Water Heater

Webasto
Feel the Drive

Thermo Top Evo Parking Heater

E1
00 0258

Installation Documentation
Citroen C1 / Peugeot 108

Validity

Citroen

Manufacturer	Model	Type	EG-BE No. / ABE
Citroen	C1	P	e11 * 2001 / 116 * 0238 * ...

Motorisation	Fuel	Transmission type	Output in kW	Displacement in cm³	Engine code
1.2 VTI	Petrol	SG	60	1199	HM01

Peugeot

Manufacturer	Model	Type	EG-BE No. / ABE
Peugeot	108	P	e11 * 2001 / 116 * 0237 * ...

Motorisation	Fuel	Transmission type	Output in kW	Displacement in cm³	Engine code
1.2 VTi	Petrol	SG	60	1199	HM01

SG = Manual transmission

From Model Year 2014
Left-hand drive vehicle

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

Total installation time: approx. 9 hours

Citroen C1 / Peugeot 108

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Necessary Components

- Basic delivery scope of *Thermo Top Evo* based on price list
- Installation kit for Citroen C1 / Peugeot 108 2014 1.2 Petrol: **1323408A**
- Heater control in accordance with price list and upon consultation with end customer
- In case of Telestart, indicator lamp in accordance with price list and in consultation with end customer

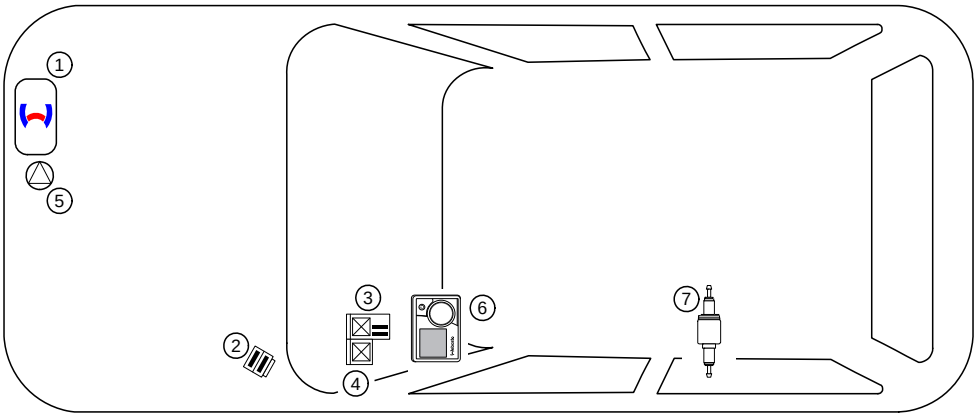
Installation instructions:

- Arrange for the vehicle to be delivered with the tank only about ¼ full!
- The installation location of the push button in case of Telestart or Thermo Call should be confirmed with the end customer.
- Depending on the available space and manufacturer's instructions, we recommend the use of a vehicle battery with more electrical capacity.

Installation Overview

Legend:

1. Heater
2. Fuse holder of engine compartment
3. Passenger compartment relay and fuse holder
4. PWM GW
5. Circulating pump
6. MultiControl CAR
7. Metering pump



Information on Total Installation Time

The total installation time includes the time needed for mounting and demounting of 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 notes (not complete)

1.1 Installation and Repair

The improper installation or repairing of Webasto heating and cooling systems can cause fire or the leakage of deadly carbon monoxide, leading to serious injury or death.

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

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

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

1.2 Operation

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

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

Always switch off the heater before refuelling.

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

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

1.3 Please note

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

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

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

Important

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

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

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

Installation should be carried out according to the general, standard rules of technology. Unless specified otherwise, fasten hoses, lines and wiring harnesses to original vehicle lines and wiring harnesses using cable ties. Insulate loose wire ends and tie back. Connectors on electronic components have to audibly click into place during installation.

Sharp edges should be fitted with rub protection. Spray unfinished body areas, e.g. drilled holes, with anti-corrosion wax (Tectyl 100K, Order No. 111329).

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 the directive 122 (heater) section 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 indicator 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 neck must be clearly labelled

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

2.4. Exhaust system

2.4.1. The exhaust gas 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 Citroen C1 / Peugeot 108 1.2 Petrol 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
- Webasto Thermo Test Diagnosis with current software

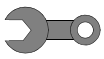
Dimensions
- All dimensions in mm.

Tightening torque values
- Tightening torque values for 5x13 heater bolts and 5x11 heater stud bolts = 8Nm.
- Tightening torque values of 5x15 retaining plate of water connection piece bolts = 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 injury or fatal accidents

Specific risk due to electrical voltage

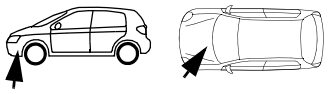
Specific risk of damage to components

Specific risk of fire or explosion

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

Reference to a special technical feature

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



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

Citroen C1 / Peugeot 108

Preliminary Work

Vehicle

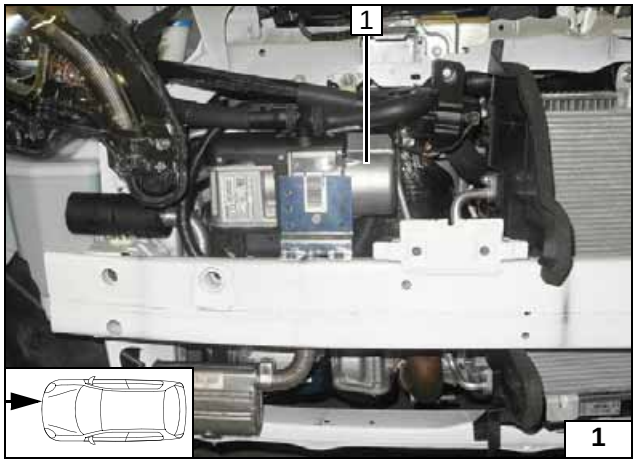
- Open the fuel tank cap.
- Ventilate the fuel tank.
- Close the fuel tank cap again.
- Depressurise the cooling system.
- Disconnect and remove the battery.
- Remove the lateral coolant reservoir cover on the left.
- Remove the air filter box.
- Detach the coolant expansion tank and put it aside.
- Detach the wheel well trim on the left and on the right.
- Remove the bumper trim.
- Remove the rear bench seat.
- Remove the instrument panel trim on the driver's side, the radio and the A/C control panel (see the dismantling instructions).

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

- Open the tank-fitting service lid.
- Remove the fuel-tank sending unit in accordance with the manufacturer's instructions.

Heater

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



Heater Installation Location

1 Heater

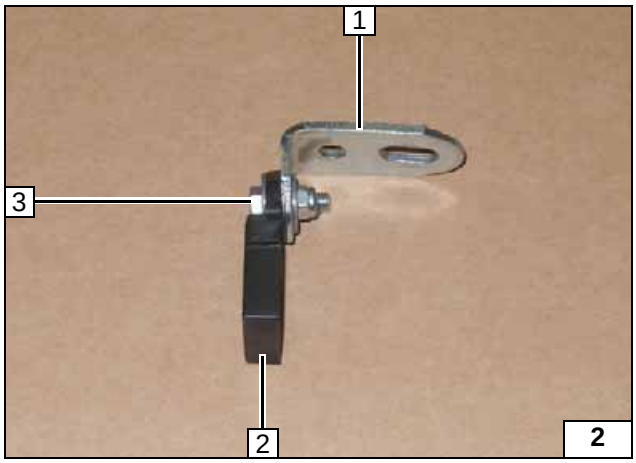
Installation location

Preparing Electrical System

Wire sections retain their numbering throughout the entire document.

Premounting retaining plate

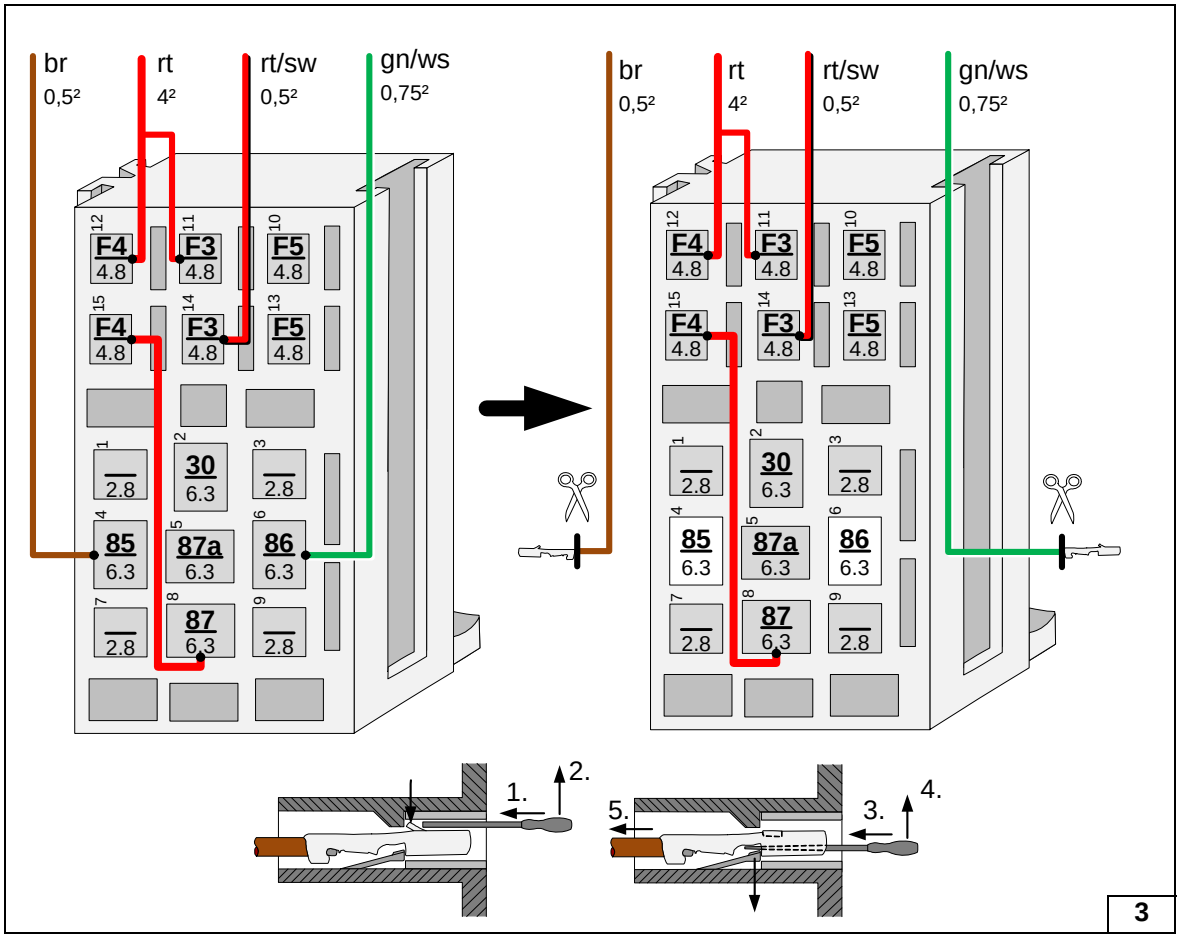
All vehicles



2

1 Angle bracket
2 Retaining plate of engine compartment fuse holder
3 M5x16 bolt, large diameter washer [2x], nut

Preparing passenger compartment relay and fuse holder

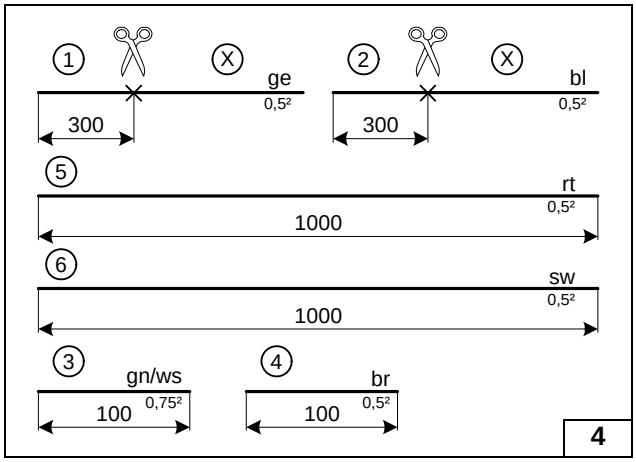


3

Assigning/preparing wires

Manual air-conditioning system

Discard sections **X**.
Pull wires ⑤ and ⑥ into protective sleeving.



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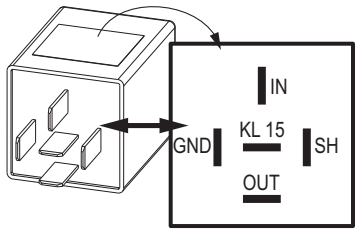


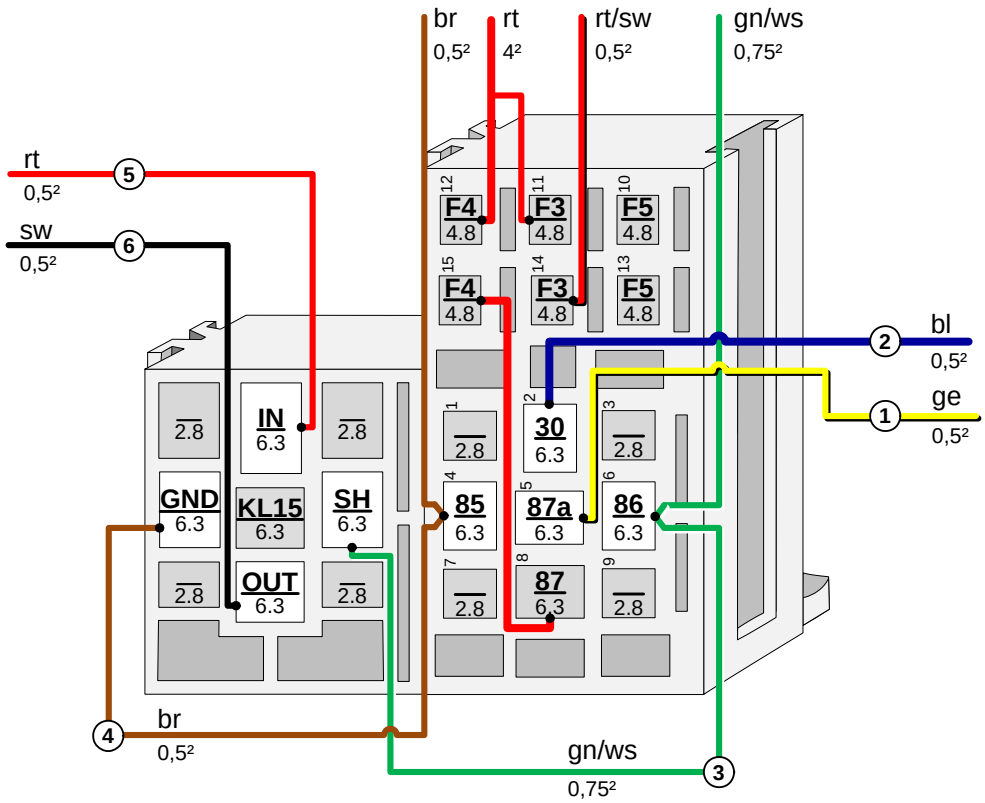
5

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

Settings (preprogrammed):

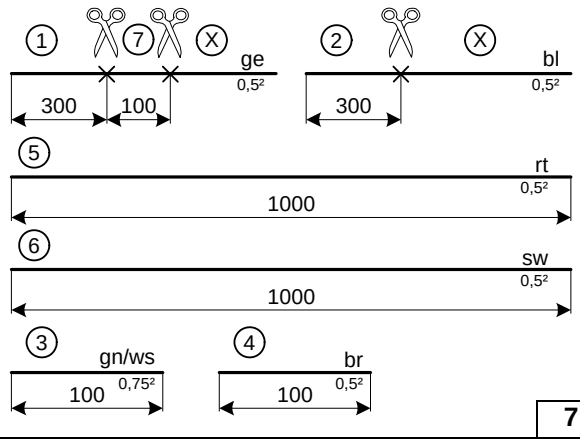
Duty cycle: 100% (DC)
Frequency: not relevant
Voltage: 3.6V
Function: High side

View of PWM-GW



6

Interlocking PWM GW socket and passenger compartment relay and fuse holder and connecting wires

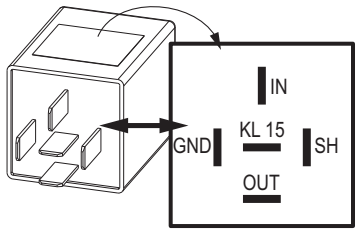


7

Automatic air-conditioning system

Discard sections **X**.
Pull wires ⑤ and ⑥ into protective sleeving.

Assigning/preparing wires

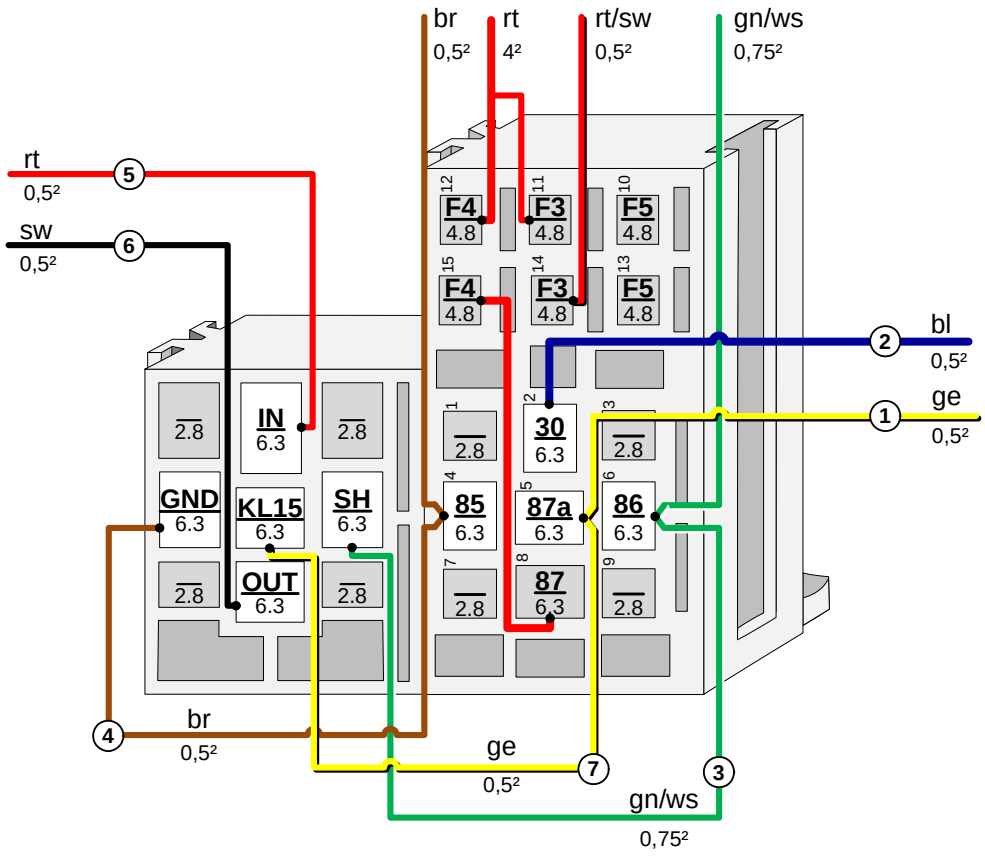


8

The pre-programmed settings of the provided PWM Gateway should be modified using the following values:

Duty cycle: 70%
Frequency: 500 Hz
Voltage: not relevant
Function: Low-side

Reprogramming PWM-GW



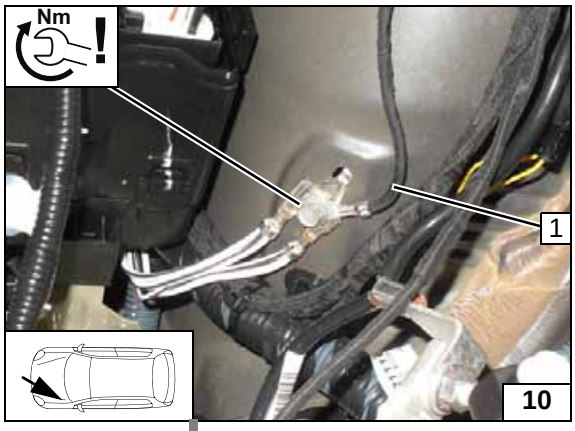
9

Interlocking PWM GW socket and passenger compartment relay and fuse holder and connecting wires

Electrical System

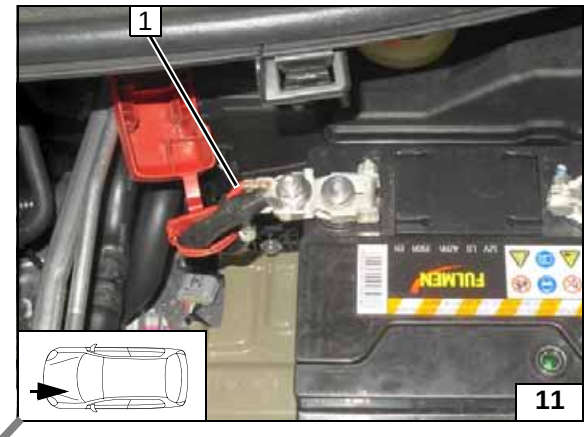
Earth wire

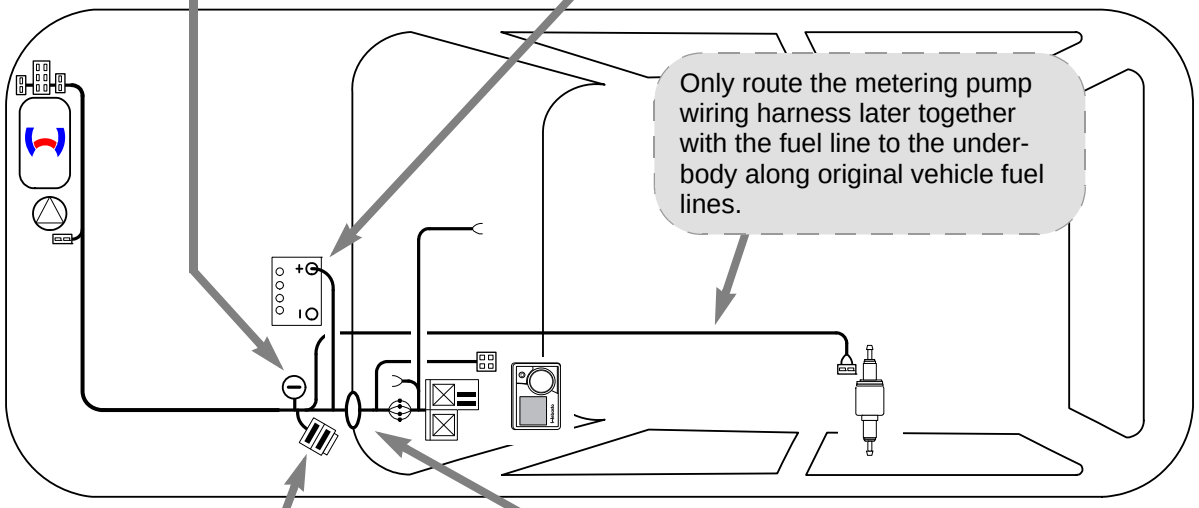
1 Earth wire on original vehicle earth support point



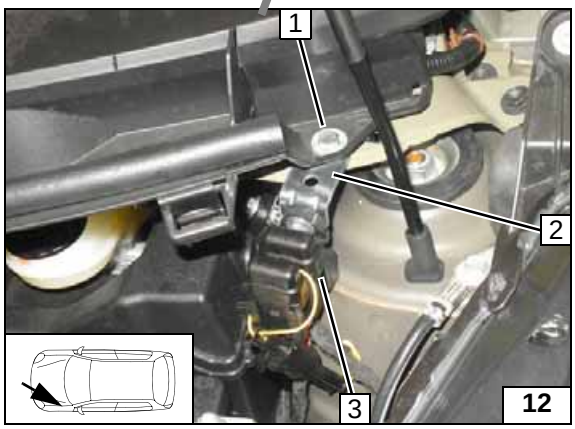
Positive wire

1 Positive wire on positive battery terminal





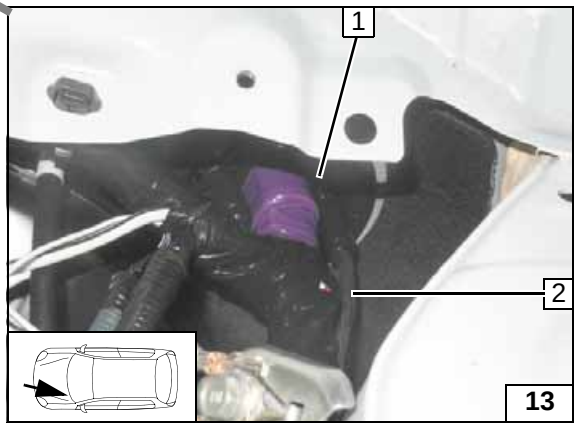
Wiring harness routing diagram



Fuse holder of engine compartment

Original vehicle retaining clip at position **1** is omitted!

1 M6x20 bolt, large diameter washer, flanged nut on existing hole
2 Premounted angle bracket
3 Engine compartment fuse holder



Wiring harness pass through

Coolant reservoir cap removed for demonstration purposes.

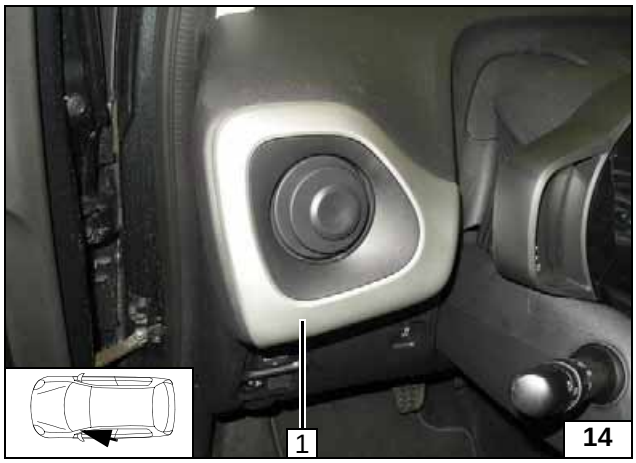
1 Protective rubber plug
2 Wiring harnesses of heater, heater control

Dismantling Instructions

Instrument panel trim on driver's side

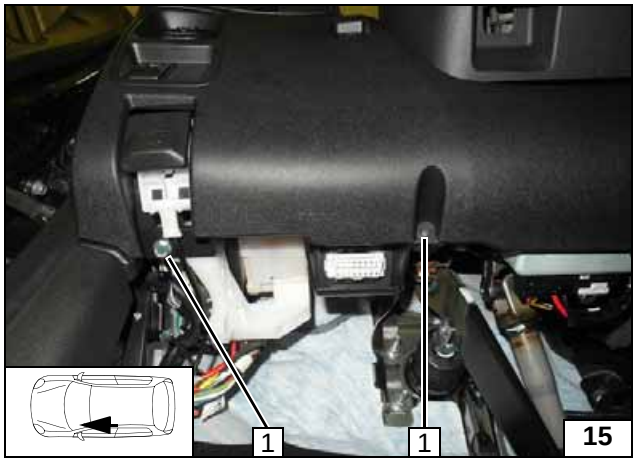
Pulling off trim

1 Trim



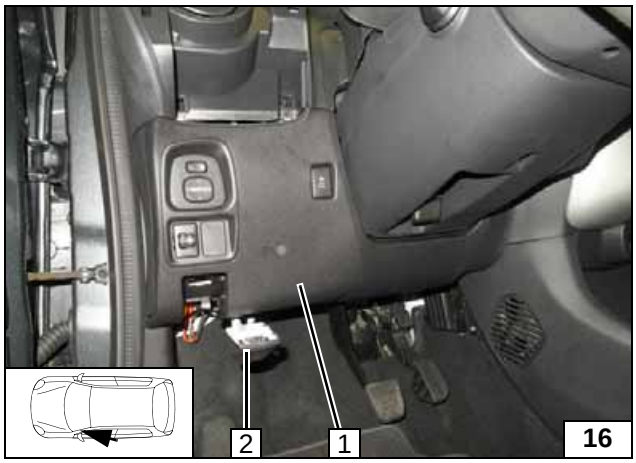
Removing bolts

1 Original vehicle bolt [2x]



Removing trim

Unclip fuel tank cap **2** unlocking device, pull off trim **1** and detach connector from switches!



Removing radio trim piece

Remove the A/C control panel.

Figure shows manual air-conditioning system.

1 Radio trim piece
○ Retaining clip [8x]

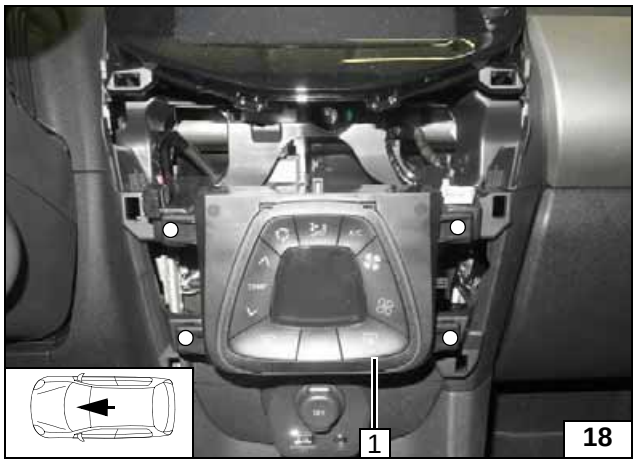
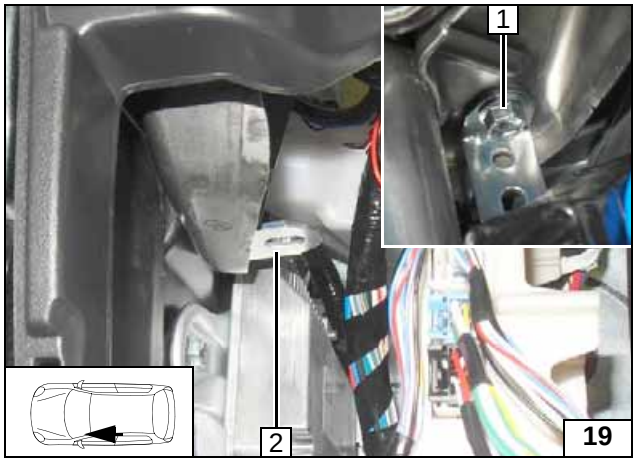


Figure shows automatic air-conditioning!

1 A/C control panel
○ Retaining clip [4x]

Removing A/C control panel

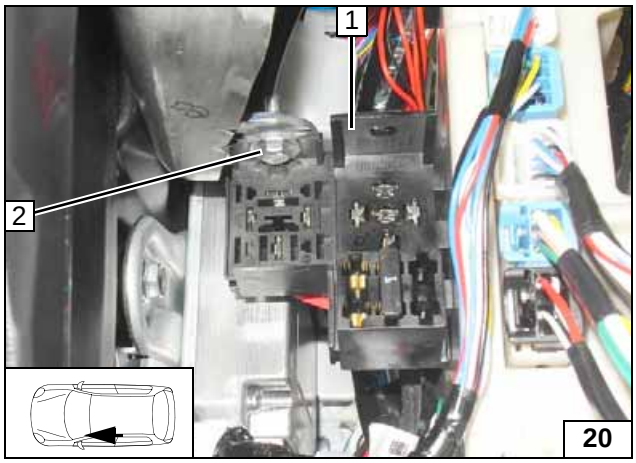


Passenger Compartment Relay and Fuse Holder Installation

Drill out angle bracket **2** at position **1** to 8.5 mm before installation!

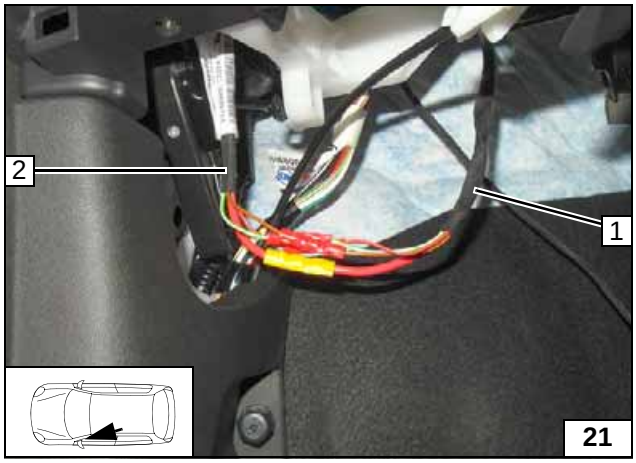
1 Original vehicle M8 bolt of instrument carrier

Installing angle bracket



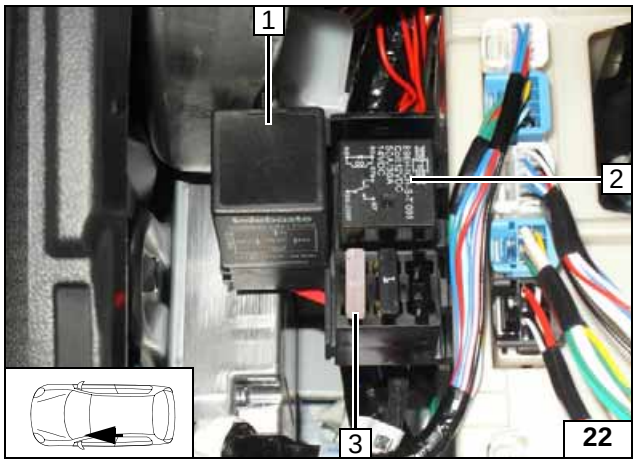
1 Relay and fuse holder of passenger compartment
2 M5x16 bolt, large diameter washer [2x], nut

Mounting passenger compartment relay and fuse holder



1 Wiring harness of heater
2 Wiring harness of passenger compartment relay and fuse holder

Connecting same colour wires of wiring harnesses

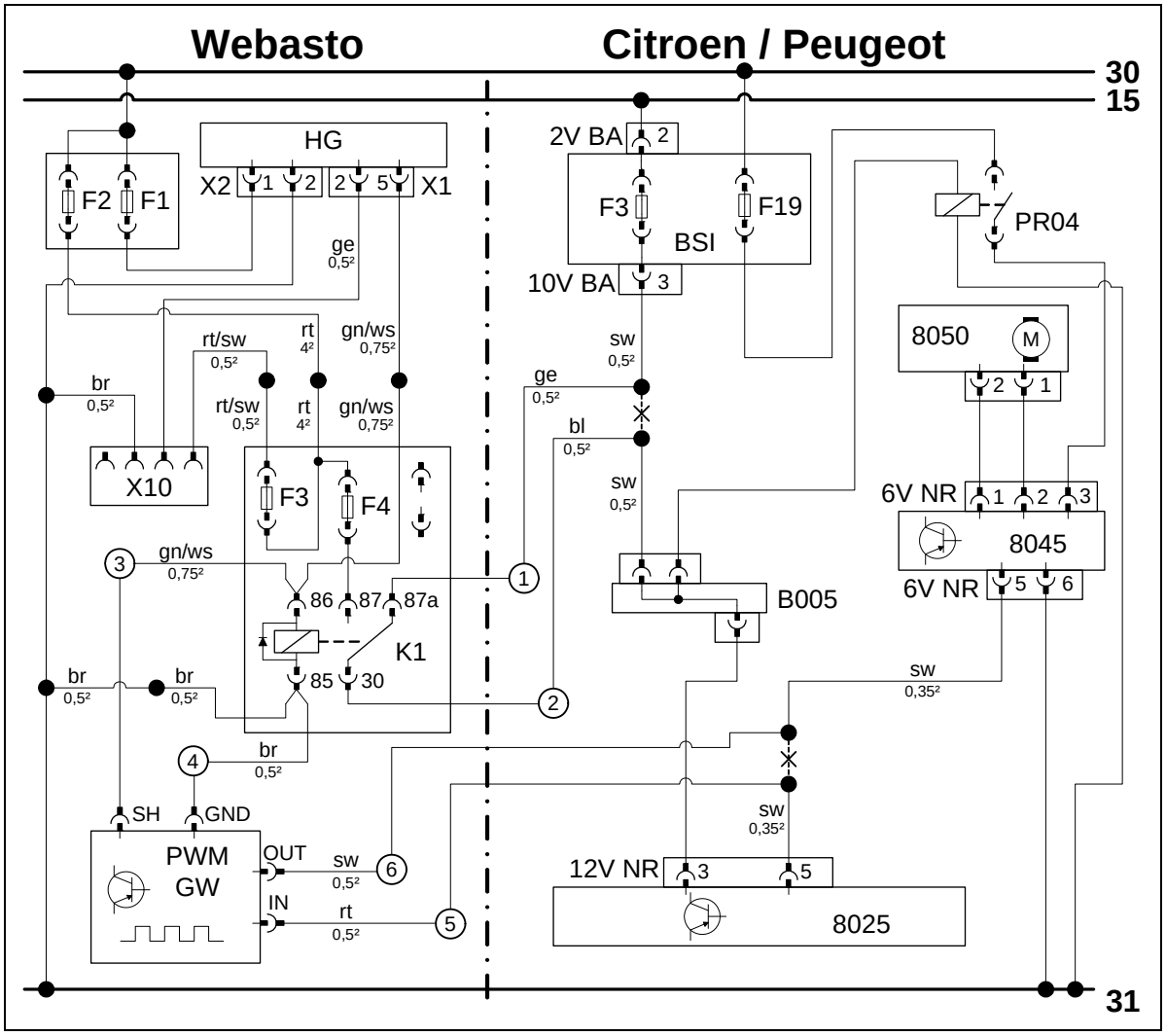


1 PWM Gateway
2 K1 relay
3 3A fuse F4

Mounting PWM GW, K1 relay and F4

Fan Controller for Manual Air-Conditioning System

Wiring diagram

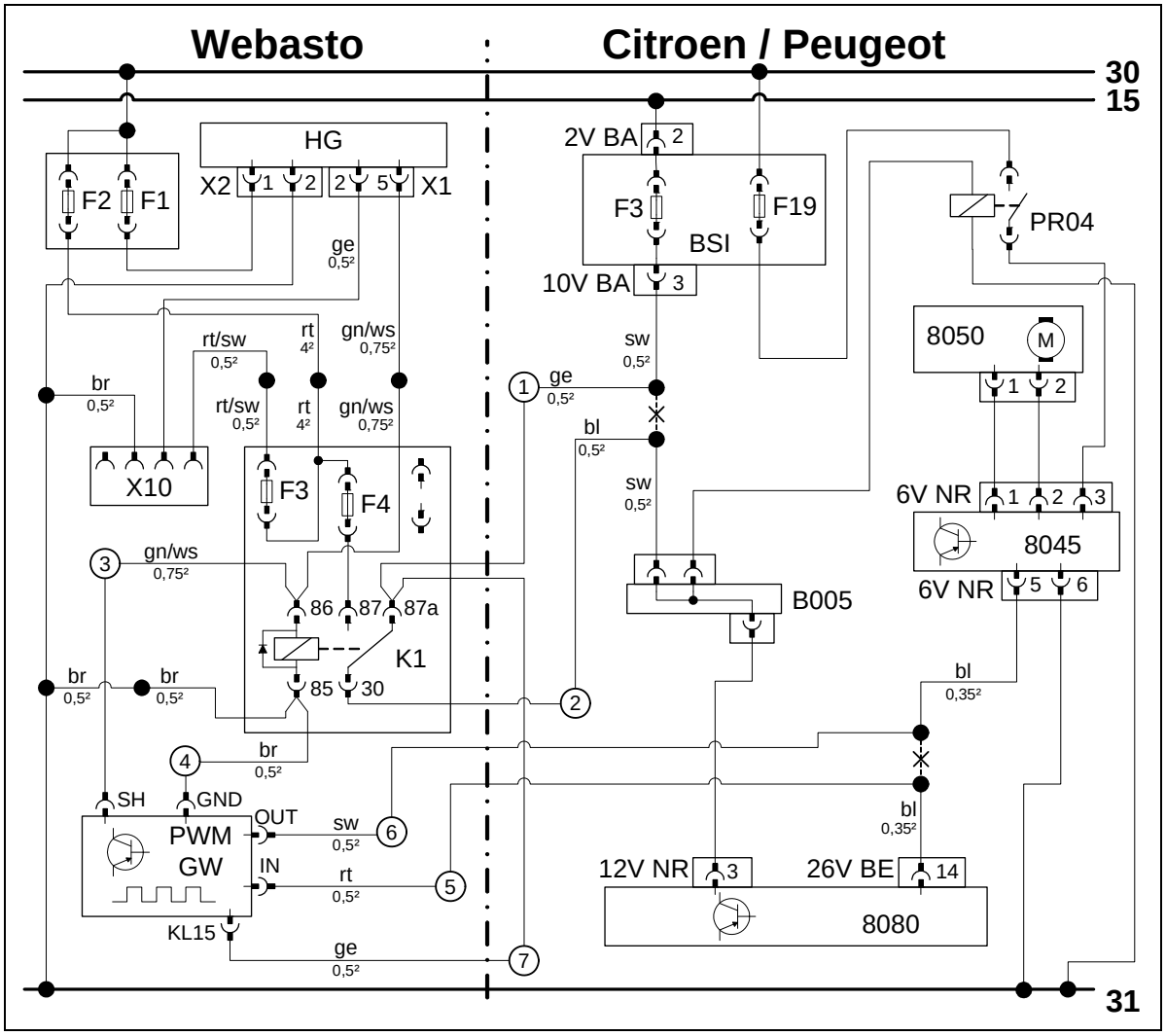


Webasto components		Vehicle components		Colours and symbols	
HG	TT-Evo heater	BSI	Central switching unit	rt	red
X1	6-pin heater connector	F3	Fuse	sw	black
X2	2-pin heater connector	F19	Fuse	ge	yellow
F1	20A fuse	2V BA	2-pin white (ws) connector BSI	gn	green
F2	30A fuse	10V BA	10-pin white (ws) connector BSI	ws	white
X10	4-pin connector of heater control	PR04	Fan relay	br	brown
		8050	Fan motor	bl	blue
F3	1A fuse	8045	Fan controller		
F4	3A fuse	6V NR	6-pin black (sw) connector 8045		
K1	Fan relay	B005	Connector		
PWM GW	Pulse width modulator	8025	A/C control panel / A/C control unit		
Settings of PWM GW:		12V NR	12-pin black (sw) connector 8025		
Duty cycle:	100% (DC)				
Frequency:	not relevant				
Voltage:	3.6V			**X**	Cutting point
Function:	High side			Wiring colours may vary.	

Legend

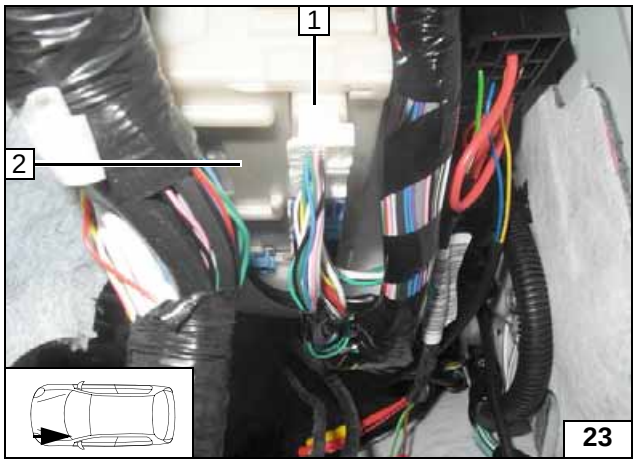
Fan Controller for Automatic Air-Conditioning

Wiring diagram



Webasto components		Vehicle components		Colours and symbols	
HG	TT-Evo heater	BSI	Central electrical box	rt	red
X1	6-pin heater connector	F3	Fuse	sw	black
X2	2-pin heater connector	F19	Fuse	ge	yellow
F1	20A fuse	2V BA	2-pin white (ws) connector BSI	gn	green
F2	30A fuse	10V BA	10-pin white (ws) connector BSI	ws	white
X10	4-pin connector of heater control	PR04	Fan relay	br	brown
		8050	Fan motor	bl	blue
F3	1A fuse	8045	Fan controller		
F4	3A fuse	6V NR	6-pin black (sw) connector 8045		
K1	Fan relay	B005	Connector		
PWM GW	Pulse width modulator	8080	A/C control panel / A/C control unit		
Settings of PWM GW:		12V NR	12-pin black (sw) connector 8080		
Duty cycle:	70%				
Frequency:	500Hz	26V BE	26-pin blue (bl) connector 8080		
Voltage:	not relevant			**X**	Cutting point
Function:	Low-side			Wiring colours may vary.	

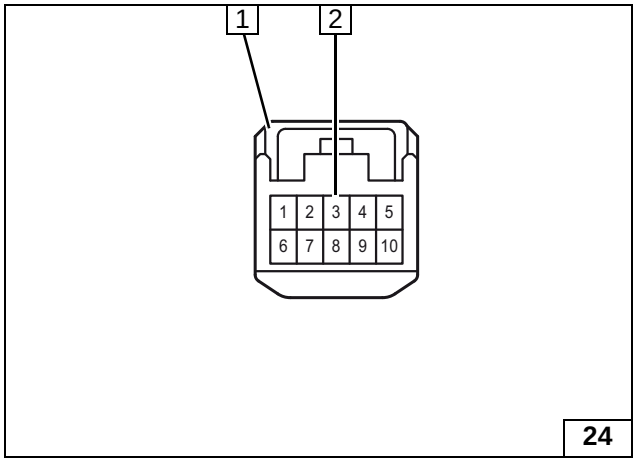
Legend



All vehicles

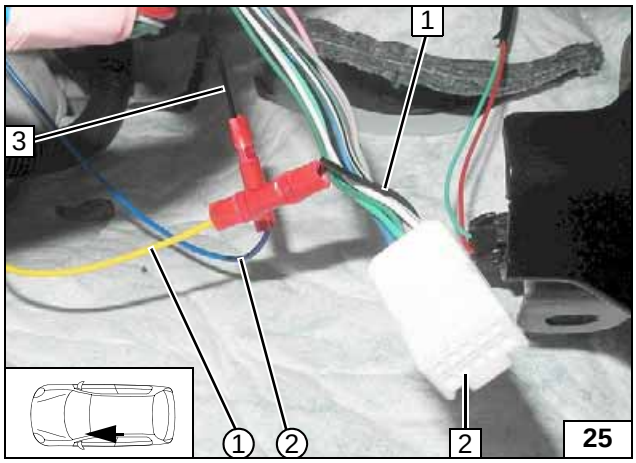
Pull off 10V connector BA **1** from upper socket behind BSI **2** and route downwards!

View of 10V connector BA



1 10V connector BA
2 Black (sw) wire of pin 3

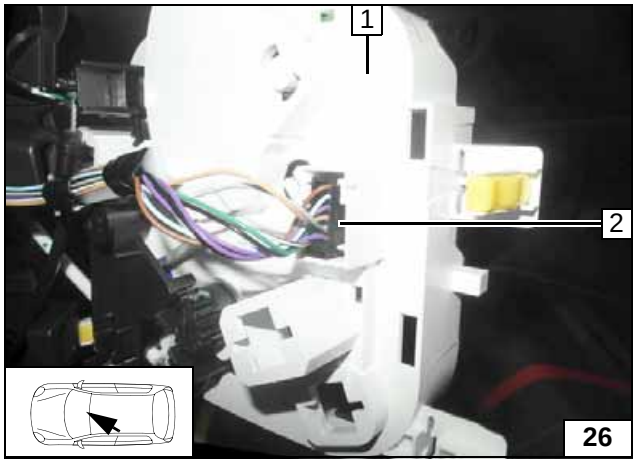
View of 10V connector BA on contact side



Connection to 10-pin 10V connector BA **2** from BSI.
Produce connections as shown in wiring diagram.

1 Black (sw) wire of 10V connector BA, pin 3
3 Black (sw) wire of connector B005
① Yellow (ge) wire of K1/87a
② Blue (bl) wire of K1/30

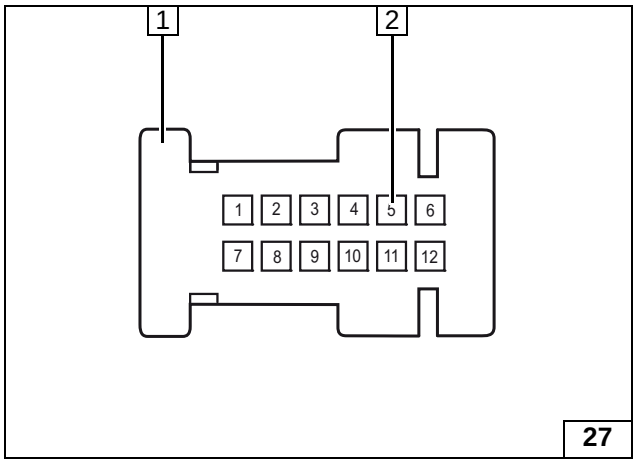
Connecting BSI



Manual air-conditioning system

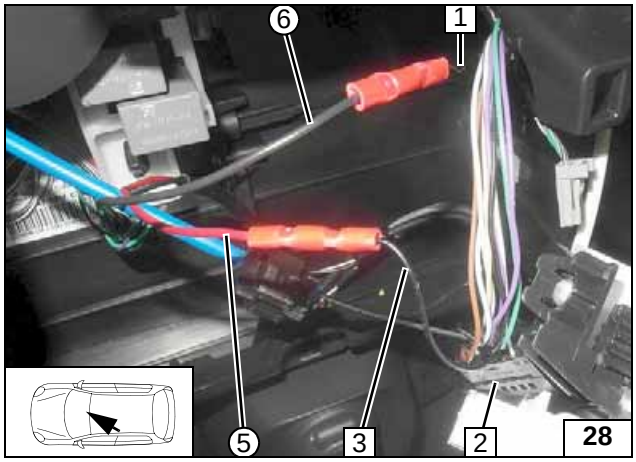
Pull off 12-pin 12V connector NR **2** from A/C control panel **1**!

Connecting A/C control panel



1 Connector 12V NR
2 Black (sw) wire of 12V connector NR, pin 5

View of 12V connector NR on contact side

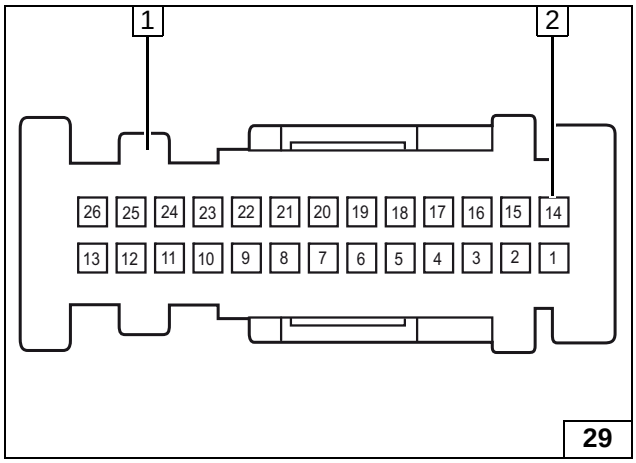


Connection to 12-pin 12V connector NR **2** from A/C control panel.
Produce connections as shown in wiring diagram.

1 Black (sw) wire of 6V connector 8045 NR, pin 5
3 Black (sw) wire of 12V connector NR VR, pin 5
⑤ Red (rt) wire of PWM GW/IN
⑥ Black (sw) wire of PWM GW/OUT

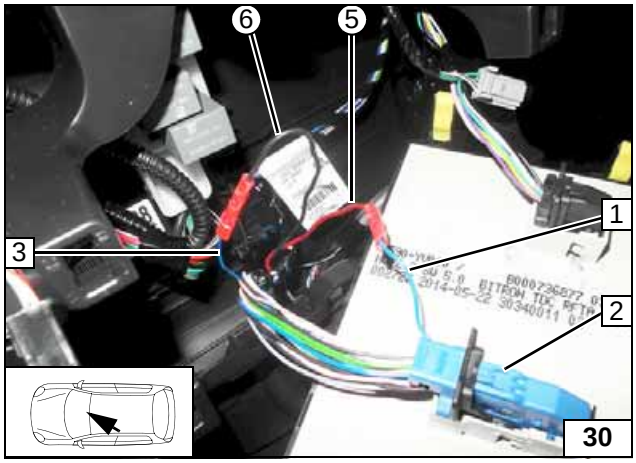
Connecting A/C control unit

Automatic air-conditioning system



1 26V connector BE
2 Blue (bl) wire of 26V connector BE, pin 14

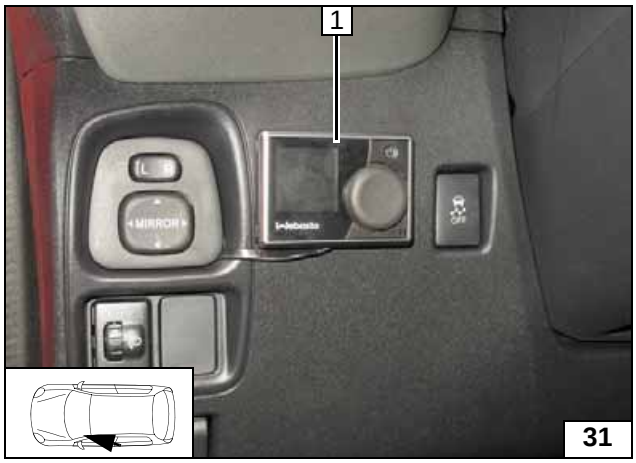
View of 26V connector BE on contact side



Connection to 26-pin 26V connector BE **2** from A/C control panel.
Produce connections as shown in wiring diagram.

1 Blue (bl) wire of 26V connector BE, pin 14
3 Blue (bl) wire of 6V connector 8045 NR, pin 5
⑤ Red (rt) wire of PWM GW/IN
⑥ Black (sw) wire of PWM GW/OUT

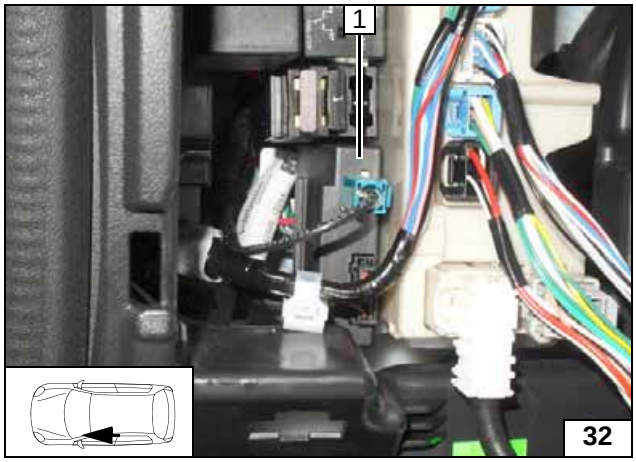
Connecting A/C control unit



MultiControl CAR Option

1 MultiControl CAR

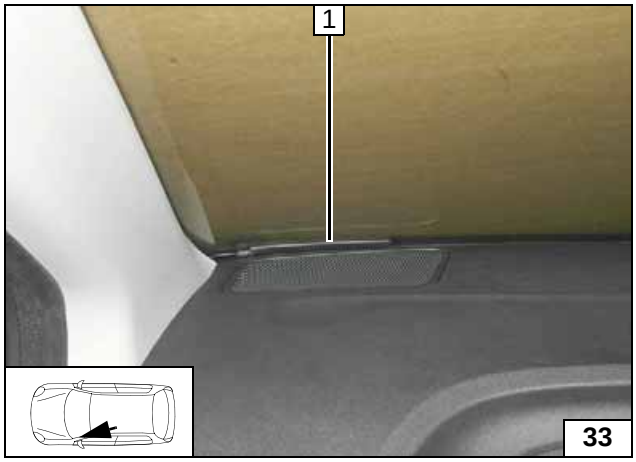
Installing MultiControl CAR



Remote Option (Telestart)

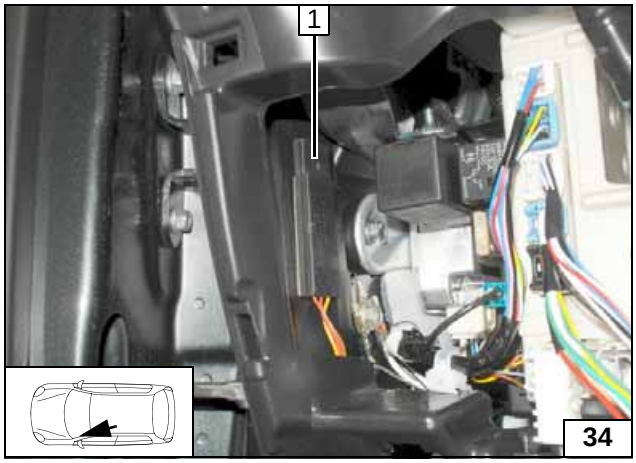
Fasten receiver **1** with double-sided adhesive tape to the BSI.

Installing receiver



1 Antenna

Installing antenna



Temperature sensor T100 HTM

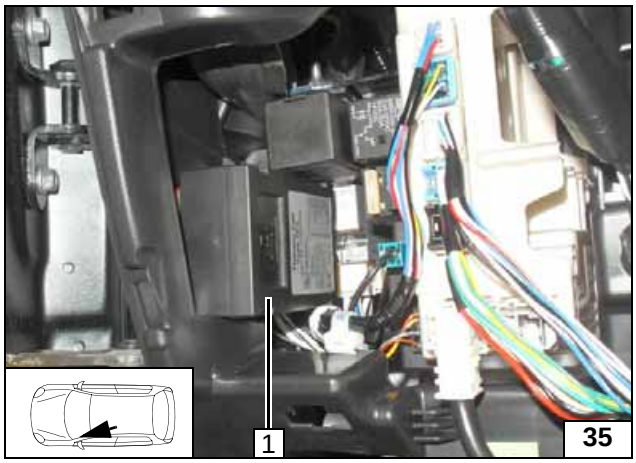
Fasten temperature sensor **1** with double-sided adhesive tape.

Installing temperature sensor

Remote Option (Thermo Call)

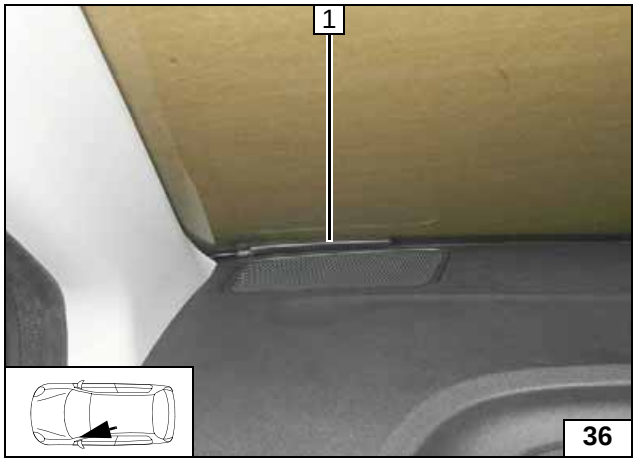
Installing receiver

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

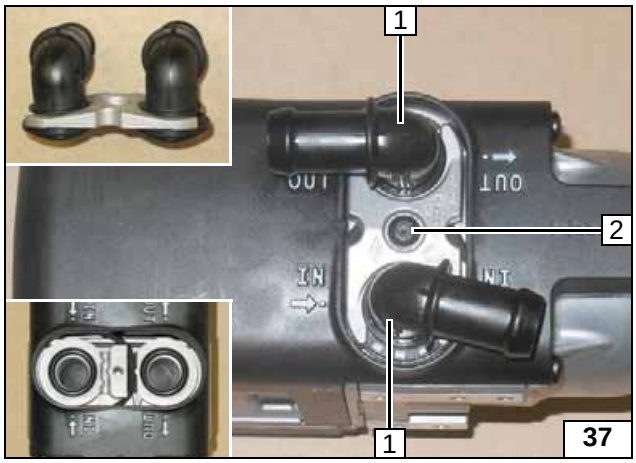


1 Antenna

Installing antenna



Preparing Heater

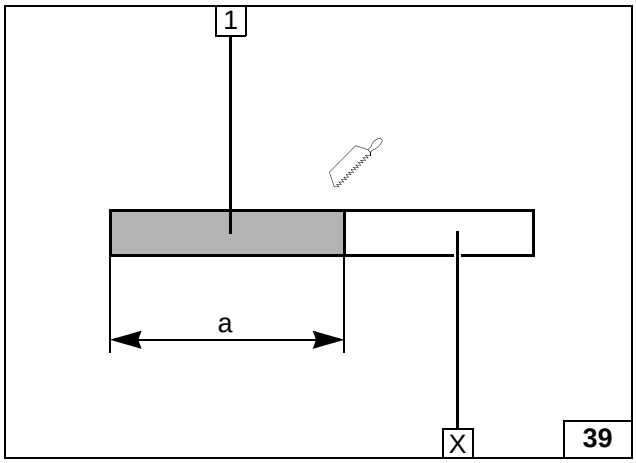


1 Water connection piece, sealing ring [2x each]
2 5x15 self-tapping bolt, retaining plate of water connection pieces

Installing water connection pieces

1 Hose clamp
2 Exhaust pipe = 250mm

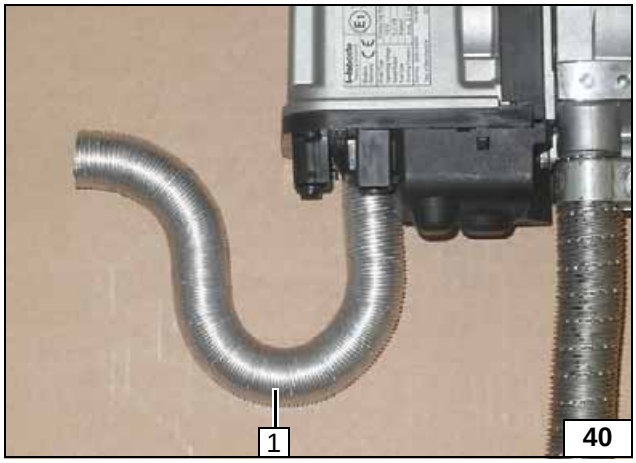
Premounting exhaust pipe



Discard section **X**.

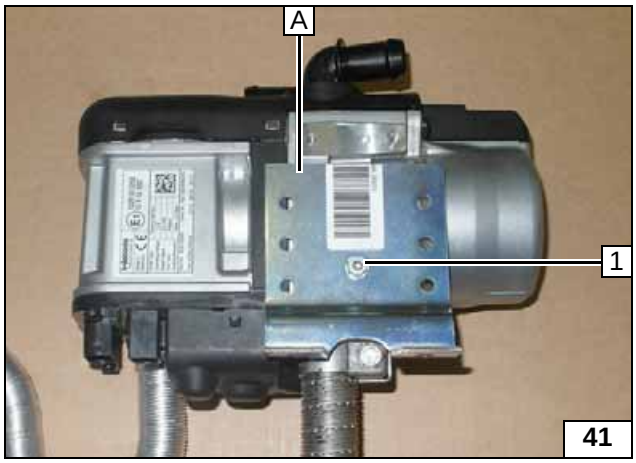
1 Combustion air pipe
a = 250

Cutting combustion air pipe to length



1 Combustion air pipe

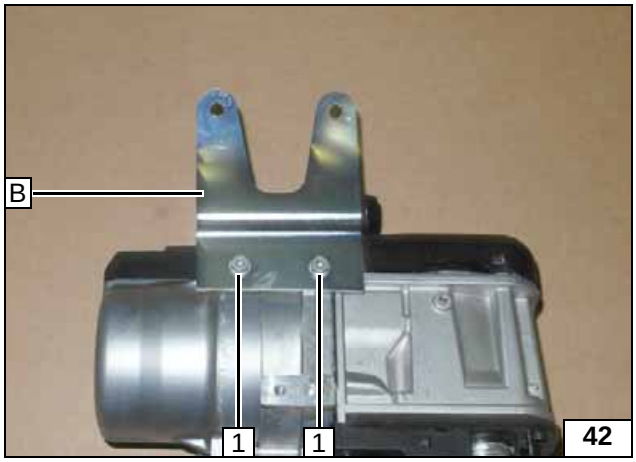
Installing combustion air pipe



Prepare bracket section **A** in accordance with the template!

1 5x13 self-tapping bolt

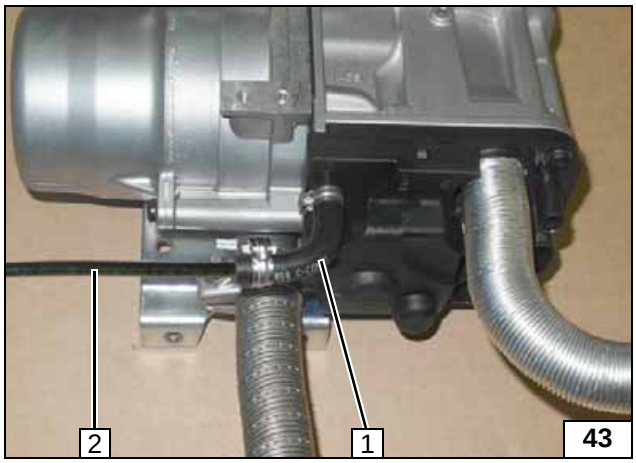
Installing bracket A



Prepare bracket section **B** in accordance with the template!

1 5x13 self-tapping bolt [2x]

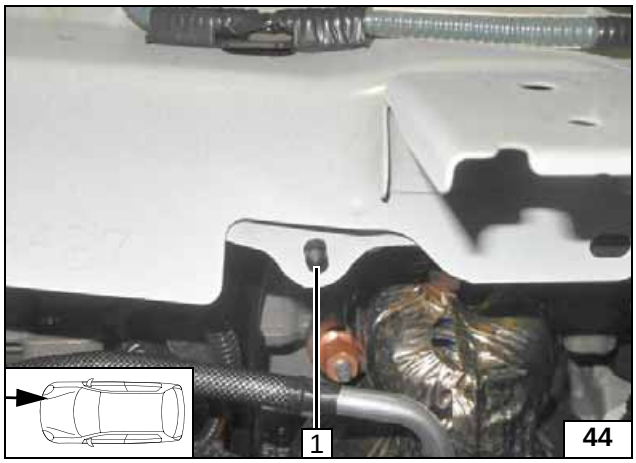
Installing bracket B



1 90°, 4.5x4.5mm dia. moulded hose; 10 mm clamp [2x]
2 Fuel line

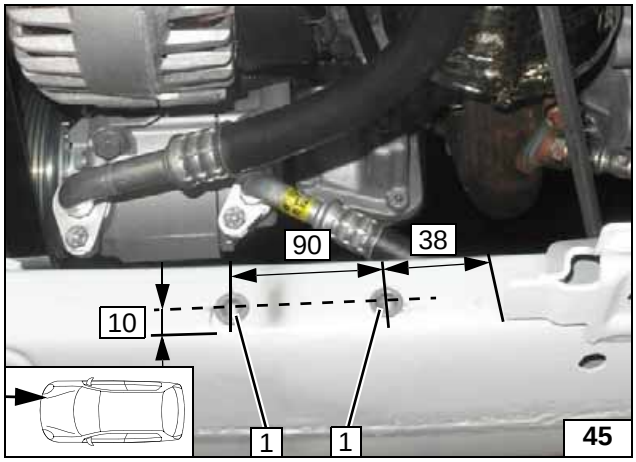
Installing fuel line

Preparing Installation Location



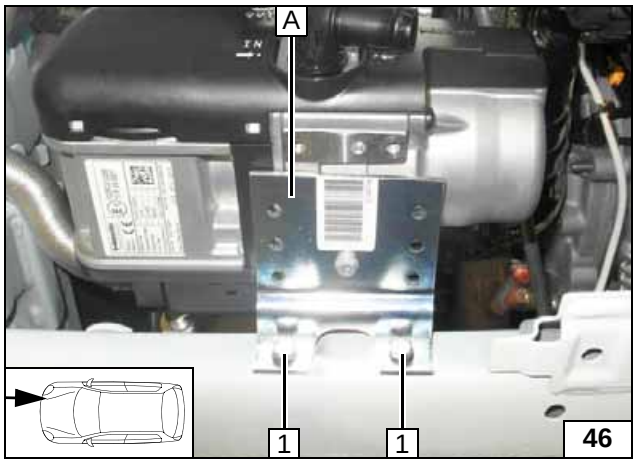
1 Discard original vehicle retaining clip

Removing retaining clip



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

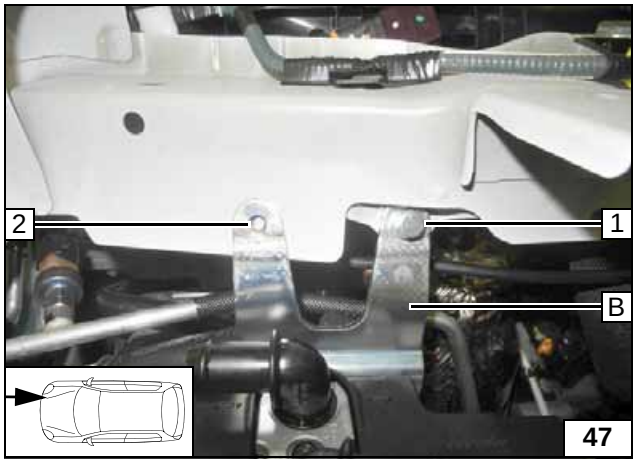
Installing rivet nut



Install bracket section **A** with heater loosely!

1 M6x20 bolt on rivet nut [2x]

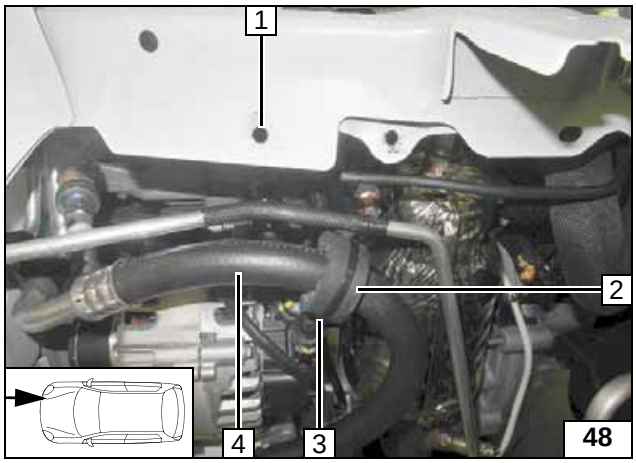
Loosely installing heater



Install bracket section **B** with heater loosely and align with cross member as shown!

1 M5x20 bolt, flanged nut, existing hole
2 Copy hole pattern

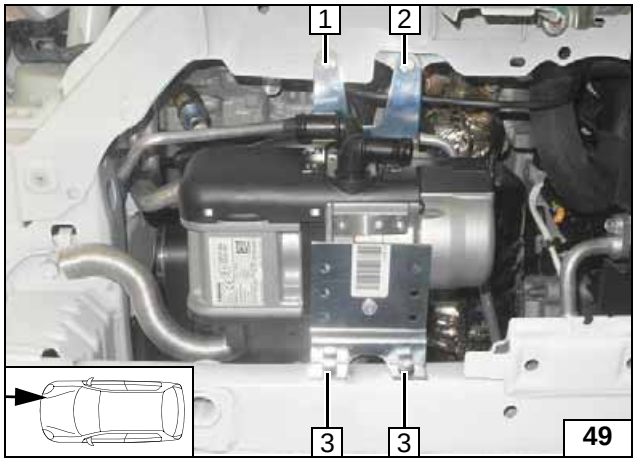
Copying hole pattern



Remove heater. Cut open black (sw) rubber isolator **2**, position onto A/C line **4** and secure using cable tie **3**!

1 7 mm dia. hole

Hole in cross member

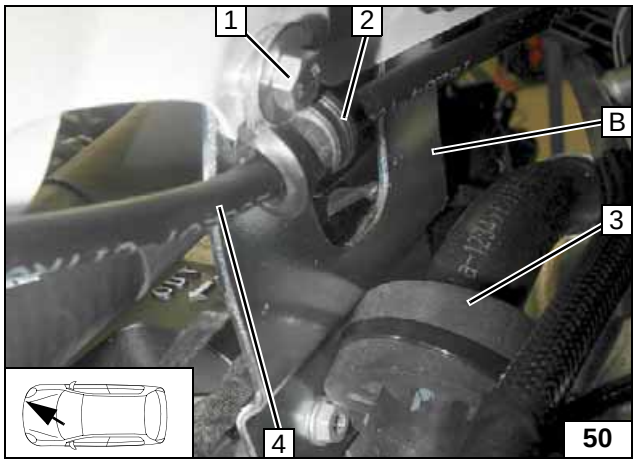


Installing Heater

Mount M5x20 bolt with large diameter washer and rubber-coated p-clamp at position **2** from behind on the cross member as shown in the next figure!

1 M6x20 bolt, spring lockwasher, flanged nut
2 M5x20 bolt, large diameter washer with outer dia.d_a = 15mm, 8mm dia. rubber-coated p-clamp, flanged nut
3 M6x20 bolt, spring lockwasher

Mounting heater



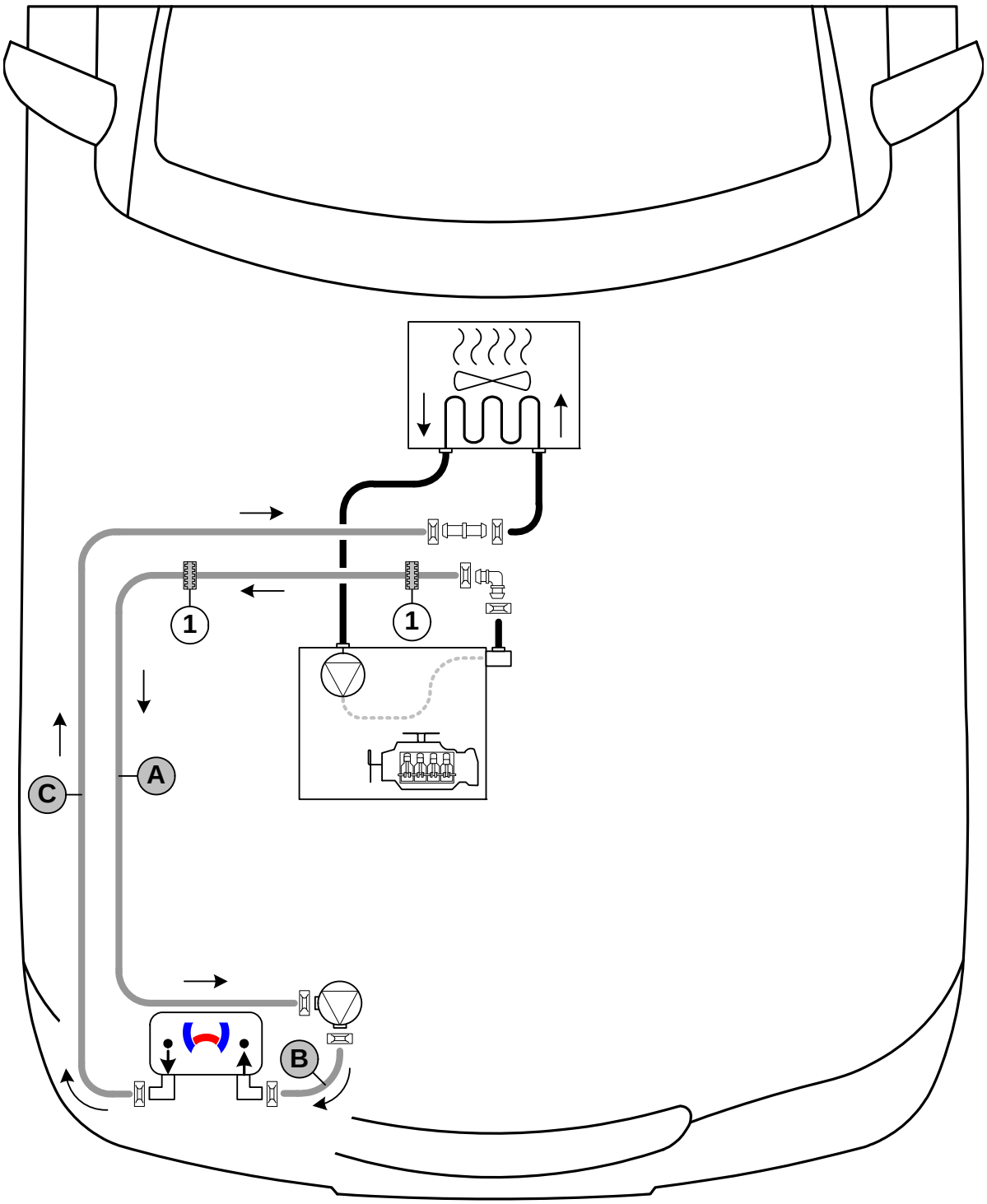
Before installing M5x20 bolt **1**, route original vehicle pressure relief line **4** through rubber-coated p-clamp **2**. Align black (sw) rubber isolator **3** with bracket section **B**!

Mounting heater

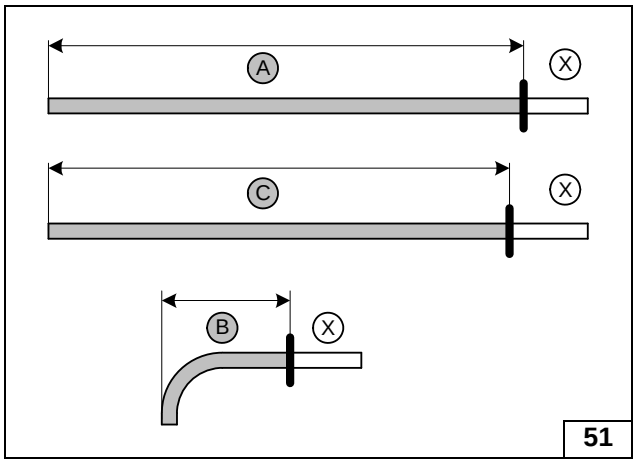
Coolant Circuit

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

Hose routing diagram



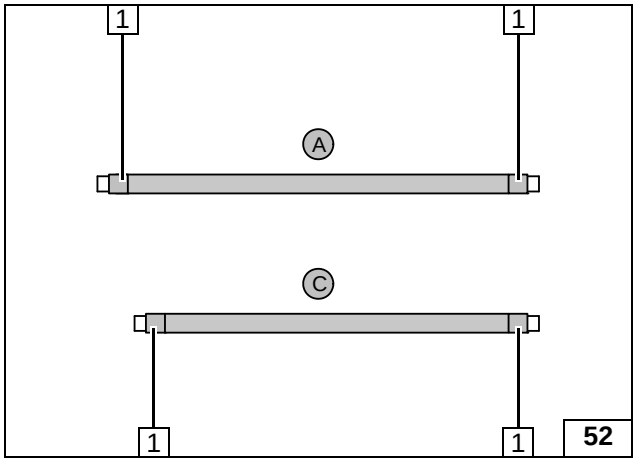
All connecting pipes without a specific designation = 25mm dia.
1 = Black (sw) rubber isolator . All connecting pipes and = 18x18 mm dia.



Discard section **X**.
Hose **B** = 18mm dia., 90° moulded hose

A = 1360
B = 120
C = 1310

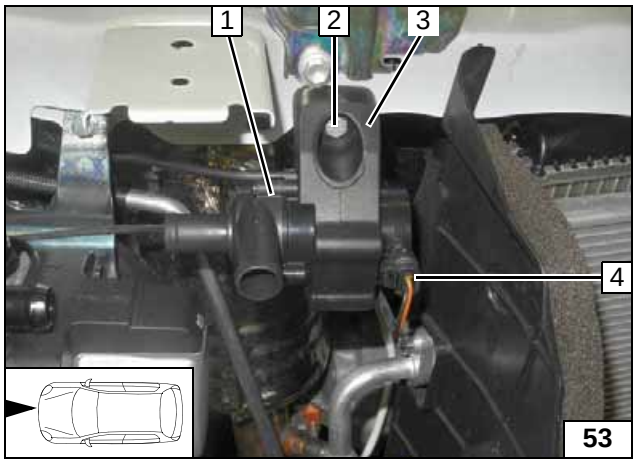
Cutting hoses to length



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

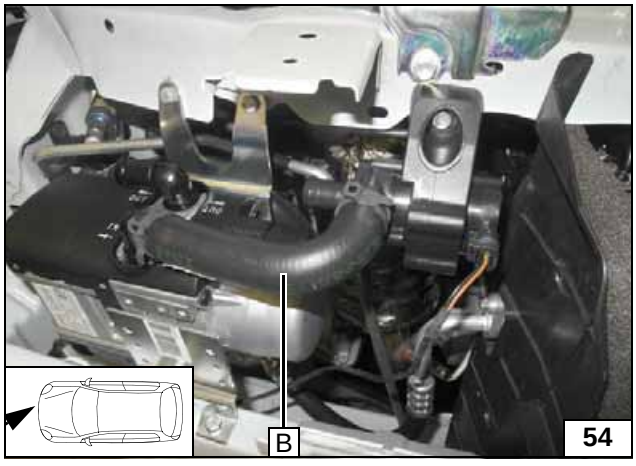
1 50 mm long heat shrink plastic tubing [4x]

Preparing hoses

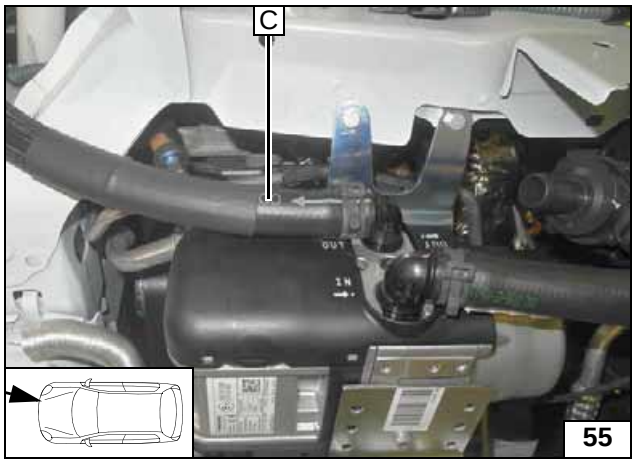


1 Circulating pump
2 M6x25 bolt, flanged nut, existing hole
3 Circulating pump mounting
4 Connector of circulating pump wiring harness

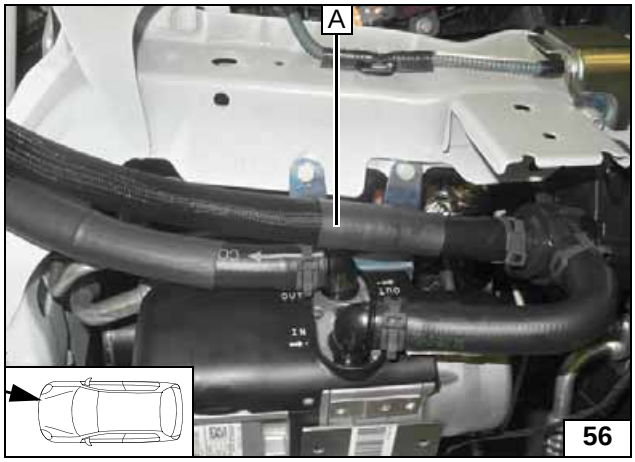
Mounting circulating pump



Connecting circulating pump and heater inlet



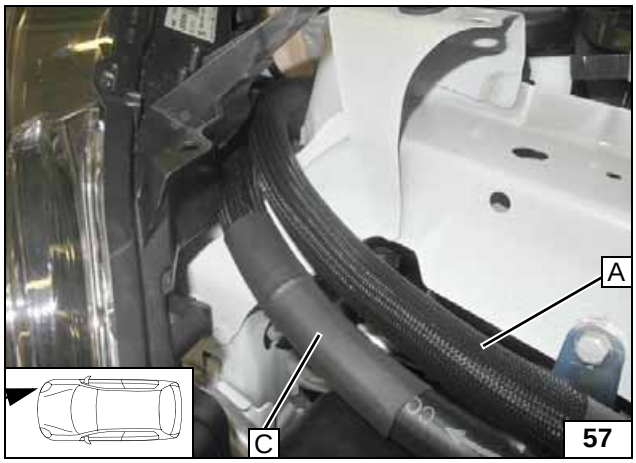
Connecting heater outlet



Connecting circulating pump

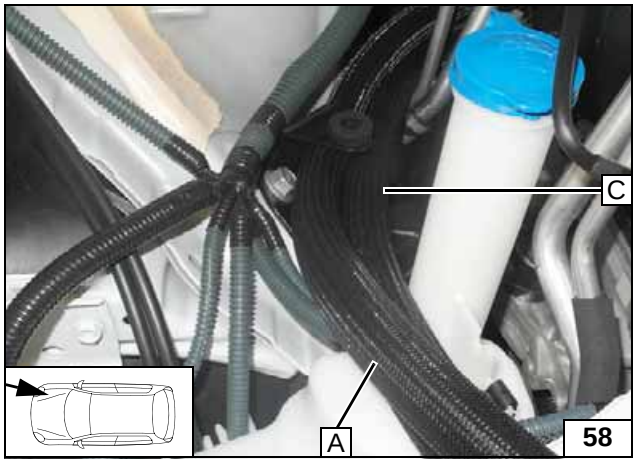
Route hoses **A** and **C** as shown!

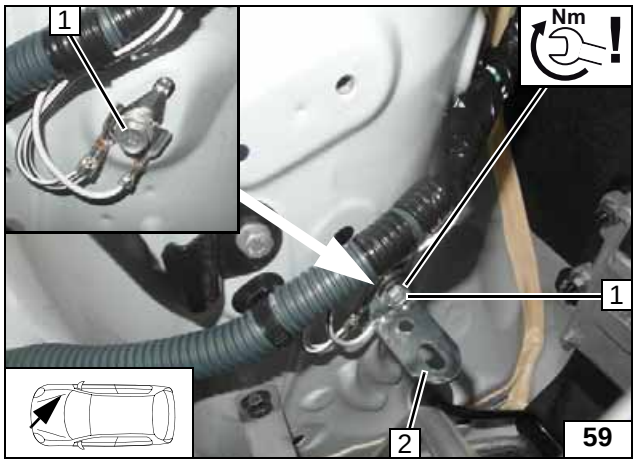
Routing in engine compartment



Route hoses **A** and **C** as shown!

Routing in engine compartment

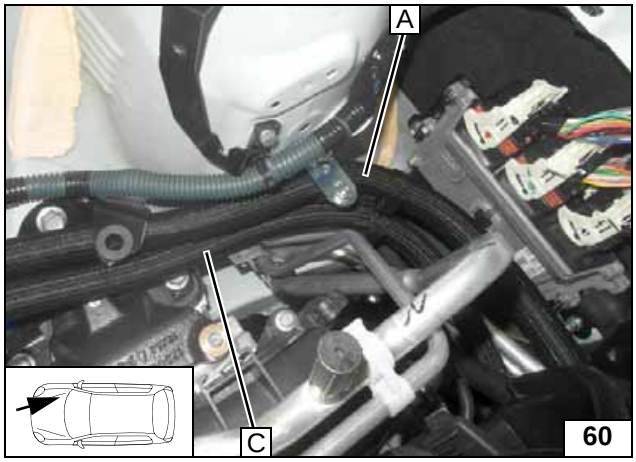




Install angle bracket **2** onto original vehicle earth point!

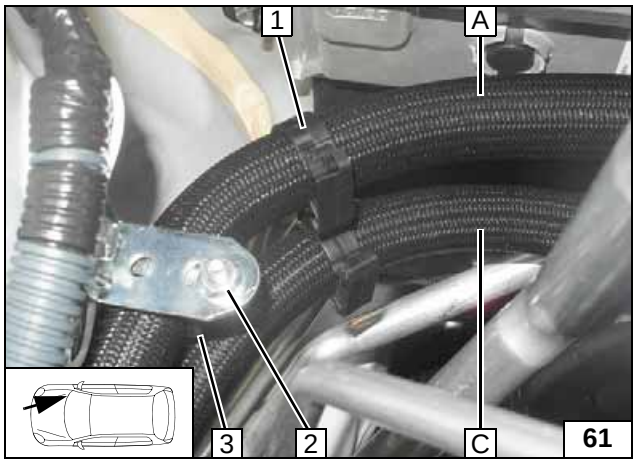
1 Original vehicle bolt of earth point

Installing angle bracket



Route hoses **A** and **C** as shown to cutting point!

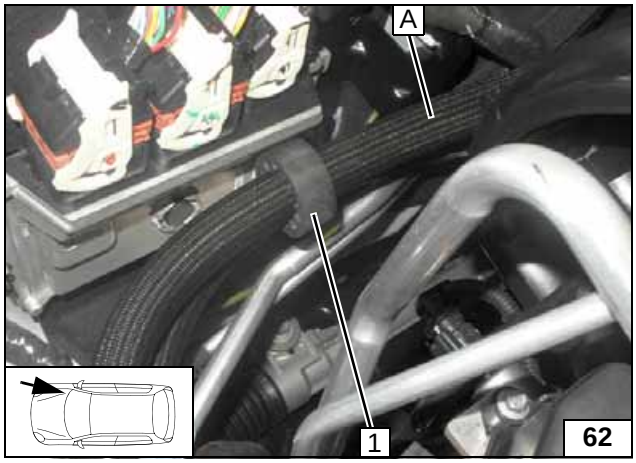
Routing in engine compart-ment



Attach hose **A** to angle bracket from below using rubber-coated p-clamp **3**!

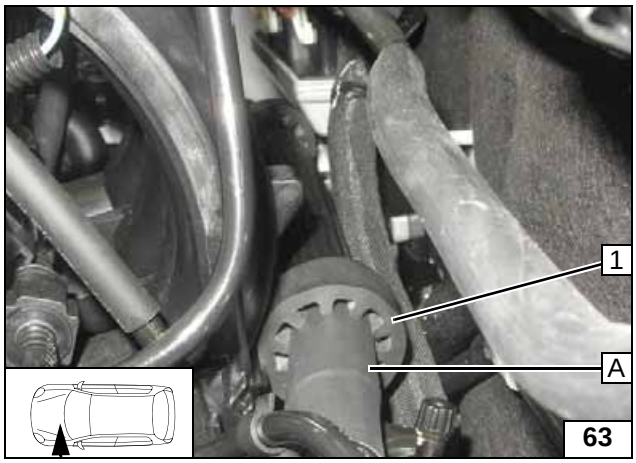
1 Hose bracket (between hoses **A** and **C)**
2 M6x20 bolt, flanged nut

Routing in engine compart-ment



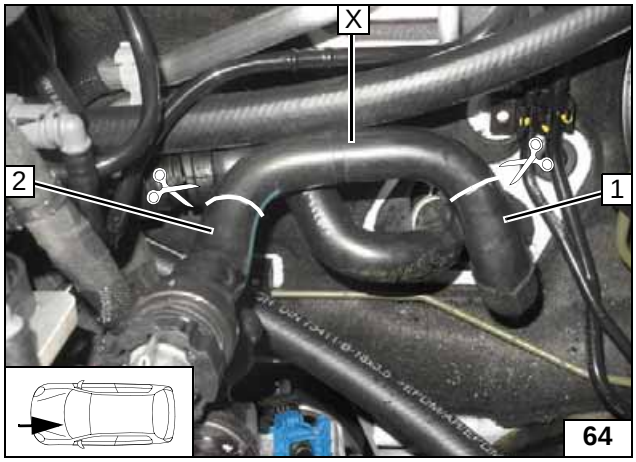
Slide black (sw) rubber isolator **1** onto hose **A** and align with control unit!

Aligning rubber iso-lator



1 Black (sw) rubber isolator

Sliding on rubber isolator

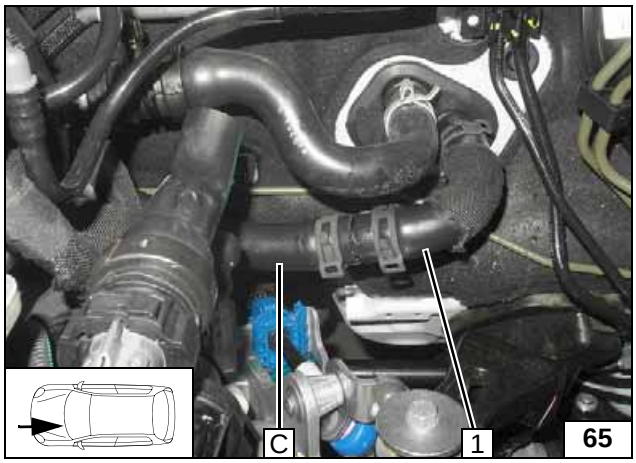


Cut off hose on engine outlet/heat exchanger inlet at markings.

Discard section **X**

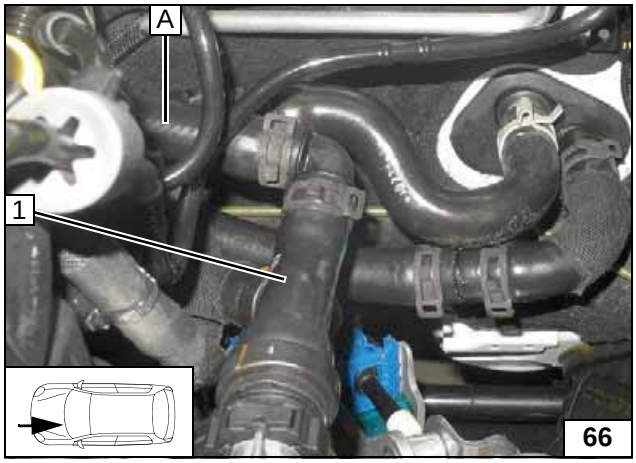
1 Hose section of heat exchanger inlet
2 Hose section of engine outlet

Cutting point



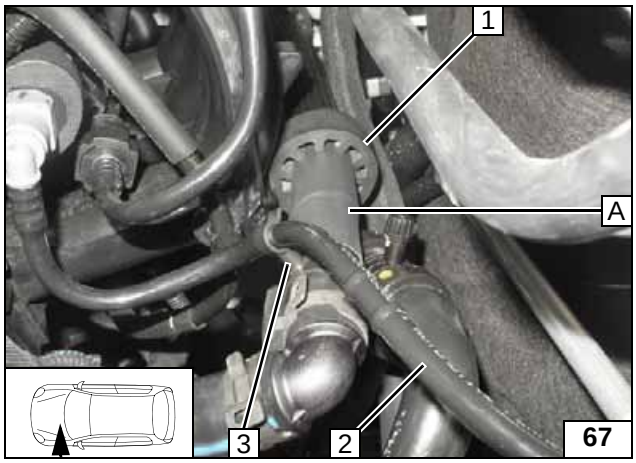
Turn hose of heat exchanger inlet **1** on connection piece to the right by approx. 90°!

Connecting heat exchanger inlet



1 Hose of engine outlet

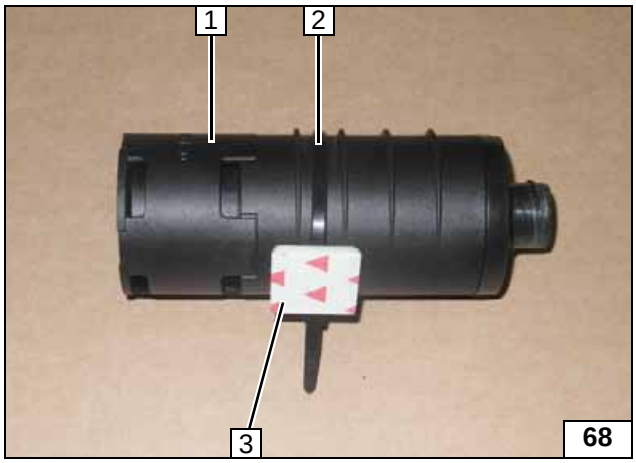
Connecting engine outlet



Align hoses. Ensure sufficient distance to neighbouring components; correct if necessary.

1 Align black (sw) rubber isolator
3 Hose bracket (between hose **A** and original vehicle line **2**)

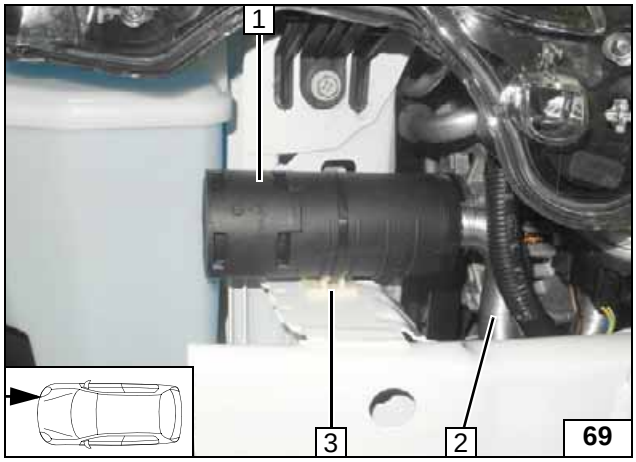
Mounting hose bracket



Combustion Air

1 Silencer
2 Cable tie
3 Adhesive base

Premounting silencer

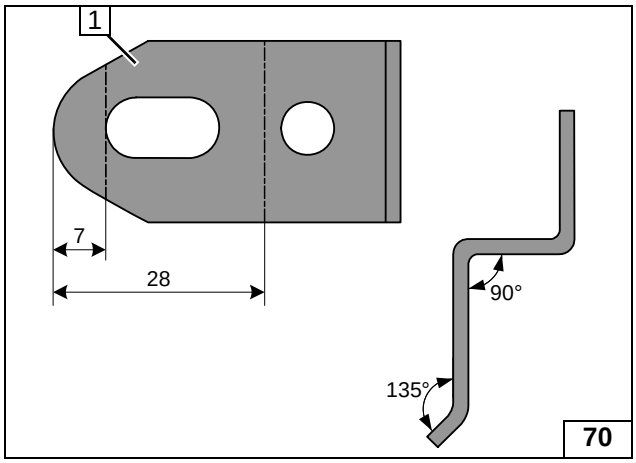


Degrease bonding surface.

1 Silencer
2 Combustion air pipe
3 Adhesive base

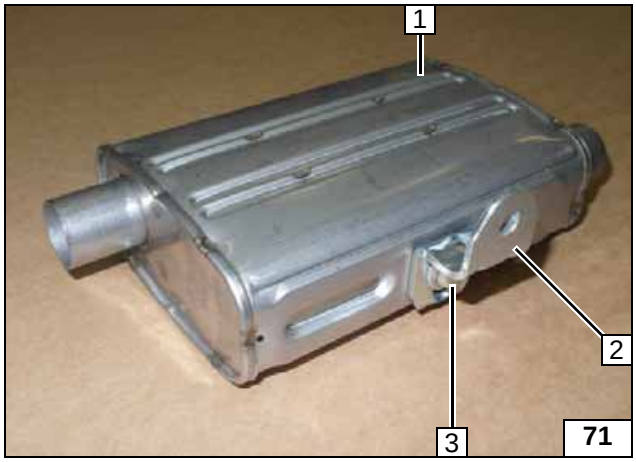
Mounting silencer

Exhaust Gas



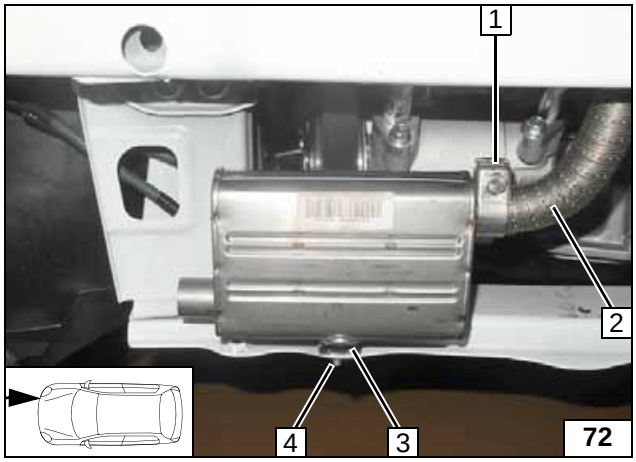
1 Angle bracket

Preparing angle bracket



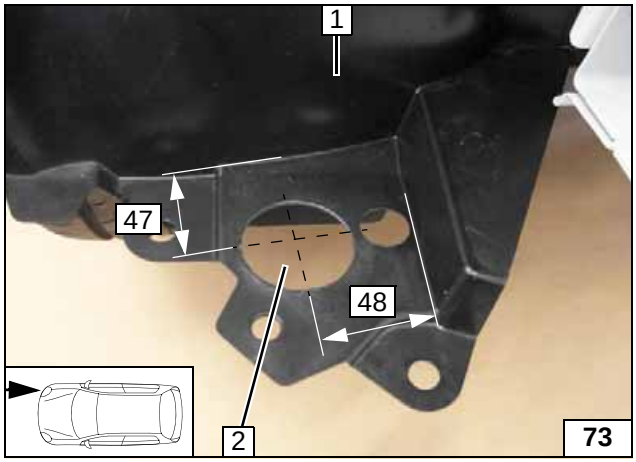
1 Silencer
2 Angle bracket
3 M6x16 bolt, spring lockwasher, large diameter washer

Premounting silencer



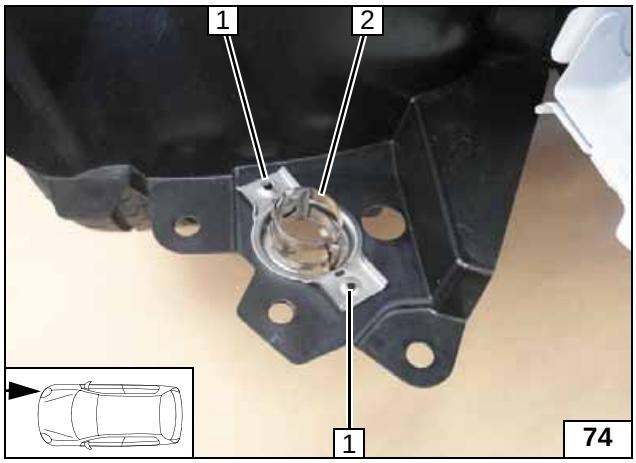
1 Hose clamp
2 Exhaust pipe
3 Angle bracket
4 M6x25 bolt on original vehicle threaded hole

Installing exhaust pipe and silencer



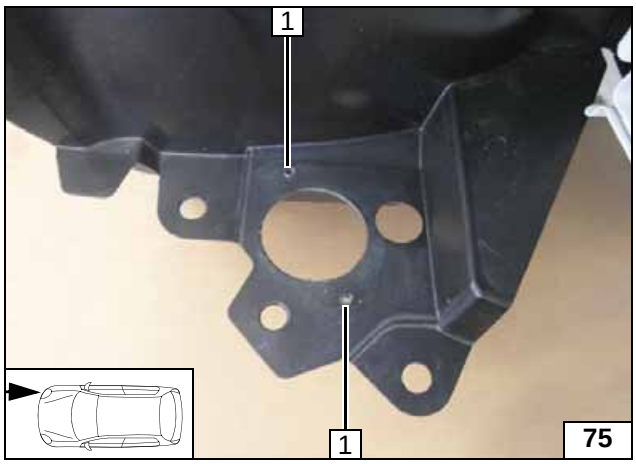
1 Wheel well trim
2 Hole (according to work step 1 of the installation instructions)

Hole in wheel well trim



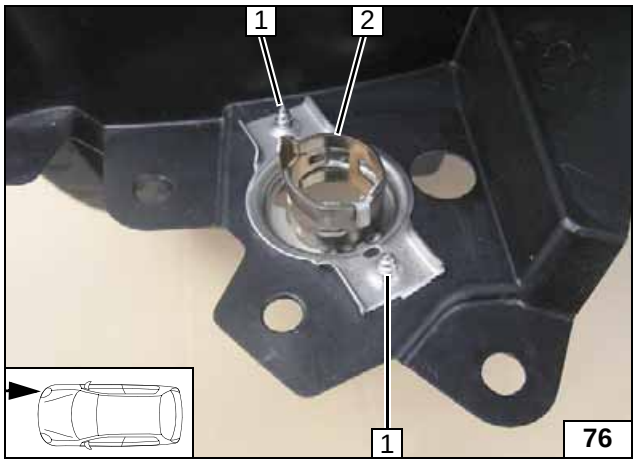
Cut exhaust end fastener **2** as per installation instructions to length. Position exhaust end fastener **2** as per work step 3 of the installation instructions and copy hole pattern **1** [2x].

Copying hole pattern



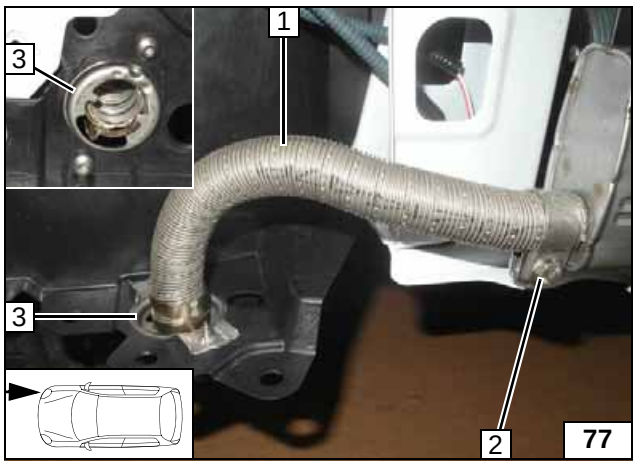
Hole **1** [2x] as per work step 4 of the installation instructions.

Holes in wheel well trim



1 Self-tapping screw 5x13 [2x] according to work step 5 of the installation instructions
2 Exhaust end fastener

Mounting exhaust end fastener



Mount 250mm exhaust end section **1** according to work step 6 - 8 of the installation instructions.

2 Hose clamp
3 Exhaust end fastener

Installing exhaust end section

Fuel

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

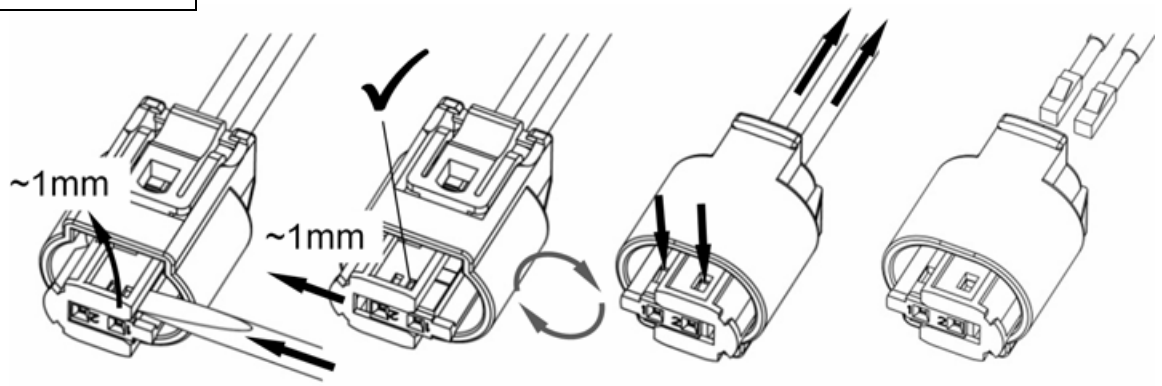
Catch any fuel running off in an appropriate container.

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

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

Dismantling connector of metering pump

Connector X7



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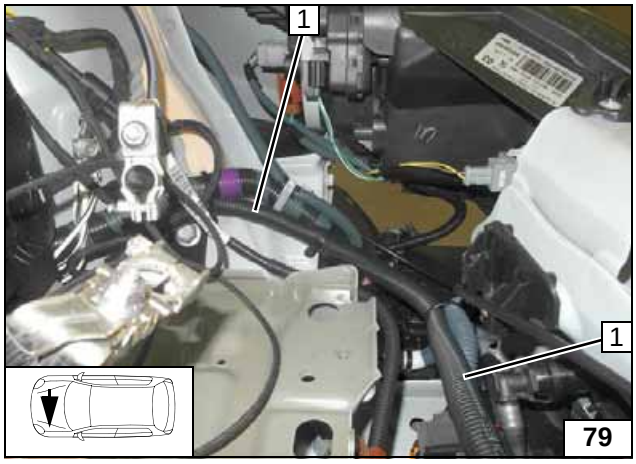

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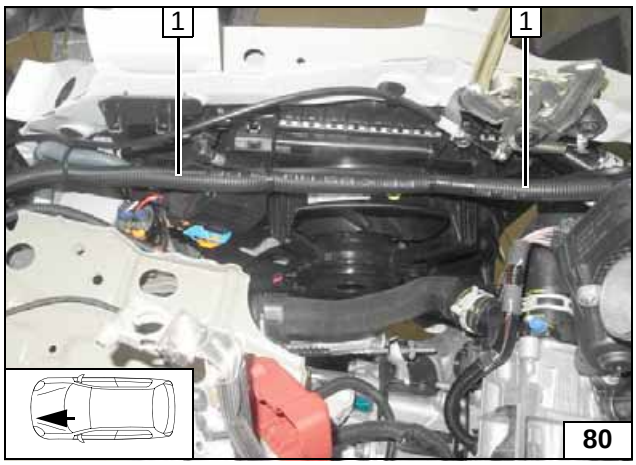
Route wiring harness of heater **1** in slit open 13mm dia. corrugated tube to installation location of heater!

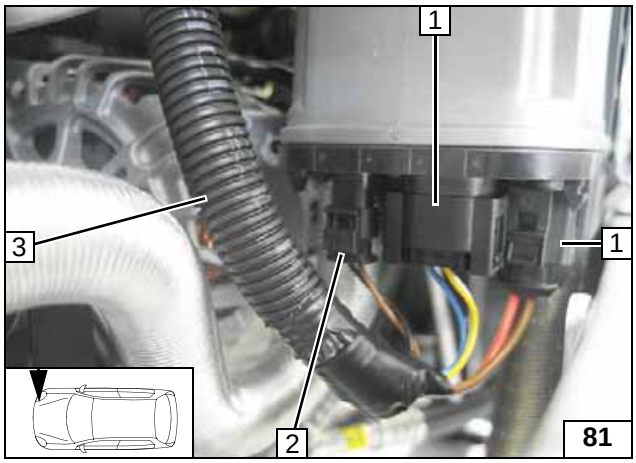
Routing wiring harness of heater



80

1 Wiring harness of heater in 13mm dia. corrugated tube (will be secured later)

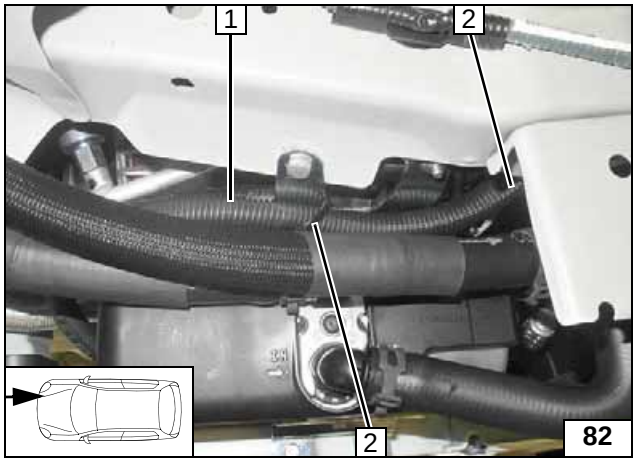
Routing wiring harness of heater



Lead wiring harness of heater out of 13mm dia. corrugated tube. Pull both wiring harnesses of metering pump and circulating pump into 13mm dia. corrugated tube **3**!

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

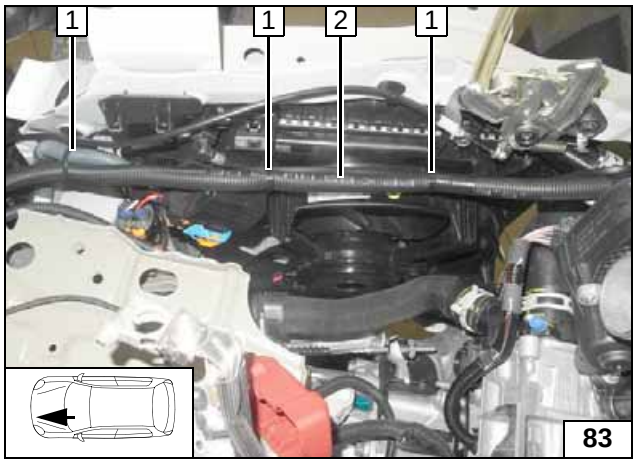
Installing wiring harnesses



Lead wiring harness of circulating pump in position **2** out of 13mm dia. corrugated tube **1**. Route also fuel line of heater in 13mm dia. corrugated tube!

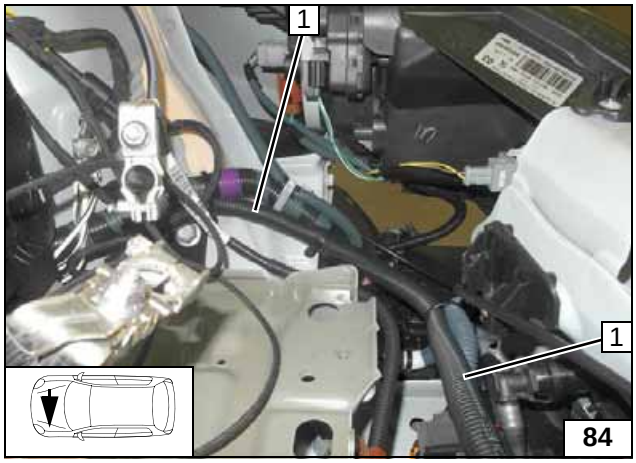
2 Cable tie on bracket **B**

Routing lines



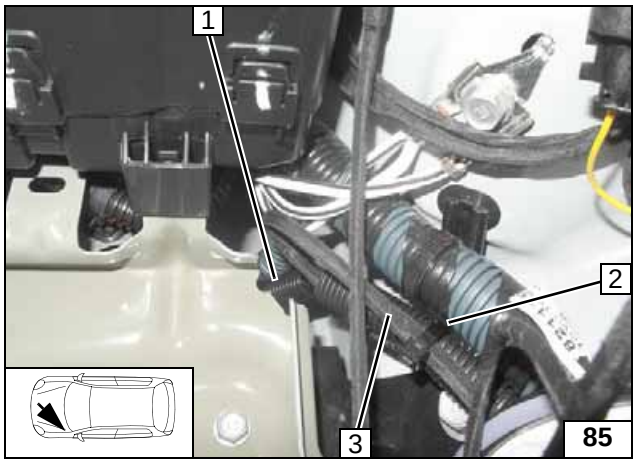
1 Cable tie [3x]
2 Wiring harness of heater, metering pump and fuel line of heater in 13mm dia. corrugated tube

Routing lines



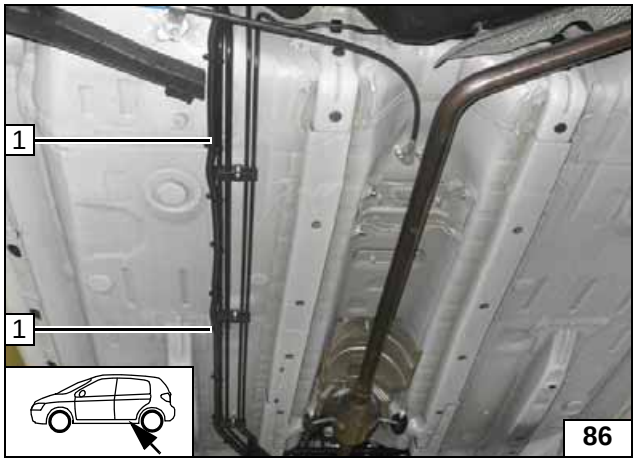
1 Wiring harness of heater, metering pump and fuel line of heater in 13mm dia. corrugated tube

Routing lines



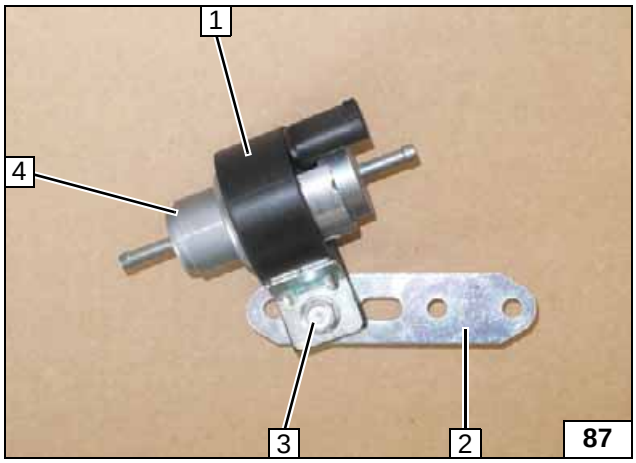
Attach wiring harness of heater **3** to 13mm dia. corrugated tube using cable tie **2**. Route wiring harness of metering pump and fuel line of heater in 10mm dia. corrugated tube **1** along original vehicle lines to underbody!

Routing lines



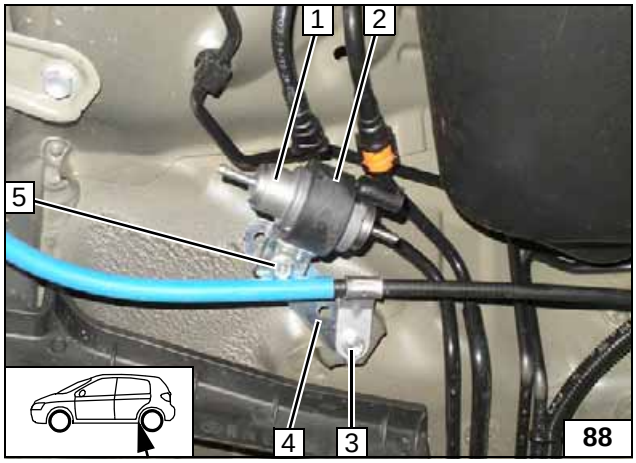
Route fuel line and wiring harness of metering pump in 10mm dia. corrugated tube **1** along original vehicle fuel lines to installation location of metering pump.

Routing lines



1 Mounting of metering pump
2 Perforated bracket
3 M6x25 bolt, support angle bracket, flanged nut
4 Metering pump

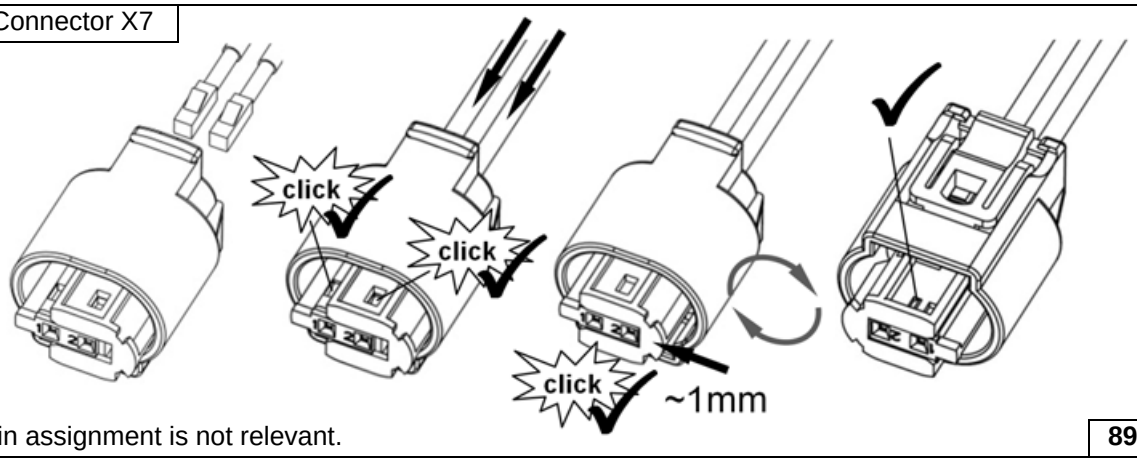
Premounting metering pump



1 Metering pump
2 Mounting of metering pump
3 Original vehicle bolt, bracket of handbrake cable
4 Perforated bracket
5 M6x25 bolt, support angle bracket, flanged nut

Mounting metering pump

Connector X7



Pin assignment is not relevant.

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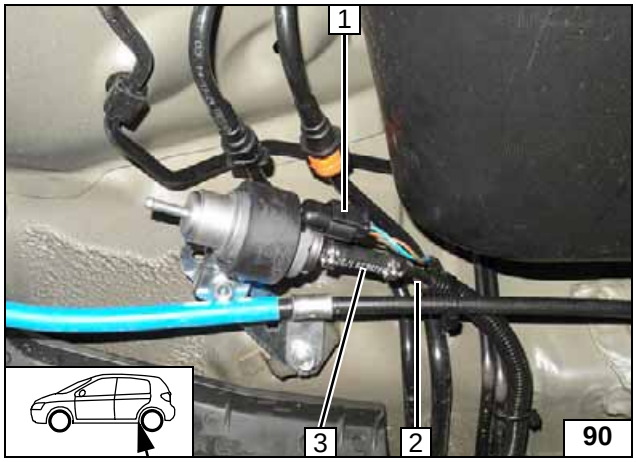
Completing connector of metering pump



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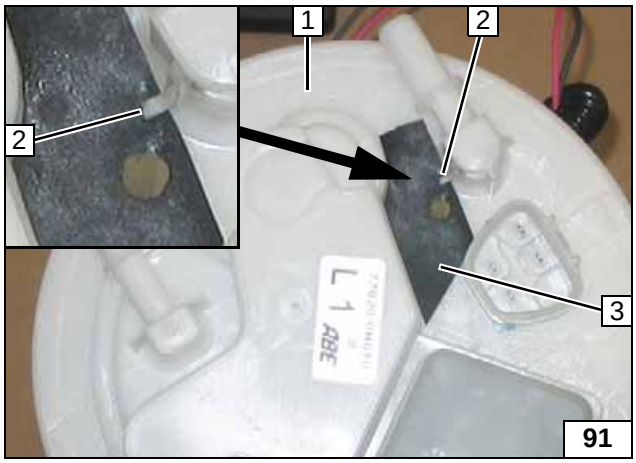
1 Wiring harness of metering pump, connector X7 mounted
2 Fuel line of heater
3 Hose section, 10mm dia.clamp [2x]

Connecting metering pump



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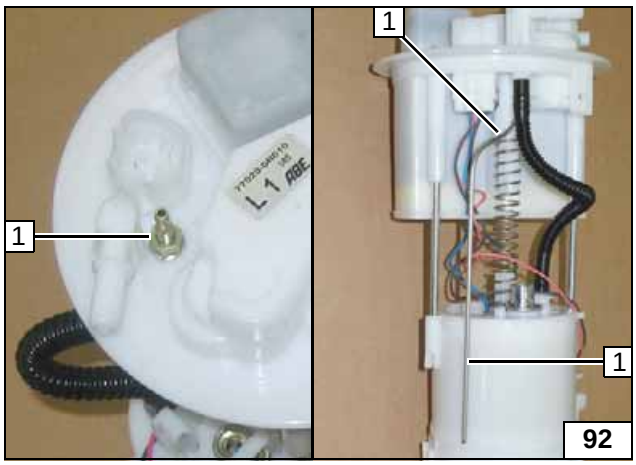
Remove fuel-tank sending unit **1** in accordance with the manufacturer's instructions.

3 Position template, copy hole pattern, 6mm dia. hole

Remove plastic rib **2**.

Fuel extraction



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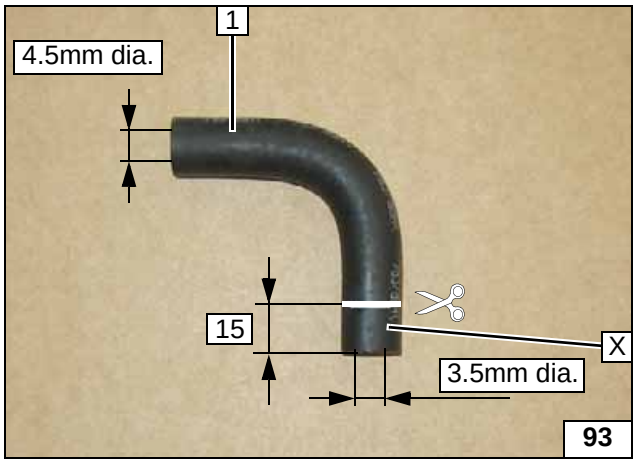
Shape fuel standpipe **1** according to template and cut it to length.

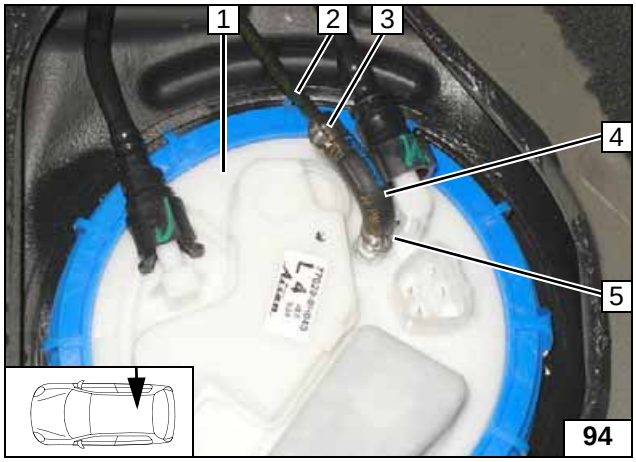
Installing fuel standpipe



Discard section **X**.

1 90°, 3.5x4.5mm dia. moulded hose

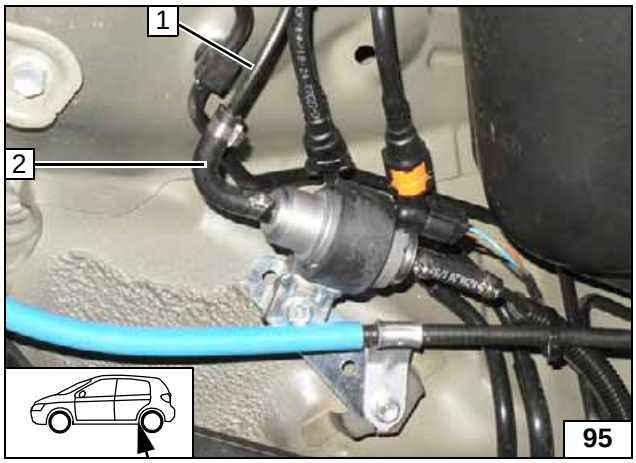
Shortening moulded hose



Install and complete fuel-tank sending unit **1** according to manufacturer's instructions. Moulded hose **4** with 3.5mm dia. side on the fuel standpipe!

2 Fuel line
3 10mm dia. Caillau clamp
4 90°, 3.5x4.5mm dia. moulded hose
5 9mm dia. Caillau clamp

Connecting fuel line



Ensure sufficient distance to neighbouring components; correct if necessary.

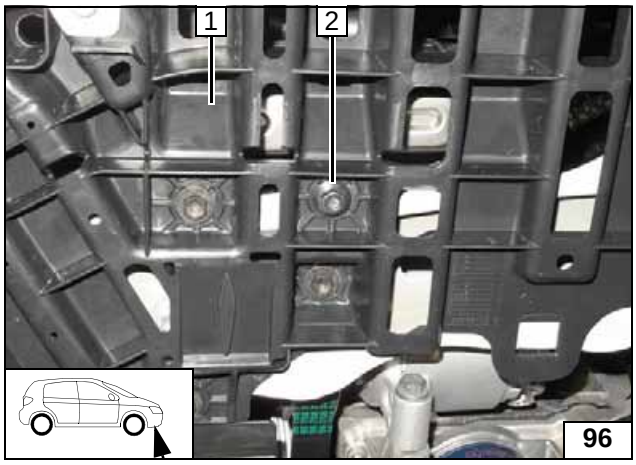
1 Fuel line of fuel standpipe
2 90° moulded hose, 10mm dia. clamp [2x]

Connecting metering pump

Final Work

WARNING!
Mount removed parts in reverse order. Check all hoses, clamps and all electrical connections for firm seating. Insulate all loose wires and tie back.
Only use manufacturer-approved coolant. Spray the heater components with anti-corrosion wax (Tectyl 100K, Order No. 111329).

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



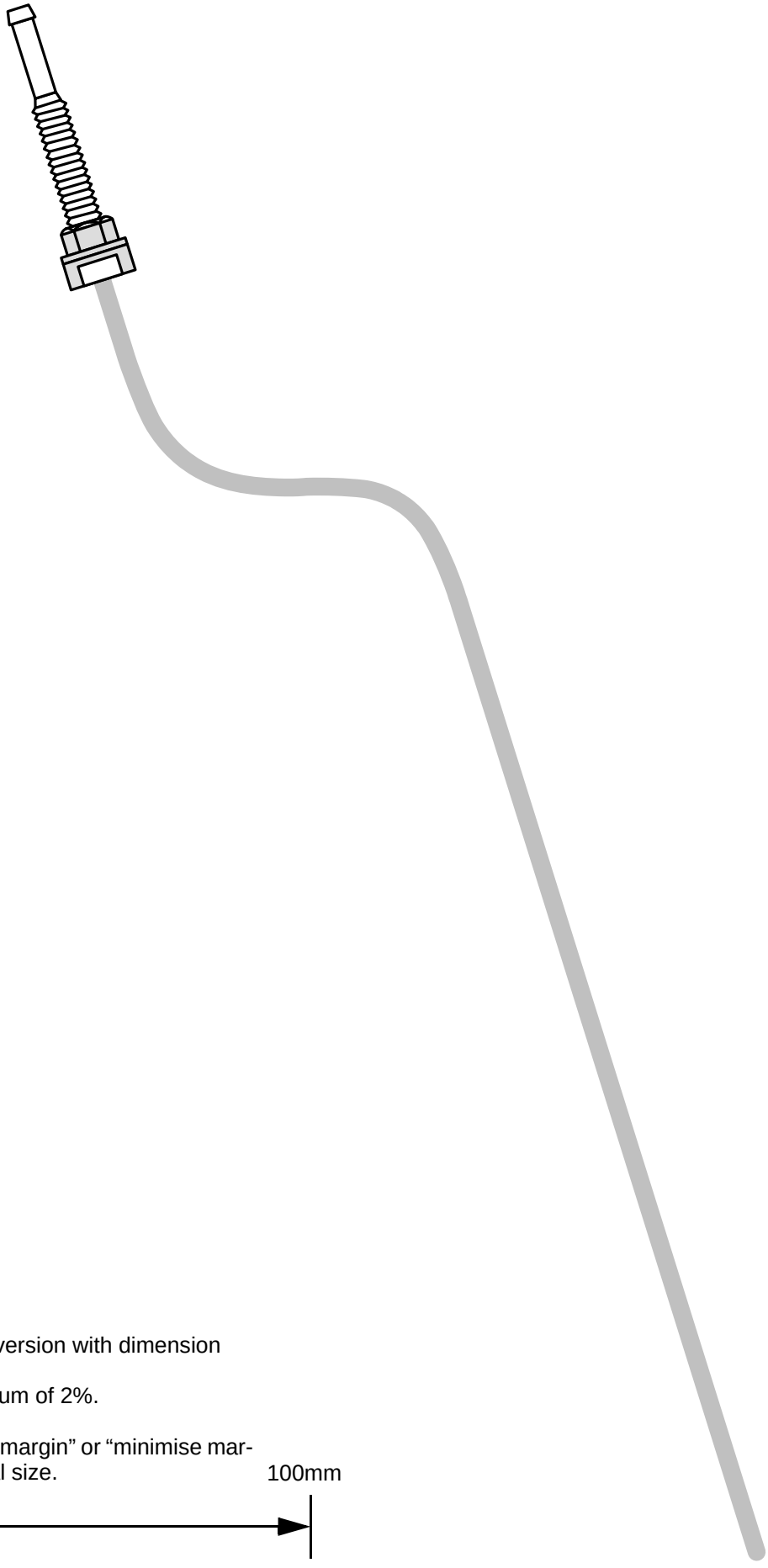
Original vehicle bolt at position **2** is omitted!

1 Install underride protection
2 M6 flanged nut on M6x25 bolt

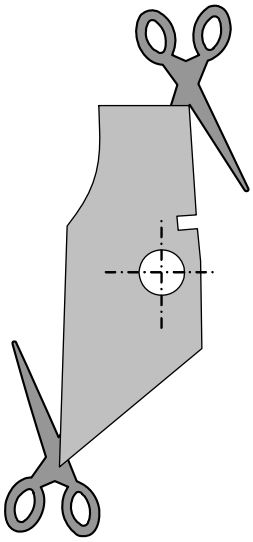
Mounting underride protection

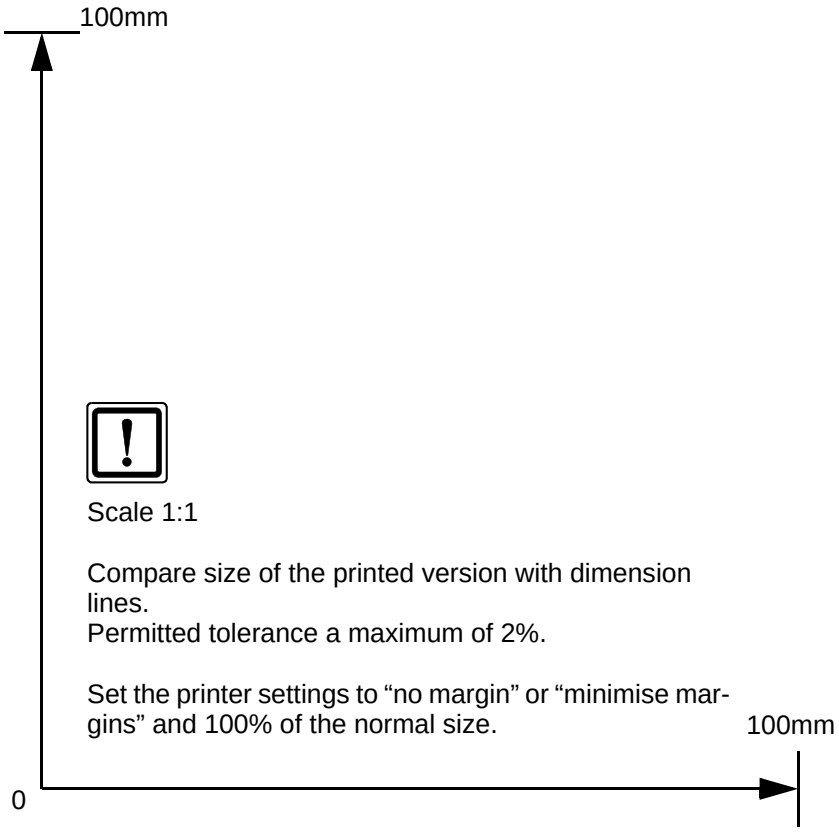
Webasto Thermo & Comfort SE
Postfach 1410
82199 Gilching
Germany
Internet: www.webasto.com
Technical Extranet:
http://dealers.webasto.com

Template for Fuel Standpipe



Template for Fuel-Tank Sending Unit





Scale 1:1

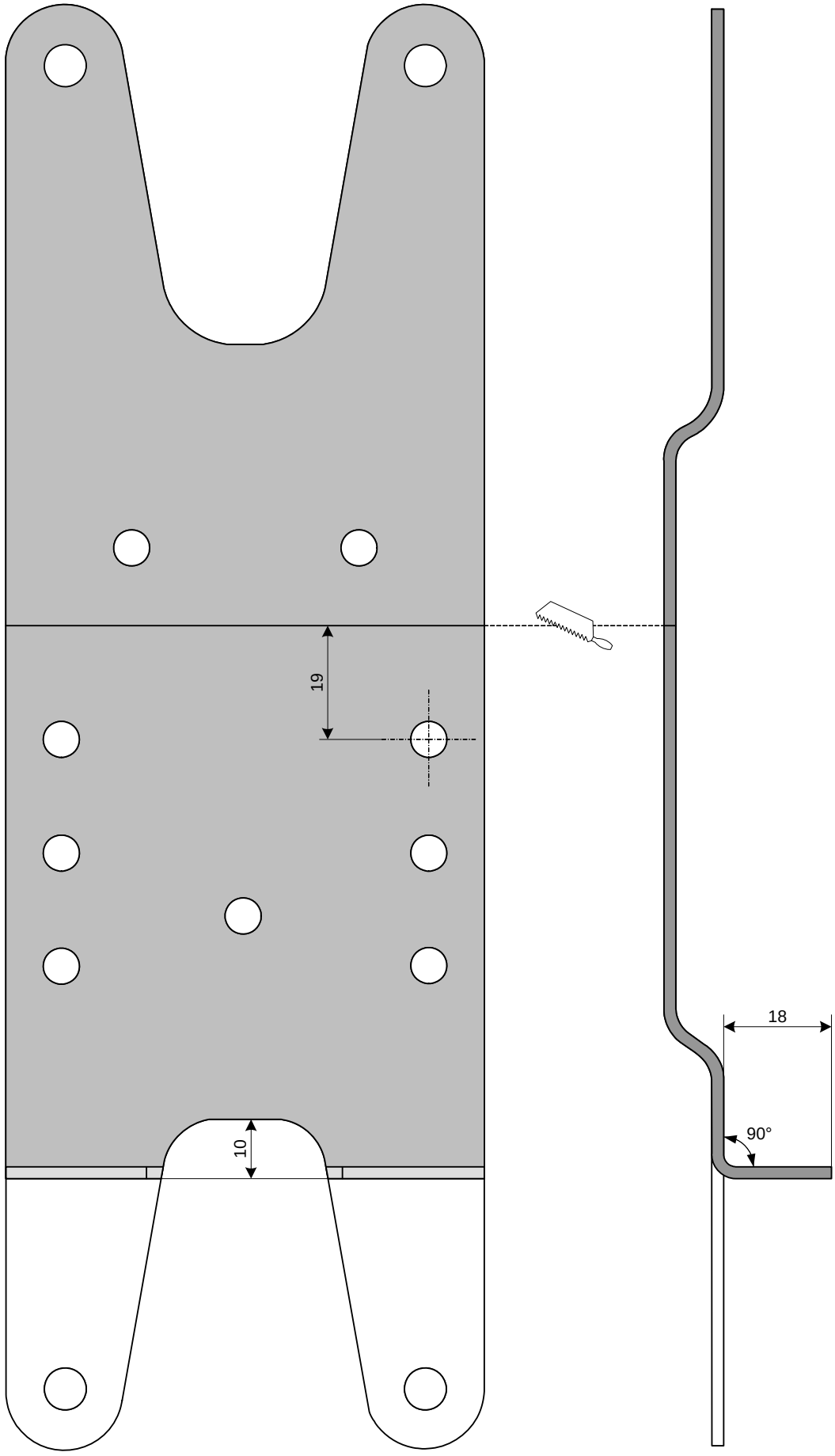
Compare size of the printed version with dimension lines.
Permitted tolerance a maximum of 2%.

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

Template for Bracket

Section B

Section A



Webasto
Feel the Drive

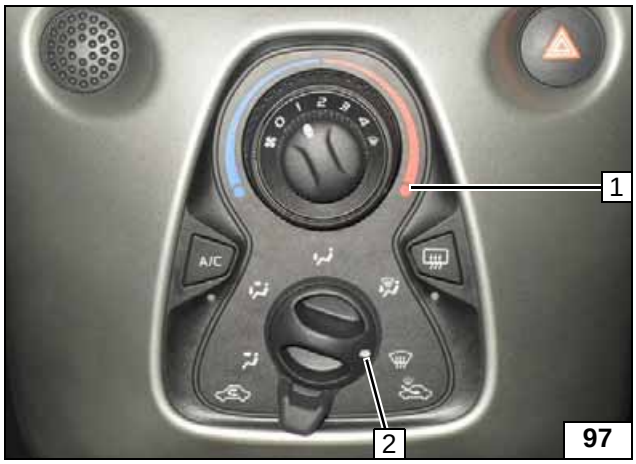
Operating Instructions for Manual Air-Conditioning

Please remove page and add to the vehicle operating instructions.

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

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.

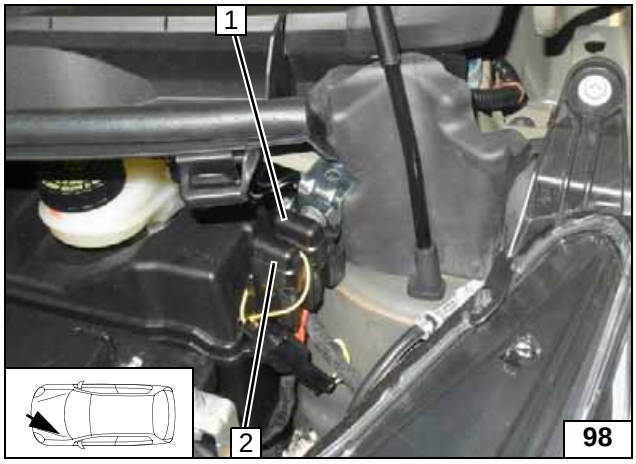
Before parking the vehicle, make the following settings:



It is not necessary to preset the fan speed.

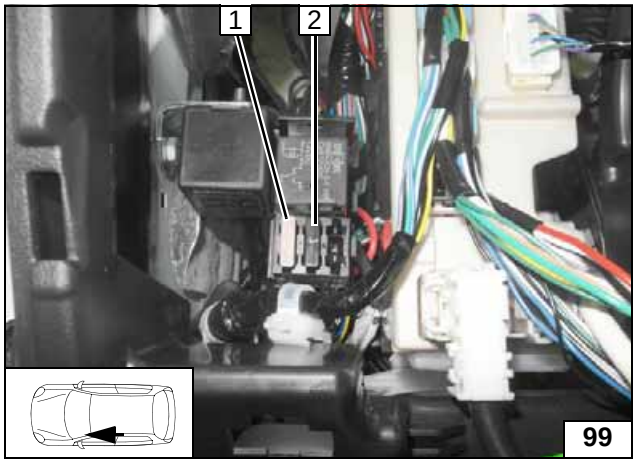
1 Set temperature to "max."
2 Air outlet onto windscreen

A/C control panel



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

Fuses of engine compartment



1 3A fuse of A/C control panel F4
2 1A fuse of heater control F3

Fuses of passenger compartment

Webasto
Feel the Drive

Operating Instructions 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.

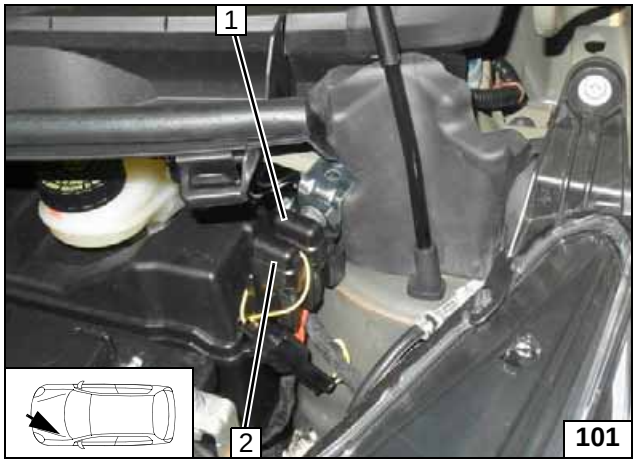
Passenger compartment monitoring, if installed, must be deactivated in addition to the vehicle settings for the heating operation.
For instructions on deactivation, please refer to the operating instructions of the vehicle.

Before parking the vehicle, make the following settings:

It is not necessary to preset the fan speed.

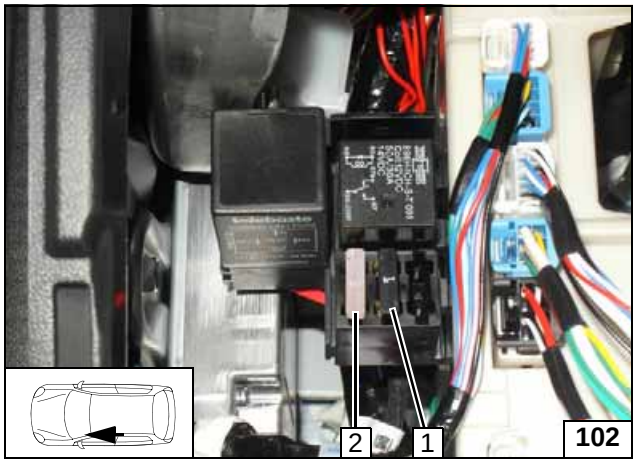
1 Set temperature to "max."
2 Air outlet onto windscreen

A/C control panel



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

Fuses of engine compartment



1 1A fuse of heater control F3
2 3A fuse of A/C control panel F4

Fuses of passenger compartment