



Water Heater

Thermo Top Evo Parking Heater



With FuelFix

Installation Documentation Skoda Fabia / Roomster

Validity

Manufacturer	Model	Type	EG-BE No. / ABE
Skoda	Fabia	5J	e11 * 2001 / 116 * 0291 * ...

Motorisation	Fuel	Transmission type	Output in kW	Displacement in cm ³	Engine code
1.2	Petrol	SG	44	1198	CHFA
1.2	Petrol	SG	51	1198	CGPA
1.2 TSI	Petrol	SG	63	1197	CBZA
1.2 TSI	Petrol	SG	77	1197	CBZB

Manufacturer	Model	Type	EG-BE No. / ABE
Skoda	Roomster	5J	e11 * 2001 / 116 * 0291 * ...

Motorisation	Fuel	Transmission type	Output in kW	Displacement in cm ³	Engine code
1.2 TSI	Petrol	SG	63	1197	CBZA
1.2 TSI	Petrol	SG	77	1197	CBZB

SG = manual transmission

From model year 2010

Left-hand drive vehicle

Verified equipment variants: Manual / automatic air-conditioning system
Front fog lights

Not verified: Passenger compartment monitoring

Total installation time: approx. 8.5 hours

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Necessary Components

- Basic delivery scope of Thermo Top Evo in accordance with price list
- Installation kit with FuelFix for Skoda Fabia / Roomster 2010 Petrol: **1316384C**
- Additionally required in case of automatic air-conditioning:
Automatic Air-Conditioning kit for VW/Skoda MY 2009: **1323646_**
- Heater control in accordance with price list and upon consultation with end customer
- In case of Telestart, indicator lamp in accordance with price list and in consultation with end customer

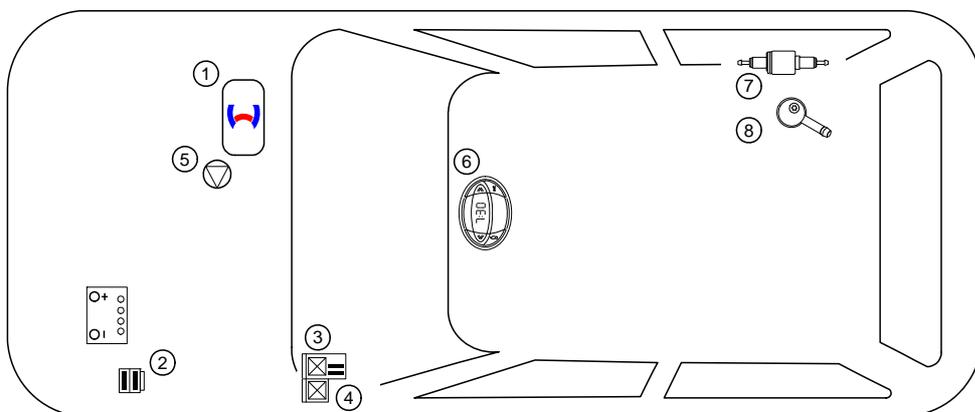
Installation instructions:

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

Installation Overview

Legend:

1. Heater
2. Engine compartment fuse holder
3. Passenger compartment relay and fuse holder
4. IPCU (only with automatic A/C)
5. Circulating pump
6. Digital timer
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 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, Order No. 111329).

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

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

When installing a programmable control module (e.g. a PWM Gateway), the corresponding settings must be checked or adjusted.

2 Statutory regulations governing installation

Guidelines	Thermo Top Evo
Heating Directive ECE R122	E1 00 0258
EMC Directive ECE R10	E1 04 5627

Note

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

Important

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

Note

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

2.1 Excerpt from ECE regulation 122 (heating system) paragraph 5 for the installation of the heater

Beginning of excerpt.

ANNEX VII

REQUIREMENTS FOR COMBUSTION HEATERS AND THEIR INSTALLATION

1. GENERAL REQUIREMENTS

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

2. VEHICLE INSTALLATION REQUIREMENTS

2.1. Scope

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

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

2.2. Positioning of heater

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

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

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

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

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

2.3. Fuel supply

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

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

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

2.4. Exhaust system

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

2.5. Combustion air inlet

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

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

2.6. Heating air inlet

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

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

2.7. Heating air outlet

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

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

End of excerpt.

In multilingual versions the German language is binding.

Information on Validity

This installation instruction applies to Skoda Fabia / Roomster Petrol vehicles - for validity see page 1 - from model year 2010 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

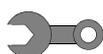
- Tightening torque values of 5x13 heater bolts and 5x11 heater stud bolts = 8Nm.
- Tightening torque value of 5x15 water connection piece retaining plate bolt = 7Nm.
- Tighten other bolt connections in accordance with manufacturer's instructions or in accordance with state-of-the-art technology.

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.

Special features are highlighted using the following symbols:

Mechanical System



Electrical System



Coolant Circuit



Combustion Air



Fuel



Exhaust Gas



Software



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 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

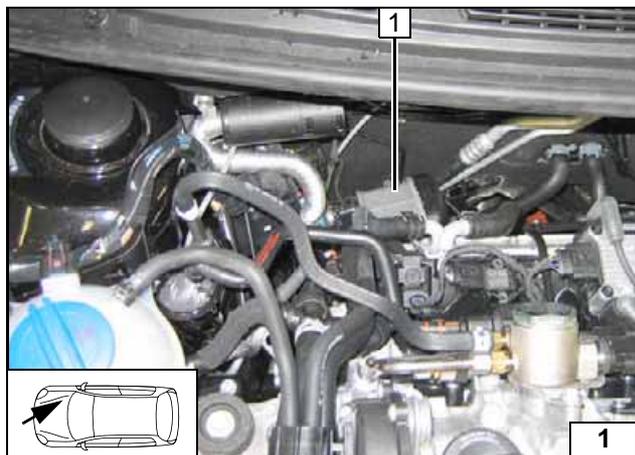
Vehicle



- Open the fuel tank cap.
- Ventilate the fuel tank.
- Close the fuel tank cap again.
- Depressurise the cooling system.
- Disconnect the battery.
- Remove the windscreen wiper.
- Remove the coolant reservoir cap.
- Remove the coolant reservoir partition wall.
- Remove the windscreen wiper motor.
- Remove the air filter together with the intake hose.
- Remove the battery.
- Remove the underride protection.
- Remove the right vehicle underbody trim.
- Fold up the seating surface of the rear bench seat.
- Open the tank-fitting service lid.
- Remove the light switch.
- Detach the central electrical box under the steering wheel.
- Remove the A/C control panel (only with automatic air-conditioning).
- Remove the side instrument panel trim on the left.

Heater

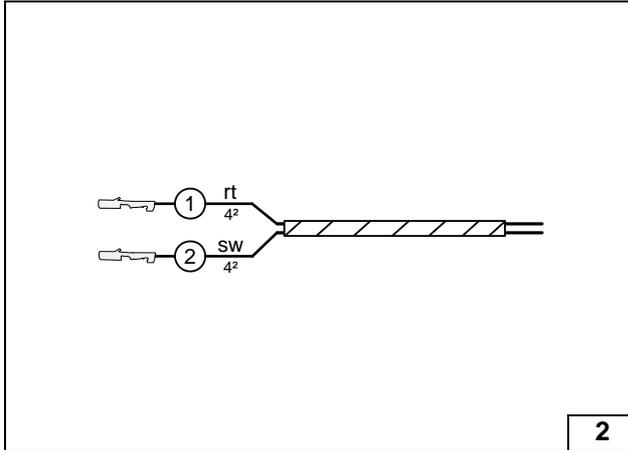
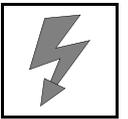
- Remove years that do not apply from the type and duplicate label.
- Attach the duplicate label (type label) visibly in the appropriate place in the engine compartment.



Heater Installation Location

- 1 Heater

Installation
location



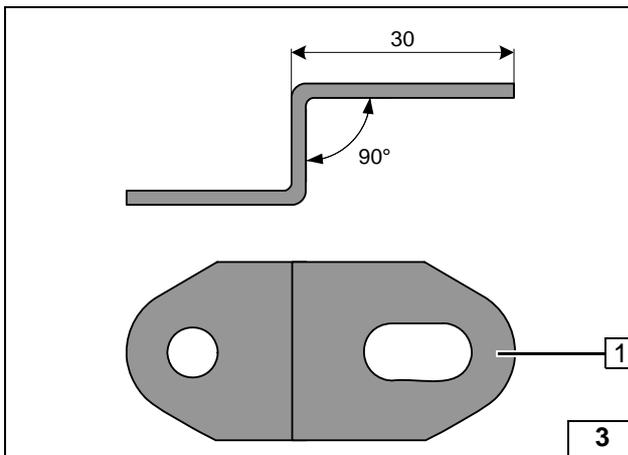
Preparing Electrical System

Wire sections retain their numbering in the entire document.

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

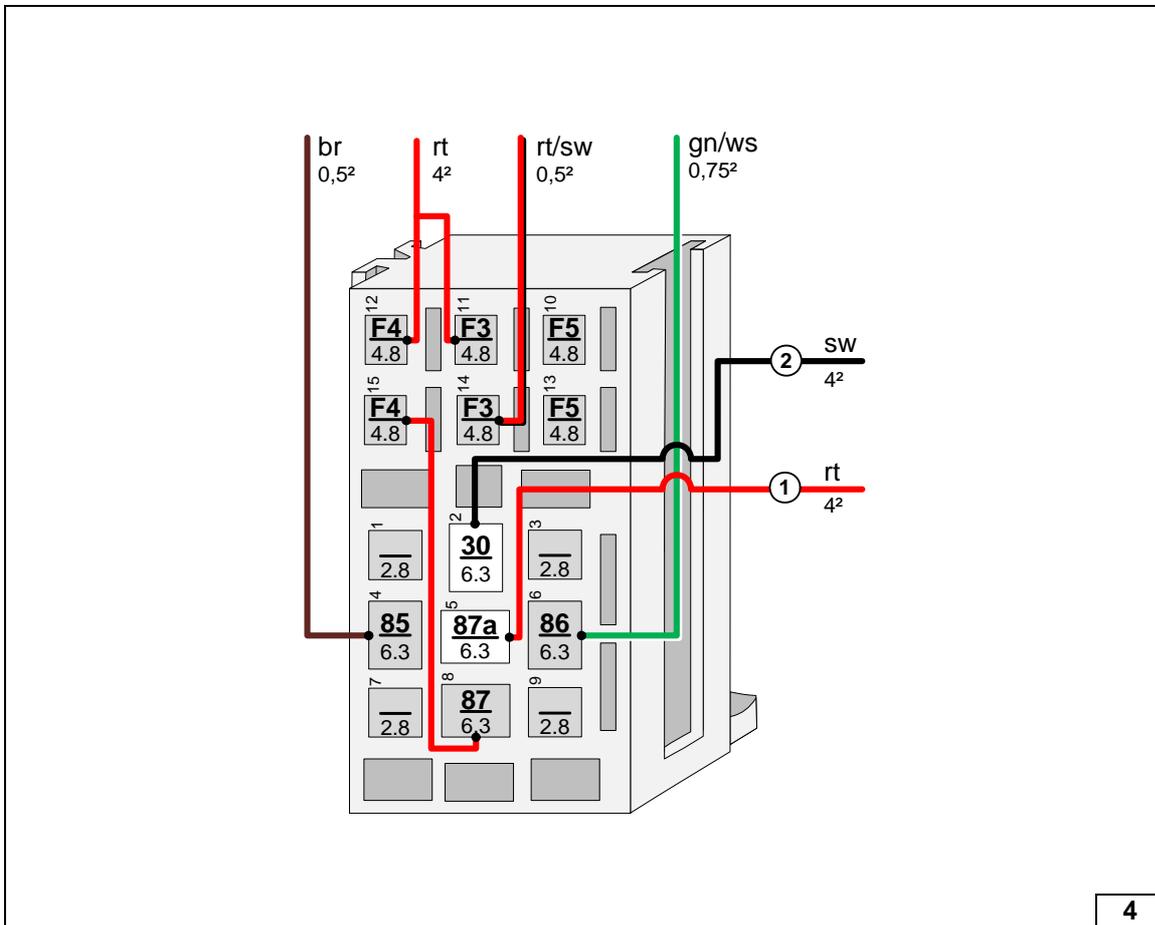
- ① Red (rt) wire of fan wiring harness
- ② Black (sw) wire of fan wiring harness

Cutting to length / assigning wires

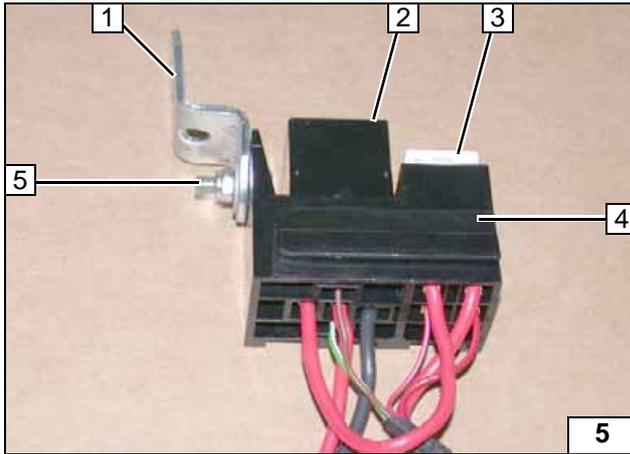
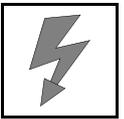


1 Angle bracket

Bending angle bracket

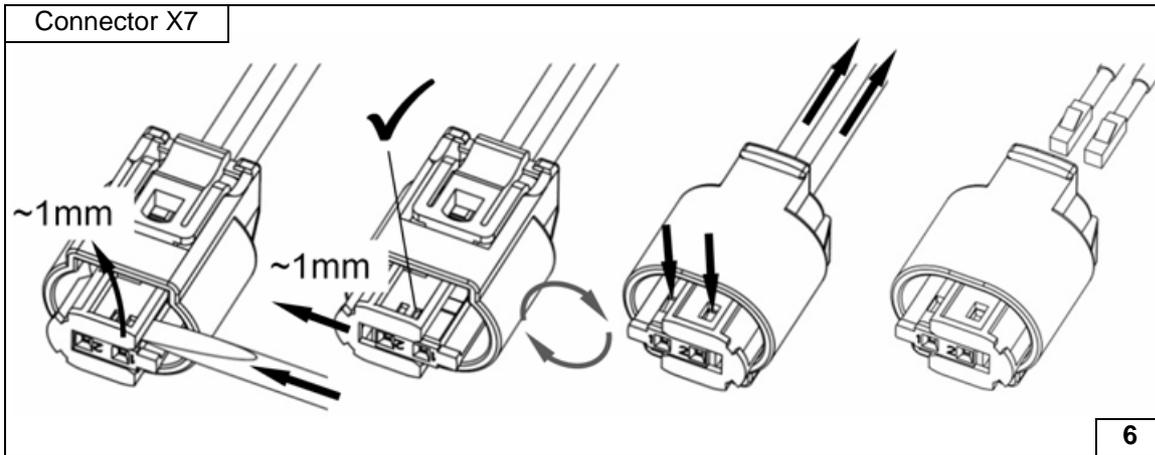


Connecting wires to passenger compartment relay and fuse holder

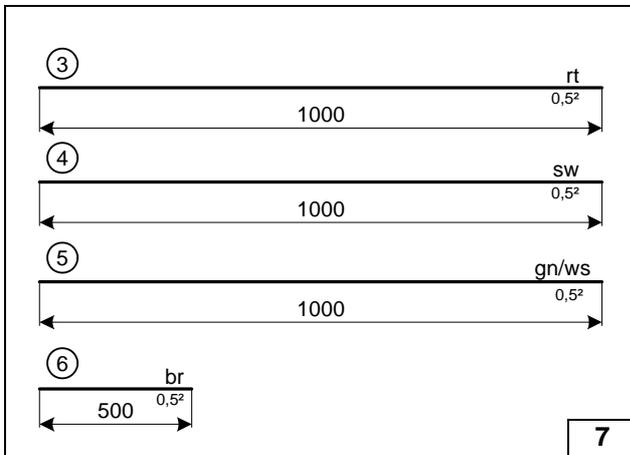


- 1 Angle bracket
- 2 K1 relay
- 3 25A fuse F4
- 4 Passenger compartment relay and fuse holder
- 5 M5x12 bolt, washer, nut

Preparing passenger compartment relay and fuse holder



Dismantling metering pump connector

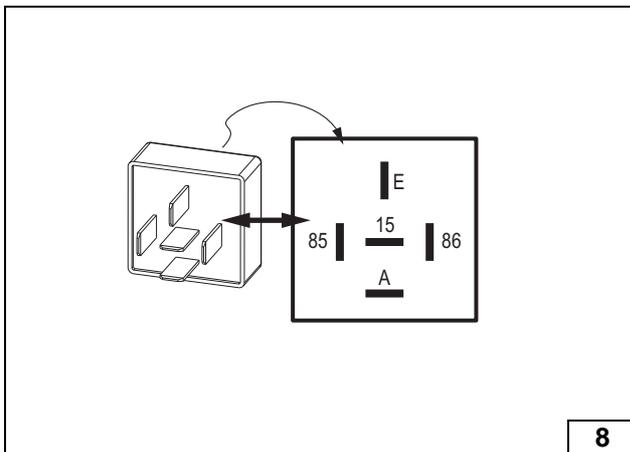


Automatic air-conditioning

Pull wire sections ③ and ④ into provided protective sleeving.



Assigning wires



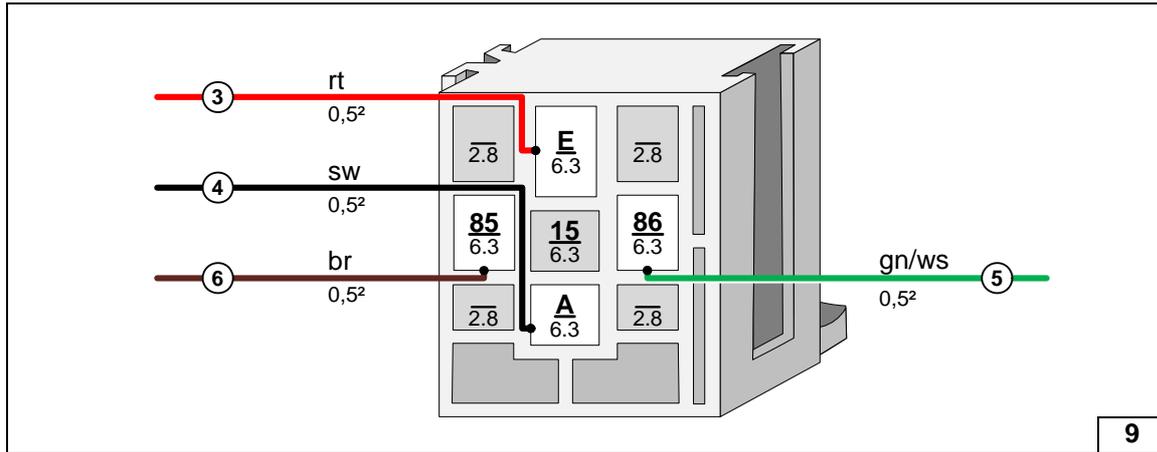
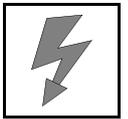
The settings must be checked during the start-up of the heater and adjusted if necessary.

Settings:

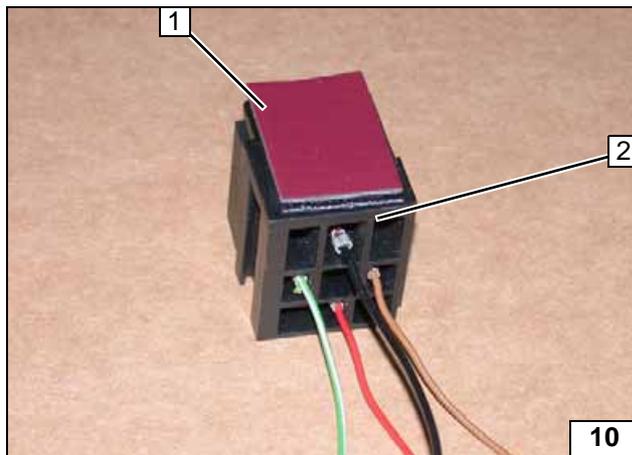
- Duty cycle: 100% DC
- Frequency: not relevant
- Voltage: 3.6V
- Function: High side



IPCU view



Connecting wires to IPCU socket

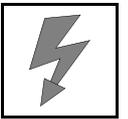


Mount IPCU on socket 2 after installation.

- 1 Double-sided adhesive tape
- 2 IPCU socket



Preparing IPCU

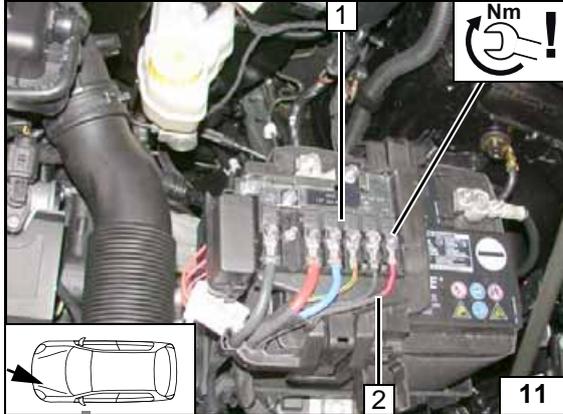


Electrical System



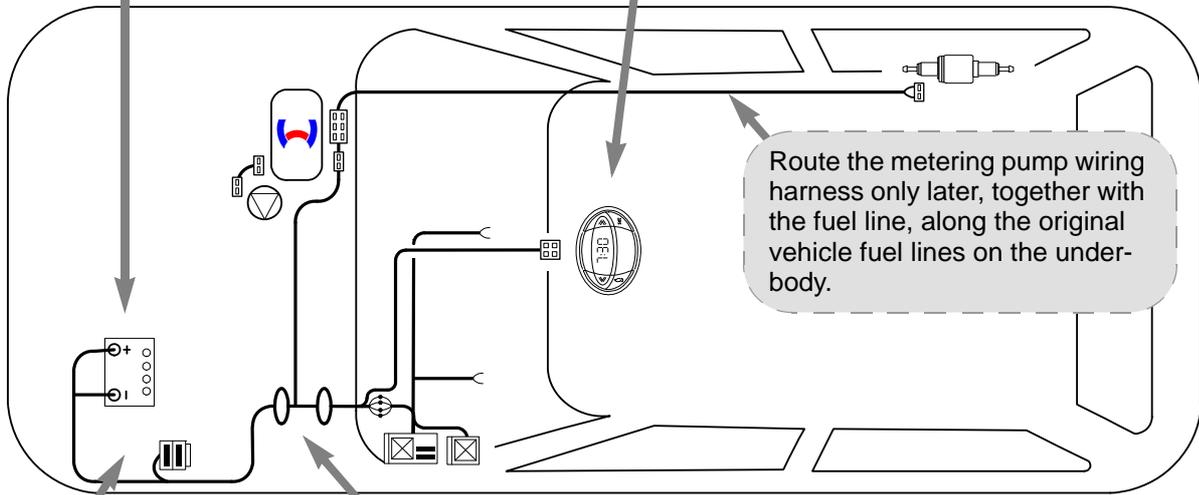
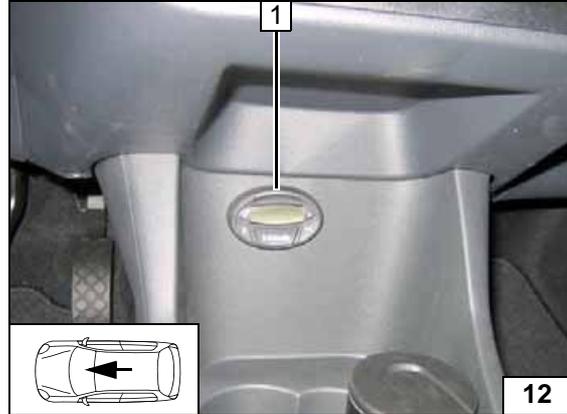
Connection to positive battery terminal

- 1 Positive distributor on battery
- 2 Positive wire on secured connection

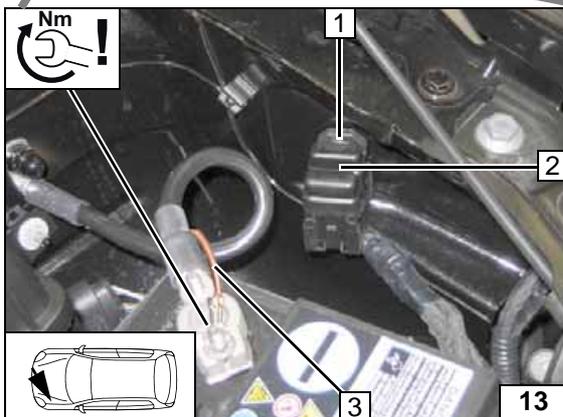


Digital timer

- 1 Digital timer



Wiring harness routing diagram



Engine compartment fuse holder, earth connection

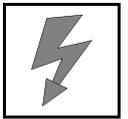
- 1 4.5 mm dia. hole; 5.5x13 mm self-tapping screw, retaining plate of fuse holder
- 2 Fuses F1-2 pushed on
- 3 Earth wire on negative battery terminal



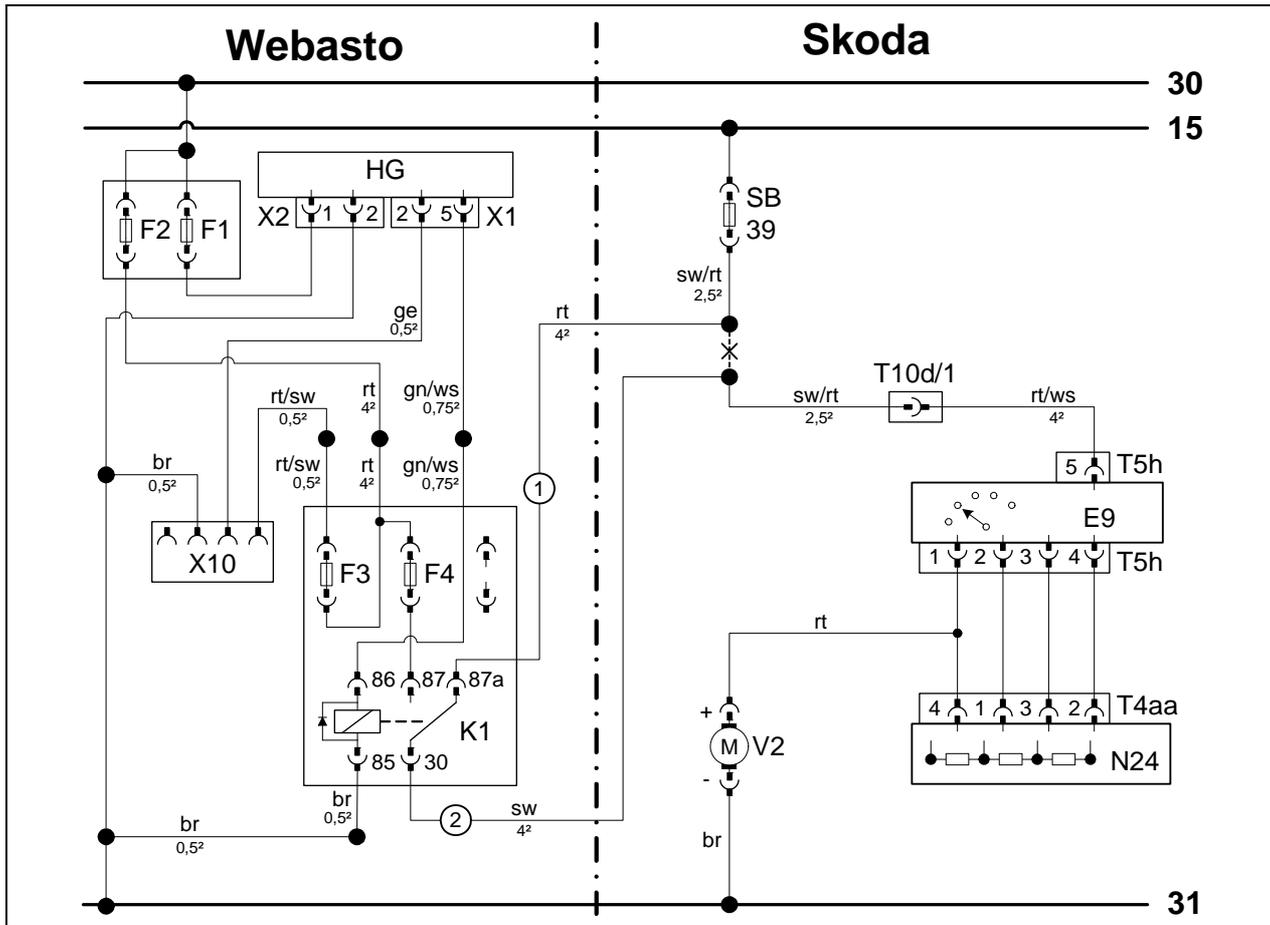
Wiring harness pass through of passenger compartment

- 1 Protective rubber plug pass through coolant reservoir
- 2 Wiring harness of engine compartment fuse holder





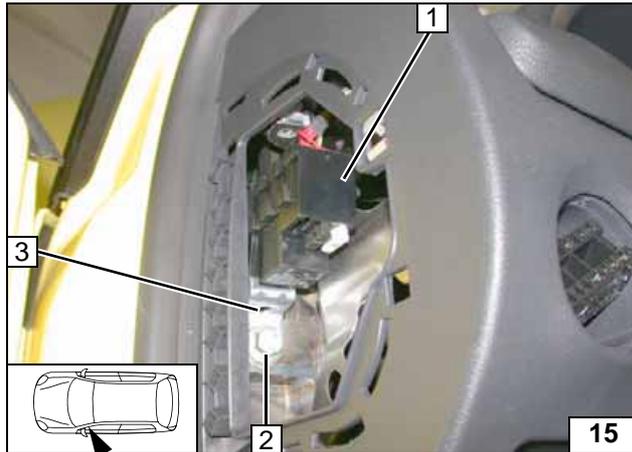
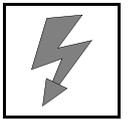
Manual Air-Conditioning Fan Controller



Wiring diagram

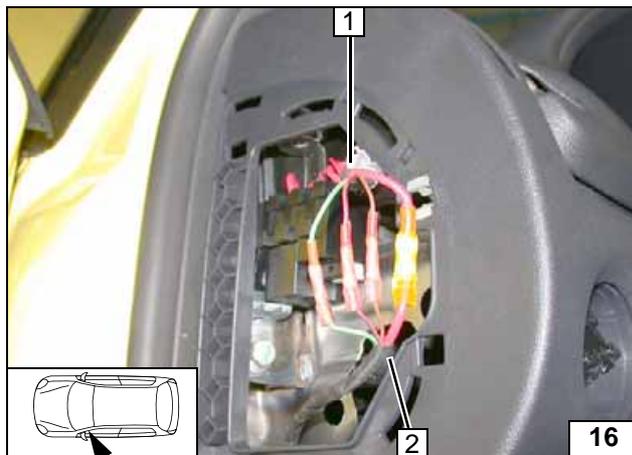
Webasto components		Vehicle components		Colours and symbols	
HG	TT-Evo heater	SB39	30A fuse	rt	red
X1	6-pin heater connector	T...	Connector	ws	white
X2	2-pin heater connector	E9	Switch unit	sw	black
F1	20A fuse	V2	Fan motor	br	brown
F2	30A fuse	N24	Resistor group	gn	green
X10	4-pin connector of heater control			ge	yellow
F3	1A fuse				
F4	25A fuse			X	Cutting point
K1	Fan relay			Wiring colours may vary.	

Legend



- 1 Passenger compartment relay and fuse holder
- 2 Original vehicle bolt
- 3 Angle bracket

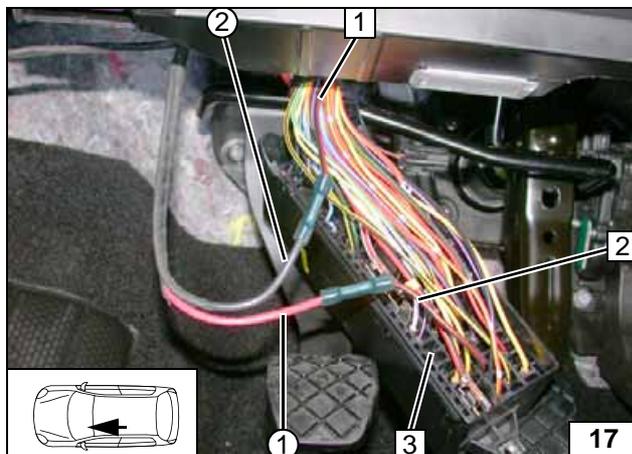
Installing passenger compartment relay and fuse holder



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

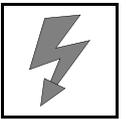


Connecting same colour wires of wiring harnesses

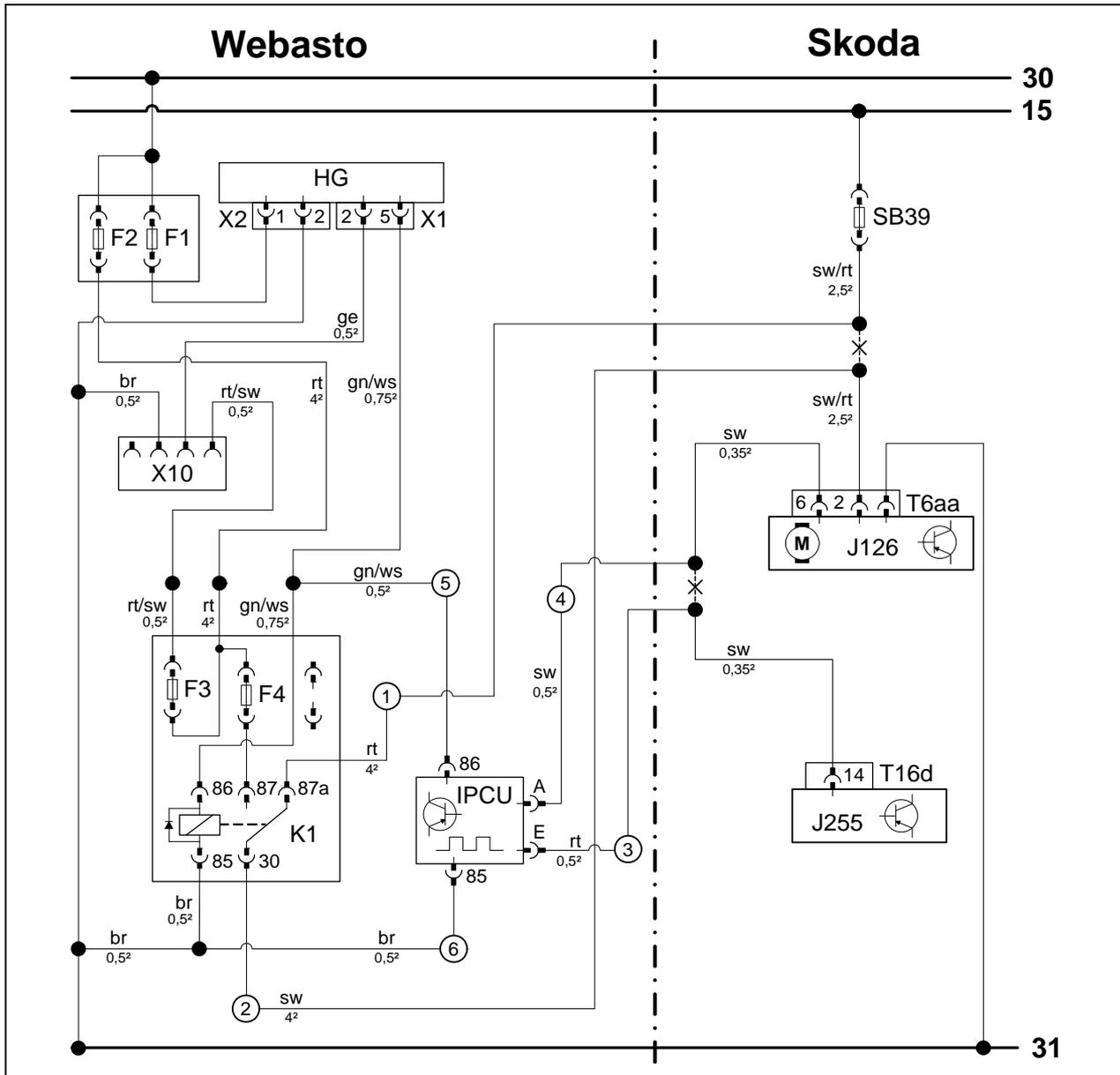


- 1 Black/red (sw/rt) wire of fan unit
- 2 Black/red (sw/rt) wire of fuse SB39
- 3 Central electrical box
- ① Red (rt) wire of K1/87a, fan wiring harness
- ② Black (sw) wire of K1/30, fan wiring harness

Connecting central electrical box



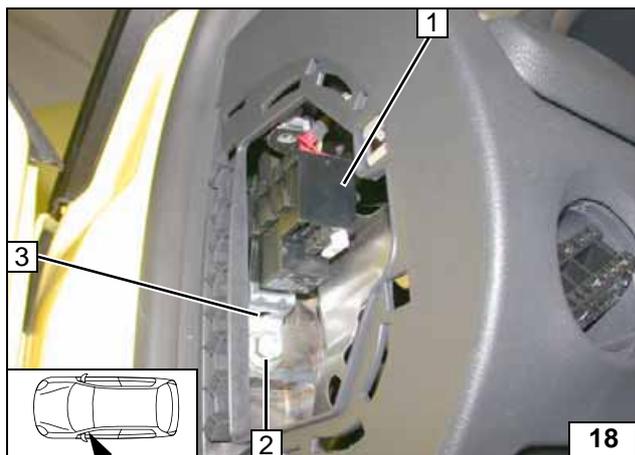
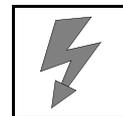
Fan Controller for Automatic Air-Conditioning



Wiring diagram

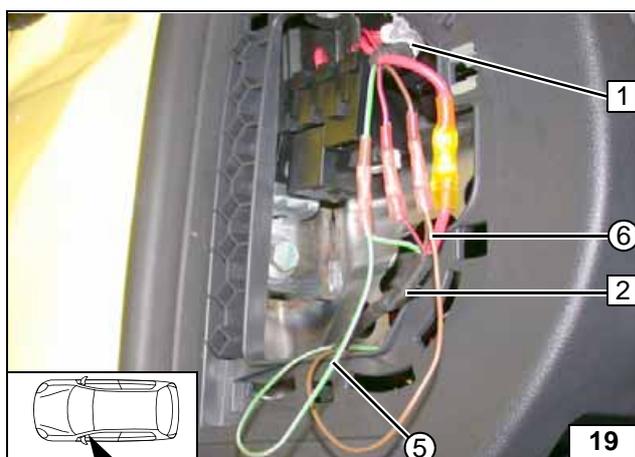
Webasto components		Vehicle components		Colours and symbols	
HG	TT-Evo heater	SB39	30A fuse	rt	red
X1	6-pin heater connector	T...	Connector	ws	white
X2	2-pin heater connector	J126	Fan unit	sw	black
F1	20A fuse	J255	A/C control panel	br	brown
F2	30A fuse			gn	green
X10	4-pin connector of heater control			ge	yellow
F3	1A fuse				
F4	25A fuse				
K1	Fan relay				
IPCU	Pulse width modulator				
IPCU settings:					
Duty cycle: 100% DC					
Frequency: not relevant					
Voltage: 3.6 V					
Function: High side					
				X	Cutting point
Wiring colours may vary.					

Legend



- 1 Passenger compartment relay and fuse holder
- 2 Original vehicle bolt
- 3 Angle bracket

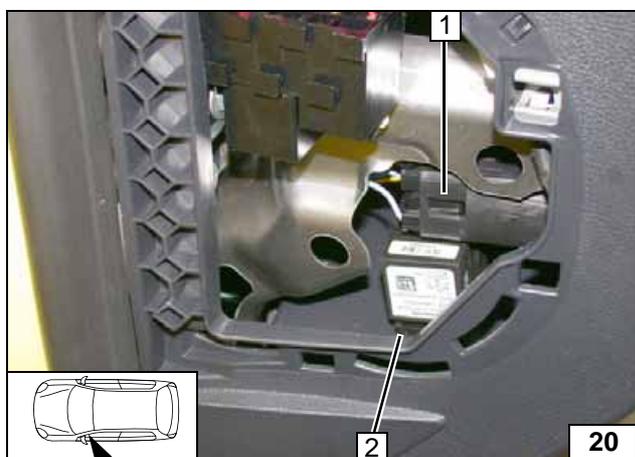
Installing passenger compartment relay and fuse holder



- 1 Wiring harness of passenger compartment relay and fuse holder
- 2 Wiring harness of heater
- ⑤ Additional green/white (gn/ws) wire
- ⑥ Brown (br) additional wire



Connecting same colour wires of wiring harnesses

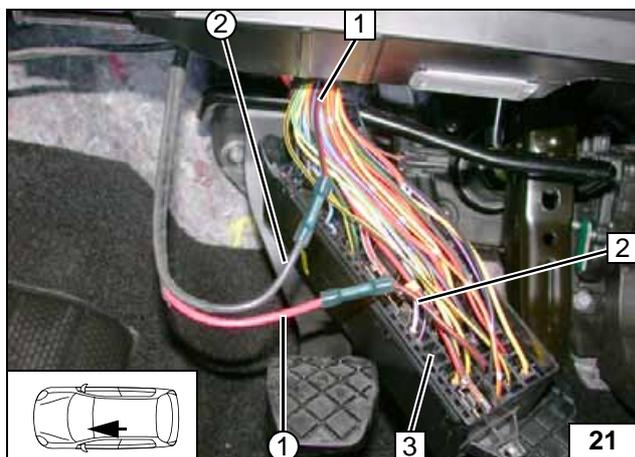


Ensure sufficient distance from light switch 1.

- 2 Stick on IPCU socket (double-sided adhesive tape)

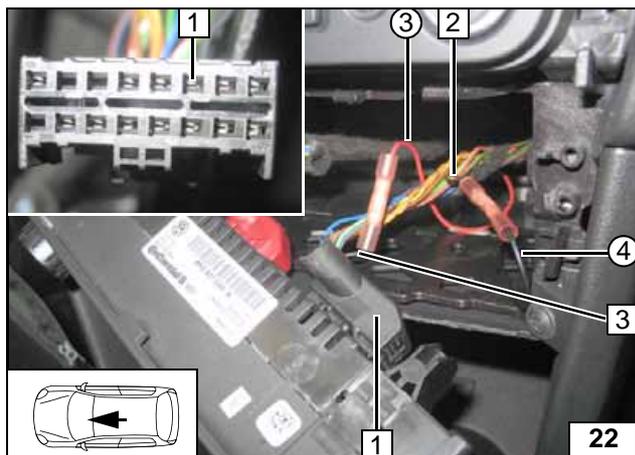
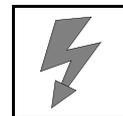


Installing IPCU



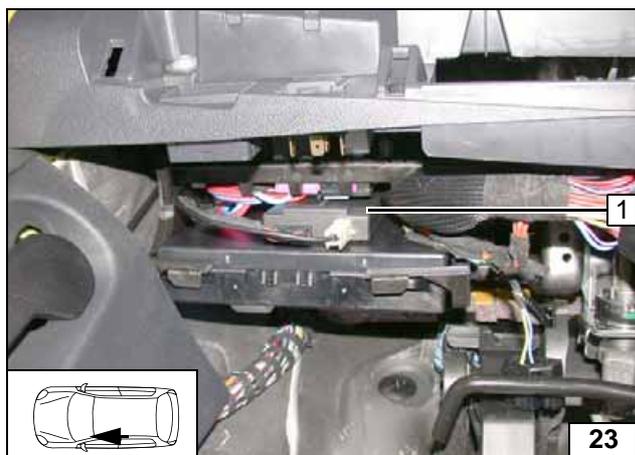
- 1 Black/red (sw/rt) wire of fan unit
- 2 Black/red (sw/rt) wire of fuse SB39
- 3 Central electrical box
- ① Red (rt) wire of K1/87a, fan wiring harness
- ② Black (sw) wire of K1/30, fan wiring harness

Connecting central electrical box



- 1 Connector T16d
- 2 Black (sw) wire from J126
- 3 Black (sw) wire of J255 / T16d pin 14
- ③ Red (rt) wire of IPCU/E
- ④ Black (sw) wire of IPCU/A

Connecting air-conditioning control panel

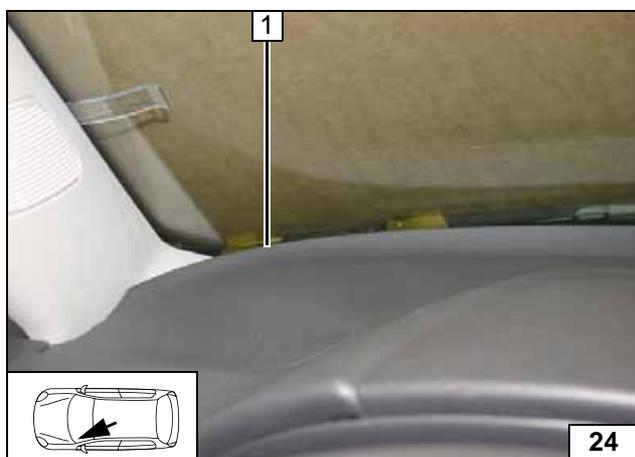


Remote Option (Telestart)

Fasten receiver 1 with double-sided adhesive tape.

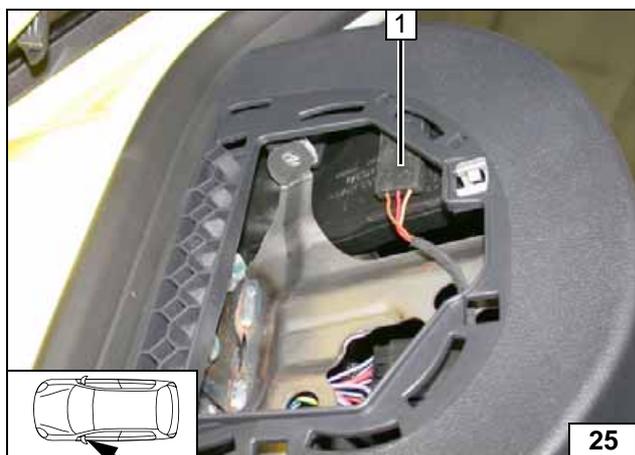


Installing receiver



- 1 Aerial

Installing aerial

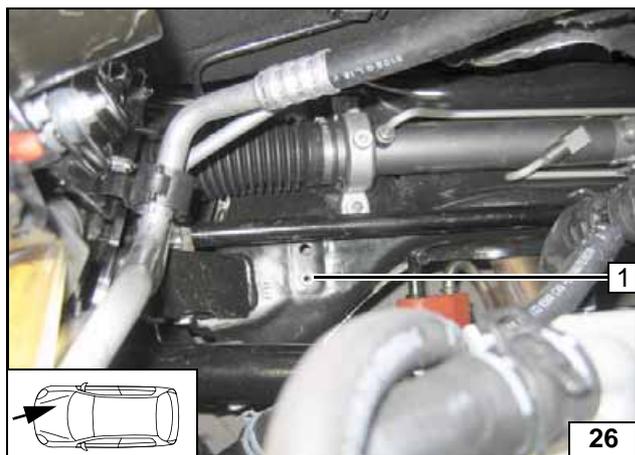
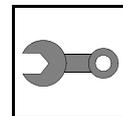


Temperature sensor T100 HTM

Fasten temperature sensor 1 with double-sided adhesive tape.



Installing temperature sensor

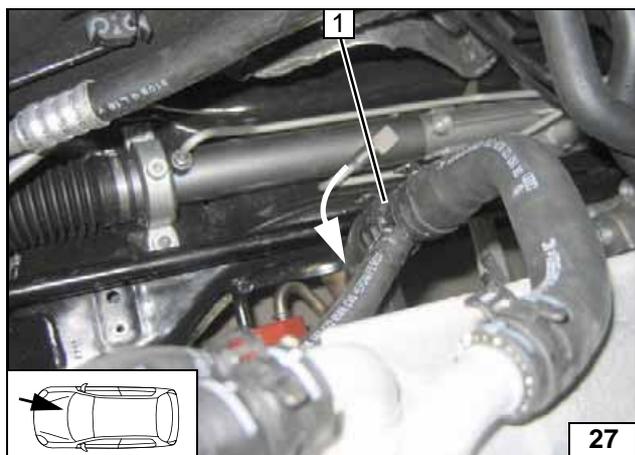


Preparing Installation Location

1 Install original vehicle hole, rivet nut



Installing rivet nut

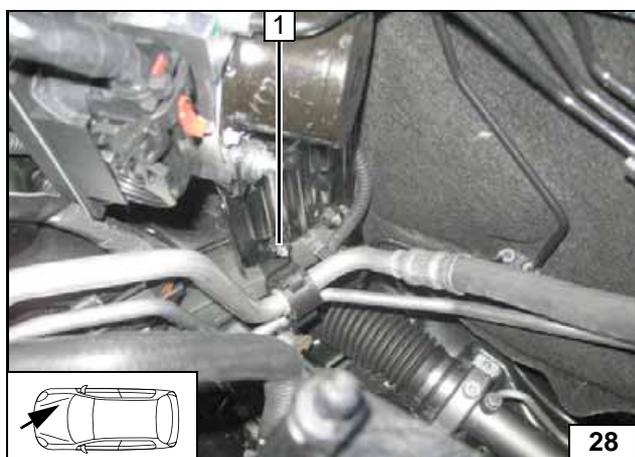


TSI only

Turn T-piece 1 as shown.



Aligning T-piece

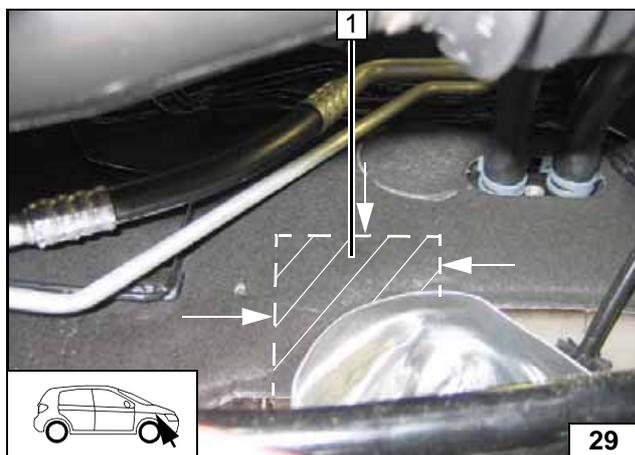


All vehicles

Remove original vehicle flanged nut 1, will be reused later.



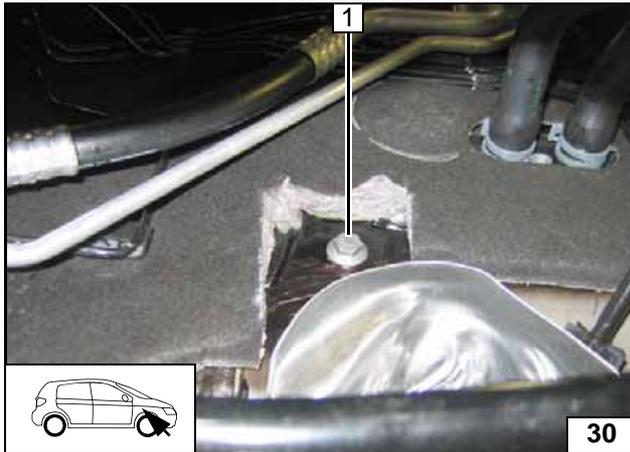
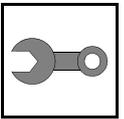
Removing flanged nut



Cut out insulation mat 1 at markings.



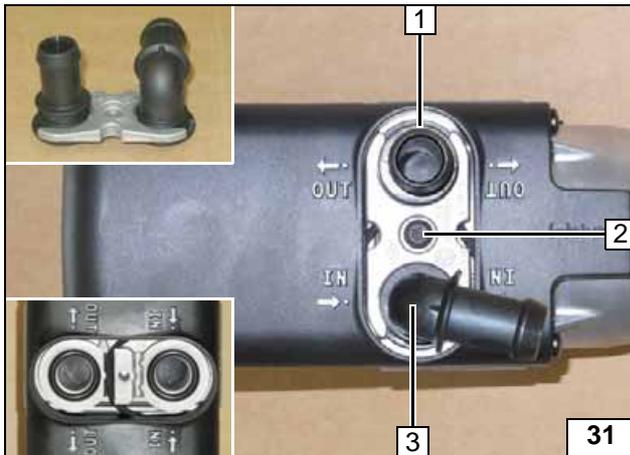
Cutting out insulation mat



Remove original vehicle bolt 1; will be re-used later.



Removing bolt

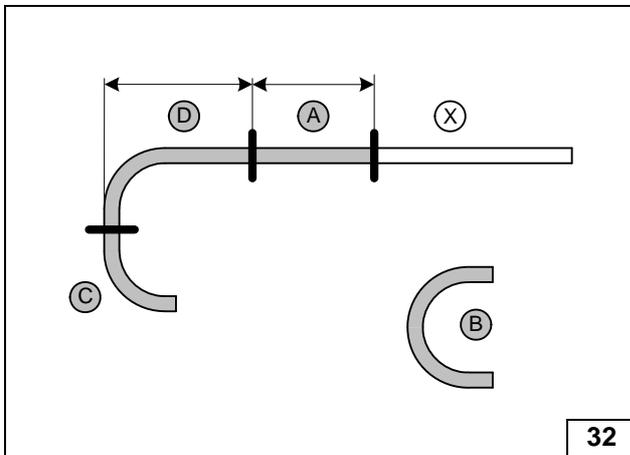


Preparing Heater

- 1 18 mm dia. axial water connection piece, sealing ring
- 2 5x15 self-tapping bolt, retaining plate of water connection piece
- 3 90°, 18 mm dia. water connection piece, sealing ring



Installing water connection piece

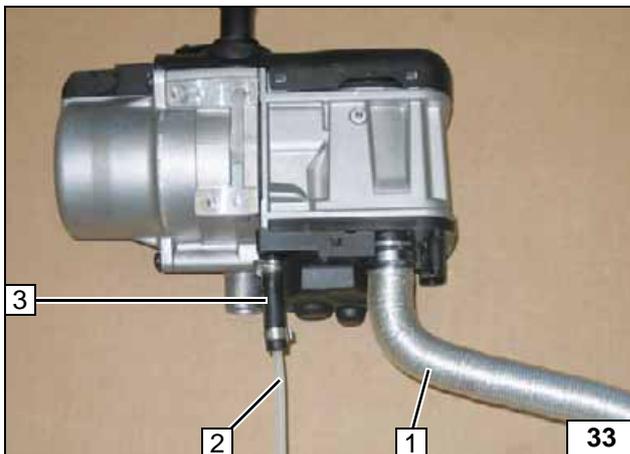


All 180°, 18x18mm dia. moulded hoses
Discard section X.

- A = 200
- D = 200



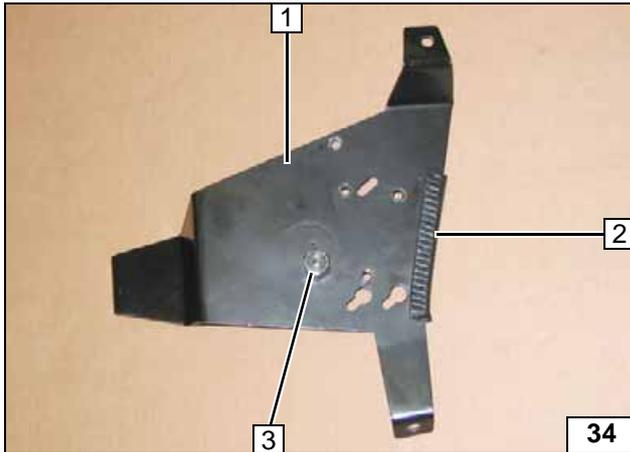
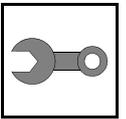
Cutting hoses to length



- 1 Combustion air pipe
- 2 Fuel line
- 3 Hose section, clamp [2x]

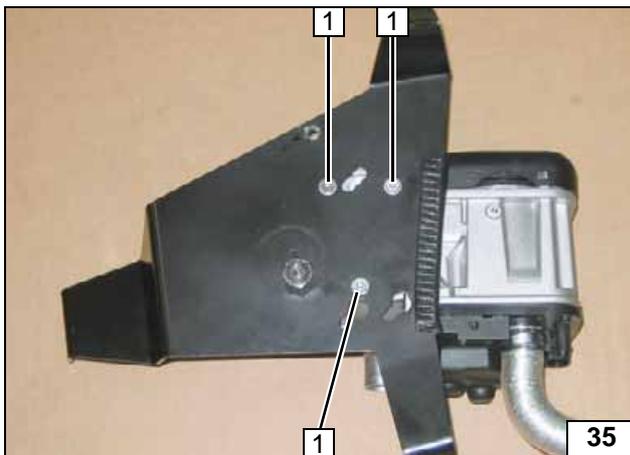


Premounting heater



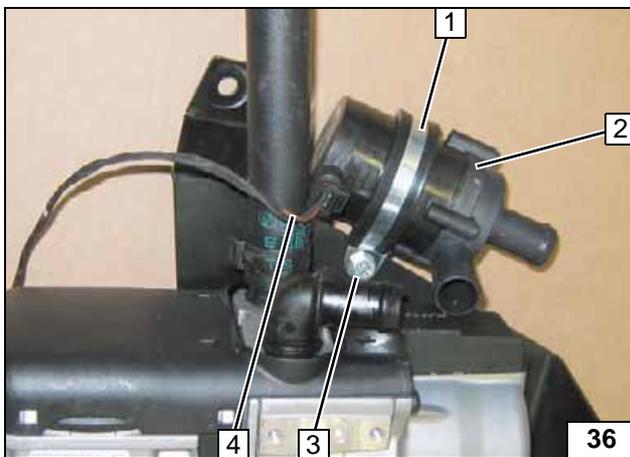
- 1 Bracket
- 2 100 mm edge protection
- 3 M6x12 bolt, spring lockwasher, M6x20 spacer nut

Preparing bracket



- 1 5x13 self-tapping bolt [3x]

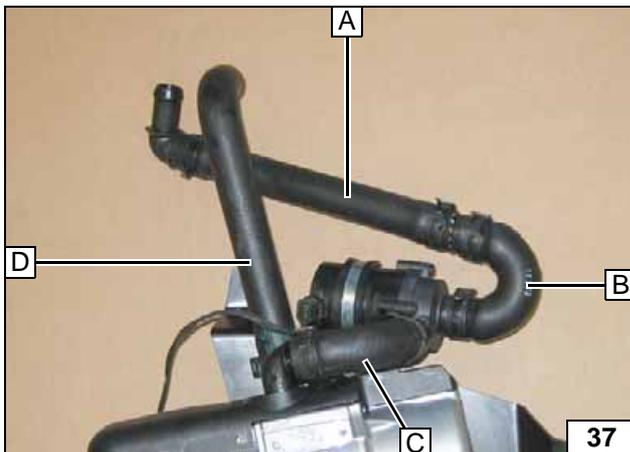
Installing bracket



Mount wiring harness of circulating pump 4 on heater and circulating pump.

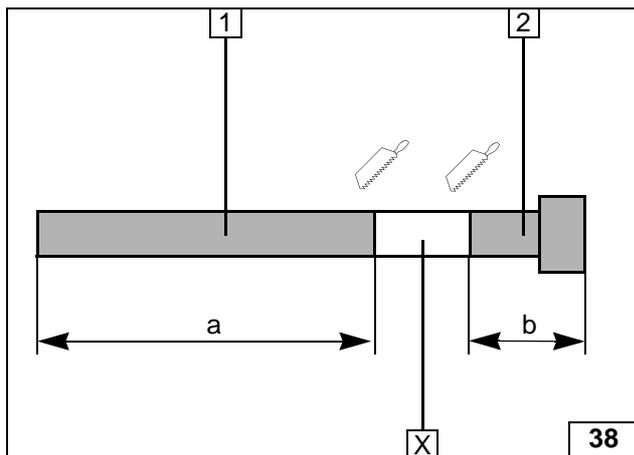
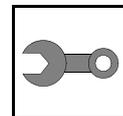
- 1 48 mm dia. rubber-coated p-clamp
- 2 Circulating pump
- 3 M6x16 bolt, flanged nut, existing hole

Installing circulating pump



All connecting pipes 18x18mm dia.
All spring clips 25 mm dia.

Installing hoses

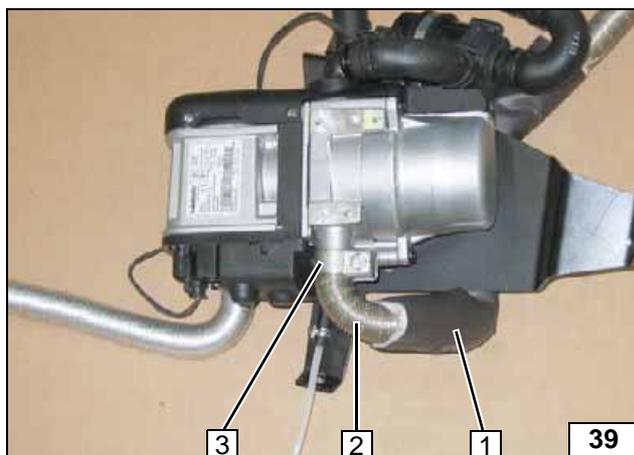


Discard section X.

- 1 Exhaust pipe
a = 540
- 2 Exhaust end section
b = 100



Preparing exhaust pipe



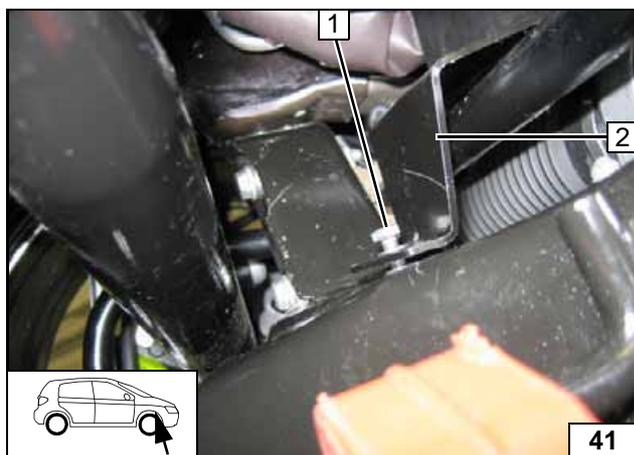
- 1 Slide on exhaust insulation
- 2 Exhaust pipe
- 3 Hose clamp

Installing exhaust pipe



- 1 M6x12 bolt, spring lockwasher, large diameter washer, pipe clamp
- 2 Slide on exhaust insulation
- 3 Exhaust pipe

Installing exhaust pipe



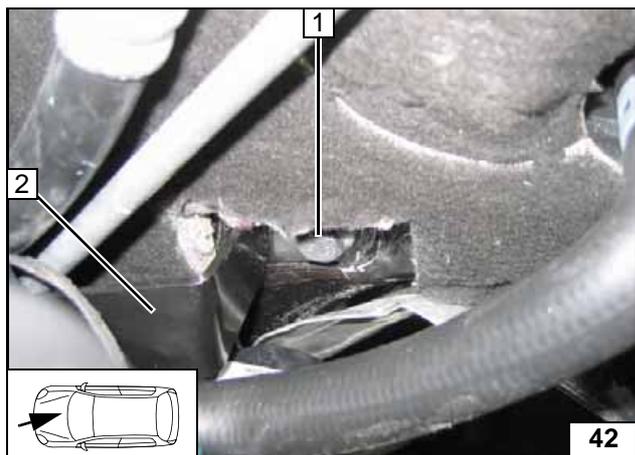
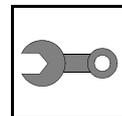
Installing Heater

- 1 Loosely install M6x20 bolt, spring lockwasher
- 2 Bracket



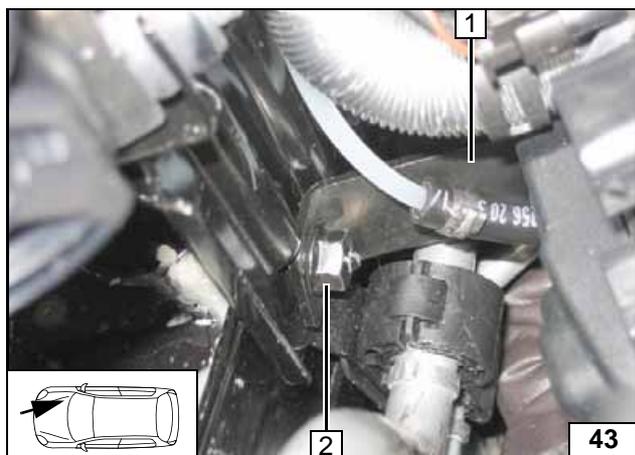
Installing heater





- 1 Loosely install original vehicle bolt
- 2 Bracket

Installing heater



Tighten all screw connections.

- 1 Bracket
- 2 Original vehicle flanged nut



Installing heater

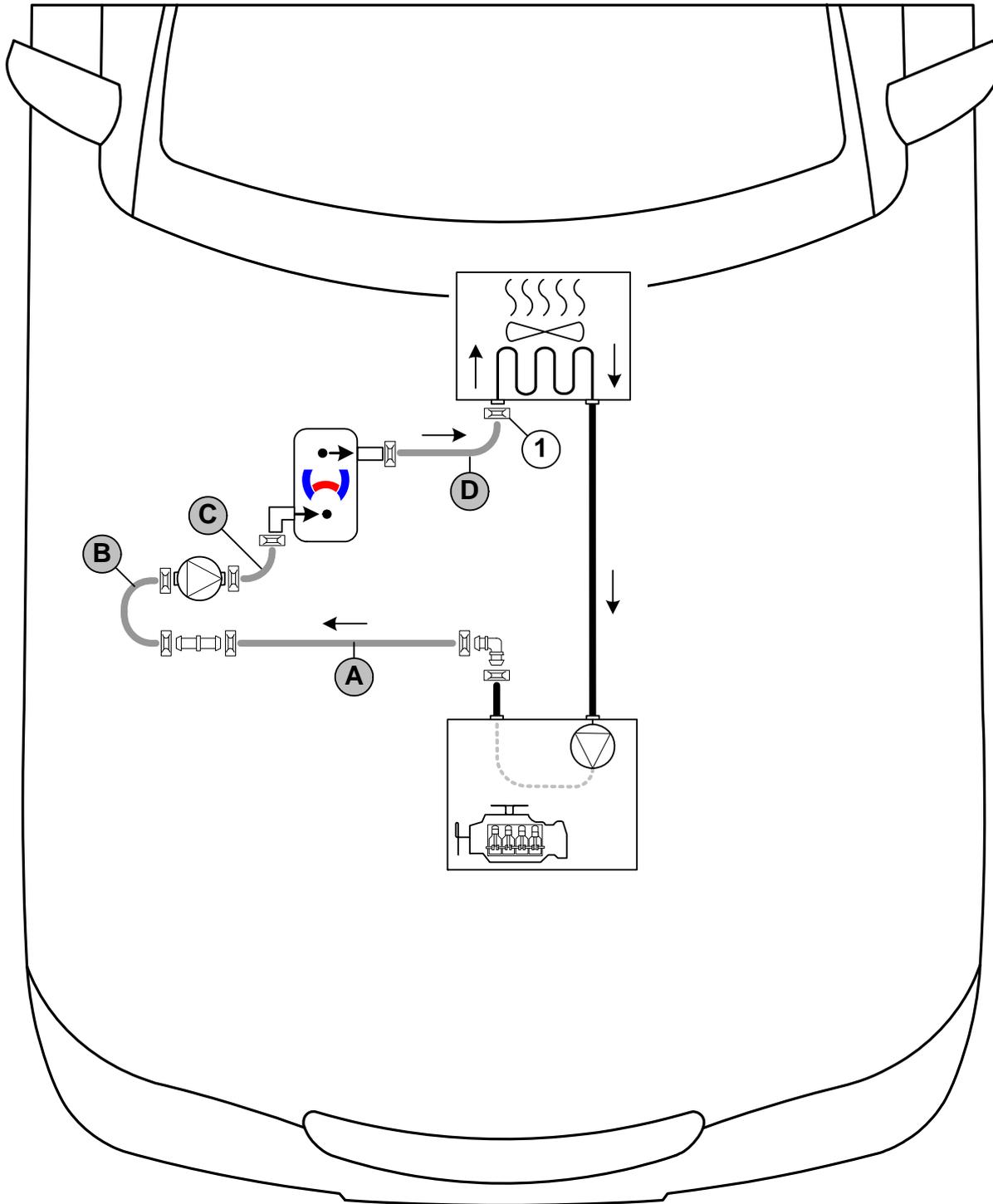


Coolant Circuit



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:

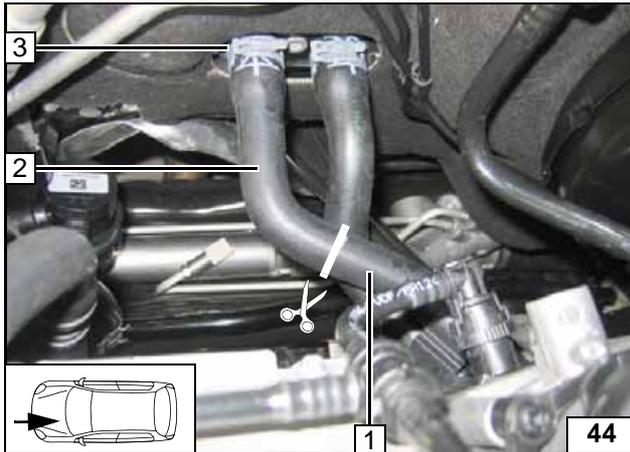


Hose routing diagram

All spring clips  = 25 mm dia. **1** = Original vehicle spring clip .

All connecting pipes without a specific designation  and  = 18x18 mm dia.

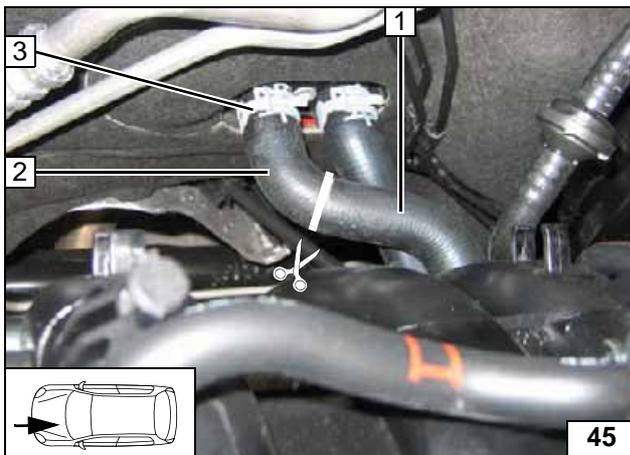




63 and 77 kW

- 1 Engine outlet hose section
- 2 Remove hose section of heat exchanger inlet and discard
- 3 Original vehicle spring clip will be re-used

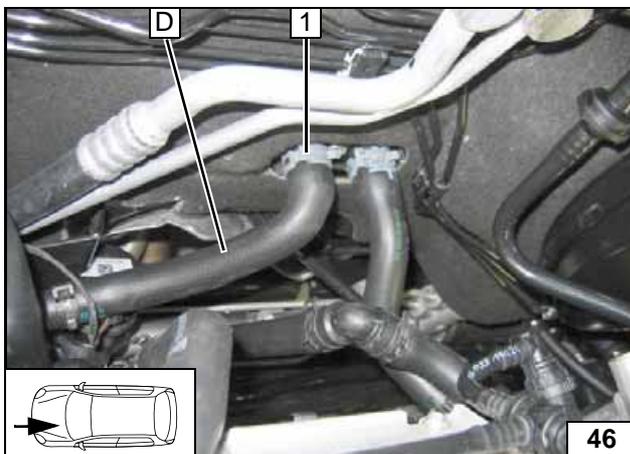
Cutting point



44 and 51 kW

- 1 Engine outlet hose section
- 2 Remove hose section of heat exchanger inlet and discard
- 3 Original vehicle spring clip will be re-used

Cutting point



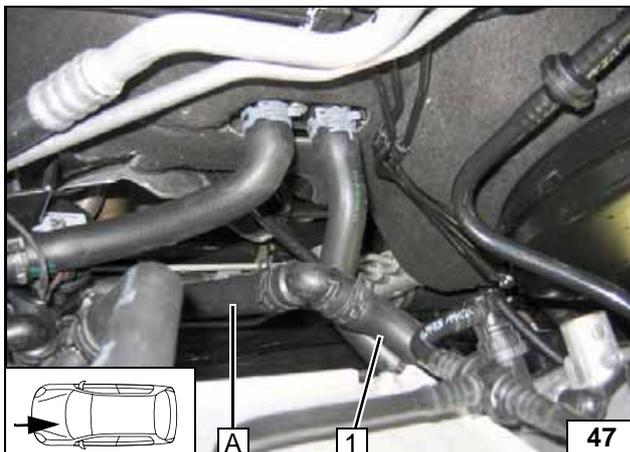
All vehicles

The following figures show 1.2 TSI!

- 1 Original vehicle spring clip



Connecting heat exchanger inlet

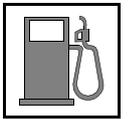


Ensure sufficient distance from neighbouring components, correct if necessary.

- 1 Engine outlet hose section



Connecting engine outlet



Fuel



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

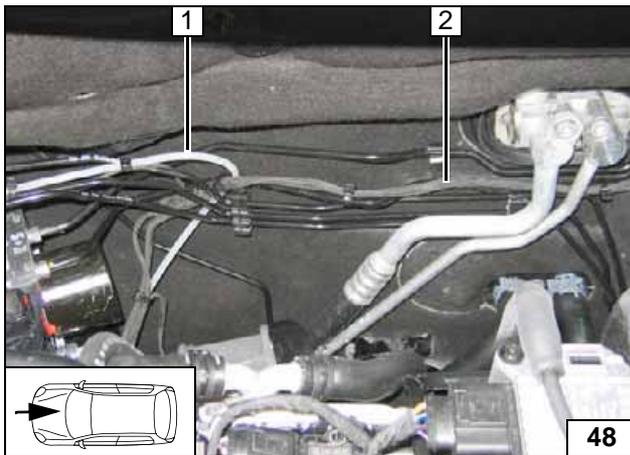
Catch any fuel running off in an appropriate container.



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.

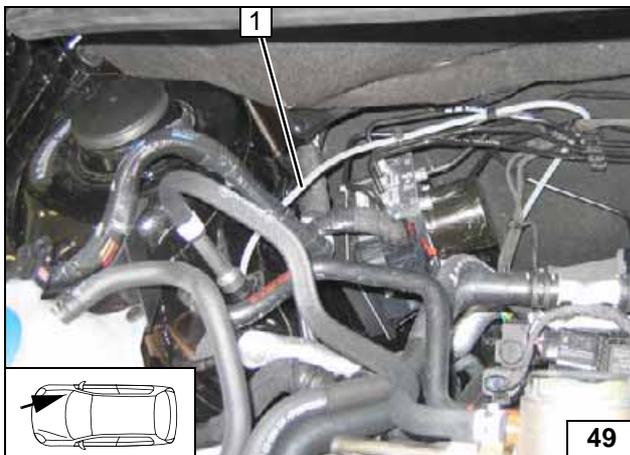
The fuel line and wiring harness are routed to the metering pump as shown in the wiring harness routing diagram.



Route fuel line and wiring harness of metering pump **1** to right-hand vehicle side. Route wiring harness of heater **2** to heater and install.



Routing in engine compartment



Route fuel line and wiring harness of metering pump **1** to the installation location of the metering pump on original vehicle fuel lines.

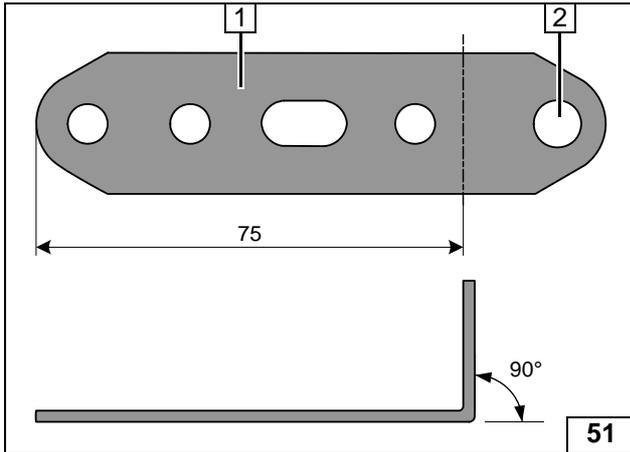
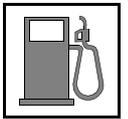


Routing in engine compartment



- 1 Fuel line, metering pump wiring harness
- 2 Original vehicle pass through for fuel lines

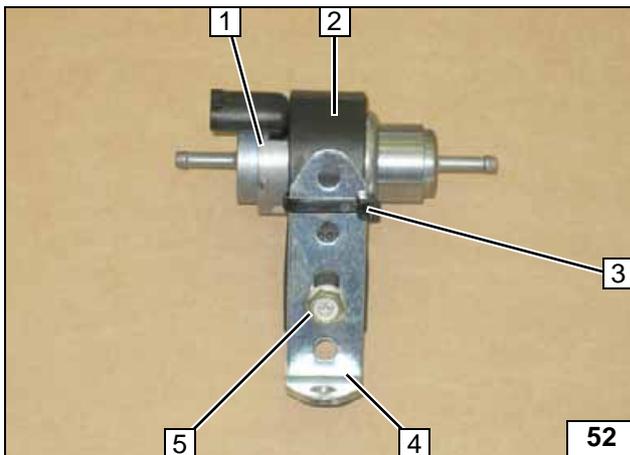
Routing lines



Drill out perforated bracket 1 at position 2 to 8.5 mm dia. and angle down.

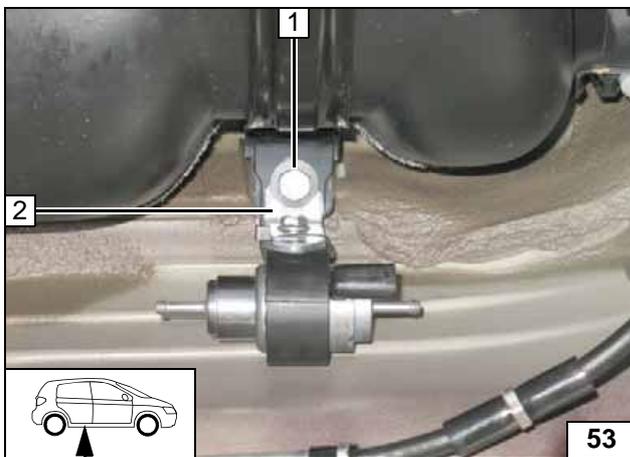


Preparing perforated bracket



- 1 Metering pump
- 2 Metering pump mount
- 3 Cable tie drawn through mount of metering pump
- 4 Perforated bracket
- 5 M6x25 bolt, support angle bracket, flanged nut

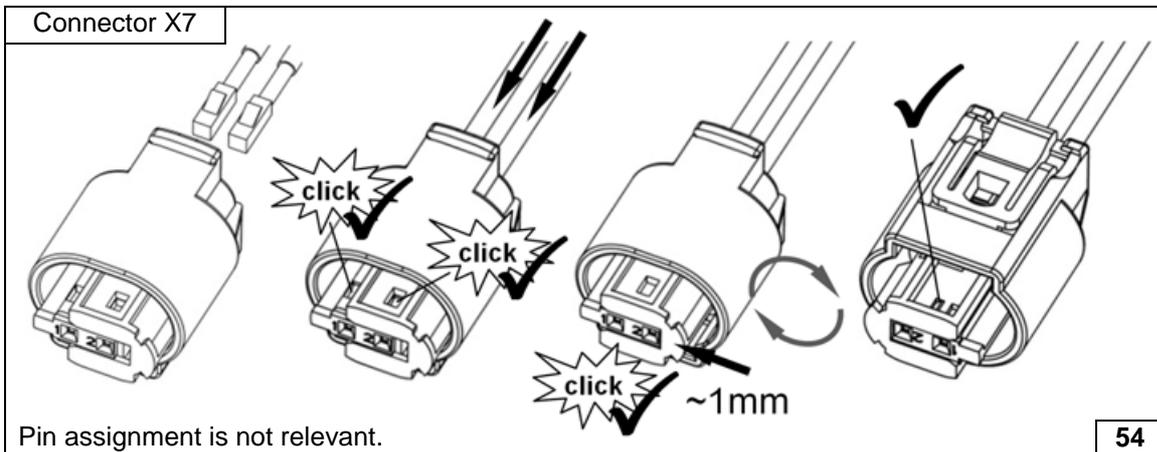
Premounting metering pump



- 1 Original vehicle bolt of fuel tank fastening
- 2 Perforated bracket

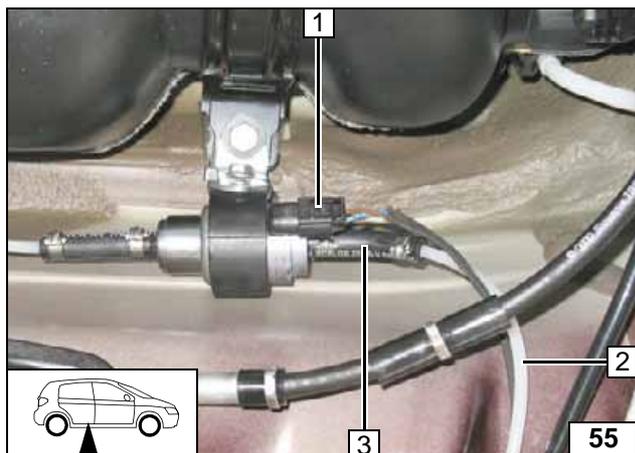
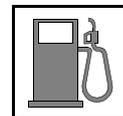


Installing metering pump



Pin assignment is not relevant.

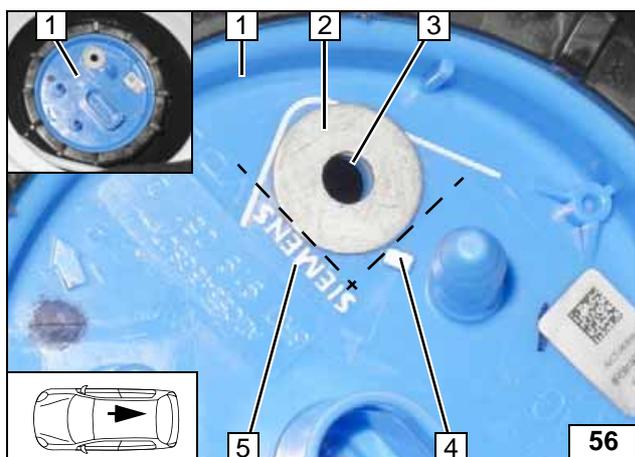
Completing metering pump connector



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



**Connect-
ing meter-
ing pump**



Installing FuelFix

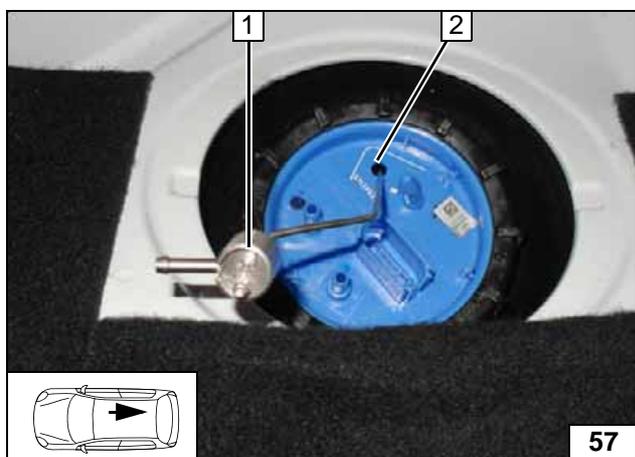
Version 1

Work steps F1, F2 and F3.
Disassemble original vehicle connector.

- 1 Fuel tank sending unit
- 2 Position washer with outer dia. $d_a = 21.6\text{mm}$ as template, copy hole pattern
- 3 Hole made with provided drill
- 4 Position at raised part
- 5 Position at writing (text may vary)



**Hole for
FuelFix**

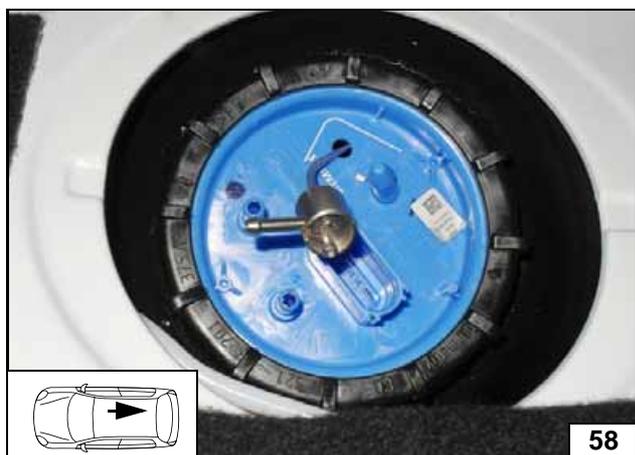


Work steps F4 and F5.

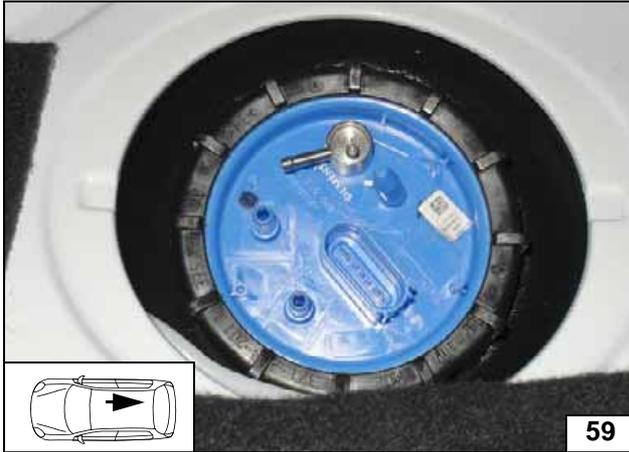
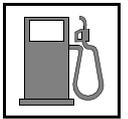
Bend FuelFix 1 according to template and cut to length.
Insert into hole 2.



**Preparing
and install-
ing FuelFix**



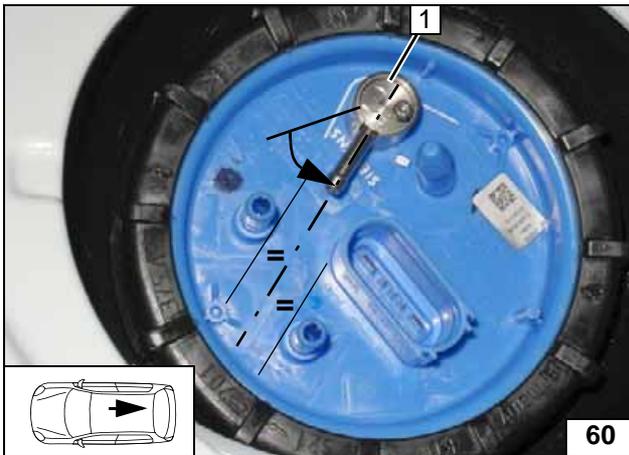
**Inserting
FuelFix**



59



Inserting
FuelFix



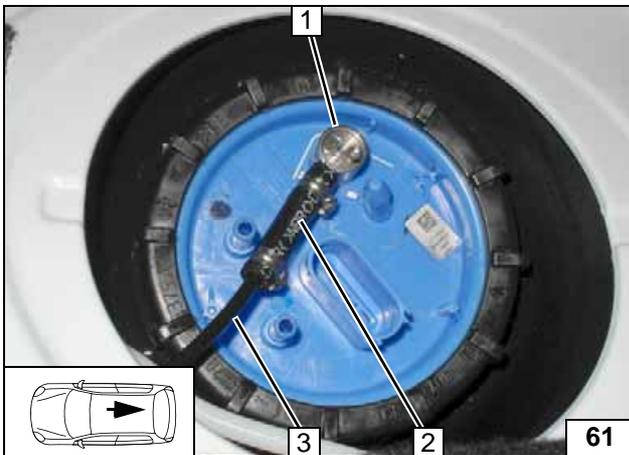
60

Work steps F5.3 and F5.4.

Align FuelFix 1 as shown.



Aligning
FuelFix



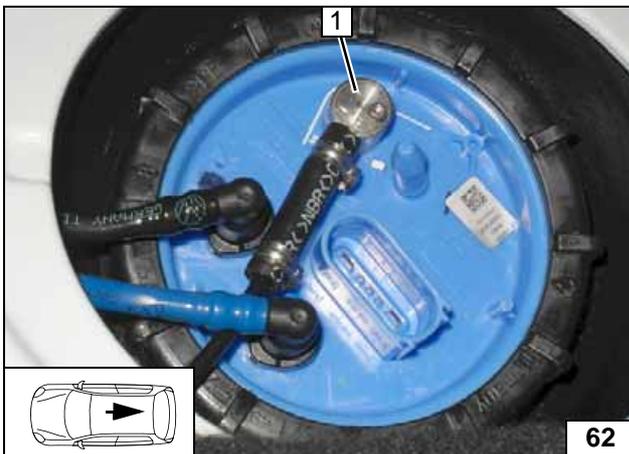
61

Work step F6.

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



Connect-
ing fuel line

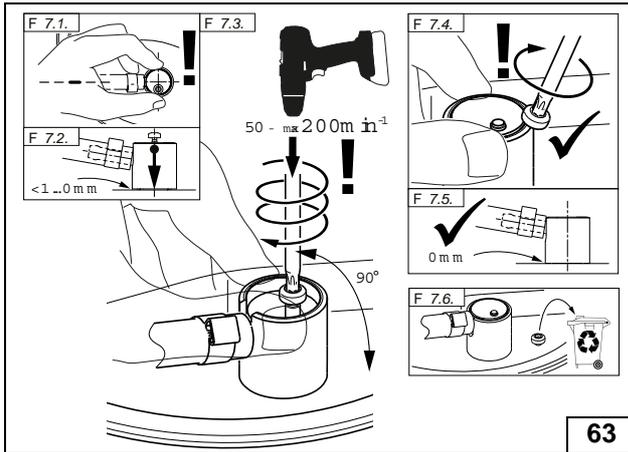
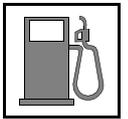


62

Install original vehicle fuel lines.
Align and install FuelFix 1 as shown in the
following figure.



Installing
FuelFix



Work step F7.



Installing FuelFix



Work step F8.



Ensure firm seating of the FuelFix and check the positioning of clamping piece 2 with respect to upper edge 1 of the housing.

Checking FuelFix

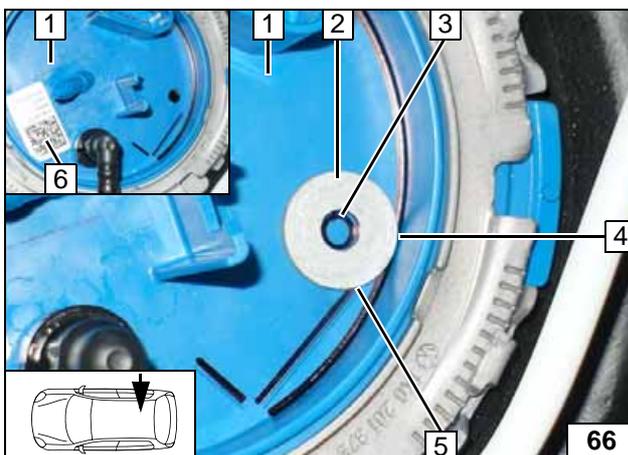


Work step F8.



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

Securing fuel line



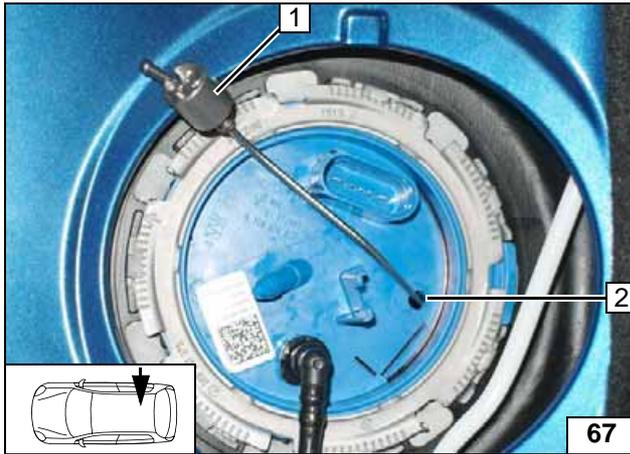
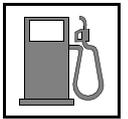
Version 2

Work steps F1, F2 and F3.
Disassemble original vehicle connector.



Hole for FuelFix

- 1 Fuel tank sending unit
- 2 Position washer with outer dia. $d_a = 21.6 \text{ mm}$ as template, copy hole pattern
- 3 Hole made with provided drill
- 4 Position at rim of fuel tank sending unit
- 5 Position at end of raised part
- 6 Barcode label, moved



Work steps F4 and F5.

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



Preparing and installing FuelFix



Inserting FuelFix



Inserting FuelFix

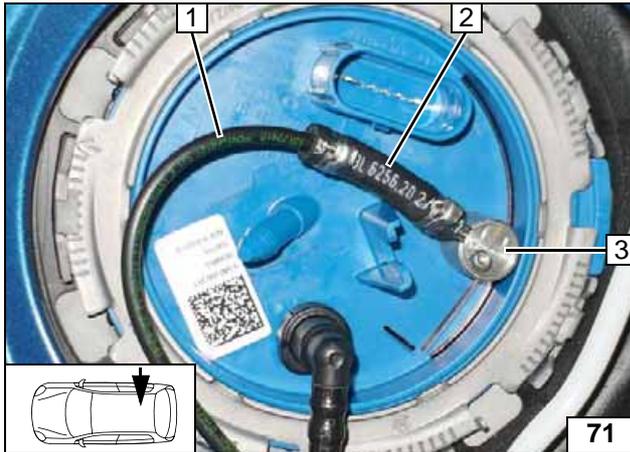
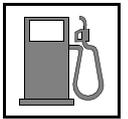


Work steps F5.3 and F5.4.

Align FuelFix 1 as shown.



Aligning FuelFix



Work step F6.

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



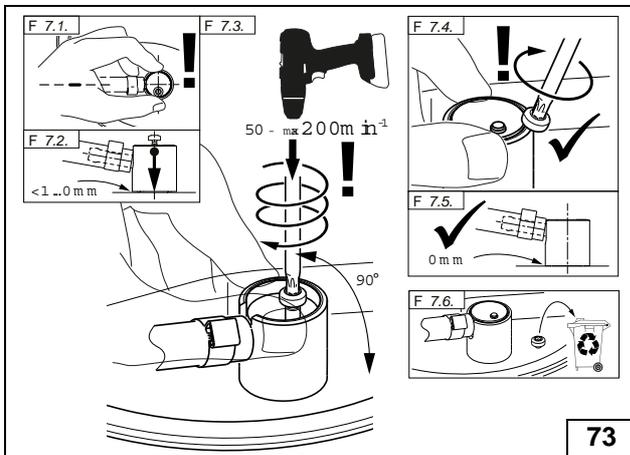
Connect-
ing fuel line



Install original vehicle connector
Align and install FuelFix 1 as shown in the following figure.



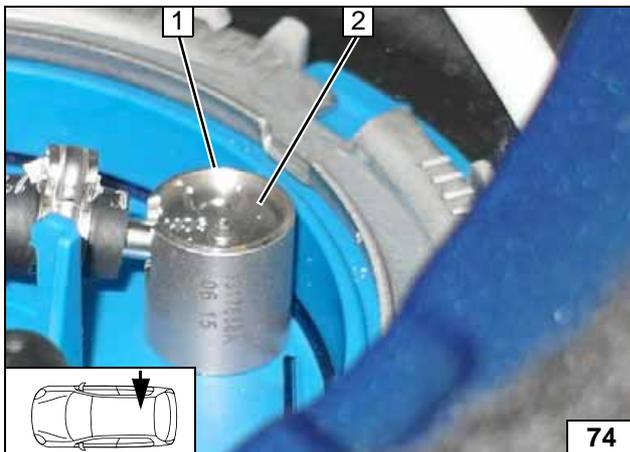
Installing
FuelFix



Work step F7.



Installing
FuelFix

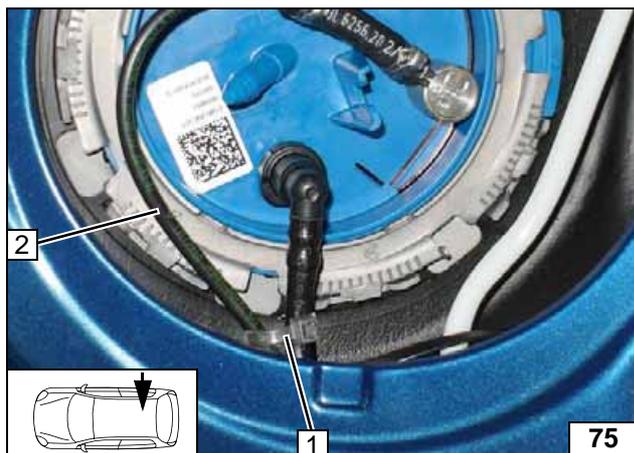
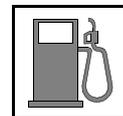


Work step F8.

Ensure firm seating of the FuelFix and check the positioning of clamping piece 2 with respect to upper edge 1 of the housing.



Checking
FuelFix

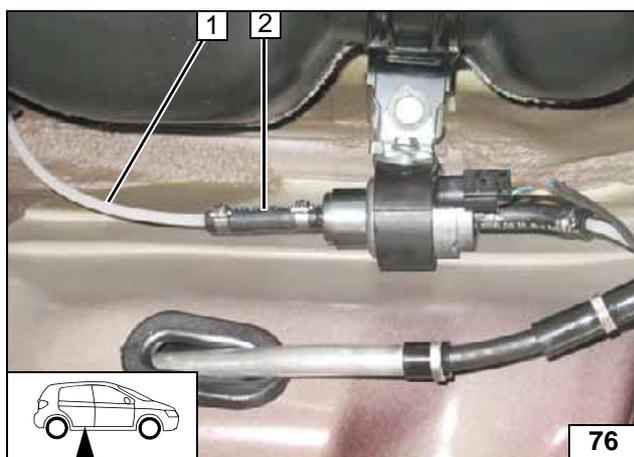


Work step F8.

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



Securing fuel line



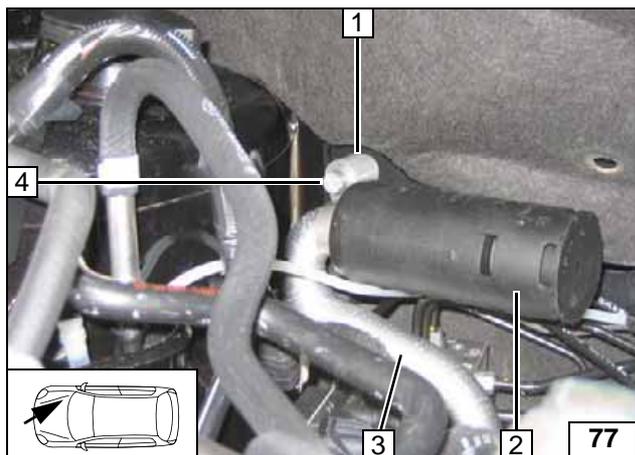
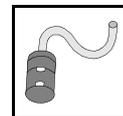
All vehicles

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

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



Connecting metering pump



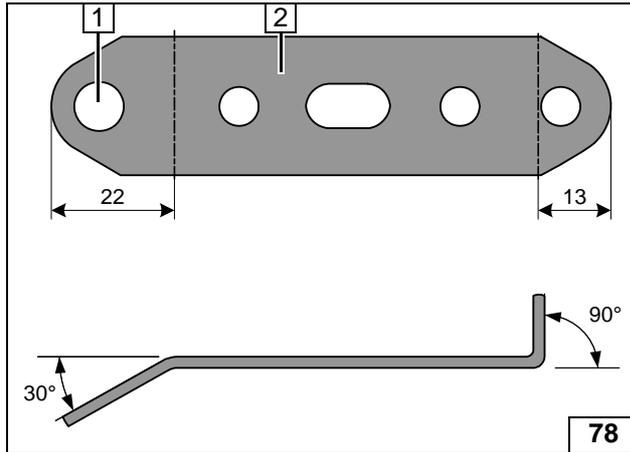
Combustion Air

Install coolant reservoir partition wall. Replace original vehicle bolt at position **1** with M6x50 bolt.

- 2** Silencer
- 3** Combustion air pipe
- 4** M6x50 bolt, spring lockwasher, pipe clamp, 20 mm shim, original vehicle threaded hole



Installing silencer

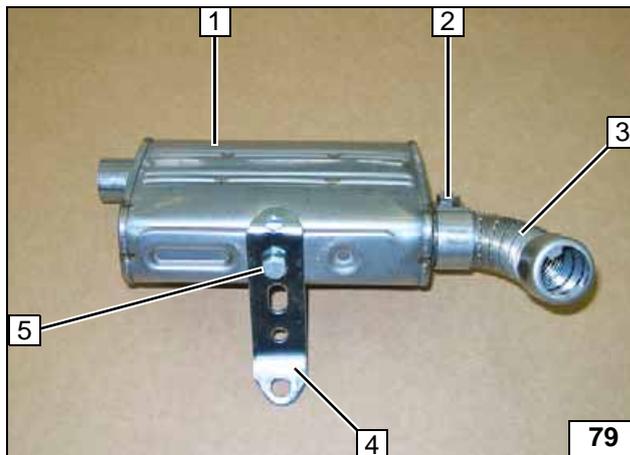


Exhaust Gas

Drill out perforated bracket 2 at position 1 to 8.5 mm dia. and angle down.

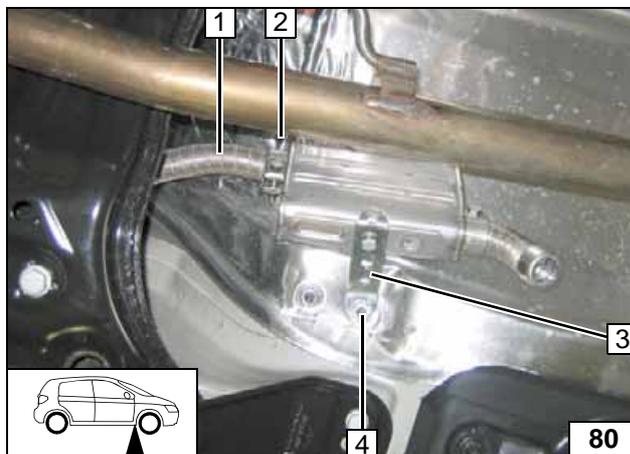


Preparing perforated bracket



- 1 Silencer
- 2 Hose clamp
- 3 Exhaust end section
- 4 Perforated bracket
- 5 M6x16 bolt, spring lockwasher

Premounting silencer

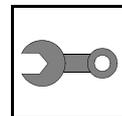


Ensure sufficient distance from neighbouring components, correct if necessary.



- 1 Exhaust pipe
- 2 Hose clamp
- 3 Perforated bracket
- 4 M8 flanged nut, spring lockwasher, original vehicle stud bolt

Installing silencer



Final Work

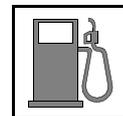


Reassemble the components in reverse order. Check all hoses, clamps and all electrical connections for firm seating. Insulate and tie back all loose lines.

Only use manufacturer-approved coolant. Spray the heater components with anti-corrosion wax (Tectyl 100K, Order No. 111329).

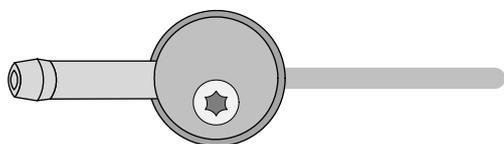
- **Connect the battery.**
- **Fill and bleed the coolant circuit according to the vehicle manufacturer's specifications.**
- **Adjust digital timer, teach Telestart transmitter.**
- **Make settings on A/C control panel according to the 'Operating Instructions for End Customer'.**
- **Place the 'Switch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





Template for FuelFix

Top view



100mm



Scale 1:1

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

Set the printer settings to 'no margin' or
'minimise margins' and 100% of the nor-
mal size.

100mm

Operating Instructions for Manual Air-Conditioning

Please remove page and add to the vehicle operating instructions.

Note:

We recommend matching the heating time to the driving time.

Heating time = driving time

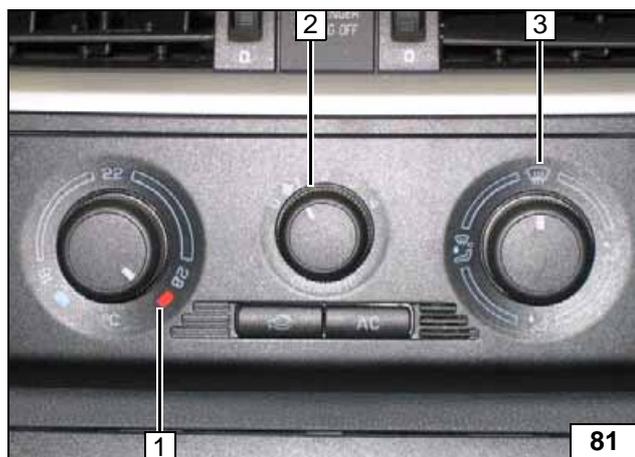
Example:

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

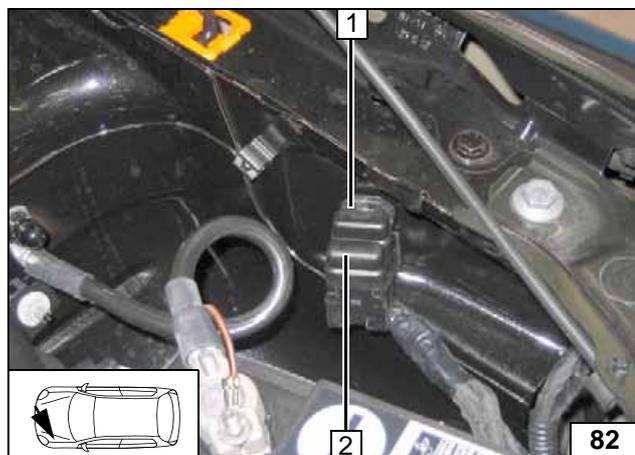
Passenger compartment monitoring, if installed, must be deactivated in addition to the vehicle settings for the heating operation.

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

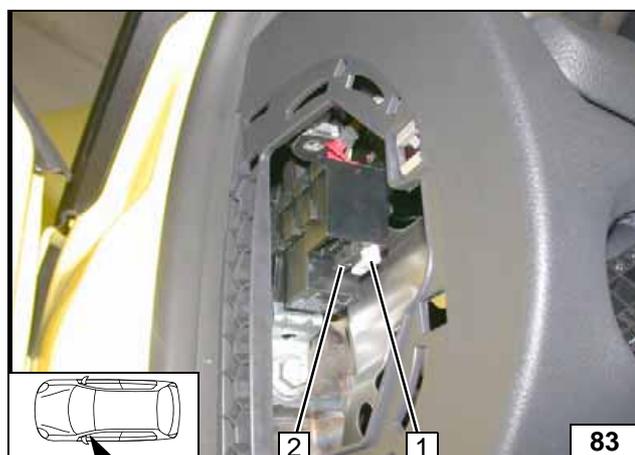
Before parking the vehicle, make the following settings:



- 1 Set temperature to 'max.'
- 2 Set fan to level '1', or max. '2'
- 3 Air outlet to windscreen



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



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



A/C control panel

Engine compartment fuses

Passenger compartment fuses



Operating Instructions for Automatic Air-Conditioning

Please remove page and add to the vehicle operating instructions.

Note:

We recommend matching the heating time to the driving time.

Heating time = driving time

Example:

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

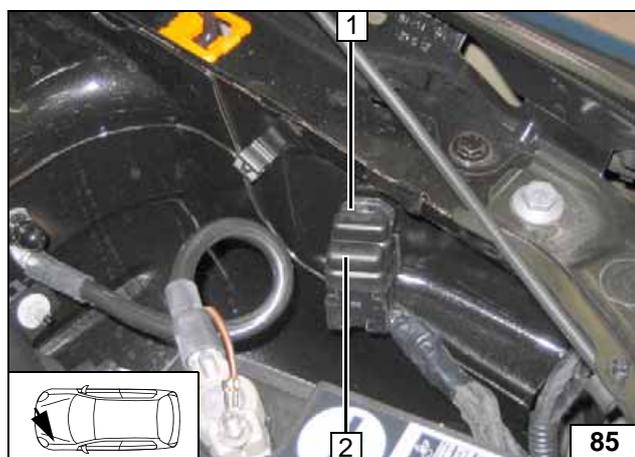
Passenger compartment monitoring, if installed, must be deactivated in addition to the vehicle settings for the heating operation.

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

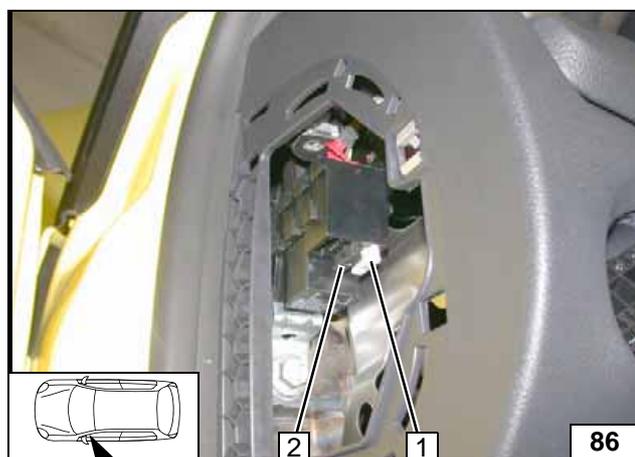
Before parking the vehicle, make the following settings:



- 1 Set temperature to 'HI'
- 2 Air outlet to windscreen



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



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



A/C control panel

Engine compartment fuses

Passenger compartment fuses

