

# Water Heater

## Thermo Top Evo Parking Heater



# Installation Documentation

## Skoda Rapid

### Validity

Manufacturer	Model	Type	EG-BE No. / ABE
Skoda	Rapid	NH	e11 * 2007 / 46 * 0250 * ...

Motorisation	Fuel	Transmission type	Output in kW	Displacement in cm <sup>3</sup>	Engine code
1.2 TSI	Petrol	SG	63	1197	CBZA
1.2 TSI Green tec	Petrol	SG	63	1197	CBZA
1.2 TSI	Petrol	SG	77	1197	CBZB
1.4 TSI	Petrol	DSG	90	1390	CAXA
1.4 TSI Green tec	Petrol	DSG	90	1390	CAXA

SG = manual transmission

DSG = direct gear transmission

**From model year 2013**

**Left-hand drive vehicle**

**Verified equipment variants:** Manual / automatic air-conditioning system

Front fog lights

Headlight washer system

**Not verified:** Passenger compartment monitoring

**Total installation time:** approx. 8.5 hours

# Skoda Rapid

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## Necessary Components

- Basic delivery scope *Thermo Top Evo* according to price list
- Installation kit for Skoda Rapid 2013 Petrol: **1319104E**
- Additionally required in case of automatic A/C: Automatic air-conditioning kit: **1315239C**
- Heater control in accordance with price list and upon consultation with end customer
- In case of Telestart, indicator lamp in accordance with price list and in consultation with end customer

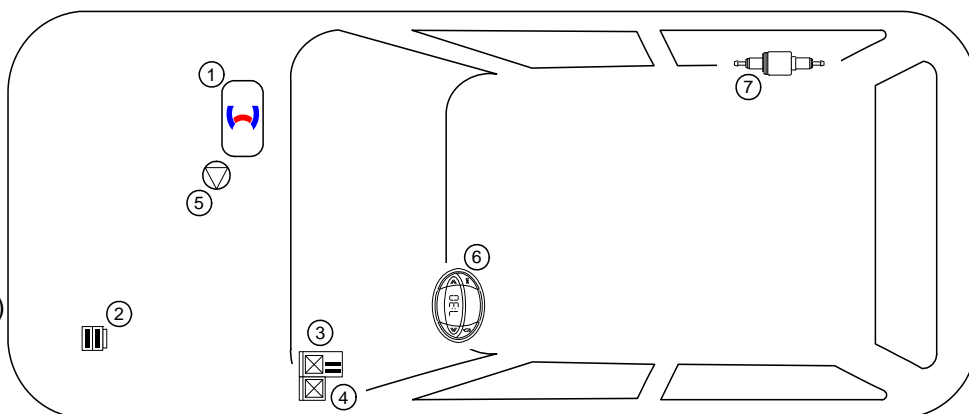
## Installation instructions:

- Arrange for the vehicle to be delivered with the tank only about  $\frac{1}{4}$  full.
- The installation location of the push button in case of Telestart or Thermo Call should be confirmed with the end customer.
- Depending on the space required and the vehicle manufacturer's instructions, we recommend the use of a vehicle battery with a higher electrical capacity.

## Installation Overview

### Legend:

1. Heater
2. Engine compartment fuse holder
3. Passenger compartment relay and fuse holder
4. IPCU (only with automatic A/C)
5. Circulating pump
6. Digital timer
7. Metering pump



## Information on Total Installation Time

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

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

## Information on Operating and Installation Instructions

### 1 Important information (not complete)

#### 1.1 Installation and repair



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



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



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

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

#### 1.2 Operation

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

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

Always switch off the heater before refuelling.

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

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

#### 1.3 Please note

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

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

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

#### Important

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

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

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

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

**Sharp edges should be fitted with rub protection. Spray unfinished body areas, e.g. drilled holes, with anti-corrosion wax (Tectyl 100K).**

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

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

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

### 2 Statutory regulations governing installation

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

#### Note

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

#### Important

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

#### Note

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

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

Beginning of excerpt.

#### ANNEX VII

#### REQUIREMENTS FOR COMBUSTION HEATERS AND THEIR INSTALLATION

##### 1. GENERAL REQUIREMENTS

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

##### 2. VEHICLE INSTALLATION REQUIREMENTS

###### 2.1. Scope

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

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

###### 2.2. Positioning of heater

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

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

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

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

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

###### 2.3. Fuel supply

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

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

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

###### 2.4. Exhaust system

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

###### 2.5. Combustion air inlet

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

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

###### 2.6. Heating air inlet

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

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

###### 2.7. Heating air outlet

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

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

End of excerpt.

In multilingual versions the German language is binding.

# Skoda Rapid

## Information on Validity

This installation instruction applies to Skoda Rapid Petrol vehicles - for validity see page 1 - from model year 2013 and later, assuming technical modifications to the vehicle do not affect installation, any liability claims excluded. Depending on the vehicle version and equipment, modifications may be necessary during installation with respect to this 'installation documentation'.

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

## Technical Information

### Special Tools

- Hose clamp pliers for auto-tightening hose clamps
- Hose clamp pliers for Clic hose clamps of type W
- Automatic wire stripper 0.2 - 6mm<sup>2</sup>
- Crimping pliers for cable lug / tab connector 0.5 - 6mm<sup>2</sup>
- Torque wrench for 2.0 - 10 Nm
- Hose clamping pliers
- Metric thread-setter kit
- Deep-hole marker
- Webasto Thermo Test Diagnosis with current software

### Dimensions

- All dimensions are in mm.





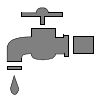

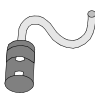






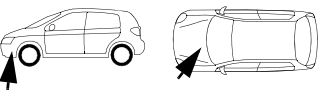

### Tightening torque values

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

## Explanatory Notes on Document

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

Special features are highlighted using the following symbols:

<b>Mechanical System</b>		<b>Specific risk of injury or fatal accidents.</b>	
<b>Electrical System</b>		<b>Specific risk due to electrical voltage.</b>	
<b>Coolant Circuit</b>		<b>Specific risk of damage to components.</b>	
<b>Combustion Air</b>		<b>Specific risk of fire and explosion.</b>	
<b>Fuel</b>		<b>Reference to general installation instructions of the Webasto components or to the manufacturer's vehicle-specific documents.</b>	
<b>Exhaust Gas</b>		<b>Reference to a special technical feature.</b>	
<b>Software</b>		<b>The arrow in the vehicle icon indicates the position on the vehicle and the viewing angle.</b>	
		<b>Tightening torque according to the manufacturer's vehicle-specific documents.</b>	

# Skoda Rapid

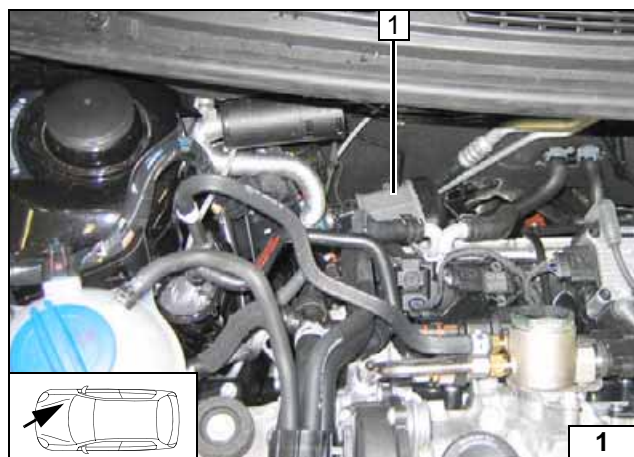
## Preliminary Work

### Vehicle

- Open the fuel tank cap.
- Ventilate the fuel tank.
- Close the fuel tank cap again.
- Depressurise the cooling system.
- Disconnect the battery.
- Remove the windscreen wiper.
- Remove the coolant reservoir cap.
- Remove the coolant reservoir partition wall.
- Remove the windscreen wiper motor.
- Remove the air filter completely, together with the intake hose.
- Remove the air intake bridge completely in accordance with the manufacturer's instructions (only in case of 1.4 TSI).
- Remove the underride protection.
- Remove the right vehicle underbody trim.
- Fold up the seating surface of the rear bench seat.
- Open the tank-fitting service lid.
- Remove the fuel tank sending unit in accordance with the manufacturer's instructions.
- Detach the central electrical box under the steering column.
- Remove the side instrument panel trim on the left.
- Remove the A/C control panel (only with automatic air-conditioning).

### Heater

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



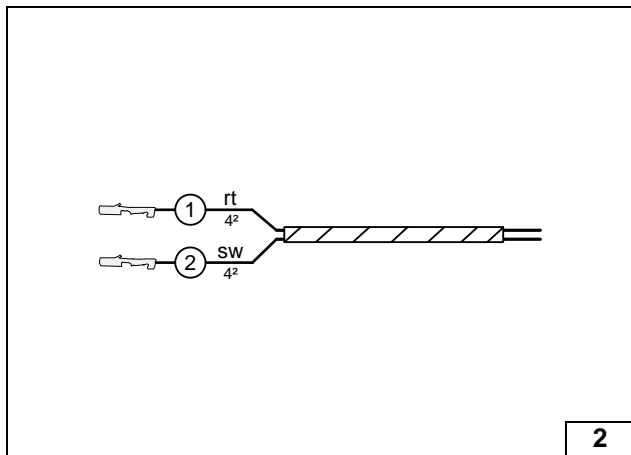
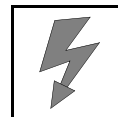
### Heater Installation Location

Figure shows 1.2 TSI.

1 Heater



**Installation  
location**



### Preparing Electrical System

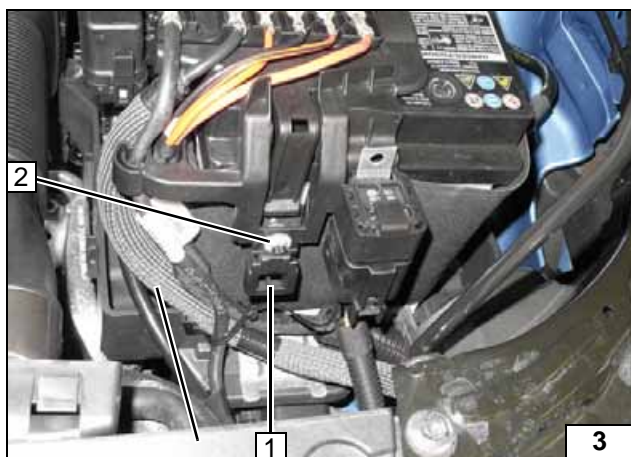
Wire sections retain their numbering in the entire document.

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

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



### Assigning wires

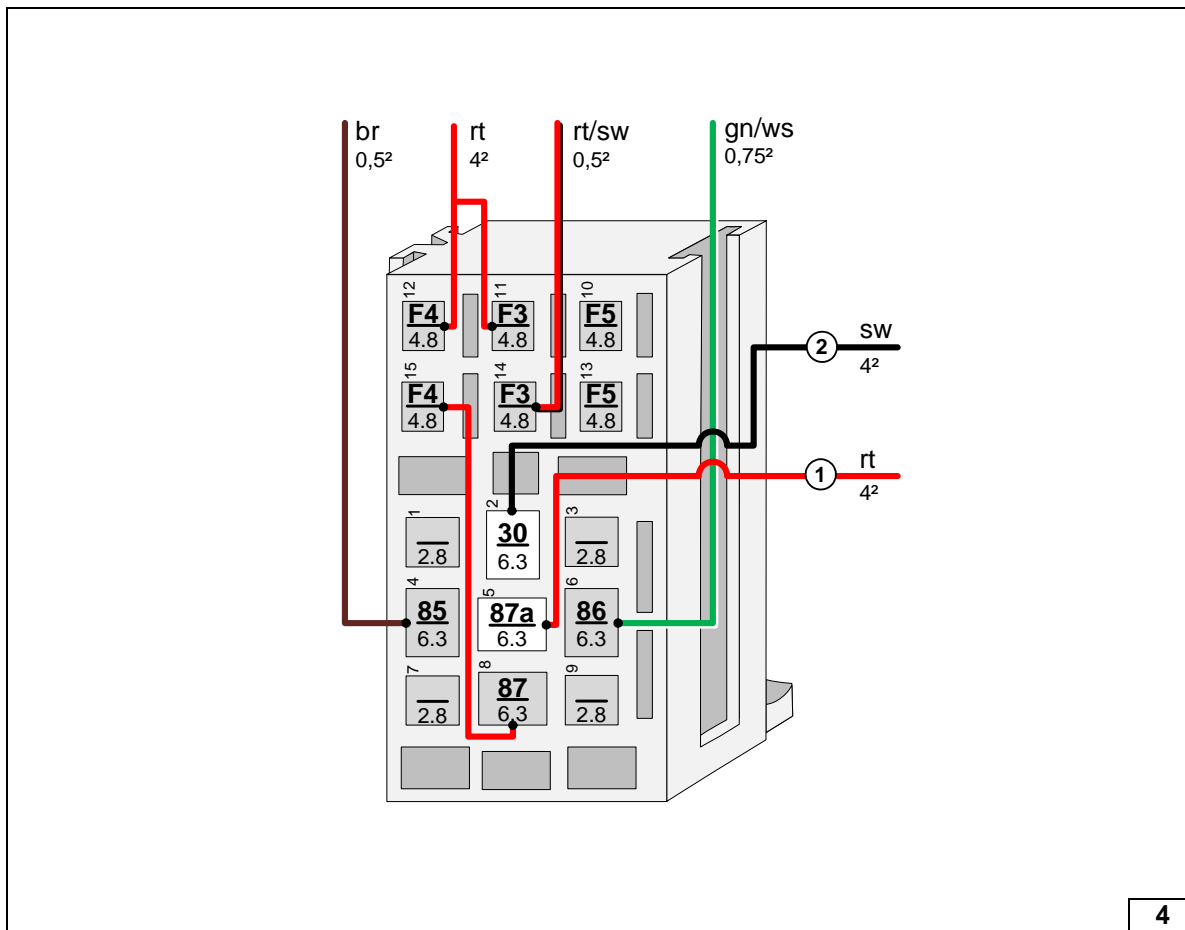


5.5 mm dia. hole at position 2. When drilling, watch components located behind!

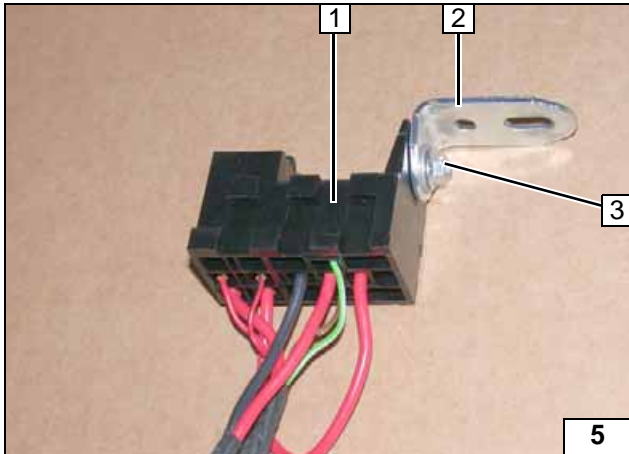
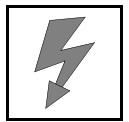
- 1 Retaining plate of engine compartment fuse holder
- 2 M5x16 bolt, large diameter washer [2x], nut



### Installing retaining plate

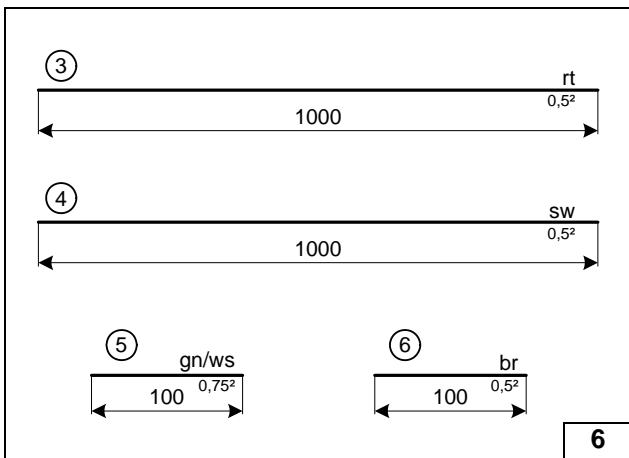


### Connecting wires to passenger compartment relay and fuse holder



- 1 Passenger compartment relay and fuse holder
- 2 Angle bracket
- 3 M5x16 bolt, large diameter washer [2x], nut

**Premounting relay and fuse holder**

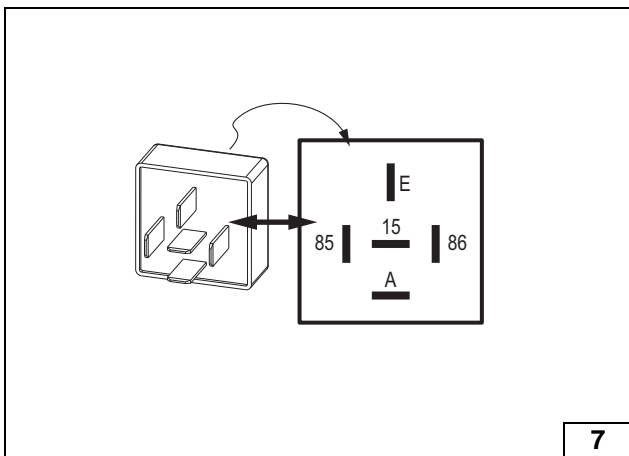


**Automatic air-conditioning**

Pull wire sections ③ and ④ into provided protective sleeving.



**Assigning wires**



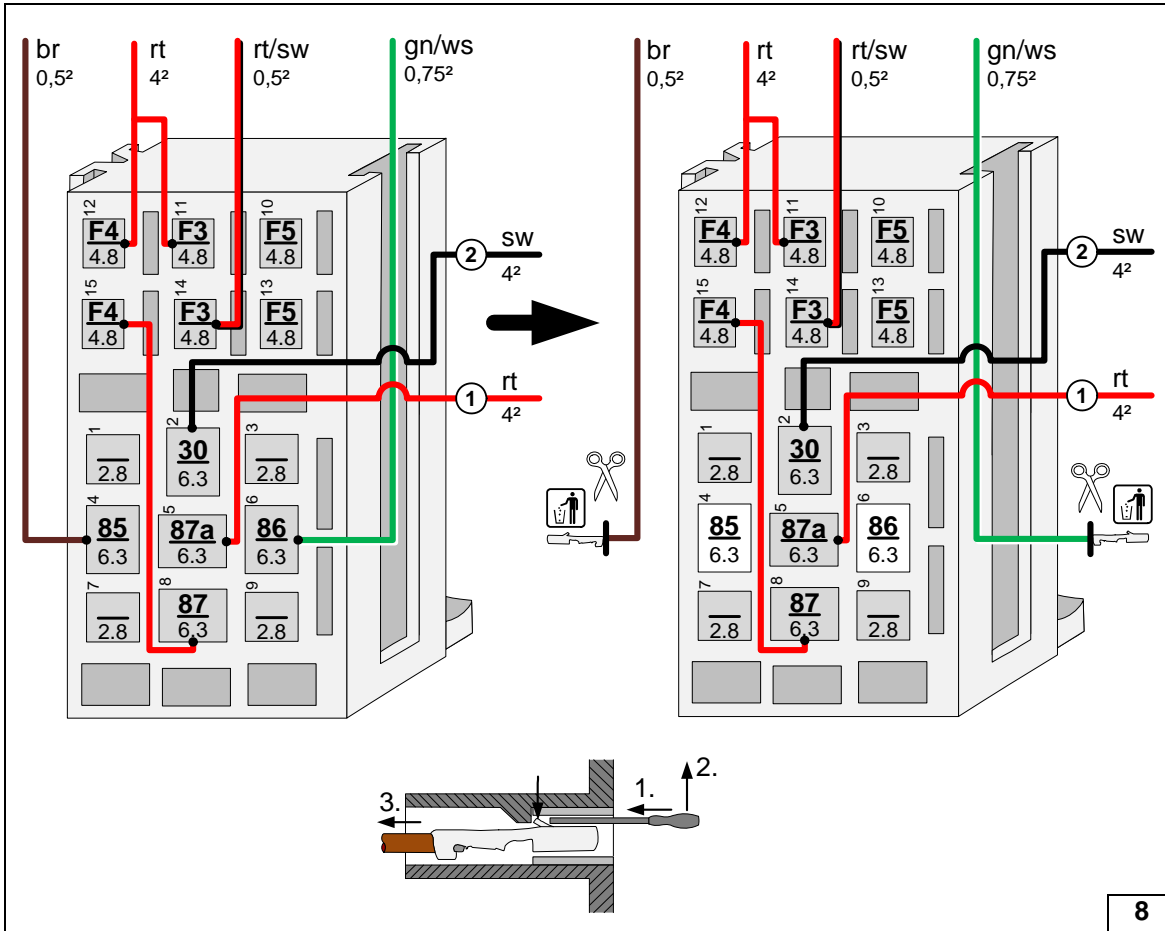
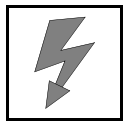
Check the IPCU settings when starting up the heater and adjust if necessary.

Settings:

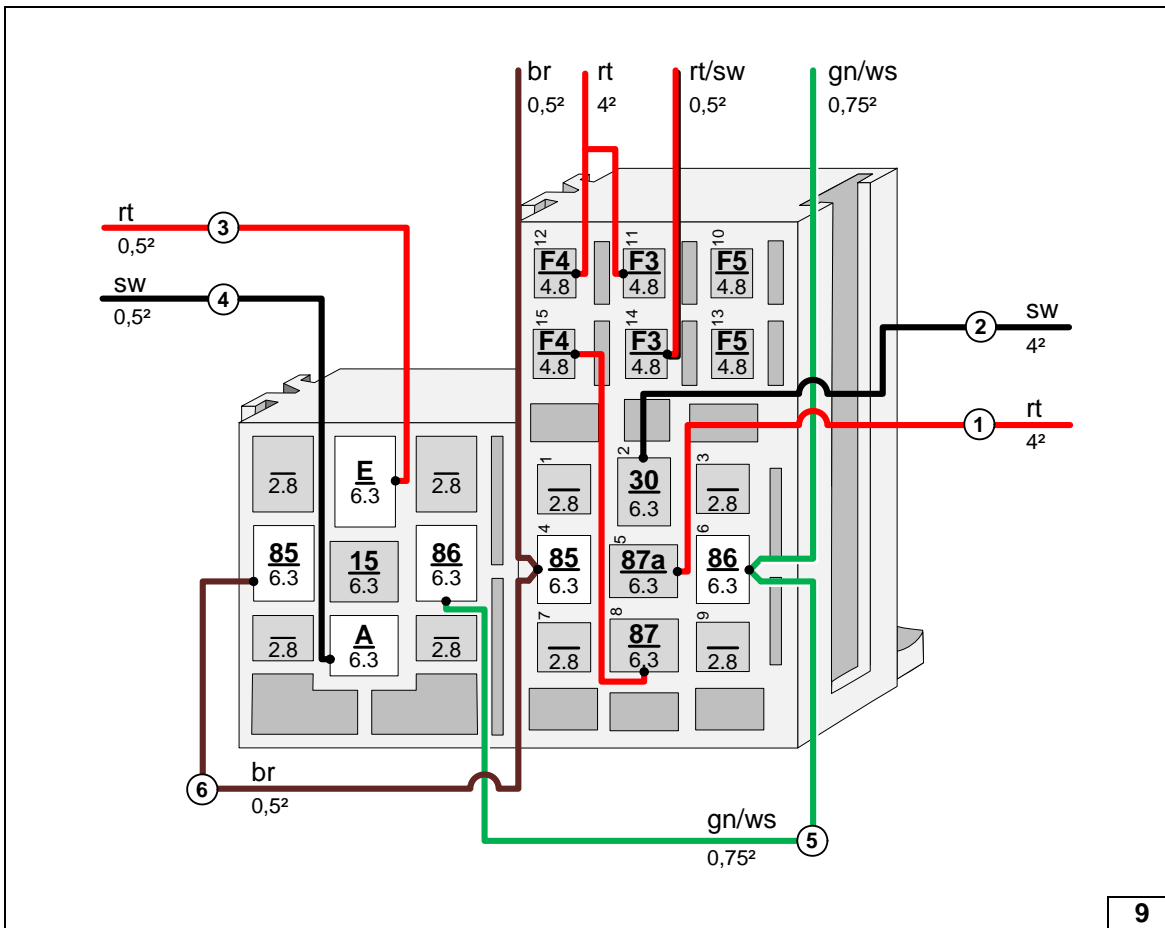
- Duty cycle: 100%
- Frequency: not relevant
- Voltage: 3.6V
- Function: High side



**Checking IPCU**



Preparing passenger compartment relay and fuse holder



Interlocking socket of IPCU and relay and fuse holder of passenger compartment and connecting wires

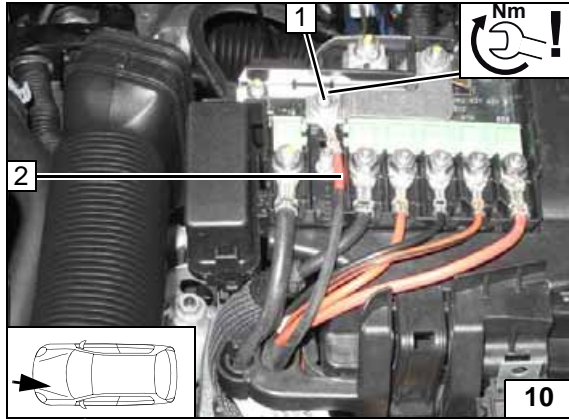




Electrical System

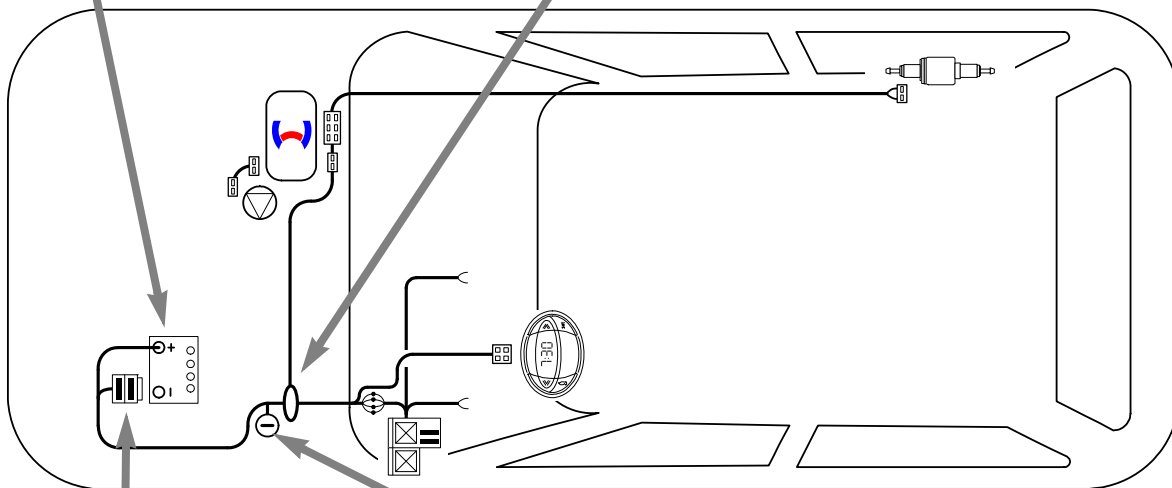
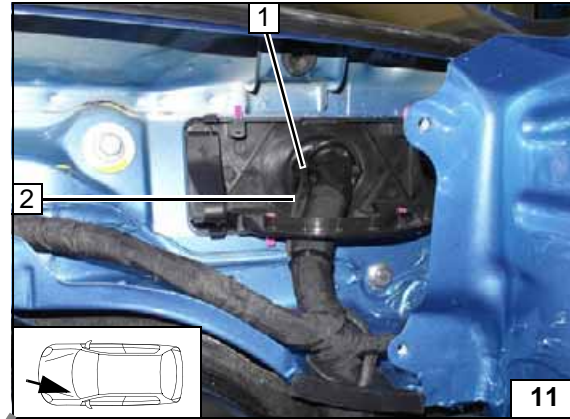
Positive wire

- 1 Positive distributor of battery
- 2 Positive wire

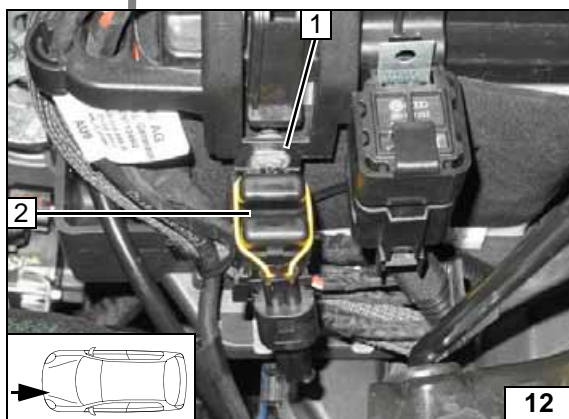


Passenger compartment wiring harness pass through

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

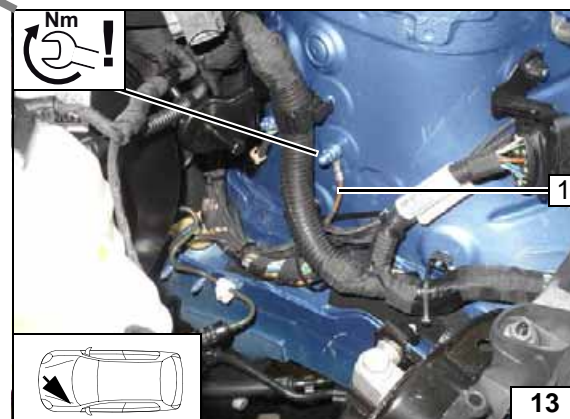


Wiring harness routing diagram



Engine compartment fuse holder

- 1 Retaining plate of fuse holder
- 2 Fuses F1-2 installed



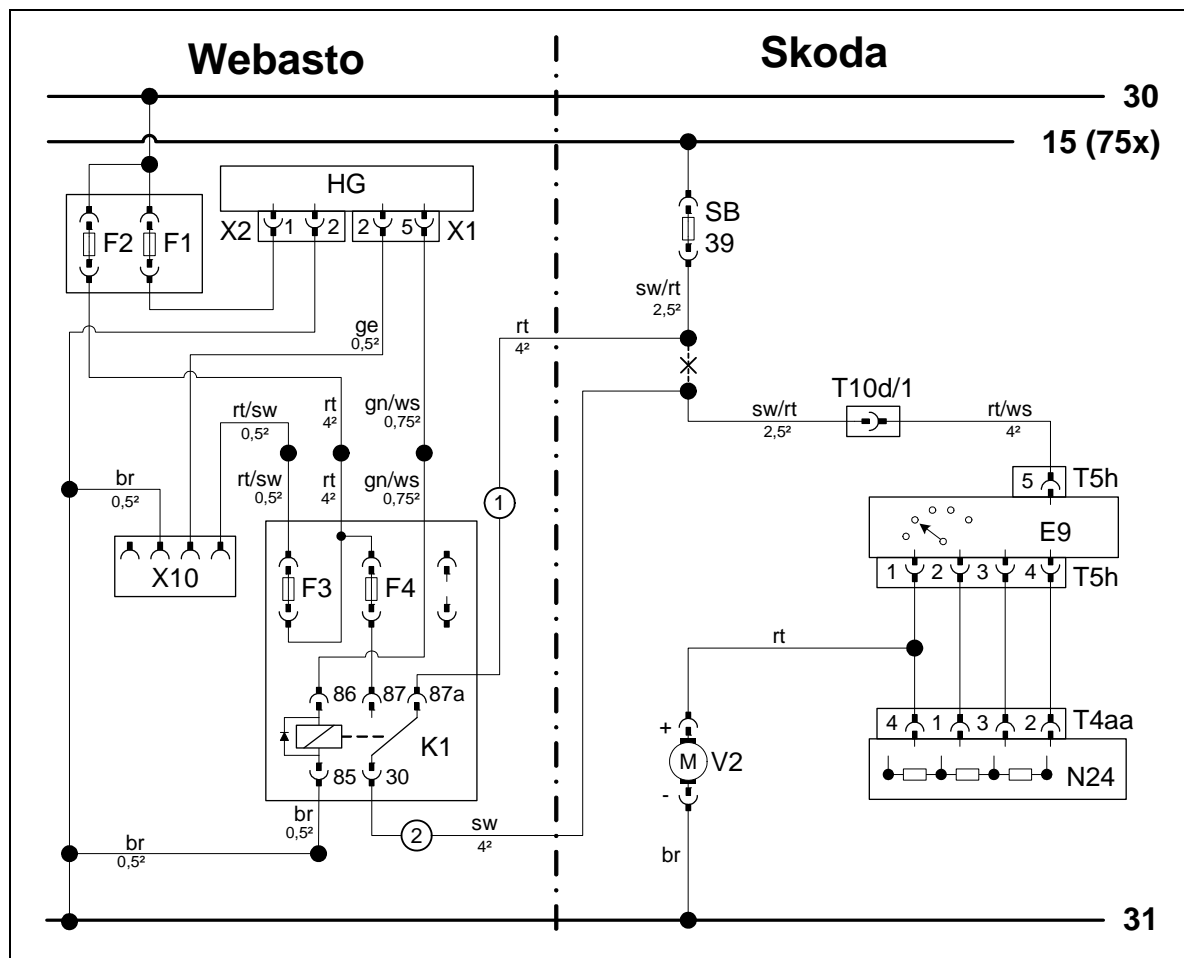
Earth wire

- 1 Earth wire on original vehicle earth support point





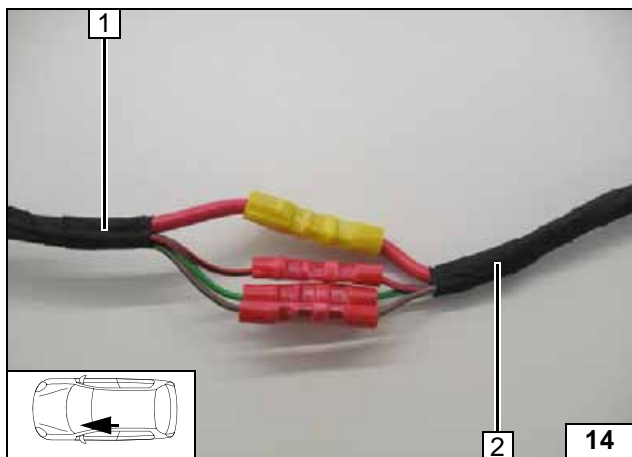
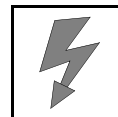
Manual Air-Conditioning Fan Controller



Wiring diagram

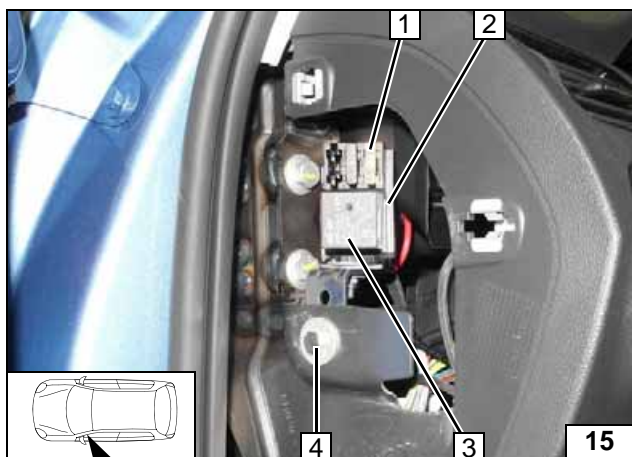
Webasto components		Vehicle components		Colours and symbols	
HG	TT-Evo heater	SB39	30A fuse	rt	red
X1	6-pin heater connector	T...	Connector	ws	white
X2	2-pin heater connector	E9	Switch unit	sw	black
F1	20A fuse	V2	Fan motor	br	brown
F2	30A fuse	N24	Resistor group	gn	green
X10	4-pin connector of heater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

Legend



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

Connecting same colour wires of wiring harnesses

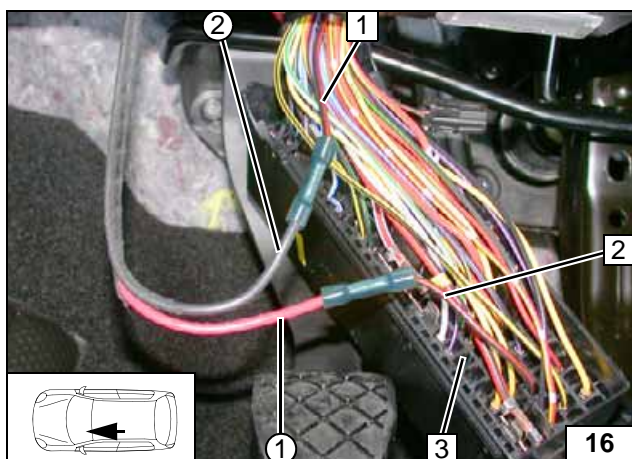


Insert 10 mm shim between body and angle bracket at position 4.

- 1 25A fuse F4
- 2 Passenger compartment relay and fuse holder
- 3 K1 relay
- 4 M6x25 bolt, large diameter washer, existing hole, 10mm shim, angle bracket, flanged nut

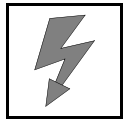


Installing passenger compartment relay and fuse holder

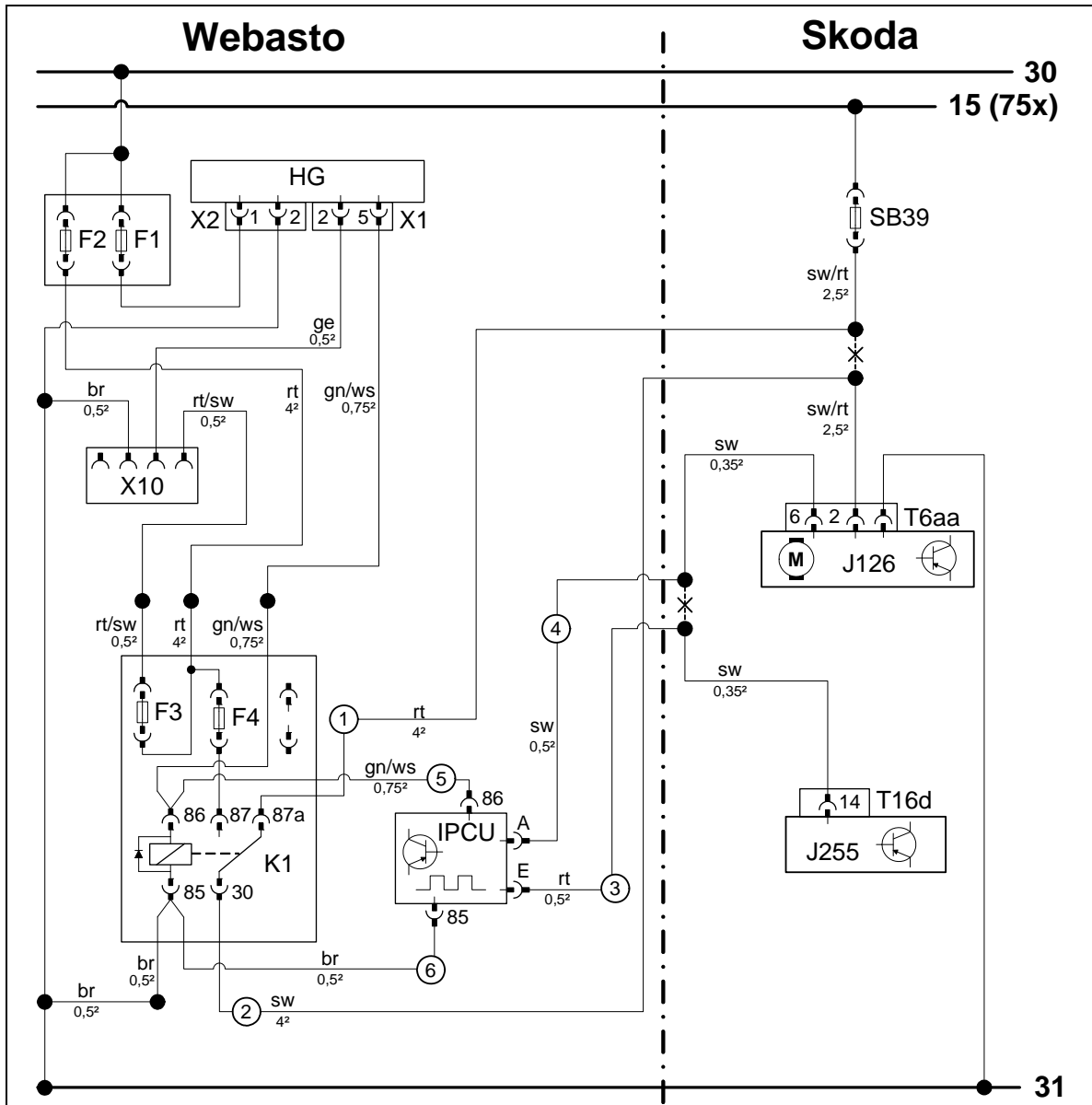


- 1 Black/red (sw/rt) wire of fan unit
- 2 Black/red (sw/rt) wire of fuse SB39
- 3 Passenger compartment fuse carrier
- ① Red (rt) wire of K1/87a, fan wiring harness
- ② Black (sw) wire of K1/30, fan wiring harness

Connecting passenger compartment fuse carrier



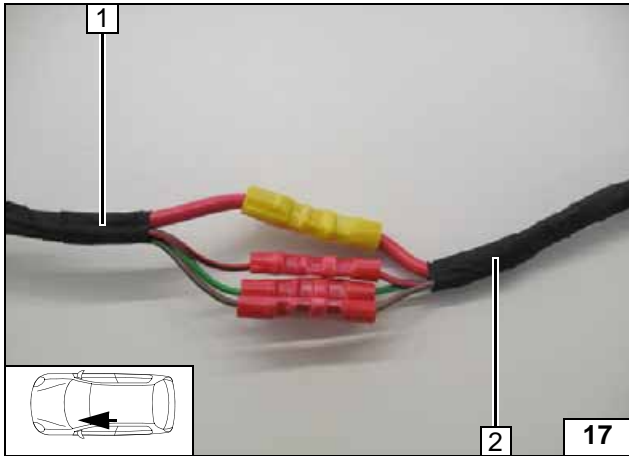
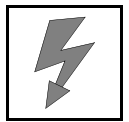
Fan Controller for Automatic Air-Conditioning



Wiring diagram

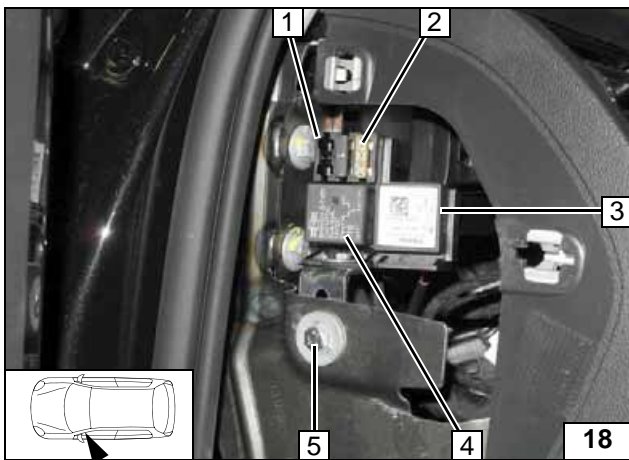
Webasto components		Vehicle components		Colours and symbols	
HG	TT-Evo heater	SB39	30A fuse	rt	red
X1	6-pin heater connector	T...	Connector	ws	white
X2	2-pin heater connector	J126	Fan unit	sw	black
F1	20A fuse	J255	A/C control panel	br	brown
F2	30A fuse			gn	green
X10	4-pin connector of heater control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

Legend



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

Connecting same colour wires of wiring harnesses

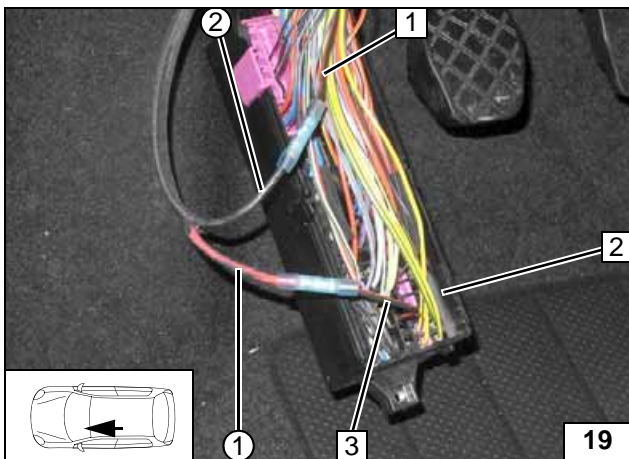


Insert 10 mm shim between body and angle bracket at position 5.



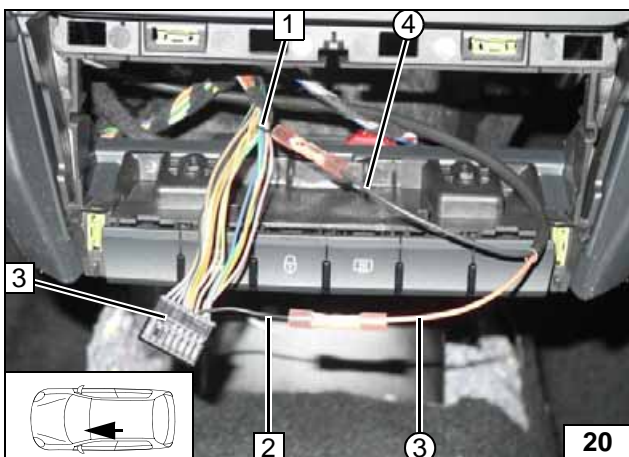
- 1 Passenger compartment relay and fuse holder
- 2 25A fuse F4
- 3 IPCU
- 4 K1 relay
- 5 M6x25 bolt, large diameter washer, existing hole, 10mm shim, angle bracket, flanged nut

Installing passenger compartment relay and fuse holder



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

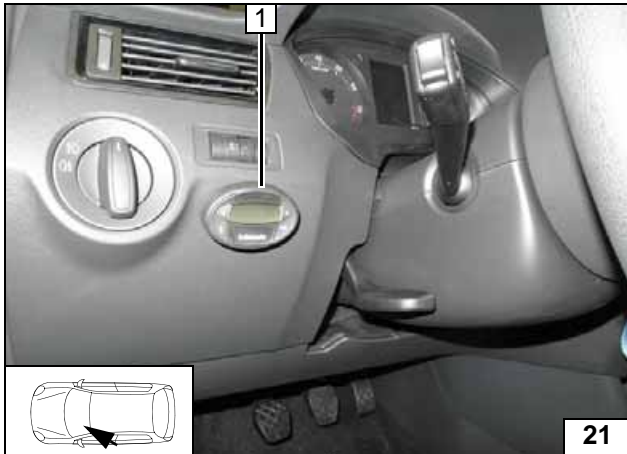
Connecting passenger compartment fuse carrier



- 1 Black (sw) wire from T6aa, pin 6
- 2 Black (sw) wire from connector T16d, pin 14
- 3 Connector from A/C control unit
- ③ Red (rt) wire of IPCU/E
- ④ Black (sw) wire of IPCU/A

Connecting A/C control unit



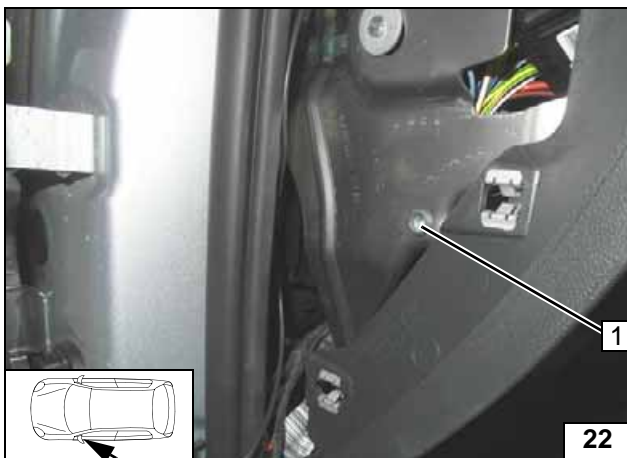


**Digital Timer**

- 1 Digital timer



**Installing digital timer**

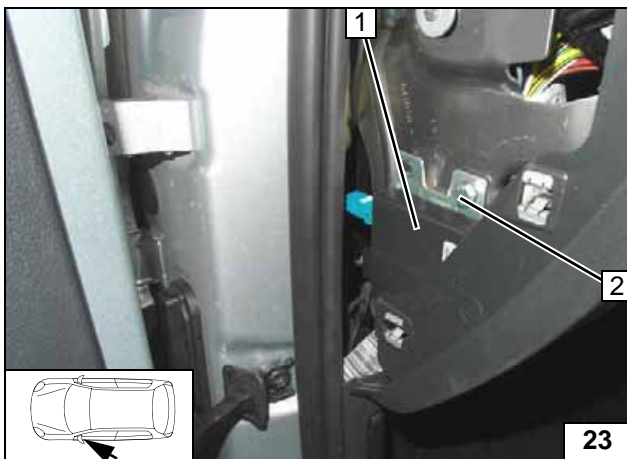


**Remote Option (Telestart)**

- 1 Rivet nut in existing hole



**Installing rivet nut**

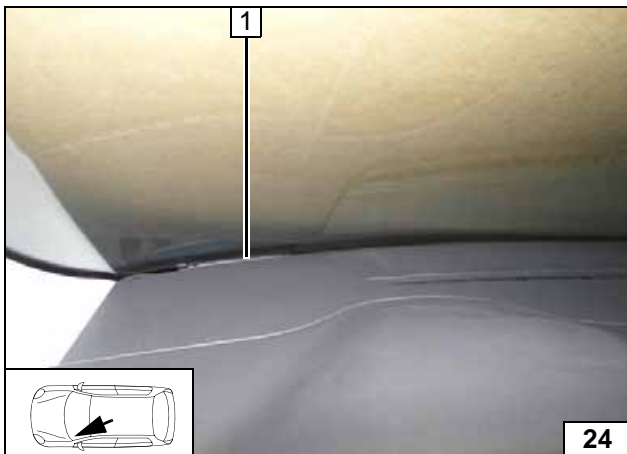


Drill out hole in bracket at position 2 to 6.5 mm dia.

- 1 Receiver
- 2 M6x20 bolt, spring lockwasher, bracket

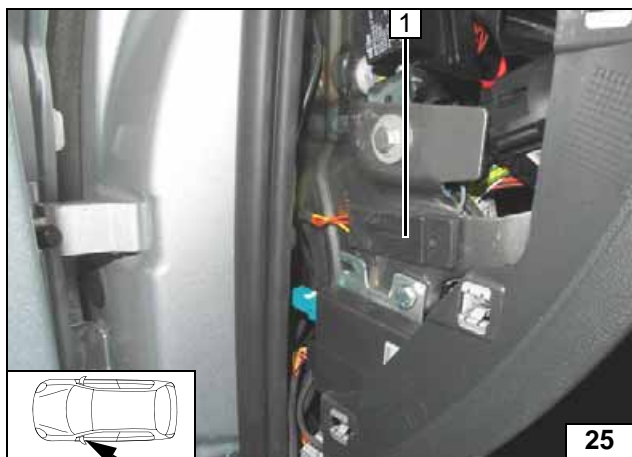


**Installing receiver**



- 1 Aerial

**Installing aerial**

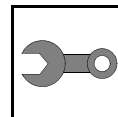


**Temperature sensor T100 HTM**

Fasten temperature sensor **1** with double-sided adhesive tape.



**Installing temperature sensor**

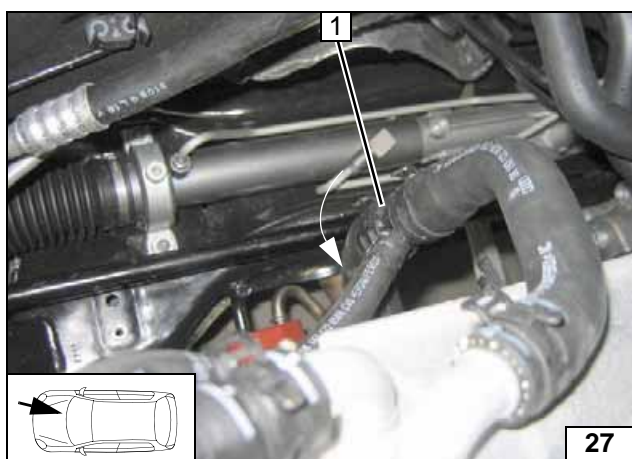


### Preparing Installation Location

1 Install original vehicle hole, rivet nut



Installing rivet nut

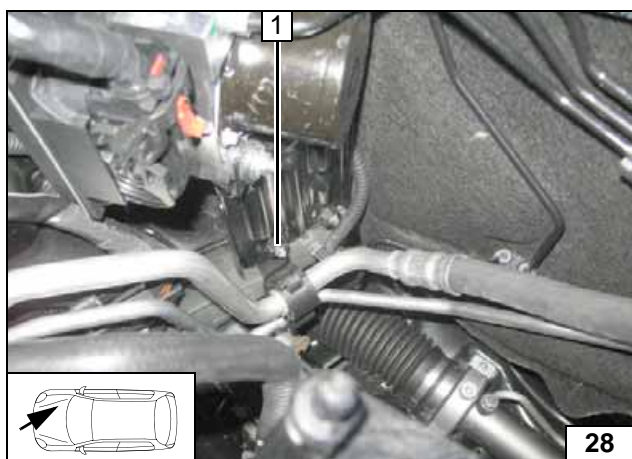


1.2 TSI only

Turn T-piece 1 as shown.



Aligning T-piece

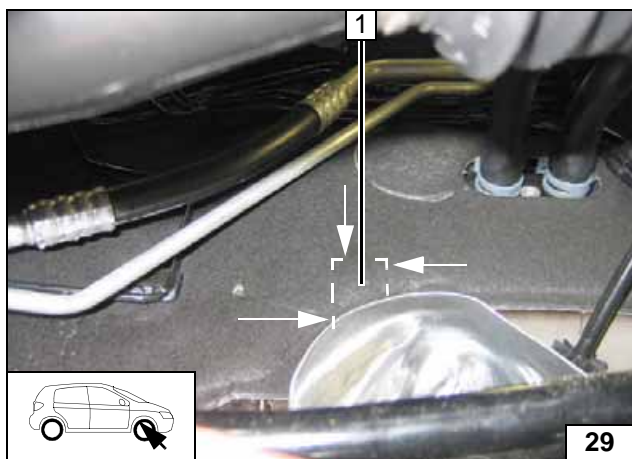


All vehicles

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



Preparing installation location

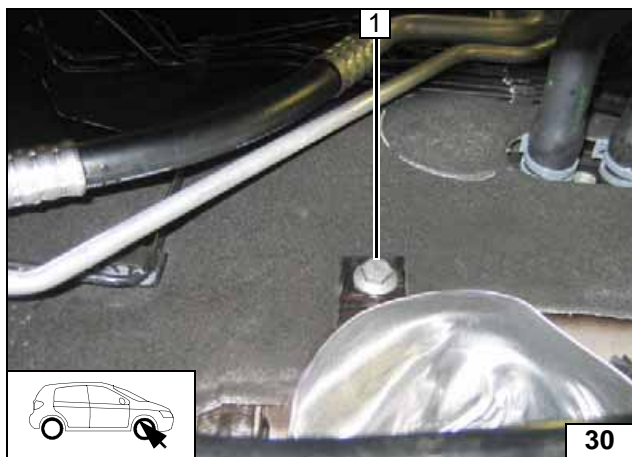
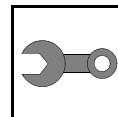


Cut out a little bit of insulation mat 1 at the marking (with sharp cutting tools) in order to uncover the original vehicle bolt (see next figure).



Cutting out insulation mat

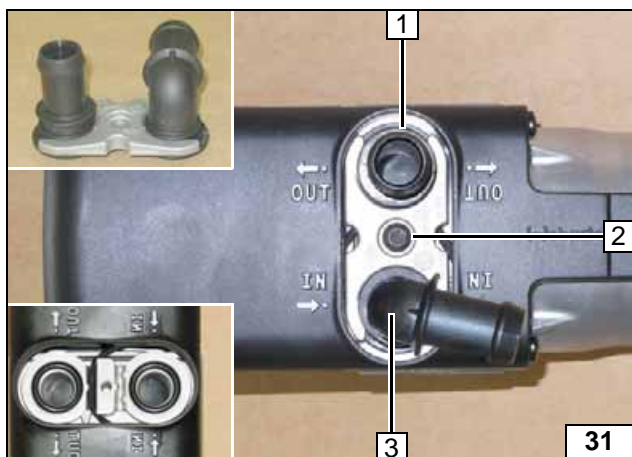




Remove original vehicle bolt **1**; will be reused later.



Removing bolt

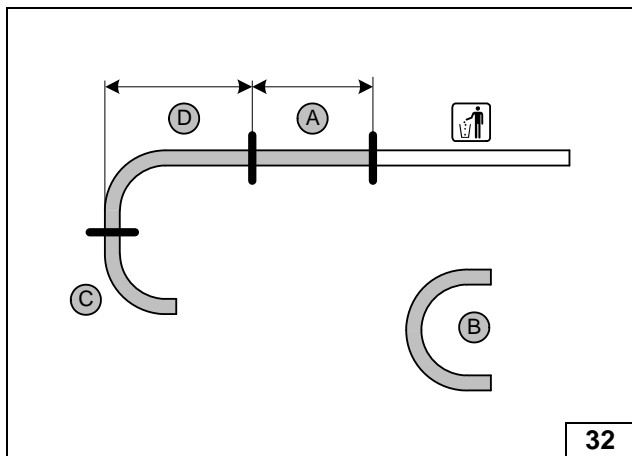


### Preparing Heater

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



Installing water connection piece



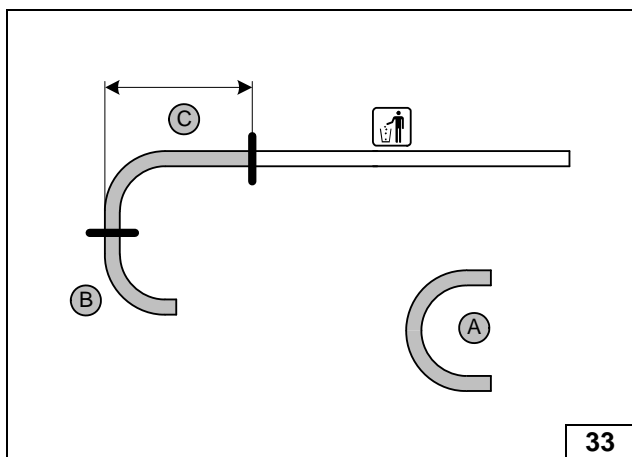
#### 1.2 TSI

Hose **B** = 180°, 18 mm dia. moulded hose  
Hose **C** = 90° elbow

- A = 200
- D = 200



Cutting hoses to length



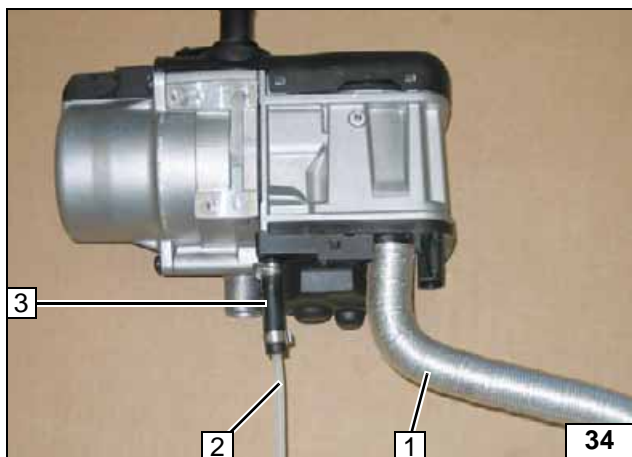
#### 1.4 TSI

Hose **A** = 180°, 18 mm dia. moulded hose  
Hose **B** = 90° elbow

- C = 200



Cutting hoses to length

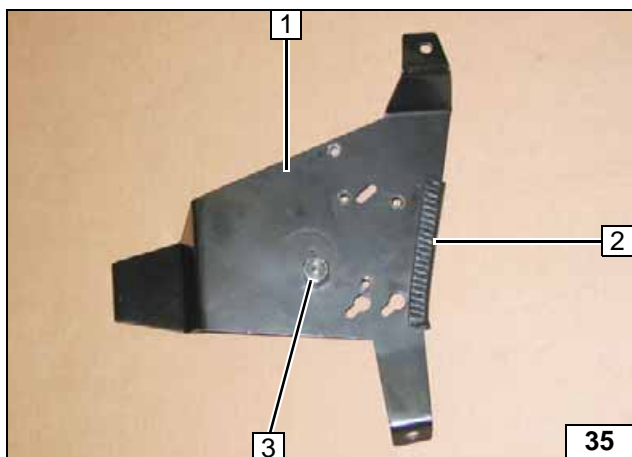


**All vehicles**

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

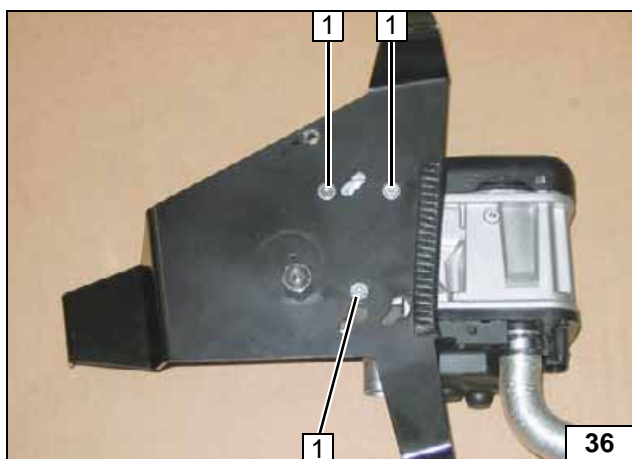


**Premounting heater**



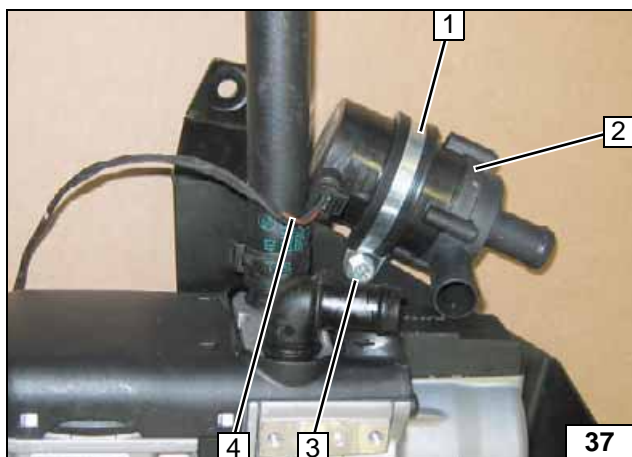
- 1 Bracket
- 2 100 mm edge protection
- 3 M6x12 bolt, spring lockwasher, M6x20 spacer nut

**Preparing bracket**



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

**Installing bracket**

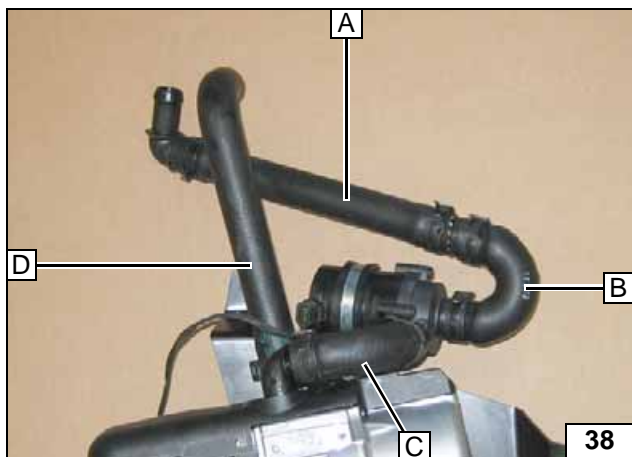
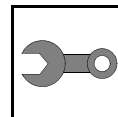


Mount wiring harness of circulating pump 4 on heater and circulating pump.

- 1 48 mm dia. rubber-coated p-clamp
- 2 Circulating pump
- 3 M6x20 bolt, flanged nut, existing hole



**Installing circulating pump**

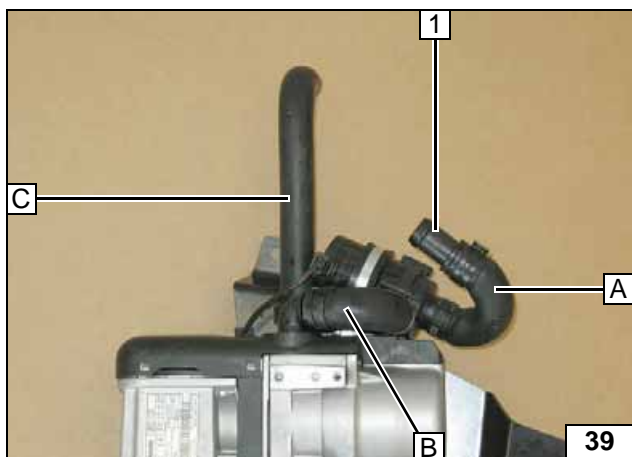


**1.2 TSI**

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



**Installing hoses**



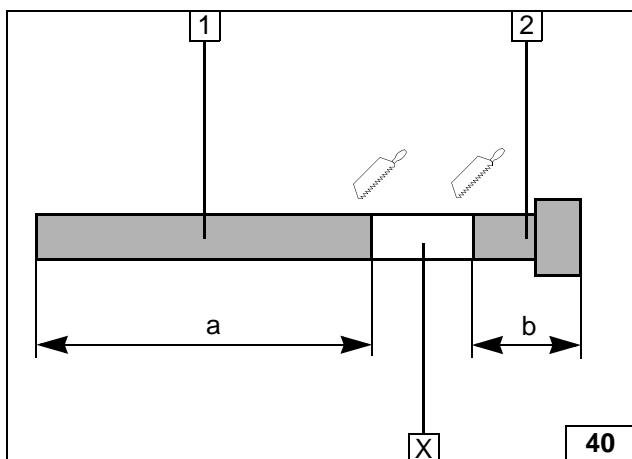
**1.4 TSI**

All spring clips = 25 mm dia.

- 1 18x20 connecting pipe



**Installing hoses**



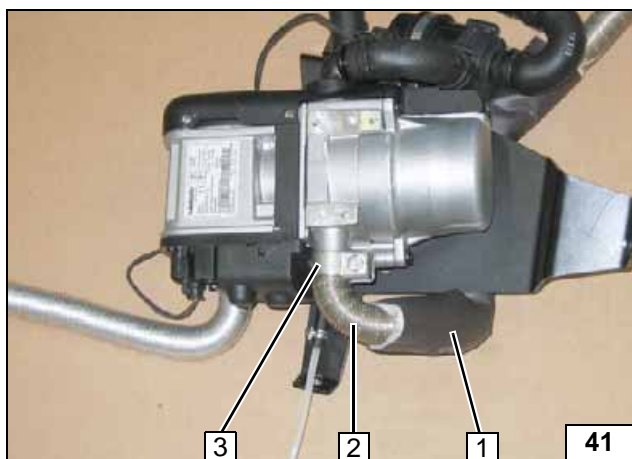
**All vehicles**

- 1 Exhaust pipe  
a = 540
- 2 Exhaust end section  
b = 50

X =

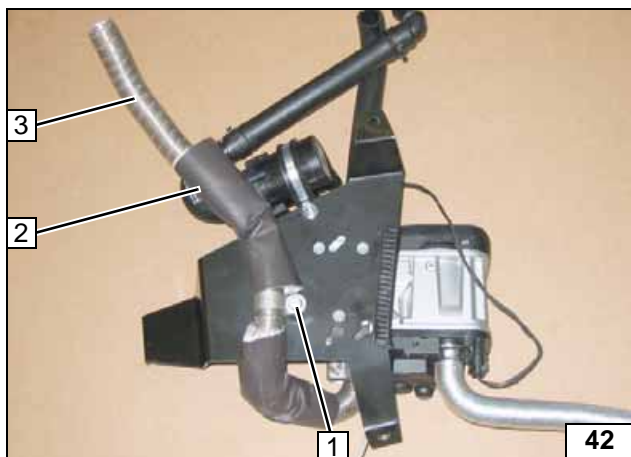
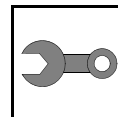


**Preparing exhaust pipe**



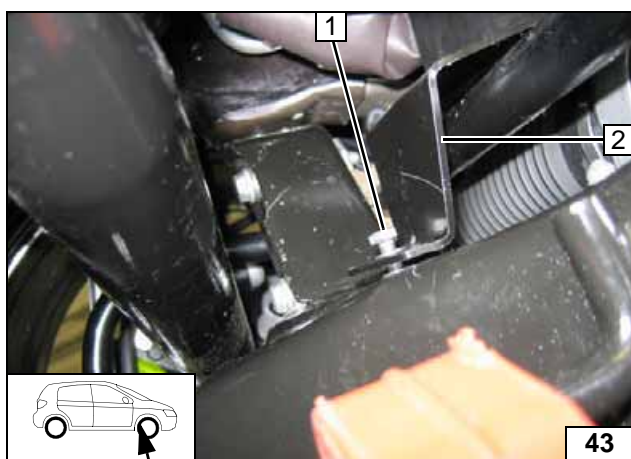
- 1 Slide on exhaust insulation
- 2 Exhaust pipe
- 3 Hose clamp

**Installing exhaust pipe**



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

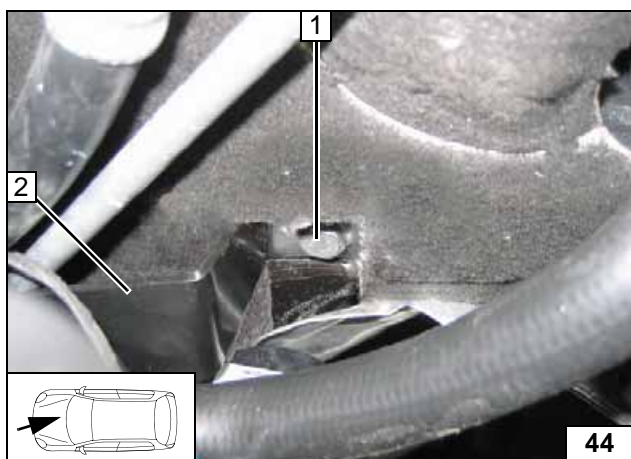
Installing exhaust pipe



**Installing Heater**

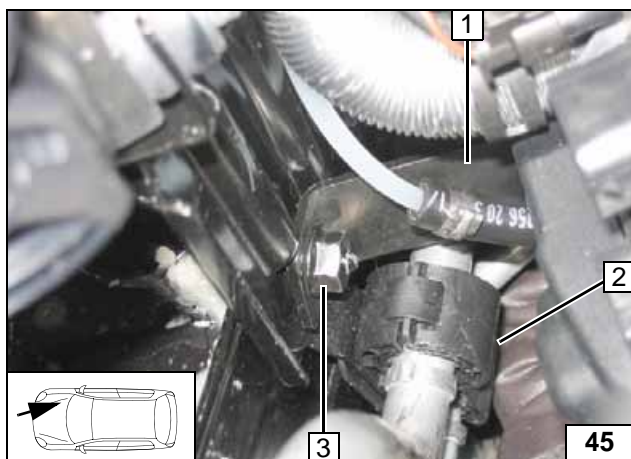
- 1 Loosely install M6x20 bolt, spring lockwasher
- 2 Bracket

Installing heater



- 1 Loosely install original vehicle bolt
- 2 Bracket

Installing heater



Ensure sufficient distance between exhaust pipe and bracket of A/C pipe group at position 2, correct if necessary.

Tighten all loose screw connections.

- 1 Bracket
- 3 Original vehicle flanged nut



Installing heater

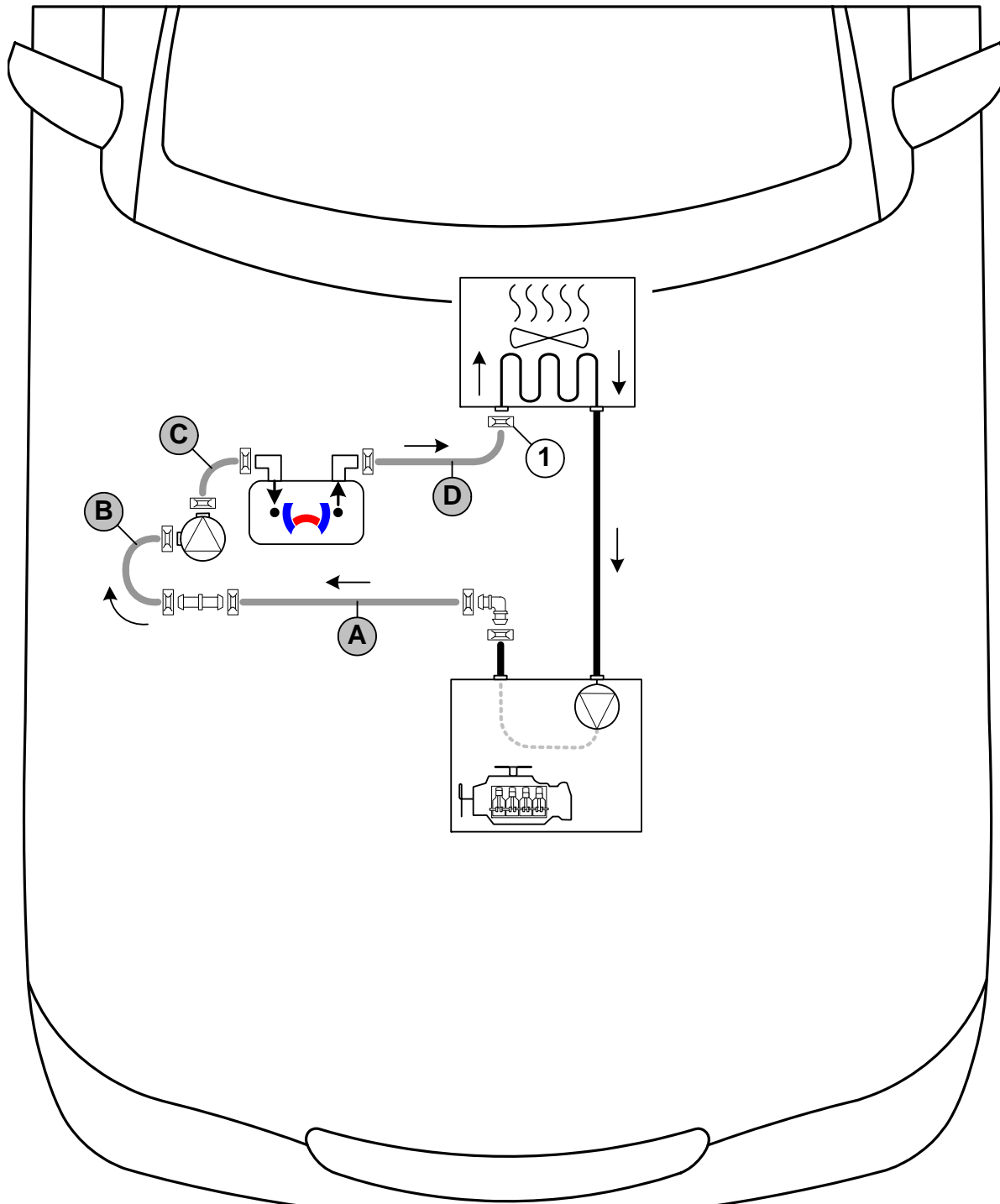


## 1.2 TSI Coolant Circuit

### WARNING!

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

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



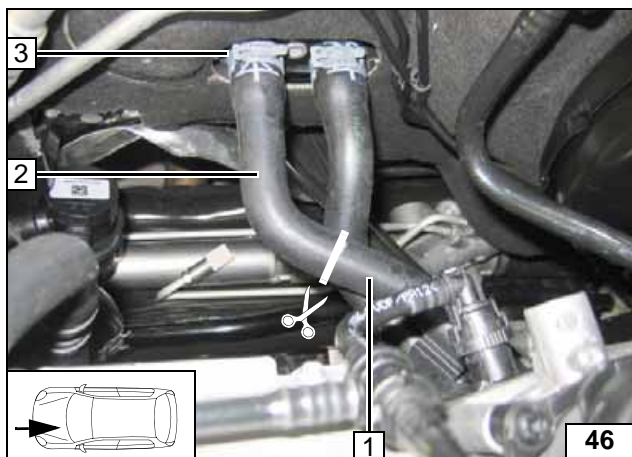
Hose routing diagram

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

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

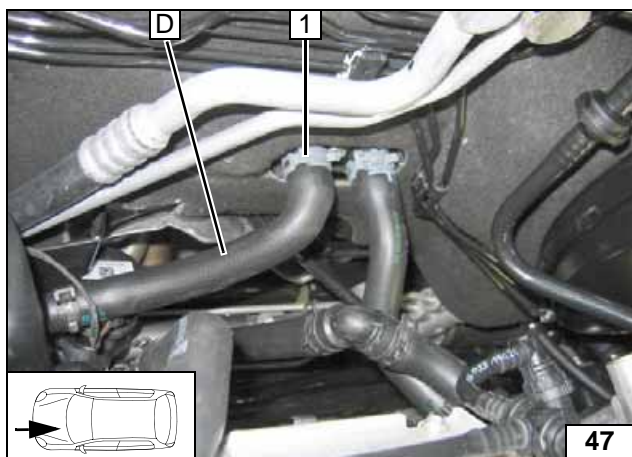






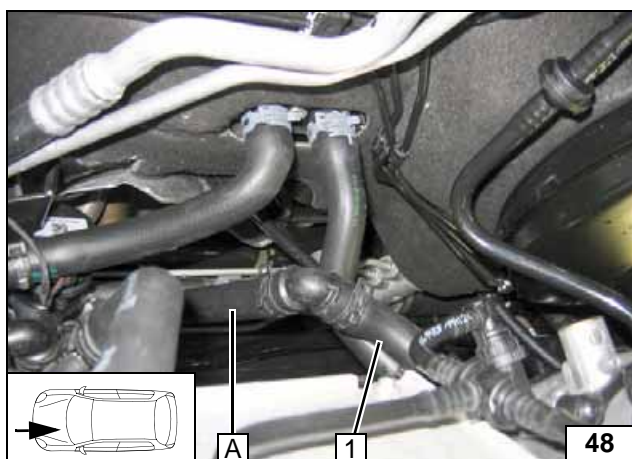
- 1 Engine outlet hose section
- 2 Remove hose section of heat exchanger inlet and discard
- 3 Original vehicle spring clip will be reused

**Cutting point**



- 1 Original vehicle spring clip

**Connecting heat exchanger inlet**

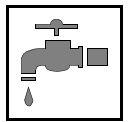


Ensure sufficient distance from neighbouring components, correct if necessary.

- 1 Engine outlet hose section



**Connecting engine outlet**

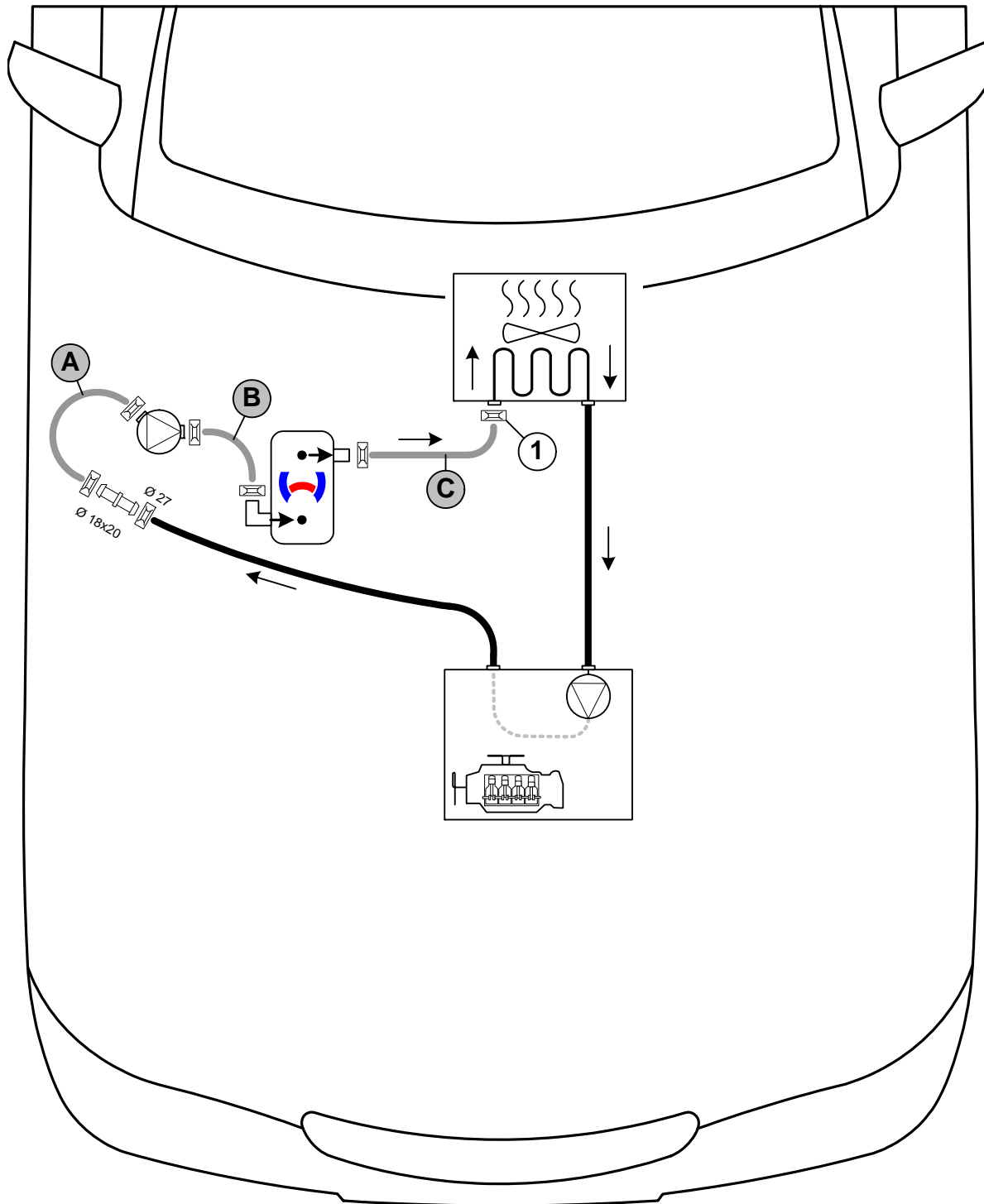


### 1.4 TSI Coolant Circuit



**WARNING!**

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

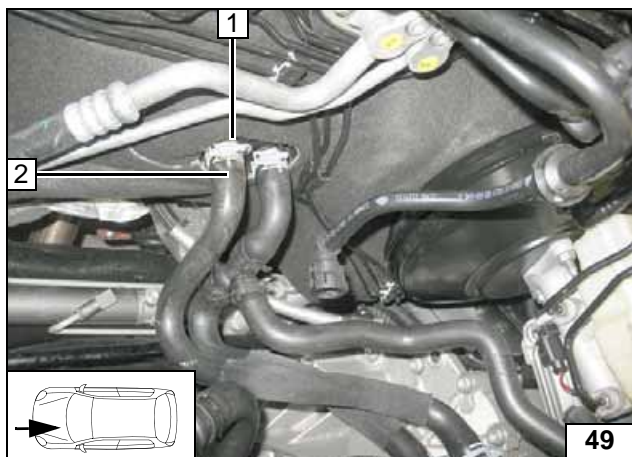
The connection should be modelled on an 'inline' circuit and based on the following diagram:



Hose routing diagram

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

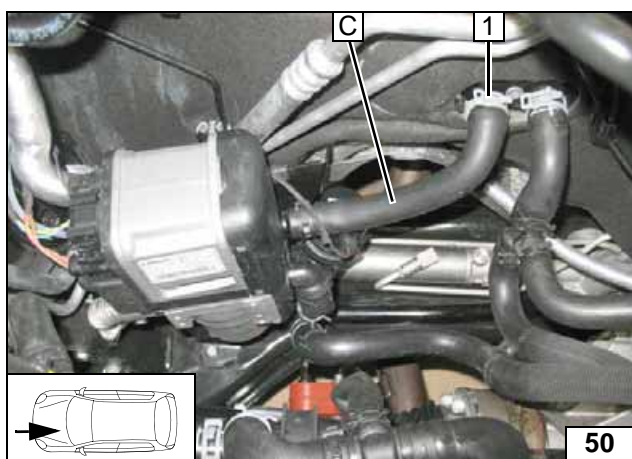




Pull hose of heat exchanger inlet **2** off connection piece **1**. Spring clip will be reused.



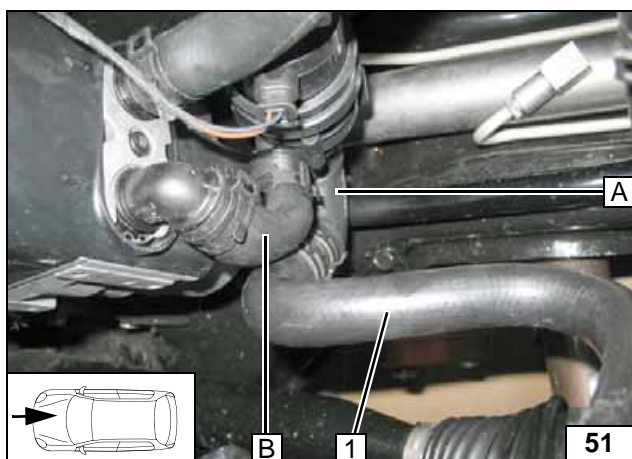
**Cutting point**



**1** Original vehicle spring clip



**Connecting heat exchanger inlet**

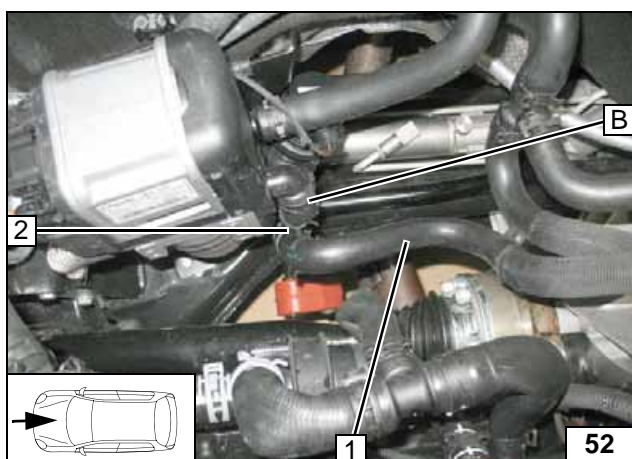


Ensure sufficient distance from neighbouring components, correct if necessary.

**1** Engine outlet hose section



**Connecting engine outlet**

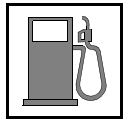


Insert hose bracket **2** between hose **B** and hose **1**.



**Inserting hose bracket**





**Fuel**

**CAUTION!**

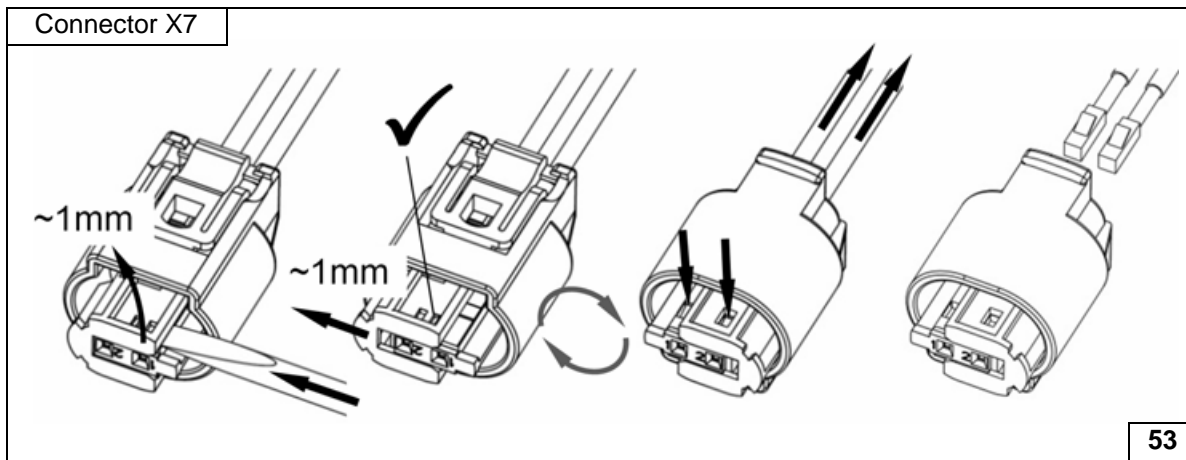
Open the vehicle's fuel tank cap, ventilate the tank and then re-close the tank lock.

Catch any fuel running off in an appropriate container.

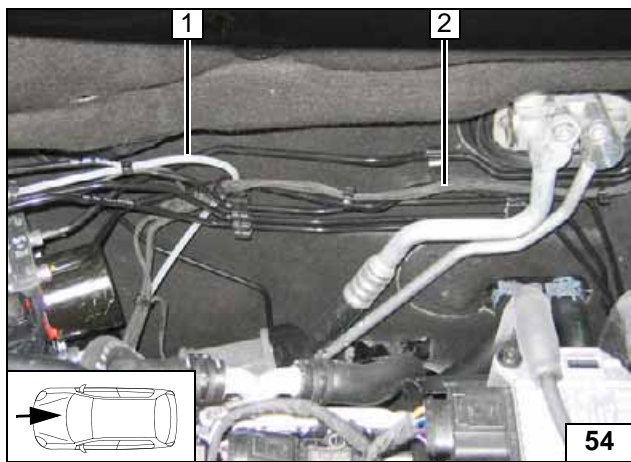
Route fuel line and metering pump wiring harness so that they are protected against stone impact. Unless specified otherwise, always fasten using cable ties. Provide rub protection for fuel line and wiring harness in areas where there are sharp edges.

**WARNING!**

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



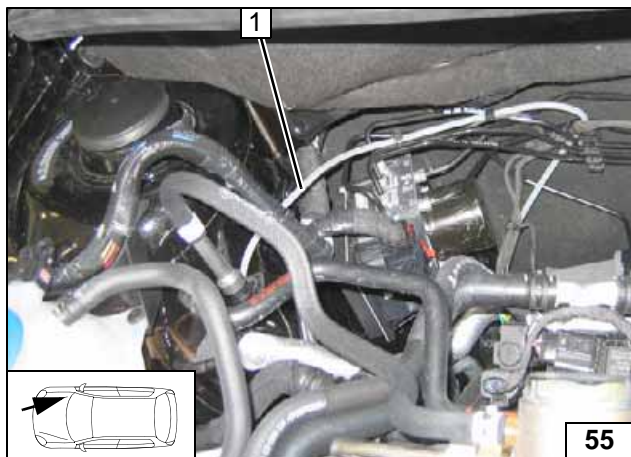
Dismantling metering pump connector



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



Routing in engine compartment



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

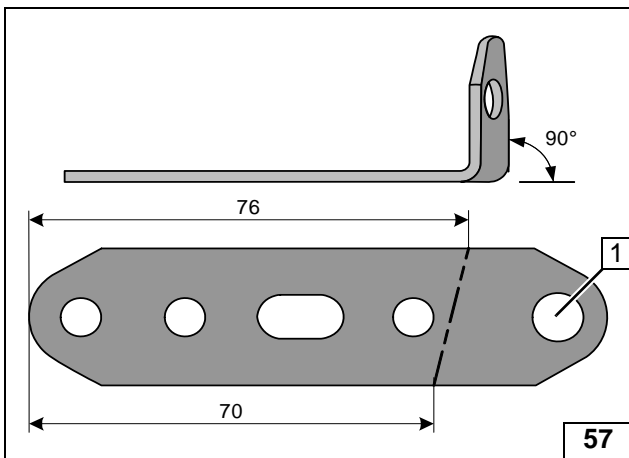


Routing in engine compartment



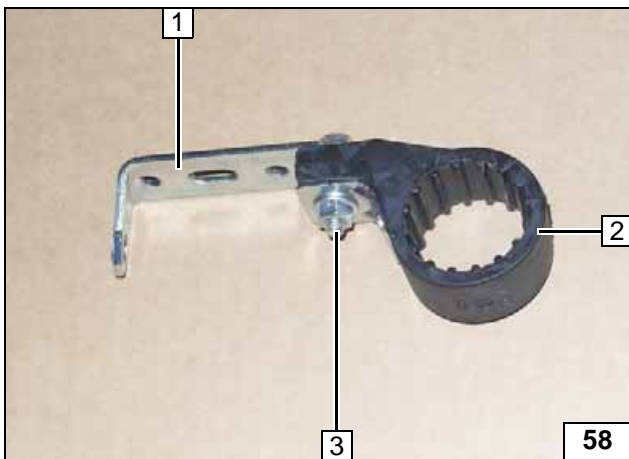
- 1 Fuel line, metering pump wiring harness
- 2 Original vehicle pass through for fuel lines

**Routing lines**



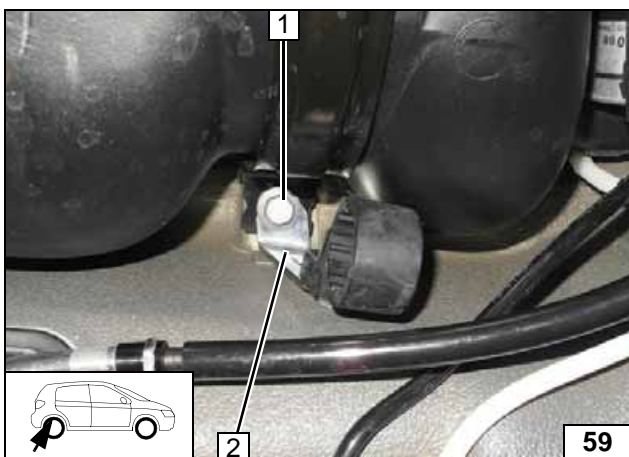
- 1 Drill out hole to 8.5 mm dia.

**Preparing perforated bracket**



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

**Preassembling mount of metering pump**



- 1 Original vehicle bolt
- 2 Perforated bracket

**Installing metering pump mount**



**Installing  
metering  
pump**



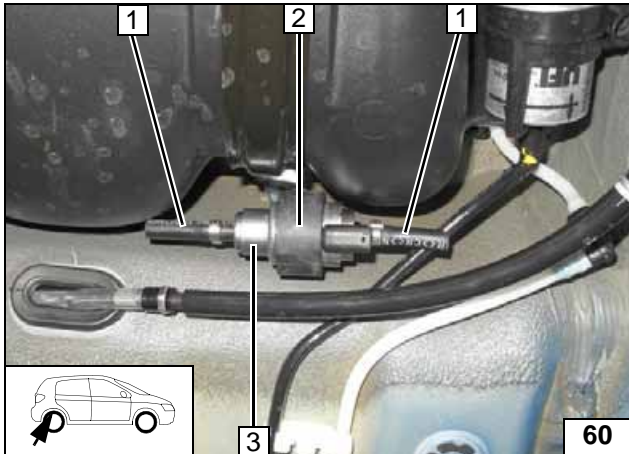
**Fuel ex-  
traction**



**Installing  
fuel stand-  
pipe**

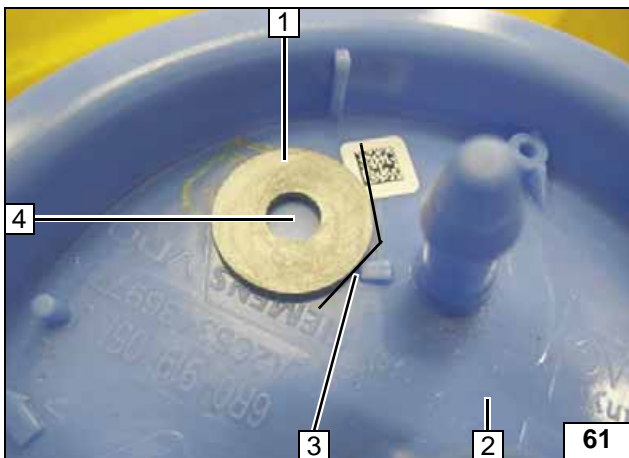


**Connect-  
ing fuel line**



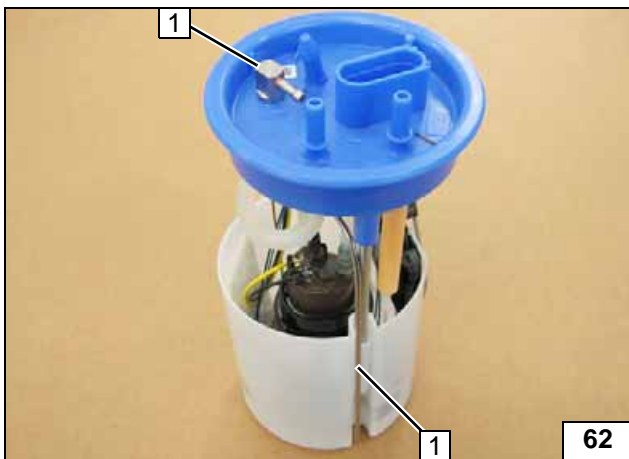
Check the position of the components; adjust if necessary. Check that they have freedom of movement.

- 1 Hose section, 10 mm dia. clamp [2x each]
- 2 Metering pump mount
- 3 Metering pump

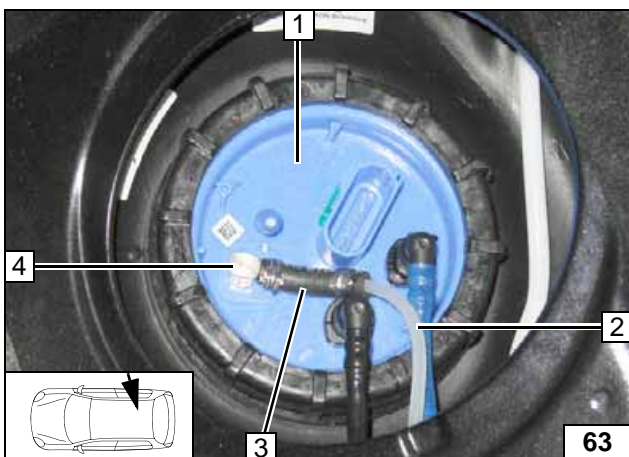


Remove fuel tank sending unit **2** in accordance with manufacturer's instructions. Place washer with outer dia.  $d_a = 21.6$  mm **1** at position **3** and align it with the marking.

- 1 Align washer, outer dia.  $d_a = 21.6$  mm
- 4 Copy hole pattern, 6mm dia. hole

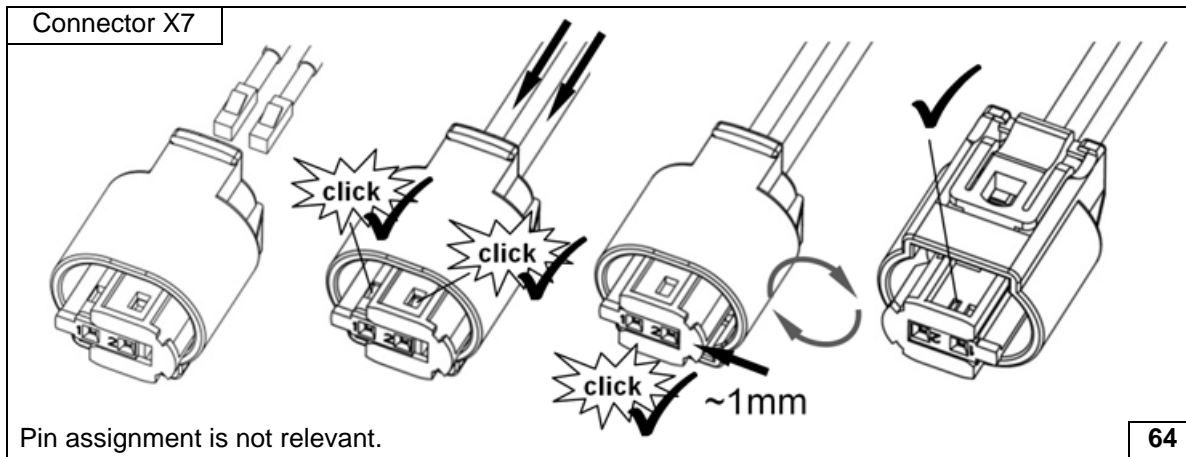
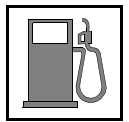


Shape fuel standpipe **1** according to template and cut to length.

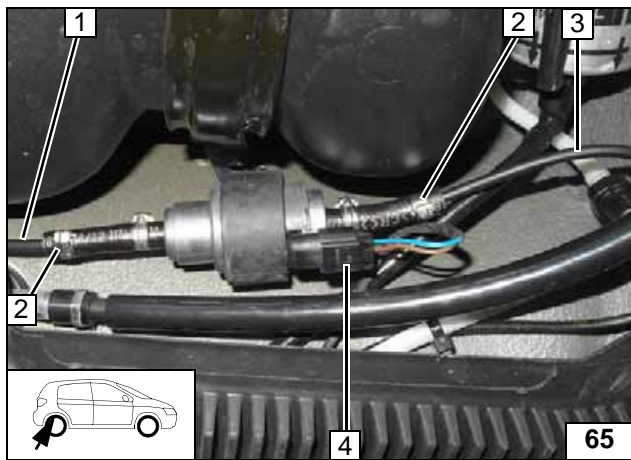


Install fuel-tank sending unit **1** according to manufacturer's instructions.

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



Completing metering pump connector



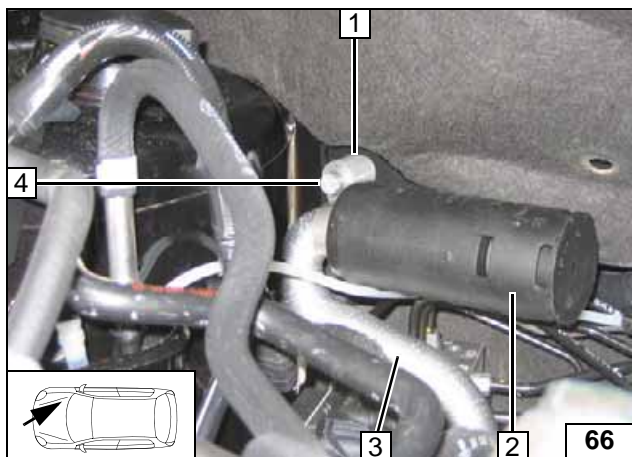
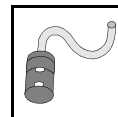
Check the position of the components; adjust if necessary. Check that they have freedom of movement.



- 1 Fuel line, fuel standpipe
- 2 10 mm dia. clamp [2x]
- 3 Fuel line of heater
- 4 Wiring harness of metering pump, connector mounted

Connecting metering pump





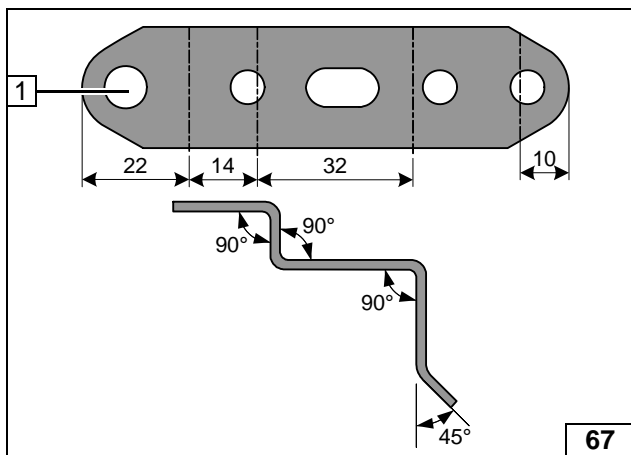
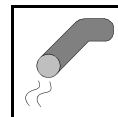
## Combustion Air

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

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



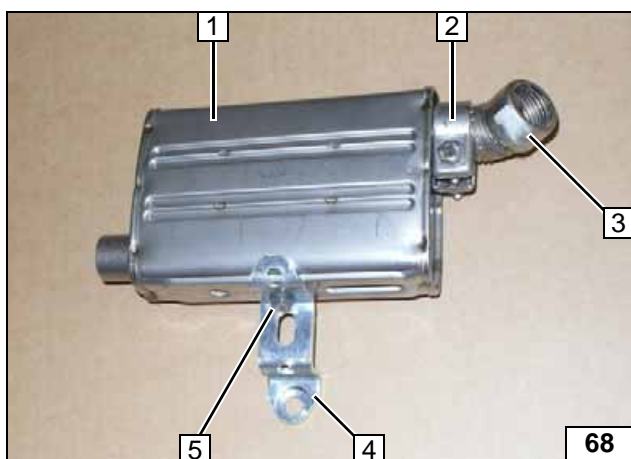
## Installing silencer



### Exhaust Gas

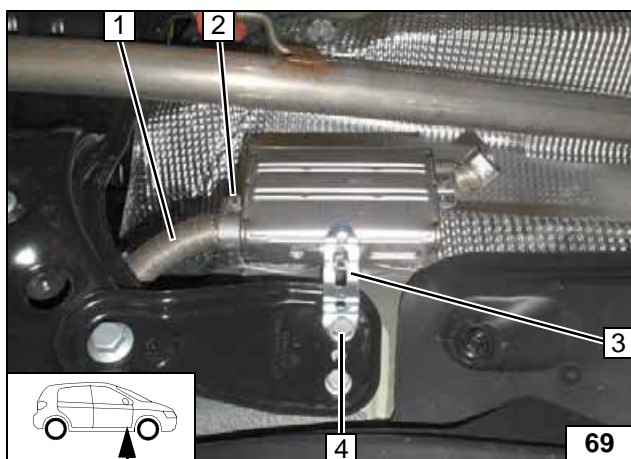
- 1 Drill out hole to 8.5 mm dia.

Preparing perforated bracket



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

Premounting silencer

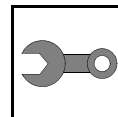


Ensure sufficient distance from neighbouring components, correct if necessary.



- 1 Exhaust pipe
- 2 Hose clamp
- 3 Perforated bracket
- 4 Original vehicle bolt

Installing silencer



## Final Work

### WARNING!

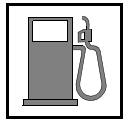
Reassemble the components in reverse order. Check all hoses, clamps and all electrical connections for firm seating. Insulate and tie back all loose lines.

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

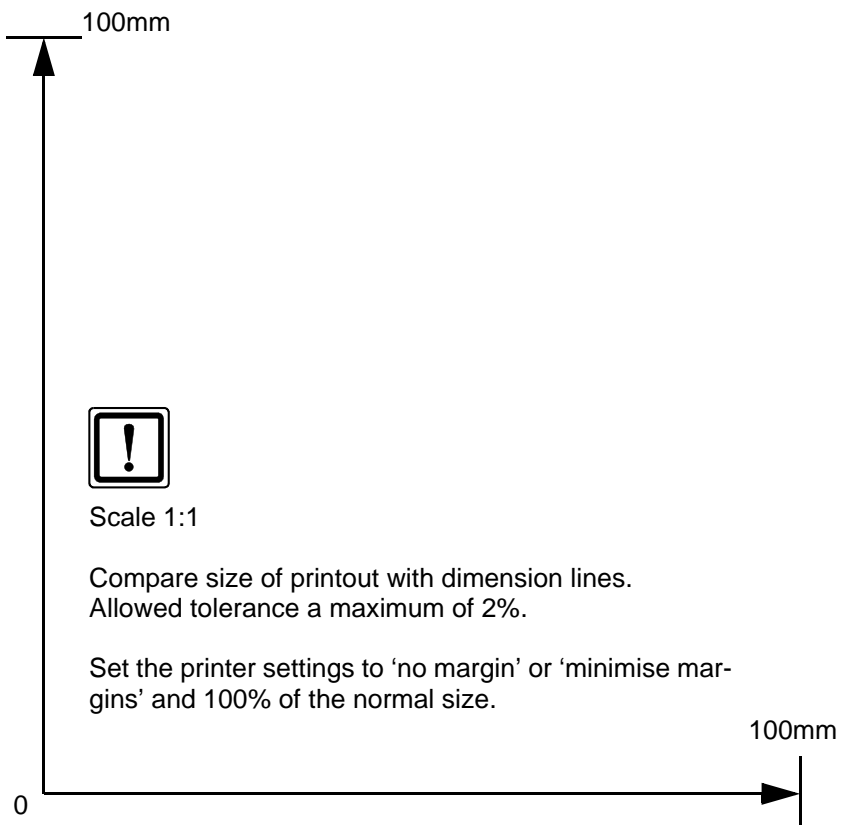


- **Connect the battery.**
- **Fill and bleed the coolant circuit according to the vehicle manufacturer's specifications.**
- **Adjust digital timer, teach Telestart transmitter.**
- **Make settings on A/C control panel according to the 'Operating Instructions for End Customer'.**
- **Place the 'Switch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





Fuel Standpipe Template





## Operating Instructions for Manual Air-Conditioning

Please remove page and add to the vehicle operating instructions.

**Note:**

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

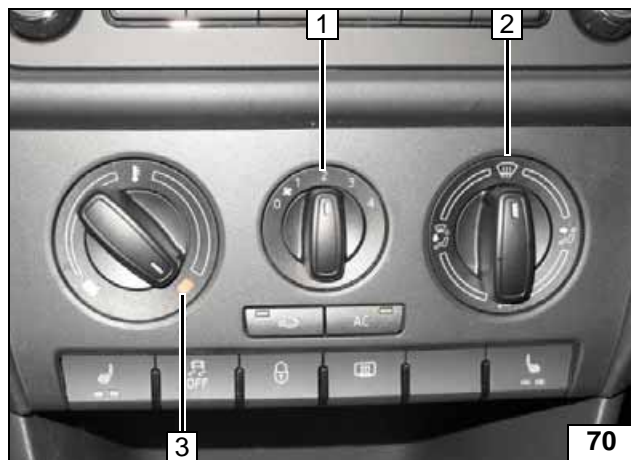
**Example:**

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

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

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

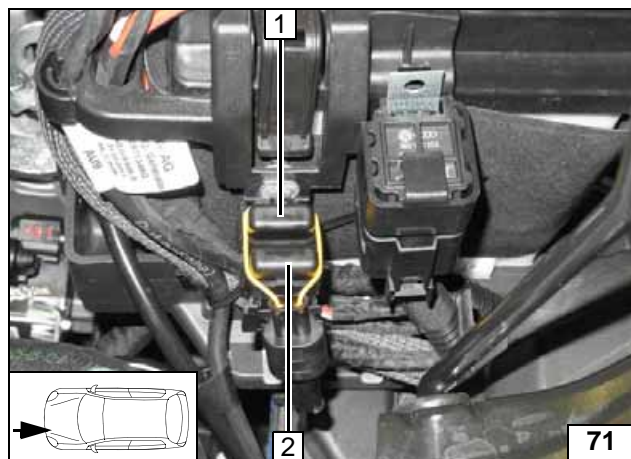
Before parking the vehicle, make the following settings:



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

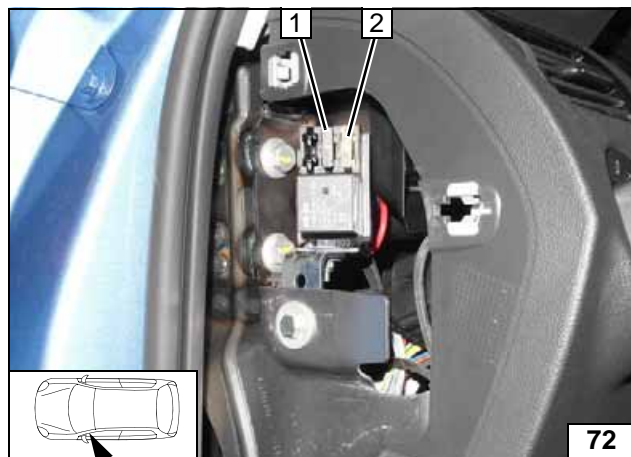


A/C control panel



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

Engine compartment fuses



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

Passenger compartment fuses



## Operating Instructions for Automatic Air-Conditioning

Please remove page and add to the vehicle operating instructions.

**Note:**

We recommend matching the heating time to the driving time.

Heating time = driving time

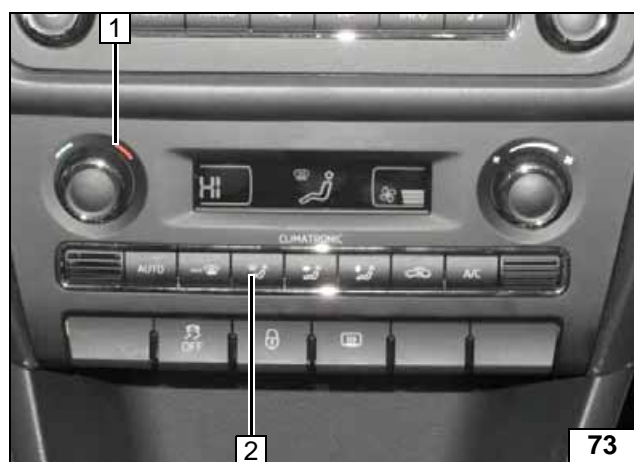
**Example:**

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

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

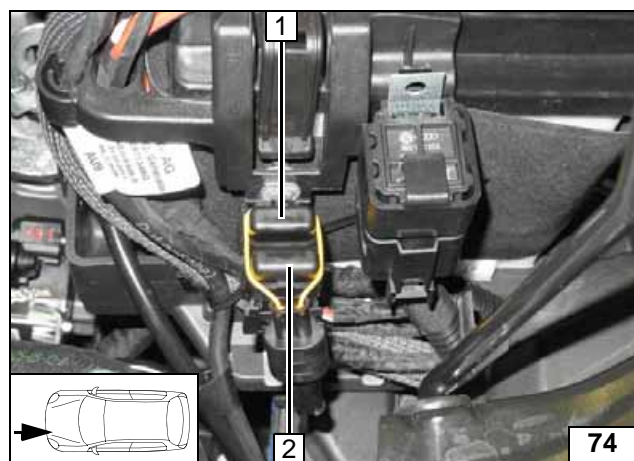
For instructions on deactivation, please refer to the operating instructions of the vehicle.

Before parking the vehicle, make the following settings:



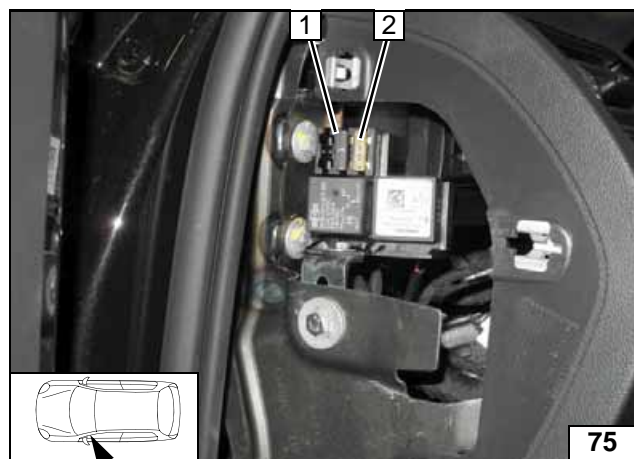
- 1 Set temperature to 'HI'
- 2 Air outlet to windscreen

A/C control panel



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

Engine compartment fuses



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

Passenger compartment fuses

