



Water Heater

Thermo Top Evo Parking Heater



Installation Documentation Kia Rio

Validity

Manufacturer	Model	Type	Model year	EG BE No. / ABE
Kia	Rio	YB	From model year 2017	e11 * 2007 / 46 * 3777 * ...

Motorisation	Fuel	Emission standard	Transmission type	Output in kW	Displacement in cm ³	Engine code
1.0 T-GDi	Petrol	Euro 6	6-speed SG	88	998	G3LC
1.4 MPi	Petrol	Euro 6	6-speed SG	73	1368	G4LC

SG = manual transmission

Left-hand drive vehicle

Verified equipment variants: Automatic air-conditioning
Halogen main headlights
LED daytime running lights
Static cornering light
Halogen front fog lights
Start button with keycard
Automatic Start / Stop system

Not verified: Manual air-conditioning
Alarm system

Total installation time: approx. 8 hours

Kia Rio

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Necessary Components

Designation	Order No.:
Basic delivery scope of Thermo Top Evo	In accordance with price list
Installation kit Kia Rio 2017 1.0 _1.4 Petrol	1325794A
In case of Telestart, heater control, as well as indicator lamp in consultation with end customer	In accordance with price list
When installing MultiControl CAR – MultiControl installation frame	9030077_

Webasto Individual Option

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

Installation Instructions

Arrange for the vehicle to be delivered with the tank only about ¼ full.

The installation location of the push button in case of Telestart or ThermoCall should be confirmed with the end customer.

Depending on the space required and the vehicle manufacturer's instructions, we recommend the use of a vehicle battery with a higher electrical capacity.

Information on Total Installation Time

The total installation time includes the time needed for mounting and demounting the vehicle-specific components, the heater specific installation time and all other times required for the system integration and initial start-up of the heater.

The total installation time may vary for vehicle equipment other than provided.

Information on Operating and Installation Instructions

1 Important information (not complete)

1.1 Installation and repair



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



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



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

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

1.2 Operation

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

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

Always switch off the heater before refuelling.

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

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

1.3 Please note

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

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

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

Important

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

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

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

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

Information on Validity

This installation documentation applies to Kia Rio Petrol vehicles - for validity, see page 1 - from model year 2017 and later, assuming technical modifications to the vehicle do not affect installation, any liability claims excluded. Depending on the vehicle version and equipment, modifications may be necessary during installation with respect to this 'installation documentation'.

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

Technical Information

Special Tools

- Hose clamp pliers for auto-tightening hose clamps
- Hose clamp pliers for Clic hose clamps of type W
- Automatic wire stripper 0.2 - 6mm²
- Crimping pliers for cable lug / tab connector 0.5 - 6mm²
- Torque wrench for 2.0 - 10 Nm
- Hose clamping pliers
- Metric thread-setter kit
- Deep-hole marker
- Webasto Thermo Test Diagnosis with current software

Dimensions

- All dimensions are in mm.

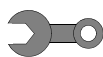
Tightening torque values

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

Explanatory Notes on Document

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

Mechanics



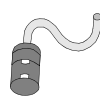
Electrics



Coolant Circuit



Combustion Air



Fuel



Exhaust Gas



Software



Special features are highlighted using the following symbols:

Specific risk of damage to components.



Reference to manufacturer's vehicle-specific documents



Specific risk due to electrical voltage.



Reference to installation instructions of Webasto components (shown for example on FuelFix).



Specific risk of fire or explosion.



Reference to general installation instructions of Webasto components.



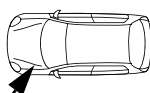
Reference to a special technical feature.



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



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



Preliminary Work

Vehicle

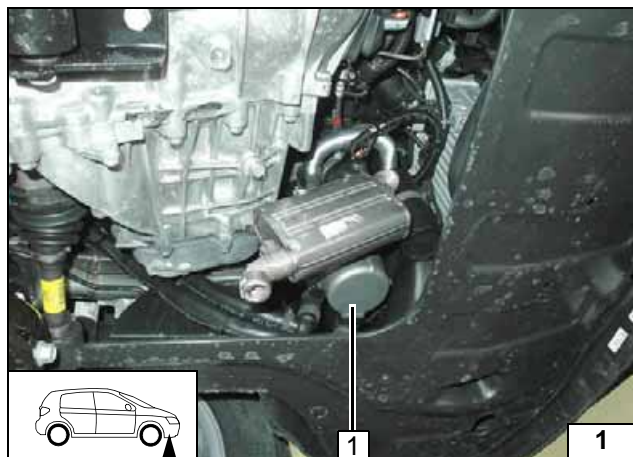


- Open the fuel tank cap.
- Ventilate the fuel tank.
- Close the fuel tank cap again.
- Depressurise the cooling system.
- Remove the left front wheel.
- Remove the left front wheel well trim.
- Dismantle the underride protection of the engine.
- Remove the left underbody trim.
- Remove the air filter and the hoses to the engine.
- Disconnect and remove the battery.
- Remove the engine control unit with bracket.
- Remove the rear bench seat.
- Open the tank-fitting service lid.
- Remove the lateral instrument panel trim on the left.
- Take off the lower instrument panel trim on the driver's side.
- Detach the central electrical box of the passenger compartment and put it aside.



Heater

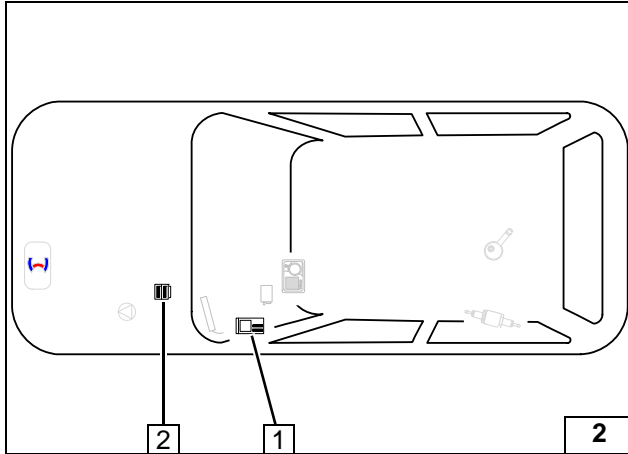
- Remove years that do not apply from the type and duplicate label.
- Attach the duplicate label (type label) visibly in the appropriate place in the engine compartment.



Heater Installation Location

- 1 Heater

Installation location

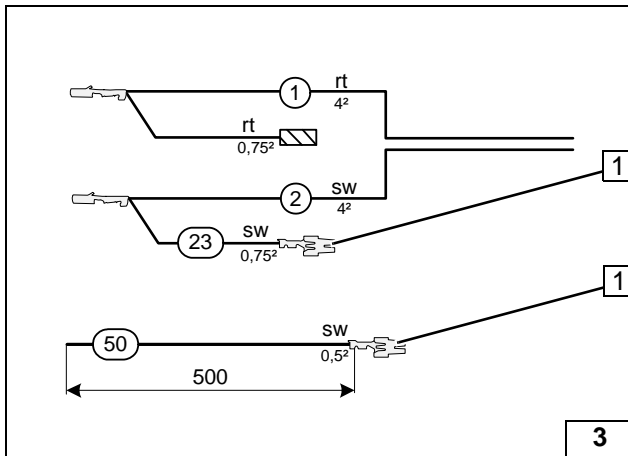


Preparing Electrical System

- 1 Passenger compartment relay and fuse holder
- 2 Engine compartment fuse holder



Installation overview



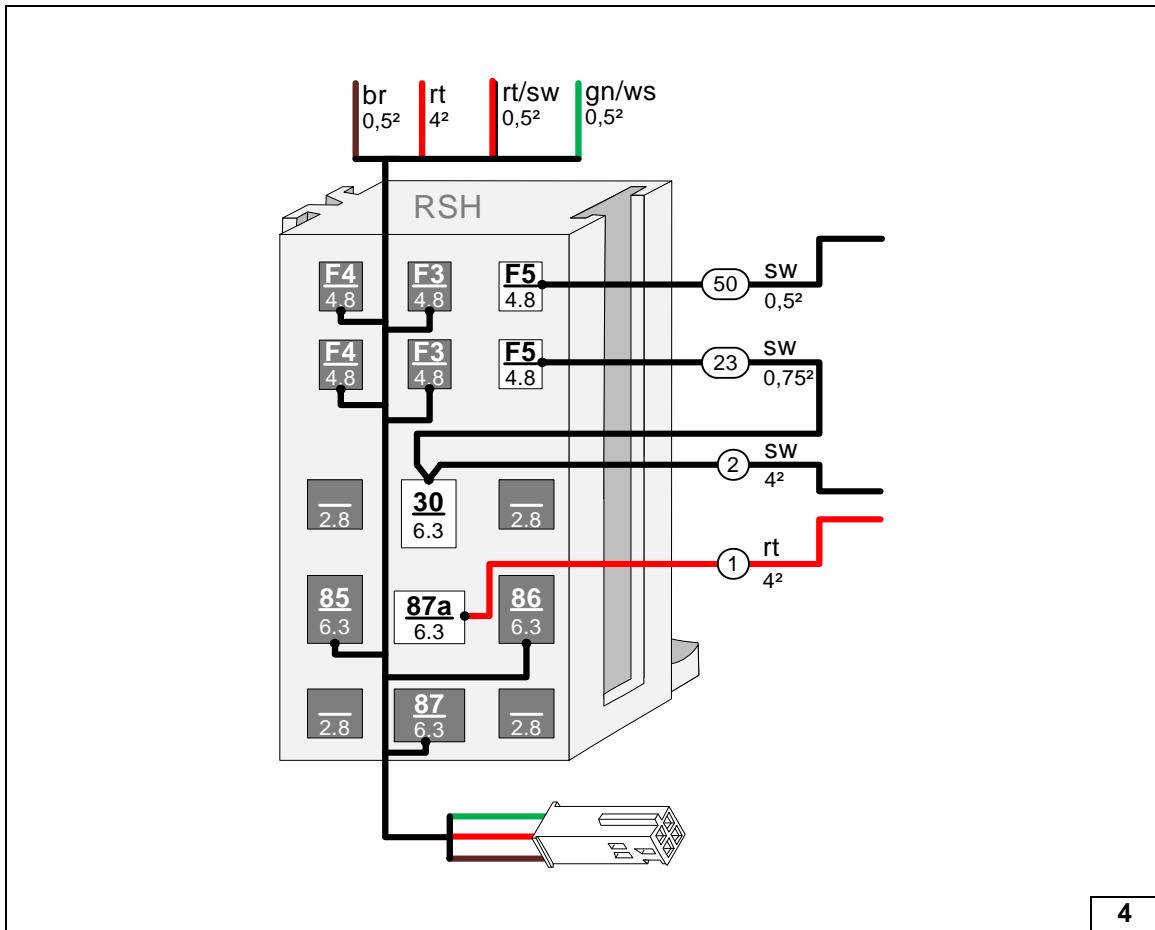
Wire sections retain their numbering in the entire document.

Pull wire (50) into provided protective sleeving.

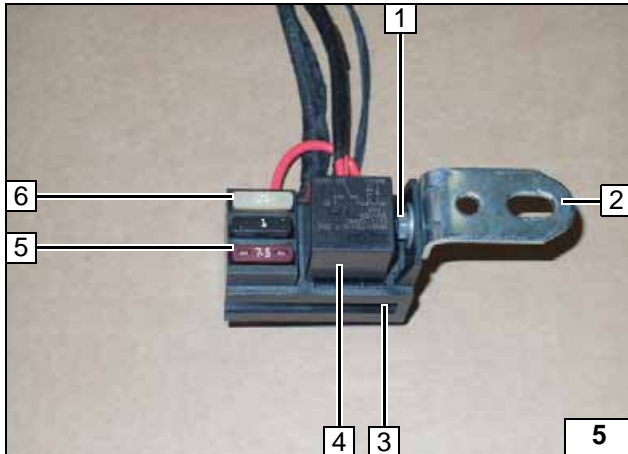
- 1 Power timer [2x]
- ① Red (rt) wire of fan wiring harness
- ② Black (sw) wire of fan wiring harness



Preparing / assigning wires

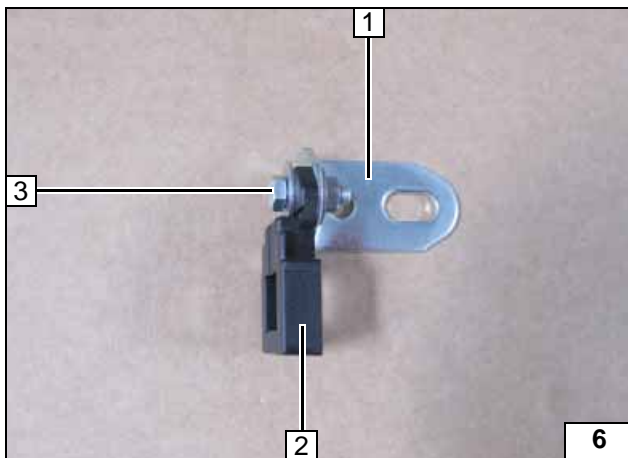


Connecting wires to passenger compartment relay and fuse holder



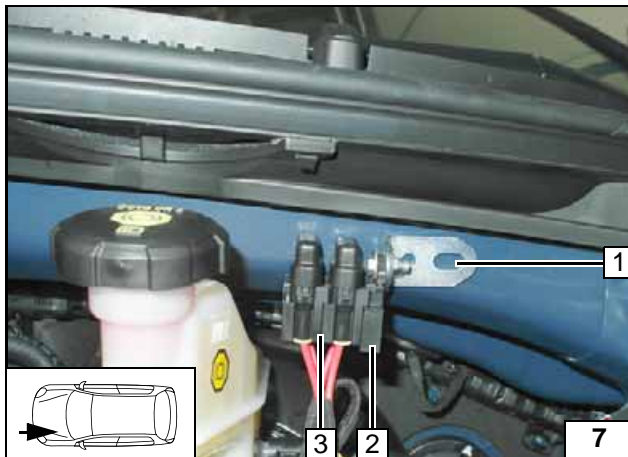
- 1 M5x16 bolt, washer [2x], nut
- 2 Angle bracket
- 3 Passenger compartment relay and fuse holder
- 4 Relay K1
- 5 7.5A fuse F5
- 6 25A fuse F4

Preparing passenger compartment relay and fuse holder



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

Premounting retaining plate for engine compartment fuse holder



Version 1

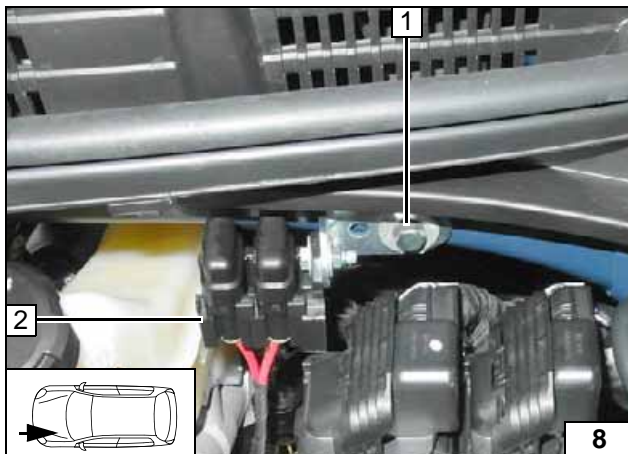
Vehicle without stud bolt at position 1!

Assemble retaining plate 2 with engine compartment fuse holder 3, position as shown and copy hole pattern 1.

- 1 9mm dia. hole; insert rivet nut



Mounting engine compartment fuse holder



- 1 M6x20 bolt, large diameter washer, spring lockwasher, rivet nut
- 2 Fuses F1-2

Mounting engine compartment fuse holder



Electrical System

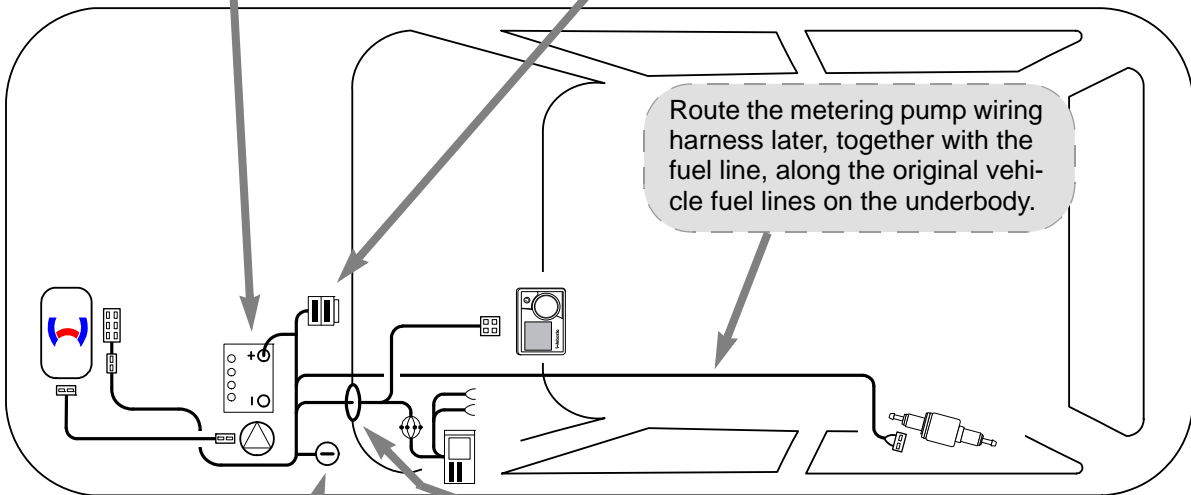
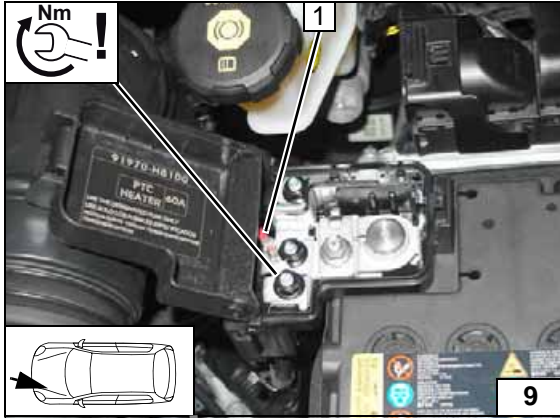


Positive wire

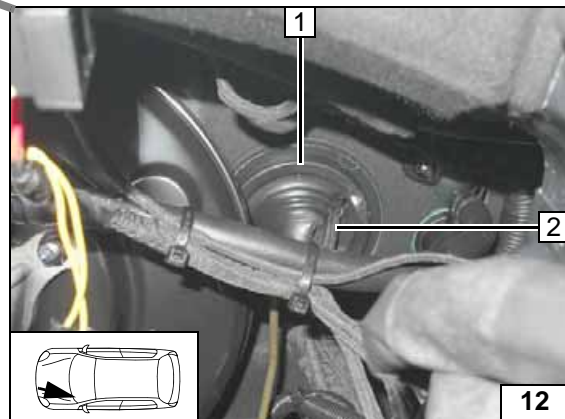
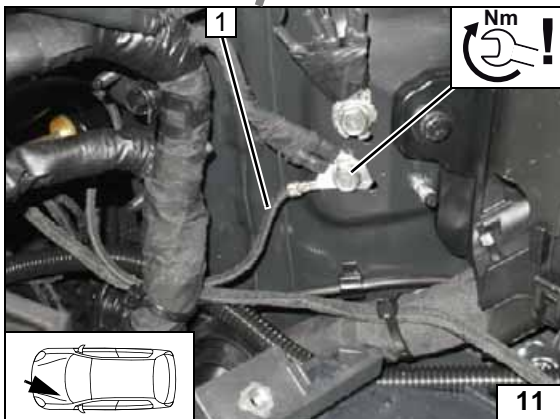
- 1 Positive wire on positive distributor

Engine compartment fuse holder version 2

- 1 Original vehicle stud bolt, large diameter washer, flanged nut
- 2 Fuse holder retaining plate of engine compartment
- 3 Fuses F1-2



Wiring harness routing diagram



Earth wire

- 1 Earth wire on original vehicle earth support point

Wiring harness pass through

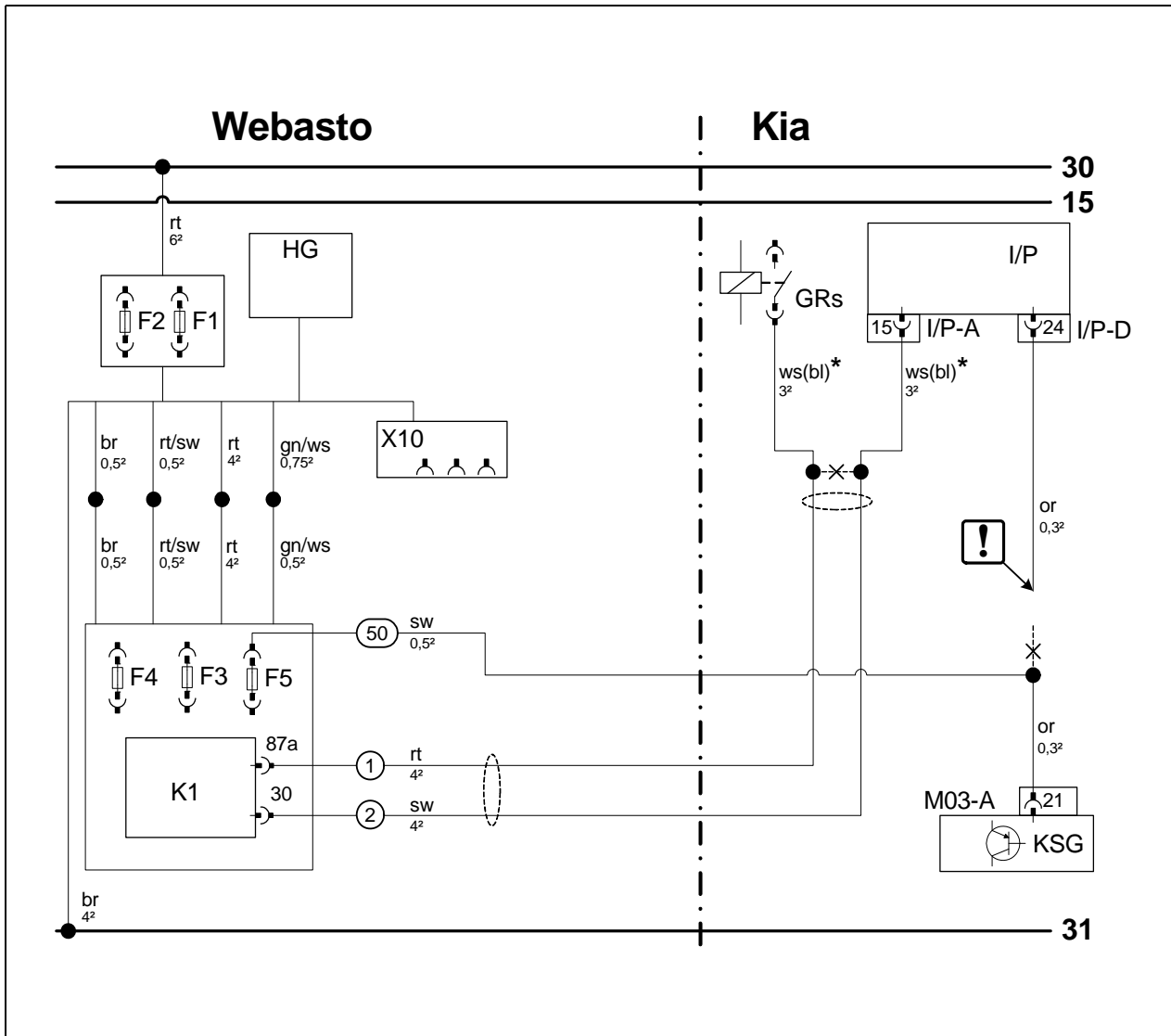
Route wiring harnesses of heater and heater control 2 through protective rubber plug 1 into the passenger compartment.



System Wiring Diagram

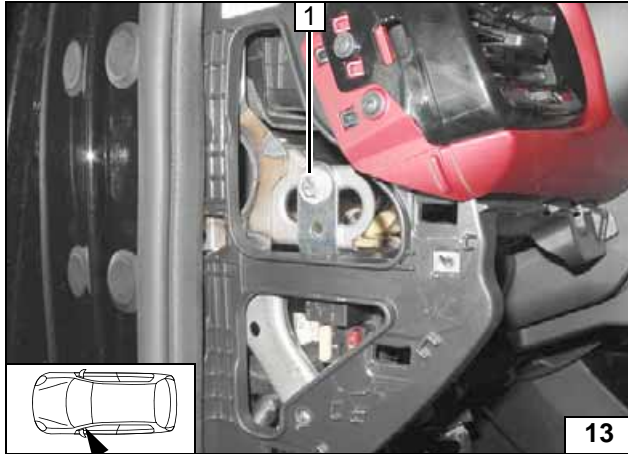


System wiring diagram



Webasto components		Vehicle components		Colours and symbols	
CLR	CLR module	I/P	Passenger compartment central electrical box	rt	red
HG	TT-Evo heater			sw	black
F1	20A fuse	I/P-A	Front of connector I/P	gn	green
F2	30A fuse	I/P-D	Back of connector I/P	gn	green
X10	4-pin socket of heater control	GRs	Fan relay	br	brown
F3	1A fuse	KSG	A/C control unit	ws	white
F4	25A fuse	M03-A	Connector of KSG	or	orange
F5	7.5A fuse			bl	blue
K1	Fan relay			*	Depends on the equipment
				!	will be connected later during the integration of the cold start kit
				X	Cutting point
Wiring colours may vary.					

Legend

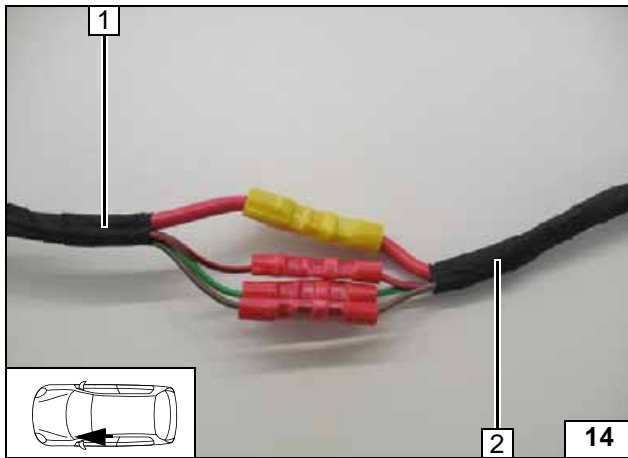


Fan controller

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

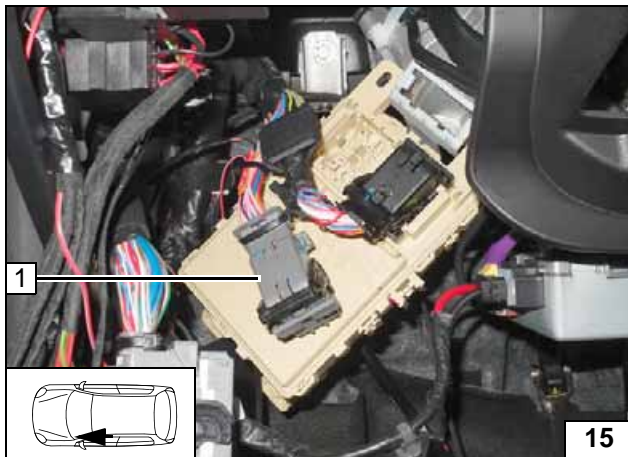
- 1 M6x20 bolt, large diameter washer, original vehicle hole, flanged nut

Installing passenger compartment relay and fuse holder

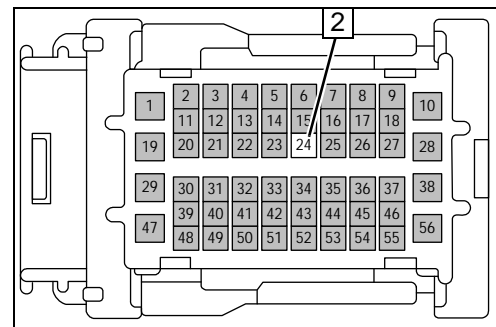


- 1 Passenger compartment relay and fuse holder wiring harness
- 2 Heater wiring harness

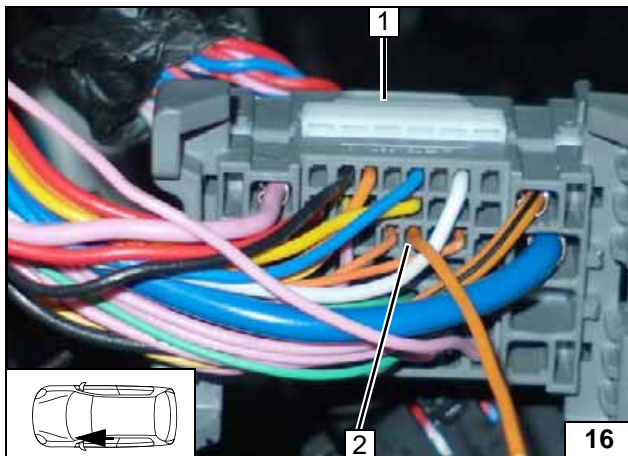
Connecting same colour wires of wiring harnesses



- 1 Grey (gr) connector I/P-D (back of central electrical box)
- 2 Connector I/P-D on wiring side/ pin 24:

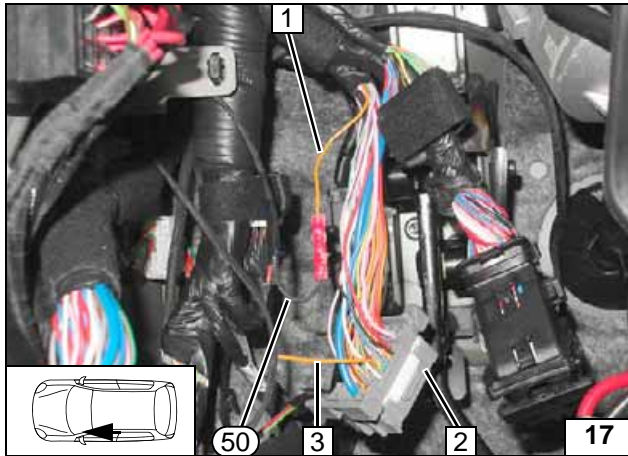


View of connector I/P-D



- 1 Grey (gr) connector I/P-D (back of central electrical box)
- 2 Orange (or) wire slot, pin 24

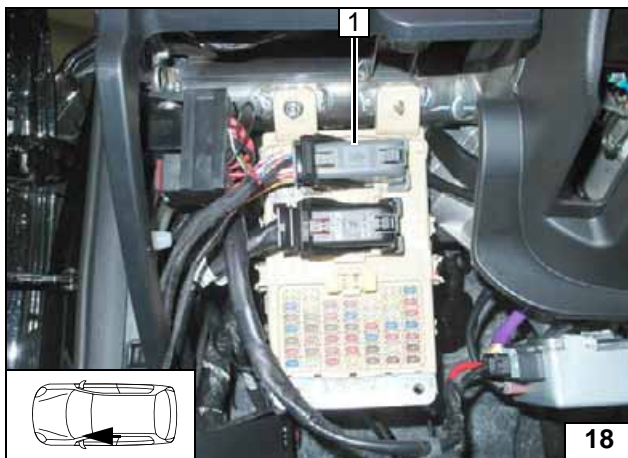
View of connector I/P-D



Orange (or) wire **3** of connector I/P-D/ pin 24 will be connected later together with the CLR-module of the cold start kit!

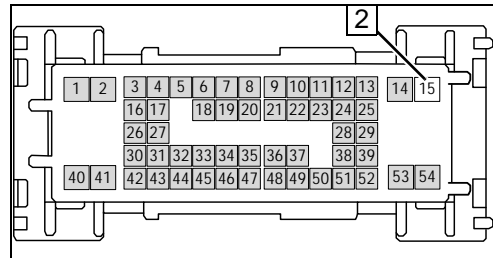
- 1 Orange (or) wire from connector M03-A of A/C control unit
- 2 Grey (gr) connector I/P-D (back of central electrical box)
- ⑤0 Black (sw) wire of fuse F5

**Connect-
ing central
electrical
box**

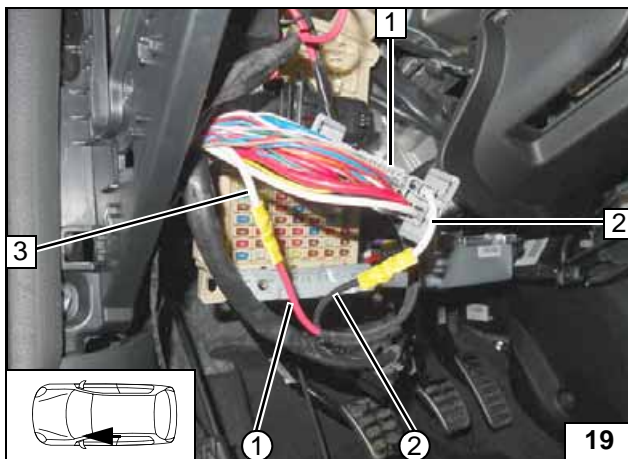


- 1 Grey (gr) connector I/P-A (front of central electrical box)

- 2 Connector I/P-A on wiring side/ pin 15:

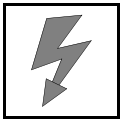


**View of con-
nector I/P-A**



- 1 Grey (gr) connector I/P-A (front of central electrical box)
- 2 White (ws) wire of connector I/P-A, pin 15 of central electrical box
- 3 White (ws) wire of fan relay
- ① Red (rt) wire of K1/87a, fan wiring harness
- ② Black (sw) wire of K1/30, fan wiring harness

**Connect-
ing central
electrical
box**

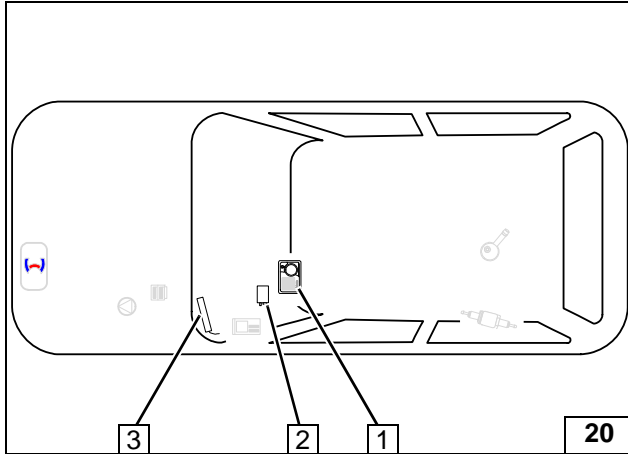
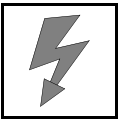


Cold Start System Installation

! Integrate the cold start system as explained in the separate installation documentation:

Installation documentation of cold start system for Kia Rio 1.0 T-GDi petrol



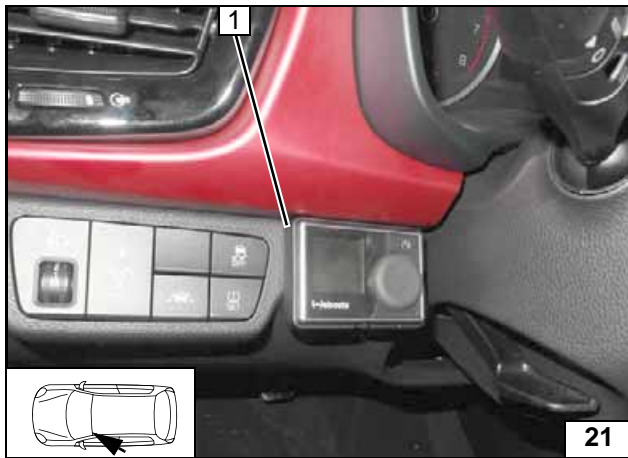


Heater Control Installation

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



Installation overview

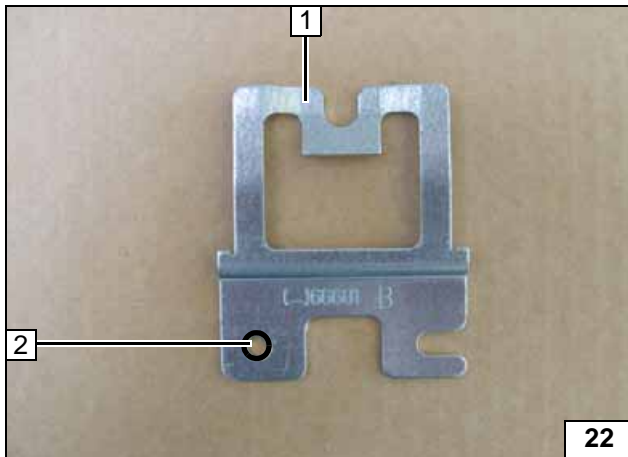


MultiControl CAR Option

- 1 Installation frame



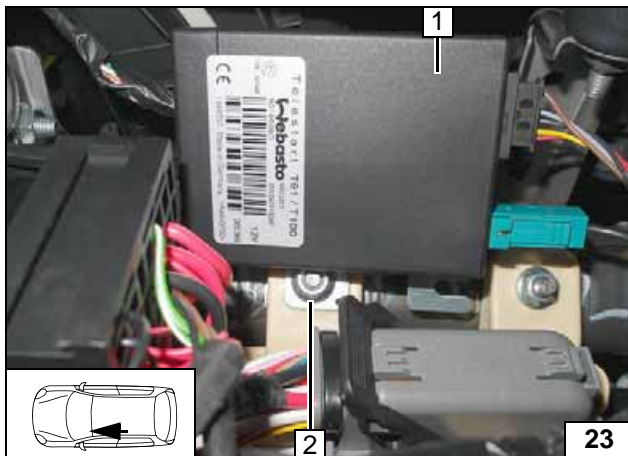
Installing MultiControl CAR



Remote Option (Telestart)

- 1 Bracket of receiver
- 2 Drill out hole to 6.5 mm dia.

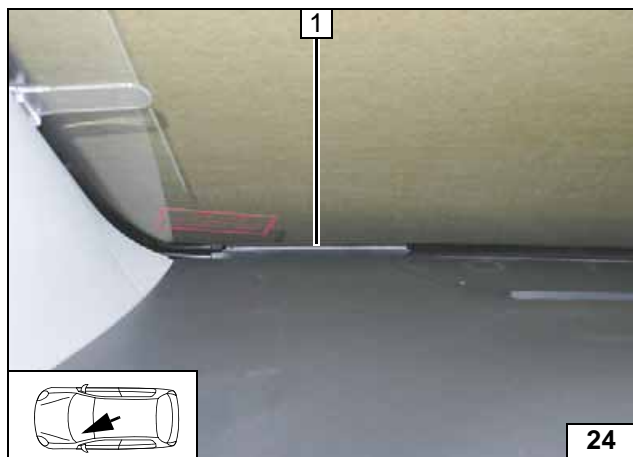
Preparing bracket



- 1 Receiver
- 2 Original vehicle stud bolt (central electrical box fastening), receiver bracket, original vehicle nut

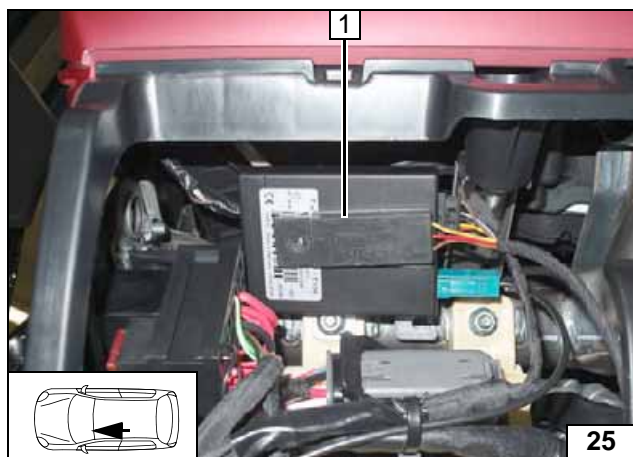


Installing receiver



1 Aerial

Installing aerial

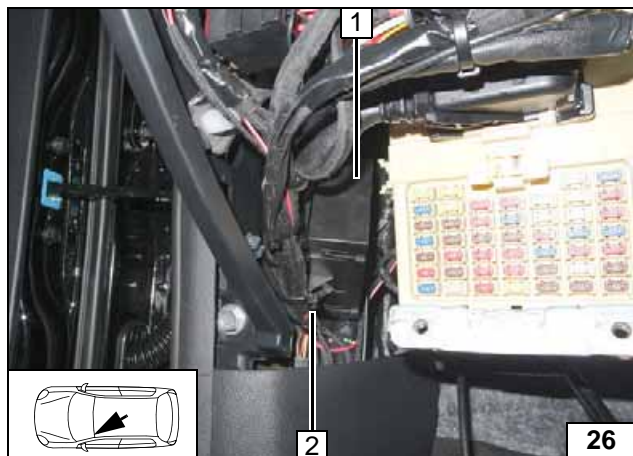


Temperature sensor T100 HTM

Fasten temperature sensor 1 using double-sided adhesive tape.



Installing temperature sensor

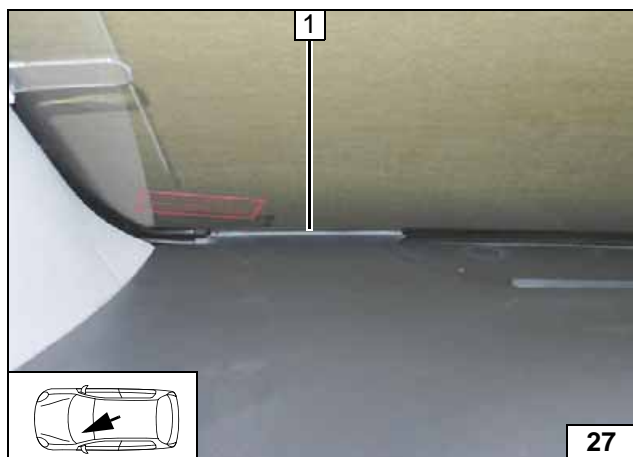


ThermoCall Option

Fasten receiver 1 with cable tie 2 onto original vehicle wiring harness.

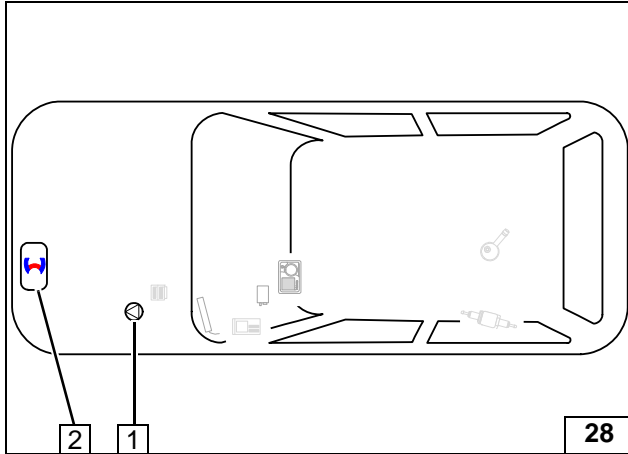
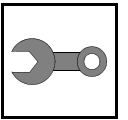


Installing receiver



1 Aerial (optional)

Installing aerial

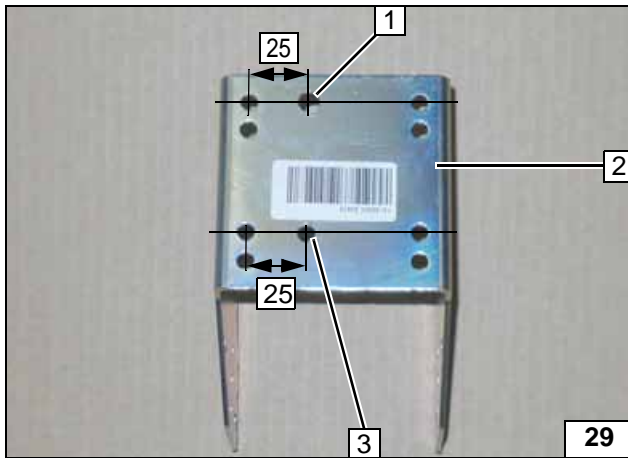


Preparing Bracket

- 1 Circulating pump
- 2 Heater

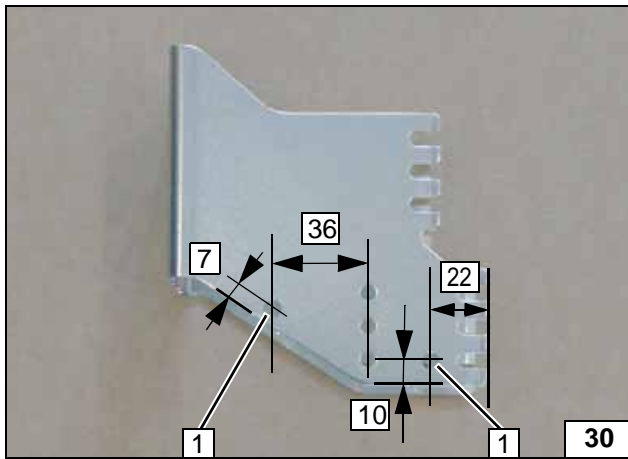


Installation overview



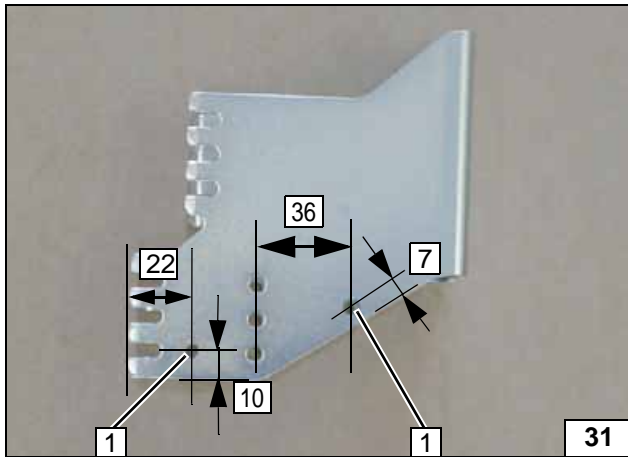
- 1 8.5 mm dia. hole
- 2 Bracket
- 3 7mm dia. hole

Preparing bracket



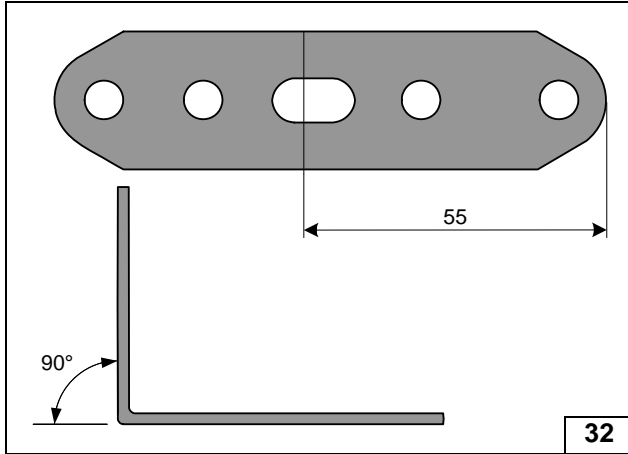
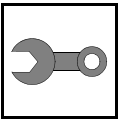
- 1 7mm dia. hole [2x]

Preparing bracket

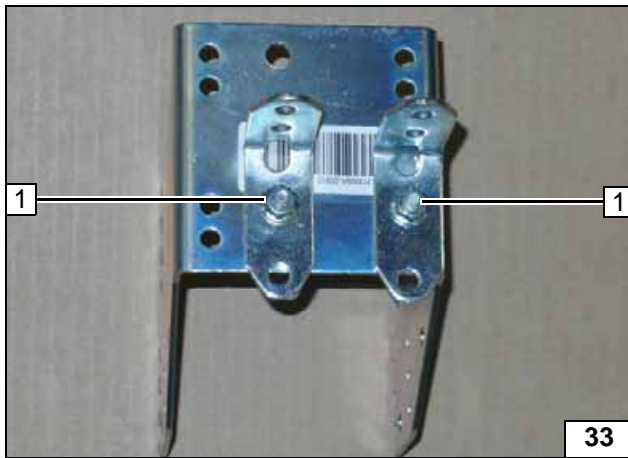


- 1 7mm dia. hole [2x]

Preparing bracket

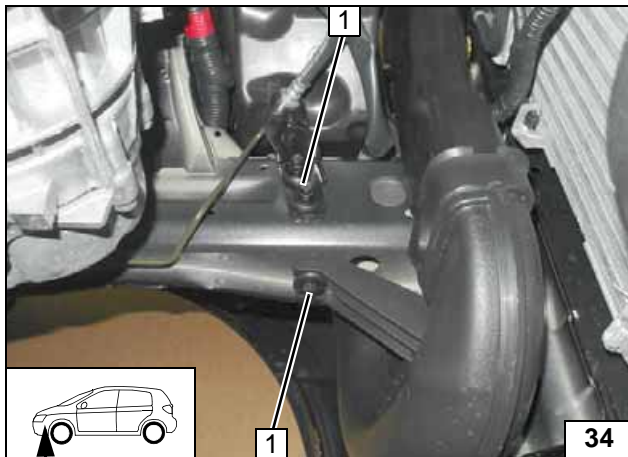


Bending 2 perforated brackets



- 1 M6x16 bolt, hole, perforated bracket (long side), flanged nut [2x each]

Installing perforated bracket

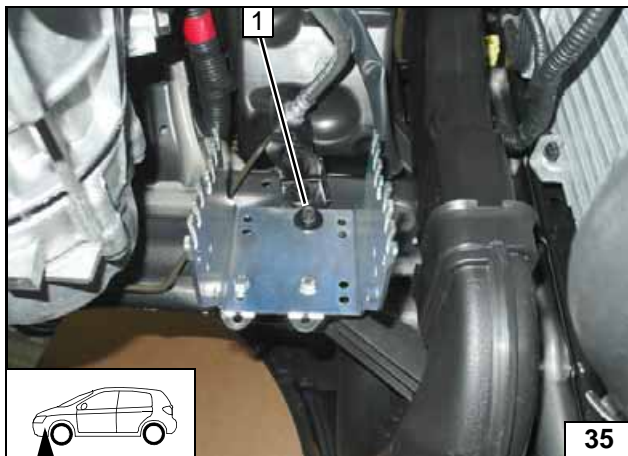


Preparing Installation Location

Version 1

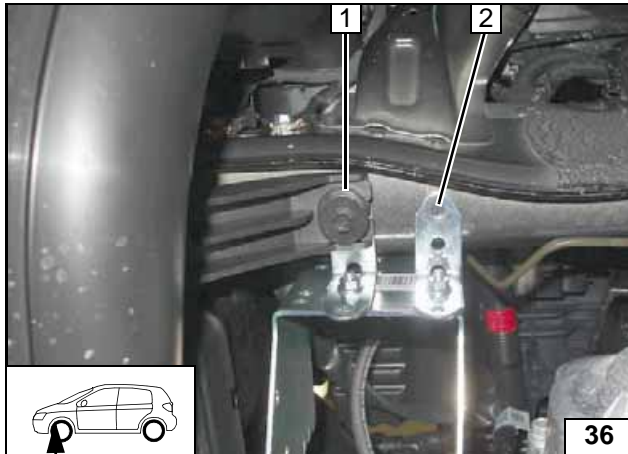
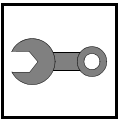
- 1 Remove original vehicle bolt [2x]; will be reinstalled later

Detaching original vehicle bolts



- 1 Original vehicle bolt

Installing bracket



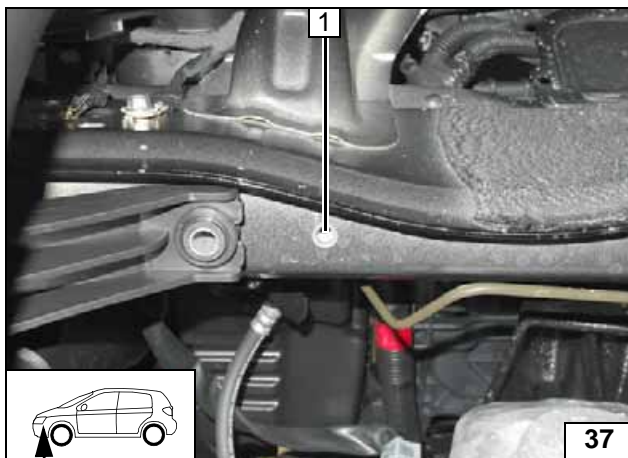
Place perforated bracket at position 1 between charge-air tube bracket and vehicle frame.



- 1 Original vehicle bolt
- 2 Copy hole pattern

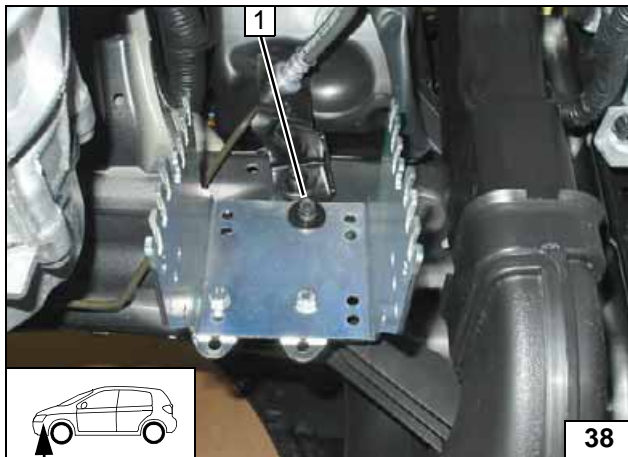
Dismantle bracket again.

Installing bracket



- 1 9mm dia. hole; rivet nut

Installing rivet nut



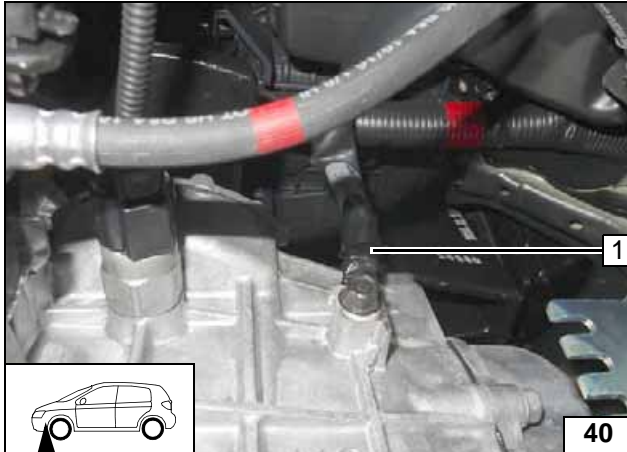
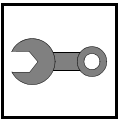
- 1 Original vehicle bolt

Installing bracket



- 1 M6x20 bolt, spring lockwasher
- 2 Original vehicle bolt

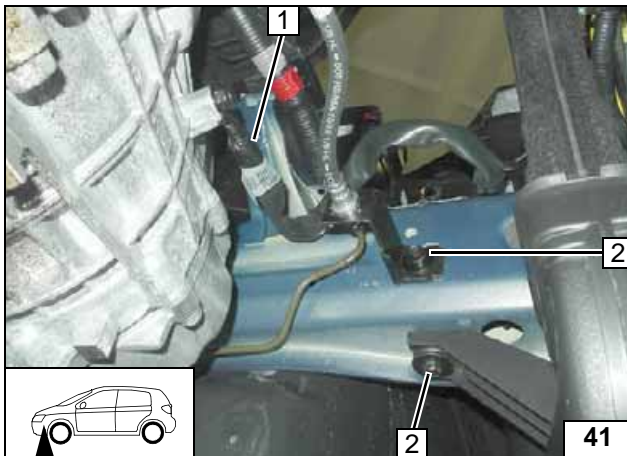
Installing bracket



Turn original vehicle earth wire **1** as shown.



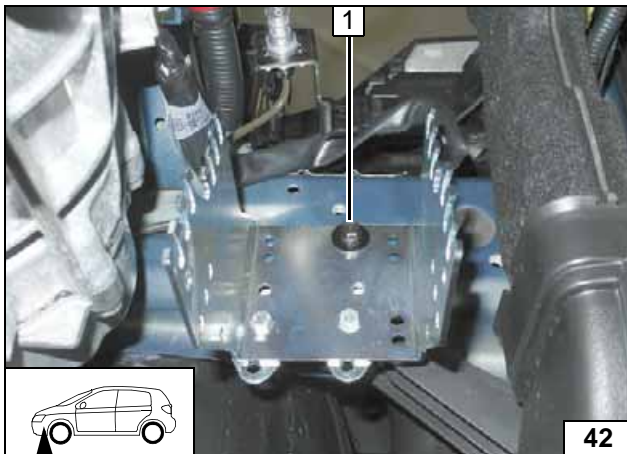
Turning earth wire



Version 2

- 1 Turn original vehicle earth wire as shown
- 2 Remove original vehicle bolt [2x]; will be needed later

Detaching original vehicle bolts

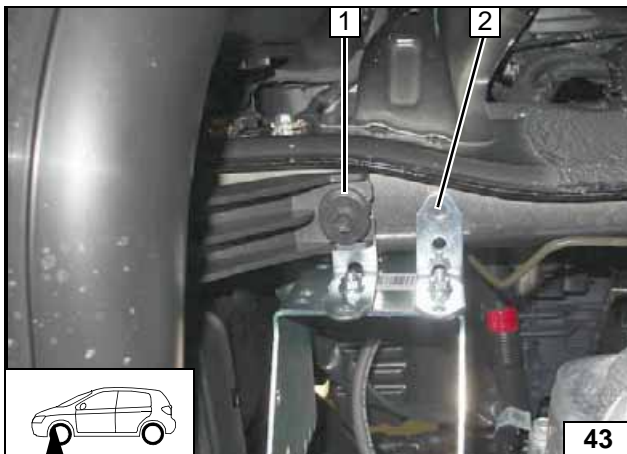


Place a 5mm spacer at position **1** between vehicle and bracket!



- 1 Original vehicle bolt

Installing bracket



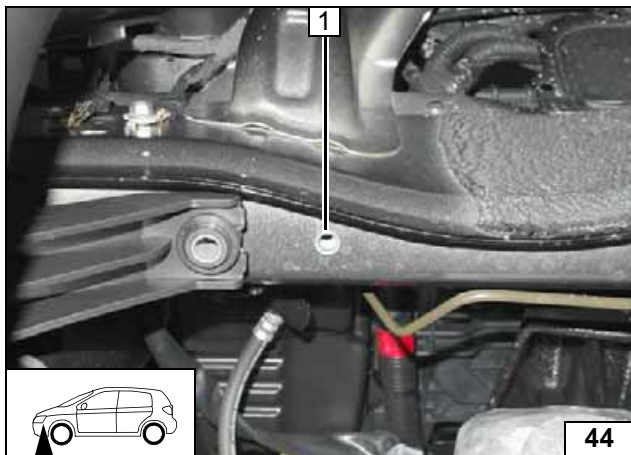
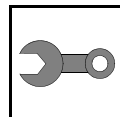
Place perforated bracket at position **1** between charge-air tube bracket and vehicle frame.



- 1 Original vehicle bolt
- 2 Copy hole pattern

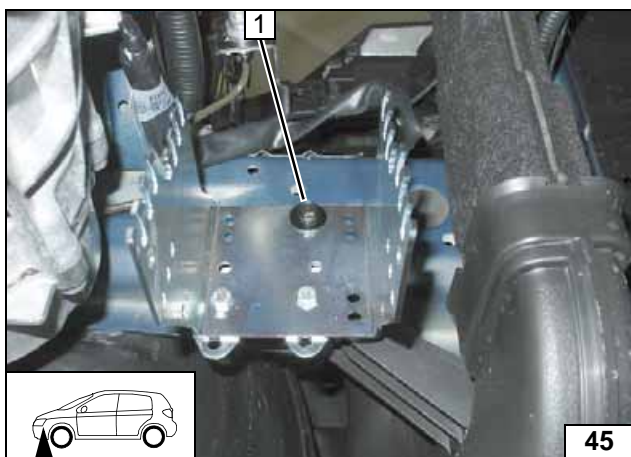
Dismantle bracket again.

Installing bracket



1 9mm dia. hole; rivet nut

Installing rivet nut



Place a 5mm spacer at position 1 between vehicle and bracket!



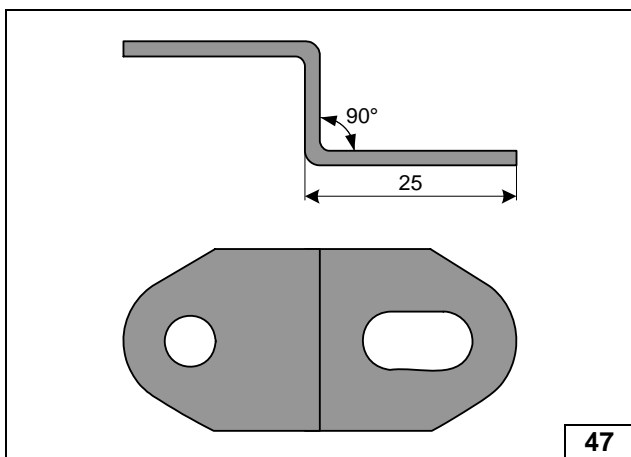
1 Original vehicle bolt

Installing bracket

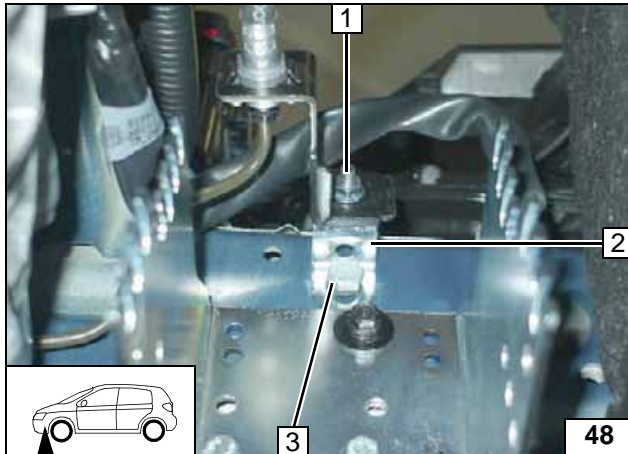
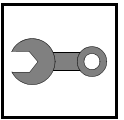


1 M6x20 bolt, spring lockwasher
2 Original vehicle bolt

Installing bracket

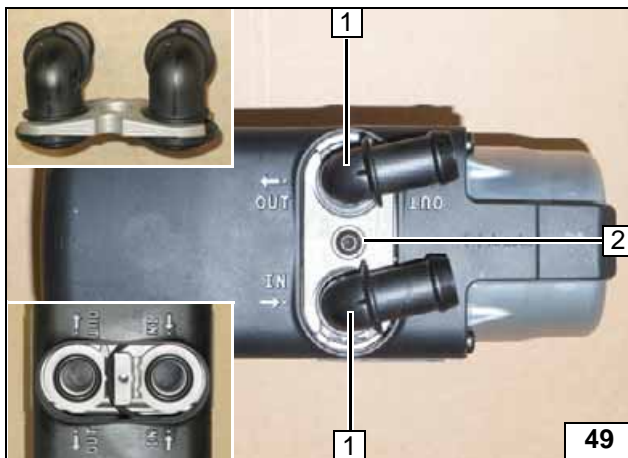


Shaping angle bracket



- 1 M6x20 bolt, flanged nut
- 2 Angle bracket
- 3 M8x20 bolt, spring lockwasher

Installing bracket



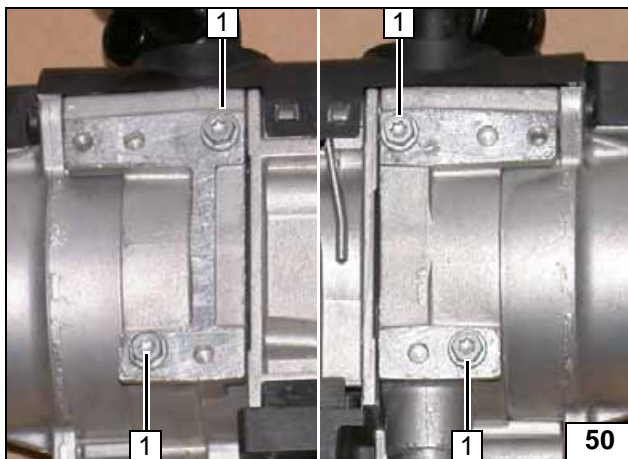
Preparing Heater

All vehicles

- 1 90° water connection piece, sealing ring [2x each]
- 2 5x15 self-tapping bolt, retaining plate of water connection piece



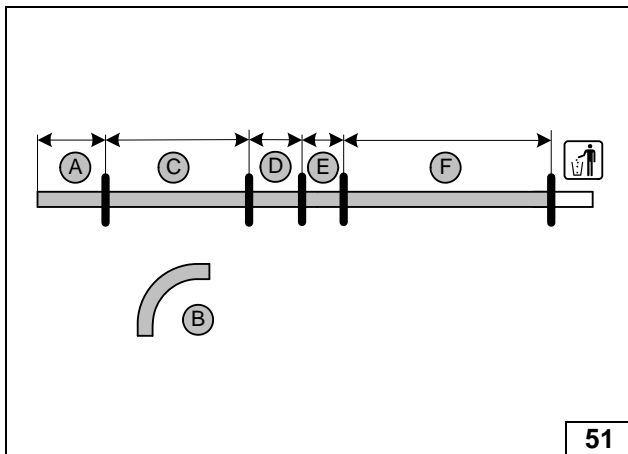
Installing water connection piece



Screw 5x13 self-tapping bolts 1 [4x] into existing holes by a max. of 3 thread turns. Remove bolts again!

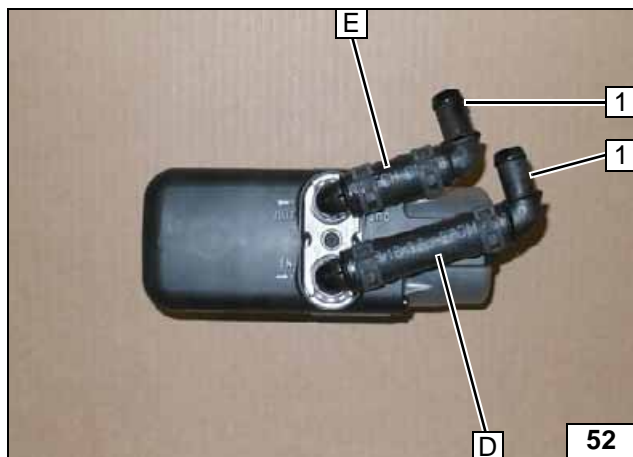
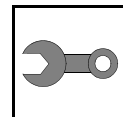


Premounting bolts loosely



	1.0 T-GDi	1.4 MPi
A	300	220
B	90°, 18mm dia.	90°, 18mm dia.
C	470	470
D	100	100
E	60	60
F	720	720

Cutting hoses to length

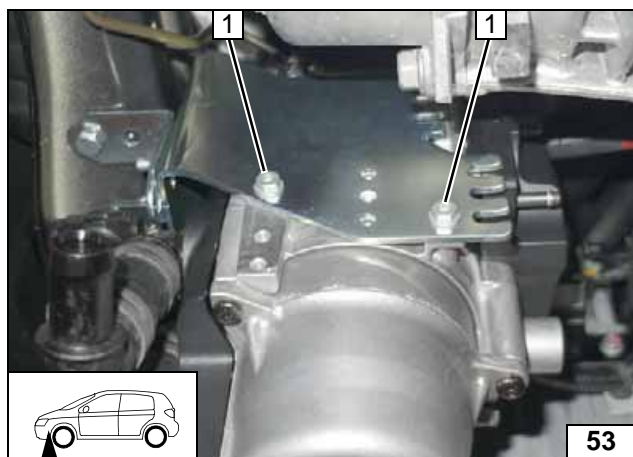


All spring clips 25mm dia.

- 1 90° 18x18 connecting pipe [2x]



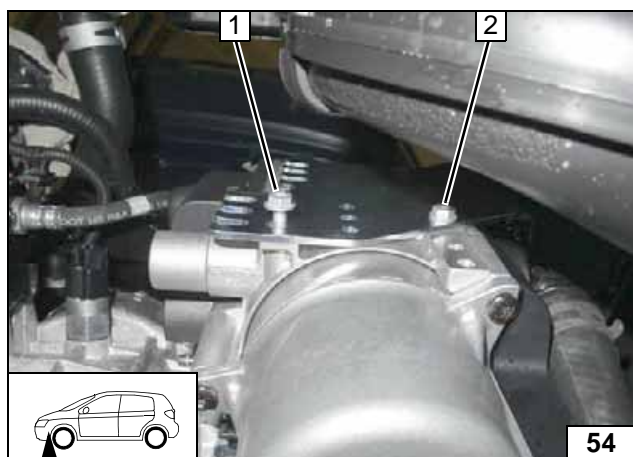
Installing hoses D and E



Installing Heater

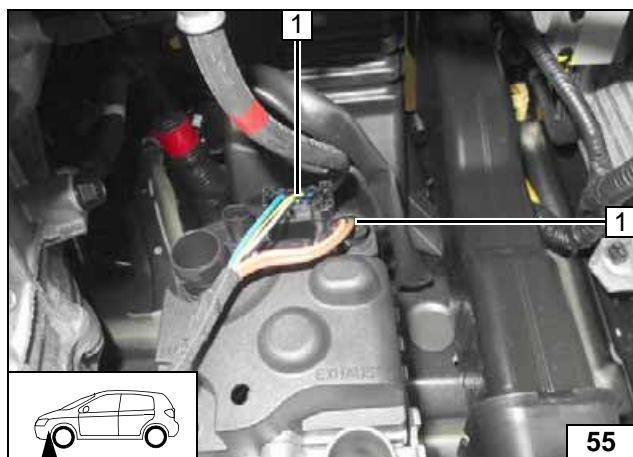
- 1 5x13 self-tapping bolt [2x]

Installing heater



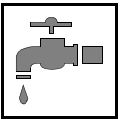
- 1 Install 5x13 self-tapping bolt loosely
- 2 5x13 self-tapping bolt

Installing heater



- 1 Heater wiring harness connector [2x]

Installing heater wiring harness



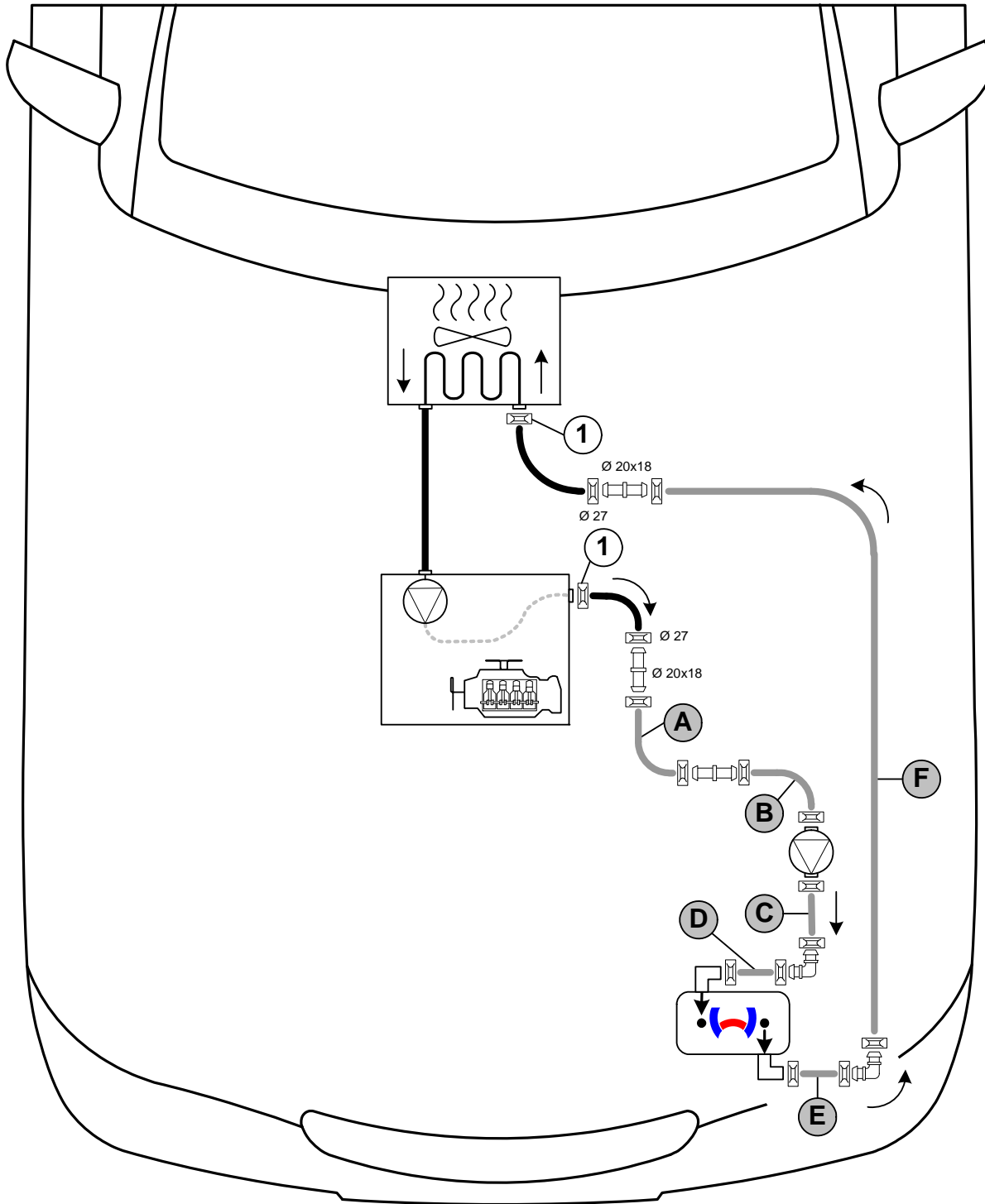
Coolant Circuit







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



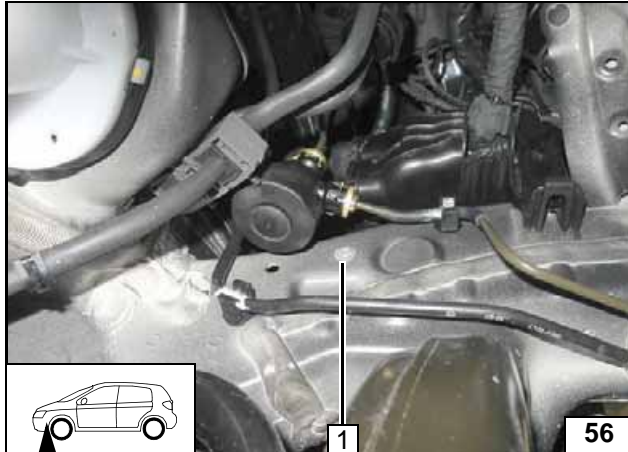
The connection should be modelled on an 'inline' circuit and based on the following diagram:



Hose routing diagram

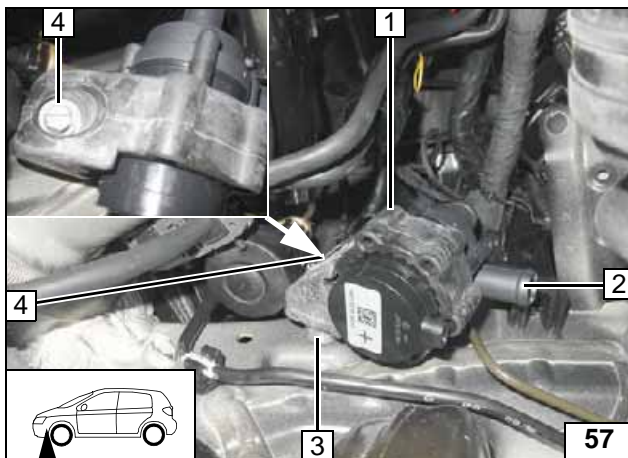
All spring clips without a specific designation  = 25 mm dia.
 All connecting pipes without a specific designation  and  = 18x18mm dia.
 1 = Original vehicle spring clip .





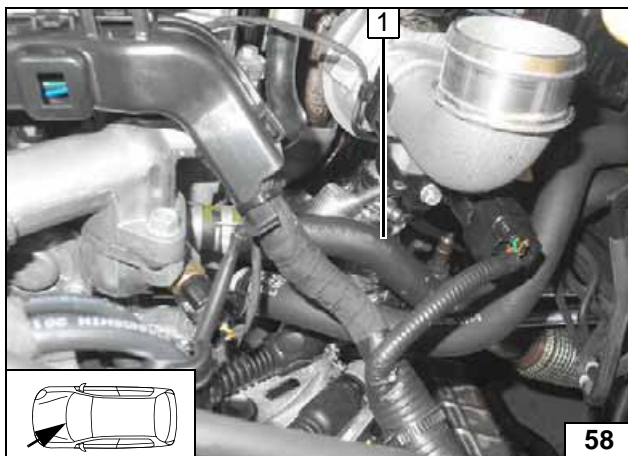
- 1 Drill out original vehicle hole to 9mm dia., insert rivet nut

Inserting rivet nut



- 1 Circulating pump mount
- 2 Circulating pump
- 3 20mm spacer
- 4 M6x50 bolt, spring lockwasher

Installing circulating pump

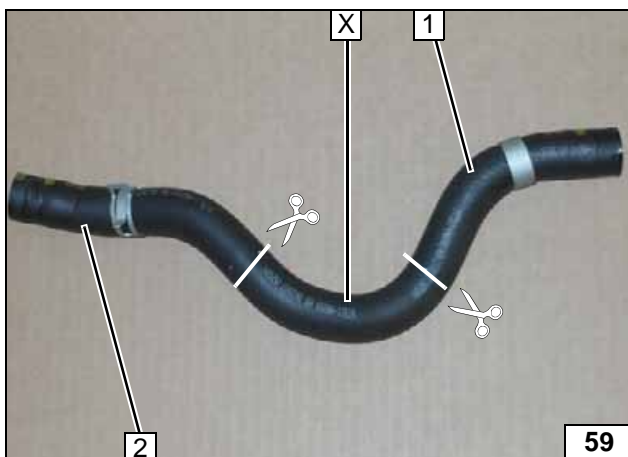


1.0 T-GDi

Remove hose on engine outlet / heat exchanger inlet 1. Original vehicle clamps will be reused.



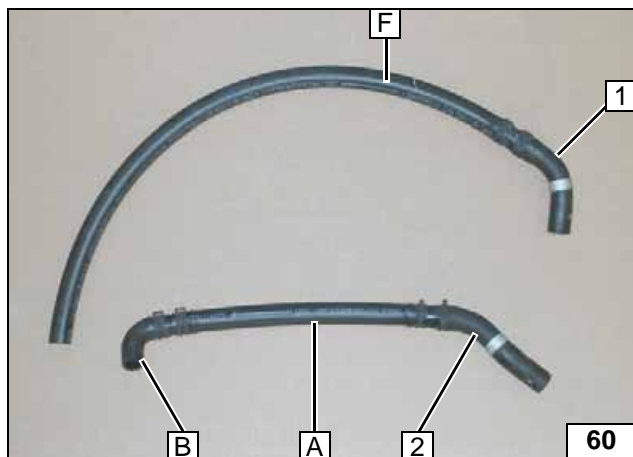
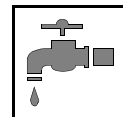
Cutting point



- 1 Hose section of heat exchanger inlet
- 2 Engine outlet hose section

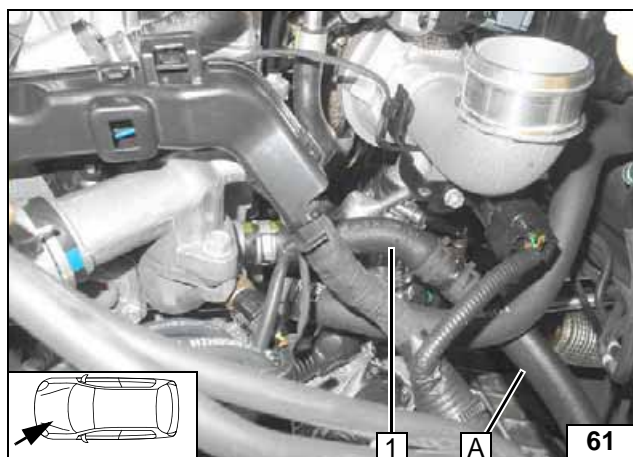
X =

Preparing hose



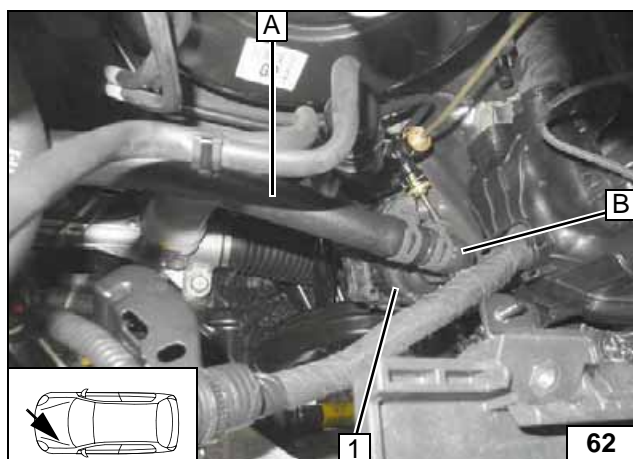
- 1 Hose section of heat exchanger inlet
- 2 Engine outlet hose section

Preparing hoses



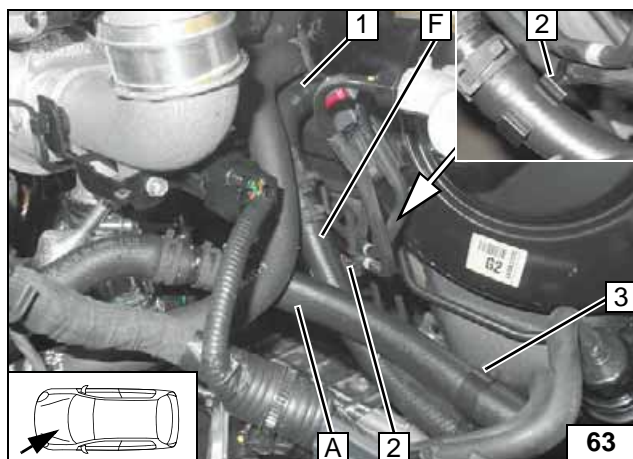
- 1 Engine outlet hose section

Connecting engine outlet



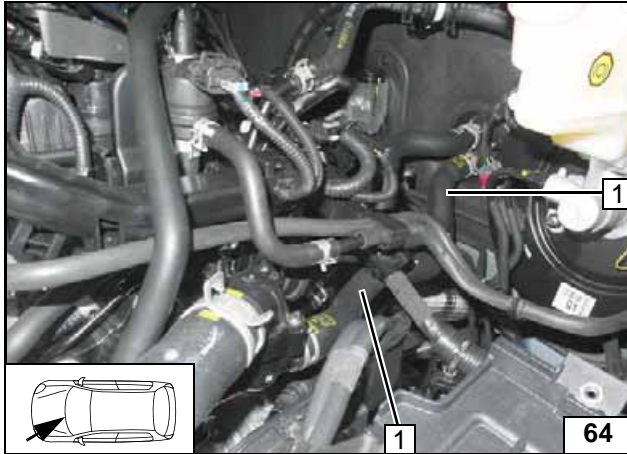
- 1 Circulating pump

Connecting circulating pump inlet



- 1 Hose section of heat exchanger inlet
- 2 8x25 hose bracket between hose F and original vehicle brake line
- 3 25x25 hose bracket between hoses A and F

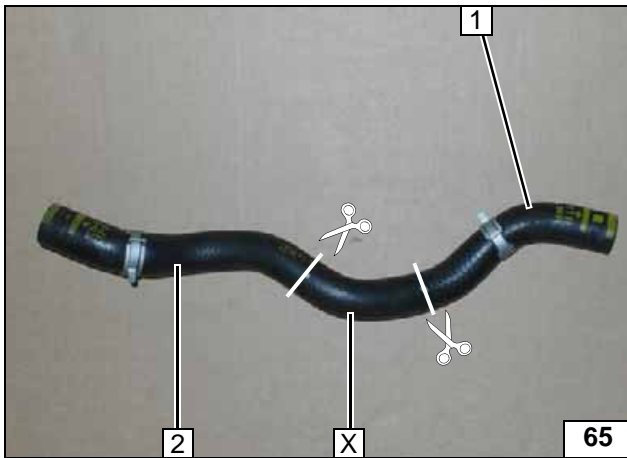
Connecting heat exchanger inlet



1.4 MPI

Remove hose on engine outlet / heat exchanger inlet 1. Original vehicle clamps will be reused.

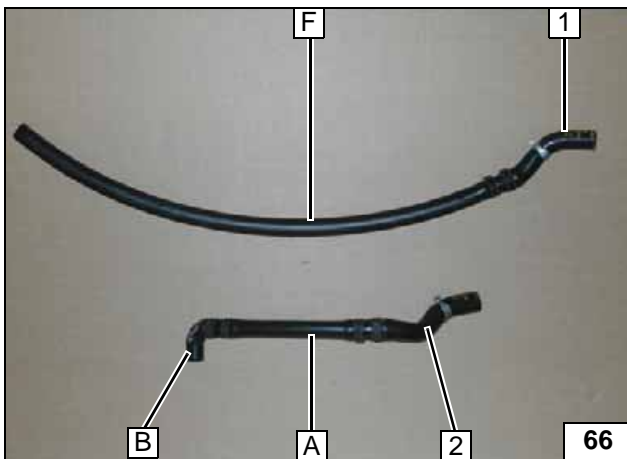
Cutting point



- 1 Hose section of heat exchanger inlet
- 2 Engine outlet hose section

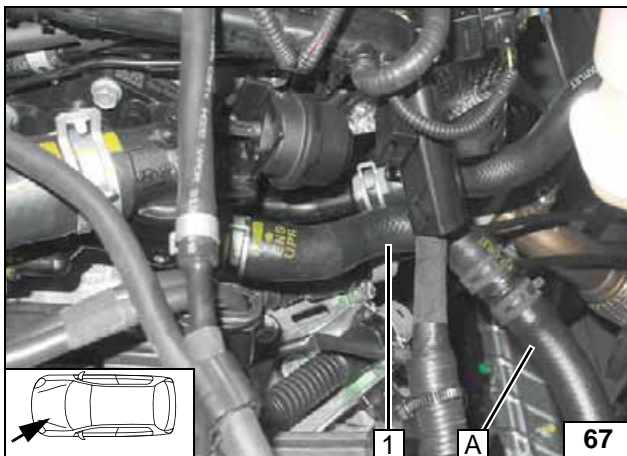
X =

Preparing hose



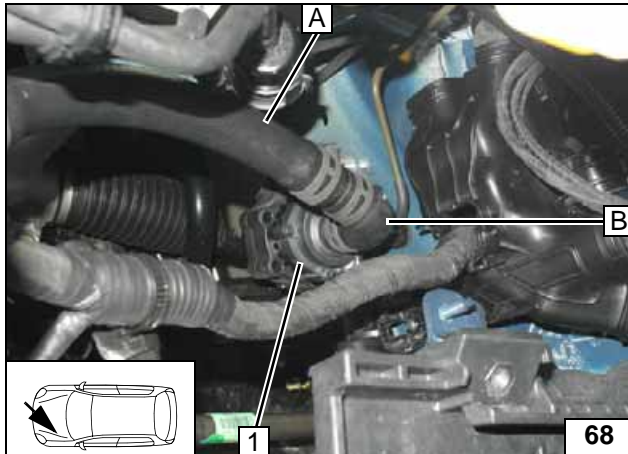
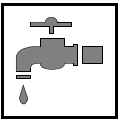
- 1 Hose section of heat exchanger inlet
- 2 Engine outlet hose section

Preparing hoses



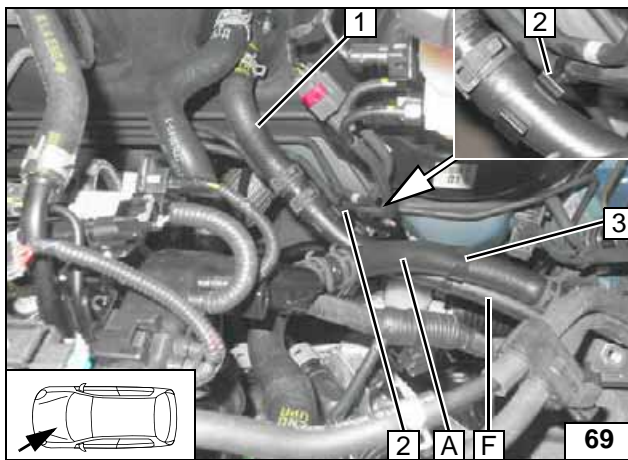
- 1 Engine outlet hose section

Connect-
ing engine
outlet



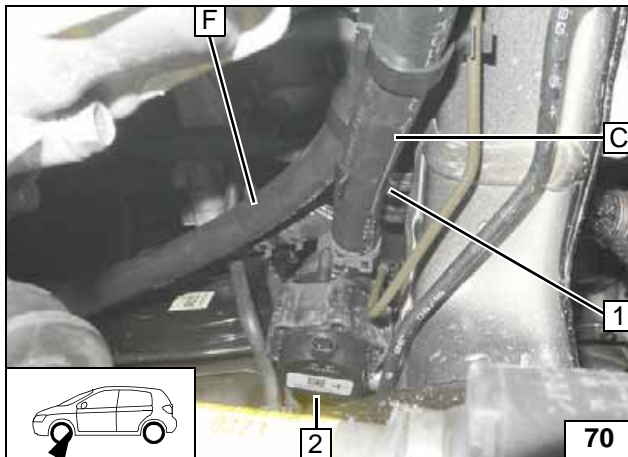
1 Circulating pump

Connect-
ing circulat-
ing pump
inlet



- 1 Hose section of heat exchanger inlet
- 2 8x25 hose bracket between hose F and original vehicle brake line
- 3 25x25 hose bracket between hoses A and F

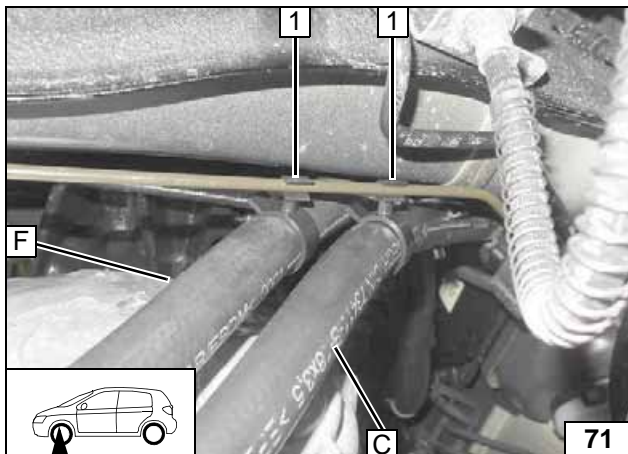
Connect-
ing heat ex-
changer
inlet



All vehicles

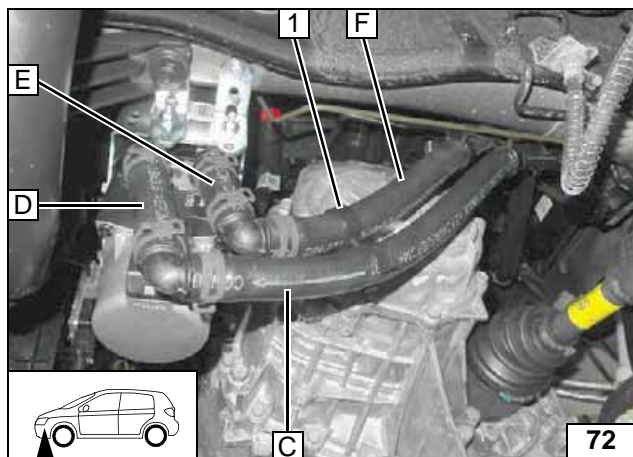
- 1 25x25 hose bracket between hoses C and F
- 2 Circulating pump

Connect-
ing circulat-
ing pump
inlet



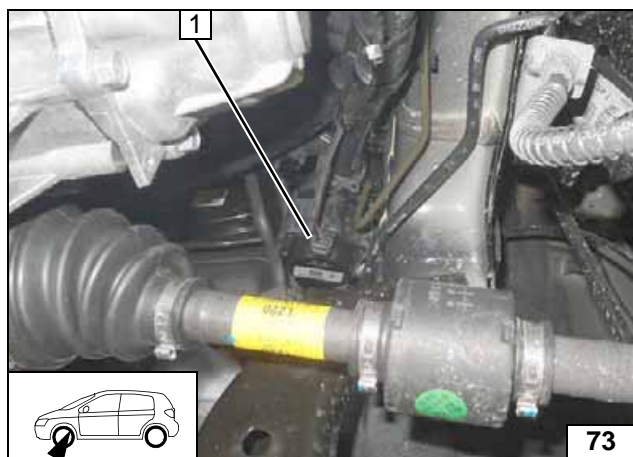
- 1 4x25 hose bracket between hose C, hose F and original vehicle brake line

Routing



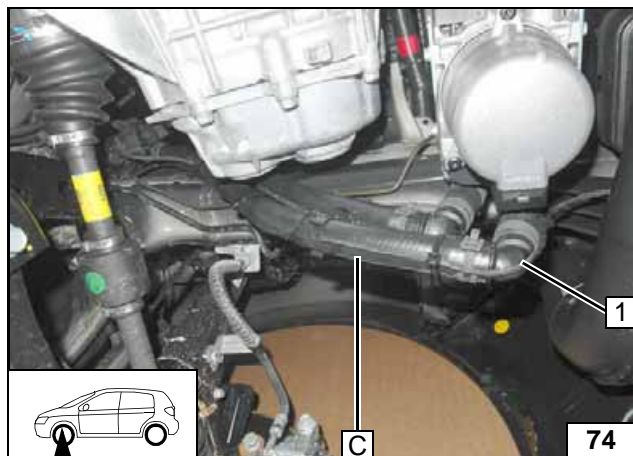
1 25x25 hose bracket between hoses C and F

Connect-
ing heater



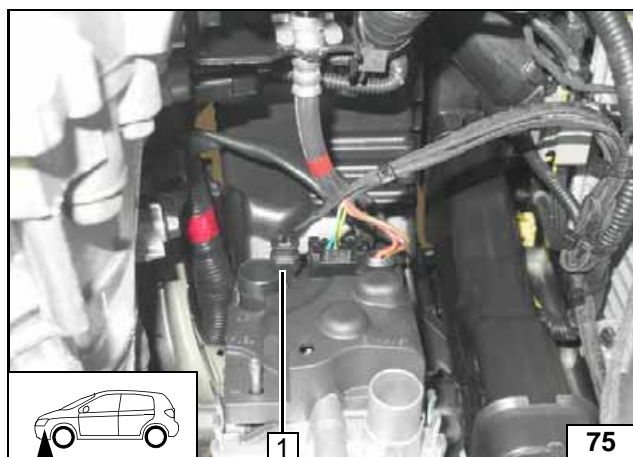
1 Wiring harness of circulating pump

Installing
circulating
pump wir-
ing harness



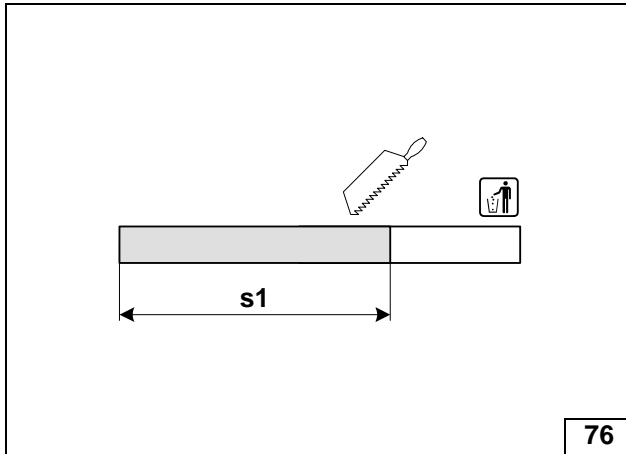
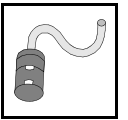
Attach circulating pump wiring harness 1 using cable tie.

Routing cir-
culating
pump wir-
ing harness



1 Wiring harness of circulating pump

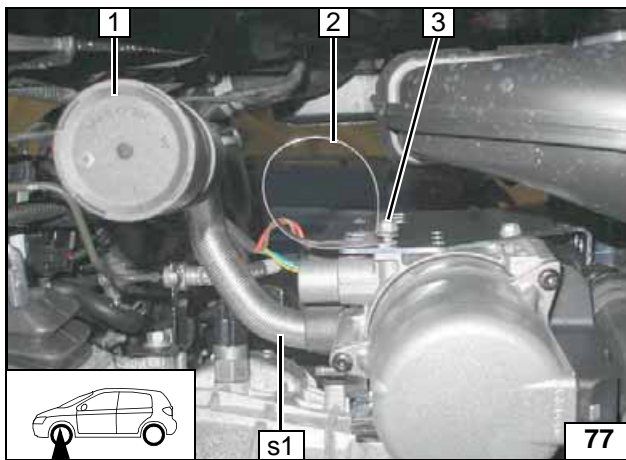
Installing
circulating
pump wir-
ing harness



Combustion Air

s1 = 240

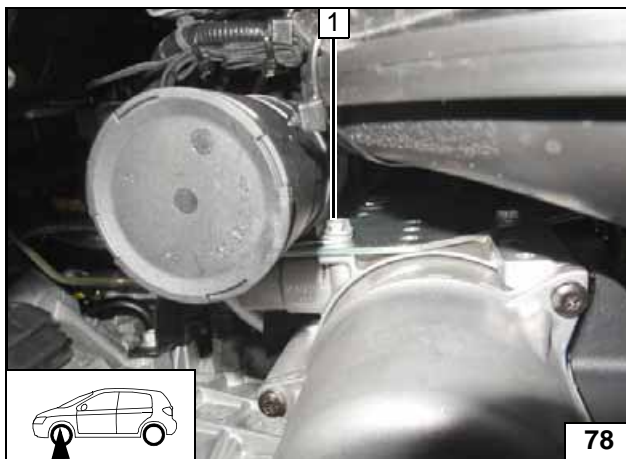
Cutting combustion air pipe to length



- 1 Silencer
- 2 51mm dia. clamp
- 3 Install 5x13 self-tapping bolt loosely



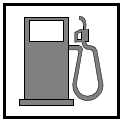
Installing combustion air pipe s1



- 1 Tighten 5x13 self-tapping bolt



Installing silencer



Fuel



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

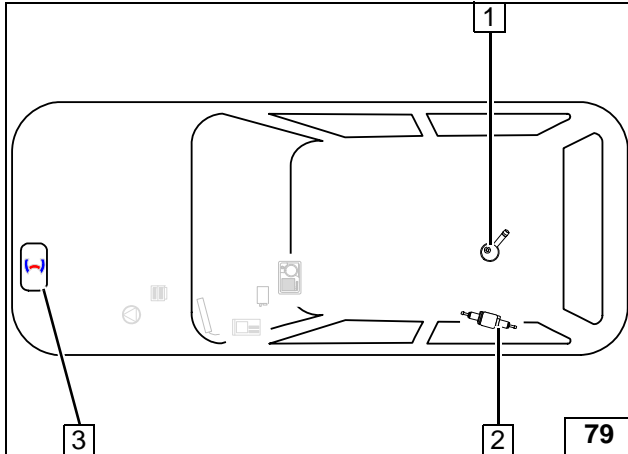
Catch any fuel running off in an appropriate container.

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



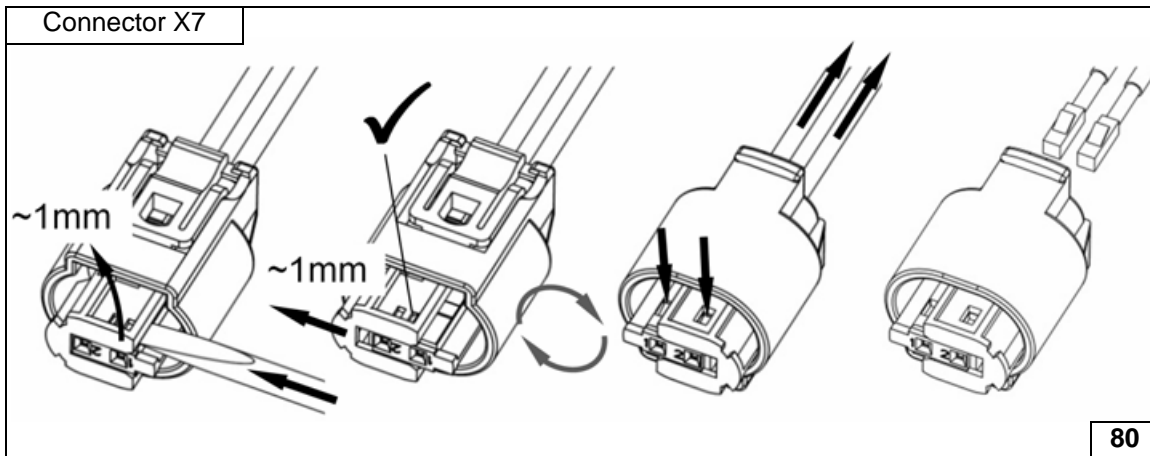
Provide rub protection for fuel line and wiring harness in areas where there are sharp edges.

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

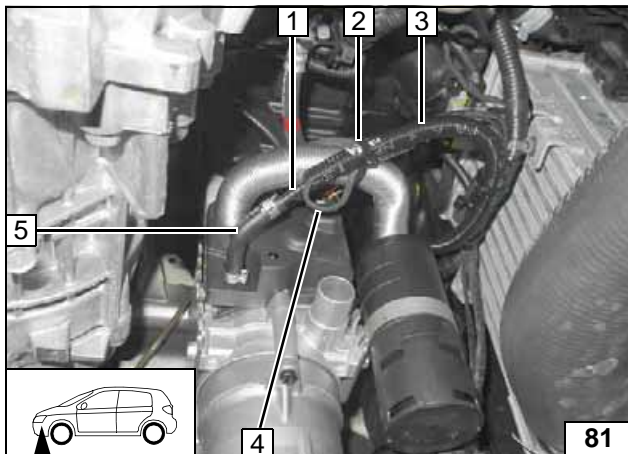


- 1 FuelFix
- 2 Metering pump
- 3 Heater

79

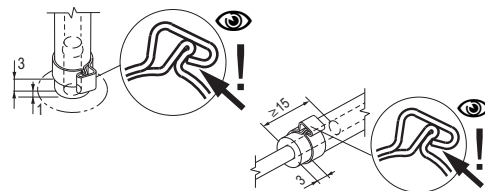


80



Draw fuel line 1 and metering pump wiring harness 4 into corrugated tube 3 and route in the engine compartment.

- 2 Cable tie
- 5 90° moulded hose, 10mm dia. clamp [2x]



81

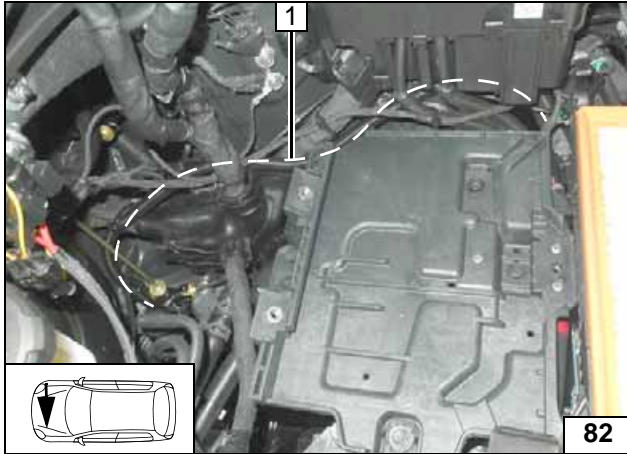
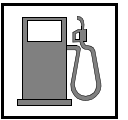


Installation overview

Dismantling metering pump connector



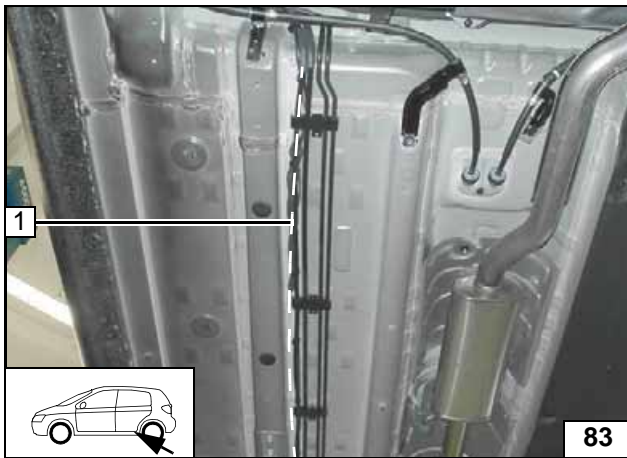
Connecting heater



Route fuel line and metering pump wiring harness in 10mm dia. corrugated tube 1 to the firewall and along original vehicle fuel lines to the underbody . Secure using cable ties.



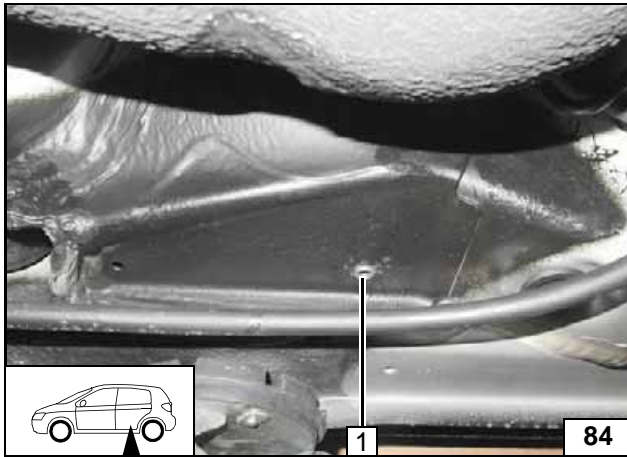
Routing lines



Route fuel line and metering pump wiring harness 1 along original vehicle fuel lines to installation location of metering pump. Secure using cable ties.



Routing lines

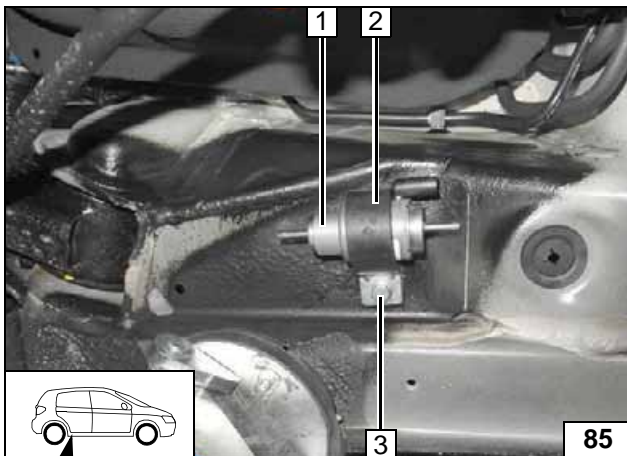


Drill out original vehicle hole to 9mm dia.

- 1 M6 rivet nut in existing hole



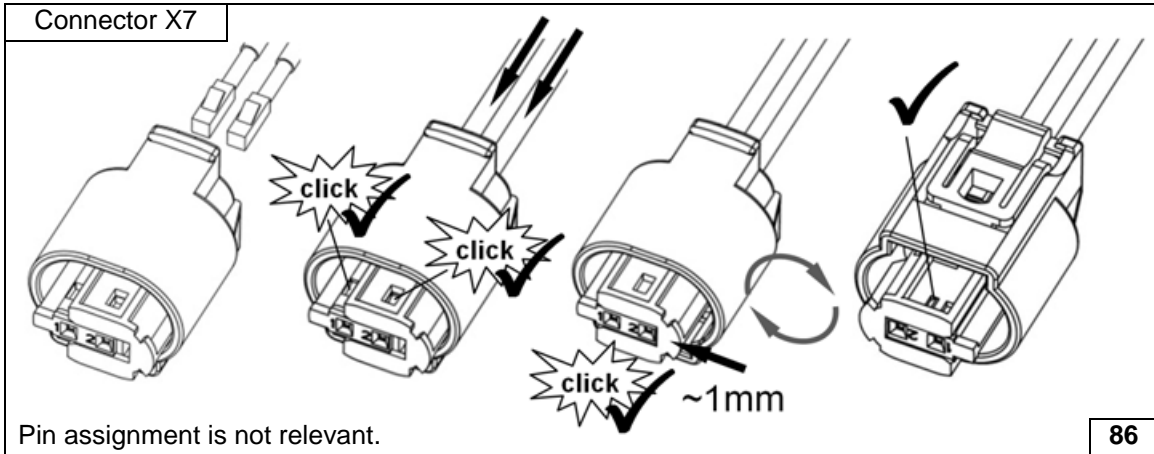
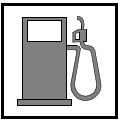
Preparing installation location of metering pump



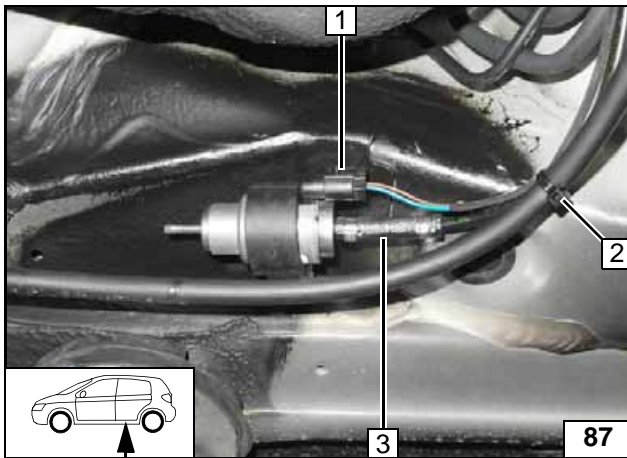
- 1 Metering pump
- 2 Metering pump mount
- 3 M6x25 bolt, support angle bracket



Installing metering pump



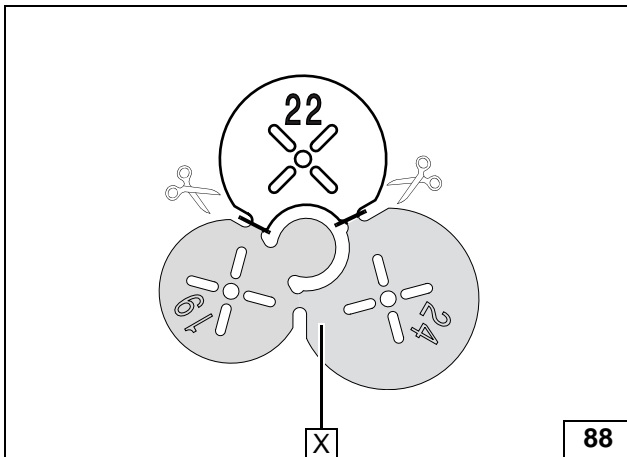
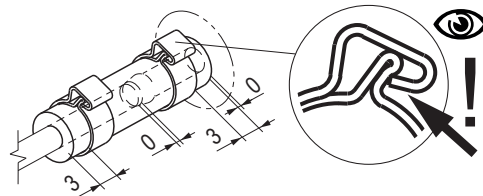
Completing metering pump connector



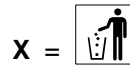
- 1 Metering pump wiring harness, connector X7 mounted
- 2 Cable tie
- 3 Hose section, 10mm dia. clamp [2x]



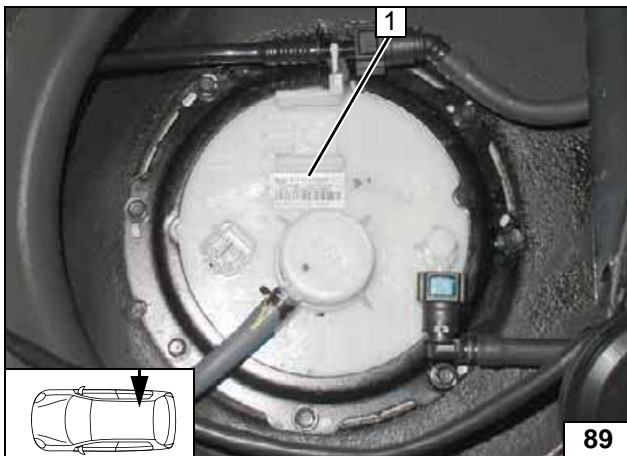
Installing metering pump



Installing FuelFix

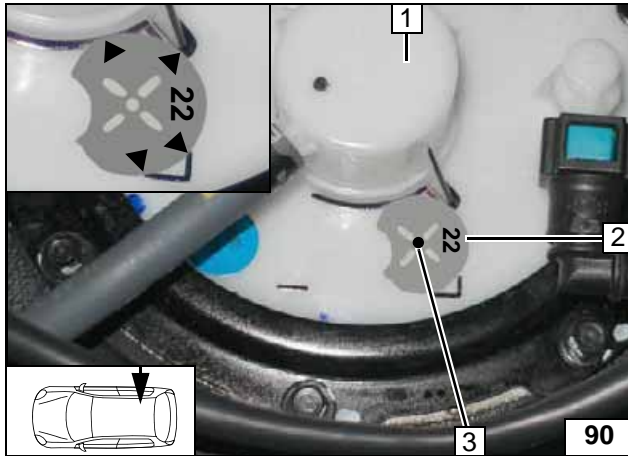
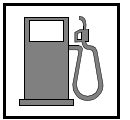


Preparing drilling template



- 1 Move sticker as shown

Moving sticker

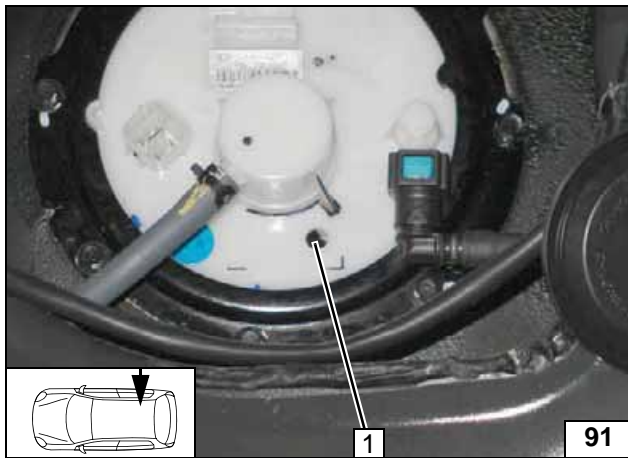


Work steps F1 and F2.

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



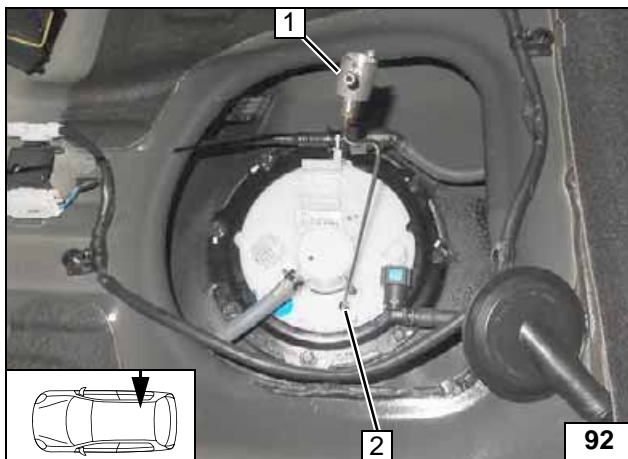
Copying hole pattern



Work step F3.

- 1 Hole made with provided drill

Hole for FuelFix

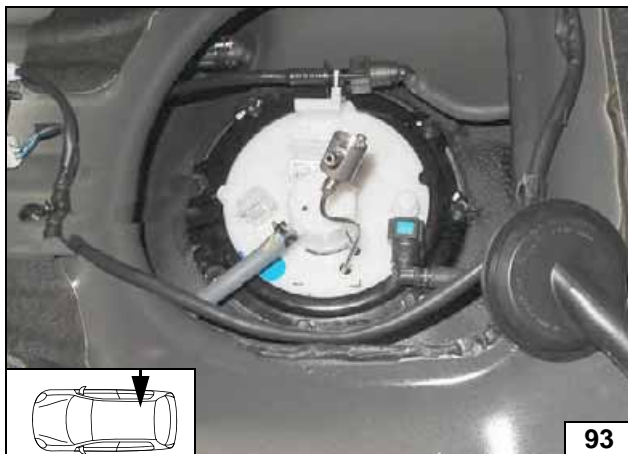


Work steps F4 and F5.

Bend FuelFix 1 according to template and cut to length.
Insert into hole 2.

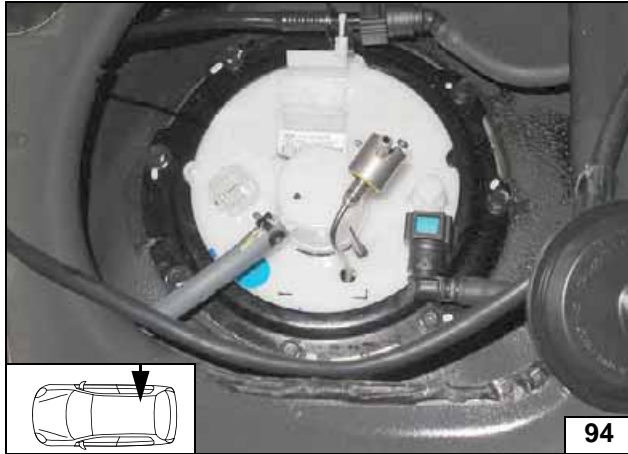
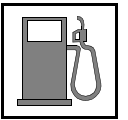


Inserting FuelFix

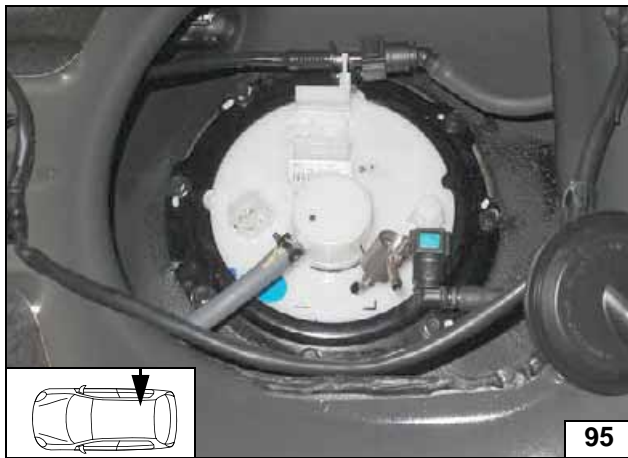


Work step F5.

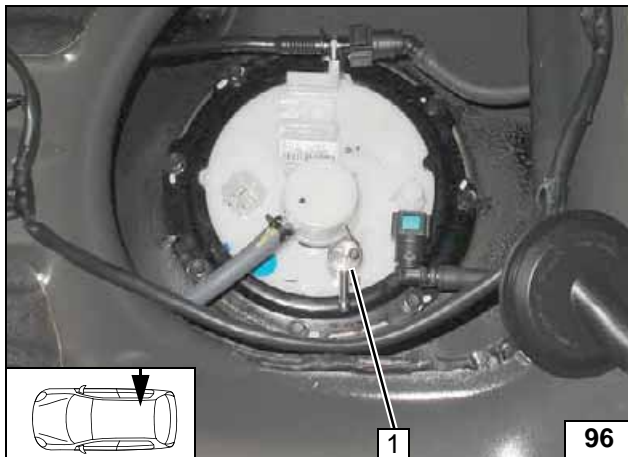
Inserting FuelFix



Inserting FuelFix



Inserting FuelFix

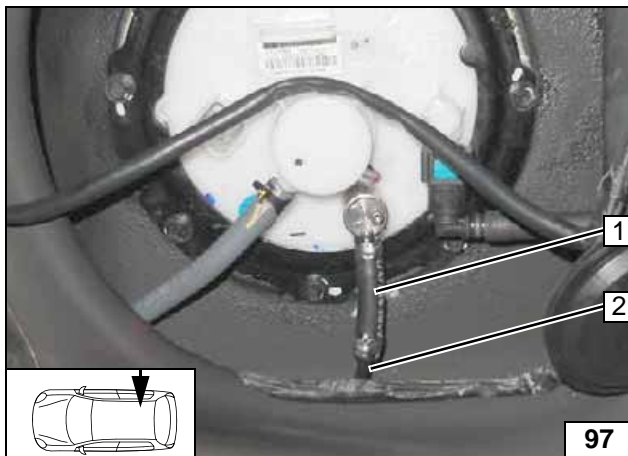


Work steps F5.3 and F5.4.

Align FuelFix 1 as shown.



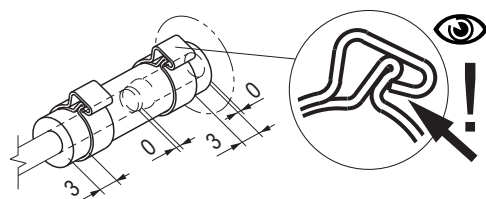
Aligning FuelFix

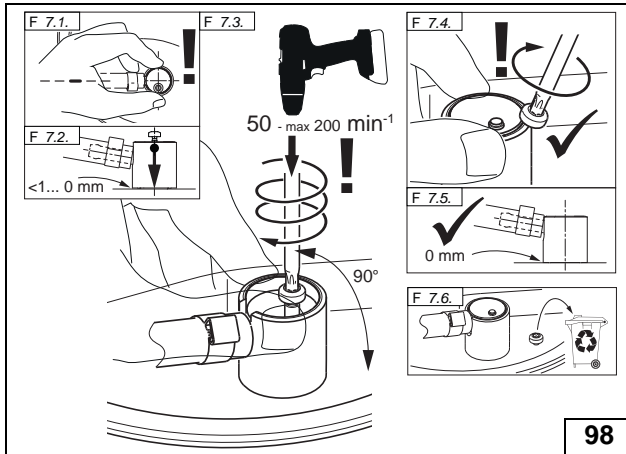
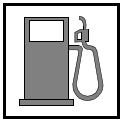


Work step F6.

- 1 Hose section, 10mm dia. clamp [2x]
- 2 Fuel line

Connecting fuel line



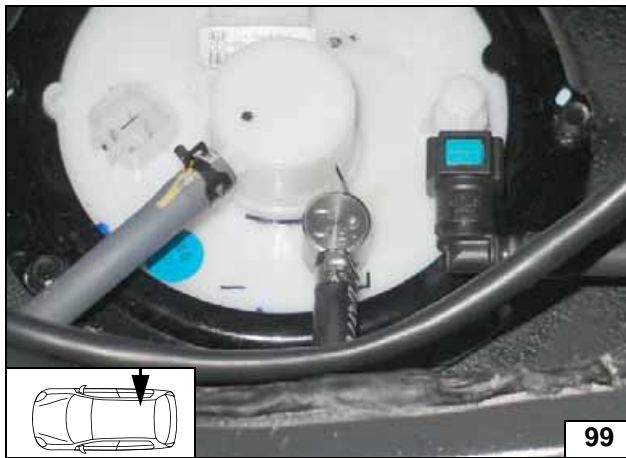


98

Work step F7.



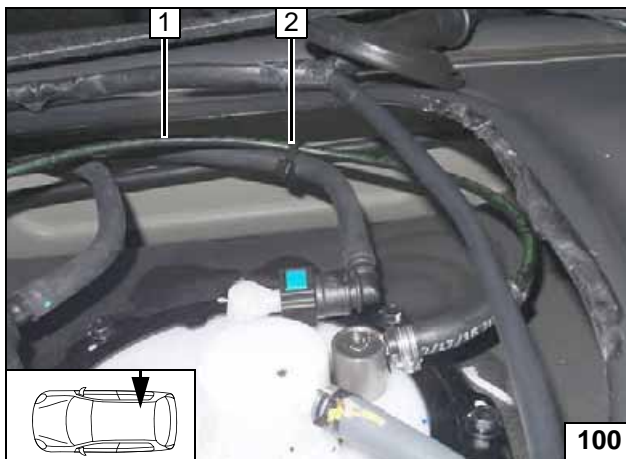
Installing FuelFix



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Work step F8.

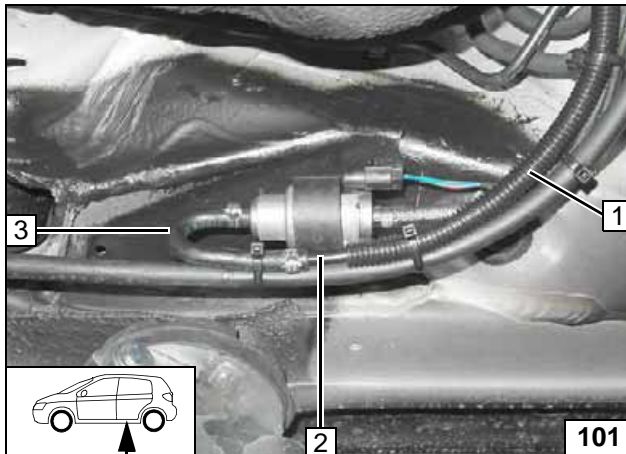
Checking firm seating of FuelFix



100

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

Securing fuel line



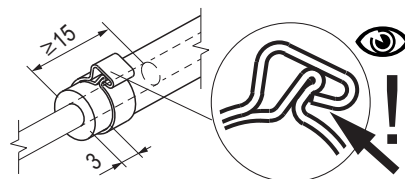
101

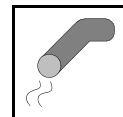
Ensure sufficient distance from neighbouring components, correct if necessary.

- 1 Corrugated tube
- 2 Fuel line
- 3 180° moulded hose, 10mm dia. clamp [2x]



Connecting metering pump

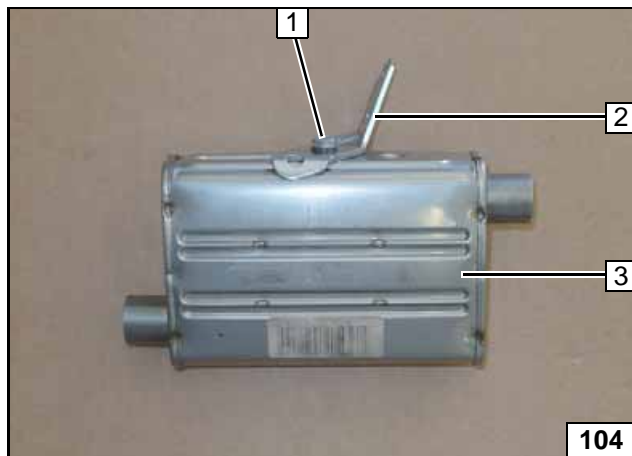
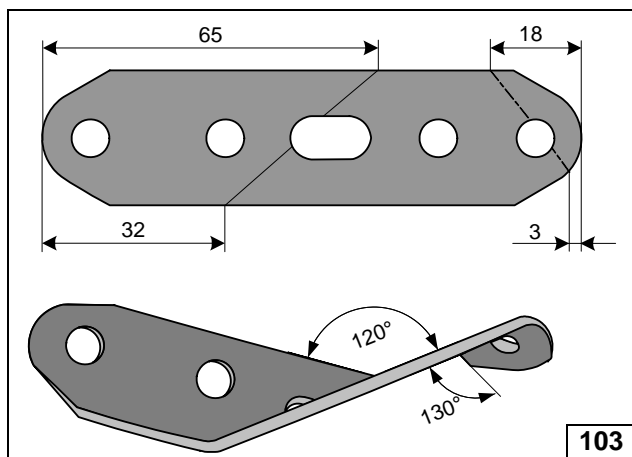
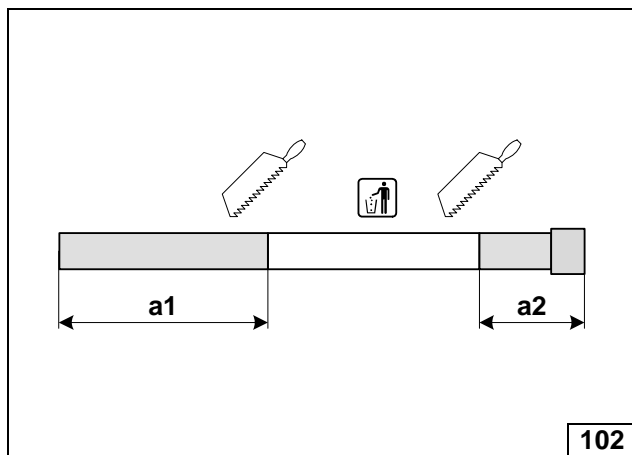




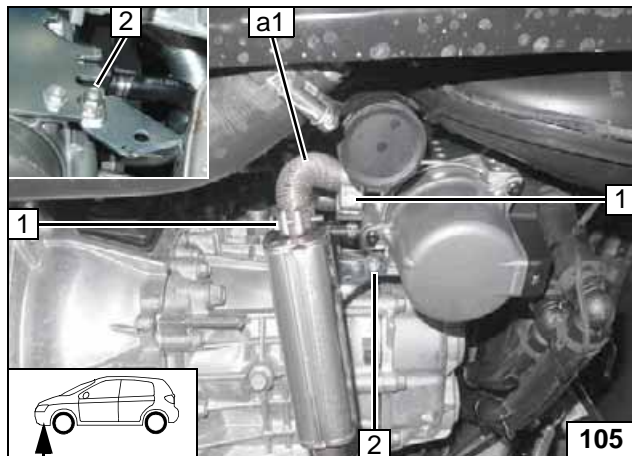
Exhaust Gas

a1 = 100

a2 = 60



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



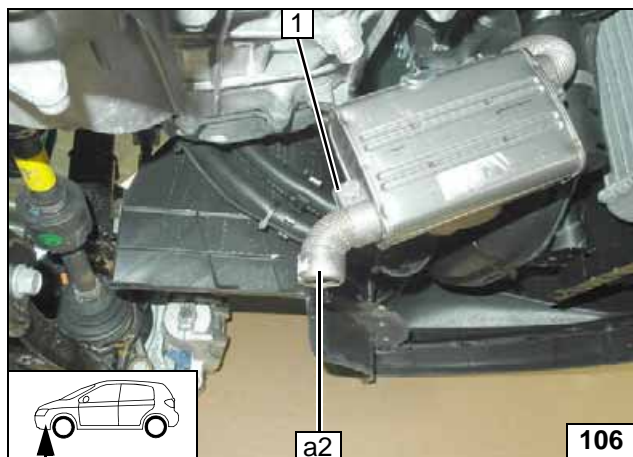
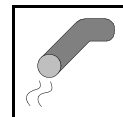
- 1 Hose clamp [2x]
- 2 M5x13 bolt, flanged nut

Preparing ex-
haust pipe

Bending
perforated
bracket

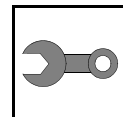
Premounting
exhaust si-
lencer

Installing
silencer
and ex-
haust pipe
a1



1 Hose clamp

Installing
exhaust
pipe a2



Final Work

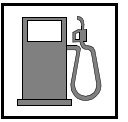


Reassemble the components in reverse order. Check all hoses, clamps and all electrical connections for firm seating. Insulate loose wire ends and tie back.

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

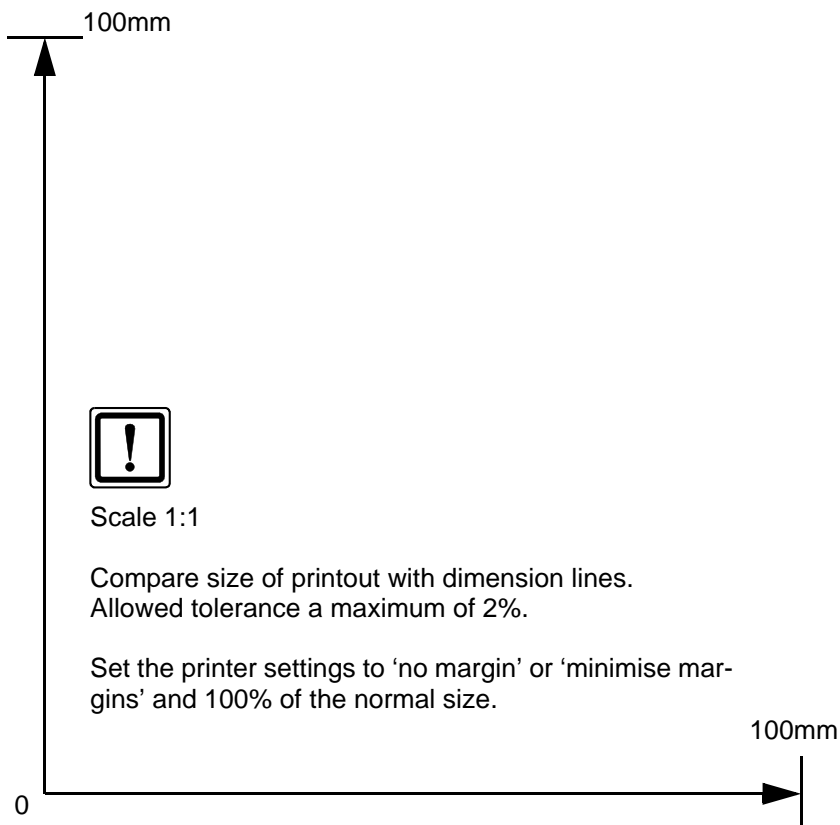
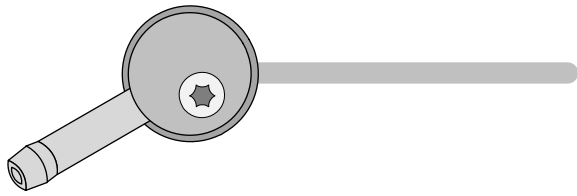
- **Connect the battery.**
- **Fill and bleed the coolant circuit according to the vehicle manufacturer's specifications.**
- **Program MultiControl CAR, teach Teletstart transmitter.**
- **For initial startup and function check, please see installation instructions.**
- **Make settings on the A/C control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





FuelFix Template

Top view



Operating Instructions for Automatic Air-Conditioning

Please remove page and add to the vehicle operating instructions.

Note:

We recommend matching the heating time to the driving time.
 Heating time = driving time

Example:

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

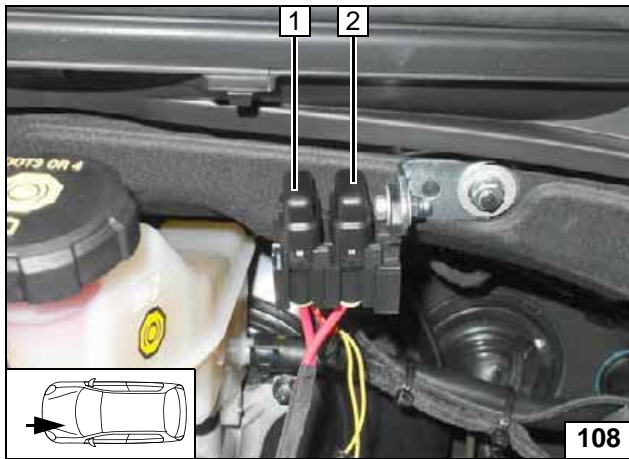
Passenger compartment monitoring, if installed, must be deactivated in addition to the vehicle settings for the heating operation.

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

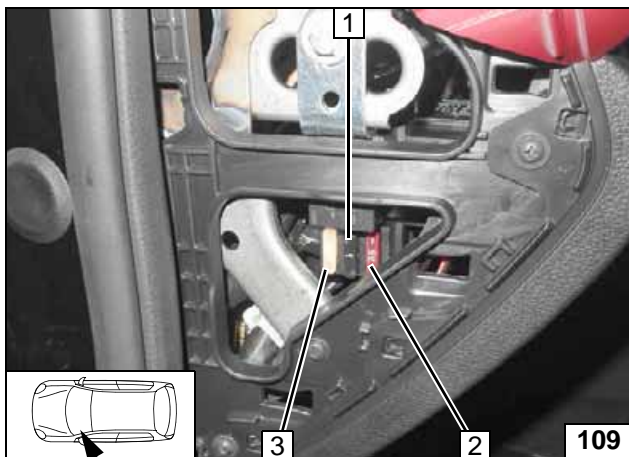
Before parking the vehicle, make the following settings:



- 1 Set temperature to 'HI'
- 2 Set fan to level '2'
- 3 Air outlet to windscreen



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



- 1 1A heater control fuse F3
- 2 7.5A additional fuse F5
- 3 25A fan fuse F4



A/C control panel

Engine compartment fuses

Passenger compartment fuses

