Water Heater

Thermo Top Evo Parking Heater
"Island based circuit"

E1
00 0258

Installation Documentation
Peugeot 3008

Validity

Manufacturer	Model	Type	EG-BE No./ ABE
Peugeot	3008	0U	e1 * 2001 / 116 * 0377* ...

Motorisation	Fuel	Transmission type	Output in kW	Displacement in cm³	Engine code
1.6 HDI	Diesel	SG	84	1560	9HD
1.6 BLUE HDI	Diesel	6-speed SG	88	1560	BHZ

SG = manual transmission

From model year 2014
Left-hand drive vehicle

Verified equipment variants: Manual / automatic air-conditioning system
Front fog lights
Headlight washer system
BI-Xenon

Not verified: Passenger compartment monitoring

Total installation time: approx. 11 hours

Peugeot 3008

Table of Contents

Necessary Components

- Basic delivery scope *Thermo Top Evo* according to price list
- Installation kit Peugeot 3008 2014 1.6 Diesel: **1323017C**
- 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
- In case of installation of MultiControl CAR: MultiControl installation frame: **9030077**_

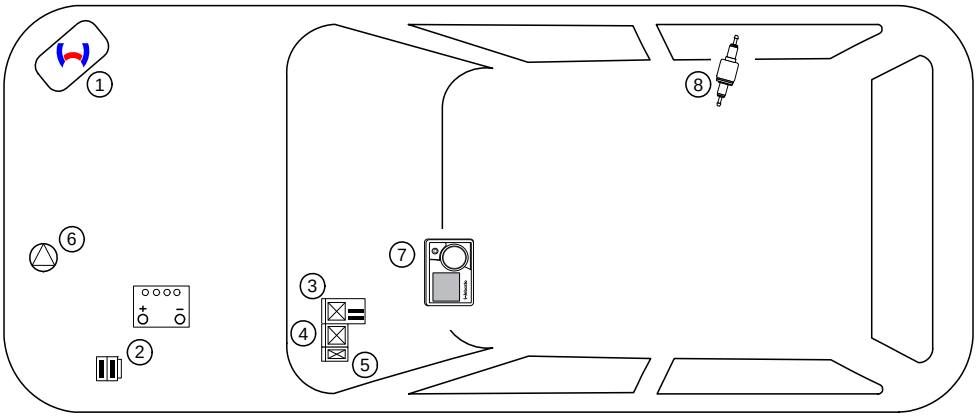
Installation instructions:

- Arrange for the vehicle to be delivered with the tank only about ¼ full.
- The installation location of the push button in the 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.
- Integration in the coolant circuit is based on the island circuit model. In parking heating mode there will be **no** engine pre-heating!

Installation Overview

Legend:

1. Heater
2. Fuse holder of engine compartment
3. Relay and fuse holder of passenger compartment
4. PWM GW
5. K2 relay (only with automatic A/C)
6. Circulating pump
7. MultiControl CAR
8. Metering pump



Information on Total Installation Time

The total installation time includes the time needed for mounting and demounting 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 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, 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 ECE regulation 122 (heating system) paragraph 5 for the installation of the heater

Beginning of excerpt.

ANNEX VII

REQUIREMENTS FOR COMBUSTION HEATERS AND THEIR INSTALLATION

1. GENERAL REQUIREMENTS

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

2. VEHICLE INSTALLATION REQUIREMENTS

2.1. Scope

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

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

2.2. Positioning of heater

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

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

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

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

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

2.3. Fuel supply

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

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

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

2.4. Exhaust system

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

2.5. Combustion air inlet

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

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

2.6. Heating air inlet

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

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

2.7. Heating air outlet

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

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

End of excerpt.

In multilingual versions the German language is binding.

Information on Validity

This installation documentation applies to Peugeot 3008 1.6 Diesel vehicles - for validity see page 1 - from model year 2014 and later, assuming technical modifications to the vehicle do not affect installation, any liability claims excluded. Depending on the vehicle version and equipment, modifications may be necessary during installation with respect to this “installation documentation”.

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

Technical Information

Special Tools

- Hose clamp pliers for self-clamping 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
- Bleeding device K-01102 from PSA or Facon 935A or SNA DRZ 2000

Dimensions

- All dimensions are in mm.

Tightening torque values

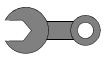
- Tightening torque values of 5x13 heater bolts and 5x11 heater stud bolts = 8Nm.
- Tightening torque values of 5x15 retaining plate of water connection piece bolts = 7Nm.
- Tighten other bolt connections in accordance with manufacturer's instructions or in accordance with state-of-the-art-technology.

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.

Special features are highlighted using the following symbols:

Mechanical System



Electrical System

Coolant Circuit

Combustion Air

Fuel

Exhaust Gas

Software

Specific risk of injury or fatal accidents.

Specific risk due to electrical voltage.

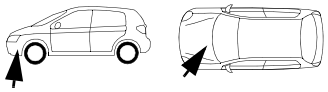
Specific risk of damage to components.

Specific risk of fire and explosion.

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

Reference to a special technical feature.

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



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

Peugeot 3008

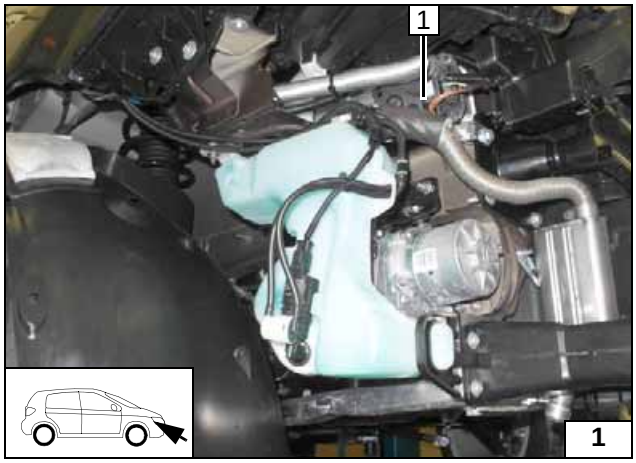
Preliminary Work

Vehicle

- Open the fuel tank cap.
- Ventilate the fuel tank.
- Close the fuel tank cap again.
- Depressurise the cooling system.
- Disconnect the battery and remove it completely along with the carrier.
- Remove the underride protection (if present).
- Remove the front right and left wheel well trim.
- Remove the bumper trim.
- Remove the right headlight.
- Remove the washer reservoir.
- Detach the front section of the individual rear seat on the right (2x screwed), fold up the seat and secure, remove the tank-fitting service lid.
- Remove the fuel tank sending unit in accordance with manufacturer's instructions.
- Remove the lower instrument panel trim on the driver's side.
- Remove the cover of the upper footwell trim on the driver's side.
- Remove the lateral trim of the instrument panel on the driver's side.
- Remove the lateral trim on the left of the central tunnel.

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

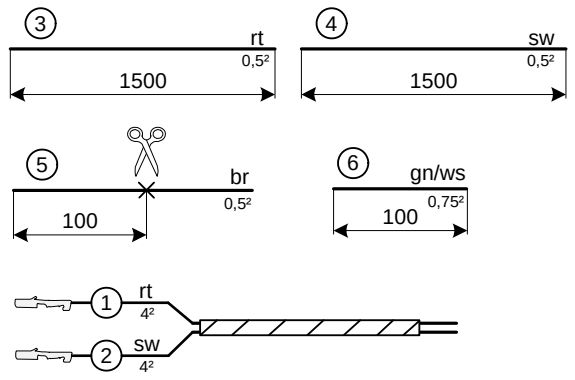
Wire sections retain their numbering in the entire document.

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

Pull wires ③ and ④ into protective sleeving

① Red (rt) wire of fan wiring harness
② Black (sw) wire of fan wiring harness

Cutting to length / assigning wires



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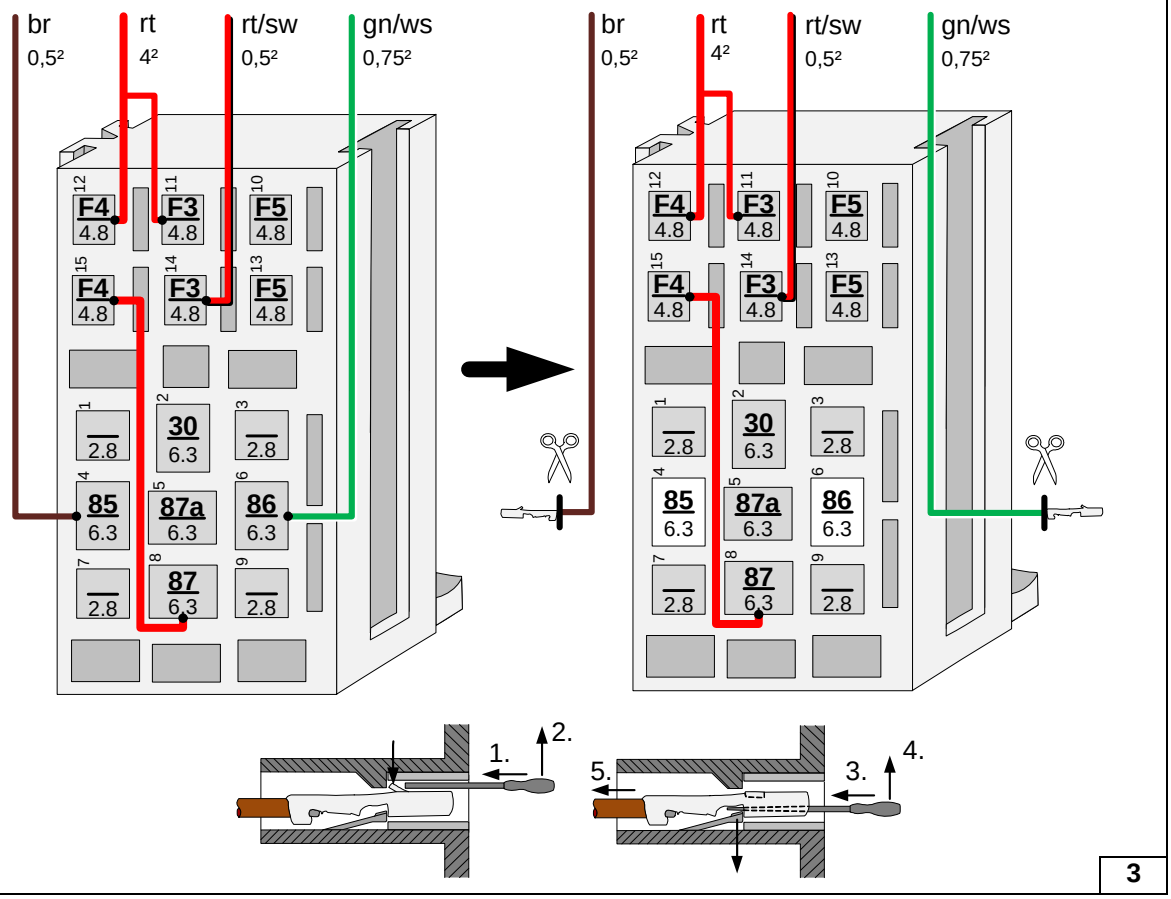
Preparing passenger compartment relay and fuse holder



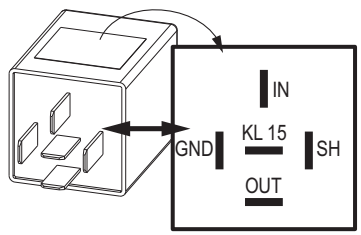
3

Check the PWM Gateway settings during start-up of the heater and adjust if necessary.

Settings:

Duty cycle: 100% (DC)
Frequency: not relevant
Voltage: 1.5V
Function: High-side

View of PWM-GW



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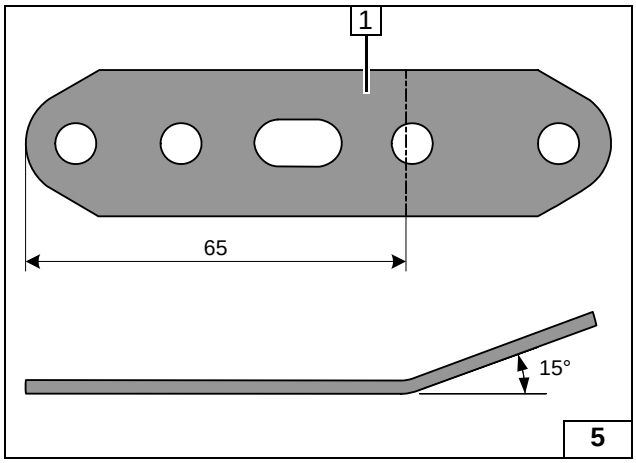
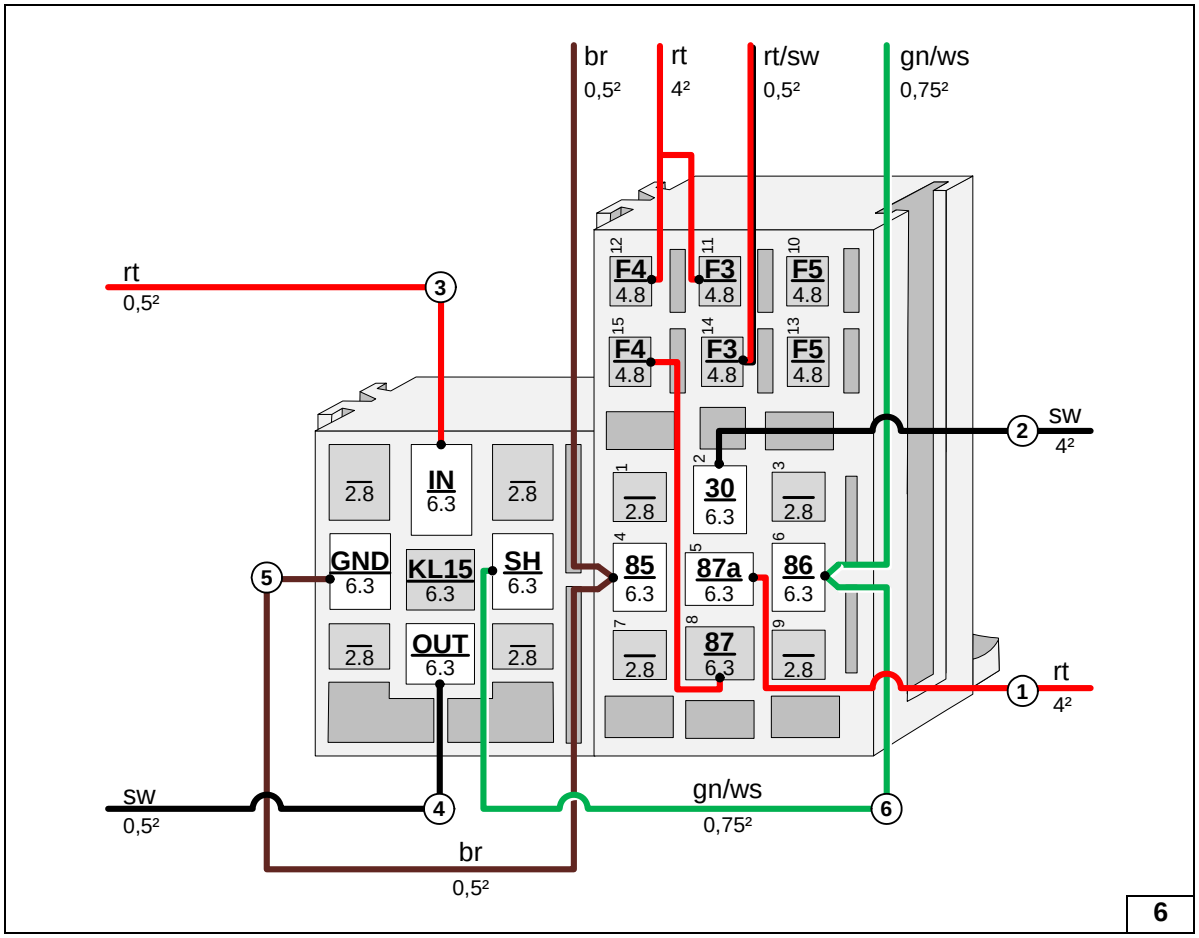
Manual air-conditioning



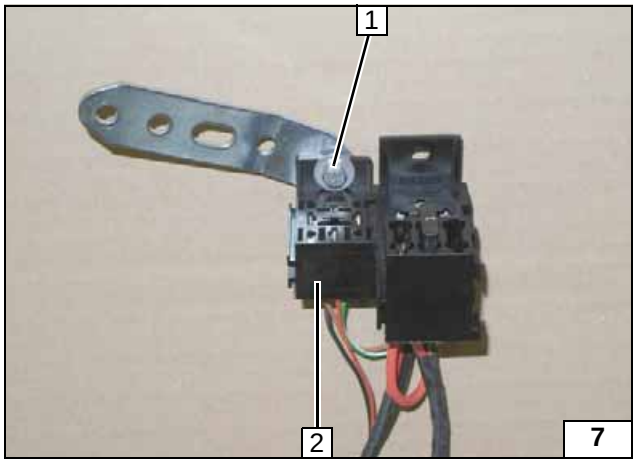
5

Bending perforated bracket



6

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



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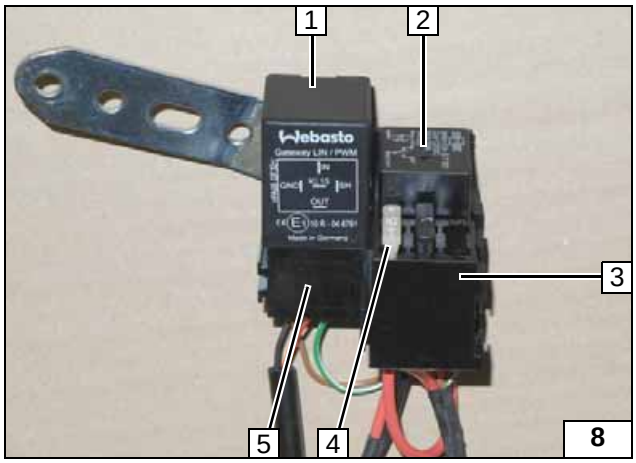
1 M5x16 bolt, large diameter washer [2x], perforated bracket, self-locking nut
2 PWM GW socket

Installing perforated bracket



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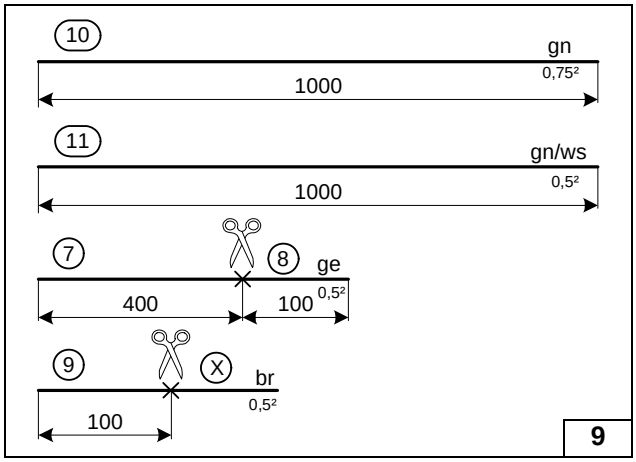
1 PWM GW
2 K1 relay
3 Passenger compartment relay and fuse holder
4 25A fuse F4
5 PWM GW socket

Installing PWM GW, K1 relay and fuse F4



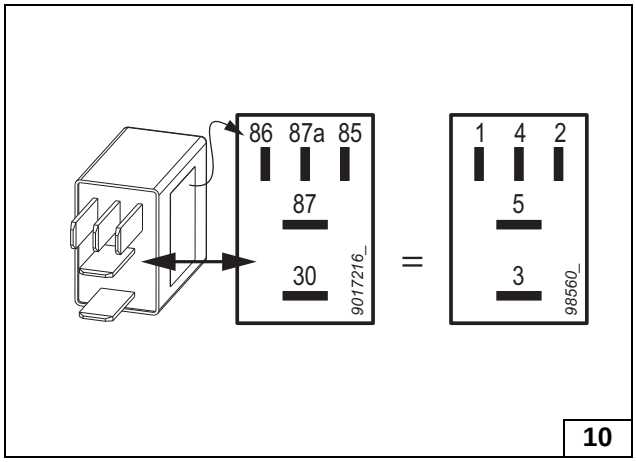
9

Automatic air-conditioning

Discard section **X**.

Pull wires (10) and (11) into protective sleeving.

Cutting to length / assigning wires



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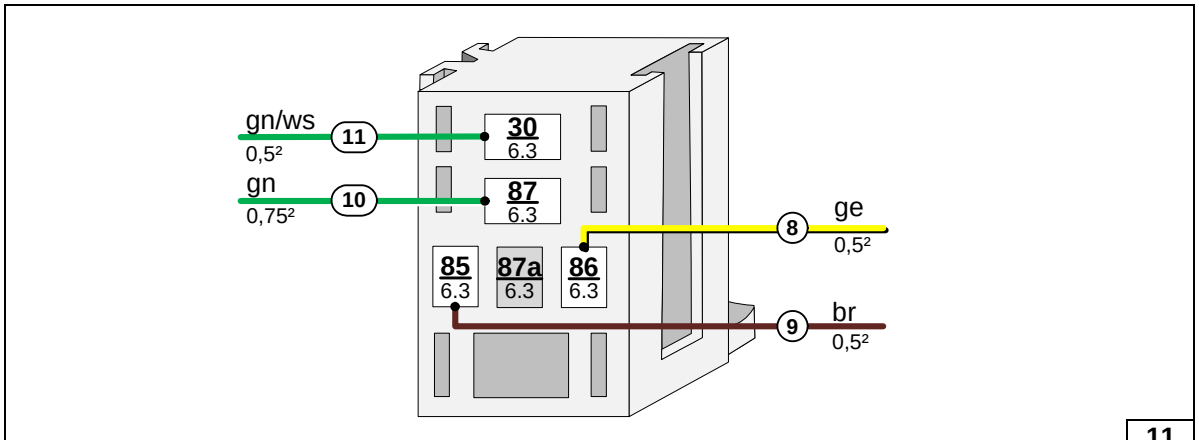
View of K2 relay



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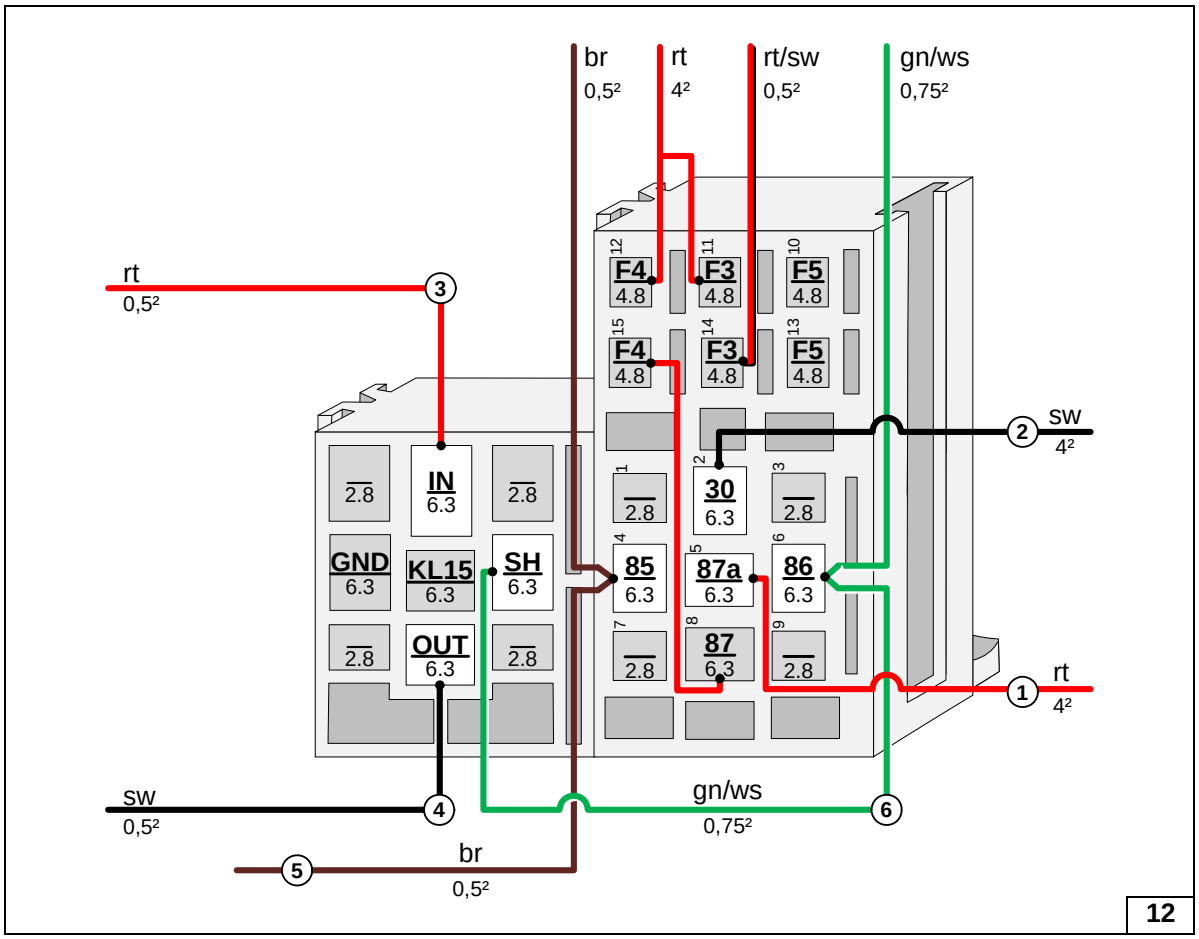
Connecting wires to socket of K2 relay



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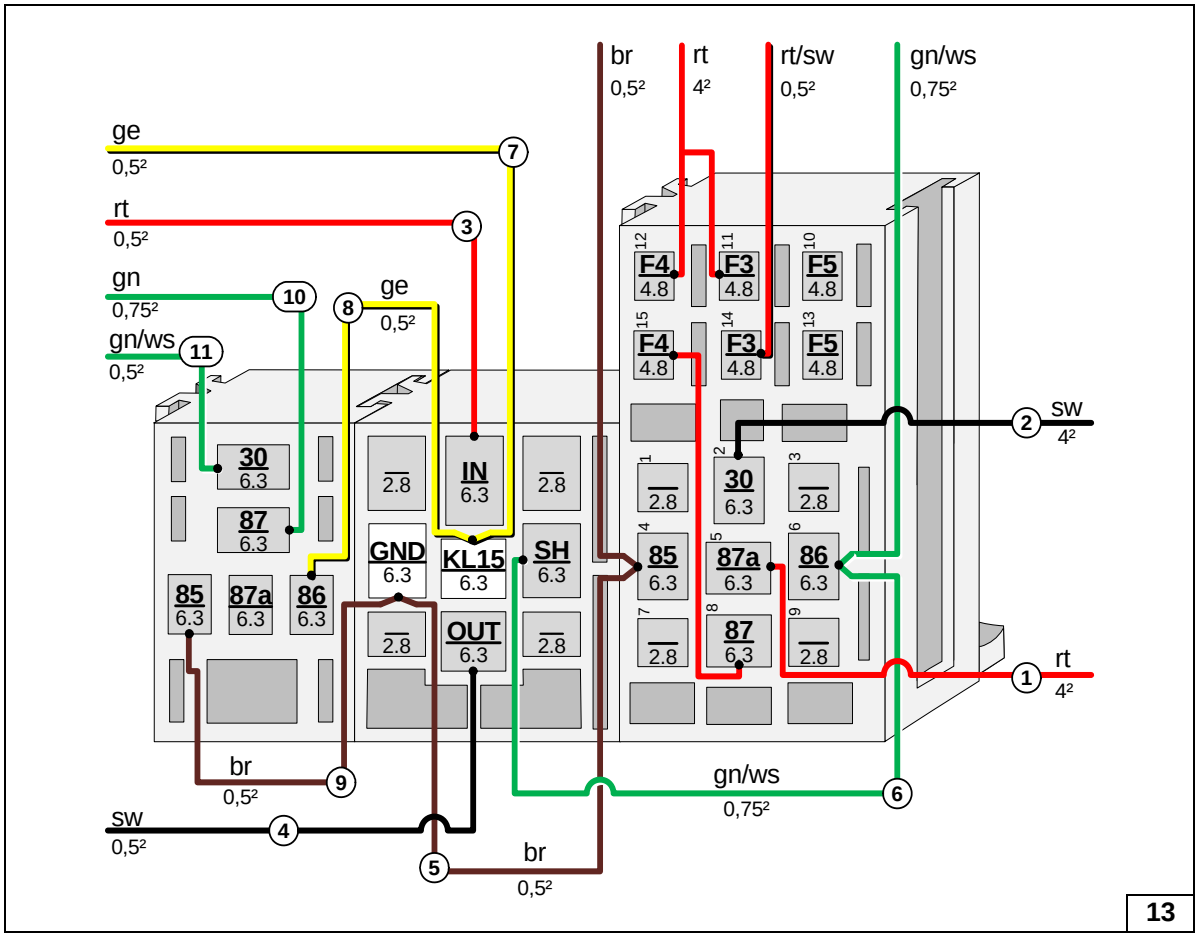
Interlocking PWM GW socket and passenger compartment relay and fuse holder, connecting wires



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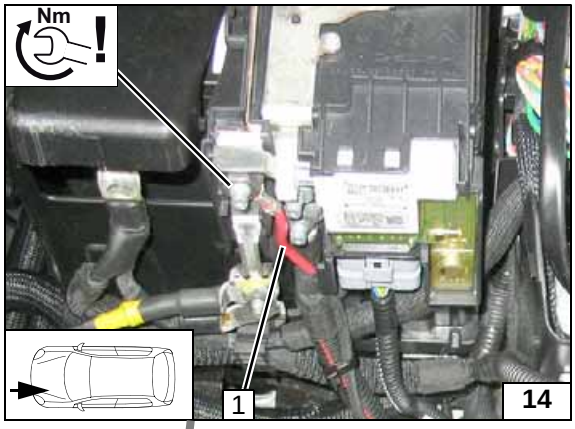
Interlocking sockets of PWM GW and K2 relay, connecting wires to socket of PWM GW

Electrical System

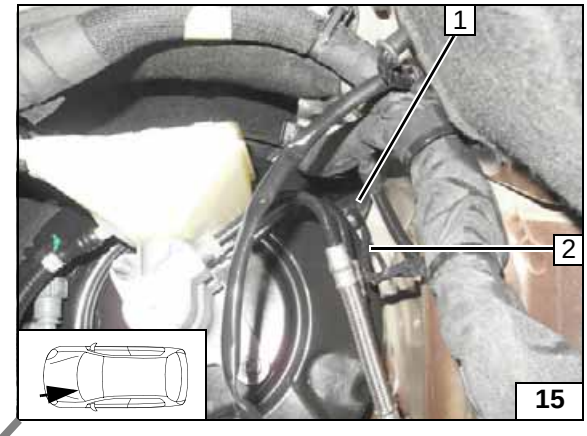
Positive wire

1 Positive wire on positive battery distributor

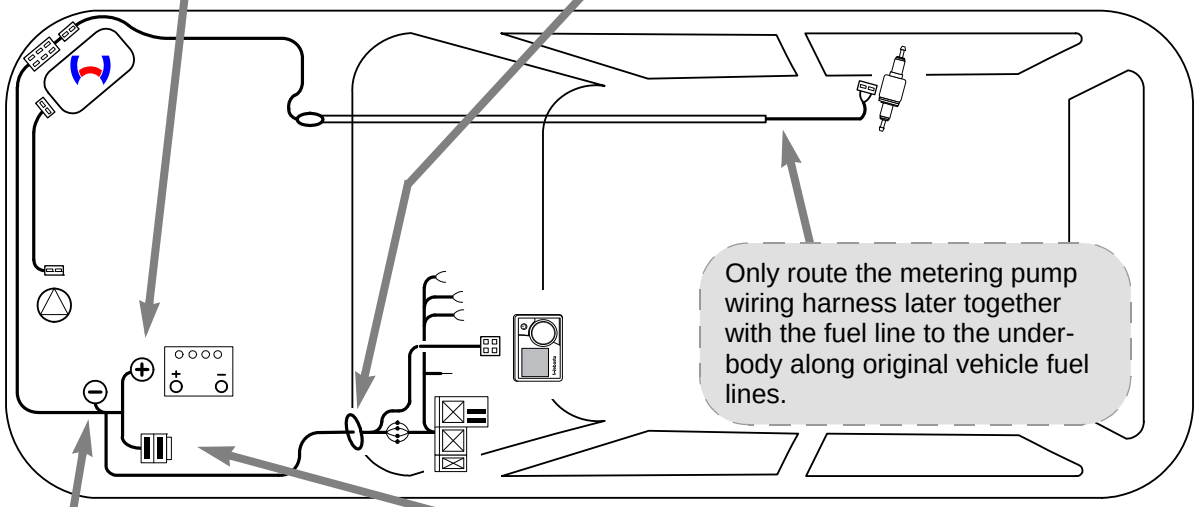


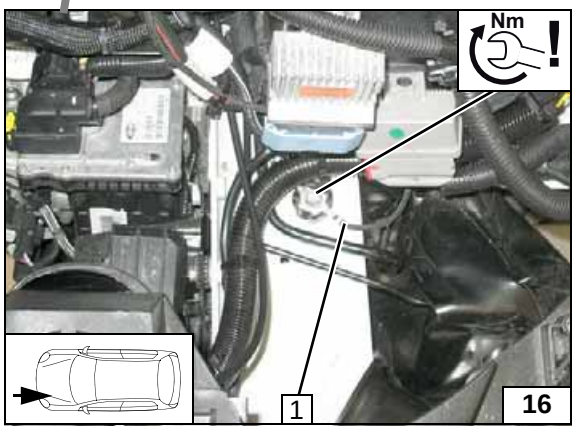
Wiring harness pass through

1 Existing protective rubber plug
2 Wiring harness of heater and heater control



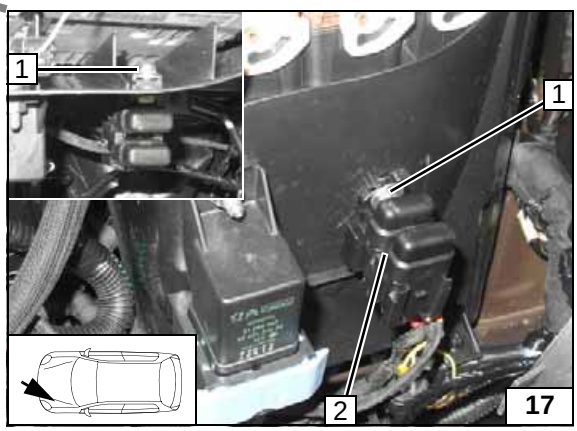
Wiring harness routing diagram





Earth wire

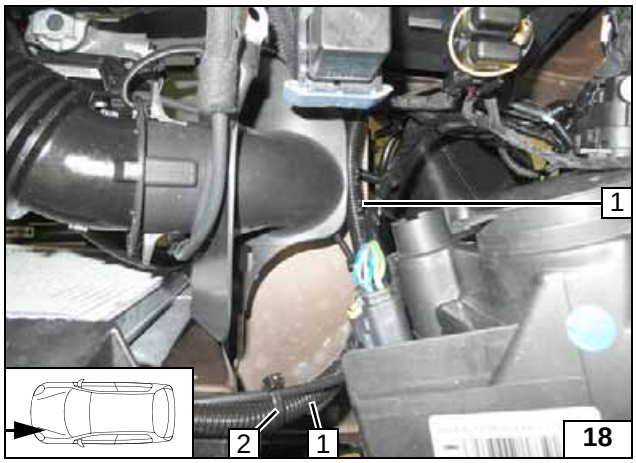
1 Earth wire on original vehicle earth support point



Fuse holder of engine compartment

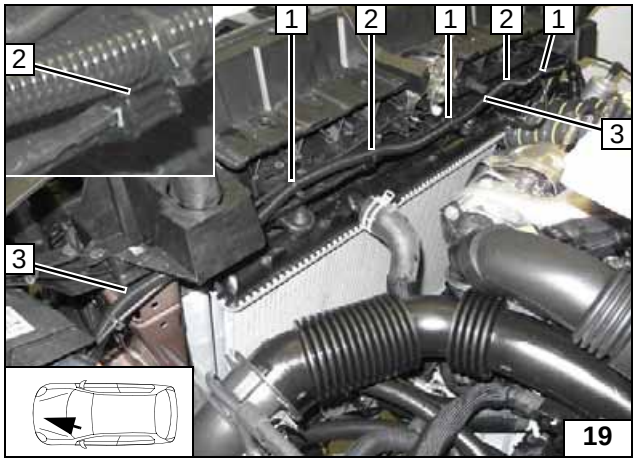
1 5.5mm dia. hole; M5x16 bolt, large diameter washer [2x], retaining plate of fuse holder, flanged nut
2 Fuses F1-2

Wiring Harness Routing



1 Wiring harness of heater in 10 mm dia. corrugated tube
2 Cable tie

Routing wiring harness

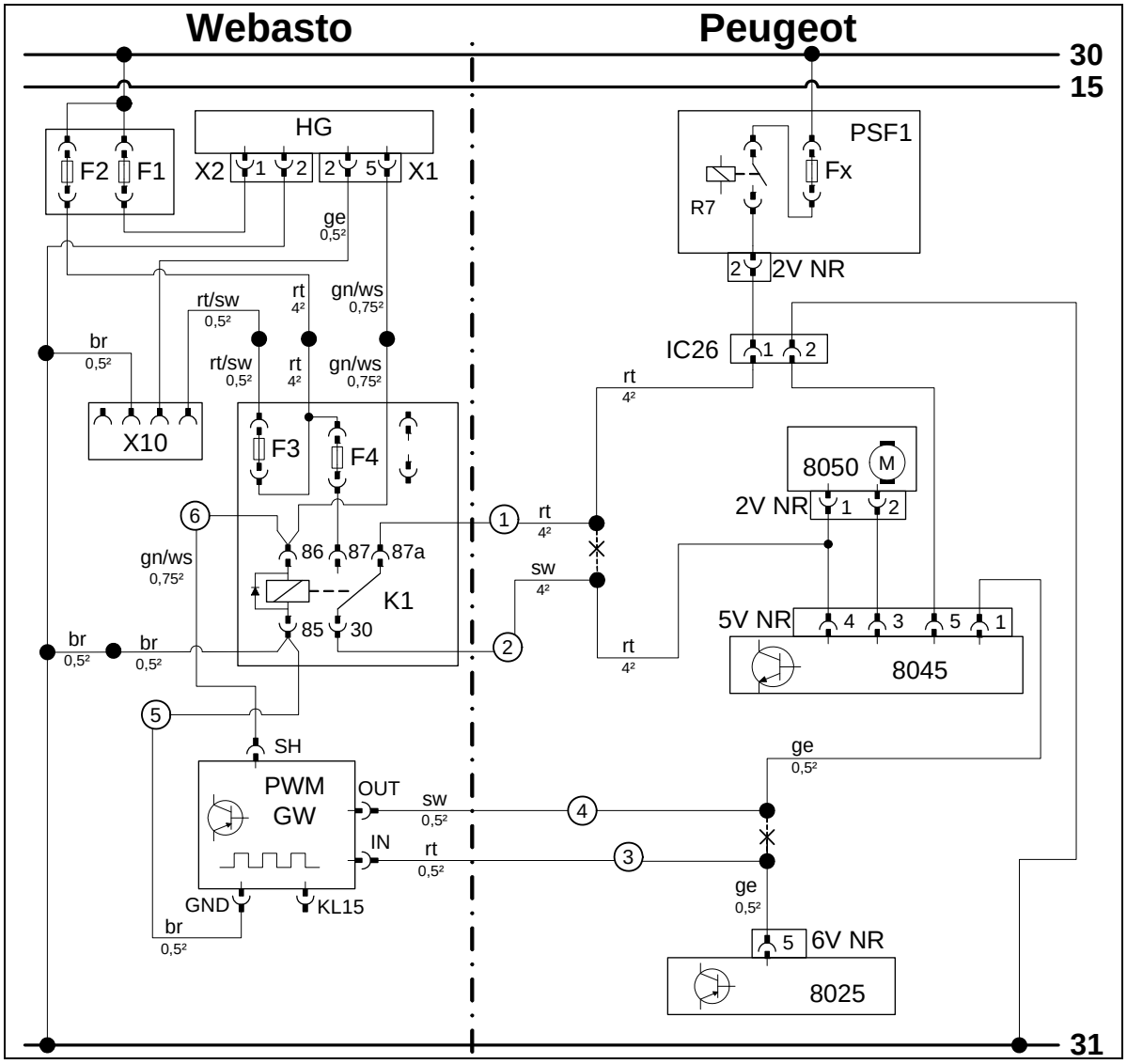


1 Cable tie [3x]
2 Fastening clip with cable tie [2x]
3 Wiring harness of heater in 10 mm dia. corrugated tube

Routing wiring harness

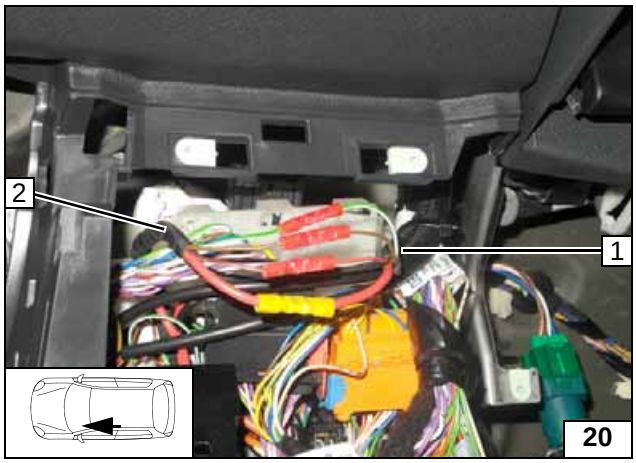
Fan Controller for Manual Air-Conditioning

Wiring diagram



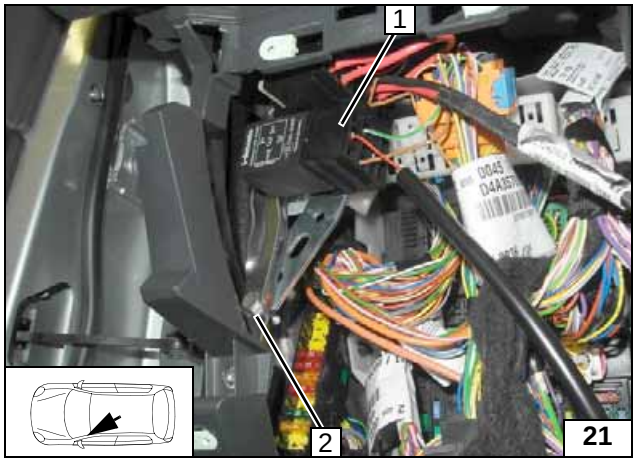
Webasto components		Vehicle components		Colours and symbols	
HG	TT-Evo heater	PSF1	Operating PCB of engine compartment fuse box	rt	red
X1	6-pin heater connector			sw	black
X2	2-pin heater connector	Fx	Fuse	ge	yellow
F1	20A fuse	R7	Fan relay	gn	green
F2	30A fuse	2V NR	2-pin connector PSF1	ws	white
X10	4-pin connector of heater control	IC26	Intermediate plug connection	br	brown
		8050	Fan motor		
F3	1A fuse	2V NR	2-pin connector 8050		
F4	25A fuse	8045	Fan controller		
K1	Fan relay	5V NR	5-pin connector 8045		
PWM GW	Pulse width modulator	8025	A/C control unit		
		6V NR	6-pin connector 8025		
PWM GW settings:					
Duty cycle: 100% (DC)					
Frequency: not relevant				**X**	Cutting point
Voltage: 1.5V				Wiring colours may vary.	
Function: High-side					

Legend



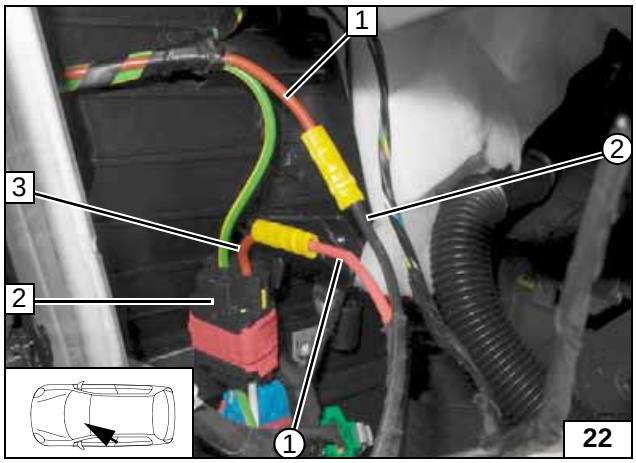
1 Wiring harness of heater
2 Wiring harness of passenger compartment relay and fuse holder

Connecting same colour wires of wiring harnesses



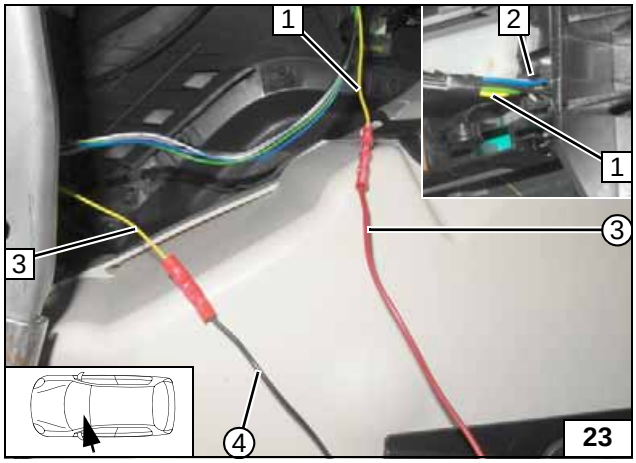
1 Passenger compartment relay and fuse holder
2 M6x20 bolt, existing hole, perforated bracket, flanged nut

Installing PWM GW socket and passenger compartment relay and fuse holder



1 Red (rt) wire to connector 2V NR/1 of fan motor 8050
2 Intermediate connector IC26
3 Red (rt) wire of intermediate connector IC26/1
① Red (rt) wire from K1/87a, fan wiring harness
② Black (sw) wire from K1/30, fan wiring harness

Connecting fan motor

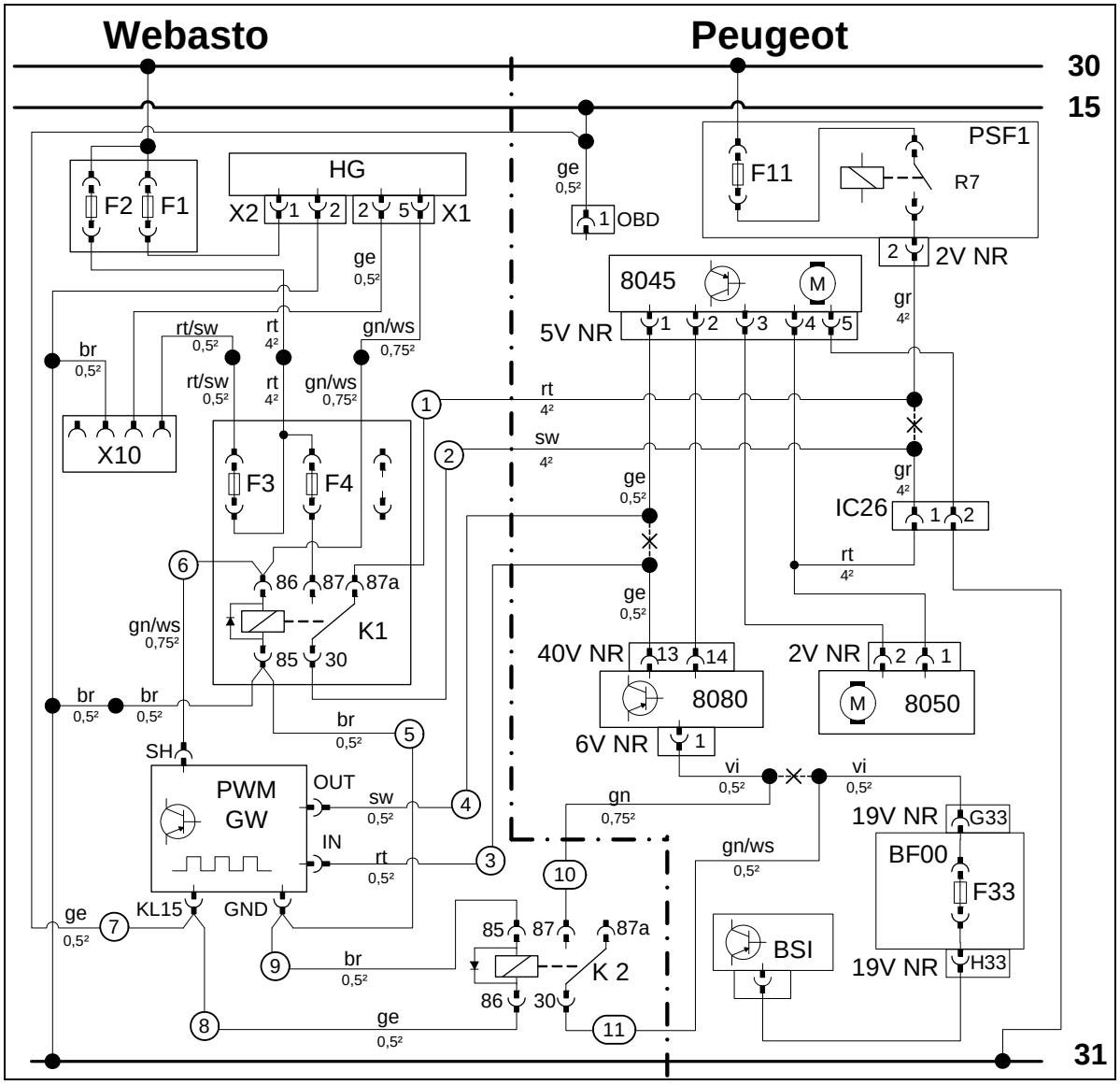


1 Yellow (ge) wire to connector 6V NR/5 of A/C control unit 8025
2 Connector 6V NR of A/C control unit 8025
3 Yellow (ge) wire from connector 5V NR/1 of fan controller 8045
③ Red (rt) wire of PWM GW/IN
④ Black (sw) wire of PWM GW/OUT

Connecting A/C control unit

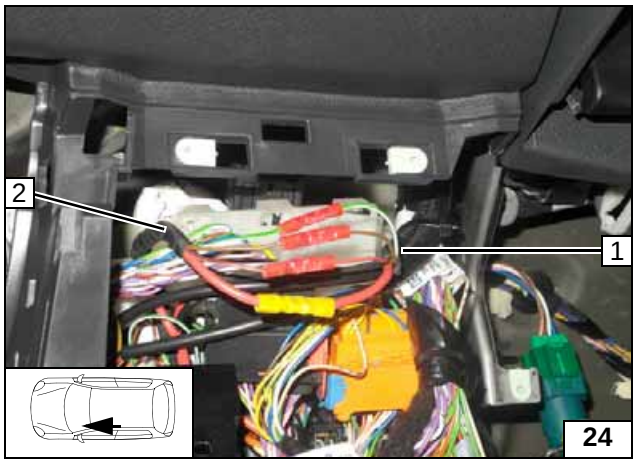
Fan Controller for Automatic Air-Conditioning

Wiring diagram



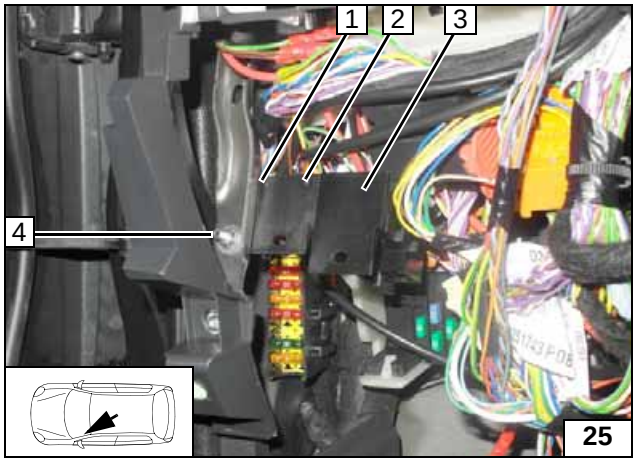
Webasto components		Vehicle components		Colours and symbols	
HG	TT-Evo heater	PSF1	Operating PCB of engine compartment fuse box	rt	red
X1	6-pin heater connector			sw	black
X2	2-pin heater connector	F11	Fuse	ge	yellow
F1	20A fuse	R7	Fan relay	gn	green
F2	30A fuse	2V NR	2-pin connector PSF1	ws	white
X10	4-pin connector of heater control	OBD	On Bord Diagnosis	br	brown
		8045	Fan controller	vi	violet
F3	1A fuse	5V NR	5-pin connector 8045	gr	grey
F4	25A fuse	IC26	Intermediate plug connection		
K1	Fan relay	8080	A/C control unit		
PWM GW	Pulse width modulator	40V NR	40-pin connector 8080		
		6V NR	6-pin connector 8080		
K2	Additional relay	8050	Fan motor		
PWM GW settings:		2V NR	2-pin connector 8050		
Duty cycle:	100% (DC)	BF00	Passenger compartment fuse box		
Frequency:	not relevant	F33	Fuse	**X**	Cutting point
Voltage:	1.5V	19V NR	19-pin connector BF00	Wiring colours may vary.	
Function:	High-side	BSI	Central switching unit		

Legend



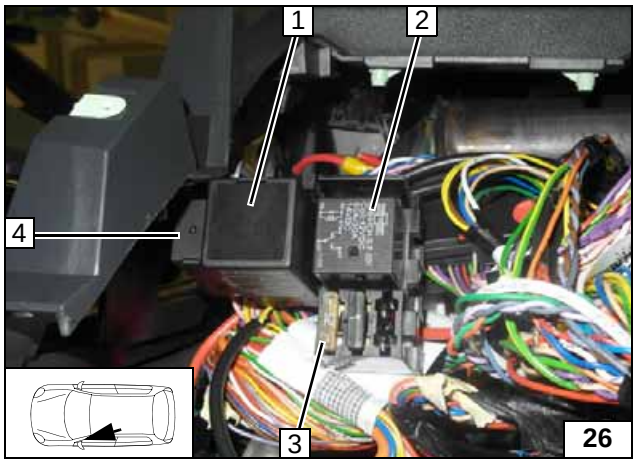
1 Wiring harness of heater
2 Wiring harness of passenger compartment relay and fuse holder

Connecting same colour wires of wiring harnesses



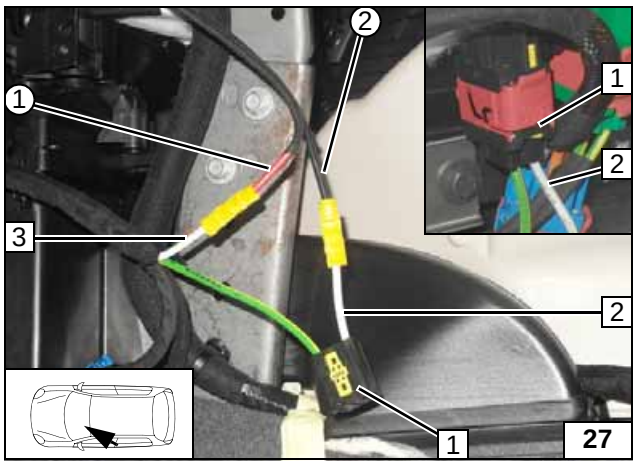
1 K2 relay socket (hidden)
2 PWM GW socket
3 Passenger compartment relay and fuse holder
4 M5x16 bolt, large diameter washer, existing hole, large diameter washer, flanged nut

Installing socket of K2 relay and PWM GW as well as passenger compartment relay and fuse holder



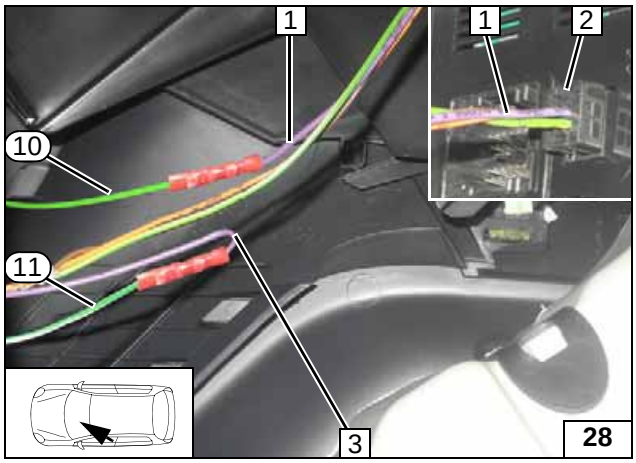
1 PWM GW
2 K1 relay
3 25A fuse F4
4 K2 relay

Installing K1 and K2 relay, PWM GW as well as fuse F4



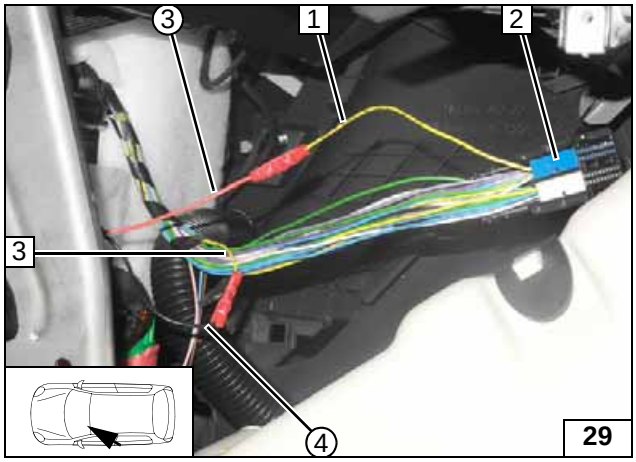
1 Intermediate connector IC26
2 Grey (gr) wire to intermediate connector IC26/1
3 Grey (gr) wire from connector 2V NR/2 for operating PCB of engine compartment fuse box PSF1
① Red (rt) wire from K1/87a, fan wiring harness
② Black (sw) wire from K1/30, fan wiring harness

Connecting fan motor



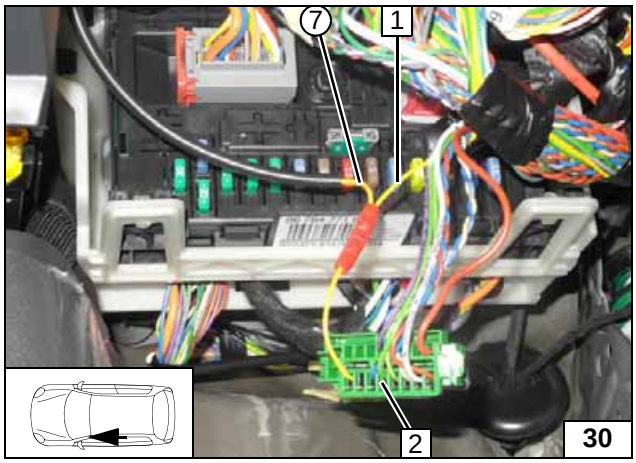
1 Violet (vi) wire to connector 6V NR/1 of A/C control unit 8080
2 Connector 6V NR of A/C control unit 8080
3 Violet (vi) wire from connector 19V NR/G33 of passenger compartment fuse box BF00
⑩ Green (gn) wire of K2/87
⑪ Green/white (gn/ws) wire from K2/30

Connecting A/C control unit



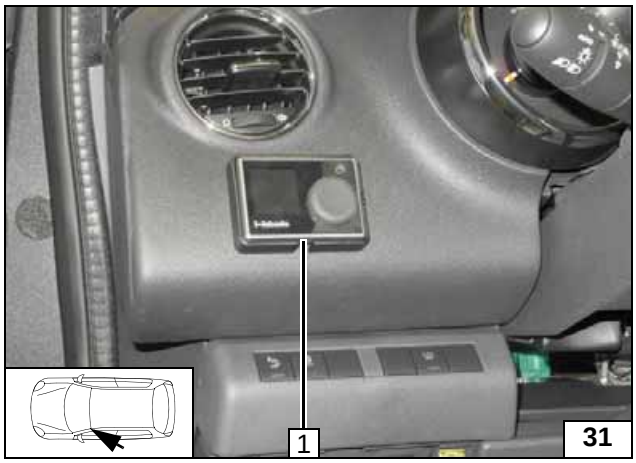
1 Yellow (ge) wire to connector 40V NR/13 of A/C control unit 8080
2 Connector 40V NR of A/C control unit 8080
3 Yellow (ge) wire from connector 5V NR/1 of fan controller 8045
③ Red (rt) wire of PWM GW/IN
④ Black (sw) wire of PWM GW/OUT

Connecting A/C control unit



1 Yellow (ge) wire of terminal 15
2 OBD socket outlet
⑦ Yellow (ge) wire of PWM GW/KL15

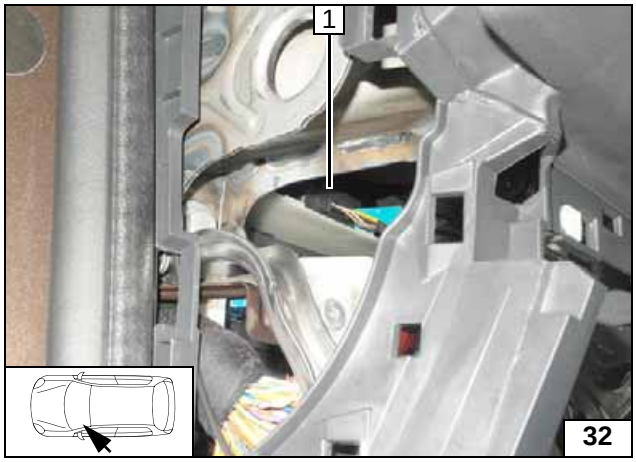
Connecting OBD socket outlet



MultiControl CAR

1 MultiControl CAR with installation frame

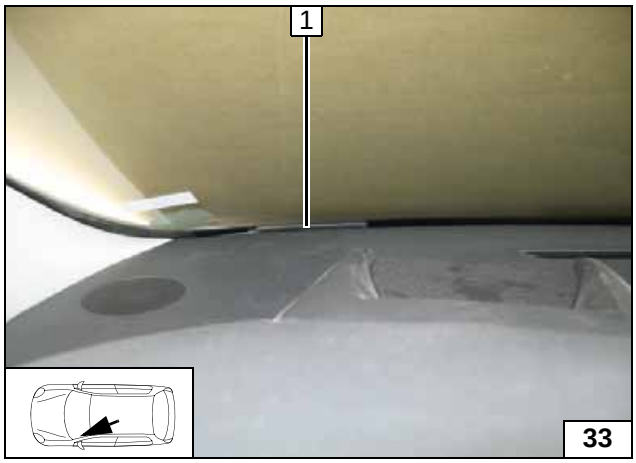
Installing MultiControl CAR



Remote Option (Telestart)

1 Receiver, double-sided adhesive tape

Installing receiver



1 Aerial

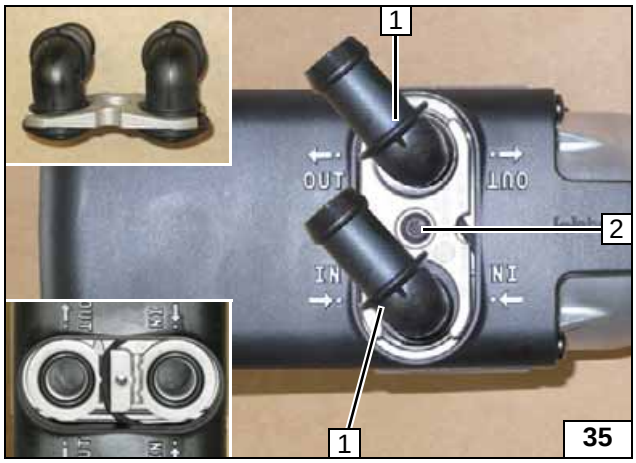
Securing aerial

Temperature sensor T100 HTM

1 Temperature sensor, double-sided adhesive tape

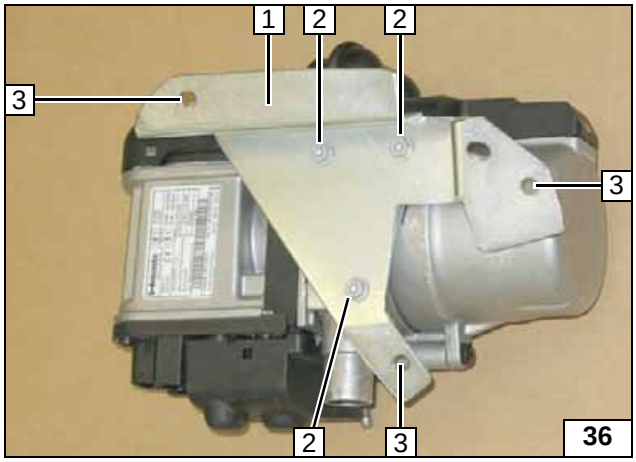
Mounting temperature sensor

Preparing Heater



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

Installing water connection piece

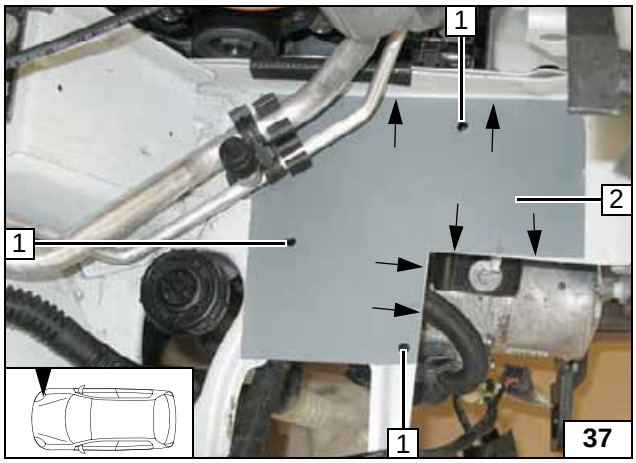


1 Bracket
2 5x13 self-tapping bolt [3x]
3 Holes for mounting heater [3x]

Mounting bracket

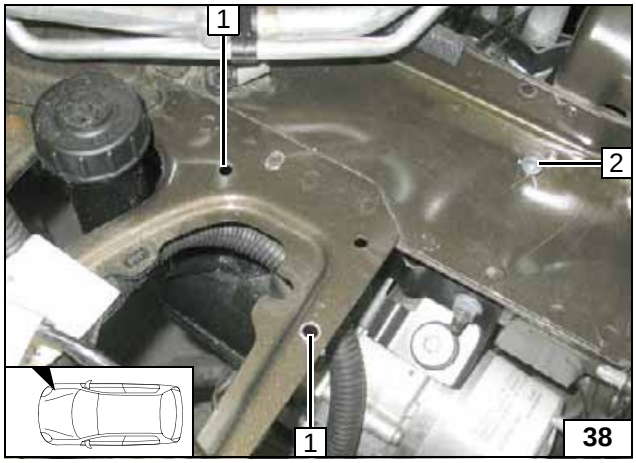
Preparing Installation Location

Cut out template **2** and place at the markings.



1 Hole pattern [3x]

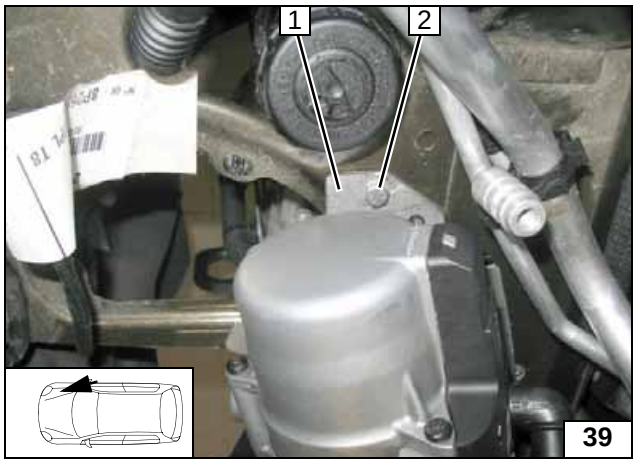
Copying hole pattern



1 7 mm dia. hole [2x]
2 9.1 mm dia. hole; rivet nut

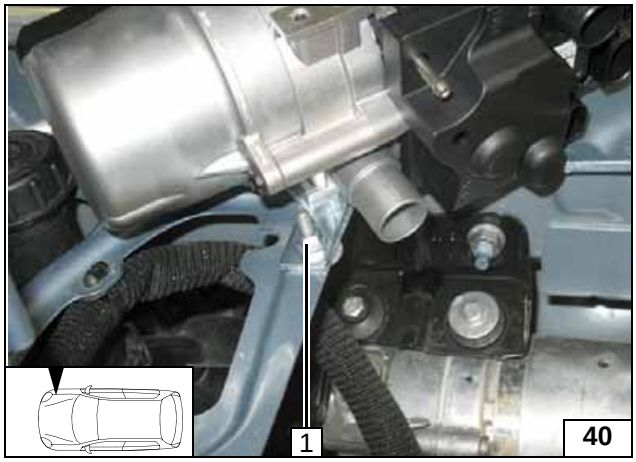
Installing rivet nut

Installing Heater



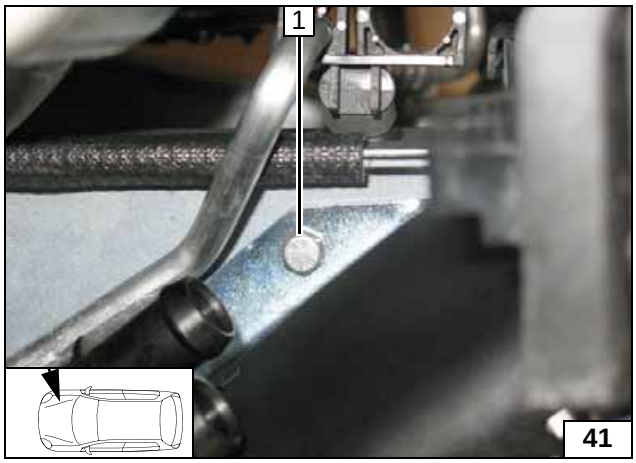
1 Bracket of heater
2 M6x20 bolt, flanged nut

Mounting heater



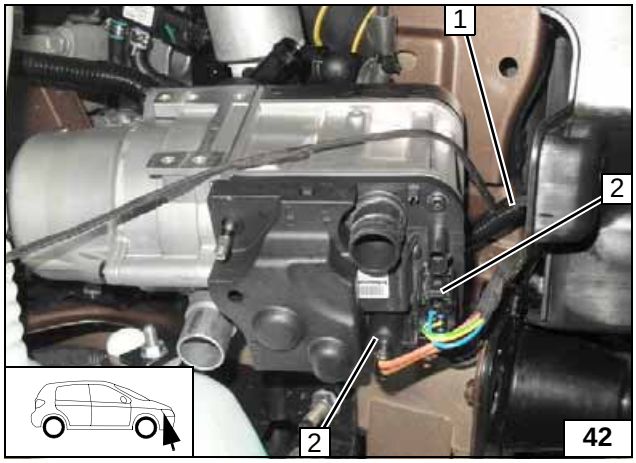
1 M6x20 bolt, large diameter washer, flanged nut

Mounting heater



1 M6x20 bolt, spring lockwasher

Mounting heater



1 Wiring harness of heater in 10 mm dia. corrugated tube
2 Connector of heater wiring harness [2x]

Routing / connecting wiring harness

Fuel

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

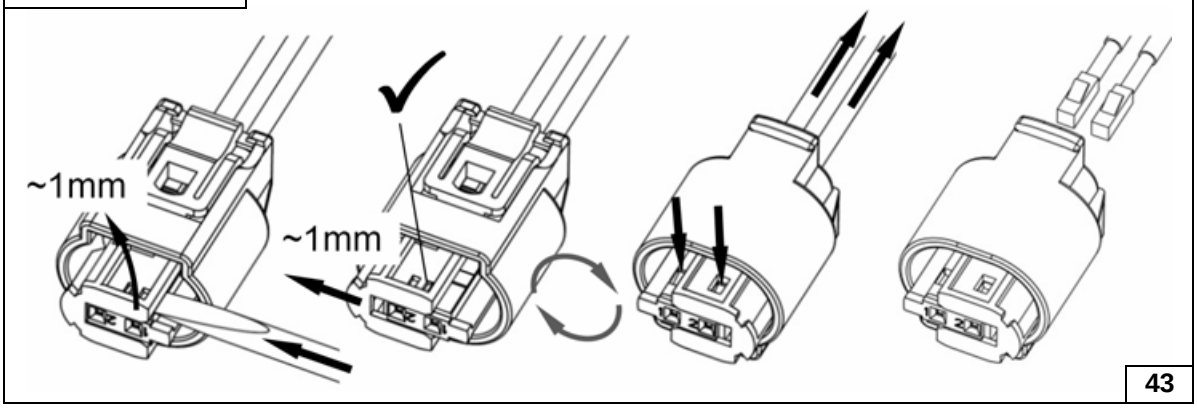
Catch any fuel running off in an appropriate container.

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

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

Dismantling connector of metering pump

Connector X7



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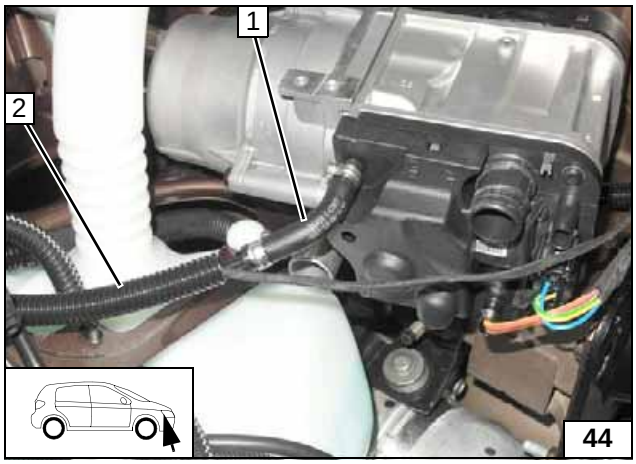
Connecting heater

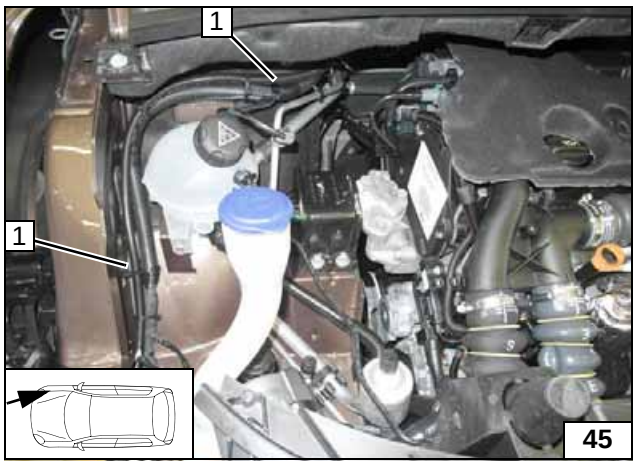


44

Washer reservoir will be installed later. Cut 1200mm from 10mm dia. corrugated tube. Route fuel line and wiring harness of metering pump in 10mm dia.,1200 mm long corrugated tube **2** to firewall.

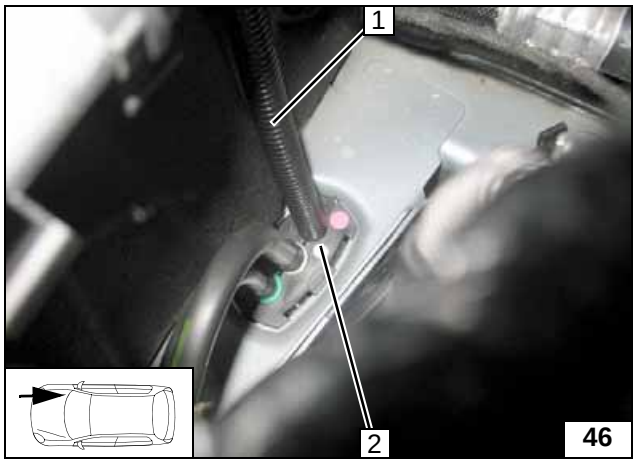
1 90° moulded hose, 10 mm dia. clamp [2x]

Routing lines



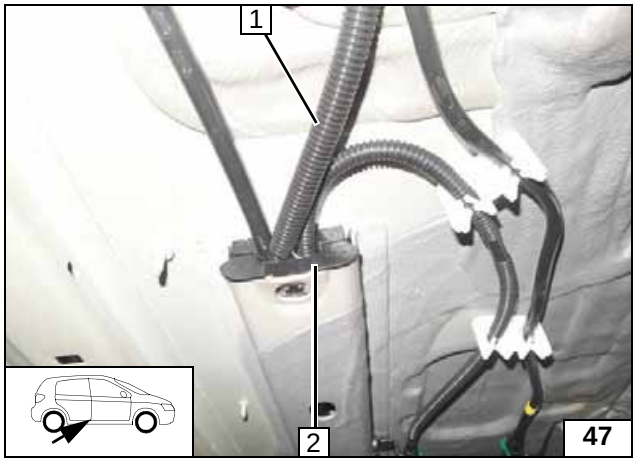
45

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



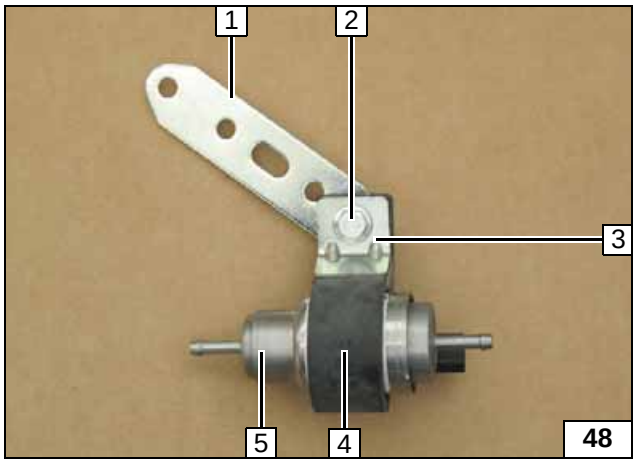
1 Fuel line and wiring harness of metering pump in 10 mm dia. corrugated tube
2 Original vehicle pass through of underbody

Routing lines



Guide wiring harness of metering pump and fuel line out of original vehicle line duct (existing pass through **2**) and slide on 10 mm dia., 500 mm long corrugated tube **1**.

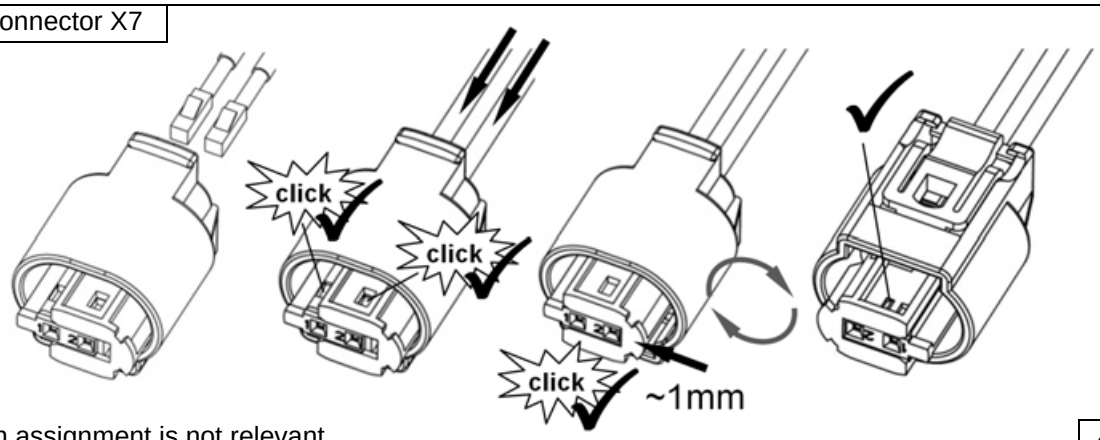
Routing lines



1 Perforated bracket
2 M6x25 bolt, flanged nut
3 Support angle bracket
4 Mounting
5 Metering pump

Premounting metering pump

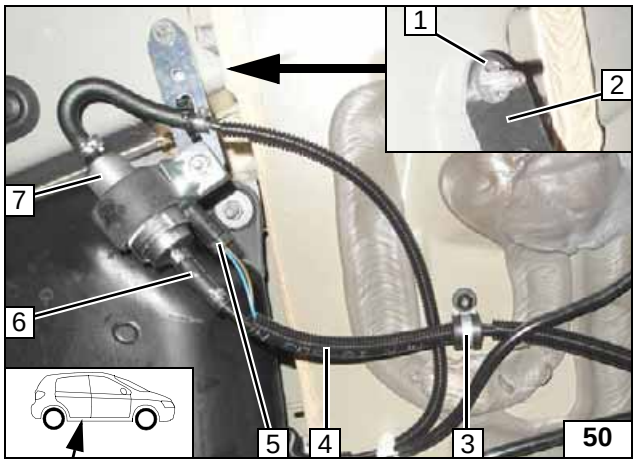
Connector X7



Pin assignment is not relevant.

49

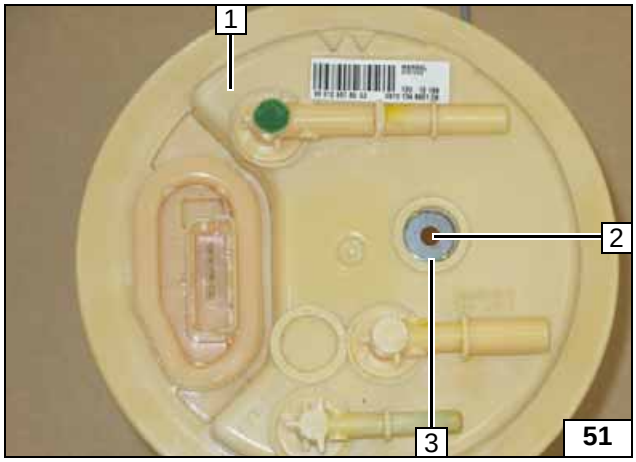
Completing connector of metering pump



1 Pin lock
2 Premounted perforated bracket
3 Original vehicle stud bolt, 15 mm dia. rubber-coated p-clamp, plastic nut
4 Fuel line and wiring harness of metering pump in 10 mm dia. corrugated tube
5 Wiring harness of metering pump, connector mounted
6 Hose section, 10mm dia. clamp [2x], fuel line of heater
7 Metering pump

Connection of standpipe fuel line takes place later!

Mounting metering pump

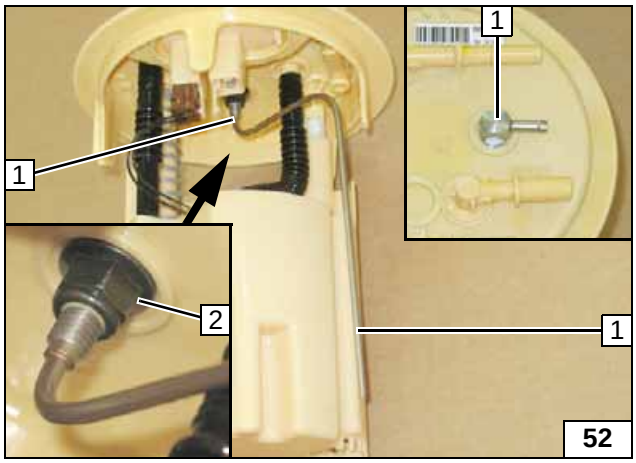


Version A

Remove fuel tank sending unit **1** according to manufacturer's instructions. Insert washer with outer dia. d_a = 18 mm **3** into recess.

2 Copy hole pattern, 6mm dia. hole

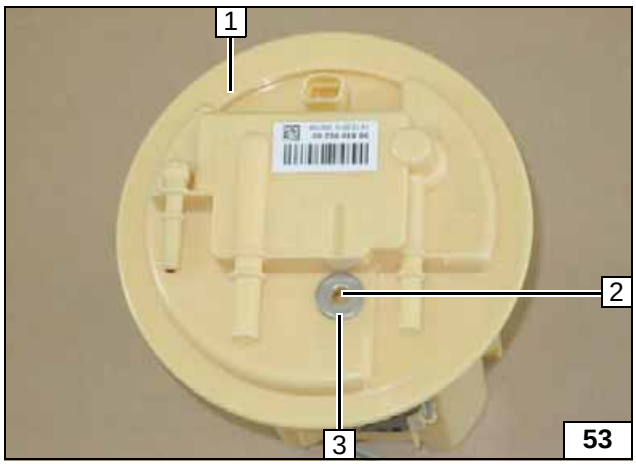
Fuel extraction



Bend fuel standpipe **1** according to template and cut to length.

2 Flanged nut

Mounting fuel standpipe

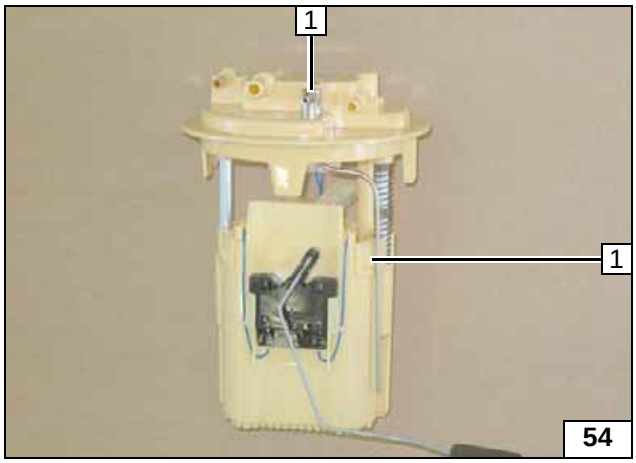


Version B

Remove fuel tank sending unit **1** according to manufacturer's instructions. Place washer with outer dia. d_a = 18 mm **3** as shown.

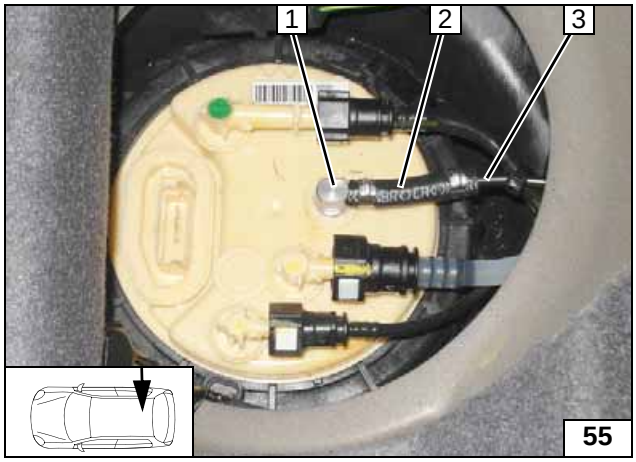
2 Copy hole pattern, 6mm dia. hole

Fuel extraction



Bend fuel standpipe **1** according to template and cut to length.

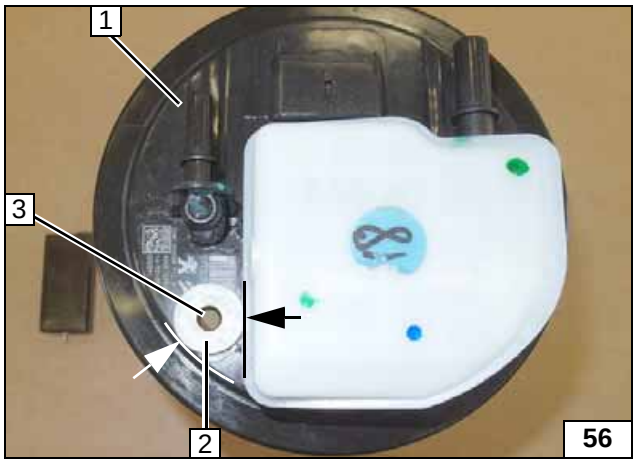
Mounting fuel standpipe



Install fuel tank sending unit in accordance with manufacturer's instructions.

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

Connecting fuel line

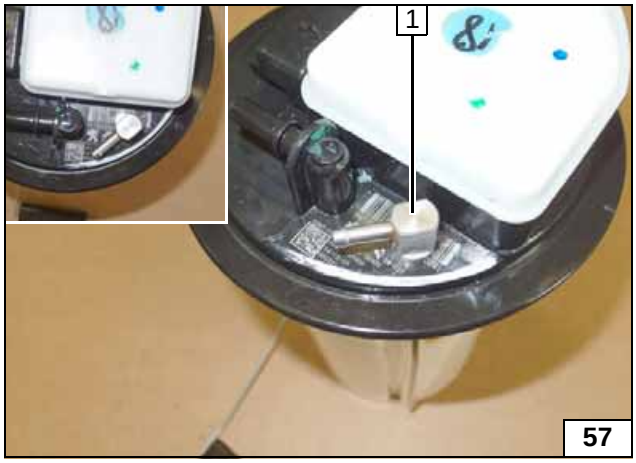


Version C

Remove fuel tank sending unit **1** according to manufacturer's instructions. Place washer with outer dia. d_a = 21.6mm **2** as shown.

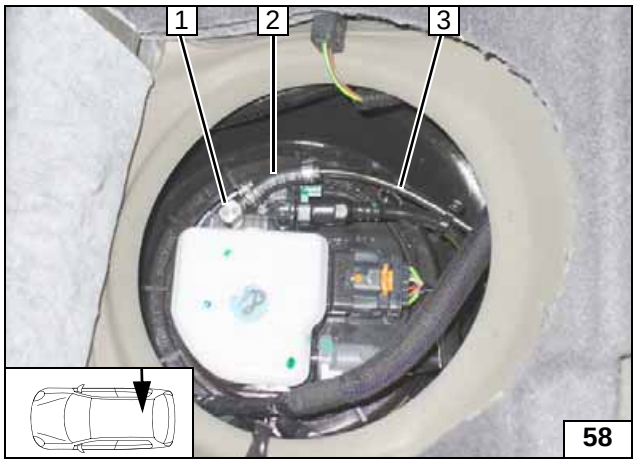
3 Copy hole pattern, 6mm dia. hole

Fuel extraction



Bend fuel standpipe **1** according to template and cut to length.

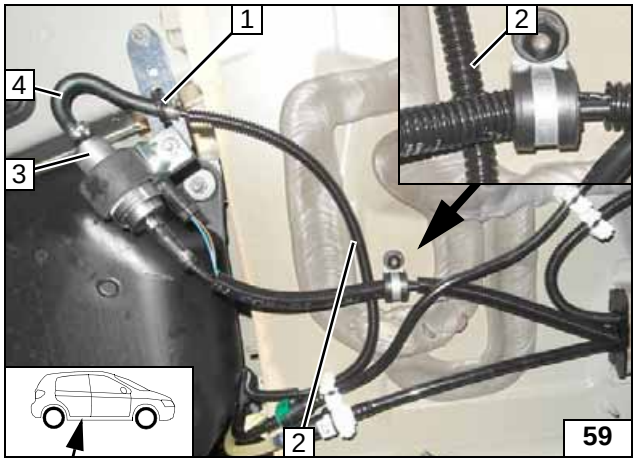
Mounting fuel standpipe



Install fuel tank sending unit in accordance with manufacturer's instructions.

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

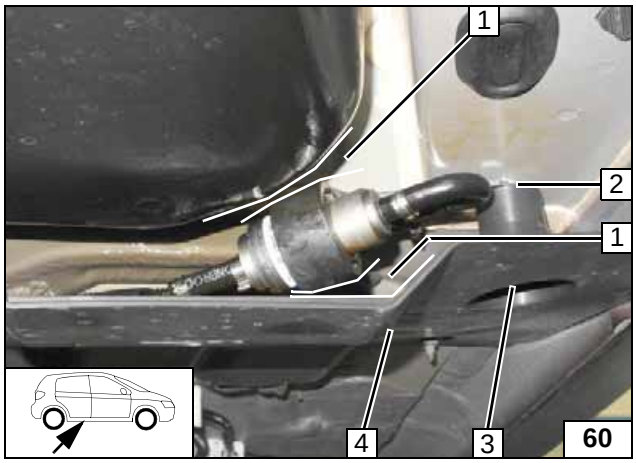
Connecting fuel line



Slide 10 mm corrugated tube **2** onto standpipe fuel line, route and cut it to length.

1 Cable tie
3 Metering pump
4 180° moulded hose, 10 mm dia. clamp [2x], fuel line of fuel standpipe

Connecting metering pump



Ensure sufficient distance in marked area **1** from neighbouring components, correct if necessary.

2 Original vehicle stud bolt
3 Original vehicle flanged nut
4 Underbody trim

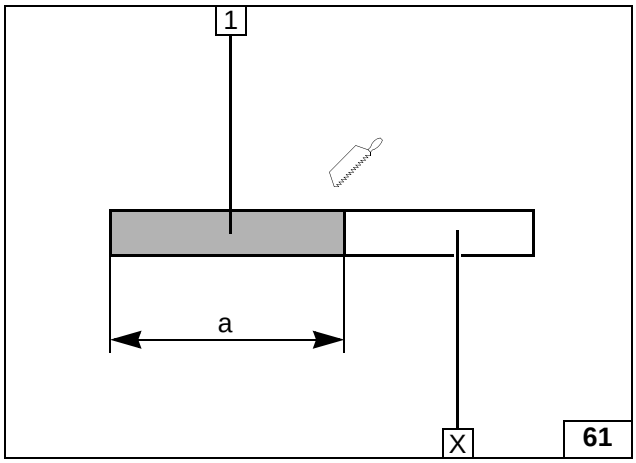
Mounting underbody trim

Combustion Air

Discard section **X** .

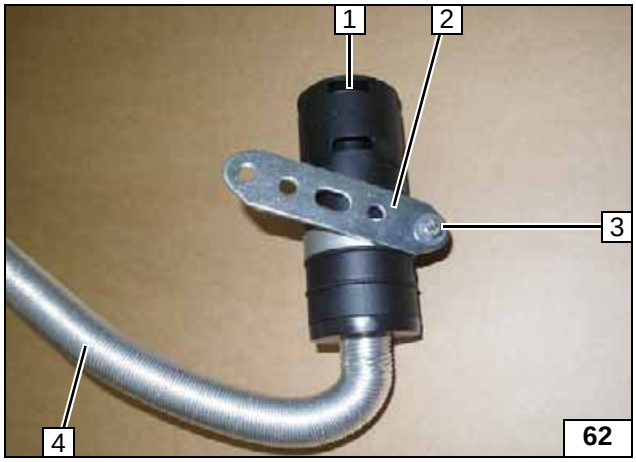
1 Combustion air pipe
a = 620

Cutting combustion air pipe to length



1 Silencer
2 Perforated bracket
3 M5x16 bolt, 51 mm dia. p-clamp, flanged nut
4 Combustion air pipe

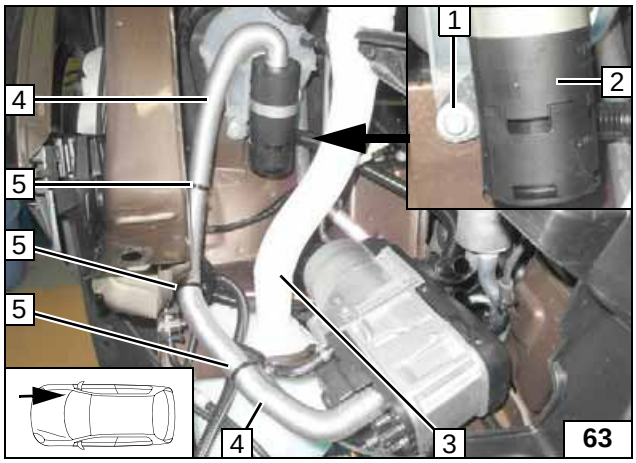
Premounting silencer



Install washer reservoir**3**.

1 Original vehicle bolt
2 Silencer
4 Combustion air pipe
5 Cable tie [3x]

Installing silencer and combustion air pipe

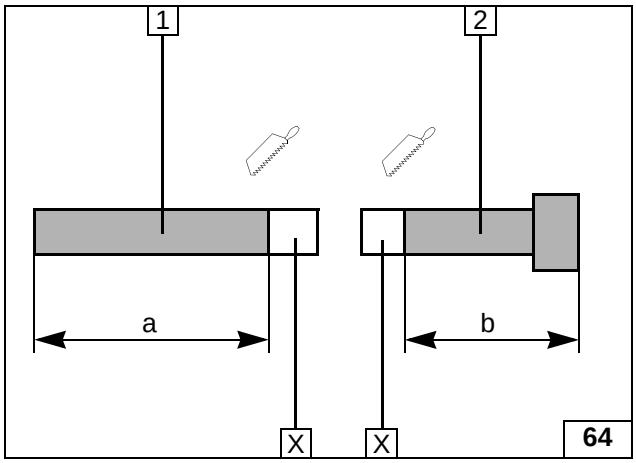


Exhaust Gas

Discard sections **X**.

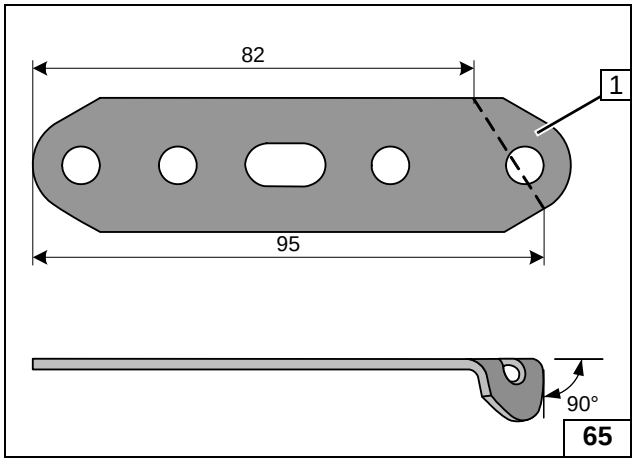
1 Exhaust pipe
a = 395
2 Exhaust end section
b = 95

Preparing exhaust pipe



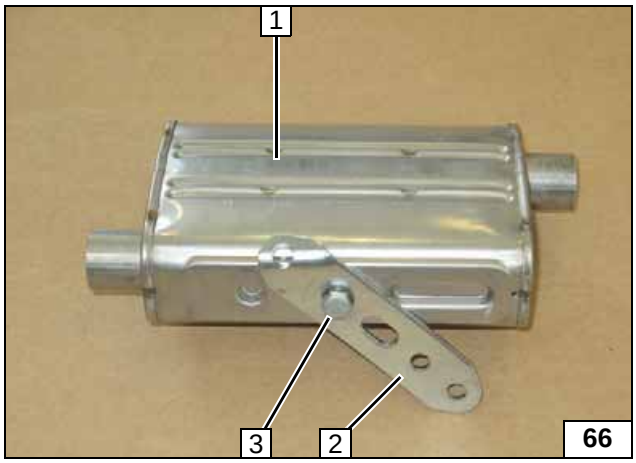
1 Perforated bracket

Angling down perforated bracket



1 Silencer
2 Perforated bracket
3 M6x16 bolt, spring lockwasher

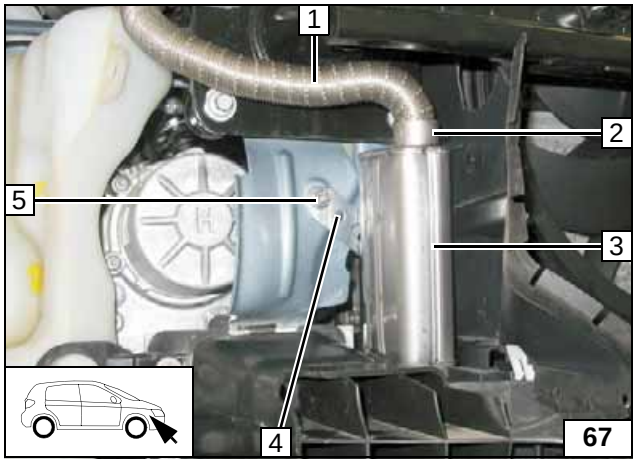
Premounting silencer

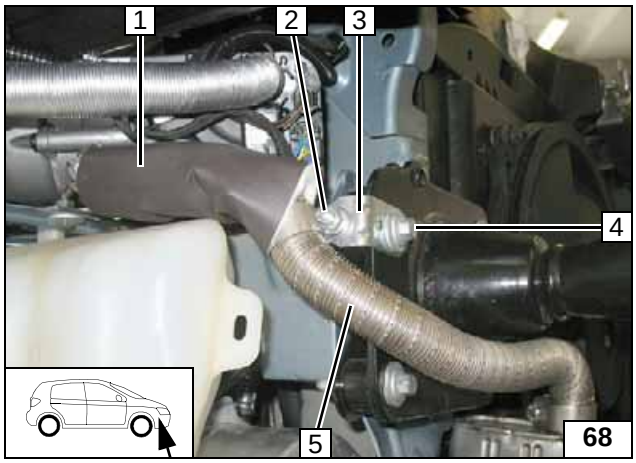


Align silencer**3** vertically.

1 Exhaust pipe
2 Hose clamp
4 Perforated bracket
5 M6x20 bolt, washer, large diameter washer, flanged nut, existing hole

Installing silencer

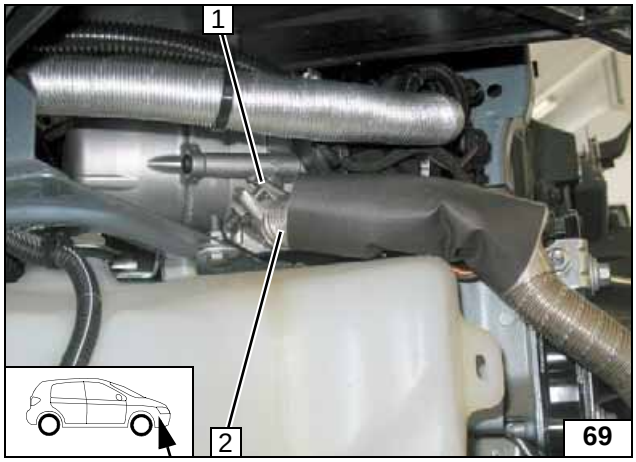




Slide exhaust insulation **1** onto exhaust pipe **5**.

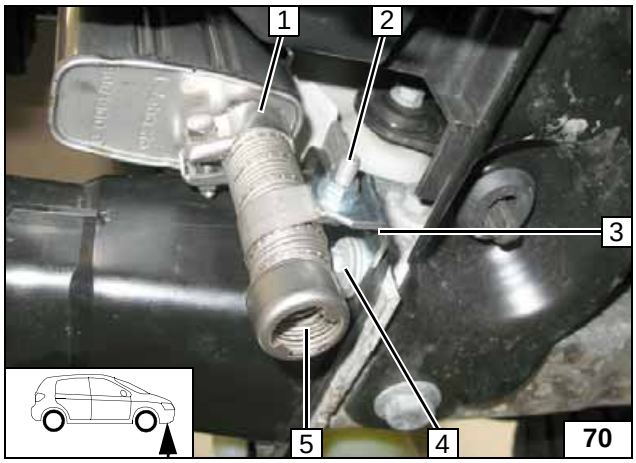
2 M6x20 bolt, p-clamp, flanged nut
3 Angle bracket
4 Original vehicle bolt

Mounting exhaust pipe



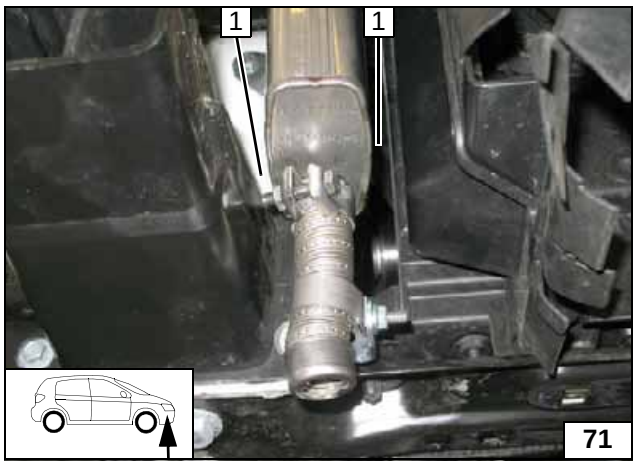
1 Hose clamp
2 Exhaust pipe

Mounting exhaust pipe



1 Hose clamp
2 M6x20 bolt, p-clamp, flanged nut
3 Angle bracket
4 Original vehicle bolt, large diameter washer
5 Exhaust end section

Installing exhaust end section



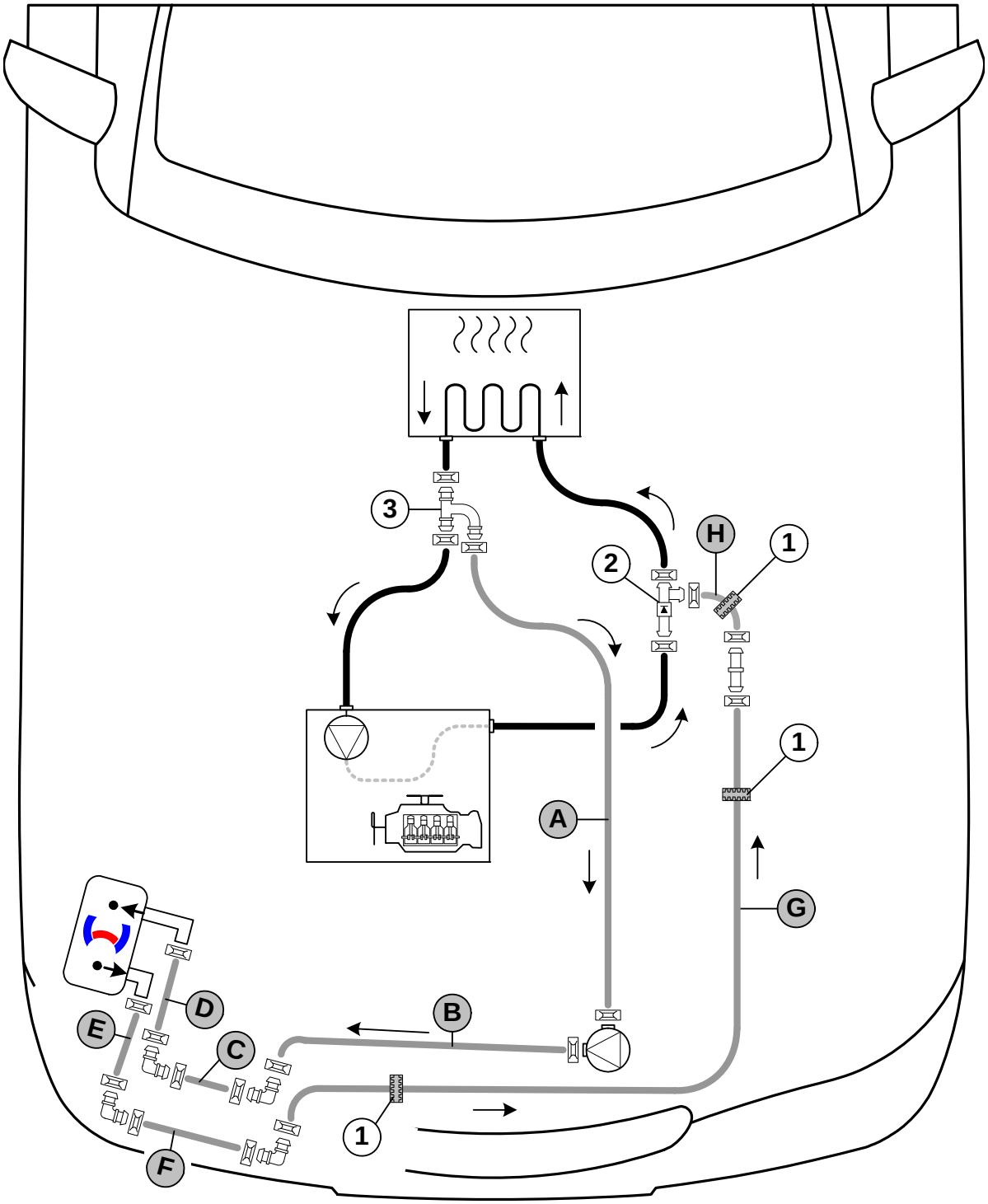
Ensure sufficient distance of exhaust silencer at position **1** from neighbouring components, adjust if necessary.

Aligning silencer and exhaust end section

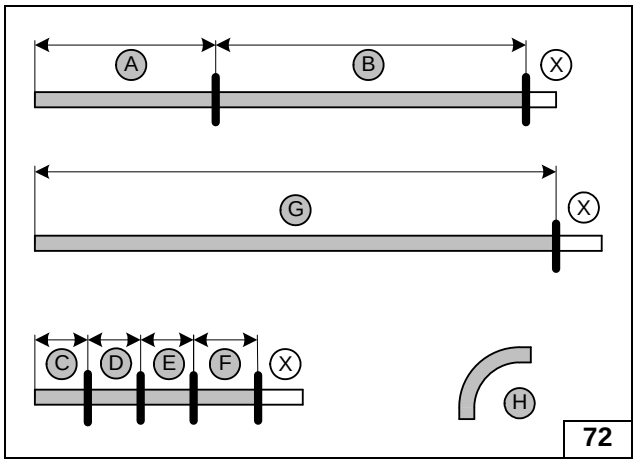
Coolant Circuit

WARNING!
Any coolant running off should be collected using an appropriate container. Route hoses so that they are kink-free. Unless specified otherwise, always fasten using cable ties. Position clamps so that no other hose can be damaged. The heater must be filled with coolant when installing the hoses.
The connection should be modelled on an "island" circuit and based on the following diagram:

Hose routing diagram



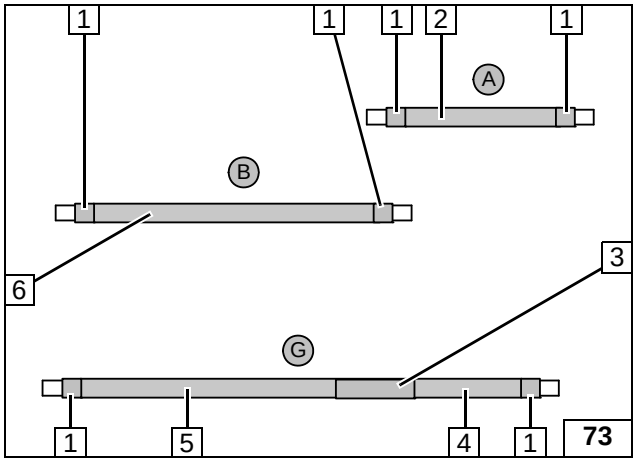
All spring clips without a specific designation = 25 mm dia. All connecting pipes and = 18x18 mm dia.
1 = Black (sw) rubber isolator [3x]. **2** = Check valve .
3 = T-piece .



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

A = 800
B = 1310
C = 60
D = 60
E = 60
F = 70
G = 2050

Cutting hoses to length



Slide braided protection hoses onto hose **A**, **B** and **G** and cut to length.
Cut heat shrink plastic tubing to size.

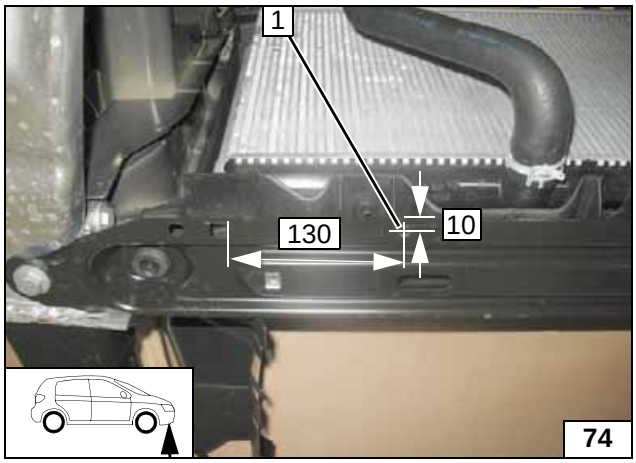
Heat shrink plastic tubing:

1 50 [6x]
3 100

Braided protection hose:

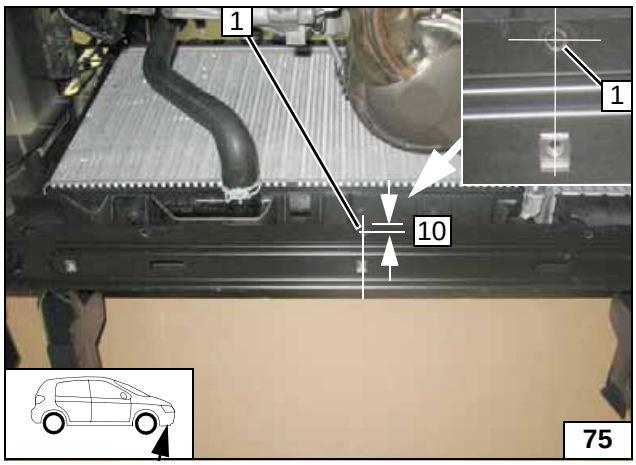
2 1050
4 300
5 950
6 1500

Preparing hoses



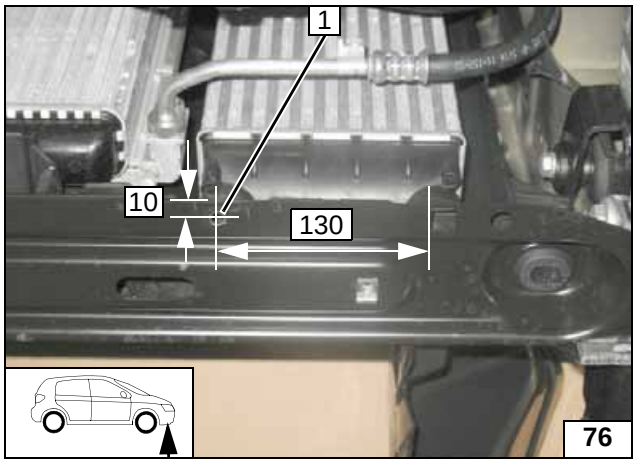
Copy hole pattern **1** for 7.0 mm dia. hole and drill hole.

Preparing hose routing



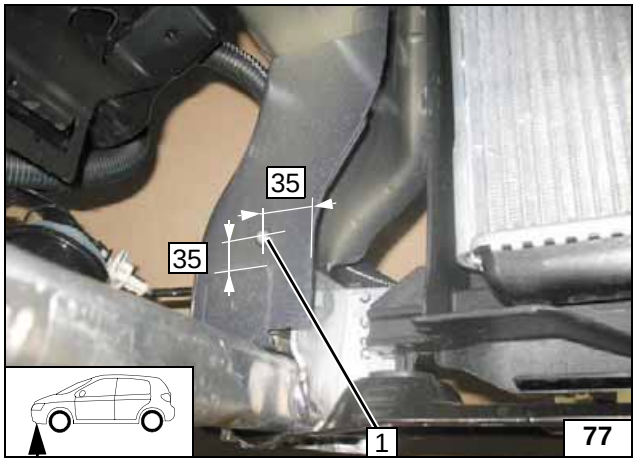
Copy hole pattern **1** for 7.0 mm dia. hole and drill hole.

Preparing hose routing



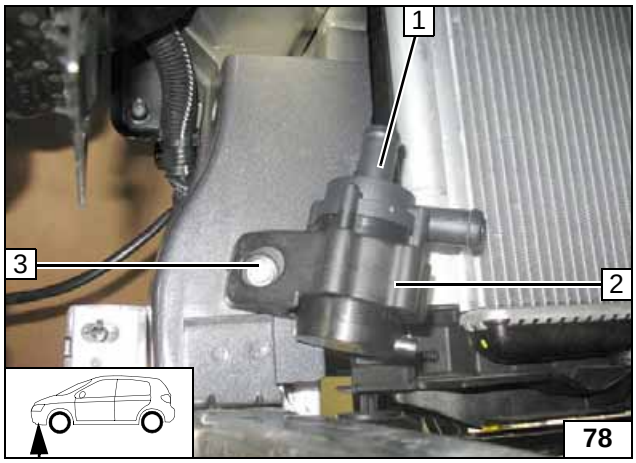
Copy hole pattern **1** for 7.0 mm dia. hole and drill hole.

Preparing hose routing



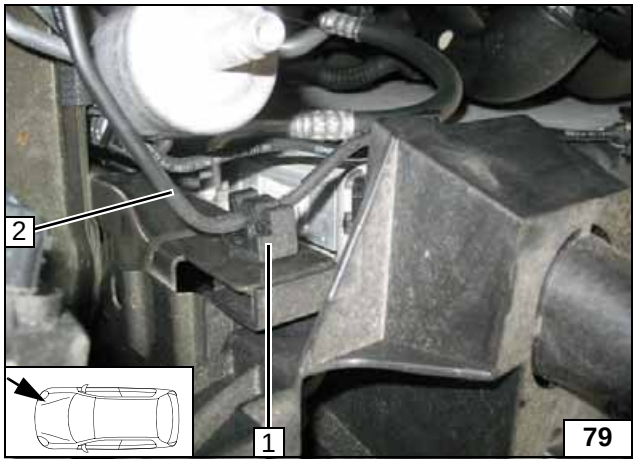
Copy hole pattern **1** for 9.1 mm dia. hole, drill hole and install M6 rivet nut.

Preparing mounting of circulating pump



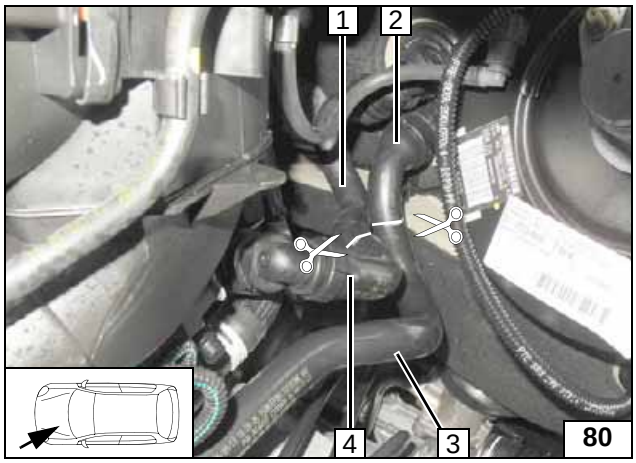
1 Circulating pump
2 Circulating pump mounting
3 M6x25 bolt

Installing circulating pump



1 Remove retaining clip and discard
2 Original vehicle wire

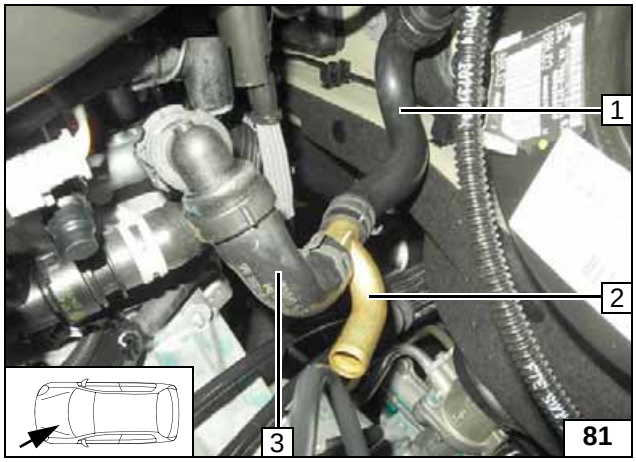
Removing retaining clip



Cut off hoses on engine outlet and engine inlet at the markings.
Extensively eliminate the sheathing if present.
Remove hose sections of heat exchanger inlet **2** and engine outlet **3** .

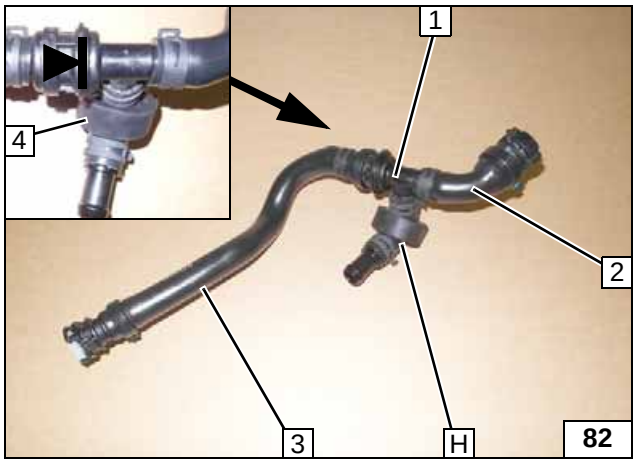
Cutting point

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



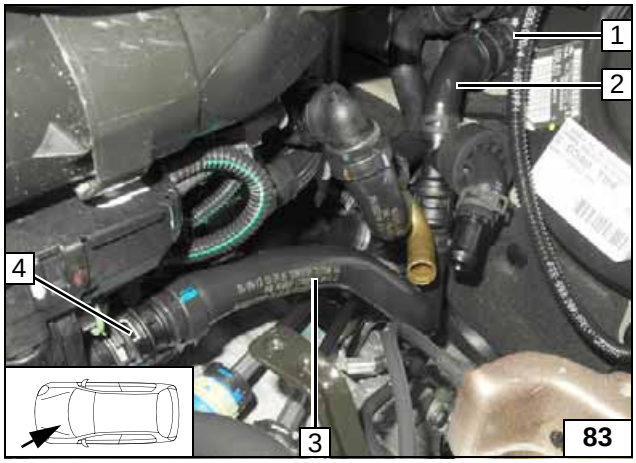
1 Hose section of heat exchanger outlet
2 T-piece
3 Hose section of engine inlet

Installing T-piece



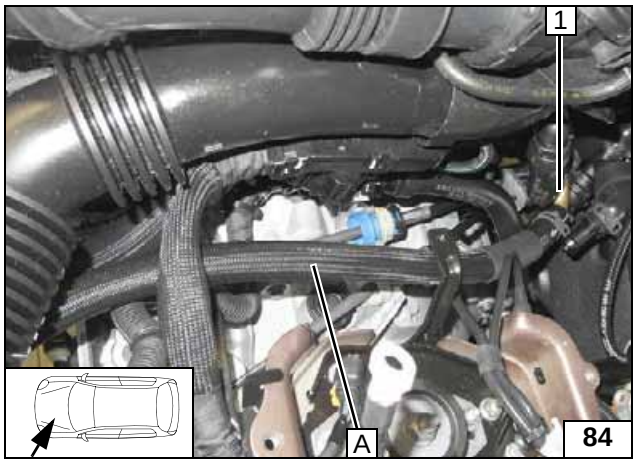
1 Check valve
2 Hose section of heat exchanger inlet
3 Hose section of engine outlet
4 Black rubber isolator

Installing hose group of check valve



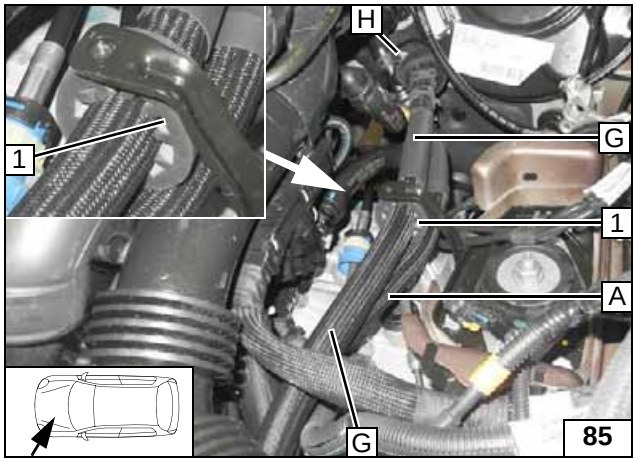
1 Connection piece of heat exchanger inlet
2 Hose section of heat exchanger inlet
3 Hose section of engine outlet
4 Connection piece of engine outlet

Installing hose group



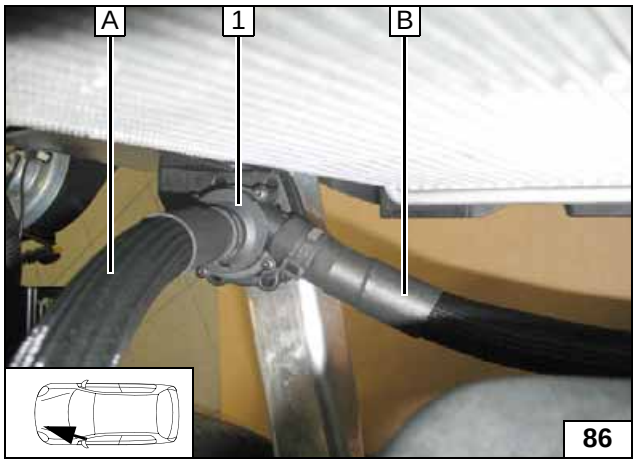
1 T-piece

Hose routing



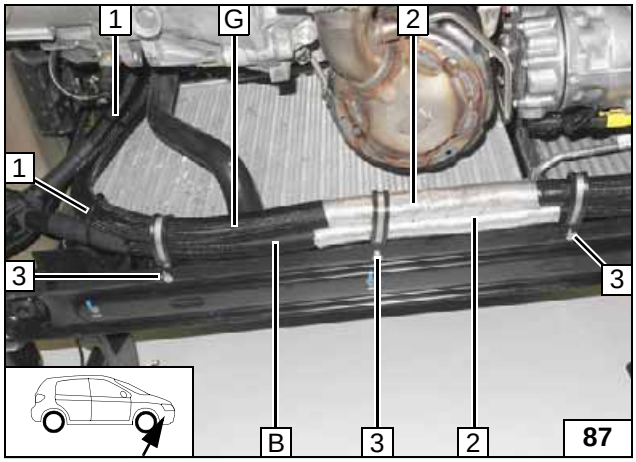
1 Black rubber isolator

Hose routing



1 Circulating pump

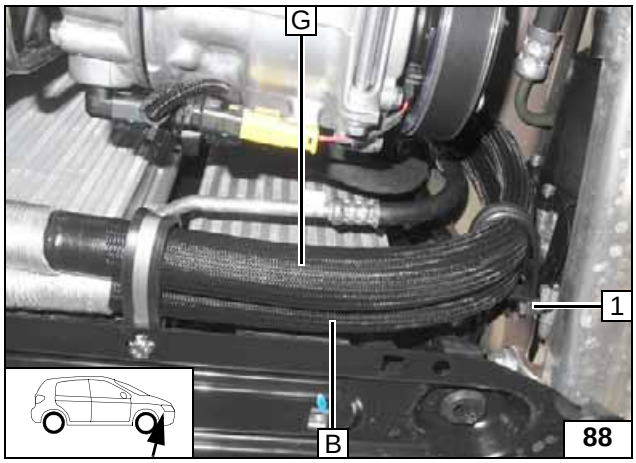
Connecting circulating pump



Cut heat protection hose **2** in the middle. Ensure sufficient distance to catalytic converter (at least 20 mm)!

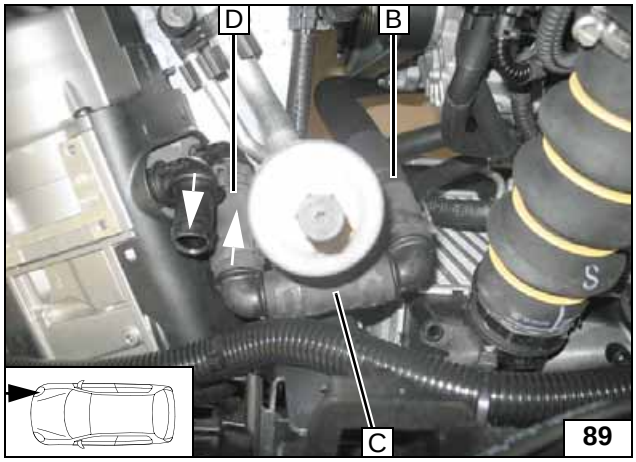
1 Cable tie [2x]
3 M6x16 bolt, 48 mm dia. rubber-coated p-clamp, flanged nut [3x each]

Routing in engine compartment



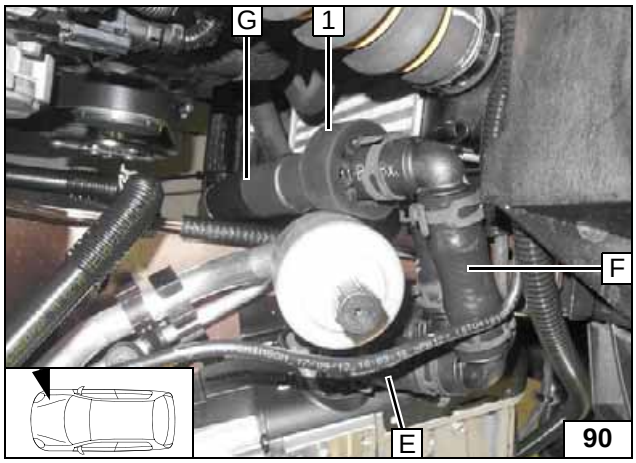
1 M6x16 bolt, 48 mm dia. rubber-coated p-clamp, existing hole, flanged nut

Routing in engine compartment



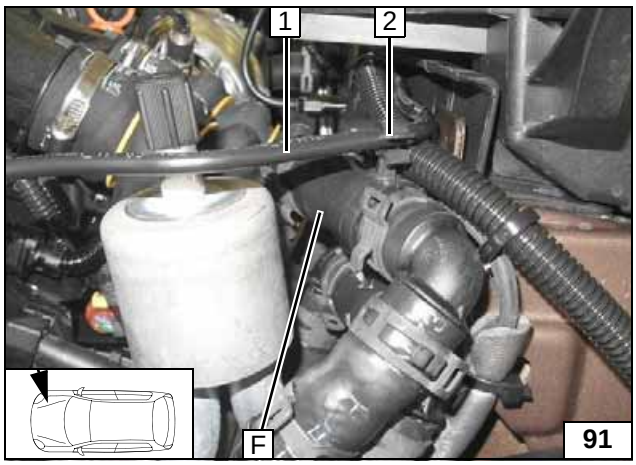
Align hoses. Ensure sufficient distance from neighbouring components.

Connecting heater



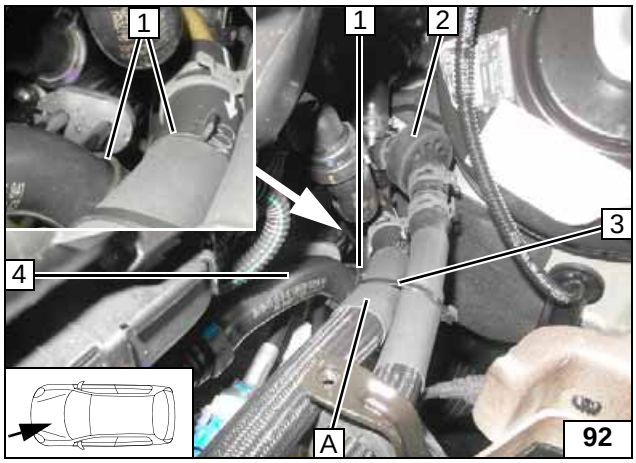
Black rubber isolator **1** between radiator and filler neck of air-conditioning system. Ensure sufficient distance from neighbouring components.

Connecting heater



9x25 hose bracket **2** between hose **F** and original vehicle line **1**.

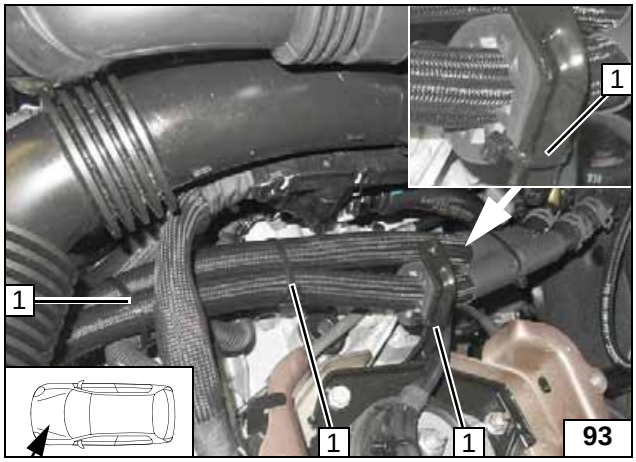
Aligning hoses



Install 25x25 hose bracket **1** between hose **A** and original vehicle hose **4**.
Align black rubber isolator **2** with brake booster.

3 Cable tie

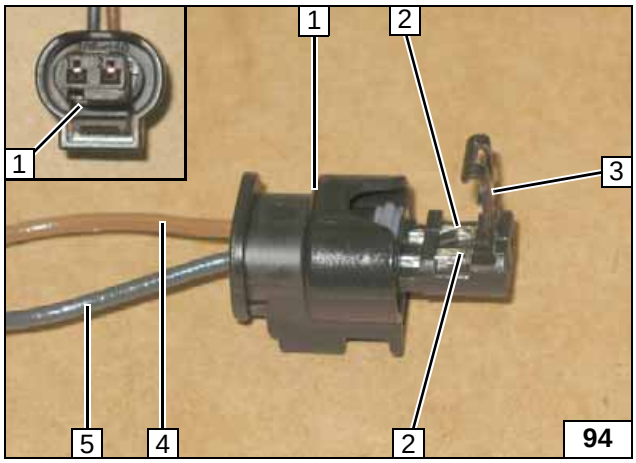
Aligning hoses



Ensure sufficient distance from neighbouring components.

1 Cable tie [3x]

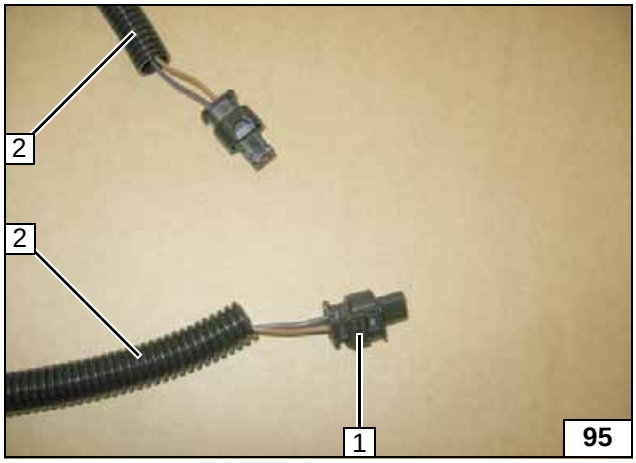
Aligning hoses



Dismantle connector of circulating pump.
Connector of circulating pump is completed again after sliding on 10 mm dia. corrugated tube.
Warning: Do not mix up the wire allocation!

1 Connector
2 Timer lock[2x]
3 Lock
4 Brown (br) wire
5 Black (sw) wire

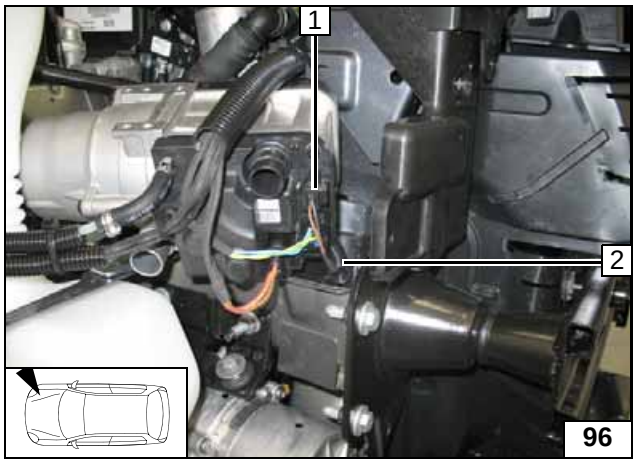
Preparing wiring harness of circulating pump



Slide on 10mm dia., 1130mm long corrugated tube onto wiring harness of circulating pump.
Route excess wiring harness into corrugated tube.

1 Connector of circulating pump completed

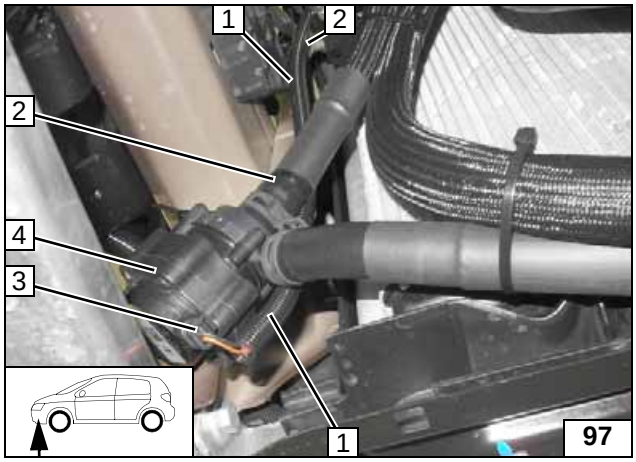
Sliding on corrugated tube



Route wiring harness of circulating pump in 6 mm dia. corrugated tube **2** along wiring harness of heater to installation location of circulating pump.

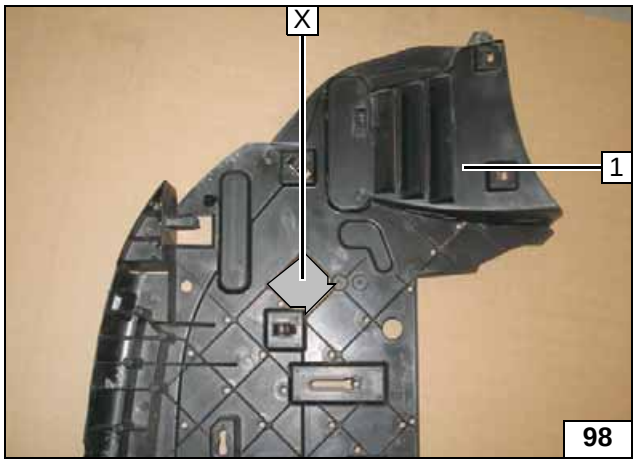
1 Connector of circulating pump wiring harness

Connecting wiring harness



1 Wiring harness of circulating pump
2 Cable tie [2x]
3 Connector of circulating pump wiring harness
4 Circulating pump

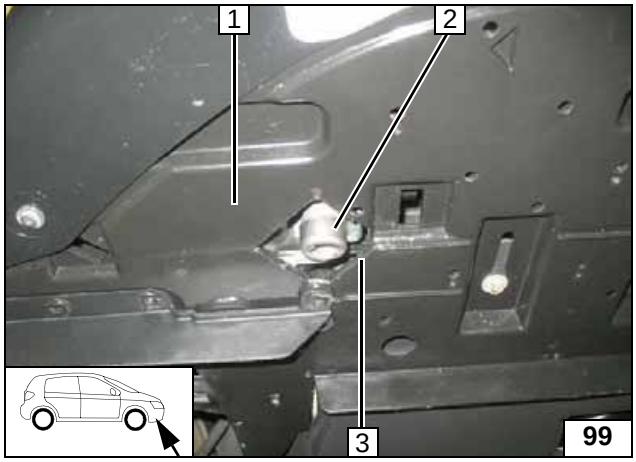
Connecting wiring harness



Final Work

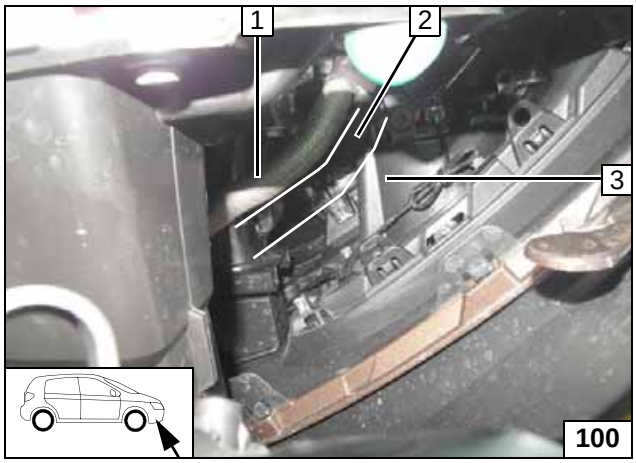
Cut out underride protection **1** as shown. Discard section **X**.

Adapting underride protection



1 Underride protection
2 Exhaust end section
3 Cutout in underride protection

Mounting underride protection



Install bumper. Ensure sufficient distance between exhaust pipe **1** and front fog lights **3** (at least 20mm) in area **2**, correct if necessary.

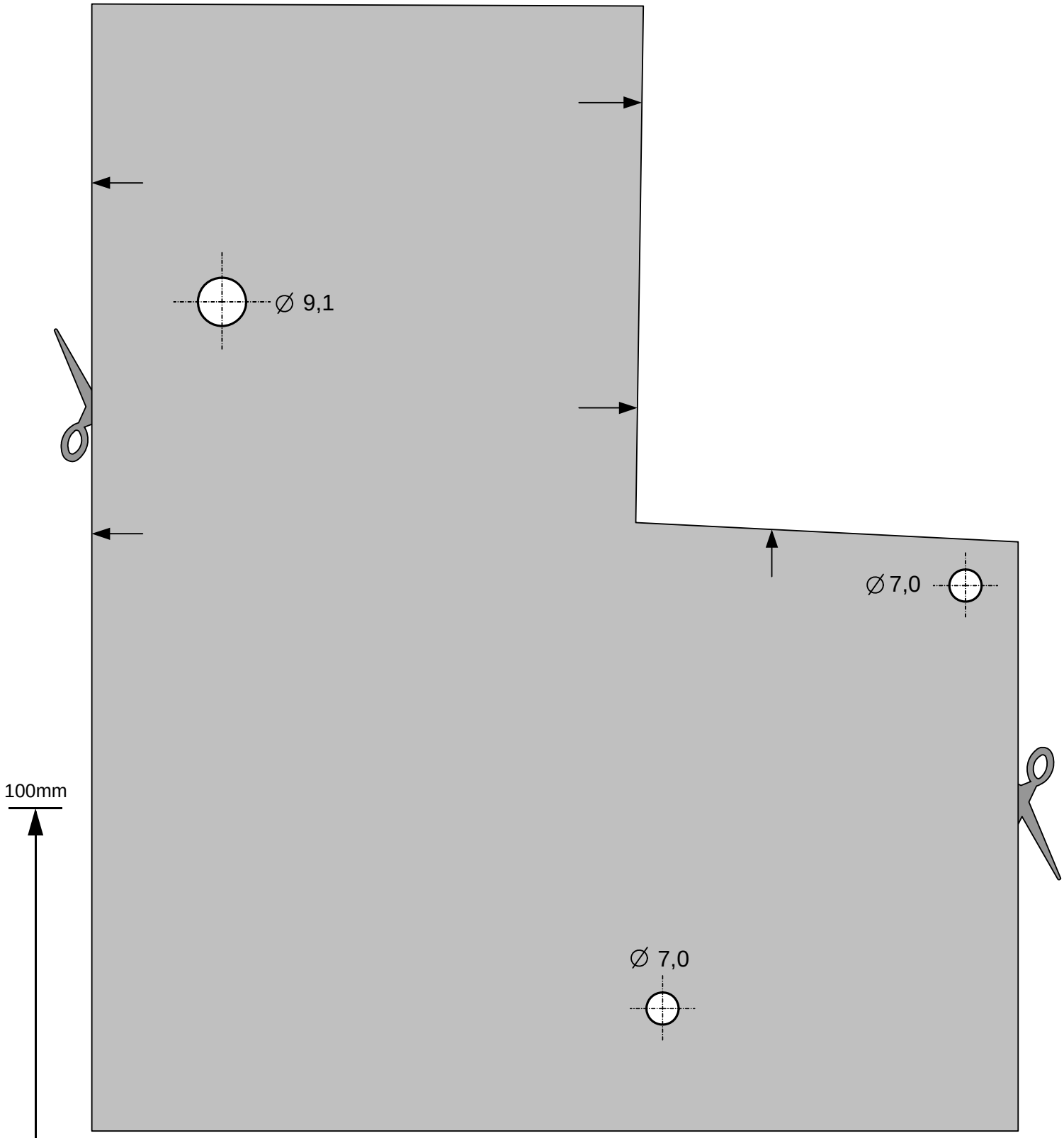
Distance check

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 instructions.**
- **Program MultiControl CAR, teach Telestart transmitter.**
- **Make settings on A/C control panel according to the "Operating Instructions for End Customer".**
- **Place caution label "Switch off parking heater before refuelling" in the area of the filler neck.**
- **For initial startup and function check, please see installation instructions.**

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

Template for Bracket Hole Pattern



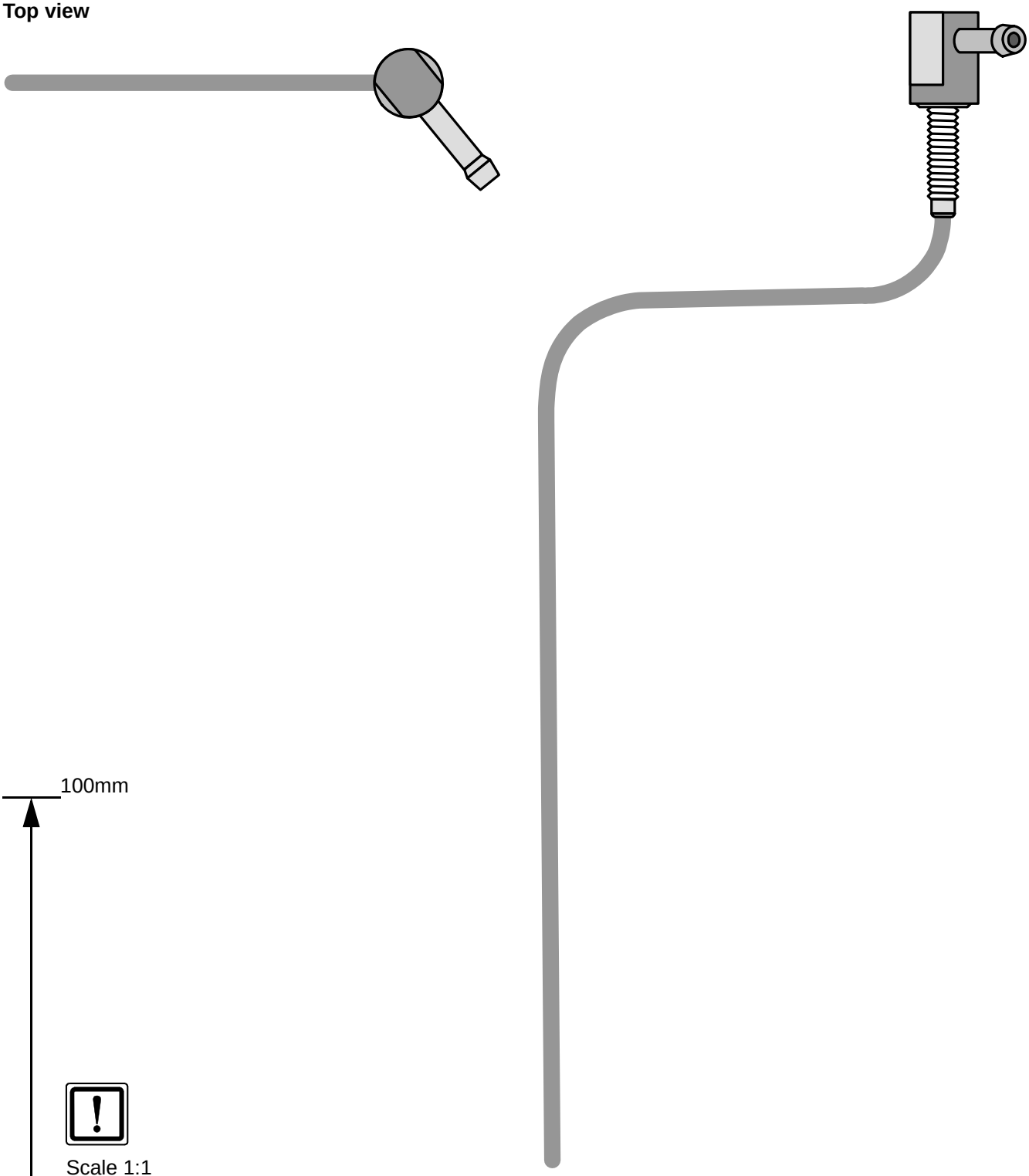
Scale 1:1

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 of Fuel Standpipe for Versions A and B

Top view



100mm

Scale 1:1

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

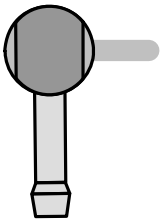
Set the printer settings to “no margin” or “minimise margins” and 100% of the normal size.

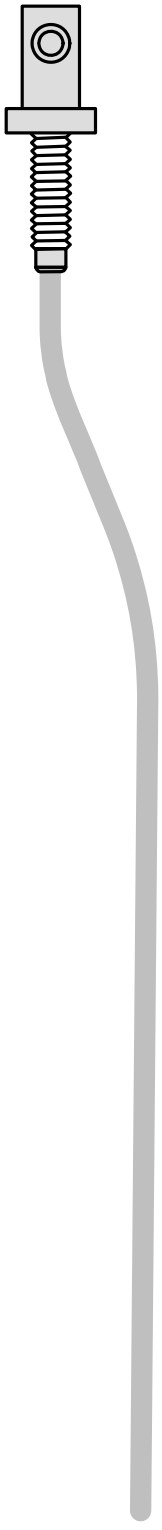
100mm

0

Template of Fuel Standpipe for Version C

Top view





100mm

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.

100mm

0

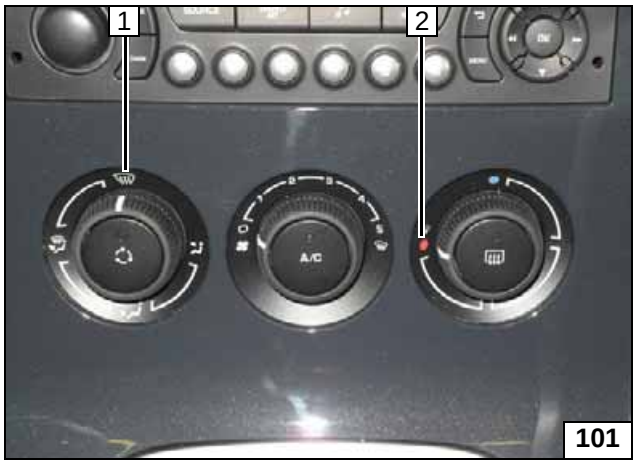
Operating Instructions for Manual Air-Conditioning

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.

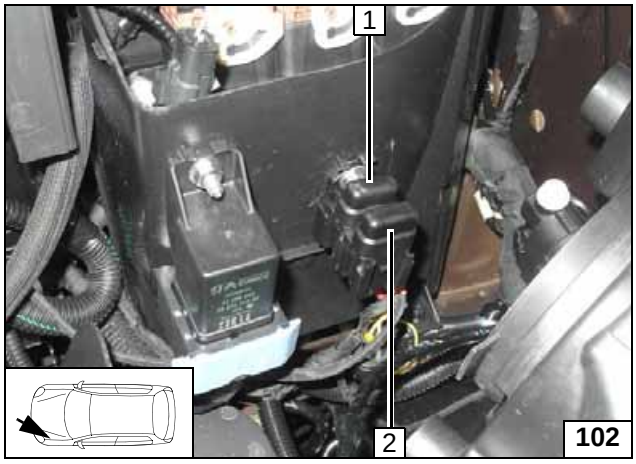
Before parking the vehicle, make the following settings:



The fan speed does not need to be preset.

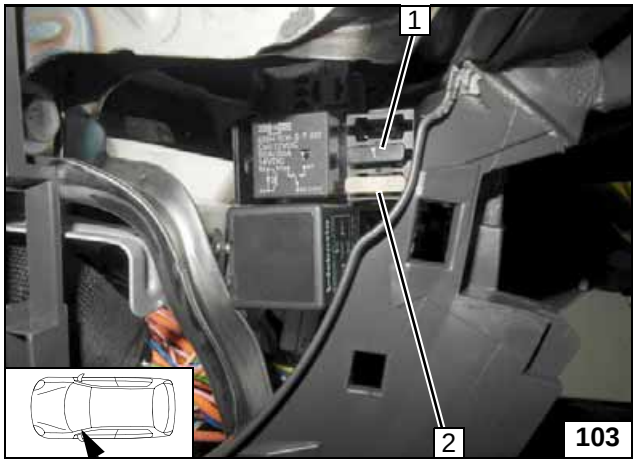
1 Air outlet to windscreen
2 Set temperature to "max."

A/C control panel



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

Engine compartment fuses



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

Passenger compartment fuses

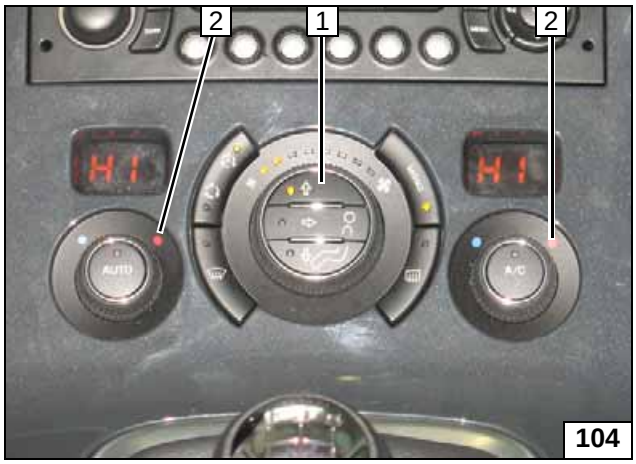
Operating Instructions for Automatic Air-Conditioning

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.

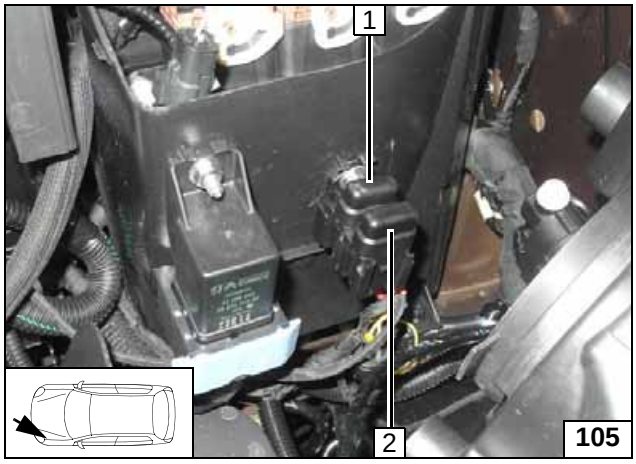
Before parking the vehicle, make the following settings:



The fan speed does not need to be preset.

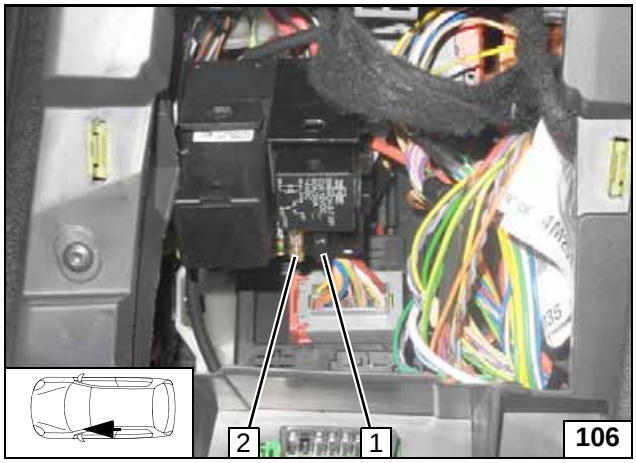
1 Air outlet faces upward
2 Set temperature on both sides to "HI"

A/C control panel



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

Engine compartment fuses



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

Passenger compartment fuses