



Water Heater

Thermo Top Evo Parking Heater



With FuelFix

Installation Documentation Peugeot 208

Validity

Manufacturer	Model	Type	Model year	EG BE No. / ABE
Peugeot	208	A9 / C	From model year 06/2015	e1 * 2001 / 46 * 0070 * ...

Motorisation	Fuel	Emission standard	Transmission type	Output in kW	Displacement in cm ³	Engine code
1.0 VTi	Petrol	Euro 6	5-speed SG	50	999	ZMZ0
1.2 VTi	Petrol	Euro 6	5-speed SG	60	1199	HMZ0
1.4 VTi	Petrol	Euro 5	5-speed SG	70	1398	8FP0
1.4 VTi	Petrol	Euro 5	5-speed SG	70	1398	8FN0
1.6 VTi	Petrol	Euro 5	5-speed SG	88	1598	5FS0
1.6 blue HDI	Diesel	Euro 6	5-speed SG	73	1560	BH02

SG = manual transmission

Left-hand drive vehicle

Verified equipment variants: Manual / automatic air-conditioning system
Front fog lights
LED daytime running lights
Start-Stop

Not verified: Passenger compartment monitoring
Headlight washer system

Total installation time: approx. 8 hours

Peugeot 208

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Necessary Components

Description	Order No.:
Basic delivery scope of Thermo Top Evo	In accordance with price list
Installation kit with FuelFix for Peugeot 208 from 05/2015 Petrol and diesel	1324911B
In case of Telestart, heater control, as well as indicator lamp in consultation with end customer	In accordance with price list
In case of installation of MultiControl CAR - timer cable extension	1319724_
In case of installation of MultiControl CAR - MultiControl installation frame	9030077_

Webasto Individual Option

Description	Order No.:
Webasto Individual Auxiliary Heating additional kit	1320077_
Webasto Individual Quick additional kit	9030826_
Webasto Individual Select additional kit	9030828_

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.

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.

Peugeot 208

Information on Validity

This installation documentation applies to Peugeot 208 Petrol and diesel vehicles - for validity see page 1 - from model year 06/2015 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.

Mechanics



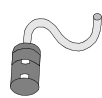
Electrics



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.



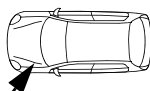
Specific risk of fire or explosion.



Reference to a special technical feature.



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



Reference to the manufacturer's vehicle-specific documents.



Reference to specific installation instructions of Webasto components (demonstrated with the example of the FuelFix).



Reference to general installation instructions of Webasto components.



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



Peugeot 208

Preliminary Work

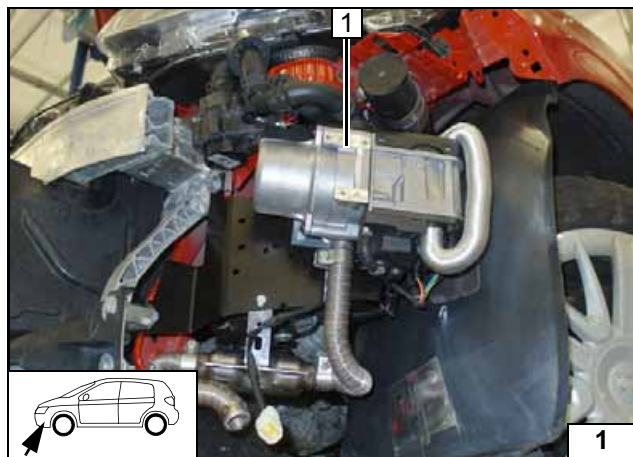
Vehicle



- Open the fuel tank cap.
- Ventilate the fuel tank.
- Close the fuel tank cap again.
- Depressurise the cooling system.
- Disconnect and remove the battery completely together with the carrier.
- Remove the bracket of the vacuum sensor on the brake booster (if present).
- Remove the coolant reservoir cap.
- Remove the windscreen wipers.
- Remove the lower engine cover (if present).
- Remove the underride protection on the left (if present).
- Remove the wheel on the left and right.
- Remove the wheel well trim on the left and right.
- Remove the bumper trim.
- Remove the left-hand headlight.
- Loosen the rear bench seat (inserted).
- Open the tank-fitting service lid on the left.
- Remove the instrument panel trim on the right-hand side.
- Remove the glove box.
- Remove the instrument panel trim on the left under the steering wheel.
- Loosen the A/C control panel (see installation instructions).
- Remove the front centre console trim 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.



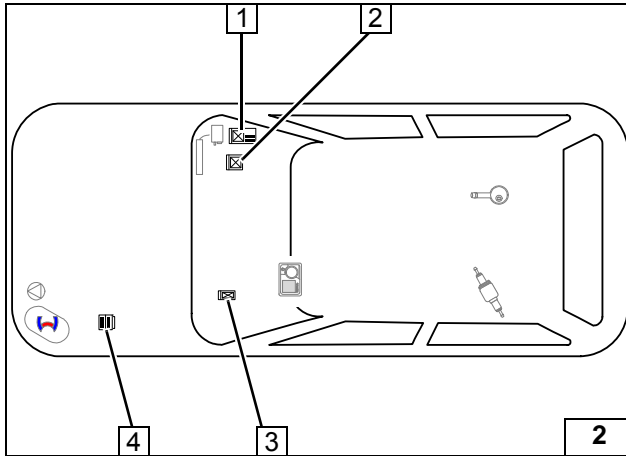
Heater Installation Location

Figure shows diesel vehicle.

- 1 Heater



Installation location

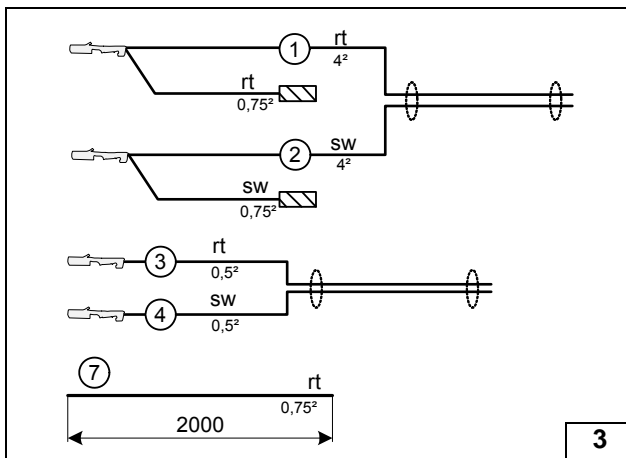


Preparing Electrical System

- 1 Passenger compartment relay and fuse holder
- 2 PWM Gateway
- 3 Relay K2 (only with automatic A/C)
- 4 Engine compartment fuse holder



Installation overview



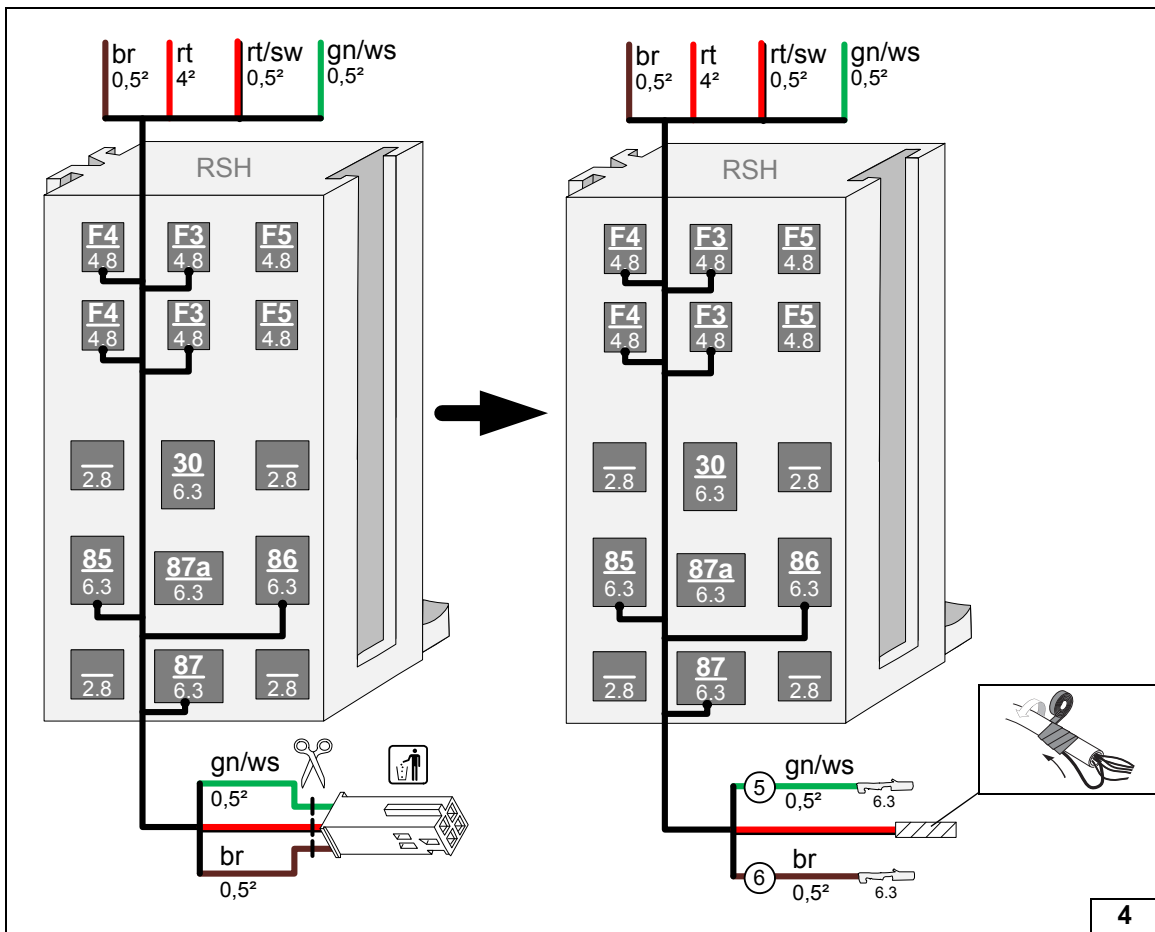
Wire sections retain their numbering in the entire document.

Pull wire section ⑦ into 4mm dia., 1500mm provided protective sleeving.

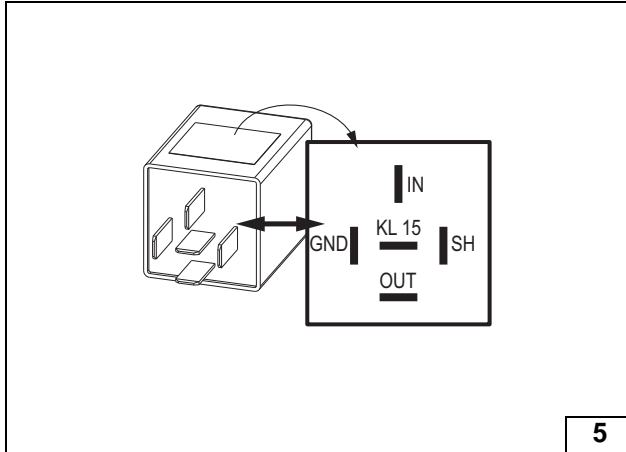
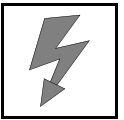
- ① Red (rt) wire of fan wiring harness
- ② Black (sw) wire of fan wiring harness
- ③ Red (rt) wire from wiring harness of PWM control
- ④ Black (sw) wire from wiring harness of PWM control



Assigning wires



Preparing passenger compartment relay and fuse holder/ connecting blade receptacle/ assigning and insulating wires

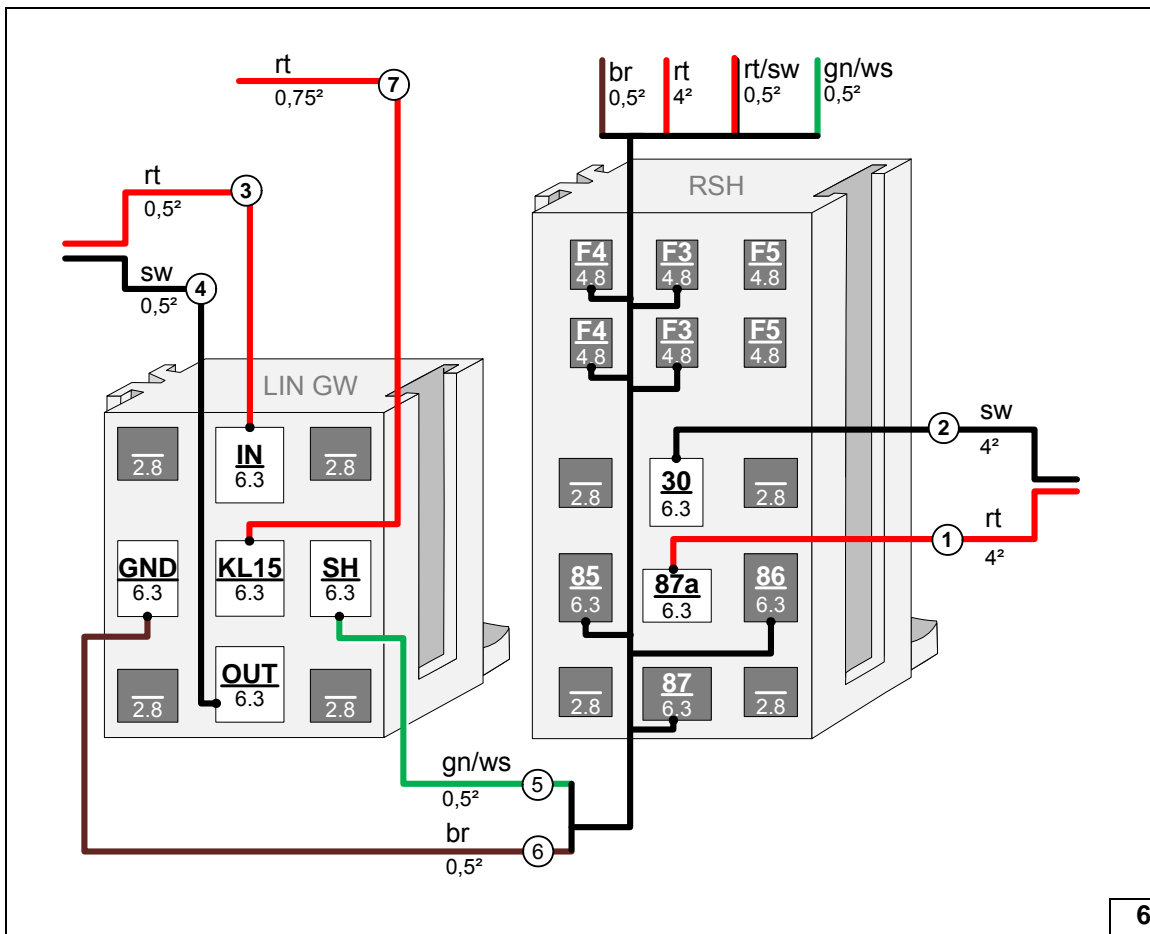


Check the PWM Gateway settings when starting up the heater and adjust if necessary.

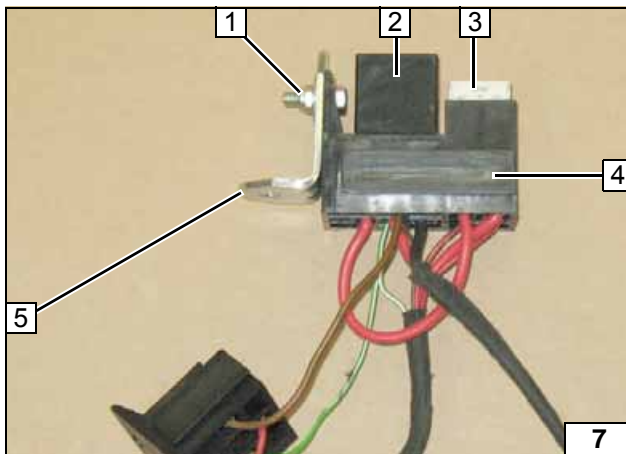
Settings:

Duty cycle: 70%
 Frequency: 400 Hz
 Voltage: not relevant
 Function: Low side

View of PWM-GW

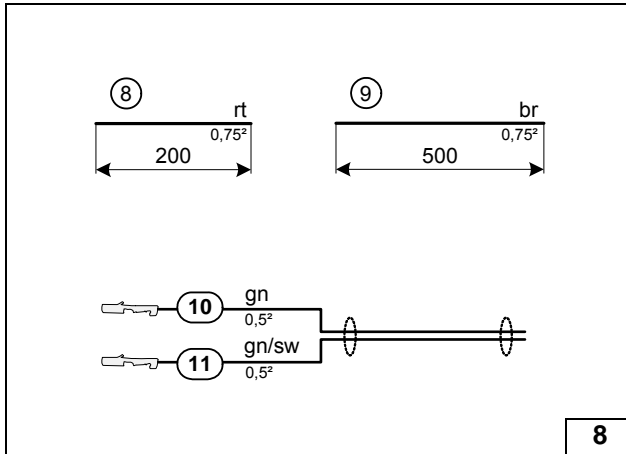


Connecting wires to PWM-GW socket and passenger compartment relay and fuse holder



- 1 M5x16 bolt, large diameter washer [2x], nut
- 2 Relay K1
- 3 25A fuse F4
- 4 Passenger compartment relay and fuse holder
- 5 Angle bracket

Premounting passenger compartment relay and fuse holder



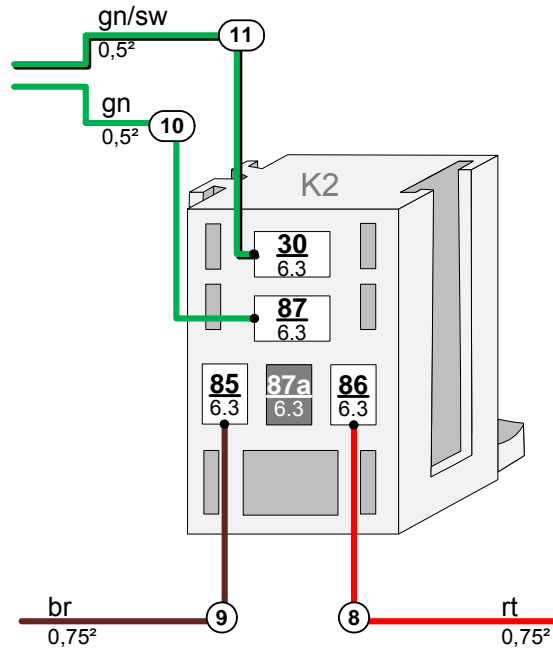
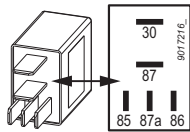
Also required with automatic air-conditioning

Pull wire section ⑨ into 4mm dia., 450mm protective sleeving.

- ⑩ Green (gn) wire of power supply wiring harness
- ⑪ Green/black (gn/sw) wire of power supply wiring harness



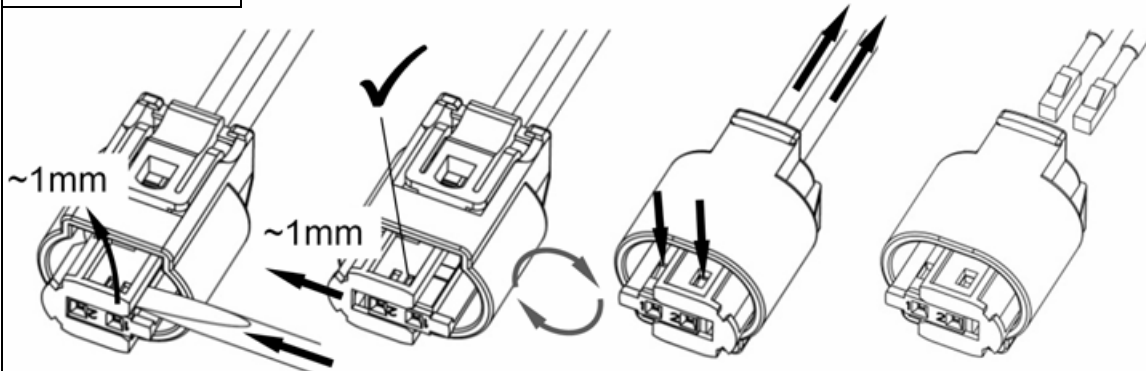
Assigning wires



Connecting wires to socket of relay K2



Connector X7



Dismantling metering pump connector

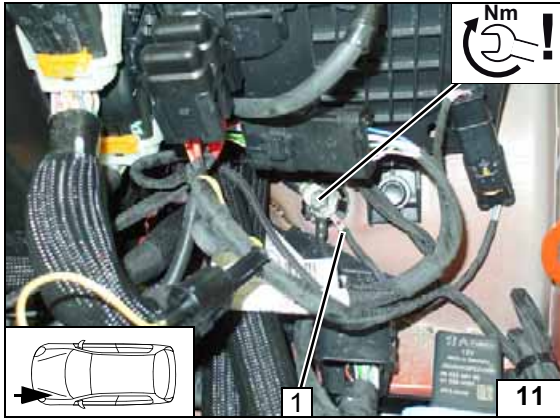


Electrical System



Earth wire

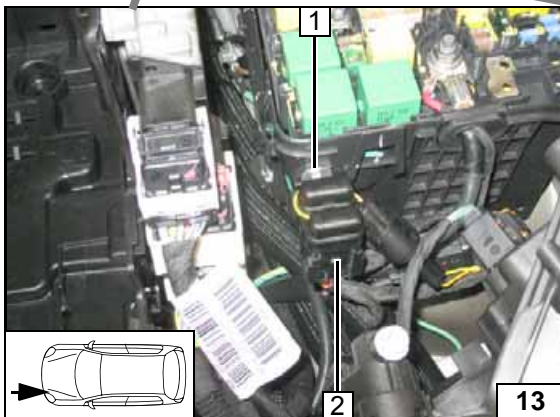
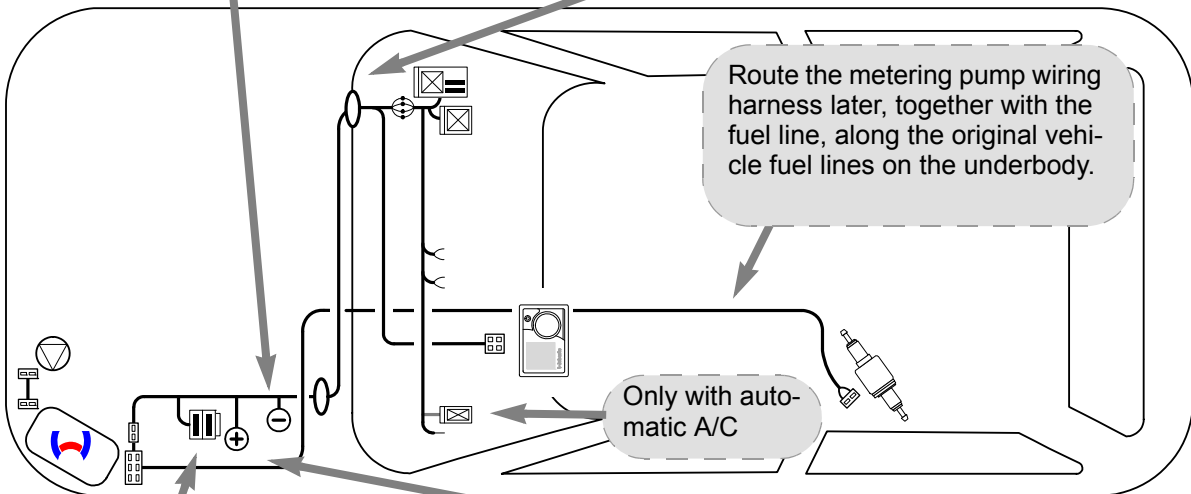
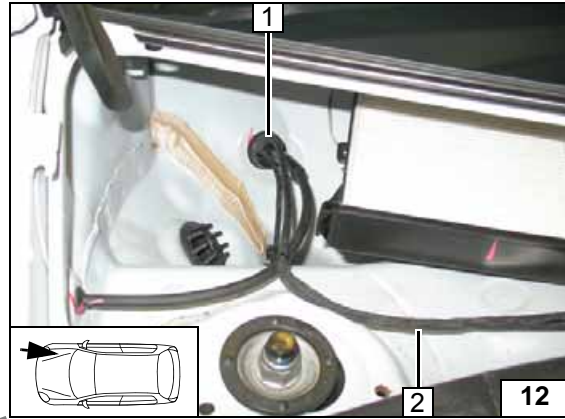
- 1 Earth wire on original vehicle earth support point



Wiring harness pass through of passenger compartment

For wiring harness routing, please see following page.

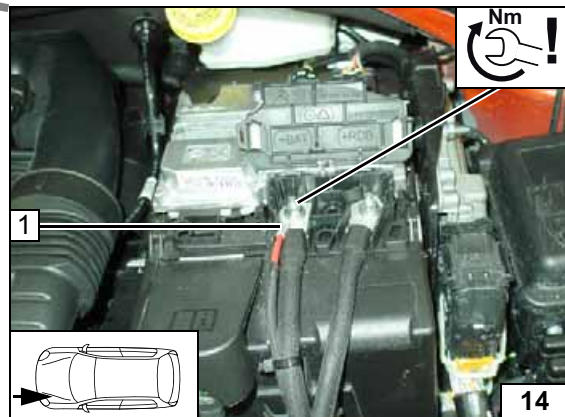
- 1 Protective rubber plug of window washer system
- 2 Wiring harnesses of heater and heater control



Engine compartment fuse holder

5.5 mm dia. hole at position 1. When drilling, be careful of components located behind!

- 1 M5x16 bolt, washer [2x], retaining plate of fuse holder, nut
- 2 Fuses F1-2



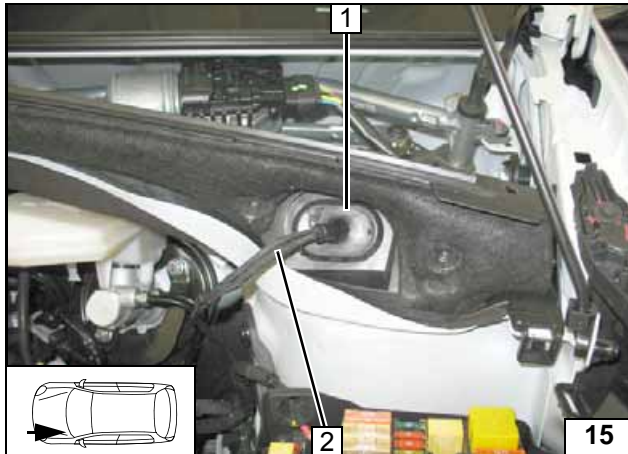
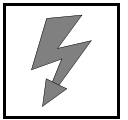
Positive wire

- 1 Positive wire on original vehicle positive distributor



Wiring harness routing diagram

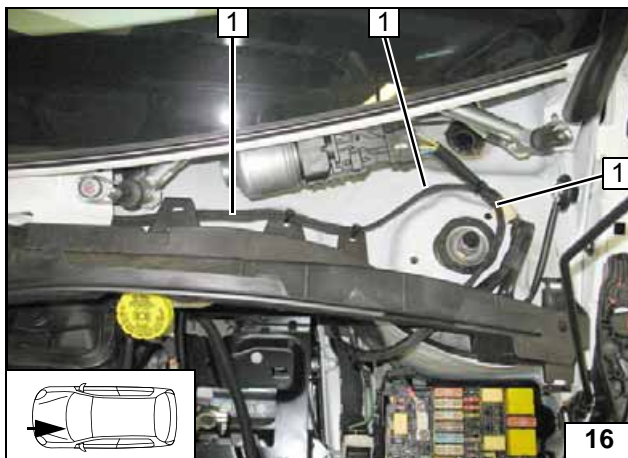




Wiring Harness Routing

- 1 Original vehicle protective rubber plug
- 2 Wiring harnesses of heater and heater control

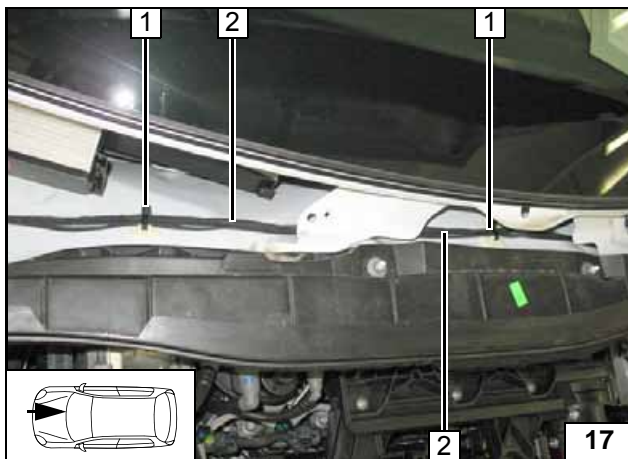
Pass through of coolant reservoir



Route wiring harnesses of heater and heater control 1 to the right side of the vehicle inside the coolant reservoir and secure them using cable ties.

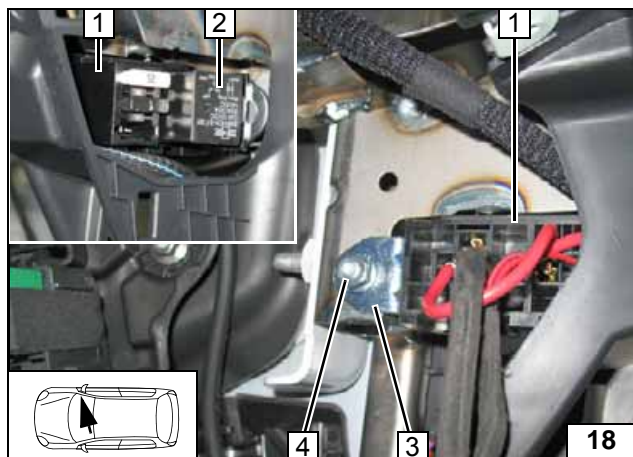


Routing in coolant reservoir



- 1 Adhesive base, cable tie [2x each]
- 2 Wiring harnesses of heater and heater control

Routing in coolant reservoir



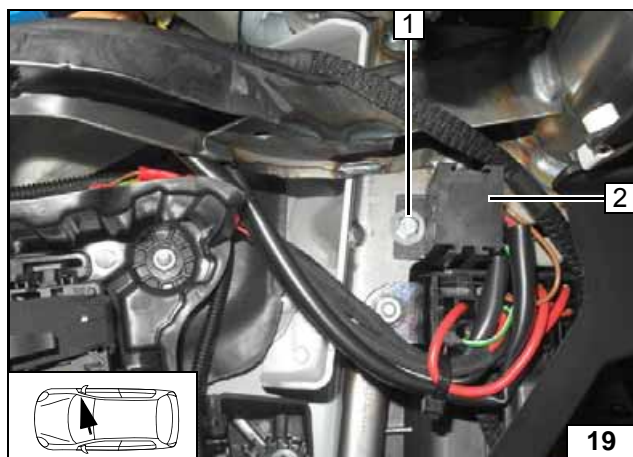
Installation of Passenger Compartment Relay and Fuse Holder

Place relay and fuse holder of passenger compartment 1 and copy hole pattern at position 4. When drilling, be careful of components located behind!

- 2 Relay K1 attached
- 3 Angle bracket
- 4 7 mm dia. hole; M6x12 bolt, flanged nut

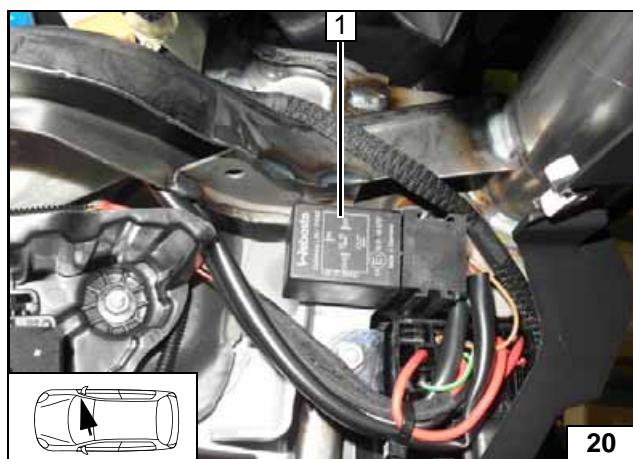


Installing passenger compartment relay and fuse holder



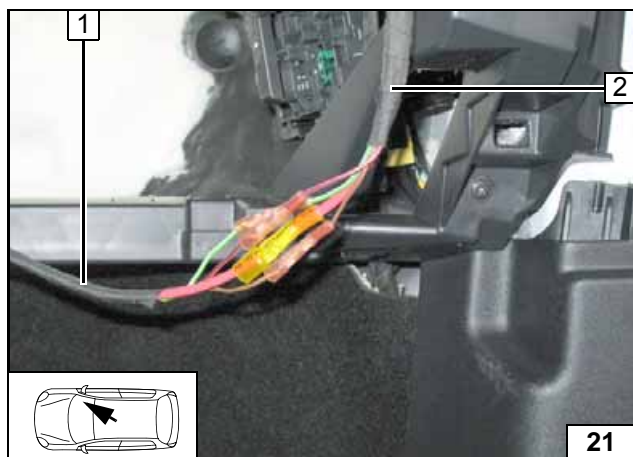
- 1 M5x16 bolt, large diameter washer [2x], flanged nut, existing hole
- 2 PWM-GW socket

Mounting PWM-GW socket



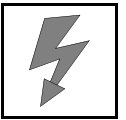
- 1 PWM-GW

Mounting PWM-GW



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

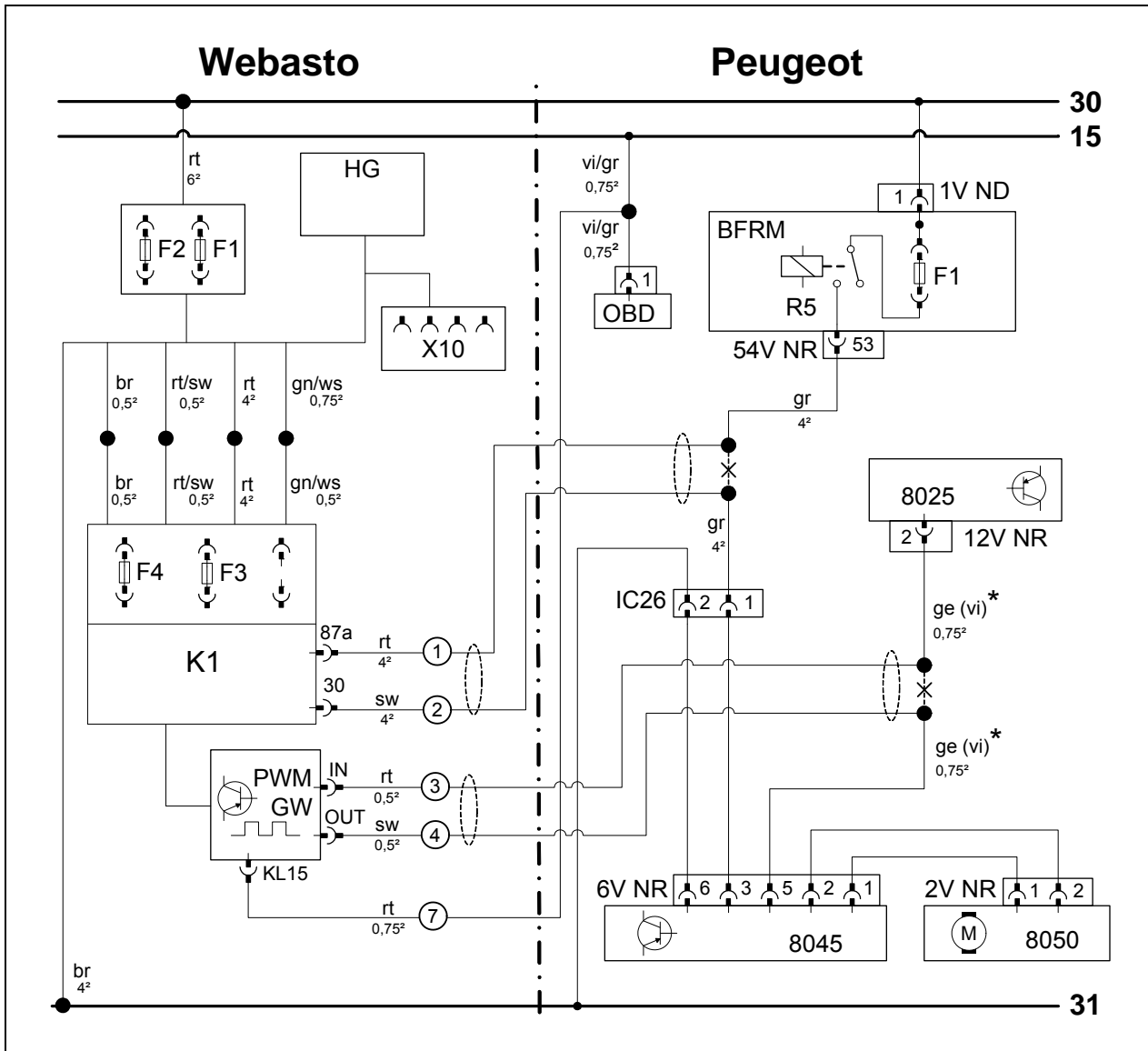
Connecting same colour wires of wiring harnesses



Manual Air-Conditioning Fan Controller

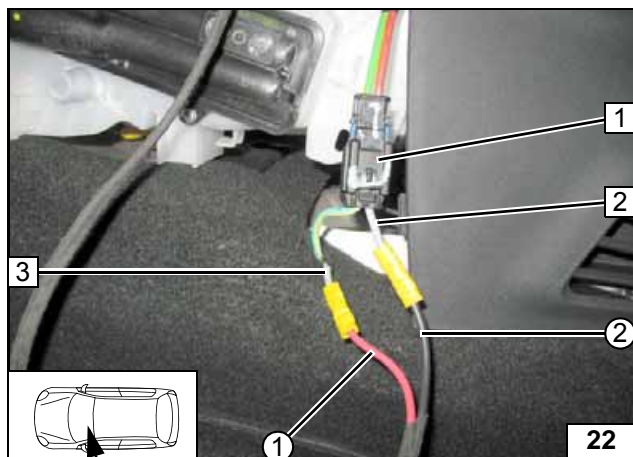


System wiring diagram



Webasto components		Vehicle components		Colours and symbols	
HG	TT-Evo heater	OBD	Socket outlet	rt	red
F1	20A fuse	BFRM	Engine compartment fuse and relay carrier	sw	black
F2	30A fuse	F1	Fuse	ge	yellow
X10	4-pin connector of heater control	R5	Relay	gn	green
F3	1A fuse	1V ND	1-pin connector	br	brown
F4	25A fuse	54V NR	54-pin connector	ws	white
K1	Fan relay	8025	A/C control panel	gr	grey
PWM-GW	Pulse width modulator	12V NR	12-pin connector	vi	violet
		IC26	2-pin connector		
PWM-GW settings:		8045	Fan controller		
Duty cycle: 70%		6V NR	6-pin connector	*	Wire colours depend on the equipment
Frequency: 400Hz		8050	Fan motor		
Voltage: not relevant		2V NR	2-pin connector	X	Cutting point
Function: Low side					Wiring colours may vary.

Legend



Produce all following electrical connections as shown in the wiring diagram. Connection to connector IC 26 1 of fan motor wiring harness.

- 2 Grey (gr) wire of connector IC26, pin 1
- 3 Grey (gr) wire of fuse and relay carrier BFRM, connector 54V NR, pin 53
- ① Red (rt) wire of K1/87a, fan wiring harness
- ② Black (sw) wire of K1/30, fan wiring harness

Connect-
ing fan mo-
tor



Dismantling Instructions for Manual A/C Control Panel

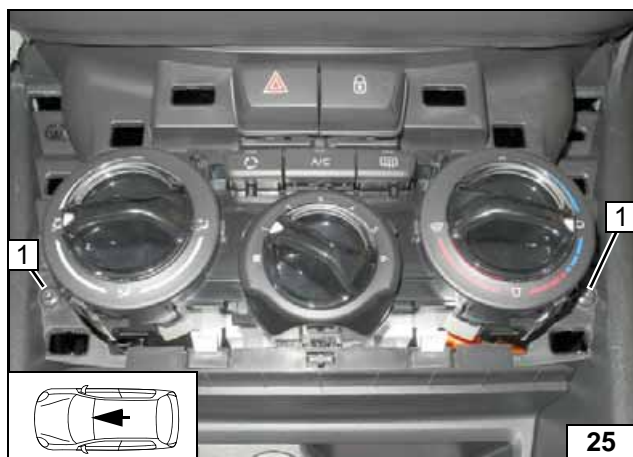
- Detach from fastening points (see retaining clip, next figure) [4x]

Removing trim



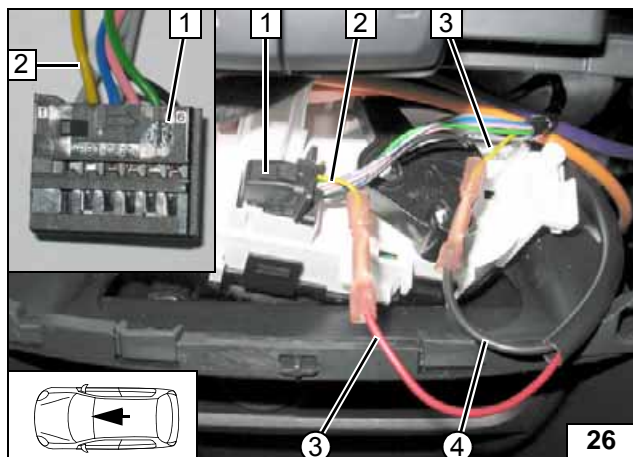
- Retaining clip [4x]

View of retain-
ing clip



- 1 Bolts [2x]

Remove the A/C control panel.

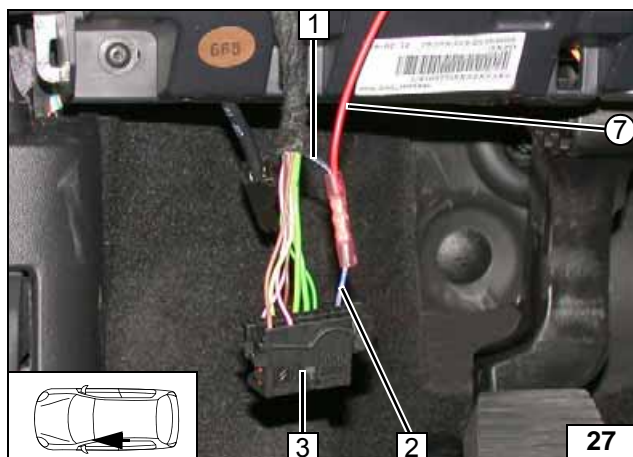


Connection on connector 1 from A/C control panel.



- 1 Connector 12V NR
- 2 Yellow (ge) or violet (vi) wire of connector 12V NR, pin 2
- 3 Yellow (ge) or violet (vi) wire of fan controller connector 6V NR, pin 5
- ③ Red (rt) wire from PWM-GW/IN of PWM control wiring harness
- ④ Black (sw) wire from PWM-GW/OUT of PWM control wiring harness

Connecting A/C control panel

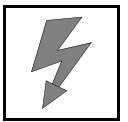


Connection to OBD-socket outlet 3, pin 1.



- 1 Violet/grey (vi/gr) wire of terminal 15
- 2 Violet/grey (vi/gr) wire of OBD socket outlet, pin 1
- ⑦ Red (rt) wire of PWM-GW/KL15

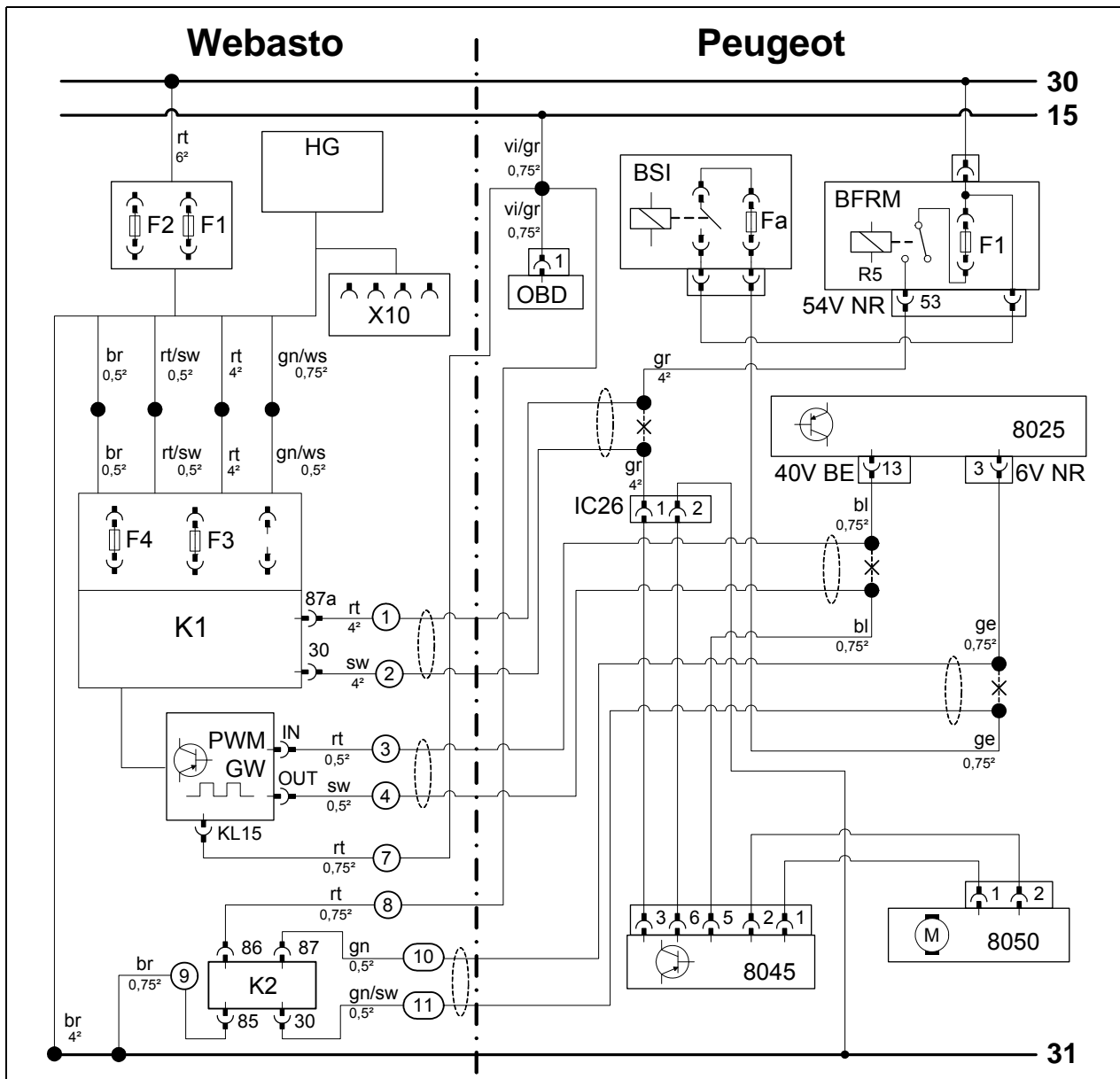
Connecting terminal 15



Automatic Air-Conditioning Fan Controller

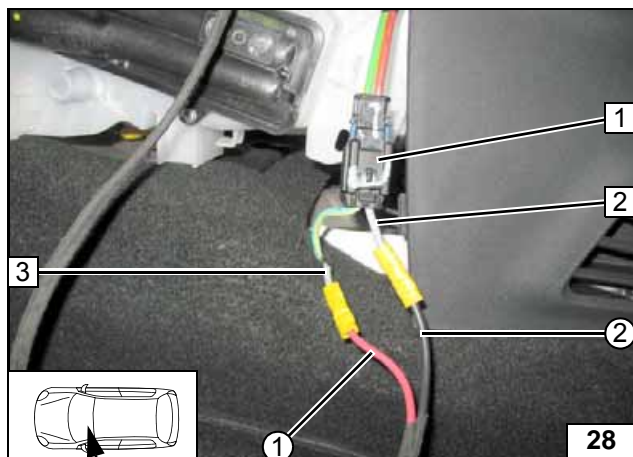


System wiring diagram



Webasto components		Vehicle components		Colours and symbols	
HG	TT-Evo heater	BSI	Central electrical box	rt	red
F1	20A fuse	Fa	Fuse	sw	black
F2	30A fuse	BFRM	Engine compartment fuse and relay carrier	ge	yellow
X10	4-pin connector of heater control	F1	Fuse	gn	green
F3	1A fuse	R5	Relay	br	brown
F4	25A fuse	54V NR	54-pin connector	ws	white
K1	Fan relay	OBD	Socket outlet	gr	grey
K2	Additional relay	8025	A/C control panel	vi	violet
PWM-GW	Pulse width modulator	40V BE	40-pin connector	bl	blue
		6V NR	6-pin connector		
PWM-GW settings:		IC26	2-pin connector		
Duty cycle: 70%		8050	Fan motor		
Frequency: 400Hz		8045	Fan controller		
Voltage: not necessary				X	Cutting point
Function: Low side					Wiring colours may vary.

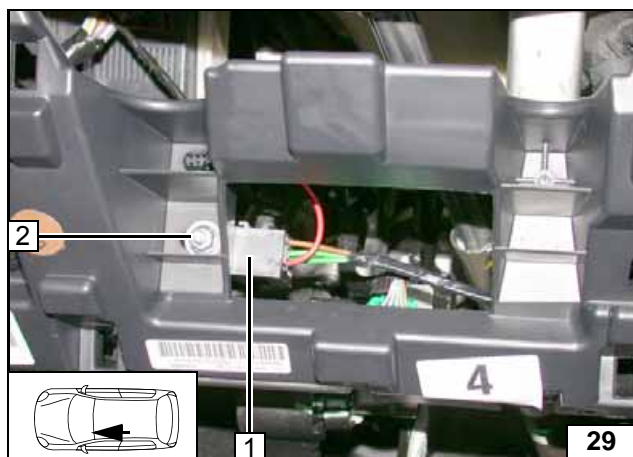
Legend



Produce all following electrical connections as shown in the wiring diagram. Connection to connector IC 26 1 of fan motor wiring harness.

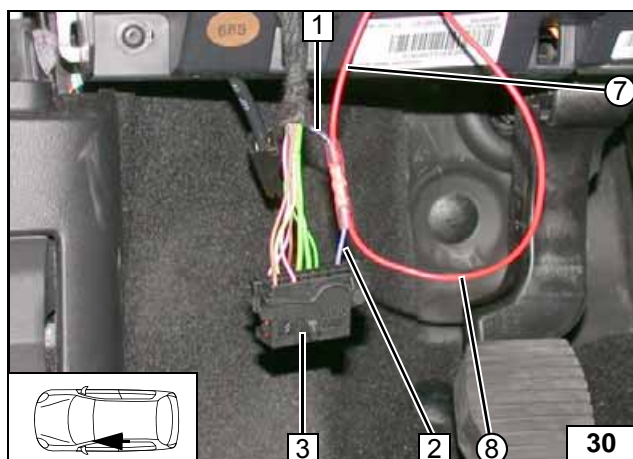
- 2 Grey (gr) wire of connector IC26, pin 1
- 3 Grey (gr) wire of fuse and relay carrier BFRM, connector 54V NR, pin 53
- ① Red (rt) wire of K1/87a, fan wiring harness
- ② Black (sw) wire of K1/30, fan wiring harness

**Connect-
ing fan mo-
tor**



- 1 Relay K2 socket, attach relay K2
- 2 M5x16 bolt, large diameter washer, existing hole

**Installing
relay K2**



Connection on OBD-socket outlet 3, pin 1.

- 1 Violet/grey (vi/gr) wire of terminal 15
- 2 Violet/grey (vi/gr) wire of OBD socket outlet, pin 1
- ⑦ Red (rt) wire of PWM-GW/KL15
- ⑧ Red (rt) wire of K2/86

**Connect-
ing termi-
nal 15**



**Dismantling Instructions for
Automatic A/C Control Panel**

- 1 Remove covers [2x]

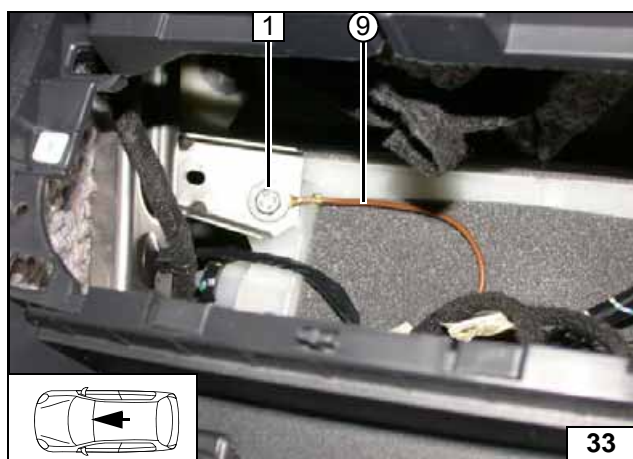
**Removing
covers**



Loosen torx screws 1 [2x].
Pull off frame [retaining clip ○ 4x]. Loosen A/C control panel.

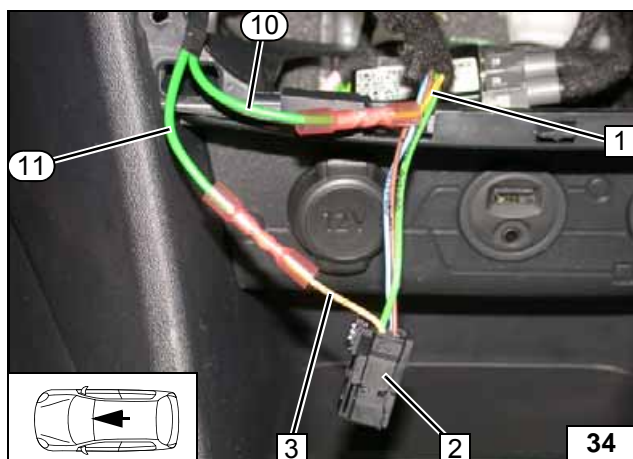


Detaching A/C control panel



- 1 Original vehicle bolt
- ⑨ Brown (br) wire of K2/85

Earth connection of relay K2

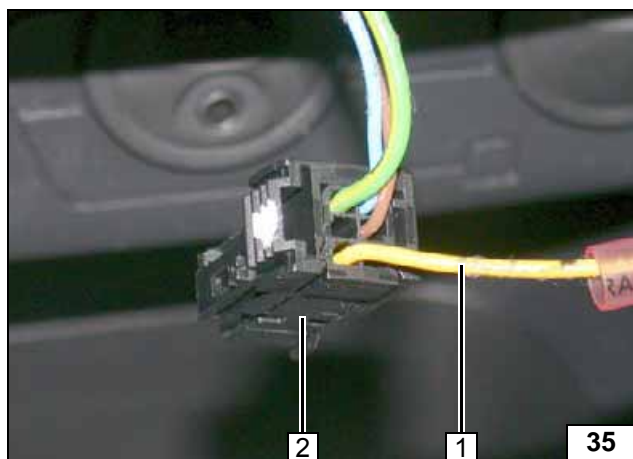


Connection to connector 6V NR pin 3 2 of A/C control panel (see following figure).

- 1 Yellow (ge) wire of terminal 15 (delayed)
- 3 Yellow (ge) wire of connector 6V NR, pin 3
- ⑩ Green (gn) wire from K2/87 of power supply wiring harness
- ⑪ Green/black (gn/sw) wire from K2/30 of power supply wiring harness

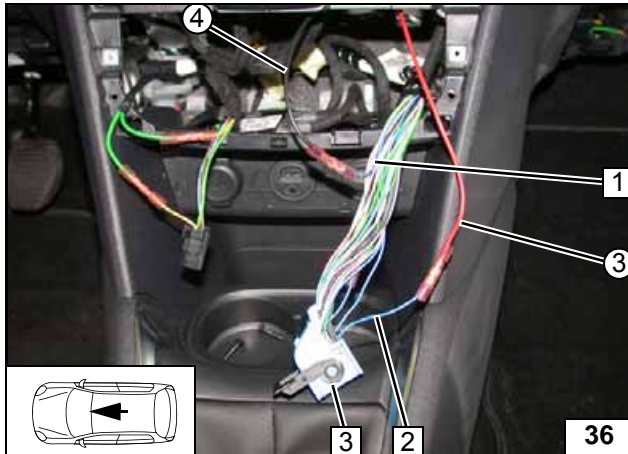
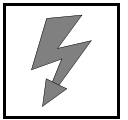


Connecting A/C control panel



- 1 Yellow (ge) wire of pin 3
- 2 Connector 6V NR

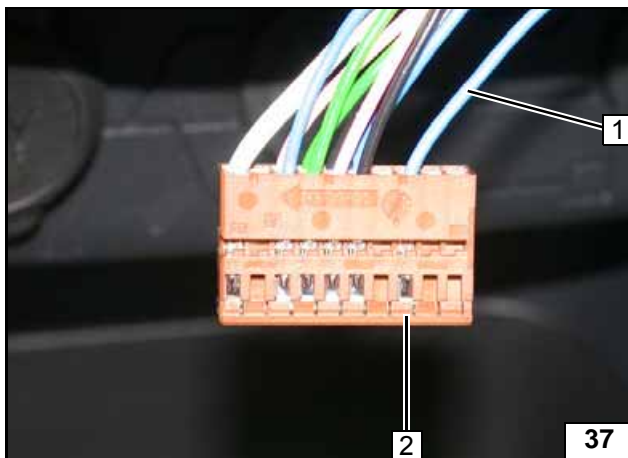
Connector of A/C control panel



Connection to 2-part connector 40V BE pin 13 3 from A/C control panel. Remove 40V connector BE (see following figure).

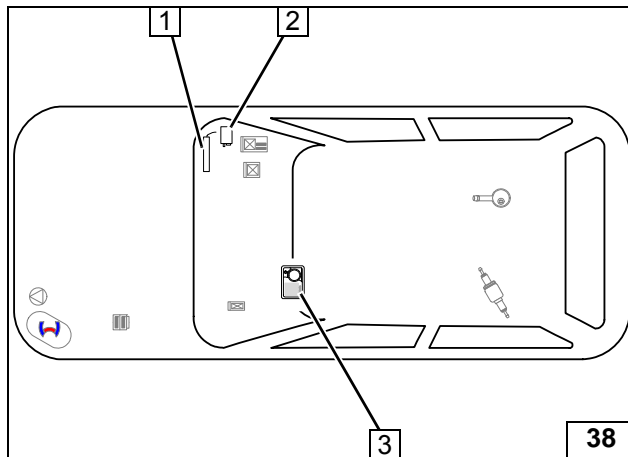
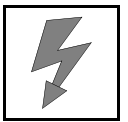
- 1 Blue (bl) wire of fan controller
- 2 Blue (bl) wire of connector 40V BE, pin 13
- ③ Red (rt) wire from PWM-GW/IN of PWM control wiring harness
- ④ Black (sw) wire from PWM-GW/OUT of PWM control wiring harness

**Connect-
ing A/C
control
panel**



- 1 Blue (bl) wire, pin 13
- 2 40V connector BE

**Connector
of A/C con-
trol panel**

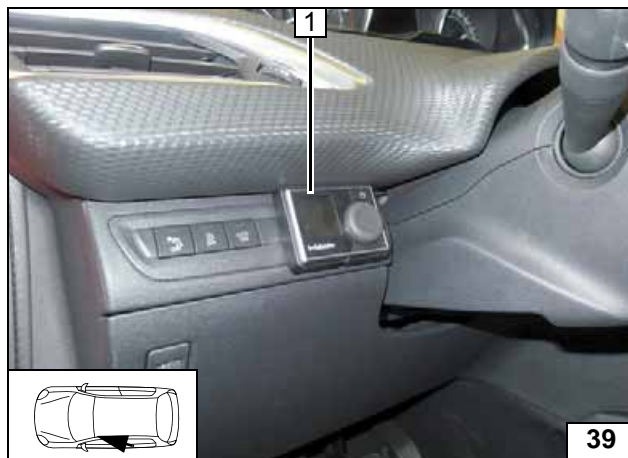


Heater Control Installation

- 1 Telestart / ThermoCall aerial
- 2 Telestart / ThermoCall receiver
- 3 MultiControl CAR



Installation overview

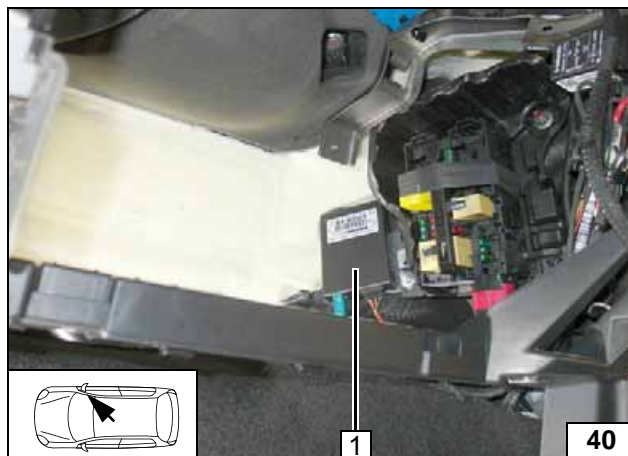


MultiControl CAR Option

- 1 Installation frame



Installing MultiControl CAR

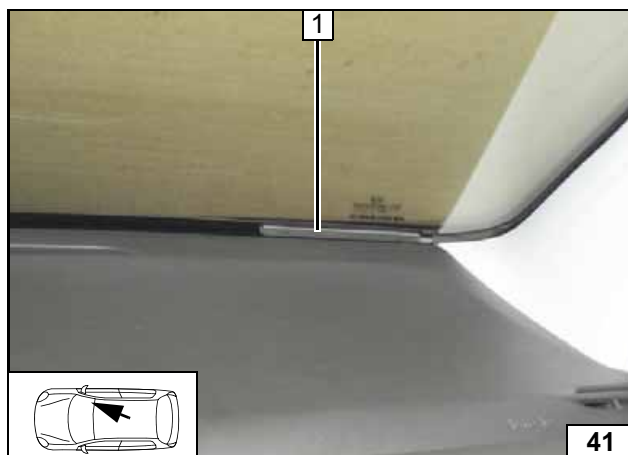


Remote Option (Telestart)

Fasten receiver 1 with double-sided adhesive tape.

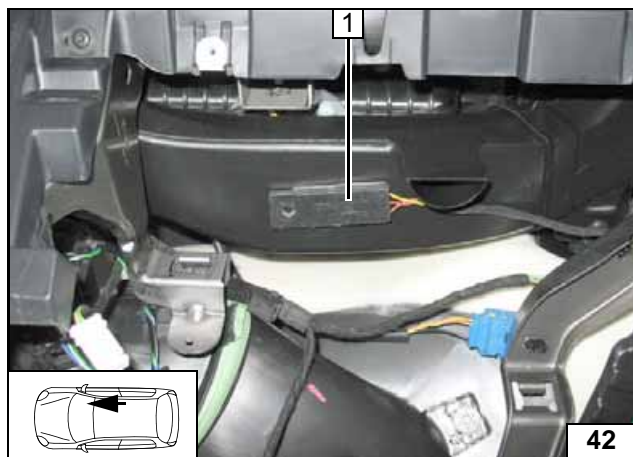


Installing receiver



- 1 Aerial

Installing aerial

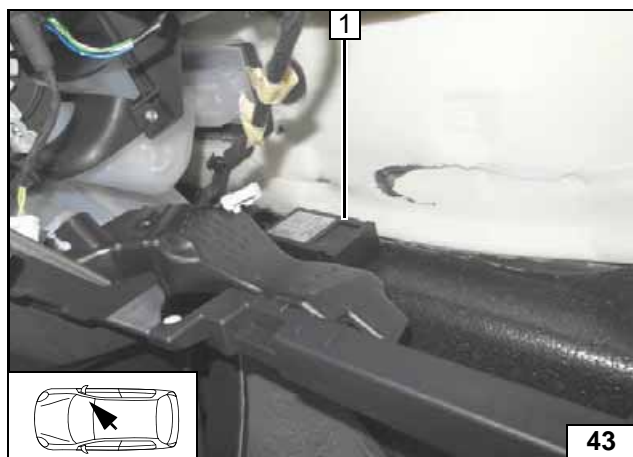


Temperature sensor T100 HTM

Fasten temperature sensor 1 with double-sided adhesive tape.



Installing temperature sensor

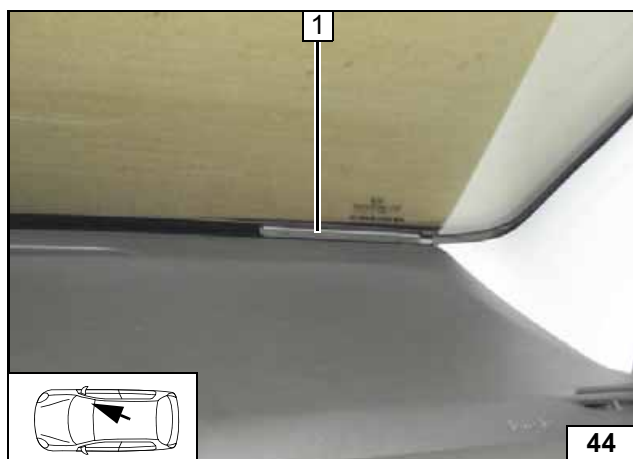


ThermoCall Option

Fasten receiver 1 with double-sided adhesive tape.

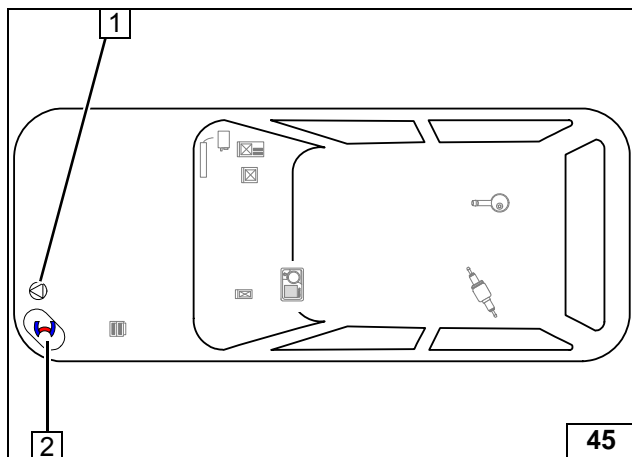


Installing receiver



1 Aerial

Installing aerial

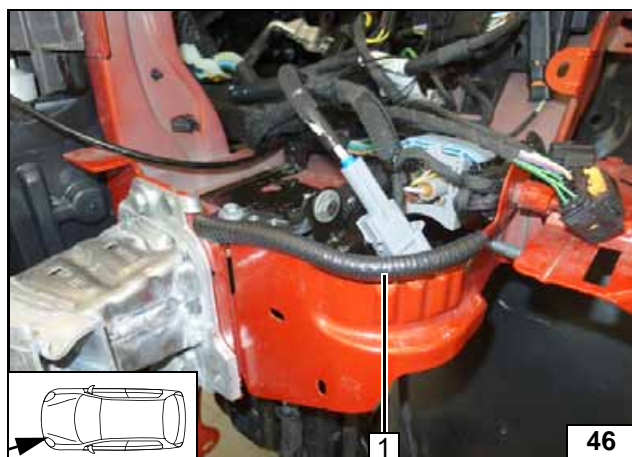


Preparing Installation Location

- 1 Circulating pump
- 2 Heater



Installation overview



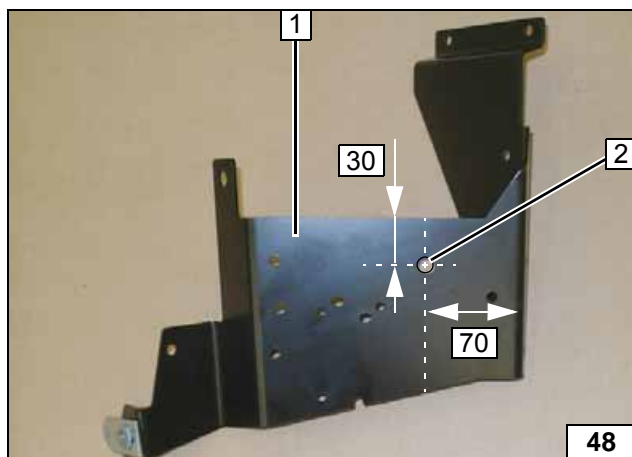
- 1 185 mm edge protection

Installing wide edge protection



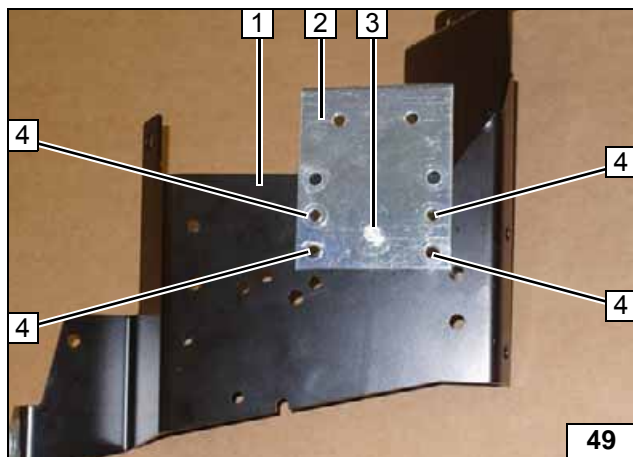
- 1 90 mm edge protection

Installing narrow edge protection



- 1 Bracket
- 2 7 mm dia. hole

Hole in bracket

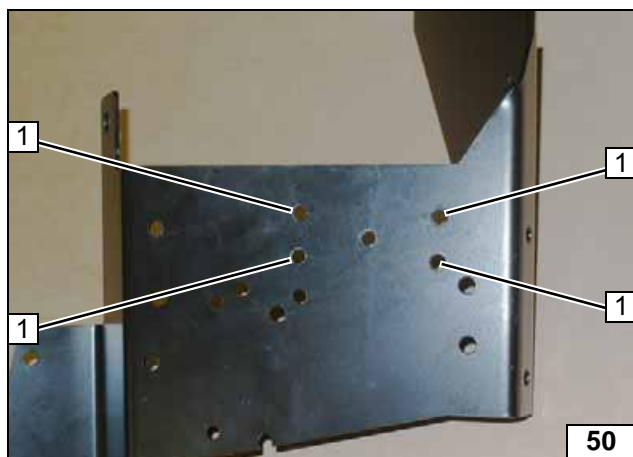


Adapt device holder 2 as shown in the template.

- 1 Bracket
- 2 Device holder section
- 3 Mount M6x20 bolt, flanged nut loosely
- 4 Copy hole pattern [4x]

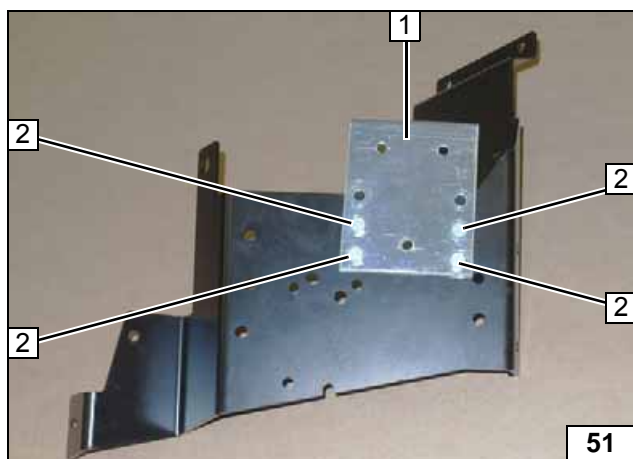
Copying hole pattern

Detach device holder section again.



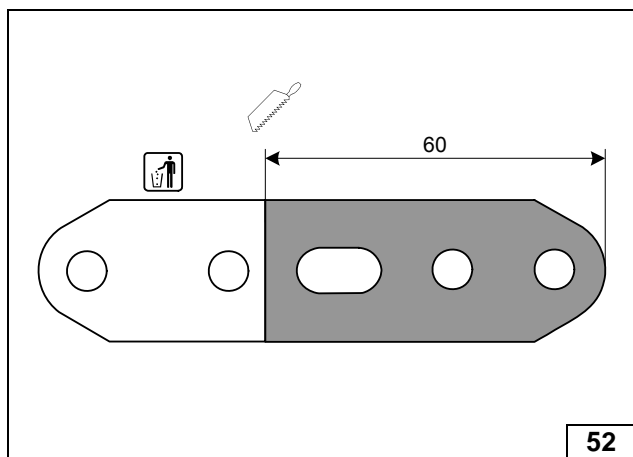
- 1 7 mm dia. hole [4x]

Holes in bracket

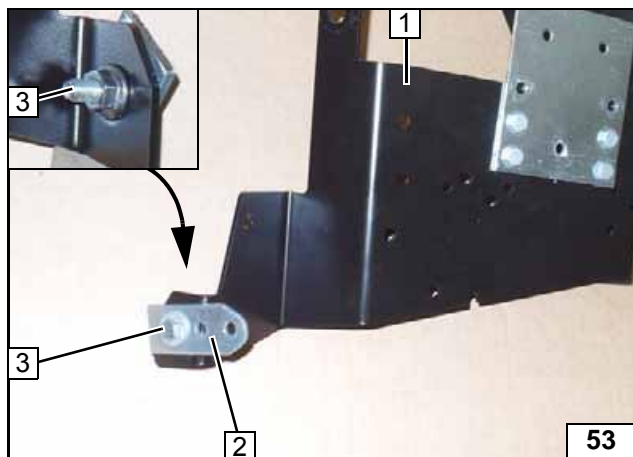
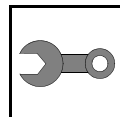


- 1 Device holder section
- 2 M6x12 bolt, flanged nut [4x each]

Premounting device holder

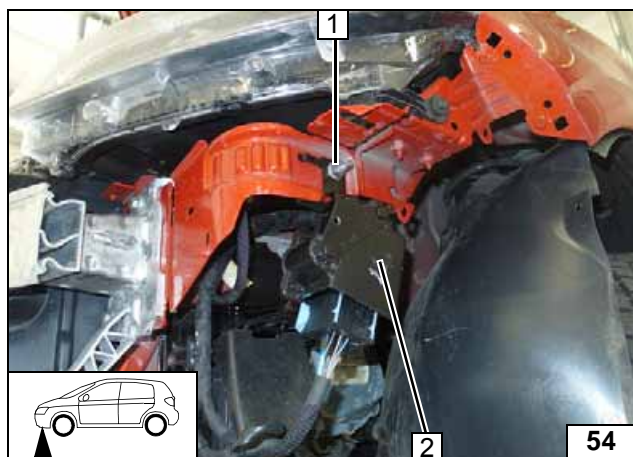


Cutting perforated bracket to length



- 1 Bracket
- 2 Perforated bracket
- 3 M6x12 bolt, flanged nut

Installing perforated bracket



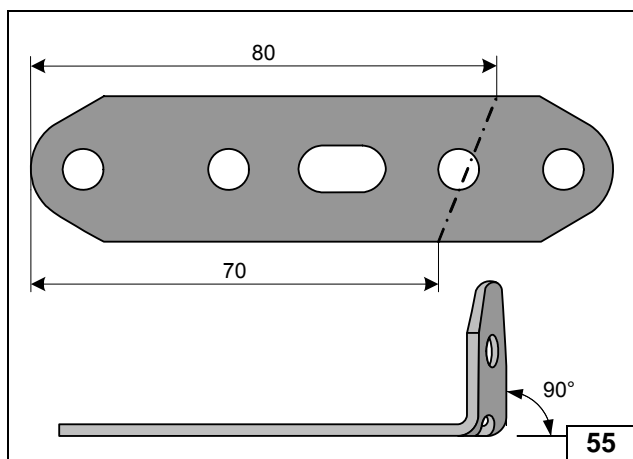
Diesel

Detach control unit 2 and put it aside.

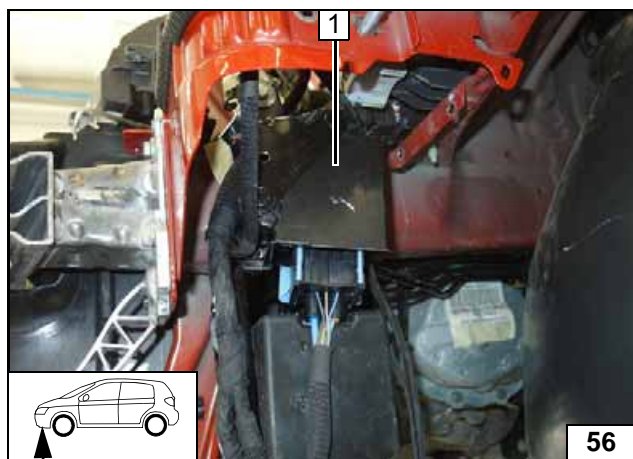
- 1 Original vehicle nut, will be reused.



Detaching control unit



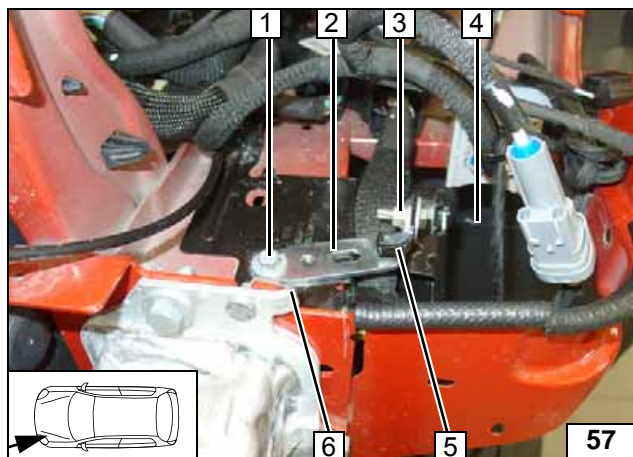
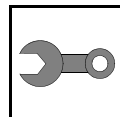
Bending perforated bracket



Position control unit 1 on frame side member as shown.



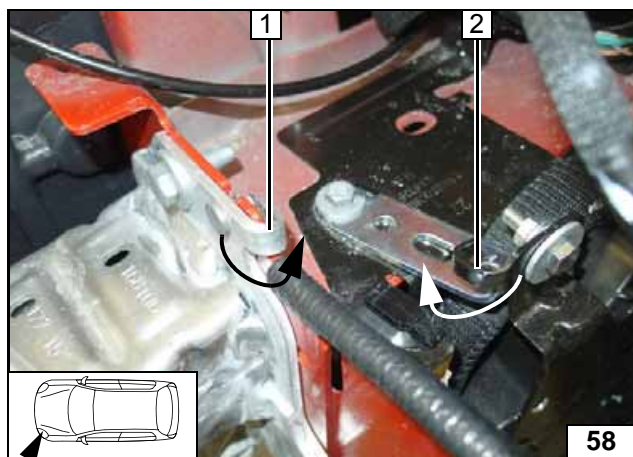
Installing control unit



Align control unit **4** vertically on frame side member.
Bend tabs **5** and **6** inwards as shown in the next figure.

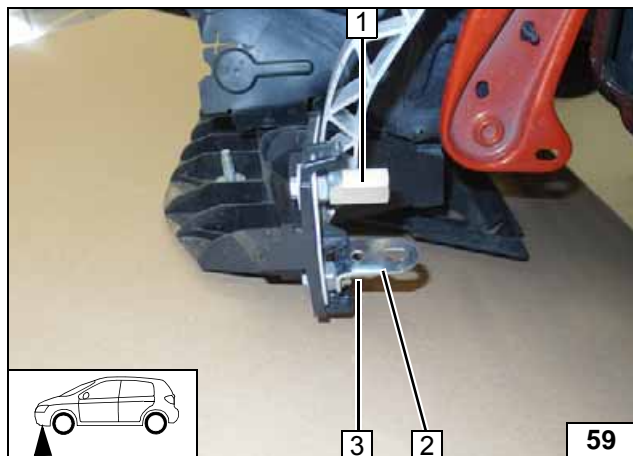
- 1 Original vehicle bolt
- 2 Perforated bracket
- 3 M6x20 bolt, large diameter washer, flanged nut

Installing control unit



Bend tabs **1** and **2**.

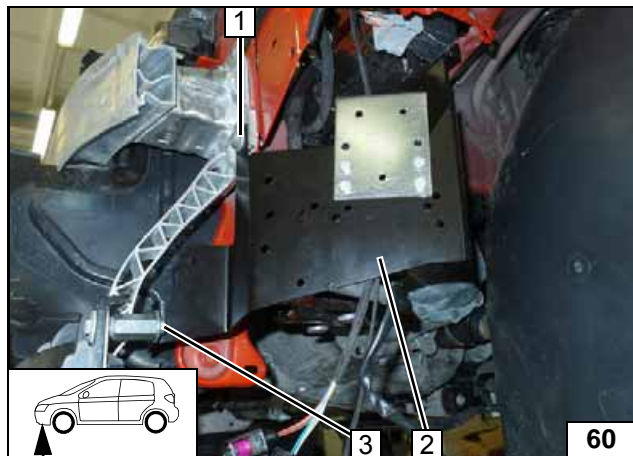
Bending tabs



All vehicles

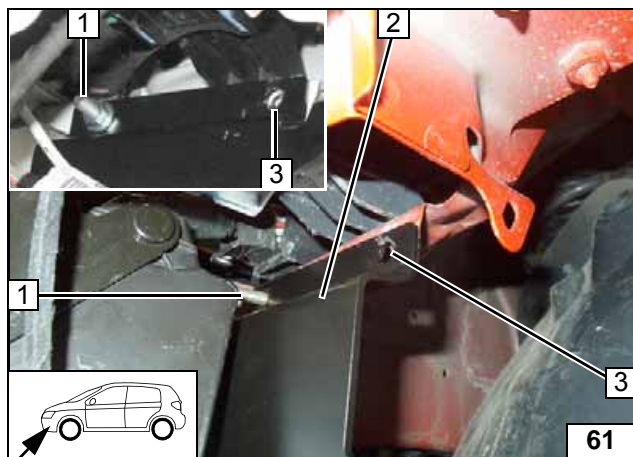
- 1 M6x30 spacer nut, existing bolt
- 2 Angle bracket
- 3 Mount existing bolt, flanged nut loosely

Installing spacer nut and angle bracket



- 1 Original vehicle M8 bolt
- 2 Bracket
- 3 M6x16 bolt, spring lockwasher

Installing bracket loosely

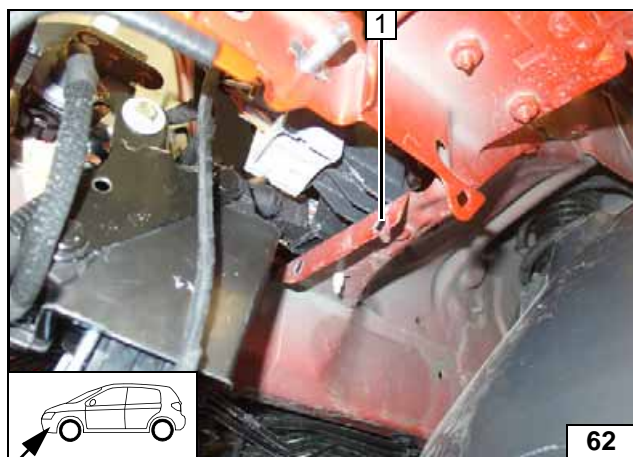


- 1 M6x20 bolt, flanged nut, existing hole
- 2 Bracket, installed loosely
- 3 Copy hole pattern



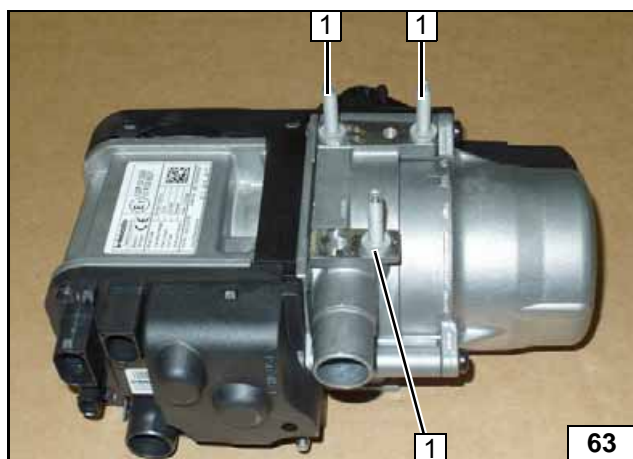
Dismantle bracket again.

Copying hole pattern



- 1 7 mm dia. hole

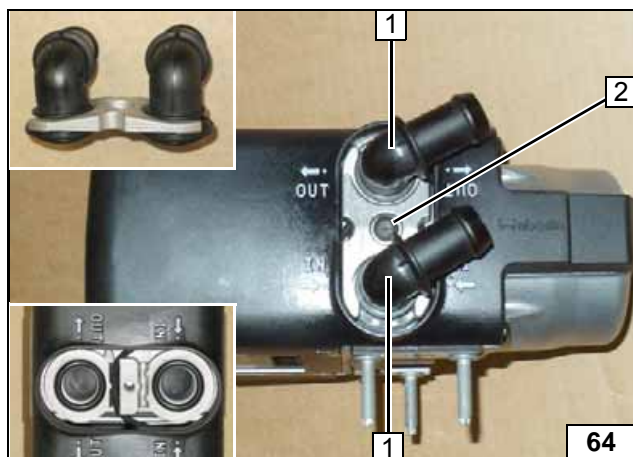
Drilling hole



Preparing Heater

- 1 M5/M6x25 self-tapping stud bolt [3x]

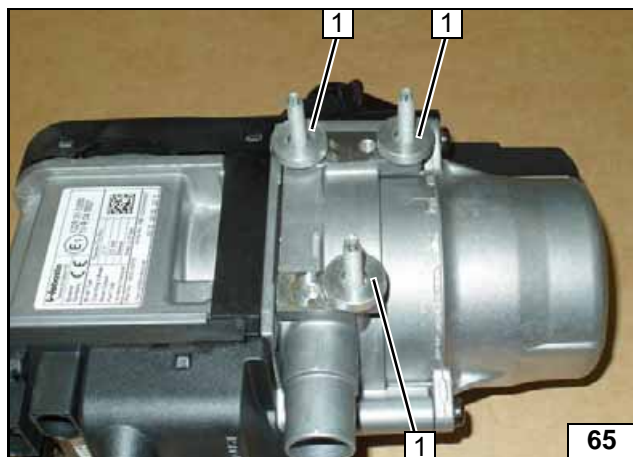
Installing stud bolt



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

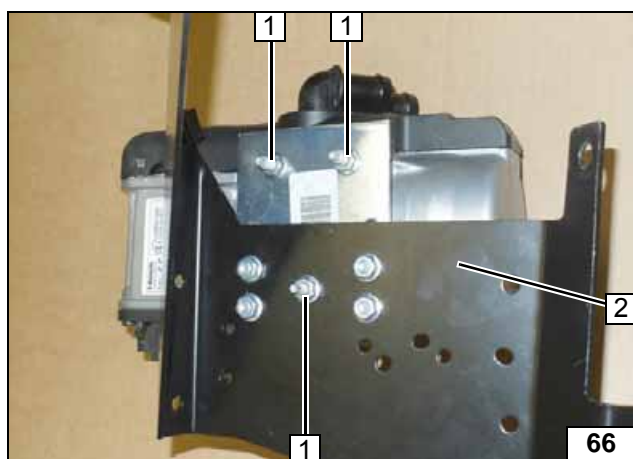


Installing water connection piece



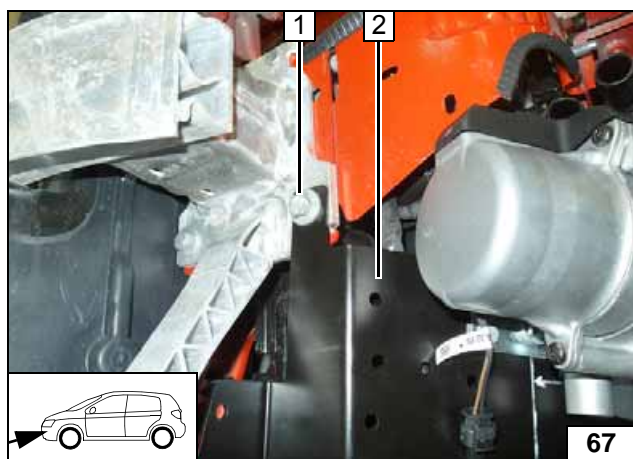
- 1 5 mm shim [3x]

Premounting shims



- 1 Flanged nut [3x]
- 2 Bracket

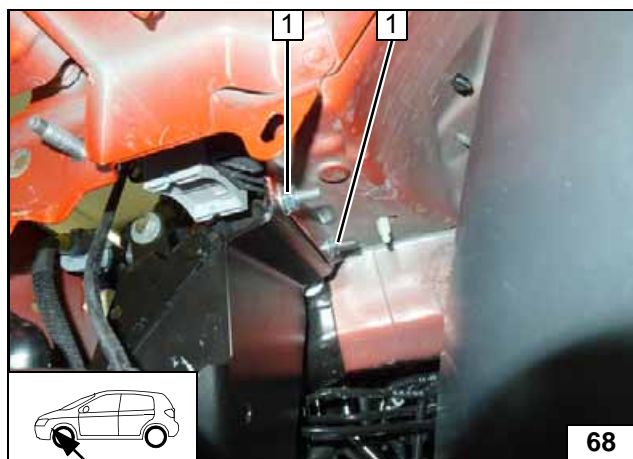
Installing bracket



Installing Heater

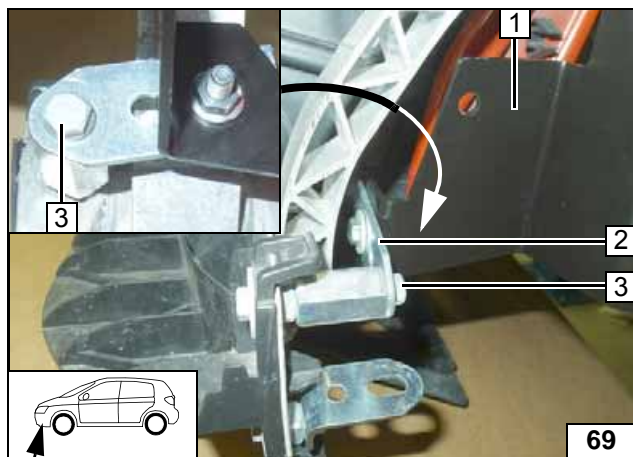
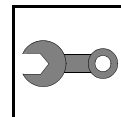
- 1 Install original vehicle M8 bolt loosely
- 2 Bracket with heater

Installing heater



- 1 Install M6x20 bolt, flanged nut, [2x each] loosely

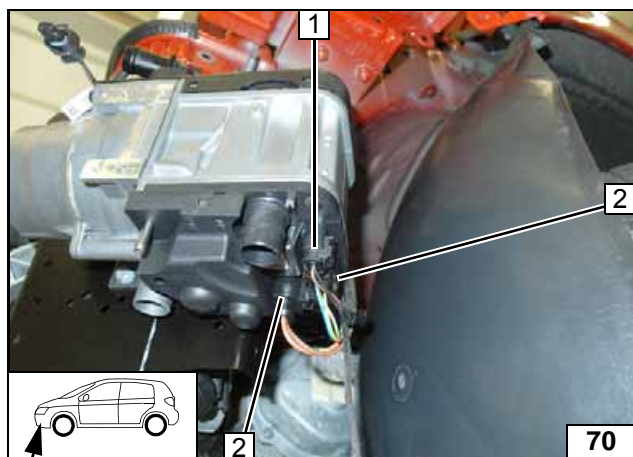
Installing heater



- 1 Bracket
- 2 Perforated bracket
- 3 M6x16 bolt, spring lockwasher

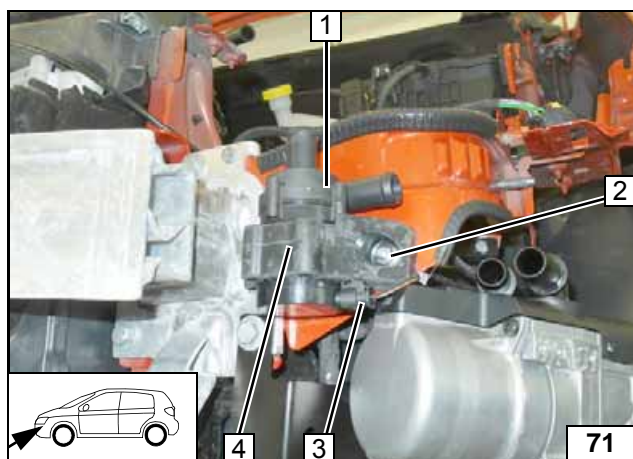
Align bracket and tighten all mounting bolts.

Installing heater



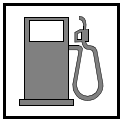
- 1 Connector of circulating pump wiring harness
- 2 Heater wiring harness connector [2x]

Installing heater wiring harness



- 1 Circulating pump
- 2 M6x25 bolt, flanged nut, original vehicle hole
- 3 Connector of circulating pump wiring harness
- 4 Circulating pump mount

Installing circulating pump



Fuel



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

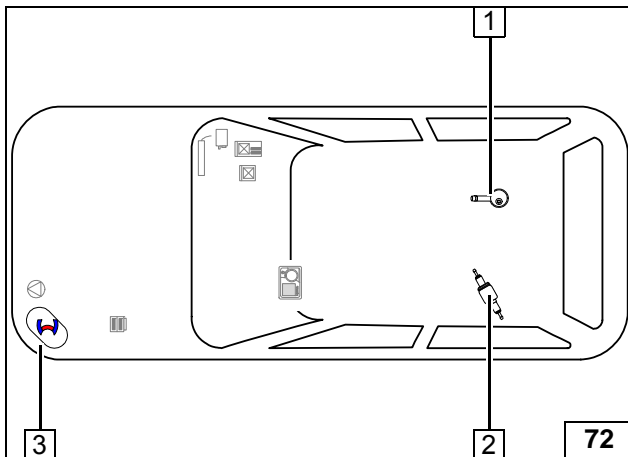
Catch any fuel running off in an appropriate container.



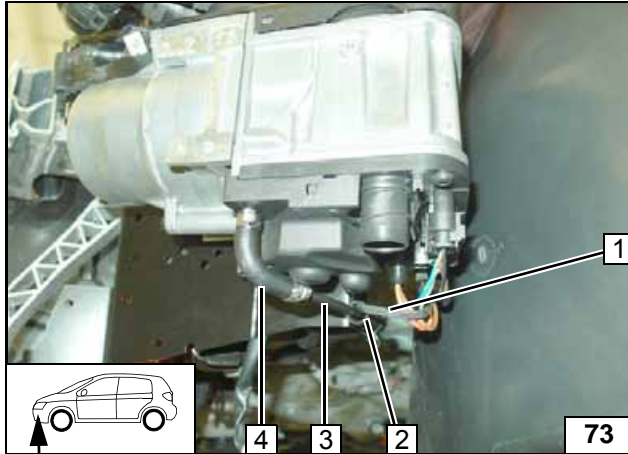
Route fuel line and metering pump wiring harness so that they are protected against stone impact. Unless specified otherwise, always fasten using cable ties.

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.

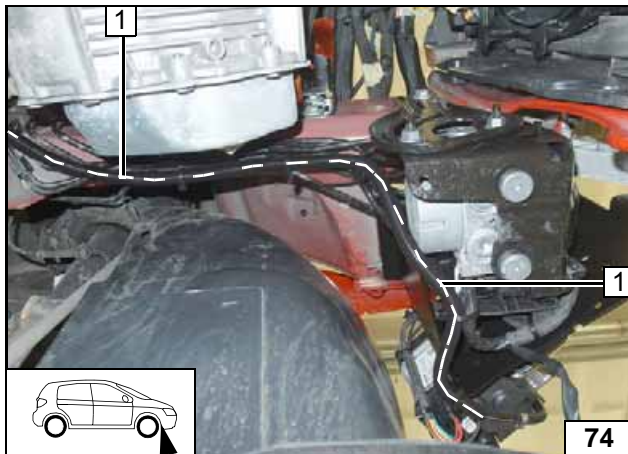


- 1 FuelFix
- 2 Metering pump
- 3 Heater



Pull fuel line 3 and wiring harness of metering pump 1 into 10 mm dia. corrugated tube 2.

- 4 90° moulded hose, 10mm dia. clamp [2x]



Route fuel line and wiring harness of metering pump in 10 mm dia. corrugated tube 1 along original vehicle brake line to underbody.



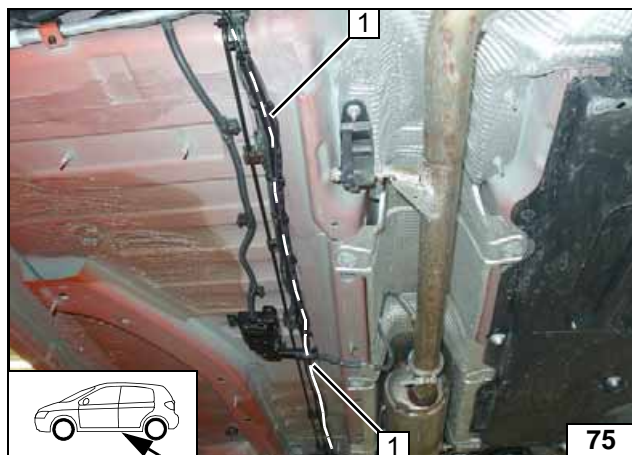
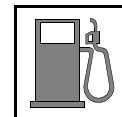
Installation overview



Connect heater

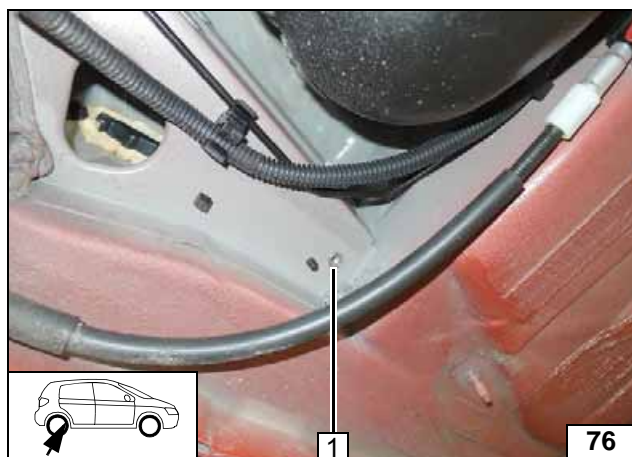


Routing lines



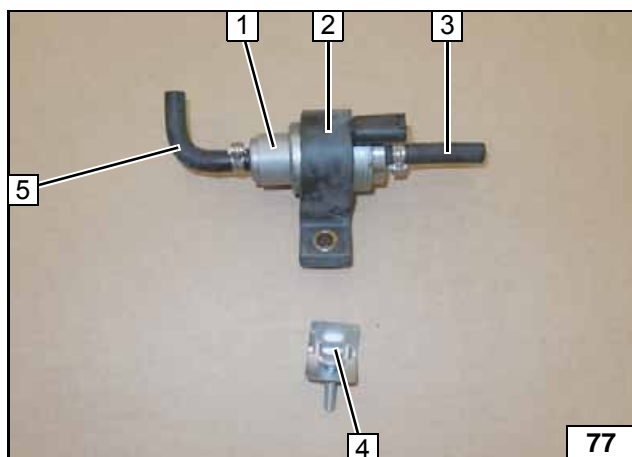
Route fuel line and wiring harness of metering pump in 10 mm dia. corrugated tube 1 on underbody to installation location of metering pump.

Routing lines



1 M6 rivet nut, existing hole

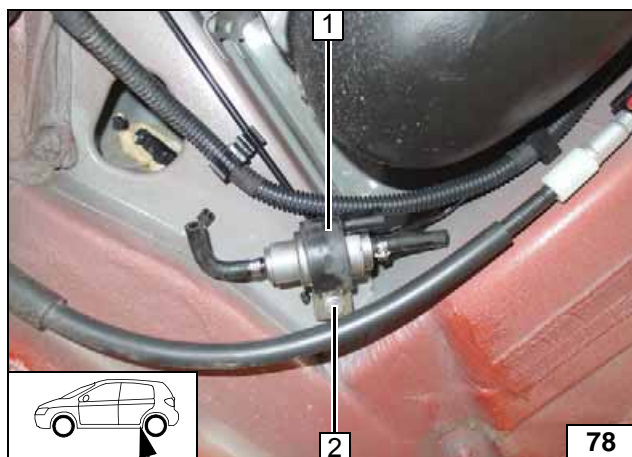
Installing rivet nut



- 1 Metering pump
- 2 Metering pump mount
- 3 Hose section, 10mm dia. clamp
- 4 M6x25 bolt, support angle bracket
- 5 Moulded hose, 10mm dia. clamp



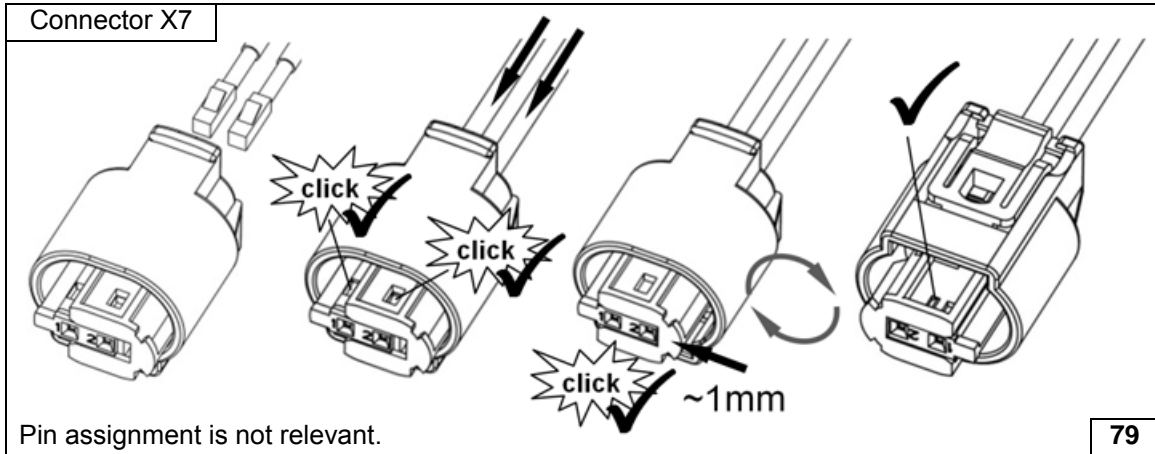
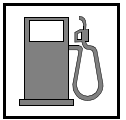
Premounting metering pump



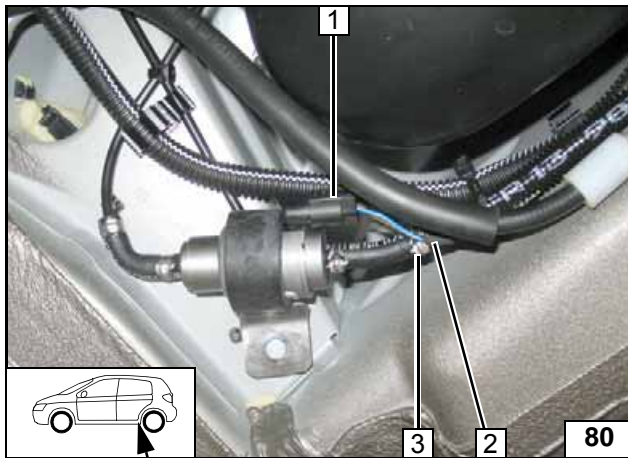
- 1 Metering pump mount
- 2 M6x25 bolt, support angle bracket



Installing metering pump



Completing metering pump connector

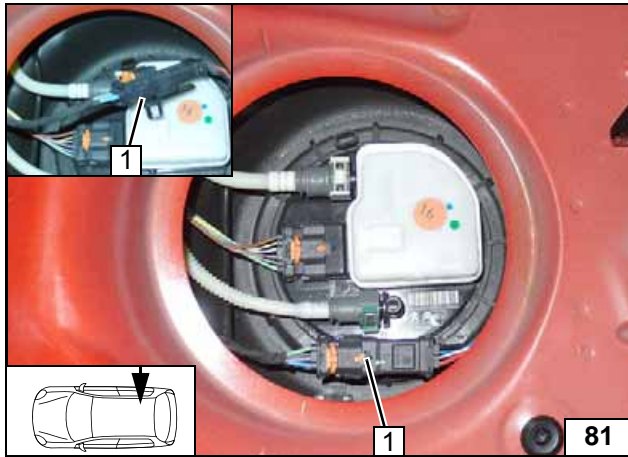


Check the position of the components; correct if necessary. Check that they have freedom of movement.

- 1 Metering pump wiring harness, connector X7 mounted
- 2 Fuel line of heater
- 3 10 mm dia. clamp



Connecting metering pump

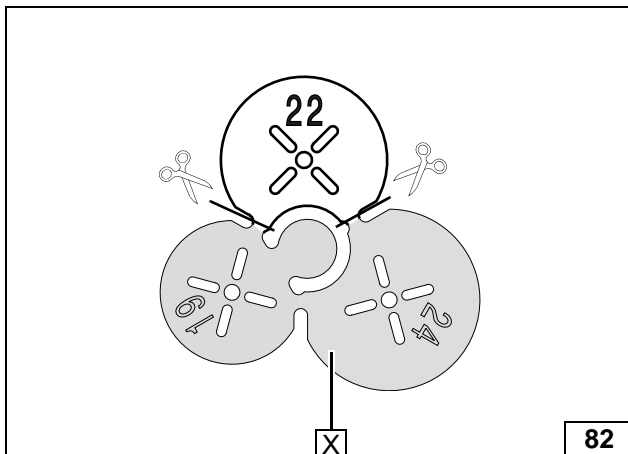


Installation of FuelFix for Diesel Vehicles

Detach connector 1 from bracket and put it aside.

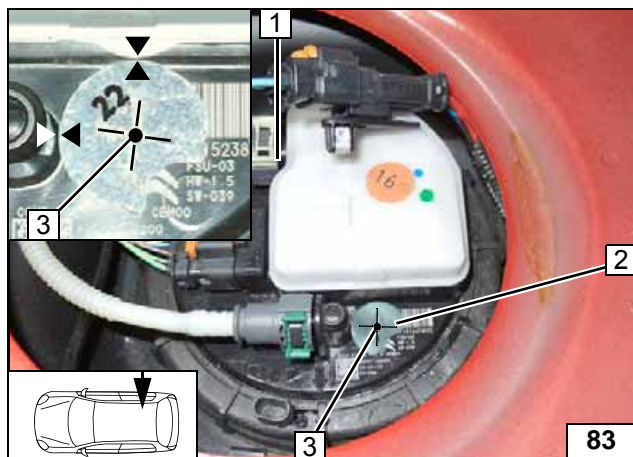
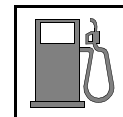


Detaching connector



X =

Preparing drilling template

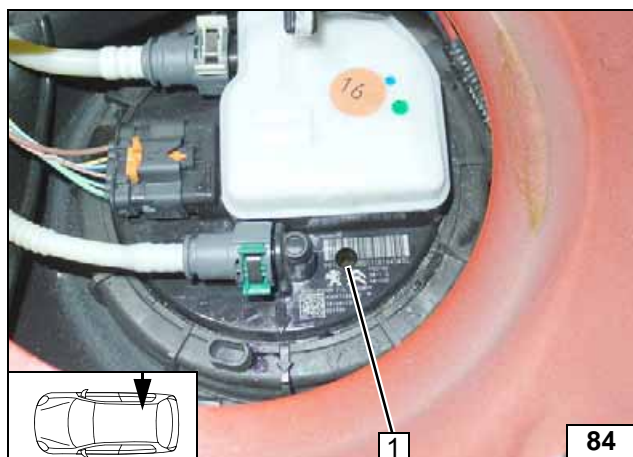


Work steps F1 and F2.

- 1 Fuel tank sending unit
- 2 Position 22mm dia. drilling template as shown
- 3 Copy hole pattern



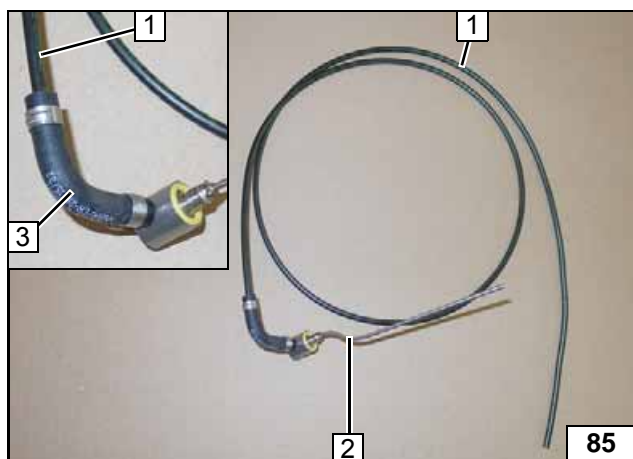
Copying hole pattern



Work step F3.

- 1 Hole made with provided drill

Hole for FuelFix

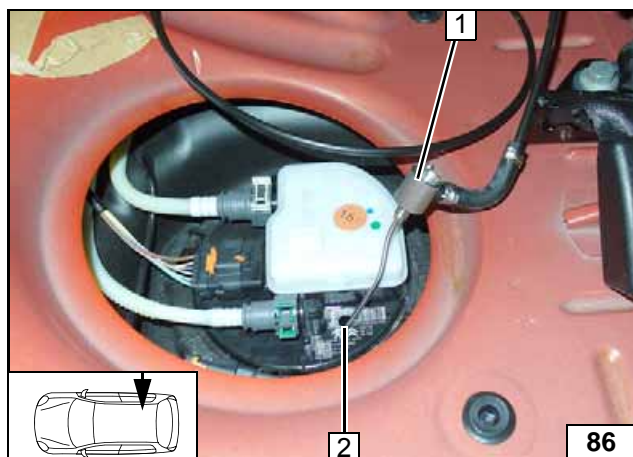


Work steps F4 and F6.

Bend FuelFix 2 according to template and cut to length.

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

Preparing FuelFix

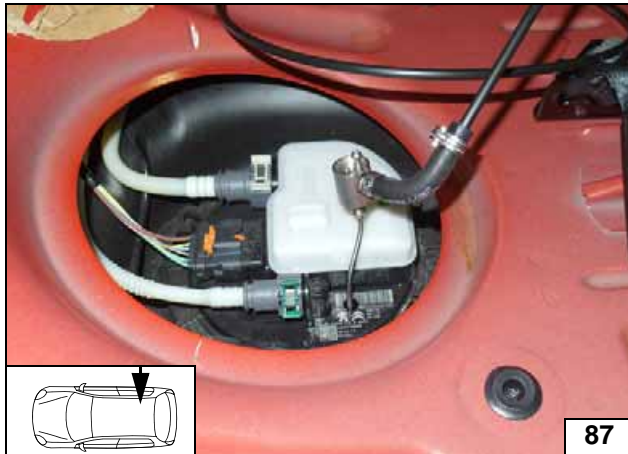
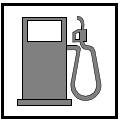


Work step F5.

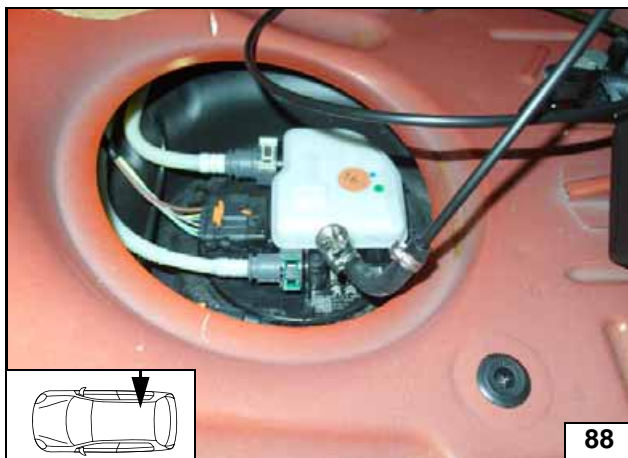
Insert FuelFix 1 into hole 2.

Inserting FuelFix

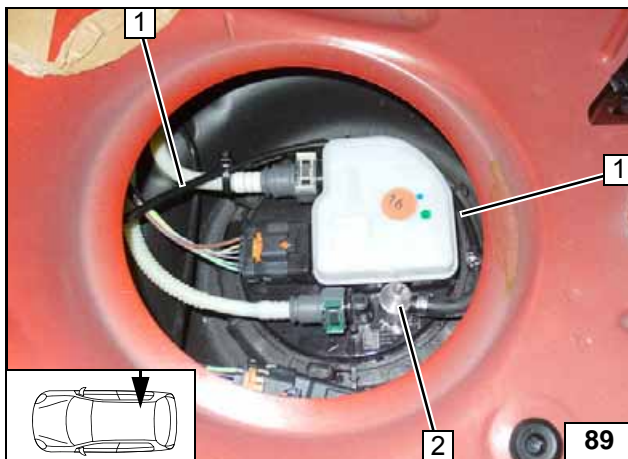




Inserting FuelFix



Inserting FuelFix



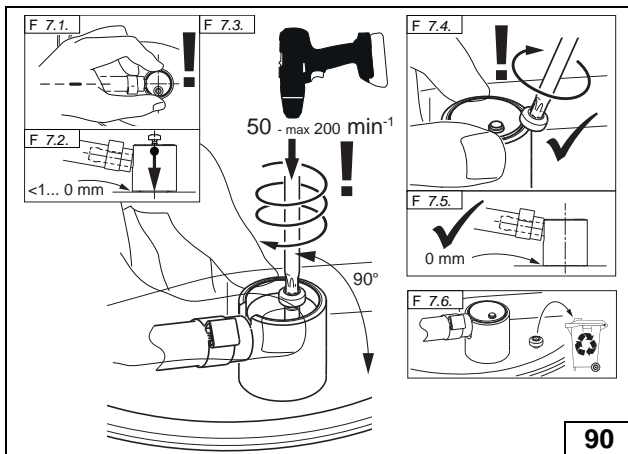
Work steps F5.3 and F5.4.

Align FuelFix 2 as shown.
Route FuelFix fuel line 1 to installation location of metering pump.



Aligning FuelFix/
routing line

Work step F7.



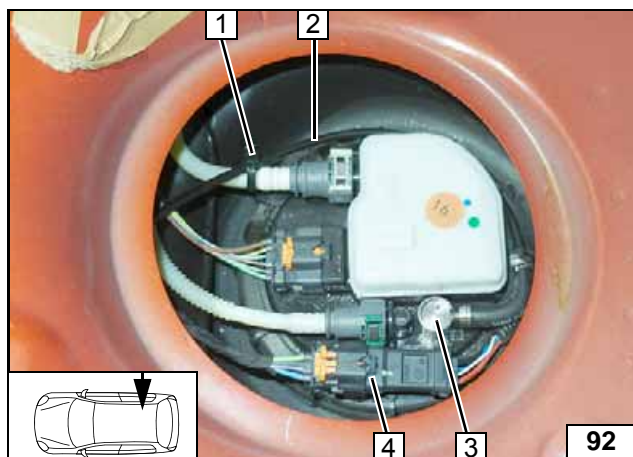
Installing FuelFix





Work step F8.

Ensuring firm seating of FuelFix

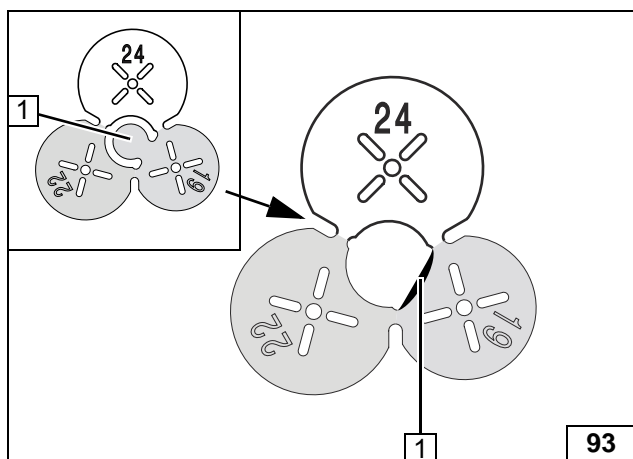


Attach original vehicle connector 4.



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

Securing fuel line



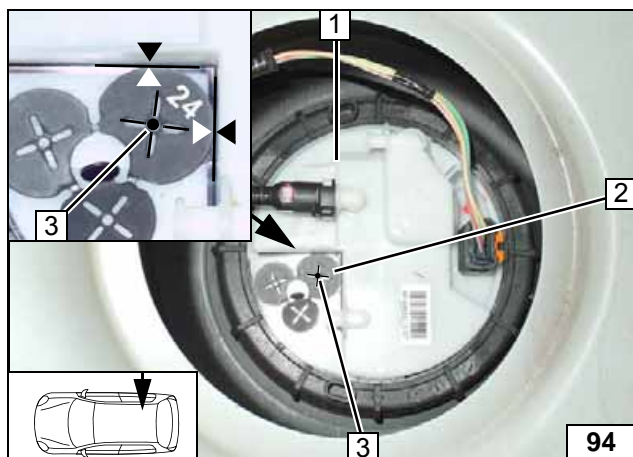
Installation of FuelFix for Petrol Vehicles



Work step F2.1.

Bend tab 1 upwards.

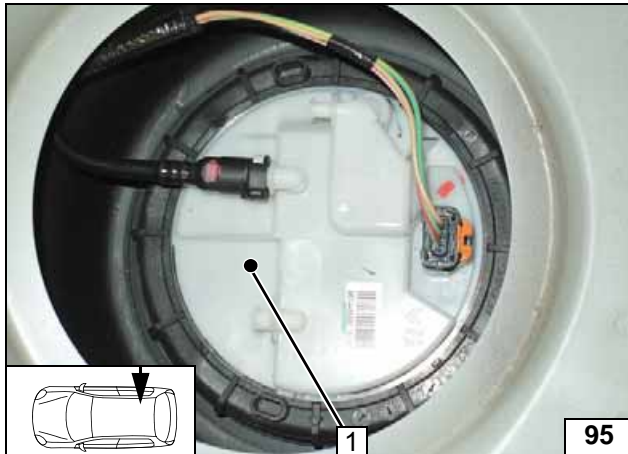
Preparing drilling template



Work steps F1 and F2.

- 1 Fuel tank sending unit
- 2 Position 24mm dia. drilling template as shown
- 3 Copy hole pattern

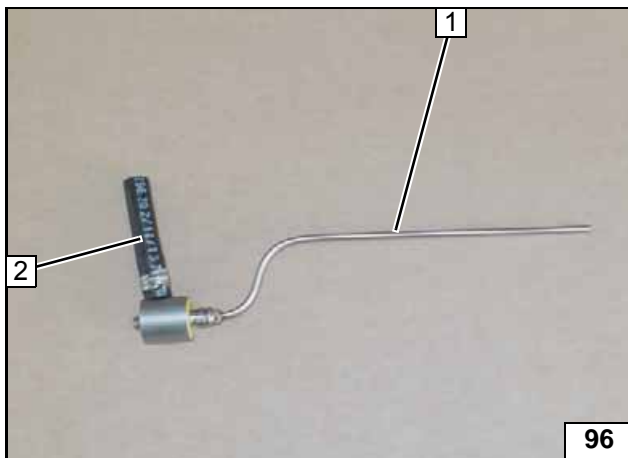
Copying hole pattern



Work step F3.

- 1 Hole made with provided drill

Hole for FuelFix

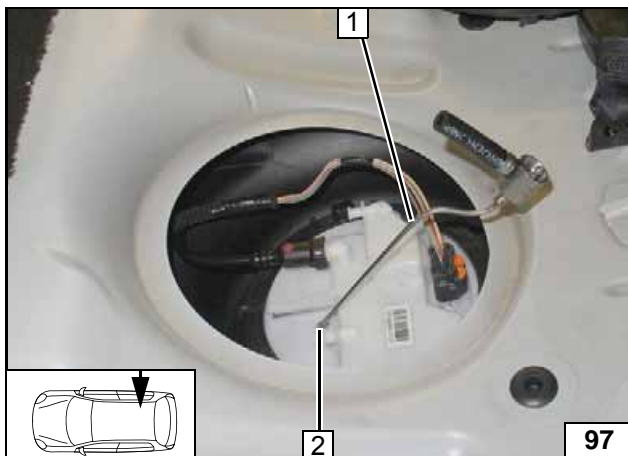


Work steps F4 and F6.1.

Bend FuelFix 1 according to template and cut to length.

- 2 90° moulded hose, 10 mm dia. clamp

Preparing FuelFix



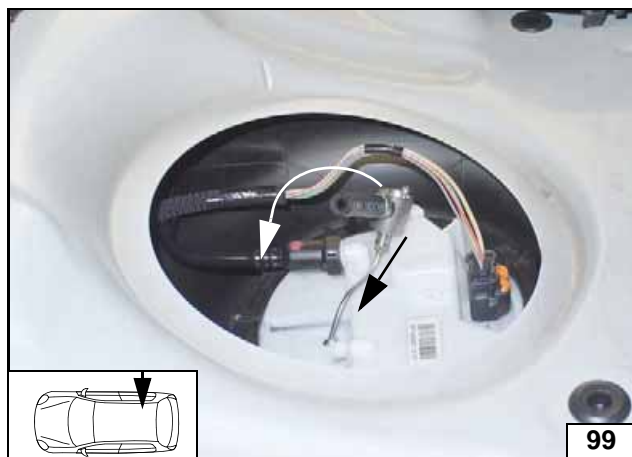
Work step F5.

Insert FuelFix 1 into hole 2.

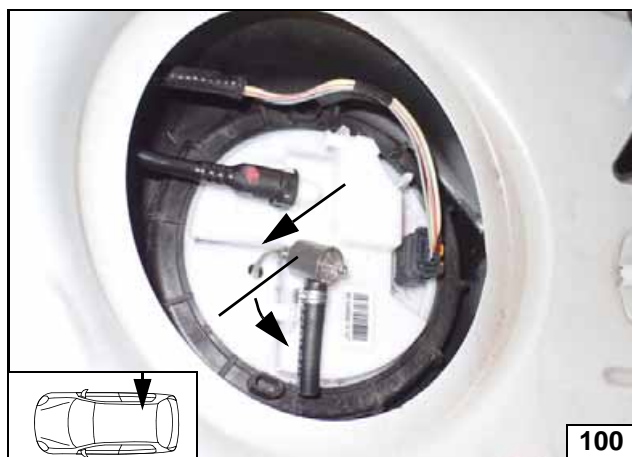
Inserting FuelFix



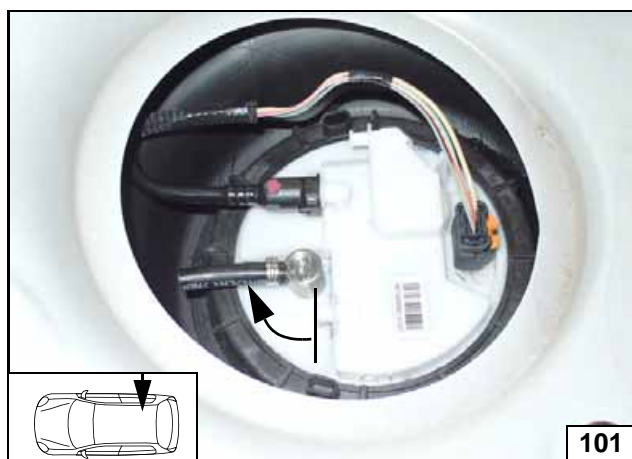
Inserting FuelFix



Inserting FuelFix



Inserting FuelFix

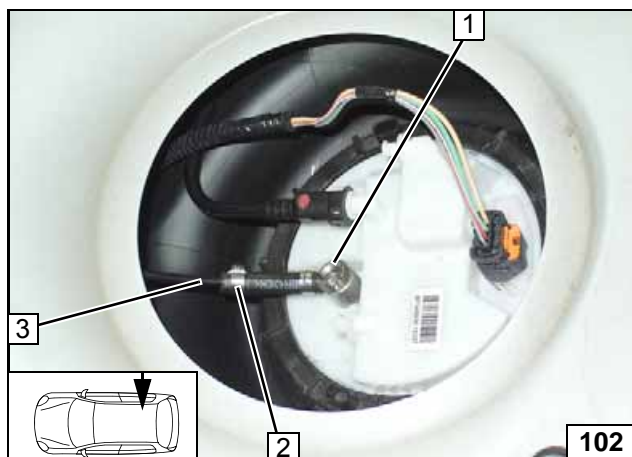


Work steps F5.3 and F5.4.

Align FuelFix as shown.



Inserting/
aligning
FuelFix

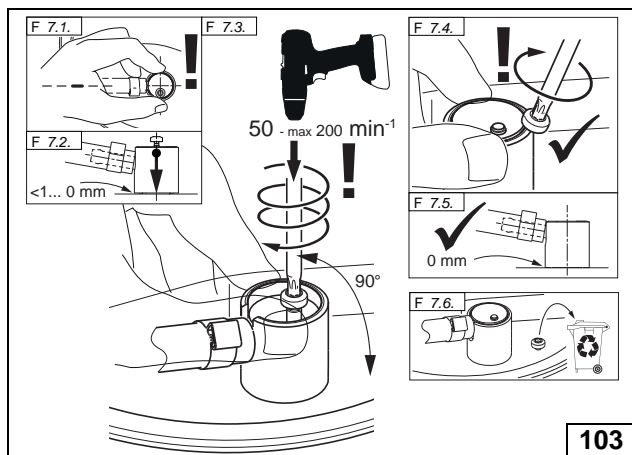


Work step F6.2.

- 1 FuelFix
- 2 10 mm dia. clamp
- 3 Fuel line



Connect-
ing fuel line



Work step F7.

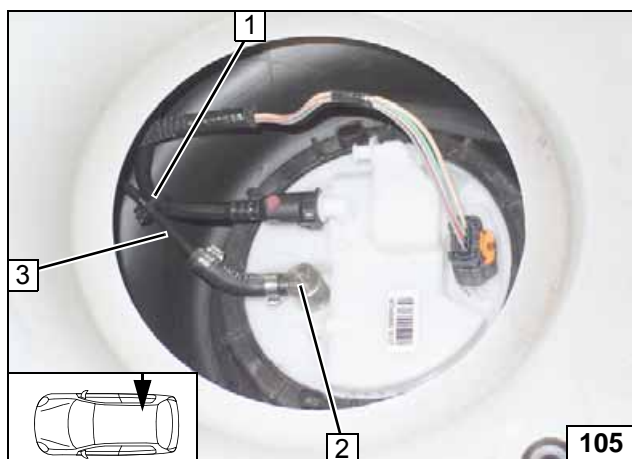


Installing FuelFix



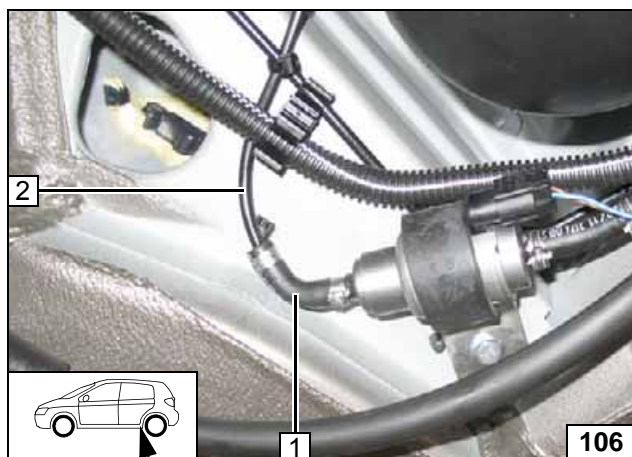
Work step F8.

Ensuring firm seating of FuelFix



- 1 Cable tie as tension relief
- 2 FuelFix installed
- 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 90° moulded hose, 10 mm dia. clamp [2x]
- 2 Fuel line of FuelFix



Connecting metering pump



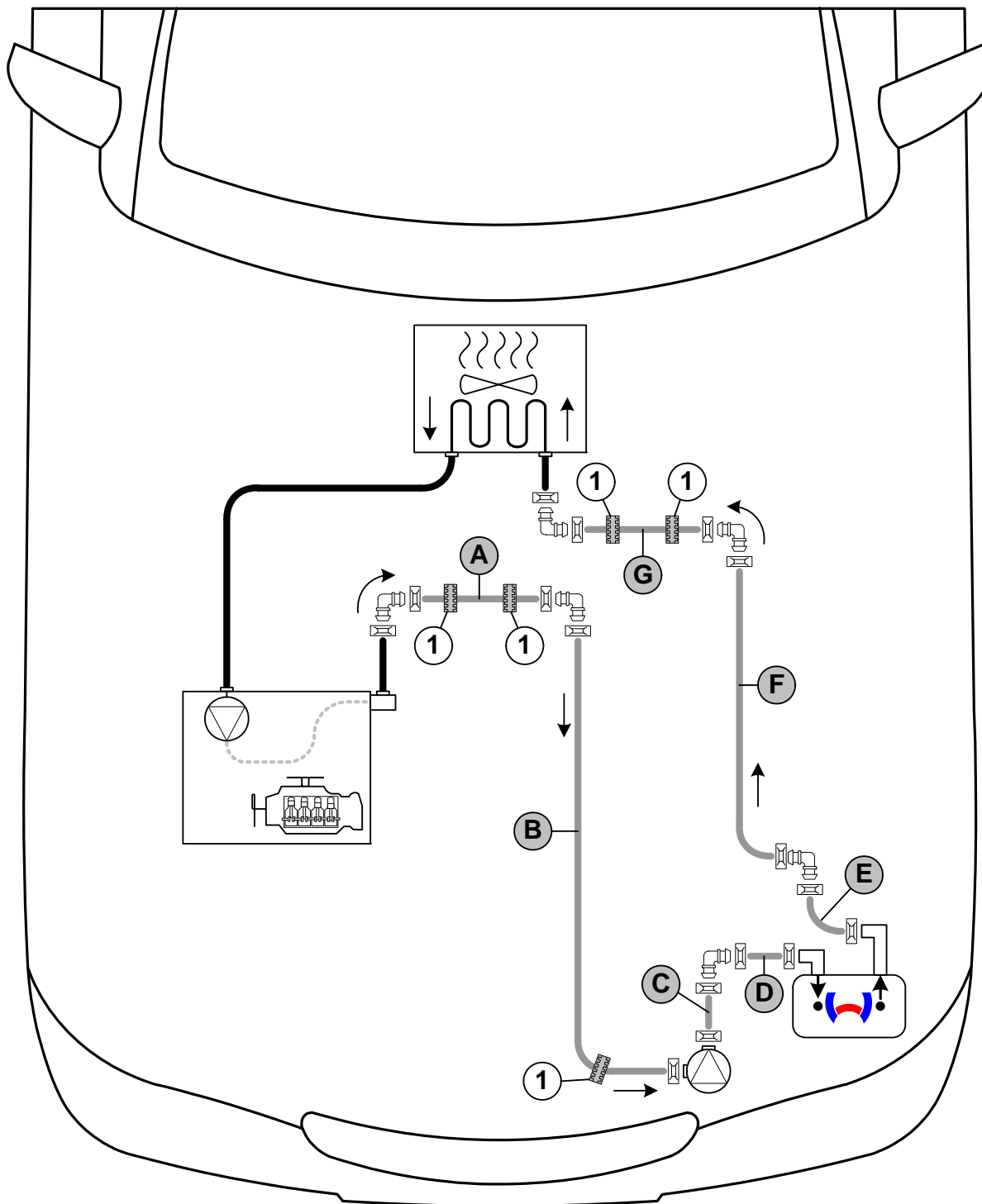
Coolant Circuit






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



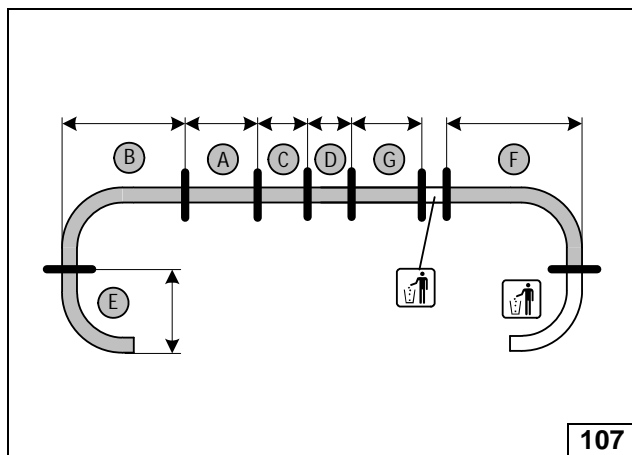
The connection should be modelled on an 'inline' circuit and based on the following diagram:



Hose routing diagram

All spring clips  = 25 mm dia. All connecting pipes  = 18x18 mm dia.
 1 = Black (sw) rubber isolator .

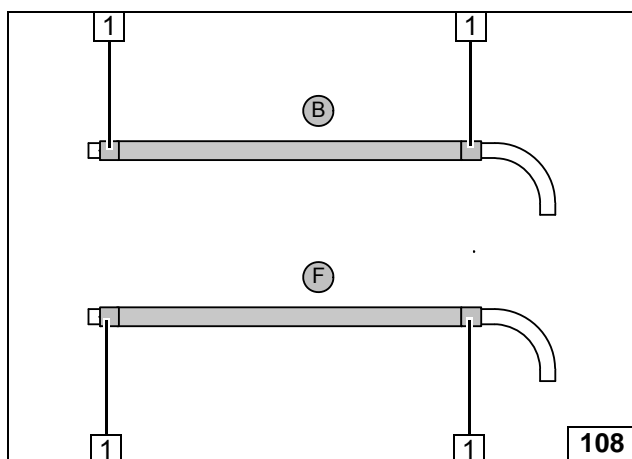




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	1.4 / 1.6 P 1.6 D	1.0 / 1.2 P
A	220	320
B	690	690
C	60	60
D	70	70
E	65	65
F	750	750
G	220	220

Cutting hoses to length



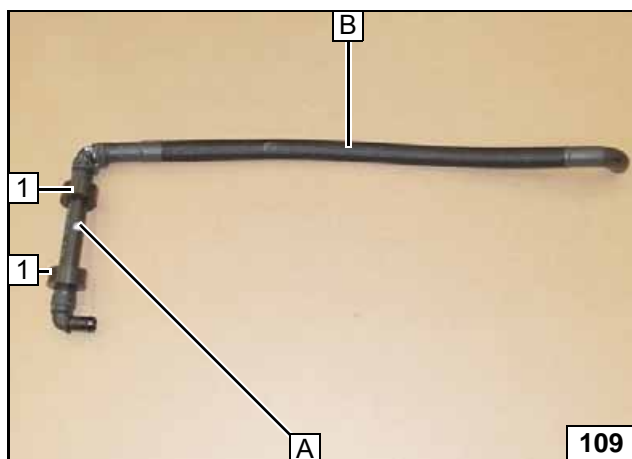
108

Slide on braided protection hoses and cut to length.



- 1 Cut heat shrink plastic tubing to size, 50mm long [4x]

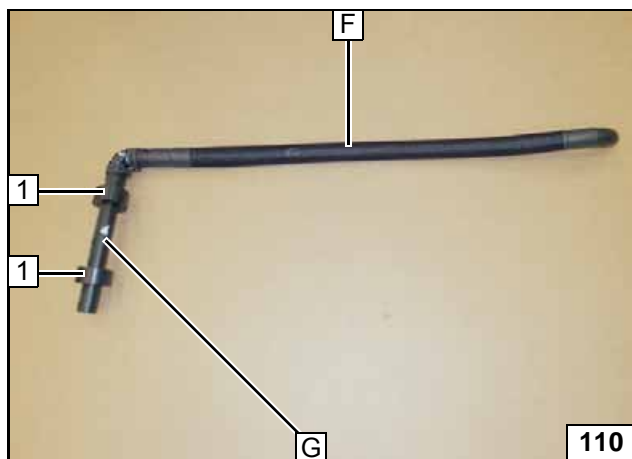
Preparing hoses



109

- 1 Black (sw) rubber isolator [2x]

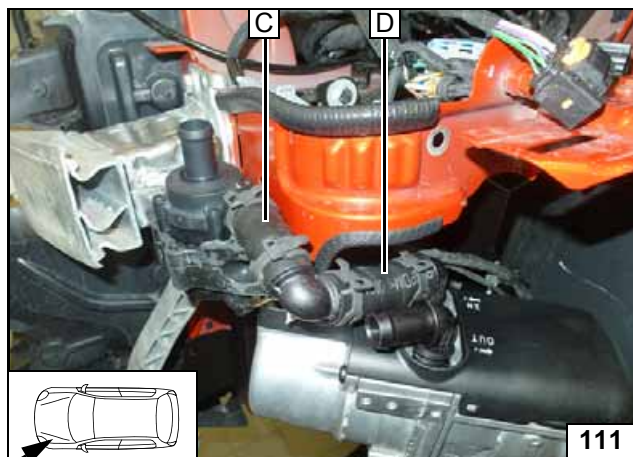
Premounting hoses



110

- 1 Black (sw) rubber isolator [2x]

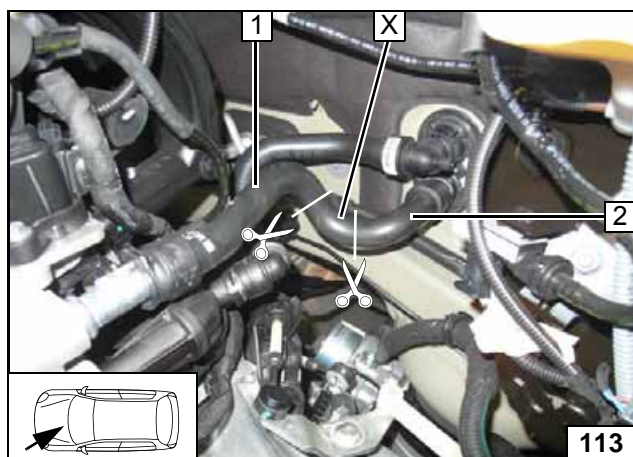
Premounting hoses



Connecting heater inlet / circulating pump outlet



Connecting heater outlet



1.0 and 1.2 petrol

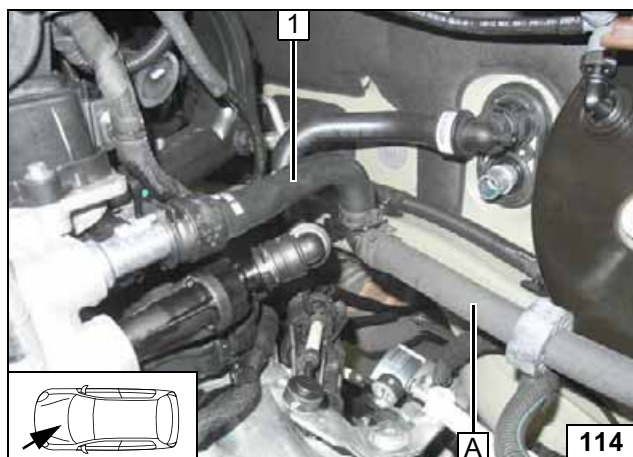
Cut off hose of engine outlet / heat exchanger inlet at the markings.

- 1 Engine outlet hose section
- 2 Heat exchanger inlet hose section

X = (90° elbow)



Cutting point

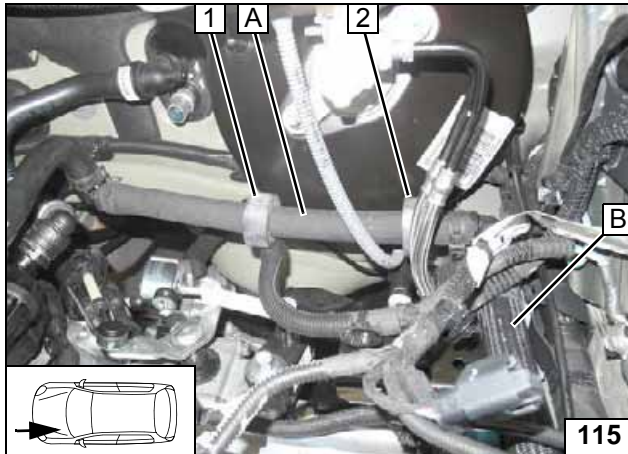


Route hose as shown in next figures.

- 1 Engine outlet hose

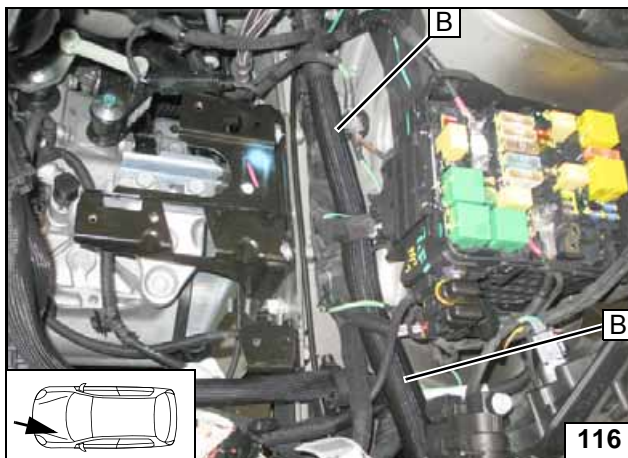


Connecting engine outlet

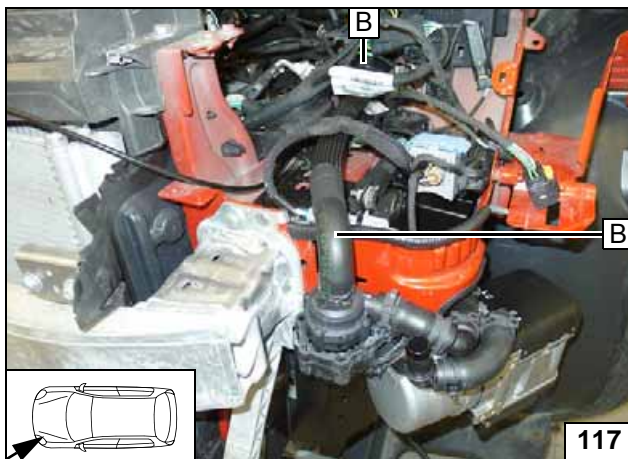


- 1 Align black (sw) rubber isolator to original vehicle wiring harness
- 2 Align black (sw) rubber isolator to original vehicle brake lines

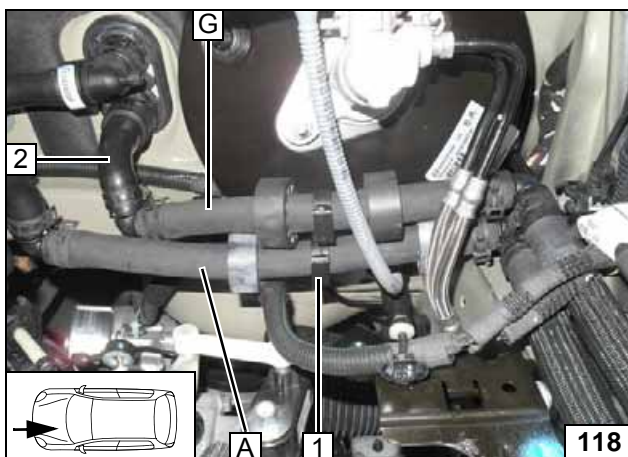
Routing in engine compartment



Routing hose B

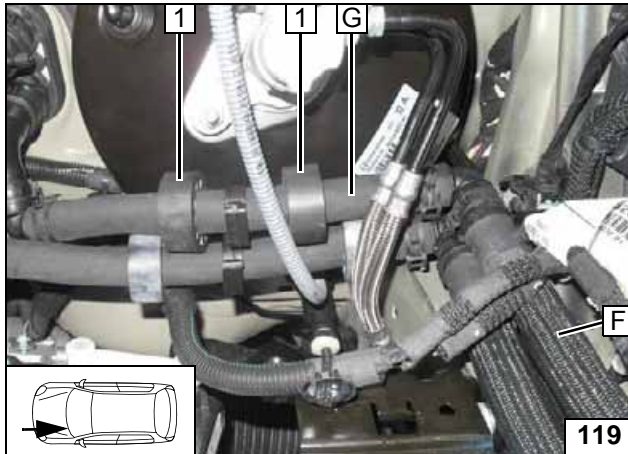
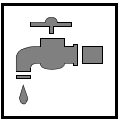


Connecting circulating pump inlet



- 1 Install hose bracket
- 2 Heat exchanger inlet hose

Connecting heat exchanger inlet

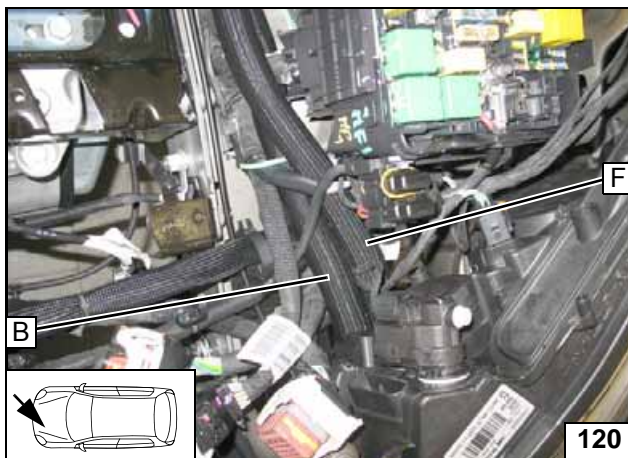


Align hoses.
Ensure sufficient distance from neighbouring components, correct if necessary.



Align black (sw) rubber isolator [2x] 1 with brake booster.

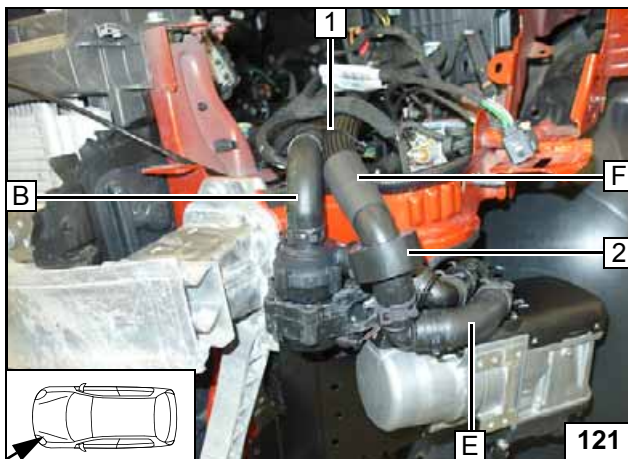
Routing in engine compartment



Route hose F to the heater below the headlight.

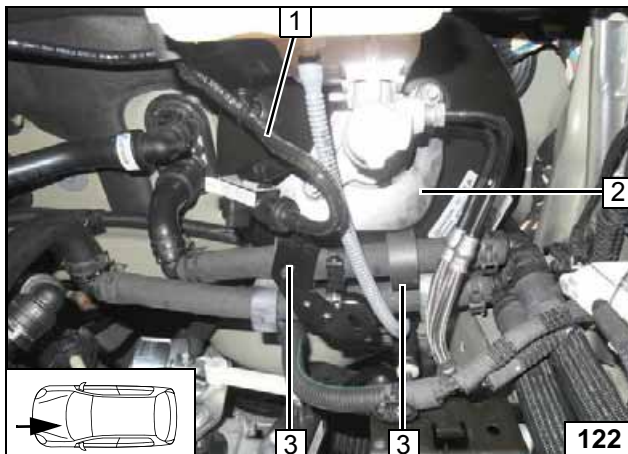


Routing in engine compartment



- 1 Cable tie
- 2 Align black (sw) rubber isolator

Connecting heater outlet

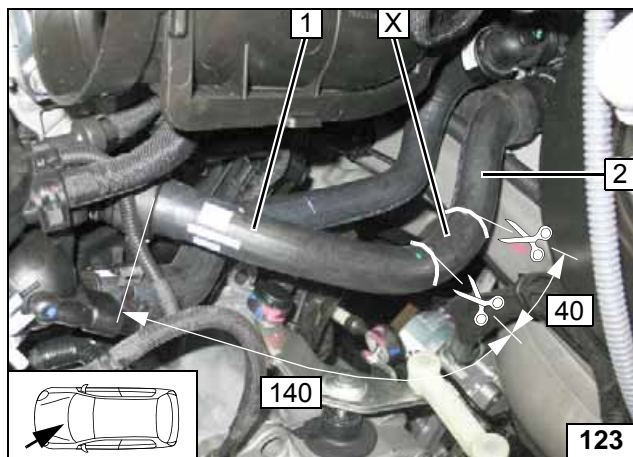


Insert original vehicle bracket 2 on brake booster.



Attach original vehicle vacuum line 1.
Align black rubber isolator 3 [2x] (1x hidden behind bracket) with bracket.

Installing bracket



1.4 and 1.6 petrol

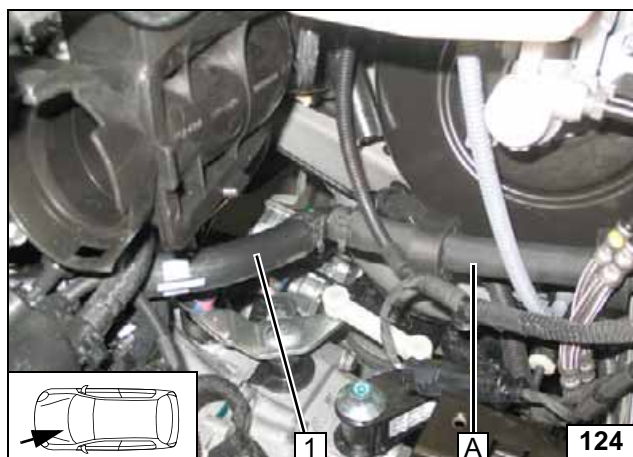
Cut off hose of engine outlet / heat exchanger inlet at the markings.

- 1 Engine outlet hose section
- 2 Heat exchanger inlet hose section

X =



Cutting point

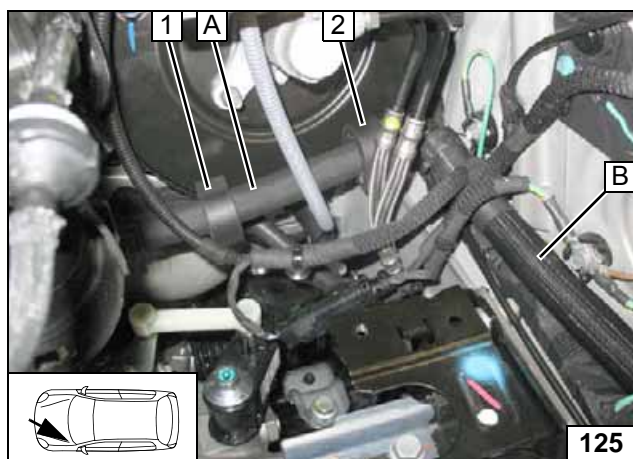


Route hose as shown in next figures.

- 1 Engine outlet hose



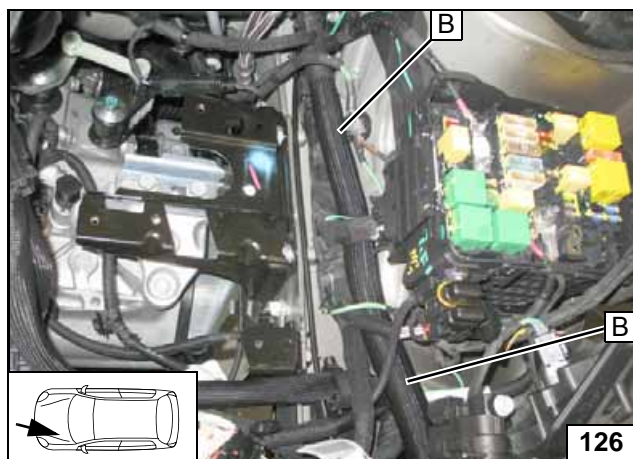
**Connect-
ing engine
outlet**



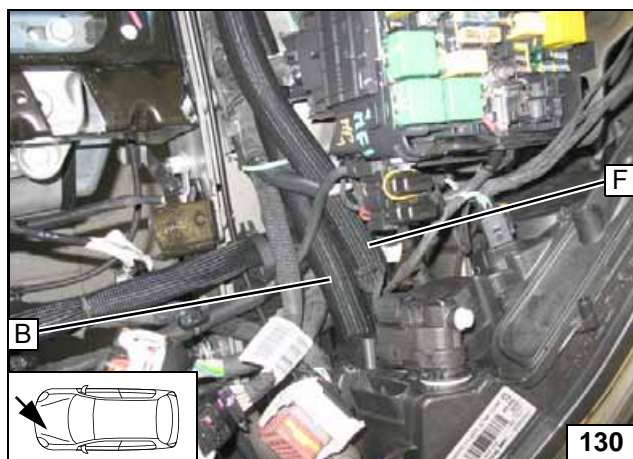
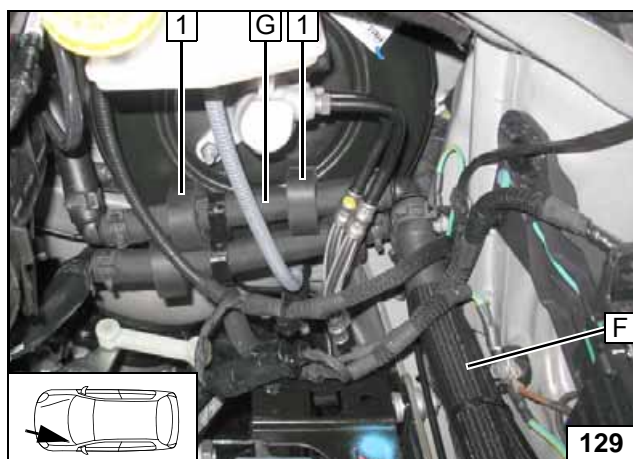
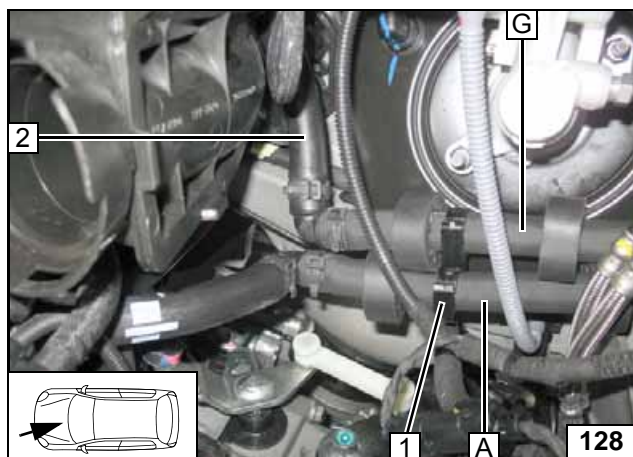
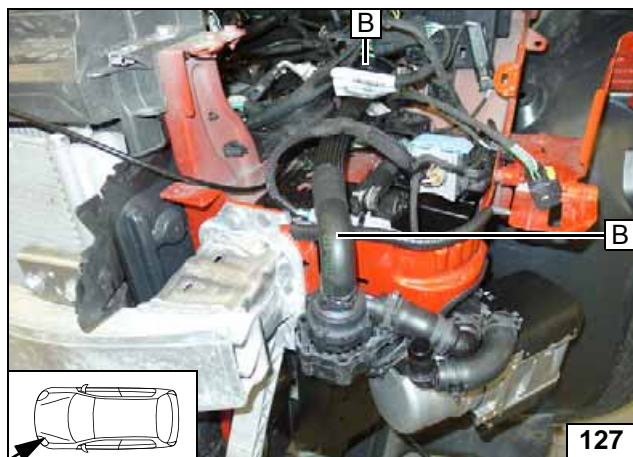
- 1 Align black (sw) rubber isolator to original vehicle wiring harness
- 2 Align black (sw) rubber isolator to original vehicle brake lines



**Routing in
engine
compartment**



**Routing
hose B**



Connecting circulating pump inlet

- 1 Install hose bracket
- 2 Heat exchanger inlet hose

Connecting heat exchanger inlet

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



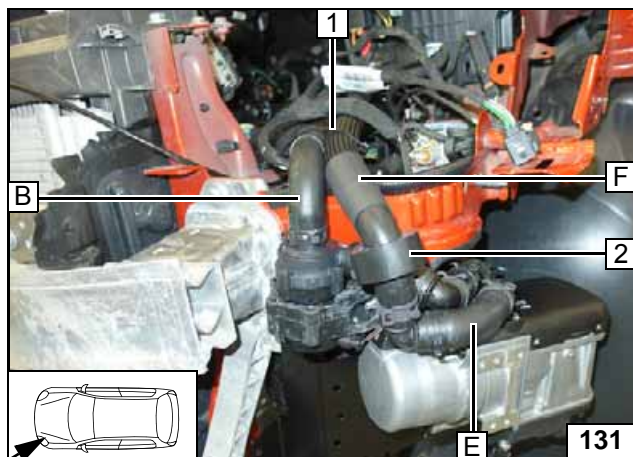
Align black (sw) rubber isolator [2x] 1 with brake booster.

Routing in engine compartment

Route hose F to the heater below the headlight.

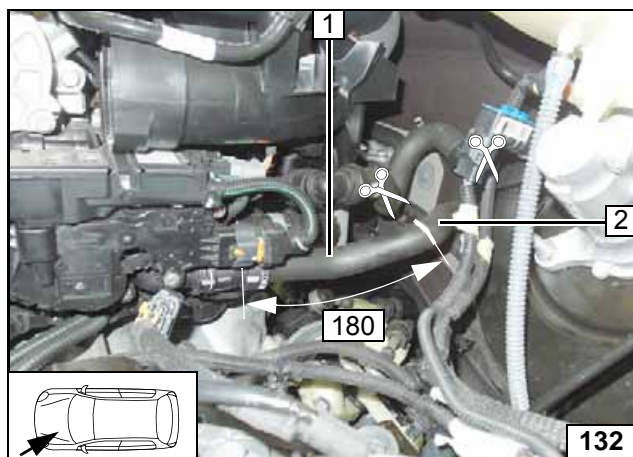


Routing in engine compartment



- 1 Cable tie
- 2 Align black (sw) rubber isolator

Connecting heater outlet



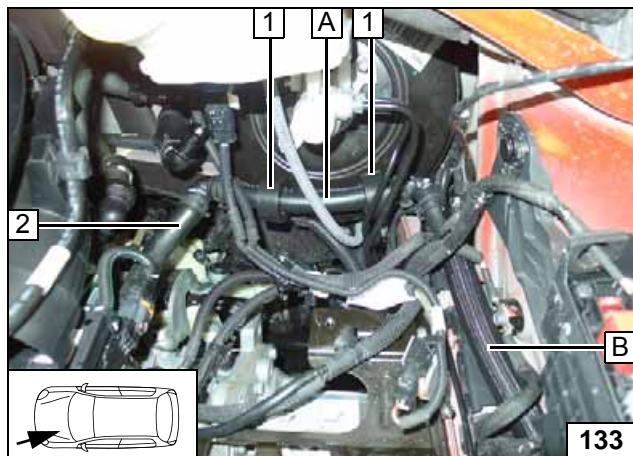
1.6 Diesel

Cut off hose of engine outlet/heat exchanger inlet at the marking.

- 1 Engine outlet hose section
- 2 Heat exchanger inlet hose section



Cutting point

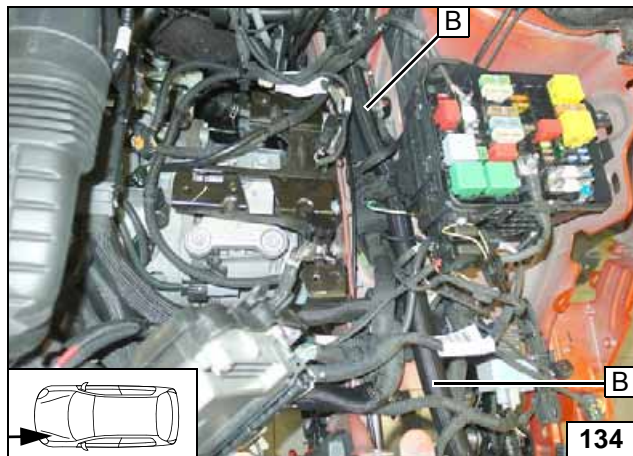


Route hose as shown in next figures.

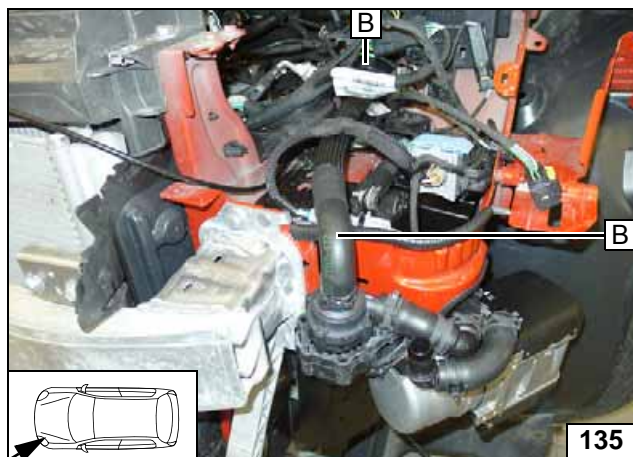
- 1 Align black (sw) rubber isolator [2x]
- 2 Engine outlet hose section



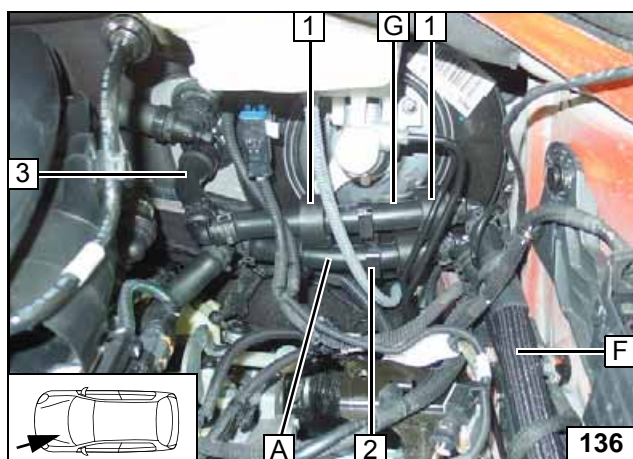
Connecting engine outlet



Routing in engine compartment

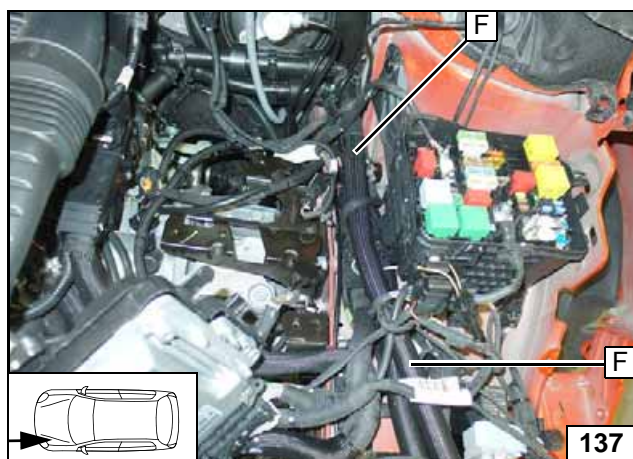


Connecting circulating pump inlet

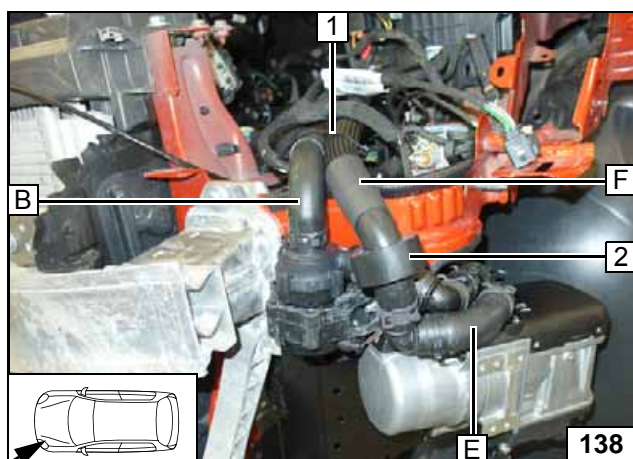


- 1 Align black (sw) rubber isolator [2x]
- 2 Rotatable/lockable 25x25 hose bracket
- 3 Heat exchanger inlet hose section

Connecting heat exchanger inlet

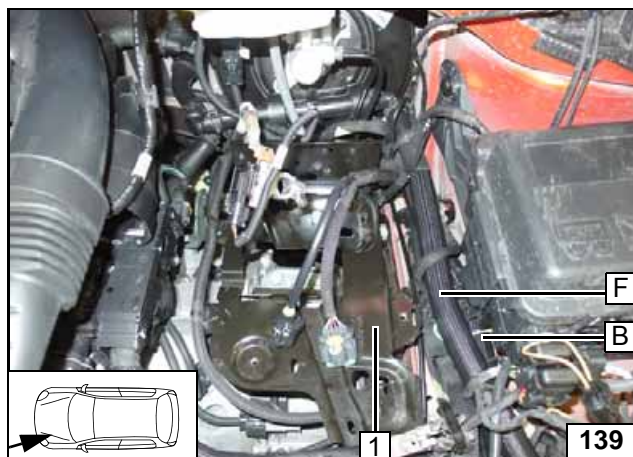


Routing in engine compartment



- 1 Cable tie
- 2 Align black (sw) rubber isolator

Connecting heater outlet



All vehicles

Next description is accompanied by diesel vehicle images but applies to all vehicles!

- 1 Battery console



Positioning battery console

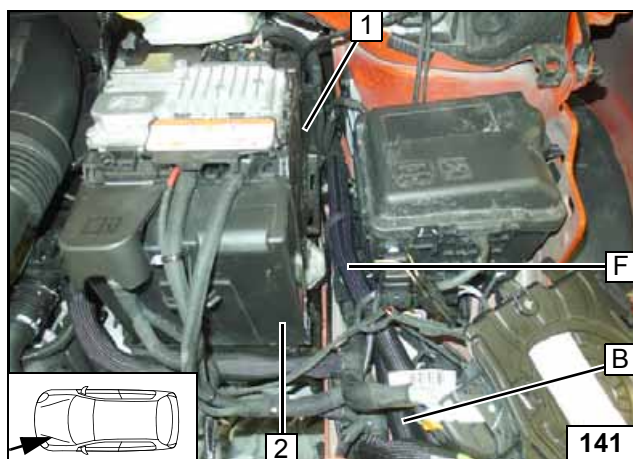


Align hoses.
Ensure sufficient distance from neighbouring components, correct if necessary.

- 1 Battery mount



Installing battery mount

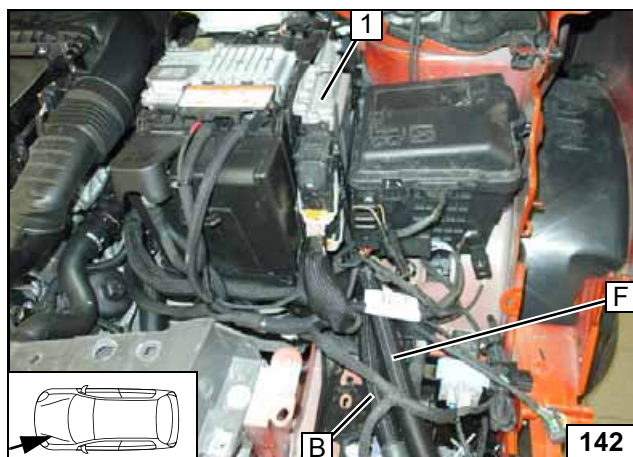


Align hoses.
Ensure sufficient distance from neighbouring components, correct if necessary.

- 1 Battery
- 2 Battery trim



Installing battery

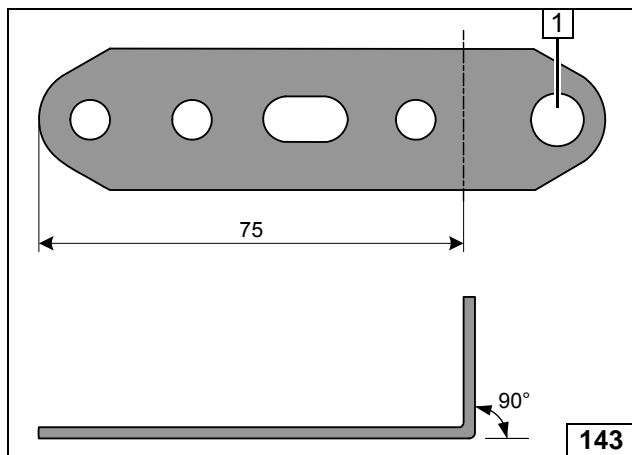
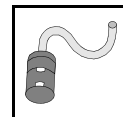


Align hoses.
Ensure sufficient distance from neighbouring components, correct if necessary.

- 1 Control unit



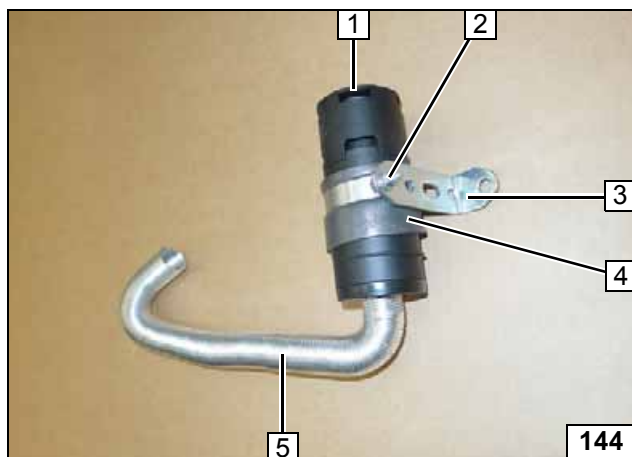
Installing control unit



Combustion Air

- 1 Drill out hole to 8.5 mm dia.

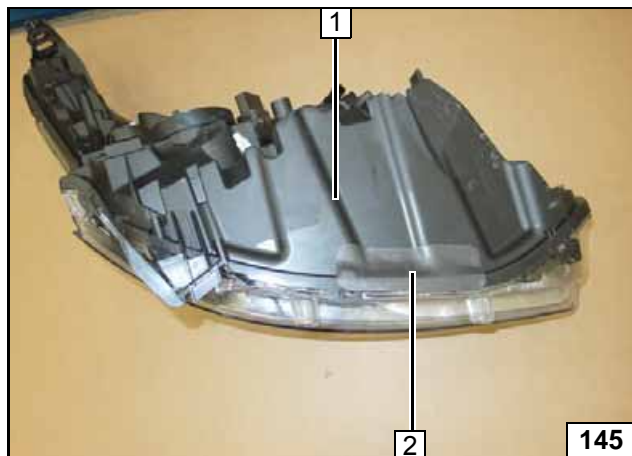
Bending perforated bracket



- 1 Silencer
- 2 M5x16 bolt, flanged nut
- 3 Perforated bracket
- 4 Insulation protection strips
- 5 Combustion air pipe



Premounting silencer

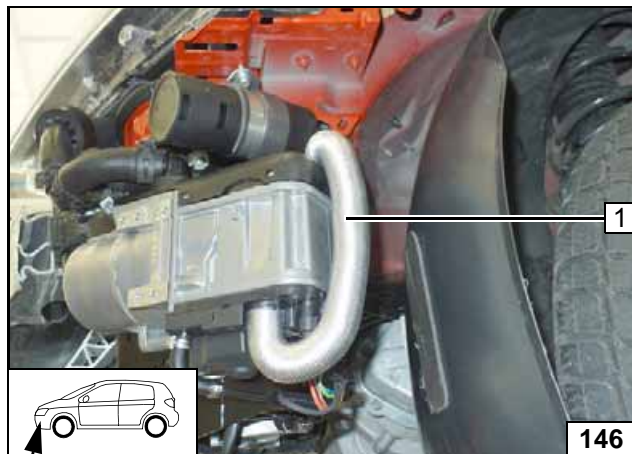


- 1 Left headlight, underside
- 2 Insulation protection strips

Install headlight.



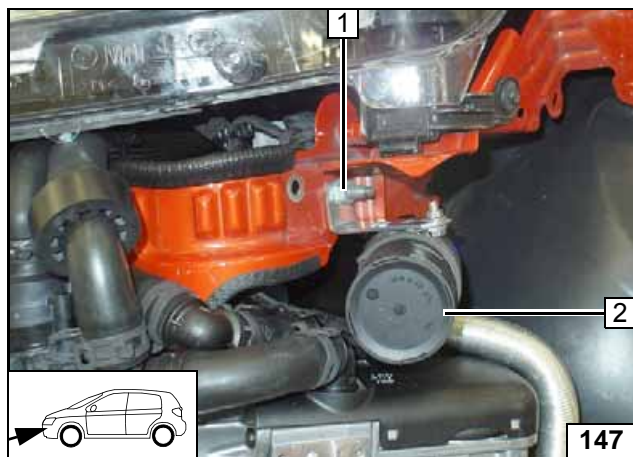
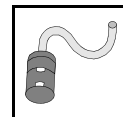
Sticking on insulation protection strips



- 1 Combustion air pipe

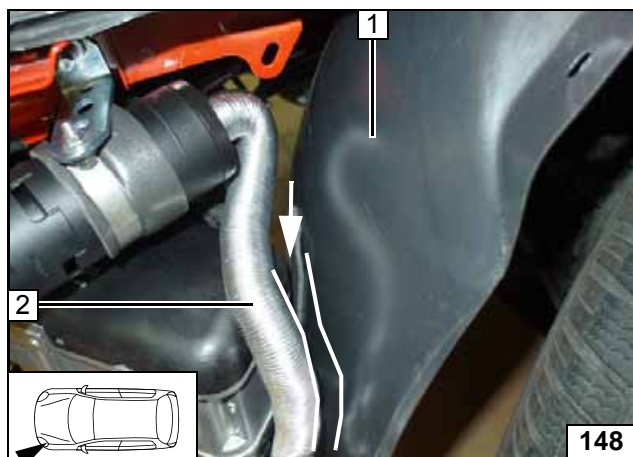


Installing combustion air pipe



- 1 Original vehicle stud bolt, original vehicle nut
- 2 Silencer, premounted

Installing silencer

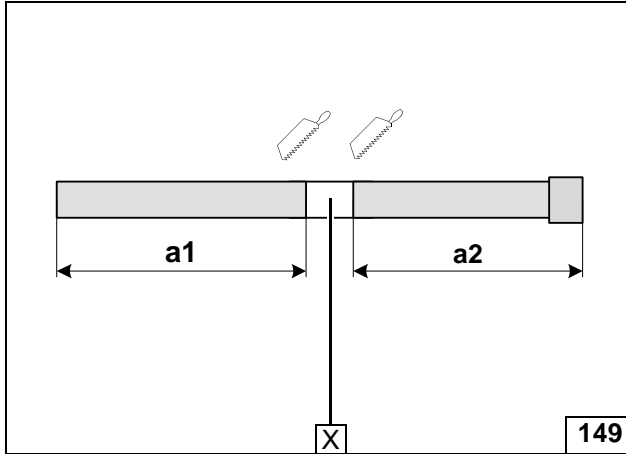
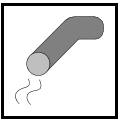


Adapt combustion air pipe 2 at the contour of wheel-well inner panel 1.



$\geq 10 \text{ mm}$

Aligning combustion air pipe

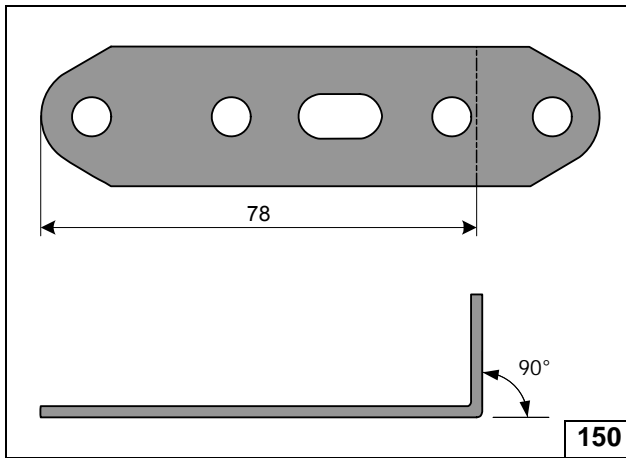


Exhaust Gas

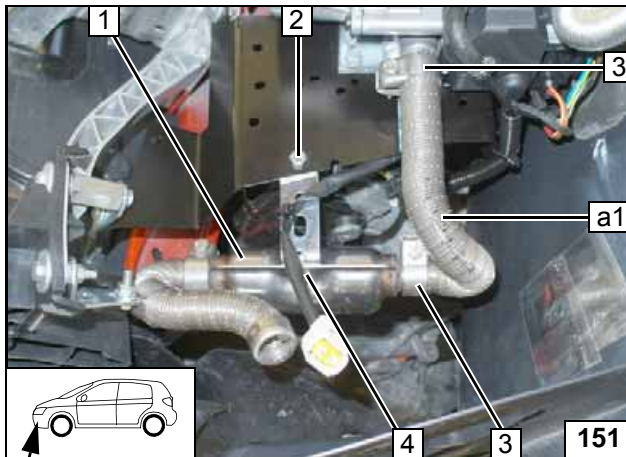
a1 = 270
a2 = 180

X =

Preparing ex-
haust pipe



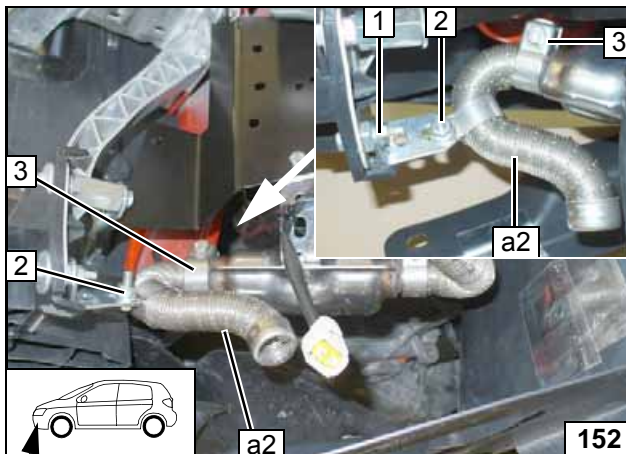
Bending
perforated
bracket



- 1 Silencer
- 2 M6x16 bolt, hole in bracket, perforated bracket (angled down side points towards the silencer), flanged nut
- 3 Hose clamp [2x]
- 4 M6x20 bolt, flanged nut



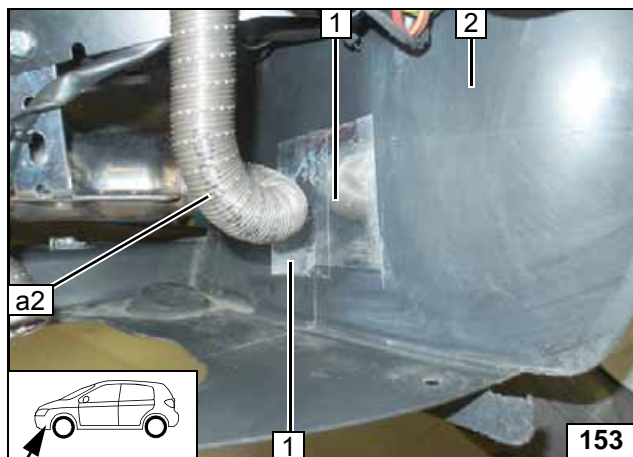
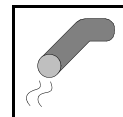
Installing
exhaust
pipe a1 and
silencer



- 1 Tighten bolt
- 2 M6x20 bolt, premounted angle bracket, p-clamp, flanged nut
- 3 Hose clamp

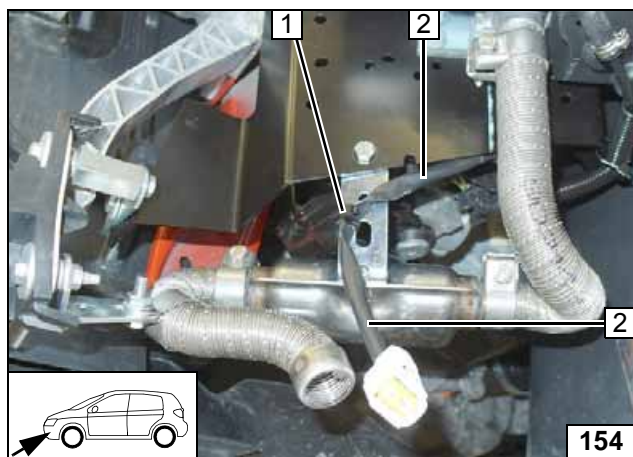


Installing
exhaust
pipe a2



- 1 Heat protection film [2x]
- 2 Front left wheel-well inner panel

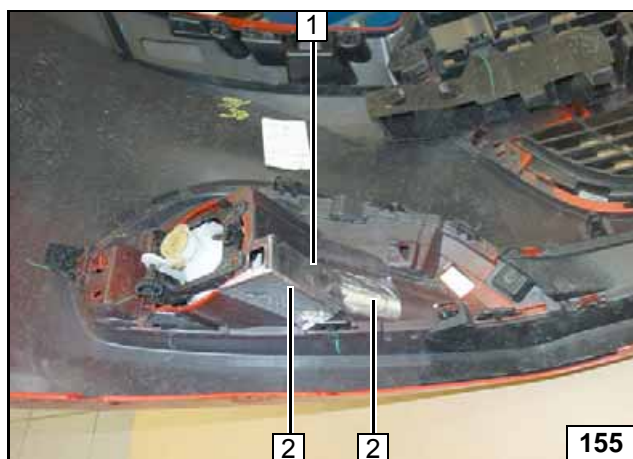
Sticking on heat protection film



Attach front fog light wiring harness 2 on perforated bracket using cable tie 1.



Attaching wiring harness



- 1 Bumper, front fog light area on the left
- 2 Heat protection film [2x]

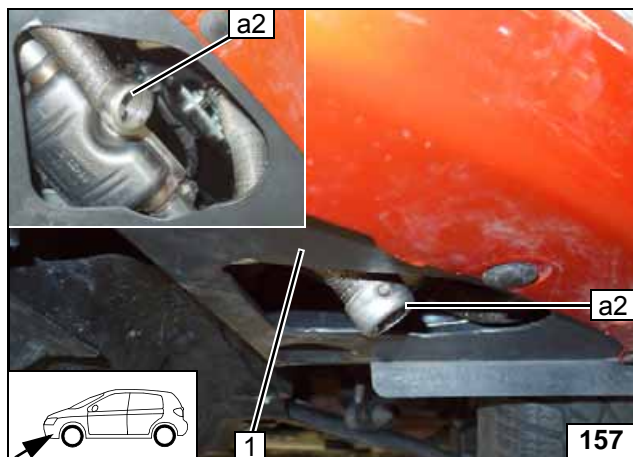
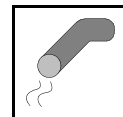
Sticking on heat protection film



Install bumper. Ensure sufficient distance between front fog light wiring harness connector 1 and exhaust pipe a1, correct if necessary.



Checking distances



Install wheel-well inner panel 1.



Aligning
exhaust
pipe a2



Final Work

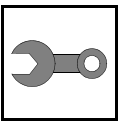


Reassemble the components in reverse order. Check all hoses, clamps and all electrical connections for firm seating. Insulate and tie back loose lines.

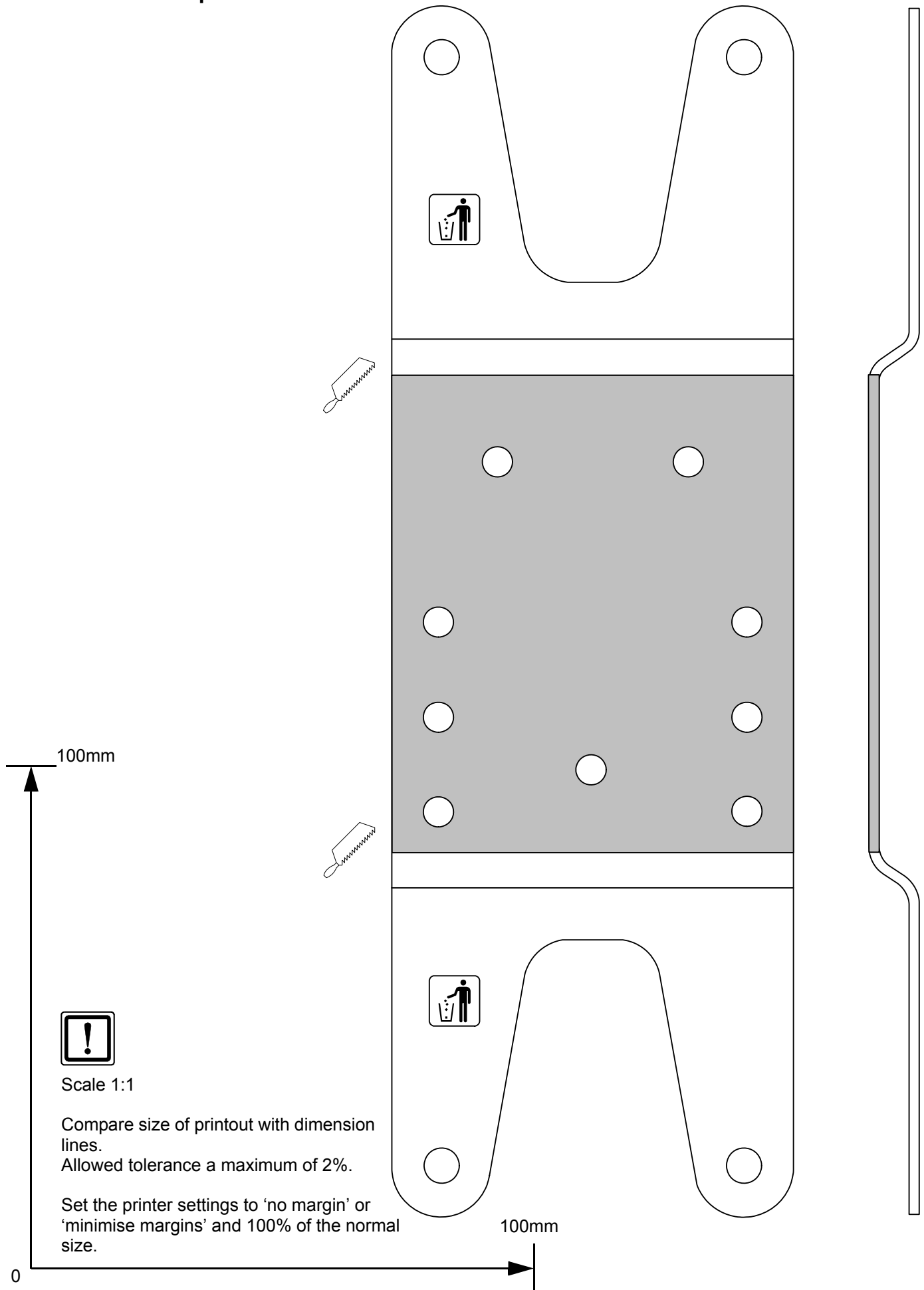
Only use manufacturer-approved coolant. Spray the heater components with anti-corrosion wax (Tectyl 100K).

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





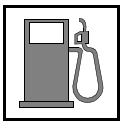
Device Holder Template



Scale 1:1

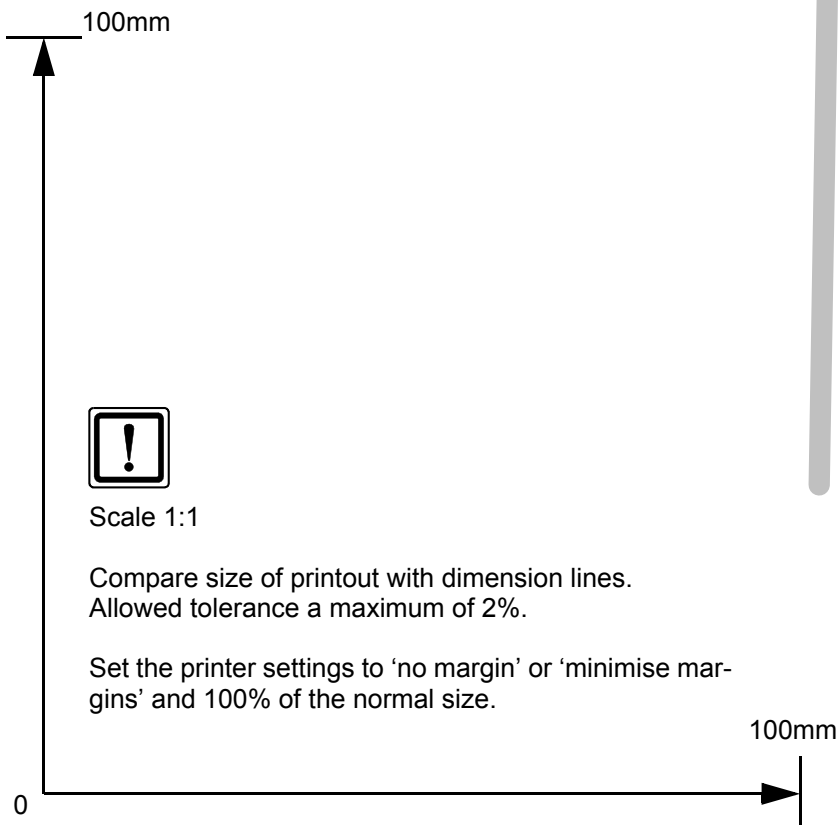
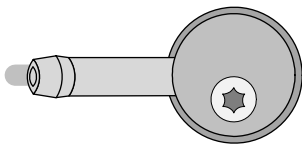
Compare size of printout with dimension lines.
Allowed tolerance a maximum of 2%.

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



FuelFix Template for Petrol Vehicles

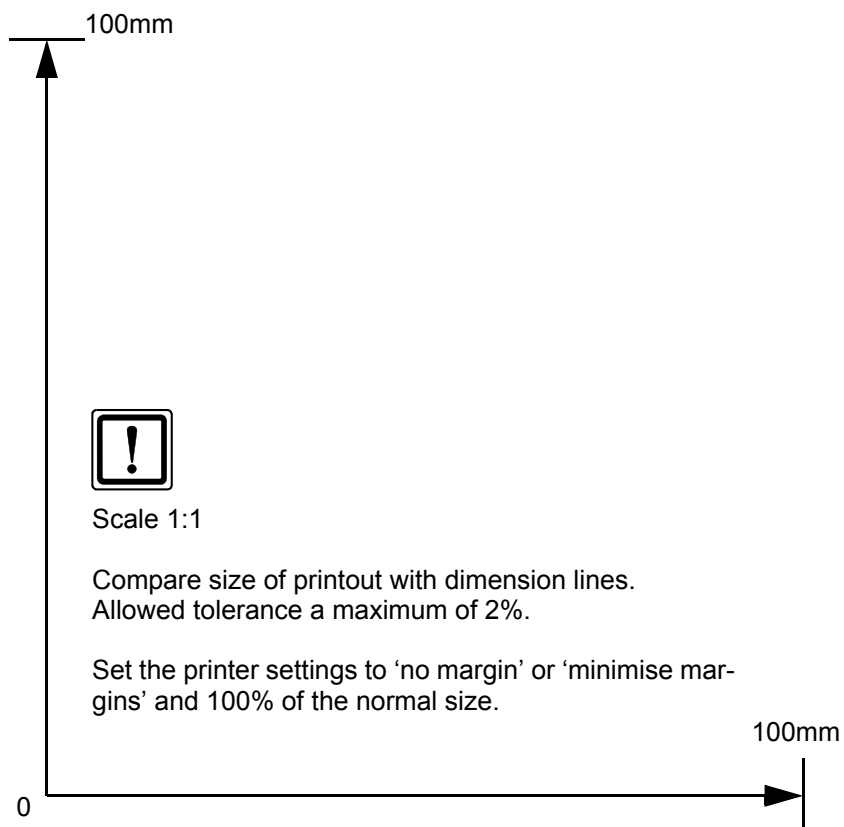
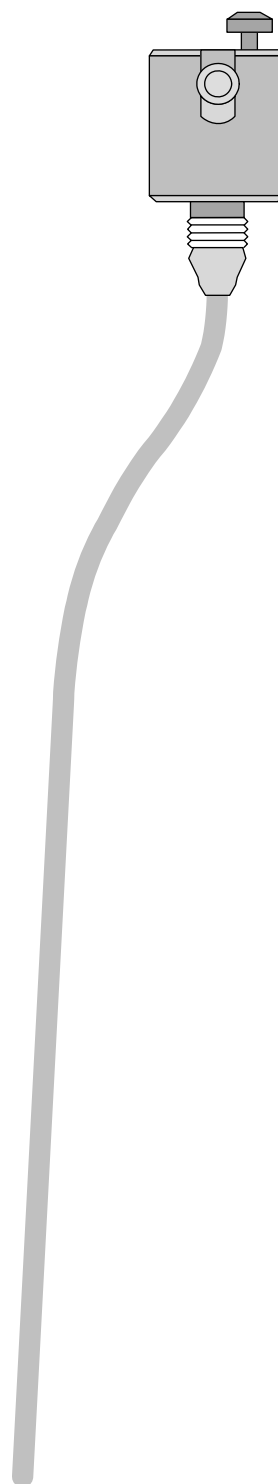
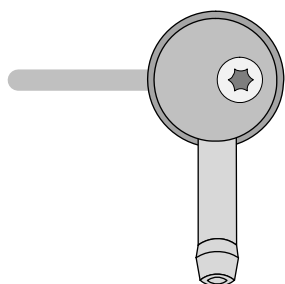
Top view





FuelFix Template for Diesel Vehicles

Top view



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

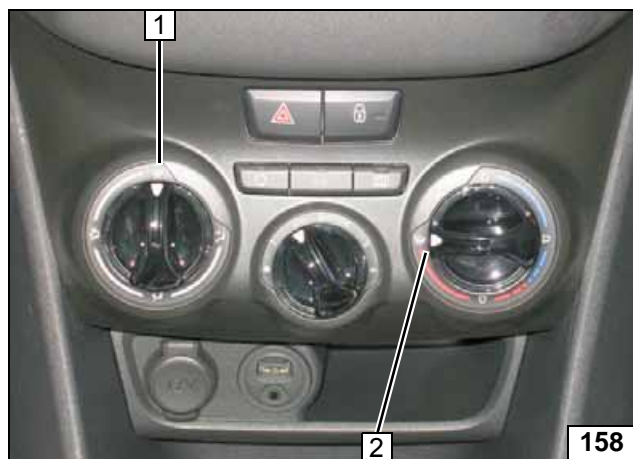
Example:

For a driving time of approx. 20 min. (in one direction), we recommend not exceeding a switch-on time of 20 min.

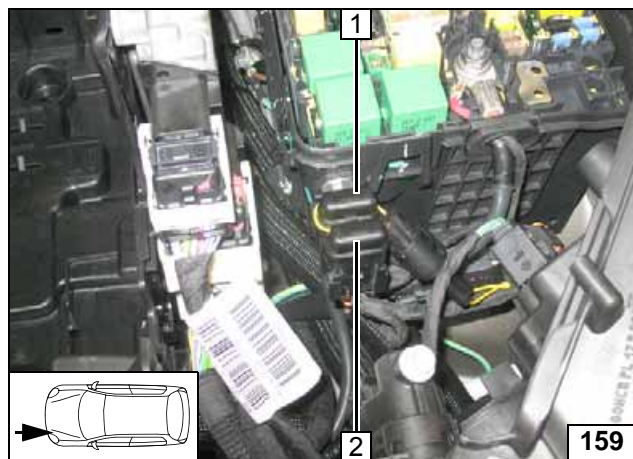
Passenger compartment monitoring, if installed, must be deactivated in addition to the vehicle settings for the heating operation.

For instructions on deactivation, please refer to the operating instructions of the vehicle.

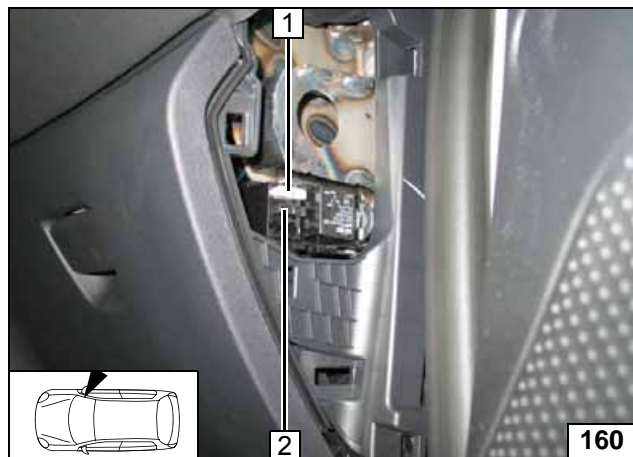
Before parking the vehicle, make the following settings:



- 1 Air outlet to windscreen
- 2 Set temperature to 'max.'



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



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



A/C control panel

Engine compartment fuses

Passenger compartment fuses



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

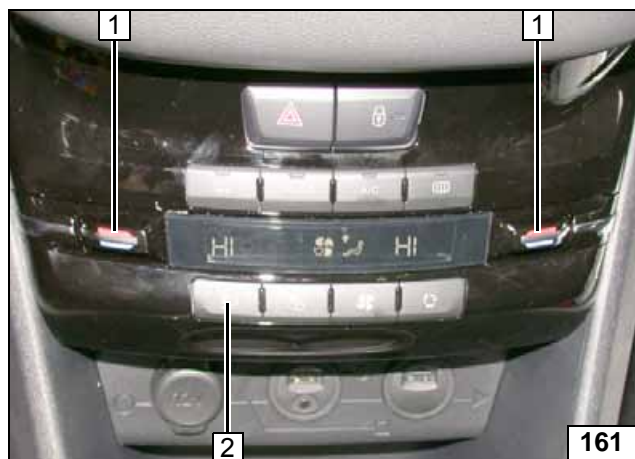
Example:

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.

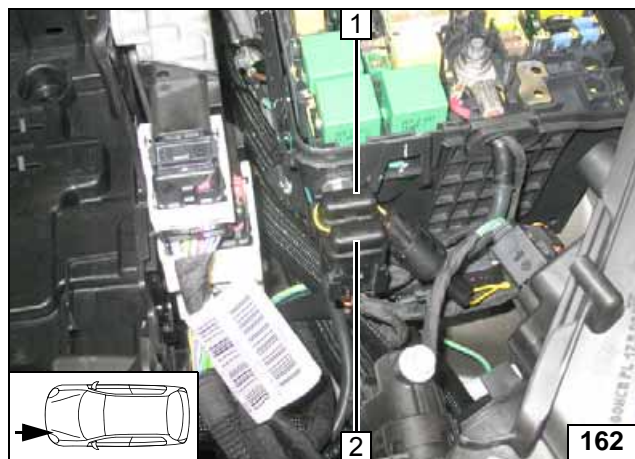
Before parking the vehicle, make the following settings:



- 1 Set temperature on both sides to 'HI'
- 2 Air outlet turned 'upwards'

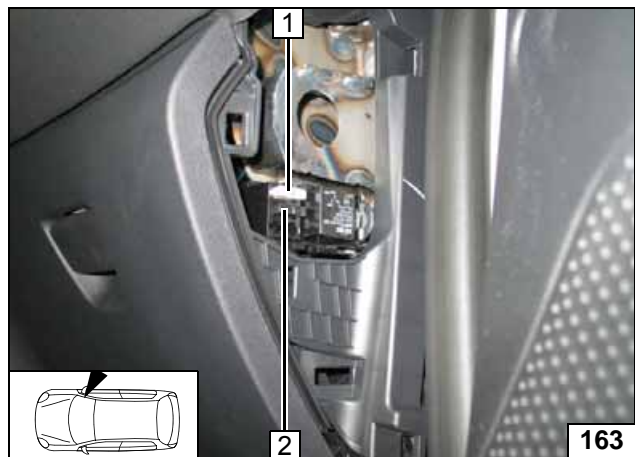


A/C control panel



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

Engine compartment fuses



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

Passenger compartment fuses

