Water Heater

Webasto
Feel the Drive

***Thermo Top Evo* Parking Heater**

E1
00 0258

Installation Documentation
Skoda Roomster

Validity

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

Motorisation	Fuel	Transmission type	Output in kW	Displacement in cm³	Engine code
1.2 TDI	Diesel	SG	55	1199	CFWA
1.6 TDI	Diesel	SG	66	1598	CAYB

SG = manual transmission

From Model Year 2010
Left-hand drive vehicle
Only in case of battery up to 61 Ah!

Verified equipment variants:	Manual / automatic air-conditioning system
	Front fog light with daytime running light Cornering dipped headlights Headlight washer system
Not verified:	Passenger compartment monitoring
Total installation time:	approx. 9 hours

Skoda Roomster

Table of Contents

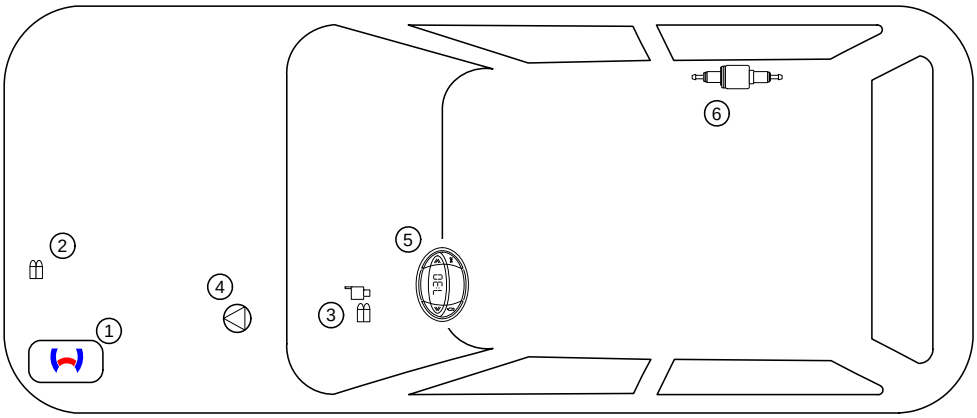
Necessary Components

- Basic delivery scope *Thermo Top Evo* in accordance with price list
- Installation kit for Skoda Roomster 2010 Diesel: **1316414A**
- Additionally with automatic air-conditioning: Automatic A/C kit **1316442B**
- 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 Overview

Legend:

1. Heater
2. Engine compartment fuse holder
3. Passenger compartment fuse holder
4. Circulating pump
5. Digital timer
6. Metering pump



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 227).

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

1.3 Please note

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

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

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

Important

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

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

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

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

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

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

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

When installing an IPCU, the corresponding settings must be checked or adjusted before the installation.

2 Statutory regulations governing installation

Guidelines	Thermo Top Evo
Heating Directive ECE R122	E1 00 0258
EMC Directive ECE R10	E1 03 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

For vehicles with an EU permit, no entry in accordance with § 19 Sub-Section 4 of Annex VIII b to the Road Traffic Act is required.

2.1 Excerpt from the directive 2001/56/EC Appendix VII 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.

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Information on Validity

This installation documentation applies to Skoda Roomster Diesel 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 self-clamping 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
- Webasto Thermo Test Diagnosis with current software

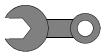
Dimensions
- All dimensions are in mm

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

Explanatory Notes on Document

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

Mechanical system



Electrical system

Coolant circuit

Combustion air

Fuel

Exhaust gas

Software

Special features are highlighted using the following symbols:

Specific risk of injury or fatal accidents

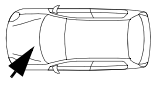
Specific risk of damage to components

Specific risk of fire or explosion.

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

Reference to a special technical feature

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



Skoda Roomster

Preliminary Work

Vehicle

- Open the fuel tank cap.
- Ventilate the fuel tank.
- Close the fuel tank cap again.
- Depressurise the cooling system.
- Completely remove the battery.
- Remove the battery carrier.
- Remove the windscreen wiper.
- Remove the coolant reservoir cap.
- Loosen the front partition wall of the coolant reservoir on the left.
- Remove the underride protection.
- Remove the left-hand wheel well trim.
- Fold up the rear bench seat surface.
- Open the tank-fitting service lid.
- Remove the fuel-tank sending unit in accordance with the manufacturer's instructions.
- Remove the radio (only with Climatronic).
- Remove the A/C control panel (only with Climatronic), screw fitting 2x under the control panel.
- Remove the lower trim of the instrument panel on the driver's side.
- Remove the side cover of the instrument panel on the left (only with Telestart).
- Detach the central electrical box in the passenger compartment.
- Drain the engine coolant according to the manufacturer's instructions.

Heater

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

Heater Installation Location

1 Heater

Installation location

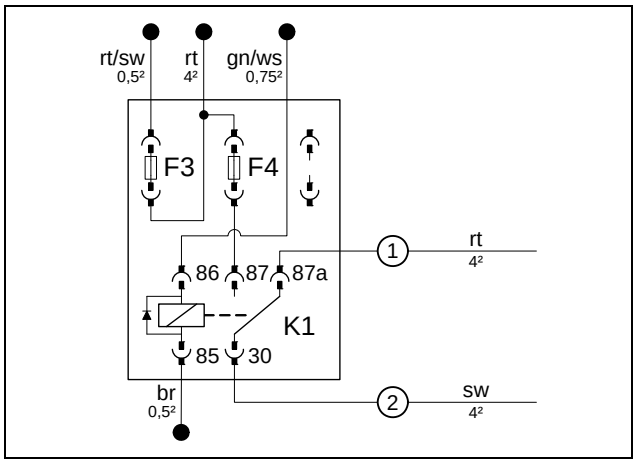
Preparing Electrical System

Wire sections retain their numbering in the entire document.

Manual air-conditioning

K1 relay will be mounted later after installation in vehicle. Pull wires ① and ② into relay socket K1.

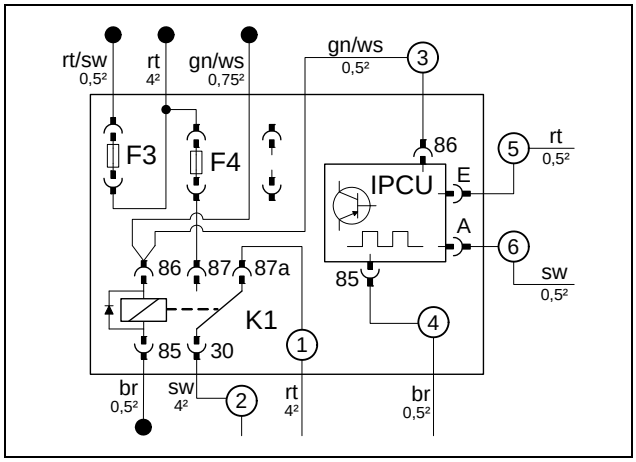
Preparing fuse holder of passenger compartment



Automatic air-conditioning

F4 25A and K1 relay inserted. Pull wires ① and ② into relay socket K1. Pull wires ③ - ⑥ into socket of IPCU. Pull wires ⑤ and ⑥ into protective sleeving.

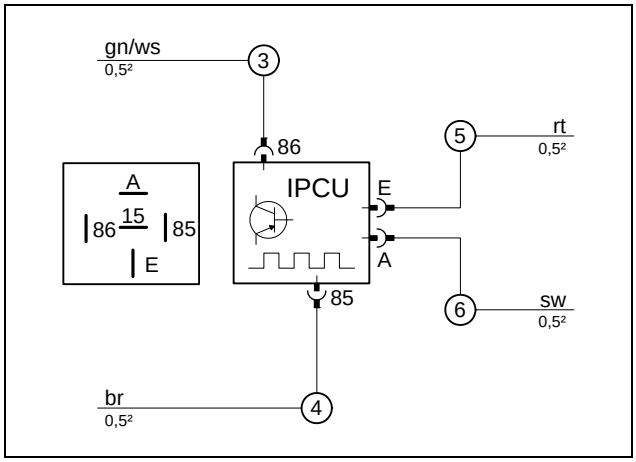
Preparing fuse holder of passenger compartment



IPCU view on contact side.
The IPCU is pre-programmed with the following adjustment values. These adjustment values are to be checked during function control of the vehicle and adapted if necessary.

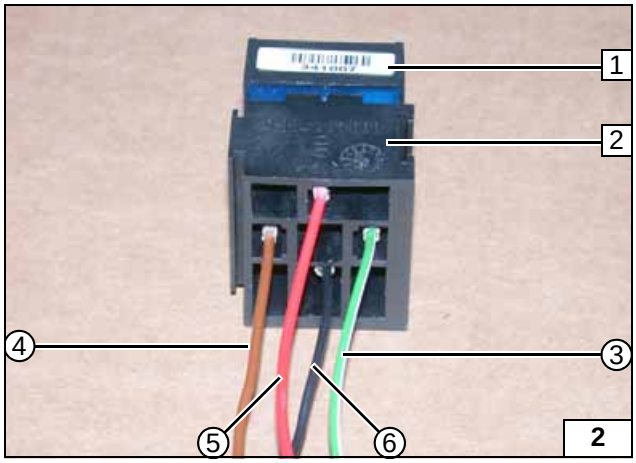
Duty cycle: 100%
Frequency: 1000 Hz
Voltage: 3.6V
Function: High-side

Premounting IPCU



1 IPCU
2 IPCU socket
③ Green/white (gn/ws) wire of IPCU/86
④ Brown (br) wire of IPCU/85
⑤ Red (rt) wire of IPCU/E
⑥ Black (sw) wire of IPCU/85

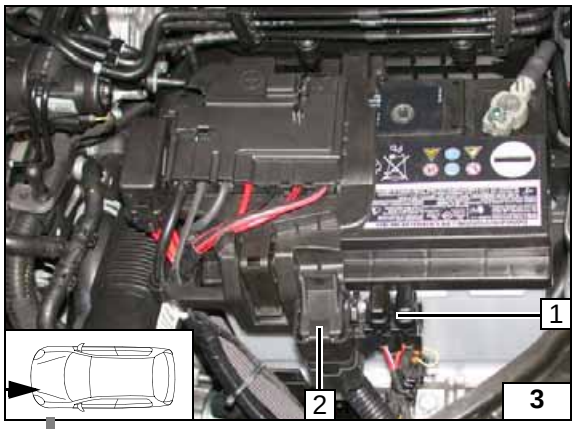
Preparing IPCU



Electrical System

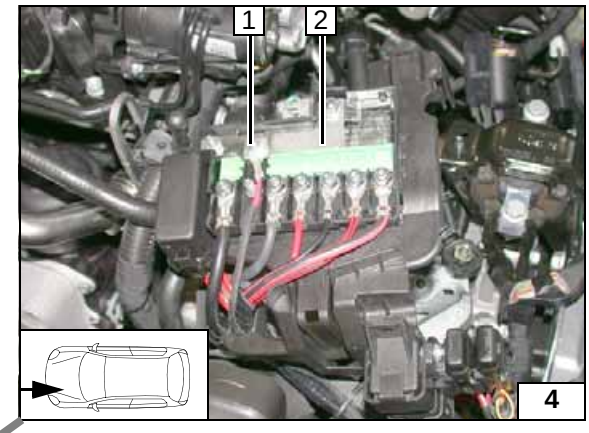
Fuse holder

1 M5x16 countersunk head screw, washer, flanged nut, retaining plate for fuse holder
2 Remove relay for 5.5mm dia. hole

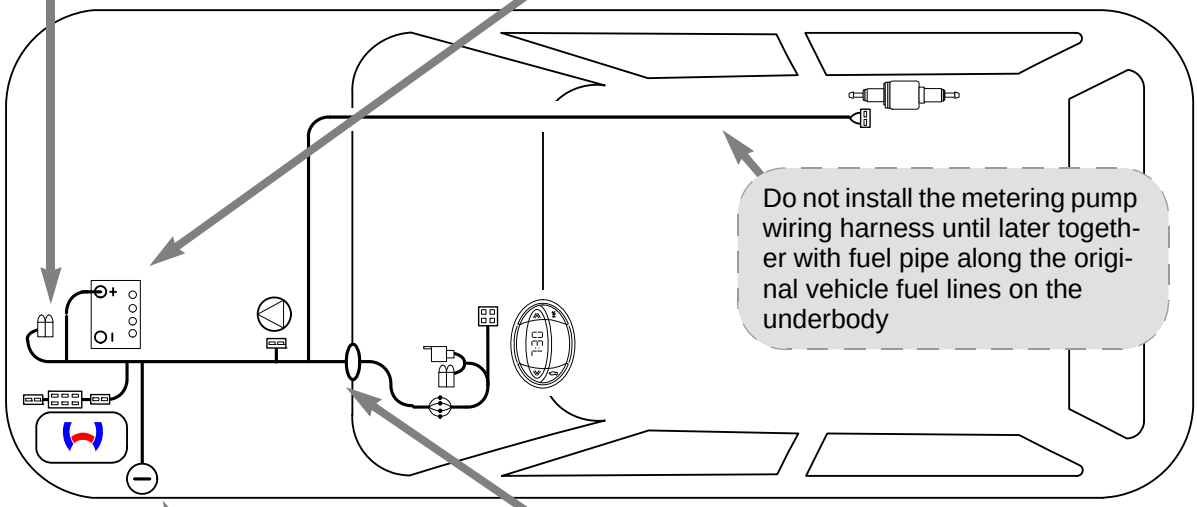


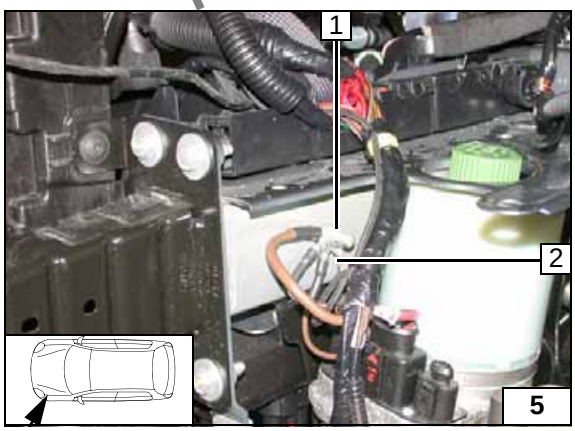
Positive wire

1 Positive wire on positive distributor of battery
2 Positive distributor of battery



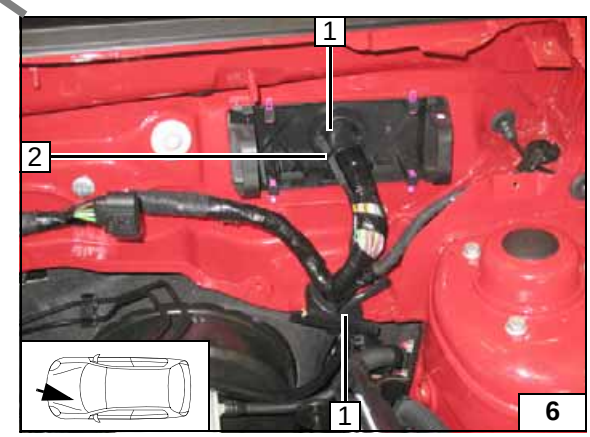
Wiring harness routing diagram





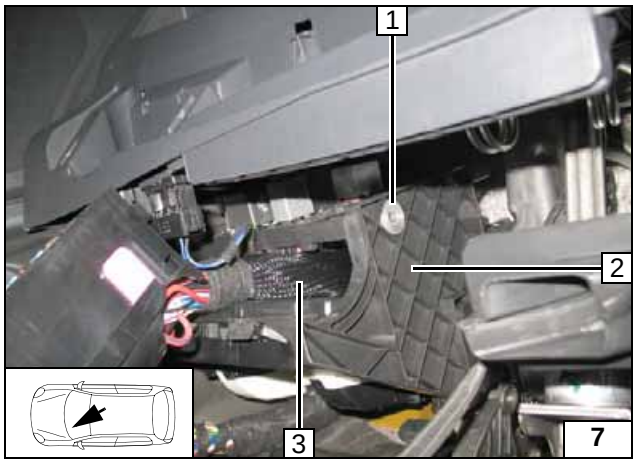
Connection to earth point

1 Earth support point
2 Earth wire of heater wiring harness



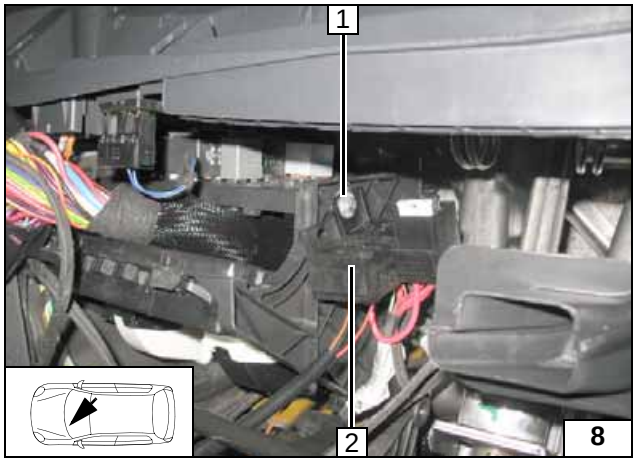
Wiring harness pass through

1 Protective rubber plug [2x]
2 Wiring harnesses of heater controls and fan control



Place 5mm shim **1** as shown on carrier **2** of the central electrical box, copy hole pattern and drill 5.5mm dia. hole in central electrical box. When drilling holes, watch components and lines located behind them.
In case of deviating routing of wiring harness **3**, it is to be routed below the fuse holder.

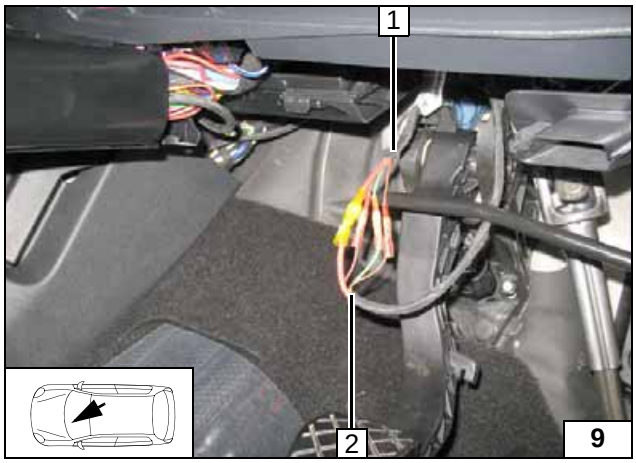
Installing fuse holder of passenger compartment



After installation insert K1 relay and in the case of automatic A/C the IPCU in the corresponding socket.

1 M5x20 bolt, large diameter washer, 5mm shim, flanged nut
2 Relay and fuse carrier

Installing fuse holder of passenger compartment

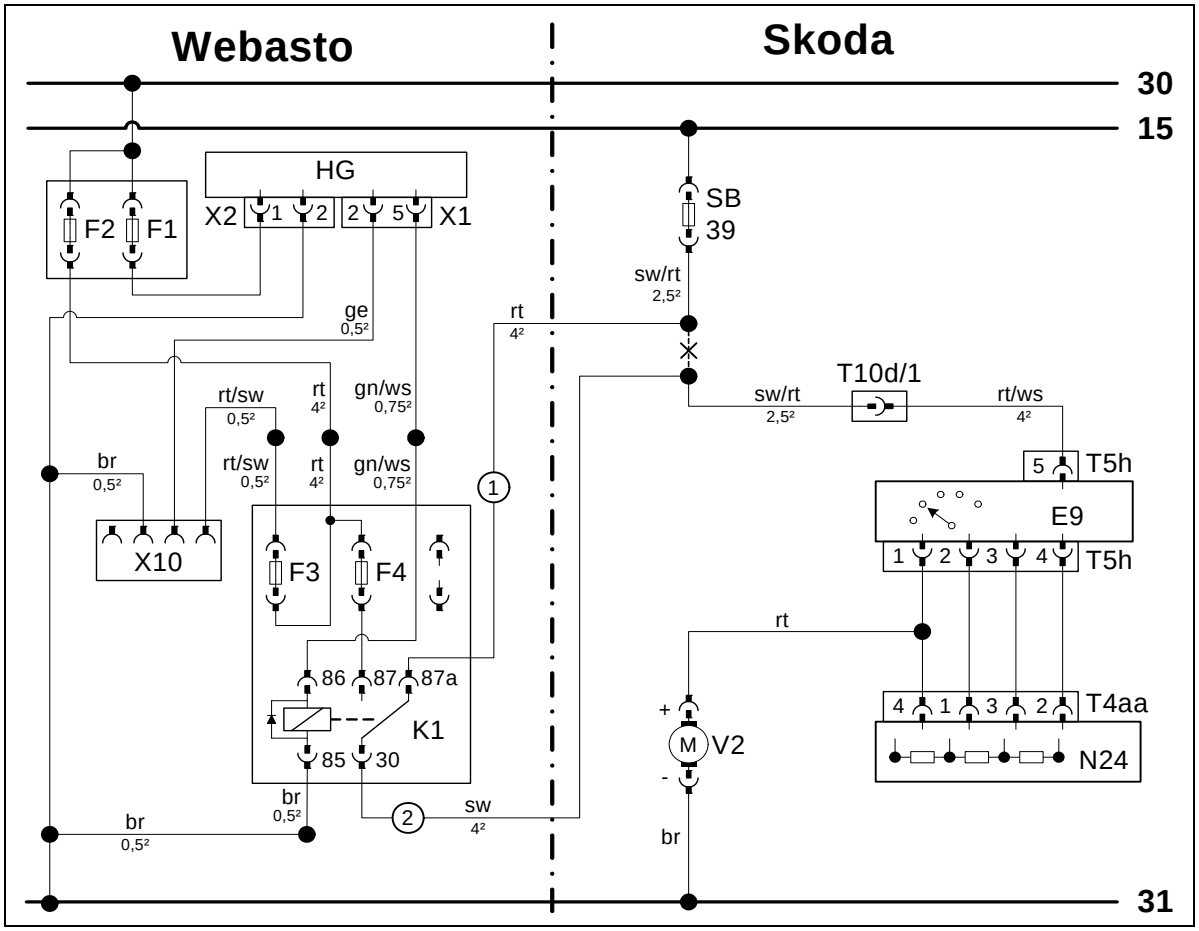


Connect same colour wires of wiring harness in the fuse holder of passenger compartment **1** and wiring harness of heater **2** according to wiring diagram.

Connecting wiring harness of heater

Manual Air-Conditioning Fan Controller

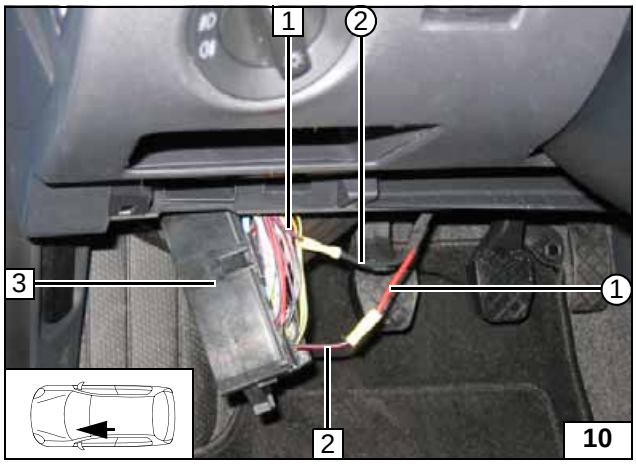
Wiring diagram



Legend

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

Connecting fan motor

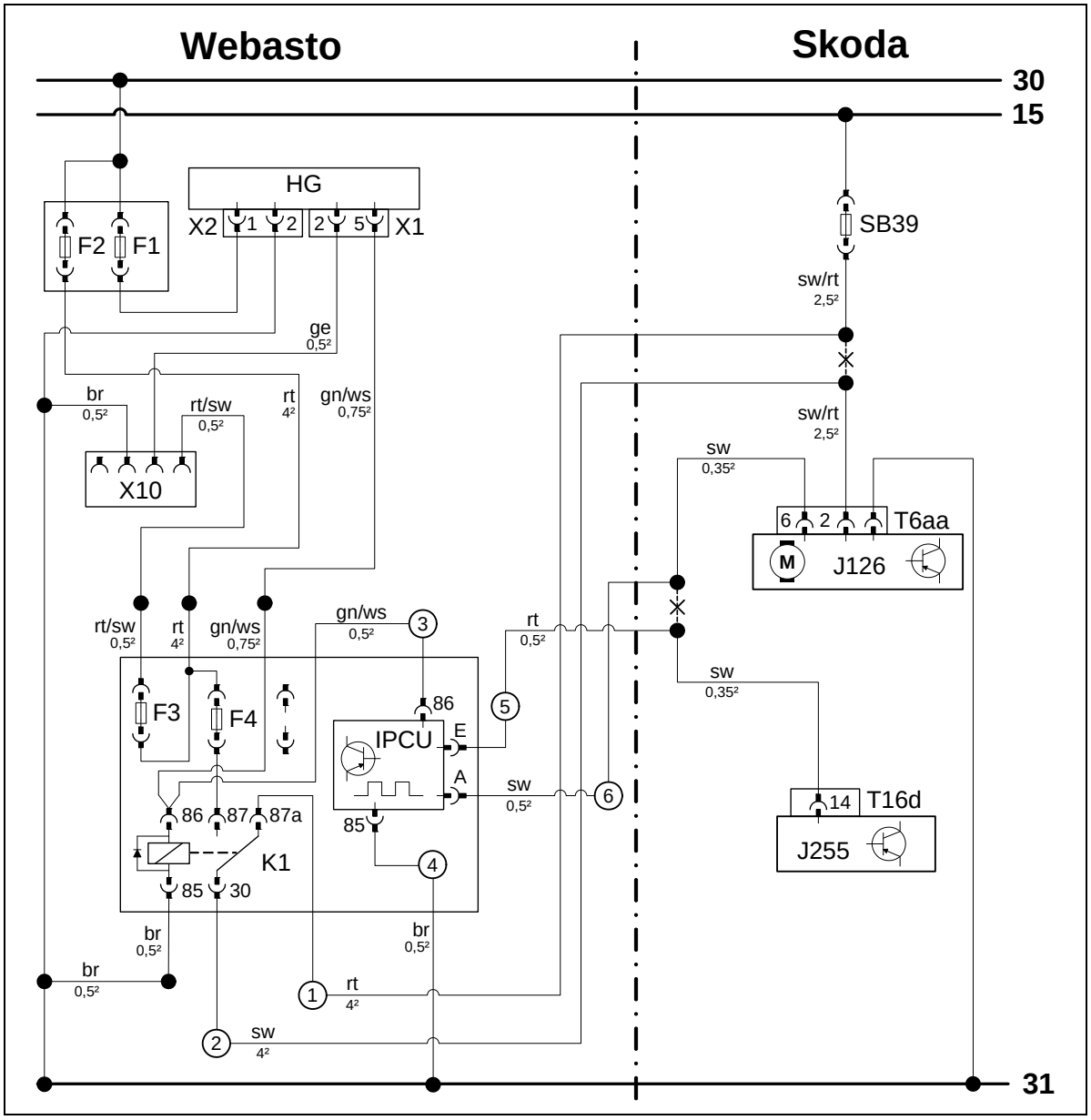


Connection on central electrical box **3** to fan module. Produce connections as shown in wiring diagram.

1 Black/red (sw/rt) wire
2 Black/red (sw/rt) wire of SB39 25 A
① Red (rt) wire from K1/87a
② Black (sw) wire from K1/30

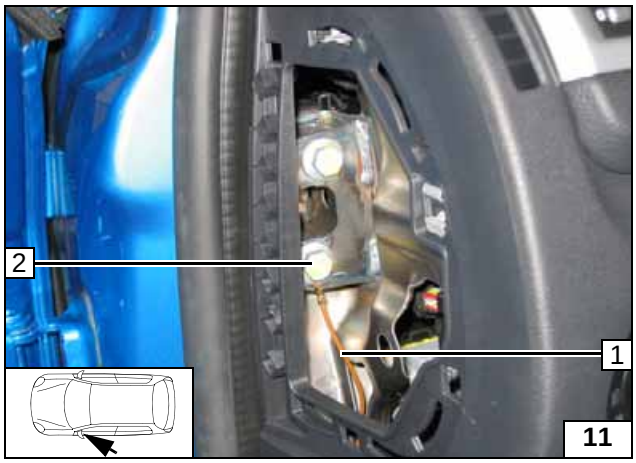
Automatic Air-Conditioning Fan Controller

Wiring diagram



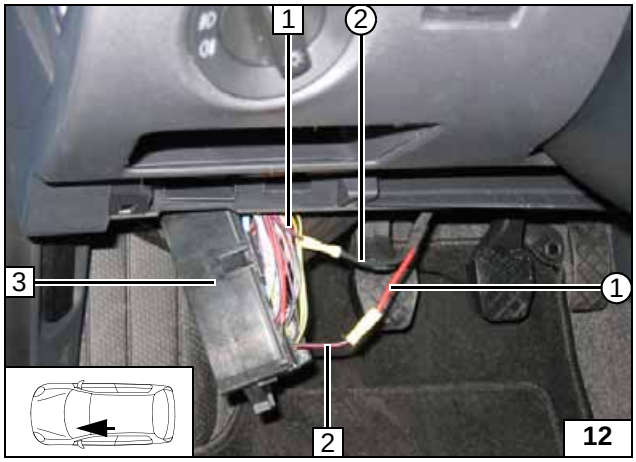
Legend

Webasto components		Vehicle components		Colours and symbols	
HG	Heater TT-Evo	SB39	Fuse, 30A	rt	red
X1	6-pin heater connector	T...	Connector	ws	white
X2	2-pin heater connector	J126	Fan unit	sw	black
X10	4-pin connector of Heater control	J255	A/C control panel	br	brown
				bl	blue
K1	Fan relay			gn	green
F1	Fuse, 20A			ge	yellow
F2	Fuse, 30A				
F3	Fuse, 1A				
F4	Fuse, 25 A				
IPCU	Pulse width modulator				
IPCU adjustment values:					
Duty cycle: 100%					
Frequency: 1000 Hz					
Voltage: 3.6 V				**X**	Cutting point
Function: High-side				Wiring colours may vary.	



1 Brown (br) wire from IPCU/85, 8mm dia. cable lug
2 Original vehicle bolt

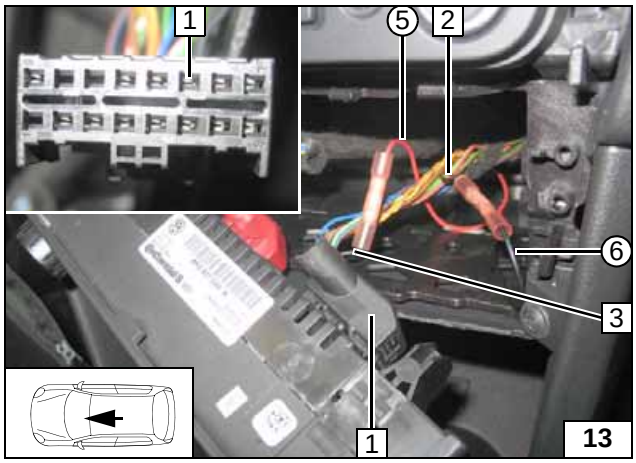
Earth connection IPCU



Connection on central electrical box **3** to fan module. Produce connections as shown in wiring diagram.

1 Black/red (sw/rt) wire
2 Black/red (sw/rt) wire of SB39 25 A
① Red (rt) wire from K1/87a
② Black (sw) wire from K1/30

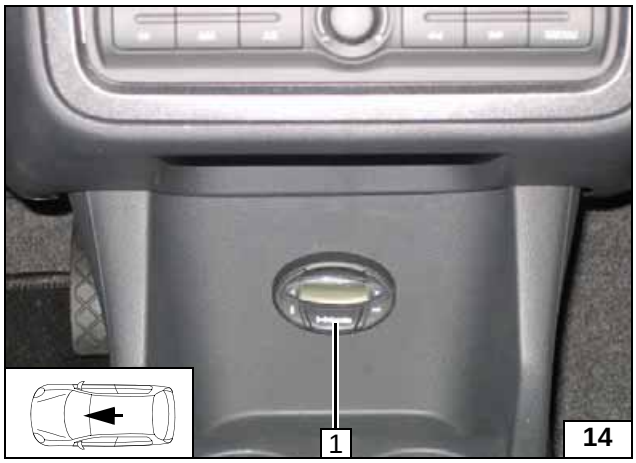
Connecting fan motor



Connection on connector T16d **1** of A/C control panel. Produce connections as shown in wiring diagram.

2 Black (sw) wire J126
3 Black (sw) wire J255 / T16d Pin14
⑤ Red (rt) wire of IPCU/E
⑥ Black (sw) wire of IPCU/A

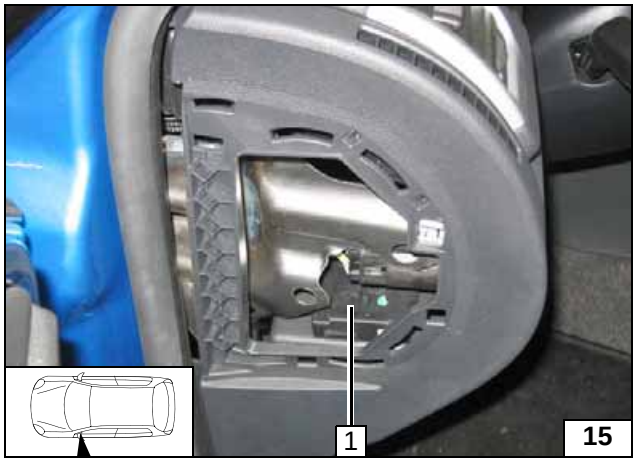
Connecting air-conditioning control panel



Digital Timer

1 Digital timer

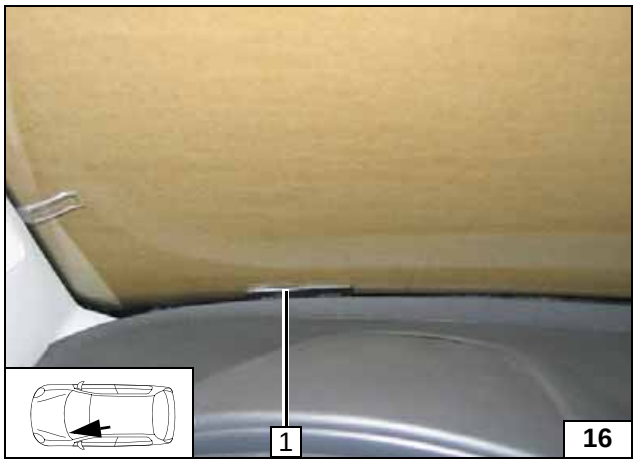
Installing digital timer



Remote Option (Telestart)

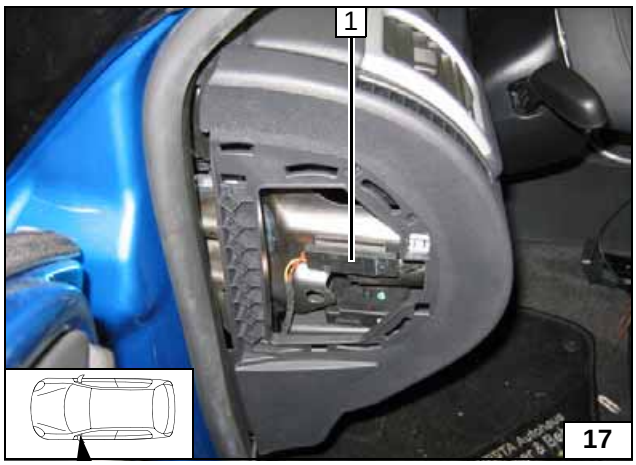
Install receiver **1** with double-sided adhesive tape as shown.

Telestart



1 Antenna

Installing antenna

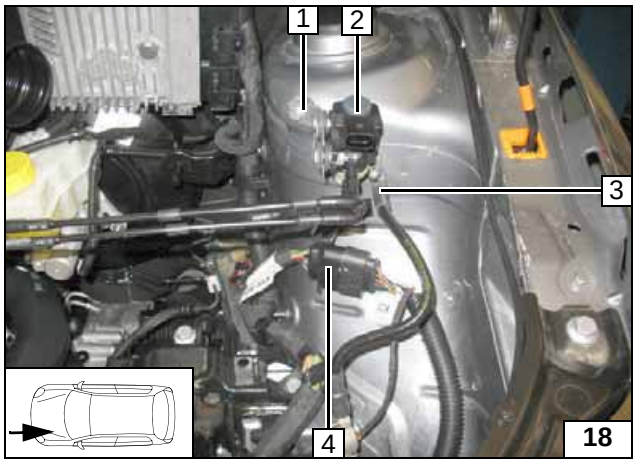


Temperature sensor T100 HTM

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

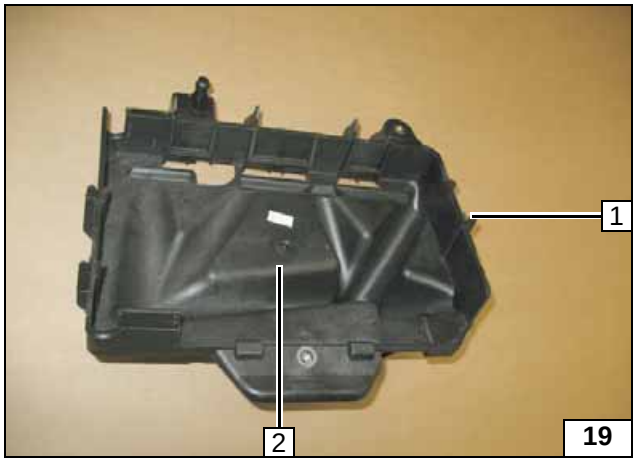
Installing temperature sensor

Preparing Installation Location



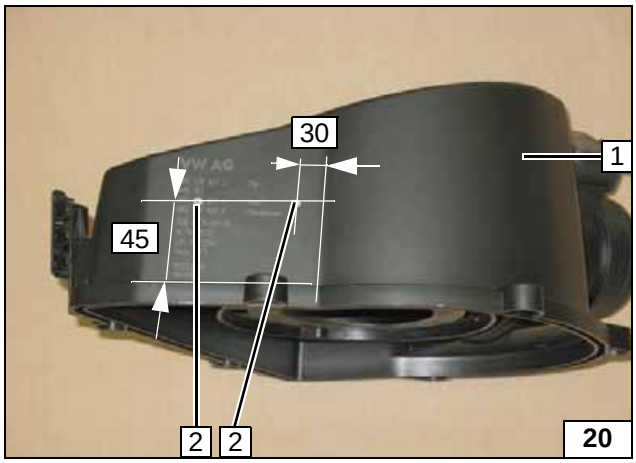
Remove bracket of vacuum valve **1** and discard. The screw fitting will be reused later. Remove vacuum valve **2** from bracket **1**. Detach earth cable **3**. Remove connector **4** with bracket, discard bracket **1** .

Preparing installation location



Cut off protruding plastic pieces **1** of battery carrier **2**.

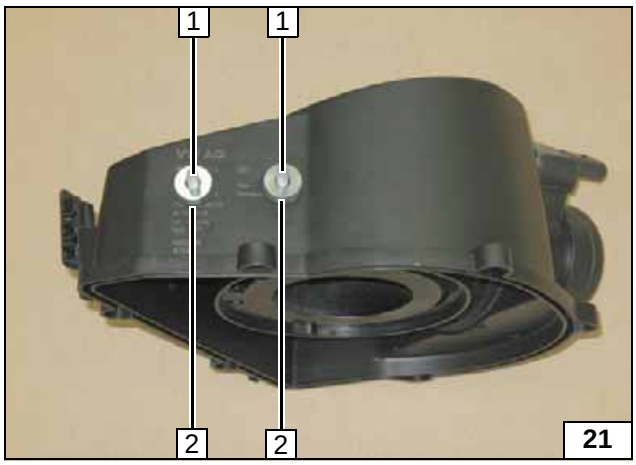
Preparing battery carrier



Copy hole pattern from bracket of vacuum valve to air cleaner housing.

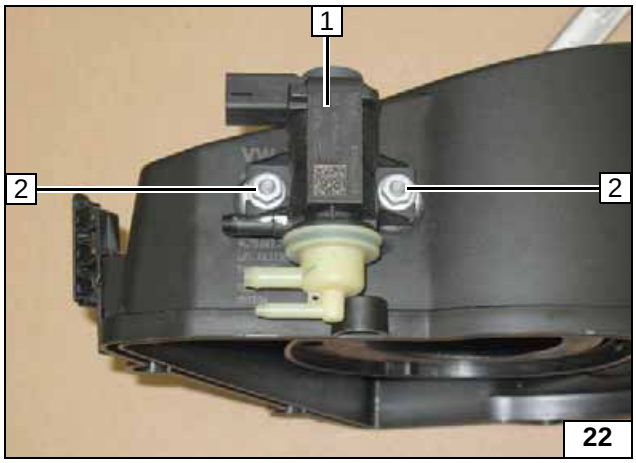
1 Air cleaner housing
2 16mm dia. hole [2x]

Preparing air cleaner housing



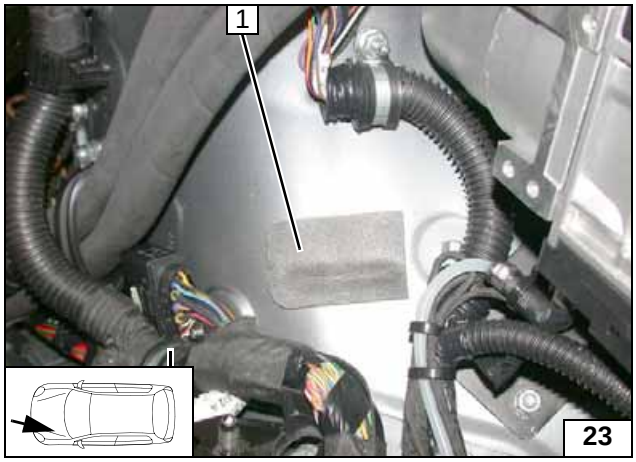
Insert rubber profile with support sleeve **2** [2x] into the 16mm dia. holes, insert screw fitting **1** [2x] for the vacuum valve mounting from the inside.

Preparing air cleaner housing



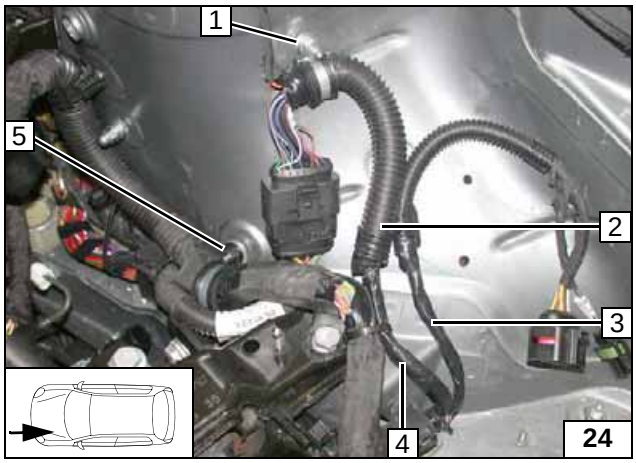
1 Vacuum valve
2 Flanged nut [2x]

Preparing air cleaner housing



Split provided insulation protection strip **1** in the middle and affix it.

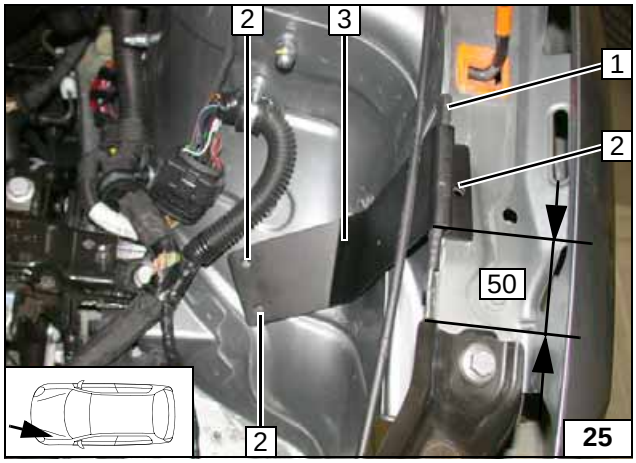
Fixing insulation protection



Cut off wiring harness **2** as shown and insulate wiring harnesses **3** and **4**.

1 18mm dia. rubber-coated clamp, flanged nut, original vehicle stud bolt
5 25mm dia. rubber-coated clamp, plastic nut, original vehicle stud bolt

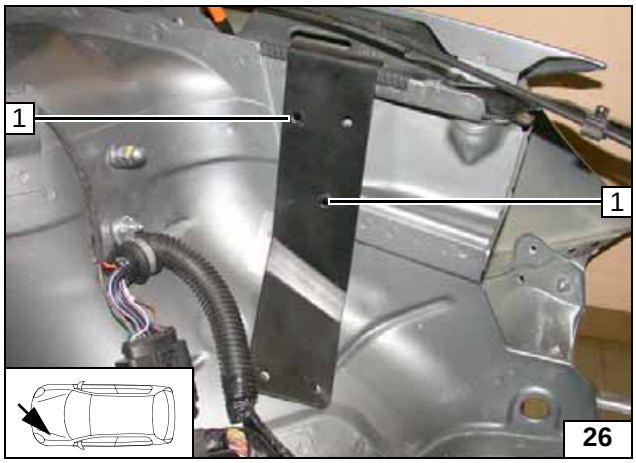
Wiring harness routing



Place bracket **3** on body, align it and copy hole pattern **2** [3x] for 7mm dia. hole.

1 Edge protection
2 7mm dia. hole [3x]

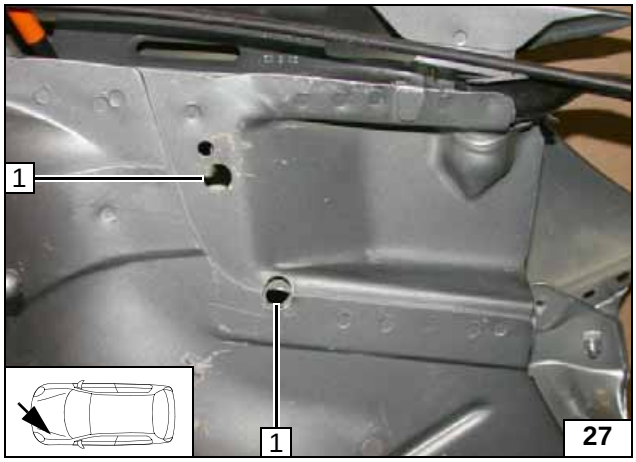
Copying hole pattern



Copy hole pattern **1** [2x] for 12mm dia. hole. Remove bracket.

1 7mm dia. hole [2x]

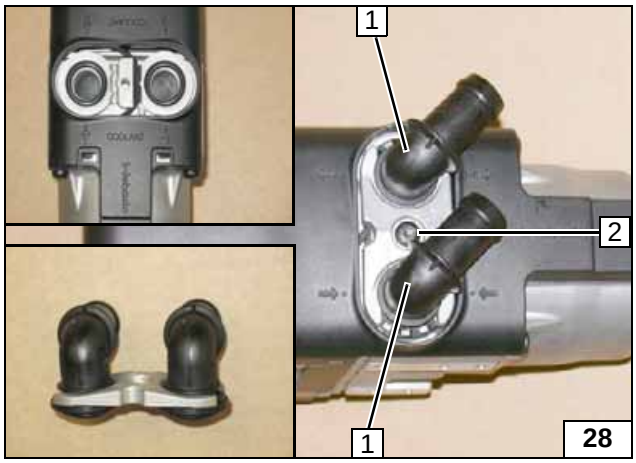
Copying hole pattern



When drilling, watch components located behind. Provide all holes with corrosion protection.

1 Drill out 7mm dia. hole to 12mm dia. [2x]

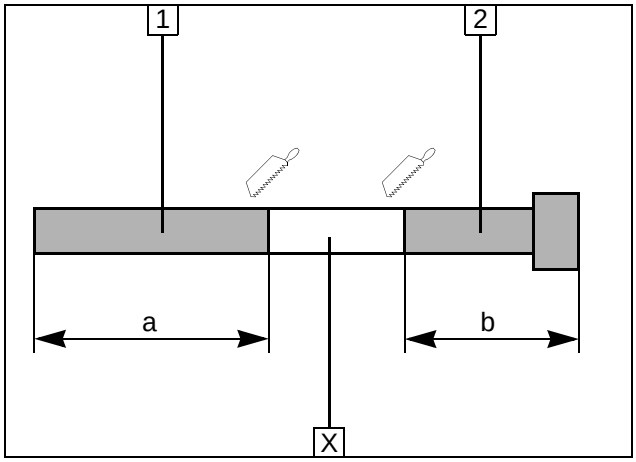
Hole in body



Preparing Heater

1 Water connection piece, sealing ring [2x each]
2 5x15mm self-tapping bolt, retaining plate of water connection piece

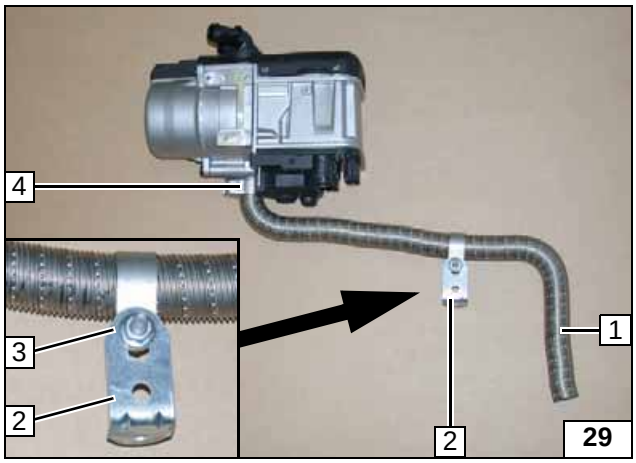
Installing water connection piece



Discard section **X**

1 Exhaust pipe
a = 470
2 Exhaust end section
b = 125

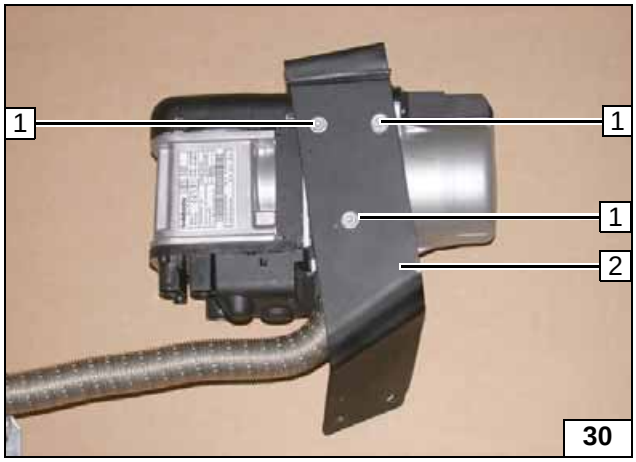
Preparing exhaust pipe



Mould exhaust pipe **1** as shown.

2 Angle bracket
3 M6x20 bolt, p-clamp, flanged nut
4 Hose clamp

Premounting exhaust pipe



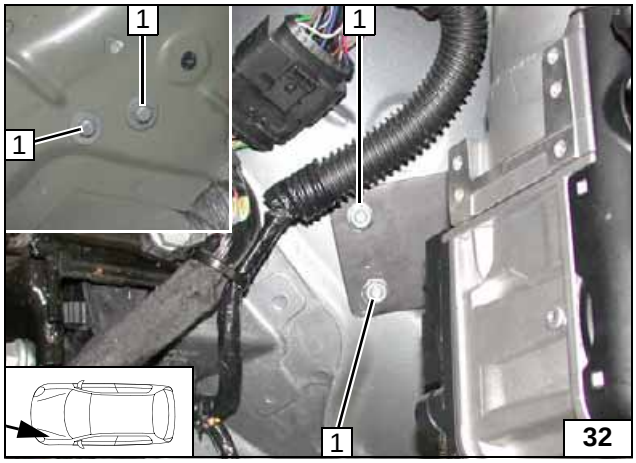
1 5x13 self-tapping bolt [3x]
2 Bracket

Installing bracket

Installing Heater

1 M6x20 bolt, large diameter washer, flanged nut

Installing heater



1 M6x12 bolt, large diameter washer, flanged nut [2x]

Installing heater

Fuel

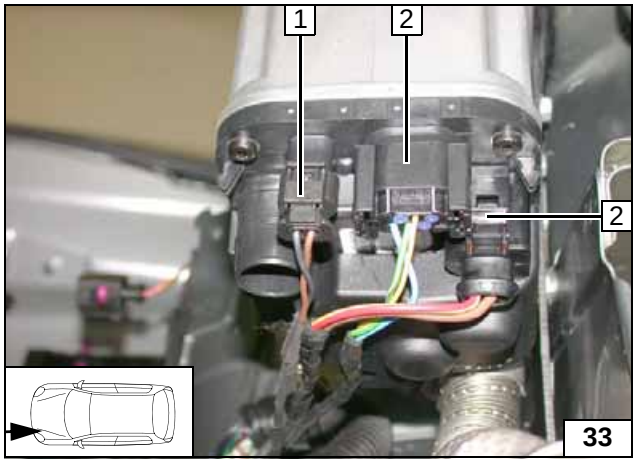
CAUTION!
Open the vehicle's fuel tank cap, ventilate the tank and then re-close the tank lock.

Catch any fuel running off with an appropriate container.

Install fuel line and metering pump wiring harness so that they are protected against stone impact. Unless specified otherwise, always fasten using cable ties.
Mount the fuel line and wiring harness with rub protection on sharp edges.

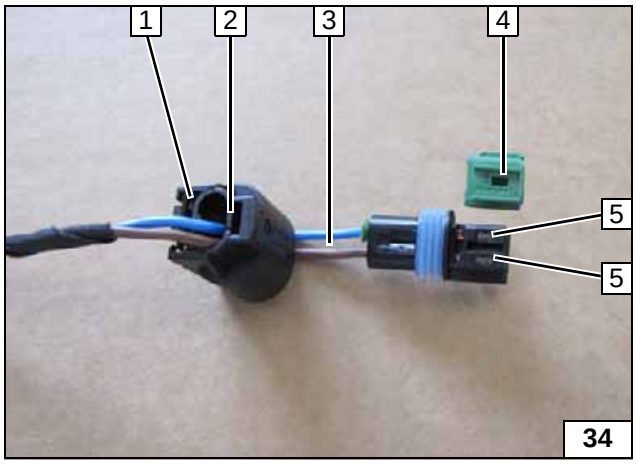
WARNING!
The fuel line and wiring harness are routed to the metering pump in as shown in the wiring harness routing diagram.

Attaching wiring harness of heater



1 Wiring harness of circulating pump
2 Wiring harness of heater

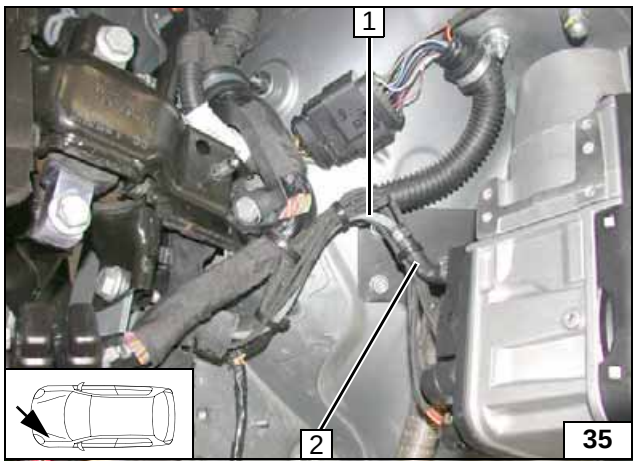
Disassembling connector



Reassemble connector of metering pump after routing. Pin assignment is not relevant.

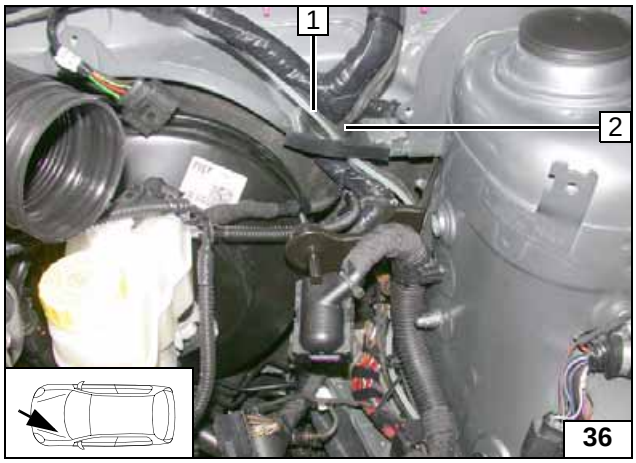
1 Connector housing
2 Lock
3 Blue / brown (bl/br) wires
4 Coding
5 Timer lock

Connecting heater



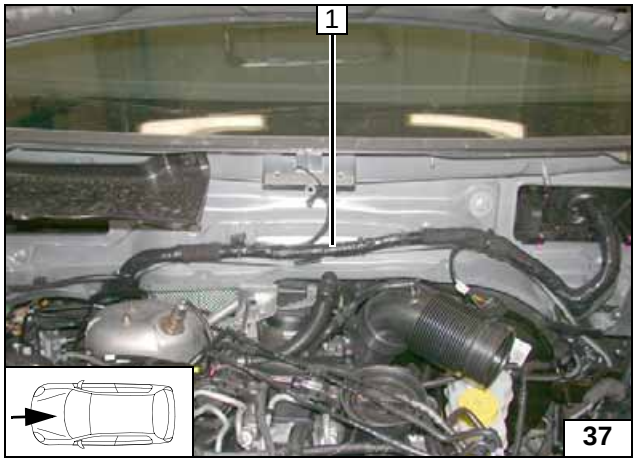
Route fuel line **1** and wiring harness of metering pump along original vehicle wiring harness to firewall on the right vehicle side, and secure with cable ties.

2 90° moulded hose, 10mm dia. clamp [2x]



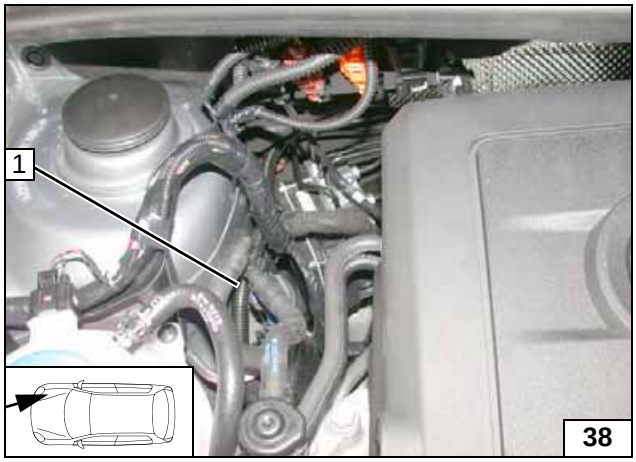
1 Fuel line, metering pump wiring harness
2 Protective rubber plug

Routing lines



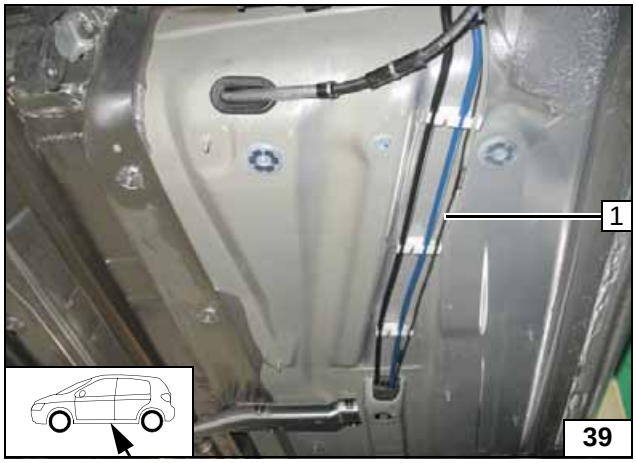
1 Fuel line, metering pump wiring harness

Routing lines



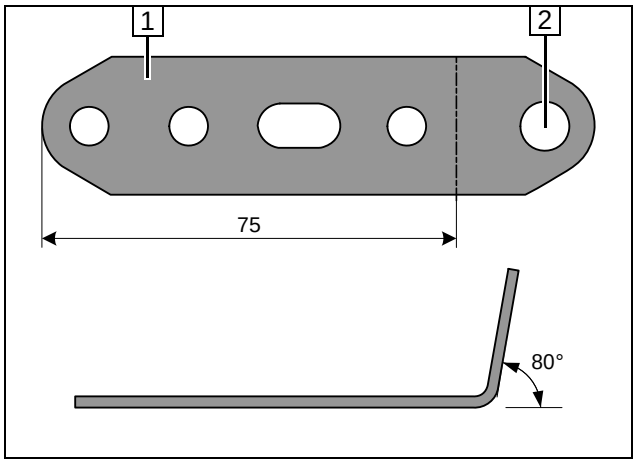
Route fuel line together with metering pump wiring harness into corrugated tube **1** through original vehicle line duct to underbody.

Routing lines



1 Fuel line, metering pump wiring harness

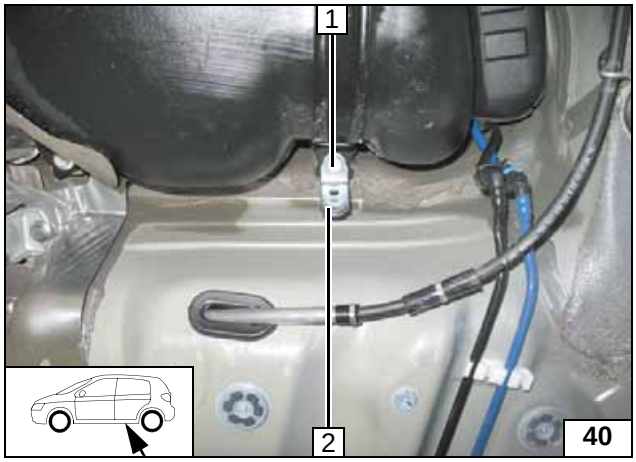
Routing lines



Bend perforated bracket **1** as shown.

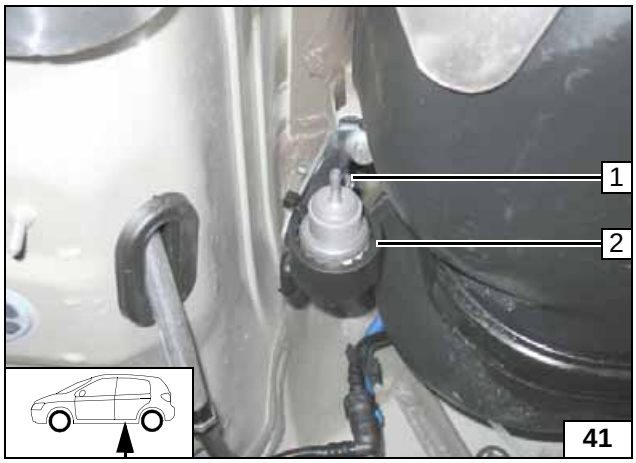
2 Drill hole to 8.5mm dia.

Preparing perforated bracket



1 Original vehicle bolt
2 Perforated bracket

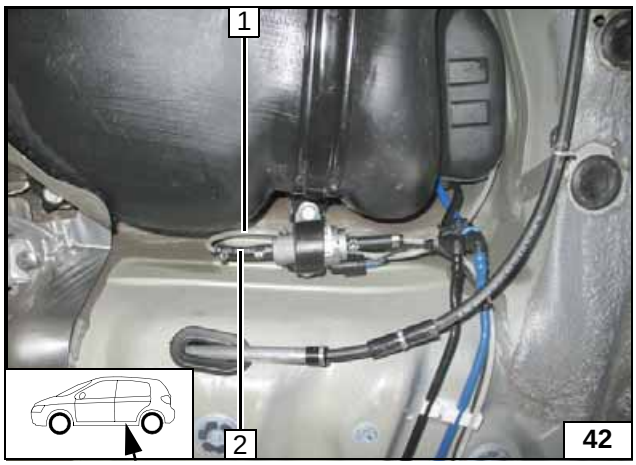
Installing perforated bracket



Ensure sufficient distance to neighbouring components.

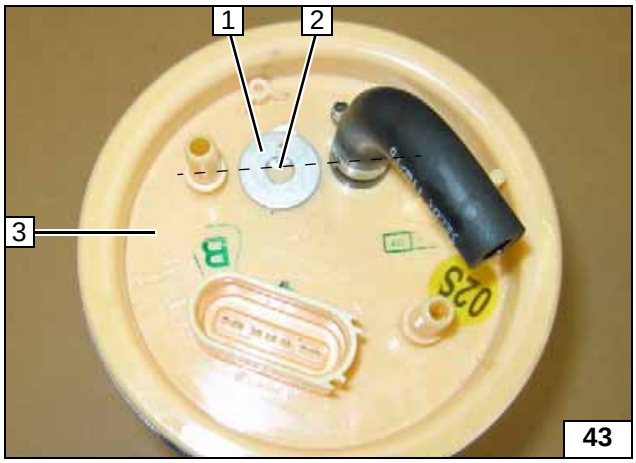
1 M6x25 bolt, support angle, flanged nut
2 Metering pump mount

Installing metering pump



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

Connecting metering pump

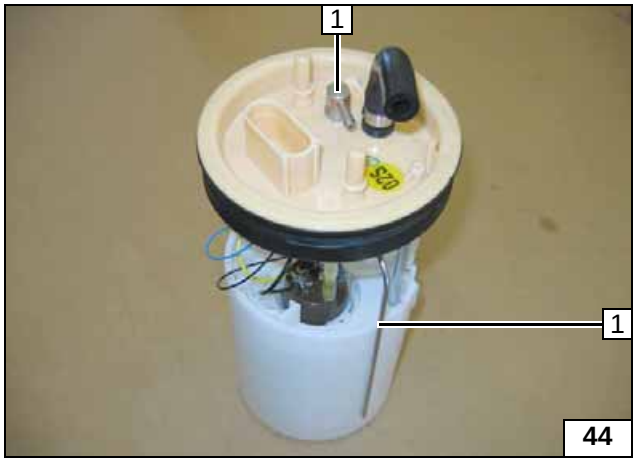


1.2 TDI

Remove fuel-tank sending unit **3** in accordance with manufacturer's instructions. Place washer **1** outer dia. d_a = 17.6mm centrally between the connection pieces.

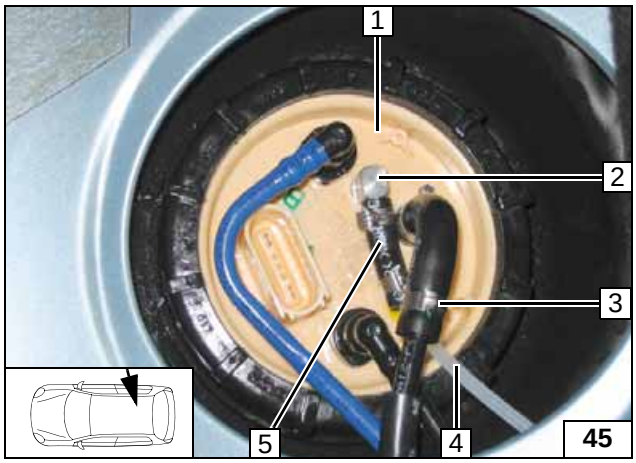
2 Copy hole pattern, 6 mm dia. hole

Fuel extraction



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

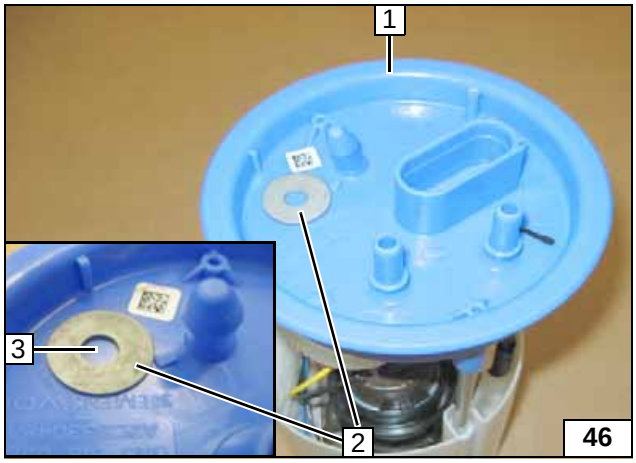
Installing fuel standpipe



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

2 Fuel standpipe
3 13.5 mm dia. clamp
4 Fuel line
5 Hose section, 10 mm dia. clamp [2x]

Connecting fuel line

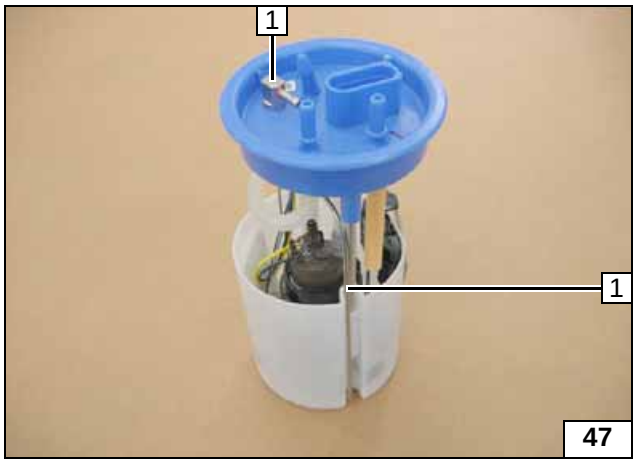


1.6 TDI

Remove fuel-tank sending unit **1** in accordance with manufacturer's instructions. Place washer **2** outer dia. d_a = 17.6 as shown on fuel-tank sending unit **1**.

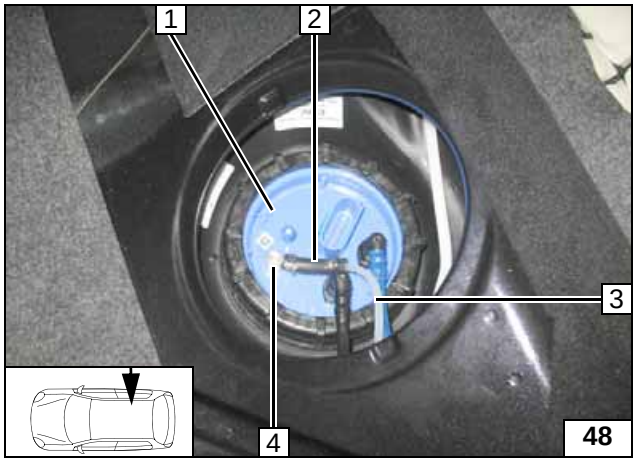
3 Copy hole pattern, 6 mm dia. hole

Copying hole pattern



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

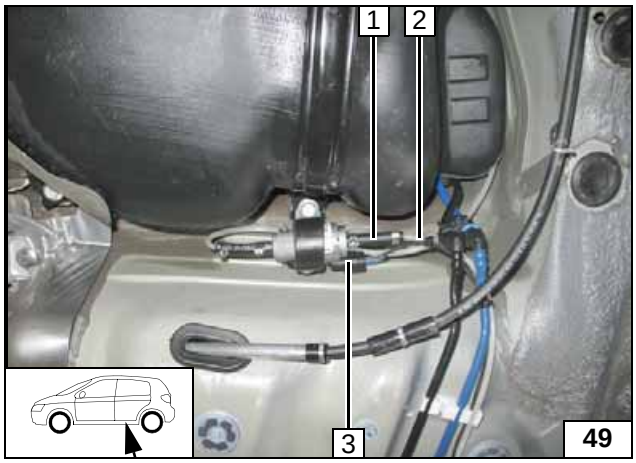
Installing fuel standpipe



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

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

Fuel extraction



All vehicles

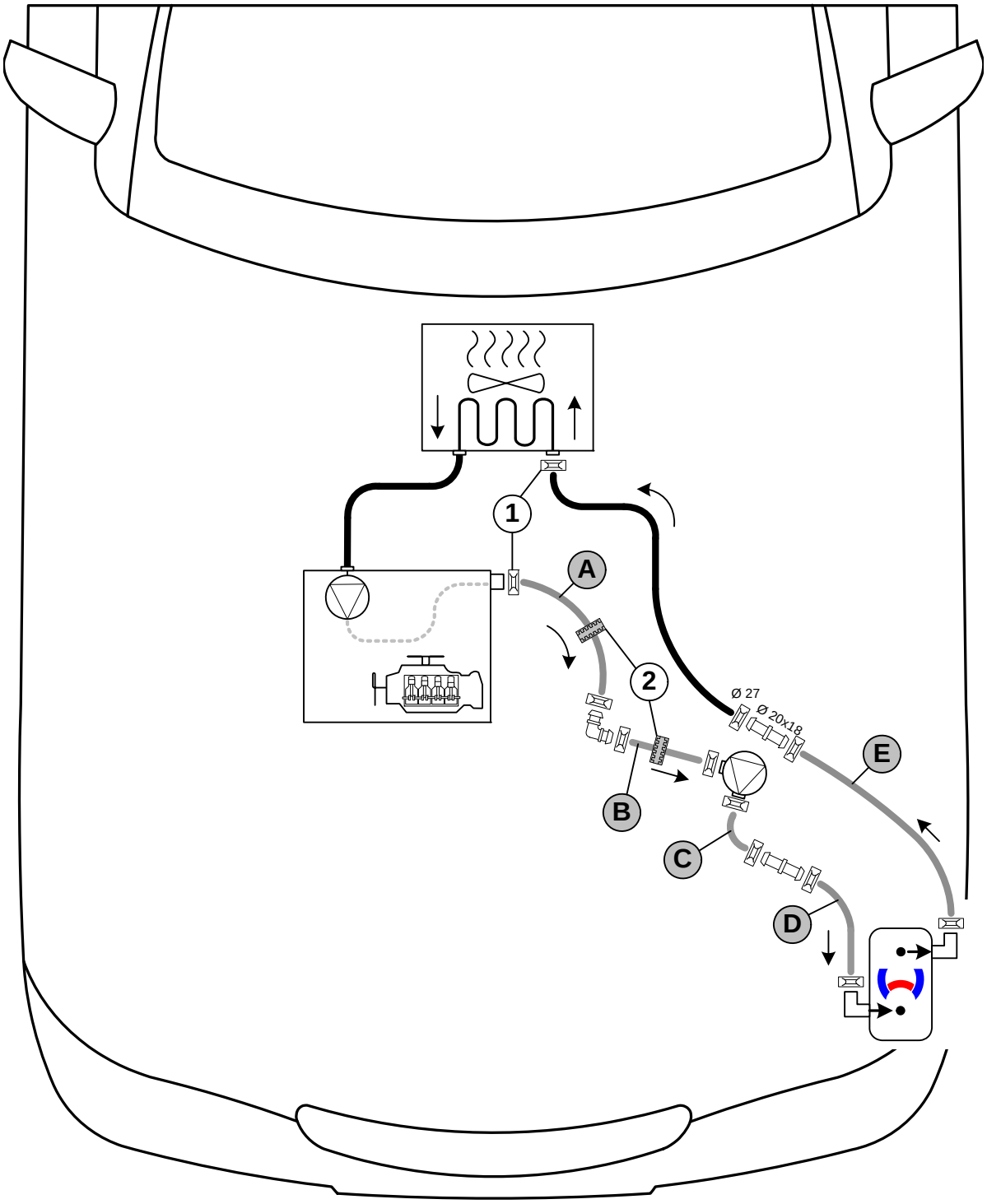
1 Hose section, 10 mm dia. clamp [2x]
2 Fuel line
3 Metering pump wiring harness

Connecting metering pump

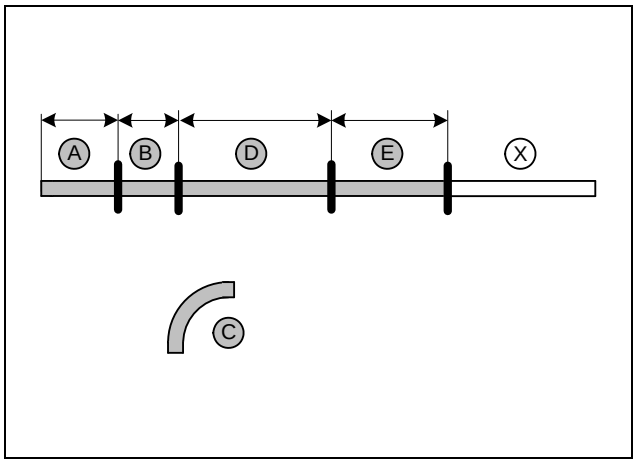
Coolant Circuit

WARNING!
Any coolant running off should be collected using an appropriate container. Install hoses so that they are kink-free. Unless specified otherwise, always fasten using cable ties. Position clamps so that no other hose can be damaged! When installing the hoses, the heater must be filled with coolant.
The connection should be "inline" based on the following diagram:

Hose routing diagram



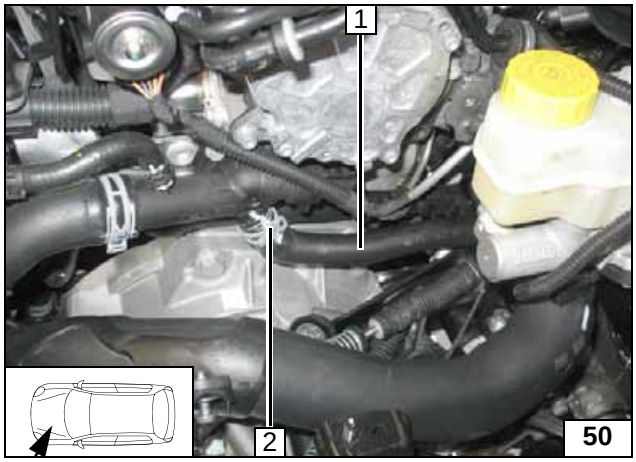
All spring clips without a specific designation = 25 mm dia. **1** = Original vehicle spring clip. **2** = Black (sw) rubber isolator.
All connecting pipes without a specific designation and = 18x18mm dia.



Discard section **X**.
Hose **C** = 90°-, 18x18mm moulded hose

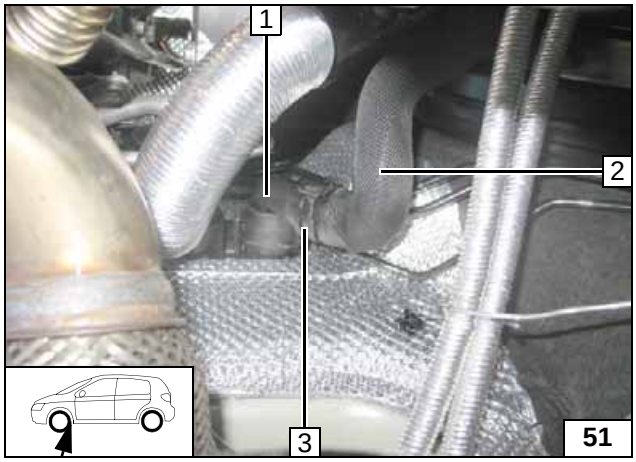
A = 265
B = 105
D = 570
E = 390

Cutting hoses to length



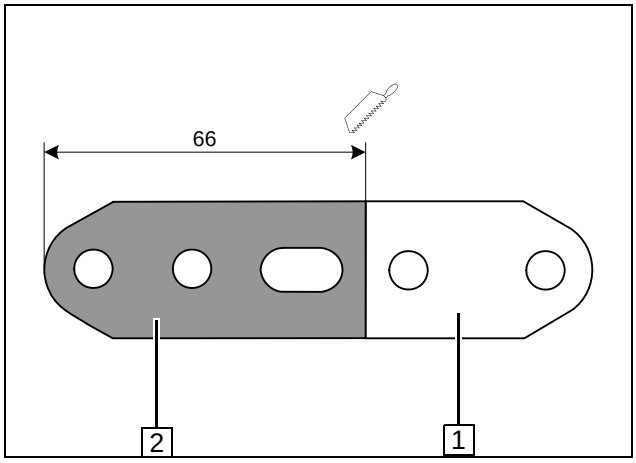
1 Remove engine outlet hose section
2 Spring clip will be reused.

Cutting point



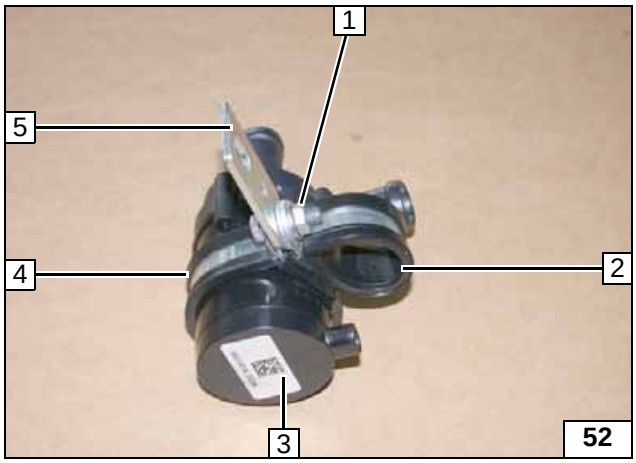
Remove hose section **2** from quick-release coupling **1** of heat exchanger inlet. Spring clip **3** will be reused.

Cutting point



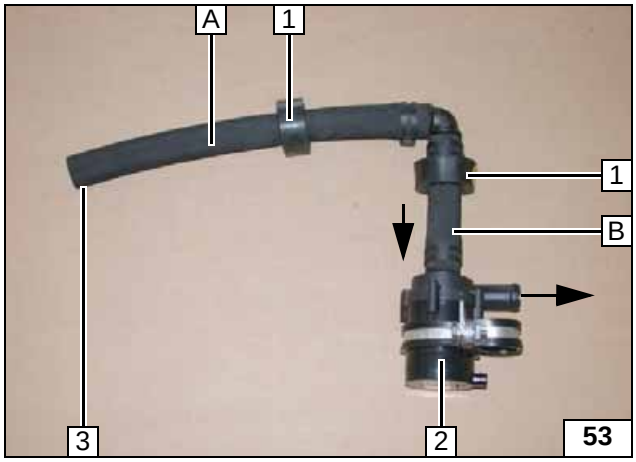
1 Discard section
2 Perforated bracket

Cutting perforated bracket to length



1 M6x20 bolt, flanged nut
2 29 mm dia. rubber-coated p-clamp
3 Circulating pump
4 48 mm dia. rubber-coated p-clamp
5 Perforated bracket

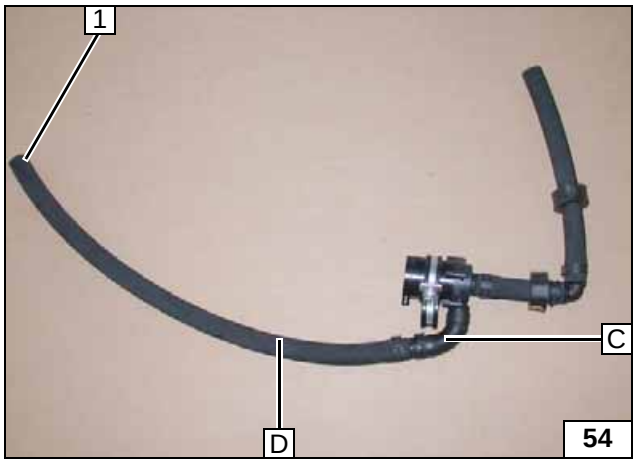
Premounting circulating pump



Watch flow direction of circulating pump **2**.

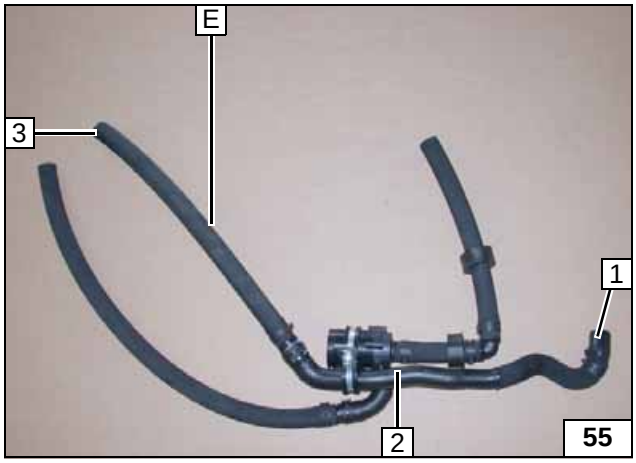
1 Black (sw) rubber isolator [2x]
3 Connection of engine outlet

Premounting hoses



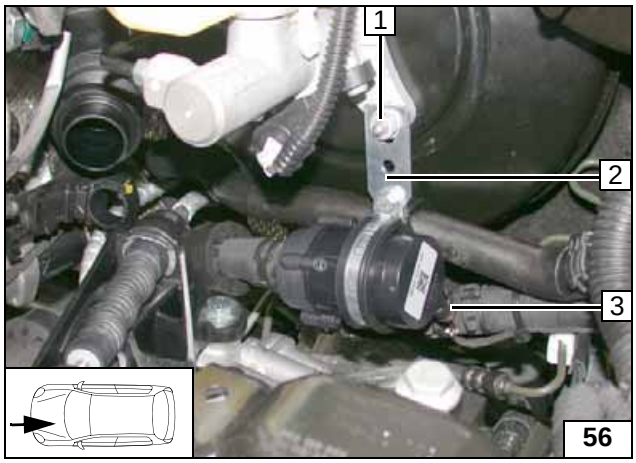
1 Connection of heater inlet

Premounting hoses



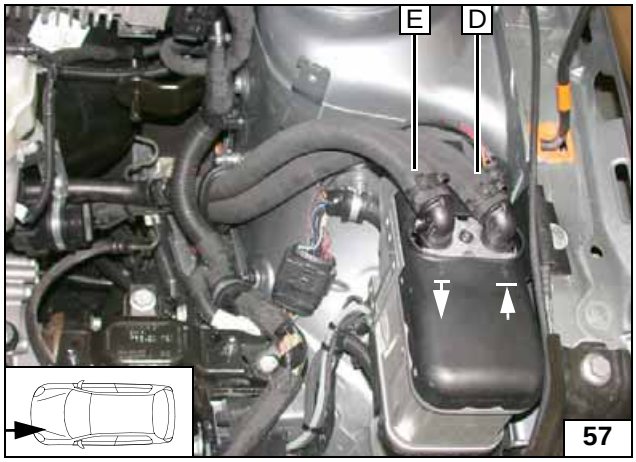
1 Connection of heat exchanger inlet
2 Original vehicle hose
3 Connection of heater outlet

Premounting hoses

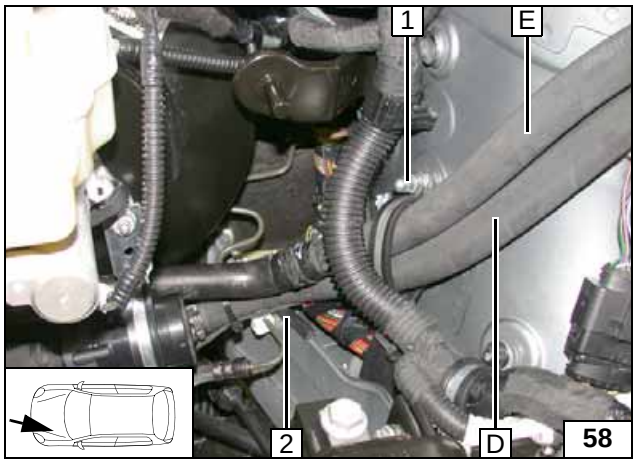


1 Original vehicle flanged nut
2 Premounted circulating pump
3 Mount wiring harness of circulating pump

Installation of hose group



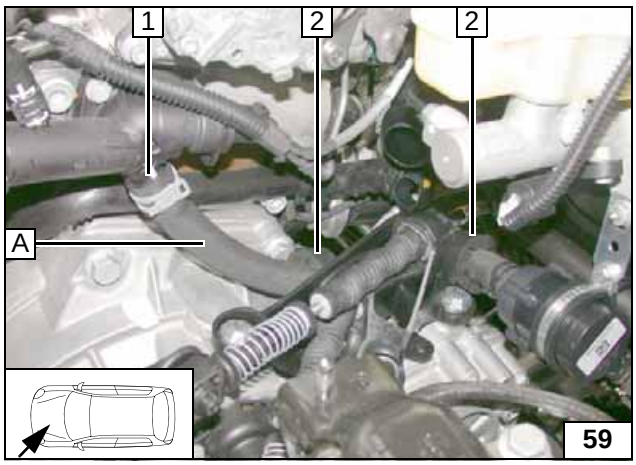
Connecting heater



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

1 38mm dia. rubber-coated clamp, original vehicle stud bolt, original vehicle nut
2 Edge protection

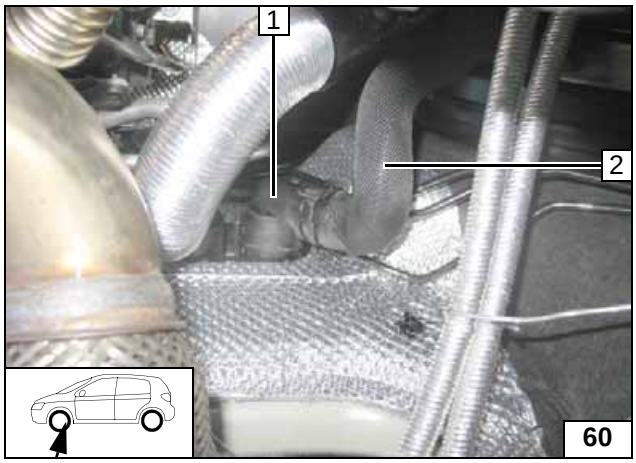
Routing in engine compartment



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

1 Connection piece for engine outlet
2 Black (sw) rubber isolator [2x]

Connecting engine outlet



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

1 Connection piece of heat exchanger inlet
2 Original vehicle hose of hose group

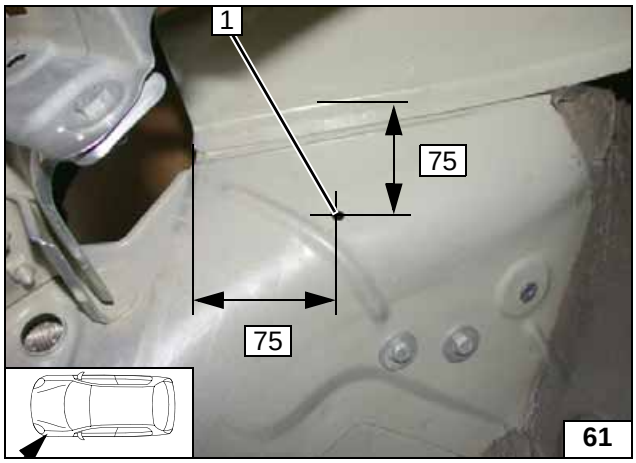
Connection of heat exchanger inlet

Combustion Air

When drilling, watch components located behind. Provide hole with corrosion protection.

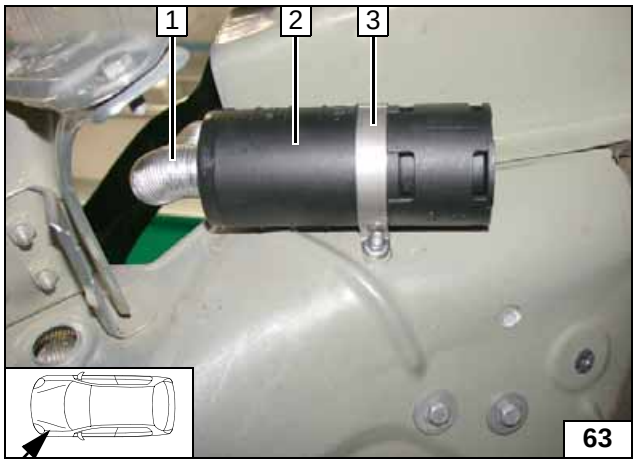
1 6.5mm dia. hole

Hole for silencer



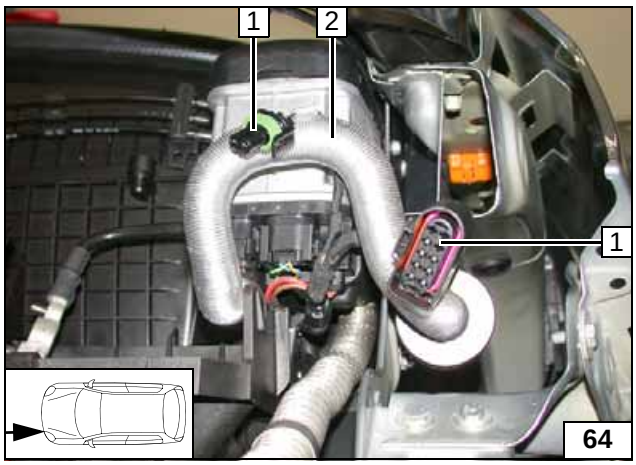
1 Combustion air pipe

Installing combustion air pipe



1 Combustion air pipe
2 Silencer
3 52mm dia. clamp, M5x16 bolt, flanged nut

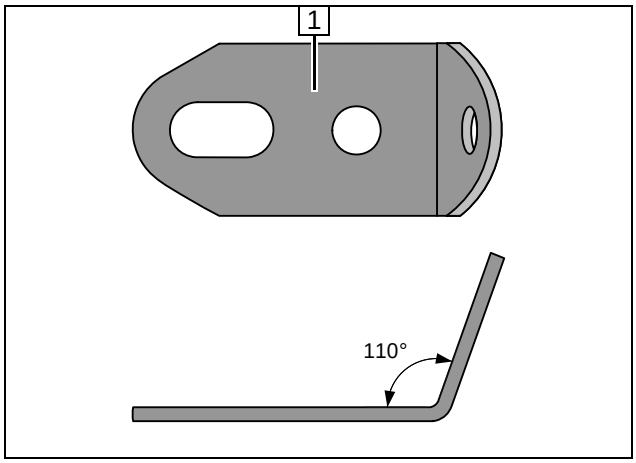
Installing silencer



Align connectors **1** [2x] to the combustion air pipe **2**. Ensure sufficient distance to the exhaust pipe.

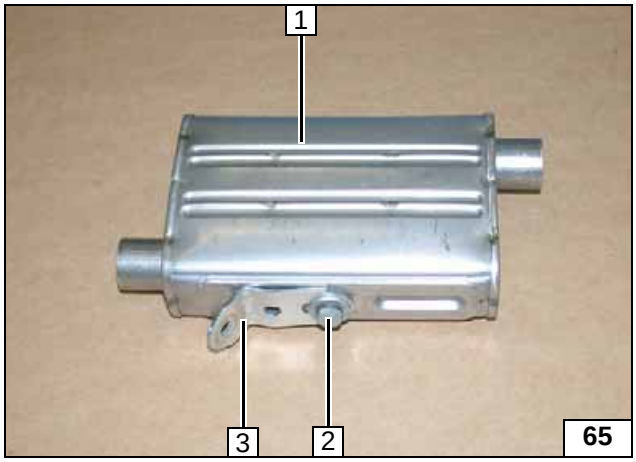
Aligning combustion air pipe

Exhaust Gas



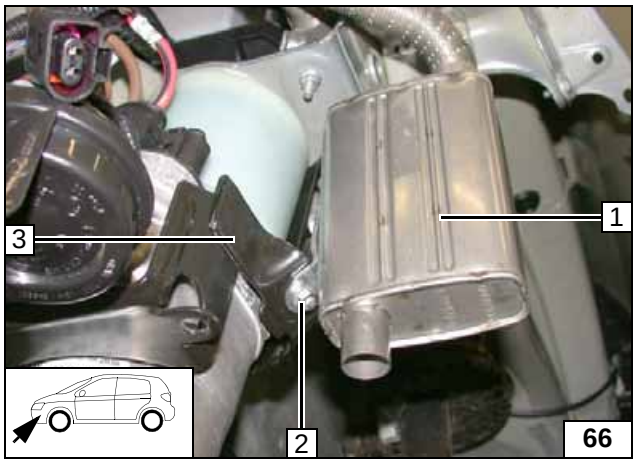
1 Angle bracket

Angling angle bracket



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

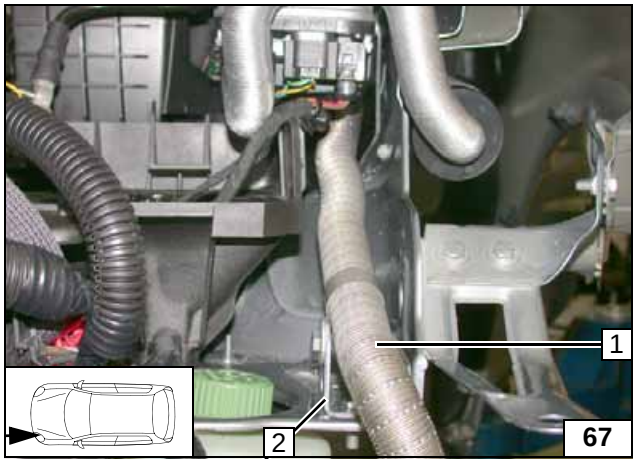
Preparing silencer



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

1 Silencer
2 M6x20 bolt, flanged nut, original vehicle hole
3 Strut

Installing silencer



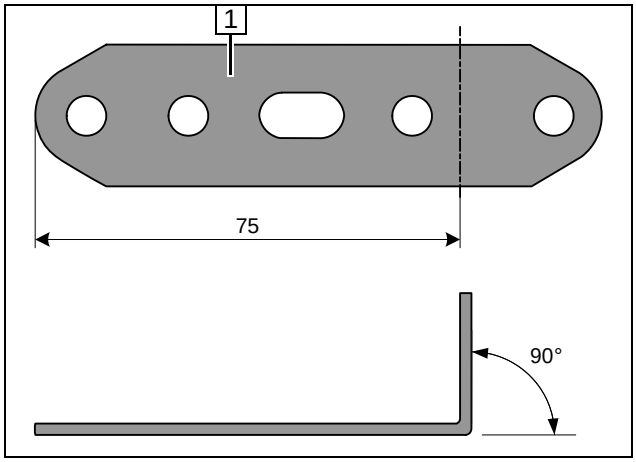
Check the position of the components; adjust if necessary. Check that they have freedom of movement.

1 Exhaust pipe
2 Angle bracket premounted, M6x20 bolt, large diameter washer, original vehicle hole, flanged nut

Installing exhaust pipe

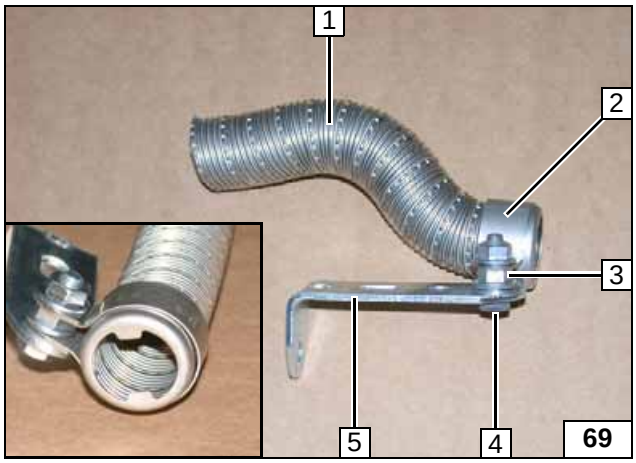
1 Exhaust pipe
2 Hose clamp
3 Silencer

Installing exhaust pipe



1 Perforated bracket

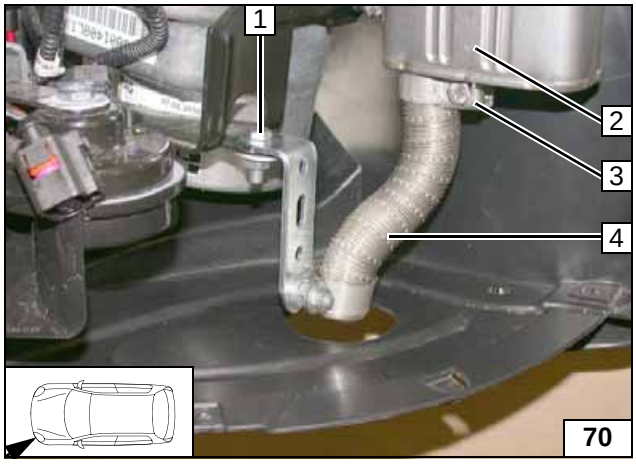
Angling down perforated bracket



Mould exhaust end section **1** as shown.

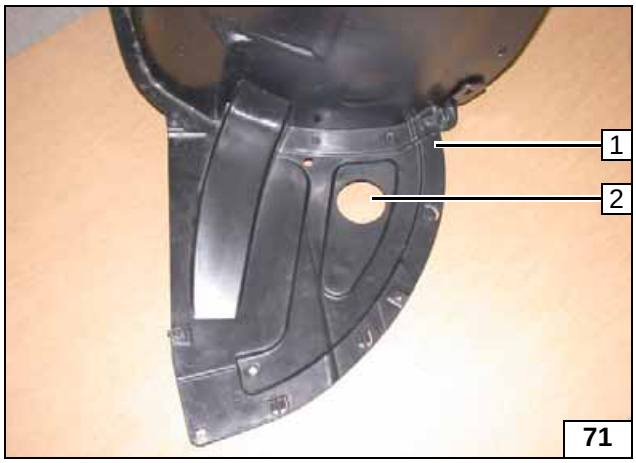
2 P-clamp
3 Flanged nut as spacer
4 M6x20 bolt, flanged nut
5 Perforated bracket

Premounting exhaust end section



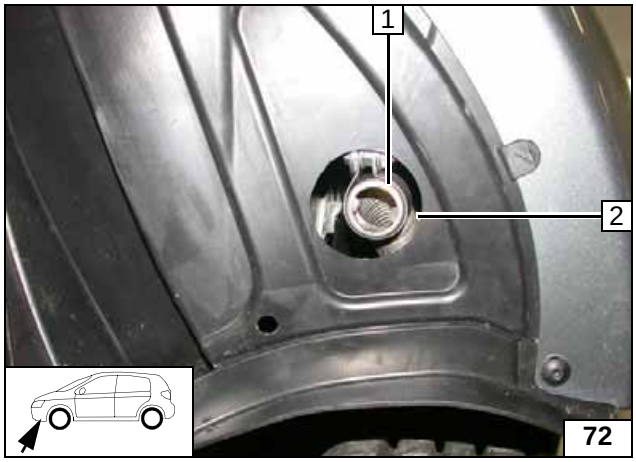
1 M6x20 bolt, original vehicle hole, large diameter washer, flanged nut
2 Silencer
3 Hose clamp
4 Exhaust end section

Installing exhaust end section



1 Wheel well trim
2 Drill 55mm dia. hole

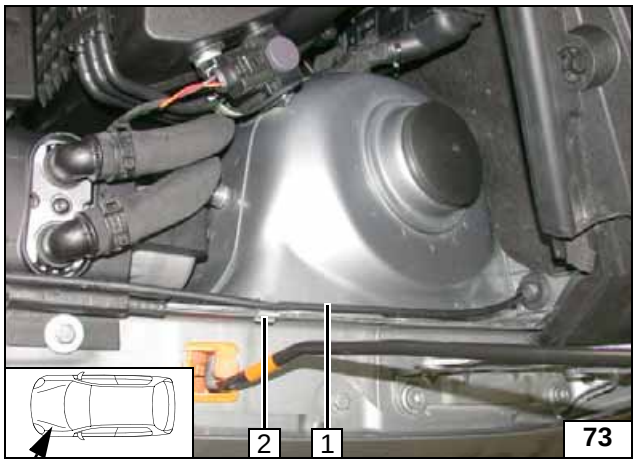
Preparing wheel well trim



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

Align exhaust end section **1** to hole **2** in the installed wheel well trim.

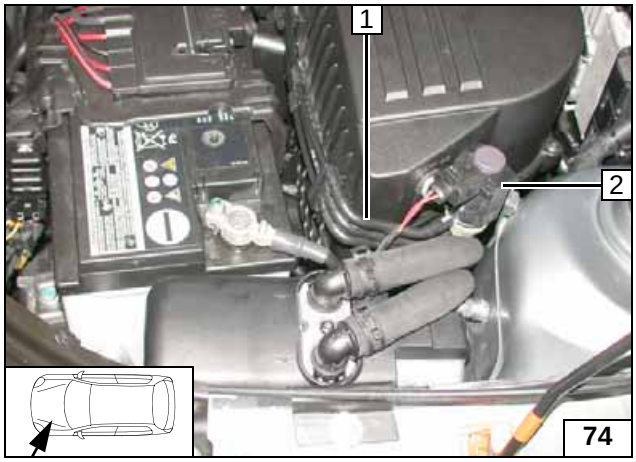
Aligning exhaust end section



Final Work

Install provided retaining clamp **2** and mount Bowden cable **1** of the engine bonnet lock.

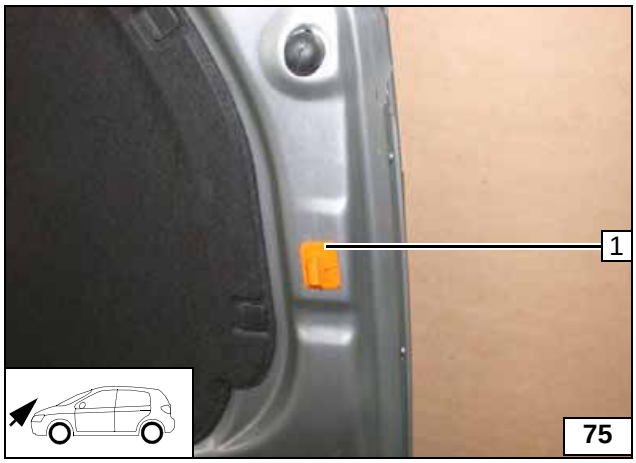
Installing retaining clamp



Ensure freedom of movement of hoses **1**.

2 Vacuum valve

Aligning hoses



Remove mounting of engine bonnet bracket **1** and reinstall as shown.

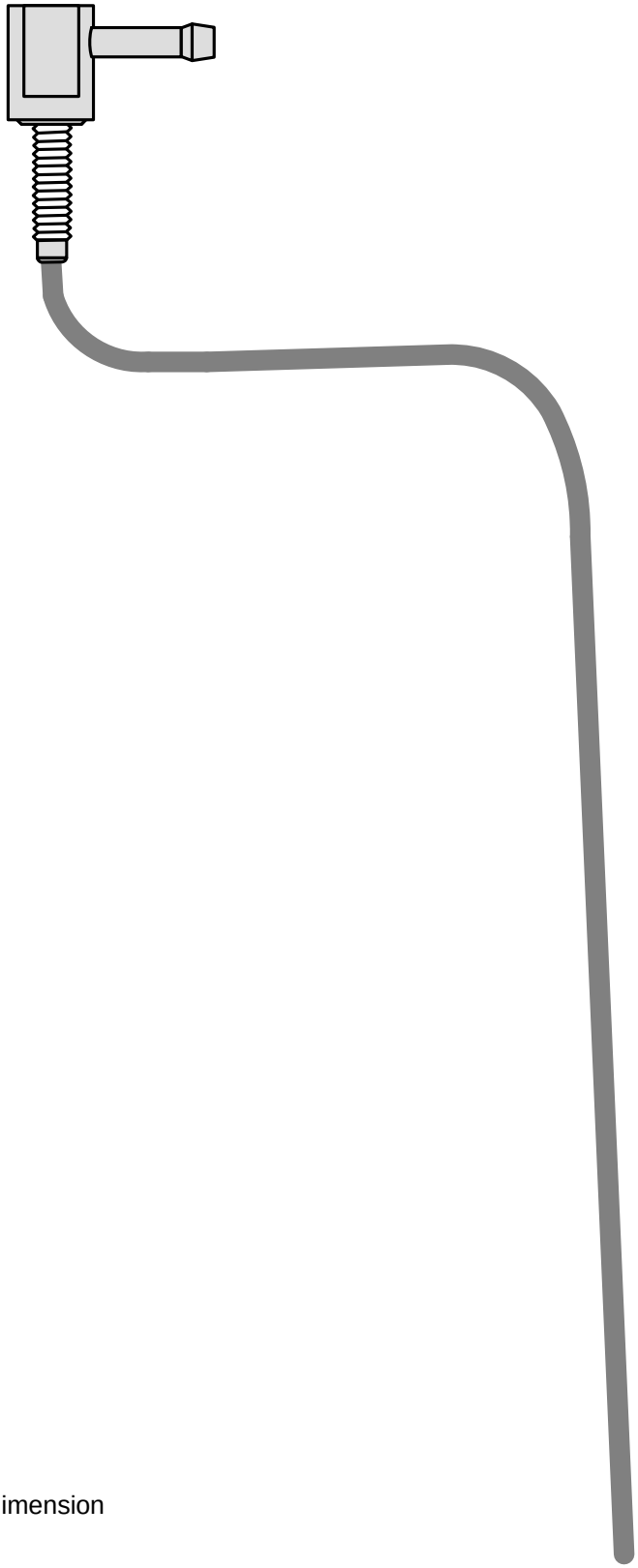
Mounting of engine bonnet bracket

WARNING!
Reassemble the disassembled components in reverse order. Check all hoses, clamps and all electrical connections for firm seating. Insulate all loose wires and tie back.
Only use manufacturer-approved coolant. Spray the heater components with anti-corrosion wax (Tectyl 100K, Order No. 111329).

- **Connect the battery**
- **Fill and bleed the coolant circuit according to the vehicle manufacturer's specifications.**
- **Adjust digital timer, teach Telestart transmitter.**
- **Make settings on A/C control panel according to the "Operating Instructions for End Customer".**
- **Place instruction signboard "Switch off parking heater before refuelling" in the area of the filler neck**
- **For initial start-up and function test, refer to installation instructions**

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

Template for Fuel Standpipe



100mm

Scale 1:1

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

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

100mm

0

Webasto
Feel the Drive

Operating Instructions for Manual Air-Conditioning

Please remove this page in case of manual air-conditioning and add it to the vehicle operating instructions.

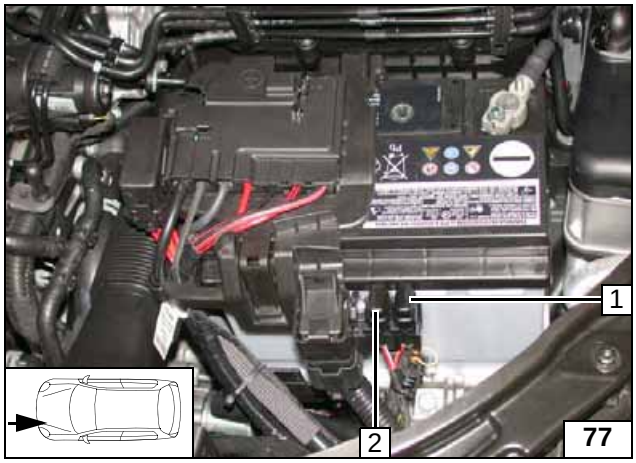
Note:
We recommend matching the heating time to the driving time.
Heating time = driving time
Example:
For a driving time of approx. 20 min. (in one direction), we recommend not exceeding a switch-on time of 20 min.

Passenger compartment monitoring, if installed, must be deactivated in addition to the vehicle settings for the heating operation.
For information on deactivation, please see the vehicle owner's manual.

Before parking the vehicle, make the following settings:

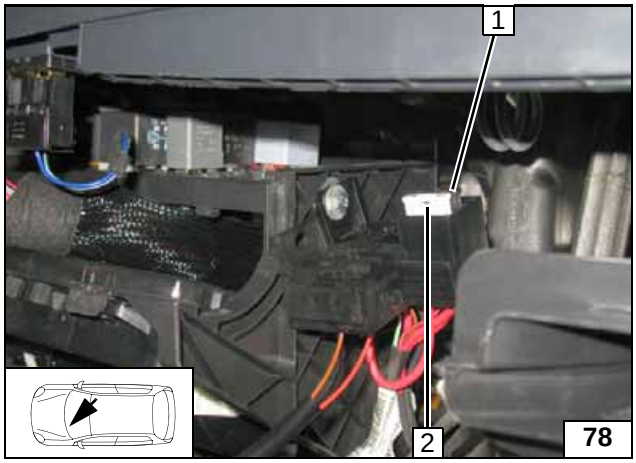
1 Set temperature to "max."
2 Set fan to level "1", max. "2"
3 Direct air outlet towards windscreen

A/C control panel



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

Fuses of engine compartment



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

Fuses of passenger compartment

Webasto
Feel the Drive

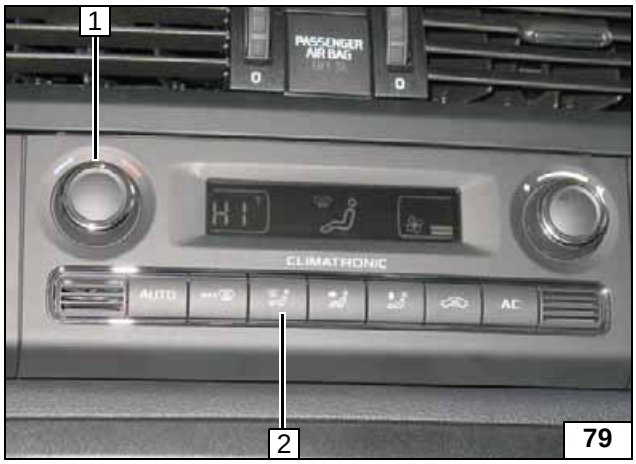
Operating Instructions for Automatic Air-Conditioning

Please remove this page in case of automatic air-conditioning and add it 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 information on deactivation, please see the vehicle owner's manual.

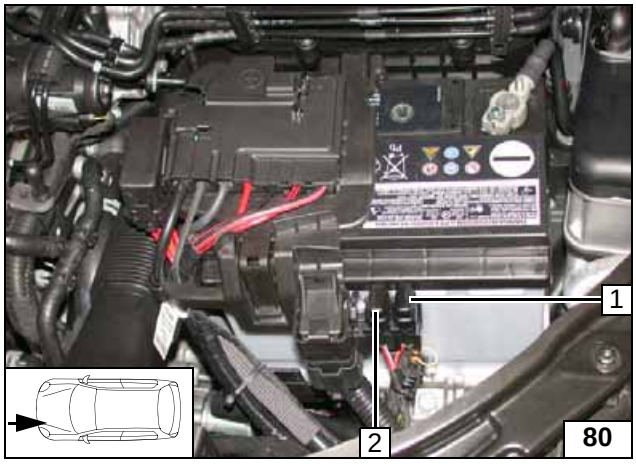
Before parking the vehicle, make the following settings:



No need to pre-select the fan speed.

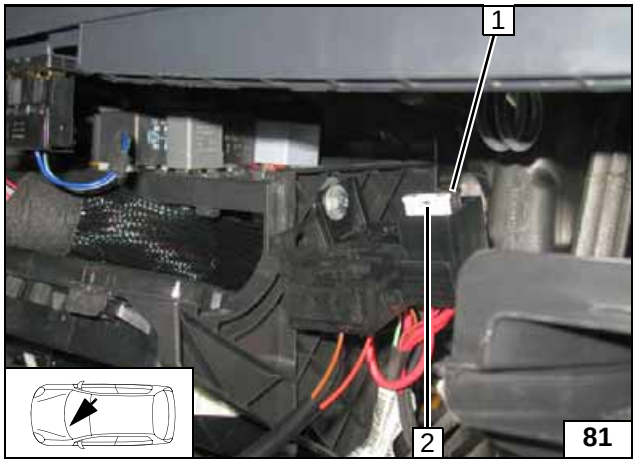
1 Set temperature to "HI"
2 Direct air outlet towards windscreen

A/C control panel



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

Fuses of engine compartment



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

Fuses of passenger compartment