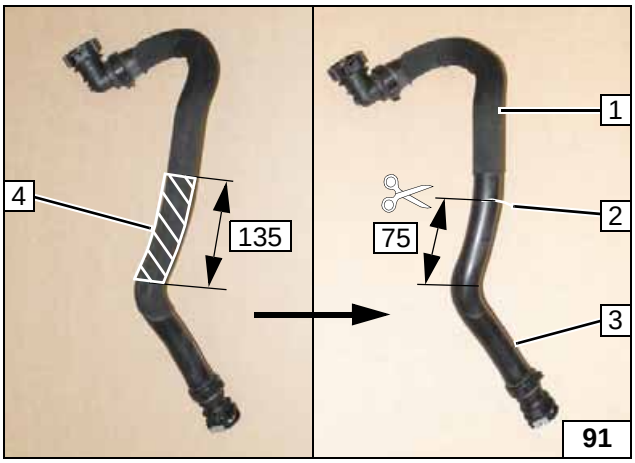
Installing hose bracket



1.6 eHDi

Remove hose on engine outlet / heat exchanger inlet **1**.

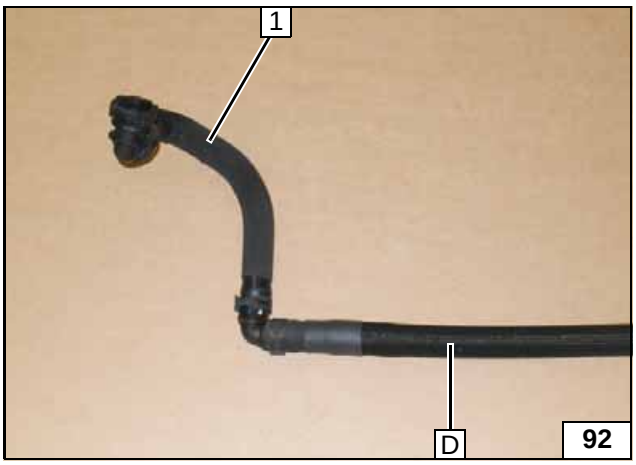
Cutting point



Remove marked area of protective hose **4** (if present).

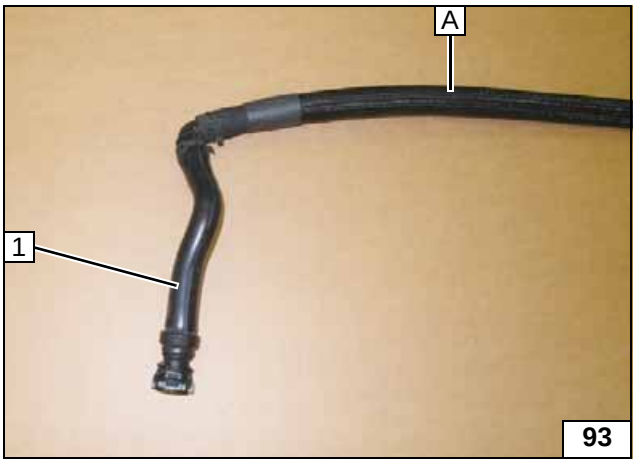
1 Heat exchanger inlet hose section
2 Cutting point
3 Engine outlet hose section

Cutting point



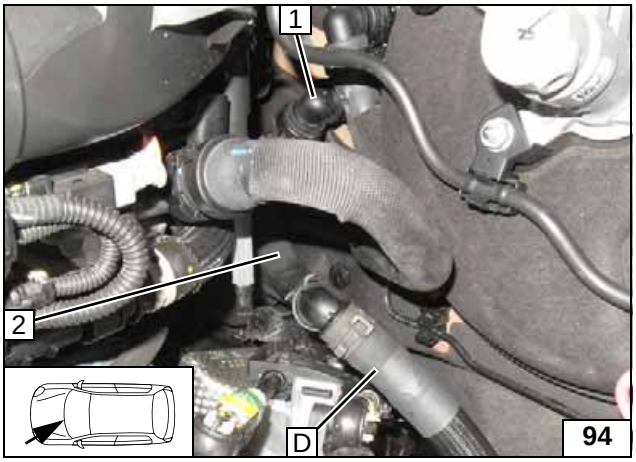
1 Heat exchanger inlet hose section

Premounting hose D



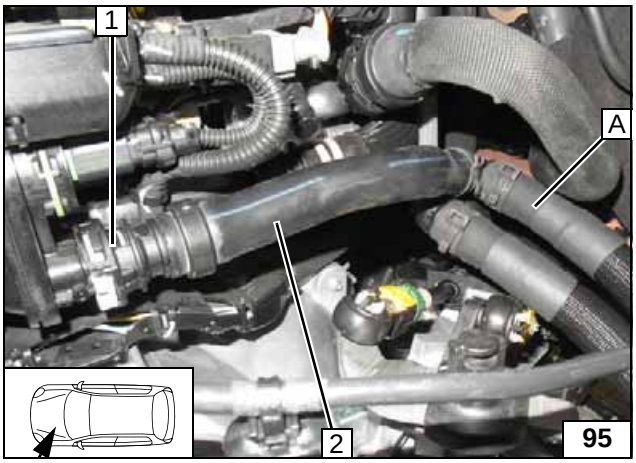
1 Engine outlet hose section

Premounting hose A



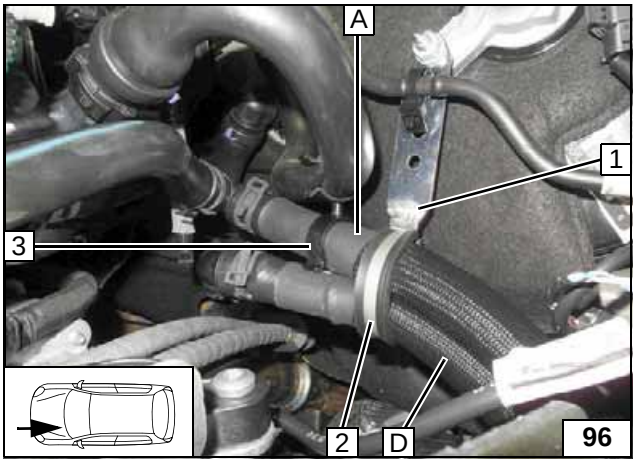
1 Coupling piece on heat exchanger inlet connection piece
2 Heat exchanger inlet hose section

Connecting heat exchanger inlet



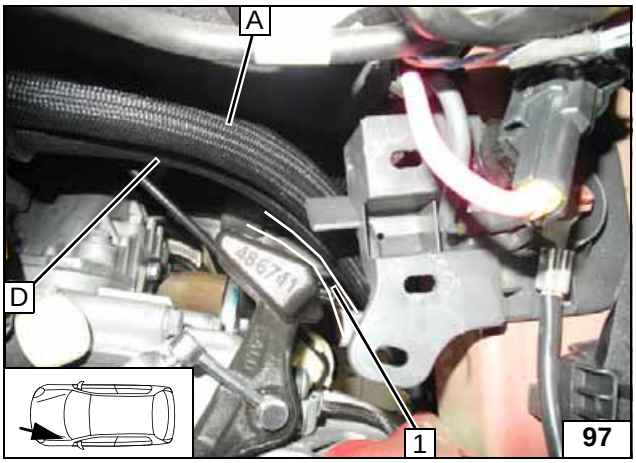
1 Coupling piece on engine outlet connection piece
2 Engine outlet hose section

Connecting engine outlet



1 M6x20 bolt, flanged nut
2 38 mm dia. rubber-coated p-clamp
3 Rotatable hose bracket between hose **A** and original vehicle hose

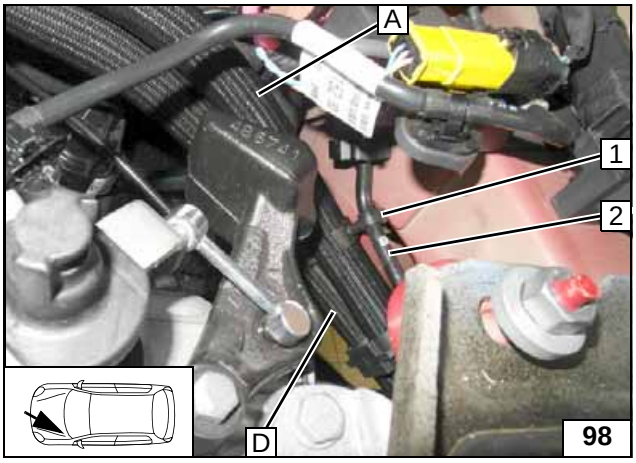
Routing in engine compartment



6 speed SG, version 1

Ensure sufficient distance between hoses and gear change lever at position **1** (min. 20mm), correct if necessary.

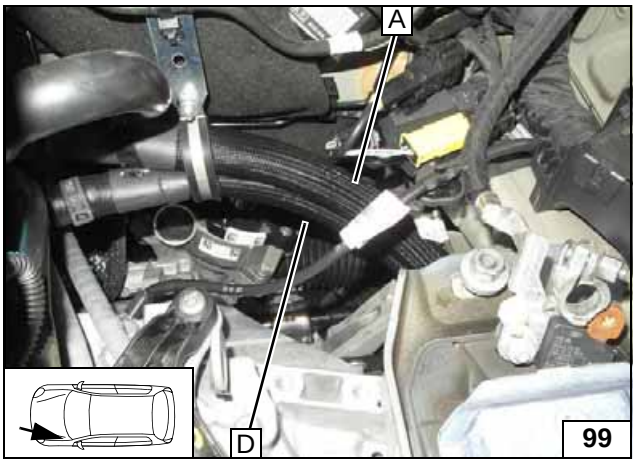
Aligning hoses



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

1 9x23 hose bracket, rotatable
2 Original vehicle coupling line

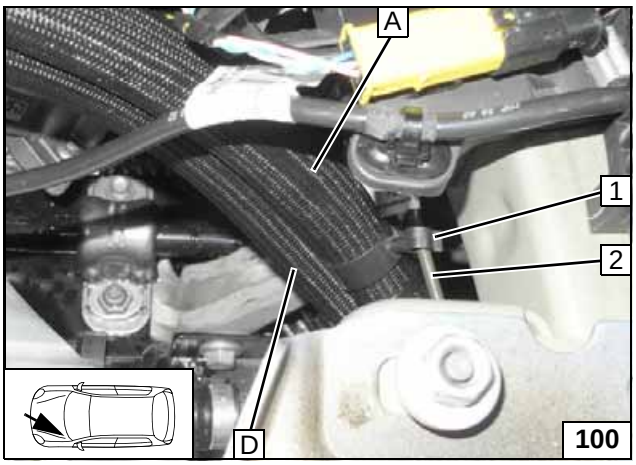
Installing hose bracket



6 speed SG, version 2

Ensure sufficient distance from gear change; correct if necessary.

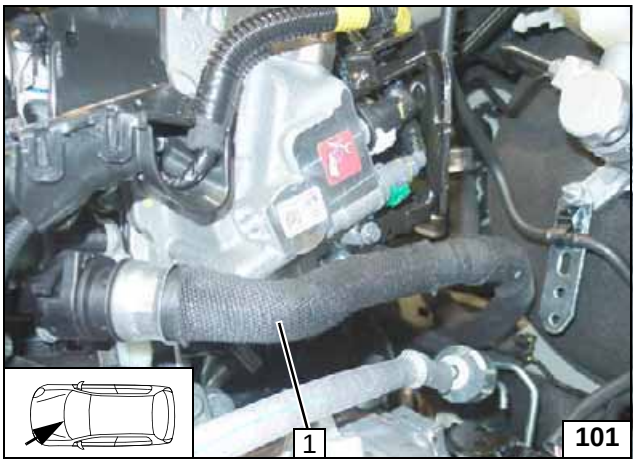
Aligning hoses



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

1 9x23 hose bracket, rotatable
2 Original vehicle coupling line

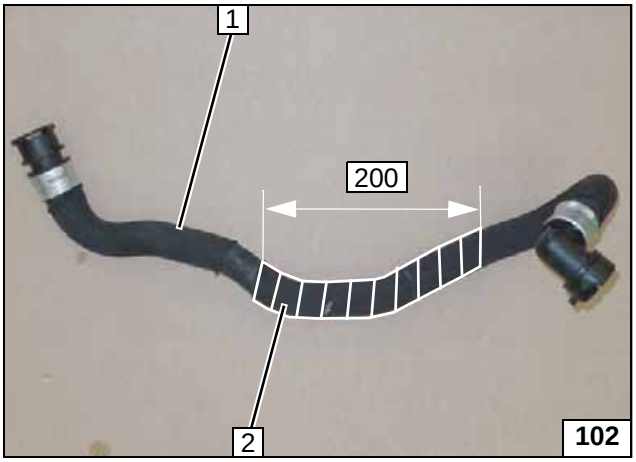
Installing hose bracket



2.0 GT

Remove hose on engine outlet / heat exchanger inlet **1**.

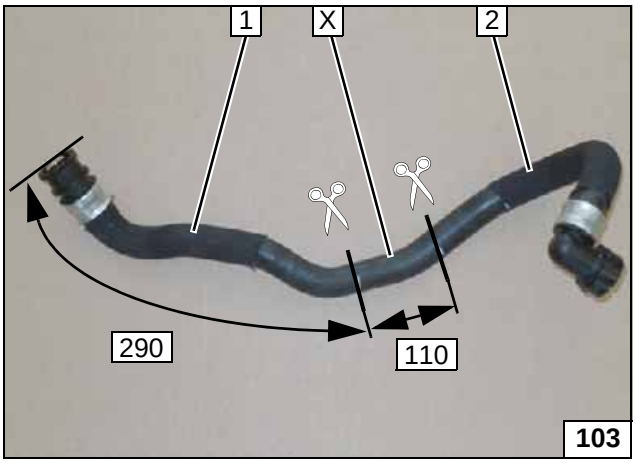
Cutting point



Remove marked area of protective hose **2**.

1 Engine outlet / heat exchanger inlet hose

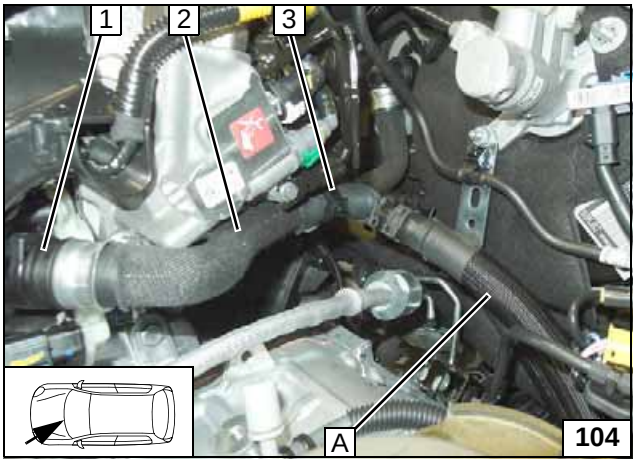
Preparing hose



1 Engine outlet hose section
2 Heat exchanger inlet hose section

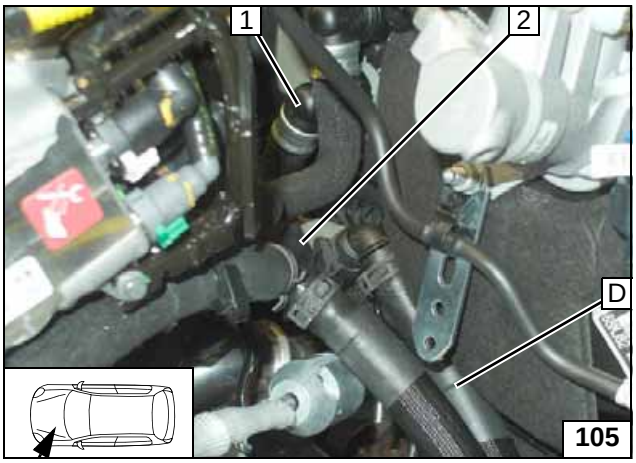
X = 

Cutting point



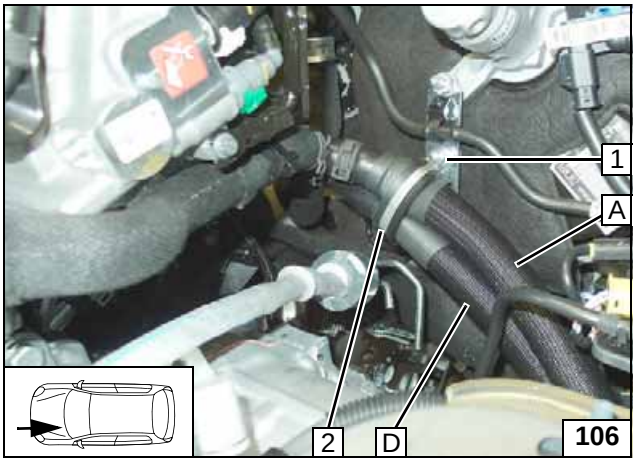
1 Coupling piece on engine outlet connection piece
2 Engine outlet hose section
3 Cable tie

Connecting engine outlet



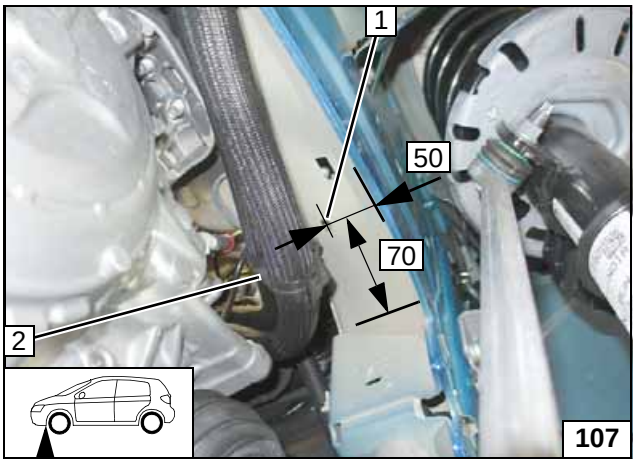
1 Coupling piece on heat exchanger inlet connection piece
2 Heat exchanger inlet hose section

Connecting heat exchanger inlet



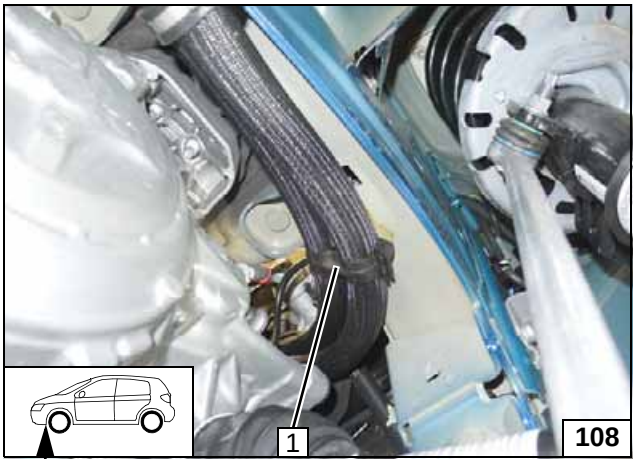
1 M6x20 bolt, flanged nut
2 38 mm dia. rubber-coated p-clamp

Routing in engine compartment



1 8.5 mm dia. hole
2 Hose bracket between hose **A** and hose **D**

Routing in engine compartment



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

1 Install hose bracket in hole

Routing in engine compartment

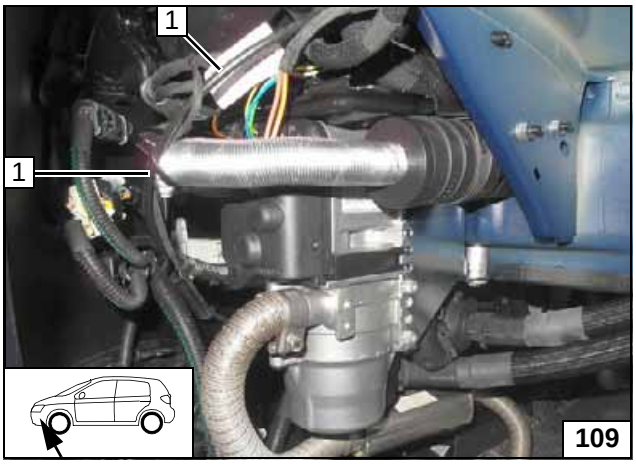
Fuel

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.

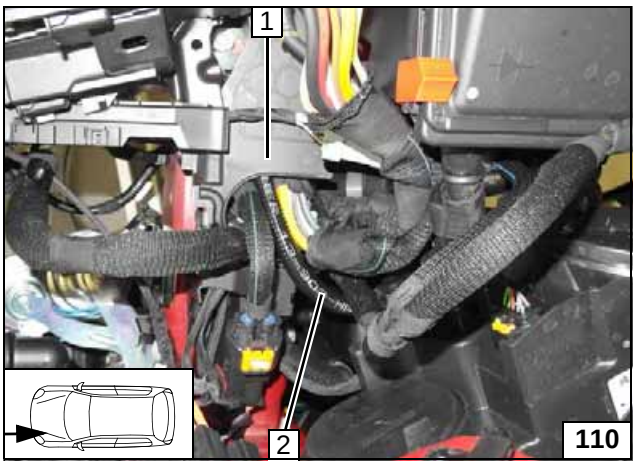
Route fuel line and metering pump wiring harness so that they are protected against stone impact.
Unless specified otherwise, always fasten using cable ties.
Provide rub protection for fuel line and wiring harness in areas where there are sharp edges.

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



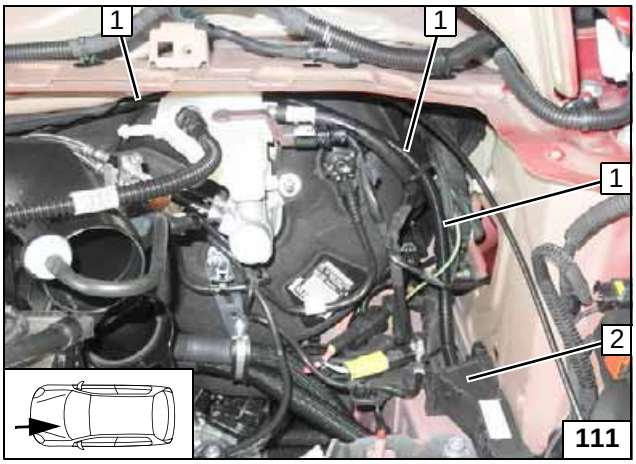
Route fuel line **1** in the engine compartment.

Routing lines



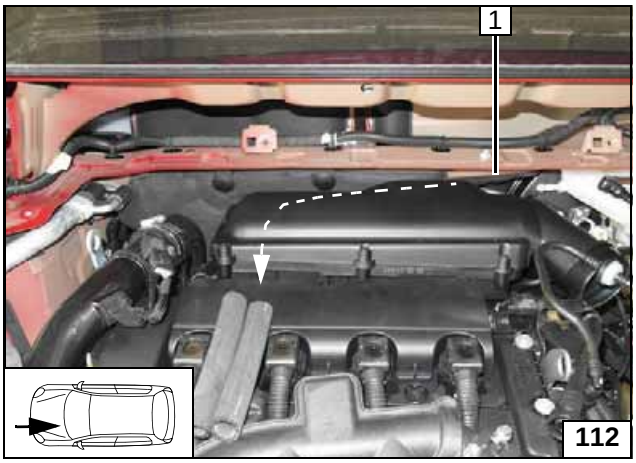
Pull fuel line and wiring harness of metering pump into 10 mm corrugated tube **2** and into original vehicle line duct **1**.

Routing lines



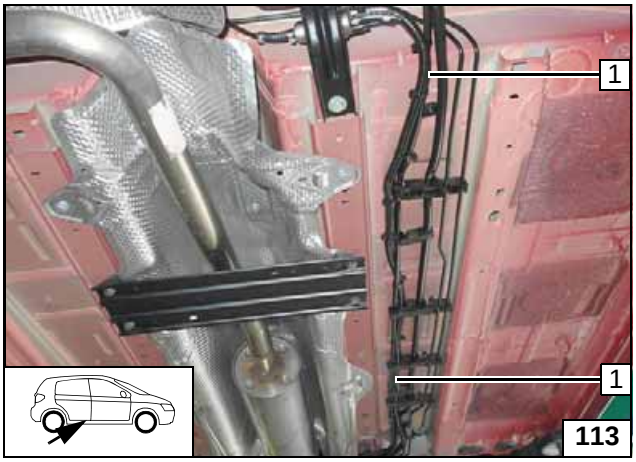
Route fuel line and wiring harness of metering pump in 10 mm dia. corrugated tube **1** through original vehicle line duct **2** to firewall.

Routing lines



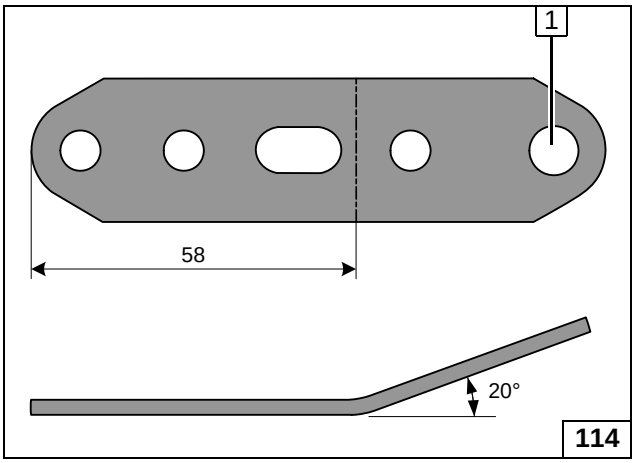
Route fuel line and wiring harness of metering pump in 10 mm dia. corrugated tube **1** behind insulation mat to underbody.

Routing lines



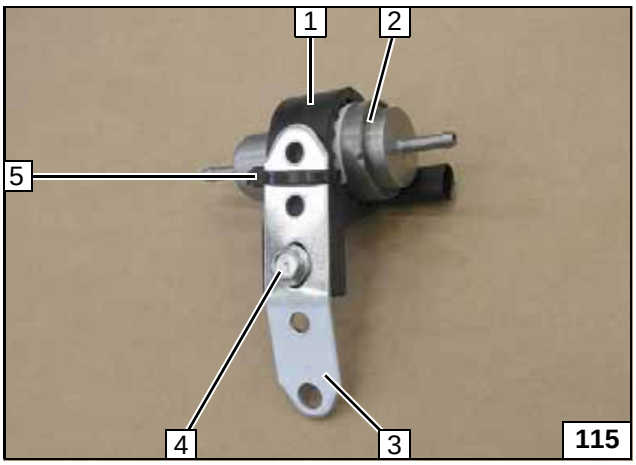
Route fuel line and wiring harness of metering pump in 10 mm dia. corrugated tube **1** at the original vehicle lines to the installation location of the metering pump.

Routing lines



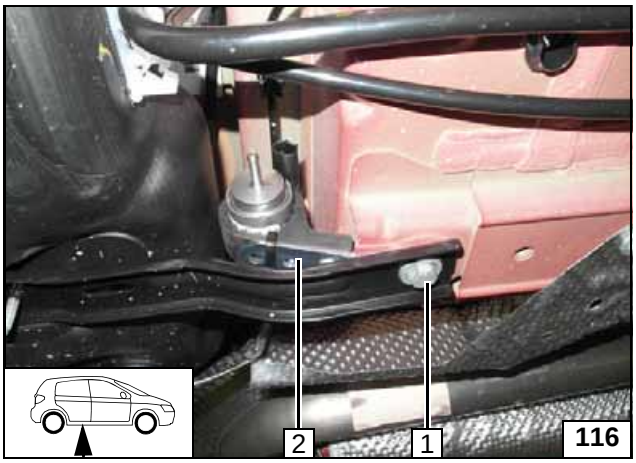
1 Drill out hole to 8.5 mm dia.

Preparing perforated bracket



1 Metering pump mount
2 Metering pump
3 Perforated bracket
4 M6x25 bolt, support angle bracket, flanged nut
5 Cable tie

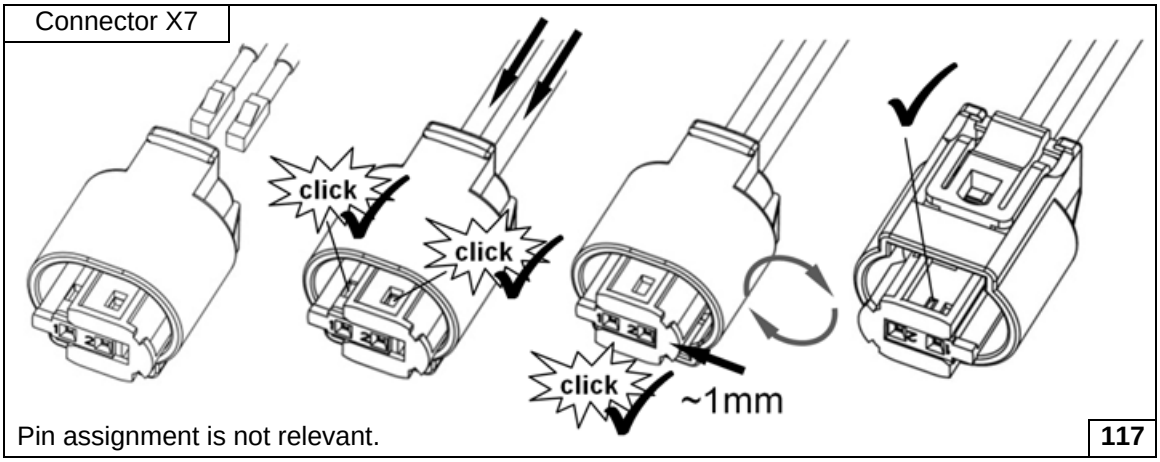
Premounting metering pump



1 Original vehicle bolt
2 Metering pump

Mounting metering pump

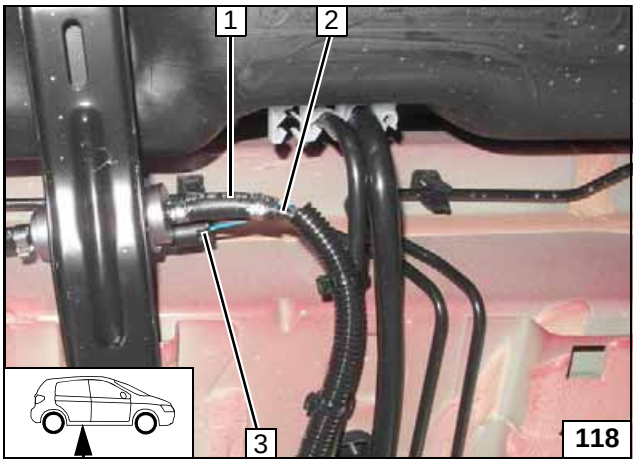
Connector X7



Pin assignment is not relevant.

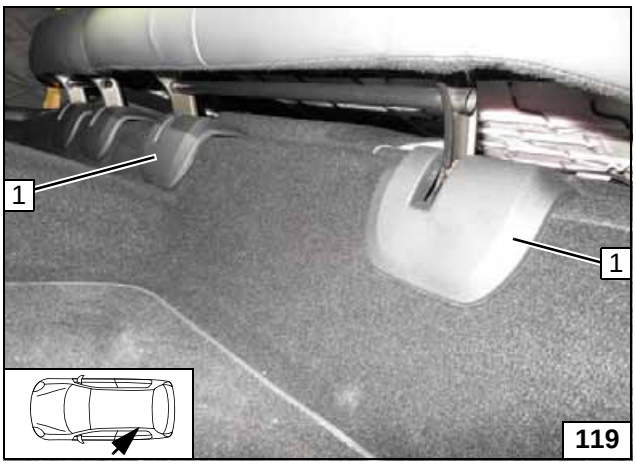
117

Completing metering pump connector



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

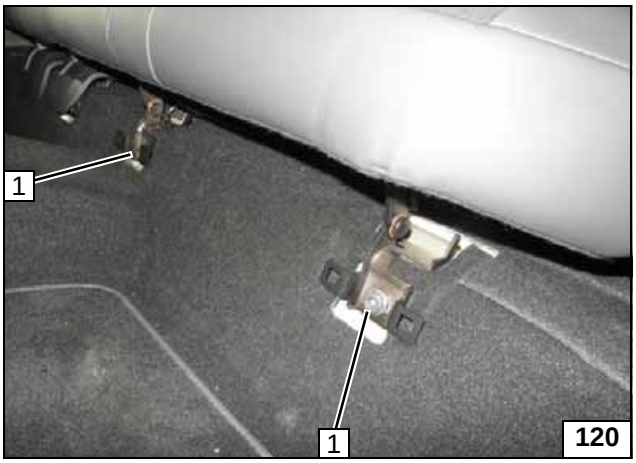
Connecting metering pump



Installation Aid for Left Rear Bench Seat in SW Models

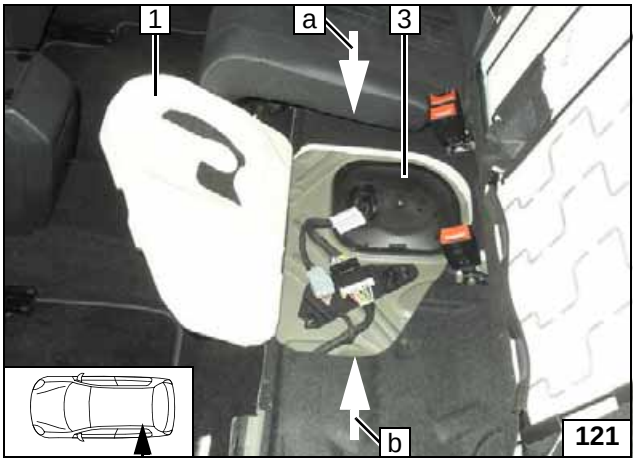
1 Cover on the left [2x]

Removing cover



1 Remove bolts [2x]

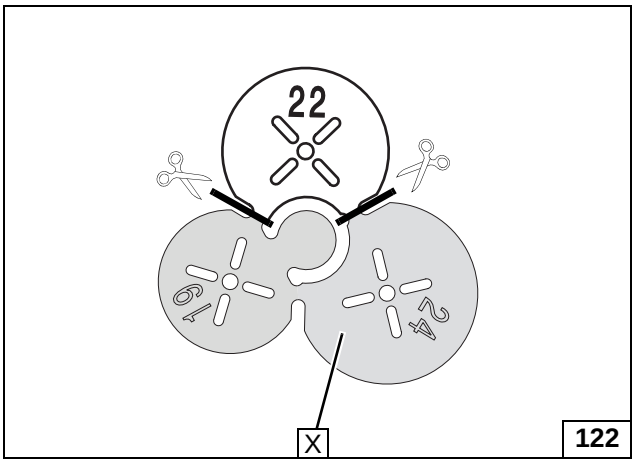
Detaching front screw fitting



Fold up left seat in the direction of the backrest and secure.

1 Fold floor covering forwards
2 Fuel tank sending unit
a Viewing angle for FuelFix installation, petrol vehicles
a Viewing angle for FuelFix installation, diesel vehicles

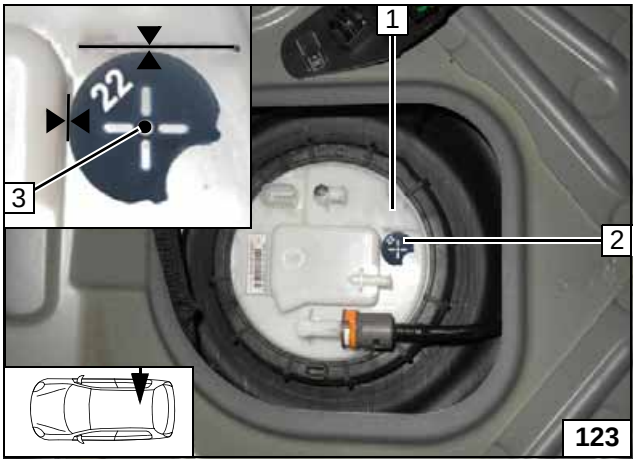
Uncovering fuel tank sending unit



Installation of FuelFix for Petrol Vehicles

X =

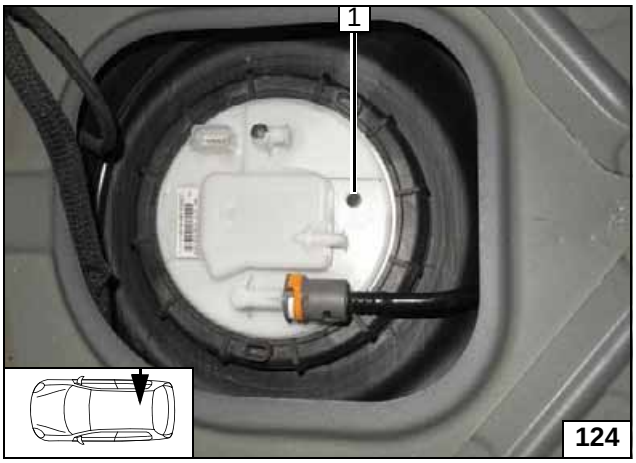
Preparing drilling template



Work steps F1 and F2.

1 Fuel tank sending unit
2 Position 22mm dia. template as shown
3 Hole pattern

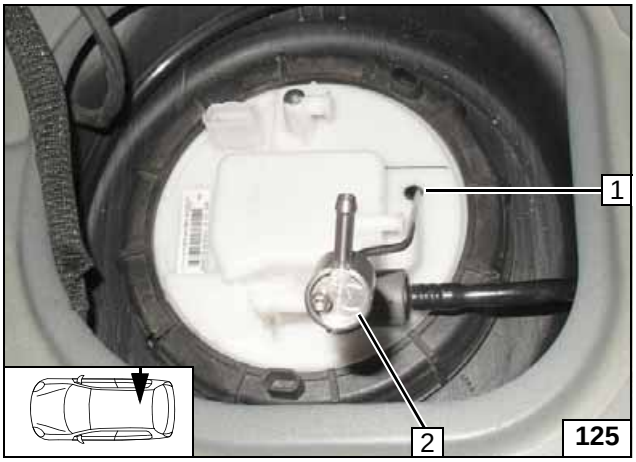
Copying hole pattern



Work step F3.

1 Hole made with provided drill

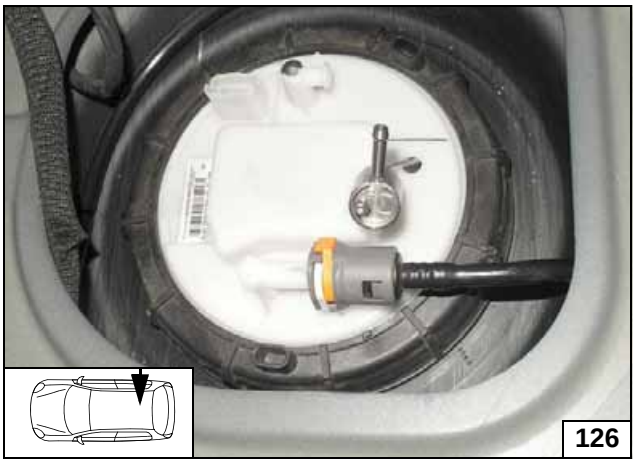
Hole for FuelFix



Work steps F4 and F5.

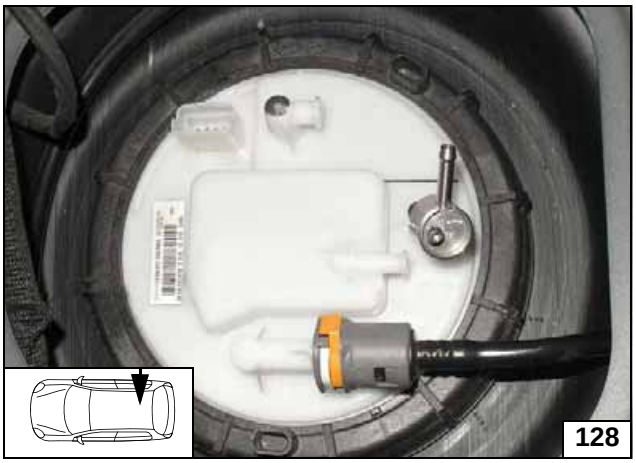
Bend FuelFix **2** according to template and cut to length.
Insert into hole **1**.

Inserting FuelFix

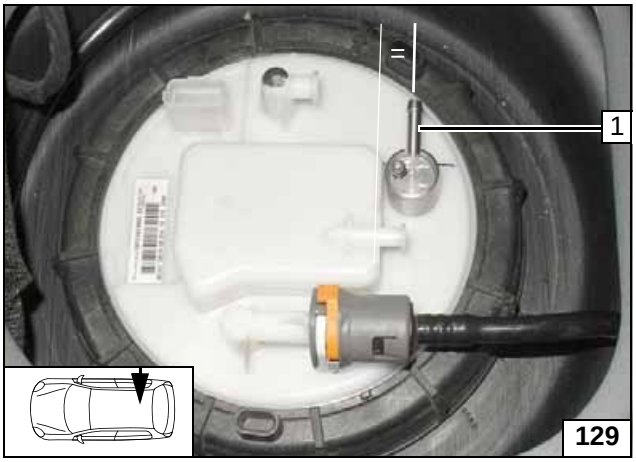


Inserting FuelFix

Inserting FuelFix



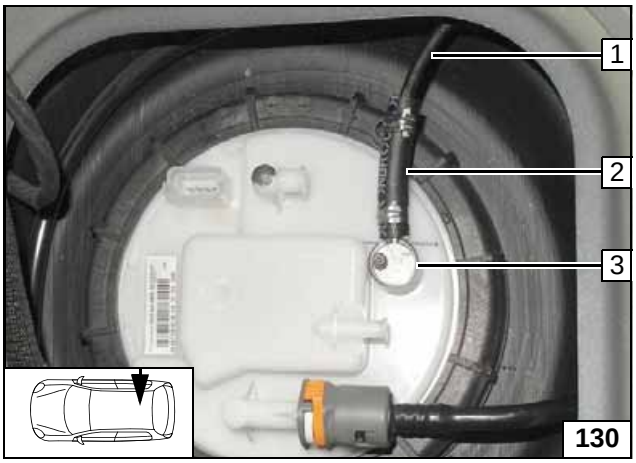
Inserting FuelFix



Work steps F5.3 and F5.4.

Align FuelFix **1** as shown.

Aligning FuelFix

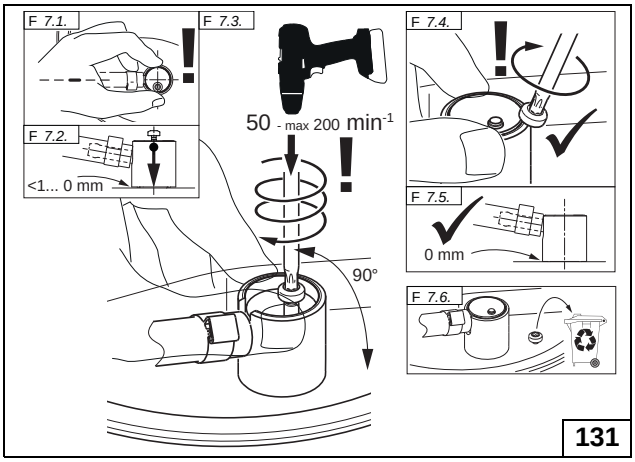


Work step F6.

Ensure sufficient distance in order to install the original vehicle fuel coupling at a later time.

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

Connecting fuel line



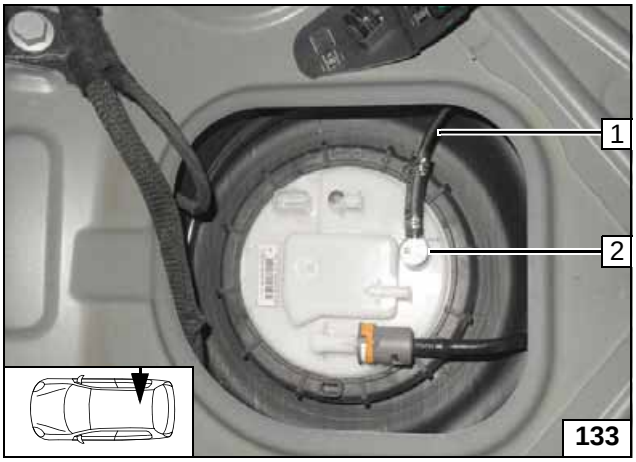
Work step F7.

Installing FuelFix

132

Work step F8.

Ensuring firm seating of FuelFix

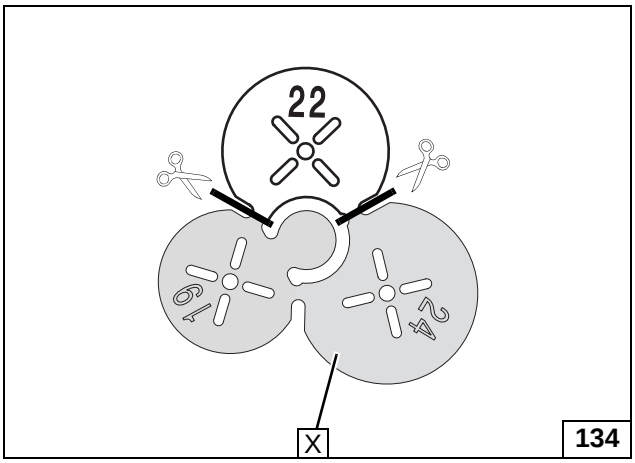


133

Secure fuel line of FuelFix with a cable tie at an appropriate location as tension relief.

1 Fuel line of FuelFix
2 FuelFix, installed

Securing fuel line

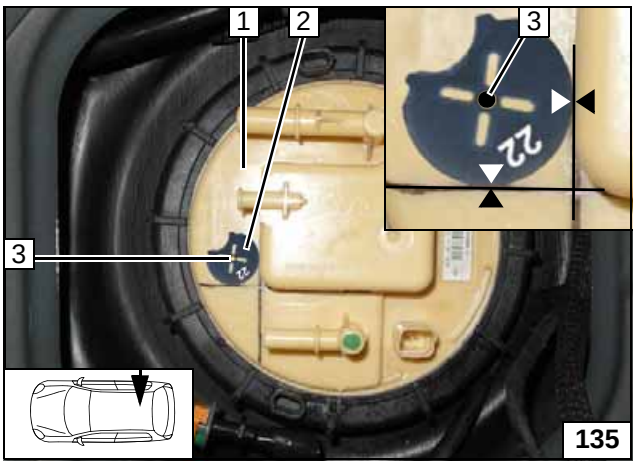


134

Installation of FuelFix for Diesel Vehicles

X =

Preparing drilling template



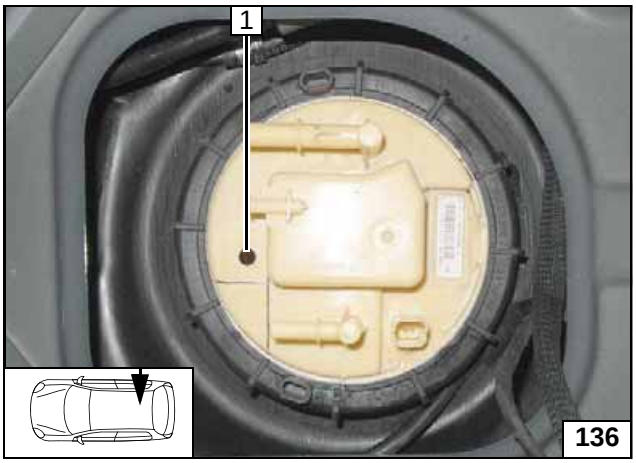
135

1.6 eHDi

Work steps F1 and F2.

1 Fuel tank sending unit
2 Position 22mm dia. template as shown
3 Hole pattern

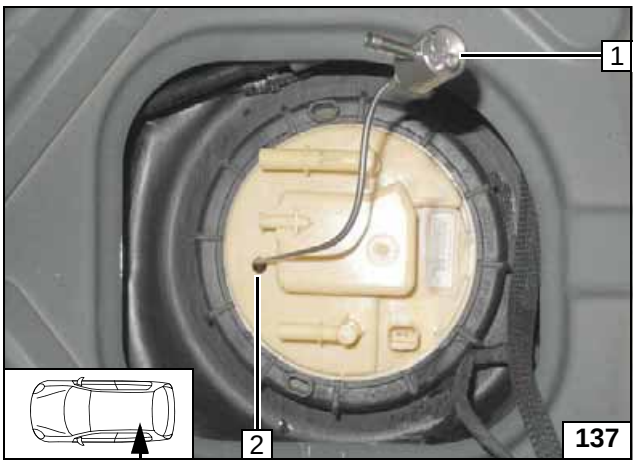
Copying hole pattern



Work step F3.

1 Hole made with provided drill

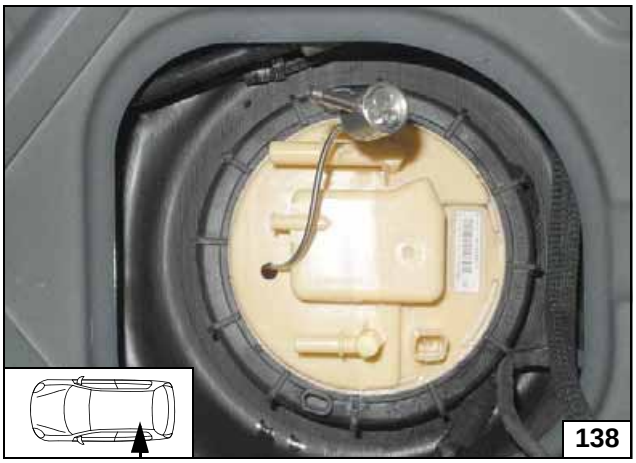
Hole for FuelFix



Work steps F4 and F5.

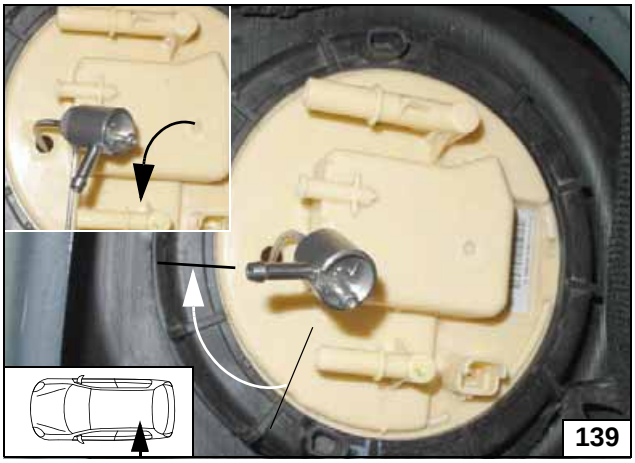
Bend FuelFix **1** according to template and cut to length.
Insert into hole **2**.

Inserting FuelFix

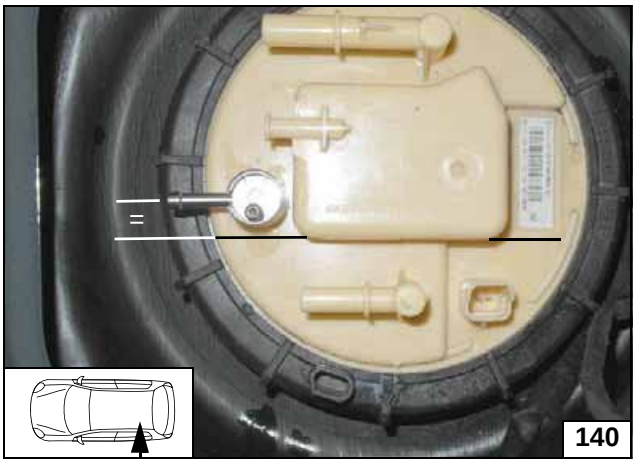


Work step F5.

Inserting FuelFix



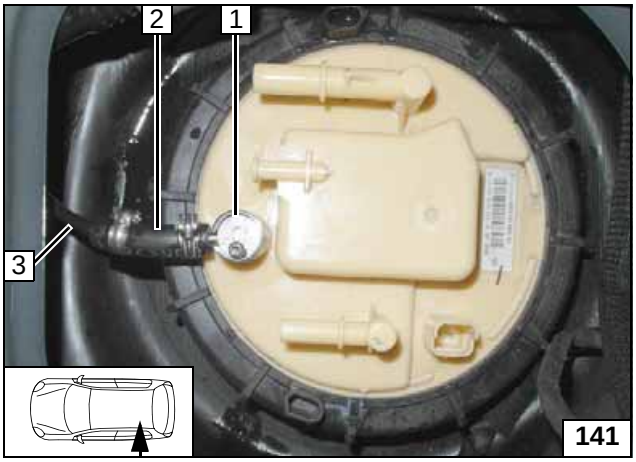
Inserting FuelFix



Work steps F5.3 and F5.4.

Align FuelFix **1** as shown.

Aligning FuelFix

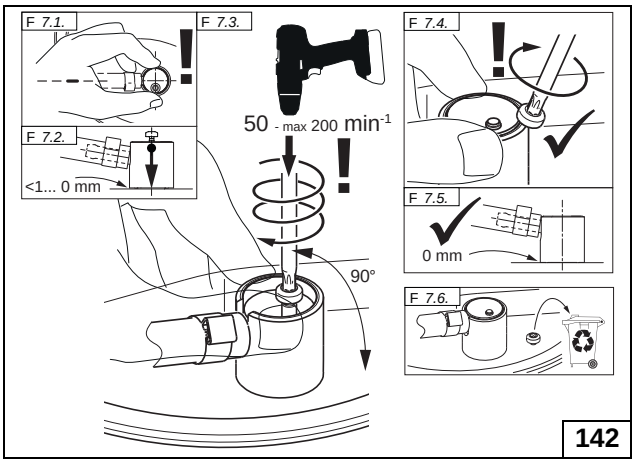


Work step F6.

Ensure sufficient distance in order to install the original vehicle fuel coupling at a later time.

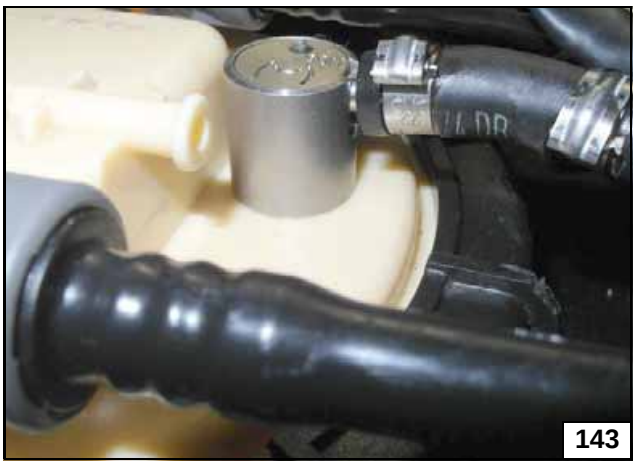
1 FuelFix
2 Hose section, 10mm dia. clamp [2x]
3 Fuel line

Connecting fuel line



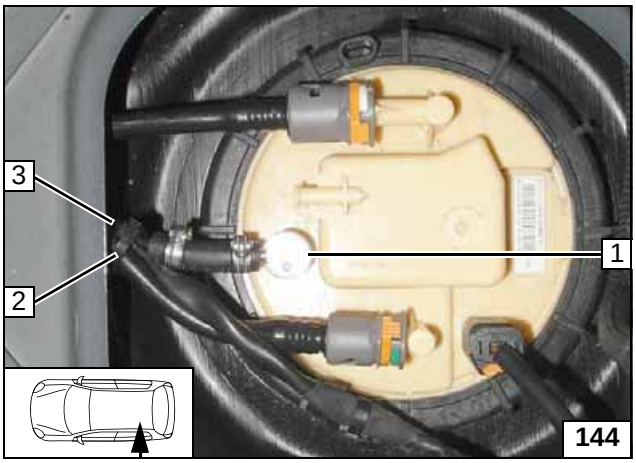
Work step F7.

Installing FuelFix



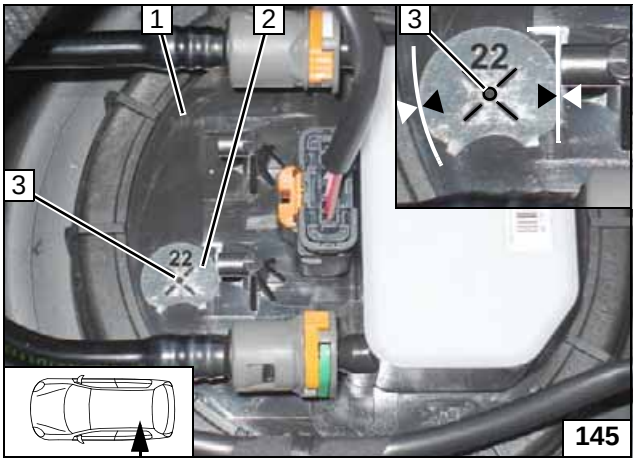
Work step F8.

Ensuring firm seating of FuelFix



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

Securing fuel line



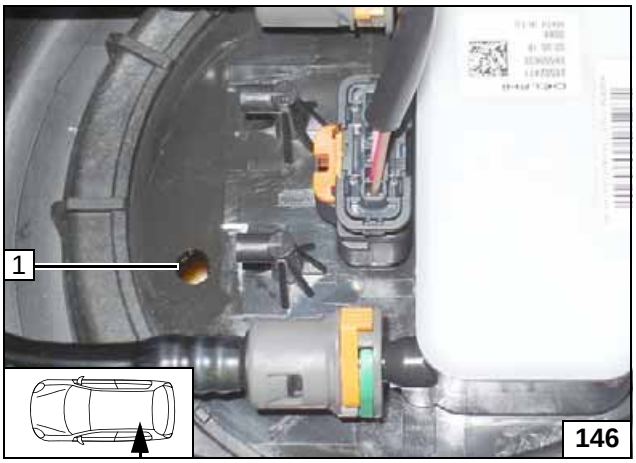
2.0 GT

Work steps F1 and F2.

Position 22mm dia. drilling template **2** as shown.

1 Fuel tank sending unit
3 Hole pattern

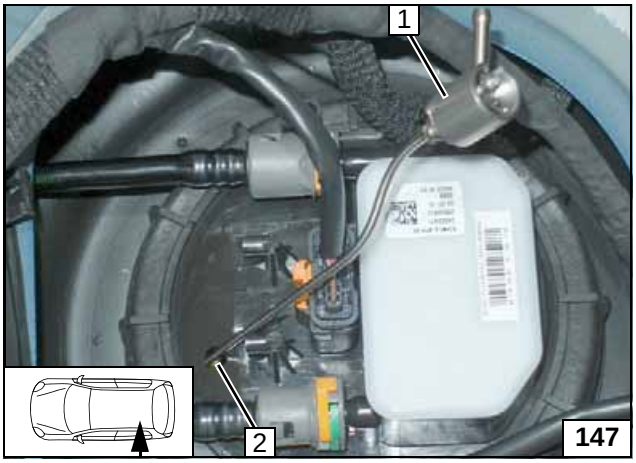
Copying hole pattern



Work step F3.

1 Hole made with provided drill

Hole for FuelFix



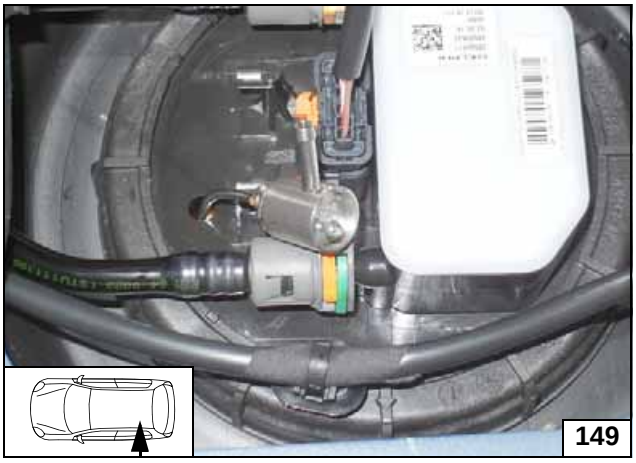
Work steps F4 and F5.

Bend FuelFix **1** according to template and cut to length.
Insert into hole **2**.

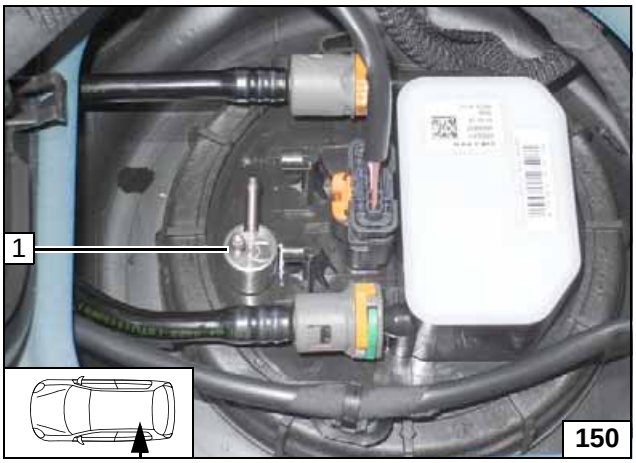
Inserting FuelFix

Work step F5.

Inserting FuelFix



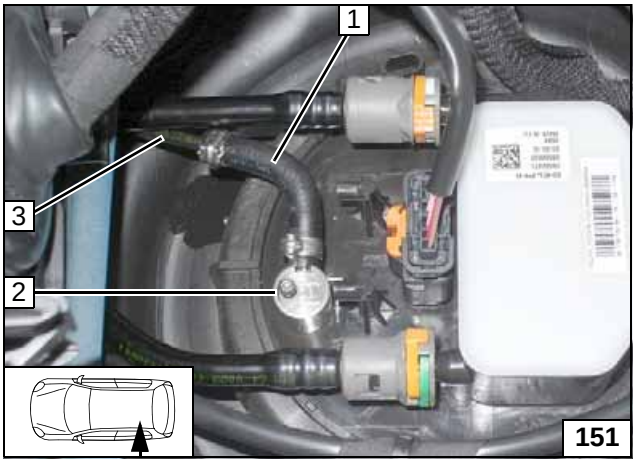
Inserting FuelFix



Work steps F5.3 and F5.4.

Align FuelFix **1** as shown.

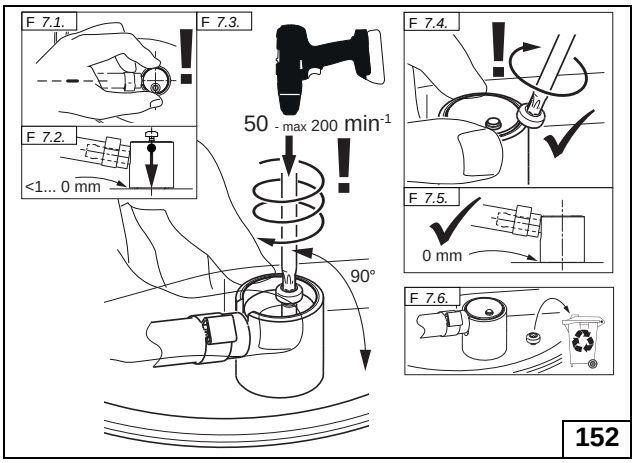
Aligning FuelFix



Work step F6.

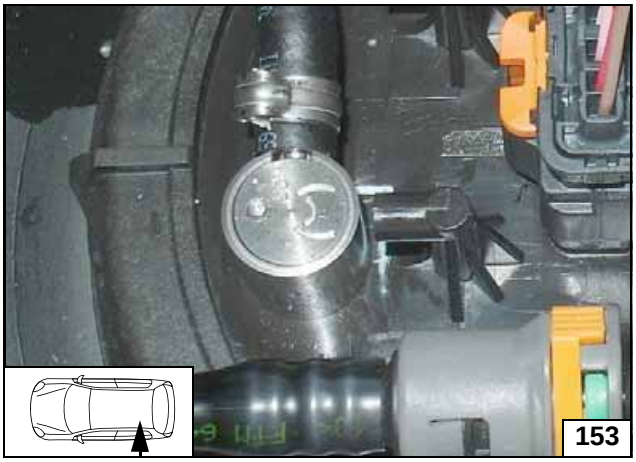
1 90° moulded hose, 10 mm dia. clamp [2x]
2 FuelFix
3 Fuel line

Connecting fuel line



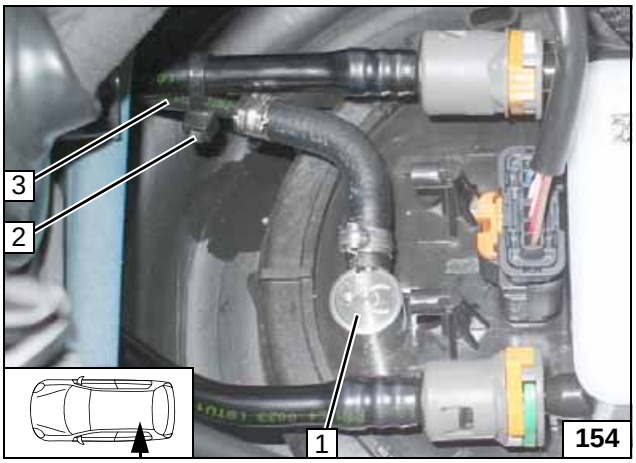
Work step F7.

Installing FuelFix



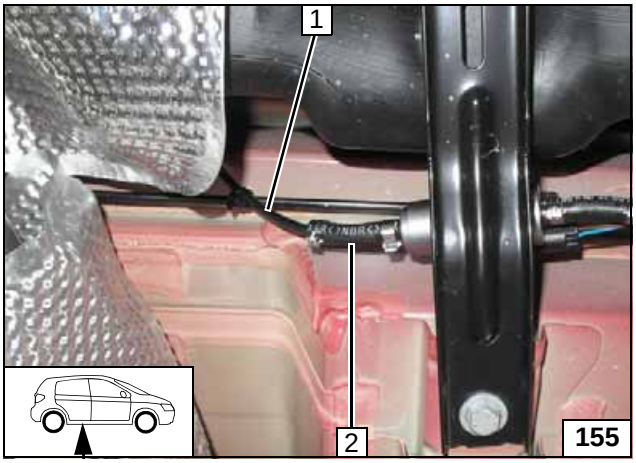
Work step F8.

Ensuring firm seating of FuelFix



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

Securing fuel line



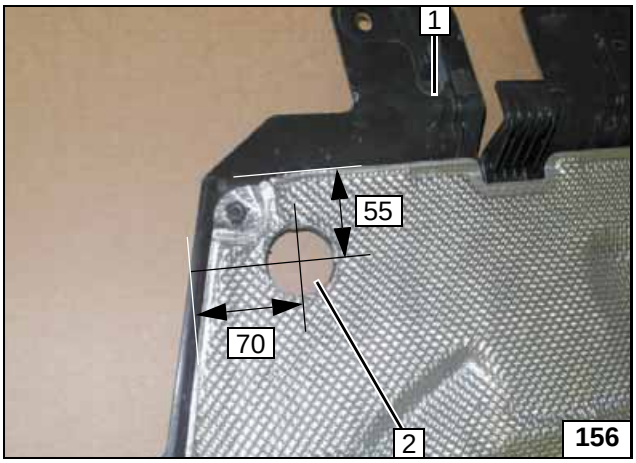
All vehicles

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

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

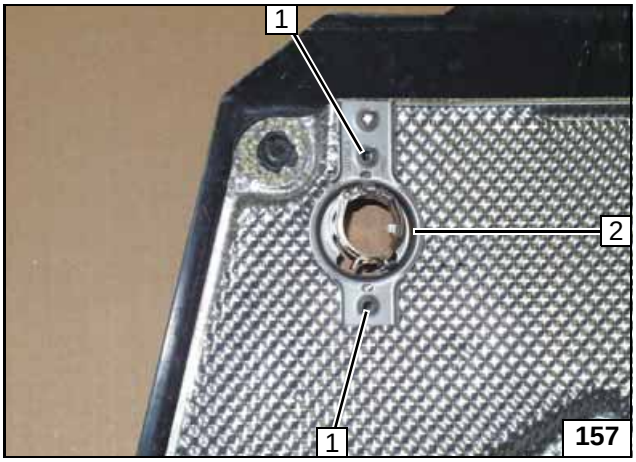
Connecting metering pump

Final Work



1 Lower engine cover
2 Hole as per work step 1 of the installation instructions

Processing lower engine cover

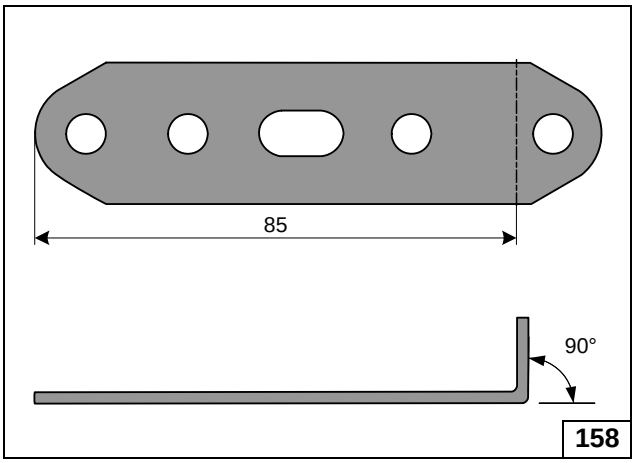


Position exhaust end fastener **2**.

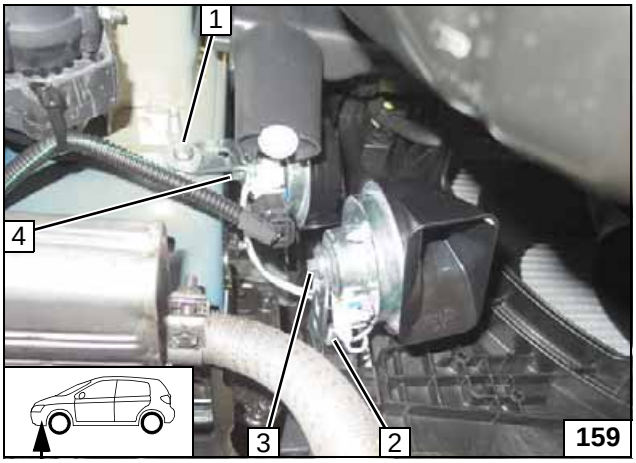
1 Copy hole pattern, hole [2x] through engine cover and insulation as per work steps 3 and 4 of the installation instructions

Preparing lower engine cover

2.0 GT



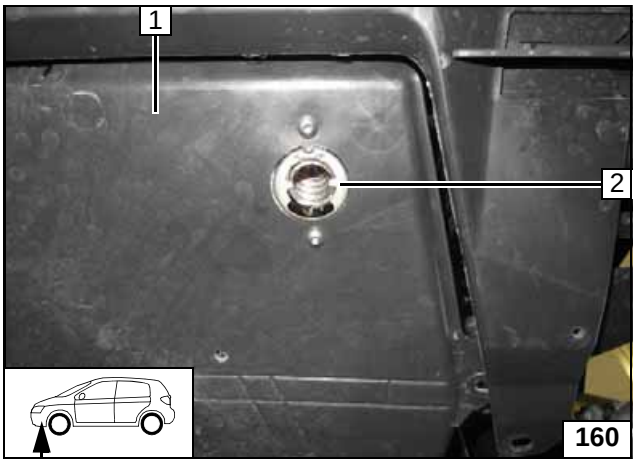
Preparing perforated bracket



Discard original vehicle horn bracket. Check that the horns have freedom of movement.

1 M6x20 bolt, spring lockwasher, large diameter washer, angle bracket, 5mm shim, original vehicle threaded hole
2 M6x20 bolt, perforated bracket, flanged nut, original vehicle hole
3 Original vehicle nut
4 Original vehicle nut

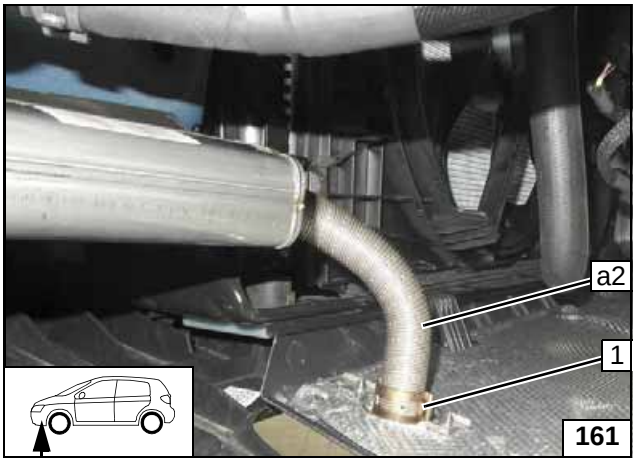
Installing horns



All vehicles

Install lower engine cover **1**.
Install exhaust end fastener **2** as per work step 5 of the installation instructions.

Installing exhaust end fastener

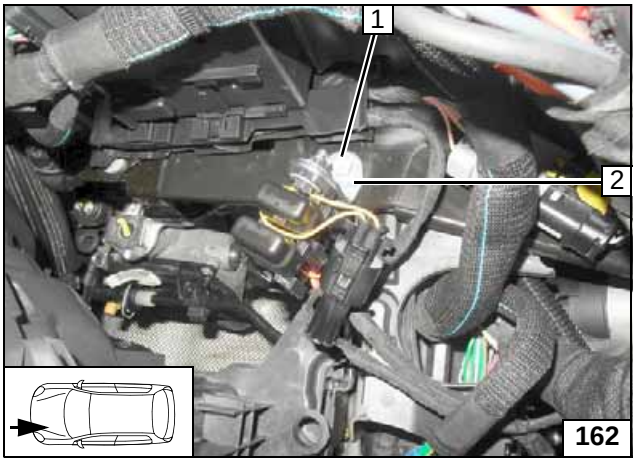


Install exhaust pipe **a2** in exhaust end fastener **1** as per work steps 6 to 8.

Installing exhaust pipe a2

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.**
- **Fill and bleed the coolant circuit according to the vehicle manufacturer's instructions.**
- **Program MultiControl CAR, teach Telestart transmitter.**
- **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.**
- **For initial startup and function check, please see installation instructions.**



Apart from 2.0 GT

When necessary, install engine compartment fuse holder on bracket of control unit using original vehicle bolt **1**.

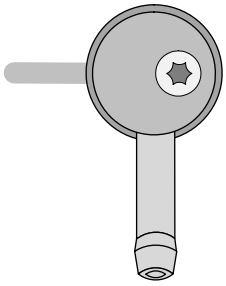
2 Angle bracket

Installing engine compartment fuse holder

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

FuelFix Template for Petrol Vehicles

Top view



100mm

Scale 1:1

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

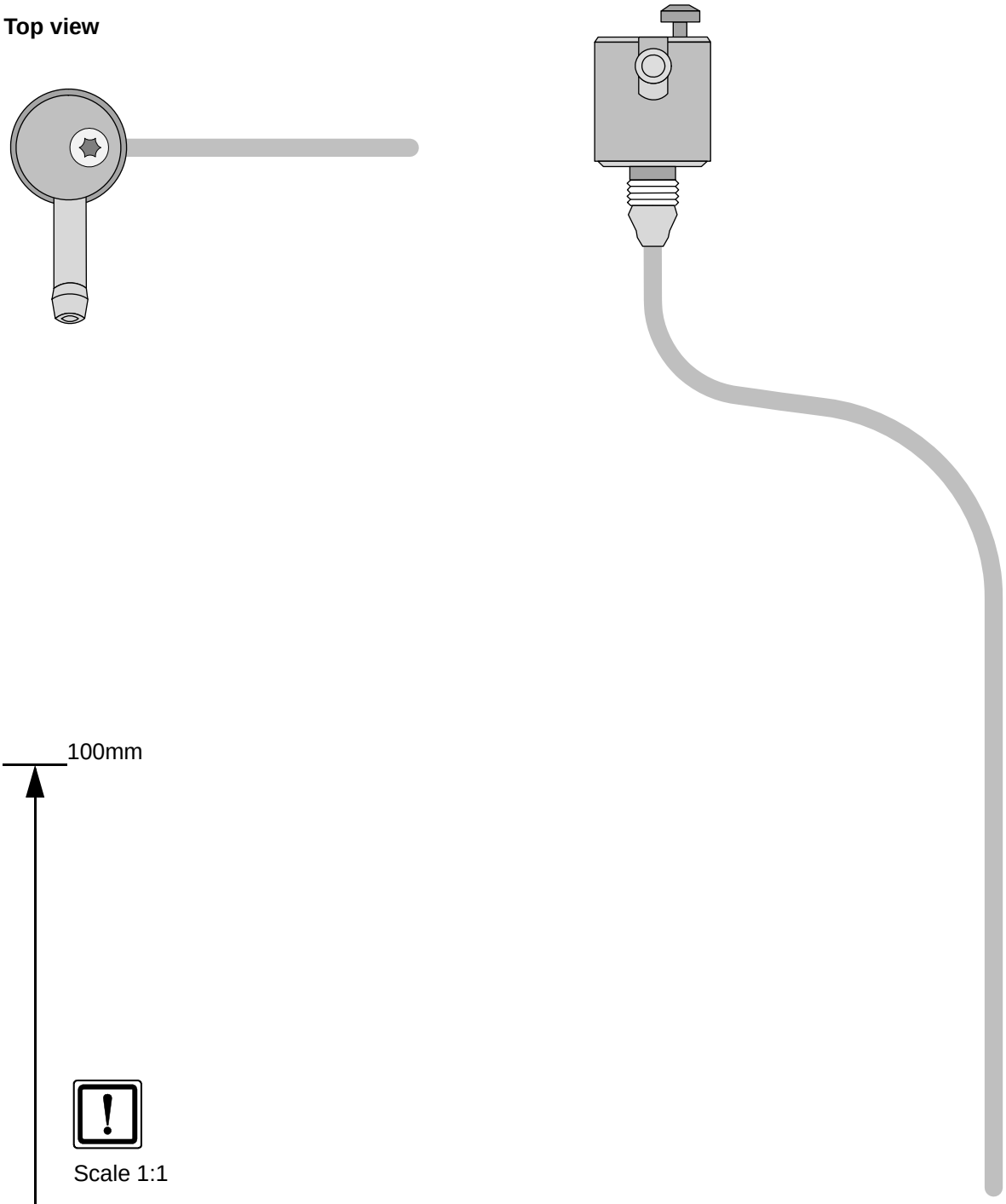
Set the printer settings to ‘no margin’ or ‘minimise margins’ and 100% of the normal size.

100mm

0

FuelFix Diesel 1.6 eHDi Template

Top view



100mm

Scale 1:1

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

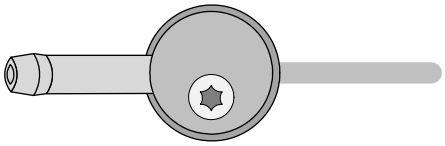
Set the printer settings to ‘no margin’ or ‘minimise margins’ and 100% of the normal size.

100mm

0

FuelFix Diesel 2.0 eHDi 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

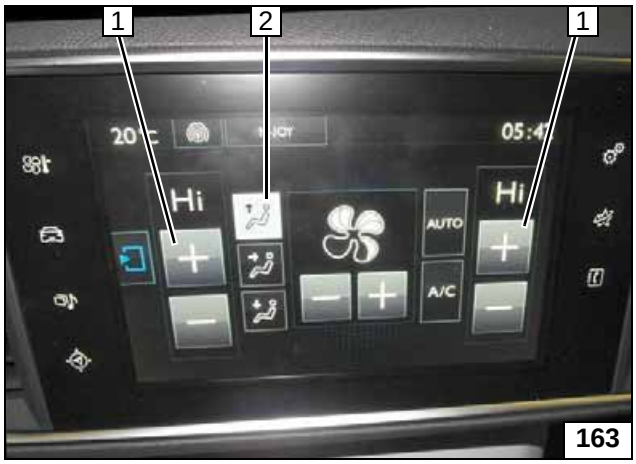
Operating Instructions for Automatic Air-Conditioning

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.

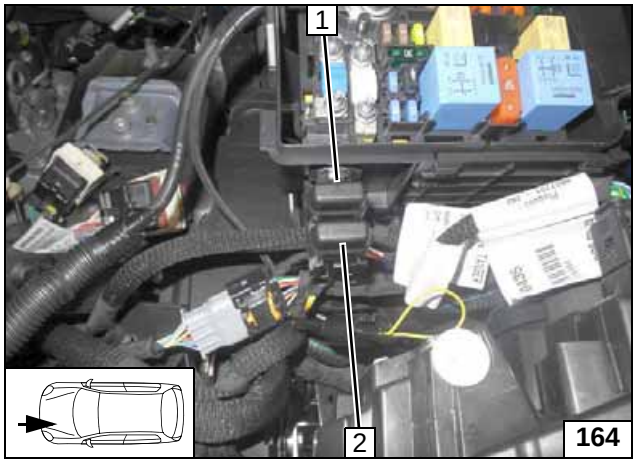
Passenger compartment monitoring, if installed, must be deactivated in addition to the vehicle settings for the heating operation.
For instructions on deactivation, please refer to the operating instructions of the vehicle.

Before parking the vehicle, make the following settings:



1 Set temperature on both sides to ‘HI’
2 Air outlet turned ‘upwards’

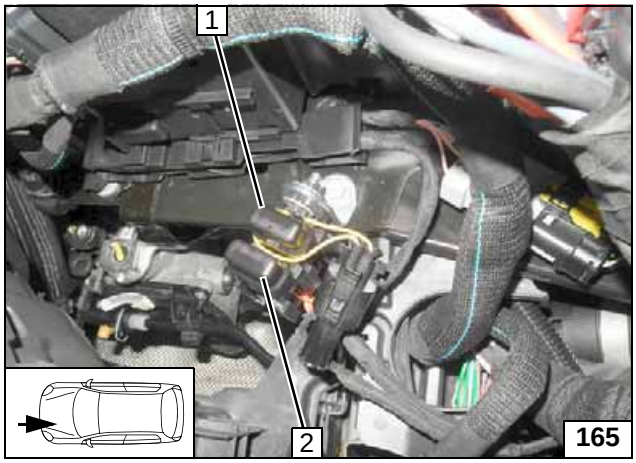
A/C control panel



Version 1

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

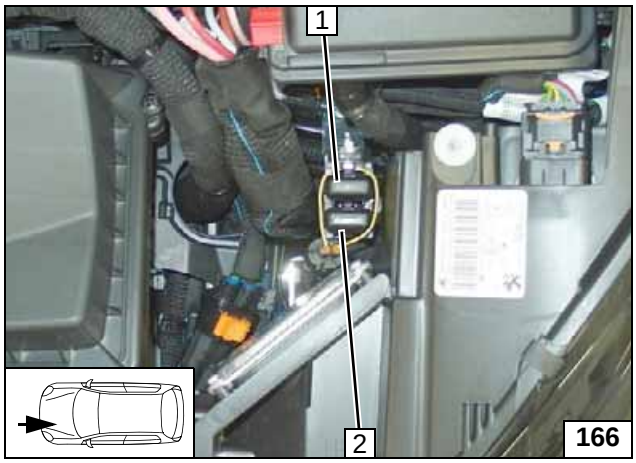
Engine compartment fuses



Version 2

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

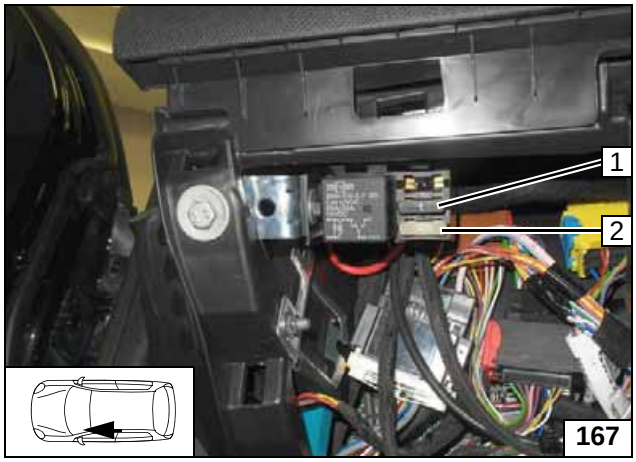
Engine compartment fuses



Version 3

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

Engine compartment fuses



All vehicles

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

Passenger compartment fuses