Water Heater

Webasto
Feel the Drive

***Thermo Top Evo* Parking Heater**

E1
00 0258

Installation Documentation
Suzuki SX4 S-CROSS

Validity

Manufacturer	Model	Type	EG BE No. / ABE
Suzuki	SX4 S-CROSS	JY	e4 * 2007 / 46 * 0779 * ...

Motorisation	Fuel	Transmission type	Output in kW	Displacement in cm³	Engine code
1.6 P	Petrol	6-gear CVT - 4 WD	88	1586	M16A
1.6 P	Petrol	5-gear SG - 2 WD	88	1586	M16A
1.6 D	Diesel	6-gear SG - 2 WD	88	1598	D16AA

SG = Manual transmission
CVT = Continuously variable automatic transmission

From Model Year 2014
Left-hand drive vehicle

Verified equipment variants: Automatic air-conditioning
Manual air-conditioning
Front fog light
Daytime running lights (LED and Halogen)
Bi-Xenon
keyless start
Start / Stop

Not verified: Passenger compartment monitoring

Total installation time: about 9 hours

Suzuki SX4 S-CROSS

Table of Contents

Necessary Components

- Basic delivery scope of *Thermo Top Evo* based on price list
- Installation kit for Suzuki SX4 S-CROSS 2014 Petrol and diesel: **1321299B**
- To be ordered additionally with automatic air-conditioning:
  additional kit for Suzuki SX4 S-CROSS automatic-air conditioning: **1322203A**
- Heater control in accordance with price list and upon consultation with final customer
- In case of Telestart, indicator lamp in accordance with price list and upon consultation with final customer

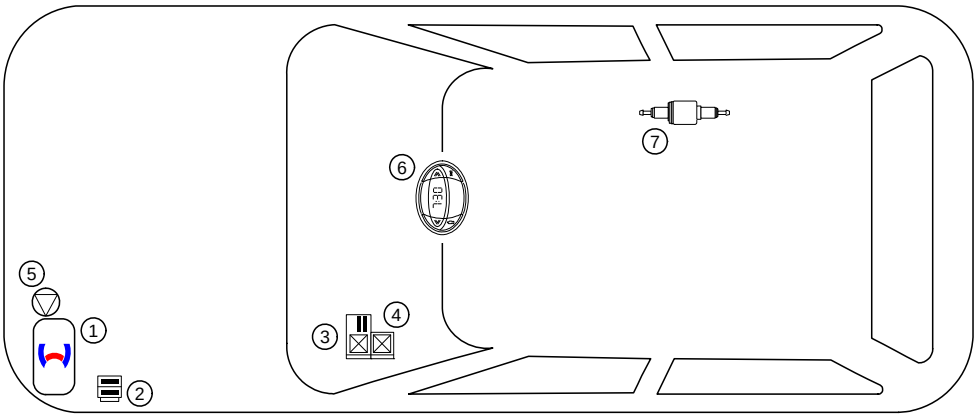
Installation instructions:

- Arrange for the vehicle to be delivered with the tank only about 1/4 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 space required and the manufacturer's instructions, we recommend the use of a vehicle battery with a higher electrical capacity!

Installation Overview

Legend:

1. Heater
2. Fuse holder of engine compartment
3. Relay and fuse holder of passenger compartment
4. PWM Gateway
5. Circulating pump
6. Digital timer
7. Metering pump



Notes 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.

Notes on Validity

This installation documentation applies to the Suzuki SX4 S-CROSS Petrol and diesel vehicles - for validity, see page 1 - from model year 2014 and later, assuming technical modifications to the vehicle do not affect installation, any liability claims excluded. Depending on the vehicle version and equipment, modifications may be necessary during installation with respect to this installation documentation.

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

Technical Instructions

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 - 6 mm²
- Crimping pliers for cable lug / tab connector 0.5 - 6 mm²
- Torque wrench for 2.0 - 10 Nm
- Hose clamping pliers
- Metric thread-setter kit
- Webasto Thermo Test Diagnosis with current software

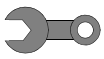
Dimensions
- All dimensions are in mm

Tightening torque values
- Tightening torque values of 5x13 heater bolts and 5x11 heater stud bolts = 8 Nm.
- Tightening torque of the bolt of 5x15 water connection piece retaining plate = 7 Nm.
- 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

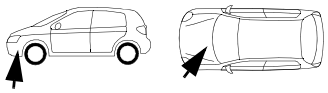
Specific risk of damage to components

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

Suzuki SX4 S-CROSS

Preliminary Work

Vehicle

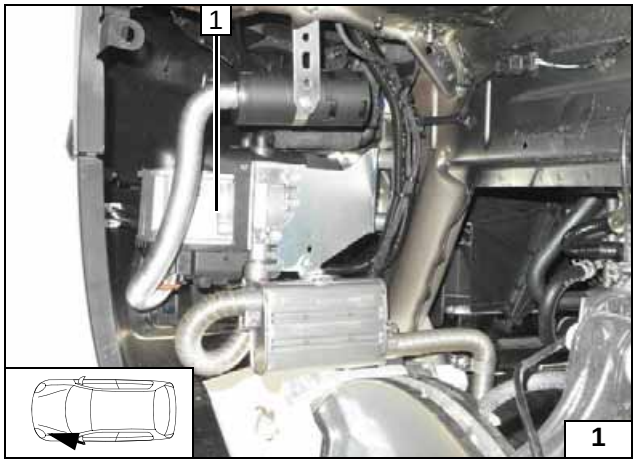
- Open the fuel tank cap.
- Ventilate the fuel tank.
- Close the fuel tank cap again.
- Depressurise the cooling system.
- Disconnect and completely remove the battery together with the carrier.
- Remove the air filter box.
- Remove the engine cover.
- Remove the left front wheel.
- Remove the left-hand wheel well trim.
- Remove the engine underride protection.
- Loosen the underride protection on the right
- Remove the decorative panel for the shift lever (only for digital timer and/or automatic air-conditioning).
- Remove the decorative panel for the centre console (only for automatic air-conditioning).
- Remove the A/C control panel.
- Remove the AC booster.
- Remove the lower instrument panel trim on the driver's side.
- Remove the footwell trim on the driver and front passenger's side.

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

- Remove the pre-silencer (petrol only).
- Remove the centre exhaust pipe (diesel only).
- Loosen the Cardan shaft (4 WD only).
- Remove the fuel-tank in accordance with the manufacturer's instructions.
- 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 inside the engine compartment.



Heater Installation Location

1 Heater

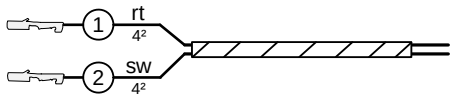
Installation location

Preparing Electrical System

The wire sections retain their numbering in the entire document.

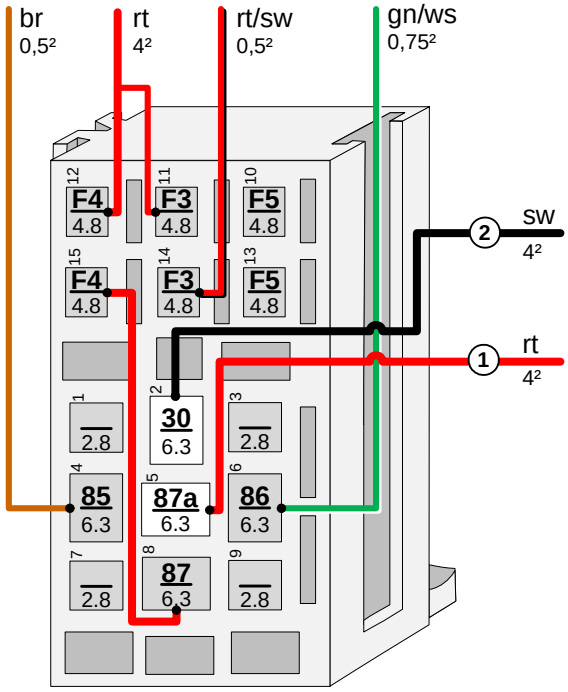
① Red (rt) wire of fan wiring harness
② Black (sw) wire of fan wiring harness

Assigning wires



2

Connecting wires to passenger compartment relay and fuse holder

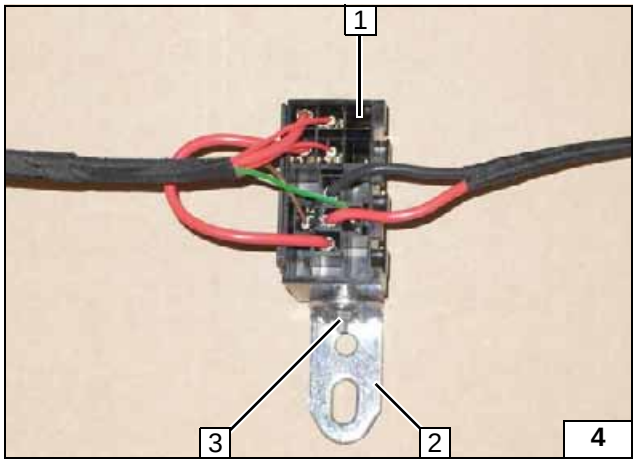


3

Manual air-conditioning

1 Relay and fuse holder of passenger compartment
2 Angle bracket
3 M5x16 bolt, large diameter washer, flanged nut

Preparing relay and fuse holder of passenger compartment



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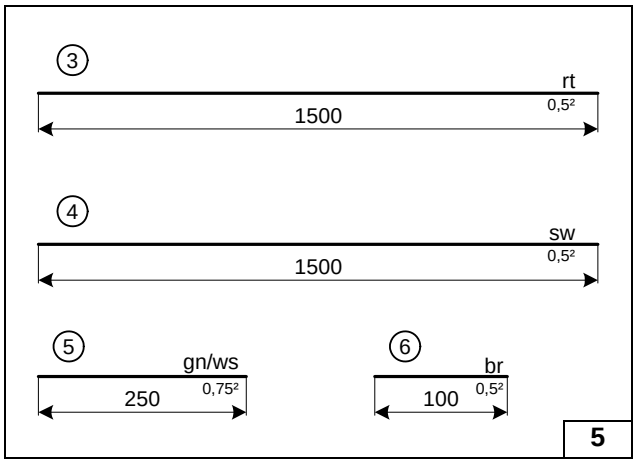
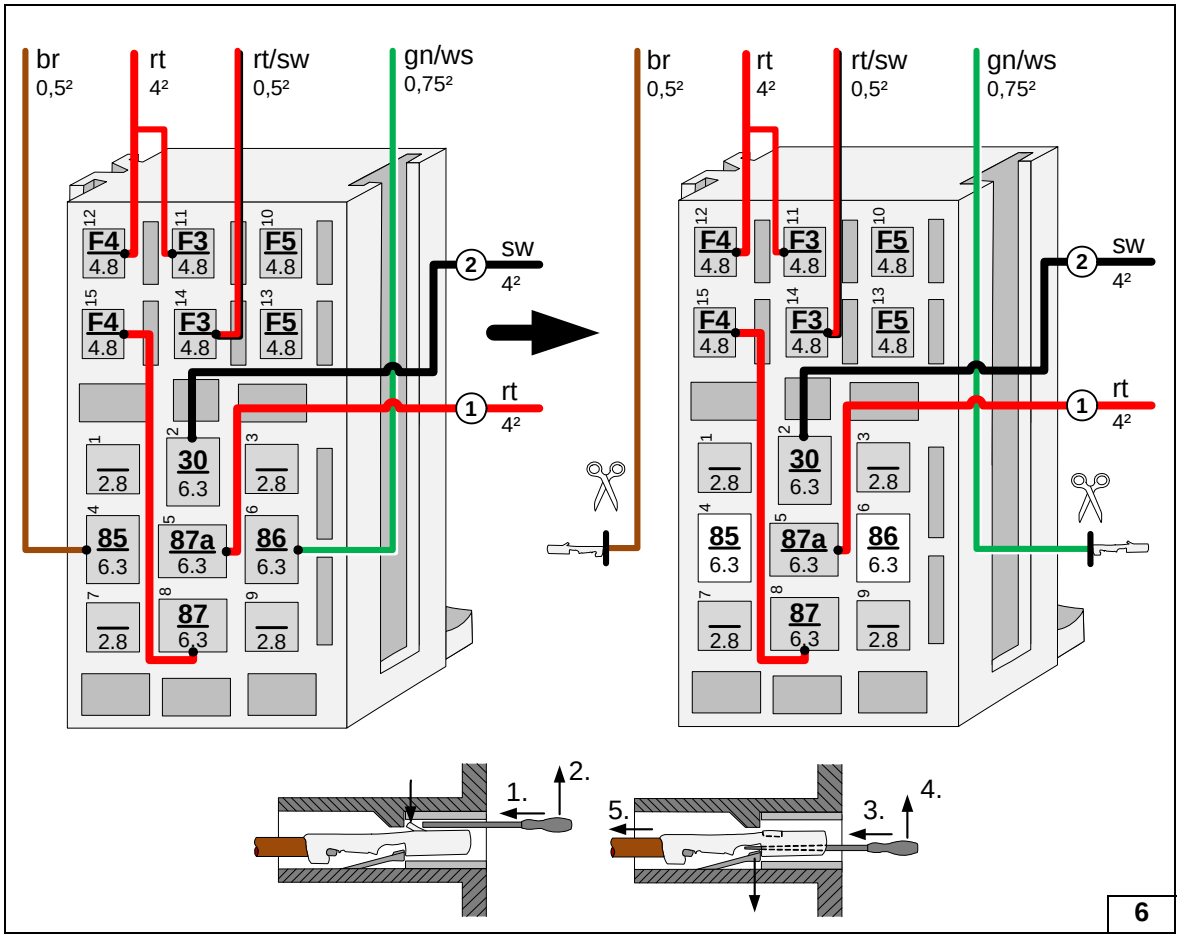


5

Automatic air-conditioning

Pull wires ③ and ④ into provided protective sleeving.

Assigning wires



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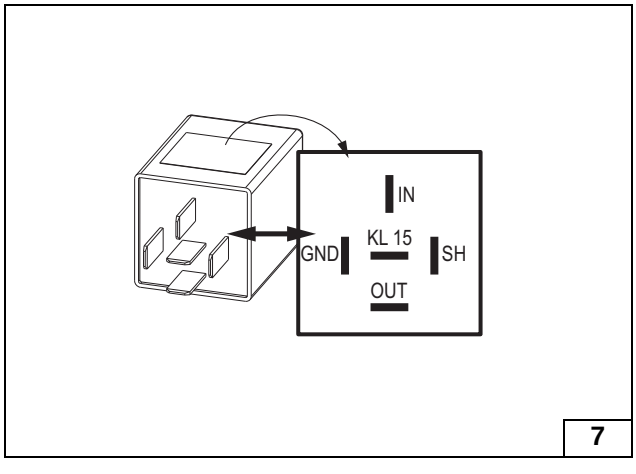
Preparing relay and fuse holder of passenger compartment



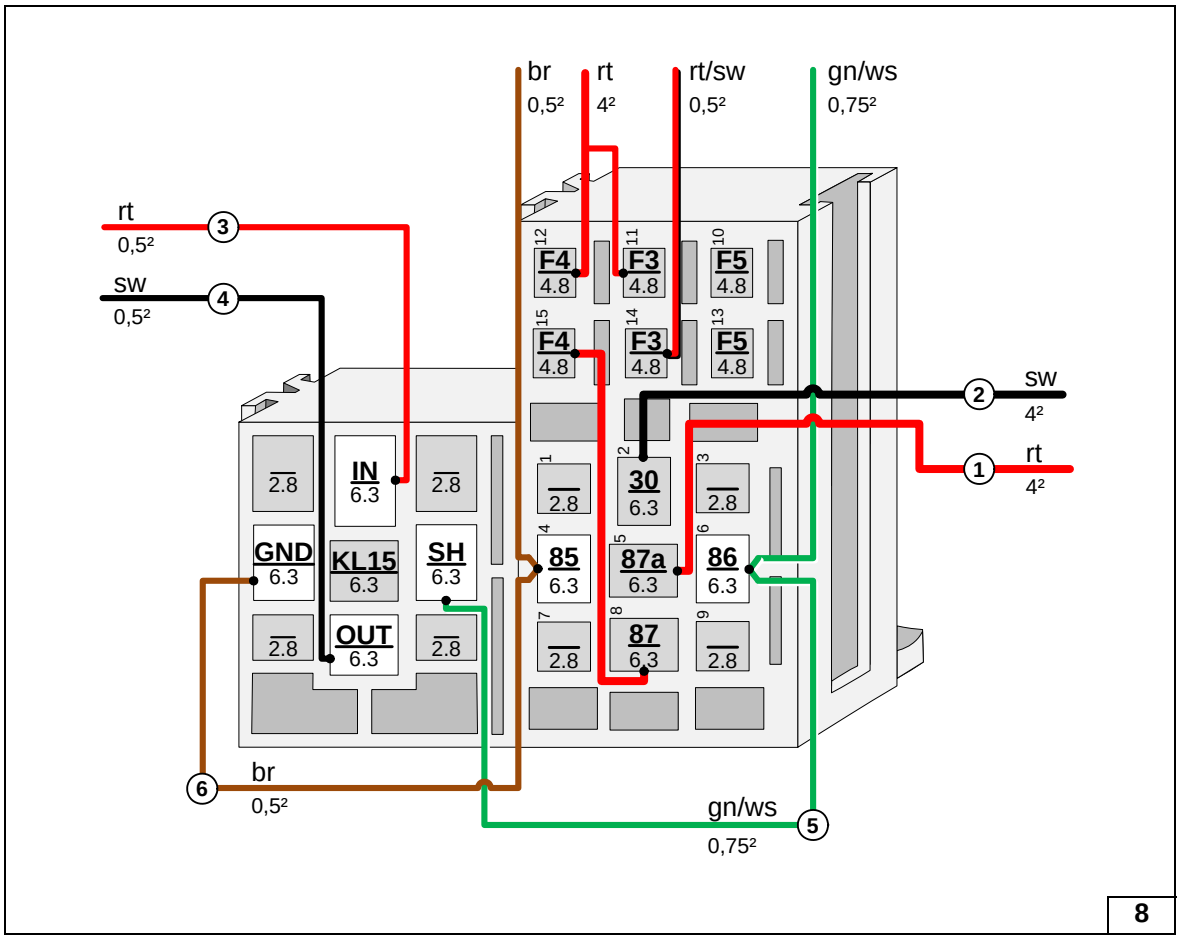
7

Check the settings for the PWM Gateway before commissioning of the heater and adjust if necessary.

Settings:

Duty cycle: 100% (DC)
Frequency: not relevant
Voltage: 4.3V
Function: High-side

Preparing PWM-GW



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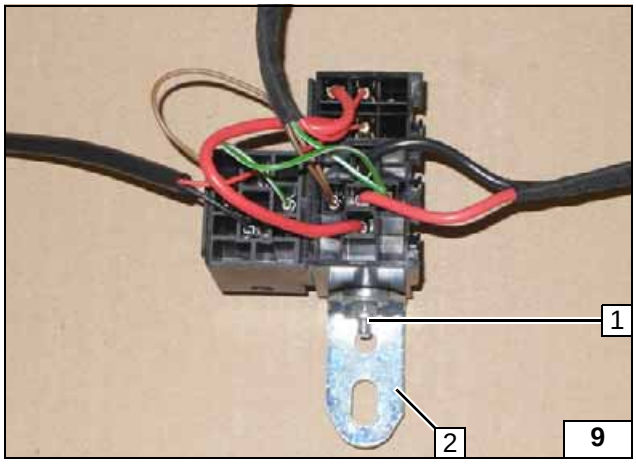
Interlocking socket of PWM-GW and passenger compartment relay and fuse holder and connecting wires



9

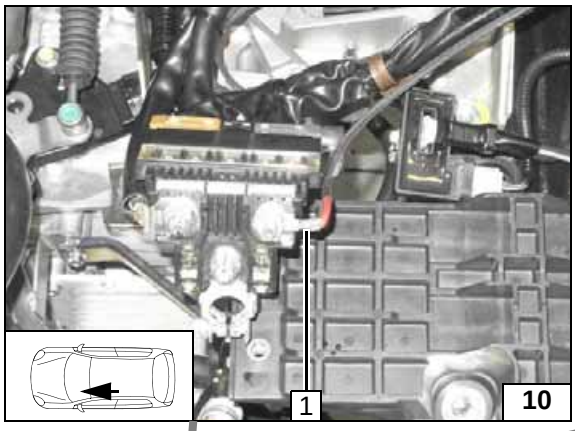
1 M5x16 bolt, large diameter washer, flanged nut
2 Angle bracket

Premounting relay and fuse holder

Electrical System

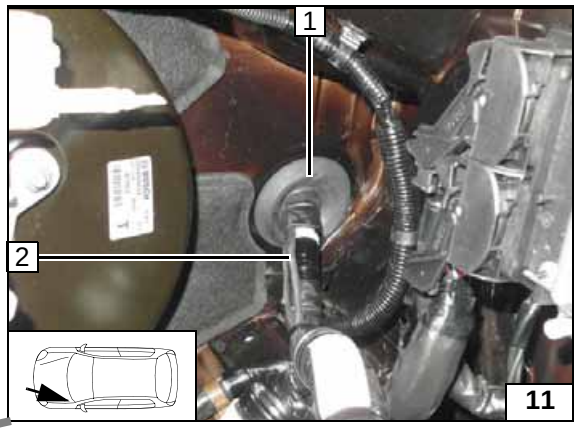
Positive wire

1 Positive wire on positive battery distributor

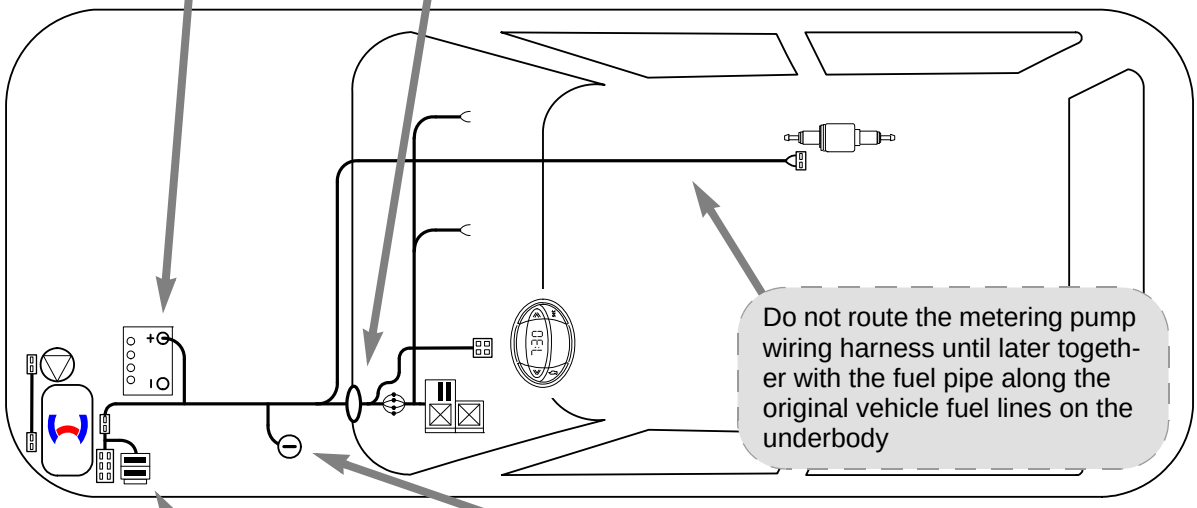


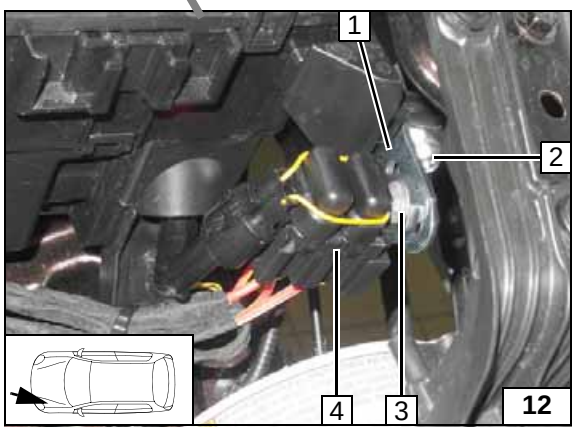
Wiring harness routing

1 Protective rubber plug
2 Wiring harness of heater and heater control



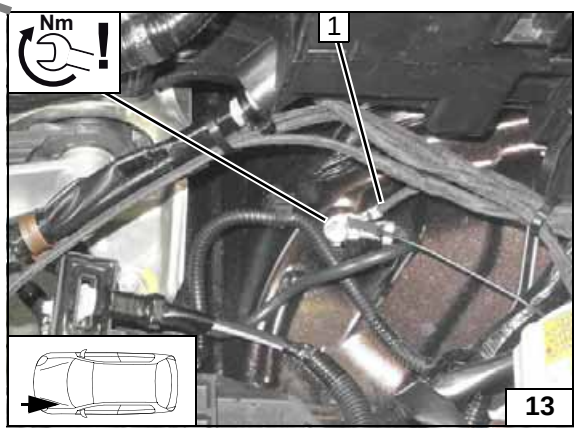
Wiring harness routing diagram





Fuse holder of engine compartment

1 Angle bracket
2 Original vehicle bolt
3 M5x16 bolt, large diameter washer [2x], retaining plate of fuse holder, nut
4 F1-2 fuses

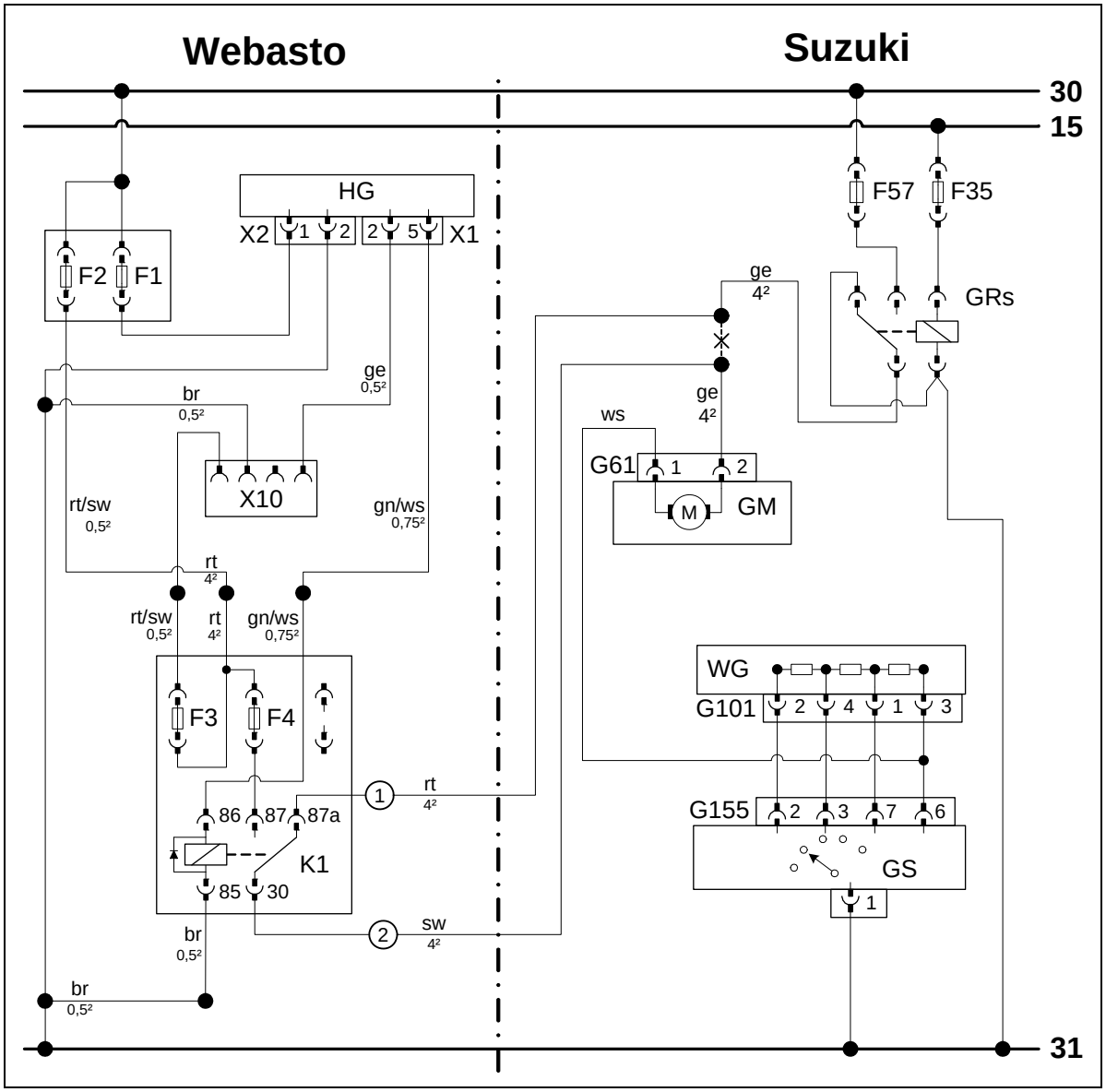


Earth wire

1 Earth wire on original vehicle earth support point

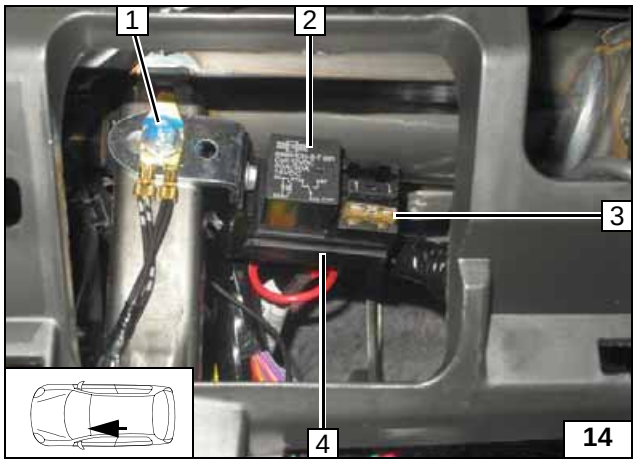
Manual Air-Conditioning Fan Controller

Wiring diagram



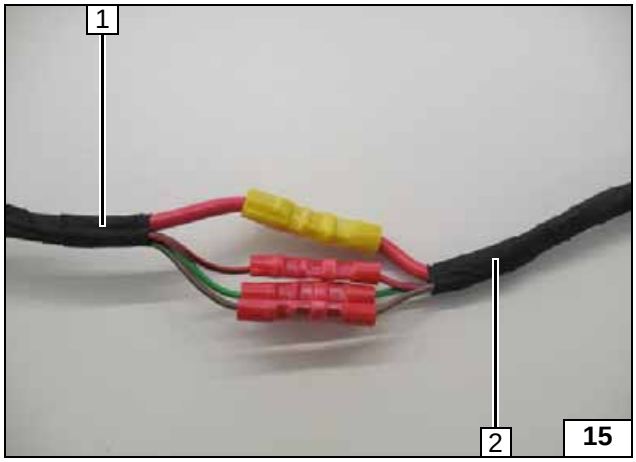
Webasto components		Vehicle components		Colours and symbols	
HG	TT-Evo heater	F57	30A fuse	rt	red
X2	2-pin heater connector	F35	7.5 A fuse	sw	black
X1	6-pin heater connector	GRs	Fan relay	ge	yellow
F2	30A fuse	GM	Fan motor	gn	green
F1	20A fuse	G61	2-pin connector GM	ws	white
X10	4-pin connector of heater control	WG	Resistor group	br	brown
		G101	4-pin connector WG		
F3	1A fuse	GS	Fan switch		
F4	25A fuse	G155	Connector GS		
K1	Fan relay			**X**	Cutting point
				Wiring colours may vary.	

Legend



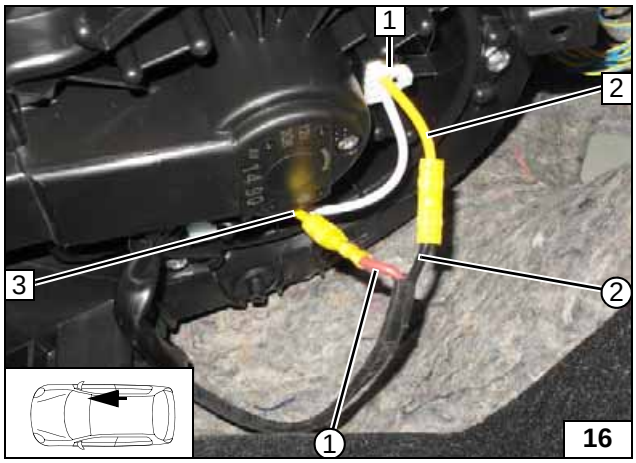
1 Original vehicle bolt earth point
2 K1 relay
3 Fuse F4 25A
4 Relay and fuse holder of passenger compartment

Installing relay and fuse holder of passenger compartment



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

Connecting same colour wires of wiring harnesses



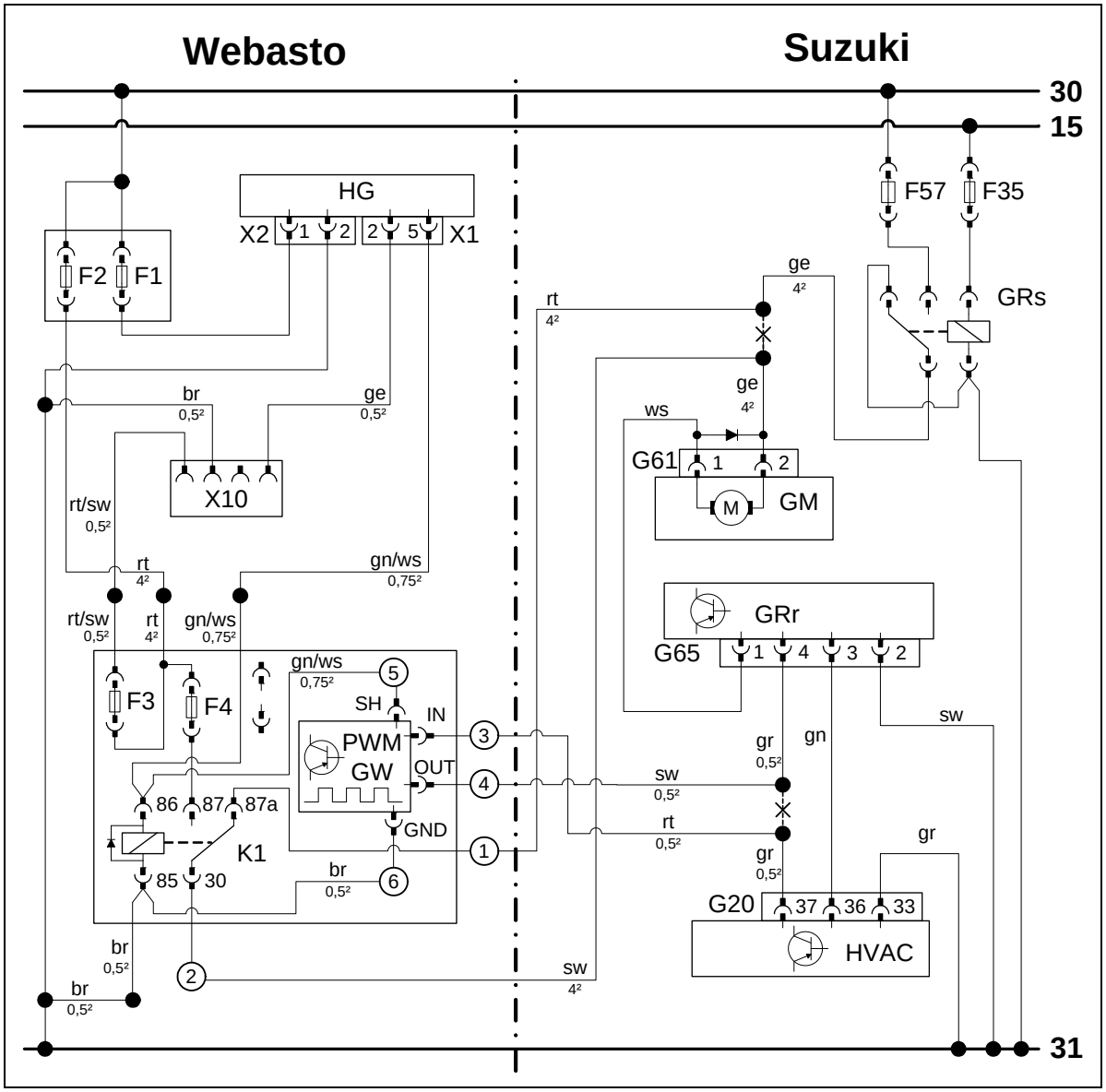
Connection on 2-pin connector G61/2 **1** of fan motor.
Produce connections as shown in wiring diagram.

2 Yellow (ge) wire of 2-pin GM connector
3 Yellow (ge) wire of fan relay
① Red (rt) wire of K1/87a
② Black (sw) wire of K1/30

Connecting fan motor

Automatic Air-Conditioning Fan Controller

Wiring diagram



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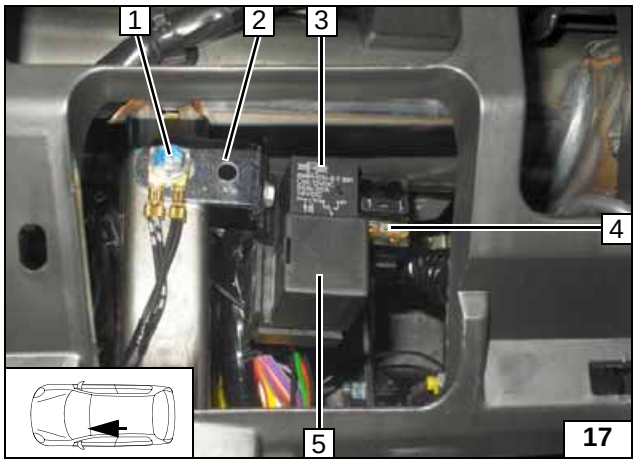
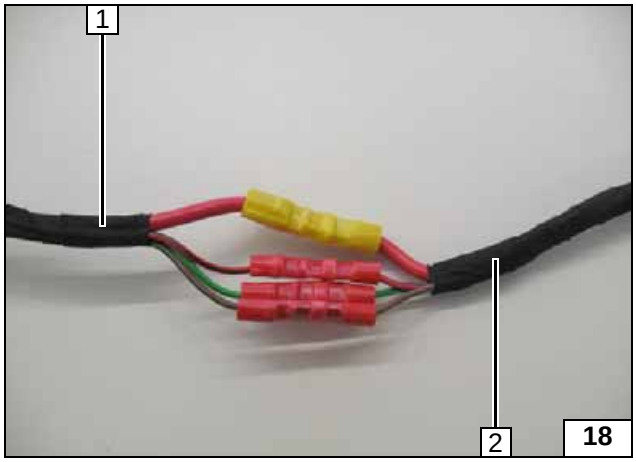
X1	6-pin heater connector	GRs	Fan relay	ge	yellow
F2	30A fuse	GM	Fan motor	gn	green
F1	20A fuse	G61	2-pin connector GM	gr	grey
X10	4-pin connector of heater control	GRr	Fan controller	ws	white
		G65	4-pin connector, GRr	br	brown
F3	1A fuse	HVAC	AC booster		
F4	25A fuse	G20	40-pin connector HVAC		
PWM GW	PWM Gateway				
K1	Fan relay				
PWM GW settings:					
Duty cycle:	100% (DC)				
Frequency:	not relevant				
Voltage:	4.3V			**X**	Cutting point
Function:	High-side			Wiring colours may vary.	

Legend



1 Original vehicle bolt earth point
2 Angle bracket
3 K1 relay
4 Fuse F4 25A
5 PWM Gateway

Installing relay and fuse holder of passenger compartment



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

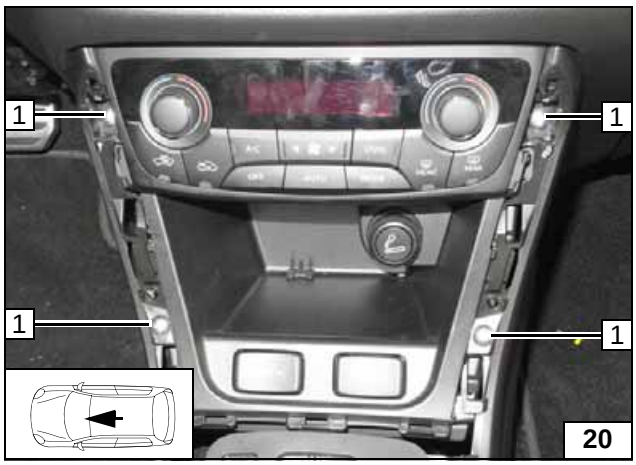
Connecting same colour wires of wiring harnesses

HVAC Installation Aid

Remove shift gear trim piece and A/C control panel **1** in accordance with the manufacturer's instructions.

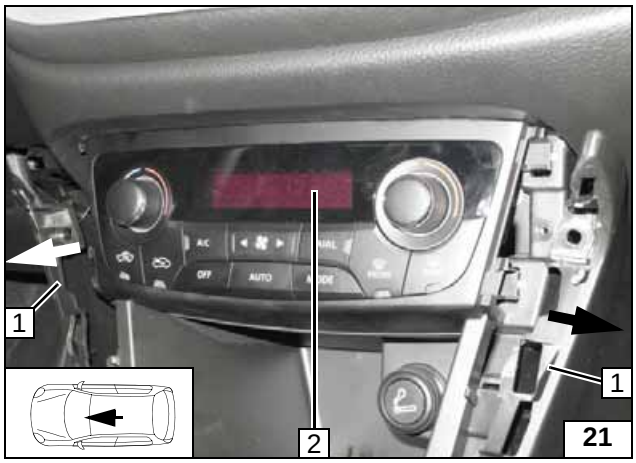
○ Fastening points (spring clips)

Removing trim piece



1 Remove bolts [4x]

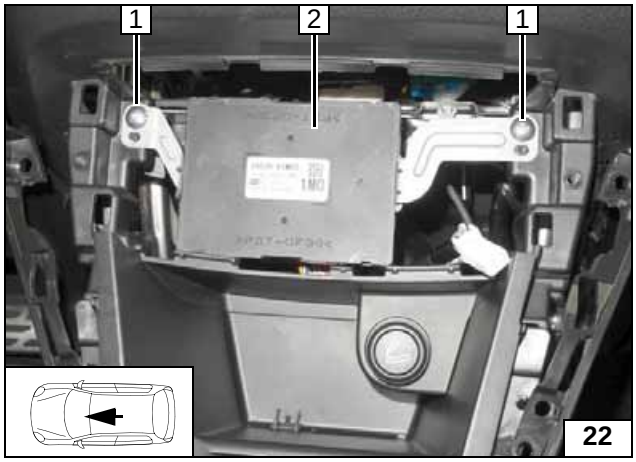
Loosening side trim



Carefully push away trims **1** to the left and right.

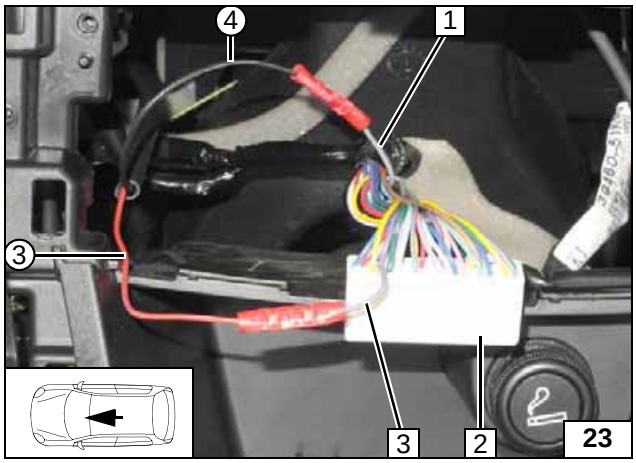
2 Detach A/C control panel

Removing trims



1 Remove bolts [2x]
2 HVAC

Removing HVAC

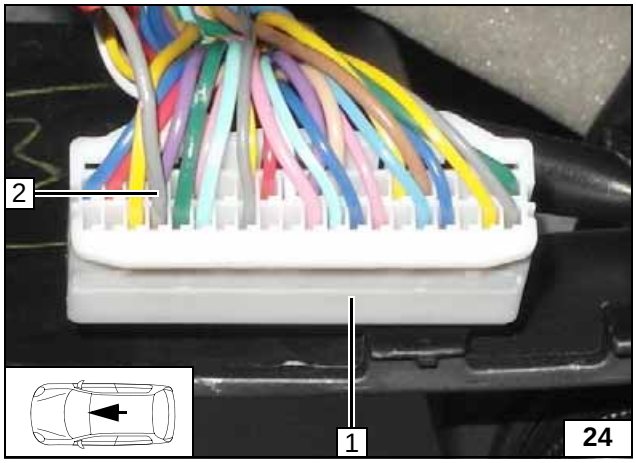


Connecting HVAC and GM

Produce connections as shown in wiring diagram.

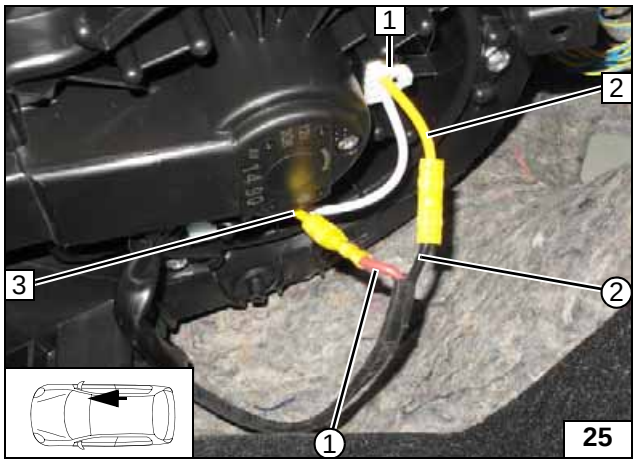
1 Grey (gr) wire for fan controller
2 40-pin G20 connector for AC booster (HVAC)
3 Grey (gr) wire G20, pin 37
③ Red (rt) wire of PWM Gateway/IN
④ Black (sw) wire of PWM Gateway/OUT

Connecting PWM Gateway



1 40-pin G20 connector for AC booster (HVAC)
2 Grey (gr) wire, pin 37

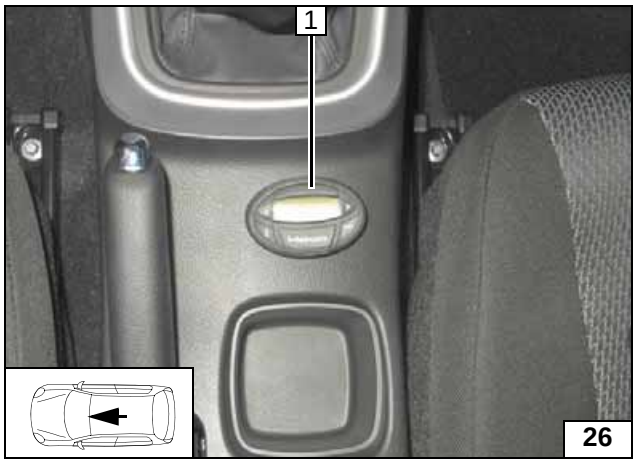
View of connector G20



Connection on 2-pin connector G61/2 **1** of fan motor.
Produce connections as shown in wiring diagram.

2 Yellow (ge) wire of 2-pin GM connector
3 Yellow (ge) wire of fan relay
① Red (rt) wire of K1/87a
② Black (sw) wire of K1/30

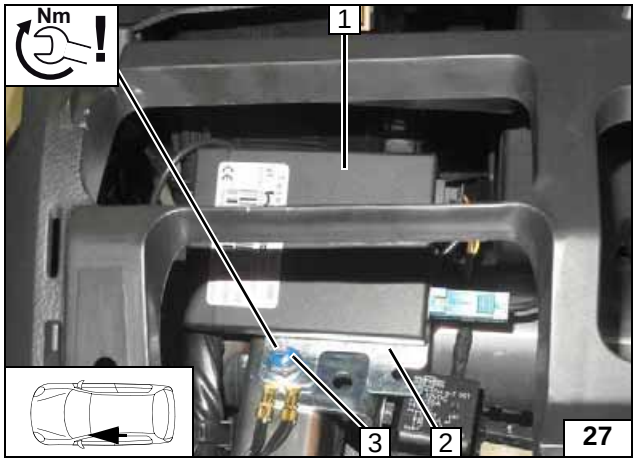
Connecting fan motor



Digital Timer

1 Digital timer

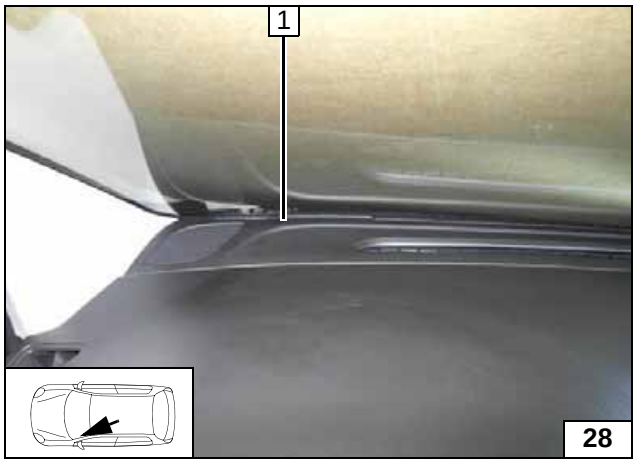
Installing digital timer



Remote Option (Telestart)

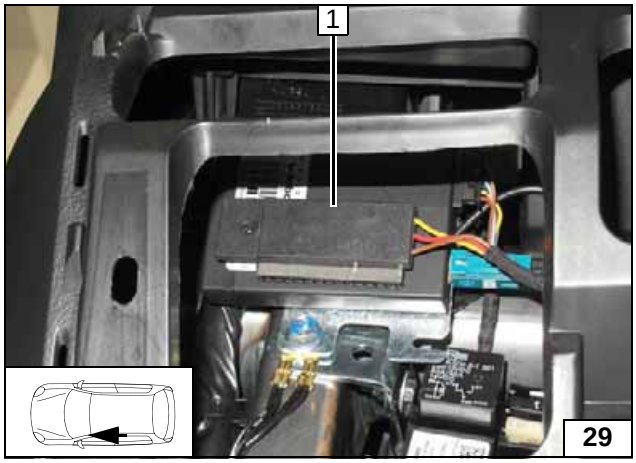
1 Receiver
2 Bracket
3 Original vehicle bolt, earth point

Mounting receiver



1 Antenna

Mounting antenna



Temperature sensor T100 HTM

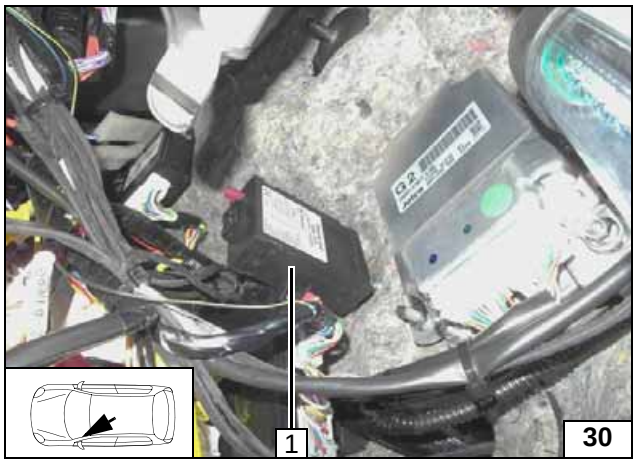
Fasten temperature sensor **1** with adhesive tape.

Mounting temperature sensor

Remote Option Thermo Call

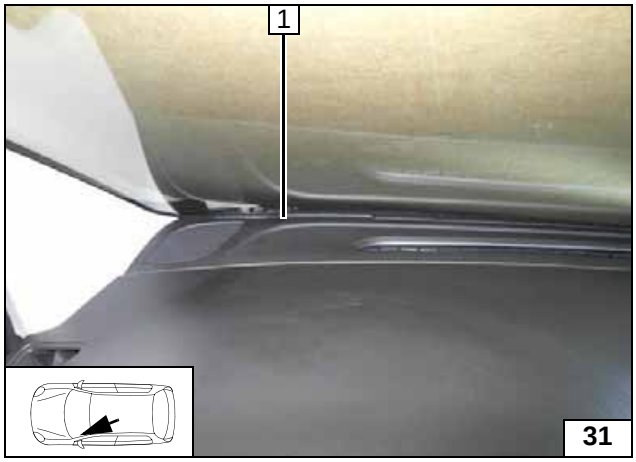
Mounting receiver

Fasten receiver **1** with adhesive tape.

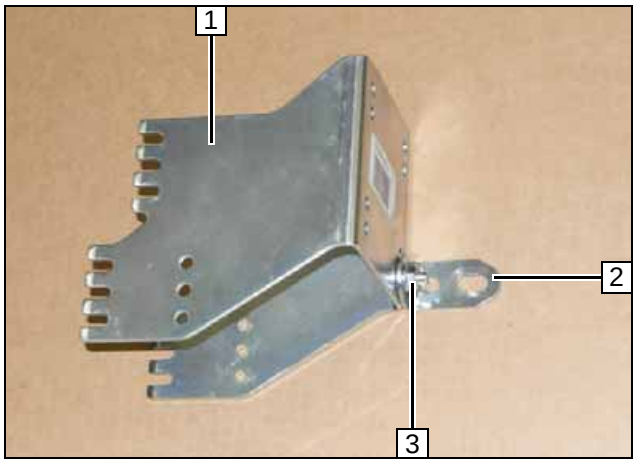


1 Antenna

Mounting antenna

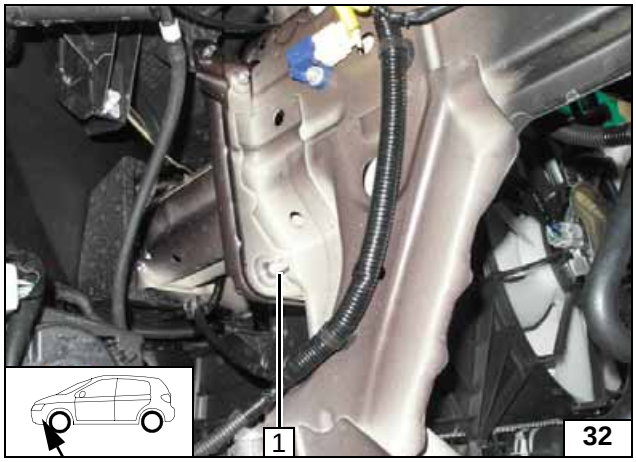


Preparing Installation Location



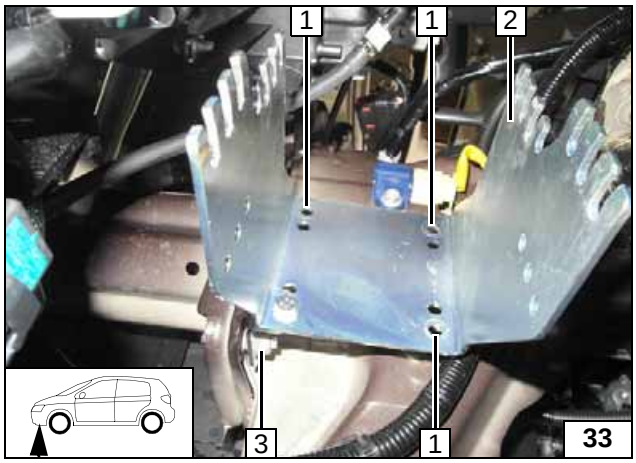
1 Bracket
2 Angle bracket
3 M6x20 bolt, flanged nut

Preparing bracket



Replace original vehicle bolt with M8x30 bolt **1**.

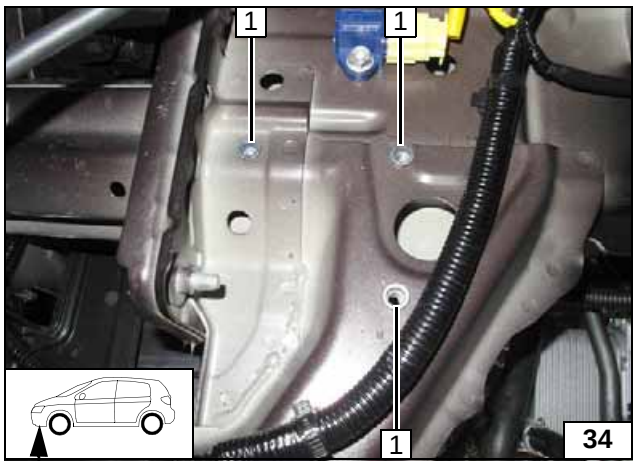
Replacing bolt



Install bracket **2** loosely and align vertically.

1 Copy hole pattern [3x]
3 Angle bracket, M8 flanged nut

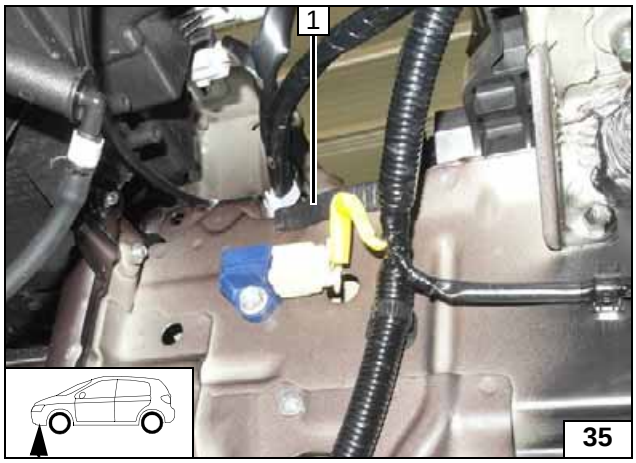
Copying hole pattern



Remove bracket.

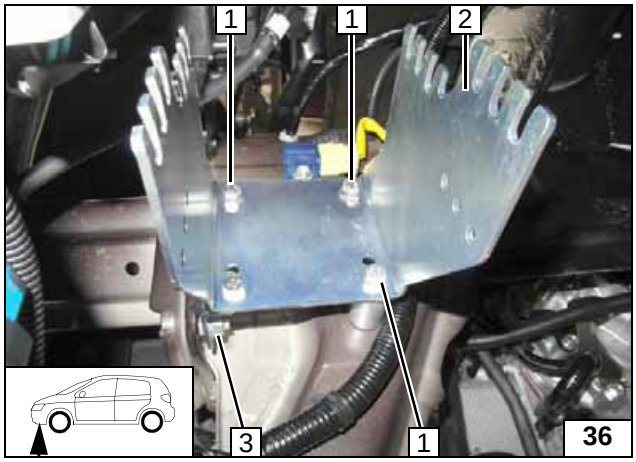
1 9.1 mm dia. hole; rivet nut [3x each]

Installing rivet nut



1 50 mm edge protection

Installing edge protection

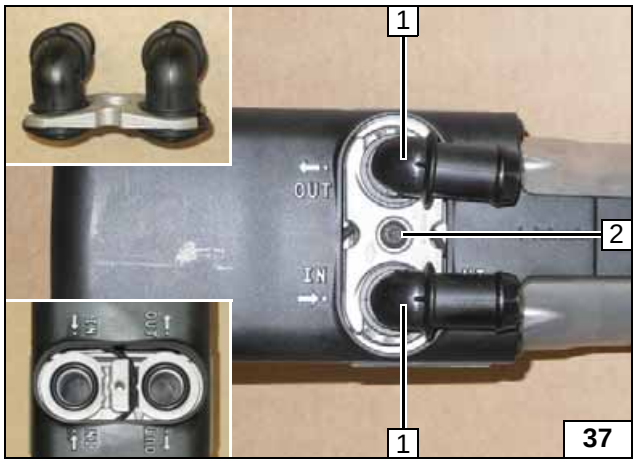


Insert one 30 mm shim each between frame side member and bracket **2**

1 M6x60 bolt, spring lockwasher, 30 mm shim [3x each]
3 Angle bracket, M8 flanged nut

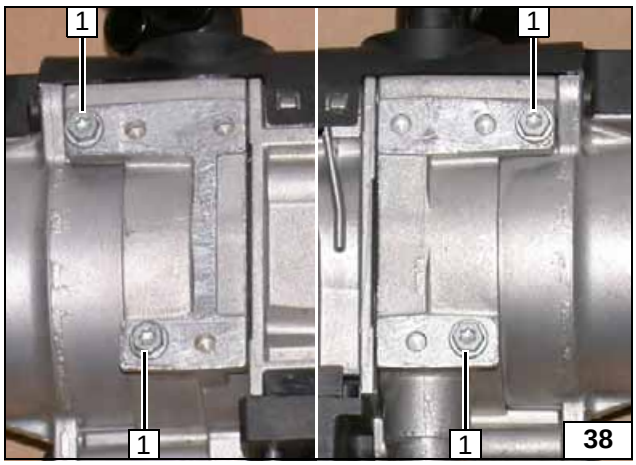
Mounting bracket

Preparing Heater



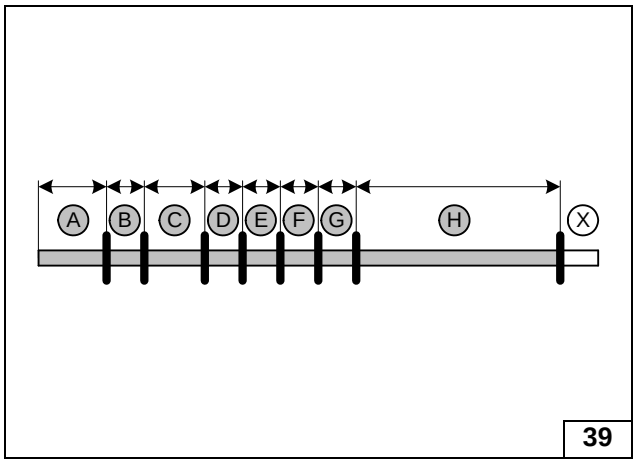
1 Water connection piece, sealing ring [2x each]
2 5x15 self-tapping bolt, retaining plate of water connection piece

Installing water connection piece



Screw in self-tapping bolts 5x13 **1** [4x] into existing holes (turn max. 3 threads).

Premounting bolts loosely



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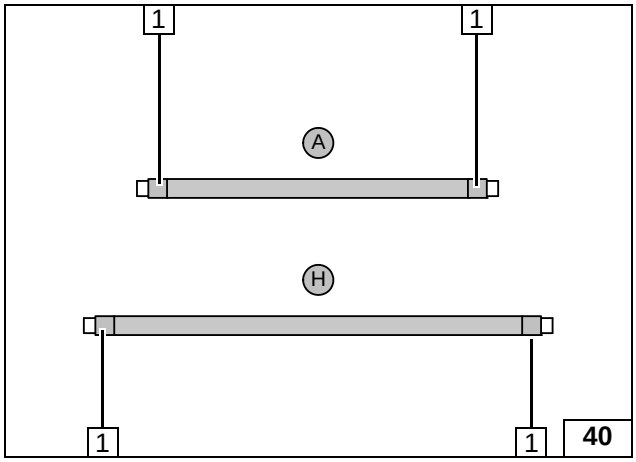
Petrol

Discard Section **X**.

Automatic transmission	Manual transmission
A = 140	**A** = 500
B = 70	**B** = 70
C = 150	**C** = 150
D = 70	**D** = 70
E = 95	**E** = 95
F = 95	**F** = 95
G = 90	**G** = 90
H = 1000	**H** = 580

Cutting hoses to length

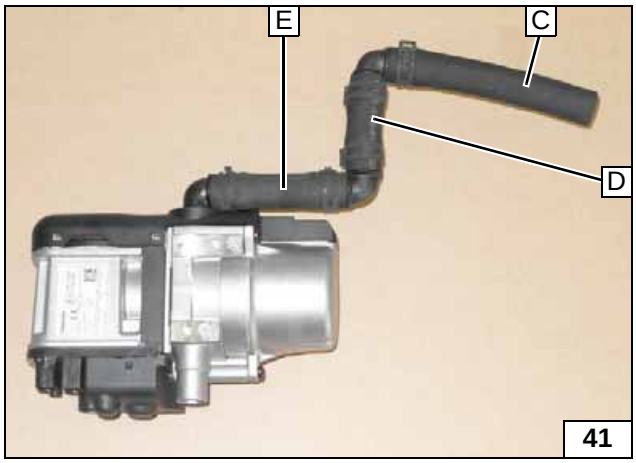


40

Push braided protection hose onto hose **A** (only in case of manual transmission) and **H** and cut to length. Cut heat shrink plastic tubing to length.

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

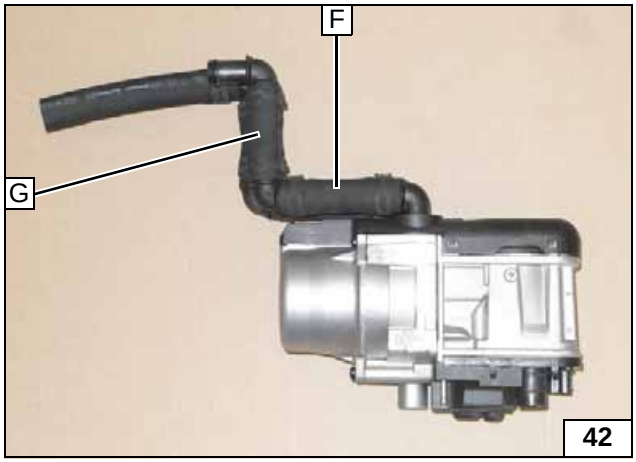
Preparing hoses A and H



41

All spring clips = 25 mm dia.
All 90° connecting pipes = 18x18 mm dia.

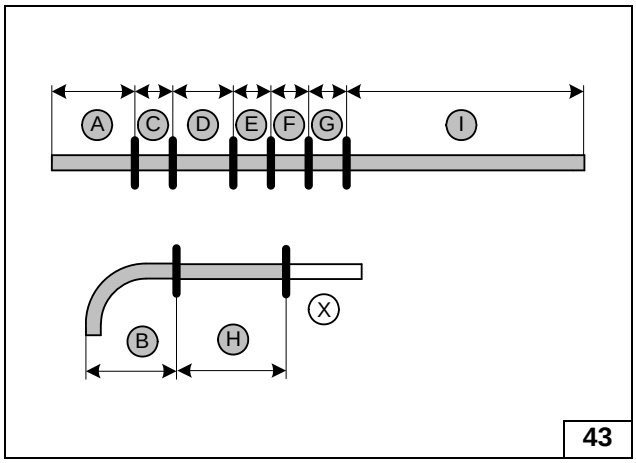
Premounting heater inlet hoses



42

All spring clips = 25 mm dia.
All 90° connecting pipes = 18x18 mm dia.

Premounting heater outlet hoses

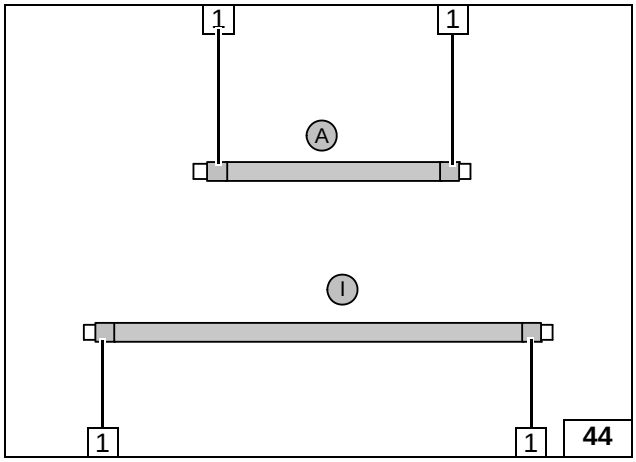


Diesel

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

A = 525
B = 125
C = 70
D = 150
E = 70
F = 95
G = 95
H = 90
I = 995

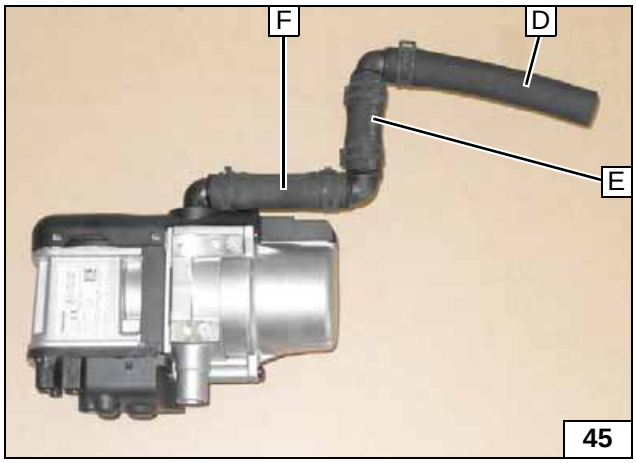
Cutting hoses to length



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

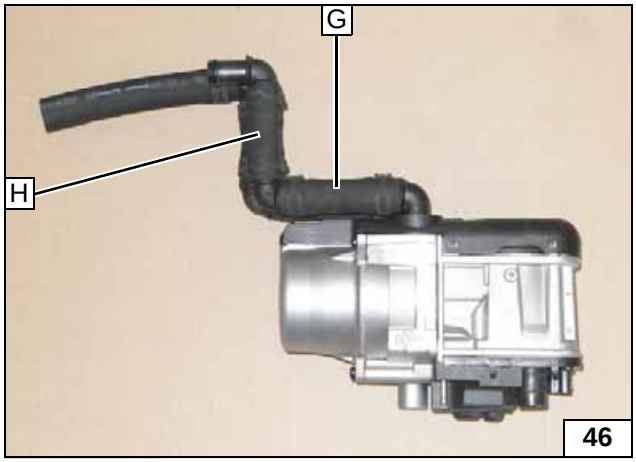
1 50 mm long heat shrink plastic tubing [4x]

Preparing hoses



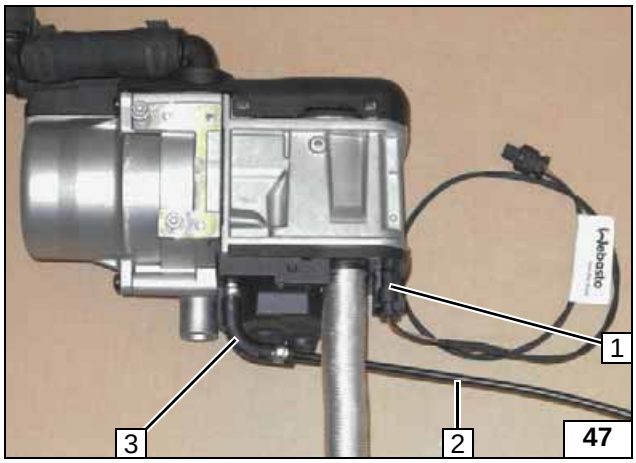
All spring clips = 25 mm dia.
All 90° connecting pipes = 18x18 mm dia.

Premounting heater inlet hoses



All spring clips = 25 mm dia.
All 90° connecting pipes = 18x18 mm dia.

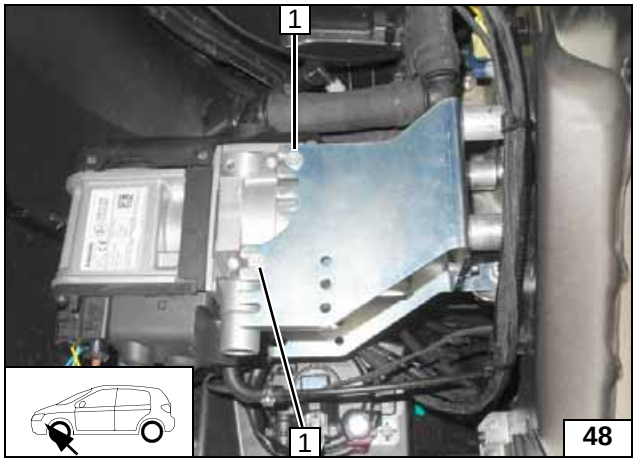
Premounting heater outlet hoses



All vehicles

1 Connector of circulating pump wiring harness
2 Fuel line
3 90° moulded hose, 10 mm dia. clamp [2x]

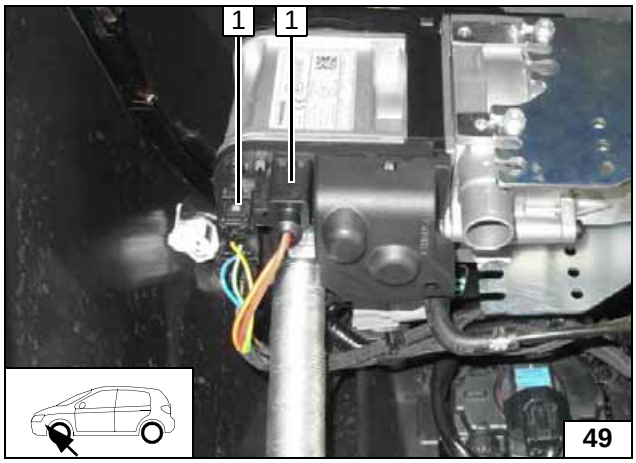
Premounting heater



Installing Heater

1 Tighten 5x13 premounted self-tapping bolts [4x]

Installing heater



1 Connector of heater wiring harness [2x]

Mounting heater wiring harness

Fuel

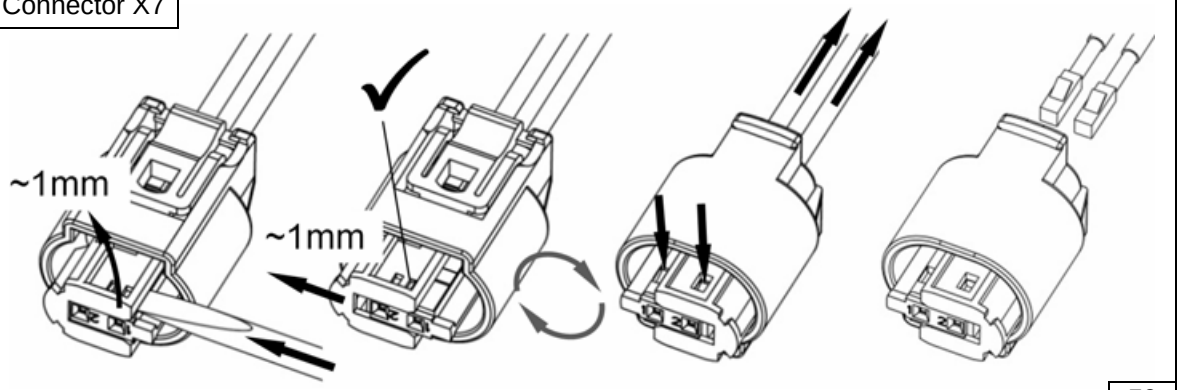
CAUTION!
Open the vehicle's fuel tank cap, ventilate the tank and then re-close the tank lock.

Catch any fuel running off with 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.

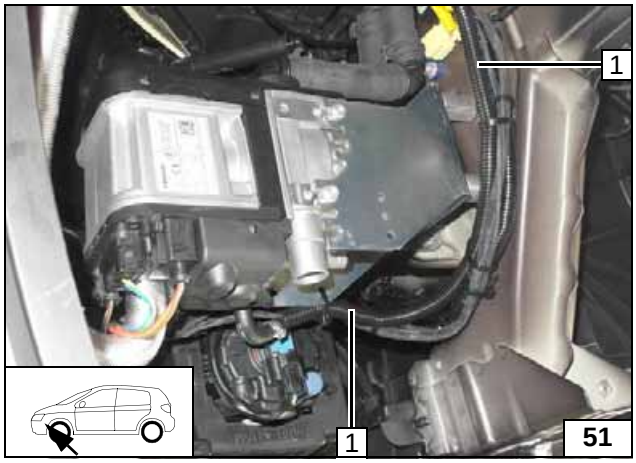
WARNING!
The fuel line and wiring harness are routed to the metering pump as shown in the wiring harness routing diagram.

Connector X7



50

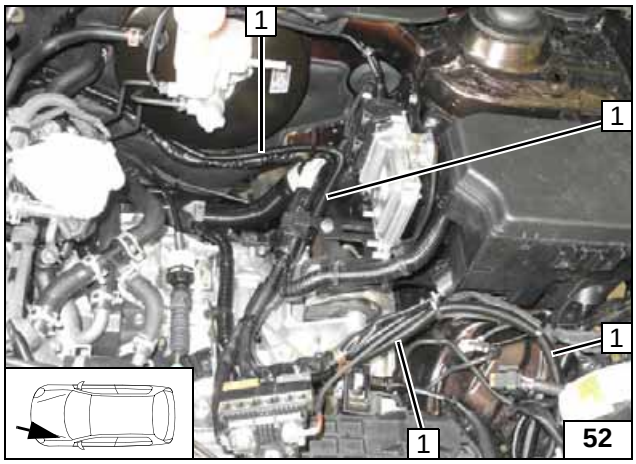
Removing metering pump connector



51

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

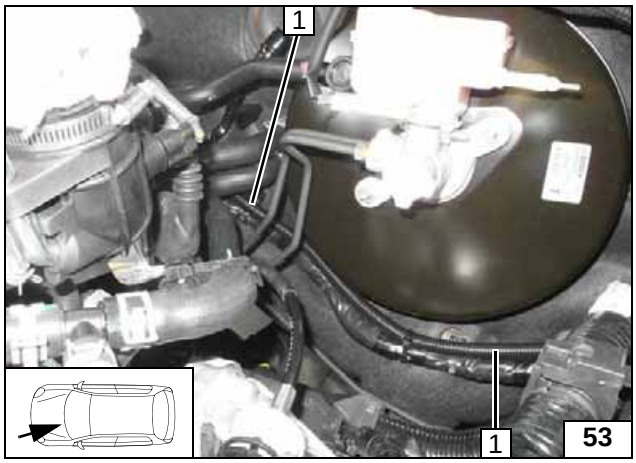
Routing lines



52

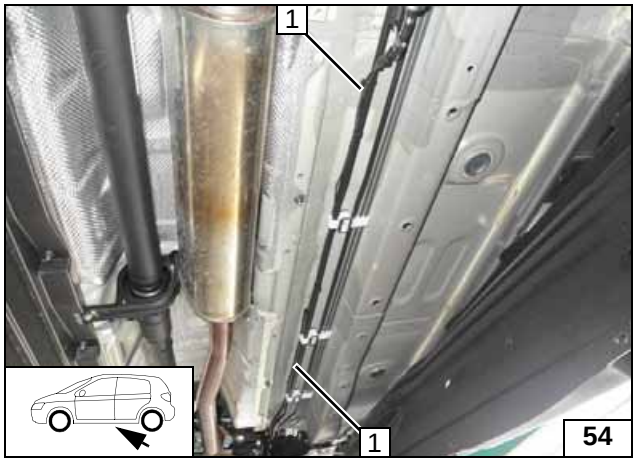
Route fuel line and wiring harness of metering pump into 10 mm dia. corrugated tube **1** to firewall.

Routing lines



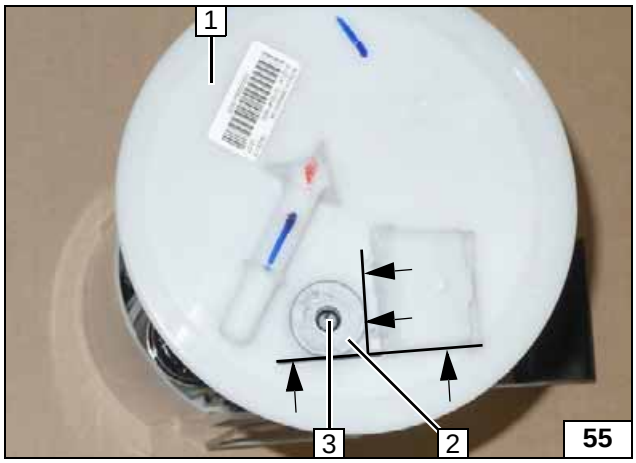
Route fuel line and wiring harness of metering pump in 10 mm dia. long corrugated tube **1** along original vehicle lines to the underbody.

Routing lines



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

Routing lines

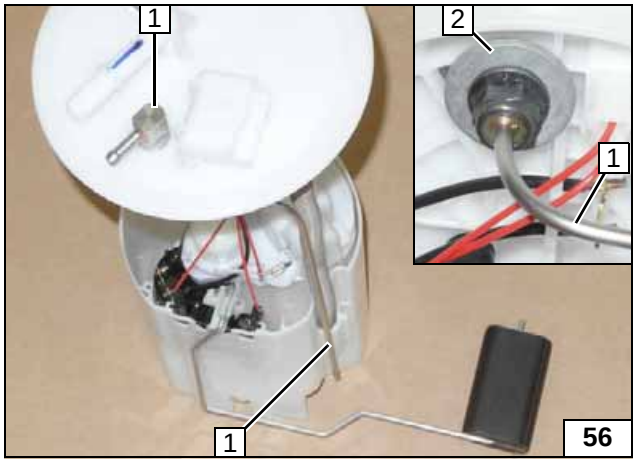


Petrol

Remove fuel-tank in accordance with manufacturer's instructions.
Remove fuel-tank sending unit **1** in accordance with manufacturer's instructions. Place large diameter washer with outer dia. d_a = 21.6mm **2** at the marked location.

3 Copy hole pattern, 6 mm dia. hole

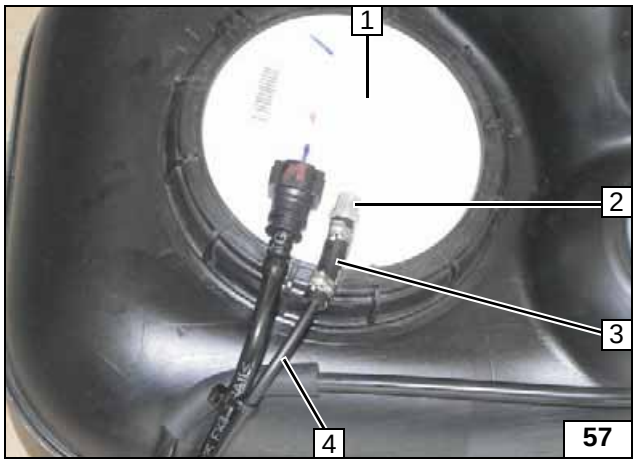
Fuel extraction



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

2 Large diameter washer, outer dia. d_a =21.6 mm

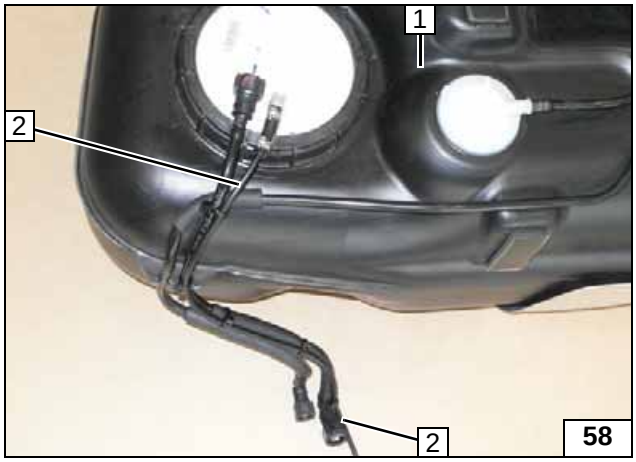
Installing fuel standpipe



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

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

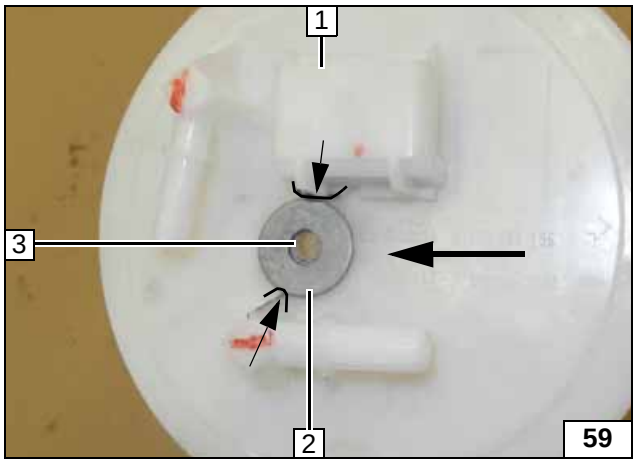
Connecting fuel line



Install tank **1** in accordance with the manufacturer's instructions.

2 Fuel line

Routing fuel line

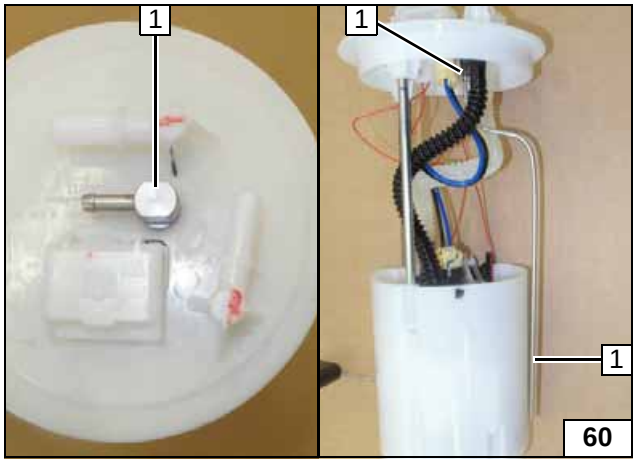


Diesel

Remove fuel-tank in accordance with manufacturer's instructions.
Remove fuel-tank sending unit **1** in accordance with manufacturer's instructions. Push in large diameter washer with outer dia. d_a = 21.6 mm **2** between the marked ribs as far as it will go.

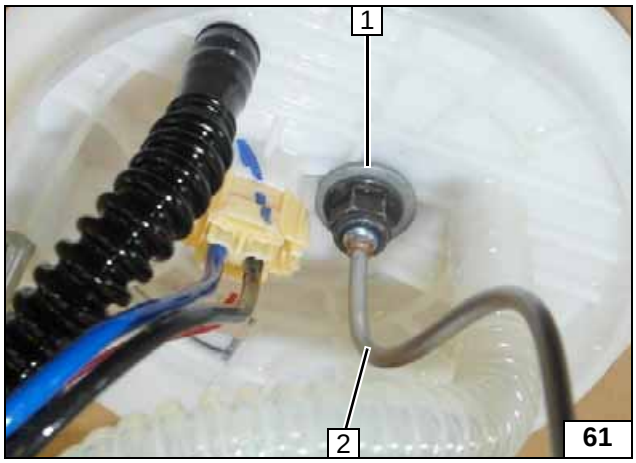
3 Copy hole pattern, 6 mm dia. hole

Fuel extraction



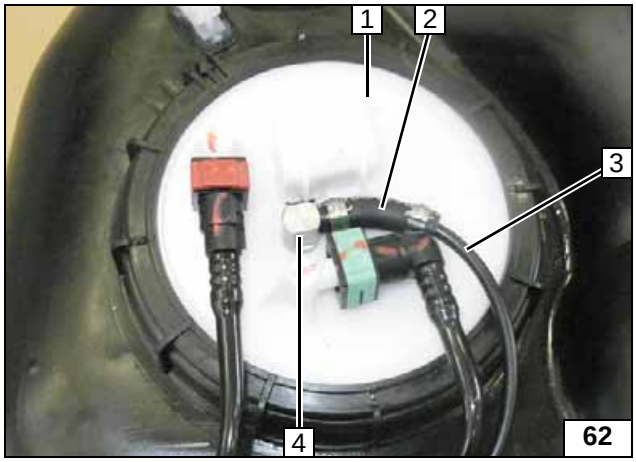
Shape fuel standpipe **1** according to template and cut to length. Insert large diameter washer as shown.

Installing fuel standpipe



1 Large diameter washer, outer dia. d_a = 17.8 mm
2 Fuel standpipe

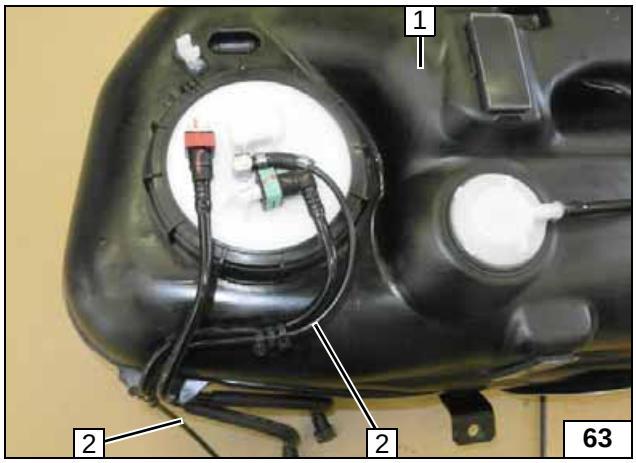
Installing fuel stand-pipe



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

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

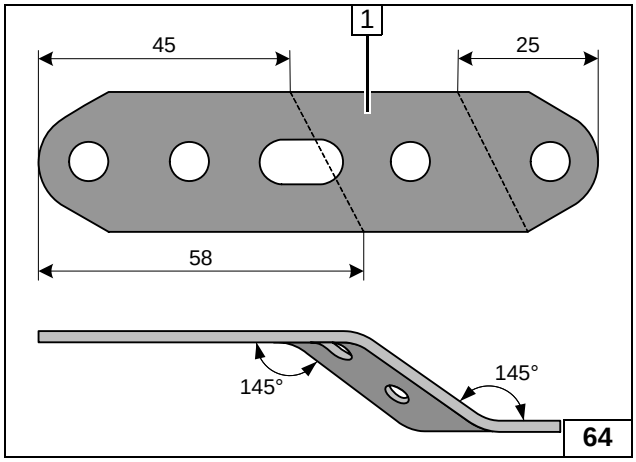
Connect-ing fuel line



Install tank **1** in accordance with the manufac-turer's instructions.

2 Fuel line

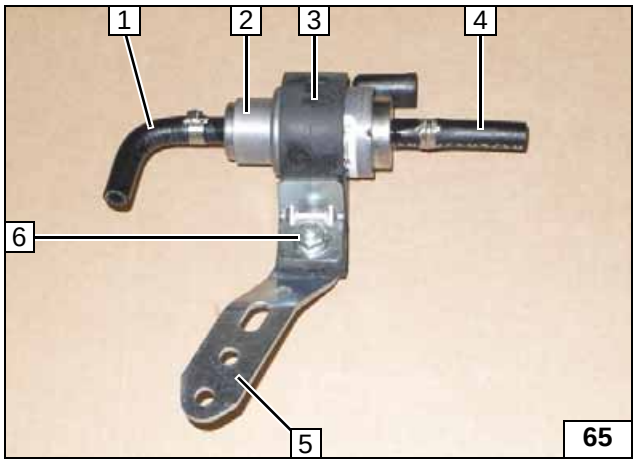
Routing fuel line



All vehicles

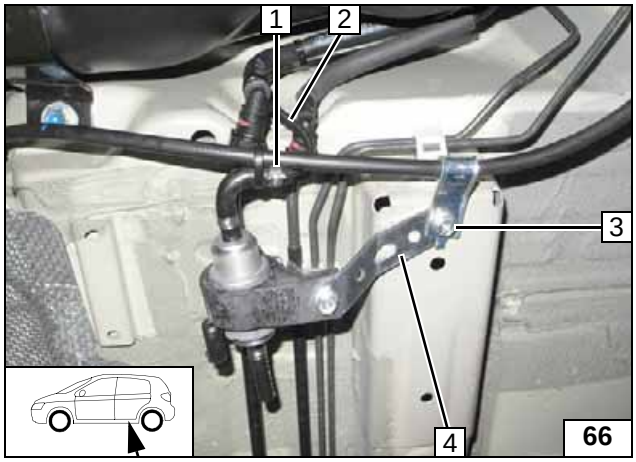
1 Perforated bracket

Preparing perforated bracket



1 90° moulded hose, 10 mm dia. clamp
2 Metering pump
3 Metering pump intake
4 Hose section, 10 mm dia. clamp
5 Perforated bracket
6 M6x25 bolt, support angle bracket, flanged nut

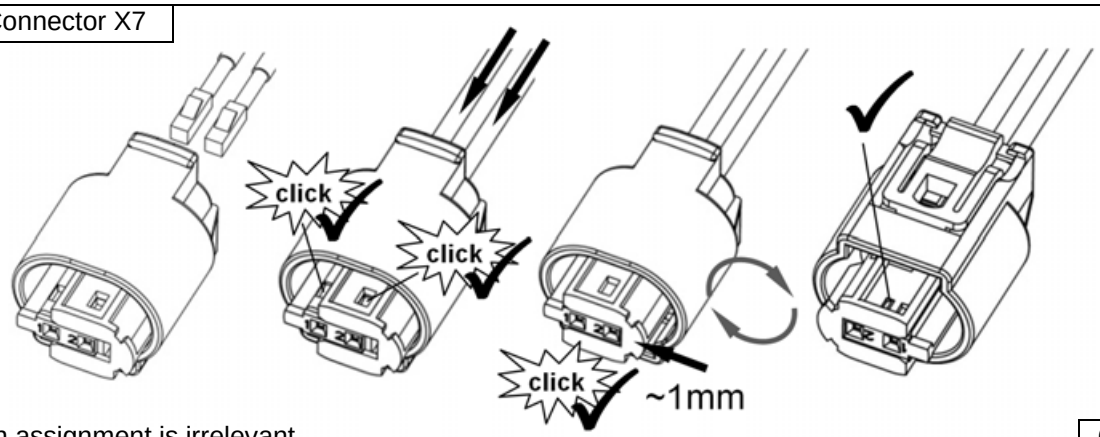
Premounting metering pump



1 10 mm dia. clamp
2 Fuel line of fuel standpipe
3 Original vehicle bolt
4 Perforated bracket

Installing metering pump

Connector X7



Pin assignment is irrelevant.

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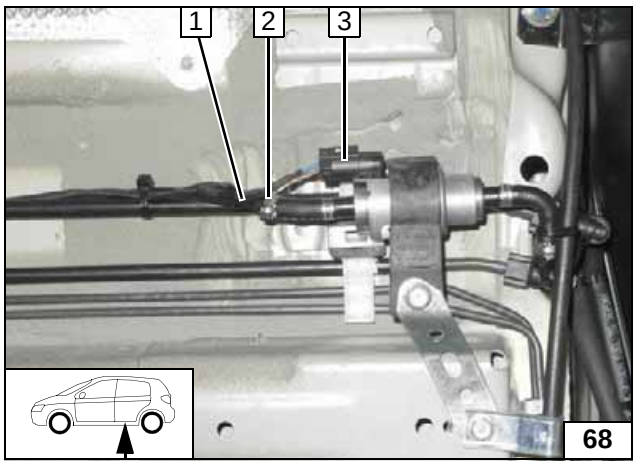
Completing metering pump connector



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

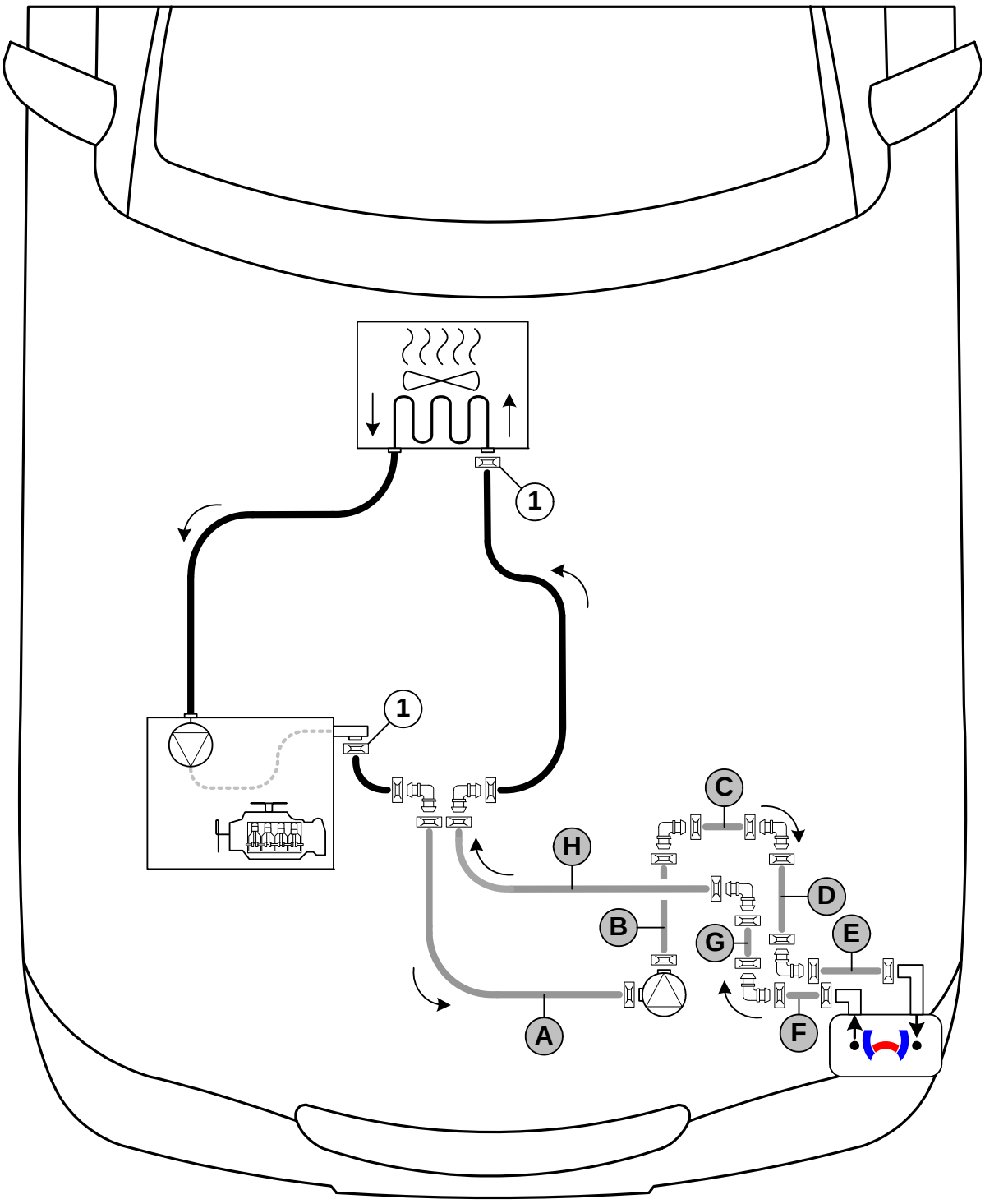
1 Fuel line of heater
2 10 mm dia. clamp
3 Wiring harness of metering pump, connector installed

Connecting metering pump

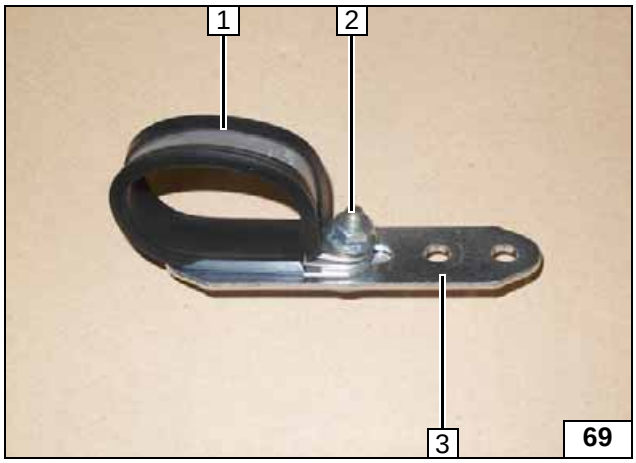
Coolant Circuit for Petrol, Manual Transmission

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 other hoses cannot be damaged. The heater must be filled with coolant when mounting the coolant hose. The connection should be modelled on an "inline" circuit and based on the following diagram:

Hose routing diagram

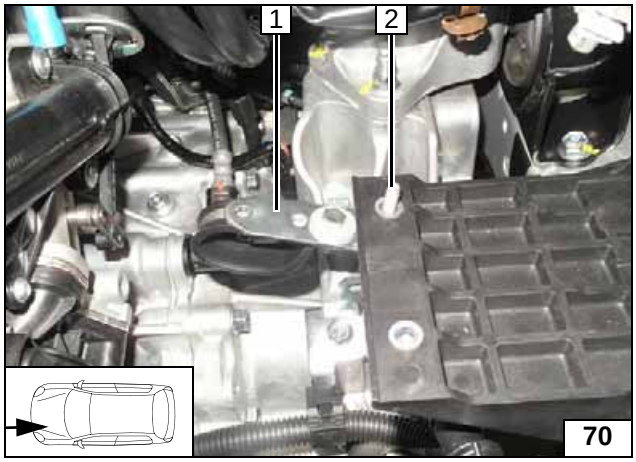


All non-designated spring clips = 25mm dia.
1 = Original vehicle spring clip !
All connecting pipes = 18x18mm!



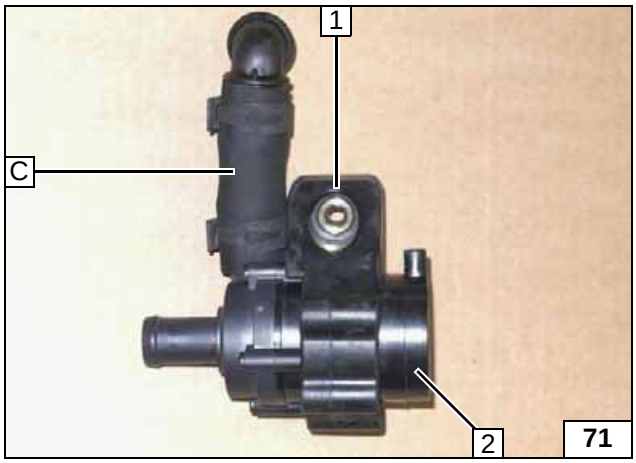
1 38 mm dia. rubber-coated p-clamp
2 Loosely mount M6x20 bolt, large diameter washer, flanged nut
3 Perforated bracket

Premounting perforated bracket



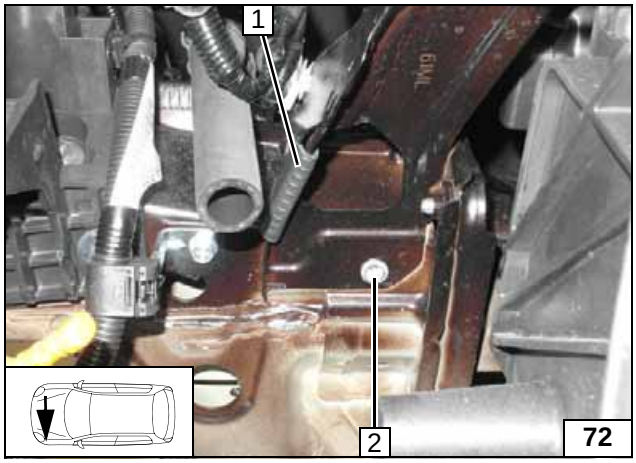
1 Perforated bracket
2 M6x30 bolt, existing threaded hole for battery carrier console

Installing perforated bracket



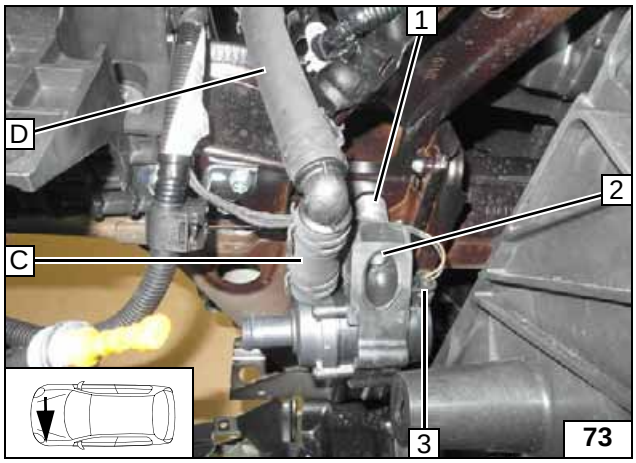
1 Circulating pump intake
2 Circulating pump

Premounting circulating pump



1 50 mm edge protection
2 9.1 mm dia. hole, rivet nut

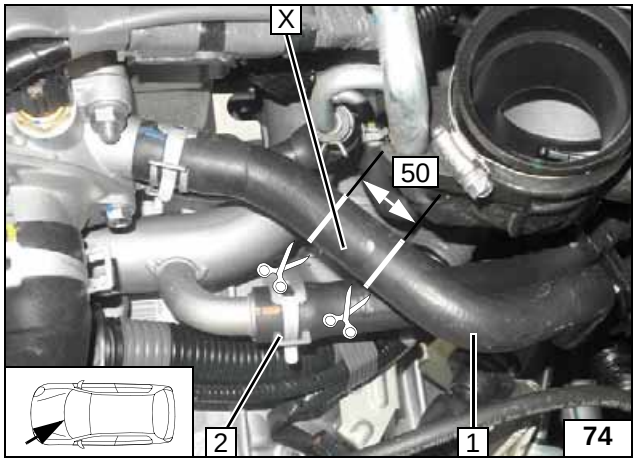
Installing rivet nut



Insert shim 30 **1** between frame side member and circulating pump mounting.

2 M6x60 bolt, 30 mm shim
3 Connector of circulating pump wiring harness

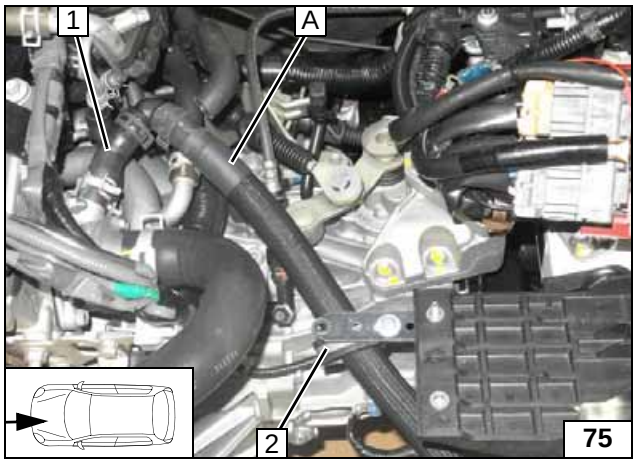
Installing circulating pump



Cut hose of engine outlet / heat exchanger inlet **1** at the markings.
Discard section **X**.

2 Turn original vehicle spring clip as shown.

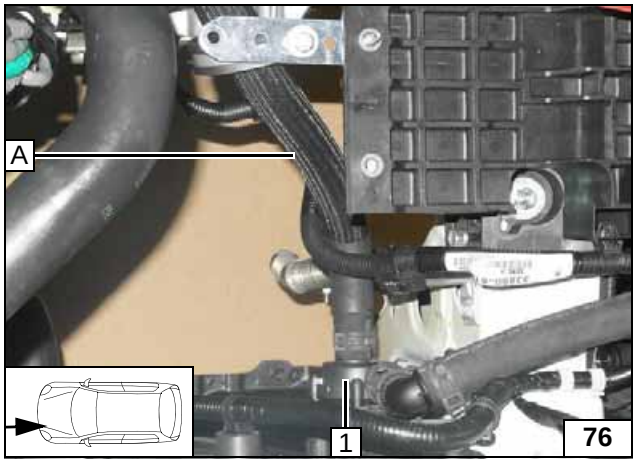
Cutting point



Route hose **A** through premounted p-clamp **2**.

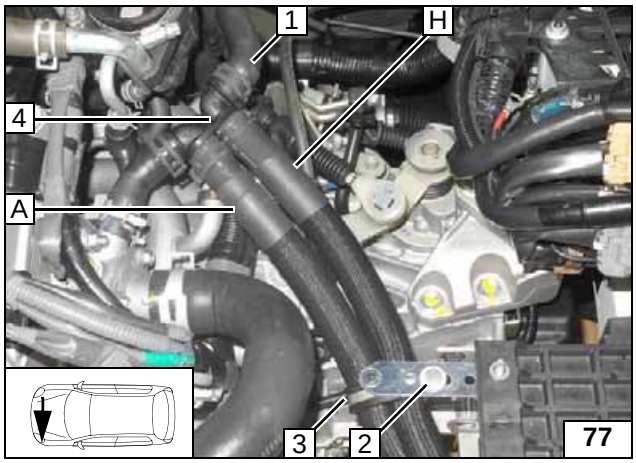
1 Original vehicle engine outlet hose section

Connection of engine outlet



1 Circulating pump

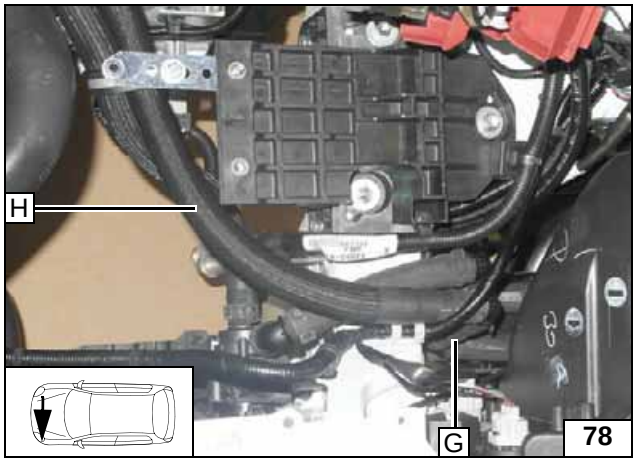
Connecting circulating pump



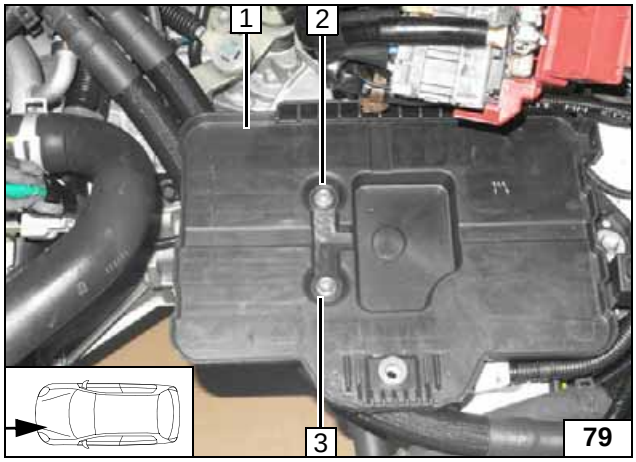
Route hose **H** through premounted p-clamp **3**. Secure hose **A** and **H** using cable ties in position **4**.
Ensure sufficient distance from adjacent components, correct if necessary.

Connecting heat exchanger inlet

1 Original vehicle heat exchanger inlet hose section
2 Tighten bolt



Connecting heater outlet



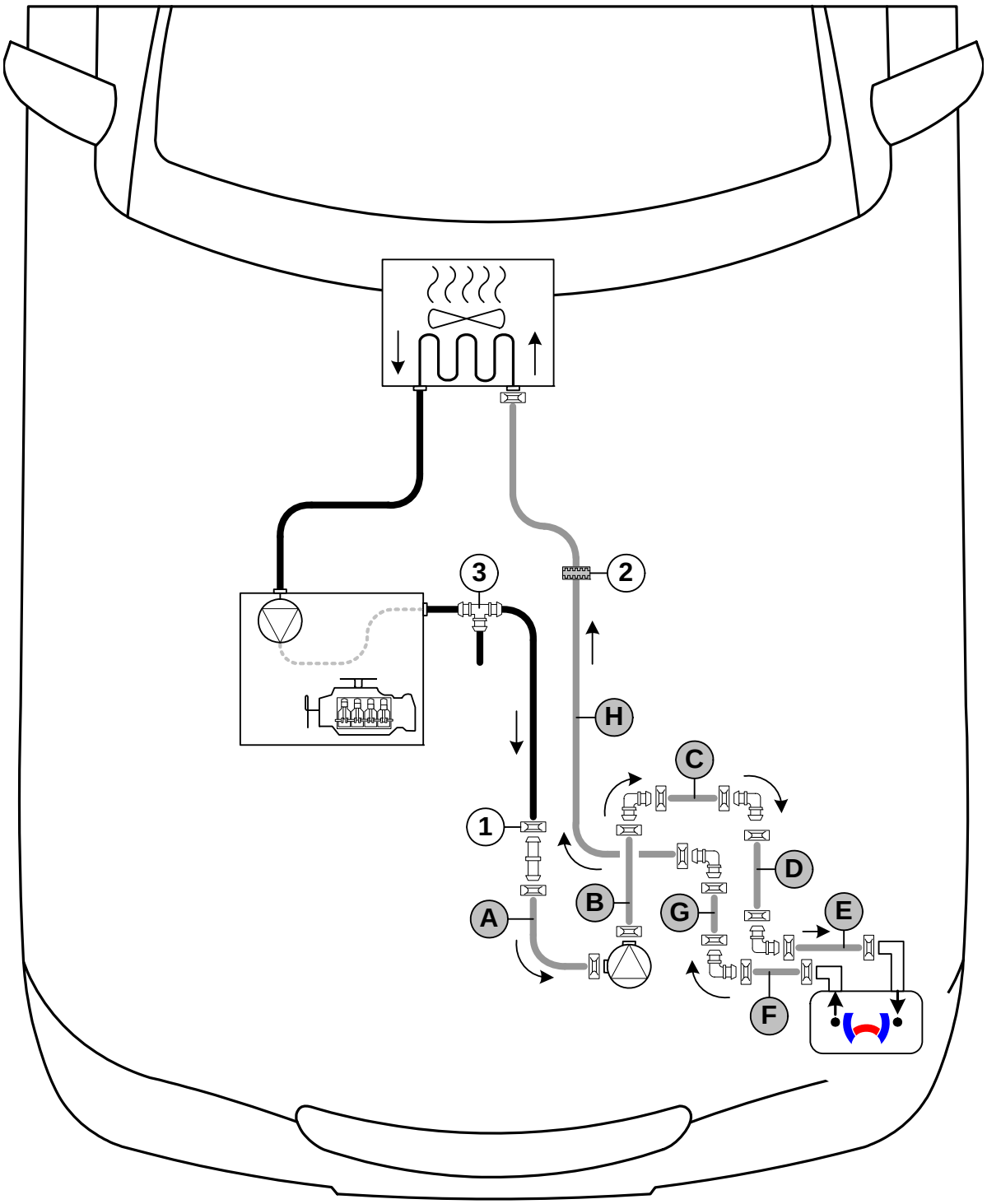
1 Battery carrier
2 M6 flanged nut
3 Original vehicle bolt

Mounting battery carrier

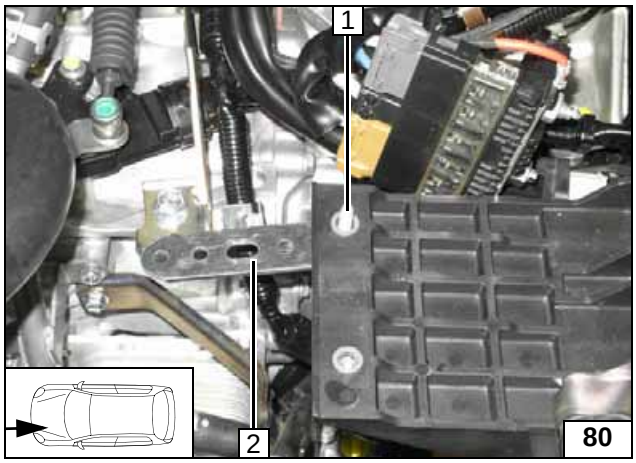
Coolant Circuit for Petrol, Automatic Transmission

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 other hoses cannot be damaged. The heater must be filled with coolant when mounting the coolant hose. The connection should be modelled on an "inline" circuit and based on the following diagram:

Hose routing diagram

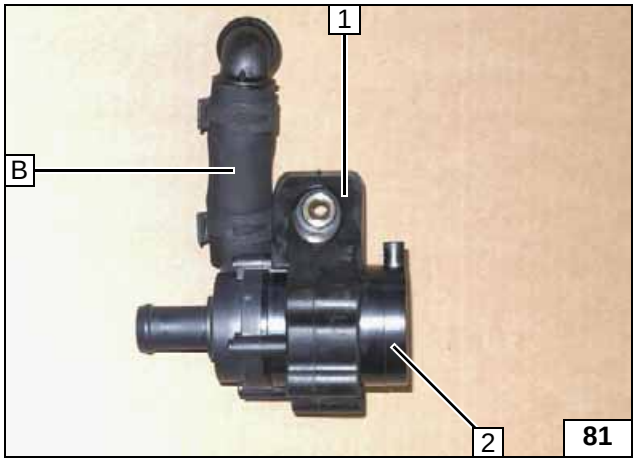


All non-designated spring clips = 25 mm dia.
1 = Original vehicle spring clip. **2** = Black (sw) rubber isolator
All connecting pipes and = 18x18 mm dia. **3** = Original vehicle T-piece.



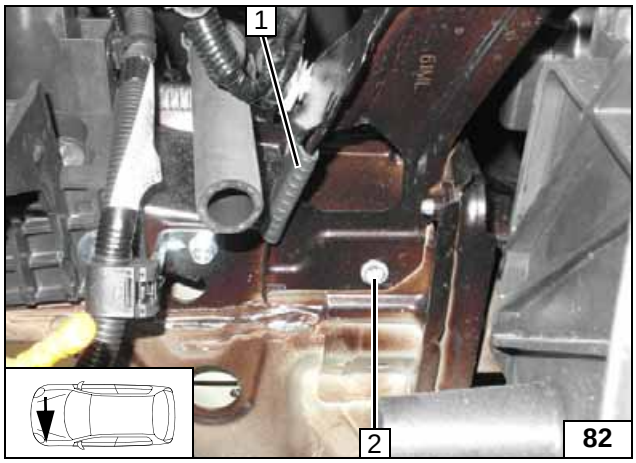
1 M6x30 bolt, existing threaded hole for battery carrier console
2 Perforated bracket

Installing perforated bracket



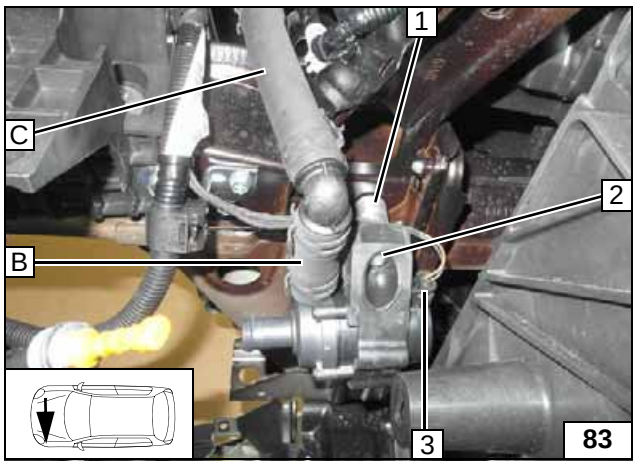
1 Circulating pump intake
2 Circulating pump

Premounting circulating pump



1 50 mm edge protection
2 9.1 mm dia. hole, rivet nut

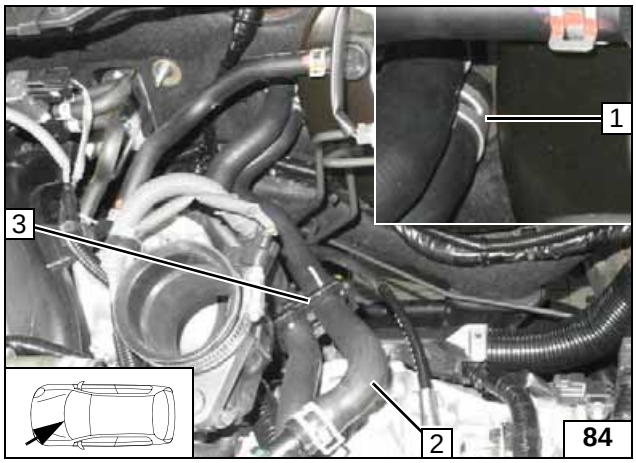
Installing rivet nut



Insert shim 30 **1** between frame side member and circulating pump mounting.

2 M6x60 bolt, 30 mm shim
3 Connector of circulating pump wiring harness

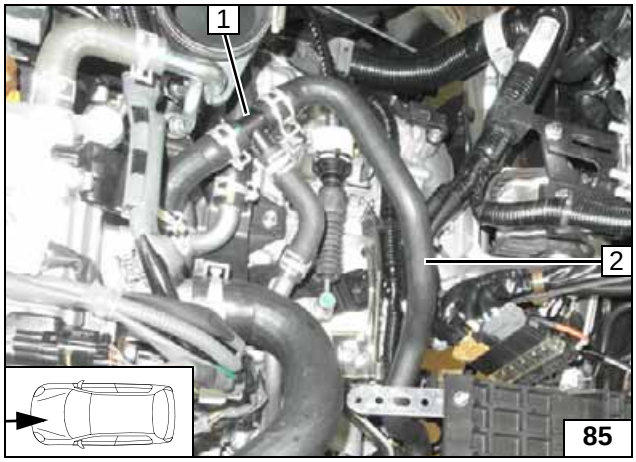
Installing circulating pump



Detach hose on engine outlet/heat exchanger inlet **2** from heat exchanger inlet connection piece. Spring clip **1** will be reused.

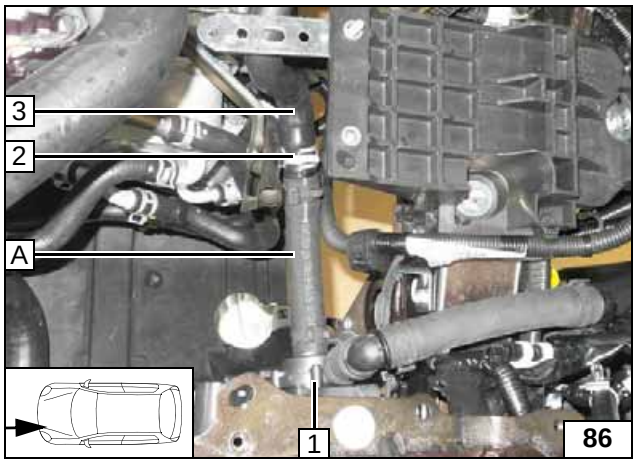
3 Loosen original vehicle hose bracket

Cutting point



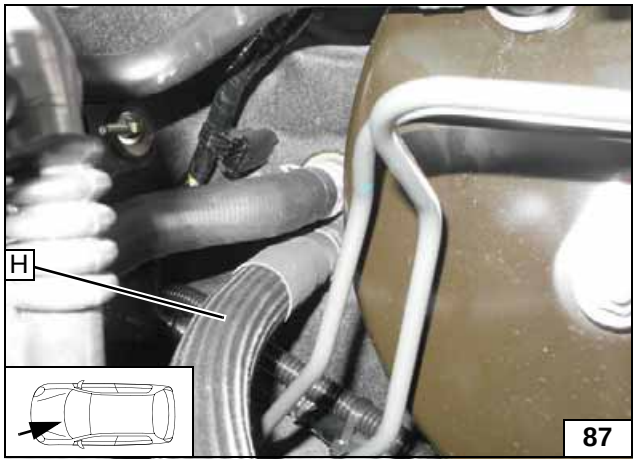
Turn hose on engine outlet/heat exchanger inlet **2** at T-piece **1** towards the front.

Cutting point

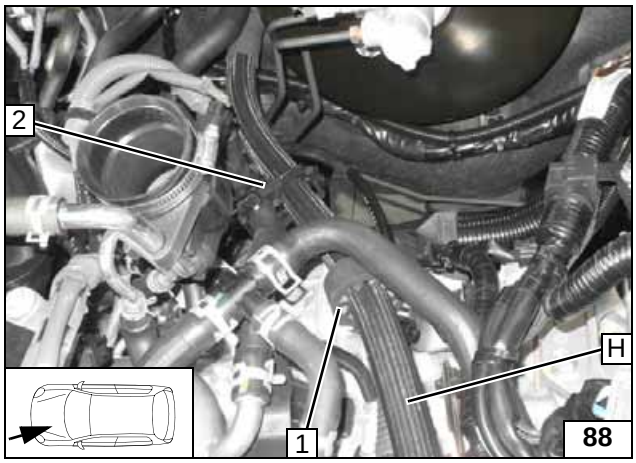


1 Circulating pump
2 Original vehicle spring clip
3 Hose of engine outlet

Connecting circulating pump

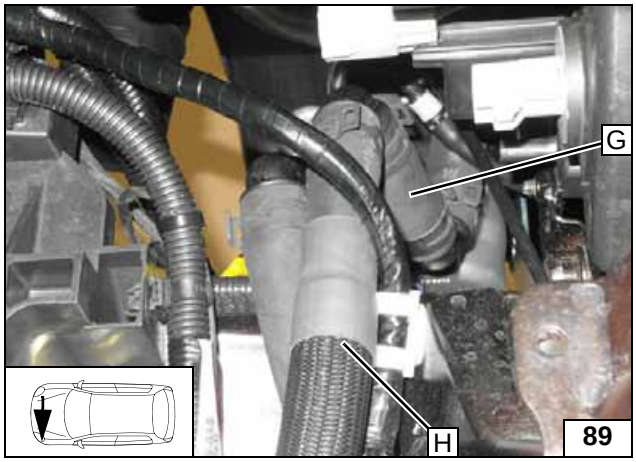


Connecting heat exchanger inlet

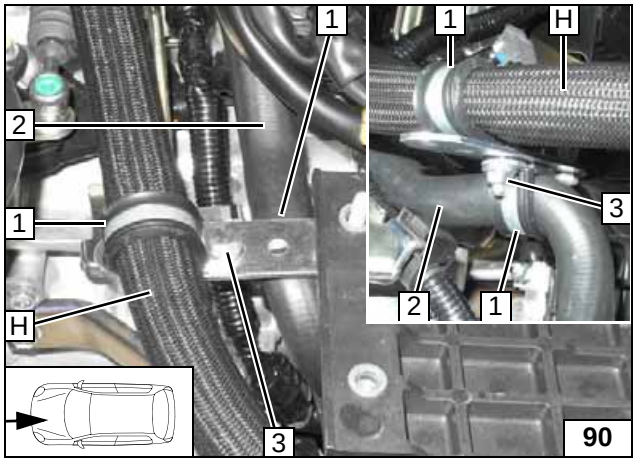


1 Push on and align black (sw) rubber isolator
2 Close original vehicle hose bracket

Routing in engine compartment



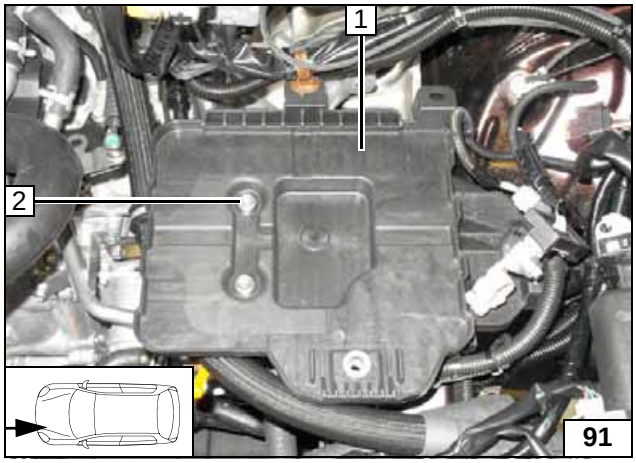
Connecting heater outlet



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

1 25 mm dia. rubber-coated p-clamp [2x]
2 Hose of engine outlet
3 M6x20 bolt, perforated bracket, flanged nut

Fastening hoses



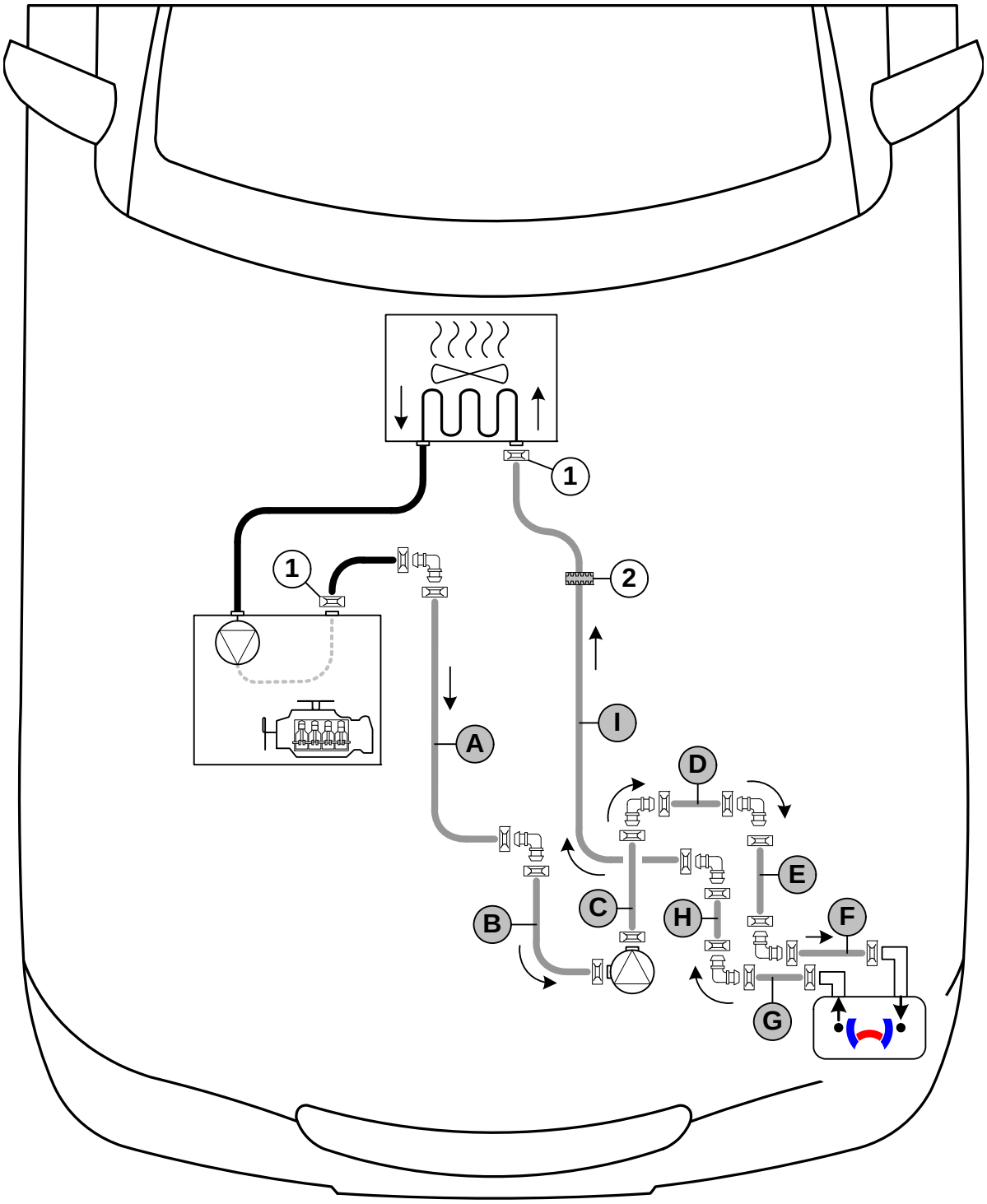
1 Battery carrier
2 M6 flanged nut

Mounting battery carrier

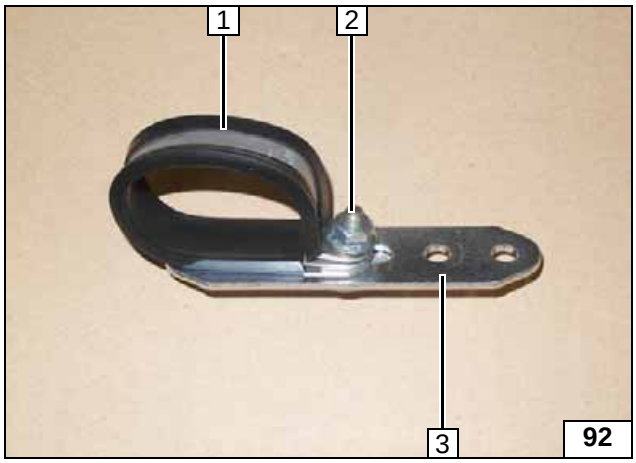
Coolant Circuit for Diesel

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 other hoses cannot be damaged. The heater must be filled with coolant when mounting the coolant hose. The connection should be modelled on an "inline" circuit and based on the following diagram:

Hose routing diagram

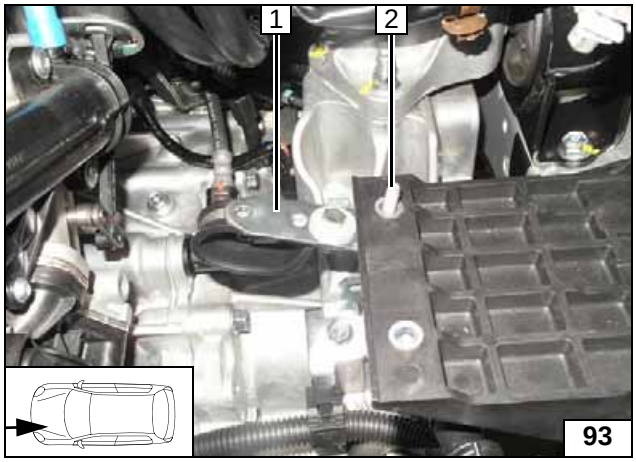


All non-designated spring clips = 25 mm dia.
1 = Original vehicle spring clip. **2** = Black (sw) rubber isolator !
All connecting pipes and = 18x18mm dia.



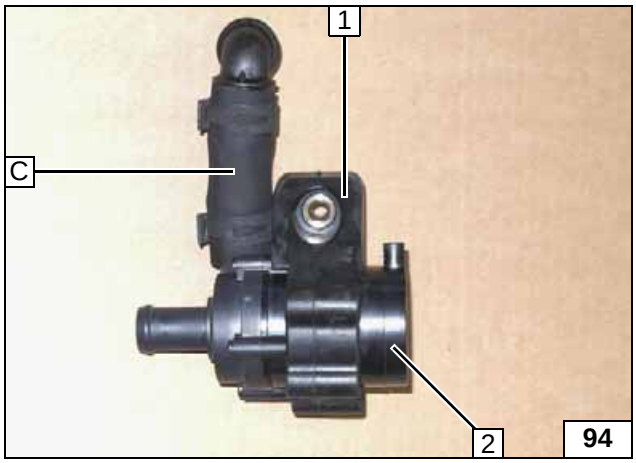
1 38 mm dia. rubber-coated p-clamp
2 Loosely mount M6x20 bolt, large diameter washer, flanged nut
3 Perforated bracket

Premounting perforated bracket



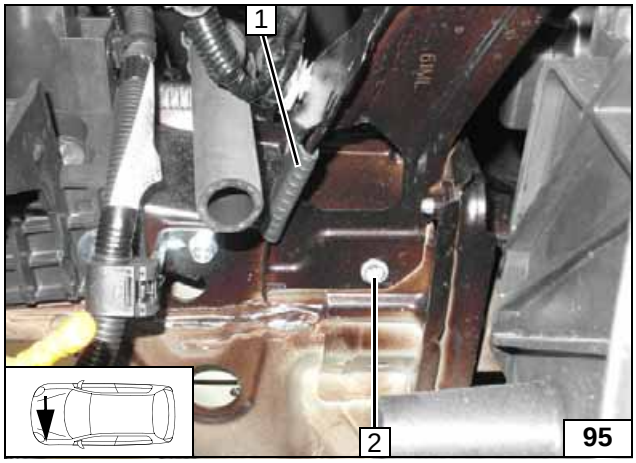
1 Perforated bracket
2 M6x30 bolt, existing threaded hole for battery carrier

Installing perforated bracket



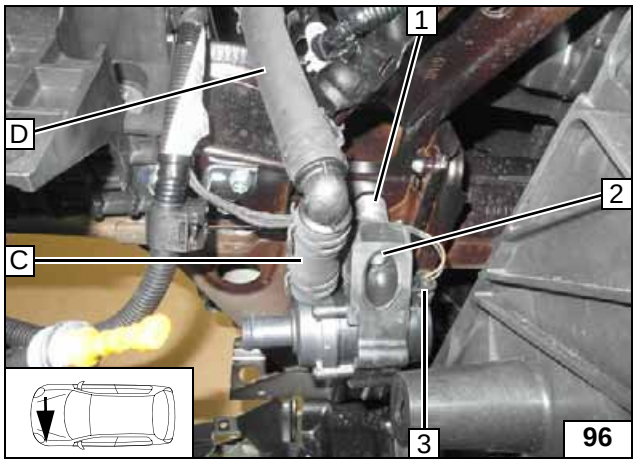
1 Circulating pump intake
2 Circulating pump

Premounting circulating pump



1 50 mm edge protection
2 9.1 mm dia. hole, rivet nut

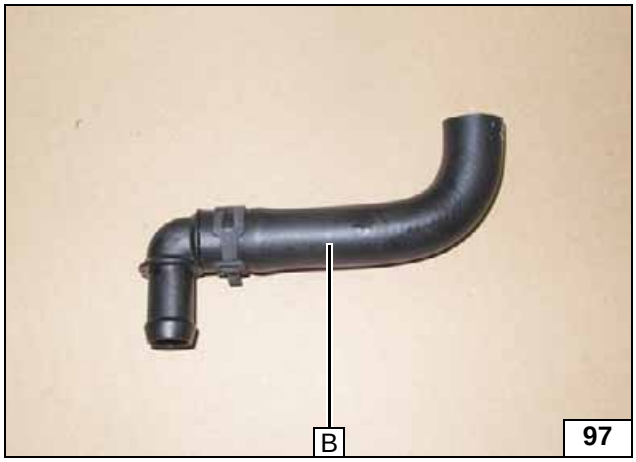
Installing rivet nut



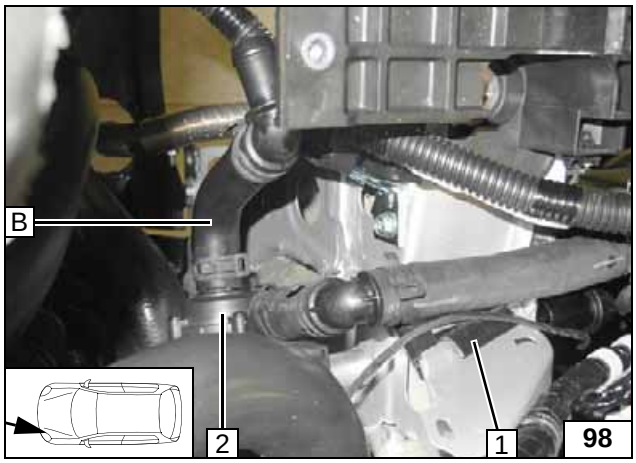
Insert shim 30 **1** between frame side member and circulating pump mounting.

2 M6x60 bolt, 30 mm shim
3 Connector of circulating pump wiring harness

Installing circulating pump

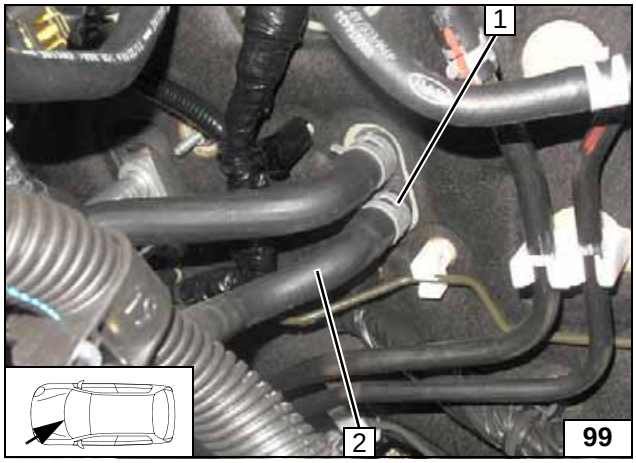


Premounting hose B



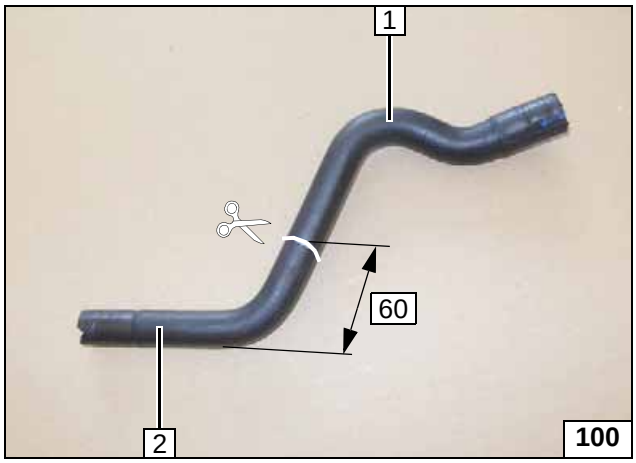
1 50 mm edge protection
2 Circulating pump

Connecting circulating pump



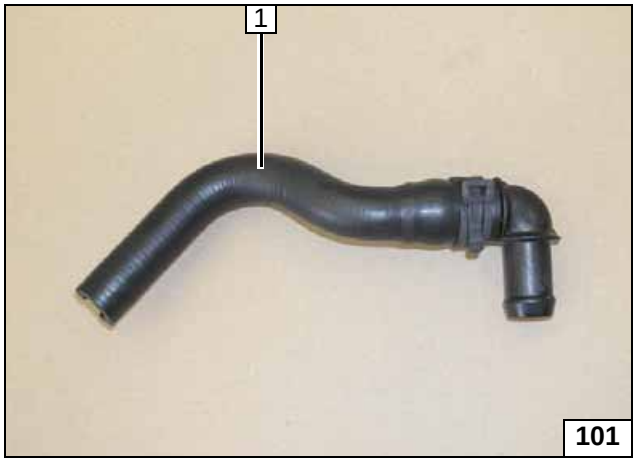
Remove hose of engine outlet / heat exchanger inlet **2**. Spring clip **1** and the spring clip at the engine outlet will be reused.

Cutting point



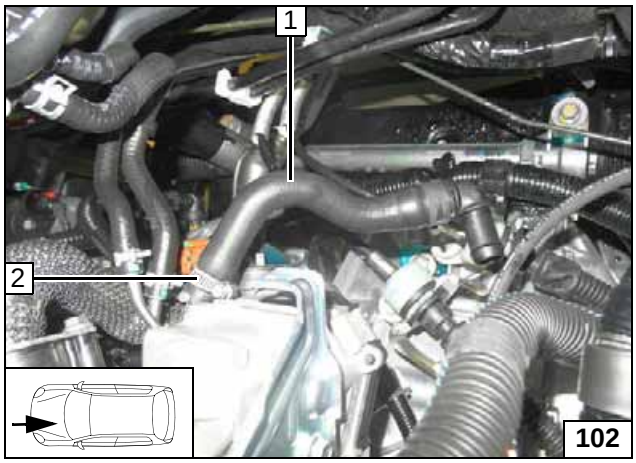
1 Hose section of heat exchanger inlet
2 Discard section

Cutting point



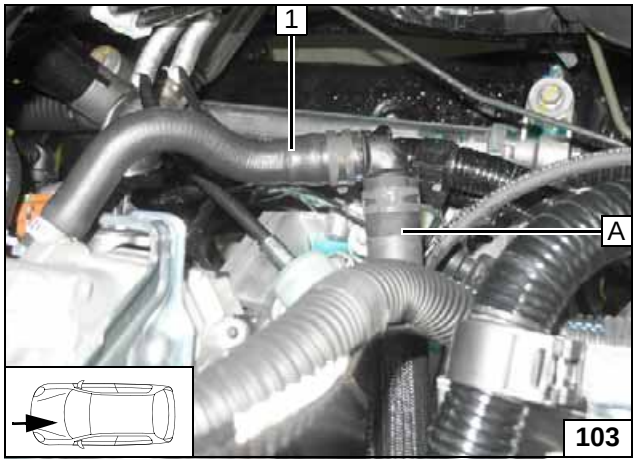
Heat exchanger inlet hose section **1** will be reused as engine outlet hose.

Preparing hose



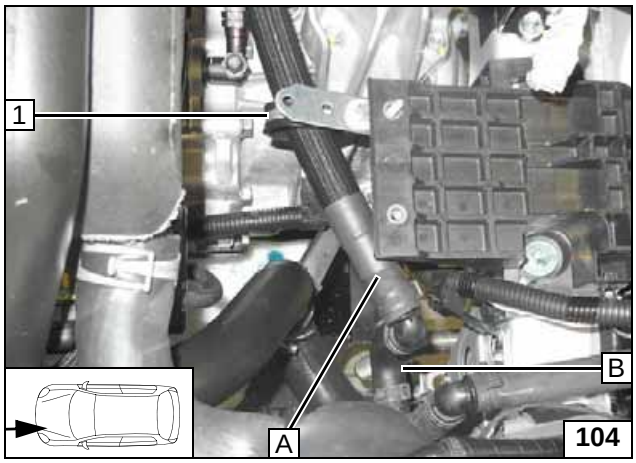
1 Hose of engine outlet
2 Engine outlet spring clip

Connection of engine outlet



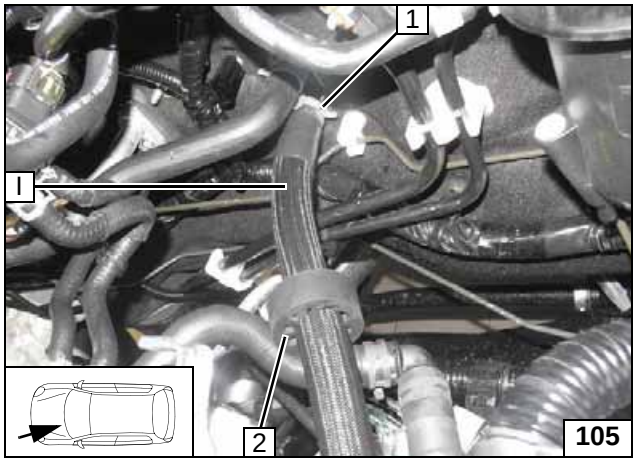
1 Hose of engine outlet

Connection of engine outlet



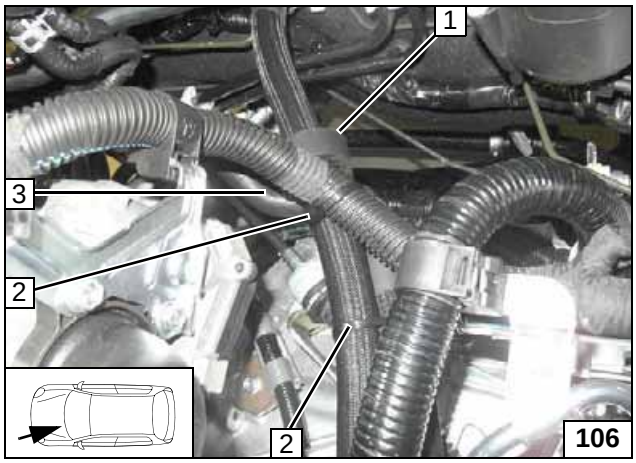
Route hose **A** through rubber-coated p-clamp **1**.

Connecting circulating pump



1 Original vehicle spring clip
2 Slide on black (sw) rubber isolator

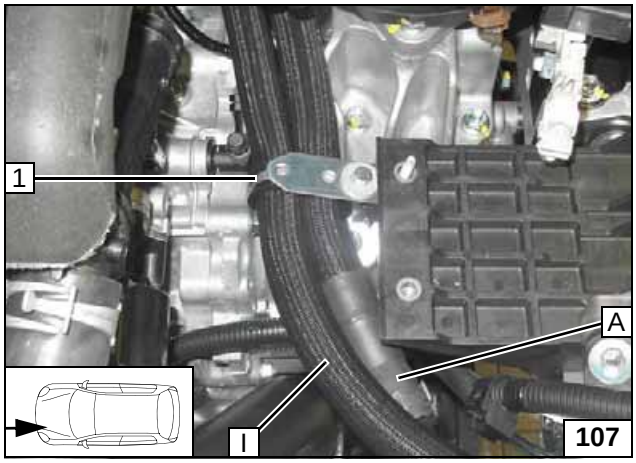
Connecting heat exchanger inlet



Align rubber isolator **1** at original vehicle hose**3**

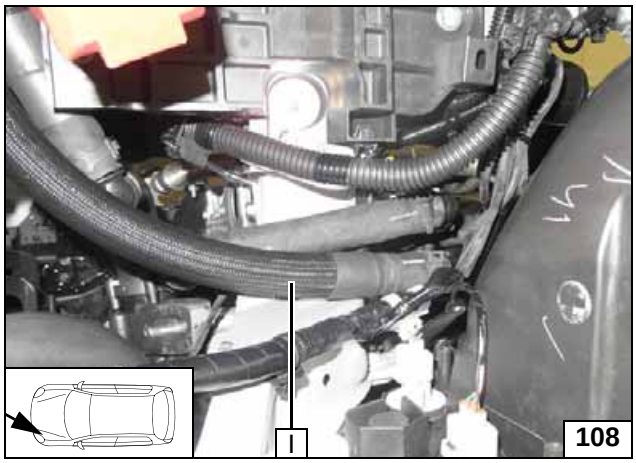
2 Cable tie [2x]

Routing in engine compartment



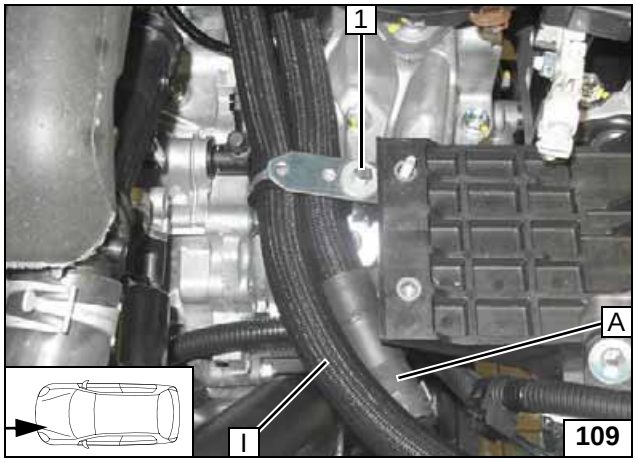
Route hose **I** through rubber-coated p-clamp **1**.

Routing in engine compartment



Connect hose **I** to hose **H**

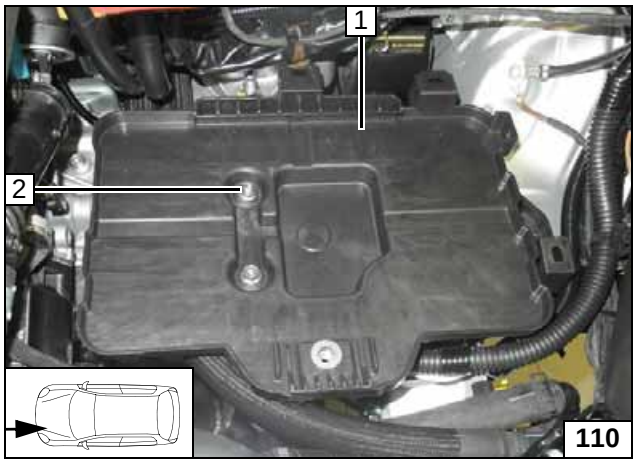
Connecting heater outlet



Ensure sufficient distance from adjacent components, correct if necessary.

1 Tighten bolt

Aligning hoses

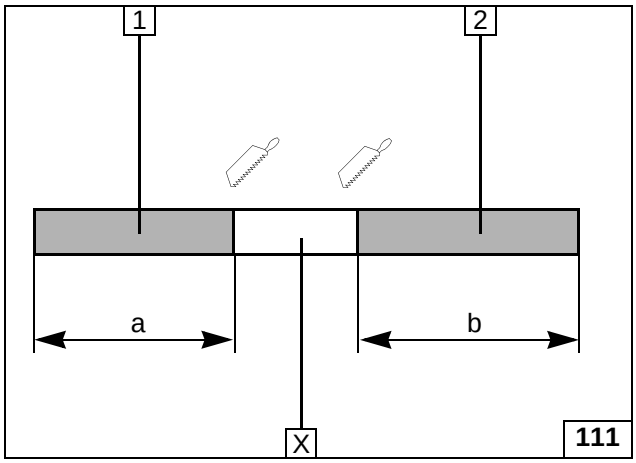


1 Battery carrier
2 M6 flanged nut

Mounting battery carrier

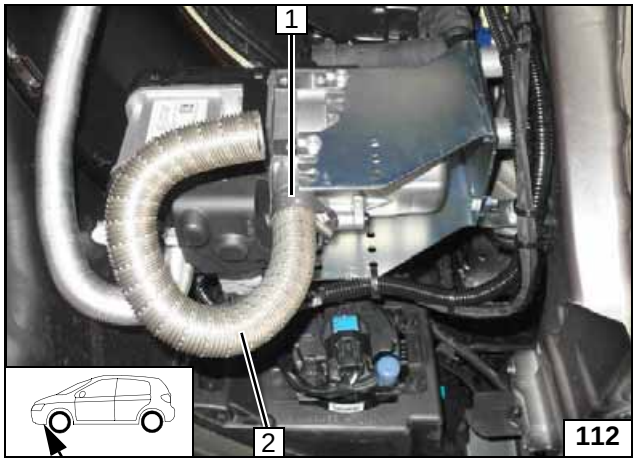
Exhaust Gas

Discard section **X**



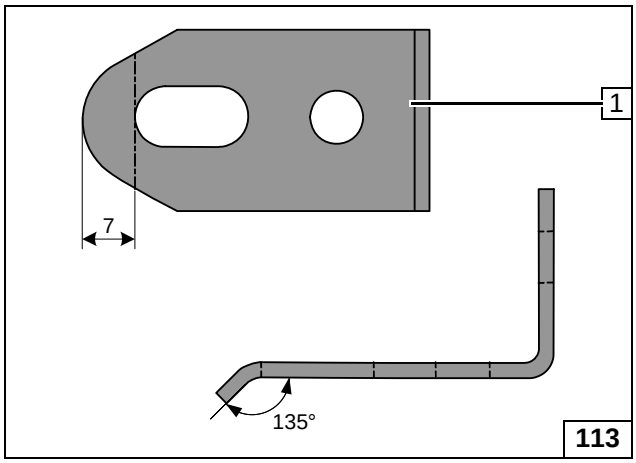
1 Exhaust pipe
a = 270
2 Exhaust end section
b = 330mm

Preparing exhaust pipe



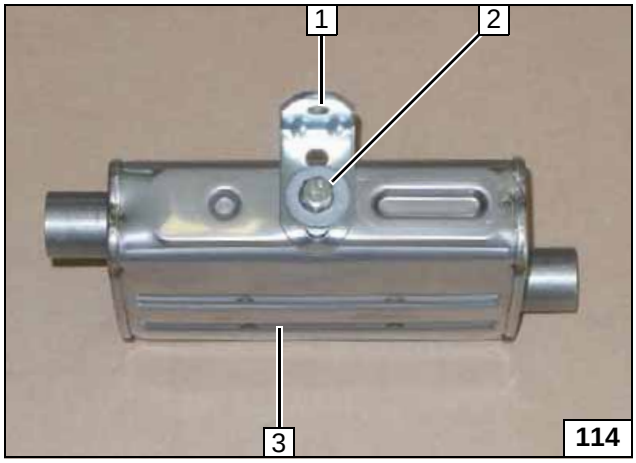
1 Hose clamp
2 Exhaust pipe

Mounting exhaust pipe



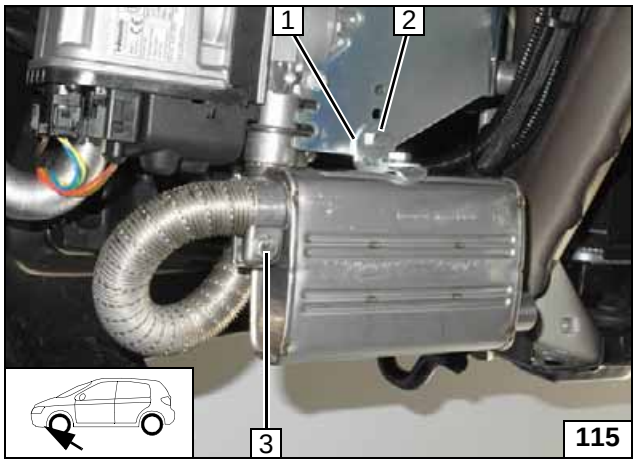
1 Angle bracket

Preparing angle bracket



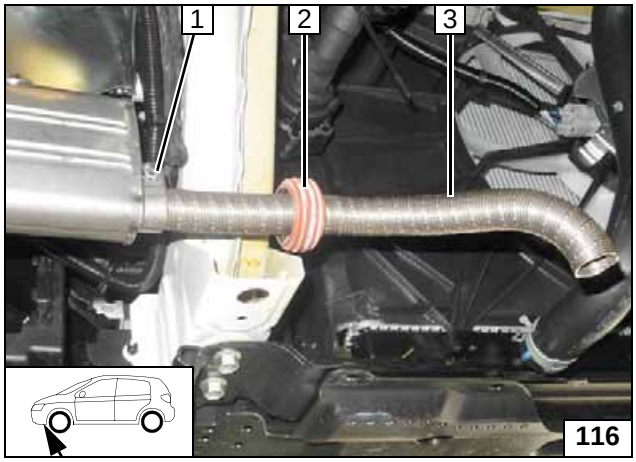
1 Bracket
2 M6x16 bolt, spring lockwasher, large diameter washer
3 Silencer

Premounting silencer



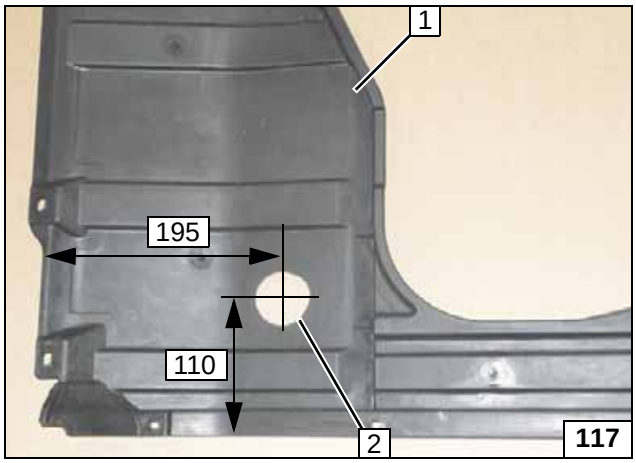
1 Angle bracket
2 M6x20 bolt, flanged nut, existing hole
3 Hose clamp

Mounting silencer



1 Hose clamp
2 Spacer bracket
3 Exhaust end section

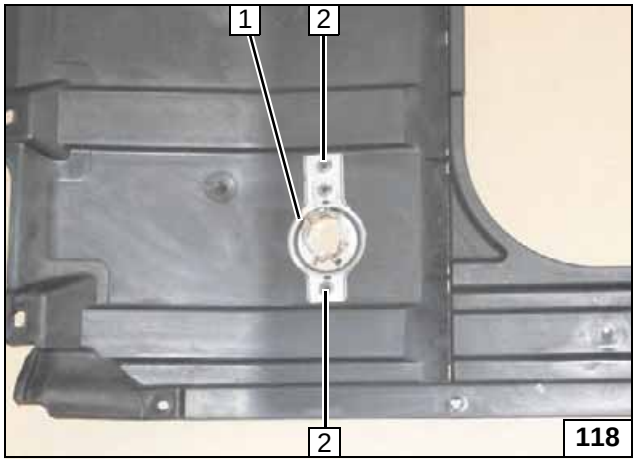
Installing exhaust end section



Hole **2** as per work step 1 of the installation instructions!

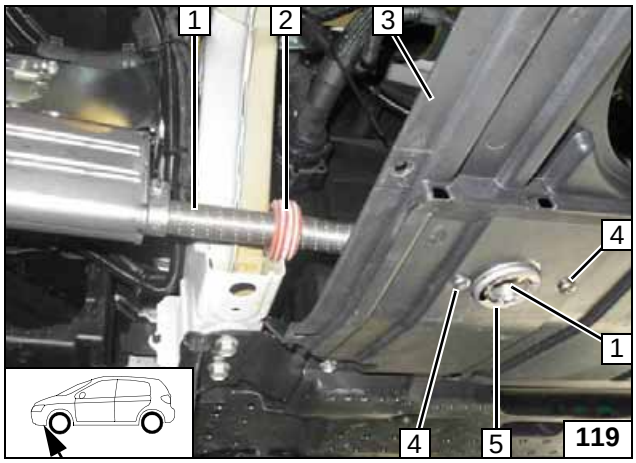
1 Underride protection

Preparing underride protection



Move exhaust end fastener **1** in the installation position as per work steps 3 and 4 of the installation instructions, copy hole pattern **2**, create hole [2x] .

Preparing underride protection



Install underride protection **3**.
Install exhaust end fastener **5** as per work step 5 of the installation instructions using provided bolts **4**.
Install exhaust end section **1** as per work steps 6 - 8 of the installation instructions.

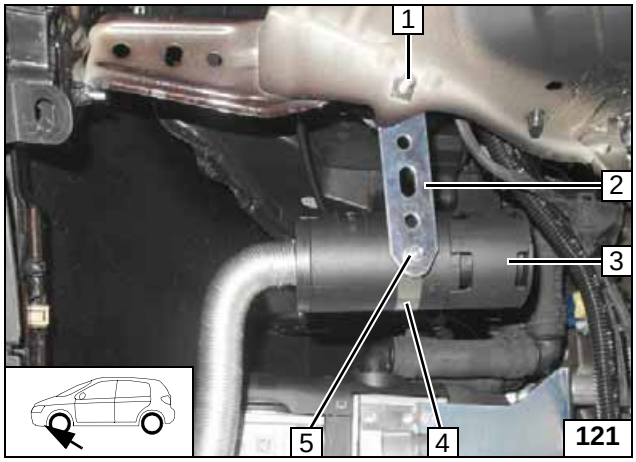
2 Align spacer bracket

Installing exhaust end section

Combustion Air

1 Combustion air pipe

Installing combustion air pipe



1 Original vehicle bolt
2 Perforated bracket
3 Silencer
4 51 mm dia. clamp
5 M5x16 bolt, flanged nut

Mounting silencer

Final Work

WARNING!
Reassemble the disassembled components in reverse order. Check all hoses, clamps and all electrical connections for firm seating. Insulate all loose lines 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 digital timer, teach Telestart transmitter**
- **Make settings on A/C control panel according to the "Operating Instructions for End Customer".**
- **Place "Switch off parking heater before refilling" caution label in the area of the filler neck**
- **For initial start-up and function check, see installation instructions**

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Germany
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Technical Extranet:
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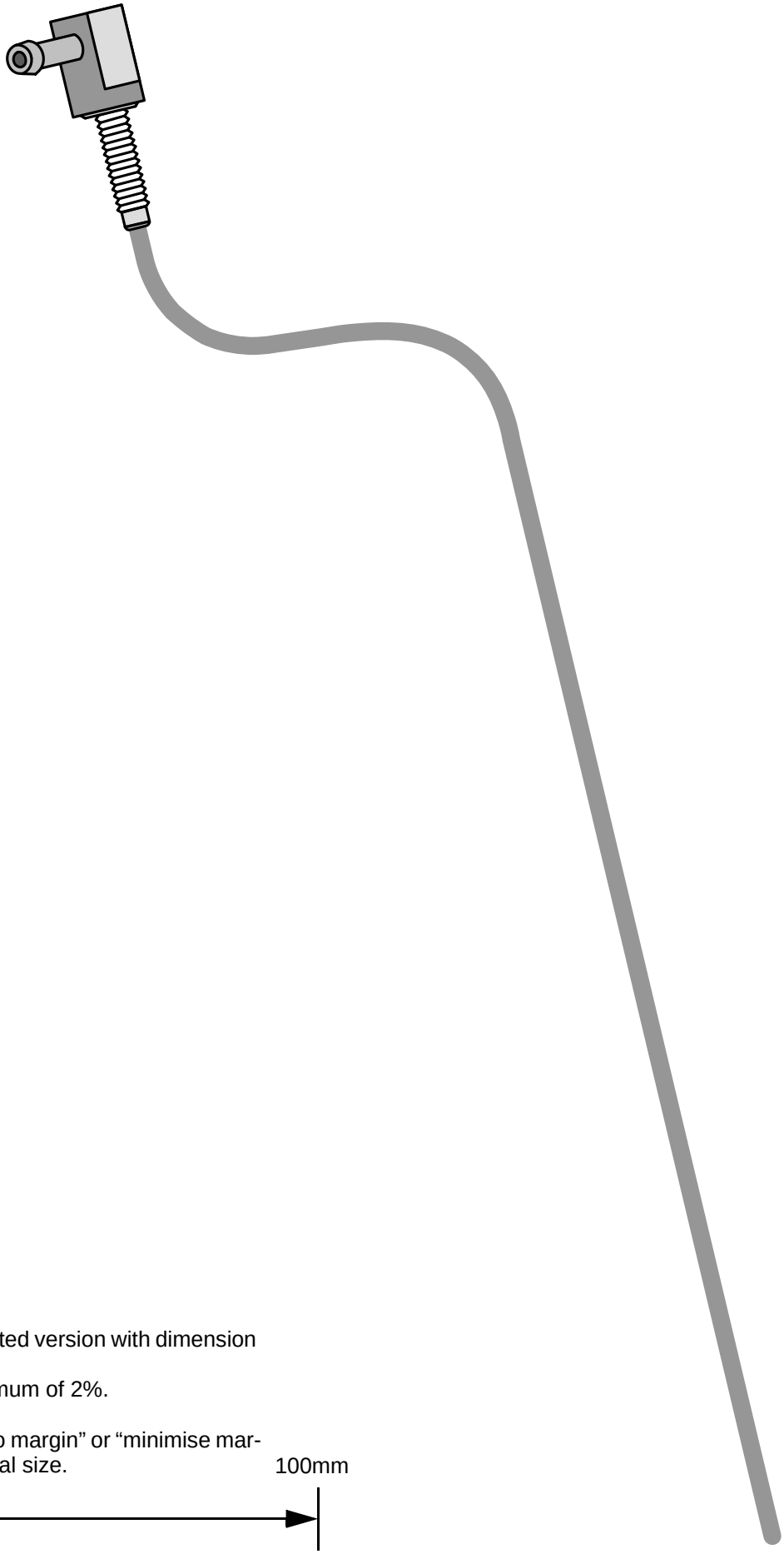
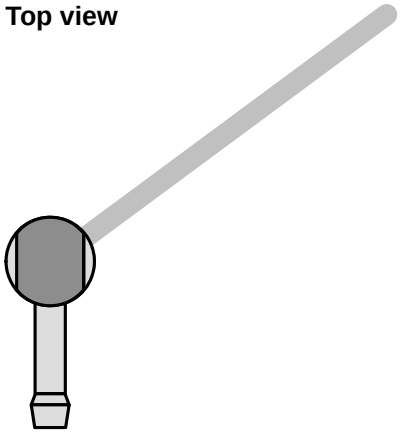
Template for Petrol Fuel Standpipe



Top view



100mm

Scale 1:1

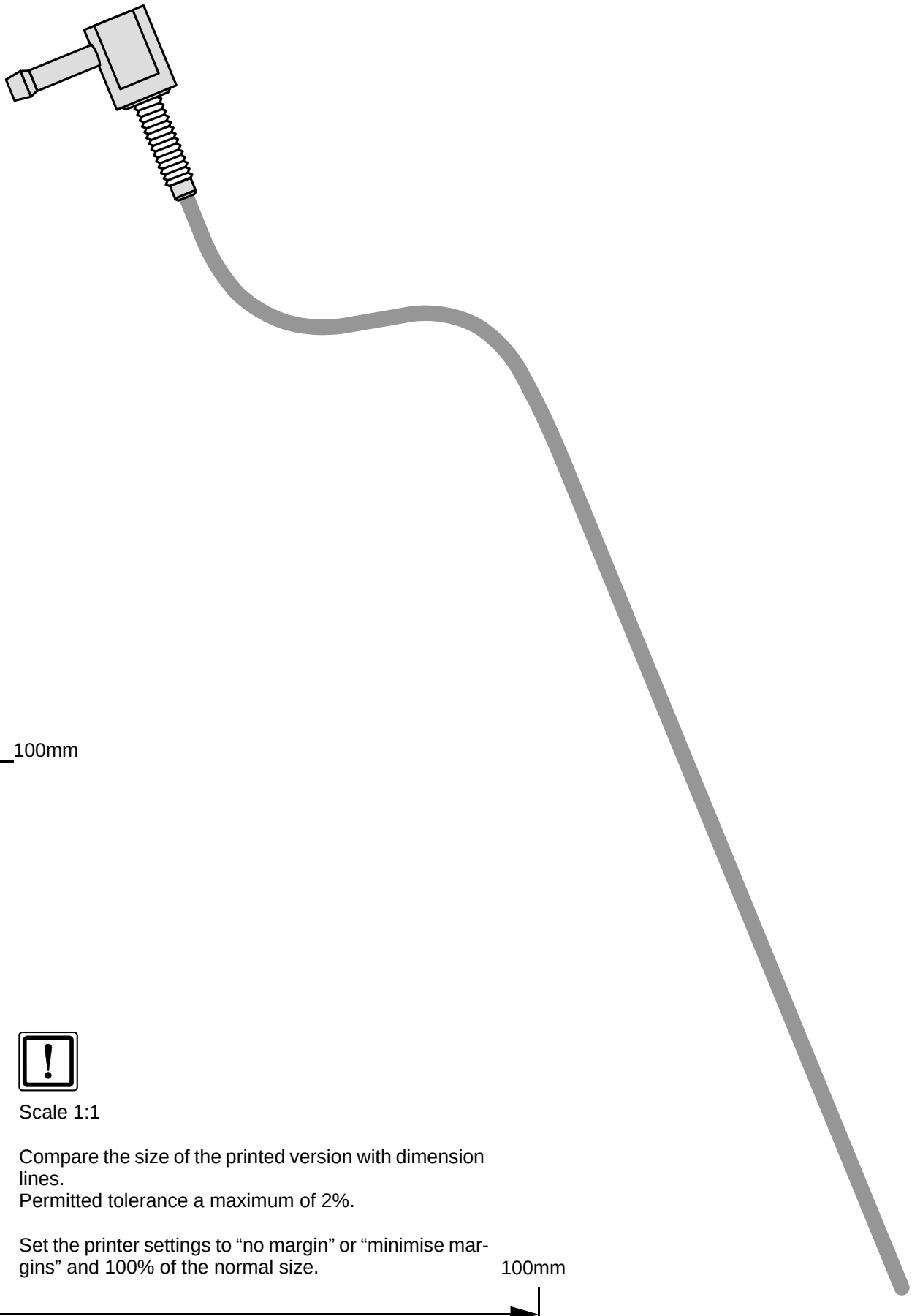
Compare the size of the printed version with dimension lines.
Permitted tolerance a maximum of 2%.

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

100mm

0

Template for Fuel Standpipe



Webasto
Feel the Drive

Operating Instructions for Manual Air-Conditioning

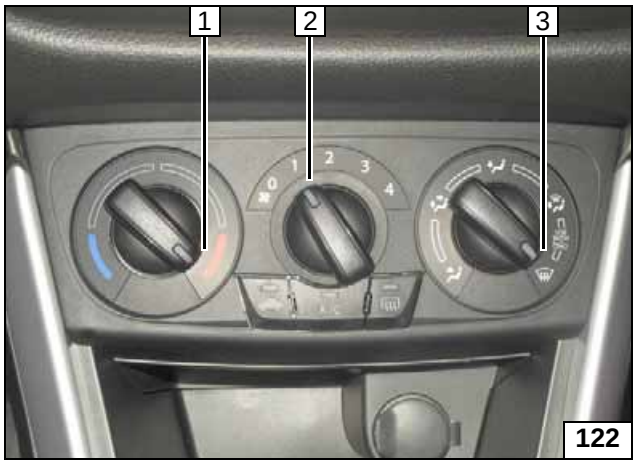
Please remove page and add to the vehicle operating instructions.

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, when installed, must be deactivated as well as deactivating the vehicle settings for the heating operation.
For instructions on deactivation, please refer to the operating instructions of the vehicle.

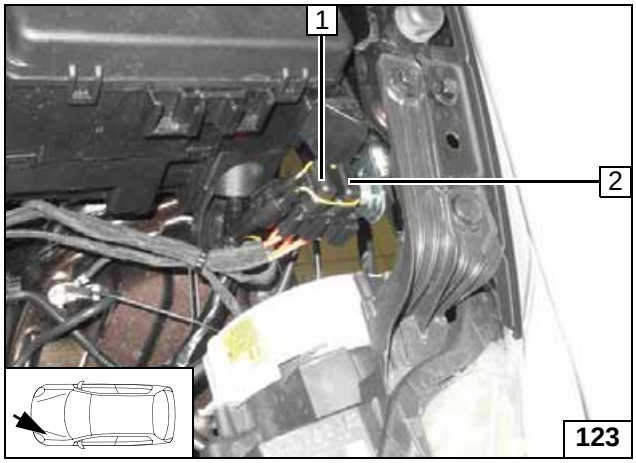
Before parking the vehicle, make the following settings:

A/C control panel



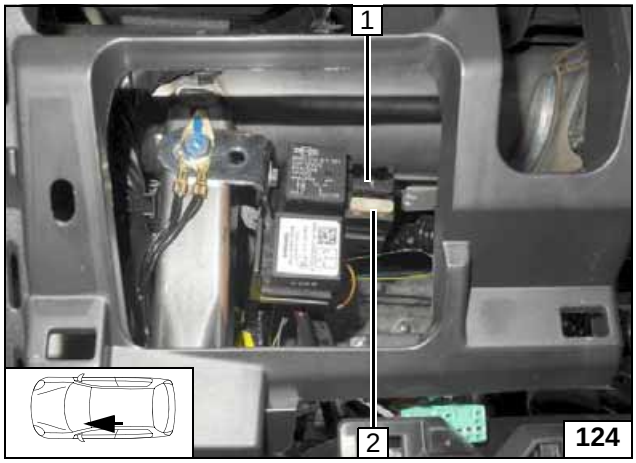
1 Set temperature to "max."
2 Set fan to level "1" or max. "2"
3 Air outlet to windscreen

Engine compartment fuses



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

Passenger compartment fuses



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

Webasto
Feel the Drive

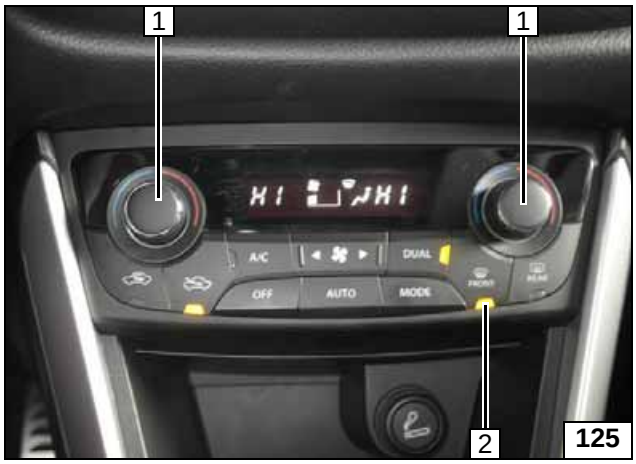
Operating Instructions for Automatic Air-Conditioning

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.

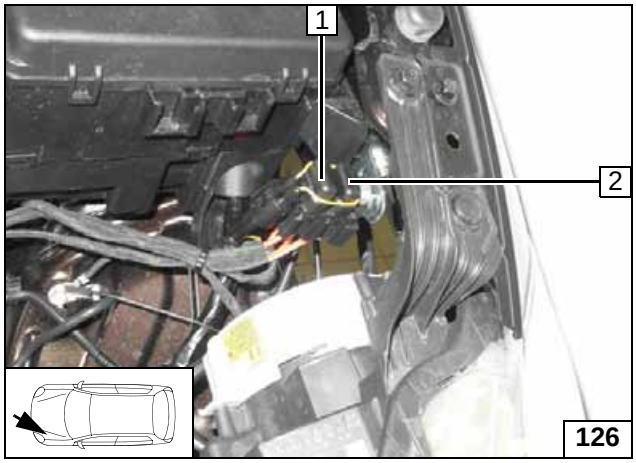
Passenger compartment monitoring, when installed, must be deactivated as well as deactivating the vehicle settings for the heating operation.
For instructions on deactivation, please refer to the operating instructions of the vehicle.

Before parking the vehicle, make the following settings:



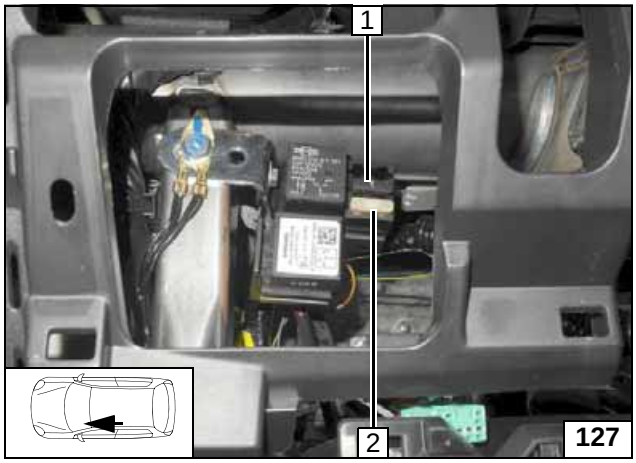
1 Set temperature on both sides to "HI"
2 Air outlet to windscreen

A/C control panel



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

Engine compartment fuses



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

Passenger compartment fuses