

# Water Heater

*Thermo Top E* Parking Heater



*Thermo Top C* Parking Heater



## Installation Documentation

### VW Polo

Petrol

from model year 2009

Left-hand drive vehicle



#### **WARNING!**

Hazard warning:

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.

Specialist company training, technical documentation, specialized tools and equipment are required to install and repair Webasto heating and cooling systems.



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

**NEVER attempt to install or repair Webasto heating or cooling systems if you have not successfully completed the company training and thereby acquired the required technical skills, or if you do not have access to the required technical documentation, tools and equipment needed to carry out correct installation and repairs.**

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

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

Webasto does not accept any liability for defects and damage that are attributable to installation by untrained staff.

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## Validity

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

Engine type	Engine model	Output in kW	Displacement in cm <sup>3</sup>
CGP	Petrol	44	1198
CGG	Petrol	63	1390

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

The installation location of the digital timer should be confirmed with the end customer before installation.

**Heater / Installation Kit**

Quantity	Description	Order No.:
1	Basic delivery scope for <i>Thermo Top E / C</i>	see price list
1	Installation kit VW Polo 2009 Petrol	1315237B
1	Heater control	see price list

**Required additionally with Climatronic**

Quantity	Description	Order No.:
1	Climatronic VW/Skoda kit for MY 2009	1323646A

**Foreword**

This installation documentation applies to VW Polo Petrol vehicles - for validity, see page 2 - from model year 2009 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.

However, the stipulations in the "installation documentation", the "operating instructions" and the "installation instructions" for the *Thermo Top E / C* must always be observed.

The corresponding rules of technology and any information from the vehicle manufacturer should be observed during the installation work.

**General Instructions**

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.

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

When installing an IPCU, check or adjust the corresponding settings before installation.

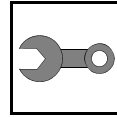
**Special Tools**

- Torque wrench for 2.0 - 10 Nm
- Hose clamping pliers
- Metric thread-setter kit
- Gr. 10 ratchet wrench

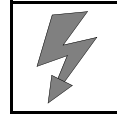
## Explanatory Notes on Document

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

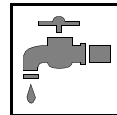
### Mechanical system



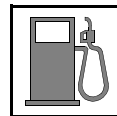
### Electrical system



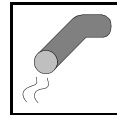
### Coolant circuit



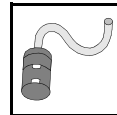
### Fuel



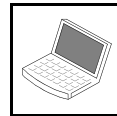
### Exhaust gas



### Combustion air



### Software



Special features are highlighted using the following symbols:



Specific risk of injury or fatal accidents.



Specific risk of damage to components.



Specific risk of fire or explosion.



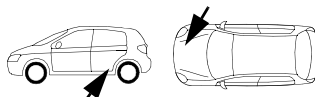
Reference to general installation instructions of Webasto components or to the manufacturer's vehicle-specific documents.



Reference to a special technical feature.



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



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

All dimensions are in mm!

Tightening torque of hose clamps = 2.0 + 0.5 Nm!

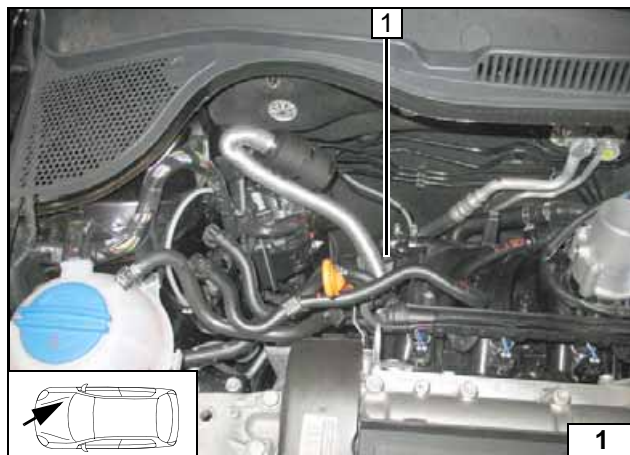
Tightening torque of Ejet screws, Ejet studs = 10 Nm!

**Preliminary Work**

**WARNING!**

- Open the fuel tank cap, ventilate the tank.
- Close the fuel tank cap again.
- Disconnect the battery!
- Depressurise the cooling system.
- Copy the factory number from the original type label to the duplicate type label.
- Remove years that do not apply from the duplicate label.
- Attach the duplicate label (type label) in the appropriate place.
- 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 together with the intake hose.
- Remove the battery.
- Remove the underride protection.
- Remove the right vehicle underbody trim.
- 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 Climatronic).
- Remove the lateral instrument panel trim on the left (only with Climatronic or Telestart T100 HTM).

Remove page 24 "Operating Instructions for End Customer" and add to the vehicle operating instructions.



**Heater Installation Location**

- 1 Heater

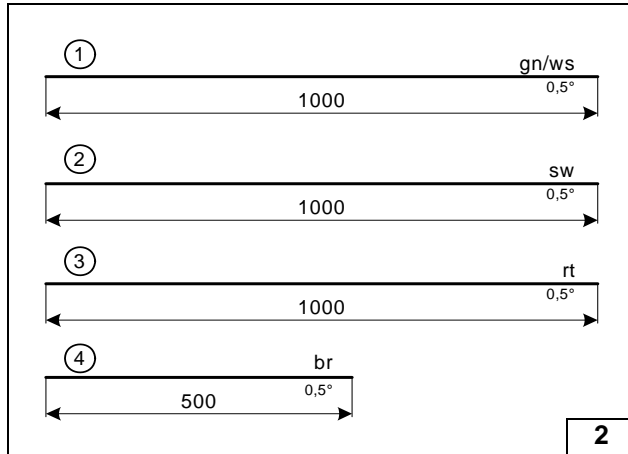
**Installation location**



### Preparing Electrical System

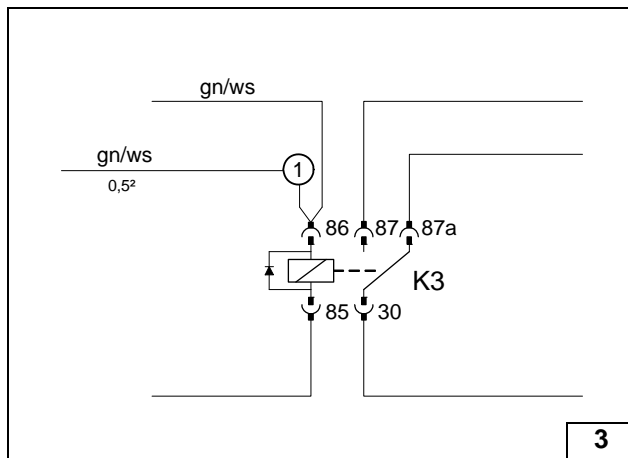
Wire sections retain their numbering in the entire document.

#### Only with Climatronic



2

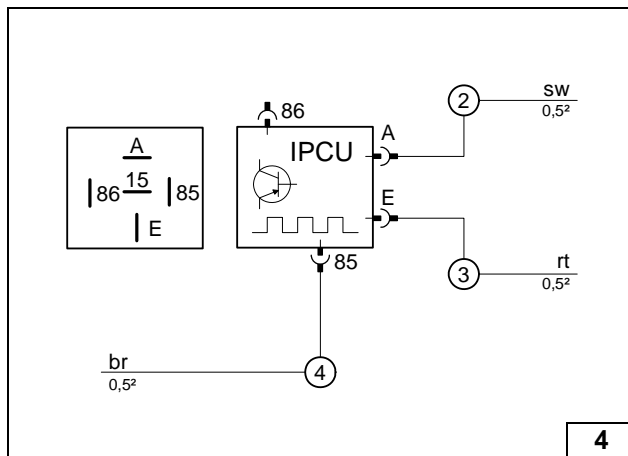
Connect green/white (gn/ws) wire ① to K3/86!



3

Connect wires to socket of IPCU. IPCU view on contact side. The IPCU is to be programmed with the following settings before installation:

- Duty cycle: 100%
- Frequency: not relevant
- Voltage: 3,5V
- Function: High side



4



Assigning wires



Preparing K3 relay



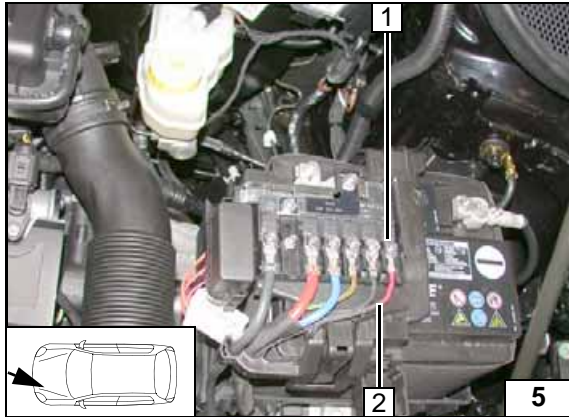
Premounting IPCU



## Electrical System

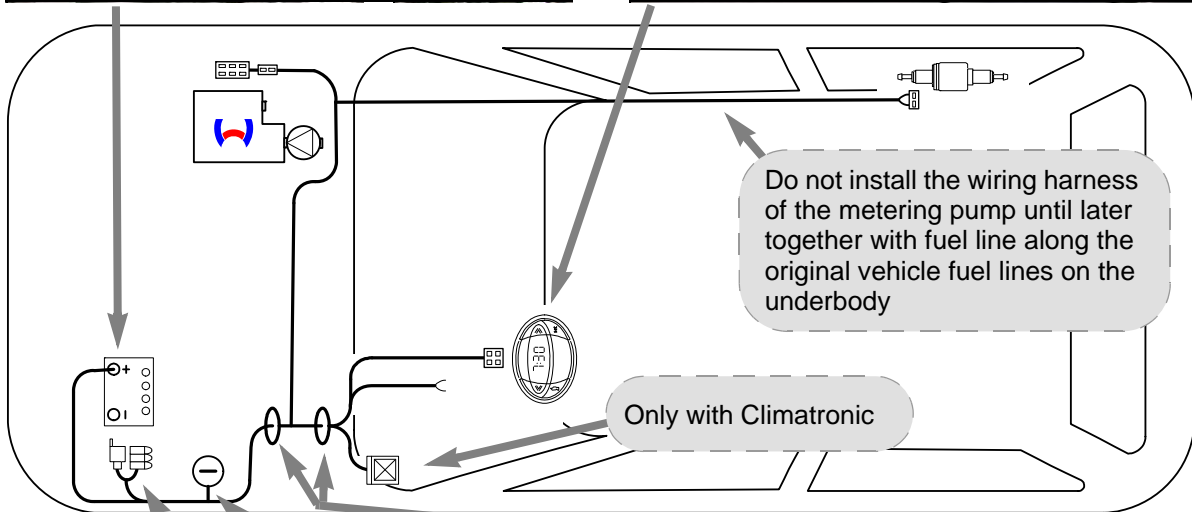
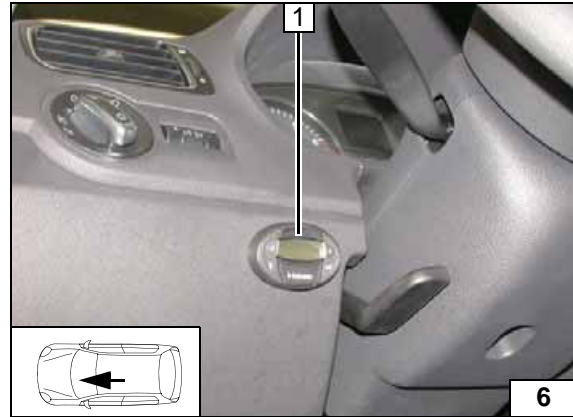
### Connection to positive wire of battery

- 1 Positive distributor on battery
- 2 Positive cable of wiring harness of heater

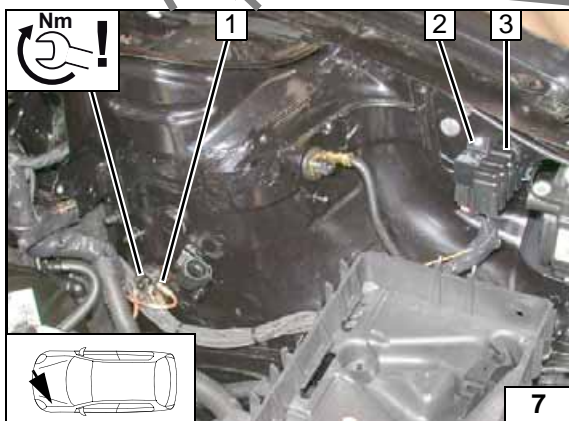


### Digital Timer

- 1 Digital timer

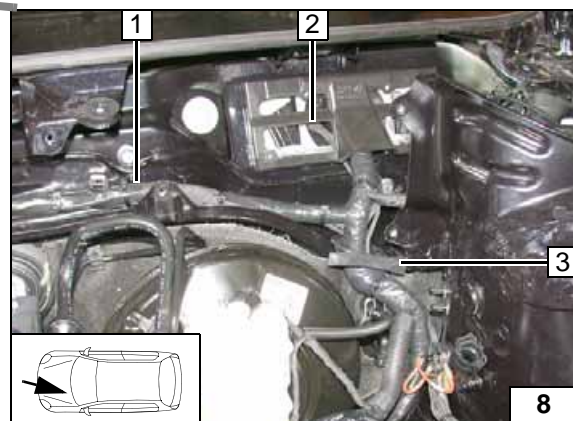


Wiring harness routing diagram



### Fuse holder, K3 relay, earth connection

- 1 Earth point, earth cable of heater wiring harness
- 2 4.5mm dia. hole; 5x13mm self-tapping screw; K3 relay
- 3 4.5mm dia. hole; 5x13mm self-tapping screw; fuse holder



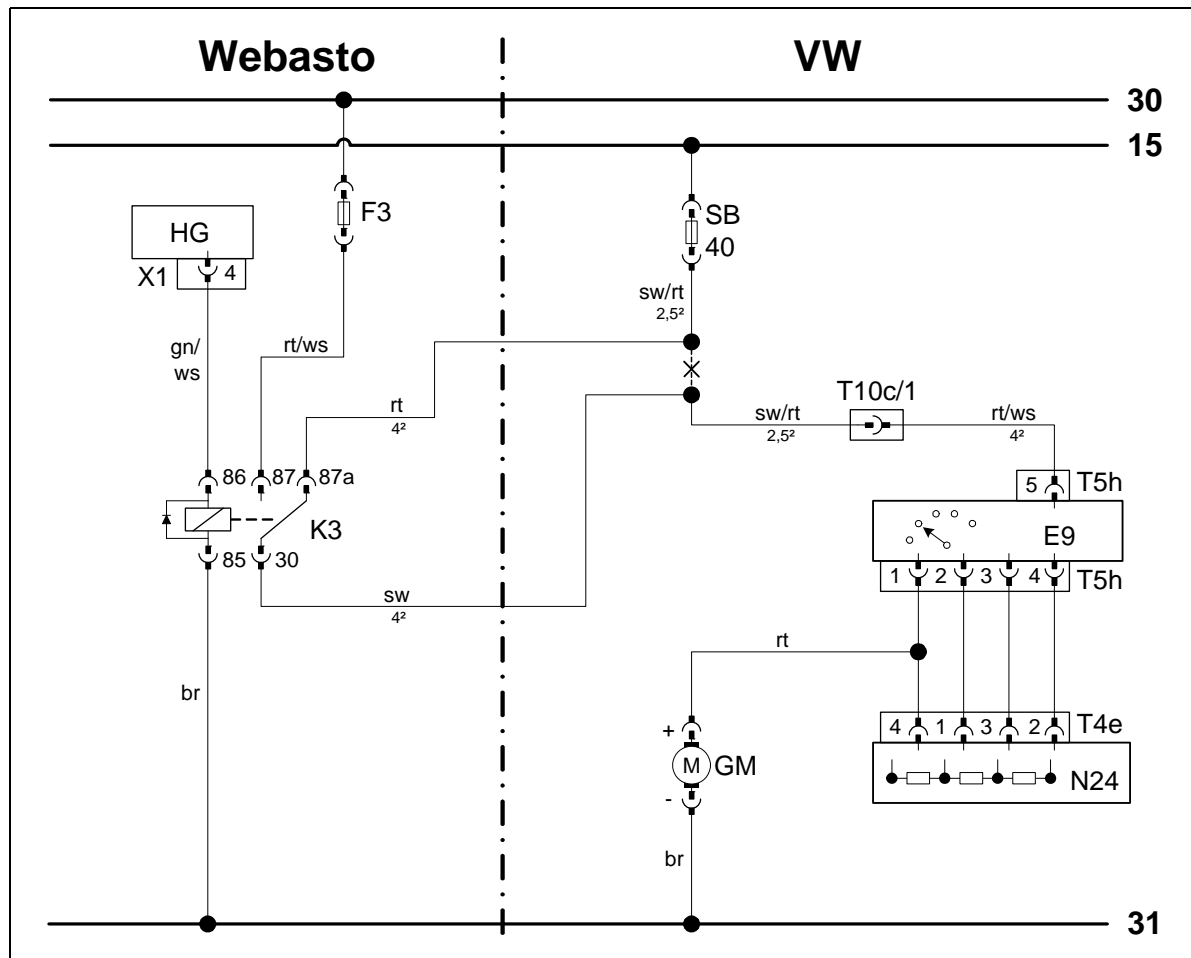
### Wiring harness pass through

- 1 Route heater wiring harness and metering-pump wiring harness along the original vehicle wiring harness on the right side
- 2 Protective rubber plug
- 3 Pass through in the coolant reservoir





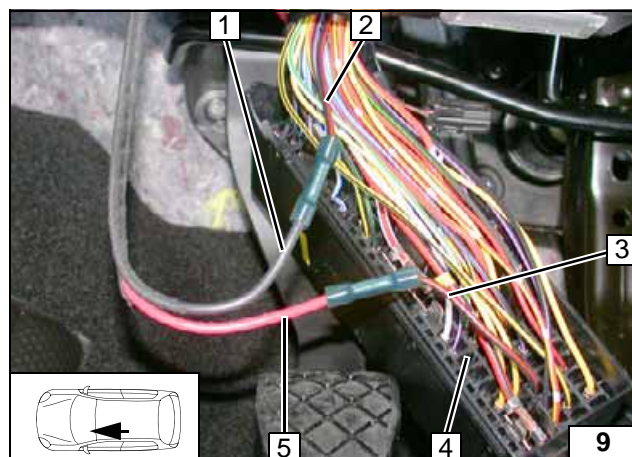
Climatic Fan Controller



Wiring diagram

Webasto components		Vehicle components		Colours and symbols	
HG	Heater TT-E/C/P	SB40	30A fuse	rt	red
X1	6-pin heater connector	T ...	Connector	ws	white
F3	25 A fuse	E9	Switch unit	sw	black
K3	Fan relay	N24	Resistor group	br	brown
		GM	Fan motor	gn	green
				X	Cutting point
				Wiring colours may vary.	

Legend



Produce connections as shown in wiring diagram.

- 1 Black (sw) wire from K3/30
- 2 Black/red (sw/rt) wire
- 3 Black/red (sw/rt) wire from fuse SB40
- 4 Central electrical box
- 5 Red (rt) wire K3/87a



Connecting fan motor

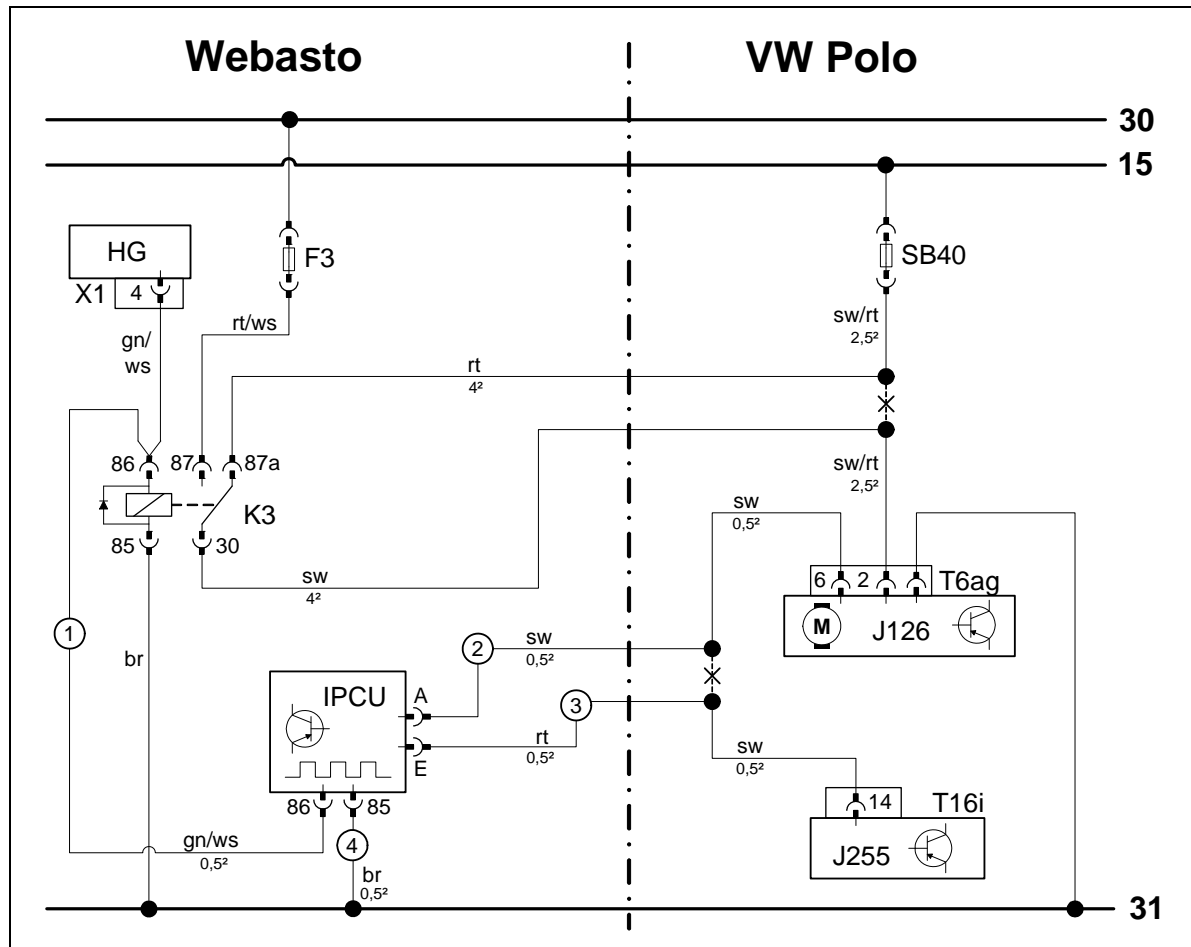




Climatronic Fan Controller

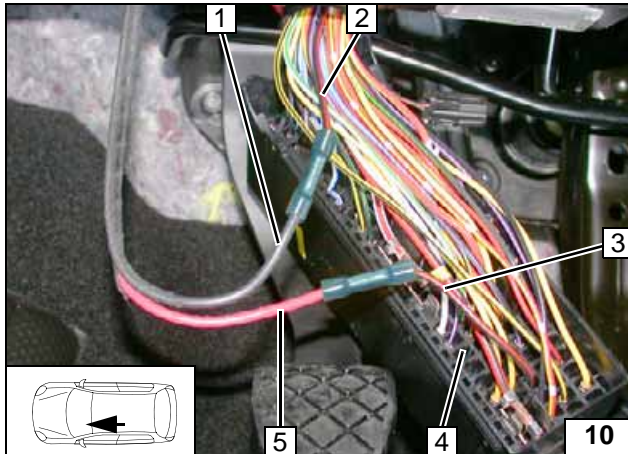


Climatronic wiring diagram



Webasto components		Components VW Polo		Colours and symbols	
HG	Heater TT-E/C/P	SB40	30A fuse	rt	red
X1	6-pin heater connector	T...	Connector	ws	white
F3	25 A fuse	J126	Fan unit	sw	black
K3	Fan relay	J255	A/C control panel	br	brown
IPCU	Pulse width modulator			gn	green
<b>IPCU settings</b>					
Voltage: 3.5 V					
Frequency: not relevant					
Duty cycle: 100 %					
Function: High-side					
				X	Cutting point
				Wiring colours may vary.	

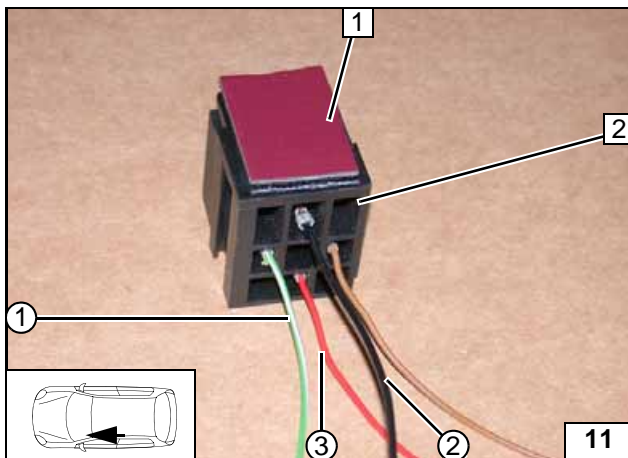
Legend



Produce connections as shown in wiring diagram.

- 1 Black (sw) wire from K3/30
- 2 Black/red (sw/rt) wire
- 3 Black/red (sw/rt) wire from fuse SB40
- 4 Central electrical box
- 5 Red (rt) wire K3/87a

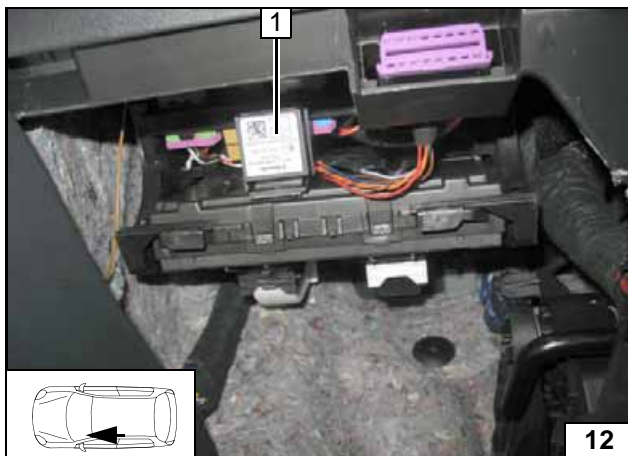
Connect-  
ing fan mo-  
tor



Insert IPCU after connection of green/white (gn/ws) wire ① into socket 2. Pull red (rt) wire ③ and black (sw) wire ② into protective sleeving.

- 1 Double-sided adhesive tape
- 2 IPCU socket
- ① Green/white (gn/ws) wire of K3/86 and IPCU/86

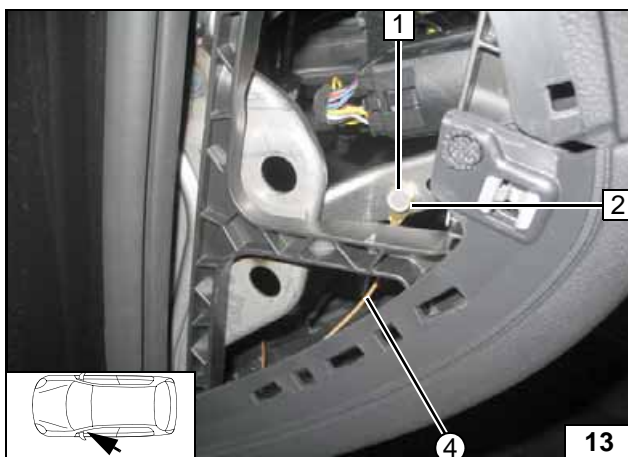
Connect-  
ing  
green/whit  
e (gn/ws)  
wire ① to  
IPCU sock-  
et



Fasten IPCU socket with double-sided adhesive tape.

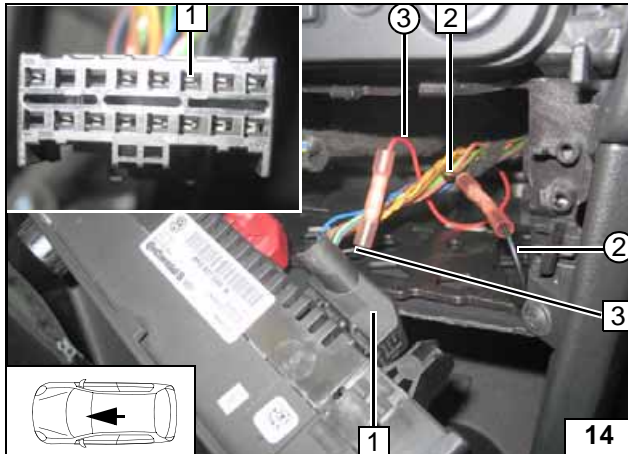
- 1 IPCU mounted

Installing  
IPCU



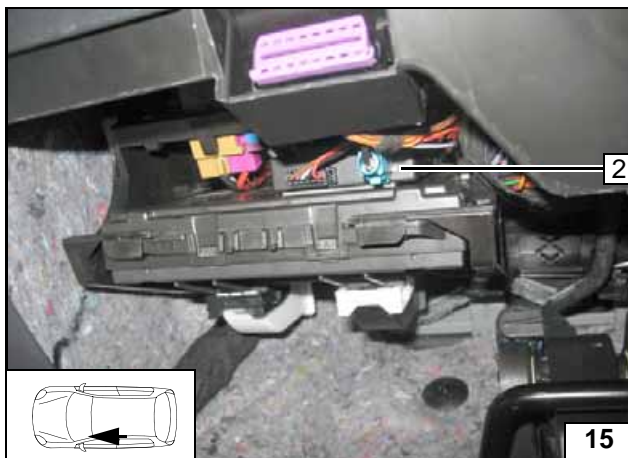
- 1 5.5mm dia. hole, M5 bolt, flanged nut
- 2 Cable lug
- ④ Brown (br) wire of IPCU/85

IPCU earth  
wire



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

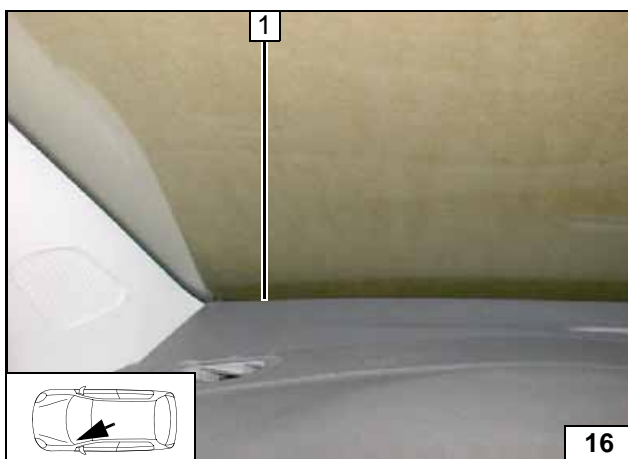
Connecting A/C control panel



**Remote Option (Telestart)**

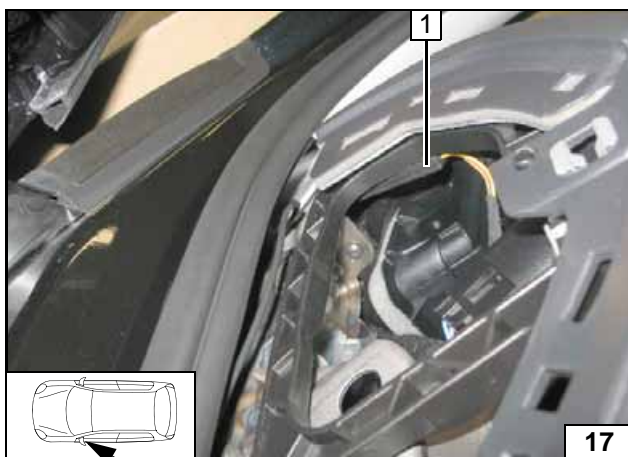
- 1 Receiver, double-sided adhesive tape

Mounting receiver



- 1 Antenna

Mounting antenna

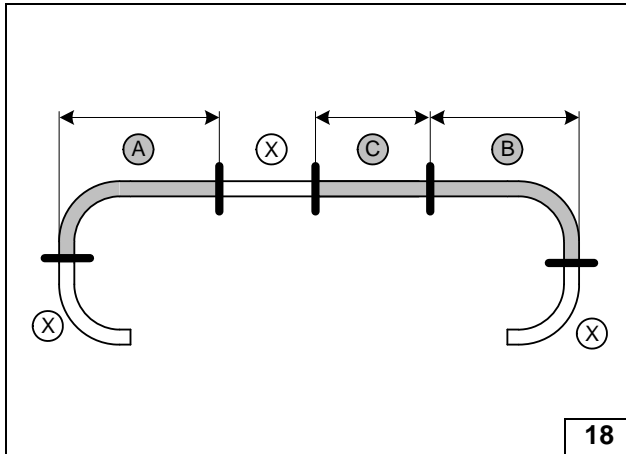
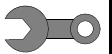


**Temperature sensor HTM100**

Fasten temperature sensor 1 with adhesive tape.

Mounting temperature sensor





### Preparing Heater

1.2 only

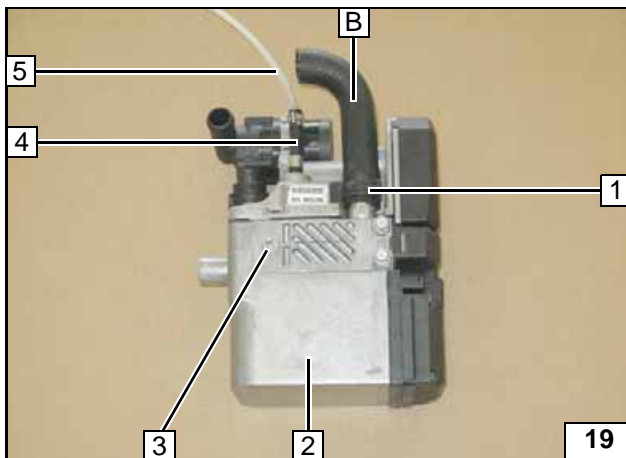
- A = 200
- B = 130
- C = 155

1.4 only

- A = 160
- B = 130
- C = 185

Discard section X.

- 1 27 mm dia. spring clip
- 2 Heater
- 3 Ejet stud bolt
- 4 Hose section, 10 mm dia. clamp [2x]
- 5 Fuel line



Tap thread with Ejet screw and turn back 3 threads.

- 1 Ejet screw [2x]



### Preparing Installation Location

- 1 Pull rivet nut into original vehicle hole



Cutting coolant hose to length

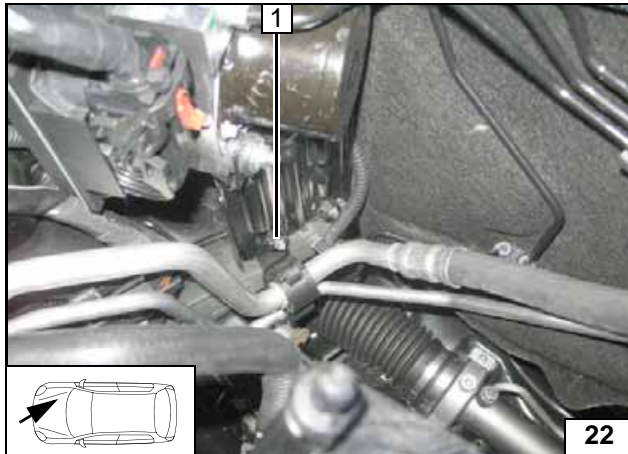
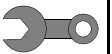
Preparing Heater



Installing Ejet screw loosely



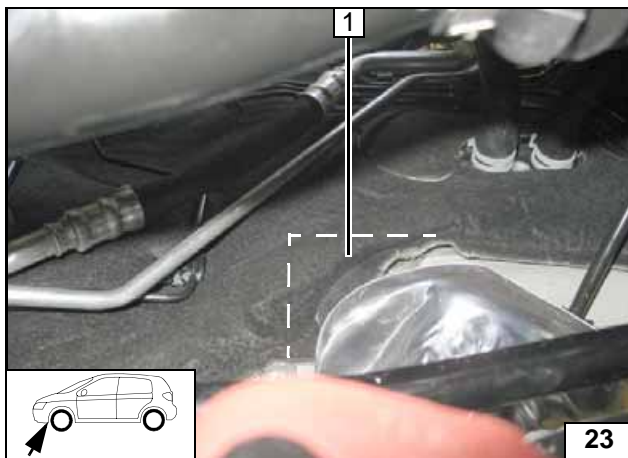
Installing rivet nut



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



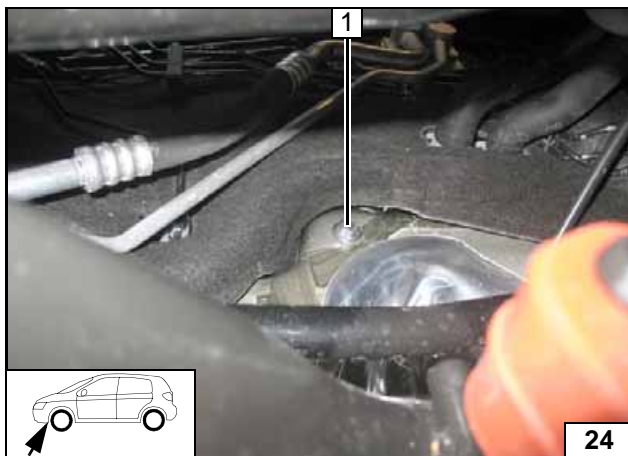
**Removing flanged nut**



Lift insulation mat **1** and turn



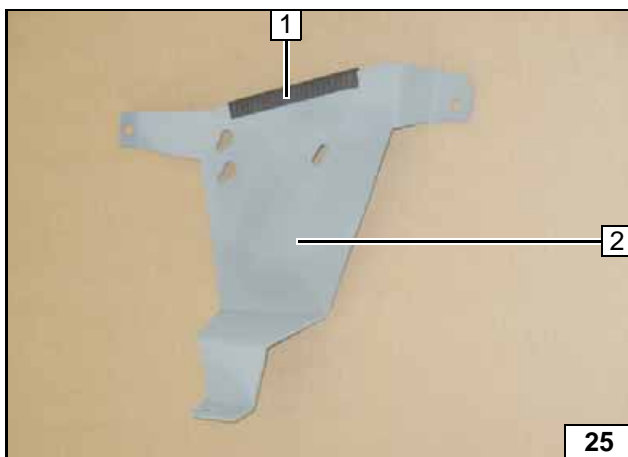
**Folding back insulation mat**



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



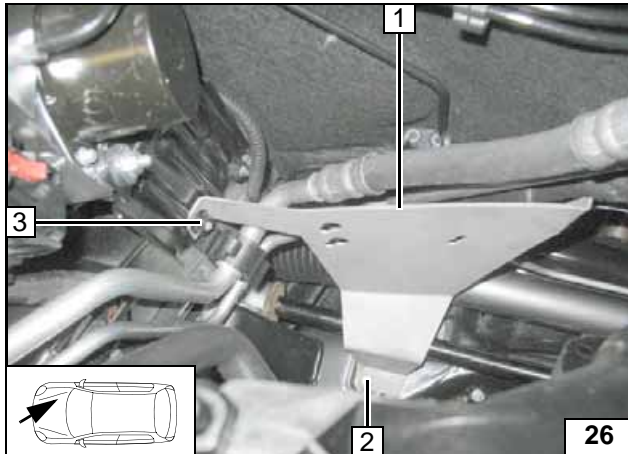
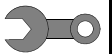
**Removing bolt**



**1** Edge protection section  
**3** Bracket



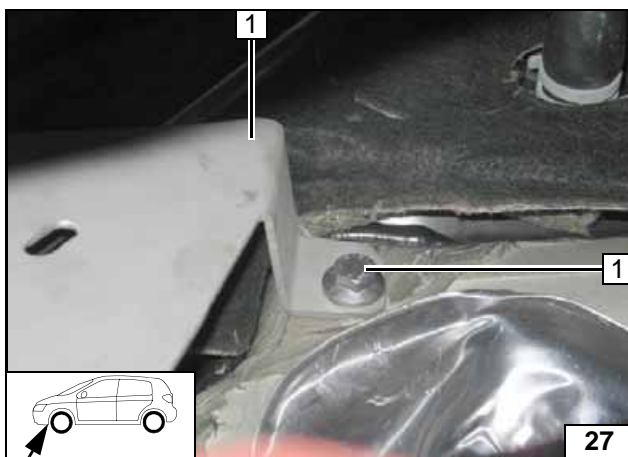
**Preparing bracket**



- 1 Bracket
- 2 M6x20 bolt, spring lockwasher
- 3 Original vehicle flanged nut

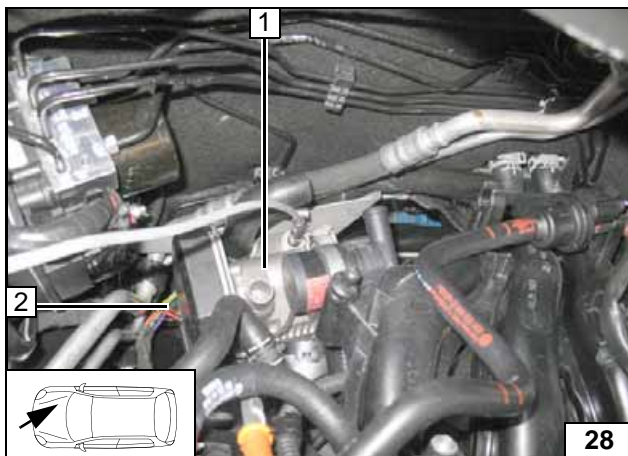


**Installing bracket**



- 1 Bracket
- 2 Original vehicle bolt

**Installing bracket**

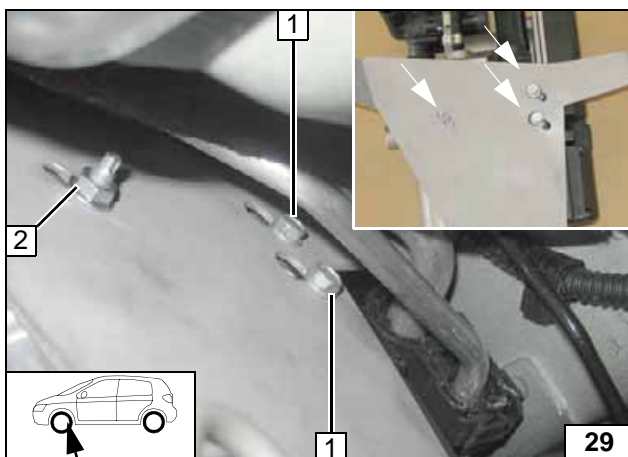


**Installing Heater**

Attach wiring harness 2 to heater 1 and place heater in engine compartment. Insert heater in bracket, align as shown in following figure.



**Mounting heater**



Mount Ejet screw and washer [1x] 1 and push heater into the oblong hole downwards (up to stop)

- 1 Flanged nut
- 2 Tighten Ejet screw 2 [2x]



**Mounting heater**

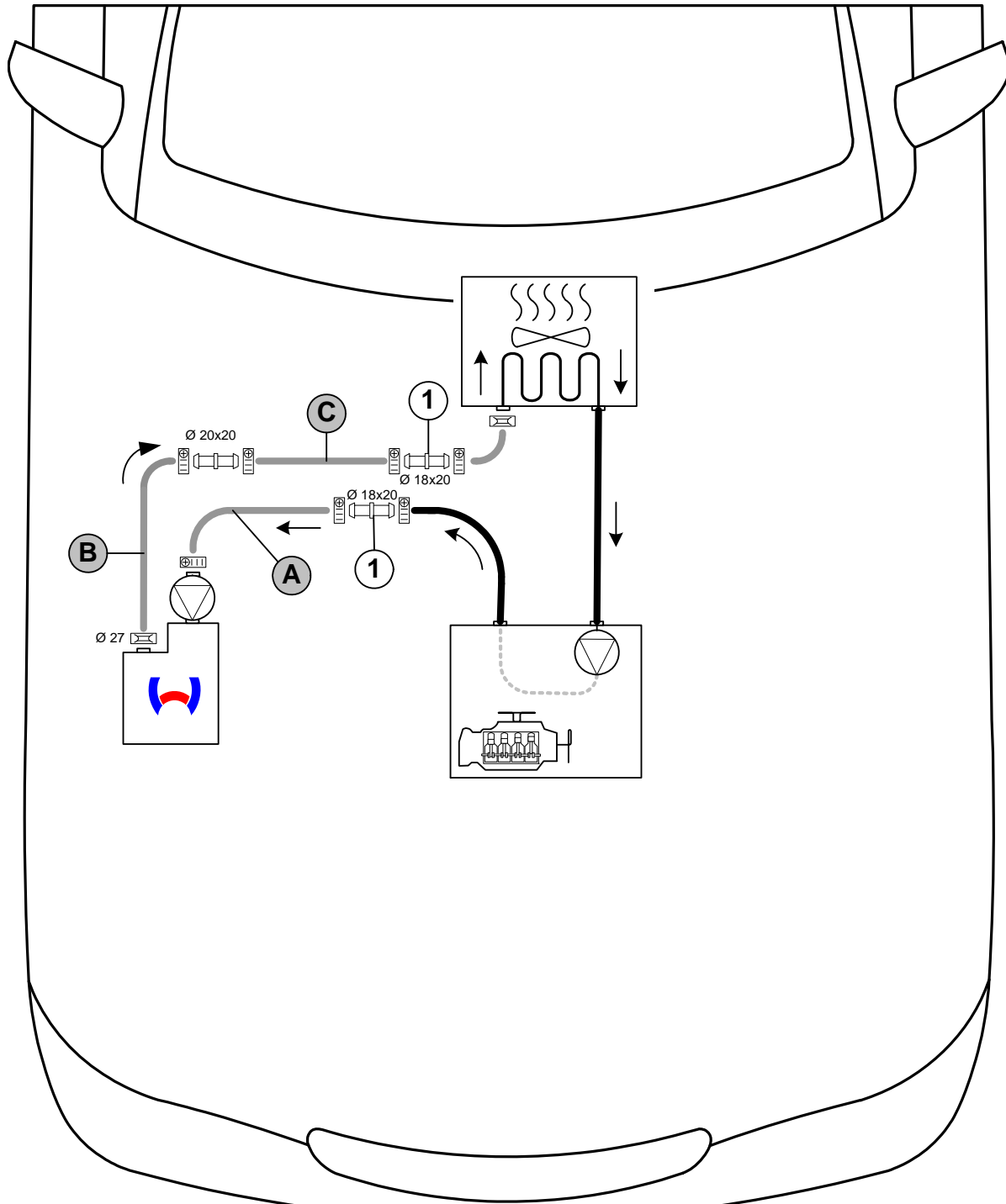


**Coolant**





**WARNING!**

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

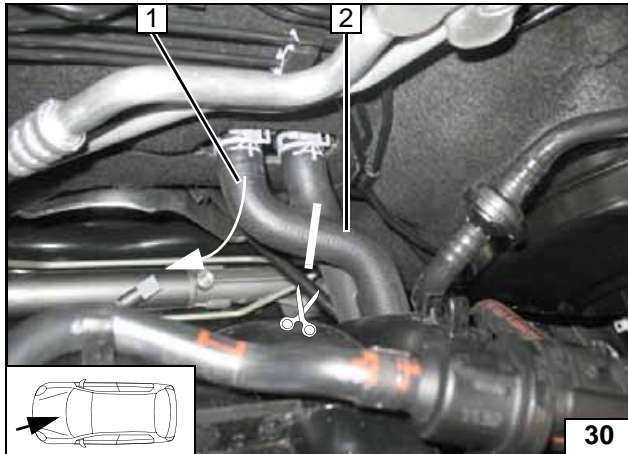
The integration should be modelled on an "inline" circuit and based on the following diagram:



Coolant routing diagram

All spring clips  = 27 mm dia..  
 All hose clamps without a specific designation  = 20-27 mm dia.  
 Connecting tubes  = 18x20mm dia. **(engine 1.4)**  
**1** = connecting tubes  = 20x20mm dia. **(engine 1.2)**



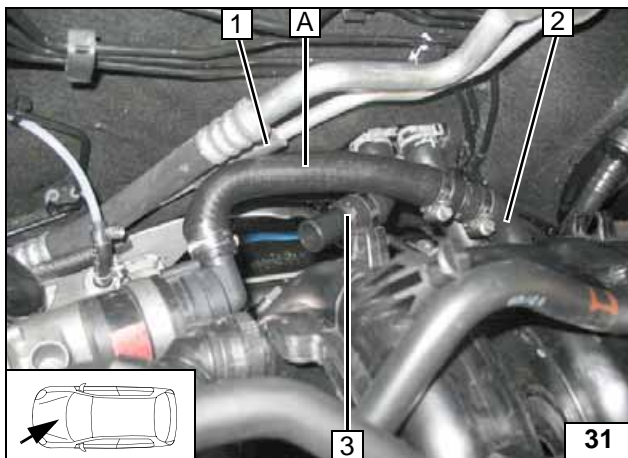


**Engine 1.2**

- 1 Turn hose section of heat exchanger inlet
- 2 Engine outlet hose section

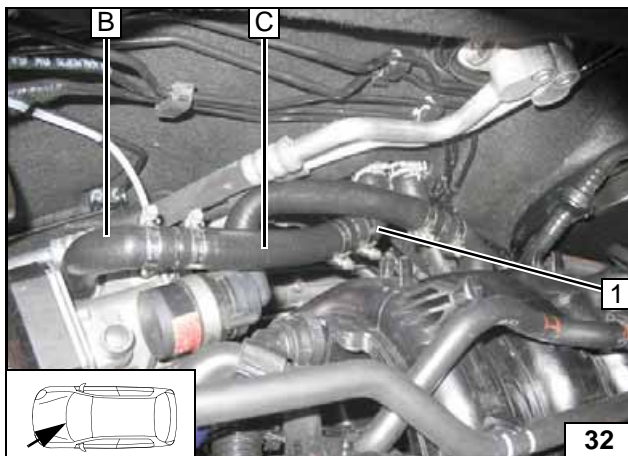


**Cutting point**



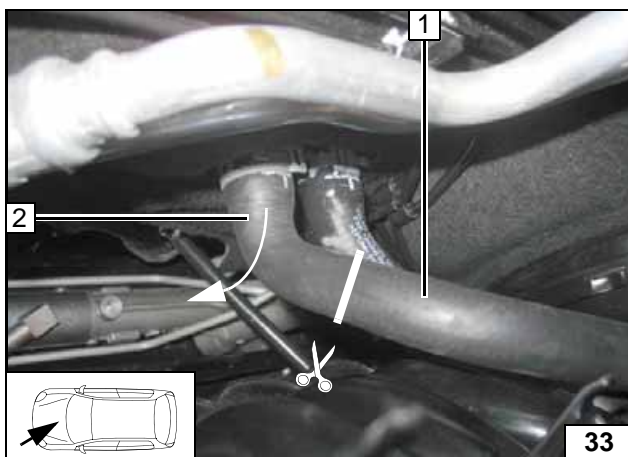
- 1 Self-adhesive foam
- 2 Engine outlet hose section
- 3 Hose section of heat exchanger inlet

**Connect-  
ing heater  
inlet**



- 1 Hose section of heat exchanger inlet

**Connect-  
ing heater  
outlet**



**Engine 1.4**

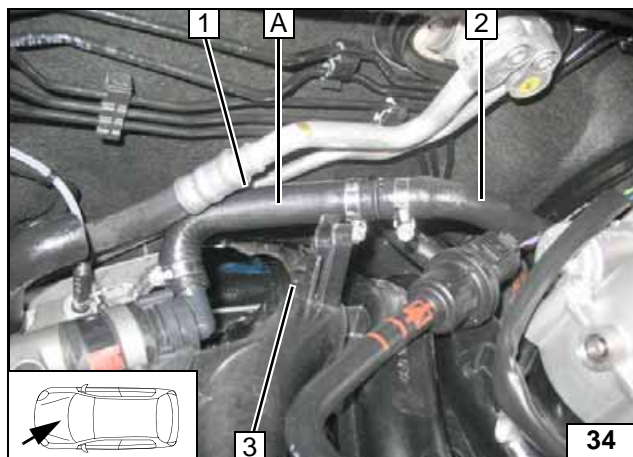
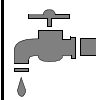
Check coolant hoses before cutting for possible ex-factory changes in flow direction.

- 1 Engine outlet hose section
- 2 Turn hose section of heat exchanger inlet



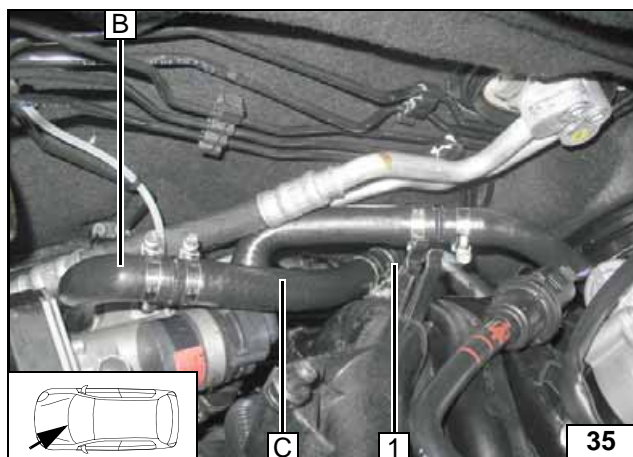
**Cutting point**





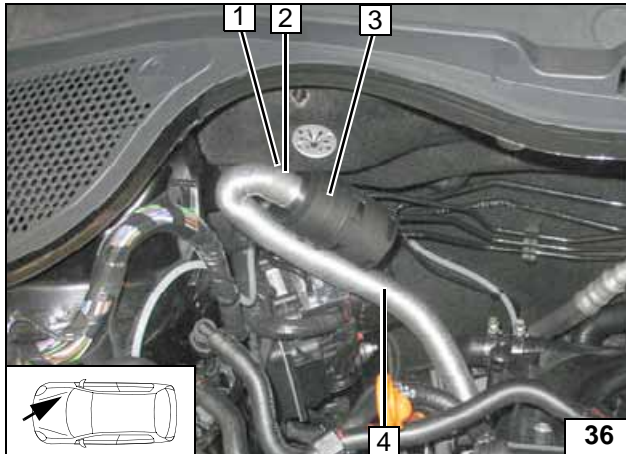
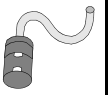
- 1 Self-adhesive foam
- 2 Engine outlet hose section
- 3 Hose section of heat exchanger inlet

**Connect-  
ing heater  
inlet**



- 1 Hose on heat exchanger inlet

**Connect-  
ing heater  
outlet**



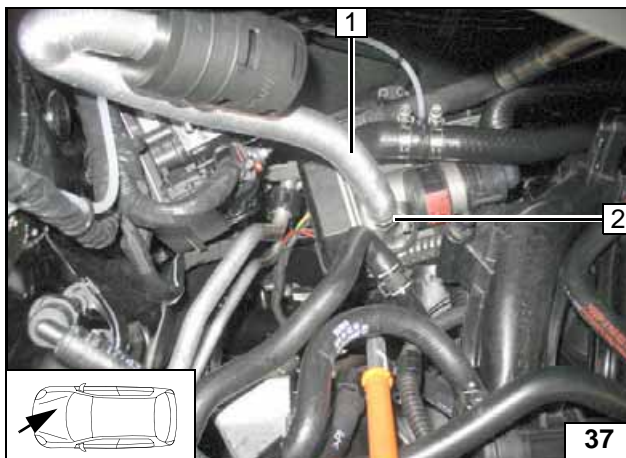
### Combustion Air

Install coolant reservoir partition. Replace original vehicle bolt in position 1.

- 2 P-clamp, M6x50 bolt, spring lockwasher, flanged nut, 20mm shim
- 3 Silencer
- 4 Combustion air pipe



**Mounting silencer**



- 1 Combustion air pipe
- 2 27 mm dia. clamp



**Connecting to heater**



**Fuel**

**CAUTION!**

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

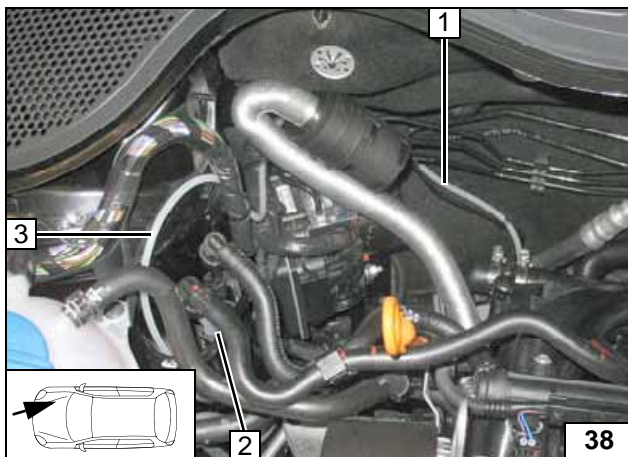
Catch any fuel running off with an appropriate container.

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.



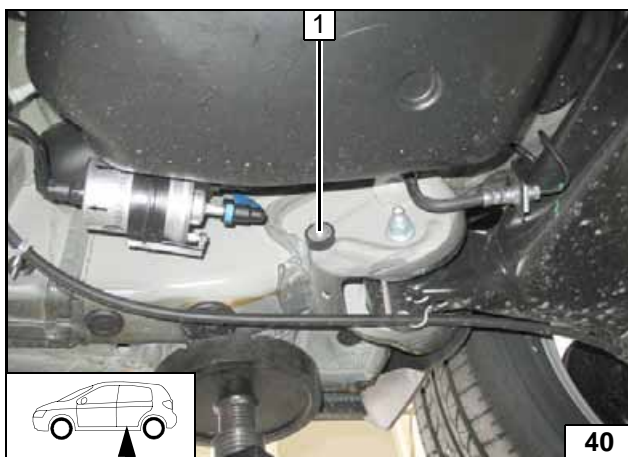
- 1 Fuel line
- 2 Original vehicle pass through for fuel lines
- 3 Fuel line, wiring harness of metering pump

Routing in engine compartment



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

Routing lines

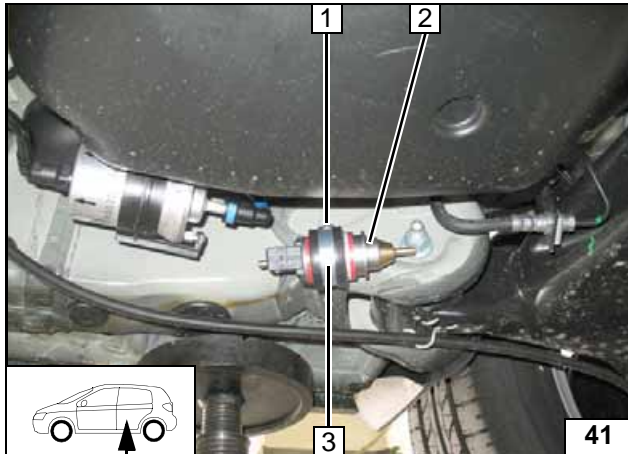


Installing silent block

- 1 Silent block, original vehicle hole, large diameter washer, M6 flanged nut

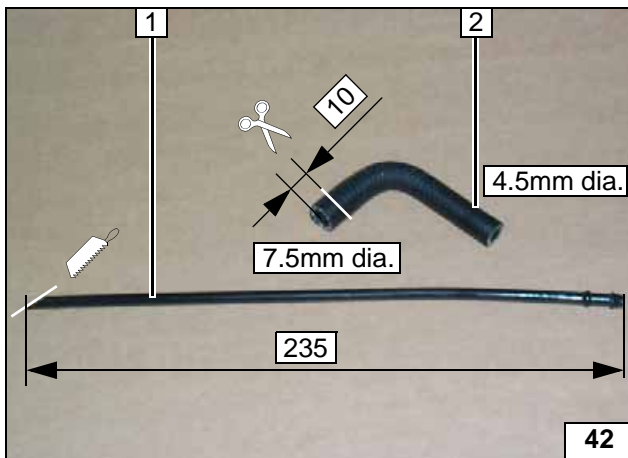


Installation location of metering pump



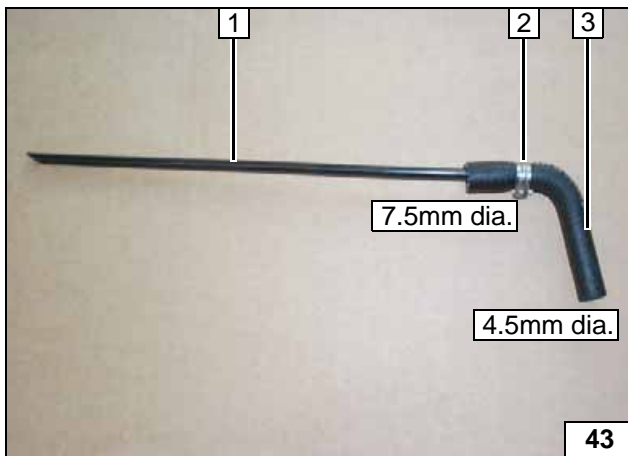
- 1 Silent block, flanged nut
- 2 Metering pump
- 3 Rubber-coated p-clamp

**Mounting metering pump**



- 1 Standpipe
- 2 Moulded hose

**Cutting standpipe and moulded hose to length**

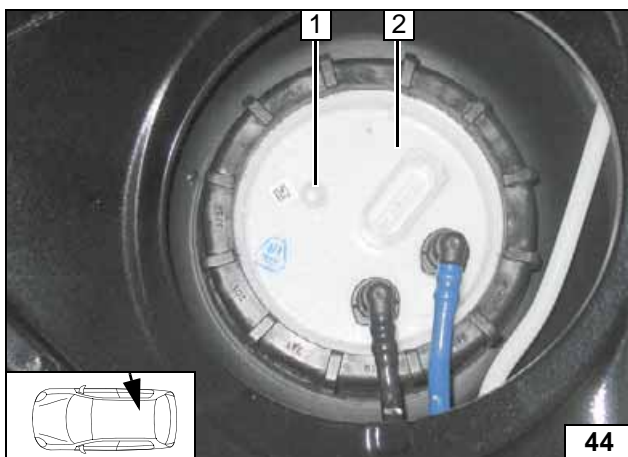


If the standpipe 1 is bent slightly in the delivery condition, it must be straightened out. (The fuel is taken out from the swirl pot). Otherwise there is a danger of the fuel gauge being impaired. Clamp 2 at centre between beads on end of standpipe.



**Premounting standpipe and moulded hose**

- 1 Standpipe
- 2 10 mm dia. clamp
- 3 Moulded hose

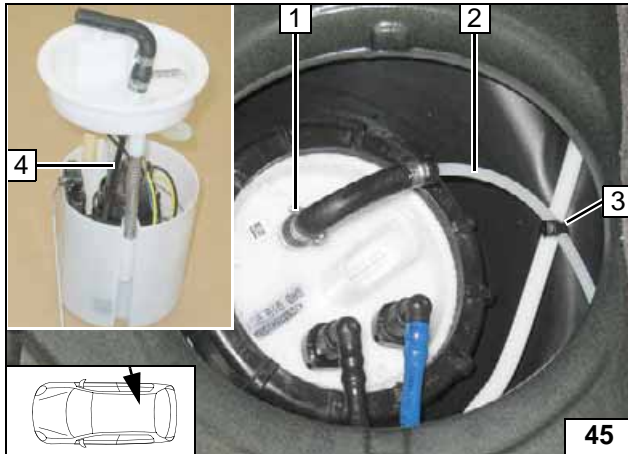


Cut 3 mm off blind plug.

- 1 Removal connection piece
- 2 Fuel-tank sending unit



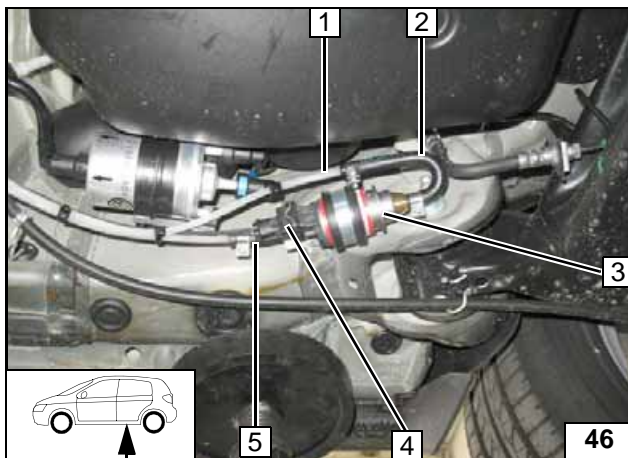
**Cutting off blind plug**



- 1 90°- moulded hose, 13.5mm dia. clamp
- 2 Fuel line
- 3 Cable tie
- 4 Standpipe



**Fuel ex-  
traction**

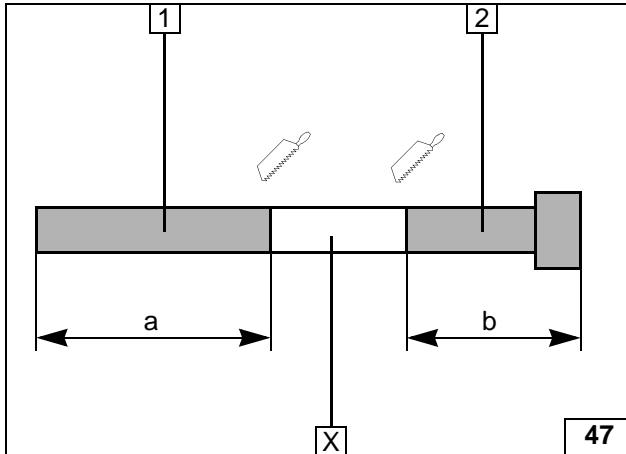


Check the position of the components; adjust if necessary. Check that they have freedom of movement.

- 1 Fuel line
- 2 180° moulded hose, 10mm dia. clamp [2x]
- 3 Metering pump
- 4 Connector of metering pump wiring harness
- 5 Hose, 10mm dia. clamp [2x], fuel line



**Connect-  
ing meter-  
ing pump**

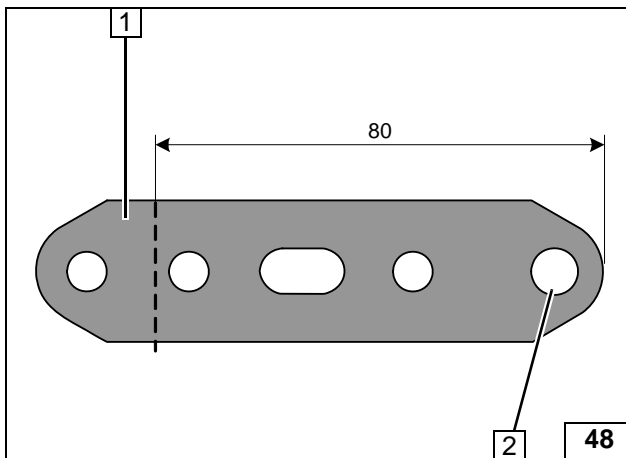


**Exhaust Gas**

- 1 Exhaust pipe  
a = 350
- 2 Exhaust end section  
b = 85

Discard section X.

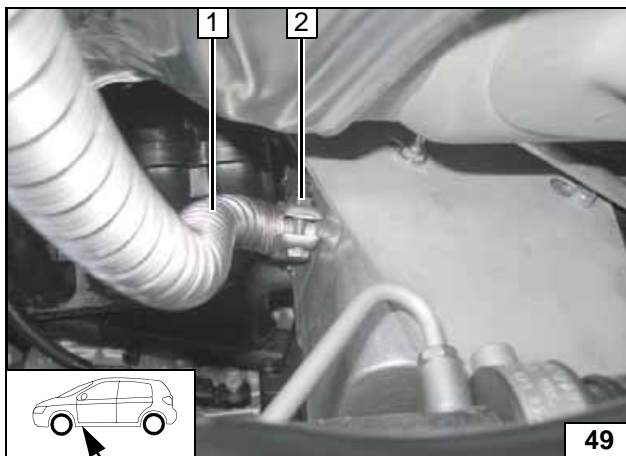
**Preparing exhaust pipe**



Angle down perforated bracket 1 by 65° and drill to 8.5mm dia. at position 2.



**Preparing perforated bracket**

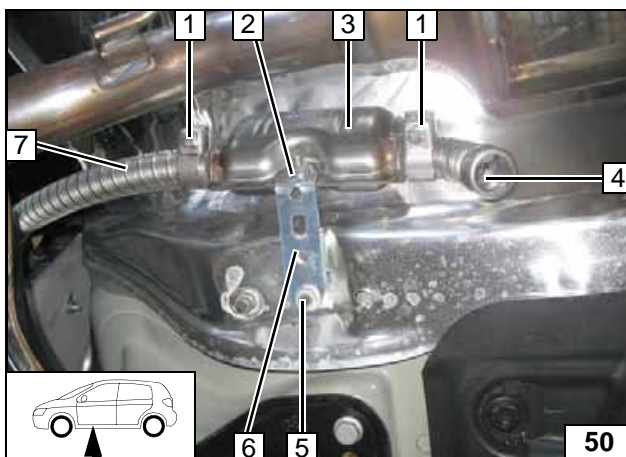


Ensure sufficient distance from neighbouring components.

- 1 Exhaust pipe
- 2 Hose clamp



**Mounting exhaust pipe**

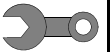


Ensure sufficient distance from neighbouring components.

- 1 Hose clamp [2x]
- 2 M6x20 bolt, flanged nut
- 3 Silencer
- 4 Exhaust end section
- 5 M8 flanged nut, spring lockwasher, original vehicle stud bolt
- 6 Perforated bracket
- 7 Exhaust pipe



**Premounting exhaust pipe and end section**



## Final Work

### WARNING!

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

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

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



## Operating Instructions for End Customer



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

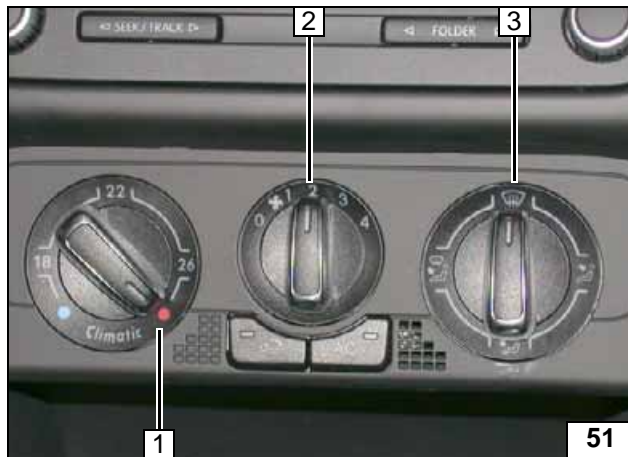
**Example:**

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

Deactivate the passenger compartment monitoring system in vehicles with vehicle alarm.  
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

Climatic



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

Climatronic

