



# Water Heater

## Thermo Top Evo Parking Heater



With FuelFix

# Installation Documentation VW Polo

### Validity

Manufacturer	Model	Type	EG-BE No. / ABE
VW	Polo	6R	e1 * 2001 / 116 * 0510 * ...

Motorisation	Fuel	Transmission type	Output in kW	Displacement in cm <sup>3</sup>	Engine code
1.2 TDi	Diesel	SG	55	1199	CFWA
1.6 TDi	Diesel	SG	66	1598	CAYB
1.6 TDi	Diesel	SG	77	1598	CAYC

SG = manual transmission

**From model year 2010**

**Left-hand drive vehicle**

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

**Not verified:** Passenger compartment monitoring

**Total installation time:** approx. 10 hours

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## Necessary Components

- Basic delivery scope of Top Evo according to price list
- Installation kit with FuelFix for VW Polo 2010 TDI Common Rail: **1316497C**
- Additionally required in case of automatic air-conditioning: Automatic air-conditioning kit: **1315239\_**
- Heater control in accordance with price list and upon consultation with end customer
- In case of Telestart, indicator lamp in accordance with price list and in consultation with end customer

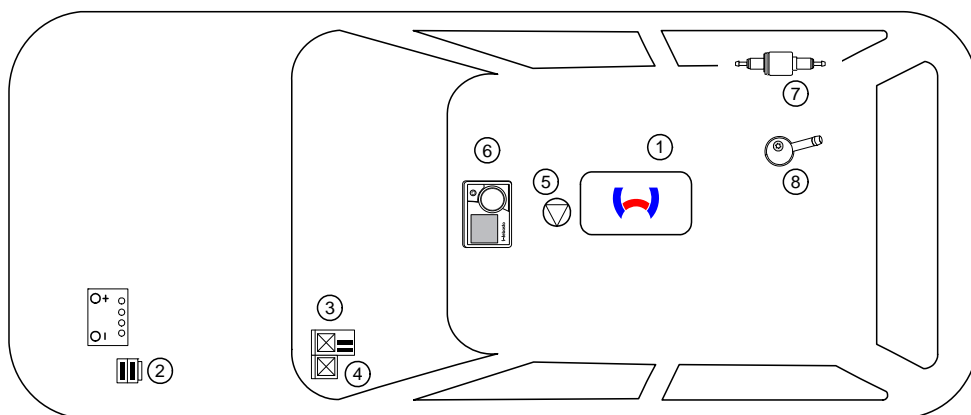
## Installation instructions:

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

## Installation Overview

### Legend:

1. Heater
2. Engine compartment fuse holder
3. Passenger compartment relay and fuse holder
4. IPCU (only for automatic A/C)
5. Circulating pump
6. MultiControl CAR
7. Metering pump
8. FuelFix



## Information on Total Installation Time

The total installation time includes the time needed for mounting and demounting 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 must audibly snap into place during assembly.

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

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

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

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

### 2 Statutory regulations governing installation

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

#### Note

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

#### Important

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

#### Note

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

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

Beginning of excerpt.

#### ANNEX VII

#### REQUIREMENTS FOR COMBUSTION HEATERS AND THEIR INSTALLATION

##### 1. GENERAL REQUIREMENTS

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

##### 2. VEHICLE INSTALLATION REQUIREMENTS

###### 2.1. Scope

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

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

###### 2.2. Positioning of heater

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

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

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

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

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

###### 2.3. Fuel supply

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

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

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

###### 2.4. Exhaust system

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

###### 2.5. Combustion air inlet

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

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

###### 2.6. Heating air inlet

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

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

###### 2.7. Heating air outlet

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

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

End of excerpt.

In multilingual versions the German language is binding.

## Information on Validity

This installation documentation applies to VW Polo TDI Common Rail vehicles - for validity, see page 1 - from model year 2010 and later, assuming technical modifications to the vehicle do not affect installation, any liability claims excluded. Depending on the vehicle version and equipment, modifications may be necessary during installation with respect to this 'installation documentation'.

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

## Technical Information

### Special Tools

- Hose clamp pliers for auto-tightening hose clamps
- Hose clamp pliers for Clic hose clamps of type W
- Automatic wire stripper 0.2 - 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:

**Mechanical System**



**Electrical System**



**Coolant Circuit**



**Combustion Air**



**Fuel**



**Exhaust Gas**



**Software**



**Specific risk of damage to components.**



**Specific risk due to electrical voltage.**



**Specific risk of injury or fatal accidents.**



**Specific risk of fire or explosion.**



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



**Reference to a special technical feature.**



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



**Tightening torque according to the manufacturer's vehicle-specific documents.**



## Preliminary Work

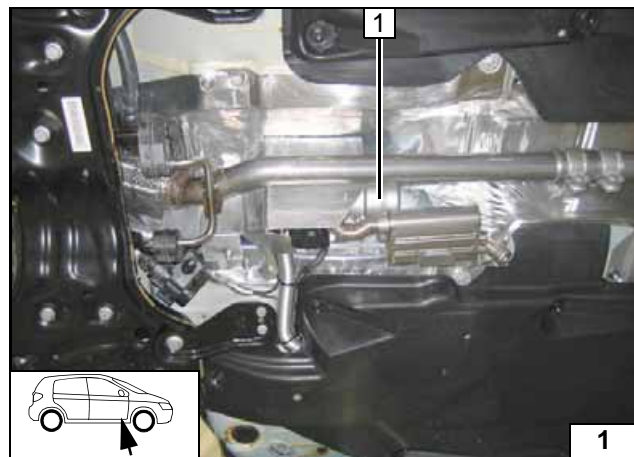
### Vehicle



- Open the fuel tank cap.
- Ventilate the fuel tank.
- Close the fuel tank cap again.
- Depressurise the cooling system.
- Remove the windscreen wipers.
- Remove the coolant reservoir cap.
- Remove the partition wall of the coolant reservoir.
- Remove the windscreen wiper motor.
- Remove the air filter completely, together with the intake hose.
- Remove the battery.
- Remove the underride protection.
- Remove the right vehicle underbody trim.
- Remove the driver's seat.
- Remove the front passenger's seat.
- Remove the entrance strip on the driver's side.
- Remove the entrance strip on the front passenger's side.
- Remove the trim of the centre tunnel.
- Fold back the footwell trim.
- Remove the air duct in the rear area.
- Fold up the seat surface of the rear bench seat.
- Open the tank-fitting service lid.
- Detach the central electrical box under the steering wheel.
- Remove the A/C control panel (only with automatic air-conditioning).
- Remove the lateral instrument panel trim on the left (only with automatic air-conditioning or Tel-estart T100 HTM)

### Heater

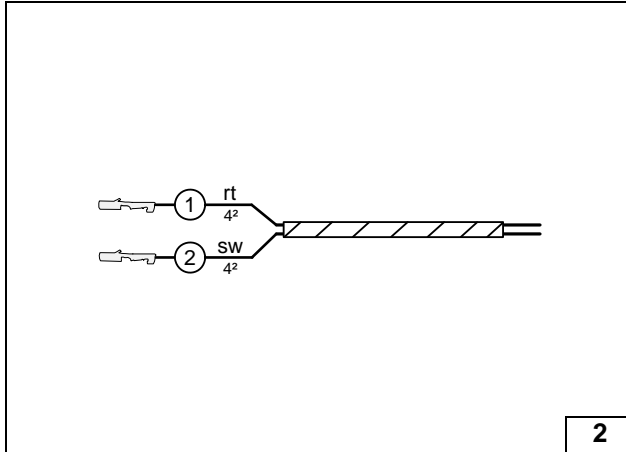
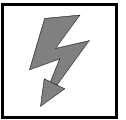
- Remove years that do not apply from the type and duplicate label.
- Attach the duplicate label (type label) visibly in the appropriate place in the engine compartment.



### Heater Installation Location

- 1 Heater

Installation location



### Preparing Electrical System

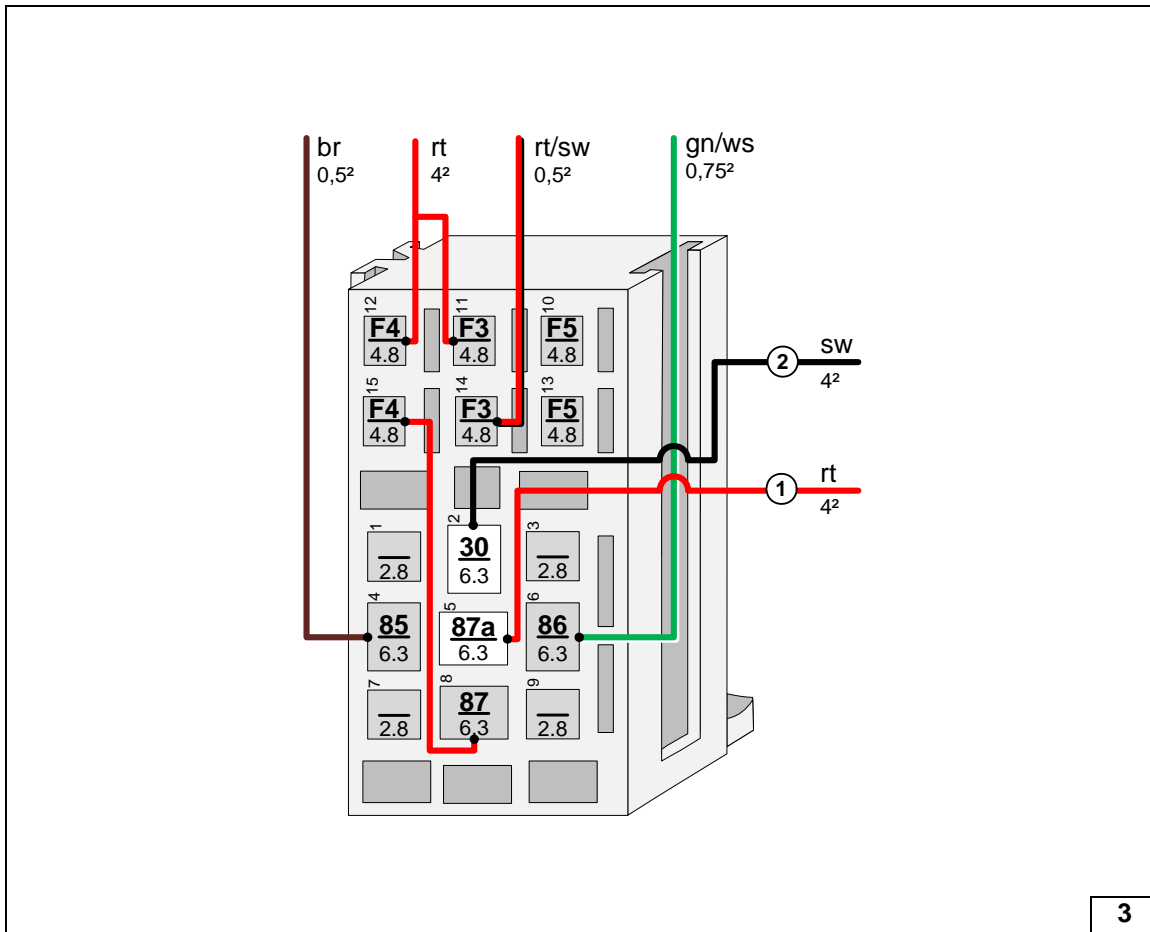
Wire sections retain their numbering in the entire document.

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

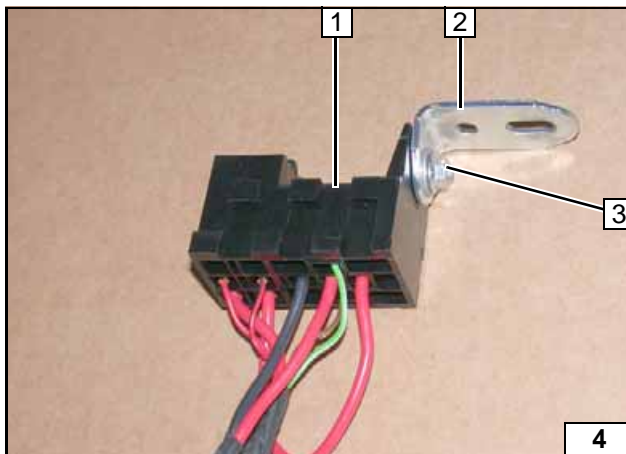
#### All vehicles

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

### Assigning wires

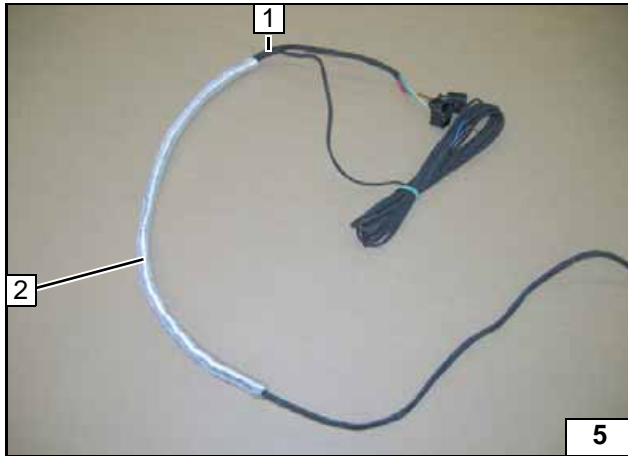
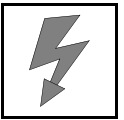


### Connecting wires to passenger compartment relay and fuse holder



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

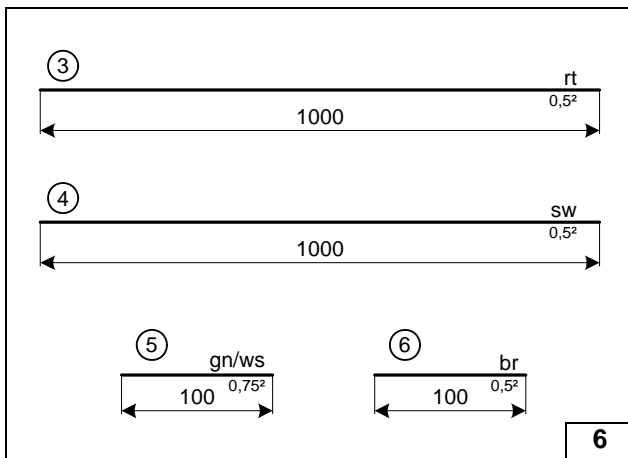
### Premounting passenger compartment relay and fuse holder



Slit 540 mm long protective pipe 2 lengthwise and pull onto heater wiring harness 1.



**Pulling up protective pipe**

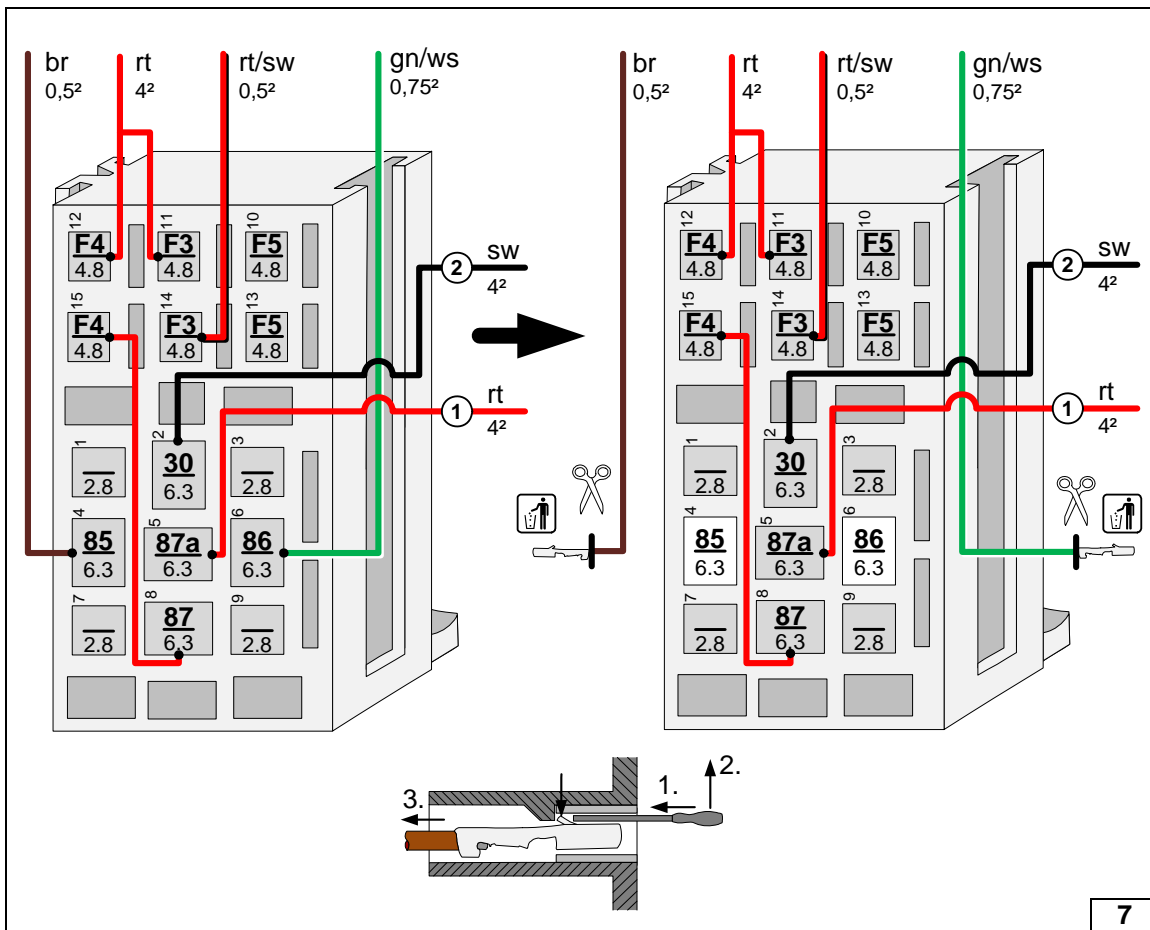


**Automatic air-conditioning**

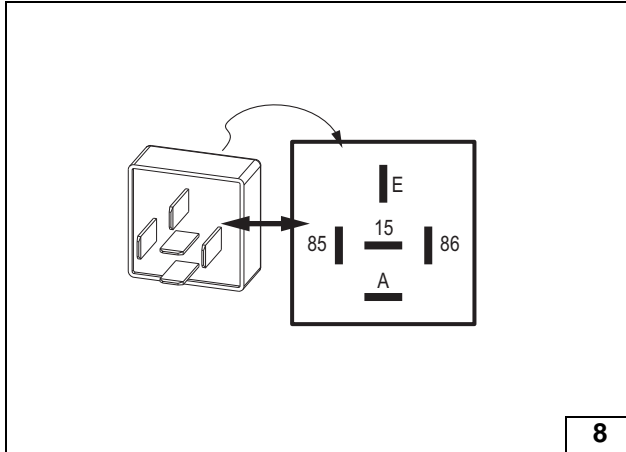
Install wire section ③ and ④ in the provided protective sleeving.



**Assigning wires**



**Preparing passenger compartment relay and fuse holder**



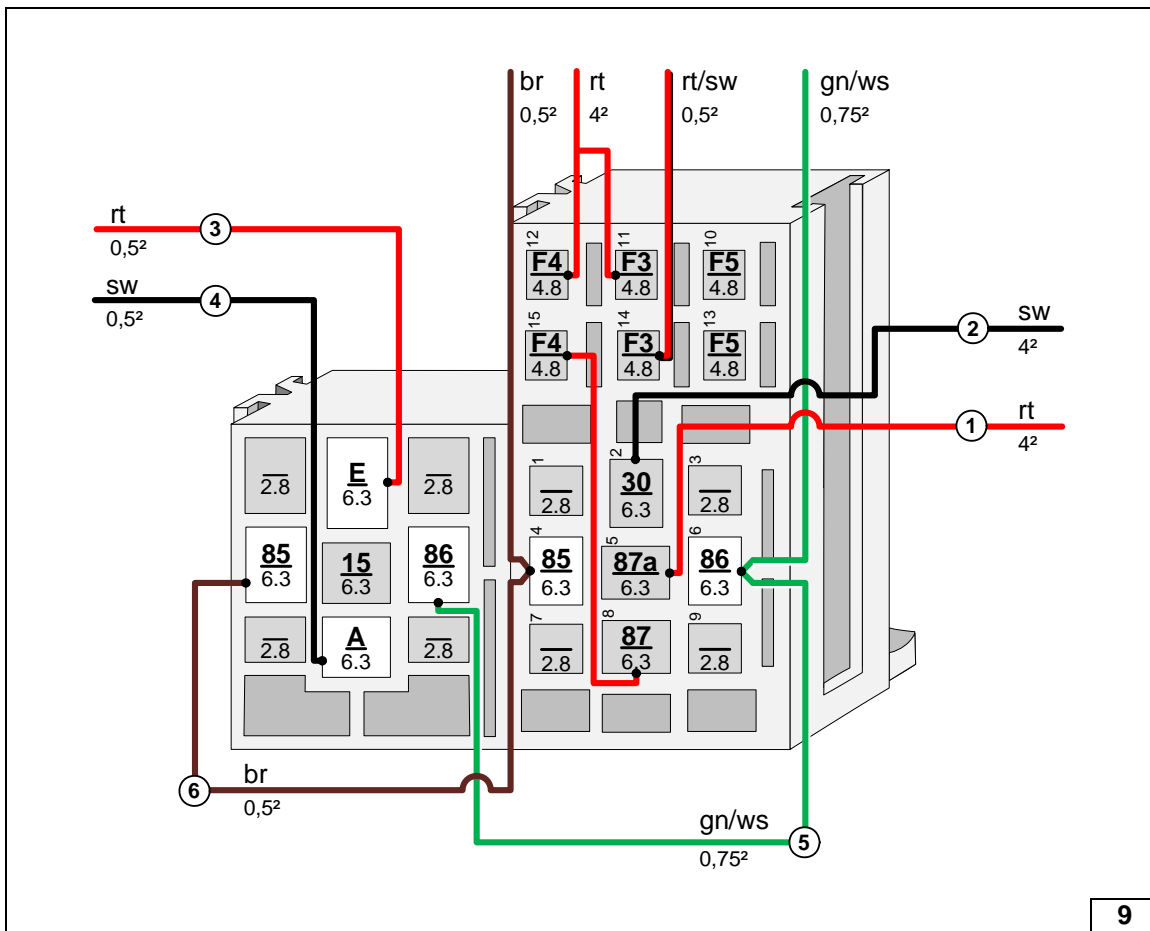
8

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

Settings:

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

View of IPCU



9

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



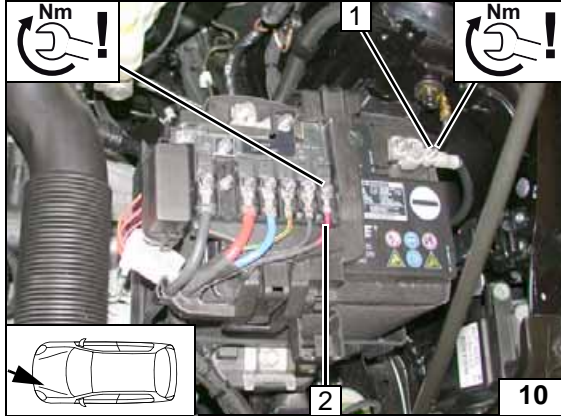


**Electrical System**



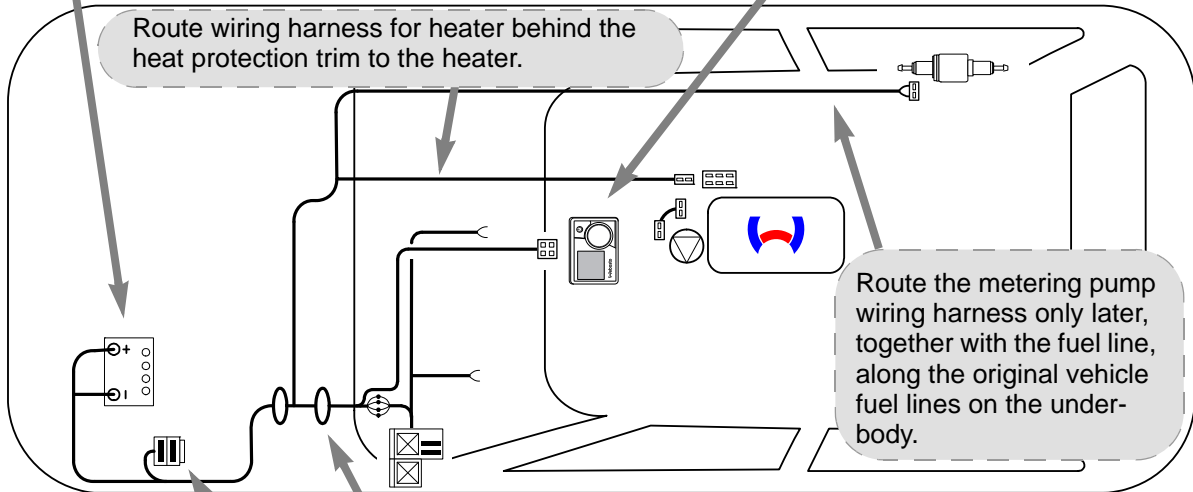
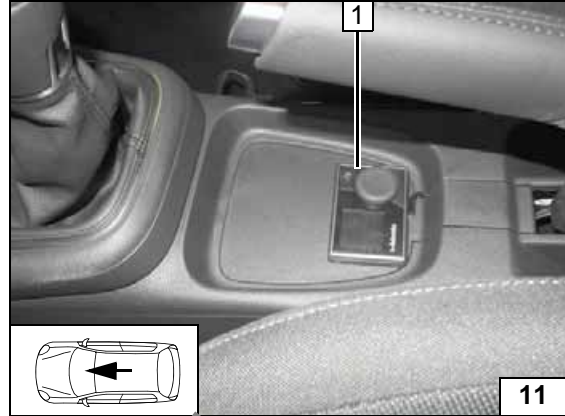
**Positive and negative wire**

- 1 Earth wire on negative battery terminal
- 2 Positive wire to positive battery distributor

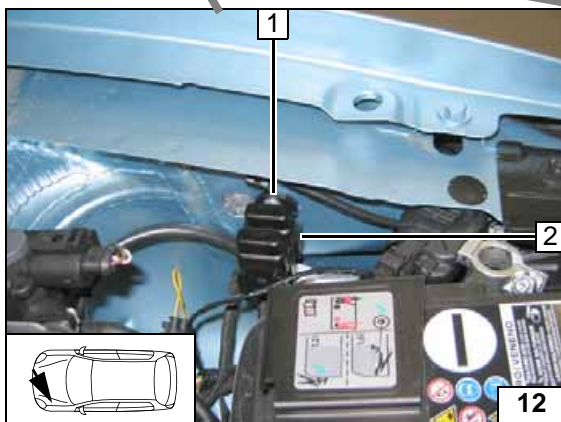


**MultiControl CAR**

- 1 MultiControl CAR

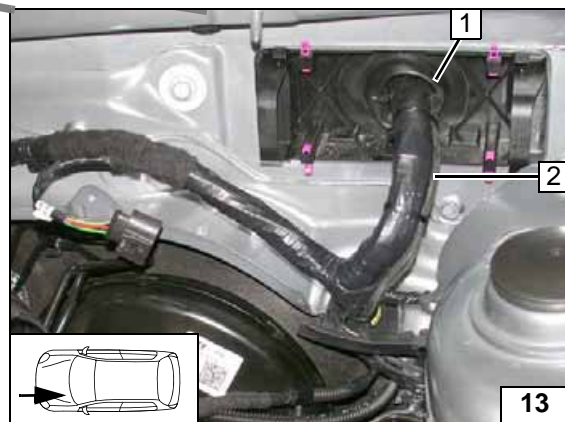


**Wiring harness routing diagram**



**Engine compartment fuse holder**

- 1 4.5 mm dia. hole; 5.5x13 self-tapping screw; retaining plate of fuse holder
- 2 Fuses F1-2 inserted

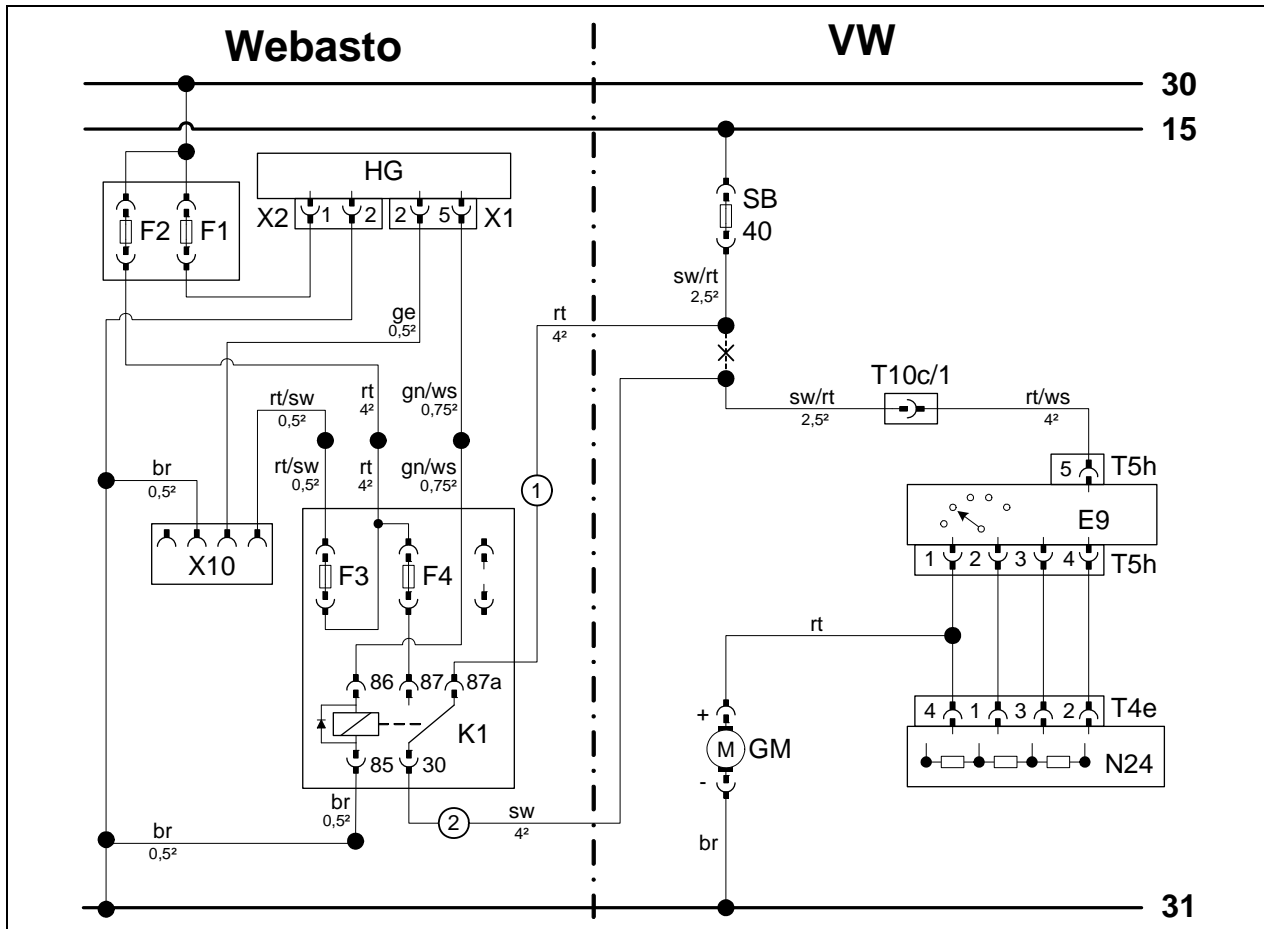


**Wiring harness pass through in passenger compartment**

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



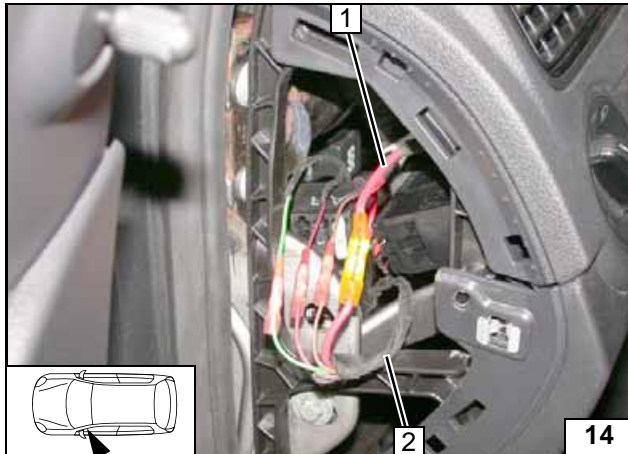
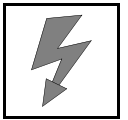
Manual Air-Conditioning Fan Controller



Wiring diagram

Webasto components		Vehicle components		Colours and symbols	
HG	TT-Evo heater	SB40	30A fuse	rt	red
X1	6-pin heater connector	T10c/1	Connector	ws	white
X2	2-pin heater connector	T ...	Connector	sw	black
F1	20A fuse	E9	Switch unit	br	brown
F2	30A fuse	GM	Fan motor	gn	green
X10	4-pin connector of heater control	N24	Resistor group	ge	yellow
F3	1A fuse				
F4	25A fuse			X	Cutting point
K1	Fan relay			Wiring colours may vary.	

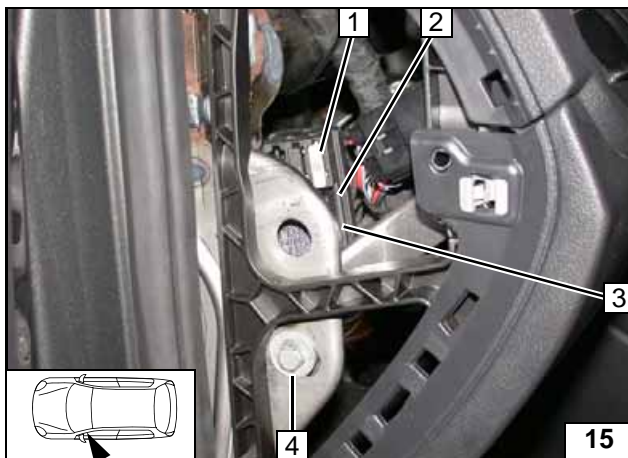
Legend



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



**Connecting wiring harnesses**

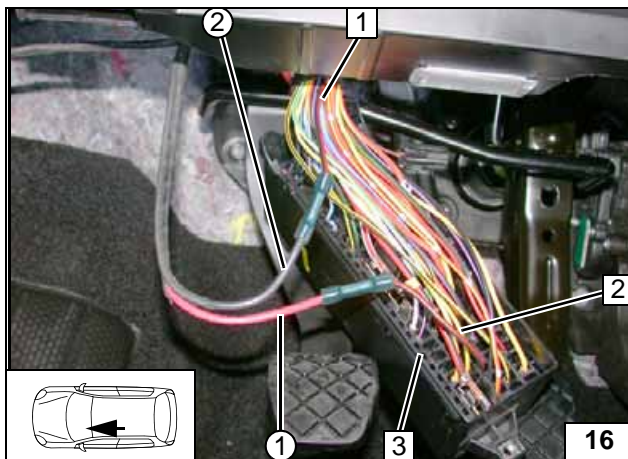


Install 10 mm shim between the body and the angle bracket on position **4**.



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

**Installing K1 relay, fuse F4 and passenger compartment relay and fuse holder**

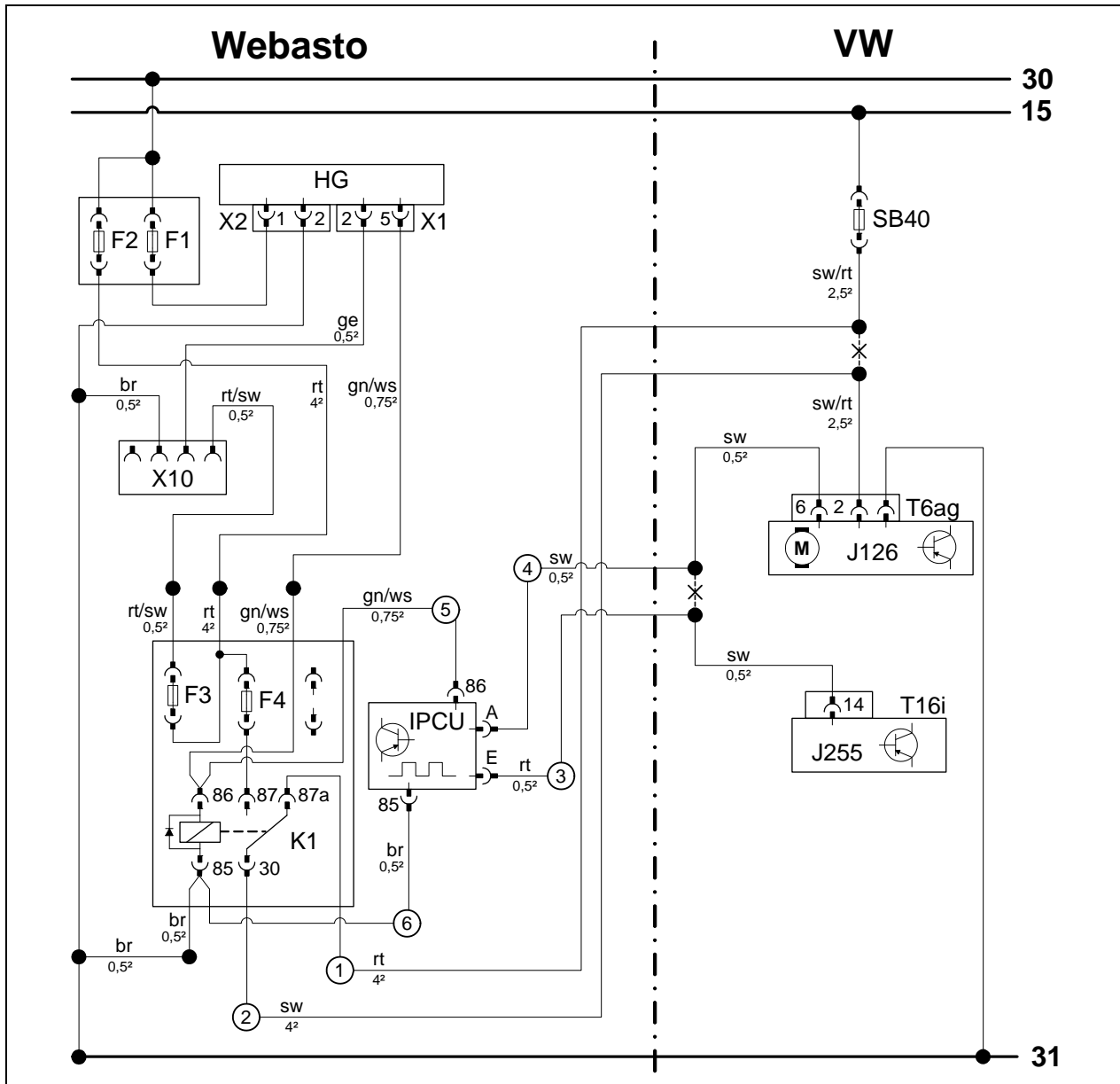


- 1** Black/red (sw/rt) wire of fan unit
- 2** Black/red (sw/rt) wire of fuse SB40
- 3** Central electrical box
- ① Red (rt) wire of fan wiring harness
- ② Black (sw) wire of fan wiring harness

**Connection to central electrical box**



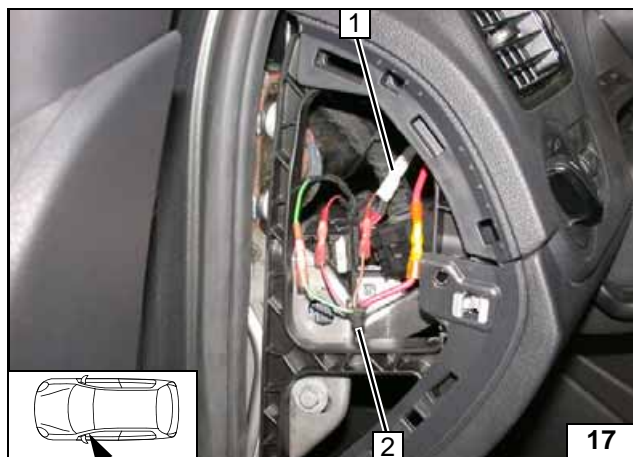
Automatic Air-Conditioning Fan Controller



Wiring diagram

Webasto components		Vehicle components		Colours and symbols	
HG	TT-Evo heater	SB40	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: 3.6V					
Function: High side					
				X	Cutting point
				Wiring colours may vary.	

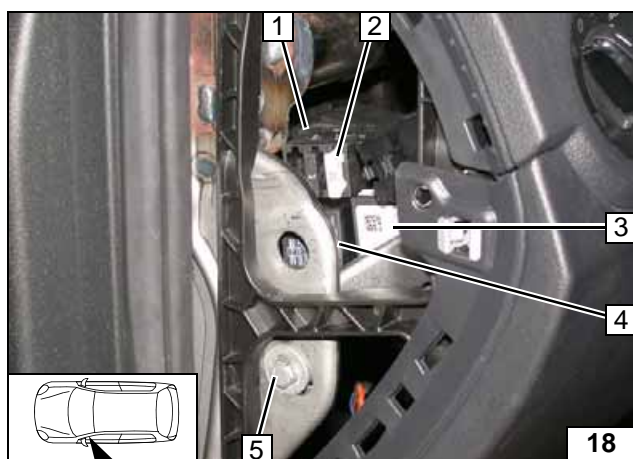
Legend



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



**Connecting wiring harnesses**

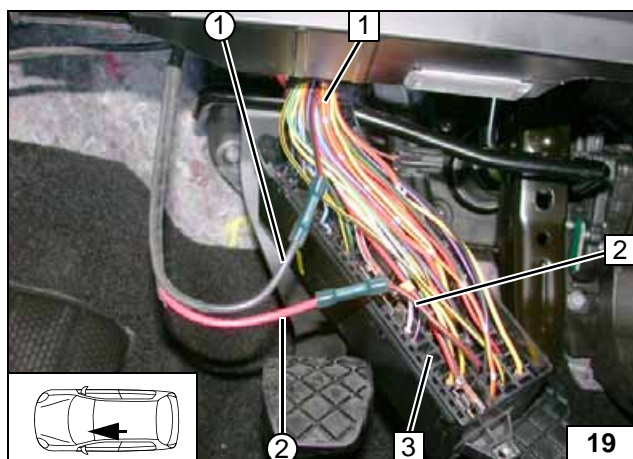


Install 10 mm shim between the body and the angle bracket on position 5.



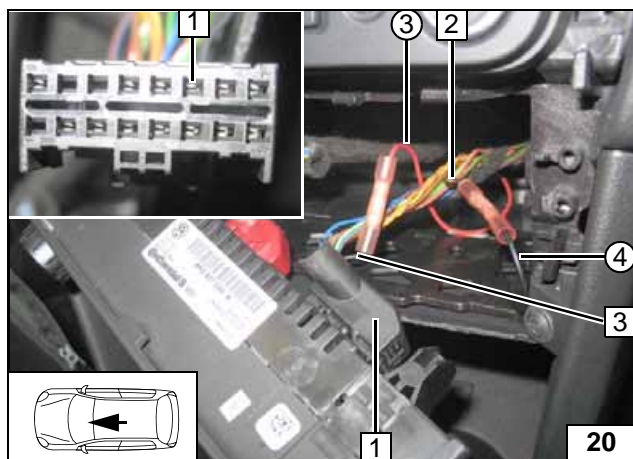
- 1 Passenger compartment relay and fuse holder
- 2 25A fuse F4
- 3 IPCU
- 4 K1 relay
- 5 M6x25 bolt, large diameter washer, existing hole, 10 mm shim, angle bracket, flanged nut

**Installing K1 relay, IPCU, fuse F4 and passenger compartment relay and fuse holder**



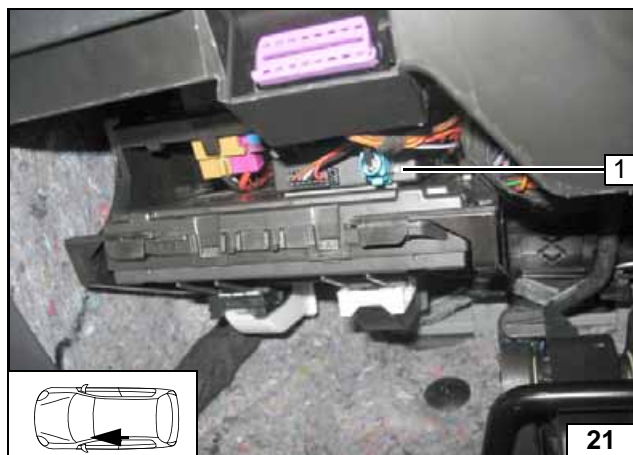
- 1 Black/red (sw/rt) wire of fan unit
- 2 Black/red (sw/rt) wire of fuse SB40
- 3 Central electrical box
- ① Red (rt) wire of fan wiring harness
- ② Black (sw) wire of fan wiring harness

**Connection to central electrical box**



- 1 Connector T16i
- 2 Black (sw) wire of J126
- 3 Black (sw) wire of J255 / T16i, pin 14
- ③ Red (rt) wire of IPCU/E
- ④ Black (sw) wire of IPCU/A

**Connecting A/C control panel**

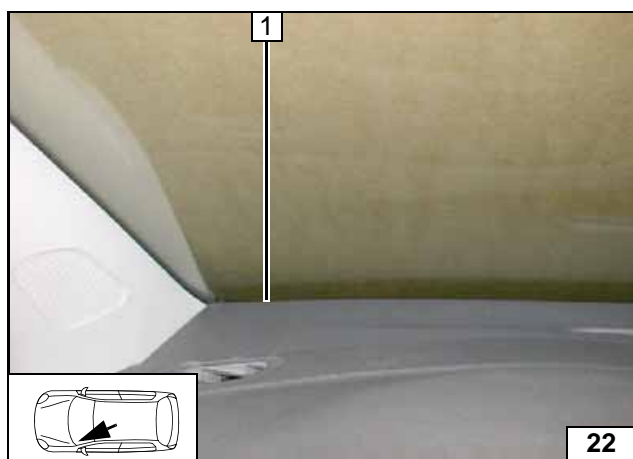


### Remote Option (Telestart)

Fasten receiver 1 with double-sided adhesive tape.

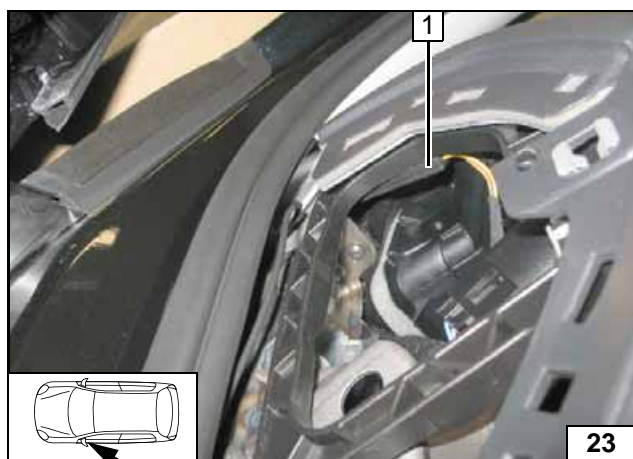


Installing receiver



1 Aerial

Installing aerial

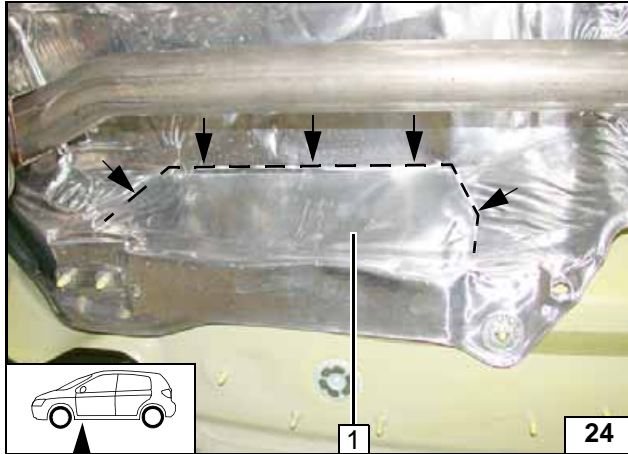
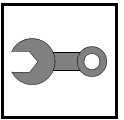


### Temperature sensor T100 HTM

Fasten temperature sensor 1 with double-sided adhesive tape.



Installing temperature sensor



### Preparing Installation Location

Place heat guard plate 1 on the tunnel in the area of the marking.



Process-  
ing heat  
guard plate

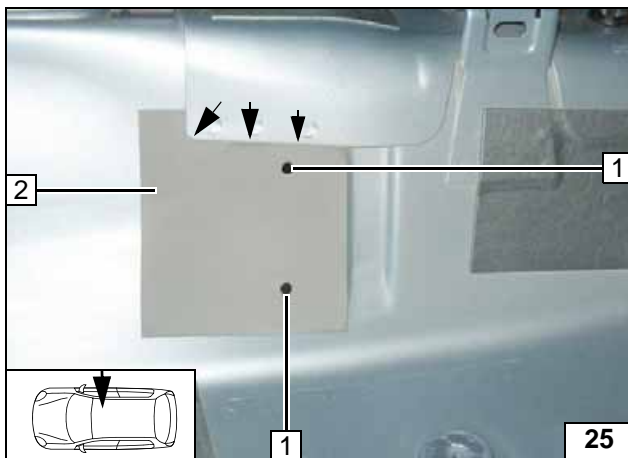
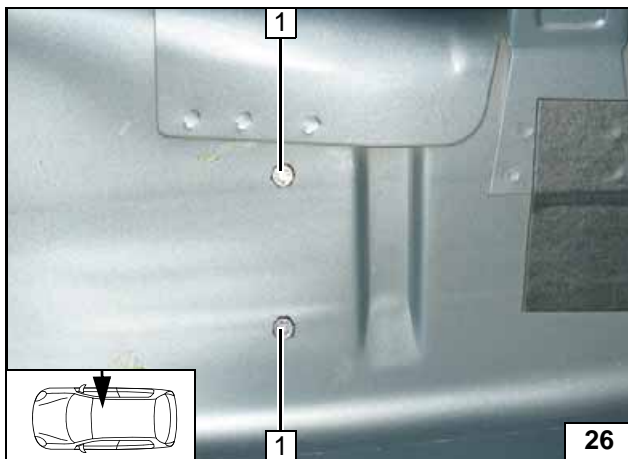


Figure shows centre tunnel on front passenger's side.  
Cut out template 2 and apply as shown; copy 7 mm dia. hole pattern 1 [2x].



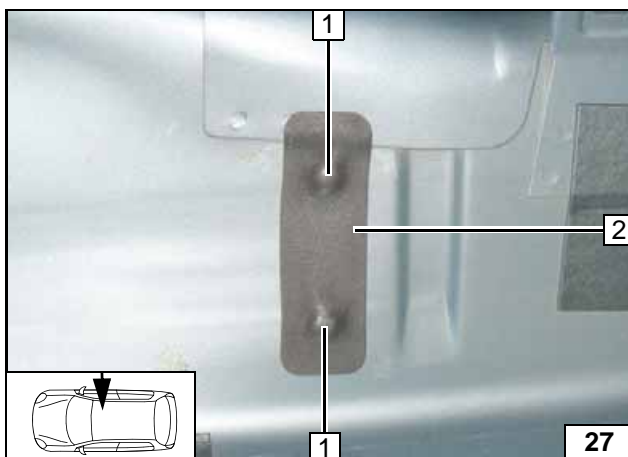
Copying  
hole pat-  
tern



Insert M6x20 bolt 1 [2x] in hole.



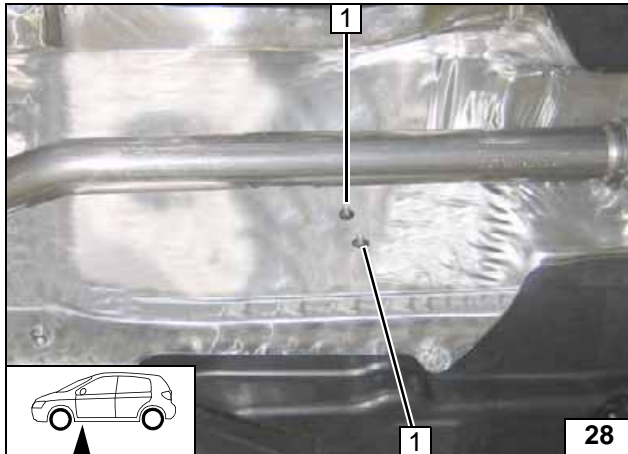
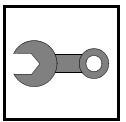
Preparing  
installation  
location



Insulation strip 2 on bolt heads 1 [2x].



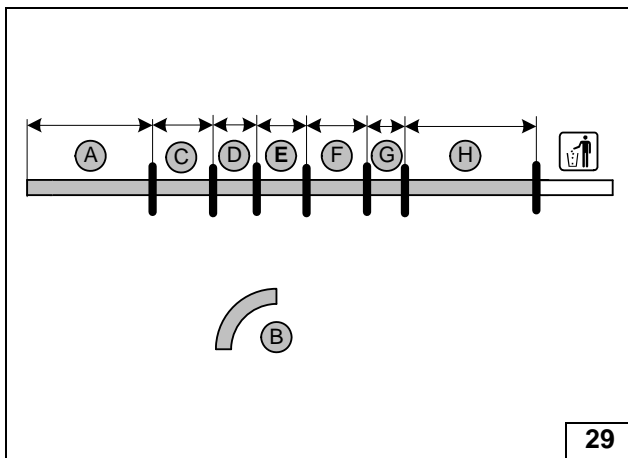
Preparing  
installation  
location



Secure M6x20 bolts with one pin lock 1 each.



Connect-  
ing pin lock



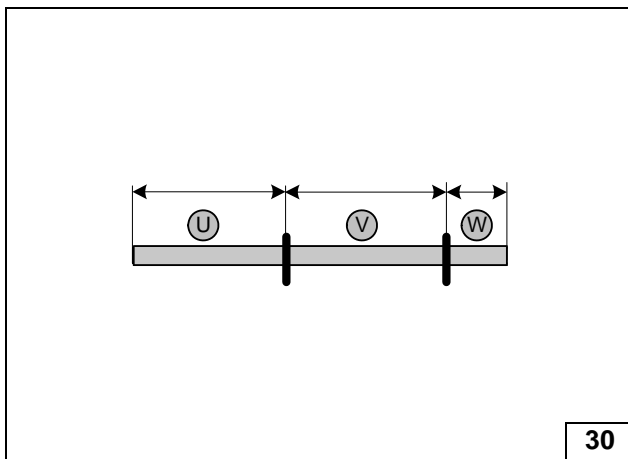
**Preparing Heater**

Hose **B** = 18 mm dia. 90° moulded hose

- A = 420
- C = 145
- D = 80
- E = 115
- F = 140
- G = 60
- H = 460

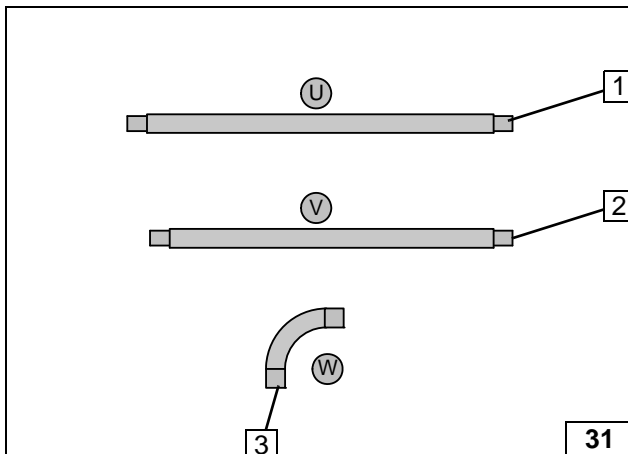


Cutting  
hoses to  
length



- U = 350
- V = 50
- W = 400

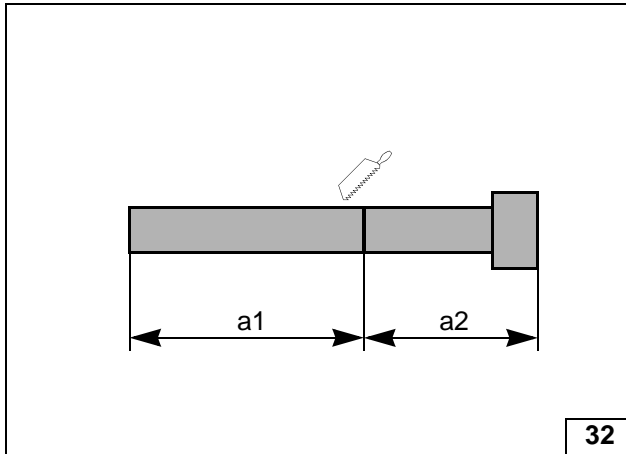
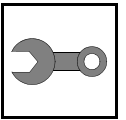
Cutting  
heat protec-  
tion hose to  
length



- 1 Hose **A**
- 2 Hose **H**
- 3 Hose **B**

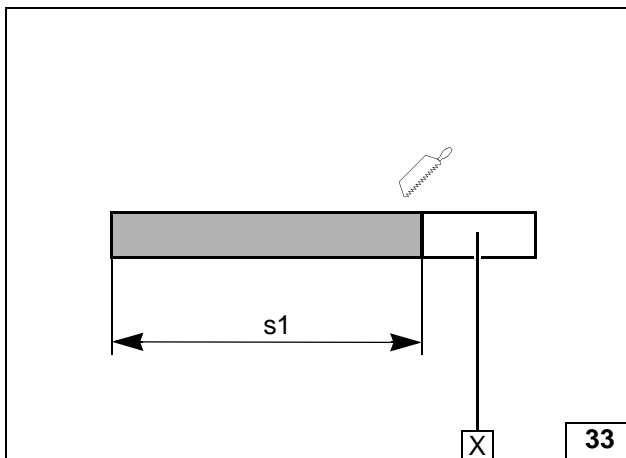
Pulling on  
heat protec-  
tion hose





a1 = 100  
a2 = 50

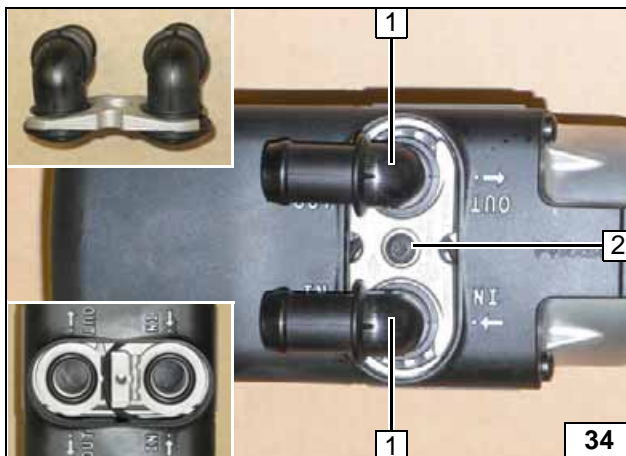
Preparing exhaust pipe



s1 = 340

X=

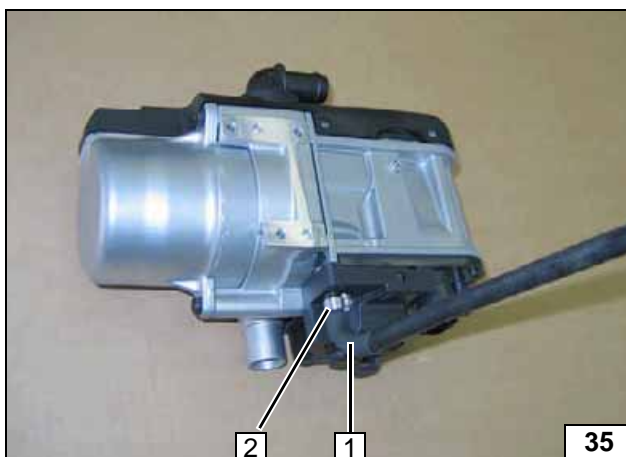
Cutting combustion air pipe to length



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

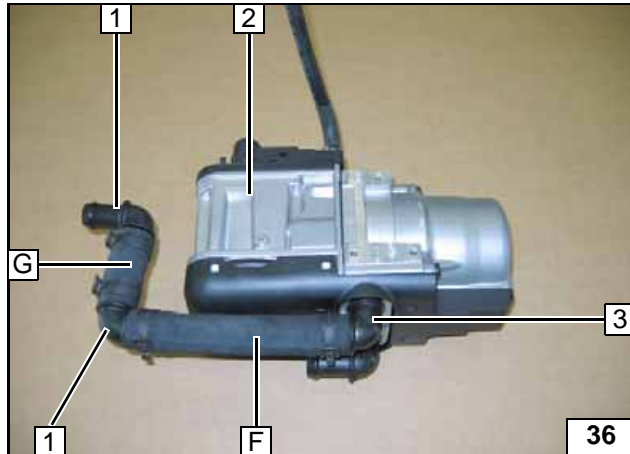
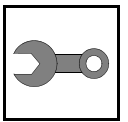


Installing water connection piece



- 1 Moulded hose (fuel)
- 2 10 mm dia. clamp

Premounting heater

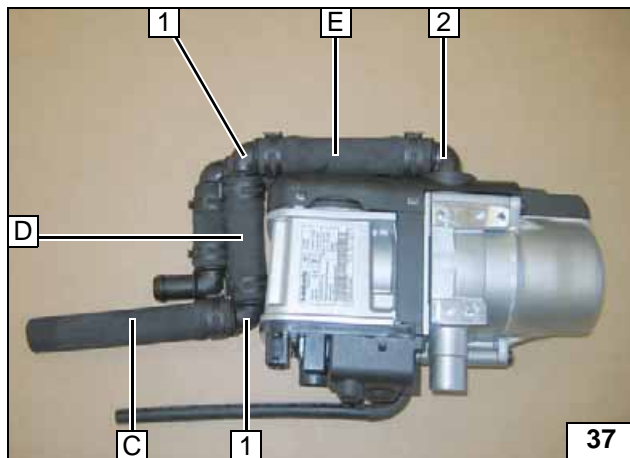


All spring clips 25 mm dia.

- 1 90°, 18x18 mm dia. connecting pipe[2x]
- 2 Heater
- 3 Water connection piece for heater outlet



**Premounting heater**

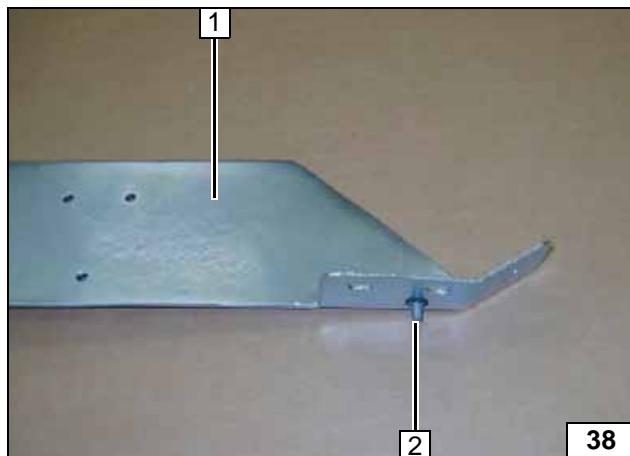


All spring clips = 25 mm dia.

- 1 90°, 18x18mm dia. connecting pipe [2x]
- 2 Water connection piece for heater inlet

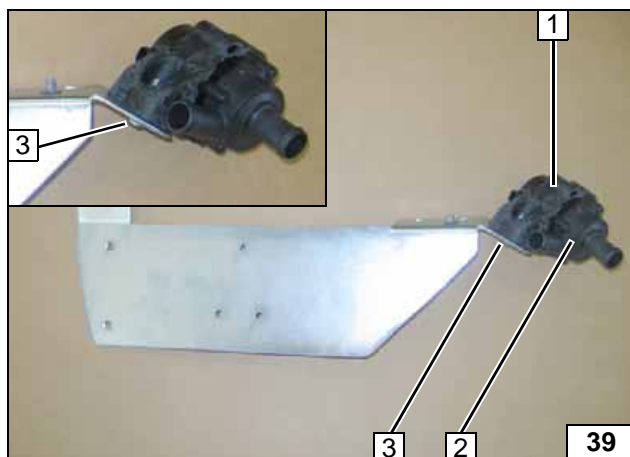


**Premounting heater**



- 1 Bracket
- 2 M6x12 bolt, pin lock

**Premounting bracket**

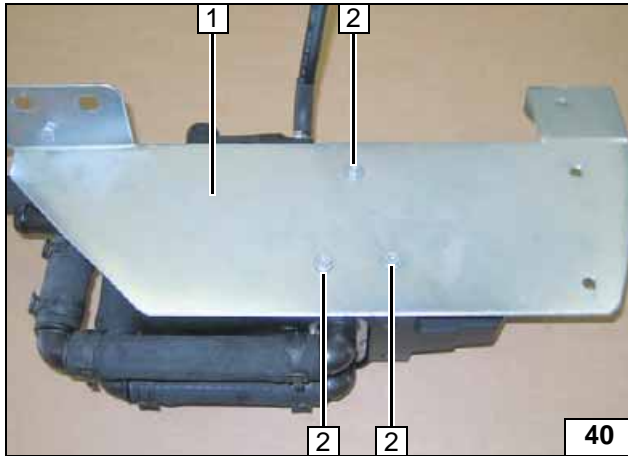
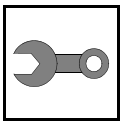


Mount circulating pump 2 hand-tight on bracket.

- 1 Circulating pump mount
- 3 M6x25 bolt, large diameter washer, flanged nut

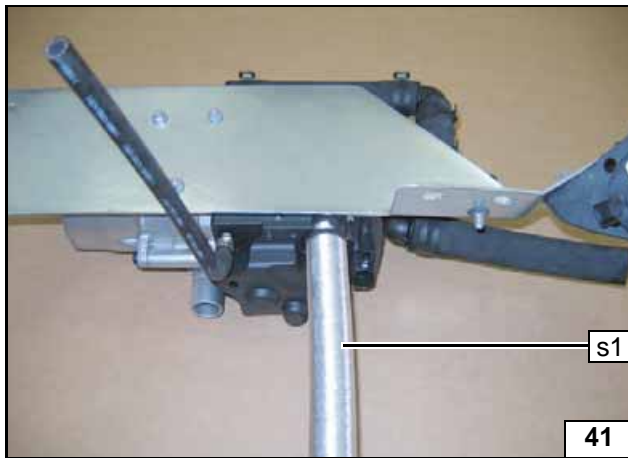


**Premounting bracket**

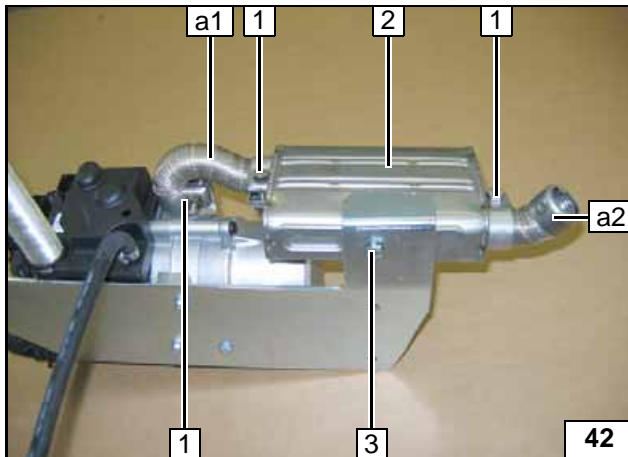


- 1 Bracket
- 2 5x13 self-tapping bolt [3x]

Installing bracket



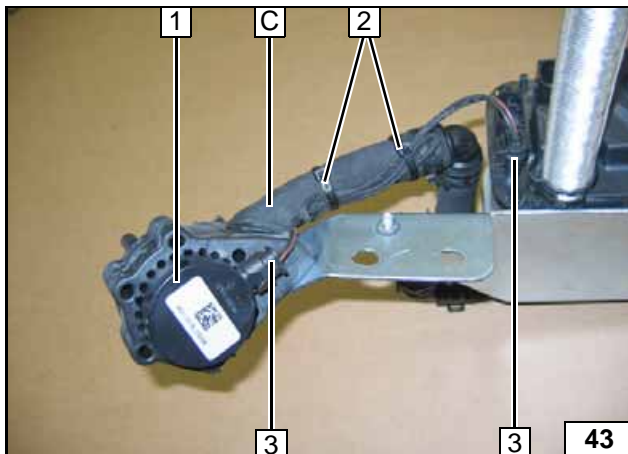
Installing combustion air pipe s1



- 1 Hose clamp [3x]
- 2 Exhaust silencer
- 3 M6x16 bolt, spring lockwasher



Premounting heater



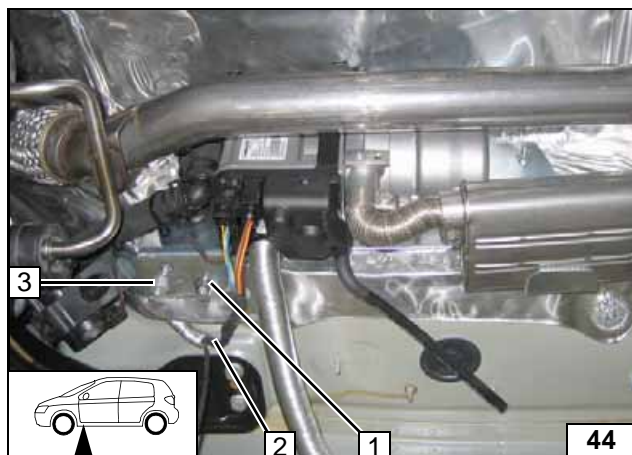
Install hose **C** with 25 mm dia. spring clip on circulating pump **1**.

Tighten all loose screw connections.

- 2 Cable tie [2x]
- 3 Circulating pump wiring harness



Premounting heater



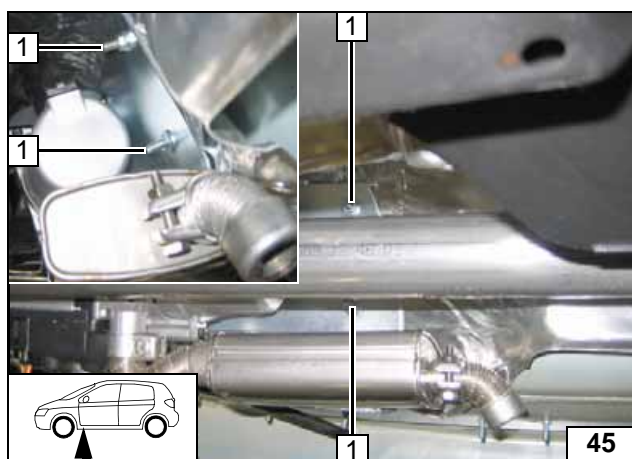
### Installing Heater

Route wiring harness **2** behind heat guard plate and connect to the heater.

- 1 M8 original vehicle flanged nut
- 3 M8 flanged nut

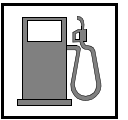


**Installing heater**



- 1 M6x20 bolt (premounted), flanged nut [2x]

**Installing heater**



**Fuel**



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

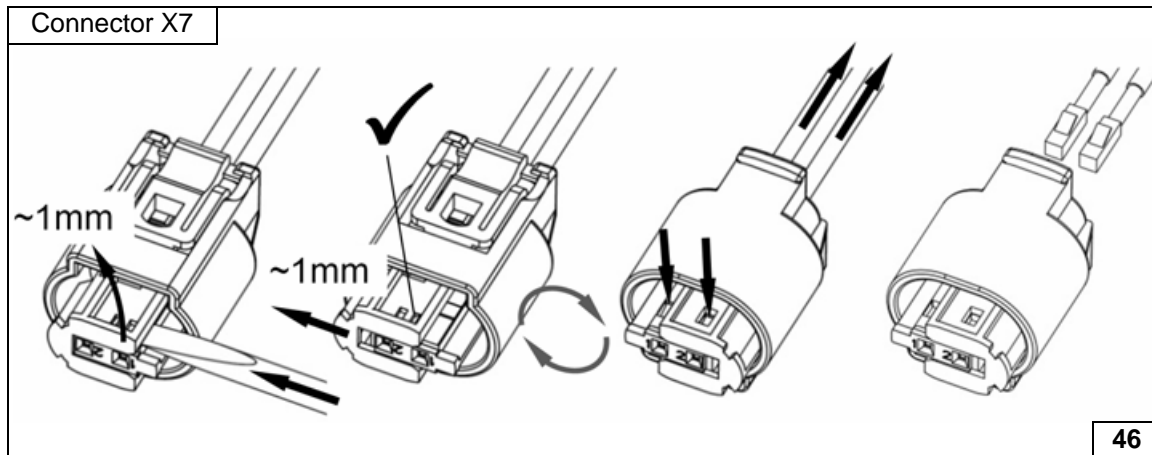
Catch any fuel running off in an appropriate container.

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

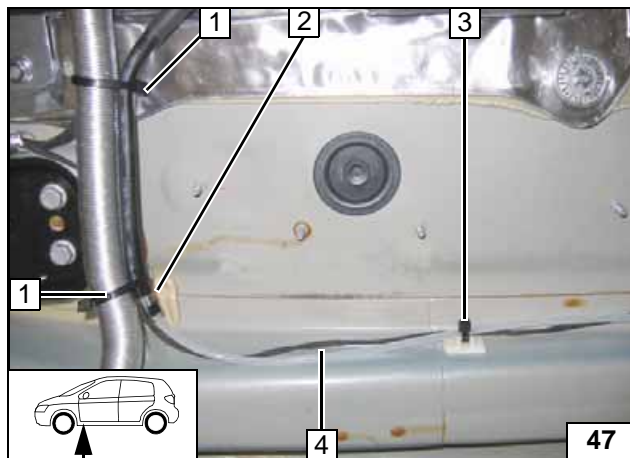


Provide rub protection for fuel line and wiring harness in areas where there are sharp edges.

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



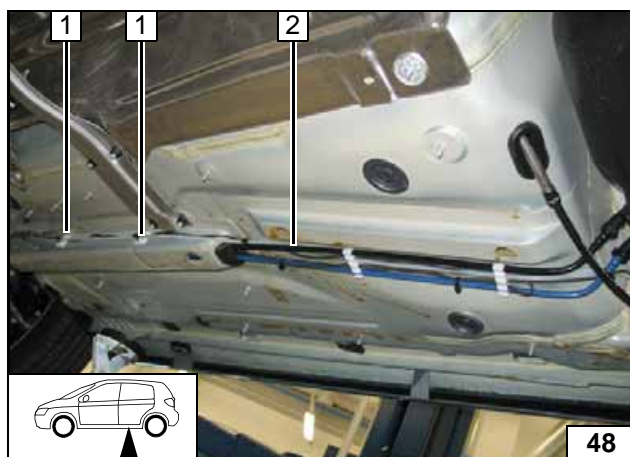
**Dismantling metering pump connector**



Degrease adhesive area.

- 1 Cable tie [2x]
- 2 Moulded hose (premounted), 10 mm dia. clamp, fuel line
- 3 Adhesive base, cable tie
- 4 Fuel line, metering pump wiring harness

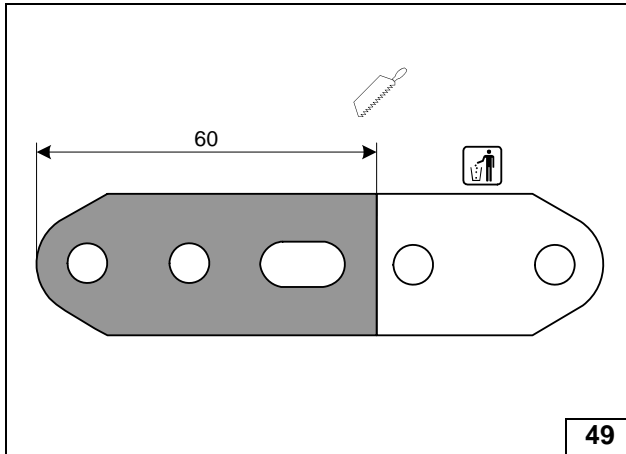
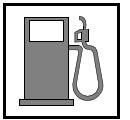
**Connection of heater and routing**



Route fuel line and metering pump wiring harness **2** along original vehicle fuel lines and secure with cable ties. Degrease adhesive areas.

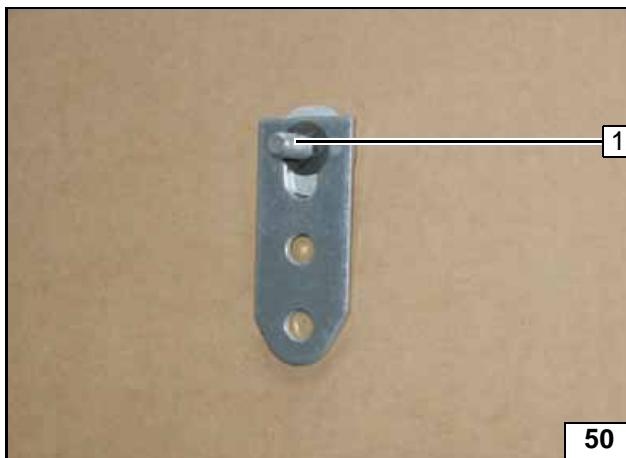
- 1 Adhesive base, cable tie [2x each]

**Connecting heater**



49

**Preparing perforated bracket**

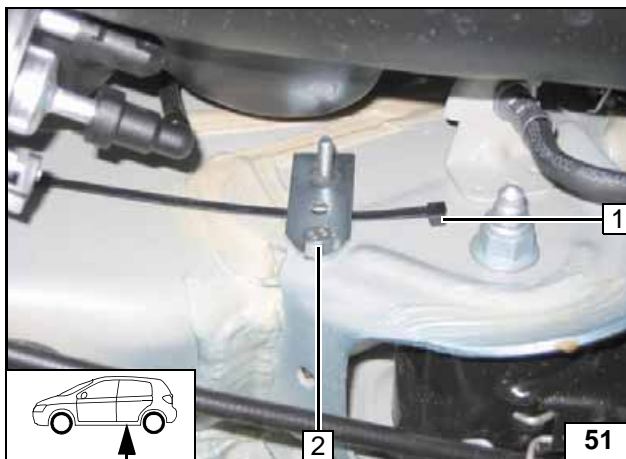


1

50

- 1 M6x25 bolt, large diameter washer, pin lock

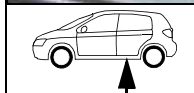
**Preparing perforated bracket**



1

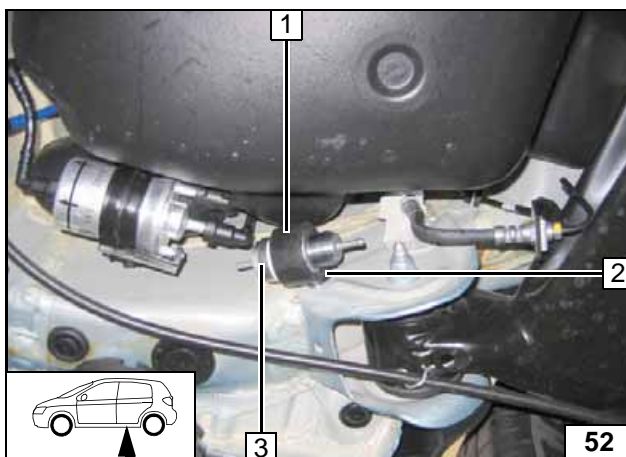
2

51



- 1 Cable tie
- 2 M6x20 bolt, large diameter washer, flanged nut

**Installing perforated bracket**



1

2

3

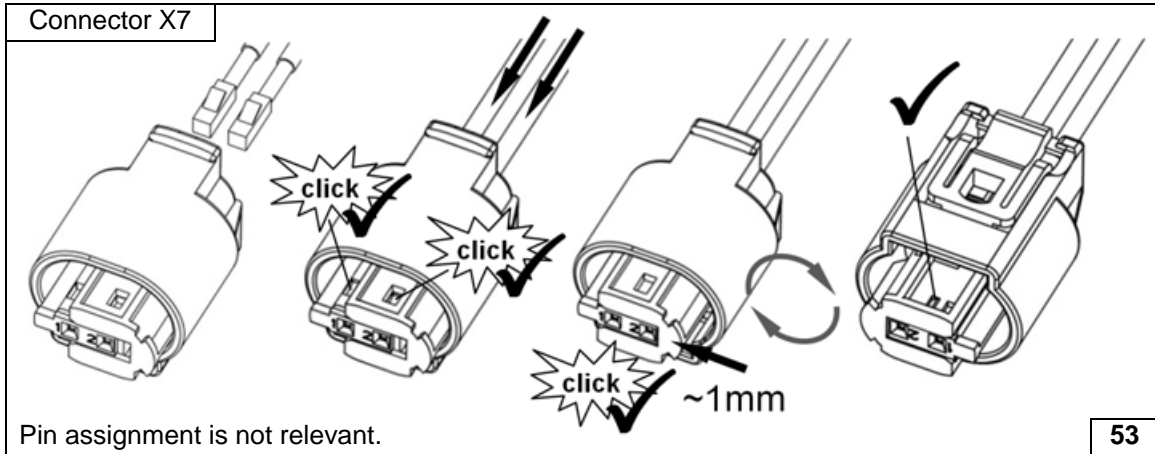
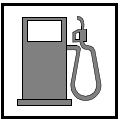
52



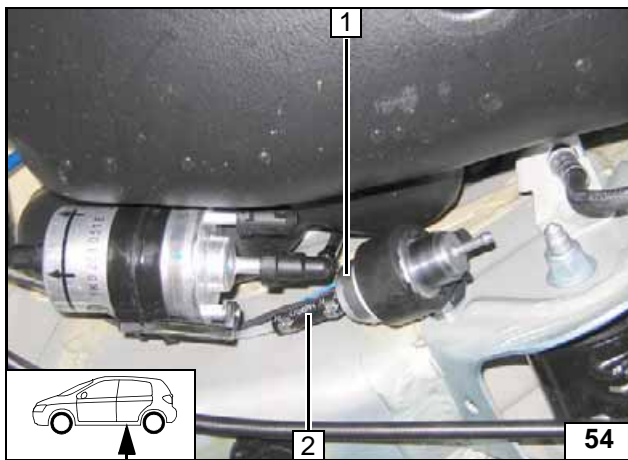
- 1 Metering pump mount, support angle bracket, flanged nut
- 2 Cable tie through metering pump mount and perforated bracket
- 3 Metering pump



**Installing metering pump**



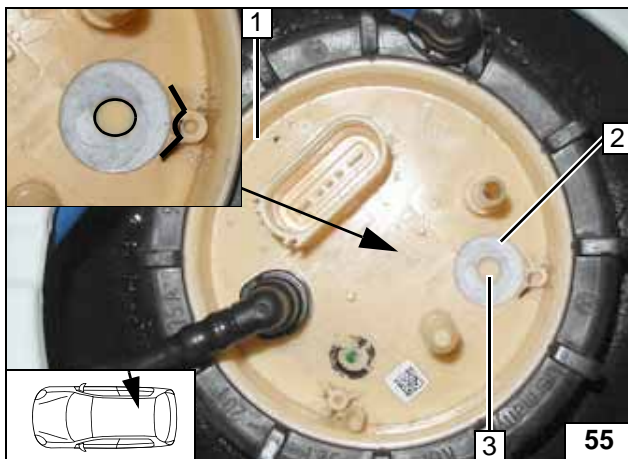
Completing metering pump connector



- 1 Metering pump, metering pump wiring harness
- 2 Fuel line of heater, hose section, 10mm dia. clamp [2x]



Connecting metering pump



### Installing FuelFix

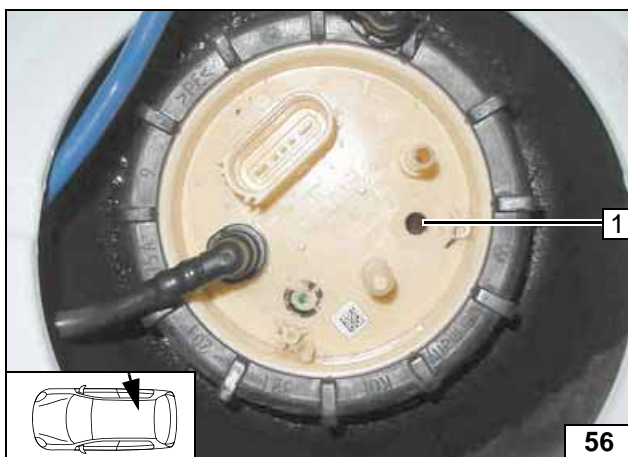
#### Version 1

Work steps F1 and F2.

- 1 Fuel tank sending unit
- 2 Position washer with outer dia.  $d_a = 21.6\text{mm}$  as template against the ribs.
- 3 Hole pattern



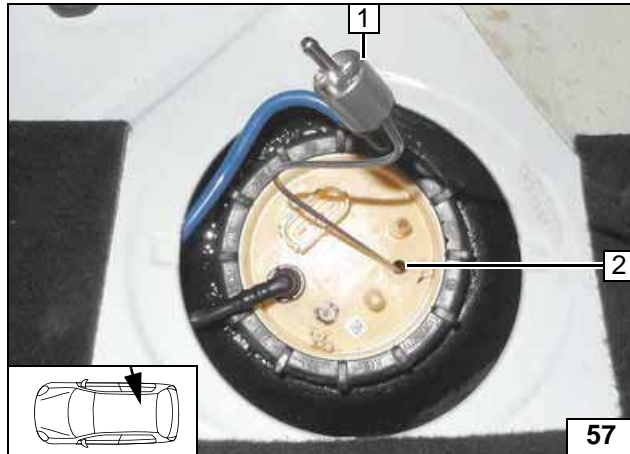
Fuel extraction



Work step F3.

- 1 Hole made with provided drill

Hole for FuelFix

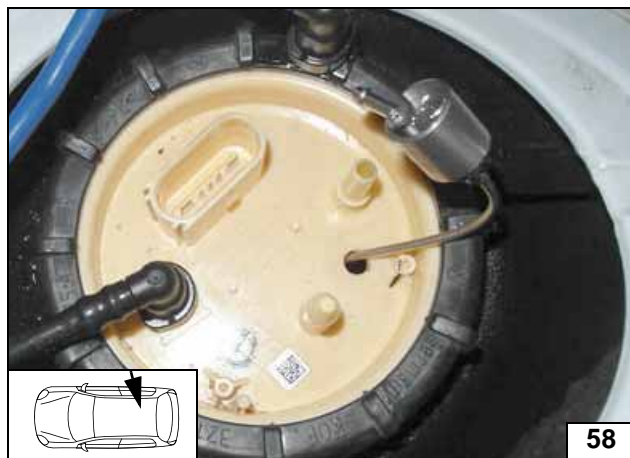


Work steps F4 and F5.

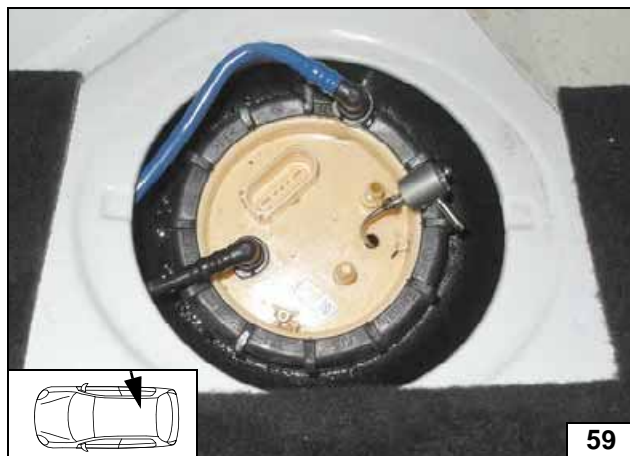
Bend FuelFix 1 according to template and cut to length.  
Insert into hole 2.



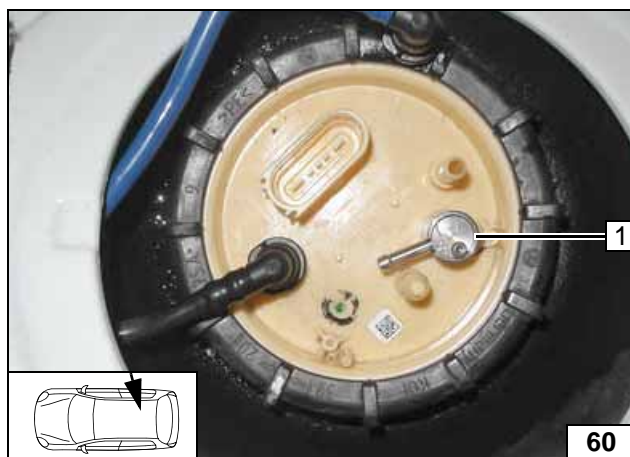
**Inserting FuelFix**



**Inserting FuelFix**



**Inserting FuelFix**



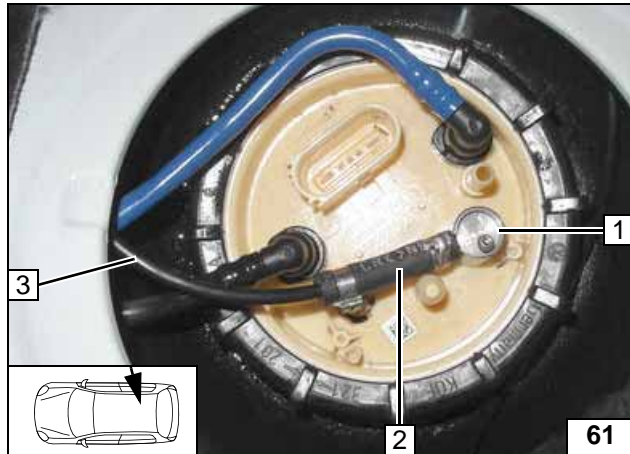
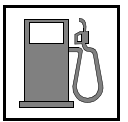
Work steps F5.3 and F5.4.

Turn FuelFix 1 in position as shown.



**Positioning FuelFix**

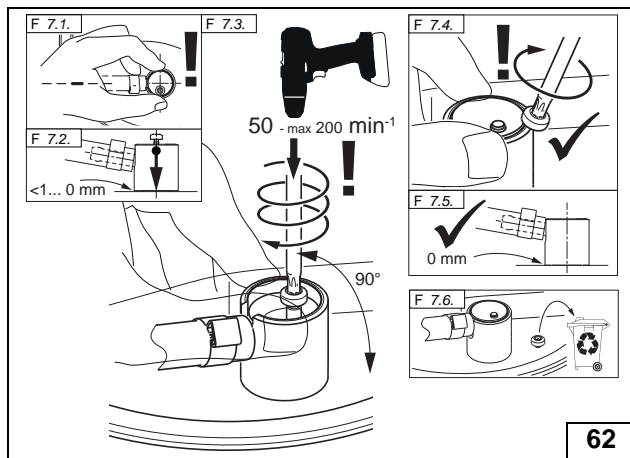




Work step F6.

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

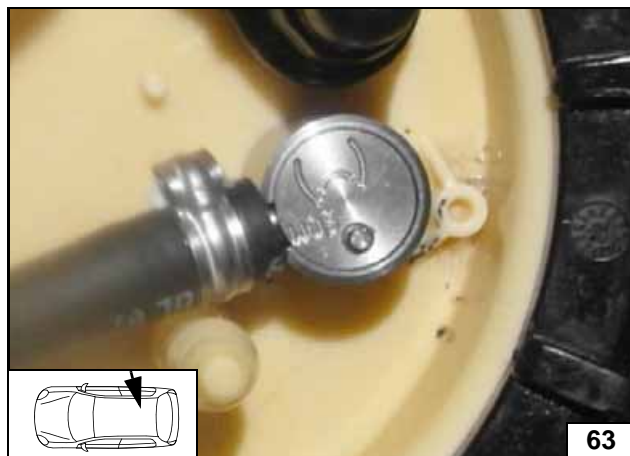
Connect-  
ing fuel line



Work step F7.

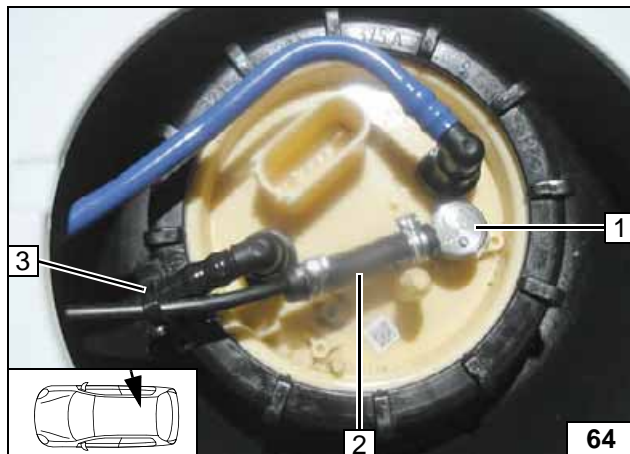


Installing  
FuelFix



Work step F8.

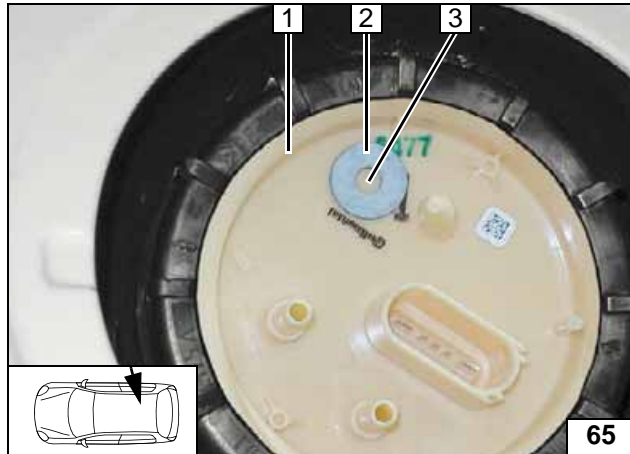
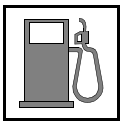
Ensuring  
firm seating  
of FuelFix



Work step F8.

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

Securing  
fuel line



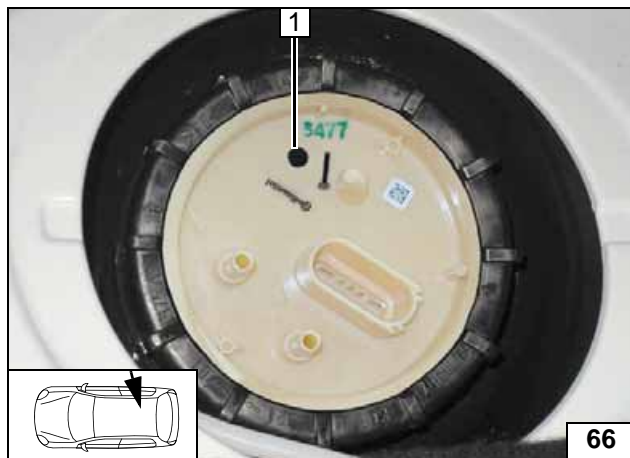
**Version 2**

Work steps F1 and F2.

- 1 Fuel tank sending unit
- 2 Position washer with outer dia.  $d_a = 21.6\text{mm}$  as template at the raised part and writing.
- 3 Hole pattern



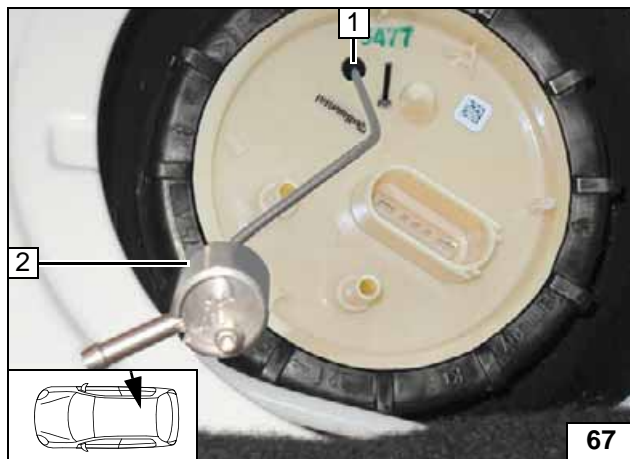
**Fuel extraction**



Work step F3.

- 1 Hole made with provided drill

**Hole for FuelFix**

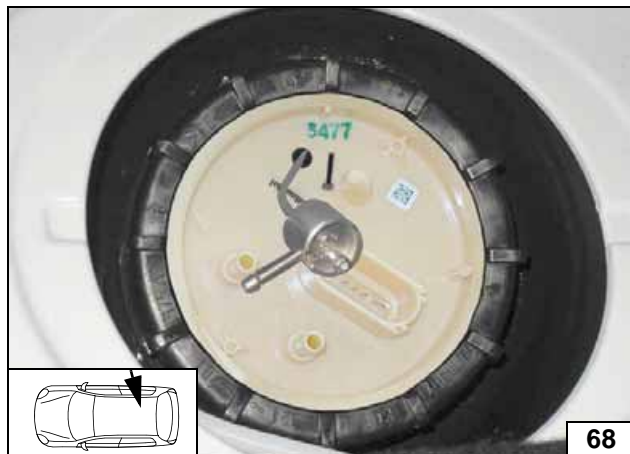


Work steps F4 and F5.

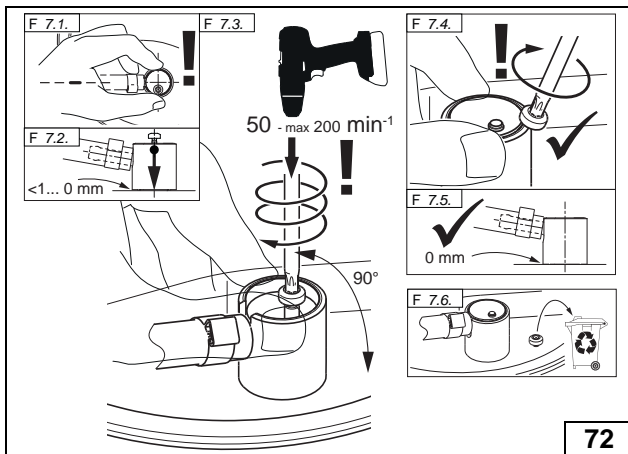
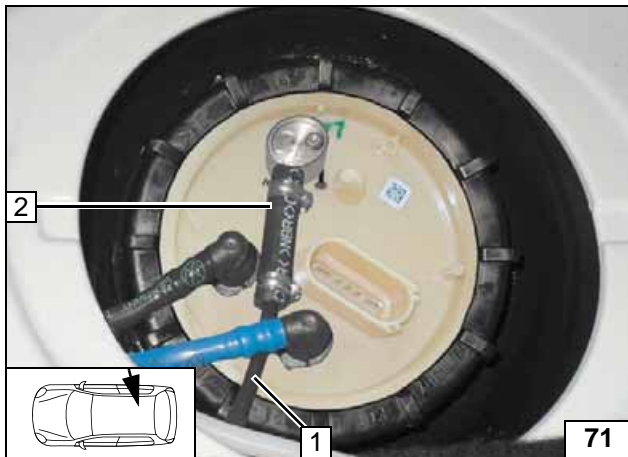
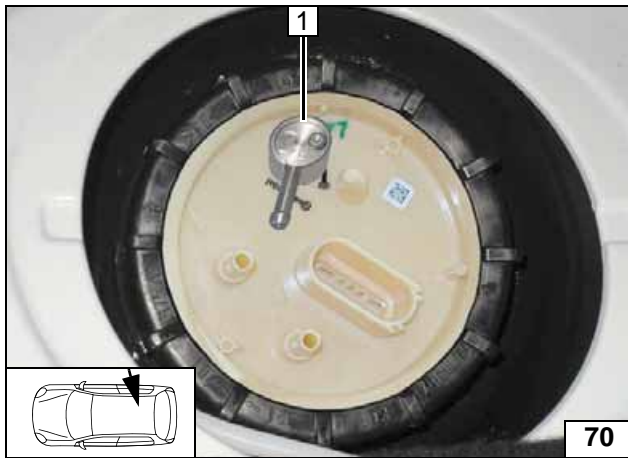
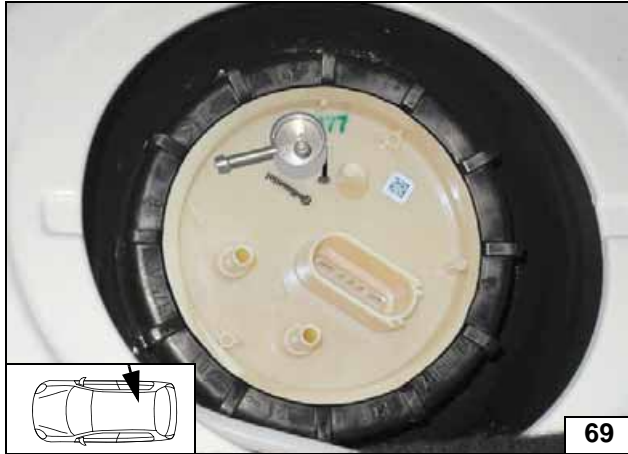
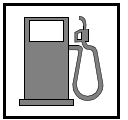
Bend FuelFix 2 according to template and cut to length.  
Insert into hole 1.



**Inserting FuelFix**



**Inserting FuelFix**



**Inserting FuelFix**

Work steps F5.3 and F5.4.

Turn FuelFix 1 in position as shown.



**Positioning FuelFix**

Work step F6.

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

**Connecting fuel line**

Work step F7.

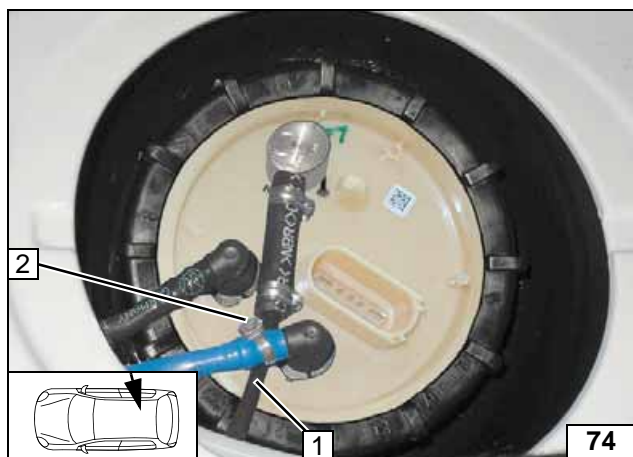


**Installing FuelFix**



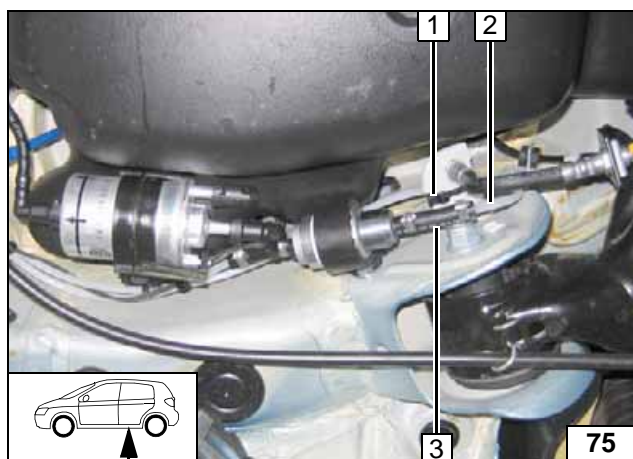
Work step F8.

Ensuring firm seating of FuelFix



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

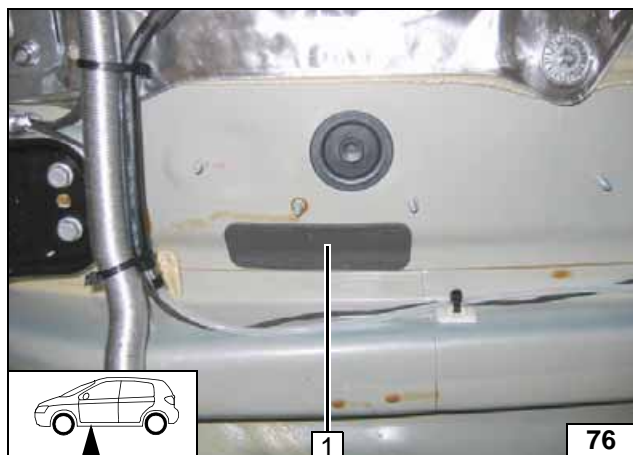
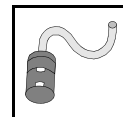
Securing fuel line



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



Connecting metering pump

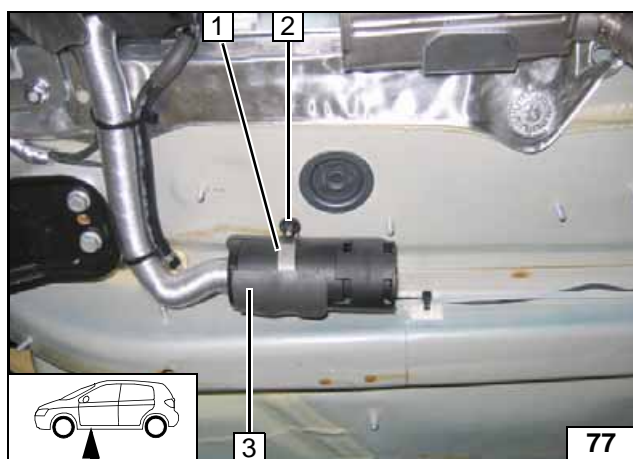


### Combustion Air

- 1 Insulation strip



Sticking on insulation strip

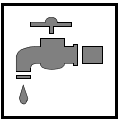


Stick on insulation strip 3 as shown

- 1 51 mm dia. p-clamp
- 2 Plastic nut, original vehicle stud bolt



Installing silencer

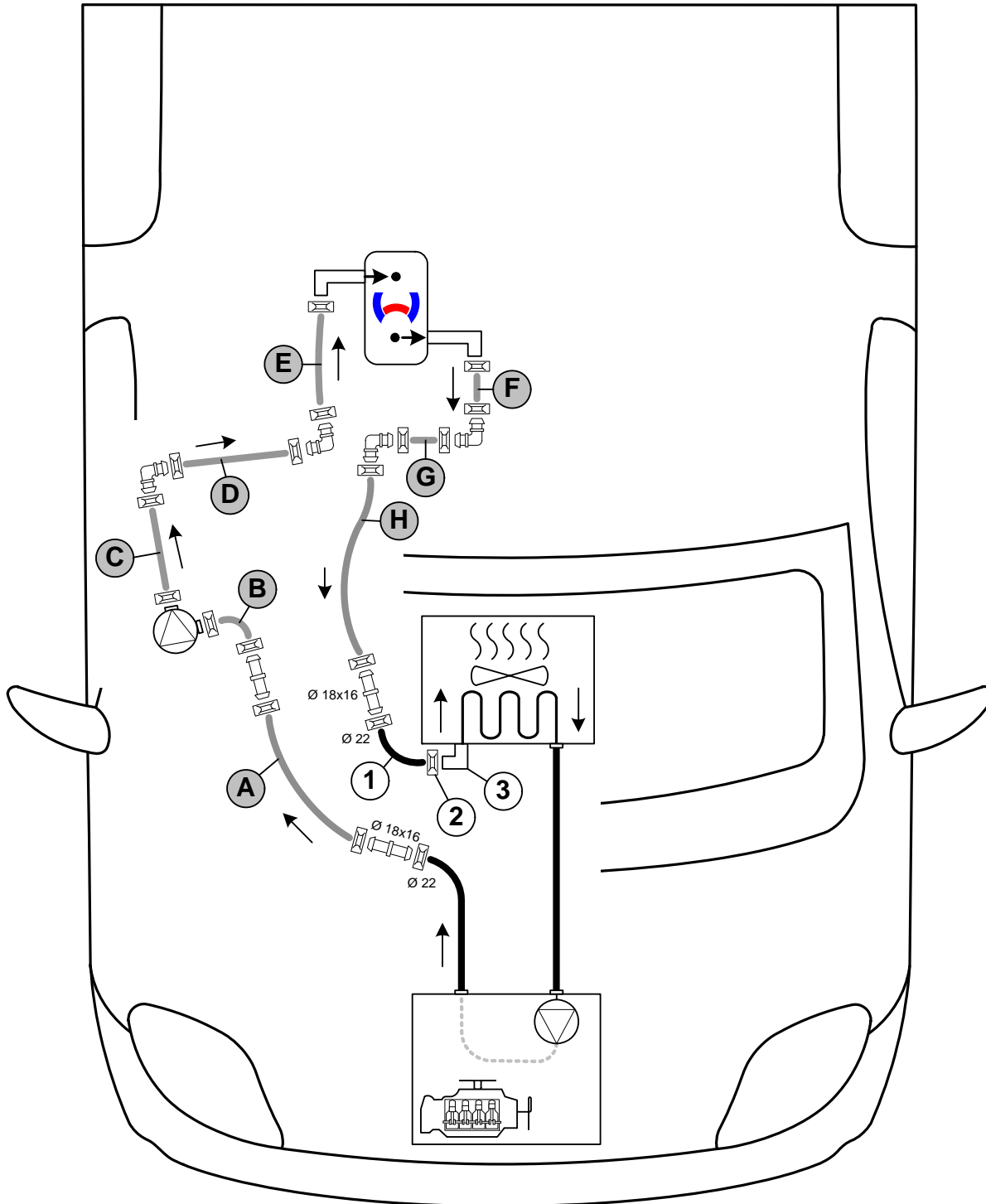


### Coolant Circuit







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

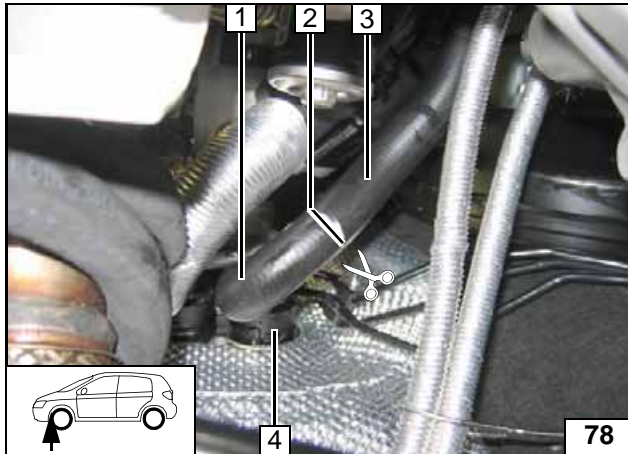
The connection should be modelled on an 'inline' circuit and based on the following diagram:



Hose routing diagram

- All spring clips without a specific designation  = 25 mm dia.  
 All connecting pipes without a specific designation  and  = 18x18mm dia.  
 1 = Original vehicle hose section.  
 2 = Original vehicle spring clip .  
 3 = Original vehicle quick-release coupling.



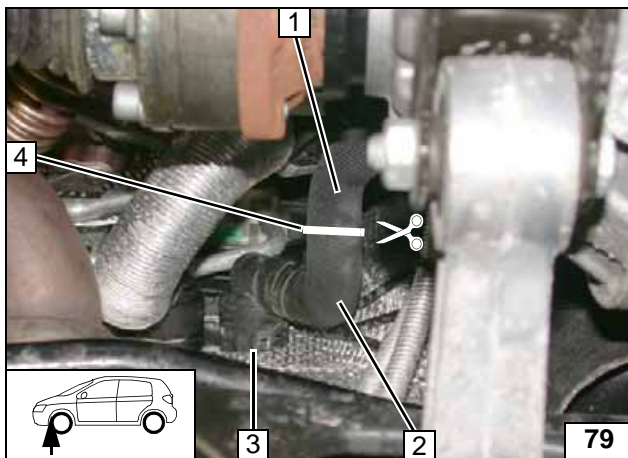


**1.2 TDI**

Release original vehicle quick-release coupling **4** on the connection piece.

- 1 Hose section of heat exchanger inlet
- 2 Cutting point
- 3 Engine outlet hose section

**Cutting point**

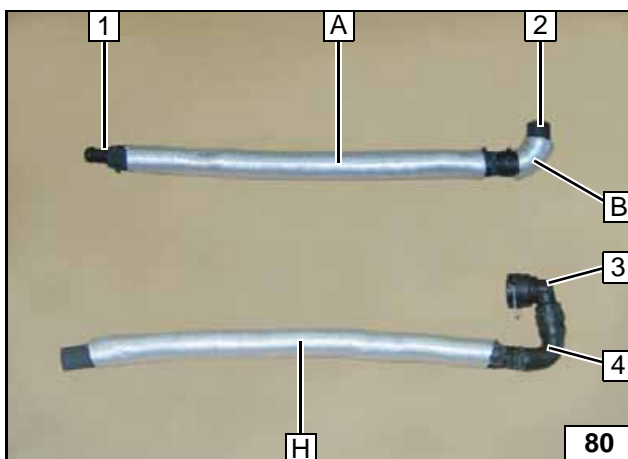


**1.6 TDI**

Release original vehicle quick-release coupling **3** on the connection piece.

- 1 Engine outlet hose section
- 2 Heat exchanger inlet hose section
- 4 Cutting point

**Cutting point**

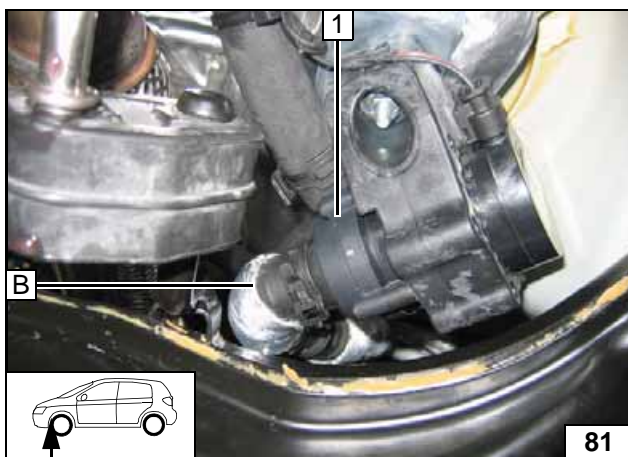


**All vehicles**

Assemble original vehicle hose section **4** on original vehicle quick-release coupling **3** as shown.

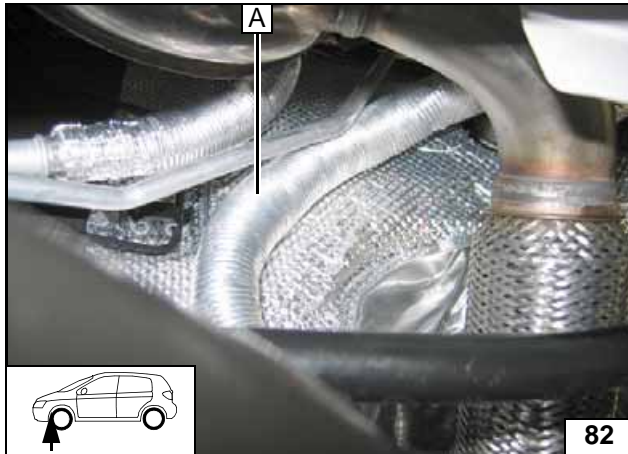
- 1 Connection of engine outlet
- 2 Connection of circulating pump

**Preparing hoses**



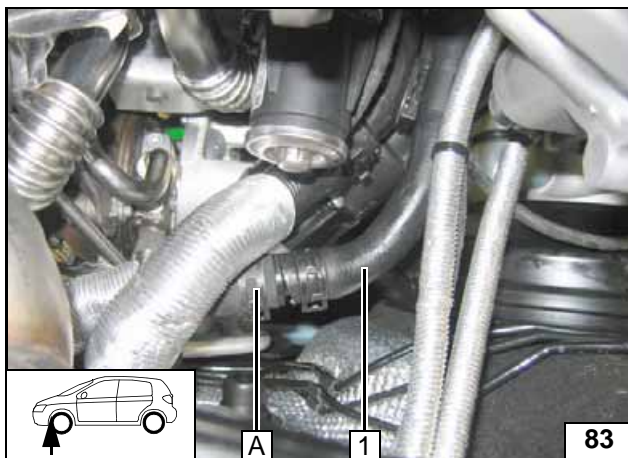
- 1 Circulating pump

**Connecting circulating pump**

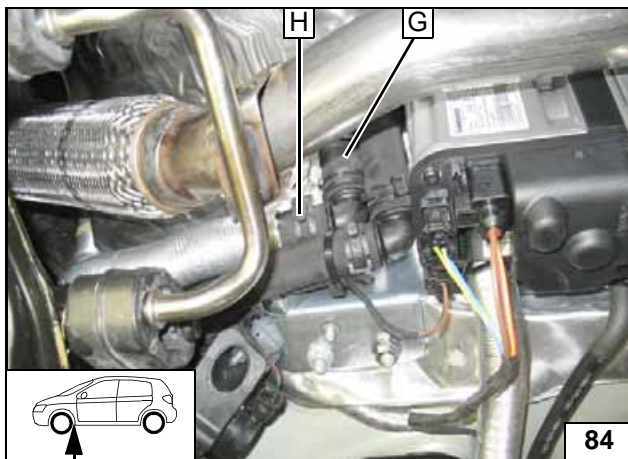


1 Engine outlet hose section

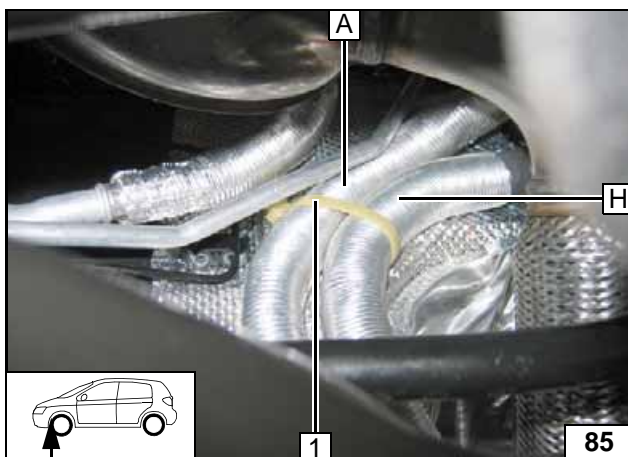
Routing in engine compartment



Connecting engine outlet



Connecting heater



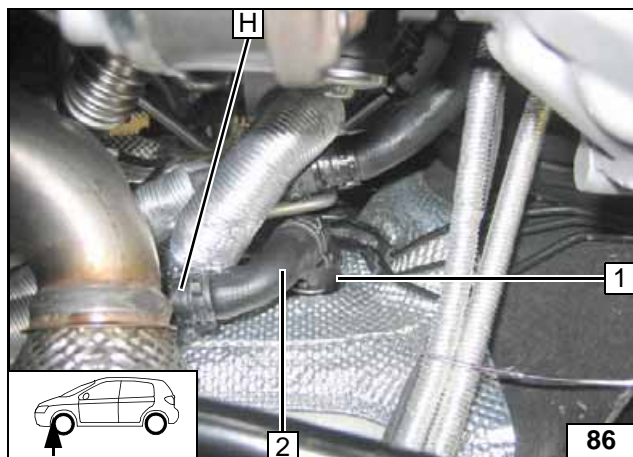
Ensure sufficient distance from neighbouring components.

1 Cable tie (temperature resistant)



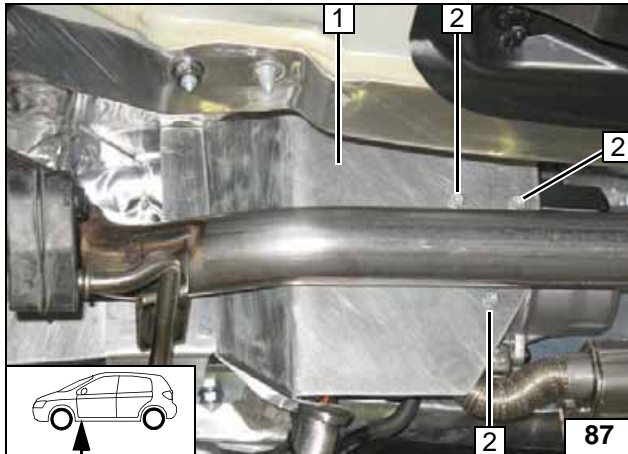
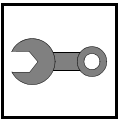
Routing in engine compartment





- 1 Original vehicle quick-release coupling of heat exchanger inlet
- 2 Original vehicle hose section

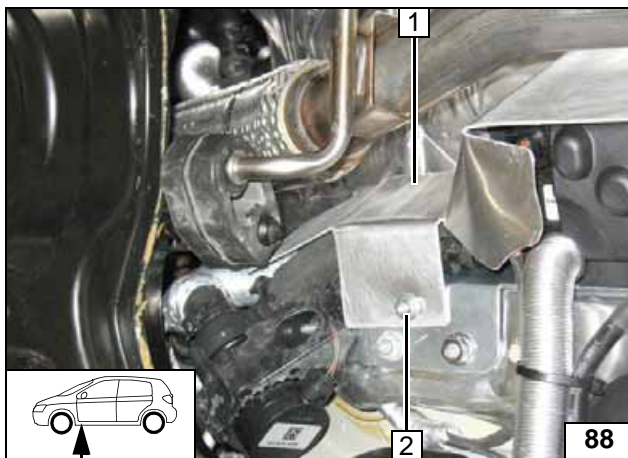
Connect-  
ing heat ex-  
changer  
inlet



**Guard Plate**

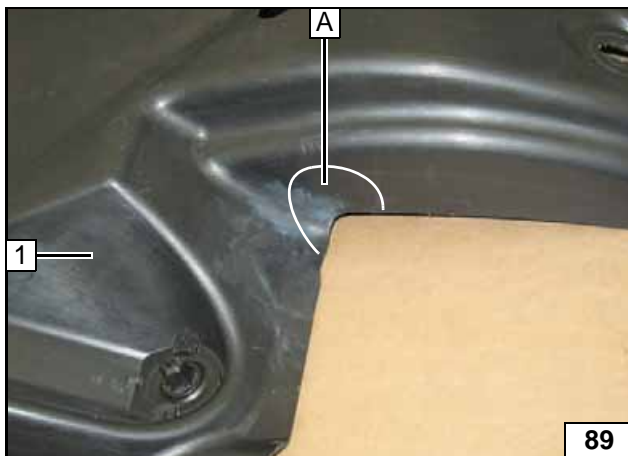
- 1 Guard plate
- 2 5x13 self-tapping bolt [3x]

**Installing guard plate**



- 1 Guard plate
- 2 Flanged nut

**Installing guard plate**



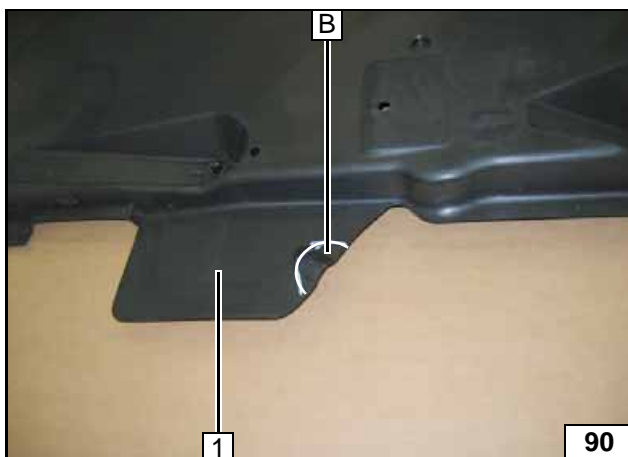
**Underbody Trim**

Cut out underbody trim 1.

**A Section**



**Cutting out underbody trim**

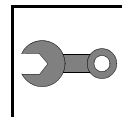


Cut out underbody trim 1.

**B Section**



**Cutting out underbody trim**



## Final Work



Reassemble the components in reverse order. Check all hoses, clamps and all electrical connections for firm seating. Insulate and tie back all loose lines. Only use manufacturer-approved coolant. Spray the heater components with anti-corrosion wax (Tectyl 100K).

- **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' caution label near the filler neck.**
- **For initial startup and function check, please see installation instructions.**



Install underbody trim 1. Ensure sufficient distance from neighbouring components.

- A** Cutout for exhaust outlet
- B** Cutout for combustion air pipe



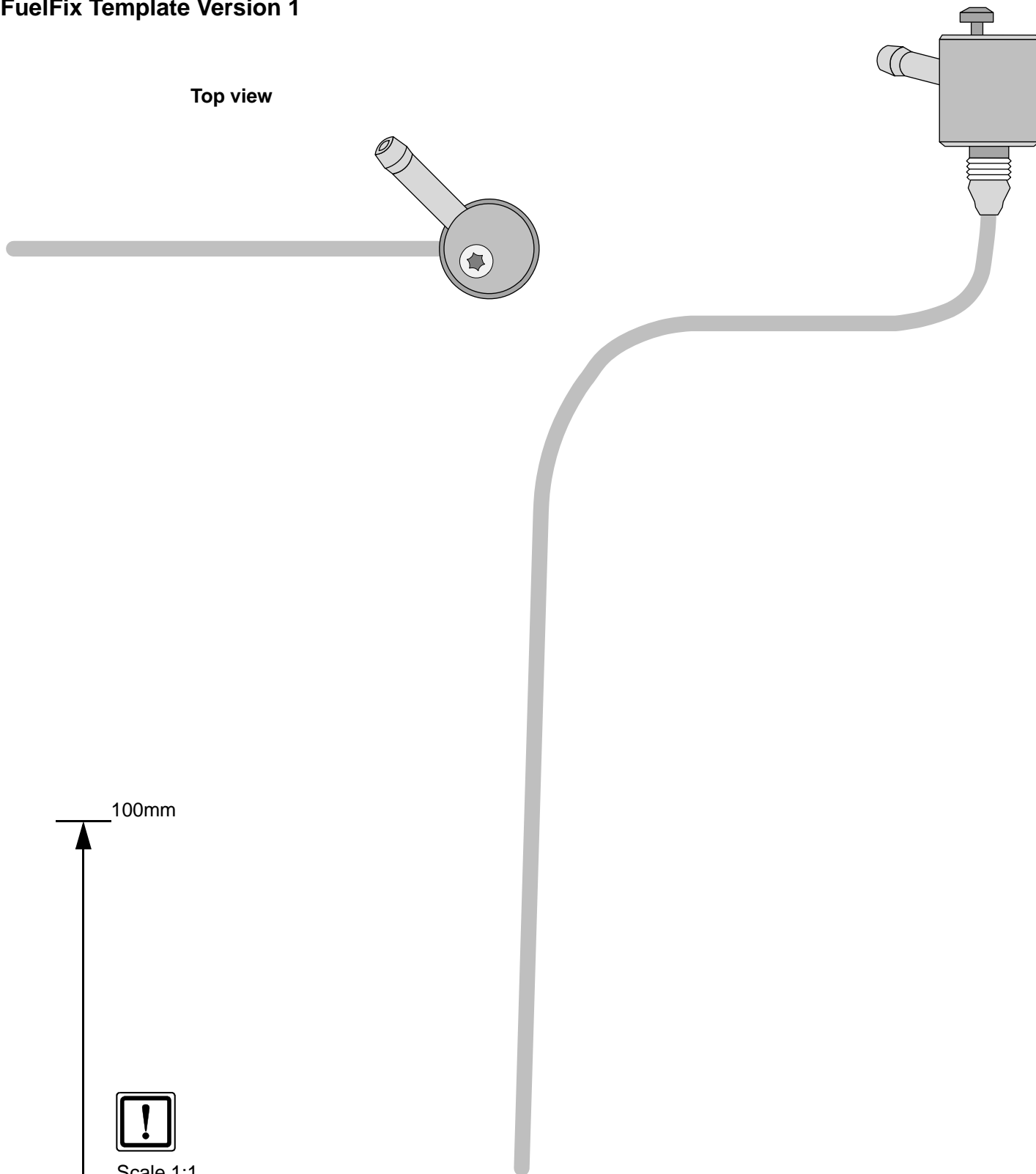
**Cutting out underide protection**

Webasto Thermo & Comfort SE  
 Postfach 1410  
 82199 Gilching  
 Germany  
 Internet: [www.webasto.com](http://www.webasto.com)  
 Technical Extranet:  
<http://dealers.webasto.com>



FuelFix Template Version 1

Top view



100mm



Scale 1:1

Compare size of printout with dimension lines.  
Allowed tolerance a maximum of 2%.

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

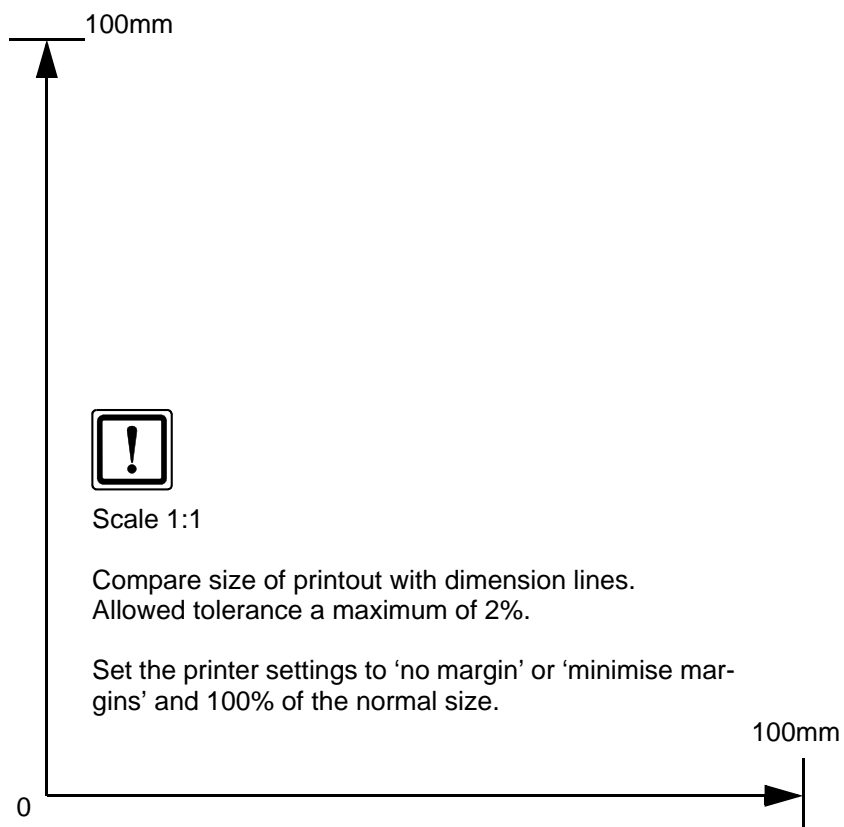
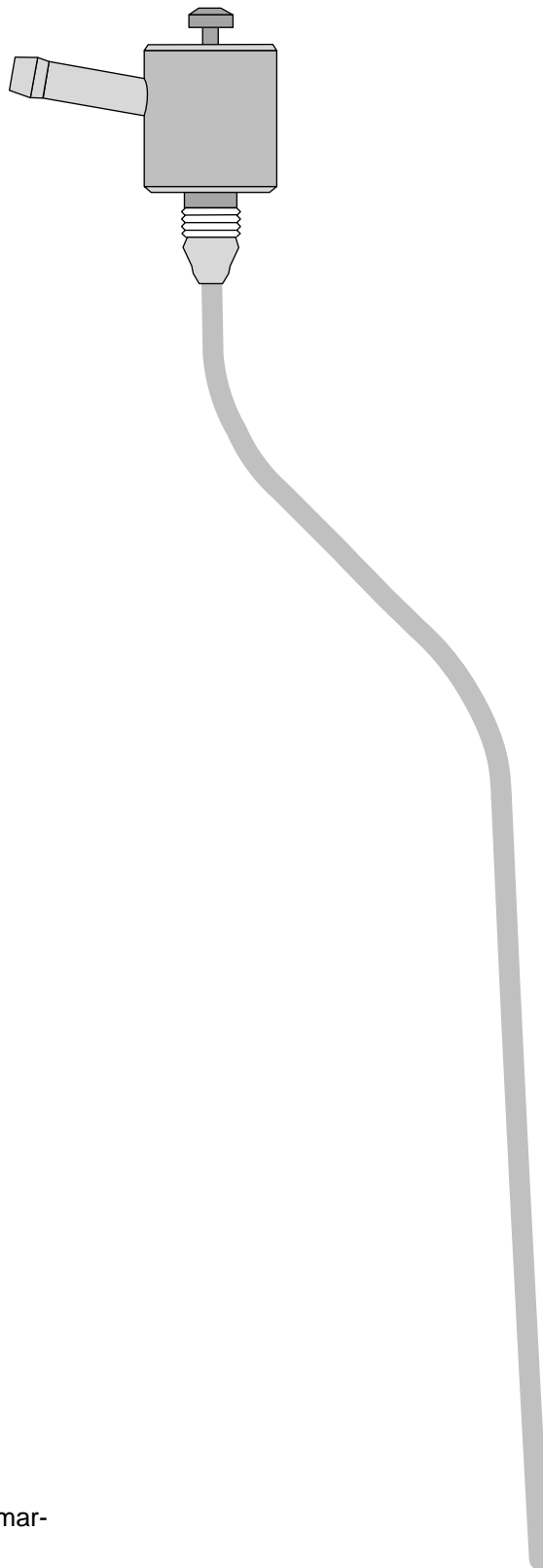
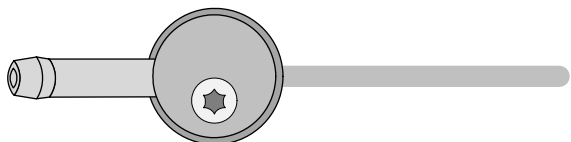
100mm

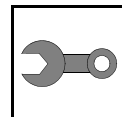
0



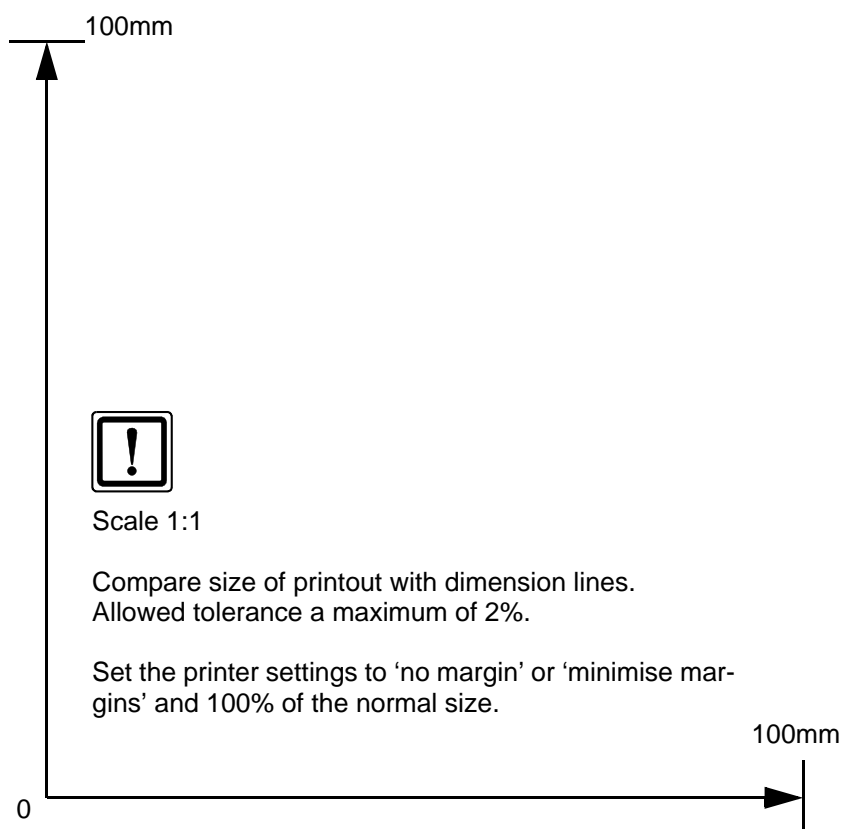
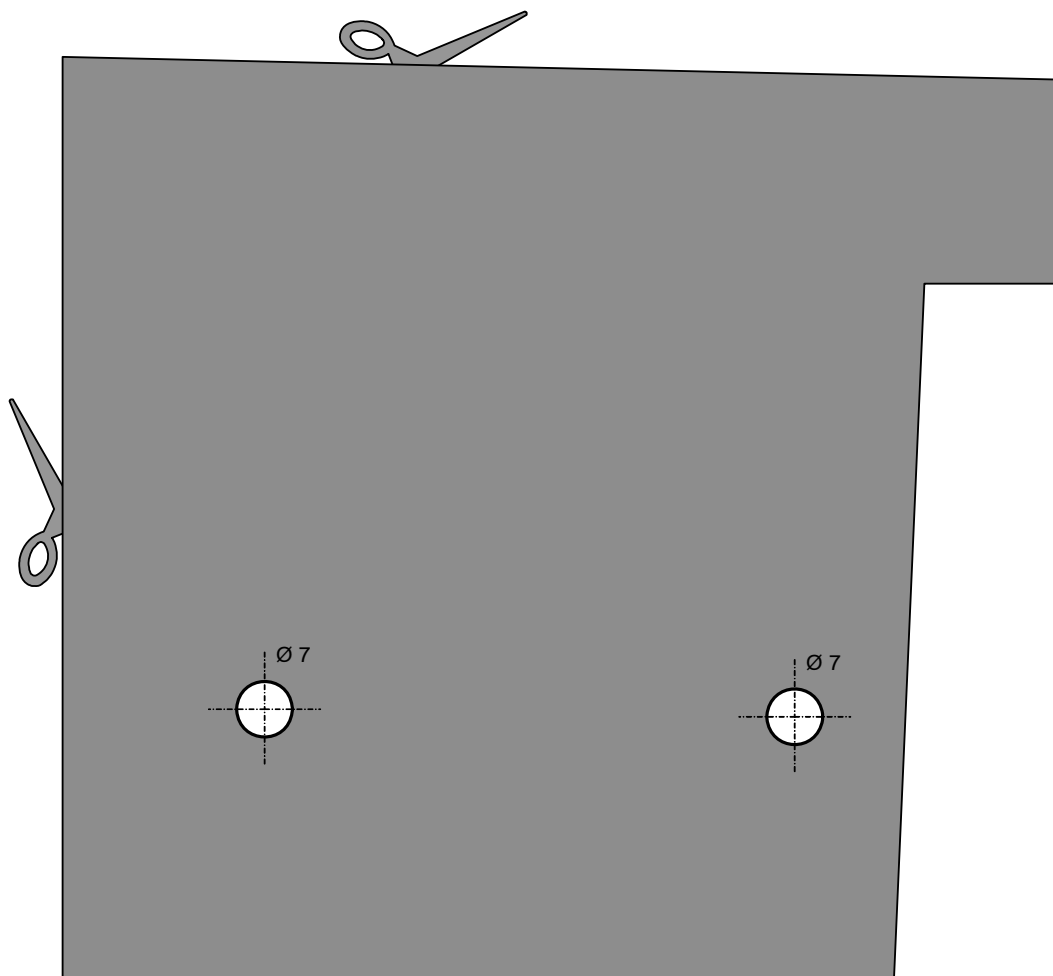
FuelFix Template Version 2

Top view





### Bracket 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

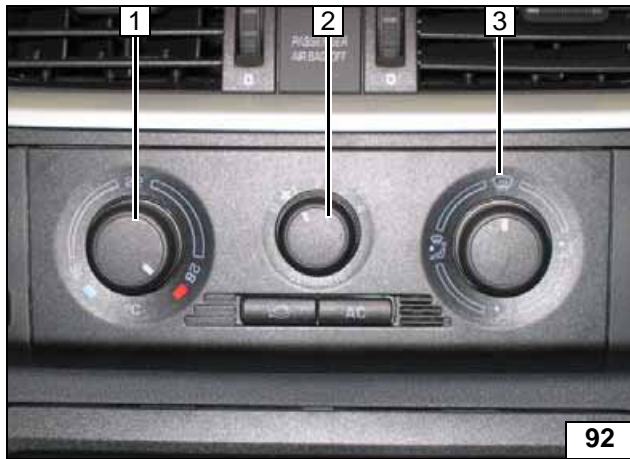
**Example:**

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 vehicle settings for the heating operation .

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

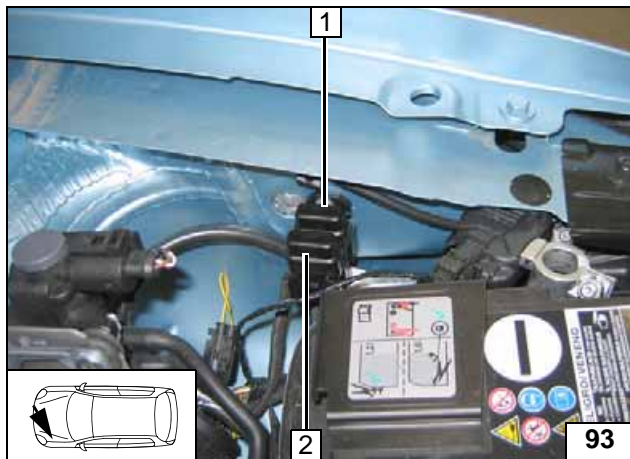
Before parking the vehicle, make the following settings:



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

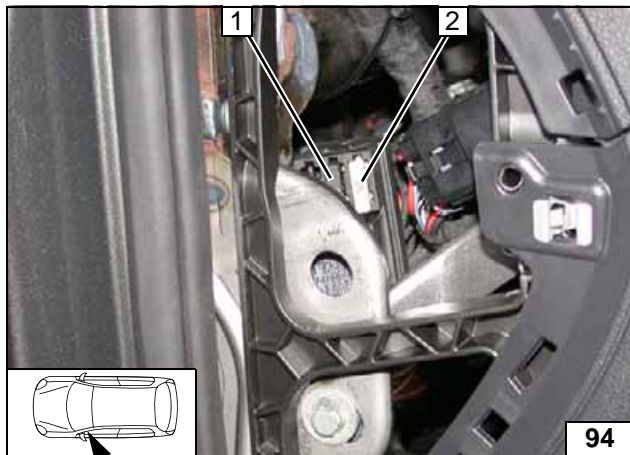


**A/C control panel**



- 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

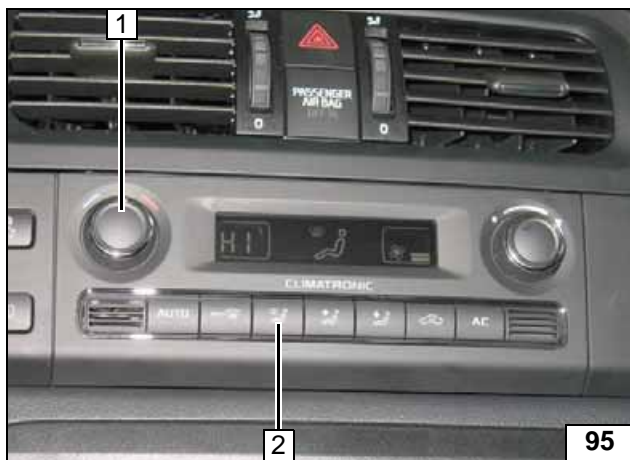
**Example:**

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 vehicle settings for the heating operation .

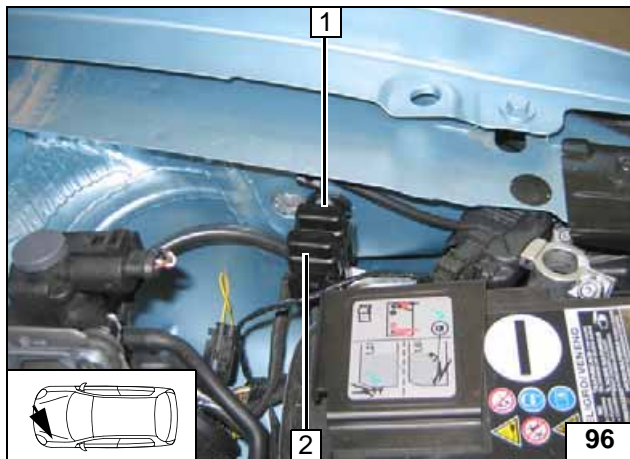
For instructions on deactivation, please refer to the operating instructions of the vehicle.

Before parking the vehicle, make the following settings:

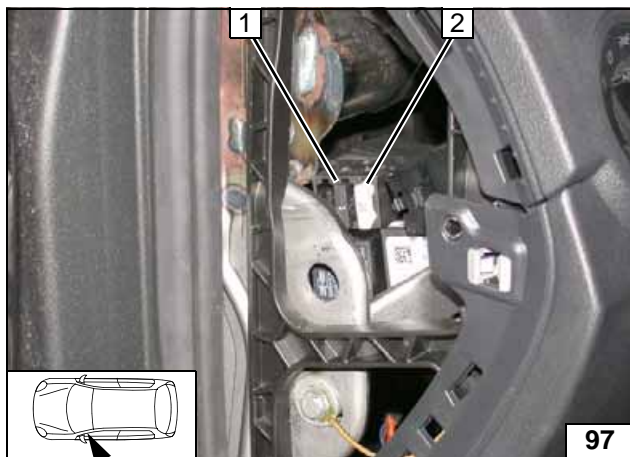


The fan speed does not have to be preset.

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



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



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



**A/C control panel**

**Engine compartment fuses**

**Passenger compartment fuses**

