

Water Heater

Thermo Top Evo Parking Heater



Installation Documentation VW Eos

Validity

Manufacturer	Model	Type	EG BE No. / ABE
VW	Eos	1F	e1 * 2001 / 116 * 0349 * ...

Motorisation	Fuel	Transmission type	Output in kW	Displacement in cm ³	Engine code
1.4 TSI	Petrol	G-gear SG	90	1390	CAXA
1.4 TSI	Petrol	G-gear SG	118	1390	CAVD

SG = manual transmission

From Model Year 2011
Left-hand drive vehicle

Verified equipment variants:	Climatic / Climatronic Front fog light Headlight washer system
Not verified:	Passenger compartment monitoring Blue Motion
Total installation time:	approx. 8 hours

VW Eos

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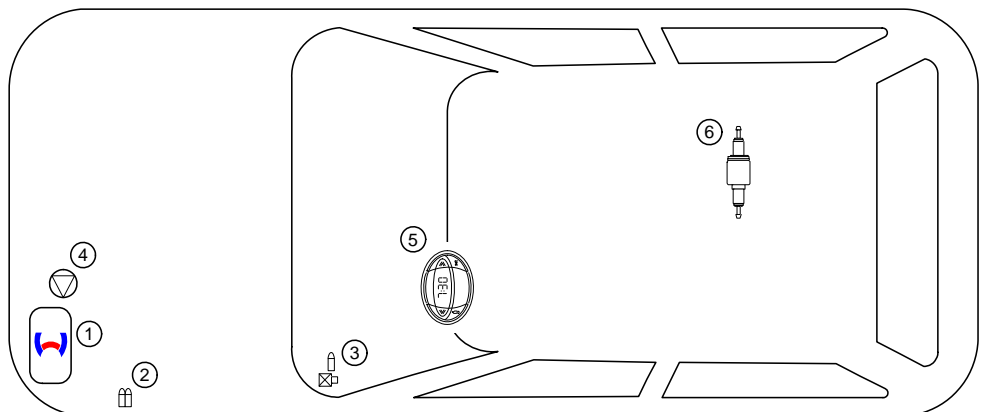
Necessary Components

- Basic delivery scope of *Thermo Top Evo* in accordance with price list
- Installation kit for VW Eos 2011 1.4 TSI: **1317844A**
- to be ordered additionally in case of Climatronic: **1317273A**
- 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.

Sharp edges should be fitted with rub protection (split-open fuel hose)! 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.

VW Eos

Information on Validity

This installation documentation applies to VW Eos 1.4 TSI vehicles - for validity, see page 1 - from model year 2011 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
- Metric thread-setter kit
- Centre bit 60mm dia.
- 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.

Special features are highlighted using the following symbols:

Mechanical system



Electrical system



Coolant circuit



Combustion air



Fuel



Exhaust gas



Software



Specific risk of injury or fatal accidents



Specific risk of damage to components



Specific risk of fire and explosion



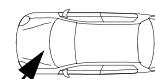
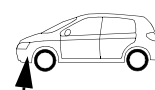
Reference to general installation instructions of the Webasto components or to the manufacturer's vehicle-specific documents.



Reference to a special technical feature



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



VW Eos

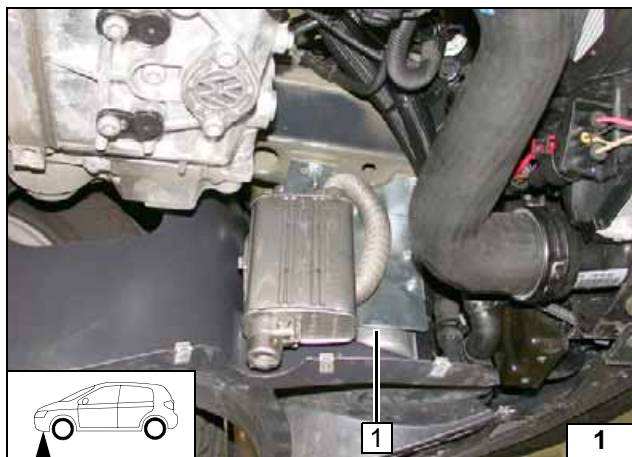
Preliminary Work

Vehicle

- Open the fuel tank cap.
- Ventilate the fuel tank.
- Close the fuel tank cap again.
- Depressurise the cooling system.
- Disconnect and remove the battery completely together with the carrier.
- Remove the air filter completely.
- Remove the underride protection.
- Remove the wheel-well inner panel.
- Fold up the rear bench seat.
- Open the right-hand tank-fitting service lid.
- Remove the fuel-tank sending unit in accordance with the manufacturer's instructions.
- Remove the side trim of A-pillar on the driver's side.
- Remove the driver/front passenger's side footwell trim.
- Remove the instrument panel trim at the left.

Heater

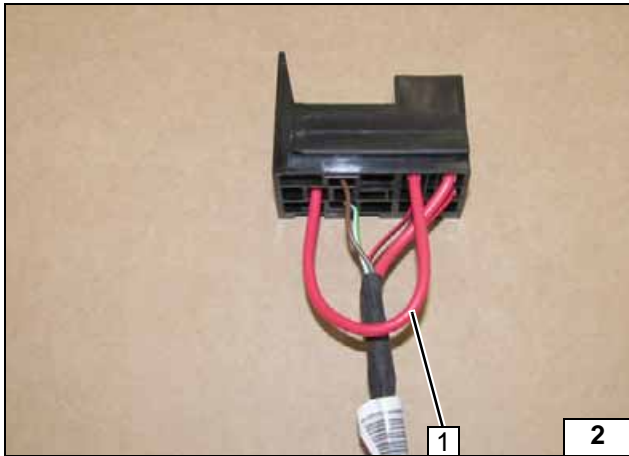
- Remove years that do not apply from the type and duplicate label.
- Attach the duplicate label (type label) in the appropriate place inside the engine compartment.



Heater Installation Location

1 Heater

Installation
location



Preparing Electrical System

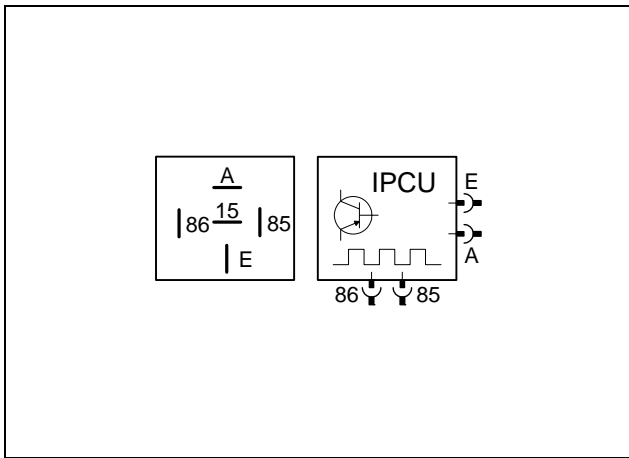


Climatronic

Line sections retain their numbering in the entire document.

Detach red (rt) wire 1 from fuse F4 and discard.

Removing wire



IPCUC view on contact side.

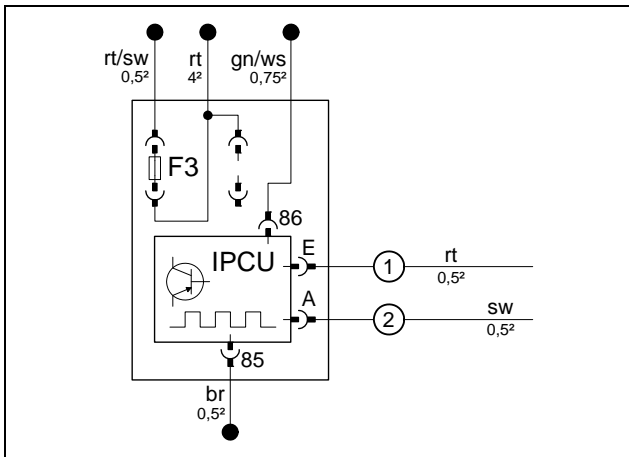
The IPCUC provided in the kit is pre-programmed with the following settings.

Duty cycle: 30%
 Frequency: 400Hz
 Voltage: 8V
 Function: High side

The adjustment values must be checked during the function check of the vehicle and adjusted, if necessary.



Preparing IPCUC

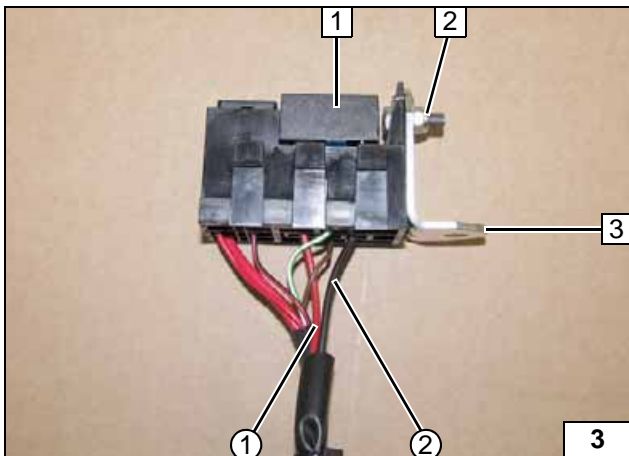


IPCUC is to be inserted only after fuse holder has been pre-mounted. Connect wires to socket IPCUC. Draw wire ① and ② into the protective sleeving.

- ① Red (rt) wire of IPCUC/E
- ② Black (sw) wire of IPCUC/A



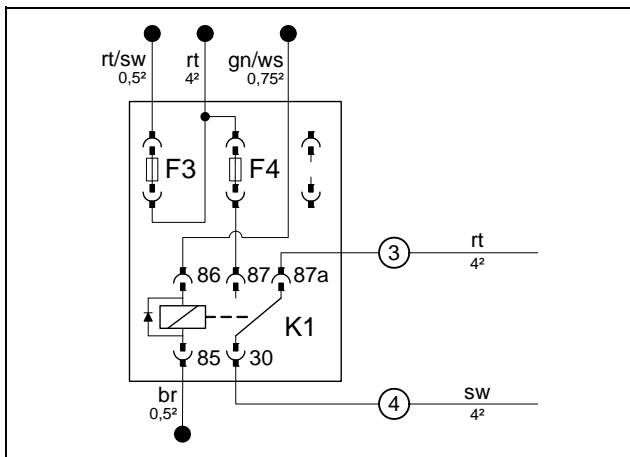
Preparing IPCUC



- 1 IPCUC
- 2 M5x16 bolt, large diameter washer [2x], retaining plate of fuse holder, self-locking M5 flanged nut
- 3 Angle bracket

- ① Red (rt) wire of IPCUC/E
- ② Black (sw) wire of IPCUC/A

Pre-mounting passenger compartment fuse holder

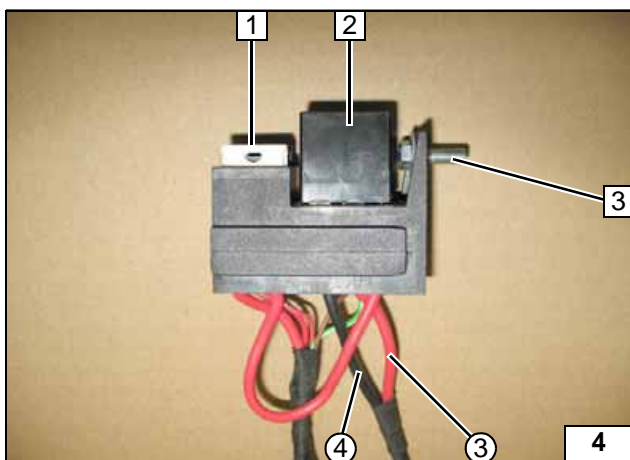


Climatic

Wire sections retain their numbering in the entire document.



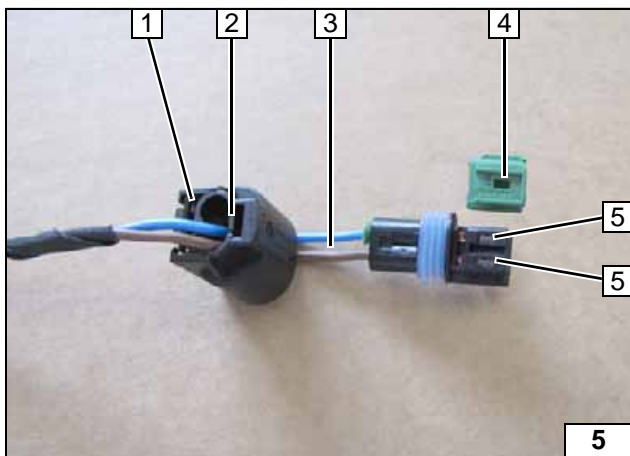
Premounting passenger compartment fuse holder



- 1 Fuse F4 25A
- 2 K1 relay
- 3 M5x16 bolt, large diameter washer, fuse holder

- ③ Red (rt) wire of K1/87a
- ④ Black (sw) wire of K1/30

Premounting passenger compartment fuse holder



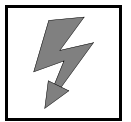
All vehicles

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



Dismantling connector

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



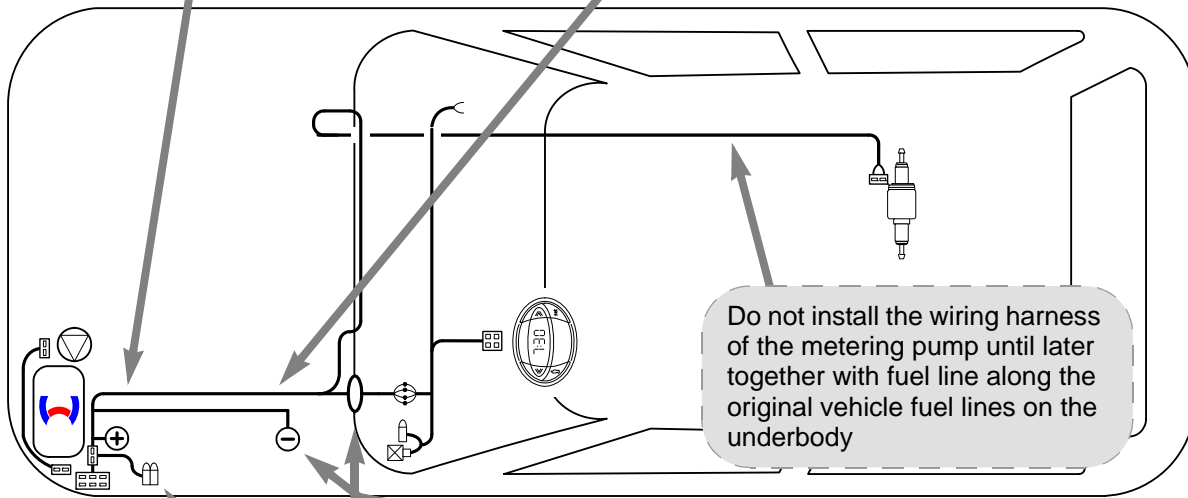
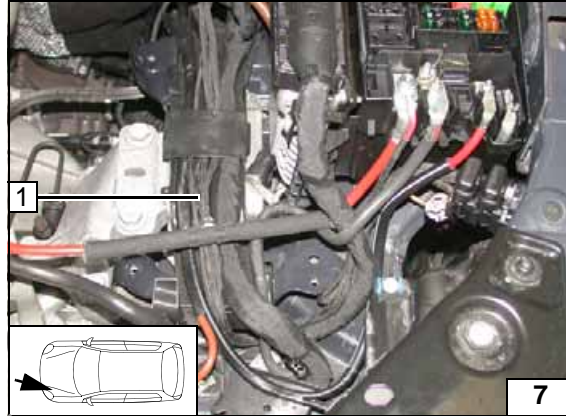
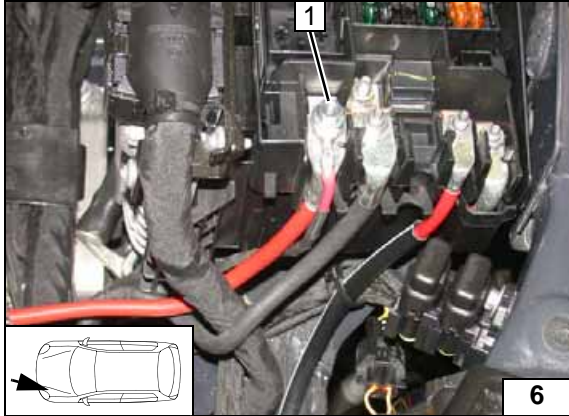
Electrical System

Positive wire

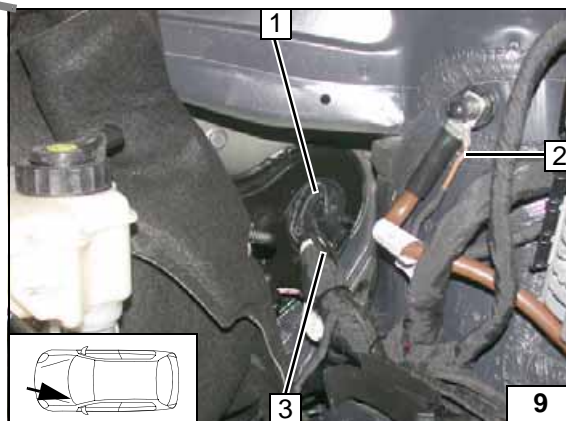
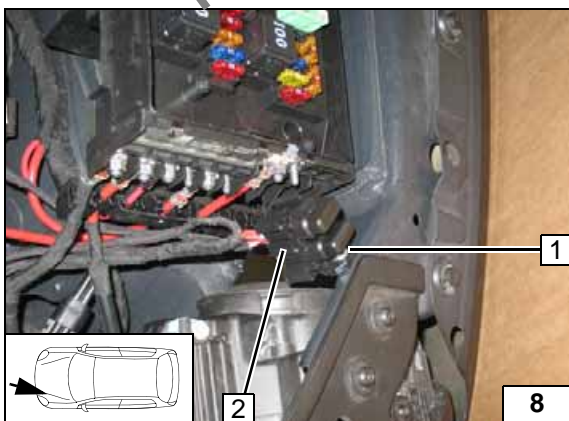
- 1 Positive wire to positive battery distributor

Wiring harness routing

Route wiring harnesses in original vehicle cable duct 1



Wiring harness routing diagram



Fuse holder of engine compartment

5.5mm hole at position 1. When drilling, watch for components located behind.

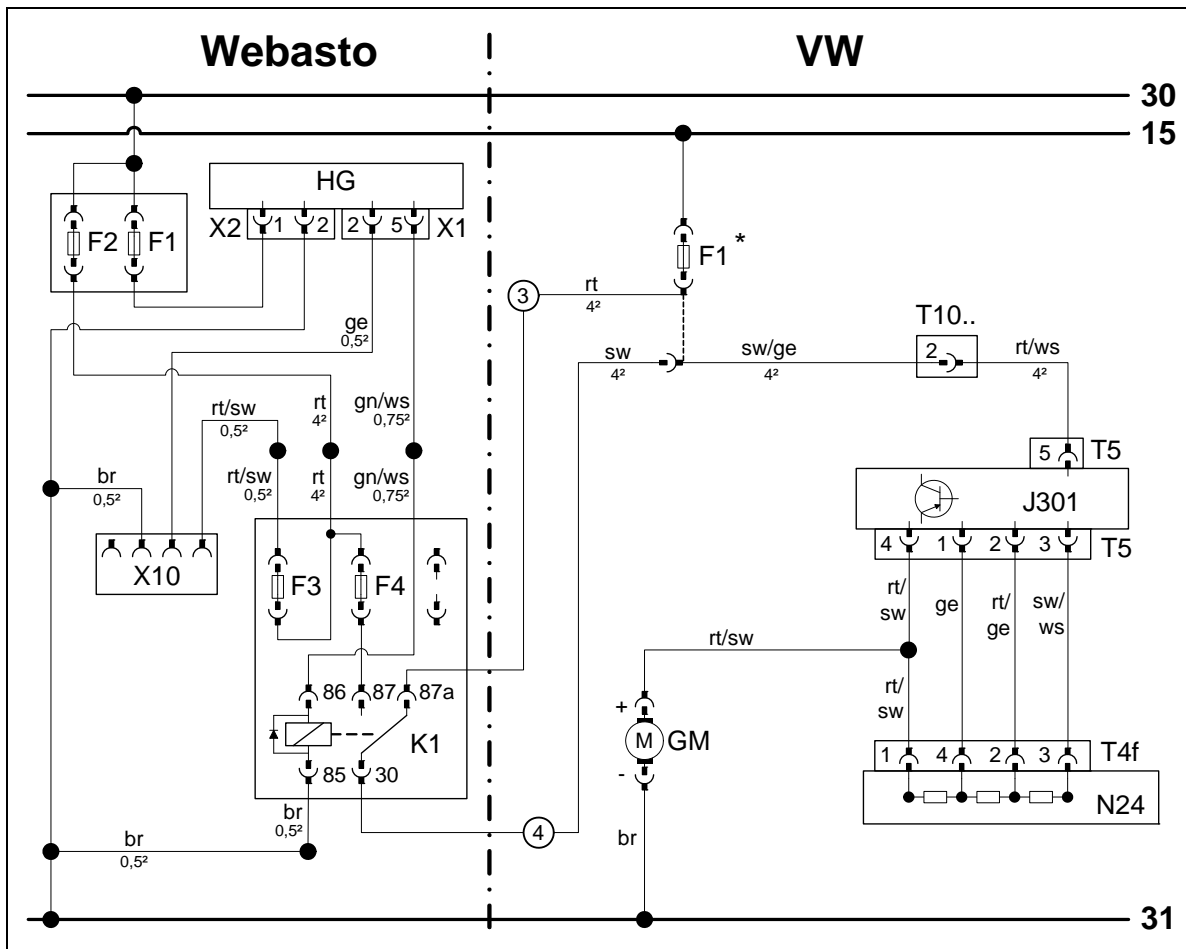
- 1 M5x16 bolt, washer [2x], retaining plate of fuse holder, self-locking M5 flanged nut
- 2 Fuses F1-2

Wiring harness pass through, earth wire

- 1 Use free protective rubber plug
- 2 Earth wire on original vehicle earth support point
- 3 Wiring harnesses of heater, heater control



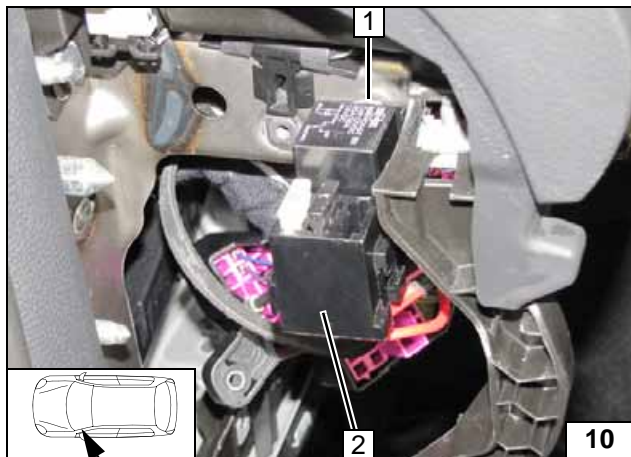
Climatic Fan Controller



Wiring diagram

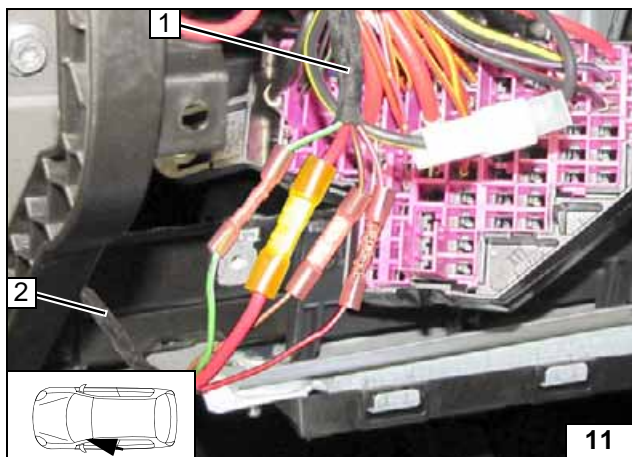
Webasto components		Vehicle components		Colours and symbols	
HG	TT-Evo heater	F1*	Fuse, 40A fan fuse (assignment depends on vehicle and vehicle equipment variant)	rt	red
X1	6-pin heater connector			ge	yellow
X2	2-pin heater connector			sw	black
X10	4-pin connector of Heater control			br	brown
K1	Fan relay	T10..	Connector	ws	white
F1	20A fuse	T5	5-pin connector J301	gn	green
F2	30A fuse	GM	Fan motor		
F3	1A fuse	T4f	4-pin connector N24	Wiring colours may vary.	
F4	25 A fuse	N24	Resistor group		

Legend



- Existing hole, large diameter washer, self-locking nut
- Fuse holder

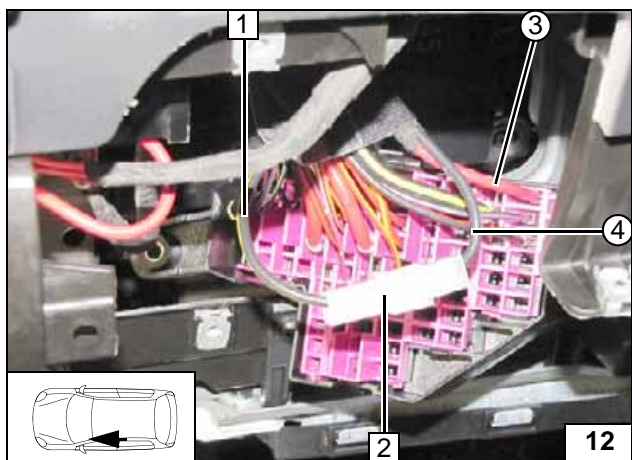
Mounting fuse holder in passenger compartment



Connect the wiring harness of the fuse holder in passenger compartment **1** to the wiring harness of heater **2** according to the wiring diagram, with same colour wires connected to each other.



**Connect-
ing wiring
harnesses**



Fuse socket depends on vehicle equipment. Uncrimp black/yellow (sw/ge) wire **1** from socket of fan fuse. Engage red (rt) wire from K1/87a **3** into socket of fan fuse with crimped on Standard-Power-Timer. Produce connections as shown in wiring diagram.

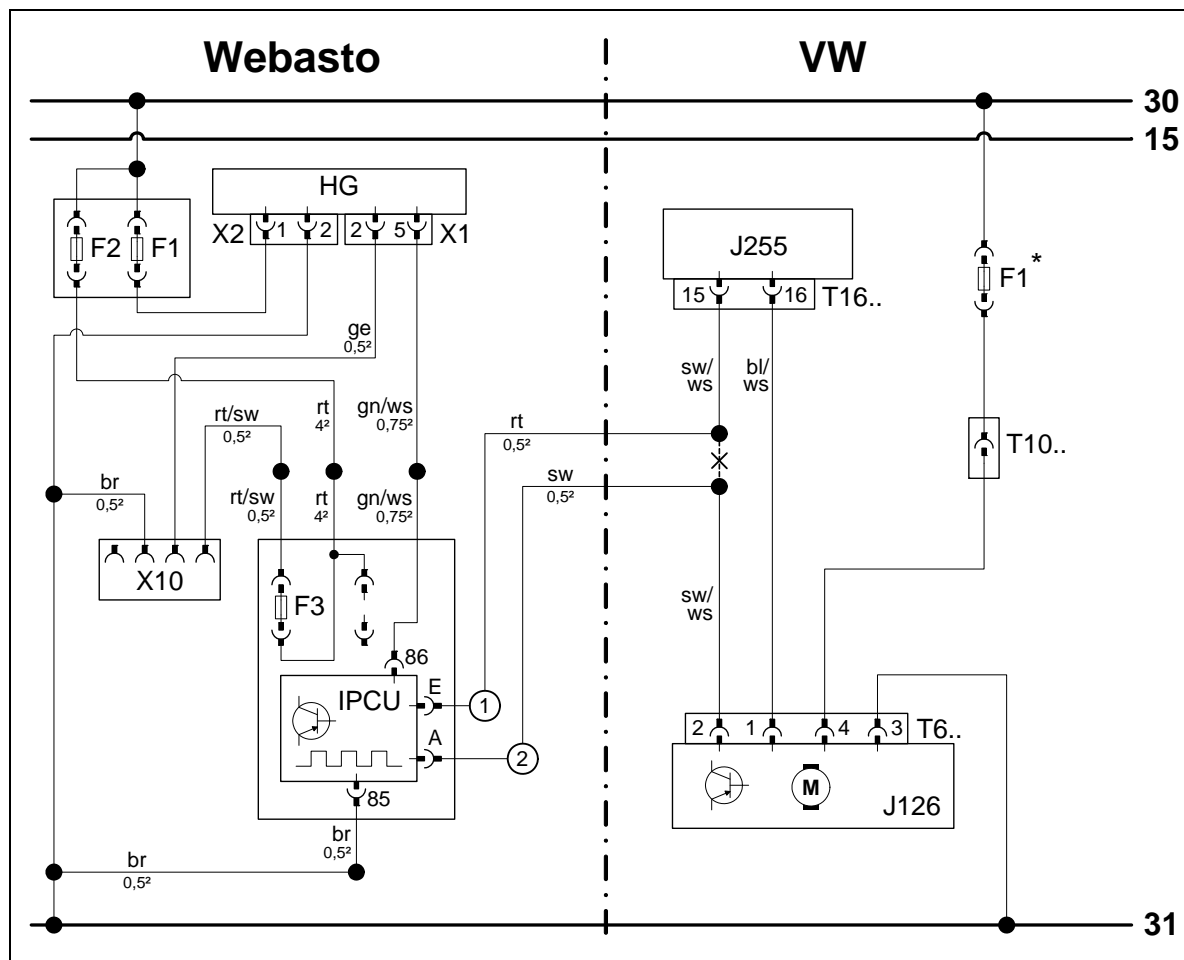


**Connect-
ing wires**

- 2** Connector
- 4** Black (sw) wire of K1/30



Climatronic Fan Controller



Wiring diagram

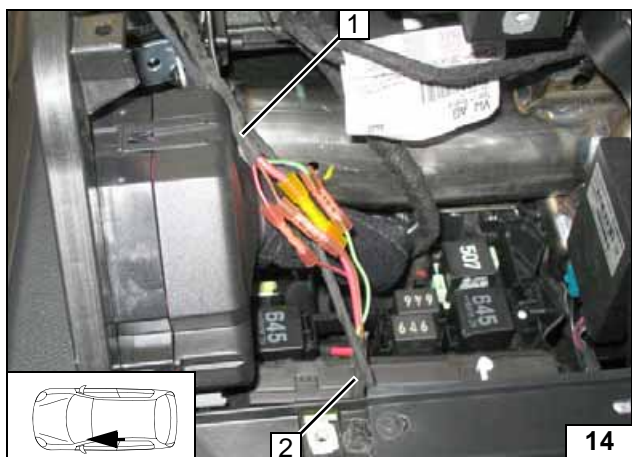
Webasto components		Vehicle components		Colours and symbols	
HG	TT-Evo heater	J255	A/C control unit	rt	red
X1	6-pin heater connector	T16..	16-pin connector J255	sw	black
X2	2-pin heater connector	F1*	Fuse, 40A fan fuse (assignment depends on vehicle and vehicle equipment variant)	ge	yellow
X10	4-pin connector of Heater control			gn	green
K1	Fan relay	T10..	10-pin connection	bl	blue
F1	20A fuse			ws	white
F2	30A fuse	T6..	6-pin connector J126	br	brown
F3	1A fuse				
IPCU	Pulse width modulator	J126	Fan unit		
IPCU adjustment values:					
Duty cycle: 30%					
Frequency: 400Hz					
Voltage: 8V				X	Cutting point
Function: High side				Wiring colours may vary.	

Legend



- 1 Angle bracket
- 2 Original vehicle bolt

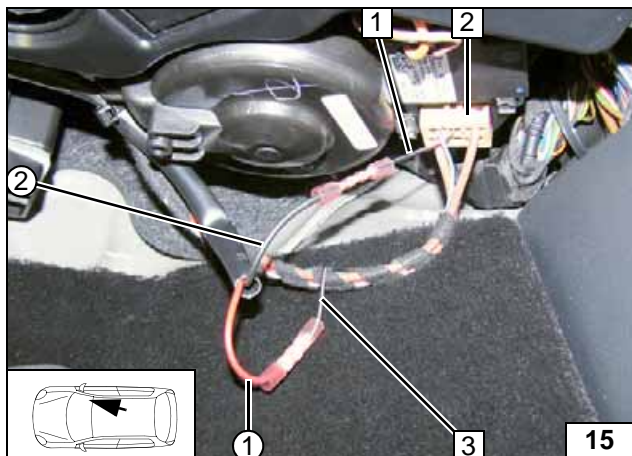
Mounting fuse holder in passenger compartment



Connect the wiring harness of the fuse holder in passenger compartment 1 to the wiring harness of heater 2 according to the wiring diagram, with same colour wires connected to each other.



Connecting wiring harnesses

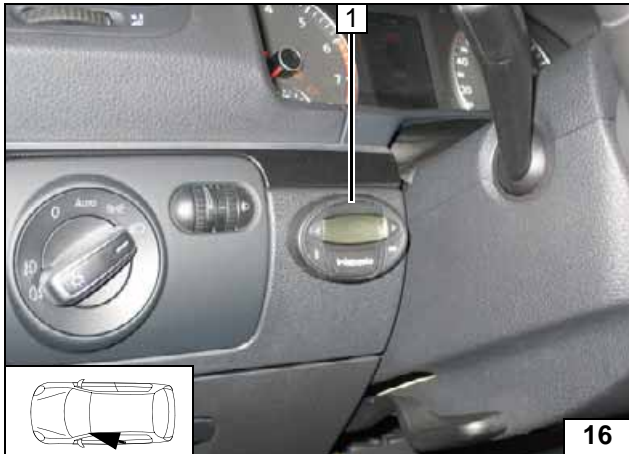


Connection to 6-pin connector T6.. 2 from the fan unit. Produce connections as shown in wiring diagram.



Connecting fan unit

- 1 Black/white (sw/ws) wire from 6-pin connector T6.. Pin 2
- 3 Black/white (sw/ws) wire from A/C control unit
- ① Red (rt) wire of IPCU/E
- ② Black (sw) wire of IPCU/A

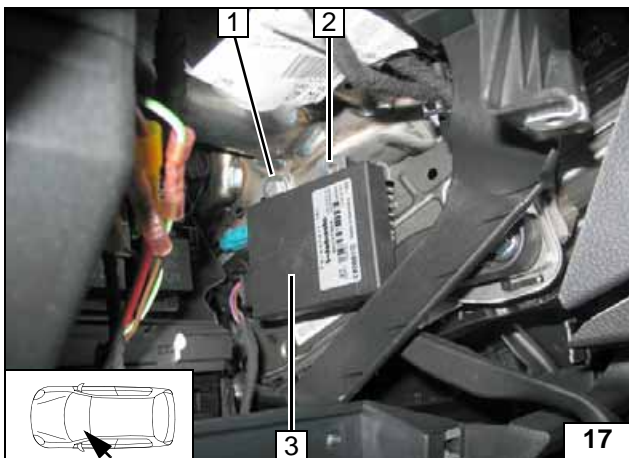


Digital Timer

- 1 Digital timer



Mounting digital timer

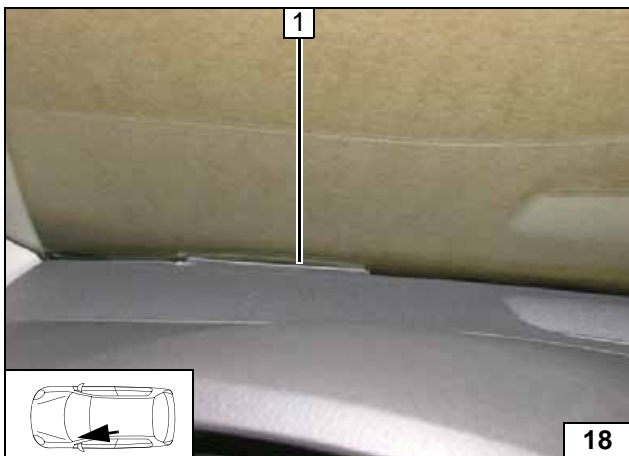


Remote Option (Telestart)

- 1 M6x12 bolt, large diameter washer, existing threaded hole
- 2 Bracket
- 3 Receiver

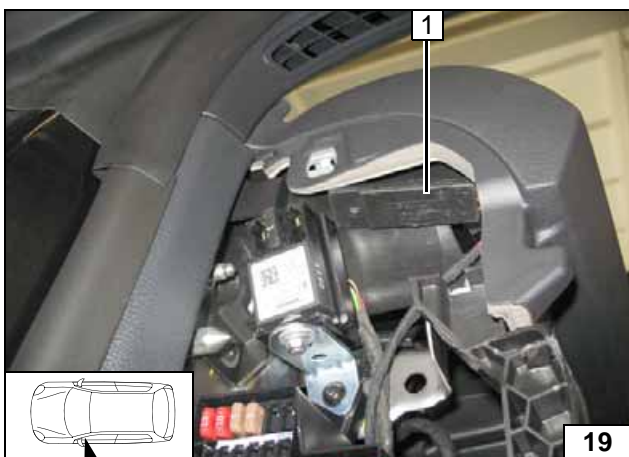


Mounting receiver



- 1 Antenna

Mounting antenna

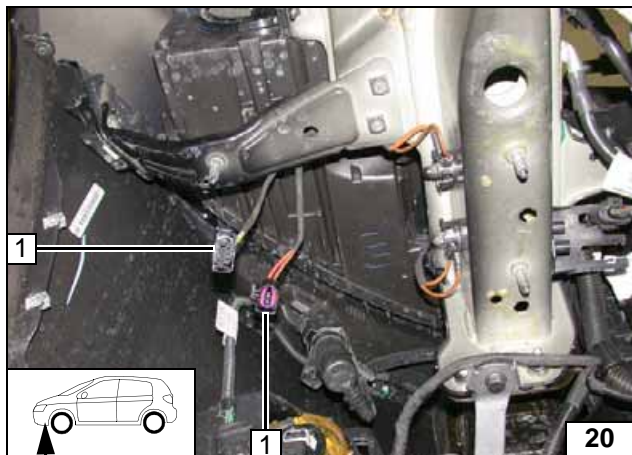


Temperature sensor T100 HTM

Fasten temperature sensor 1 with adhesive tape.



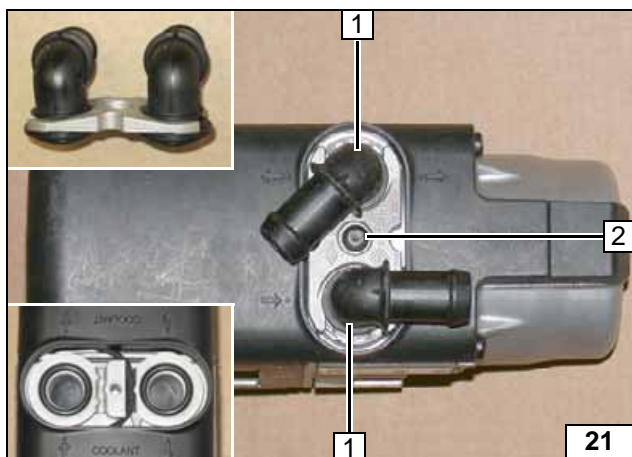
Installing temperature sensor



Preparing Installation Location

- 1 Wiring harness of heater

Routing wiring harness

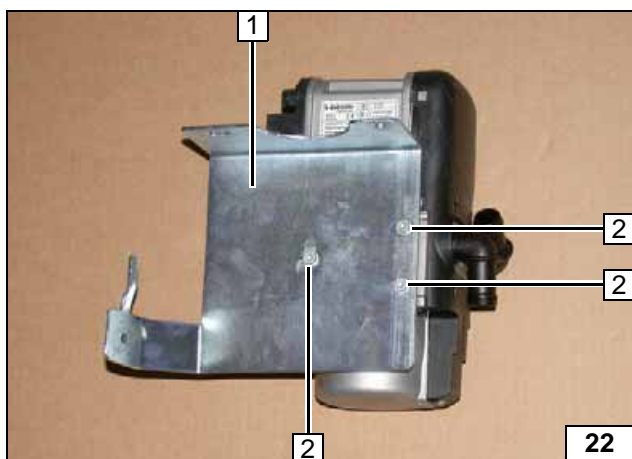


Preparing Heater

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

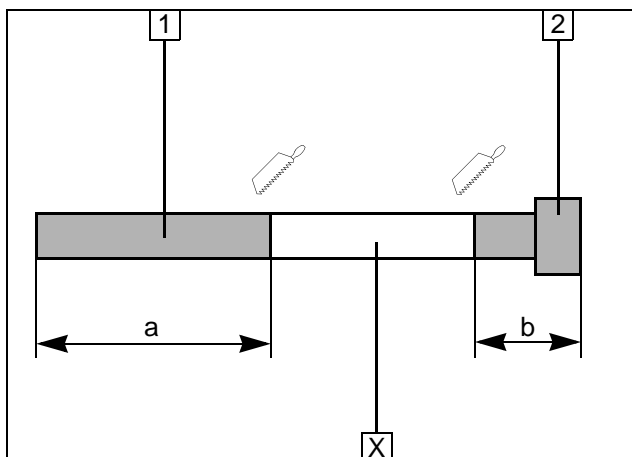


Mounting water connection pieces



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

Mounting bracket section A

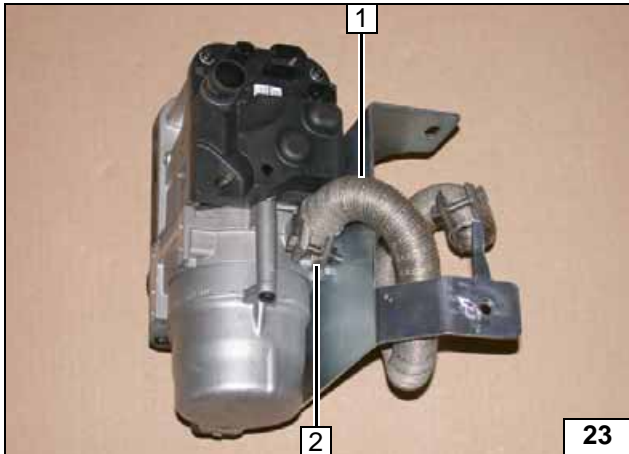


Discard section X.

- 1 Exhaust pipe
a = 470
- 2 Exhaust end section
b = 35

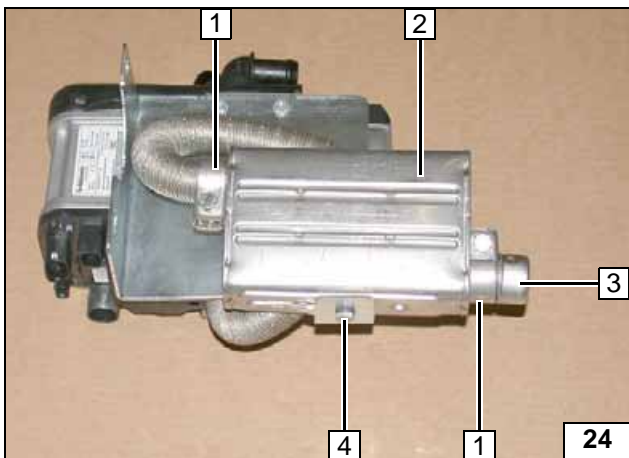


Preparing exhaust pipe



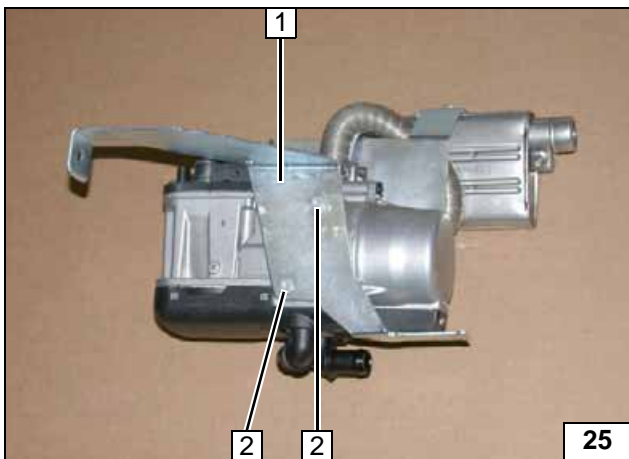
- 1 Exhaust pipe
- 2 Hose clamp

**Mounting
exhaust
gas pipe**



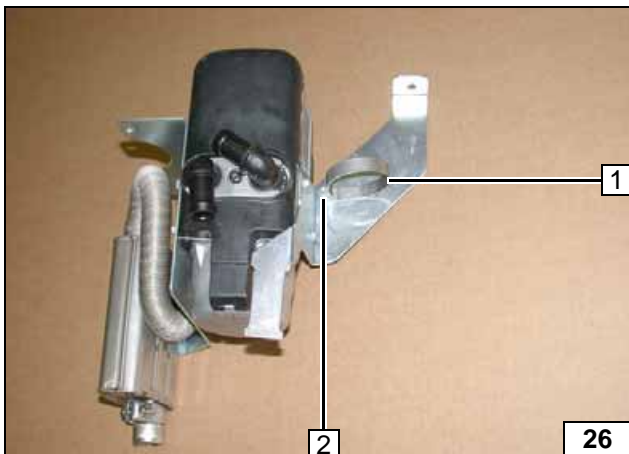
- 1 Hose clamp [2x]
- 2 Silencer
- 3 Exhaust end section
- 4 M6x16 bolt, spring lockwasher

**Installing
silencer
and ex-
haust end
section**



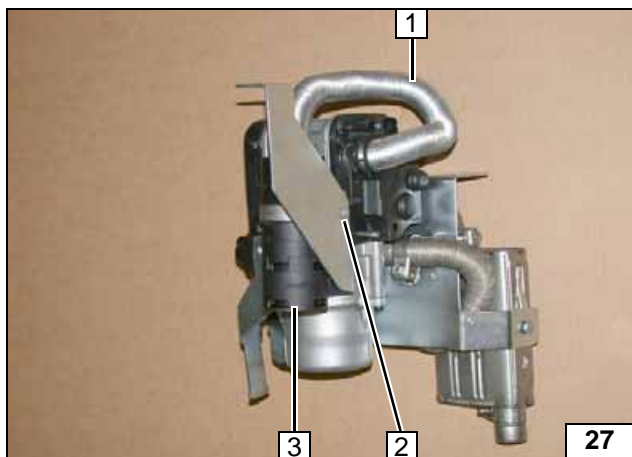
- 1 Bracket section **B**
- 2 5x13 self-tapping bolt [2x]

**Mounting
bracket
section B**



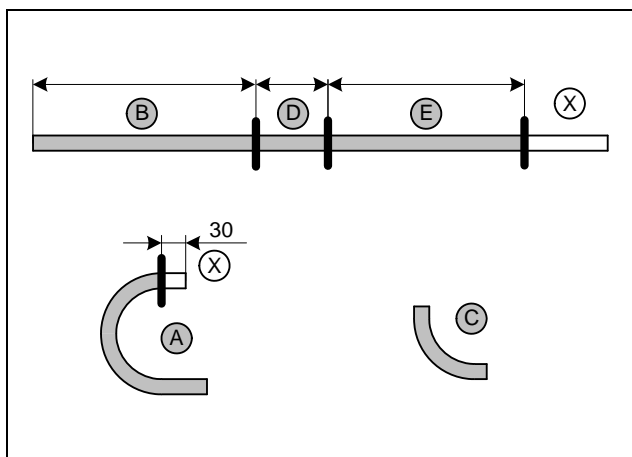
- 1 51mm dia. clamp
- 2 Mount M5x16 bolt, flanged nut loosely

**Installing
clamp**



- 1 Combustion air pipe
- 2 Tighten M5x16 bolt, flanged nut
- 3 Intake silencer

Mounting combustion air pipe



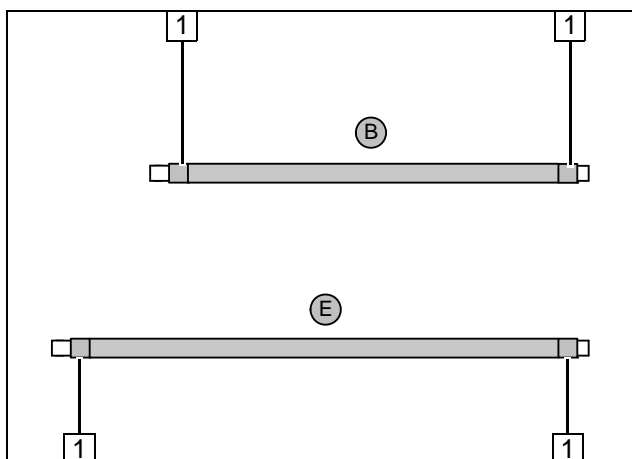
1.4 TSI 90kW

Discard section **X**.
 Shorten hose **A** = 20mm dia. 180° moulded hose
 Hose **C** = 18mm dia. 90° moulded hose

- B** = 710
- D** = 65
- E** = 930



Cutting hoses to length

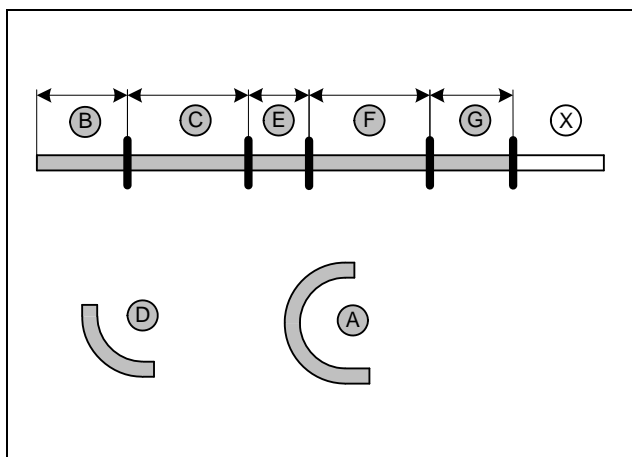


Slide on braided protection hoses and cut to length. Cut heat shrink plastic tubing to length.

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



Preparing hoses



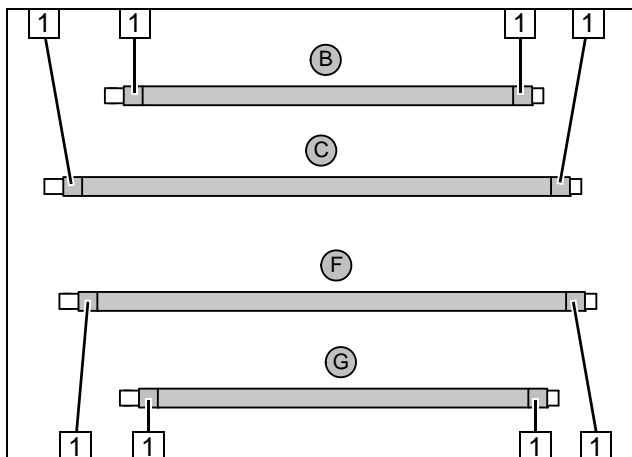
1.4 TSI 118kW

Discard section **X**.
 Hose **A** = 20mm dia. 180° moulded hose
 Hose **D** = 18mm dia. 90° moulded hose

- B** = 290
- C** = 440
- E** = 65
- F** = 490
- G** = 270



Cutting hoses to length

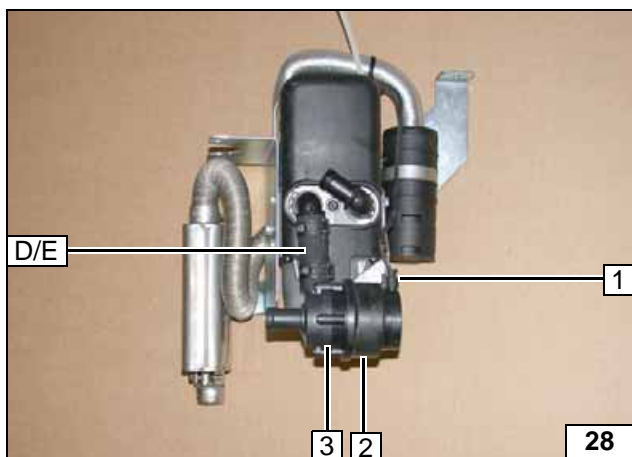


Slide on braided protection hoses and cut to length. Cut heat shrink plastic tubing to length.

- 1 50 mm long heat shrink plastic tubing [8x]



Preparing hoses B, C, F and G



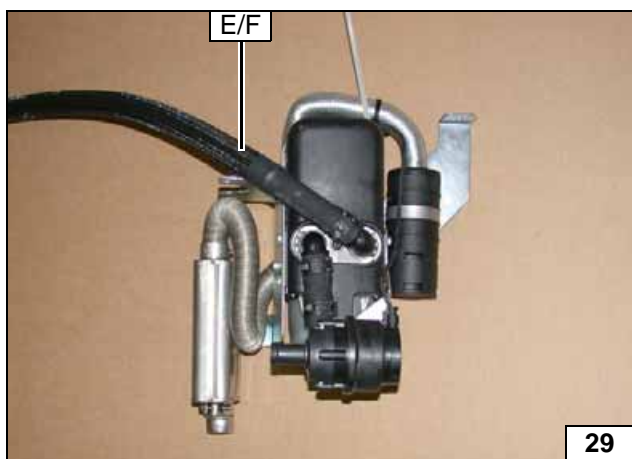
All vehicles

Hose D = 90kW
 Hose E = 118kW
 All spring clips = 25mm dia.

- 1 Connect wiring harness of circulating pump
- 2 Mounting of circulating pump
- 3 Circulating pump



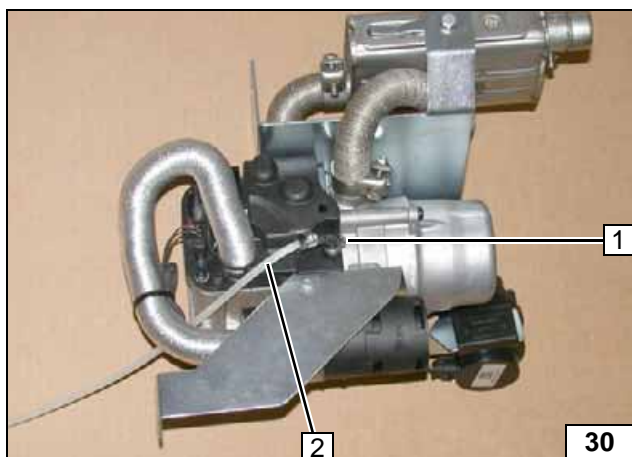
Installing hose and circulating pump



Hose E = 90kW
 Hose F = 118kW
 All spring clips = 25mm dia.

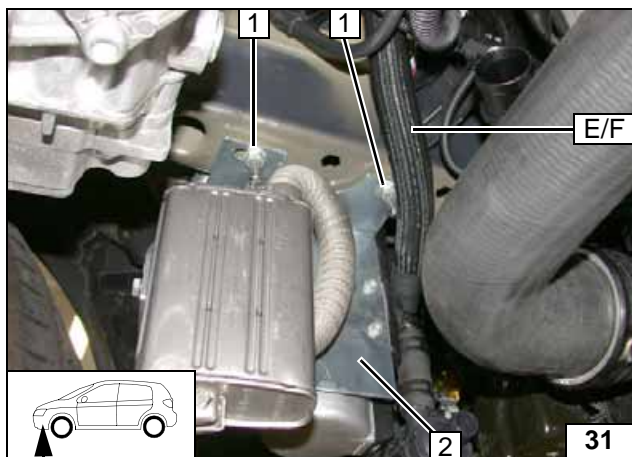


Installing hose D



- 1 90° moulded hose, 10mm dia. clamp [2x]
- 2 Fuel line

Premounting fuel line



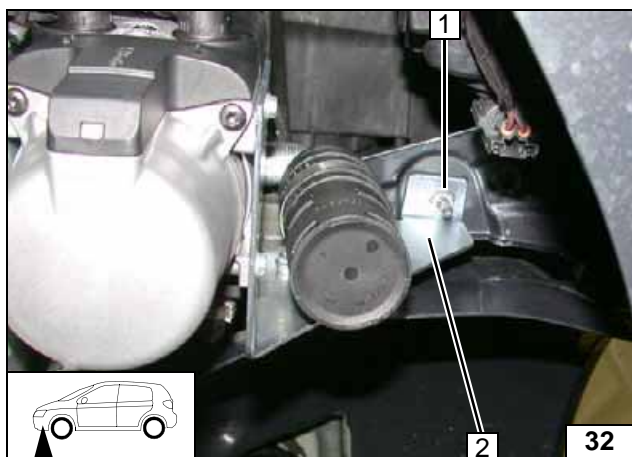
Installing Heater

Hose **E** = 90kW
 Hose **F** = 118kW

Route hose **E/F** in front of the transmission.

- 1 Original vehicle stud bolt, M8 flanged nut [2x each]
- 2 Bracket section **A**

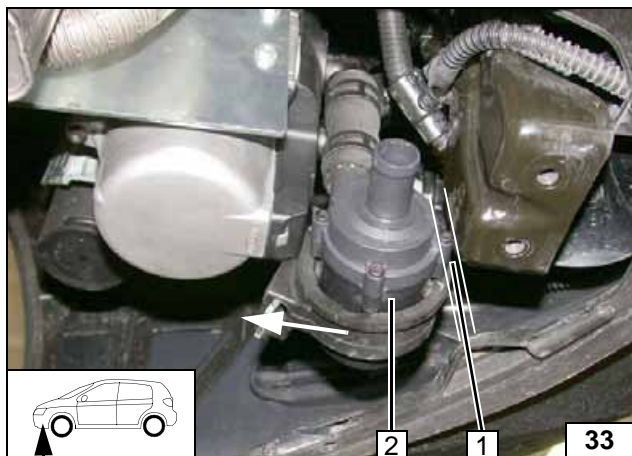
Mounting heater



If stud bolt is not present at position **1**, copy hole pattern from bracket, drill 8.5mm dia. hole in cross member and fasten bracket with M8x20 bolt and flanged nut.

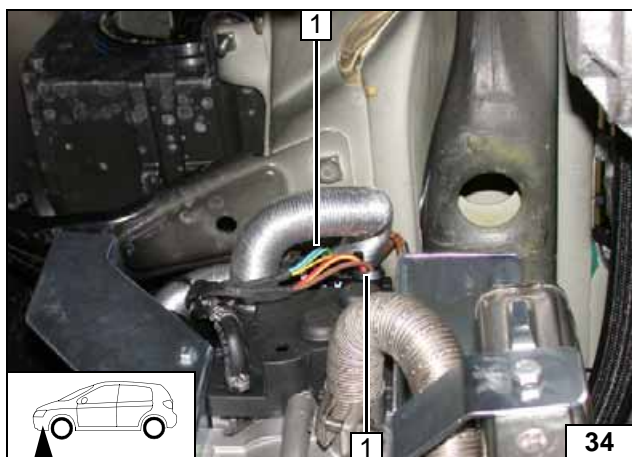
- 1 Original vehicle stud bolt, M8 flanged nut
- 2 Bracket section **B**

Mounting heater



Align circulating pump **2** to rear. Ensure sufficient distance from adjacent components, especially to position **1**. Correct if necessary!

Aligning circulating pump



- 1 Wiring harness of heater [2x]

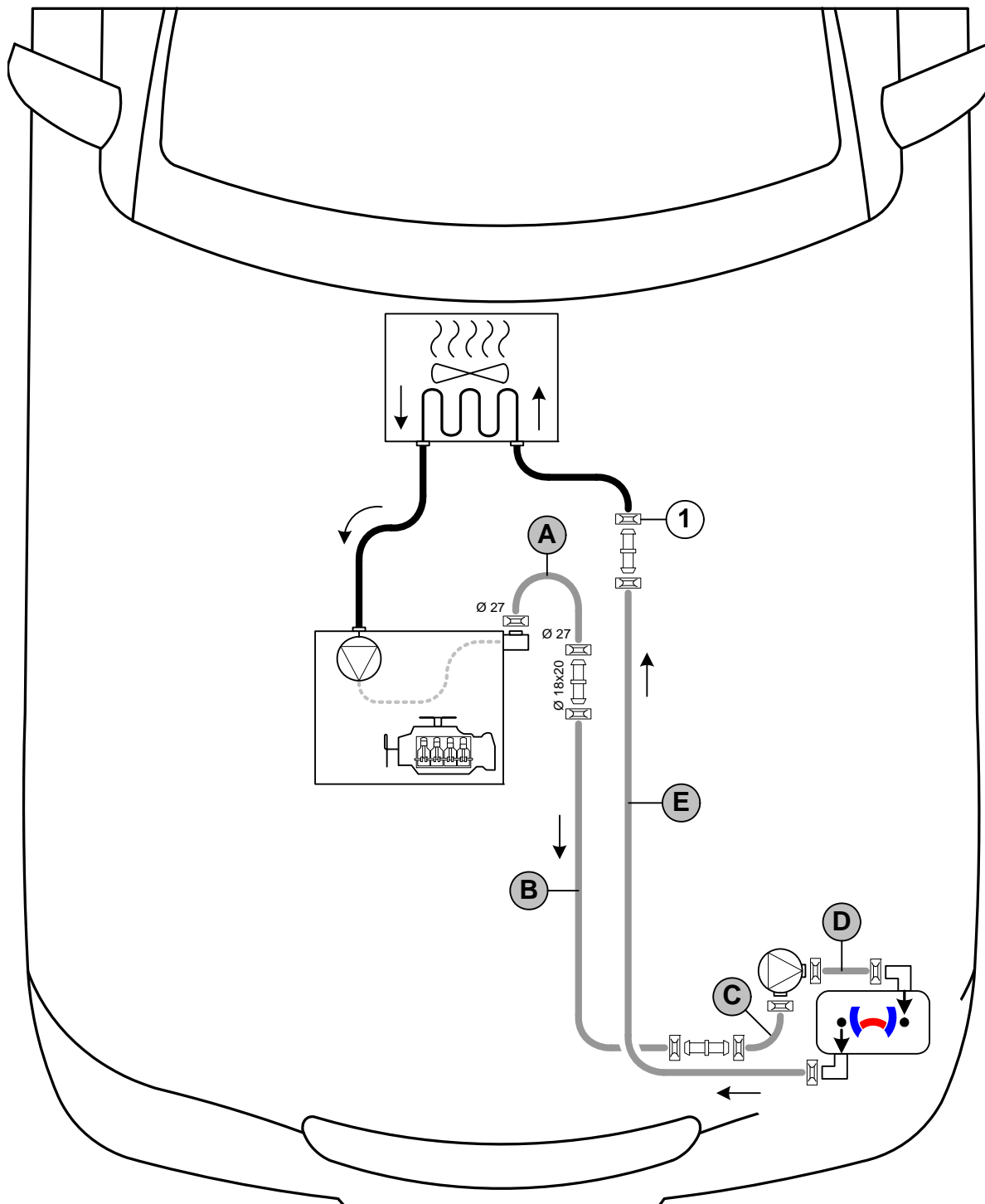
Mounting wiring harness






90kW Coolant Circuit

WARNING!

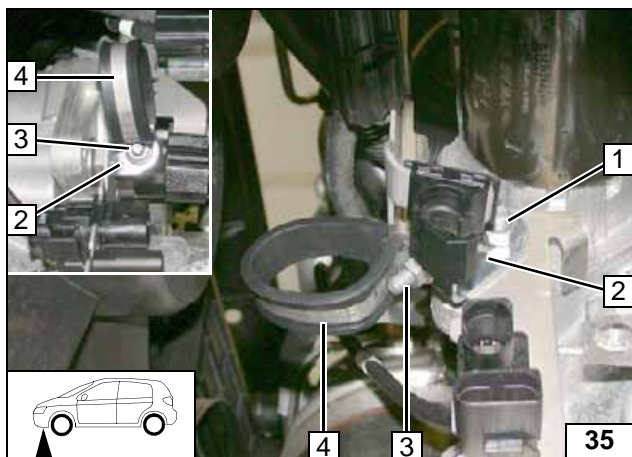
Any coolant running off should be collected in an appropriate container. Install hoses so that they are kink-free. Unless specified otherwise, always fasten using cable ties. Position clamps so that other hoses cannot be damaged. The heater must be filled with coolant when installing the hoses. The connection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



Hose installation diagram

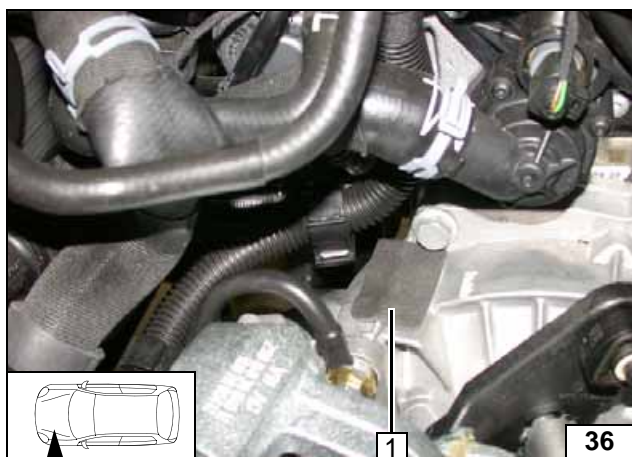
All spring clips without a specific designation  = 25mm dia.
 1 = Original vehicle spring clip .
 All connecting pipes without a specific designation  = 18x18 mm dia.





- 1 Original vehicle stud bolt, original vehicle nut
- 2 Angle bracket
- 3 M6x20 bolt, flanged nut
- 4 38mm dia. rubber-coated p-clamp

Mounting p-clamp



Deburr and paste foam strip 1.



Pasting foam strip

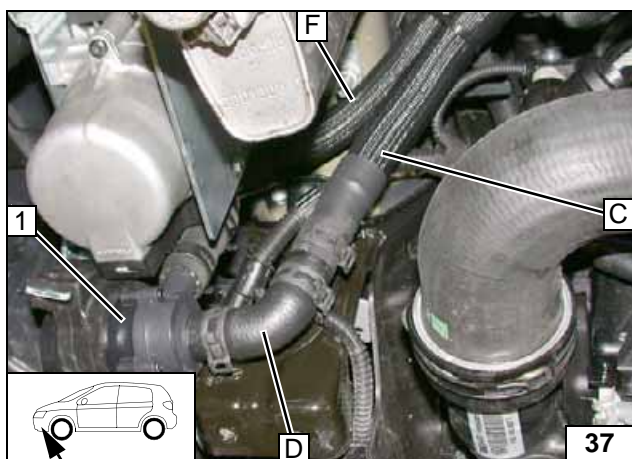
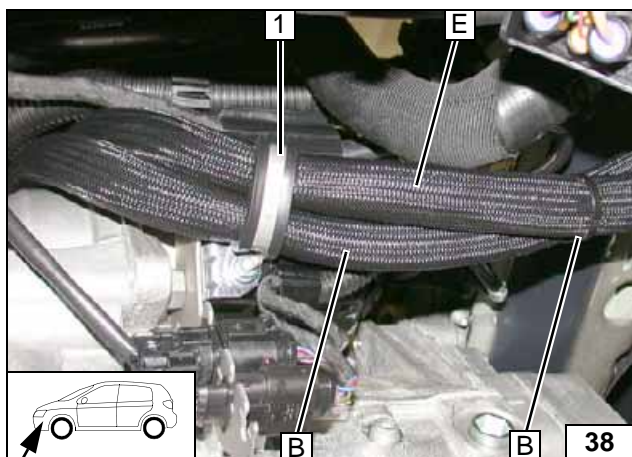


Figure shows 118kW.

- 1 Circulating pump



Circulating pump connection

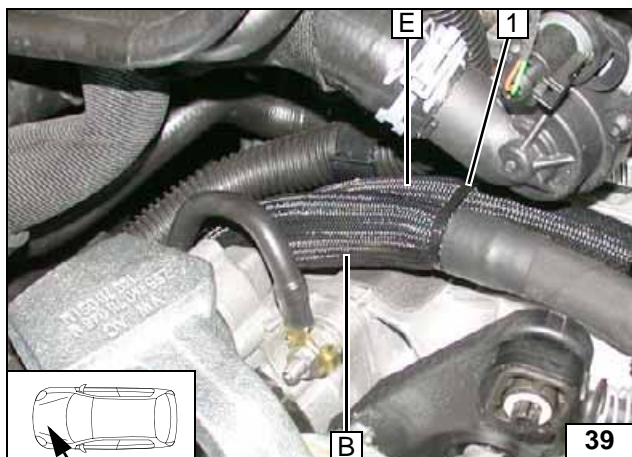


Route hoses **B** and **E** upward in front of the transmission, through rubber-coated p-clamp 1.

- 1 Cable tie



Routing in engine compartment

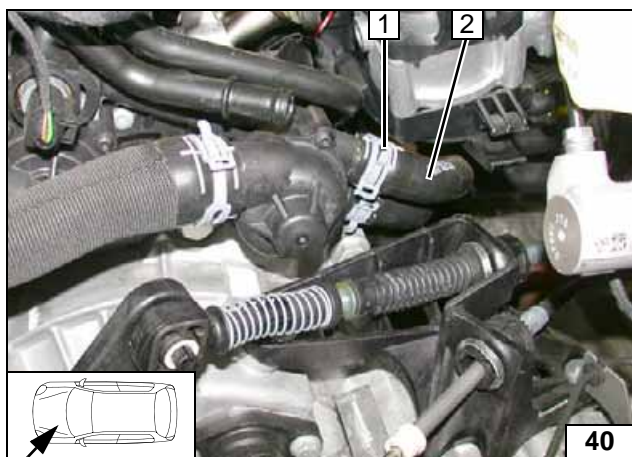


Route hoses **B** and **F** on top of the transmission to the cutting point.

- 1 Cable tie



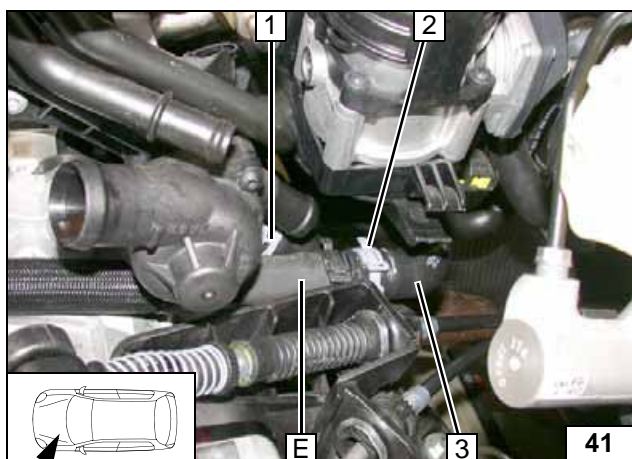
Routing in engine compartment



Pull off hose on engine outlet / heat exchanger inlet **2** from connection piece of engine outlet. Spring clip **1** will be reused.



Cutting point

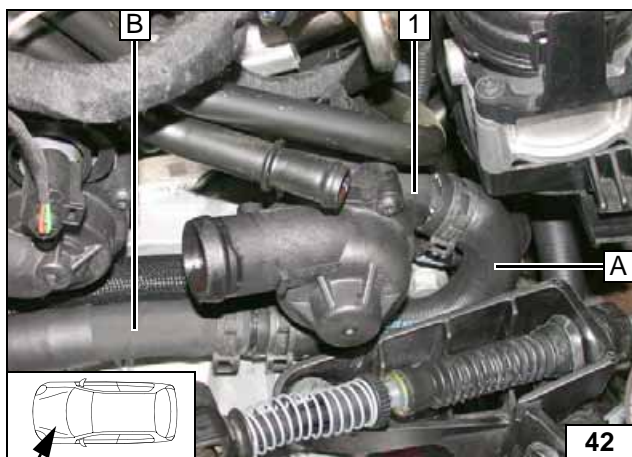


Original vehicle hoses have only been removed for the purpose of better presentation. Align original vehicle spring clip **1**.

- 2 Original vehicle spring clip
- 3 Hose on heat exchanger inlet

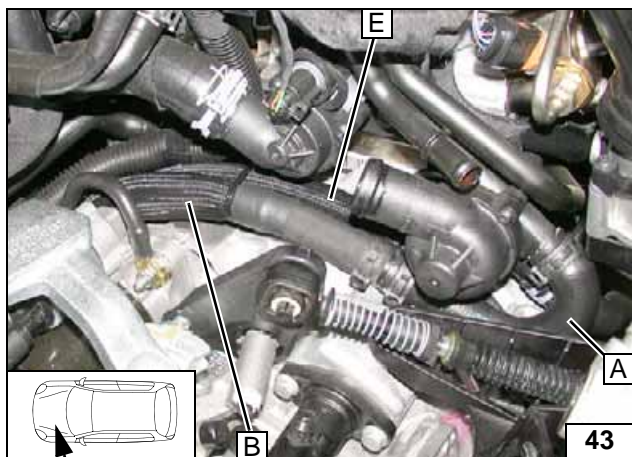


Connection of heat exchanger inlet



- 1 Engine outlet connection piece

Connecting engine outlet



Ensure sufficient distance from neighbouring components, correct if necessary.



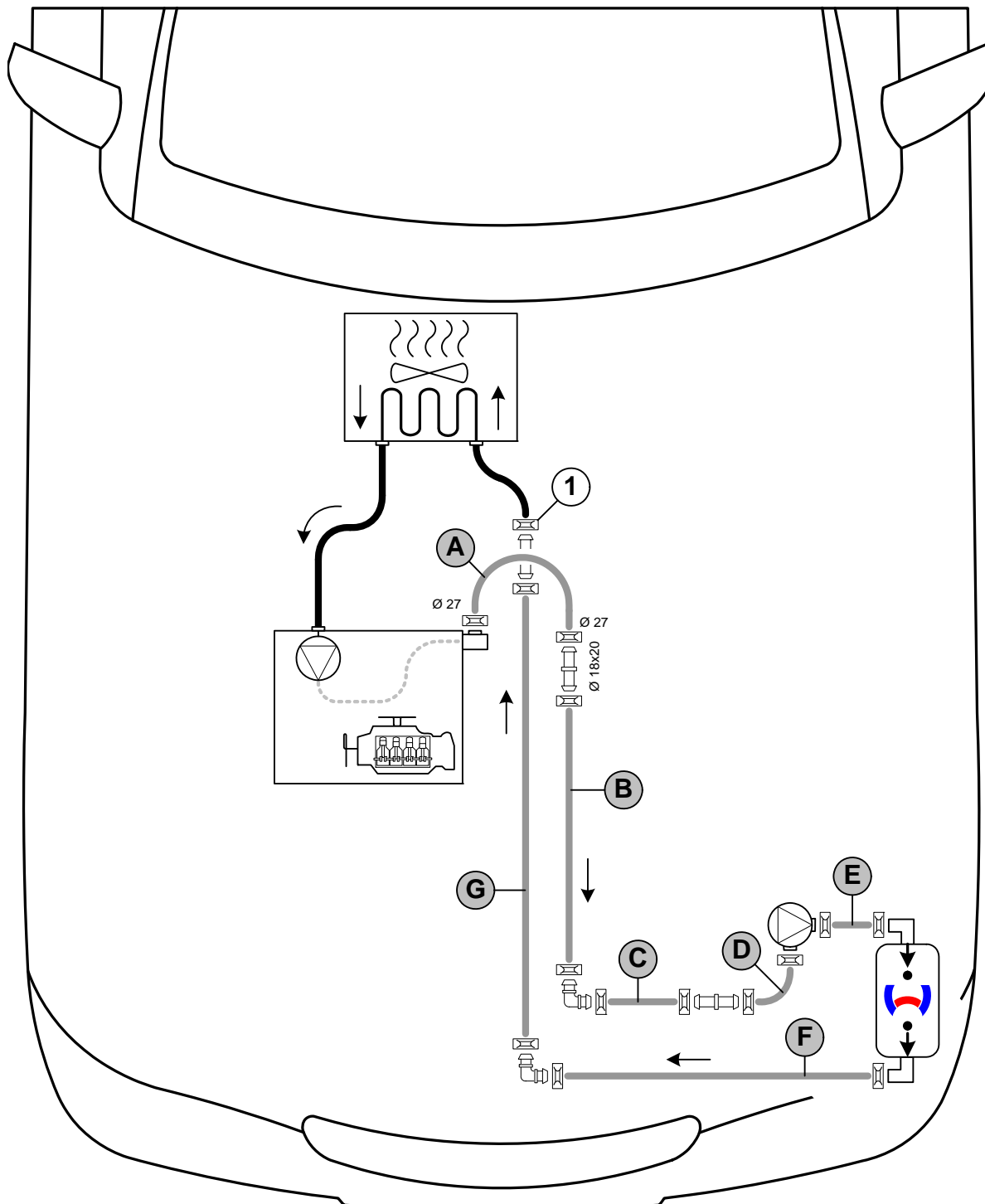
Aligning hoses







118kW Coolant Circuit

WARNING!

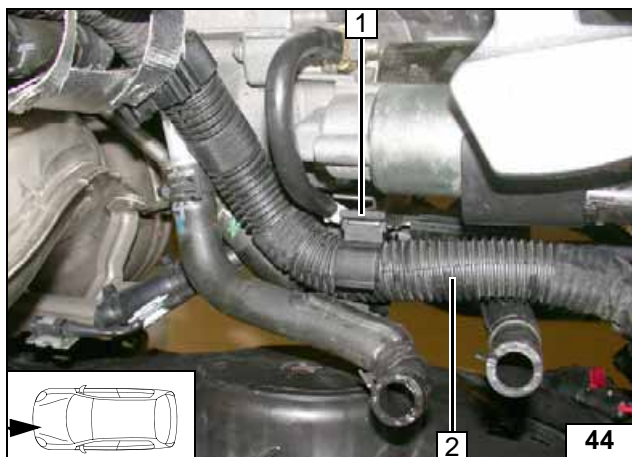
Any coolant running off should be collected in an appropriate container. Install hoses so that they are kink-free. Unless specified otherwise, always fasten using cable ties. Position clamps so that other hoses cannot be damaged. The heater must be filled with coolant when installing the hoses. The connection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



Hose installation diagram

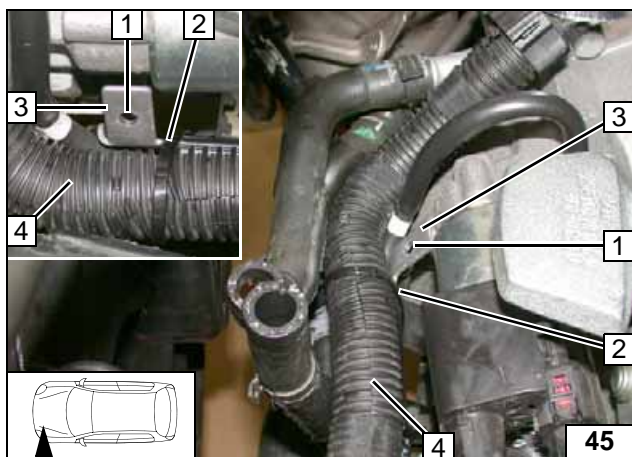
All spring clips without a specific designation  = 25mm dia.
 1 = Original vehicle spring clip .
 All connecting pipes without a specific designation  and  = 18x18mm dia.





- 1 Remove and discard original vehicle retaining clip
- 2 Original vehicle wiring harness

Removing clip

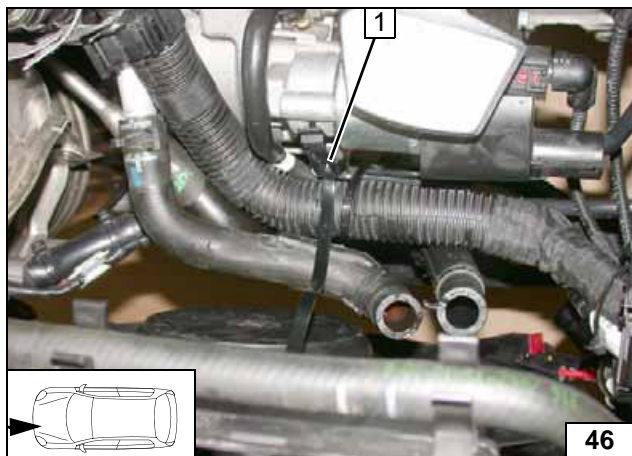


Bend bracket 3 as shown. Drill out hole at position 1 to 6mm dia. Fasten original vehicle wiring harness with cable tie to plug connection.

- 2 Cable tie (see following figure)
- 4 Original vehicle wiring harness

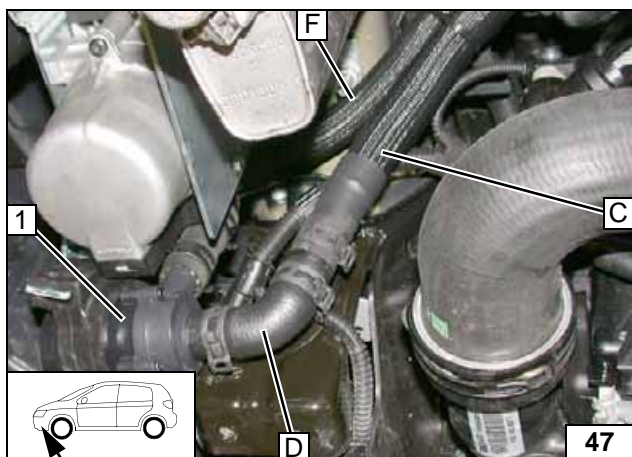


Preparing bracket



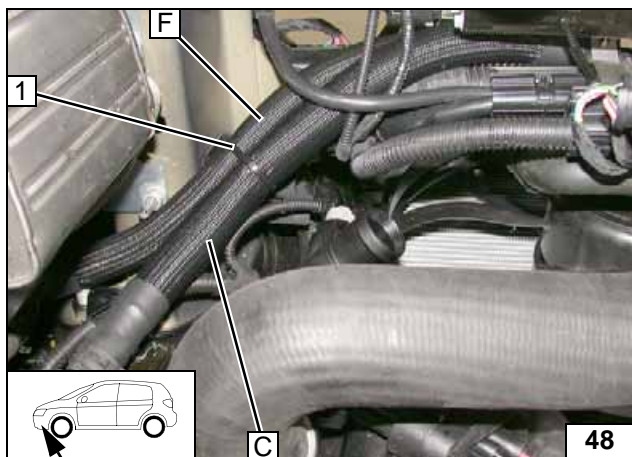
- 1 Clip-type cable tie

Inserting clip-type cable-tie



- 1 Circulating pump

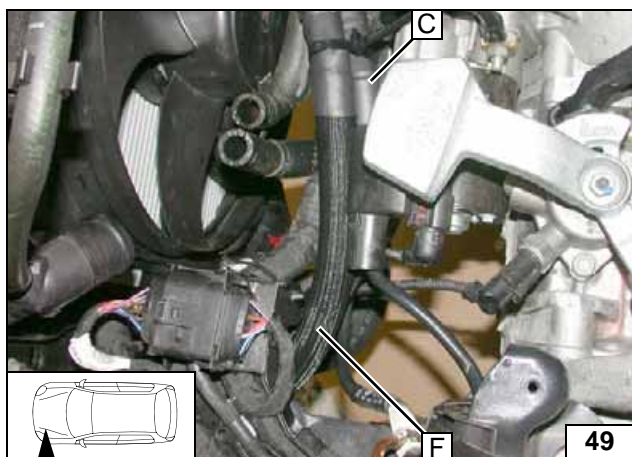
Circulating pump connection



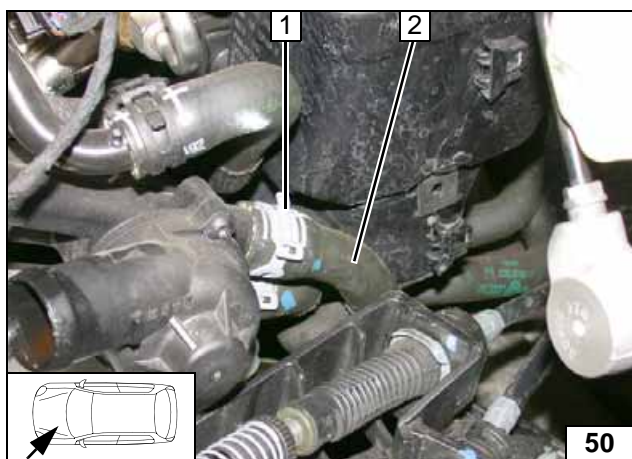
Route hoses **C** and **F** behind the radiator in the upward direction.



Routing in engine compartment



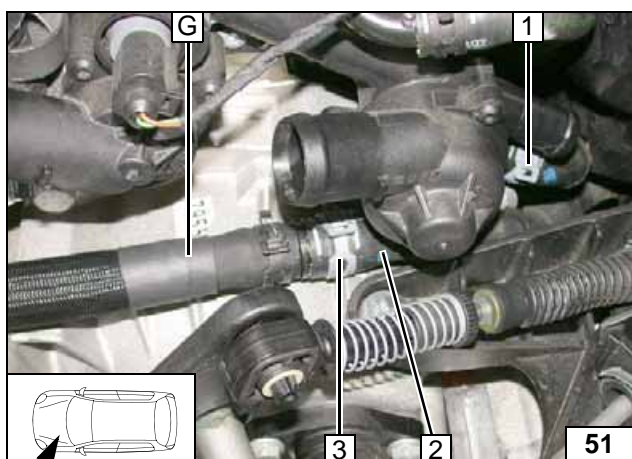
Routing in engine compartment



Pull off hose on engine outlet / heat exchanger inlet **2** from connection piece of engine outlet. Spring clip **1** will be reused.



Cutting point

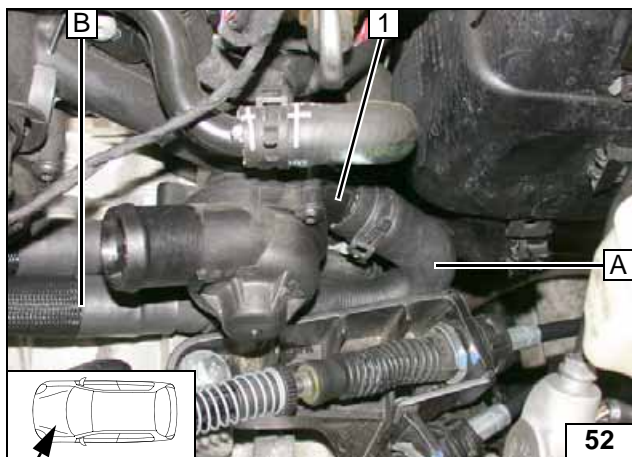


Original vehicle hoses have only been removed for the purpose of better presentation. Align original vehicle spring clip **1**.



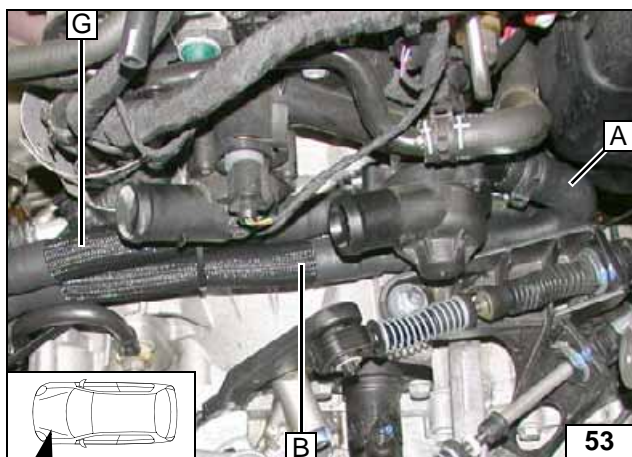
- 2** Hose on heat exchanger inlet
- 3** Original vehicle spring clip

Connection of heat exchanger inlet

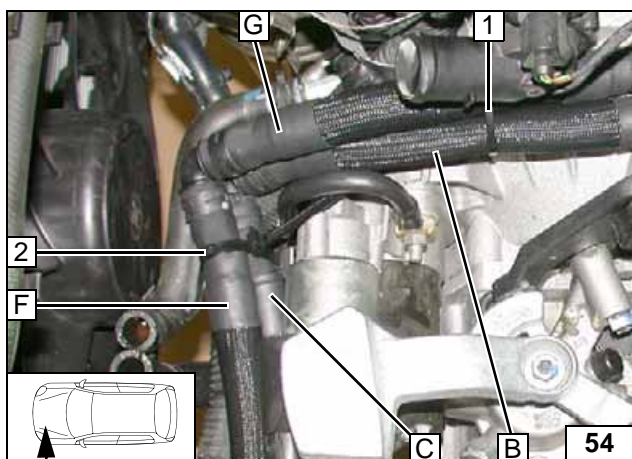


1 Engine outlet connection piece

Connect-
ing engine
outlet



Routing in
engine
compartment

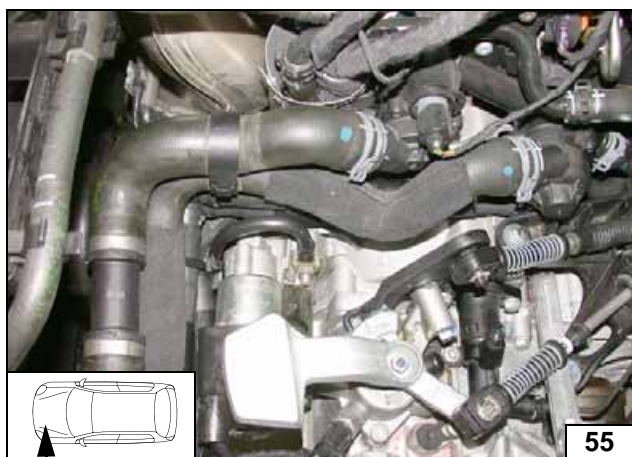


Align hoses. Ensure sufficient distance from neighbouring components, correct if necessary.



- 1 Cable tie
- 2 Close clip-type cable tie

Connect-
ing hoses



Install original vehicle hoses. Ensure sufficient distance from neighbouring components, correct if necessary.



Aligning
hoses



Fuel

CAUTION!

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

Catch any fuel running off in an appropriate container.

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

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 as shown in the wiring harness routing diagram.



Route fuel line and wiring harness of metering pump in 1130mm corrugated tube **1** to firewall.

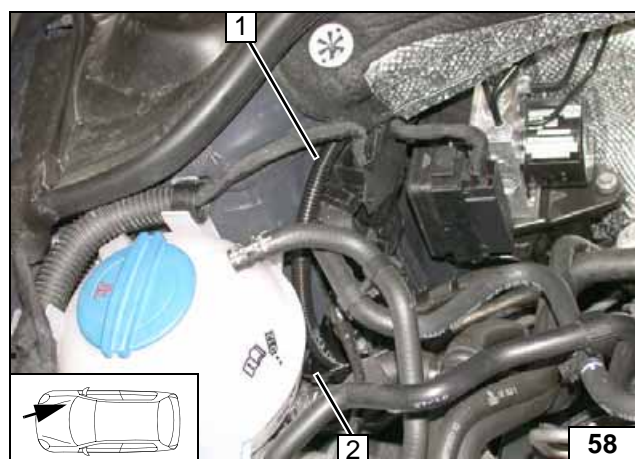
Routing lines



Route fuel line and wiring harness of metering pump **1** to the firewall behind the insulation mat on the right vehicle side.



Routing lines



Cut off approx. 300mm from the 10mm dia. corrugated tube and slide on to fuel line and wiring harness of metering pump. Guide fuel line and wiring harness of metering pump **1** into original vehicle line duct **2** and route to underbody.

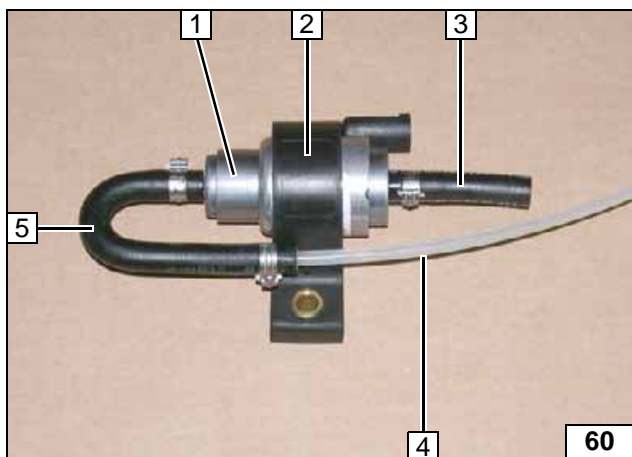


Routing lines



- 1 Fuel line and wiring harness of metering pump
- 2 Original vehicle line duct

Routing lines

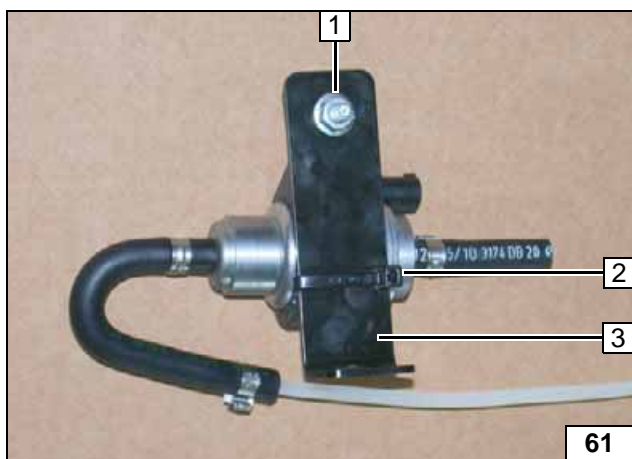


Cut off approx. 600mm from fuel line.

- 1 Metering pump
- 2 Mounting of metering pump
- 3 Hose section, 10mm dia. clamp
- 4 600mm fuel line
- 5 180° moulded hose, 10mm dia. clamp [2x]

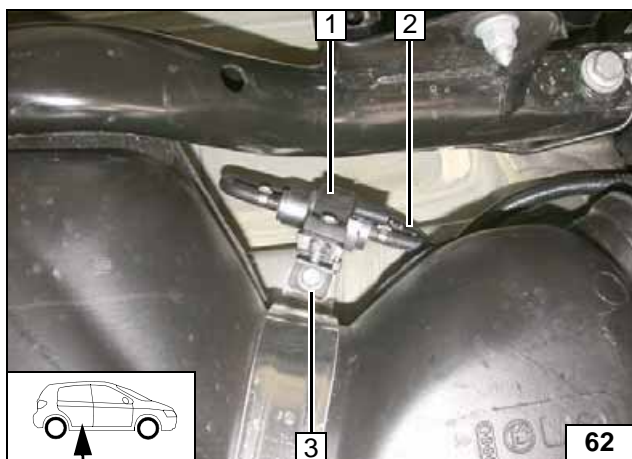


Premounting metering pump



- 1 M6x25 bolt, support angle, flanged nut
- 2 Cable tie
- 3 Bracket of metering pump

Premounting metering pump



Slide approx. 500mm of 10mm dia. corrugated tube 2 onto fuel line.

- 1 Preassembled metering pump
- 3 Original vehicle bolt



Mounting metering pump



**Connect-
ing meter-
ing pump**



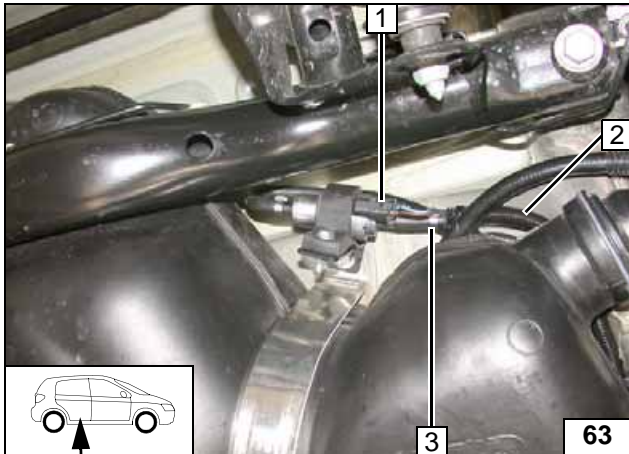
**Fuel ex-
traction**



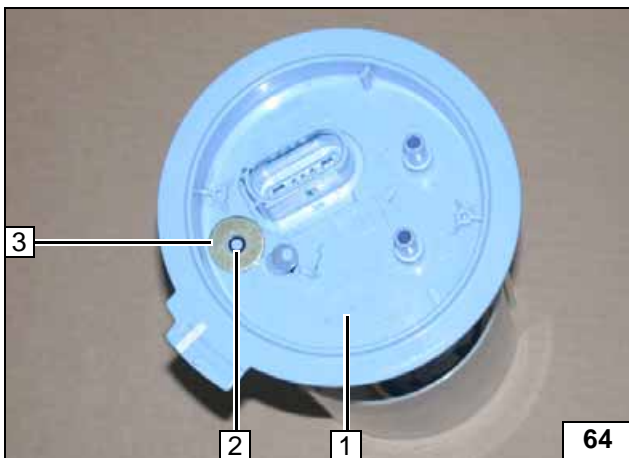
**Installing
fuel stand-
pipe**



**Installing
fuel stand-
pipe**

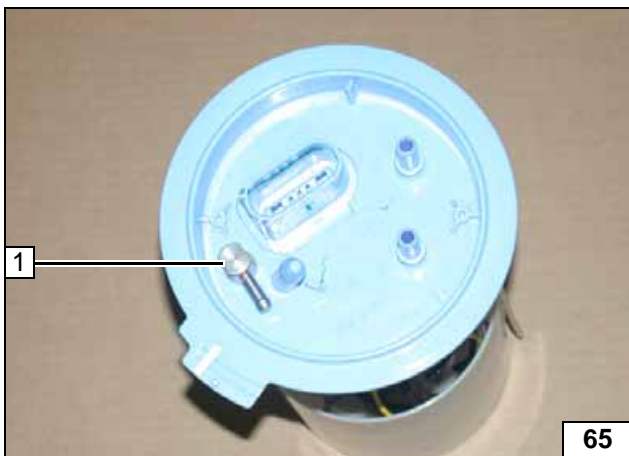


- 1 Wiring harness of metering pump, connector mounted
- 2 Fuel line and wiring harness of metering pump in corrugated tube
- 3 10 mm dia. clamp

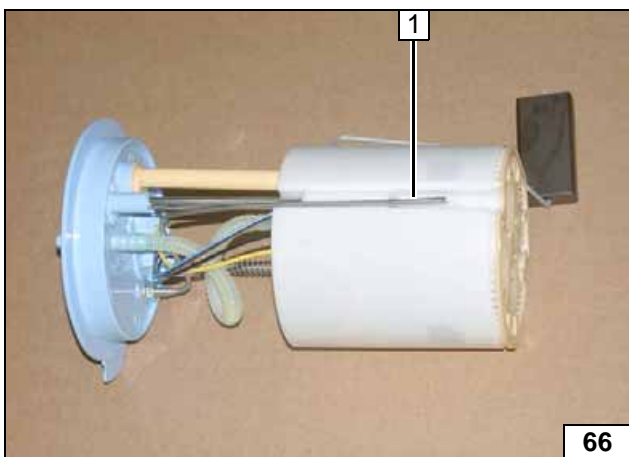


Remove fuel-tank sending unit **1** in accordance with manufacturer's instructions. Position large diameter washer **3** as shown.

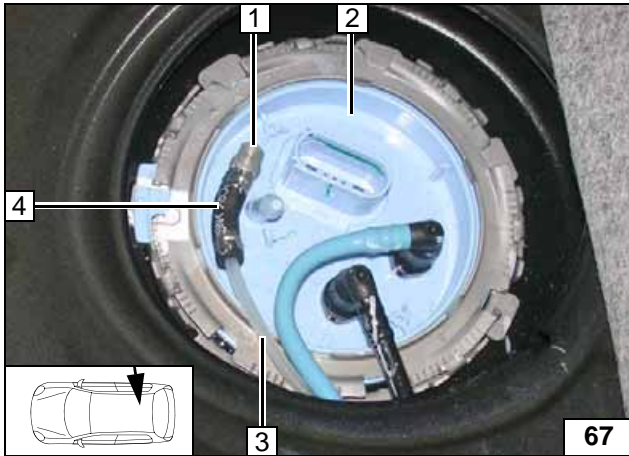
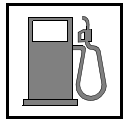
- 2 6 mm dia. hole



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



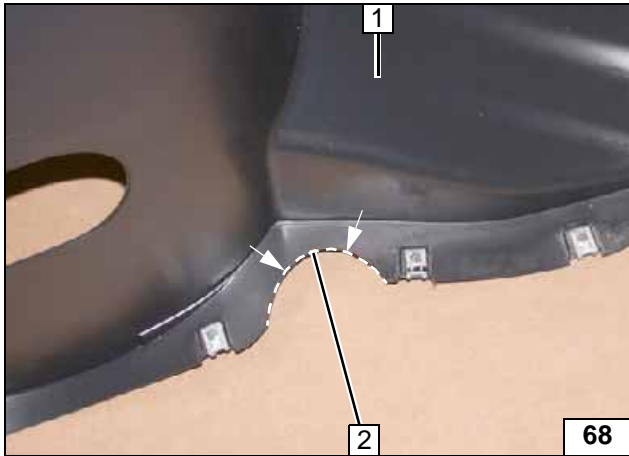
Align fuel standpipe **1** as shown.



Mount fuel-tank sending unit **2** in accordance with manufacturer's instructions. Ensure sufficient spacing between hose section **4** and edge of locking ring.

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

**Mounting
fuel-tank
sending
unit**

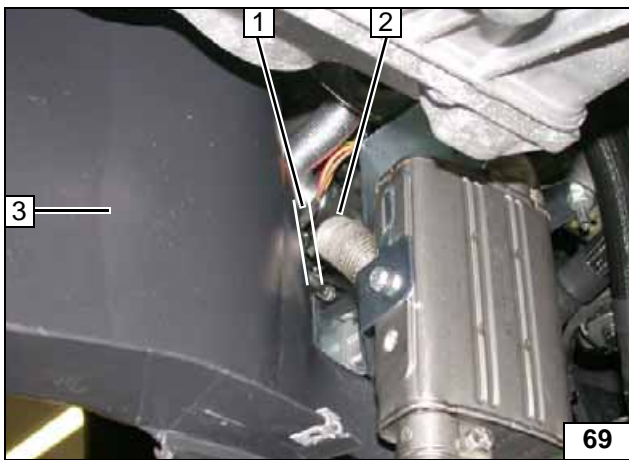


Wheel-Well Inner Panel / Underride Protection

Cut out wheel-well inner panel 1 at the marking 2.



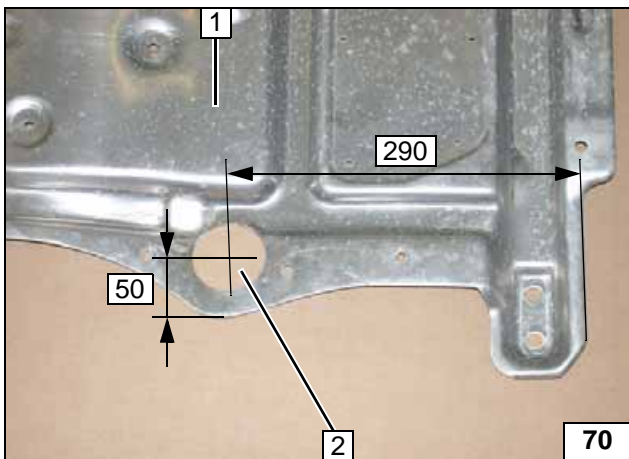
Cutting out wheel-well inner panel



Ensure sufficient distance between wheel-well inner panel 3 and exhaust pipe 2 at position 1 (min. 10mm).



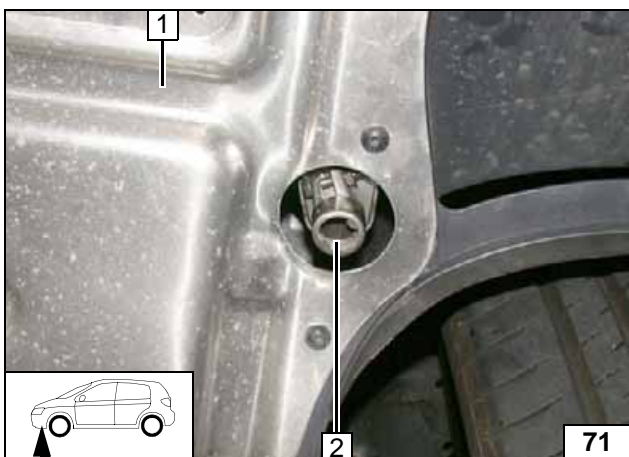
Mounting wheel-well inner panel



- 1 Underride protection
- 2 60mm dia. hole



Cutting out underride protection



Align exhaust end section 2 in centre of hole and flush with underride protection 1.



Aligning exhaust end section



Final Work

WARNING!

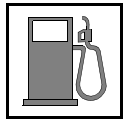
Mount removed parts in reverse order. Check all hoses, clamps and all electrical connections for firm seating. Insulate and tie back all loose lines.

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

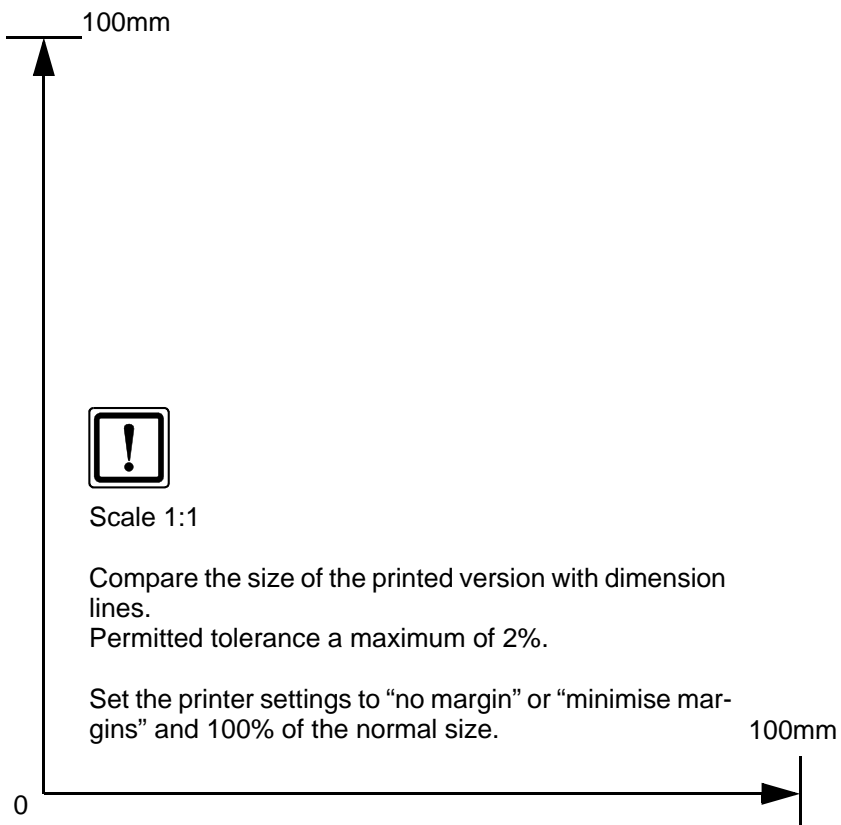
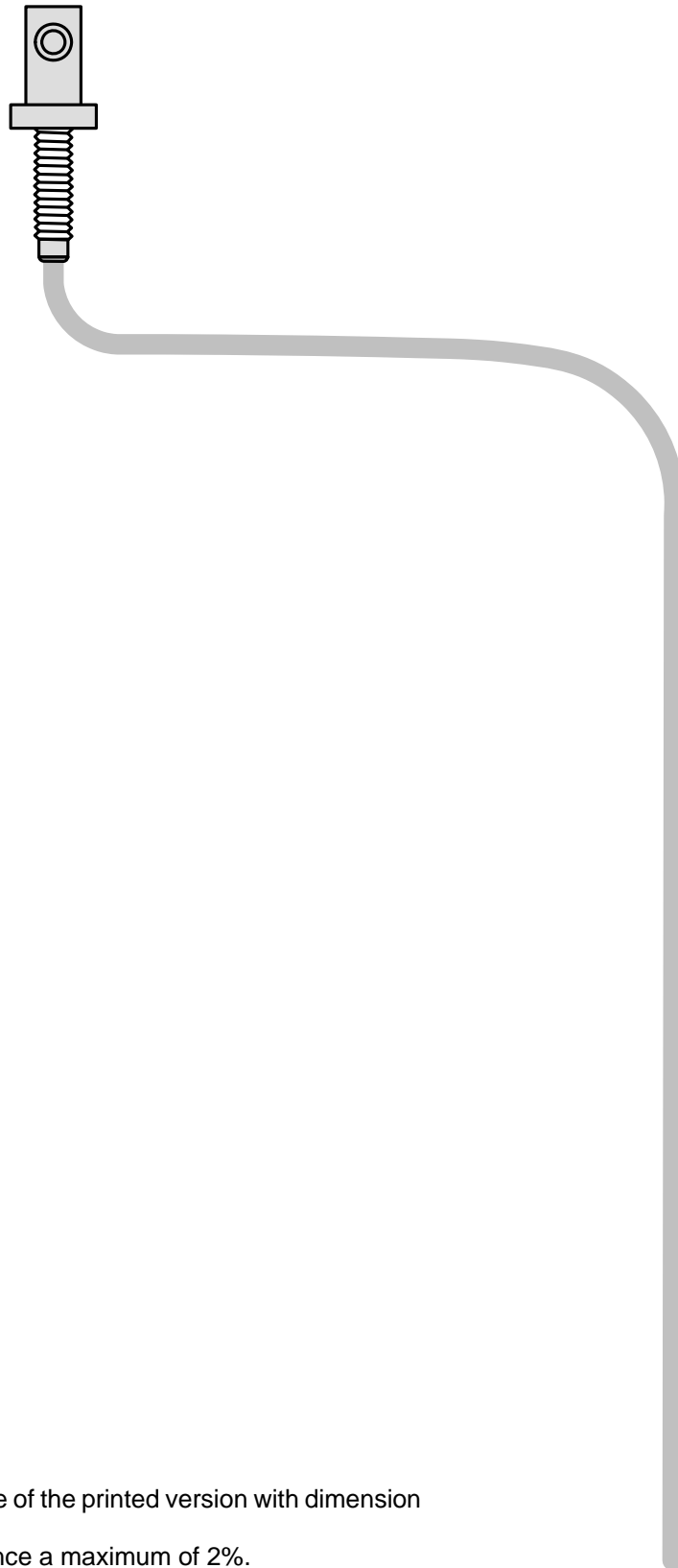


- **Connect the battery.**
- **Fill and bleed the coolant circuit according to the vehicle manufacturer's specifications.**
- **Set digital timer, teach telestart transmitter.**
- **Make settings on A/C control panel according to the "Operating Instructions for End Customer".**
- **Place the "Switch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





Template for Fuel Standpipe



Operating Instructions for Climatic

Please remove this page in case of Climatic and add it to the vehicle operating instructions.

Note:

We recommend matching the heating time to the driving time.

Heating time = driving time

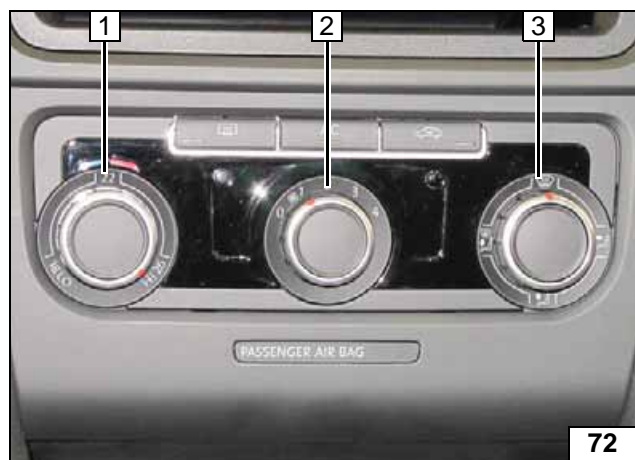
Example:

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

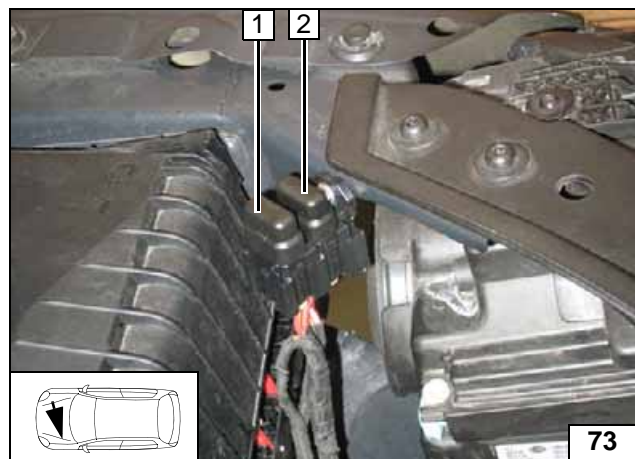
For instructions on deactivation, please refer to the operating instructions of the vehicle.

Before parking the vehicle, make the following settings:



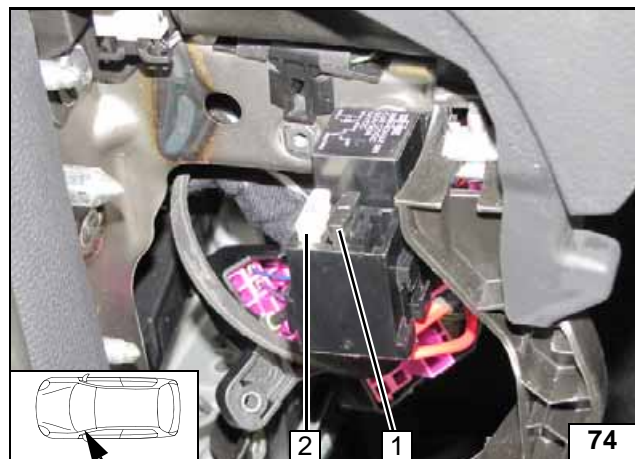
- 1 Set temperature to "max."
- 2 Fan level 1 or 2
- 3 Air outlet to windscreen

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



Operating Instructions for Climatronic

Please remove this page in case of Climatronic 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 unit, if installed, must be deactivated in addition to vehicle settings for the heating operation.

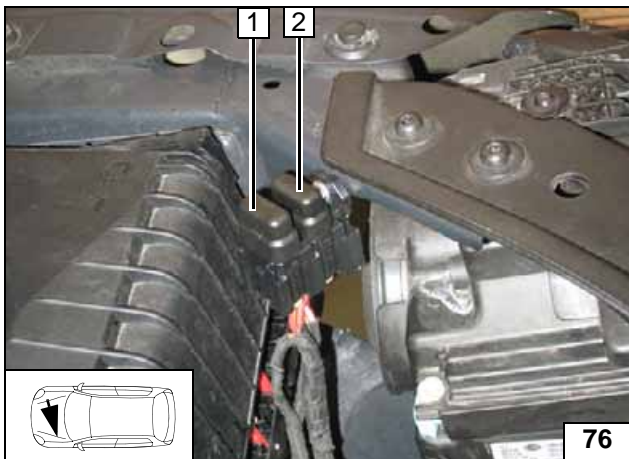
For instructions on deactivation, please refer to the operating instructions of the vehicle.

Before parking the vehicle, make the following settings:



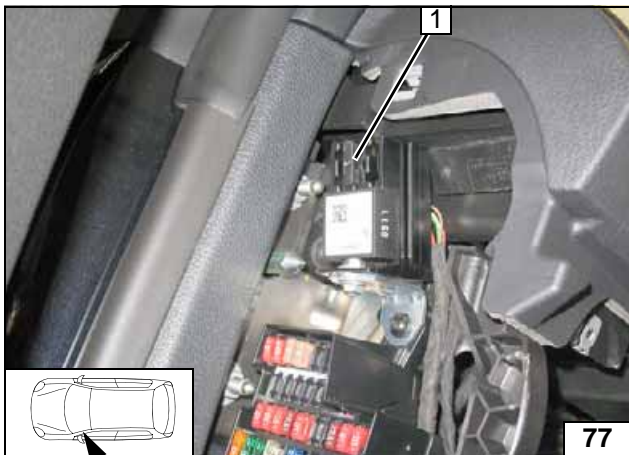
- 1 Air outlet to windscreen
- 2 Set temperature to "HI"

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

Fuses of passenger compartment

