Water Heater

Thermo Top Evo Parking Heater

E1
00 0258

With FuelFix

Installation Documentation
Hyundai ix35

Validity

Manufacturer	Model	Type	EG-BE No. / ABE
Hyundai	ix35	ELH	e11 * 2007 / 46 * 0192 *

Motorisation	Fuel	Transmission type	Output in kW	Displacement in cm³	Engine code
1.7 CRDI	Diesel	SG	85	1685	D4FD
2.0 CRDI	Diesel	SG	100	1995	D4HA
2.0 CRDI	Diesel	SG	135	1995	D4HA
2.0 CRDI	Diesel	AG	135	1995	D4HA

SG = manual transmission
AG = automatic transmission

From Model Year 2014
Left-hand drive vehicle

Verified equipment variants: Manual / automatic air-conditioning system
Front fog lights
2 WD / 4 WD
Xenon with headlight washer system

Not verified: Passenger compartment monitoring

Total installation time: approx. 8.0 hours

Hyundai ix35

Table of Contents

Necessary Components

- Basic delivery scope of Thermo Top Evo based on price list
- Installation kit with FuelFix Hyundai ix35 2014 Diesel: **1321643C**
- To be ordered additionally in case of automatic air-conditioning:
  Automatic air-conditioning kit Hyundaiix352014 **1321645B**
- Heater control in accordance with price list and upon consultation with end customer
- In case of Telestart, indicator lamp in accordance with price list and in consultation with end customer

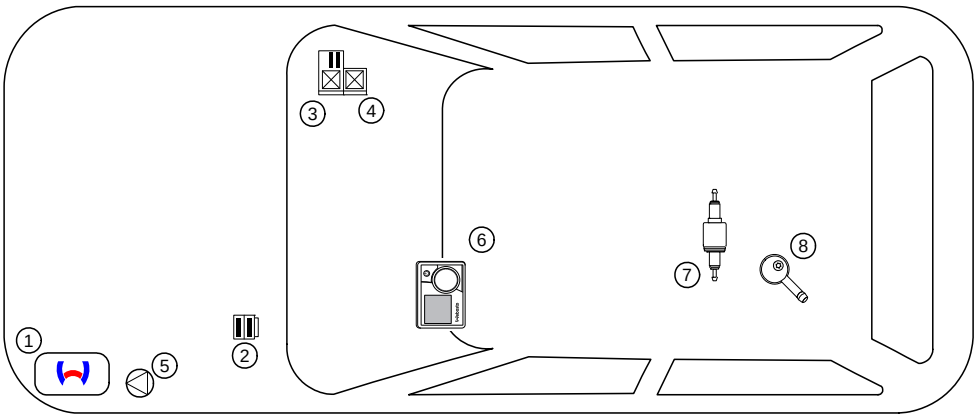
Installation instructions:

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

Installation Overview

Legend:

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



Information on Total Installation Time

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

Information on Operating and Installation Instructions

1 Important notes (not complete)

1.1 Installation and repair

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

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

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

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

1.2 Operation

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

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

Always switch off the heater before refuelling.

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

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

1.3 Please note

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

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

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

Important

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

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

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

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

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

Observe the instructions and guidelines of the respective vehicle manufacturer for demounting and mounting vehicle specific components!

The initial startup is to be executed with the Webasto Thermo Test.

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	TT-Evo
Heating Directive ECE R122	E1 00 0258
EMC Directive ECE R10	E1 04 5627

Note

The regulations of these guidelines are binding in the scope of the Directive 70/156/EEC and/or 2007/46/EC (for new vehicle models from 29/04/2009) and should also be observed in countries in which there are no special regulations.

Important

Failure to follow the installation instructions will result in the invalidation of the type approval for the heater and therefore invalidation of the general **homologation of the vehicle**.

Note

The heater is licensed in accordance with paragraph 19, section 3, No. 2b of the StVZO (German Road Traffic Licensing Authority).

2.1 Excerpt from the directive 122 (heater) section 5 for the installation of the heater.

Beginning of excerpt.

ANNEX VII

REQUIREMENTS FOR COMBUSTION HEATERS AND THEIR INSTALLATION

1. GENERAL REQUIREMENTS

1.7.1. A clearly visible 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 gas outlet must be located so as to prevent emissions from entering the vehicle through ventilators, heated air inlets or opening windows.

2.5. Combustion air inlet

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

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

2.6. Heating air inlet

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

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

2.7. Heating air outlet

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

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

End of excerpt.

In multilingual versions the German language is binding.

Information on Validity

This installation documentation applies to Hyundai ix35 Diesel vehicles - for validity, see page 1 - from model year 2014 and later, assuming technical modifications to the vehicle do not affect installation, any liability claims excluded. Depending on the vehicle version and equipment, modifications may be necessary during installation with respect to this installation documentation.

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

Technical Information

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

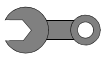
Dimensions
- All dimensions are in mm.

Tightening torque values
- Tightening torque values of 5x13 heater bolts and 5x11 heater stud bolts = 8Nm.
- Tightening torque values 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 damage to components.

Specific risk due to electrical voltage

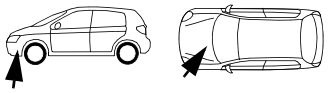
Specific risk of injury or fatal accidents.

Specific risk of fire or explosion.

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

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.

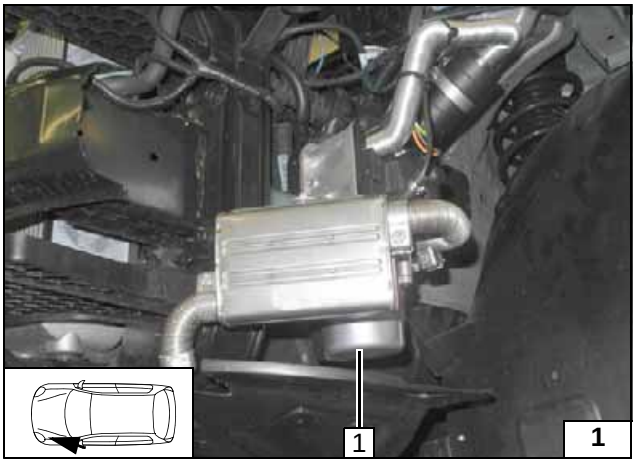
Preliminary Work

Vehicle

- Open the fuel tank cap.
- Ventilate the fuel tank.
- Close the fuel tank cap again.
- Depressurise the cooling system.
- Disconnect and completely remove the battery together with the carrier.
- Remove the air filter together with the intake connection piece.
- Remove the engine control unit.
- Remove the underride protection.
- Remove the underbody trim on the left in front of the tank.
- Release the wheel well trim in the front area.
- Remove the bumper.
- Remove the seat surface of the rear bench seat (a screw fitting is accessible from the boot).
- Open the tank-fitting service lid.
- Remove the entrance strip on the front passenger's side.
- Completely remove the glove compartment.
- Remove the A-pillar trim in the front passenger's side footwell.
- Remove the shift lever trim (only in case of MultiControl CAR).

Heater

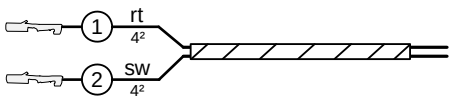
- Remove years that do not apply from the type and duplicate label.
- Attach the duplicate label (type label) in the appropriate place in the engine compartment.



Heater Installation Location

1 Heater

Installation location



2

Preparing Electrical System

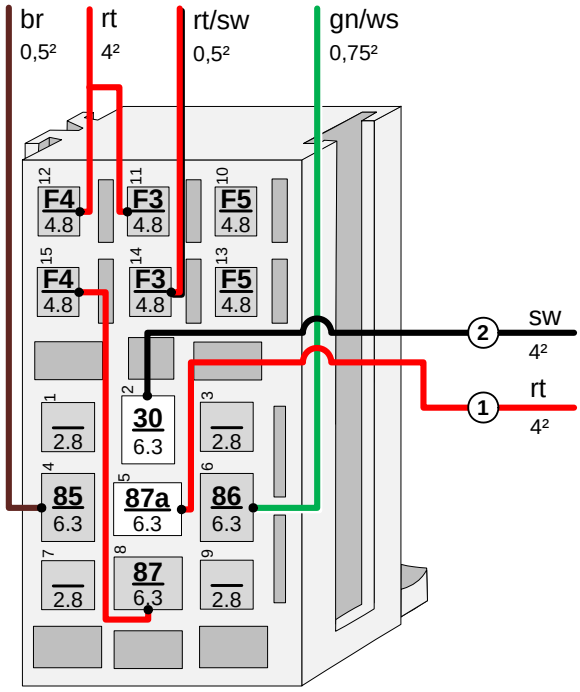
All vehicles

Wire sections retain their numbering throughout the entire document.

Produce all following electrical connections as shown in wiring diagram.

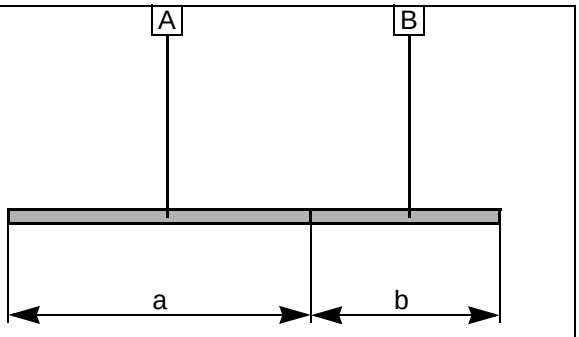
① Red (rt) wire of fan wiring harness
② Black (sw) wire of fan wiring harness

Cutting to length / assigning wires



3

Connecting wires to passenger compartment relay and fuse holder

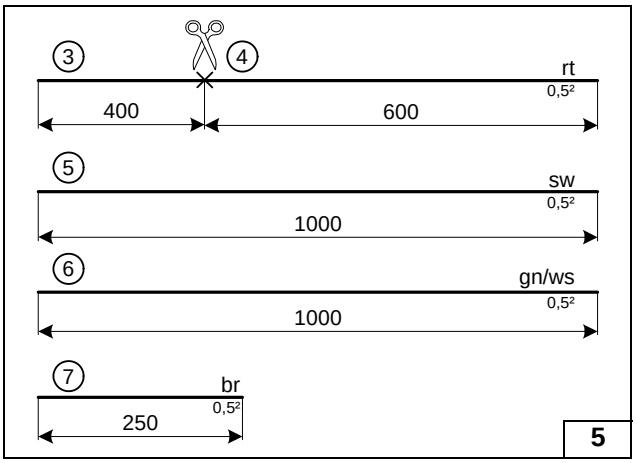


1

In addition in case of automatic A/C

a = 600
b = 400

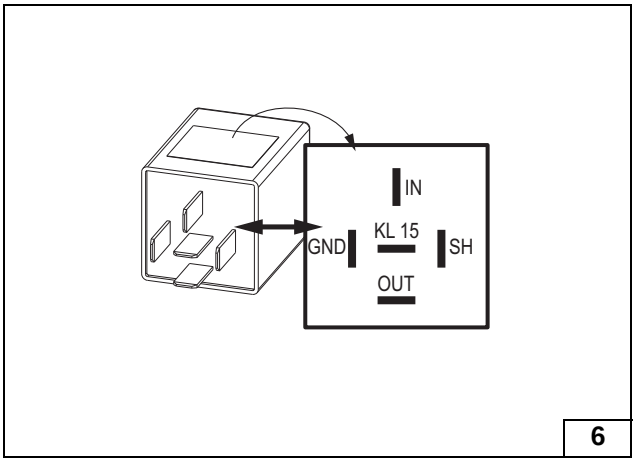
Cutting protective sleeving to length



5

Pull red (rt) wire ④ and black (sw) wire ⑤ into protective sleeving **A**. Pull green/white (gn/ws) wire ⑥ and red (rt) wire ③ into protective sleeving **B**.

Cutting to length / assigning wiring harnesses



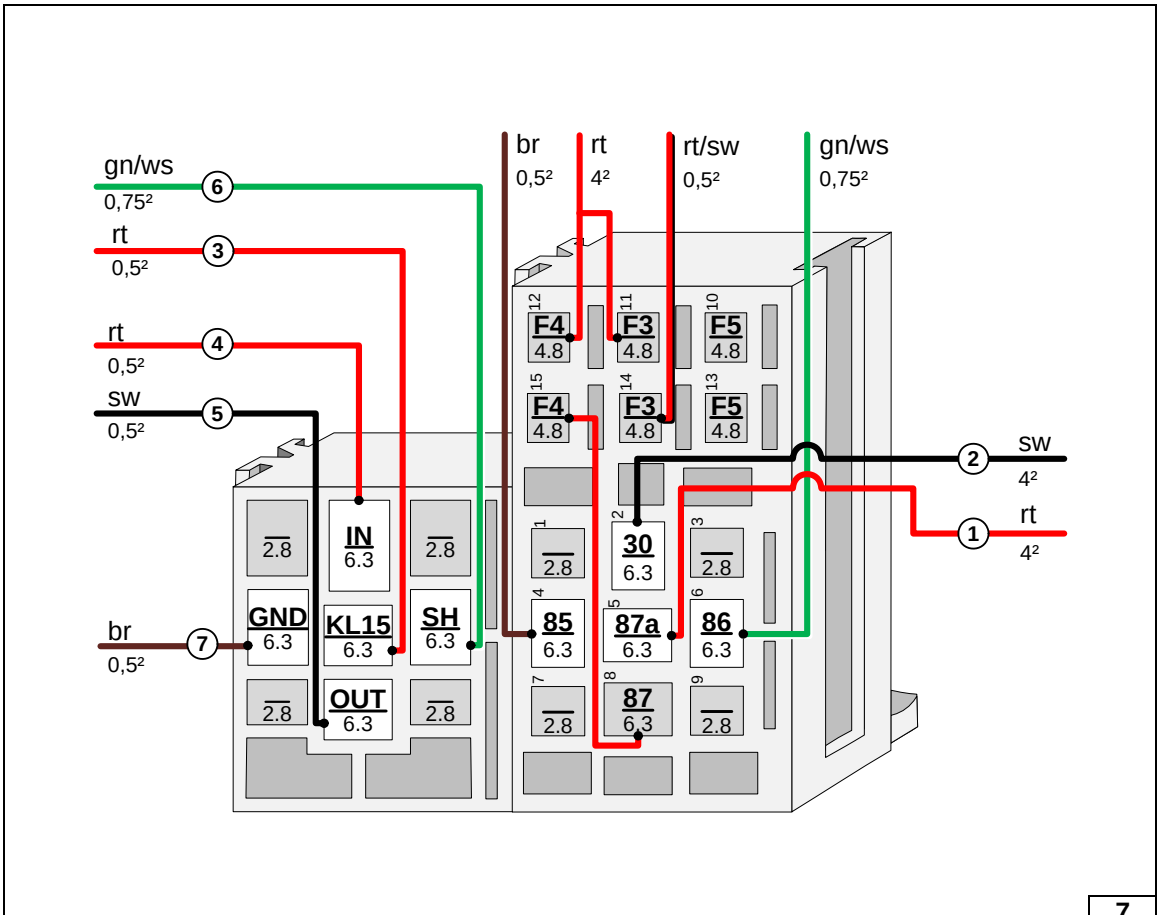
6

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

Settings:

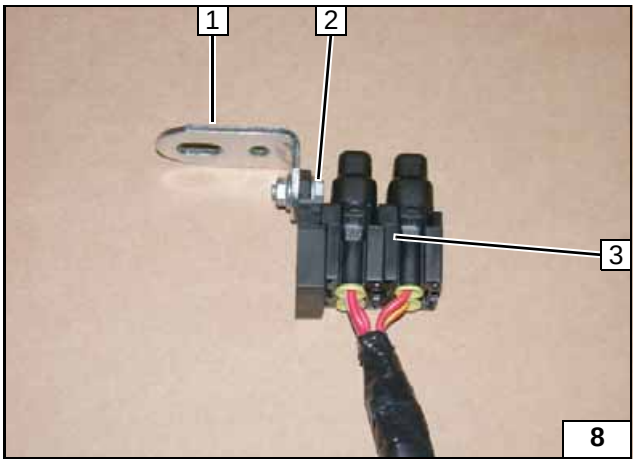
Duty cycle: 100% (DC)
Frequency: not relevant
Voltage: 4.2V
Function: High side

Preparing PWM GW



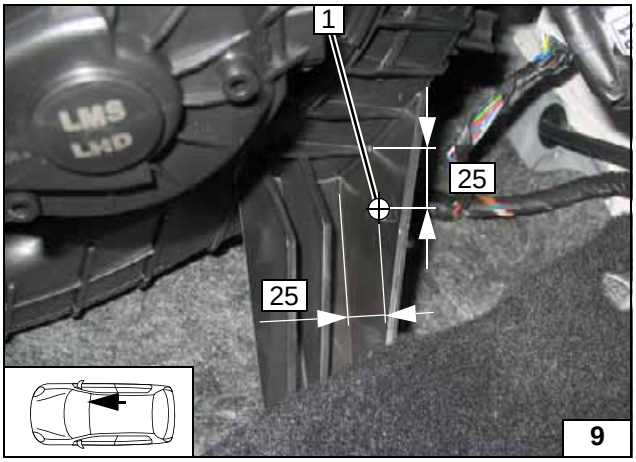
7

Preparing passenger compartment relay and fuse holder



1 Angle bracket
2 M5x16 bolt, washer, retaining plate of fuse holder, washer, nut
3 Fuses F1-2 mounted

Preparing engine compartment fuse holder



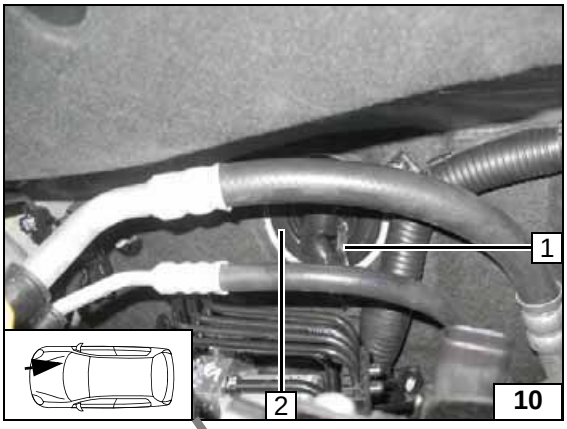
1 5.5 dia. hole (short drill)

Hole for passenger compartment relay and fuse holder

Electrical System

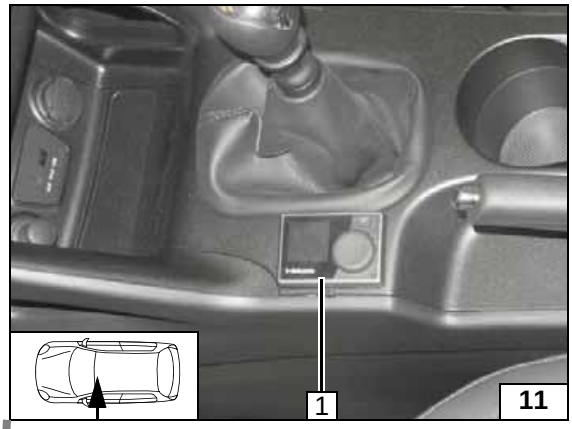
Wiring harness pass through

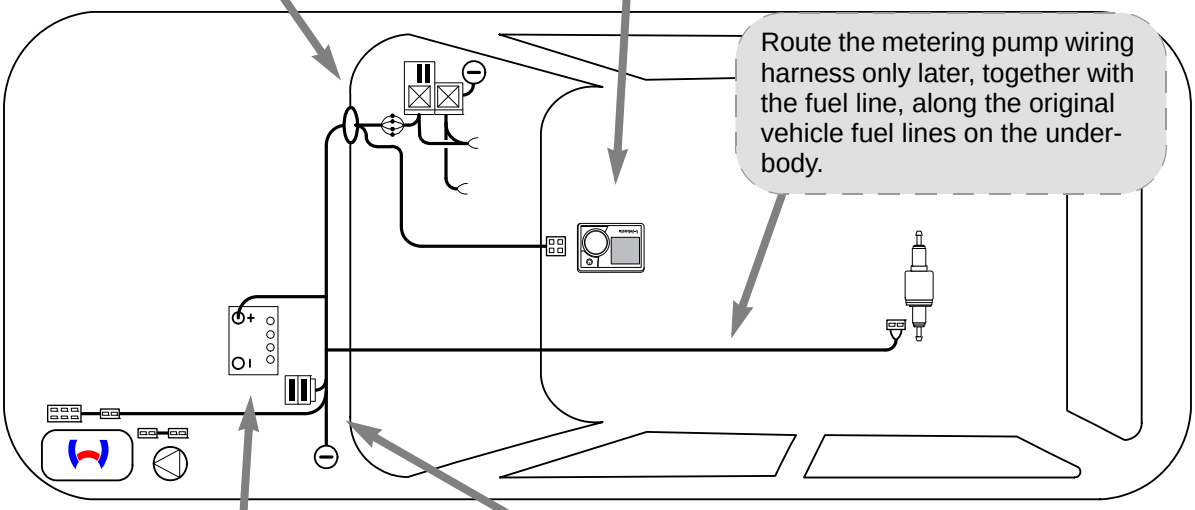
1 Wiring harnesses of heater, heater control
2 Protective rubber plug



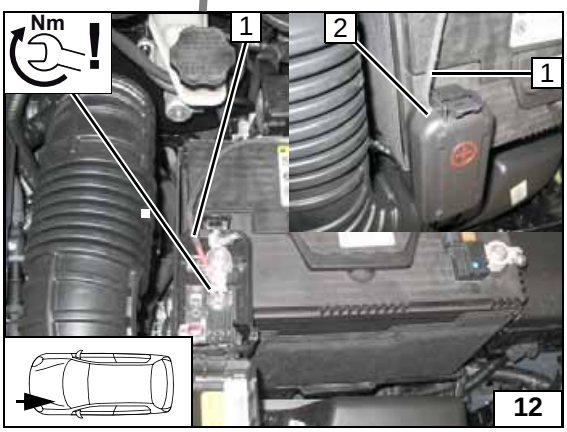
MultiControl CAR

1 MultiControl CAR



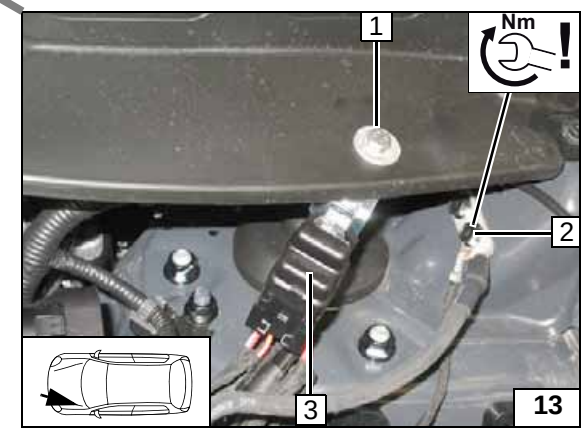


Wiring harness routing diagram



Positive wire

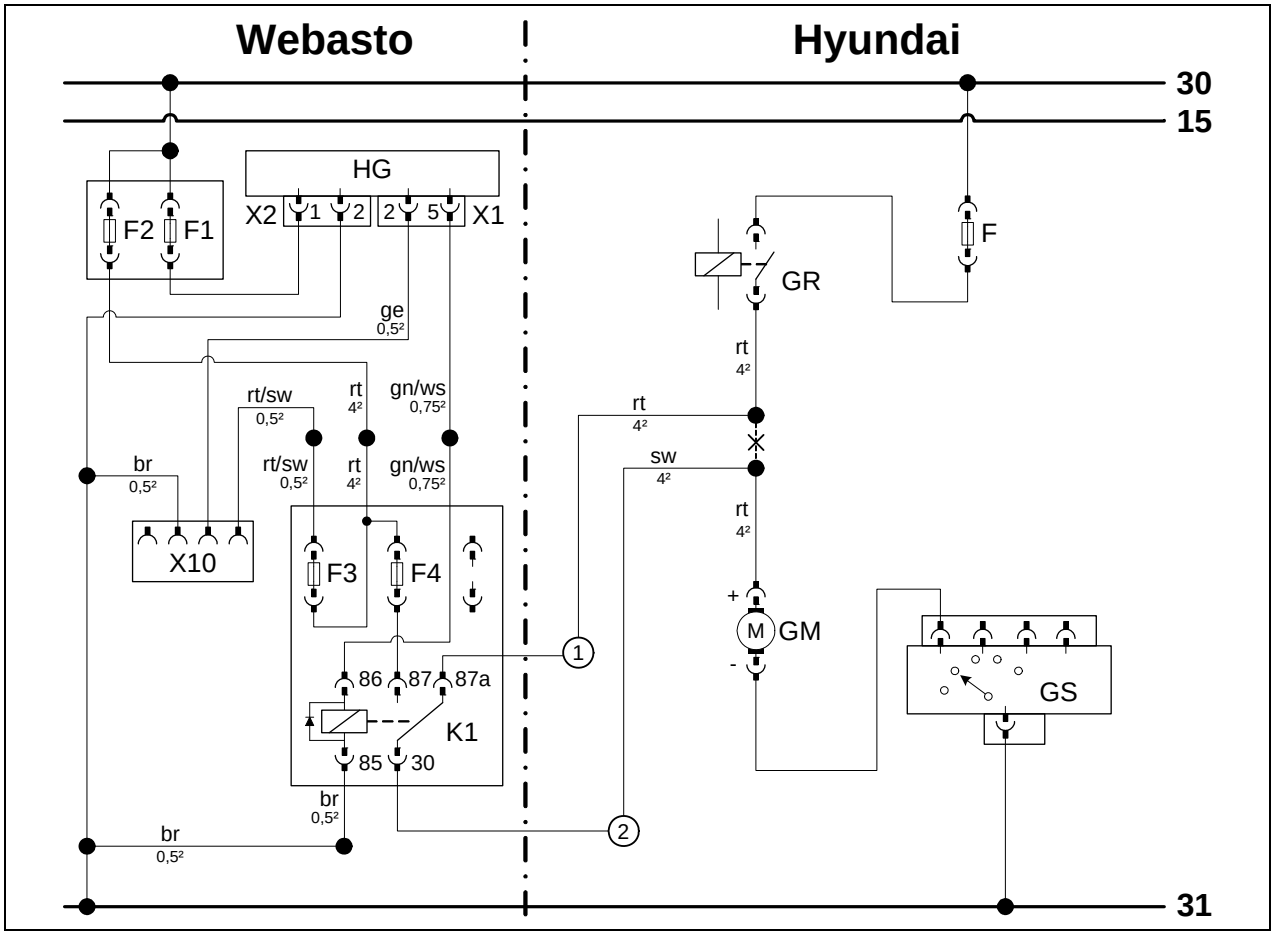
1 Positive wire on positive battery terminal
2 Make a groove in the positive wire cover



Engine compartment fuse holder, earth wire

1 Remove clip, M6x20 bolt, large diameter washer, flanged nut
2 Earth wire on original vehicle earth point
3 Fuses F1-2

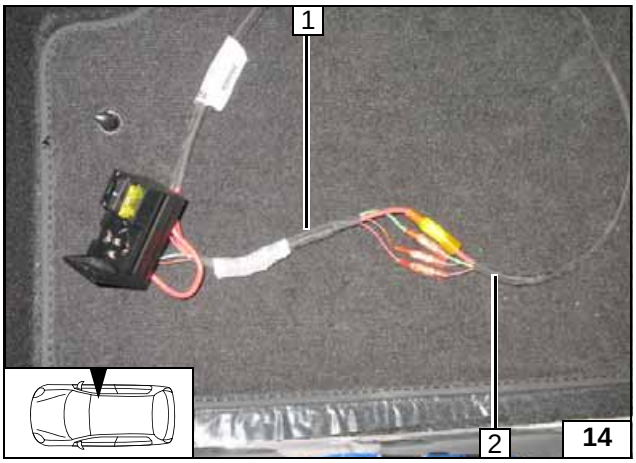
Fan Controller for Manual Air-Conditioning



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

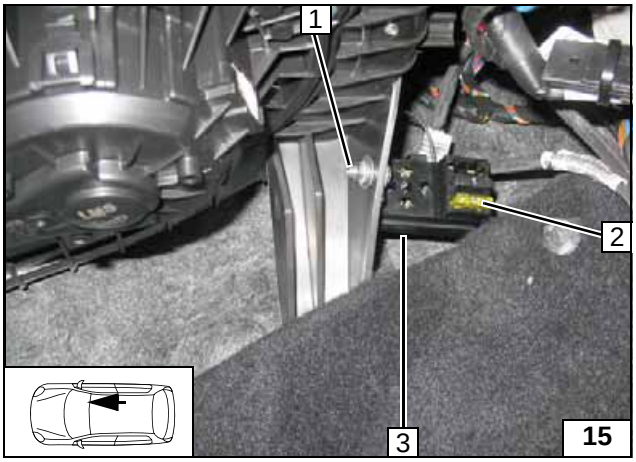
Wiring diagram

Legend



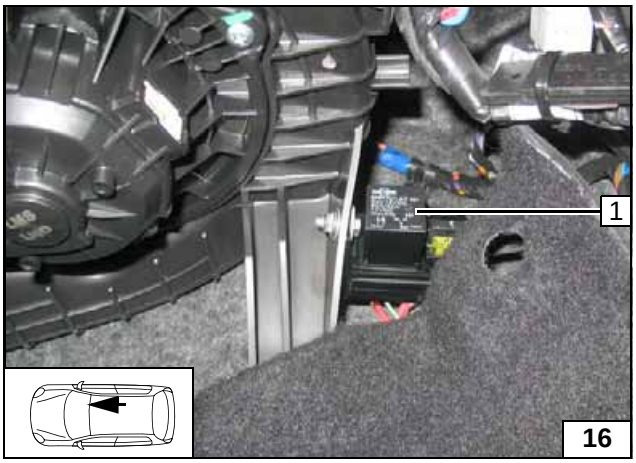
1 Wiring harness of passenger compartment relay and fuse holder
2 Wiring harness of heater

Connecting same colour wires of wiring harnesses



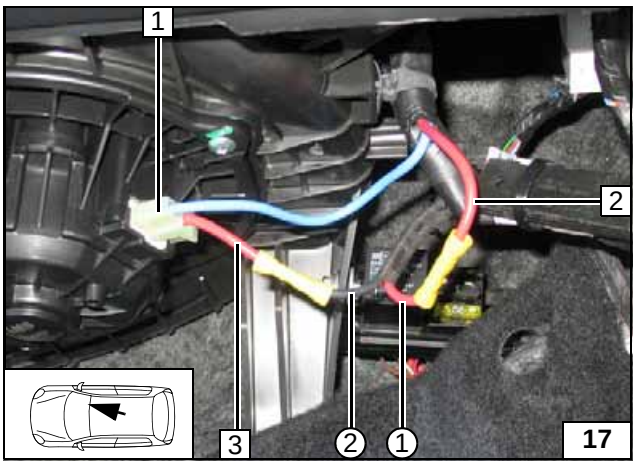
1 M5x16 bolt, large diameter washer [2x], nut
2 25A fuse F4
3 Passenger compartment relay and fuse holder

Installing passenger compartment relay and fuse holder



1 K1 relay

Installing K1 relay



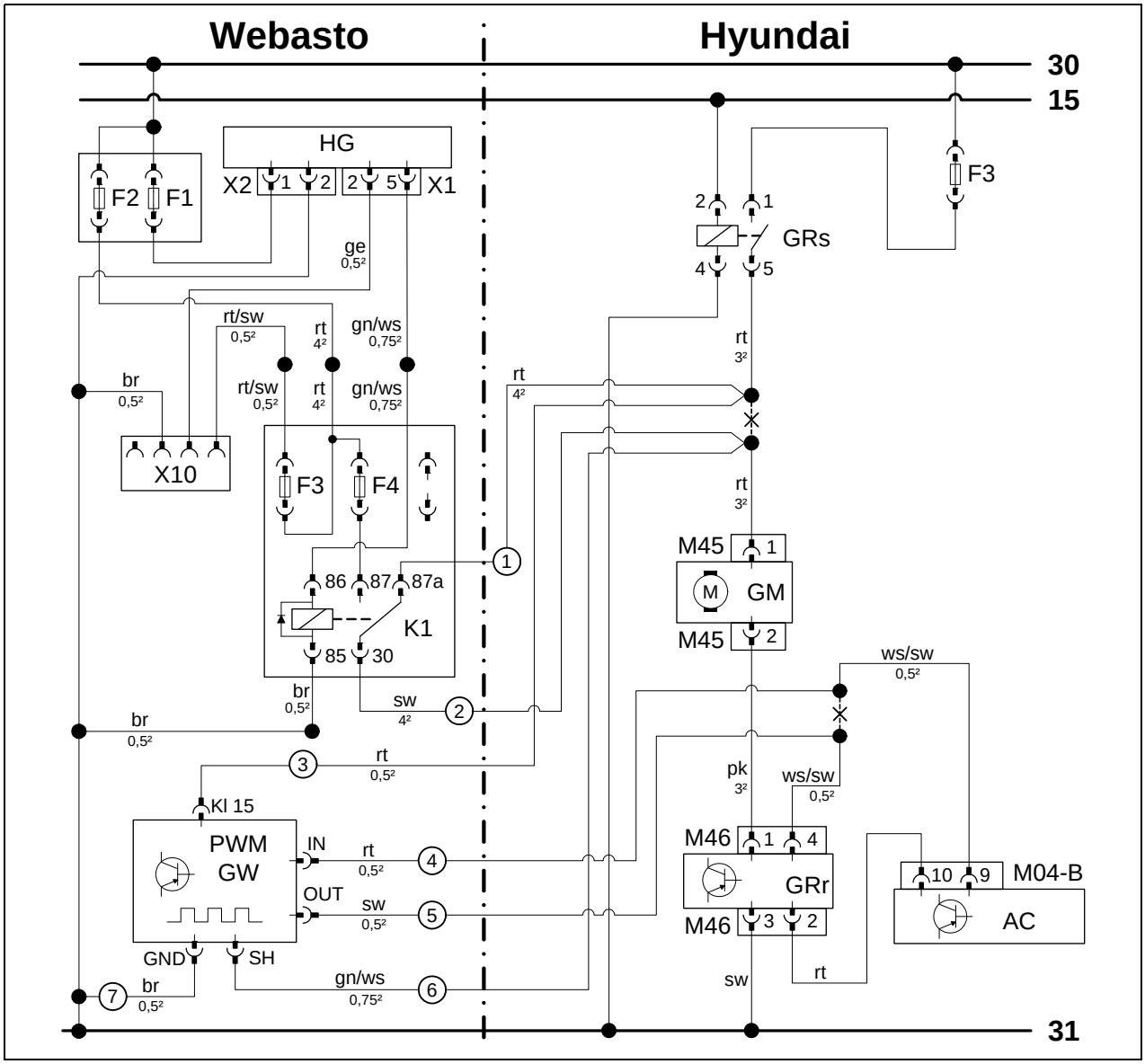
Connection to 2-pin connector **1** from the fan motor.

2 Red (rt) wire from fuse
3 Red (rt) wire for fan motor connector
① Red (rt) wire from K1/87a, fan wiring harness
② Black (sw) wire from K1/30, fan wiring harness

Connection of fan motor

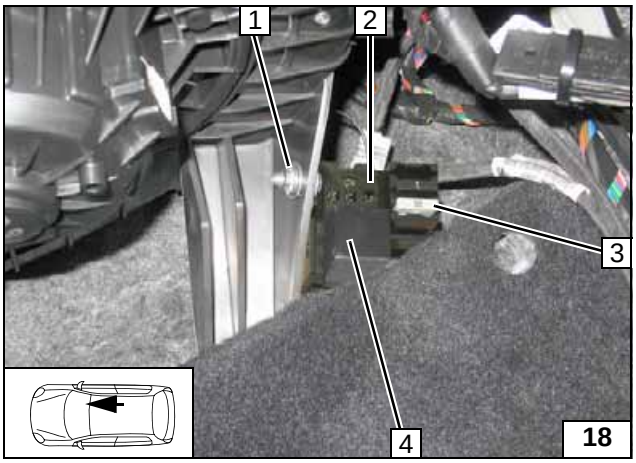
Fan Controller for Automatic Air-Conditioning

Wiring diagram



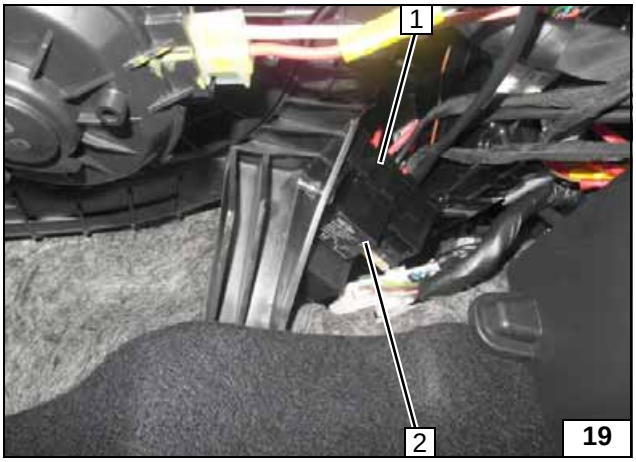
Legend

Webasto components		Vehicle components		Colours and symbols	
HG	TT-Evo heater	F3	40A fuse	rt	red
X1	6-pin heater connector	GRs	Fan relay	sw	black
X2	2-pin heater connector	GM	Fan motor	ge	yellow
F1	20A fuse	M45	2-pin connector GM	gn	green
F2	30A fuse	GRr	Fan controller	or	orange
X10	4-pin connector of heater control	M46	4-pin connector GRr	ws	white
		AC	A/C control unit	br	brown
F3	1A fuse	M04-B	AC connector	gn/ws	green/white
F4	25A fuse			rt/sw	red/black
K1	Fan relay				
PWM-GW	Pulse width modulator gateway				
PWM-GW settings					
Duty cycle:	100% (DC)				
Frequency:	not relevant				
Voltage:	4.2V			**X**	Cutting point
Function:	High side			Wiring colours may vary.	



1 M5x16 bolt, large diameter washer [2x], nut
2 Passenger compartment relay and fuse holder
3 25A fuse F4
4 PWM GW

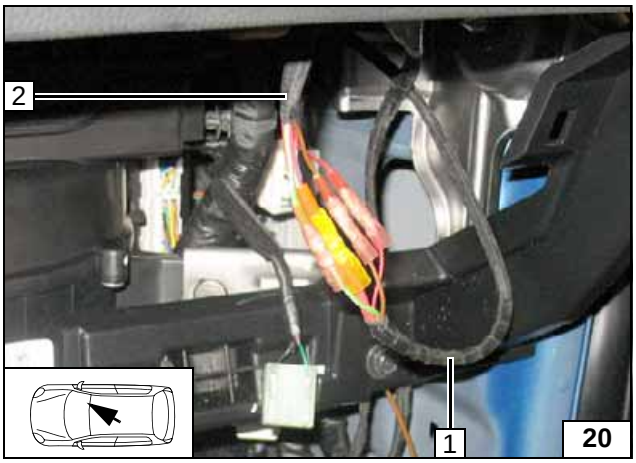
Installing passenger compartment relay and fuse holder



Align the passenger compartment relay and fuse holder **1** as shown in the diagram.

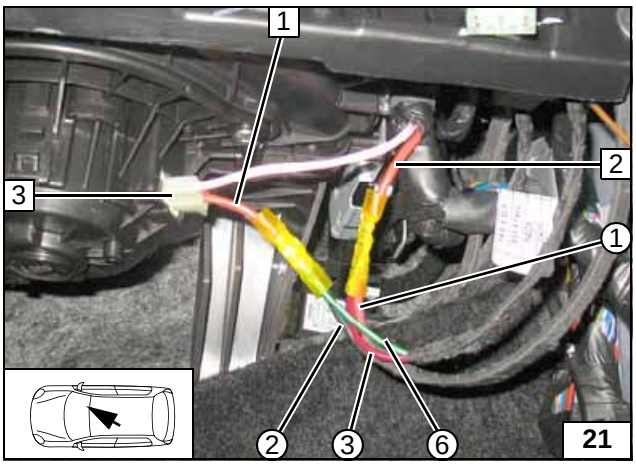
2 K1 relay

Installing K1 relay



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

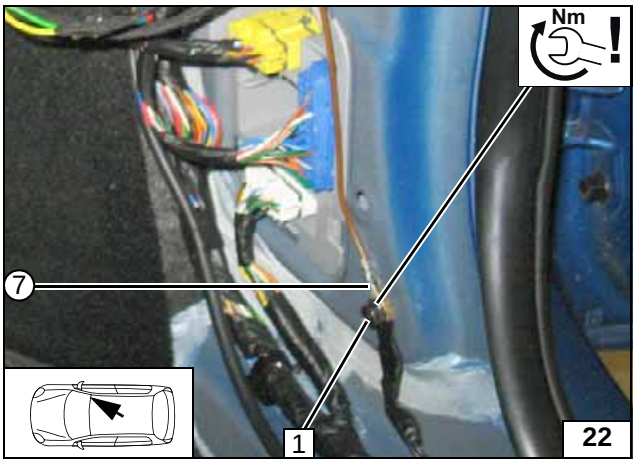
Connecting same colour wires of wiring harnesses



Connection to 2-pin connector M45 **3** of fan motor.

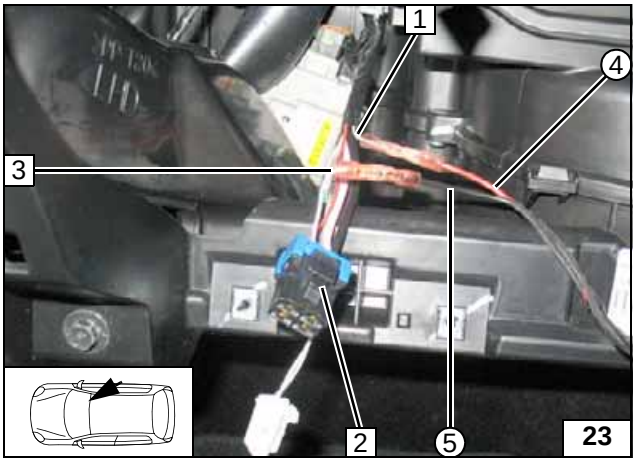
1 Red (rt) wire from connector M45
2 Red (rt) wire from fan relay
① Red (rt) wire from K1/87a, fan wiring harness
② Black (sw) wire from K1/30, fan wiring harness
③ Red (rt) wire for PWM-GW/KL 15
⑥ Green/white (gn/ws) wire of PWM-GW/SH

IPCU earth connection



1 Original vehicle bolt
⑦ Brown (br) wire of PWM-GW/GND

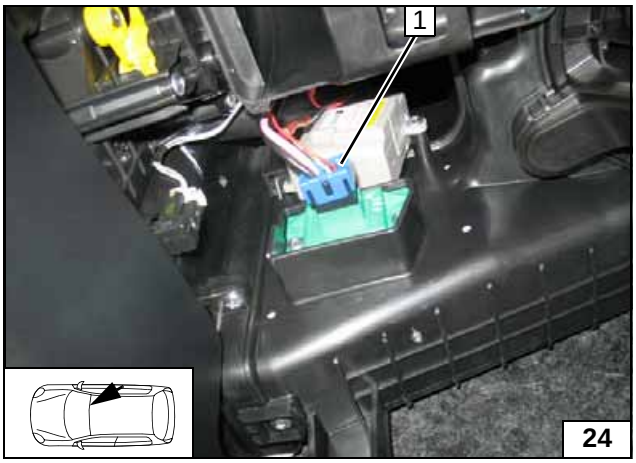
Earth connection for PWM-GW



Connection to 4-pin connector M46 **2** from fan controller.

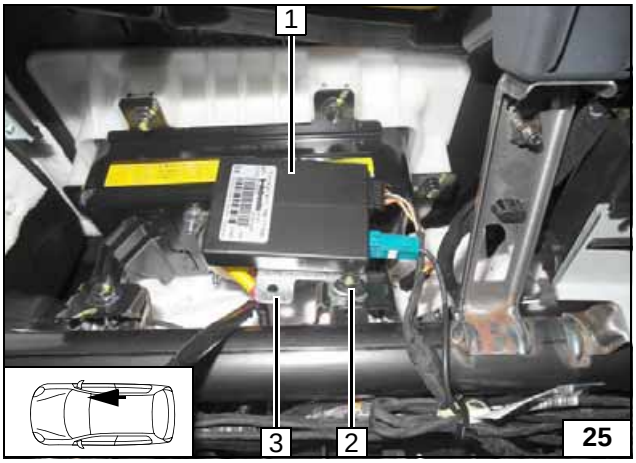
1 White/black (ws/sw) wire of A/C control unit, pin 9
3 White/black (ws/sw) wire of connector M46 pin 4
④ Red (rt) wire of PWM-GW/IN
⑤ Black (sw) wire of PWM-GW/OUT

Connecting fan controller



1 Socket for connector M46

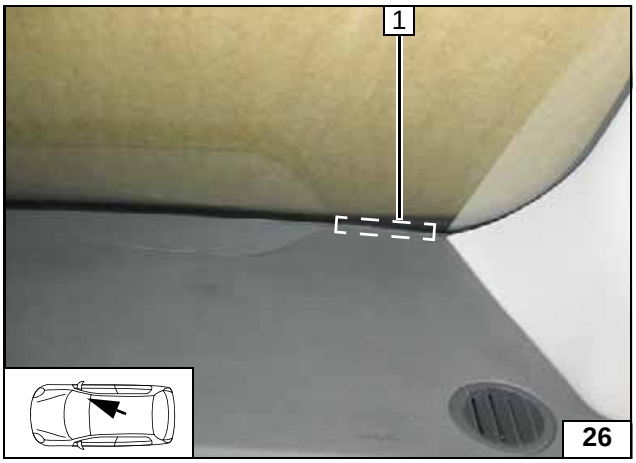
Inserting connector



Remote Option (Telestart)

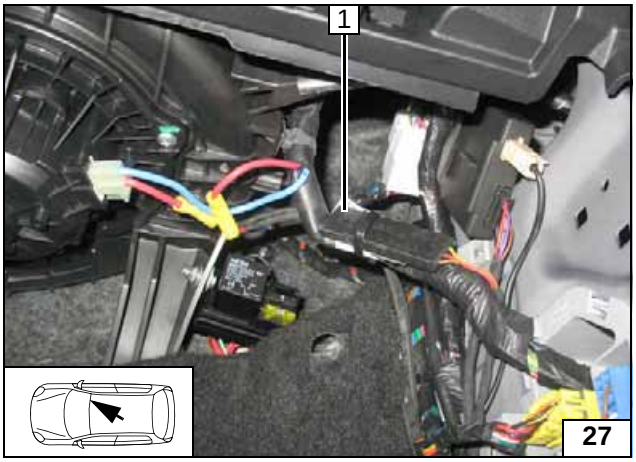
1 Receiver
2 Original vehicle bolt
3 Bracket

Installing receiver



Stick antenna **1** above the wiper heating element.

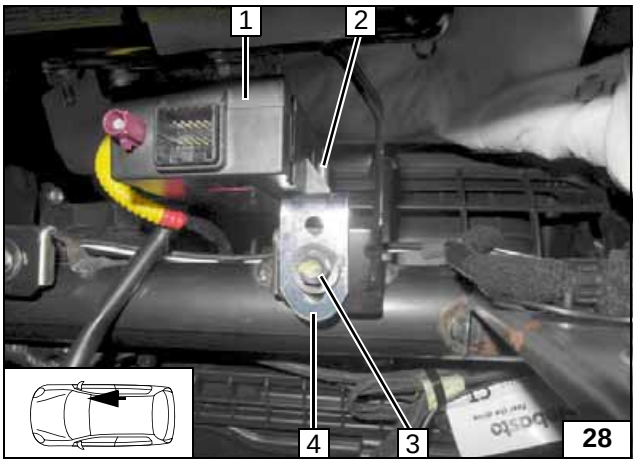
Installing antenna



Temperature sensor T100 HTM

Fasten temperature sensor **1** with a cable tie.

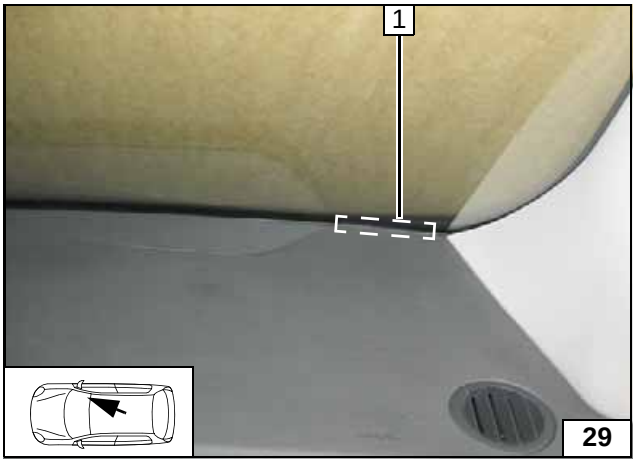
Installing temperature sensor



Thermo Call Option

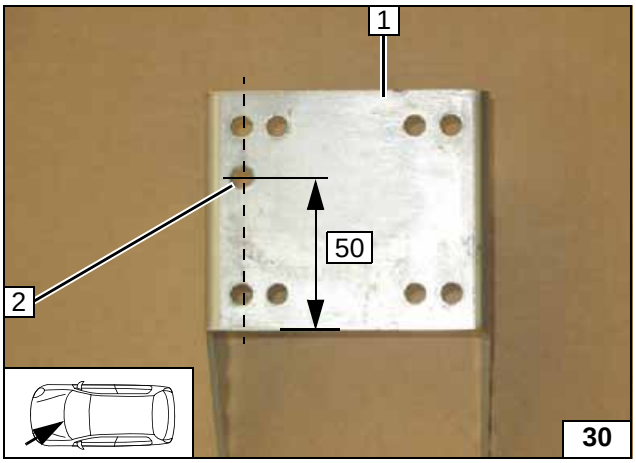
1 Receiver
2 M5x16 bolt, large diameter washer, nut
3 Original vehicle bolt
4 Angle bracket

Installing receiver



Stick antenna **1** above the wiper heating element.

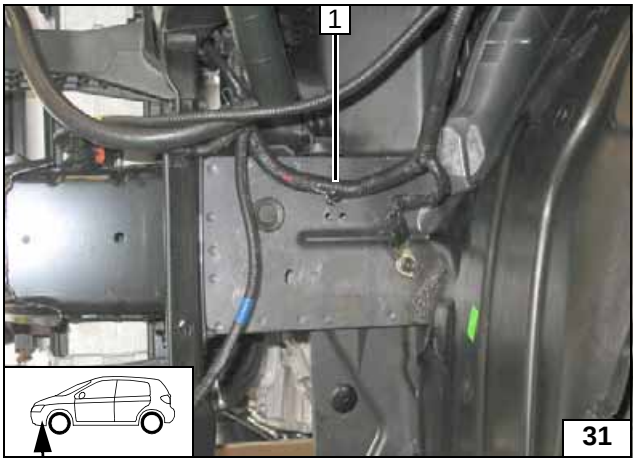
Installing antenna



Preparing Bracket

1 Bracket
2 7 mm dia. hole

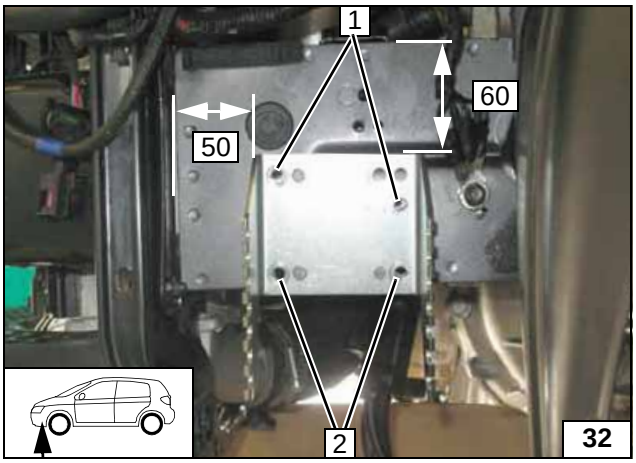
Drilling bracket



Preparing Installation Location

1 Detach retaining clip

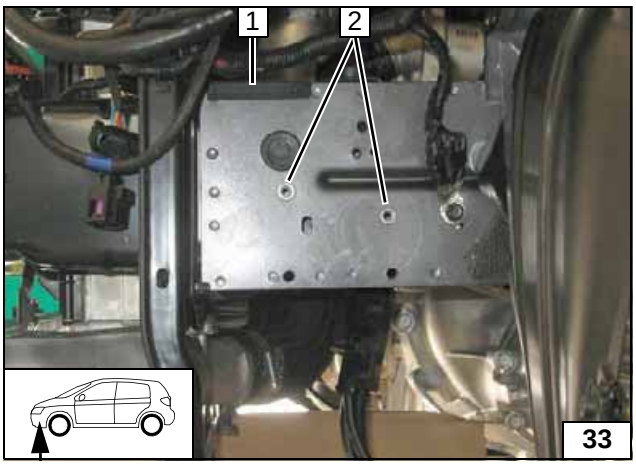
Detaching wiring harness



Align bracket as shown.

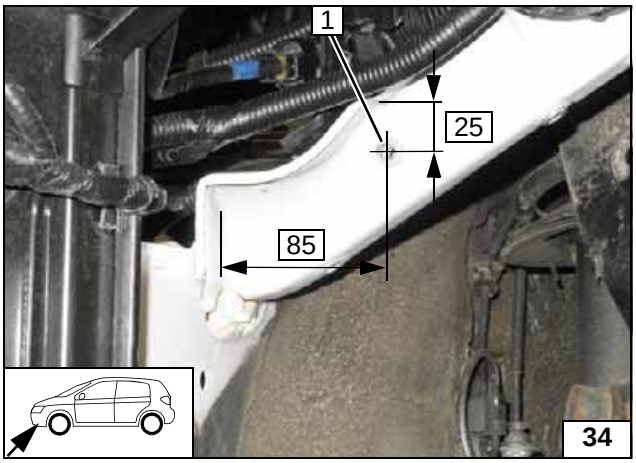
1 Copy hole pattern, 9.1mm dia. hole [2x]
2 Copy hole pattern, 7 mm dia hole [2x]

Copying hole pattern



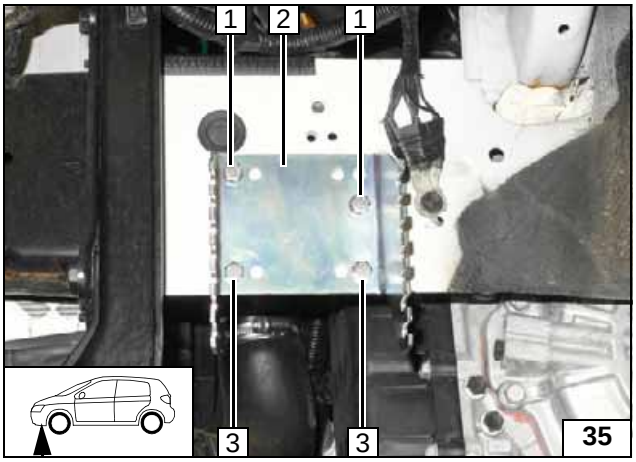
1 50 mm edge protection
2 Insert rivet nut [2x]

Mounting water connection piece



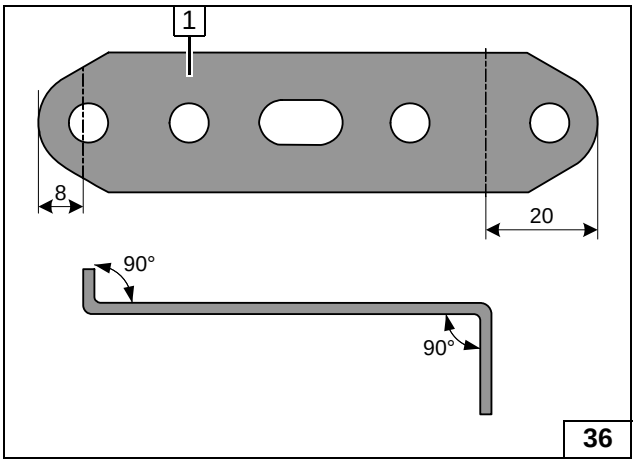
1 9.1mm dia. hole; rivet nut

Installing rivet nut



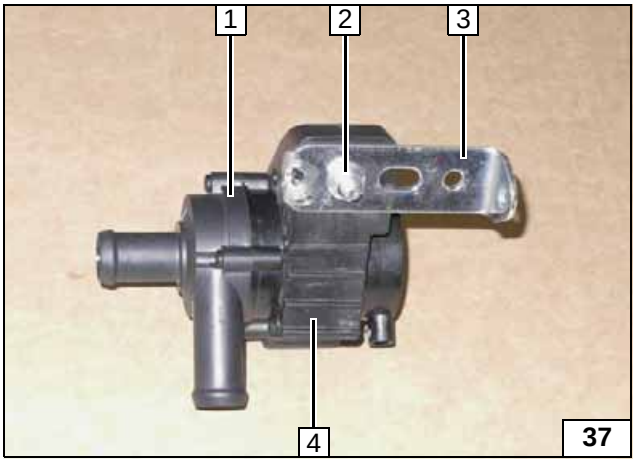
1 M6x20 bolt, spring lockwasher [2x each]
2 Bracket
3 M6x20 bolt, flanged nut [2x]

Premounting bolts loosely



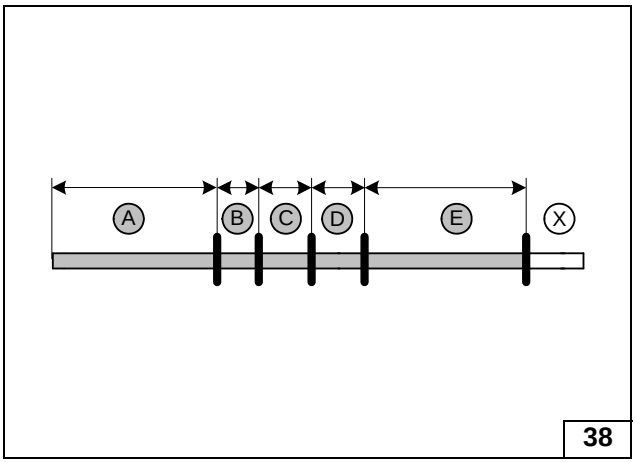
1 Perforated bracket

Preparing perforated bracket



1 Circulating pump
2 M6x25 bolt, flanged nut
3 Perforated bracket
4 Circulating pump mounting

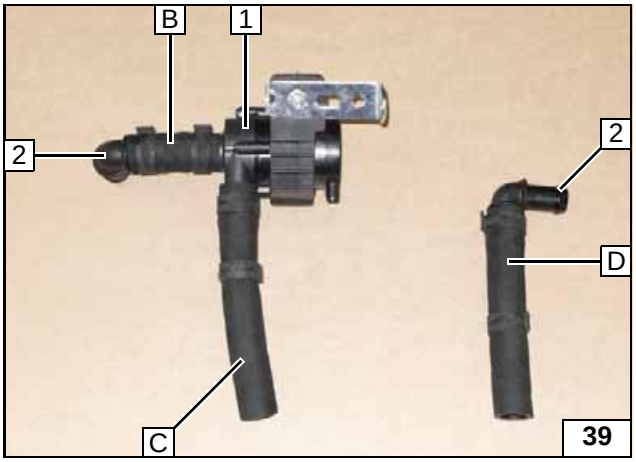
Premounting circulating pump



Discard section **X**.

	1.7 D	2.0 D
A =	880	700
B =	60	60
C =	150	150
D =	160	160
E =	820	800

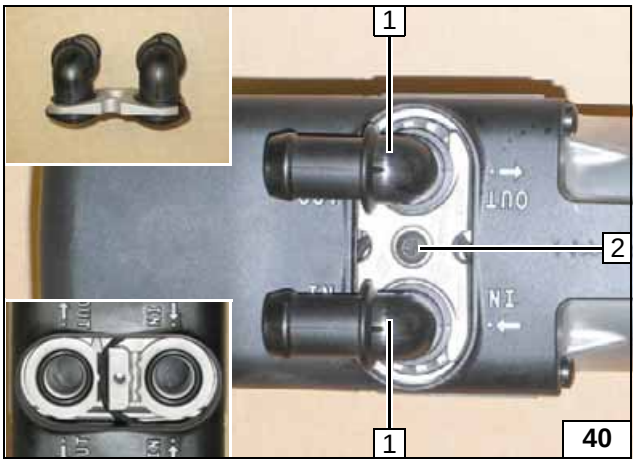
Cutting hoses to length



All spring clips = 25 mm dia.

1 Circulating pump
2 18x18mm dia. 90° connecting pipe [2x]

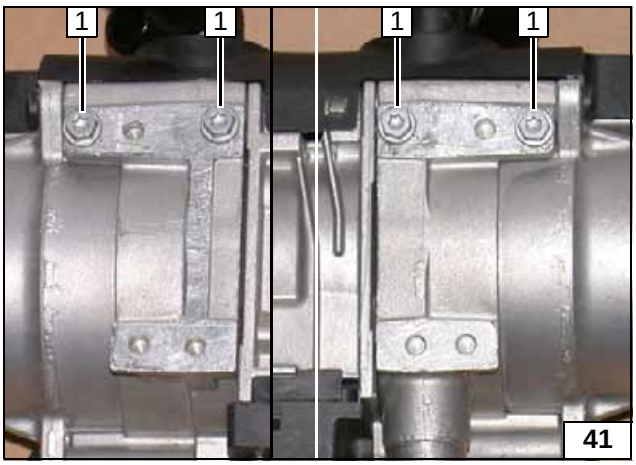
Premounting hoses



Preparing Heater

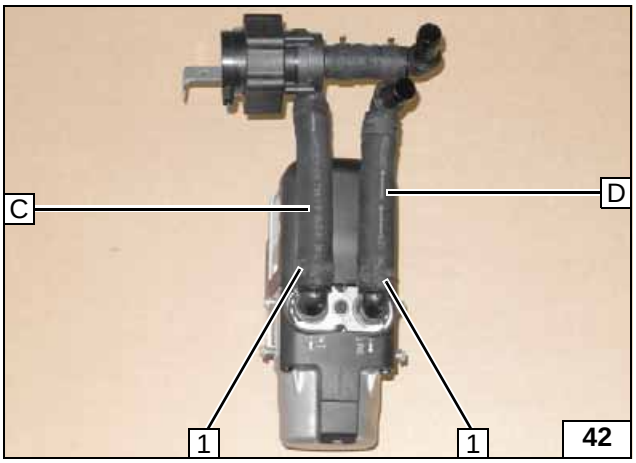
1 Water connection piece, sealing ring [2x each]
2 5x15 self-tapping bolt, retaining plate of water connection pieces

Mounting water connection piece



Screw 5x13 self-tapping bolts **1** [4x] into existing holes by a maximum of 3 thread turns.

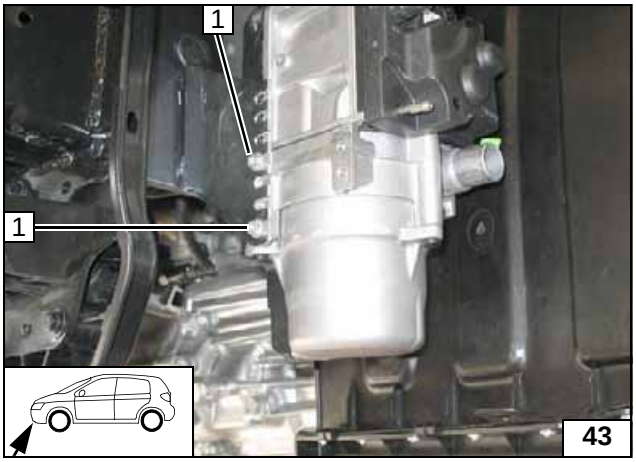
Premounting bolts loosely



1 25mm dia. spring clip [2x]

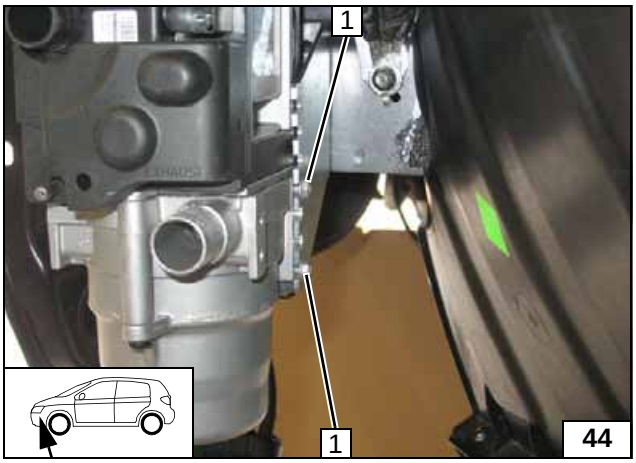
Mounting hoses

Installing Heater



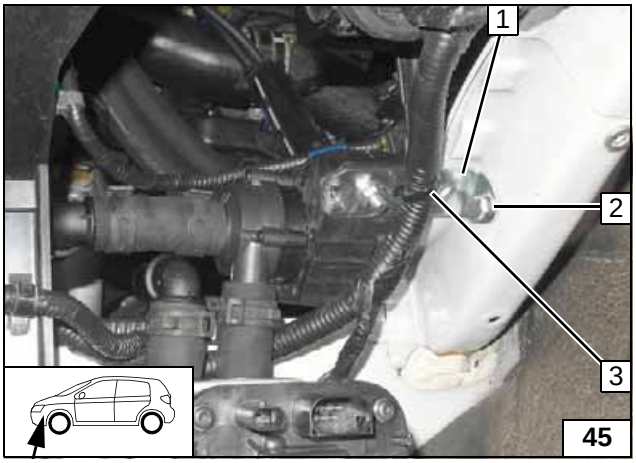
1 Tighten 5x13 self-tapping bolt [2x]

Mounting heater



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

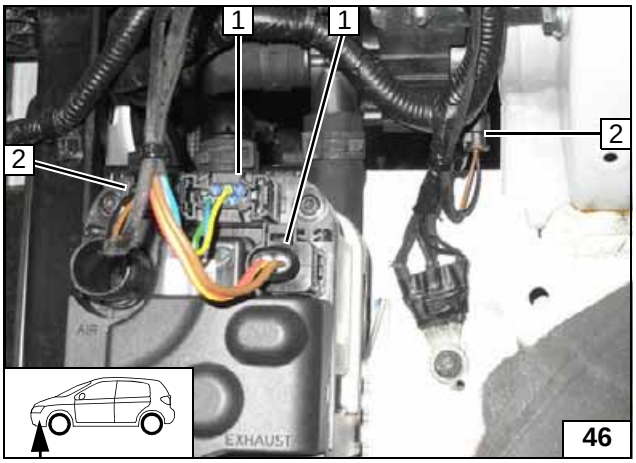
Mounting heater



Secure original vehicle wiring harness with cable tie **3**.

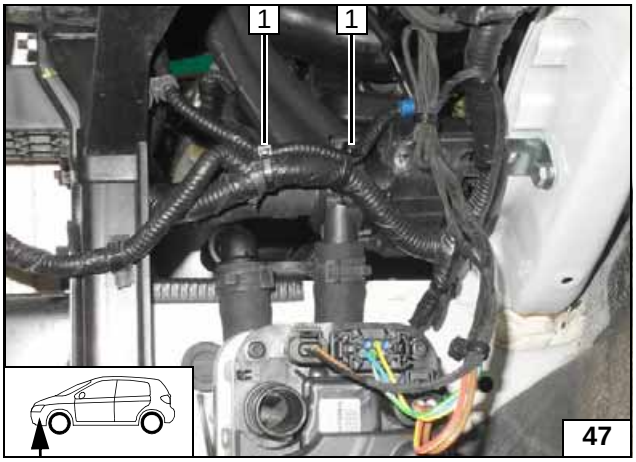
1 Perforated bracket
2 M6x20 bolt, spring lockwasher

Mounting circulating pump



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

Installing wiring harnesses



Secure original vehicle wiring harness **1** with cable tie [2x].

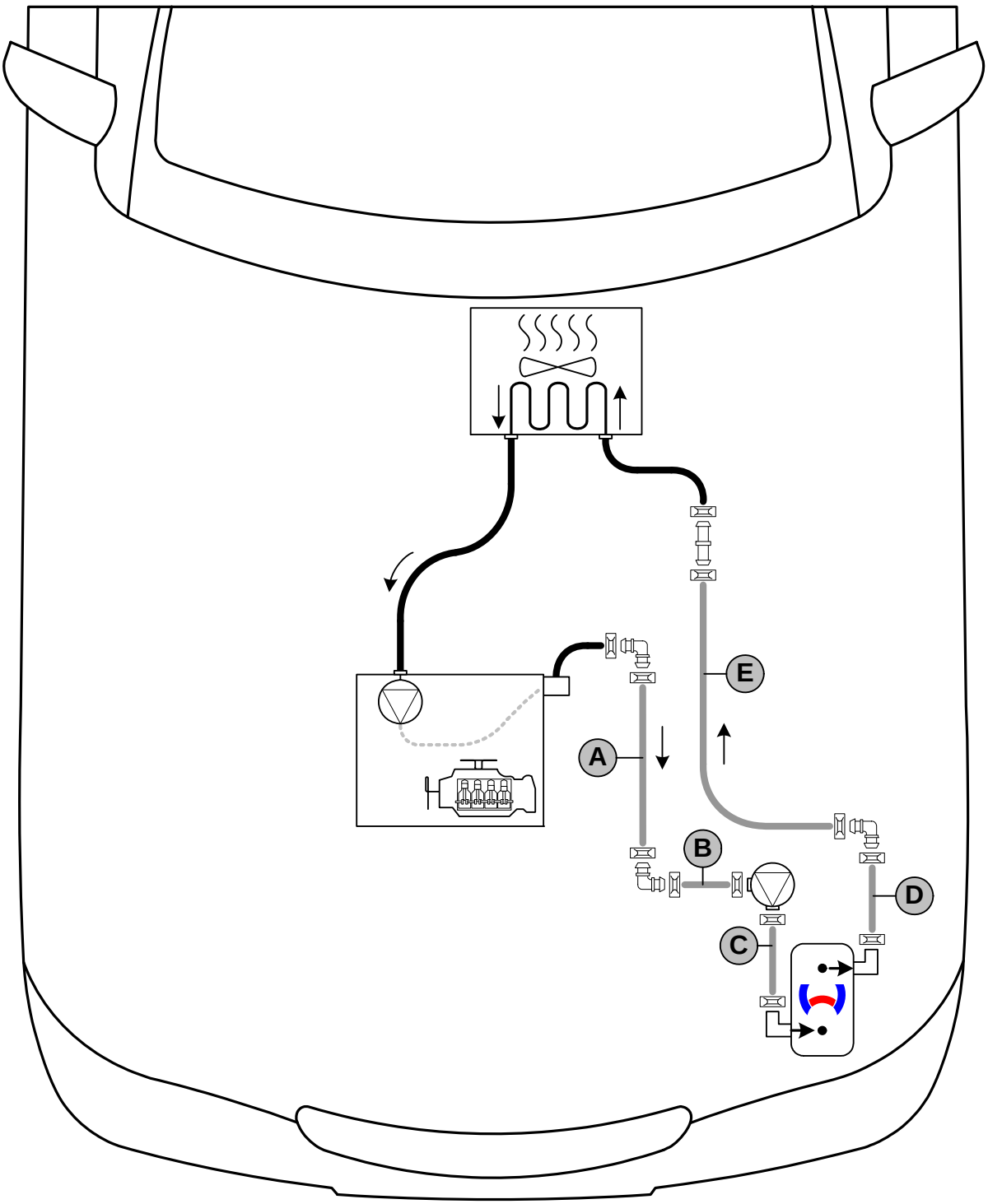
Attaching wiring harness

Coolant Circuit

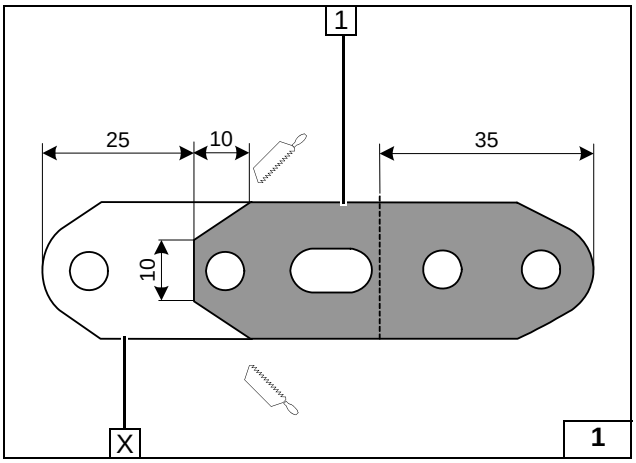
Any coolant running off should be collected in an appropriate container. Route hoses so that they are kink-free. Unless specified otherwise, always fasten using cable ties. Position clamps so that other hoses cannot be damaged. The heater must be filled with coolant when installing the hoses.

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 and = 18x18 mm dia.

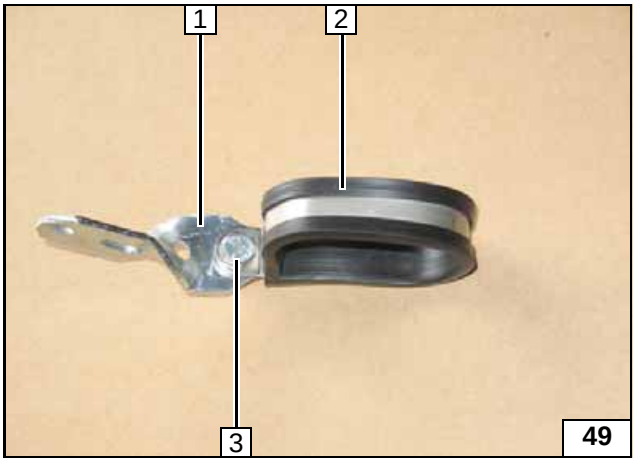


All vehicles

Twist perforated bracket **1** by 90° at the bending line (see following image).

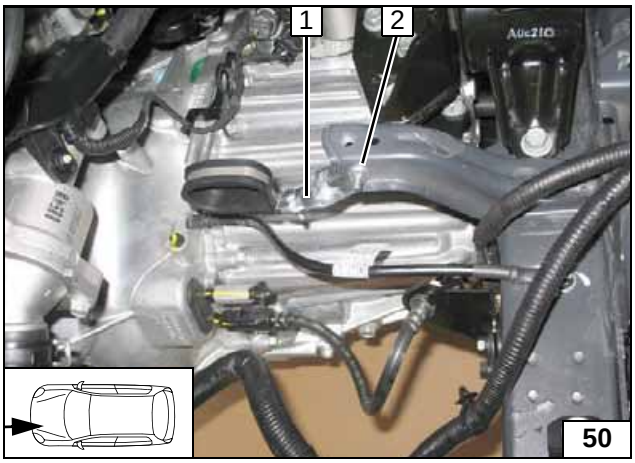
Discard section **X**.

Preparing perforated bracket



1 Perforated bracket
2 38 mm dia. rubber-coated p-clamp
3 M6x20 bolt, flanged nut

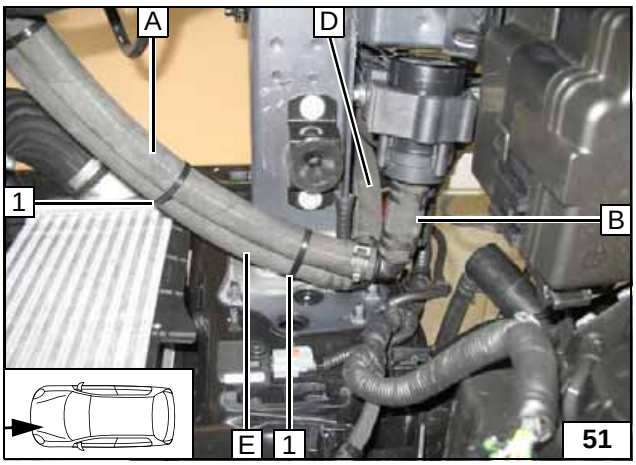
Premounting perforated bracket



1.7 and 2.0 manual transmission

1 Perforated bracket
2 M6x20 bolt, original vehicle hole, flanged nut

Installing perforated bracket



1 Cable tie [2x]

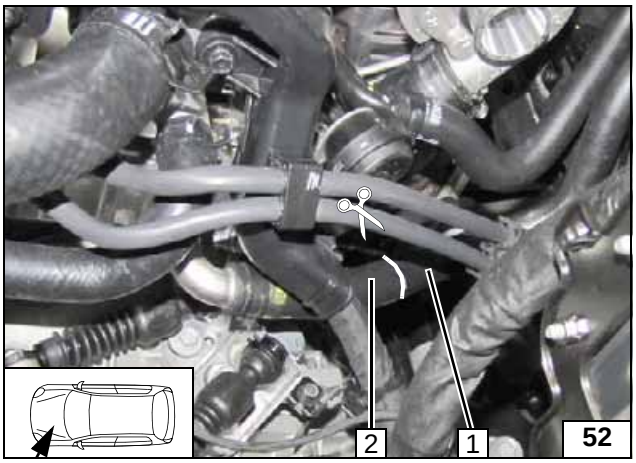
Connecting heater

1.7 D manual transmission

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

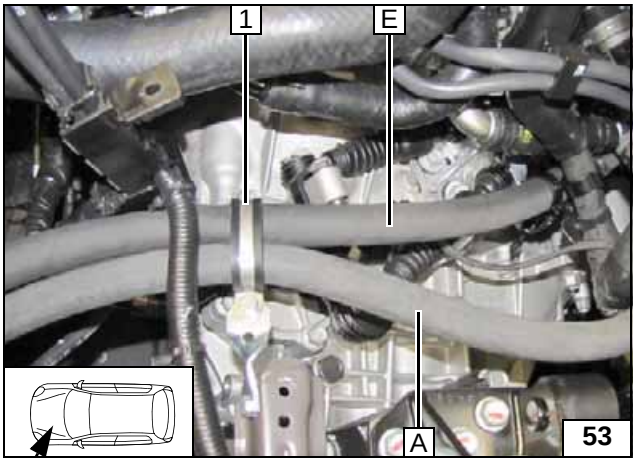
1 Hose section of heat exchanger inlet
2 Hose section on engine outlet

Cutting point



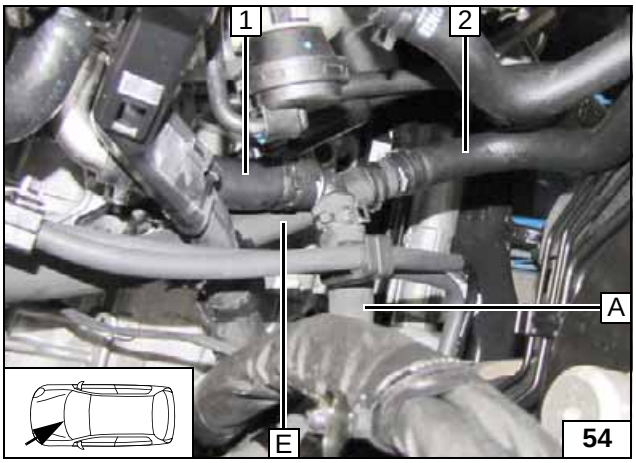
Route hose **A** and **E** through rubber-coated p-clamp **1**.

Routing in engine compartment



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

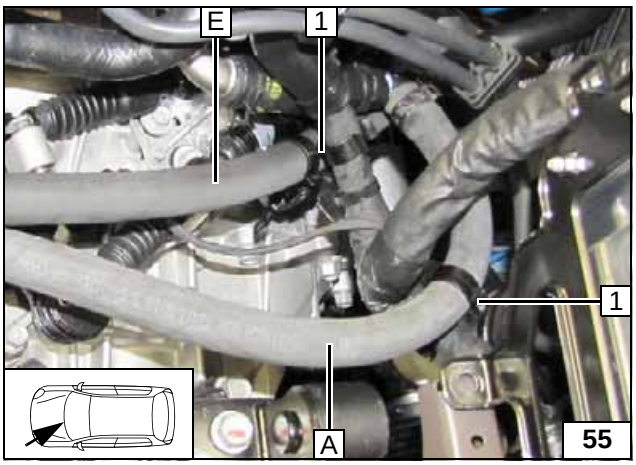
Connecting engine outlet and heat exchanger inlet



Align hoses. Ensure sufficient distance from neighbouring components, adjust if necessary.

1 Hose bracket [2x]

Inserting hose bracket

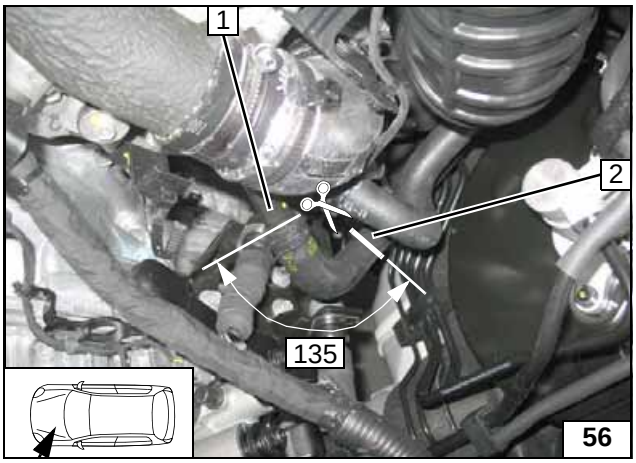


2.0 D manual transmission

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

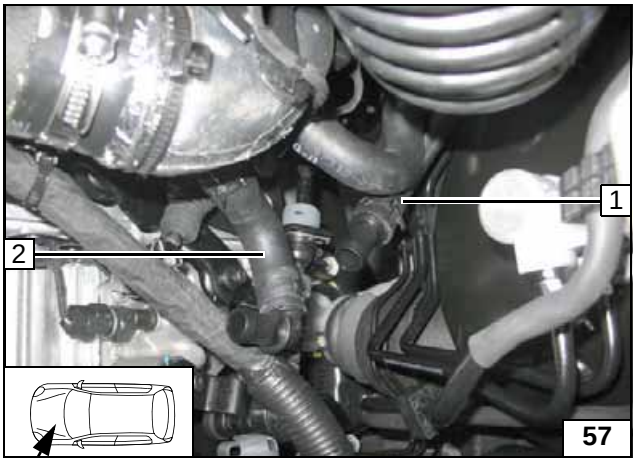
1 Connection piece of engine outlet
2 Cutting point

Cutting point



1 Hose section of heat exchanger inlet
2 Hose section of engine outlet turned toward the front

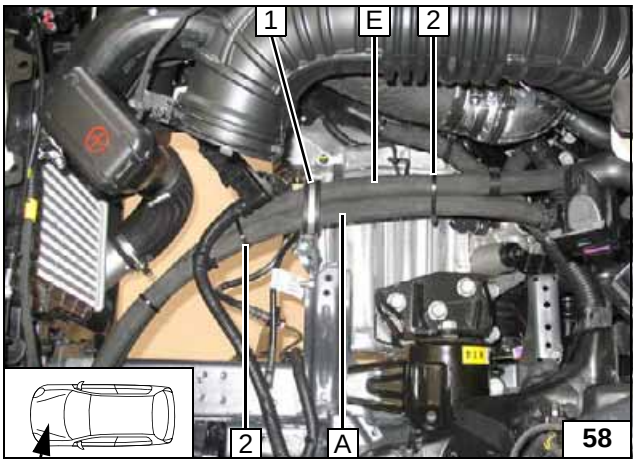
Premounting hoses



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

2 Cable tie [2x]

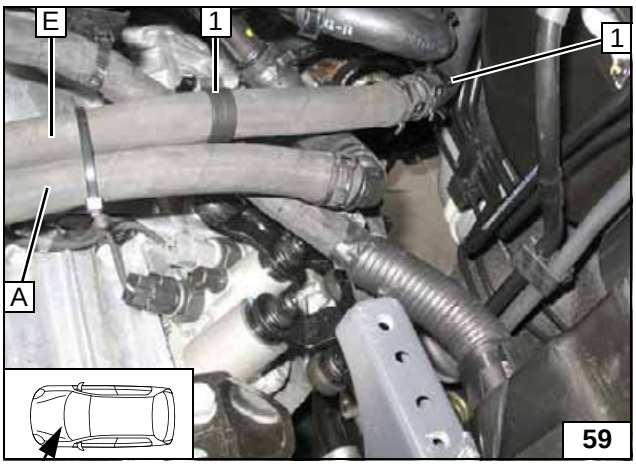
Routing in engine compartment

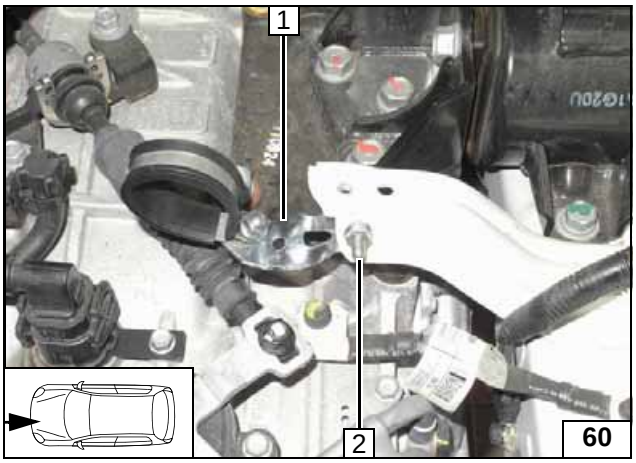


Align hoses. Ensure sufficient distance from neighbouring components, adjust if necessary.

1 Hose bracket [2x]

Connecting engine outlet and heat exchanger inlet



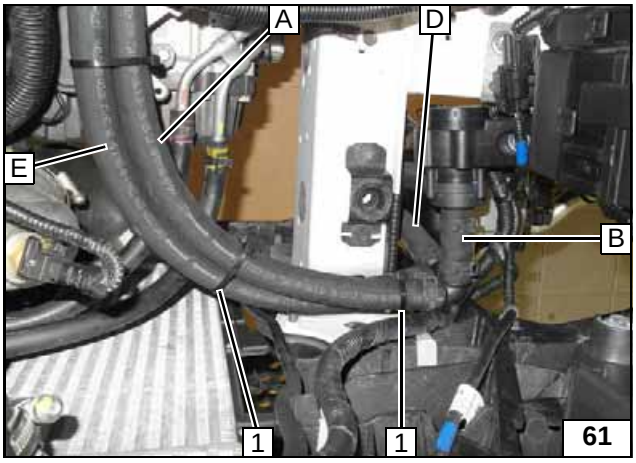


2.0 automatic transmission

Ensure sufficient distance from gearshift cable, adjust if necessary.

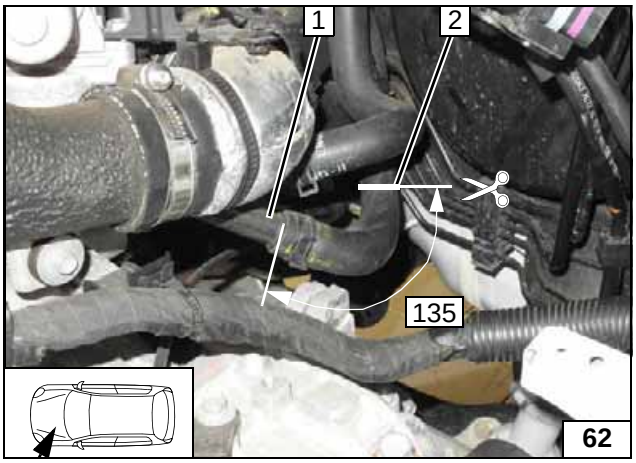
1 Perforated bracket
2 M6x20 bolt, original vehicle hole, flanged nut

Installing perforated bracket



1 Cable tie [2x]

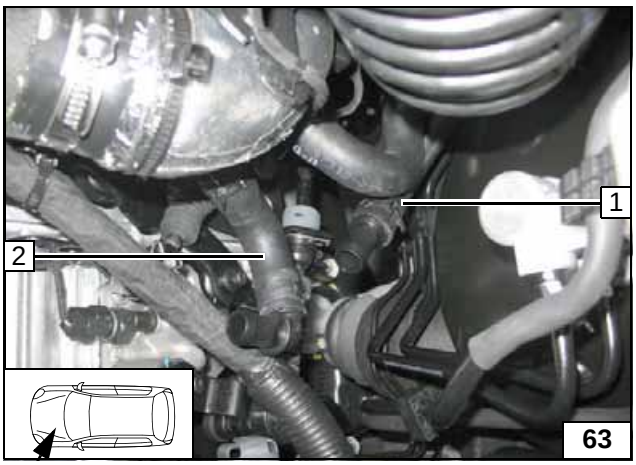
Connecting heater



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

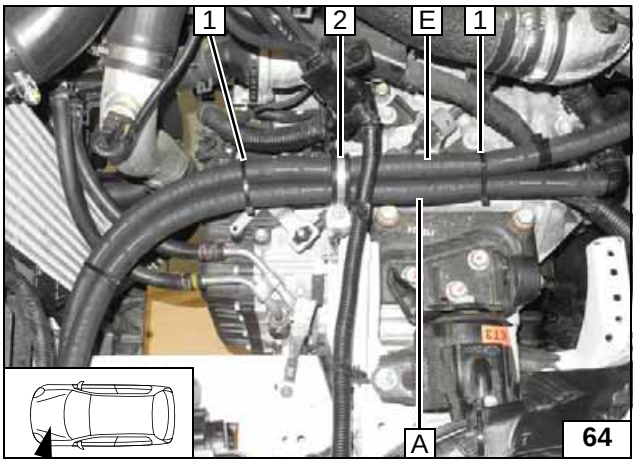
1 Connection piece of engine outlet
2 Cutting point

Cutting point



1 Hose section of heat exchanger inlet
2 Hose section of engine outlet turned toward the front

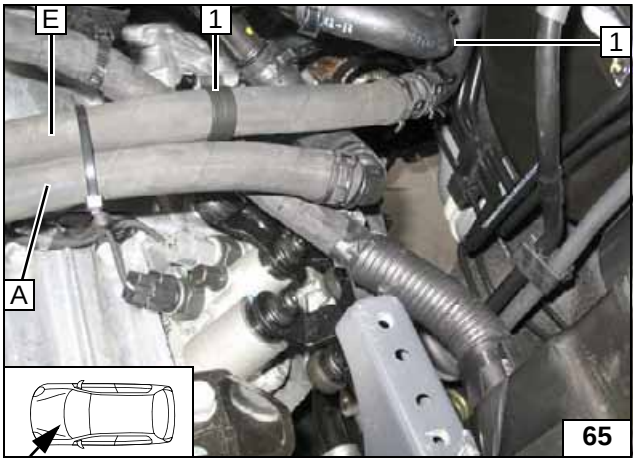
Premounting hoses



Route hose **A** and **E** through rubber-coated p-clamp **2**.

1 Cable tie [2x]

Routing in engine compartment



Align hoses. Ensure sufficient distance from neighbouring components, adjust if necessary.

1 Hose bracket [2x]

Connecting engine outlet and heat exchanger inlet

Fuel

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

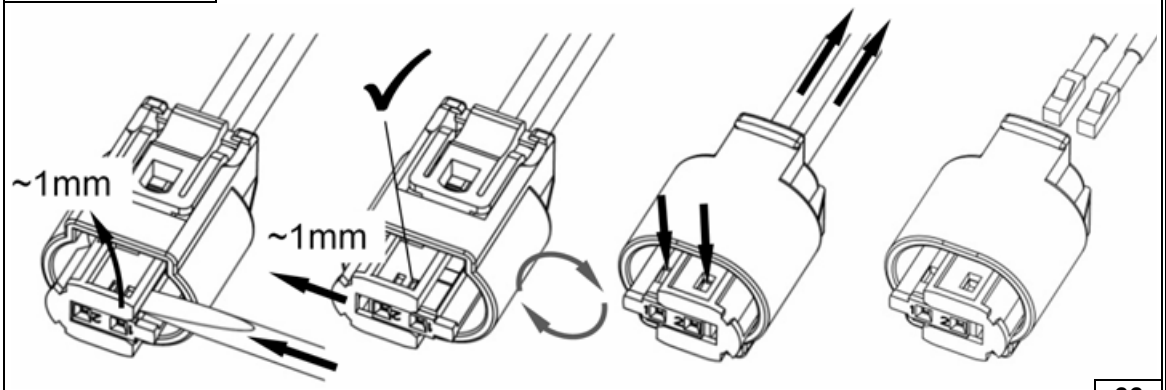
Catch any fuel running off in an appropriate container.

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

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

Dismantling metering pump connector

Connector X7



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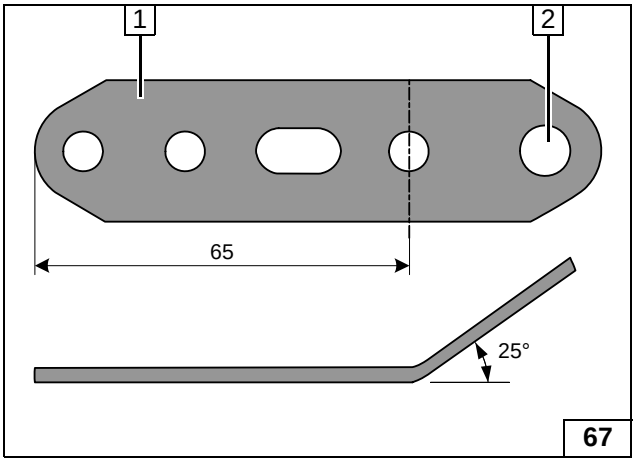
Connecting heater



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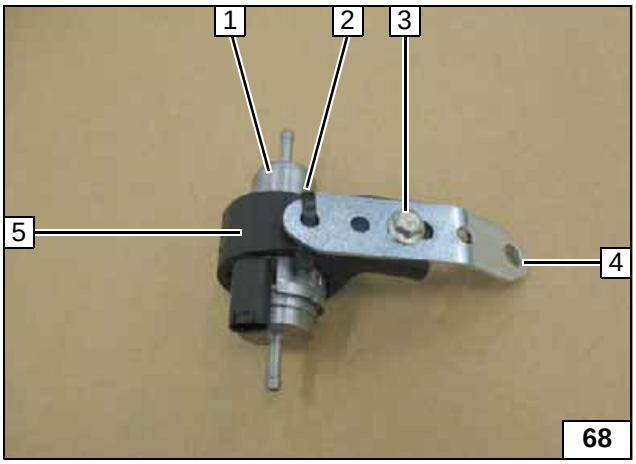
1 Perforated bracket
2 Drill out hole to 8.5 mm dia.

Routing lines



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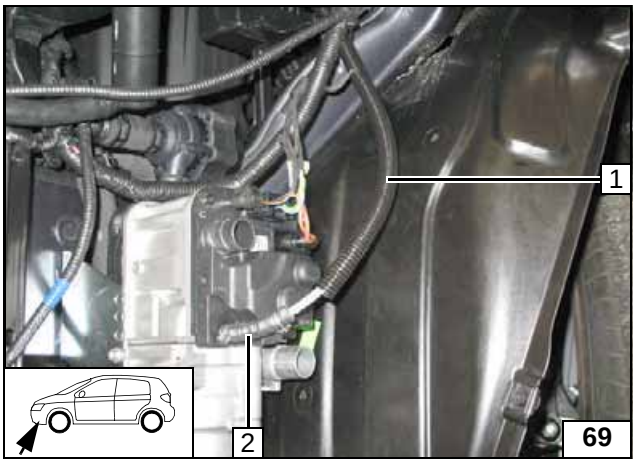
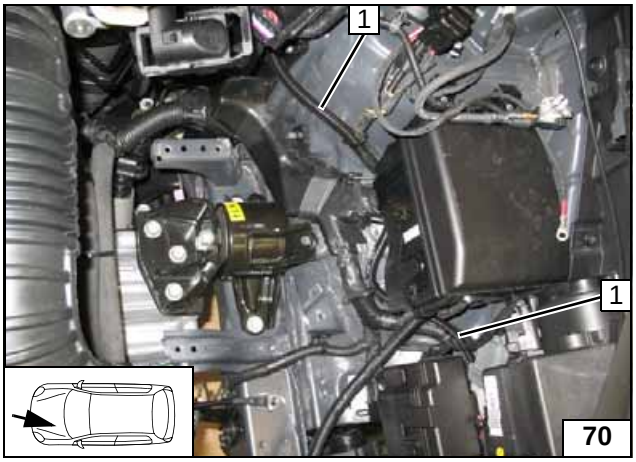
1 Fuel line
2 Wiring harness of metering pump



Route metering pump wiring harness and fuel line in 10 mm dia., 2100 mm long, corrugated tube **1**, in engine compartment.

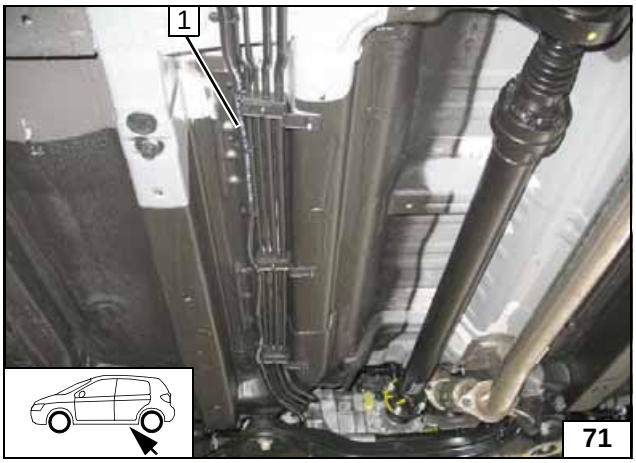
2 Fuel line, hose section, 10 mm dia. clamp [2x]

Connecting heater



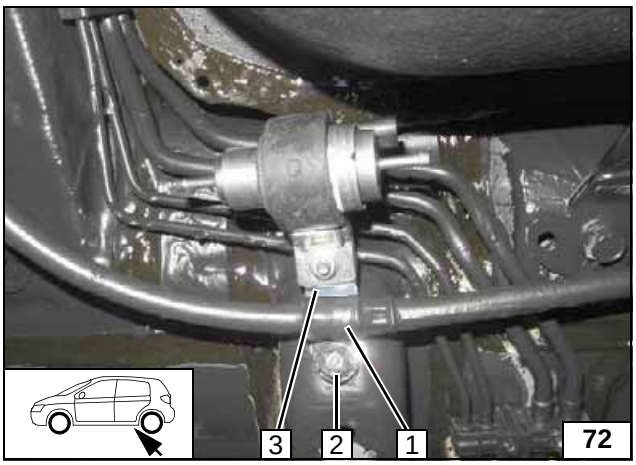
Route fuel line and wiring harness of metering pump in corrugated tube **1** to firewall and along original vehicle fuel lines towards the underbody.

Routing lines



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

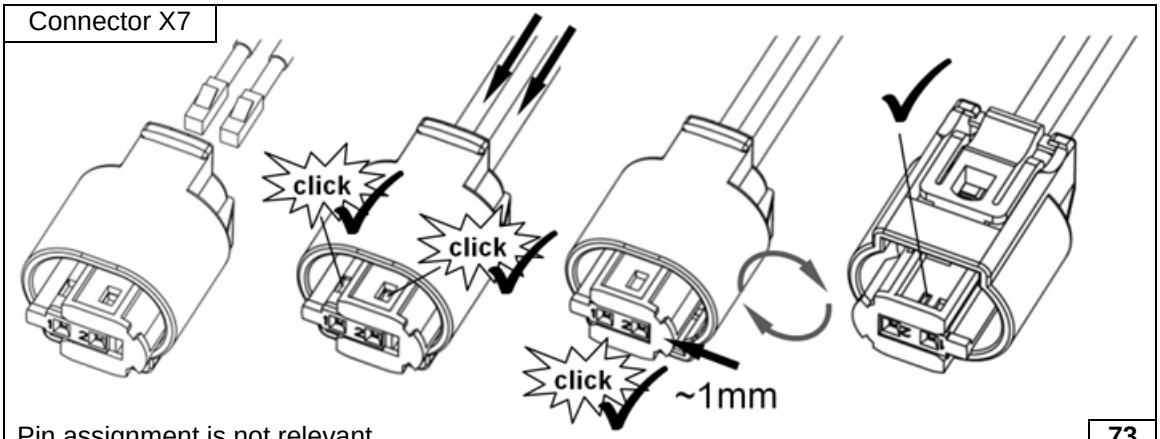
Routing lines



Secure premounted metering pump with perforated bracket **3** between handbrake cable clamp **1** and body using original vehicle bolt **2**.

Installing metering pump

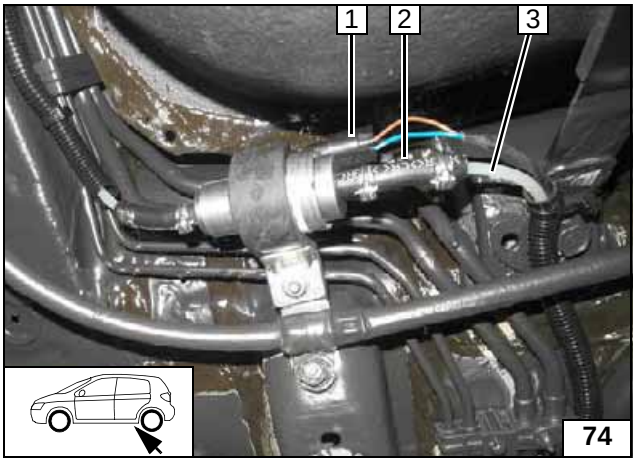
Connector X7



Pin assignment is not relevant.

73

Completing metering pump connector



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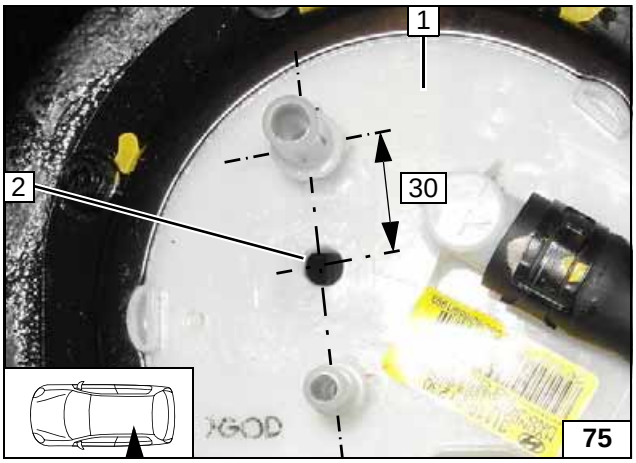
1 Wiring harness of metering pump, connector X7 mounted
2 Hose section, 10mm dia. clamp [2x]
3 Fuel line of heater

Connecting metering pump



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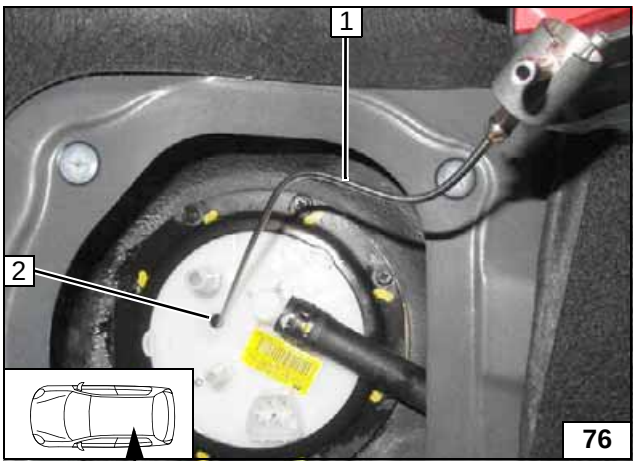
Installing FuelFix

Work steps 1.2 and 3.

1 Fuel-tank sending unit
2 Hole made with provided drill

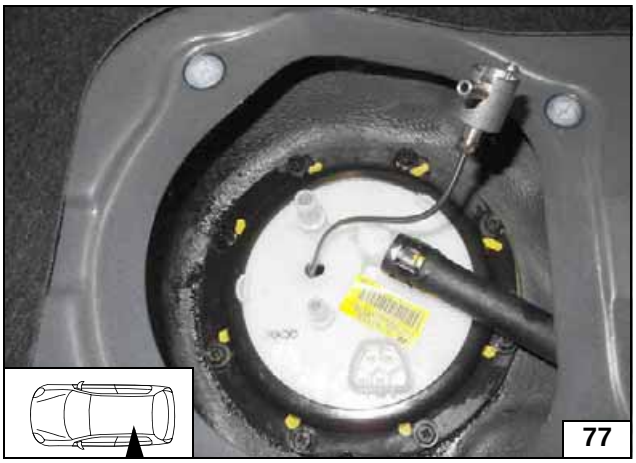
Copying hole pattern/ hole for FuelFix



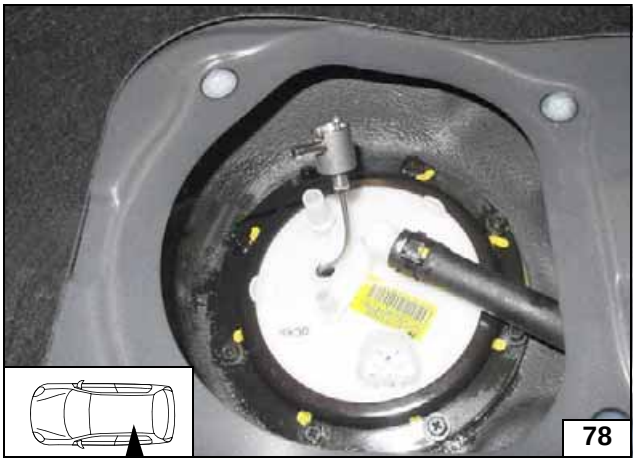
76

Work steps 4 and 5.
Bend FuelFix **1** according to template and cut to length.
Insert into hole **2**.

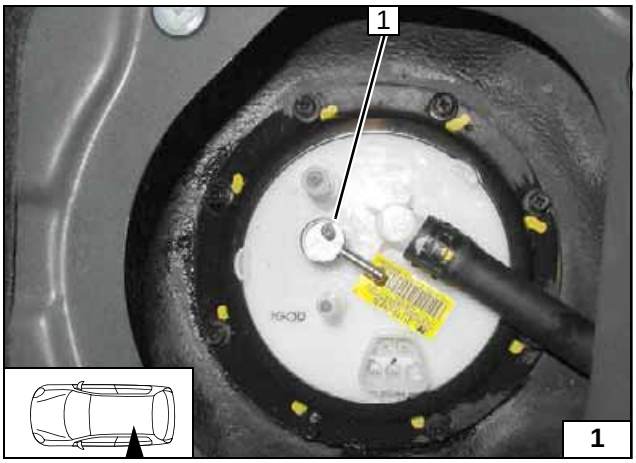
Inserting FuelFix



Inserting FuelFix

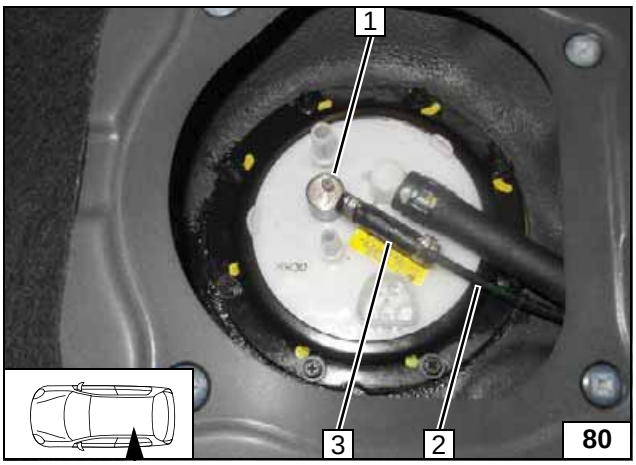


Inserting FuelFix



Work step 5.4.
Align FuelFix **1** as shown by turning the device.

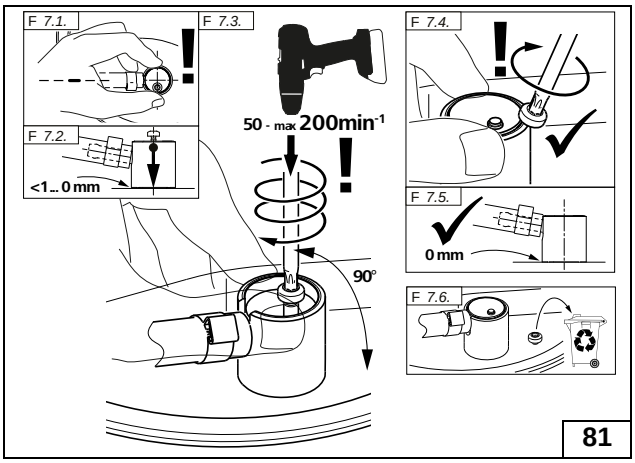
Aligning FuelFix



Work step 6.

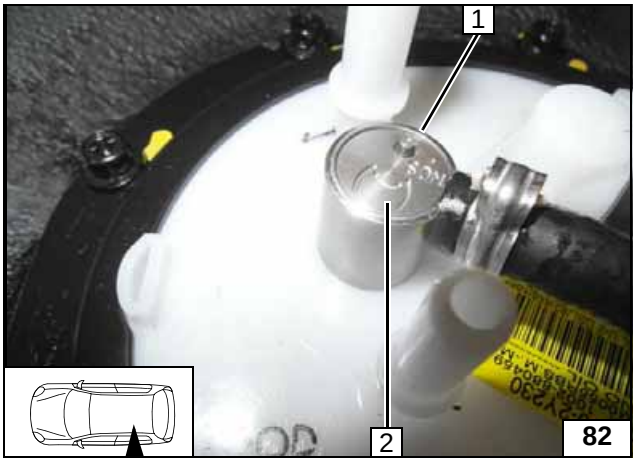
1 FuelFix
2 Fuel line
3 Hose section, 10mm dia. clamp [2x]

Connecting fuel line



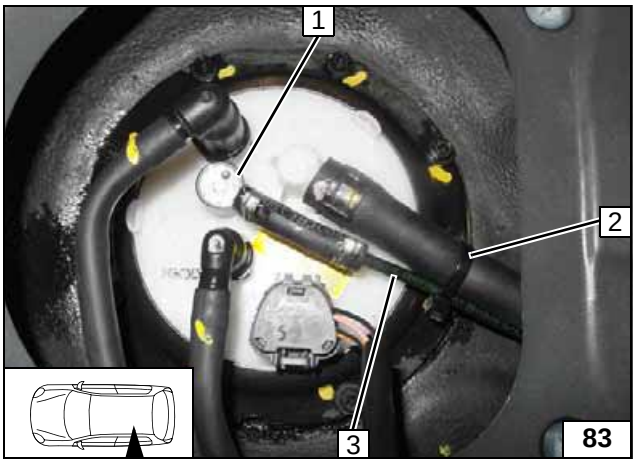
Work step 7.

Mounting FuelFix



Work step 8.
Ensure firm seating of FuelFix and positioning of clamping piece **2** with respect to upper edge **1** of the housing.

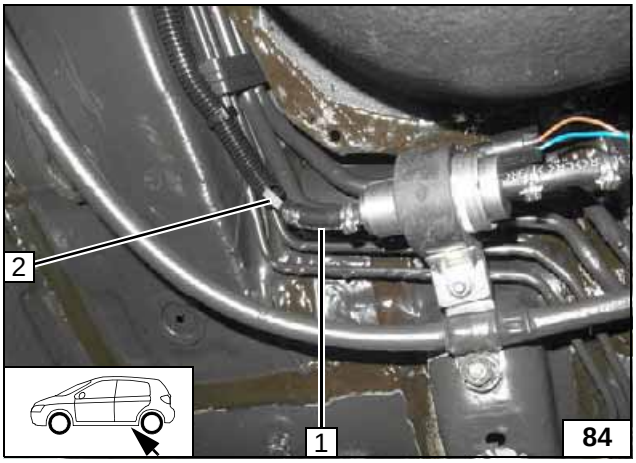
Checking final position



Work step 8.

1 FuelFix mounted
2 Cable tie as tension relief
3 Fuel line of FuelFix

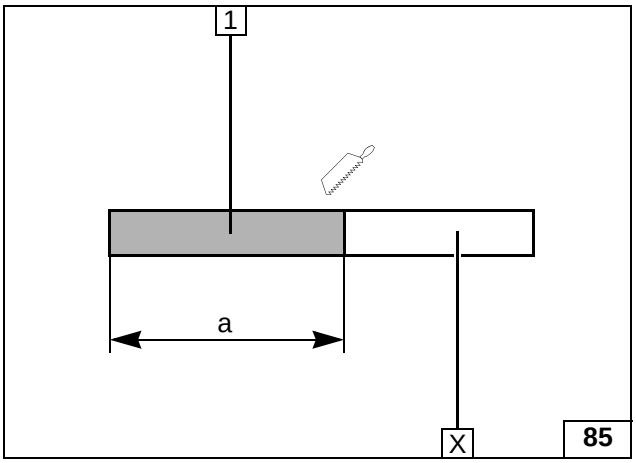
Securing fuel line



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

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

Connecting metering pump

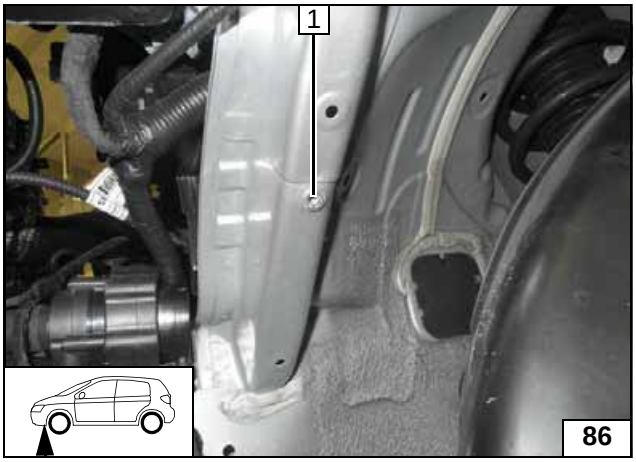


Combustion Air

Discard section **X**.

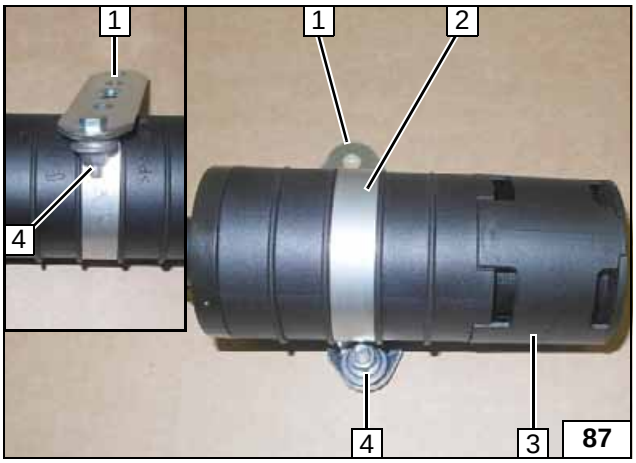
1 Combustion air pipe
a = 300

Cutting combustion air pipe to length



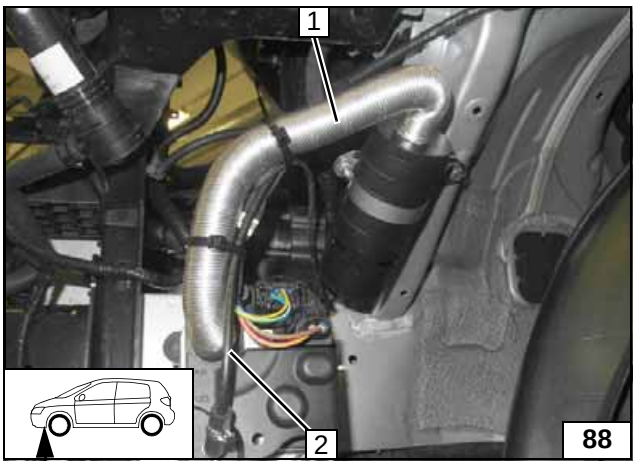
1 Drill out hole to 9.1mm dia.; rivet nut

Installing rivet nut



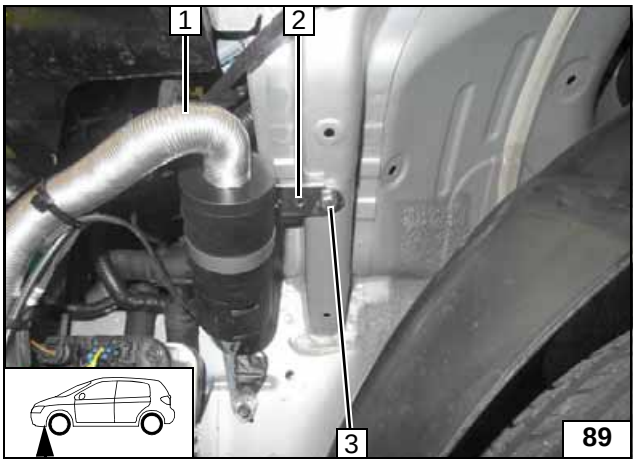
1 Perforated bracket
2 51mm dia. clamp
3 Silencer
4 M5x16 bolt, large diameter washer [2x], flanged nut

Premounting silencer



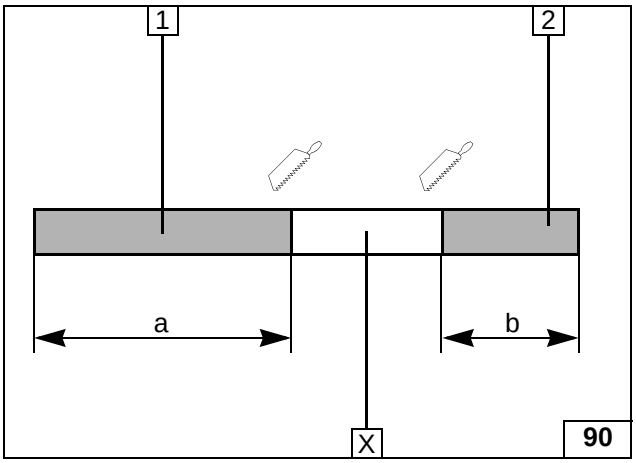
Attach wiring harness of heater and fuel line **2** to combustion air pipe **1** using a cable tie.

Installing combustion air pipe



1 Silencer
2 Perforated bracket
3 M6x20 bolt, spring lockwasher

Installing silencer

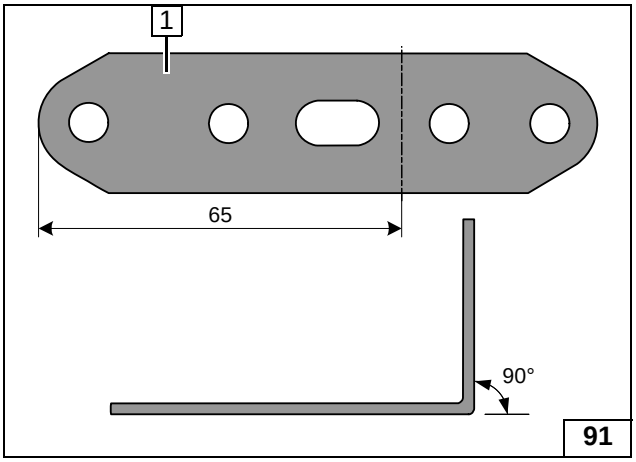


Exhaust Gas

Discard section **X**.

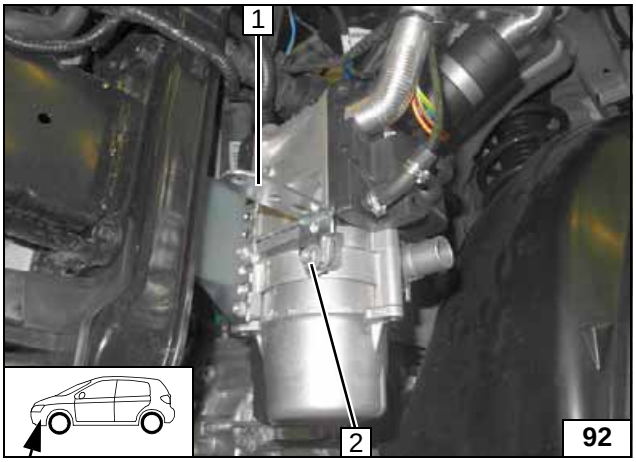
1 Exhaust pipe
a = 150
2 Exhaust end section
b = 80

Preparing exhaust pipe



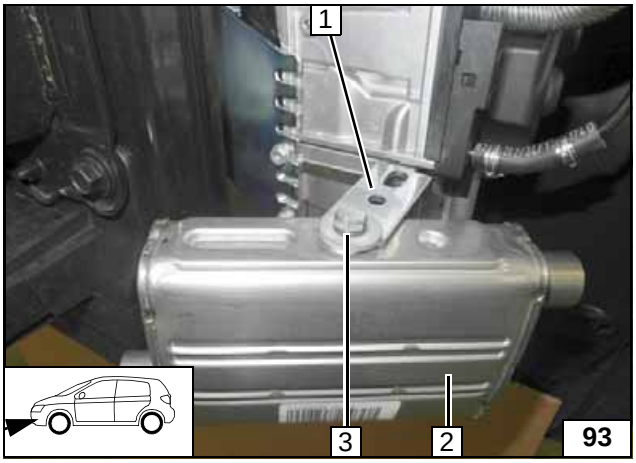
1 Perforated bracket

Preparing perforated bracket



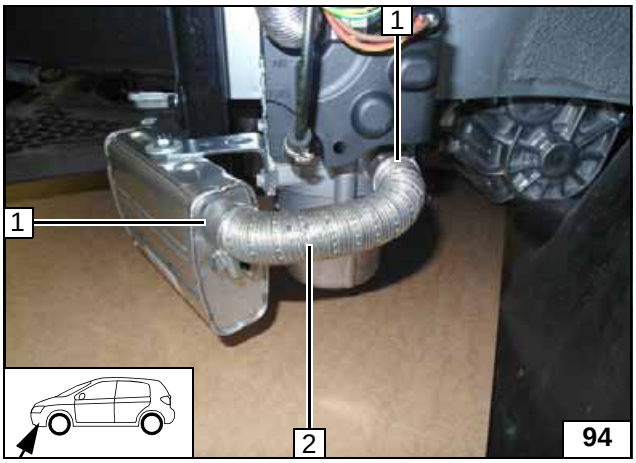
1 Perforated bracket
2 5x13 mm self-tapping bolt, large diameter washer

Installing perforated bracket



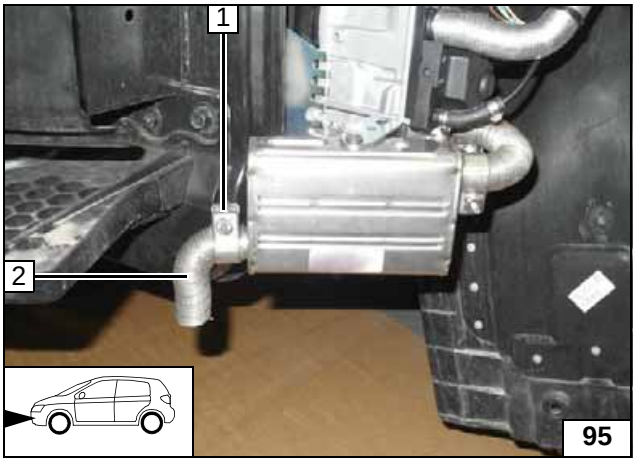
1 Perforated bracket
2 Aligning exhaust silencer
3 M6x16 bolt, spring lockwasher, large diameter washer

Installing silencer



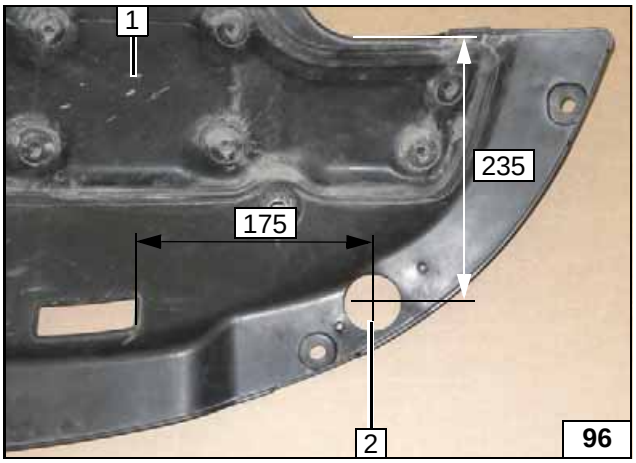
1 Hose clamp [2x]
2 Exhaust pipe

Installing exhaust pipe



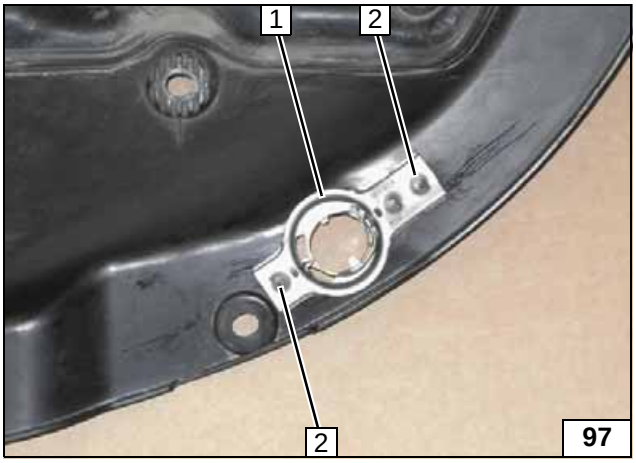
1 Hose clamp
2 Exhaust end section

Installing exhaust end section



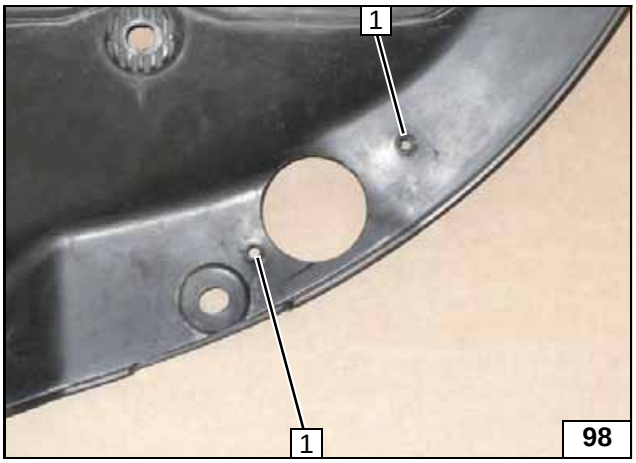
1 Underride protection
2 Hole (according to work step 1 of the installation instructions)

Hole in underride protection



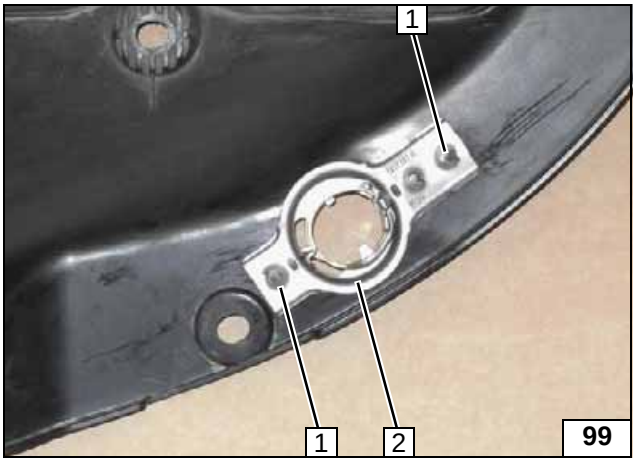
Position exhaust end fastener **1** as per work step 3 of the installation instructions and copy hole pattern **2** [2x].

Copying hole pattern



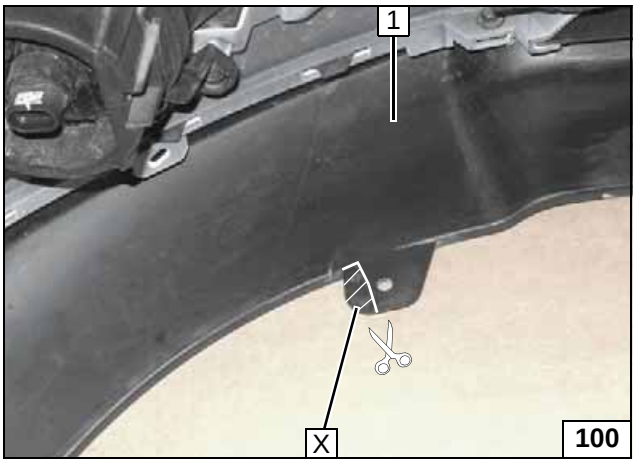
Hole [2x] as explained in work step 4 of the installation instructions.

Holes in underride protection



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

Installing exhaust end fastener



Discard section **X**.

1 Bumper

Cutting tab from bumper

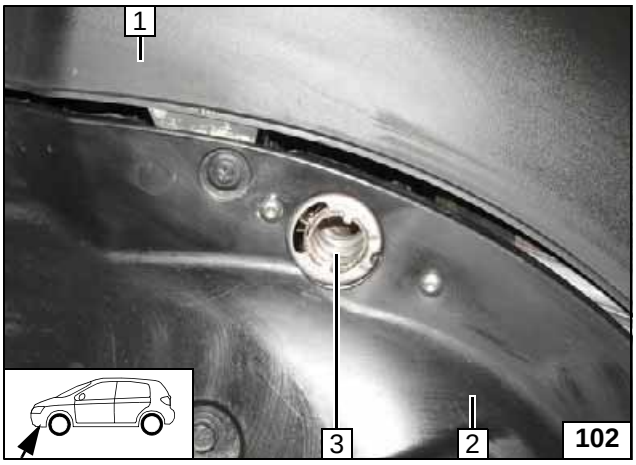
Final Work

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, Order No. 111329).

- **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**
- **See installation instructions for initial start-up and function check**

Prior to assembly, stick rub protection **2** onto air filter box **1**.

Sticking on rub protection

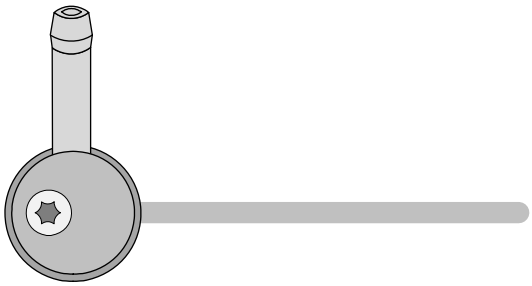


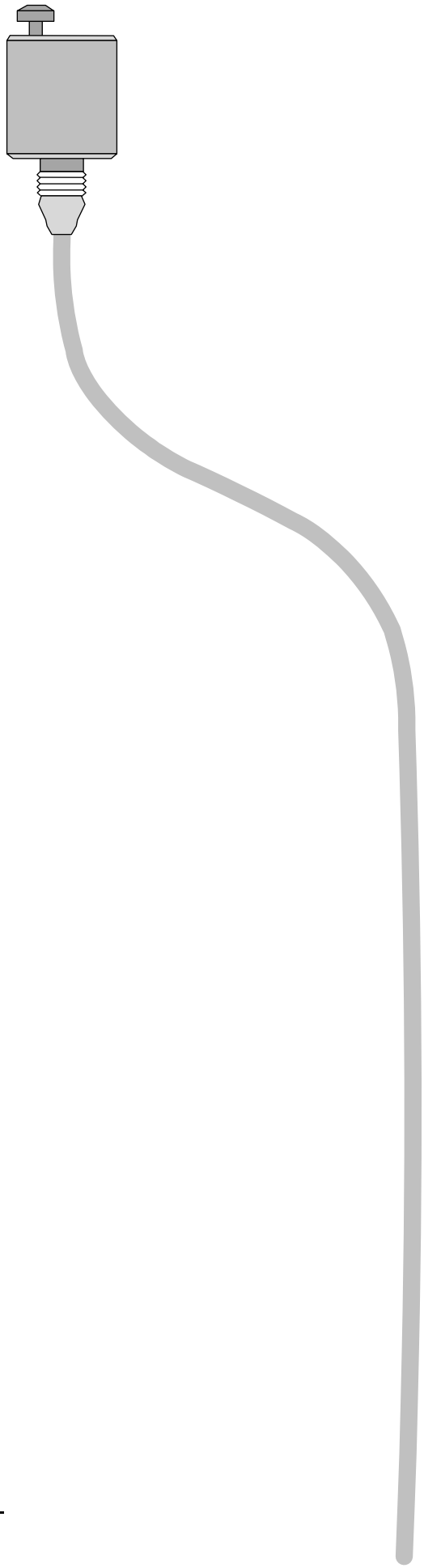
Install bumper **1** and underride protection **2**. Mount exhaust end section **3** according to work step 6 - 8 of the installation instructions.

Installing exhaust end section

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

FuelFix template





100mm

Scale 1:1

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

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

0

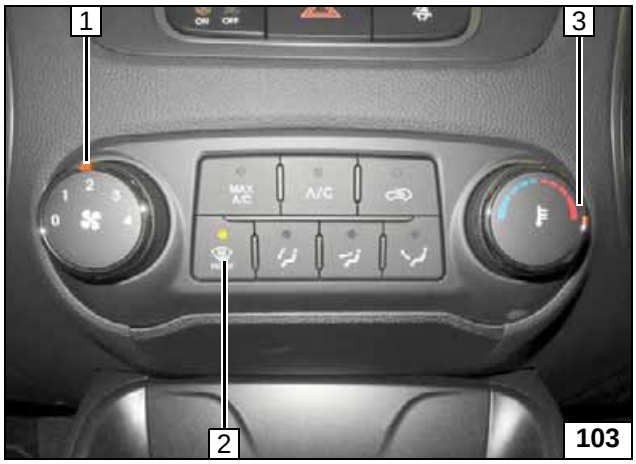
Operating Instructions for Manual A/C

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.

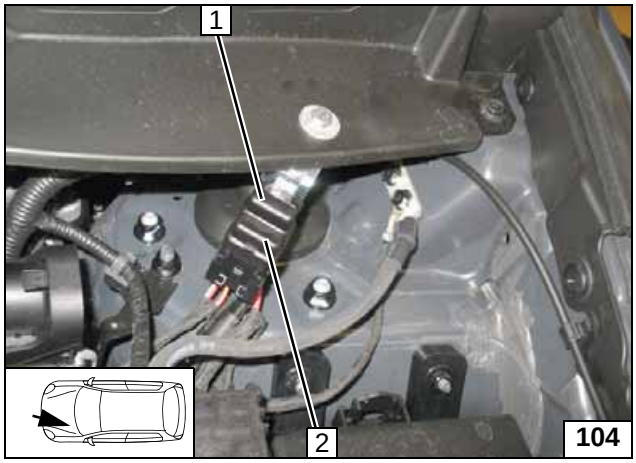
Passenger compartment monitoring, if installed, must be deactivated in addition to the vehicle settings for the heating operation.
For instructions on deactivation, please refer to the operating instructions of the vehicle.

Before parking the vehicle, make the following settings:



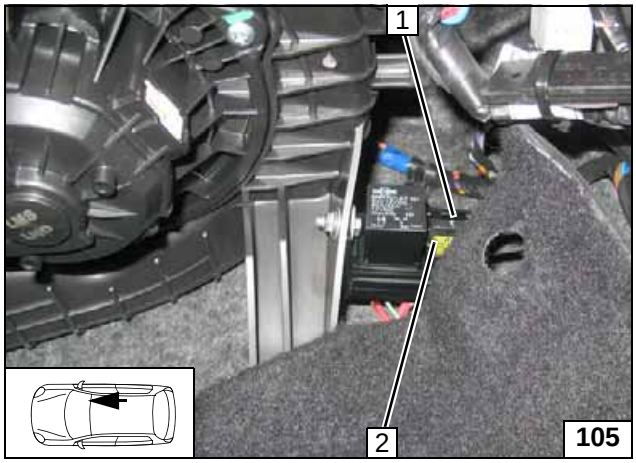
1 Set fan to level "1", or max. "2"
2 Air outlet onto windscreen
3 Set temperature to "max."

A/C control panel



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

Engine compartment fuses



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

Passenger compartment fuses

Operating Instructions for Automatic A/C

Please remove page and add to the vehicle operating instructions.

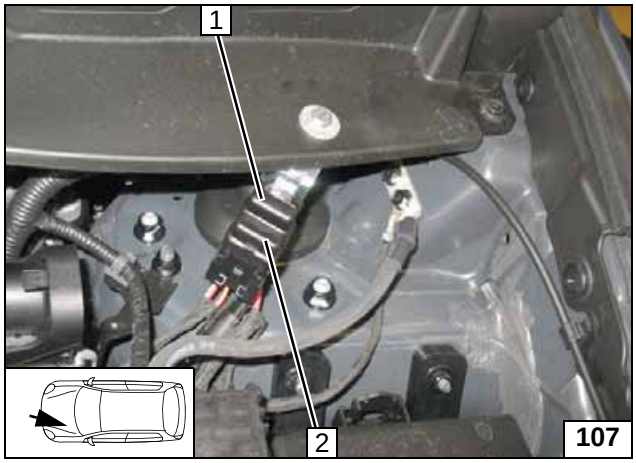
Note:
We recommend matching the heating time to the driving time.
Heating time = driving time
Example:
For a driving time of approx. 20 min. (in one direction), we recommend not exceeding a switch-on time of 20 min.

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:

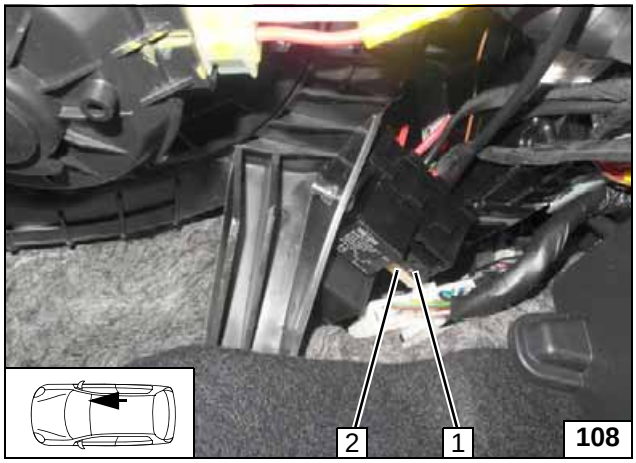
1 Air outlet faces "upward"
2 Set temperature on both sides to "HI"

A/C control panel



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

Engine compartment fuses



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

Passenger compartment fuses