Water Heater

Webasto
Feel the Drive

***Thermo Top Evo* Parking Heater**

E1
00 0258

Installation Documentation
Mitsubishi Outlander

Validity

Manufacturer	Model	Type	EG-BE No. / ABE
Mitsubishi	Outlander	GF6	e1 * 2001 / 116 * 0406 * ...
Mitsubishi	Outlander	GF7	e1 * 2001 / 116 * 0406 * ...

Motorisation	Fuel	Transmission type	Output in kW	Displacement in cm³	Engine code
2.0 MIVEC	Petrol	SG	110	1998	4J11
2.0 MIVEC	Petrol	AG	110	1998	4J11
2.2 DID	Diesel	SG	110	2268	4N14
2.2 DID	Diesel	AG	110	2268	4N14

SG = manual transmission
AG = automatic transmission

From model year 2013
Left-hand drive vehicle

Verified equipment variants: Automatic air-conditioning
LED headlight
Front fog lights
Headlight washer system
2WD / 4WD
Euro 5 and 6 emission standard

Total installation time: approx. 9 hours up to model year 2015
approx. 9.5 hours from model year 2016 onwards

Mitsubishi Outlander

Table of Contents

Necessary Components

- Basic delivery scope of *Thermo Top Evo* based on price list
- Installation kit for Mitsubishi Outlander 2013 Petrol and diesel: **1317382D**
- Heater control in accordance with price list and upon consultation with end customer
- In case of Telestart, indicator lamp in accordance with price list and in consultation with end customer

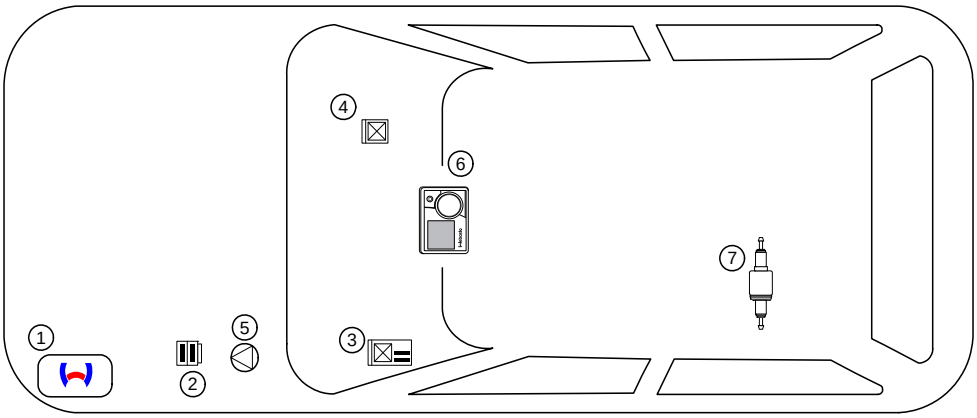
Installation instructions:

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

Installation Overview

Legend:

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



Information on Total Installation Time

The total installation time includes the time needed for mounting and demounting 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 have to audibly click into place during installation.

Sharp edges should be fitted with rub protection. Spray unfinished body areas, e.g. drilled holes, with anti-corrosion wax (Tectyl 100K).

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.

Mitsubishi Outlander

Information on Validity

This installation documentation applies to Mitsubishi Outlander Petrol and diesel vehicles - for validity, see page 1 - from model year 2013 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 auto-tightening hose clamps
- Hose clamp pliers for Clic hose clamps of type W
- Automatic wire stripper 0.2 - 6mm²
- Crimping pliers for cable lug / tab connector 0.5 - 6mm²
- Torque wrench for 2.0 - 10 Nm
- Hose clamping pliers
- Metric thread-setter kit
- Deep-hole marker
- Webasto Thermo Test Diagnosis with current software

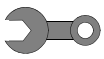
Dimensions
- All dimensions are in mm.

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

Explanatory Notes on Document

You will find an identification mark on the outside top right corner of the page in question to provide you with a quick overview of the individual working steps.

Mechanical System

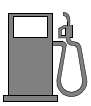


Electrical System

Coolant Circuit

Combustion Air

Fuel



Exhaust Gas

Software

Special features are highlighted using the following symbols:

Specific risk of injury or fatal accidents.

Specific risk due to electrical voltage

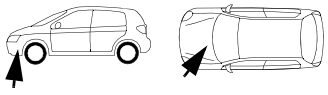
Specific risk of damage to components.

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.

Mitsubishi Outlander

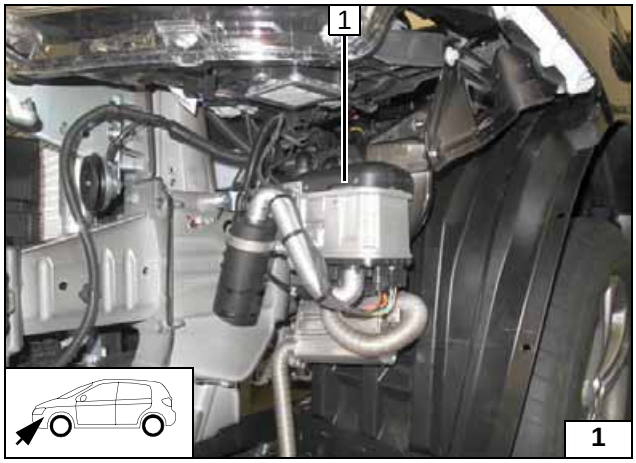
Preliminary Work

Vehicle

- Open the fuel tank cap.
- Ventilate the fuel tank.
- Close the fuel tank cap again.
- Depressurise the cooling system.
- Disconnect and remove the battery.
- Remove the air filter completely, together with the intake hose.
- Remove the engine control unit.
- Drain off the coolant.
- Detach the right and left wheel well trim, remove on the left in case of vehicles from model year 2016 onwards.
- Remove the bumper.
- Remove the left headlight.
- Remove the underbody left fuel tank cover.
- Remove the second seat row.
- Fold back the floor covering.
- Open the tank-fitting service lid.
- Remove the fuel tank sending unit in accordance with the manufacturer's instructions.
- Remove the footwell trim on the driver's and front passenger's sides.
- Remove the instrument panel trim on the driver's side.

Heater

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

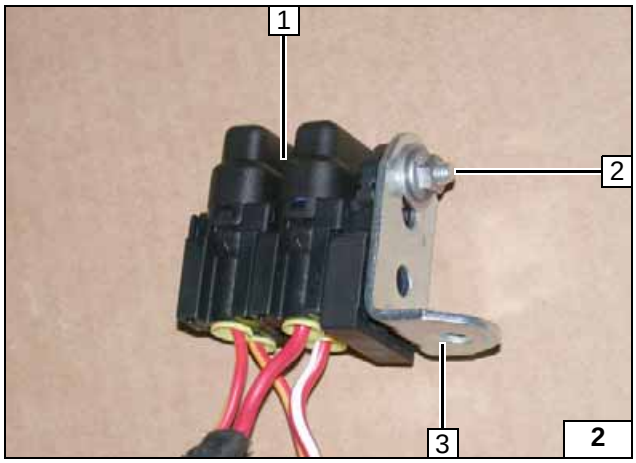


Heater Installation Location

1 Heater

Installation location

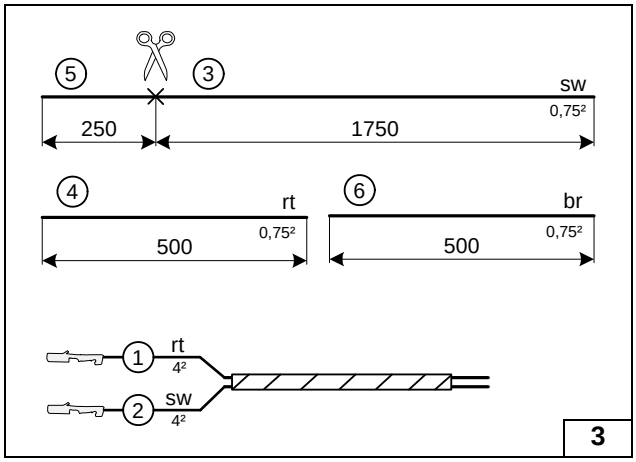
Preparing Electrical System



2

1 Fuses F1-F2 mounted
2 M5x16 bolt, large diameter washer [2x], retaining plate of fuse holder, nut
3 Angle bracket

Preparing engine compartment fuse holder



3

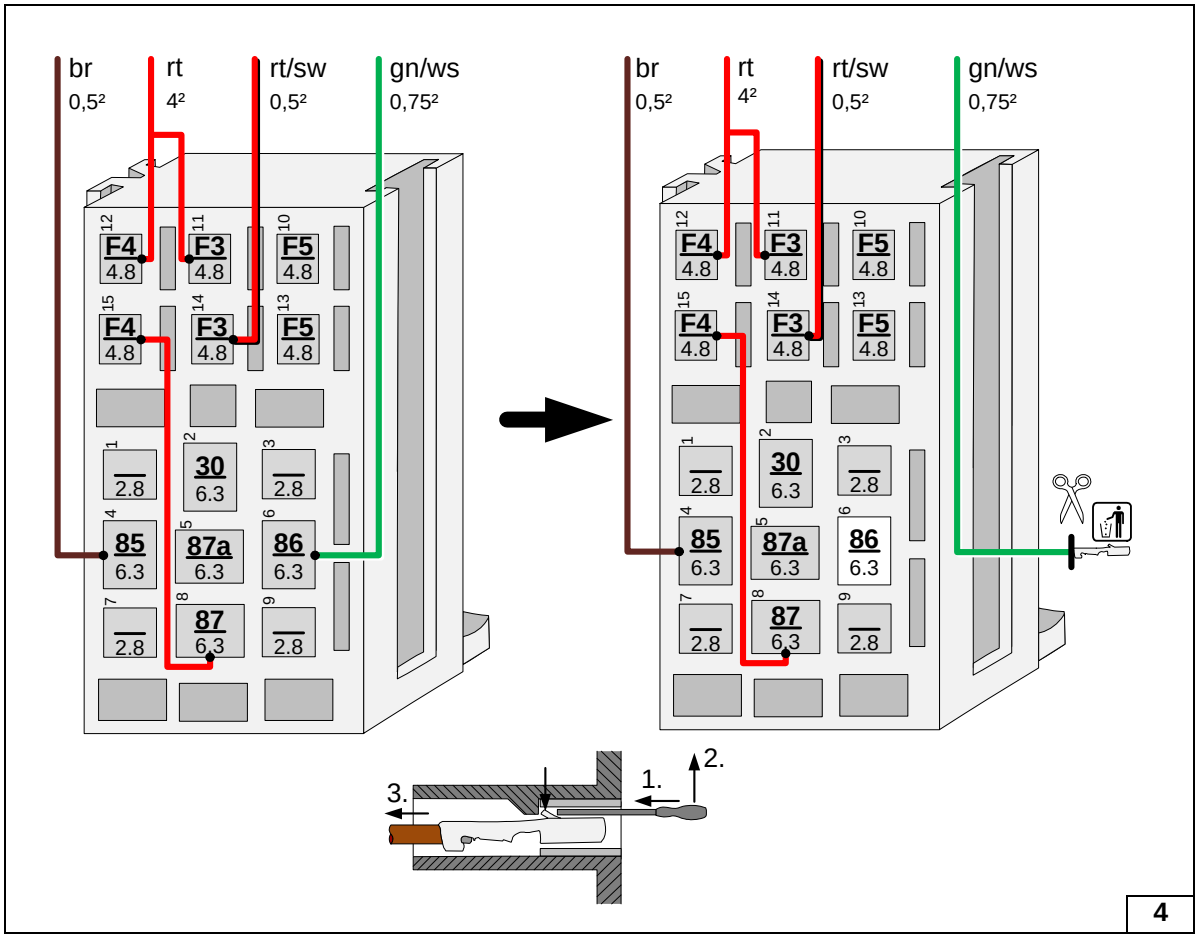
Wire sections retain their numbering in the entire document.

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

Pull wire ③ into provided 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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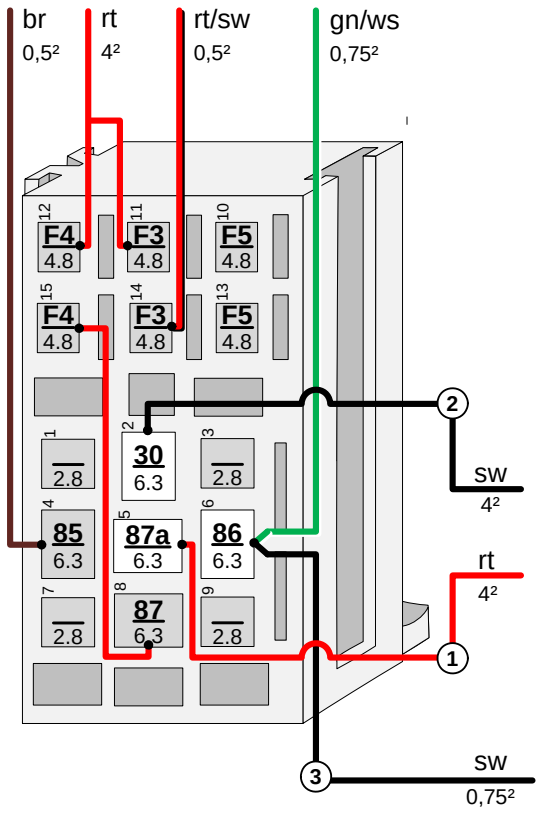
Preparing passenger compartment relay and fuse holder



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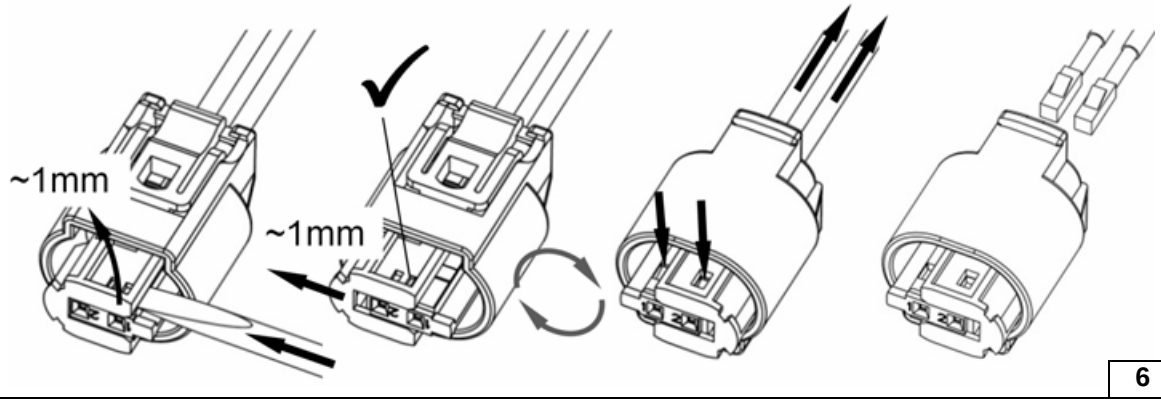
Connecting wires to passenger compartment relay and fuse holder

Connector X7



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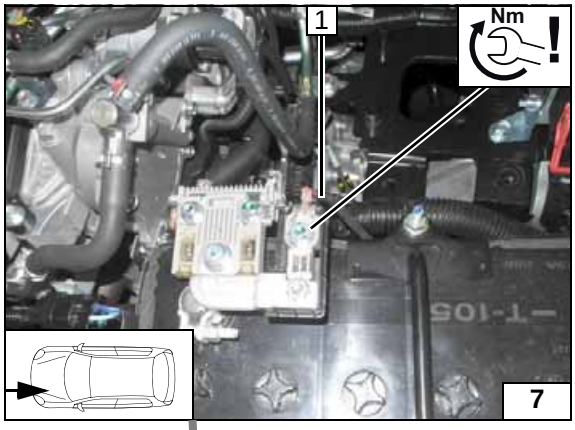
Dismantling metering pump connector

Electrical System

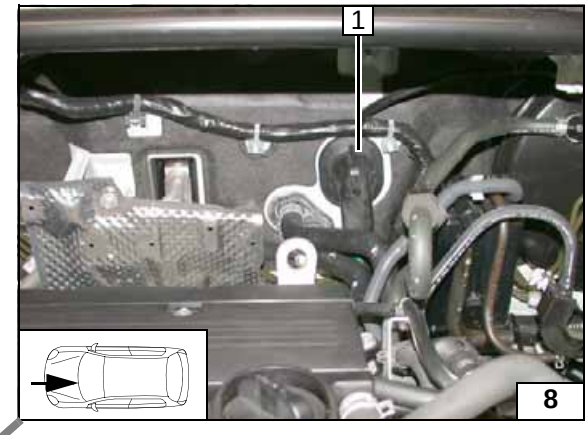
Positive wire

1 Positive wire on positive battery distributor

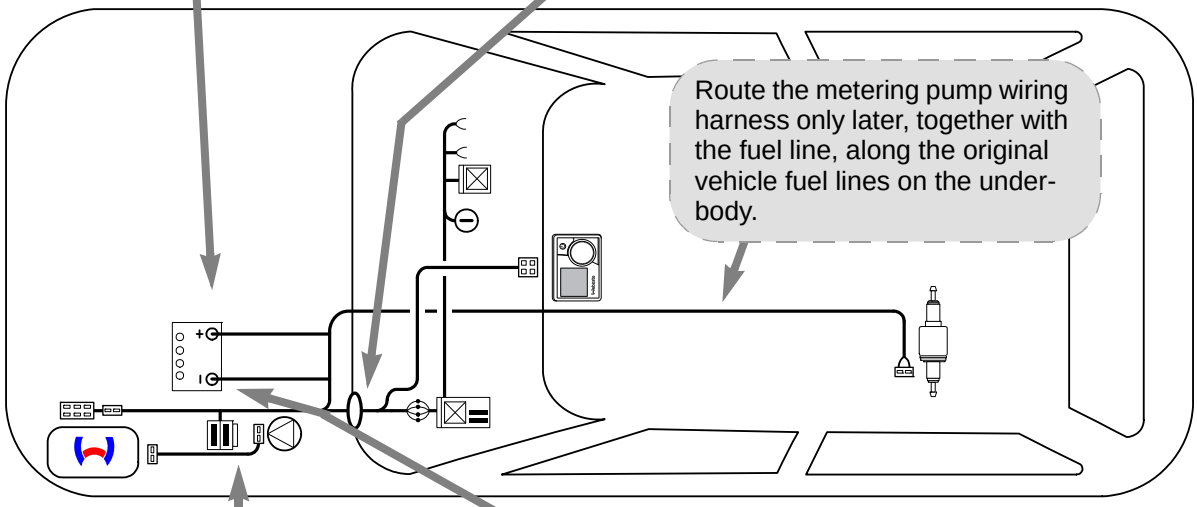


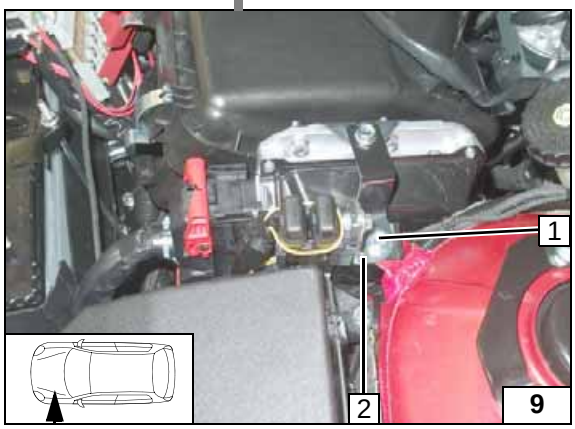
Wiring harness pass through

1 Protective rubber plug



Wiring harness routing diagram

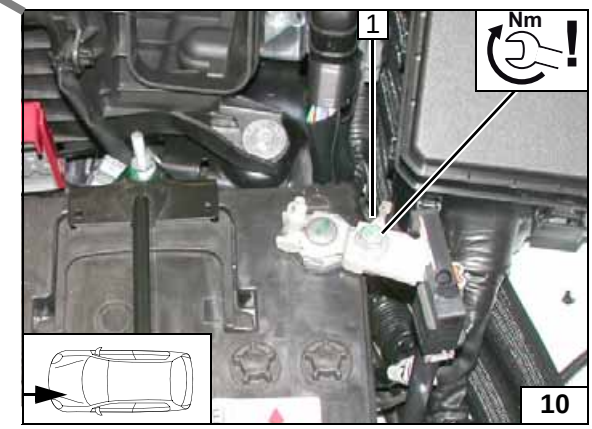




Engine compartment fuse holder

Premount fuse holder, will be fastened together with control unit later.

1 Original vehicle bolt
2 Angle bracket

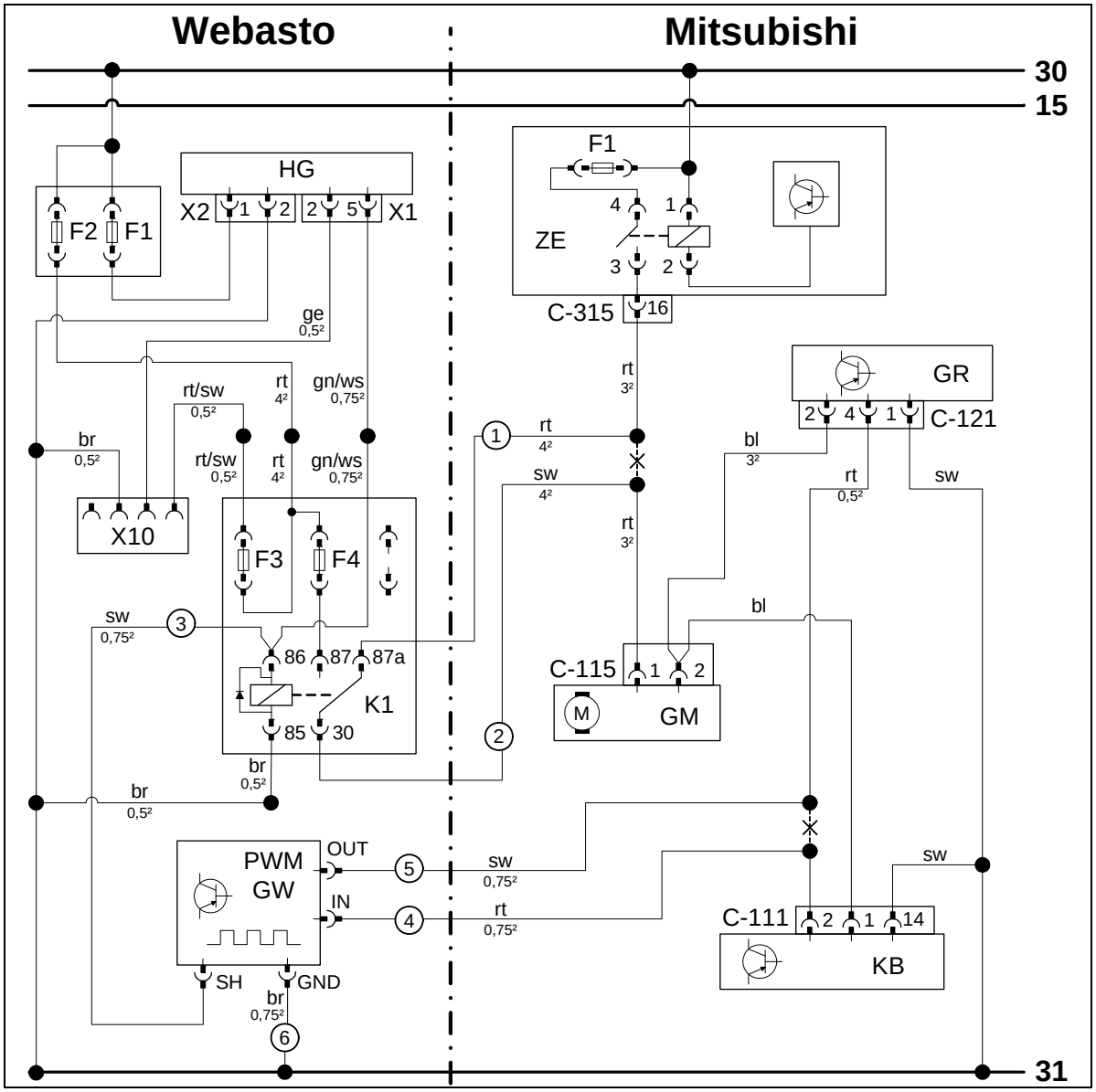


Earth wire

1 Earth wire on negative battery terminal

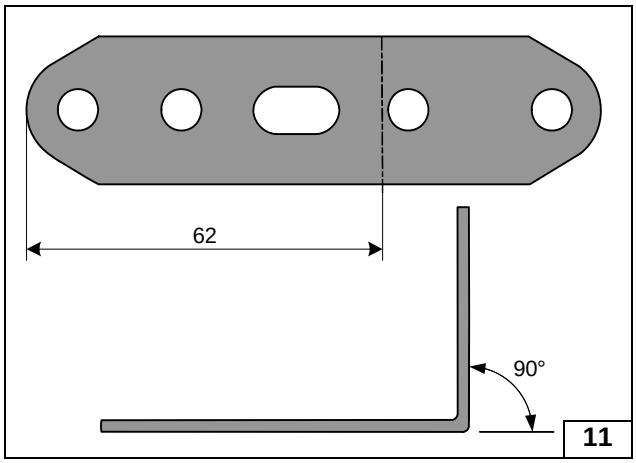
Fan Controller

Wiring diagram



Webasto components		Vehicle components		Colours and symbols	
HG	TT-Evo heater	ZE	Central electrical box	rt	red
X1	6-pin heater connector	F1	Fuse	ws	white
X2	2-pin heater connector	C-315	19-pin connector ZE	sw	black
F1	20A fuse	GR	Fan controller	br	brown
F2	30A fuse	C-121	4-pin connector GR	gn	green
X10	4-pin connector of heater control	GM	Fan motor	bl	blue
		C-115	2-pin connector GM	ge	yellow
F3	1A fuse	KB	A/C control panel		
F4	25A fuse	C-111	20-pin connector of KB		
K1	Fan relay				
PWM GW	Pulse width modulator				
Settings of PWM GW up to 2015:		**Settings of PWM GW from 2016:**			
Duty cycle:	100% (DC)	Duty cycle:	100% (DC)		
Frequency:	not relevant	Frequency:	not relevant	**X**	Cutting point
Voltage:	4.7V	Voltage:	4.4V	Wiring colours may vary.	
Function:	High side	Function:	High side		

Legend



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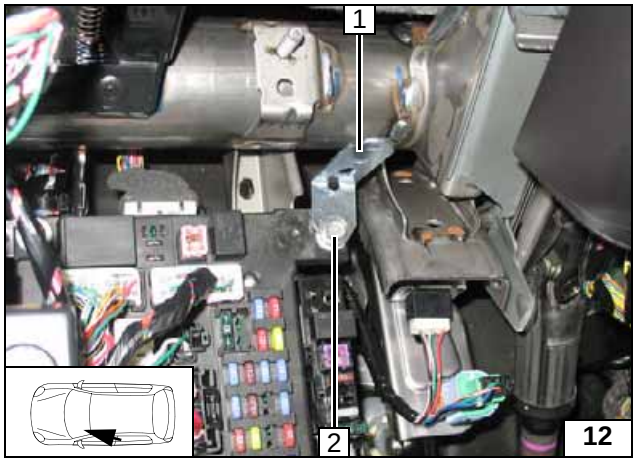
Up to model 2015

Angling down perforated bracket



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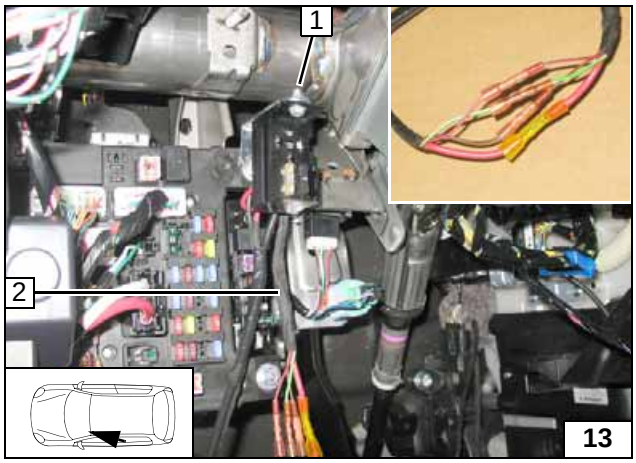
Remove original vehicle bolt at position **2** and discard. Insert three washers between perforated bracket **1** and passenger compartment fuse box as height adjustment.

2 M6x35 bolt, perforated bracket **1**, washer [3x], existing threaded hole

Installing perforated bracket



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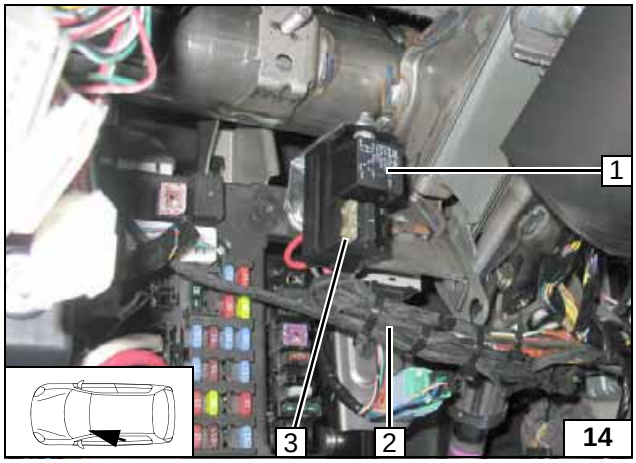
Connect wiring harness of passenger compartment relay and fuse holder **2** to the wiring harness of the heater in such a way that the wires of the same colour are connected to each other.

1 M5x16 bolt, large diameter washer [2x], nut

Installing passenger compartment relay and fuse holder



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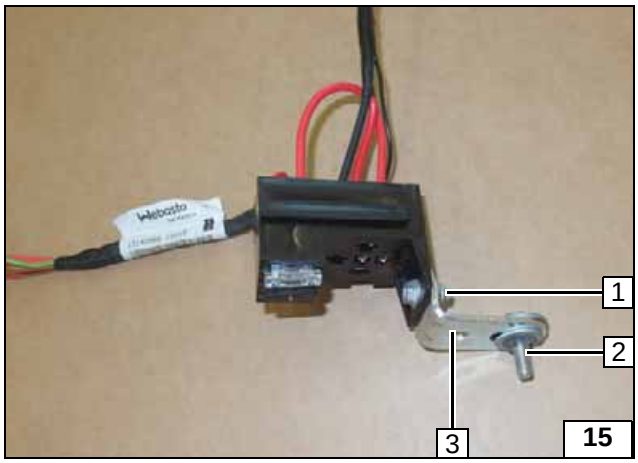
Tie back wiring harnesses **2**. Install additional black (sw) wire ③ K1/86 together with wiring harness of fan controller on the right side of the vehicle.

1 K1 relay
3 25A fuse F4

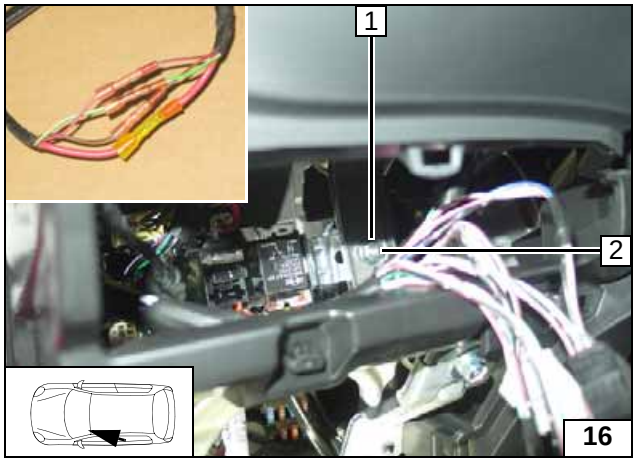
Installing passenger compartment relay and fuse holder



From model year 2016 onwards

Preparing passenger compartment relay and fuse holder

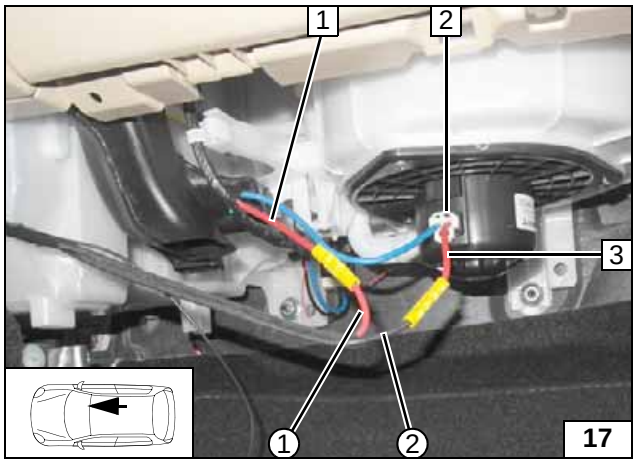
1 M5x16 bolt, large diameter washer [2x], nut
2 M6x16 bolt, large diameter washer [2x], pin lock
3 Angle bracket



Installing passenger compartment relay and fuse holder

Connect wiring harness of passenger compartment relay and fuse holder **2** to the wiring harness of the heater in such a way that the wires of the same colour are connected to each other.
Tie back wiring harnesses **2**.
Install additional black (sw) wire ③ K1/86 together with wiring harness of fan controller on the right side of the vehicle.

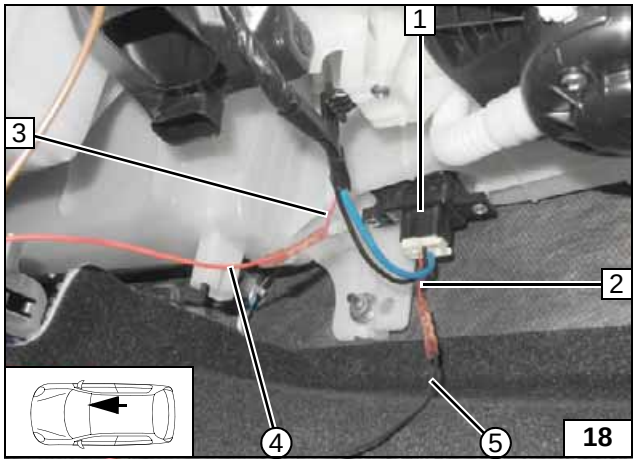
1 Original vehicle hole
2 M6x16 bolt, flanged nut



Connecting fan motor

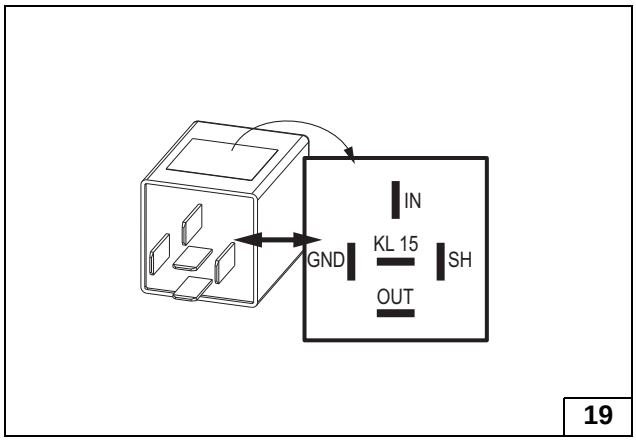
All vehicles

1 Red (rt) wire from connector C-315/ pin 16 of central electrical box
2 2-pin connector C-115 of fan motor
3 Red (rt) wire from connector C-115/ pin 1 of fan motor
① Red (rt) wire of K1/87a, fan wiring harness
② Black (sw) wire of K1/30, fan wiring harness



Connecting fan controller

1 Connector C-121 of fan controller
2 Red (rt) wire from connector C121/ pin 4 of fan controller
3 Red (rt) wire from connector C111/ pin 2 of A/C control panel
④ Red (rt) wire of PWM GW / IN
⑤ Black (sw) wire of PWM GW / OUT



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Up to model 2015

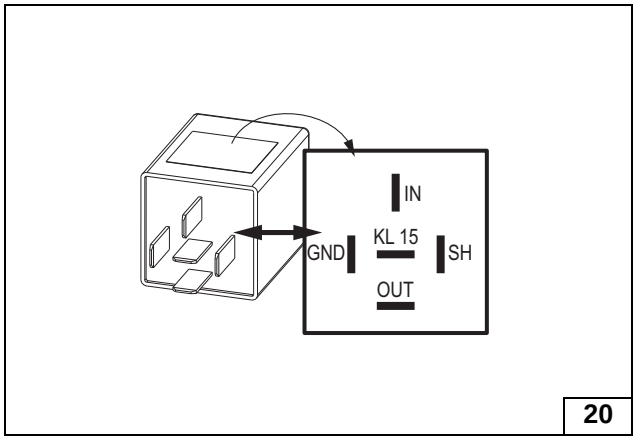
This preprogrammed version is included in the kit.

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

View of PWM-GW

Settings:

Duty cycle: 100% (DC)
Frequency: not relevant
Voltage: 4.7V
Function: High side



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From model year 2016 onwards

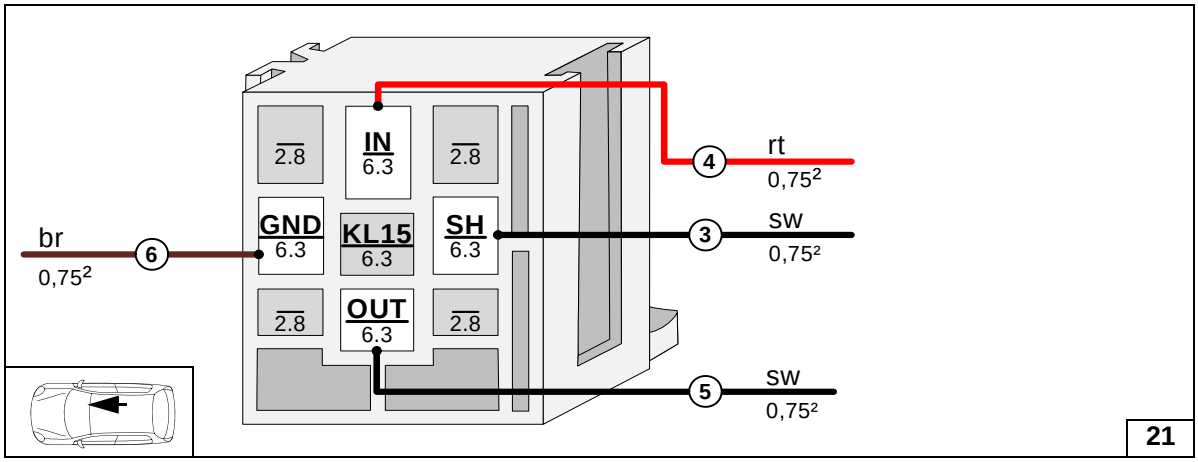
The settings of the PWM Gateway included in the kit should be modified with the Webasto Thermo Test Diagnosis (WTT) using the following values!

View of PWM-GW

Settings:

Duty cycle: 100% (DC)
Frequency: not relevant
Voltage: 4.4V
Function: High side

All vehicles



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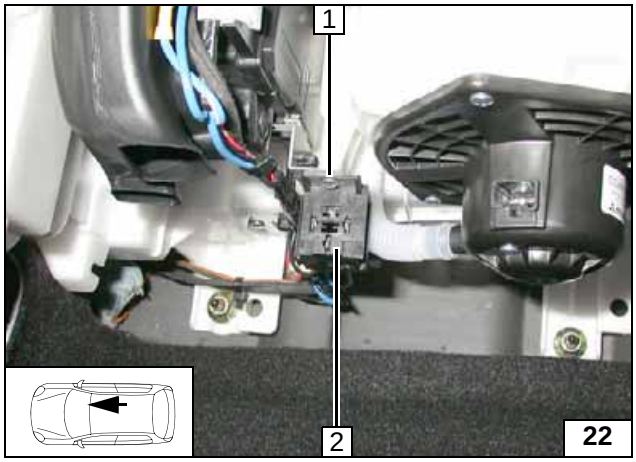
Connecting wires to socket of PWM GW in passenger compartment



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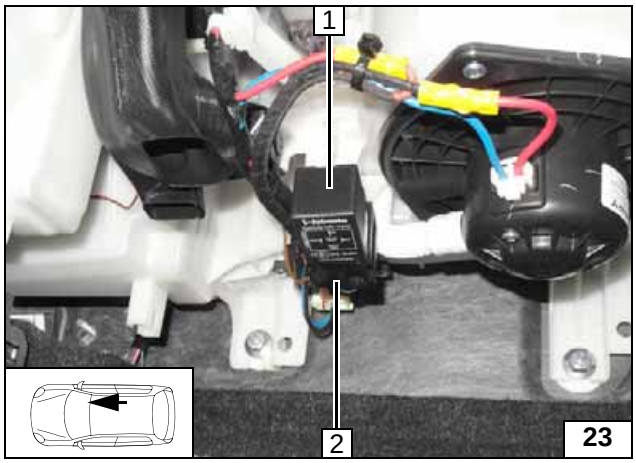
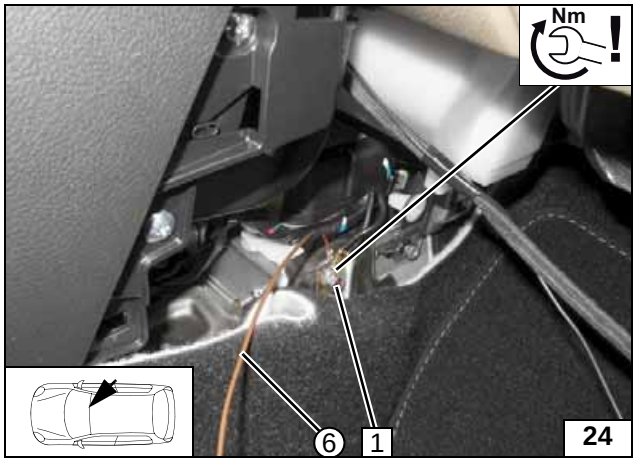
1 Original vehicle bolt
2 PWM GW socket

Installing PWM GW socket



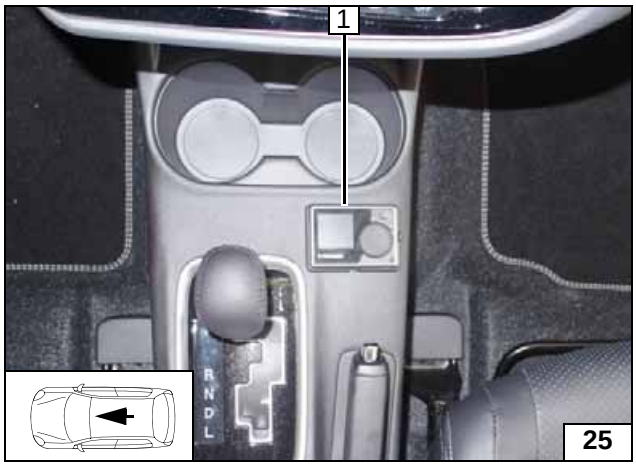
1 PWM GW
2 PWM GW socket

Installing PWM GW



1 Bolt of original vehicle earth point
⑥ Brown (br) wire of PWM GW/GND

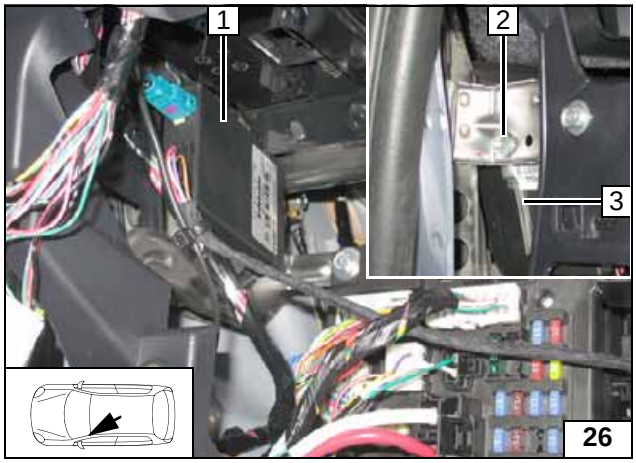
Connecting earth wire



MultiControl CAR Option

1 MultiControl CAR

Installing MultiControl CAR



Remote Option (Telestart)

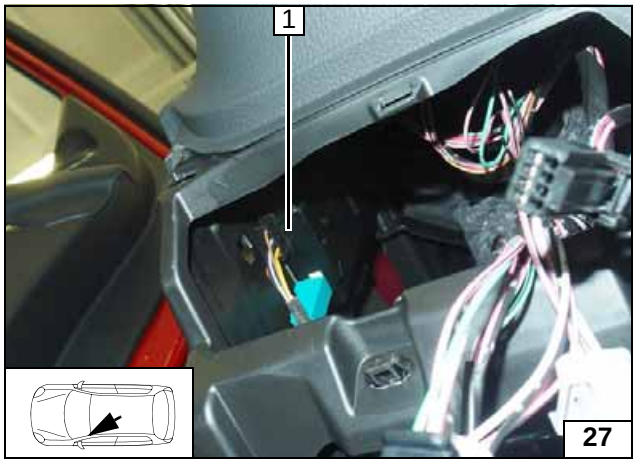
Up to model 2015

Drill out bracket **3** to 6.5 mm dia. at position **2**.

1 Receiver
2 M6x16 bolt, bracket, flanged nut in, existing hole

Installing receiver

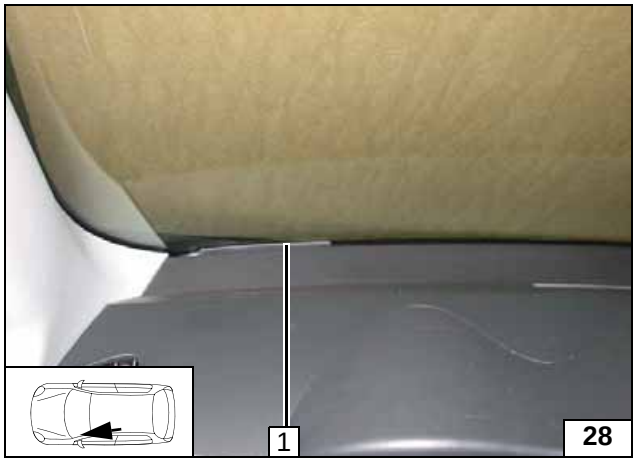
From model year 2016 onwards



1 Fasten receiver using double-sided adhesive tape

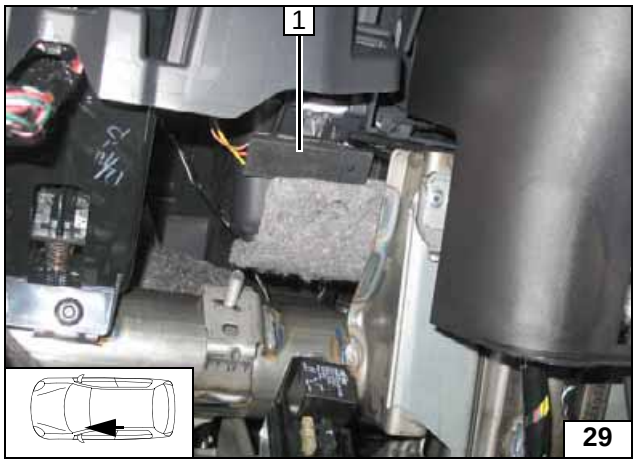
Installing receiver

All vehicles



1 Aerial

Installing aerial

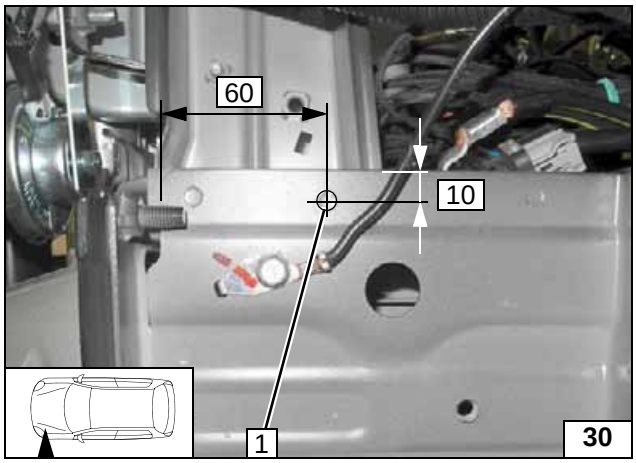


Temperature sensor only for T100 HTM

1 Fasten temperature sensor with suitable means

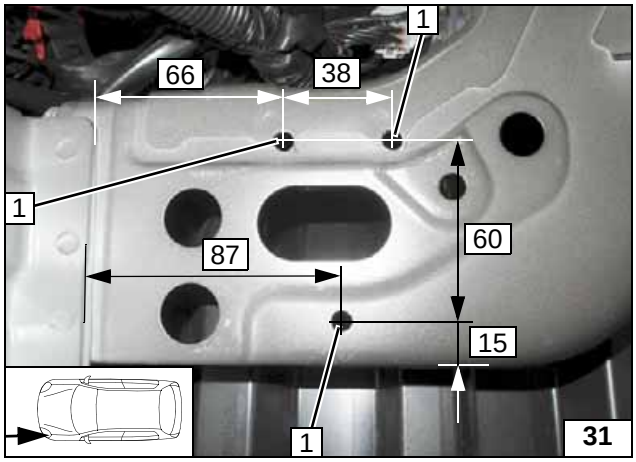
Installing temperature sensor

Preparing Installation Location



1 7 mm dia. hole

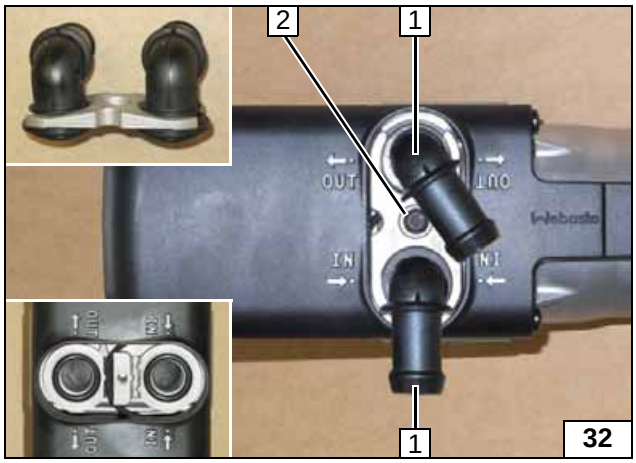
Hole in frame side member



1 7mm dia. hole [3x]

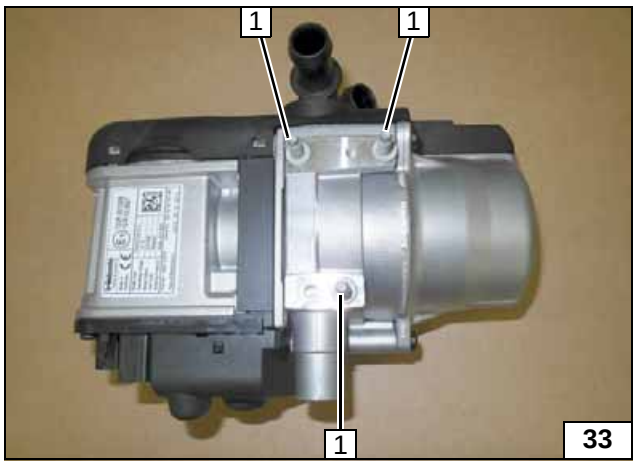
Hole in cross member

Preparing Heater



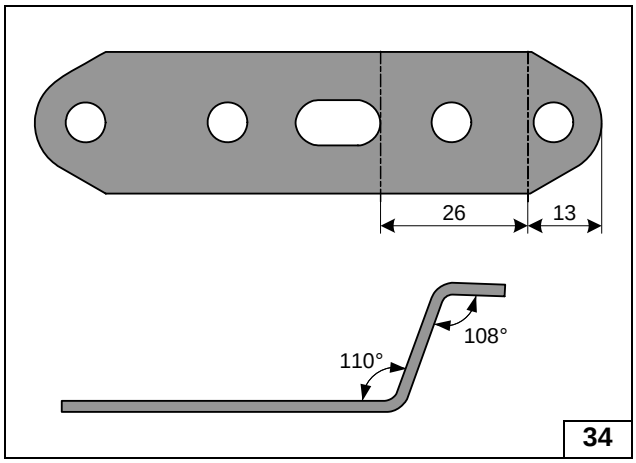
1 Water connection piece, sealing ring [2x each]
2 5x15 self-tapping bolt, retaining plate of water connection piece

Installing water connection piece

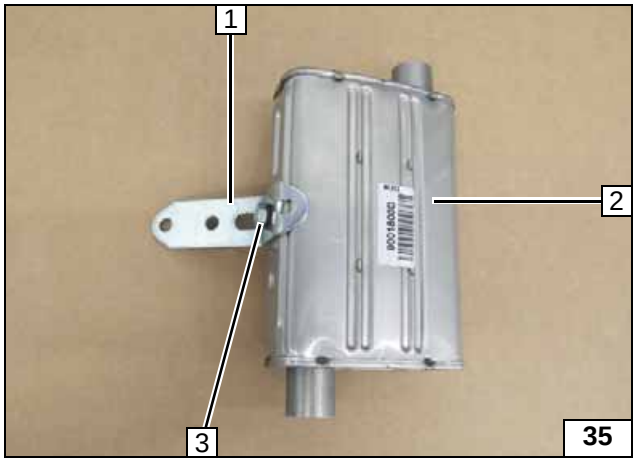


1 M5/M6x15 self-tapping stud bolt [3x]

Premounting stud bolts

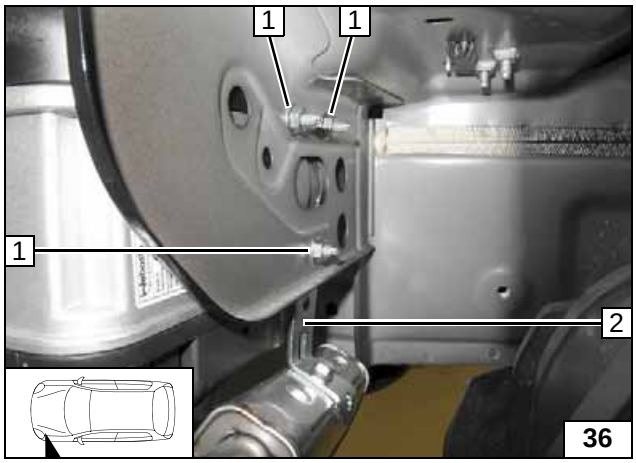


Angling down perforated bracket



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

Premounting silencer

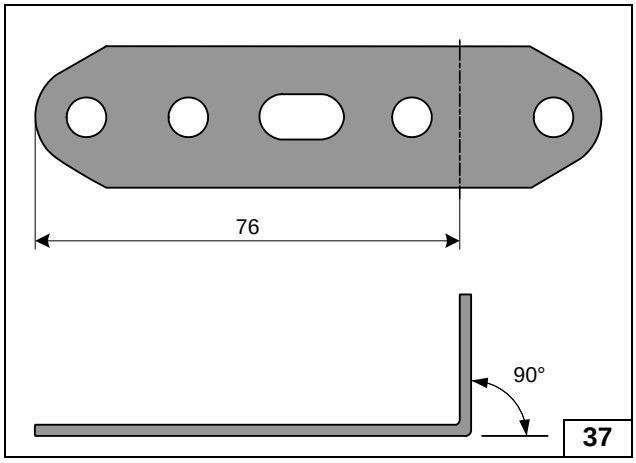


Installing Heater

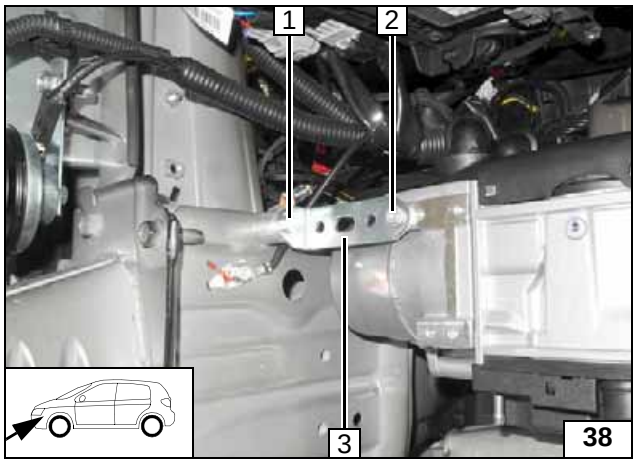
Install perforated bracket **2** between heater and cross member on stud bolt.

1 Flanged nut [3x]

Installing heater

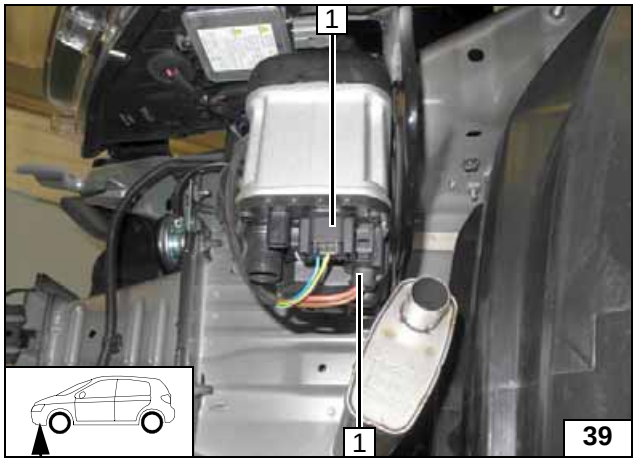


Angling down perforated bracket



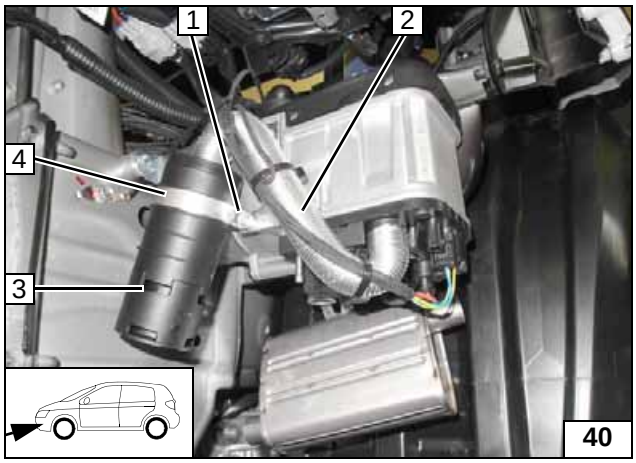
1 M6x40 bolt, spring lockwasher, 20mm shim, flanged nut
2 5x13 self-tapping bolt
3 Perforated bracket

Installing heater



1 Heater wiring harness connector [2x]

Installing wiring harness



Combustion Air

1 5x13 self-tapping bolt
2 Combustion air pipe
3 Silencer
4 51mm dia. clamp

Installing silencer

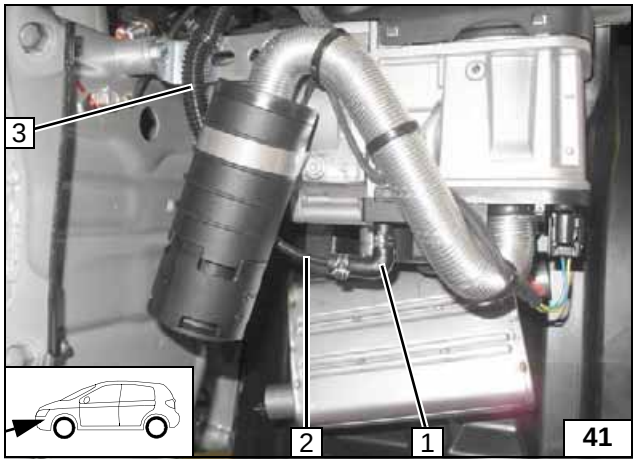
Fuel

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.

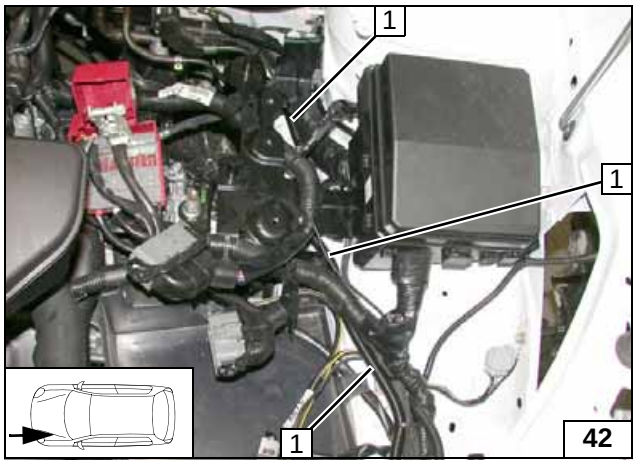
Route fuel line and metering pump wiring harness so that they are protected against stone impact. Unless specified otherwise, always fasten using cable ties.
Provide rub protection for fuel line and wiring harness in areas where there are sharp edges.

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



1 90° moulded hose, 10mm dia. clamp [2x]
2 Cable tie
3 Fuel line and wiring harness of metering pump in corrugated tube

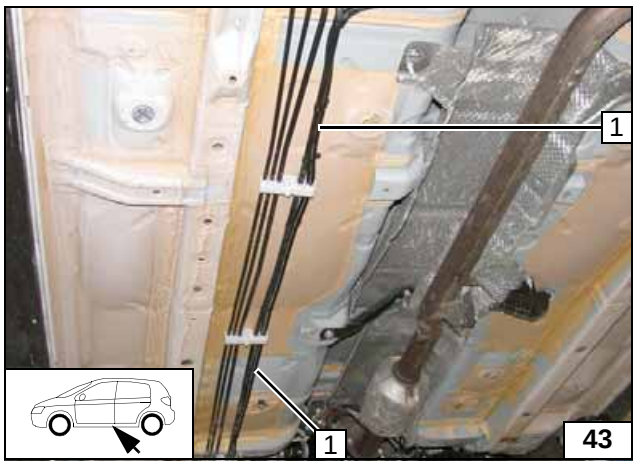
Connecting heater



1 Fuel line and wiring harness of metering pump in corrugated tube

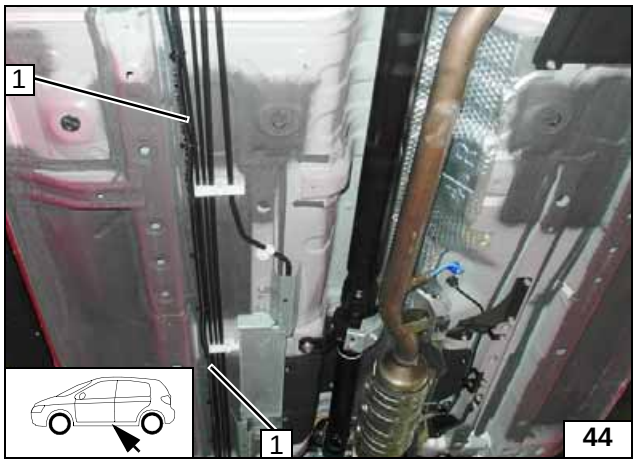
Routing lines

Up to model 2015



1 Fuel line and wiring harness of metering pump in corrugated tube

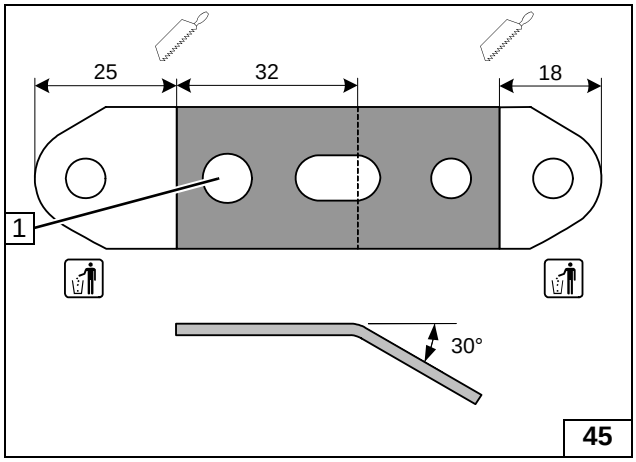
Routing lines



From model year 2016 onwards

1 Fuel line and wiring harness of metering pump in corrugated tube

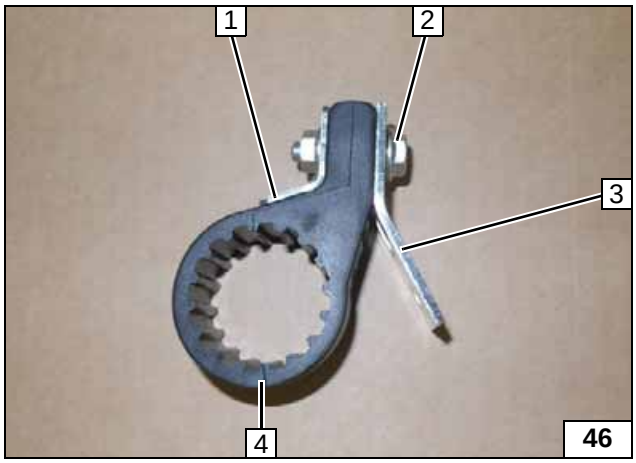
Routing lines



All vehicles

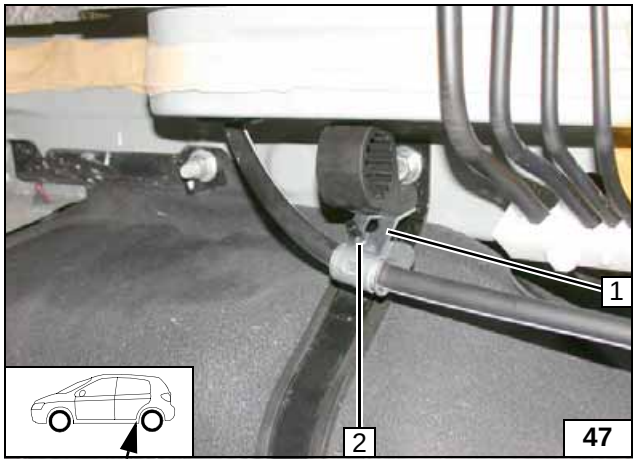
1 Drill out hole to 8.5 mm dia.

Cutting to length, drilling and bending perforated bracket



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

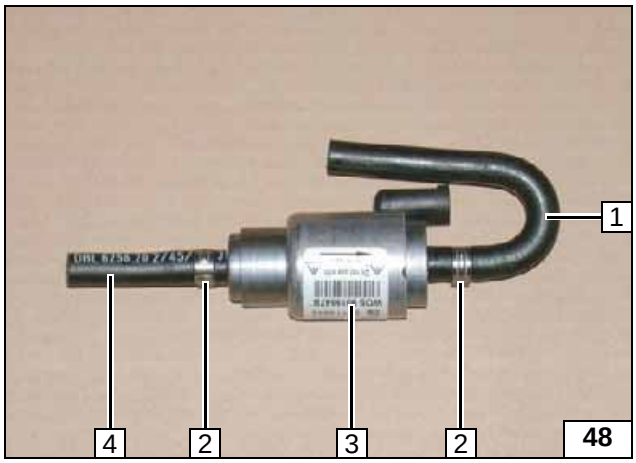
Premounting metering pump mount



1 Perforated bracket
2 Original vehicle stud bolt, original vehicle nut

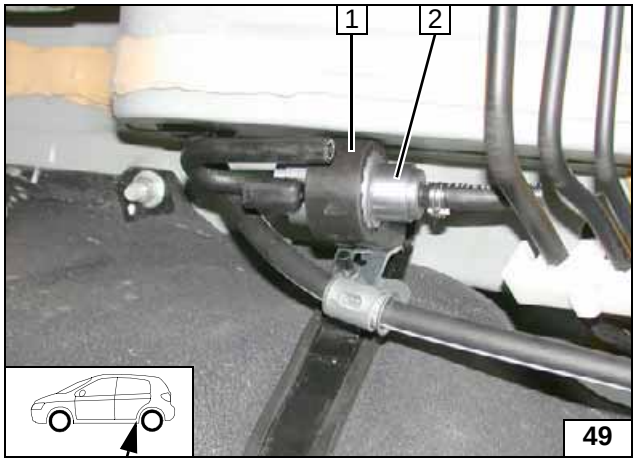
Mounting metering pump mount

Premounting metering pump



1 180° moulded hose
2 10 mm dia. clamp [2x]
3 Metering pump
4 Hose section

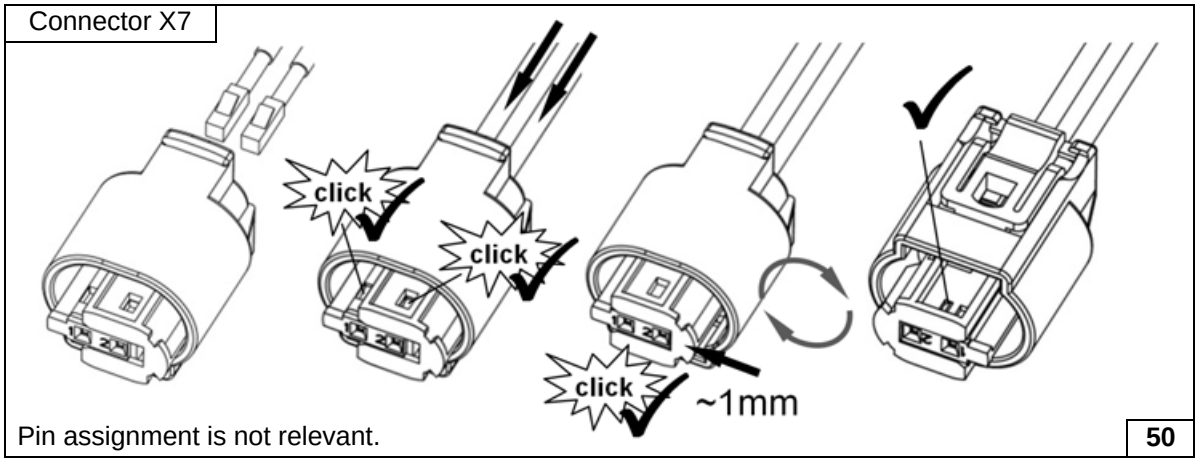
Installing metering pump



1 Metering pump mount
2 Metering pump

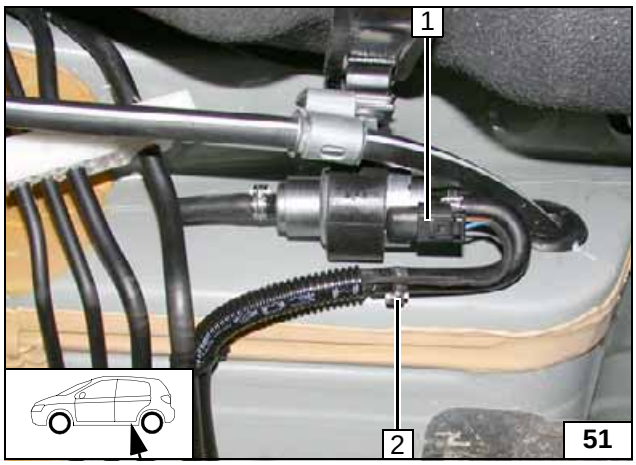
Completing metering pump connector

Connector X7

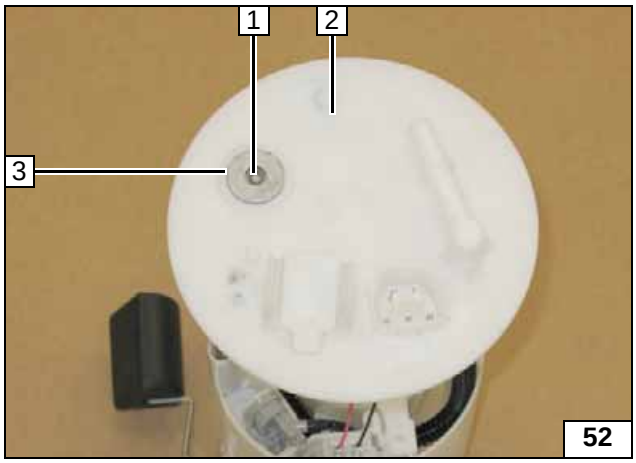


Pin assignment is not relevant.

Connecting metering pump



1 Wiring harness of metering pump, connector X7 mounted
2 Fuel line of heater, 10mm dia. clamp

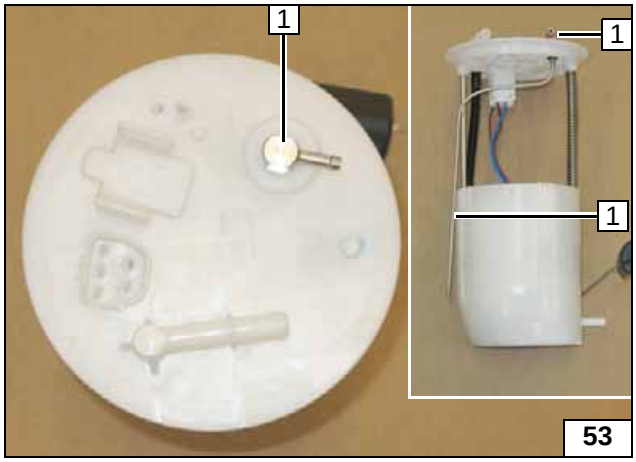


Petrol

Remove fuel tank sending unit **2** in accordance with manufacturer's instructions.

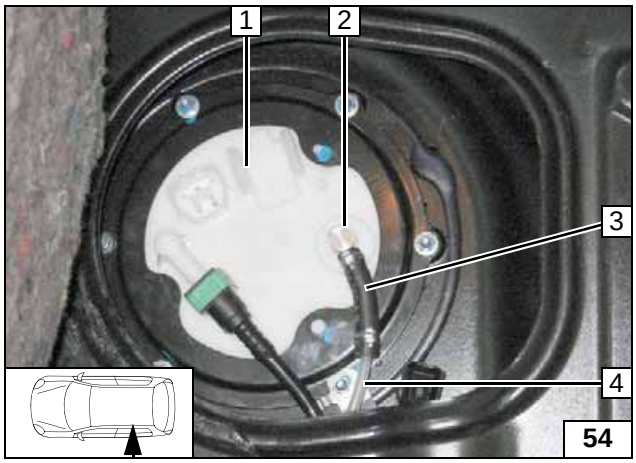
1 Copy hole pattern, 6mm dia. hole
3 Large diameter washer centred in recess

Fuel extraction



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

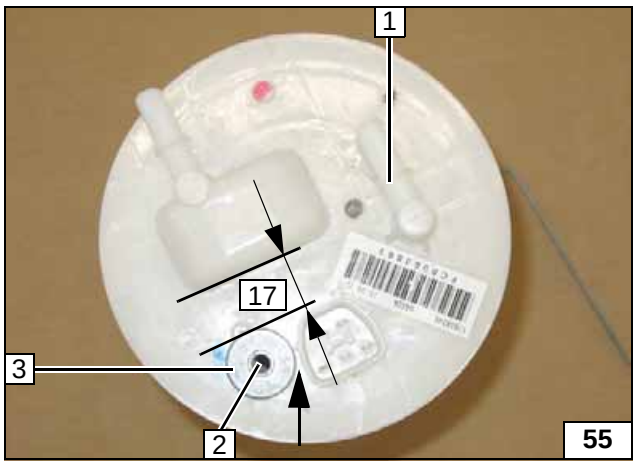
Installing fuel standpipe



Install fuel tank sending unit **1** according to manufacturer's instructions, slide corrugated tube onto fuel line **4**.

2 Fuel standpipe
3 Hose section, 10mm dia. clamps [2x]

Connecting fuel line

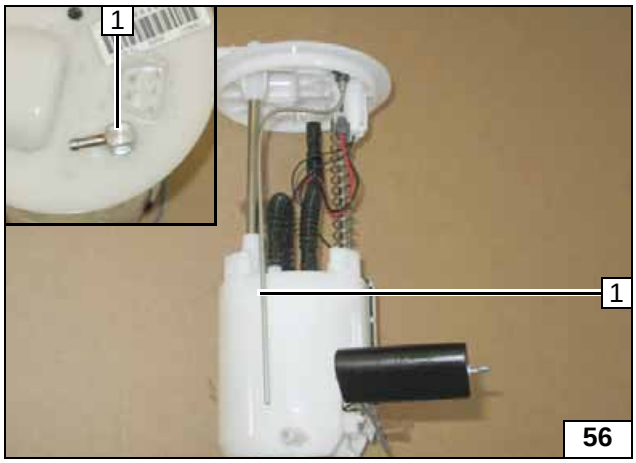


Diesel

Remove fuel tank sending unit **1** in accordance with manufacturer's instructions. Place washer with outer dia. d_a= 21.6mm **3** against the connector housing (see arrow).

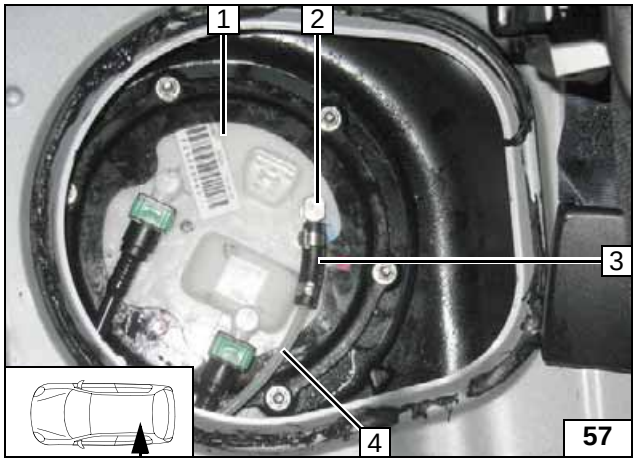
2 Copy hole pattern, 6mm dia. hole

Fuel extraction



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

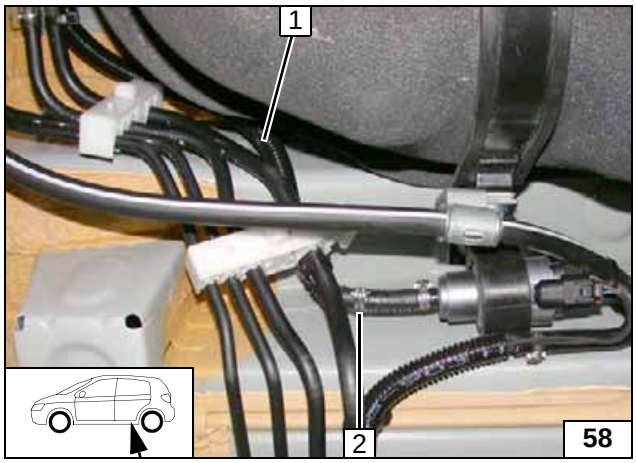
Installing fuel standpipe



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

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

Connecting fuel line



All vehicles

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

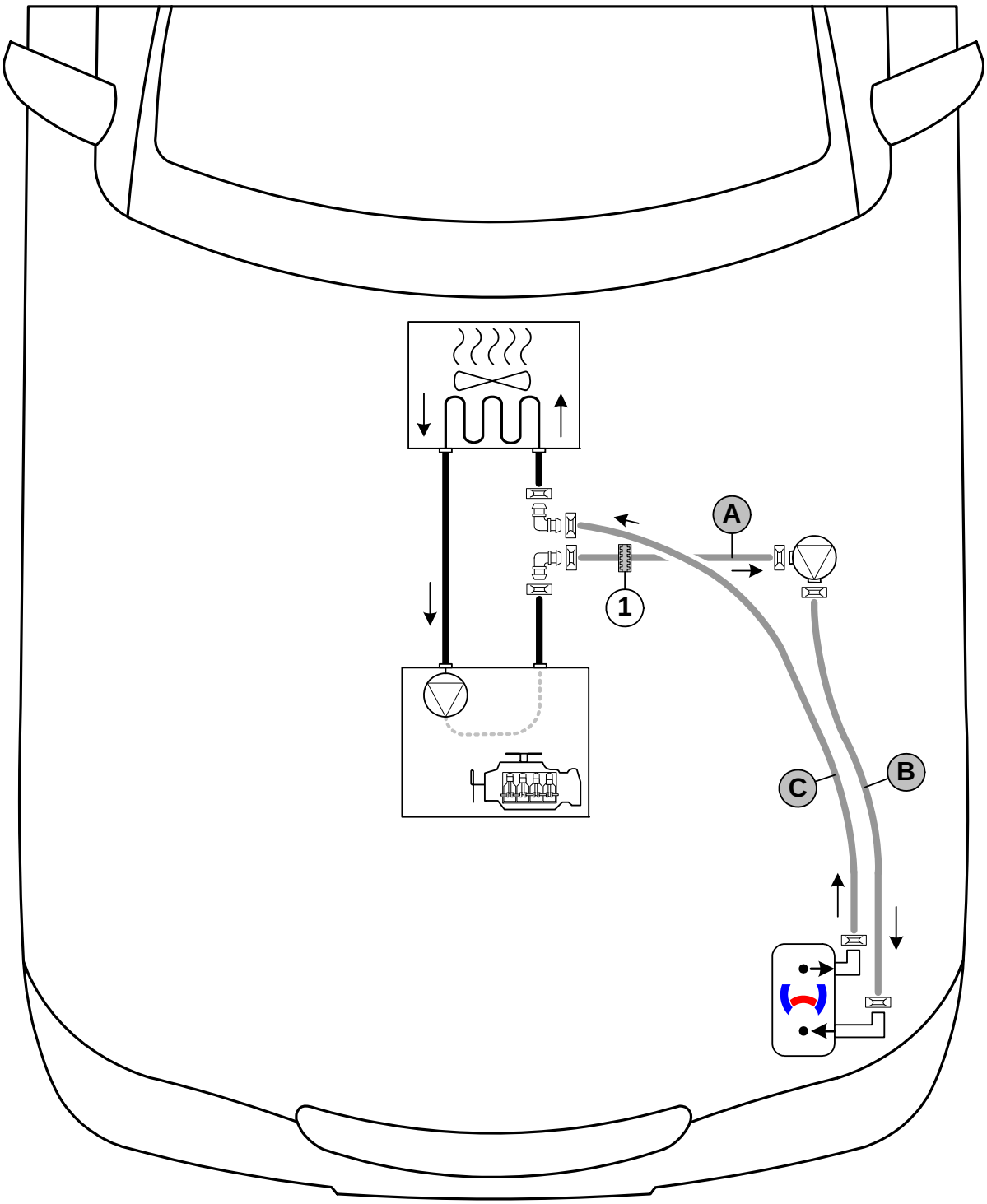
1 Fuel line of fuel standpipe in corrugated tube
2 10 mm dia. clamp [2x]

Connecting metering pump

Coolant Circuit for Petrol Vehicles

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

Hose routing diagram



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

Coolant Circuit for Diesel Vehicles

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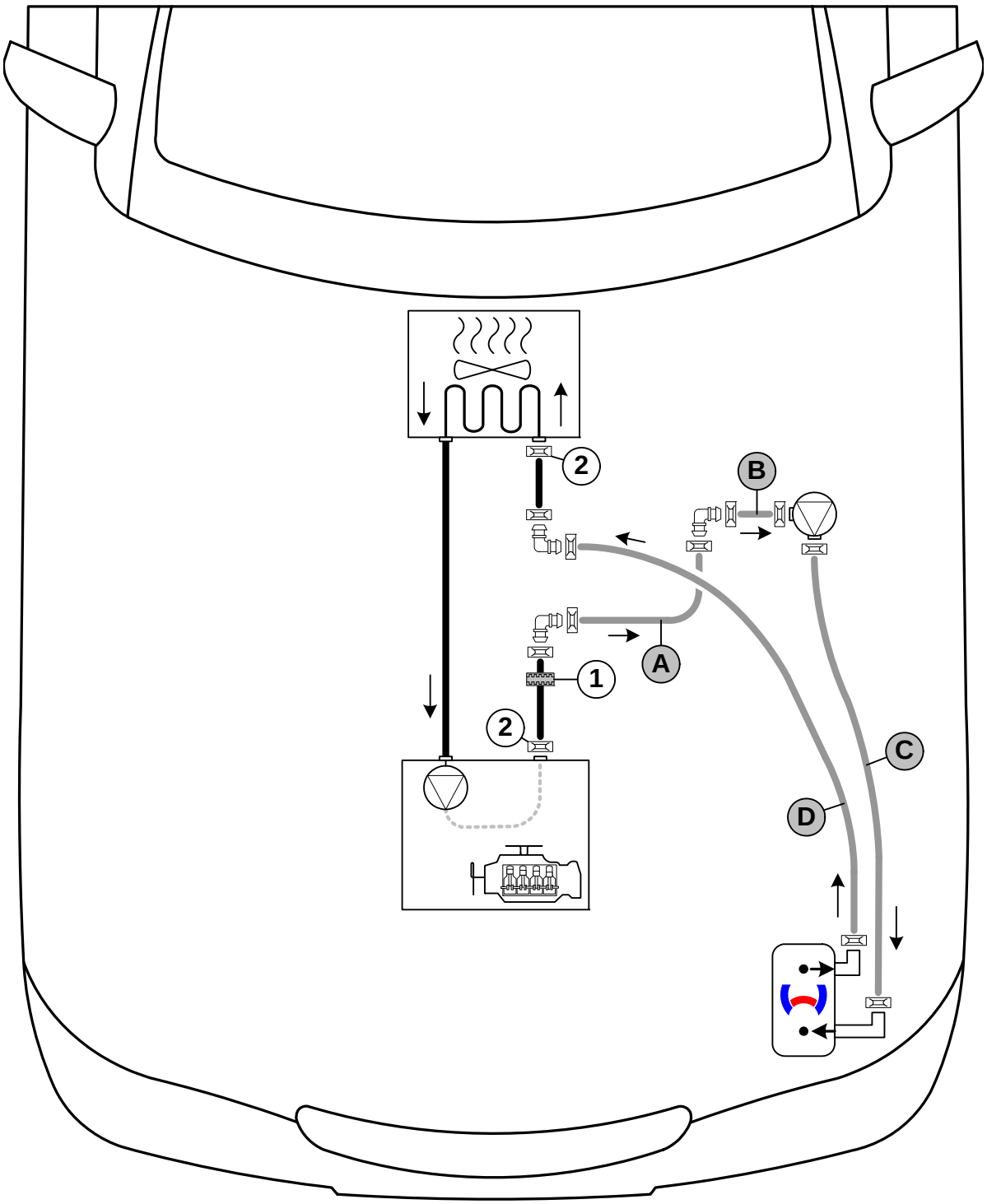
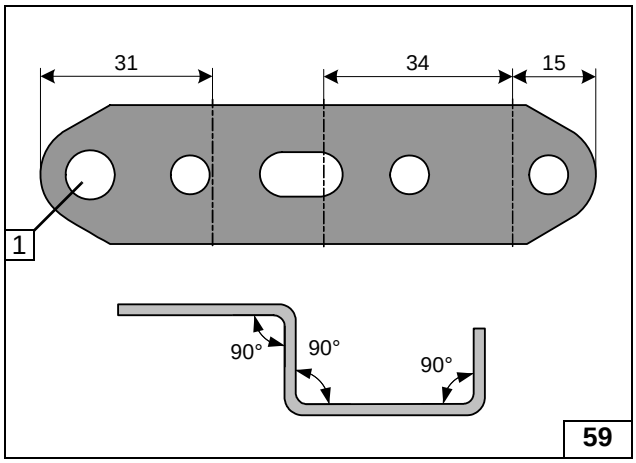
Hose routing diagram

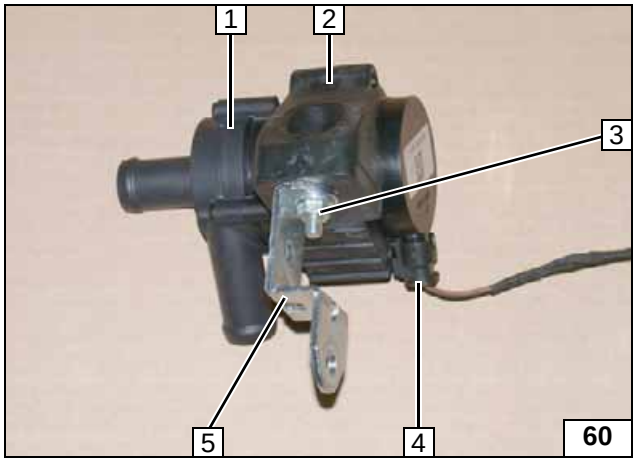


All spring clips without a specific designation = 25 mm dia. All connecting pipes = 18x18 mm dia.
1 = Black (sw) rubber isolator.
2 = Original vehicle spring clip.



1 Drill out hole to 8.5 mm dia.

Drilling and angling down perforated bracket



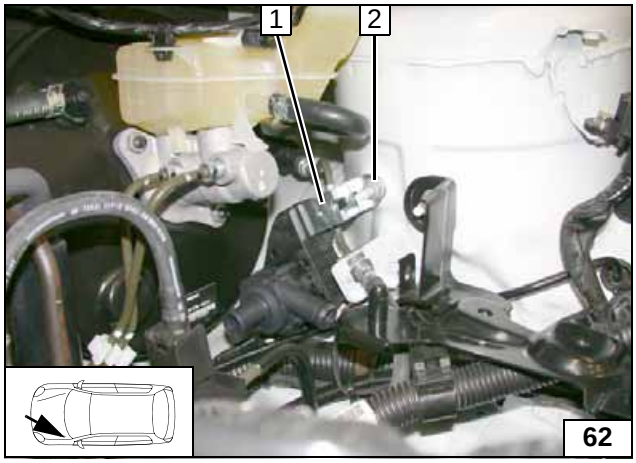
1 Circulating pump
2 Circulating pump mount
3 M6x25 bolt, flanged nut
4 Wiring harness of circulating pump
5 Perforated bracket

Premounting circulating pump

All vehicles up to model year 2015

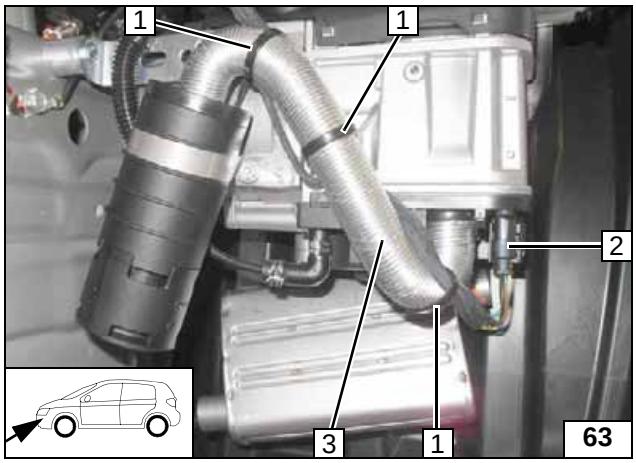
1 Original vehicle retaining clip removed

Removing clip



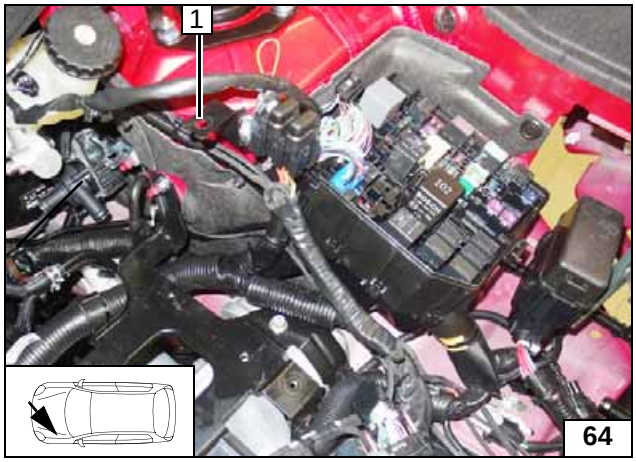
1 Perforated bracket
2 Original vehicle stud bolt, M8 flanged nut

Installing circulating pump



1 Cable tie
2 Wiring harness of circulating pump
3 Combustion air pipe

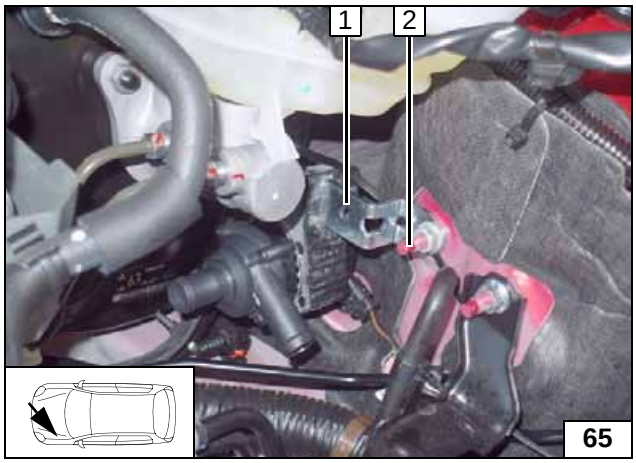
Installing wiring harness



From model year 2016 onwards

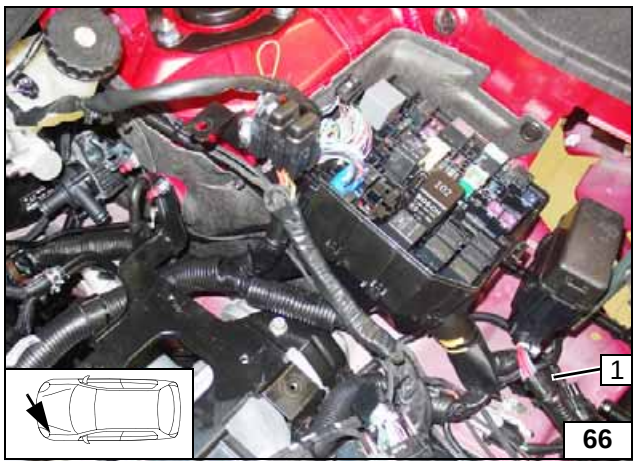
1 Original vehicle wiring harness with retaining clip, detached

Drilling and angling down perforated bracket



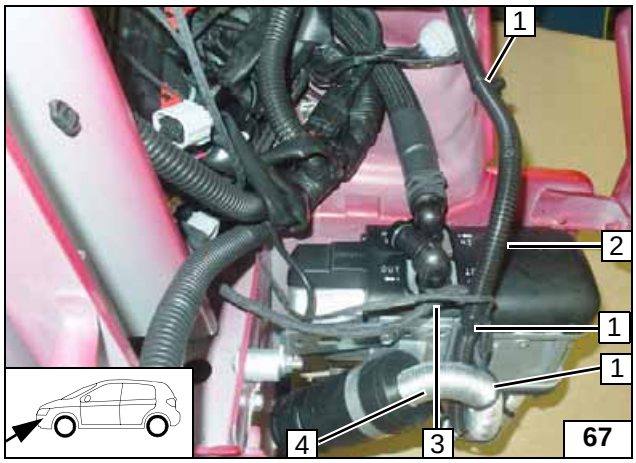
1 Perforated bracket
2 Original vehicle stud bolt, M8 flanged nut

Installing circulating pump



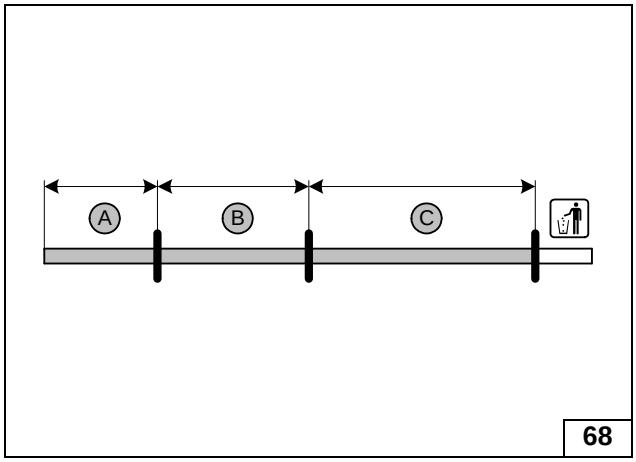
Detach original vehicle wiring harness **1** from bracket.

Detaching wiring harness



1 Cable tie
2 Fuel line of heater in corrugated tube
3 Wiring harnesses of heater and circulating pump
4 Combustion air pipe

Routing wiring harnesses

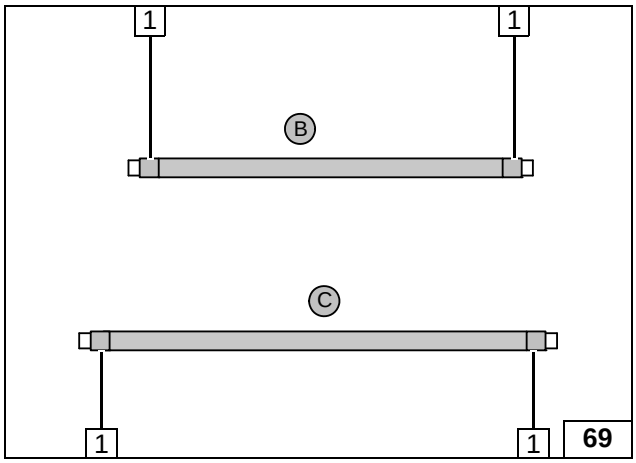


All vehicles

Petrol

A = 345
B = 655
C = 930

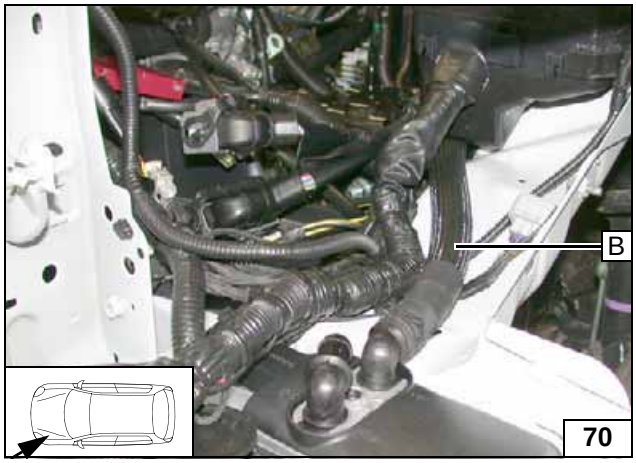
Cutting hoses to length



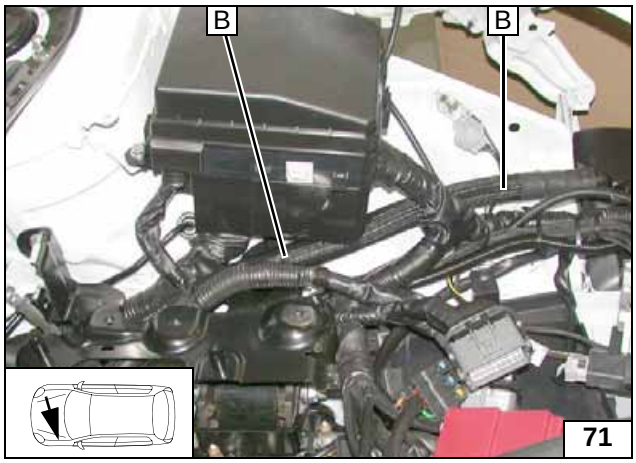
Push braided protection hoses onto hoses **B** and **C** and cut to length.
Cut heat shrink plastic tubing to size.

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

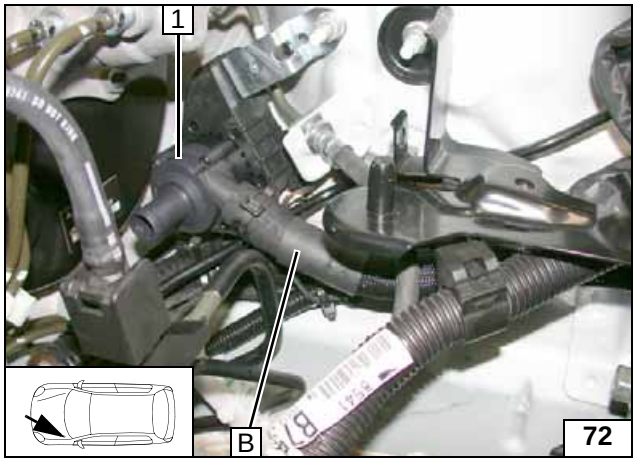
Preparing hoses



Connecting heater inlet

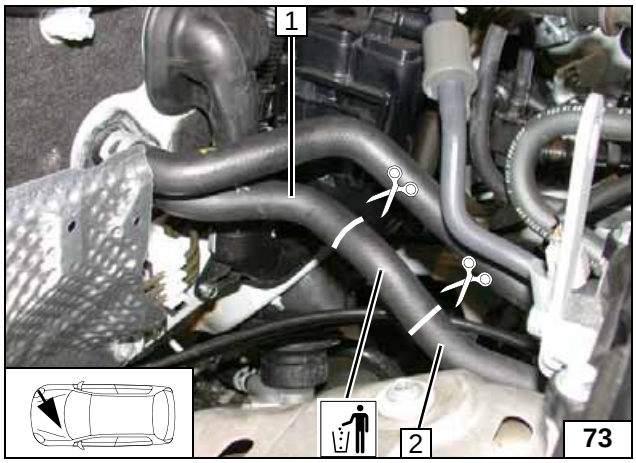


Routing in engine compartment



1 Circulating pump

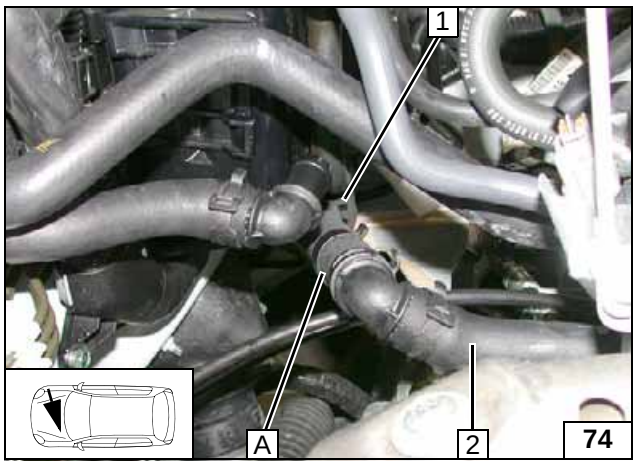
Connecting circulating pump



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

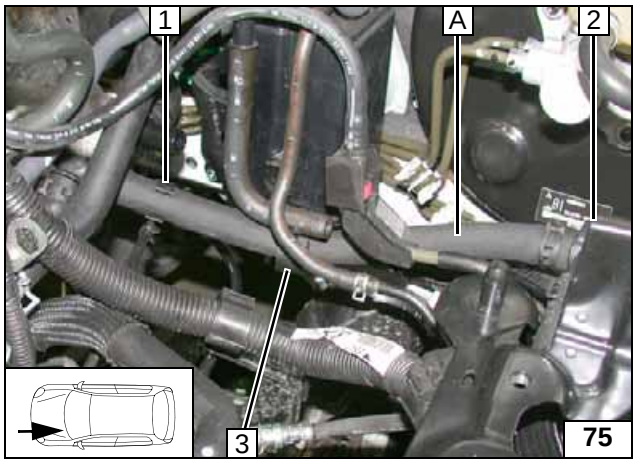
1 Hose section of heat exchanger inlet
2 Hose section of engine outlet

Cutting point



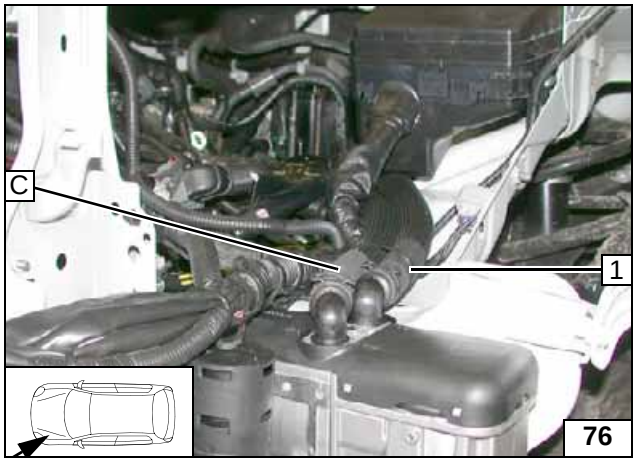
1 Slide on black (sw) rubber isolator
2 Hose of engine outlet

Connecting engine outlet



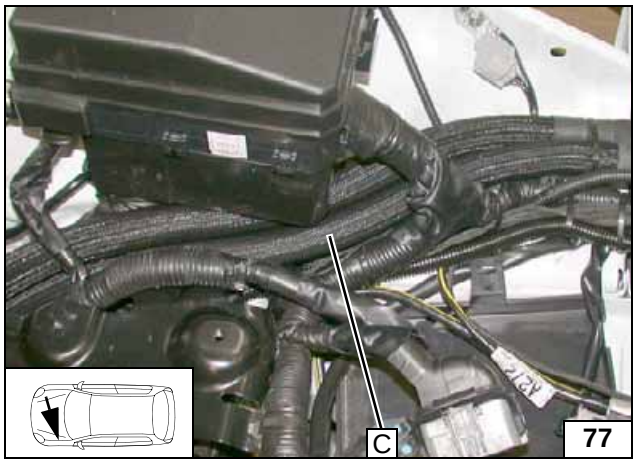
1 7.2x22-24 hose bracket on original vehicle line
2 Circulating pump
3 Position black (sw) rubber isolator

Connecting circulating pump

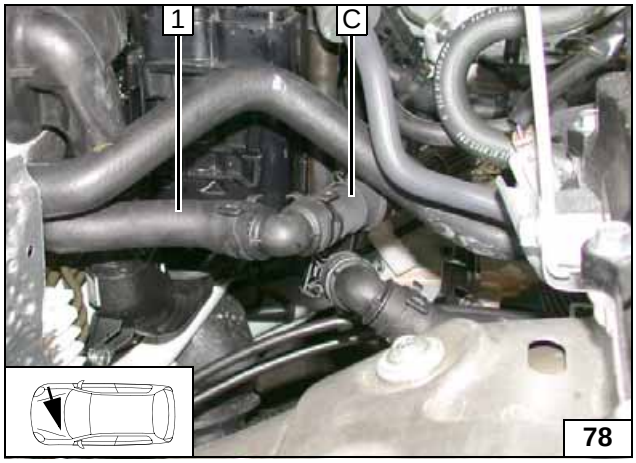


1 Cable tie

Connecting heater outlet

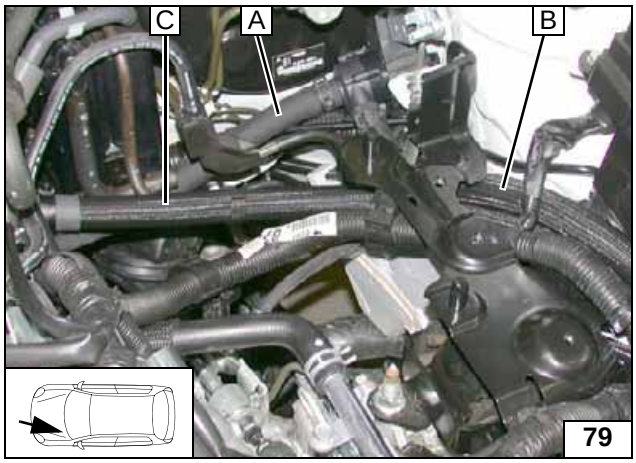


Routing in engine compartment

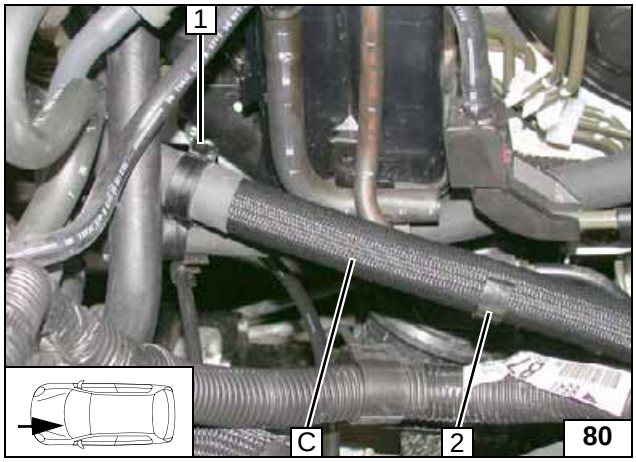


1 Hose of heat exchanger inlet

Connecting heat exchanger inlet

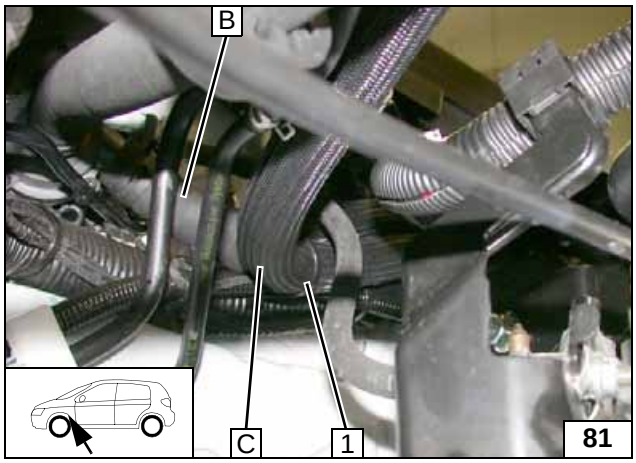


Routing in engine compartment



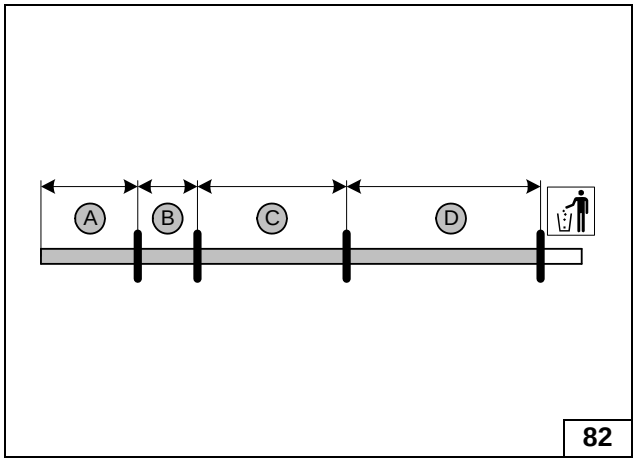
1 25x25 hose bracket between hoses **A** and **C**
2 7.2x22-24 hose bracket between original vehicle fuel line and hose **C**

Routing in engine compartment



Align hoses **B** and **C** and fix with cable tie **1**. Ensure sufficient distance from adjacent components, correct if necessary.

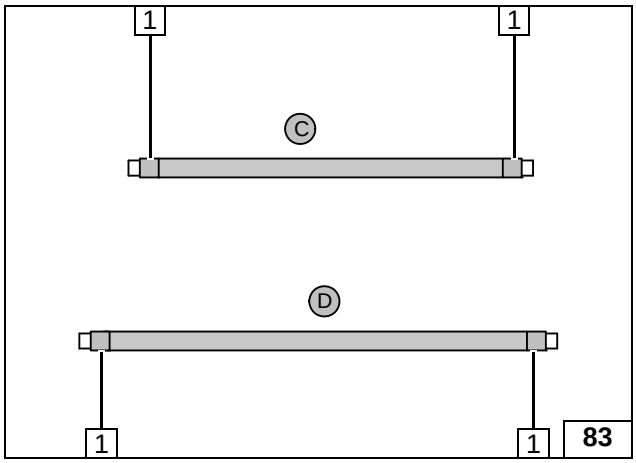
Routing in engine compartment



Diesel

	Model year	
	Up to 2015	**From 2016**
A	220	220
B	60	60
C	655	670
D	850	860

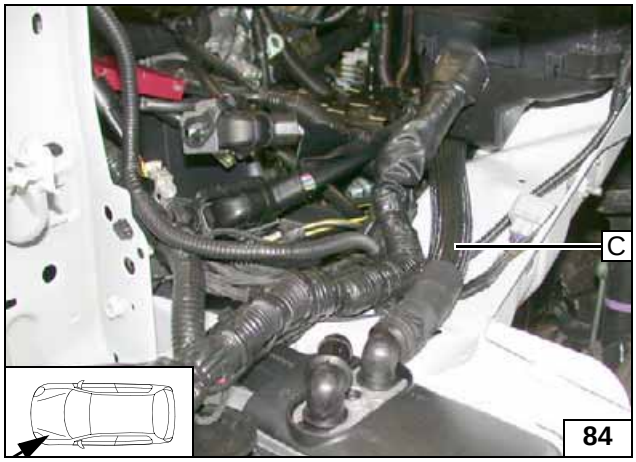
Cutting hoses to length



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

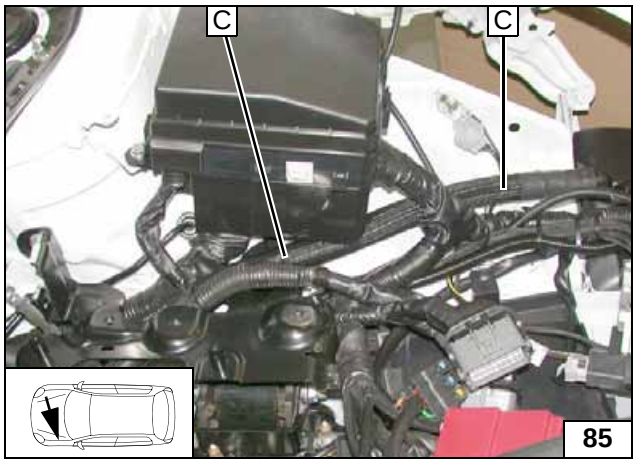
1 50 mm long heat shrink plastic tubing [4x]

Preparing hoses

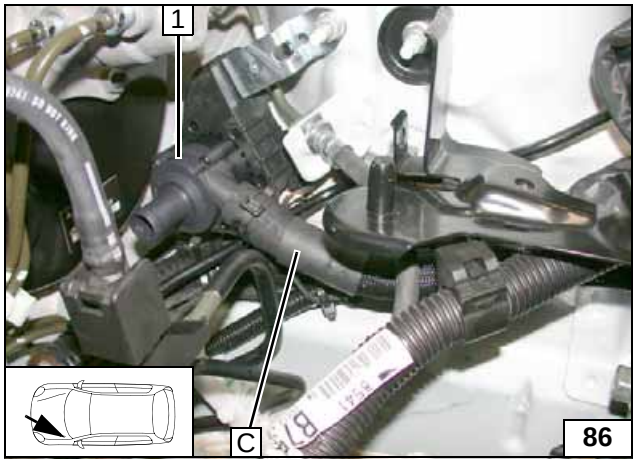


Up to model 2015

Connecting heater inlet

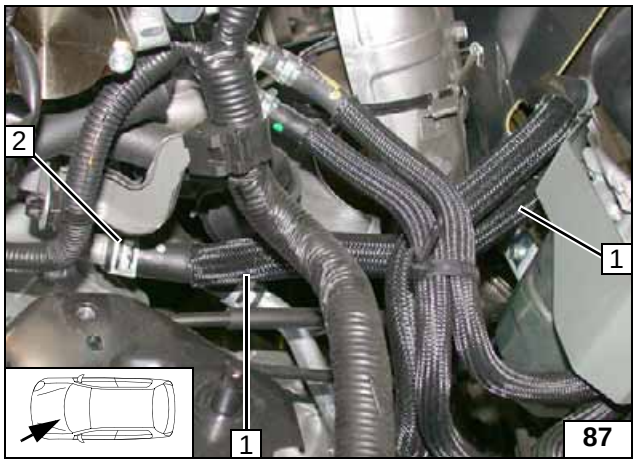


Routing in engine compartment



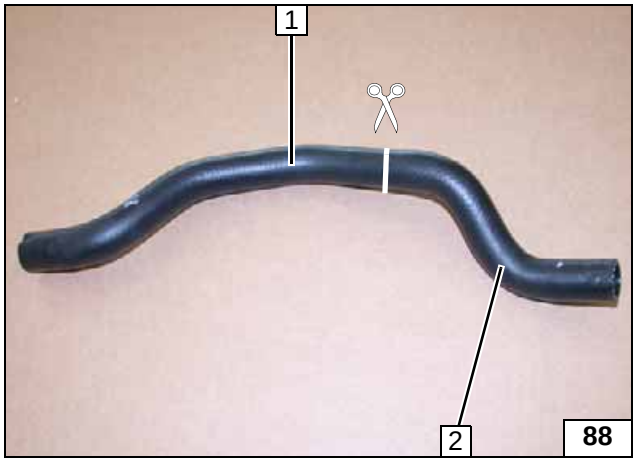
1 Circulating pump

Connecting circulating pump



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

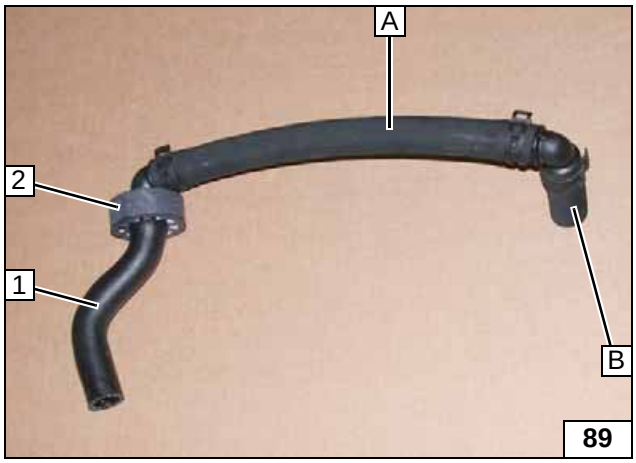
Cutting point



Remove braided protection hose.

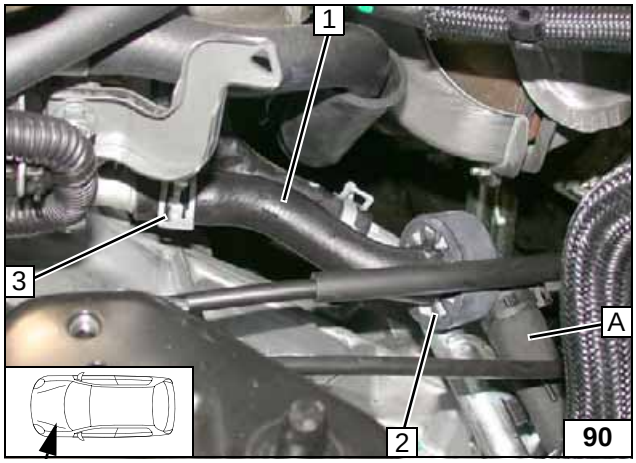
1 Hose section of heat exchanger inlet
2 Hose section of engine outlet

Cutting point



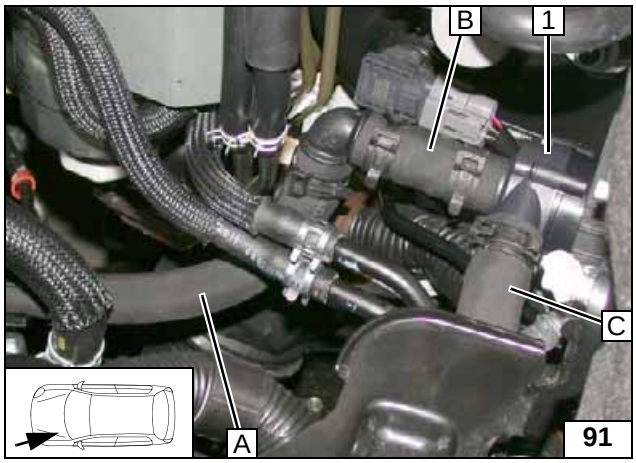
1 Hose section of engine outlet
2 Slide on black (sw) rubber isolator

Premounting hoses



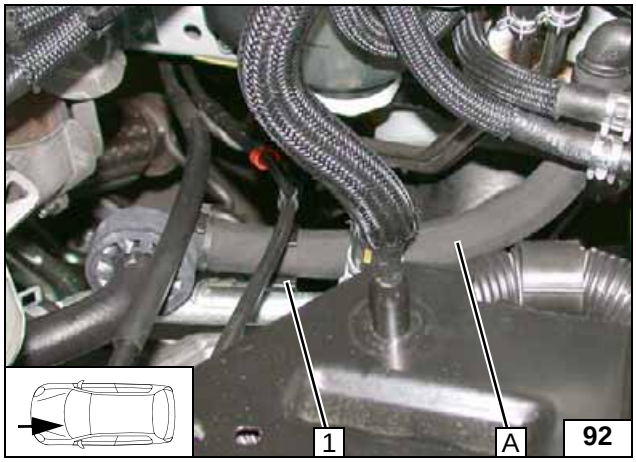
1 Hose section of engine outlet
2 Position black (sw) rubber isolator
3 Original vehicle spring clip

Connecting engine outlet



1 Circulating pump

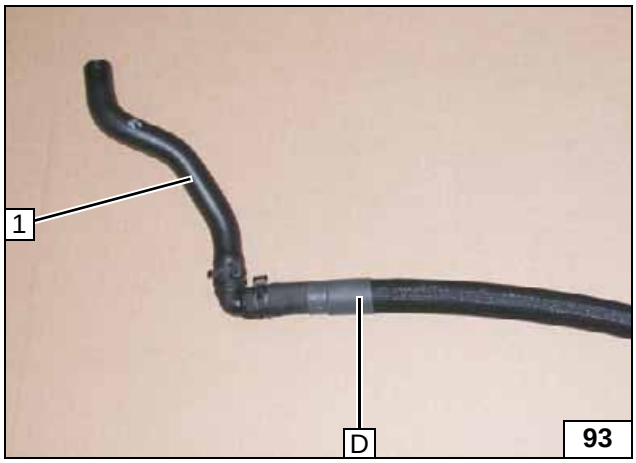
Connecting circulating pump



Mount hose bracket **1** only in case of vehicles with manual transmission.

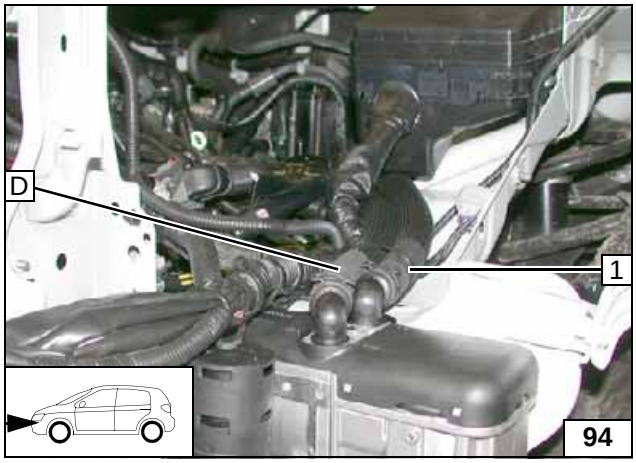
1 7.2x22-24 hose bracket between original vehicle line and hose **A**

Routing in engine compartment



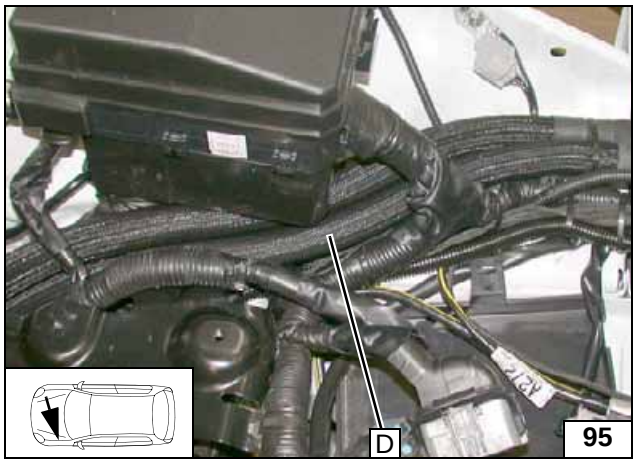
1 Hose section of heat exchanger inlet

Premounting hoses

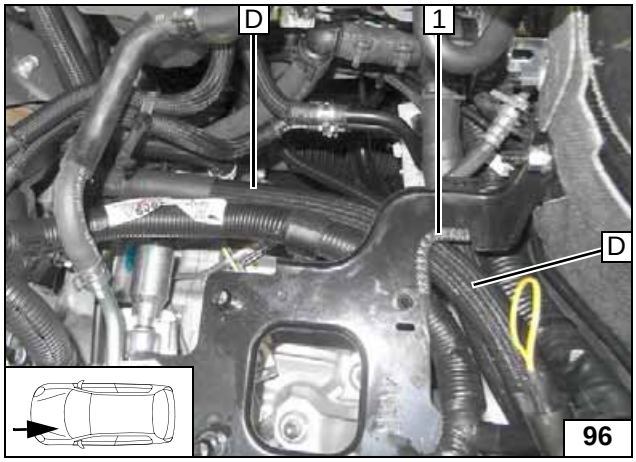


1 Cable tie

Connecting heater outlet

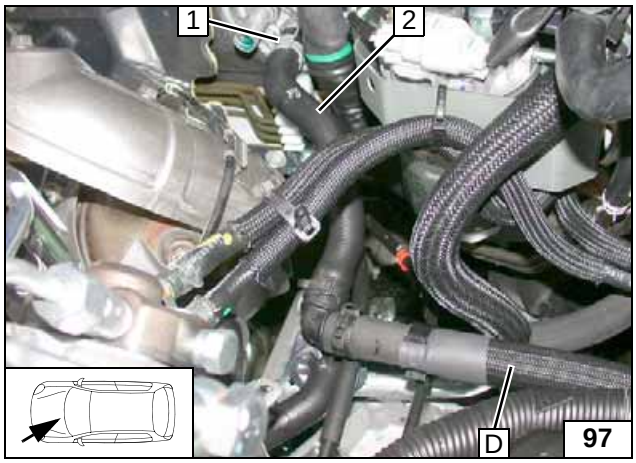


Routing in engine compartment



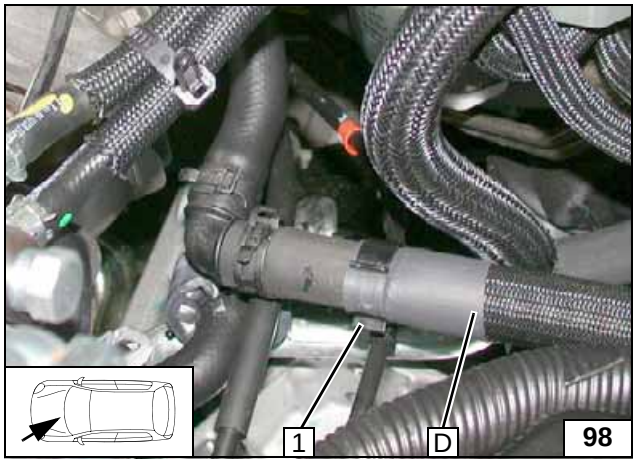
1 Install 50mm edge protection

Routing in engine compartment



1 Original vehicle spring clip
2 Hose of heat exchanger inlet

Connecting heat exchanger inlet



Mount hose bracket **1** only in case of vehicles with manual transmission.

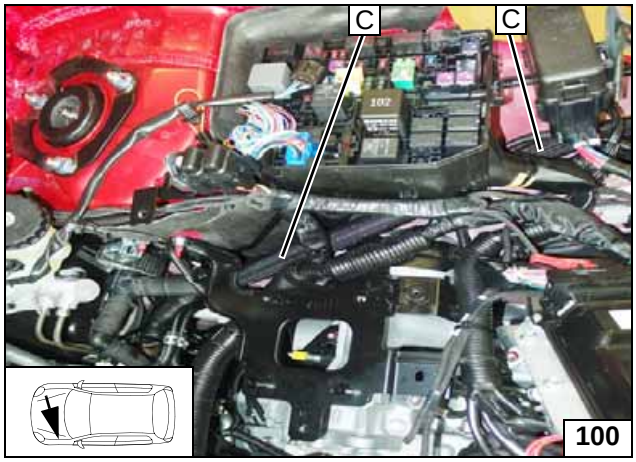
1 7.2x22-24 hose bracket on original vehicle line

Routing in engine compartment

From model year 2016 onwards

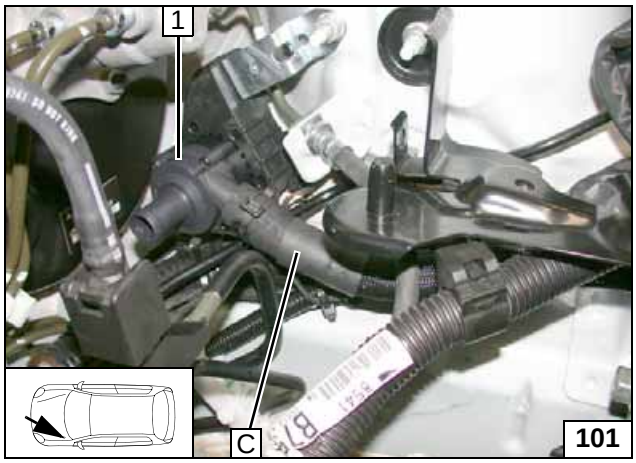
Connecting heater inlet

Routing in engine compartment



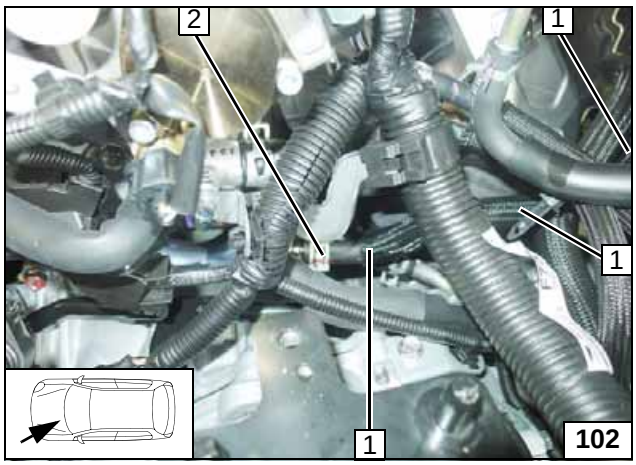
1 Circulating pump

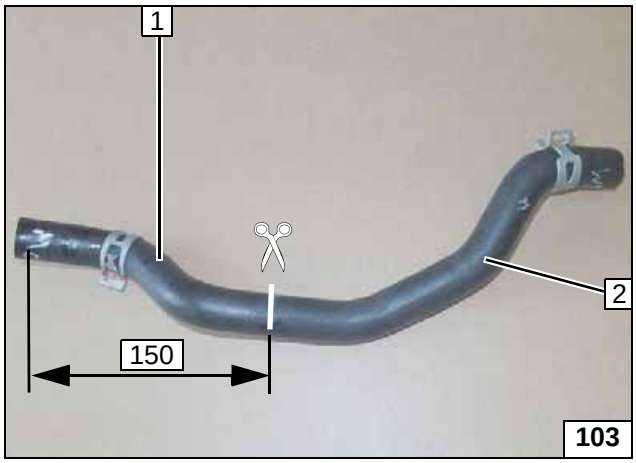
Connecting circulating pump



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

Cutting point

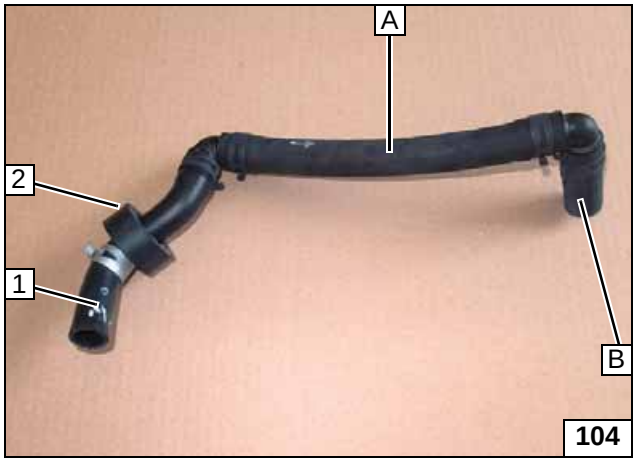




Remove braided protection hose.

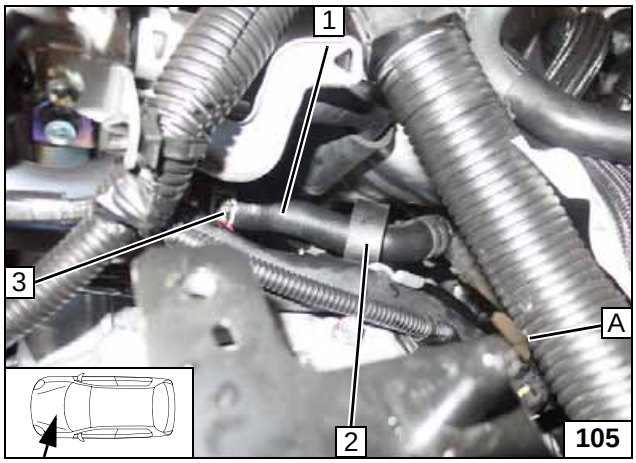
1 Hose section of engine outlet
2 Hose section of heat exchanger inlet

Cutting point



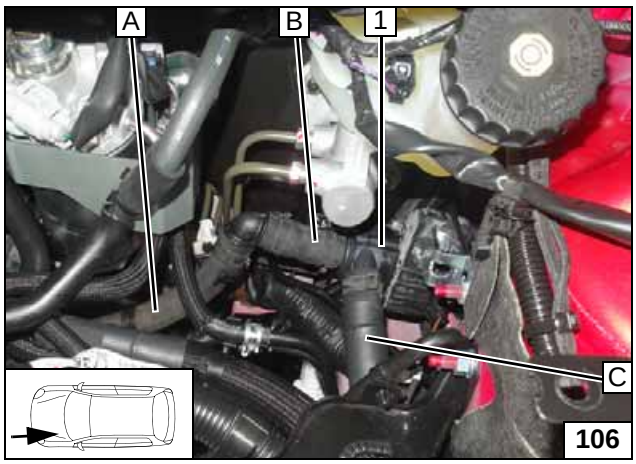
1 Hose section of engine outlet
2 Slide on black (sw) rubber isolator

Premounting hoses



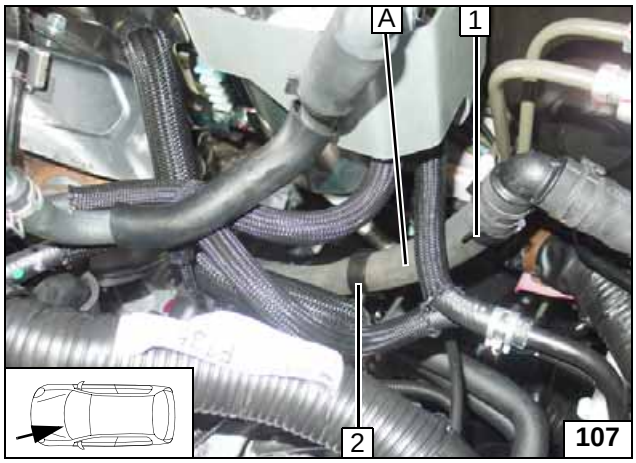
1 Hose section of engine outlet
2 Position black (sw) rubber isolator
3 Original vehicle spring clip

Connecting engine outlet



1 Circulating pump

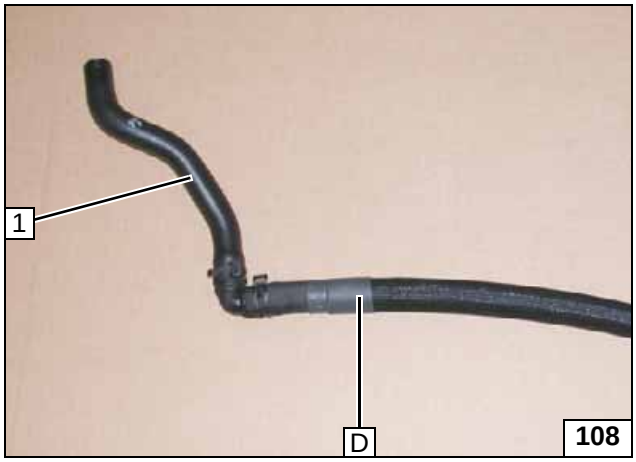
Connecting circulating pump



Mount hose bracket **1** only in case of vehicles with manual transmission.

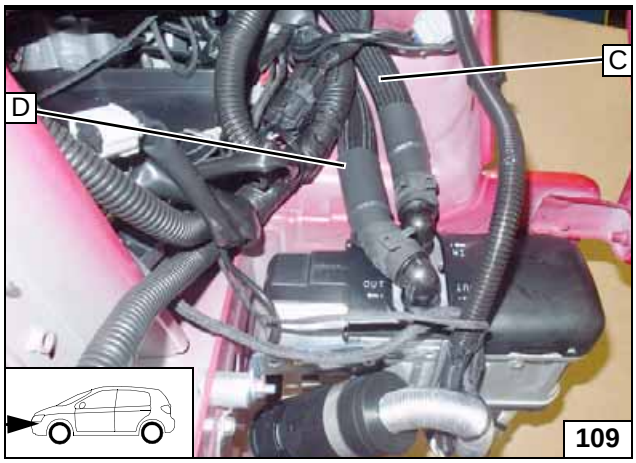
1 8x23 hose bracket between original vehicle line and hose **A**
2 25x25 hose bracket between original vehicle hose and hose **A**

Routing in engine compartment



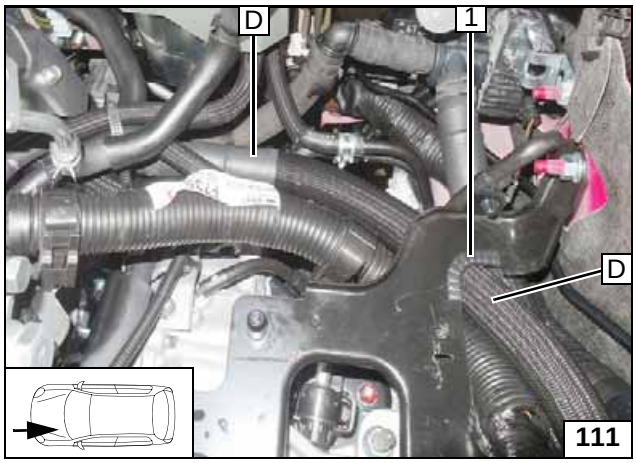
1 Hose section of heat exchanger inlet

Premounting hoses



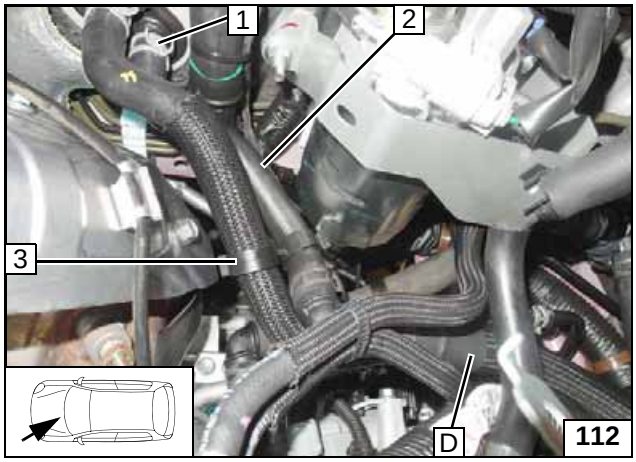
Connecting heater outlet

Routing in engine compartment



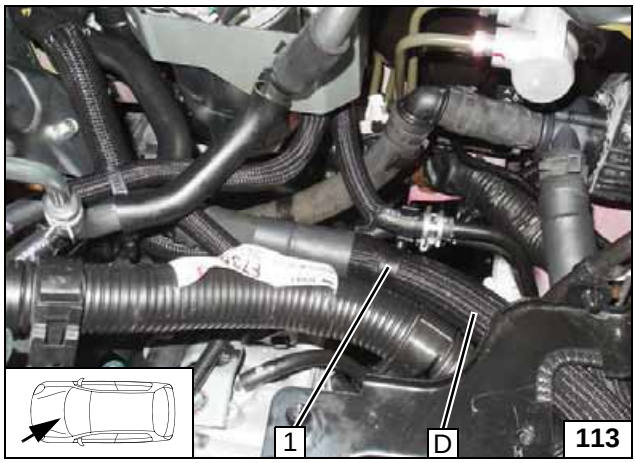
1 Install 50mm edge protection

Routing in engine compartment



1 Original vehicle spring clip
2 Hose section of heat exchanger inlet
3 25x25mm hose bracket

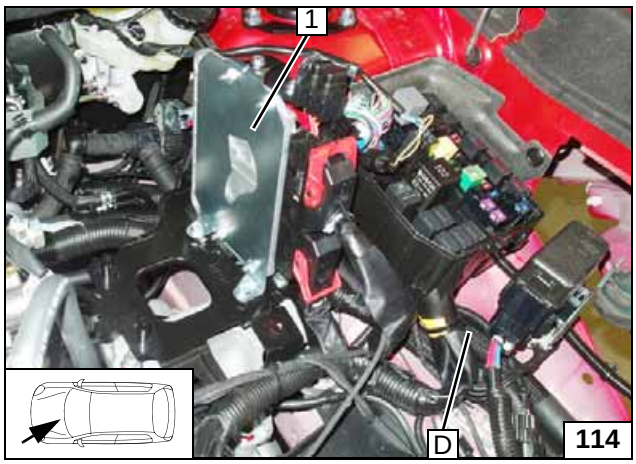
Connecting heat exchanger inlet



Mount hose bracket **1** only in case of vehicles with manual transmission.

1 13x22-24 hose bracket on original vehicle line

Routing in engine compartment

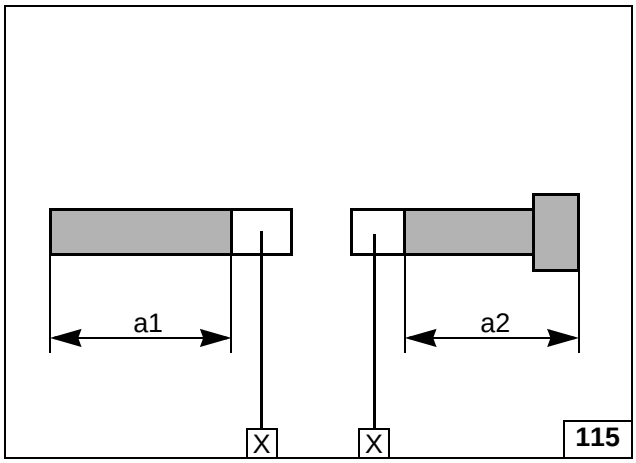


Ensure freedom of movement for the routed hoses!

1 Control unit

Installing control unit

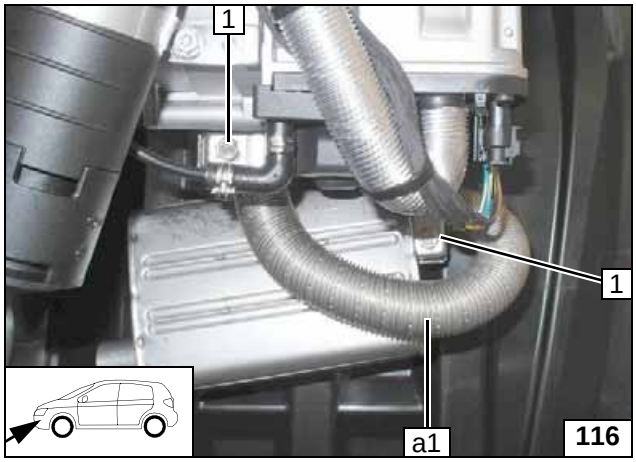
Exhaust Gas



	Model year	
	Up to 2015	From 2016
a1	240	240
a2	220	210

X = 

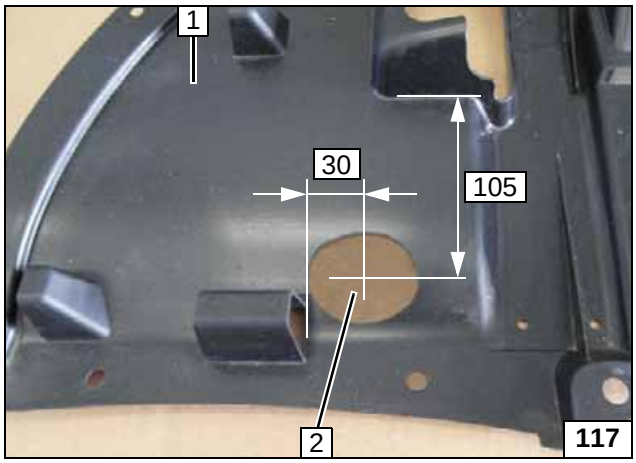
Preparing exhaust pipe



1 Hose clamp [2x]
2 Exhaust pipe

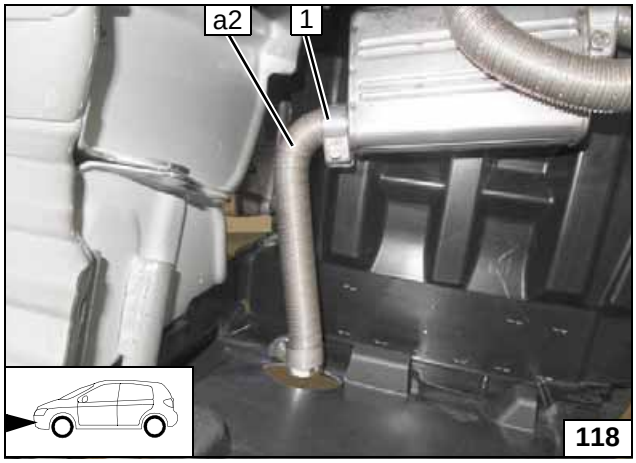
Installing exhaust pipe a1

Up to model 2015



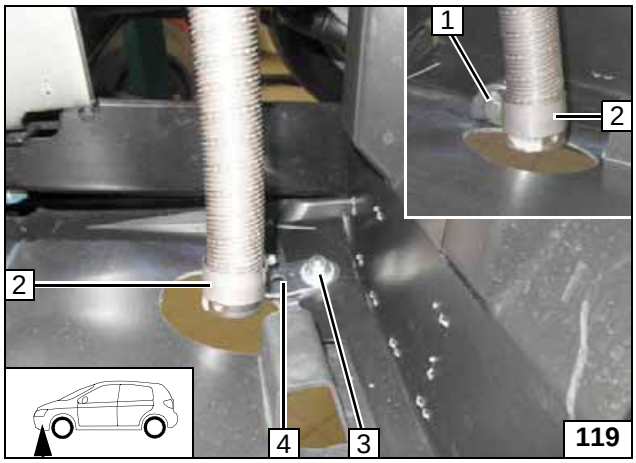
1 Underride protection
2 60 mm dia. hole

Cutting out underride protection



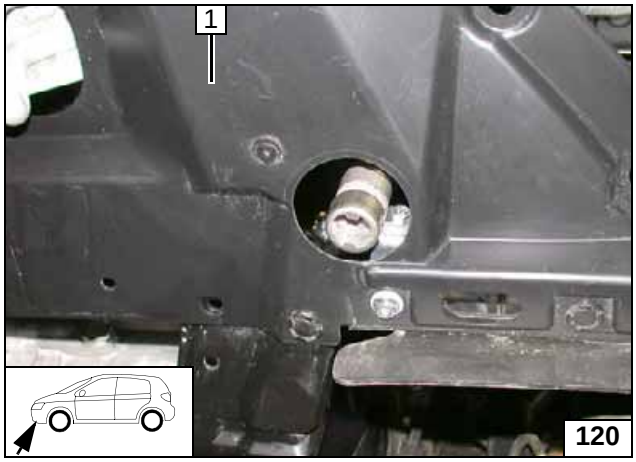
1 Hose clamp

Installing exhaust pipe a2



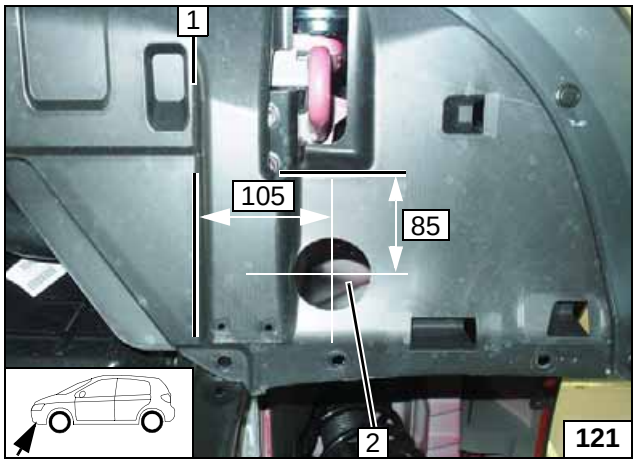
1 M6x20 bolt, flanged nut
2 P-clamp
3 M6x20 bolt, large diameter washer, flanged nut
4 Angle bracket

Fastening exhaust pipe a2



Align exhaust pipe **a2** with the centre of the hole and flush with underride protection **1**. Ensure sufficient distance from adjacent components, correct if necessary.

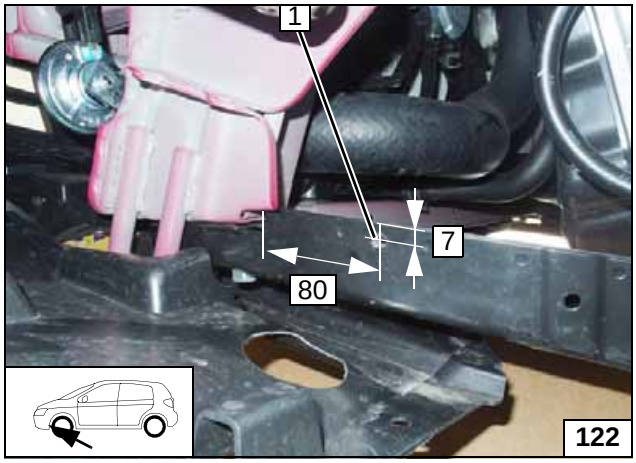
Aligning exhaust pipe a2



From model year 2016 onwards

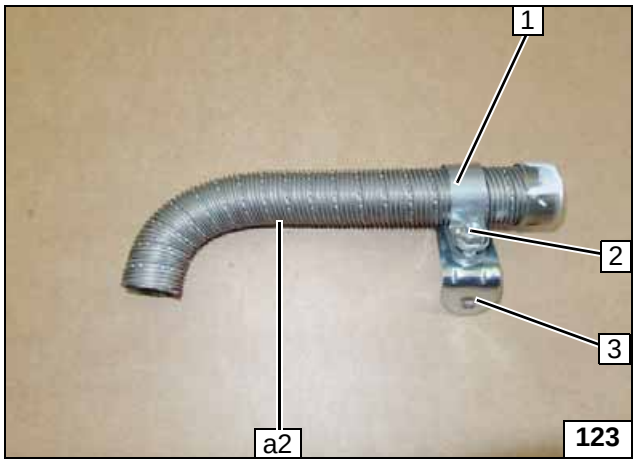
1 Underride protection
2 60 mm dia. hole

Cutting out underride protection



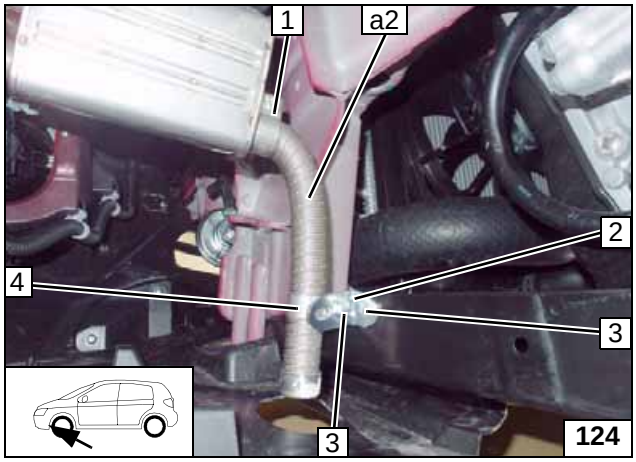
1 7 mm dia. hole

Hole for angle bracket



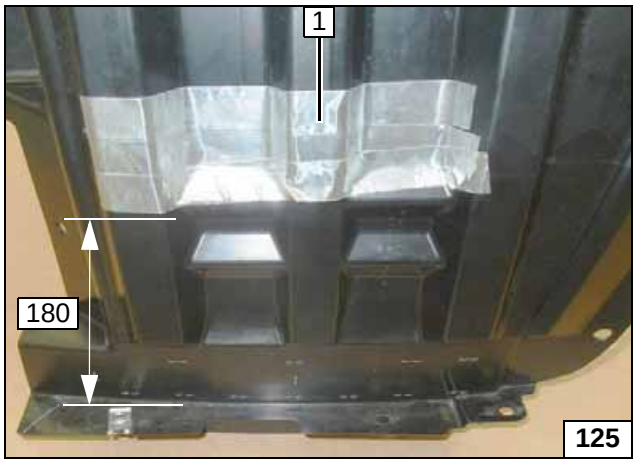
1 P-clamp
2 M6x20 bolt, flanged nut
3 Angle bracket

Preparing exhaust pipe a2



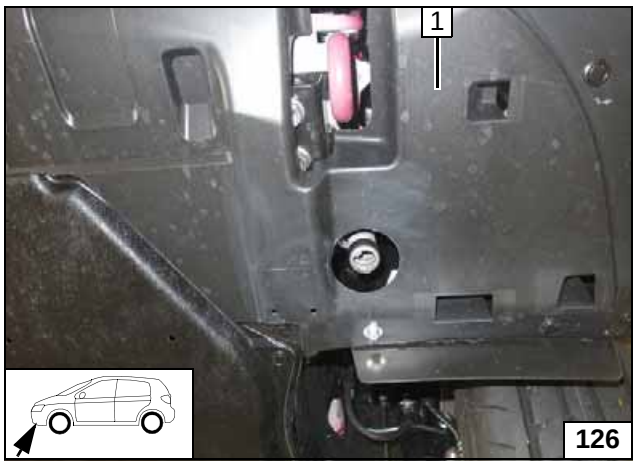
1 Hose clamp
2 Angle bracket
3 M6x20 bolt, flanged nut [2x each]
4 P-clamp

Installing exhaust pipe a2



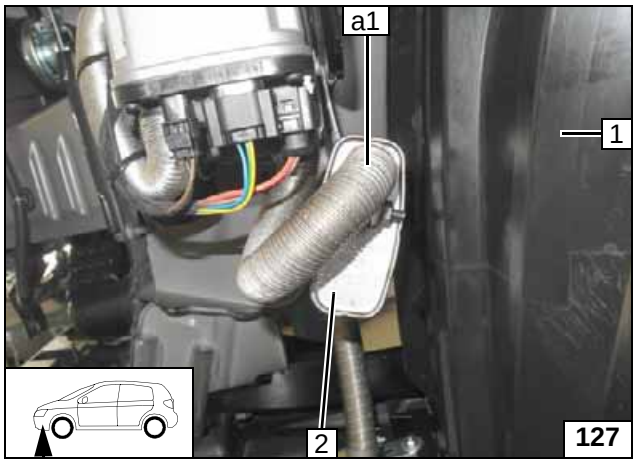
1 Stick heat protection film on the inside of the wheel-well inner panel

Affixing heat protection film



Align exhaust pipe **a2** with the centre of the hole and flush with underride protection **1**. Ensure sufficient distance from adjacent components, correct if necessary.

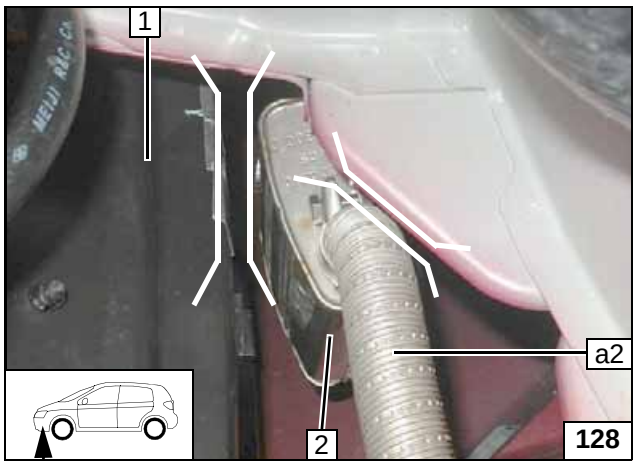
Aligning exhaust pipe a2



Up to model 2015

Ensure sufficient distance (at least 20mm) from exhaust pipe **a1** and exhaust silencer **2** to wheel-well inner panel **1**, correct if necessary.

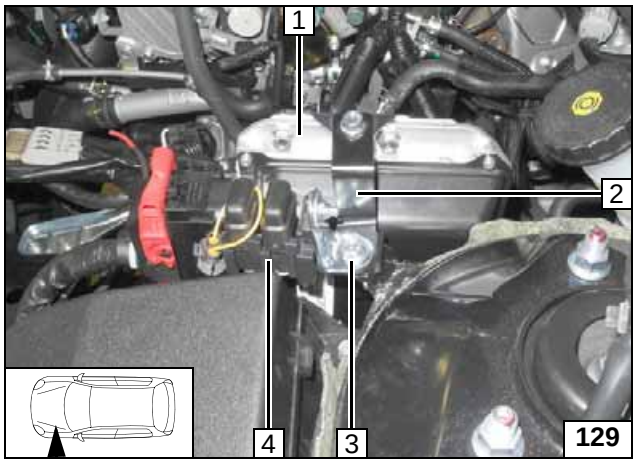
Checking distance



From model year 2016 onwards

Ensure sufficient distance between exhaust pipe **a2** and frame side member as well as between exhaust silencer **2** and wheel-well inner panel **1**, correct if necessary.

Checking distance



Final Work

All vehicles

1 Install and complete control unit
2 Control unit bracket
3 Original vehicle bolt
4 Engine compartment fuse holder

Installing control unit and fuse holder of engine compartment

WARNING!
Reassemble the components in reverse order. Check all hoses, clamps and all electrical connections for firm seating. Insulate and tie back all loose lines.
Only use manufacturer-approved coolant. Spray the heater components with anti-corrosion wax (Tectyl 100K).

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

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Technical Extranet:
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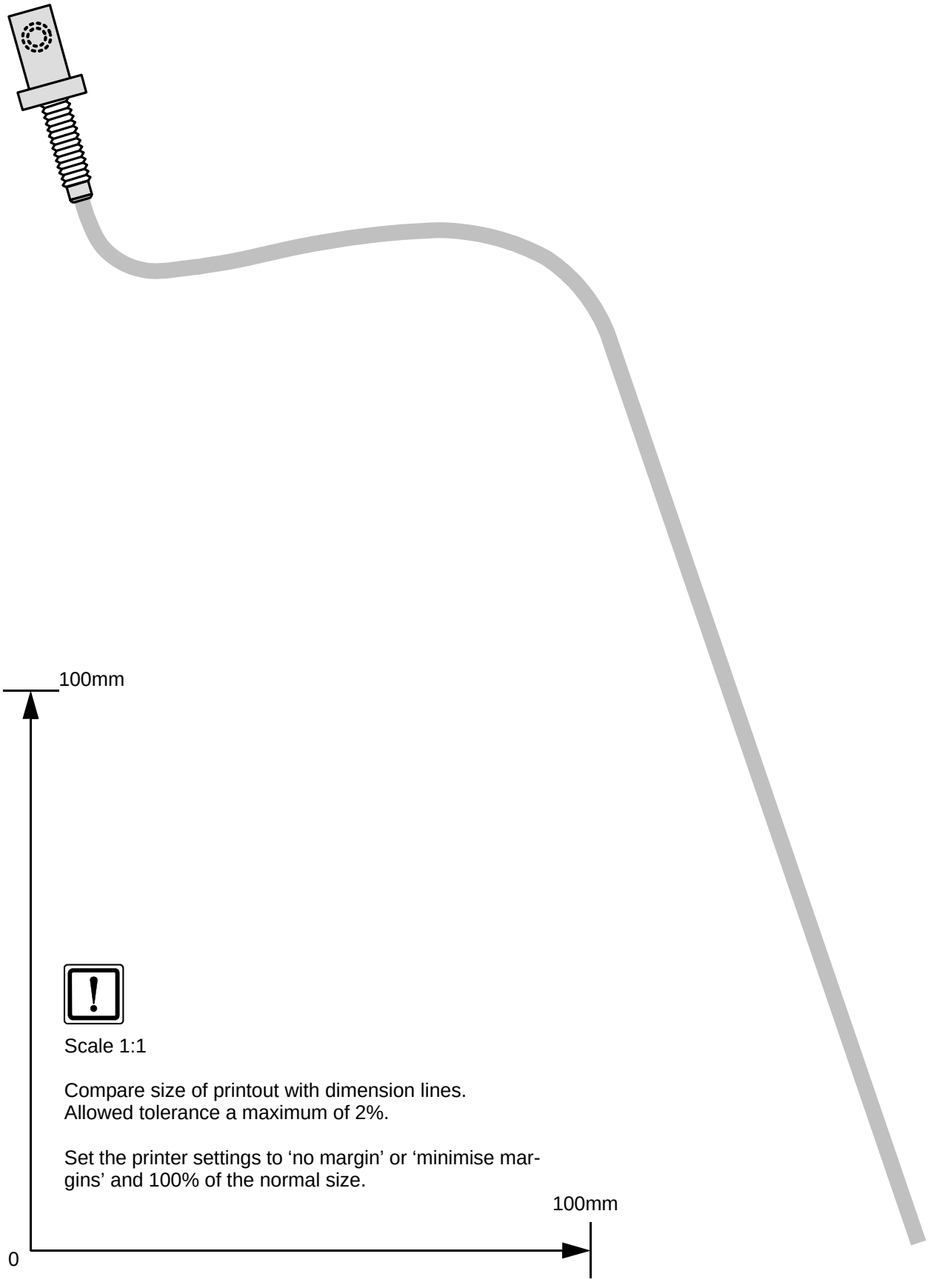
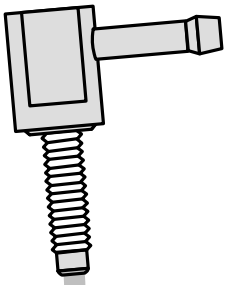
Fuel Standpipe Template for Petrol Vehicles



Fuel Standpipe Template for Diesel Vehicles



100mm

Scale 1:1

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

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

100mm

0

Webasto
Feel the Drive

Operating Instructions for Automatic A/C up to MY 2015

Please remove page and add to the vehicle operating instructions.

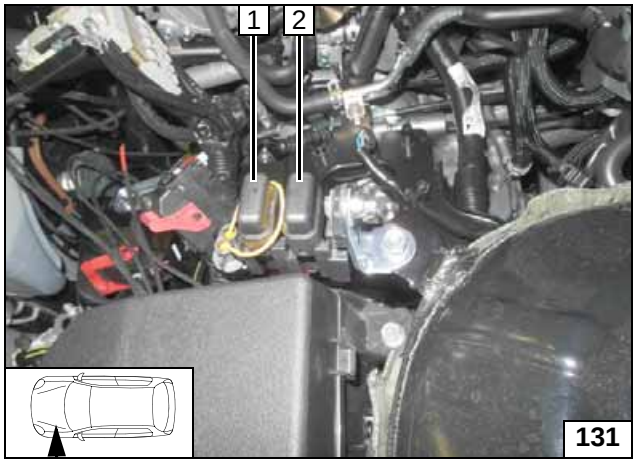
Note:
We recommend matching the heating time to the driving time.
Heating time = driving time
Example:
For a driving time of approx. 20 min. (in one direction), we recommend not exceeding a switch-on time of 20 min.

If vehicles have passenger compartment monitoring this must be deactivated in addition to the vehicle settings for the heating operation.
For instructions on deactivation, please refer to the operating instructions of the vehicle.

Before parking the vehicle, make the following settings:

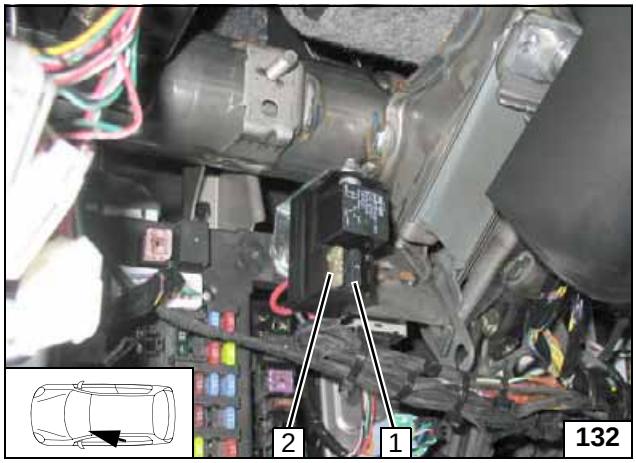
1 Set temperature on both sides to ‘29°C’
2 Air outlet to windscreen

A/C control panel



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

Engine compartment fuses



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

Passenger compartment fuses

Operating Instructions for Automatic A/C from MY 2016

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.

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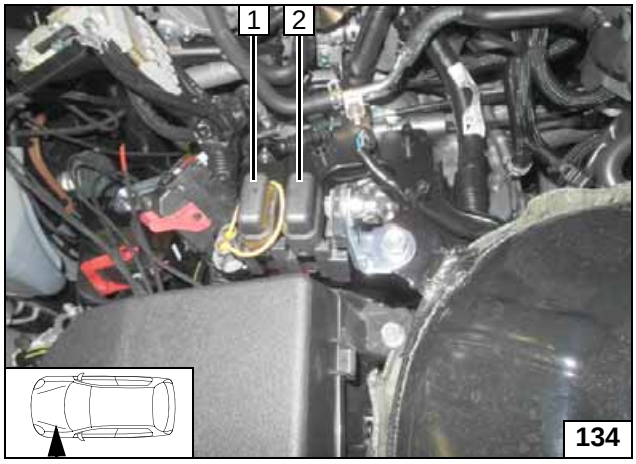
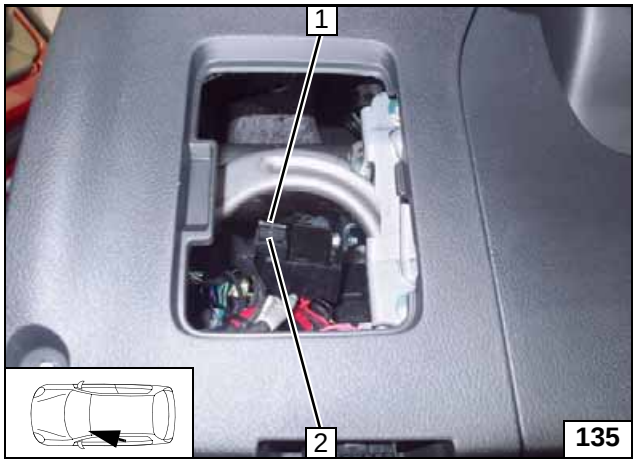
A/C control panel



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

Engine compartment fuses



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

Passenger compartment fuses