

# Water Heater



## Thermo Top Evo Parking Heater



## Installation documentation

### Renault Koleos

2.0 Diesel

from Model Year 2009

Left-hand drive vehicle

Automatic / manual air conditioning not checked!

Gear box, automatic transmission, 2WD, 4WD



#### **WARNING!**

Hazard warning:

Incorrect installation or repair of Webasto heating systems may cause a fire or result in the emission of carbon monoxide, which can be fatal. Serious or fatal injuries can be caused as a result.



Specialist company training, technical documentation, specialised tools and equipment are required to install and repair Webasto heating and cooling systems. Only original Webasto parts must be used. For this, also see the catalog of air and water heater accessories from Webasto.

**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
Renault	Koleos	Y	e11 * 2001/116 * 0261 * ...

Engine type	Engine model	Output in kW	Displacement in cm <sup>3</sup>
M9R	Diesel	110	1995
M9R	Diesel	127	1995

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 retail accessories <i>Thermo Top Evo</i>	See Price list
1	Installation kit Renault Koleos 2009 2.0 Diesel	1316862A
1	Heater control	See Price list

**Foreword**

This installation documentation applies to the vehicles Renault Koleos 2.0 Diesel - 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 this "installation documentation" and "operating instructions" and the "maintenance instructions" for the *Thermo Top Evo* 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 wires and tie back.

Sharp edges must be provided with rub protection (cut-open fuel hose)!

Spray unfinished body areas, e.g. drilled holes, with anti-corrosion wax (Tectyl 100K, Order No. 111329).

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

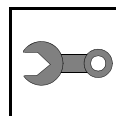
**Special Tool**

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

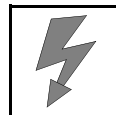
## Explanatory Notes on Document

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

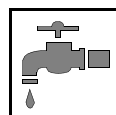
### Mechanical system



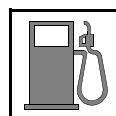
### Electrical system



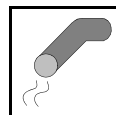
### Coolant circuit



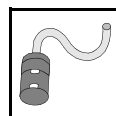
### Fuel



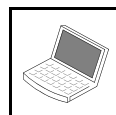
### Exhaust gas



### Combustion air



### Software



Special features are highlighted using the following symbols:



Specific risk of injury or fatal accidents.



Specific risk of damage to components.



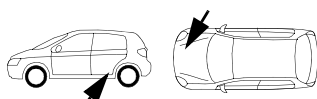
Specific risk of fire or explosion.



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



Reference to a special technical feature.



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

**All dimensions are in mm!**

**Tightening torque of 5x13 heater bolts = 8Nm!**

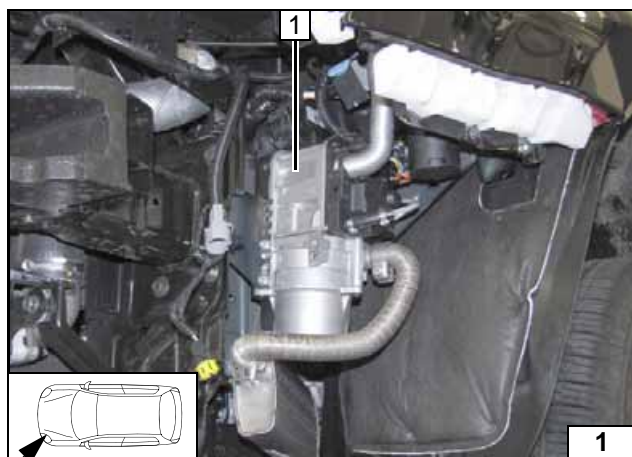
**Tightening torque of 5x15 bolt of water connection piece retaining plate = 7Nm!**

## Preliminary Work

### WARNING!

- Open the fuel tank cap and vent the fuel tank.
- Close the tank cap again.
- Depressurize 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.
- Disconnect and completely remove the battery.
- Remove the air filter together with the intake hose.
- Remove the engine design cover.
- Detach the wheel well trim on the right and left.
- Remove the bumper.
- Remove the rear seat cushion.
- Open the fuel sender service lid.
- Remove the lower cover of the instrument panel in the footwell on the left
- Remove the side cover of the instrument panel on the left
- Remove the lower cover of the instrument panel on the left
- Detach the fuse carrier on the left in the passenger compartment
- Remove the lower A-pillar trim in the footwell on the left (only with Telestart)
- Remove the A/C control panel in accordance with the manufacturers specifications.

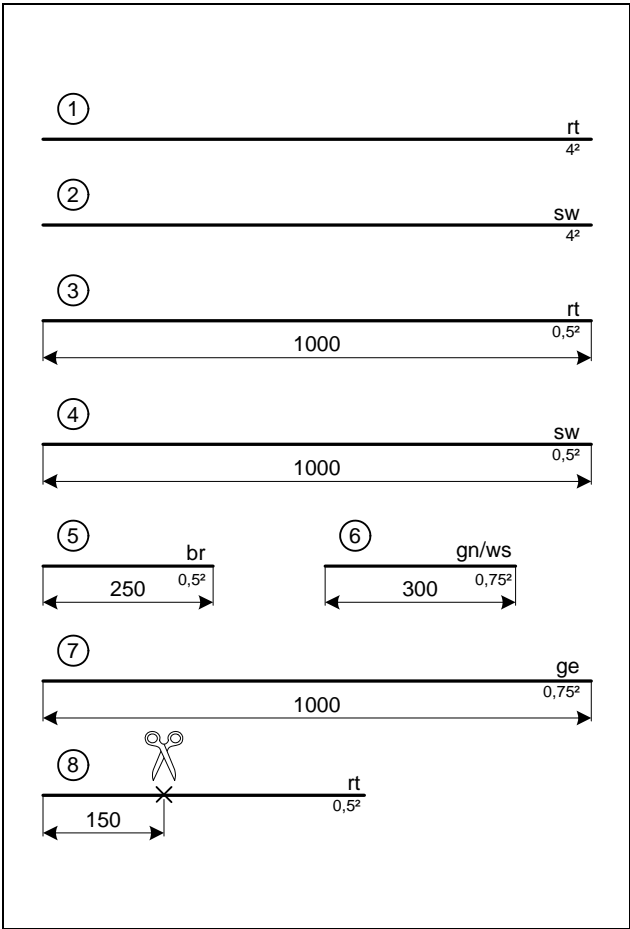
Remove page 27 "Operating Instructions for End Customer" and add to the vehicle operating instructions.



### Heater installation location

1 Heater

Installation location



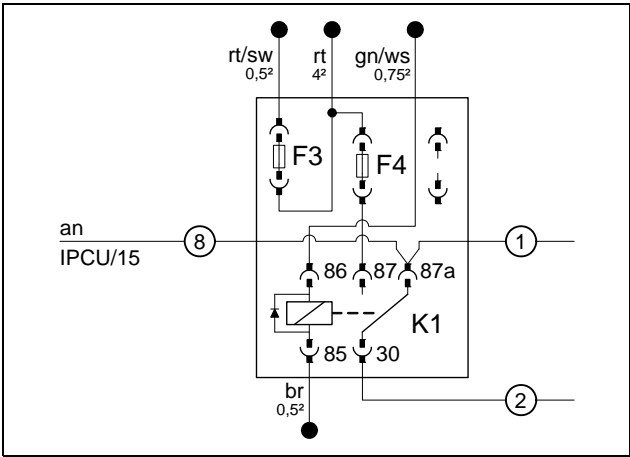
Preparing electrical system

Wire sections retain their numbering in the entire document.

Fuse holder of passenger compartment

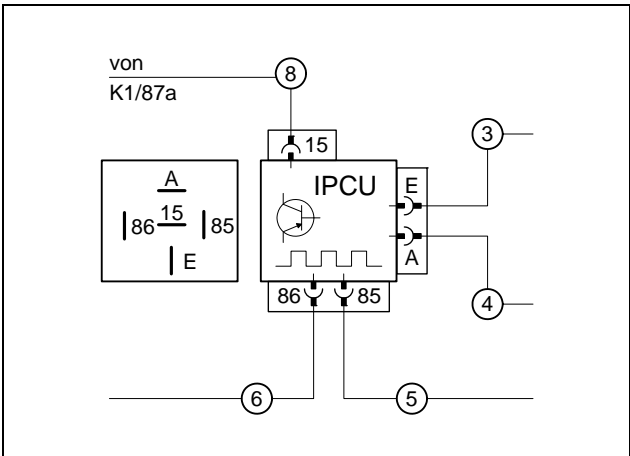
Pull line section ③, ④ and ⑦ through the included protective sleeving.

Cutting wires to length



Produce connections as shown in wiring diagram. Insert fuse F4 25A. K1 relay will only be installed after the assembly.

Preparing K1 relay, insert F4

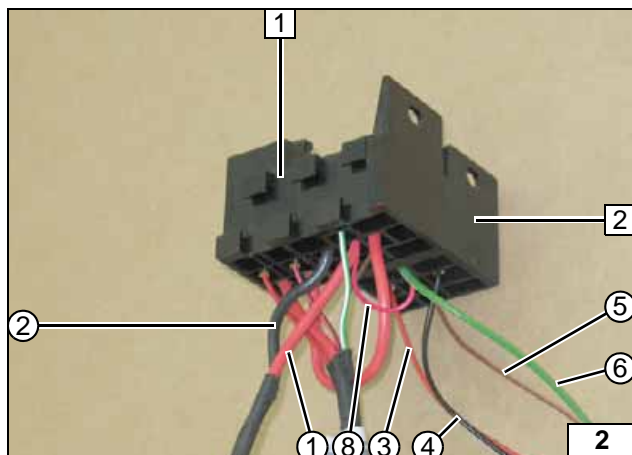


Connect wires to socket IPCU.  
IPCU view on contact side!  
The pre-programmed settings must be checked while performing a function check on the vehicle and adjusted, if necessary!

Duty cycle: 52%  
Frequency: 2,000Hz  
Voltage: 10V  
Function: Low-side

Preassembling IPCU

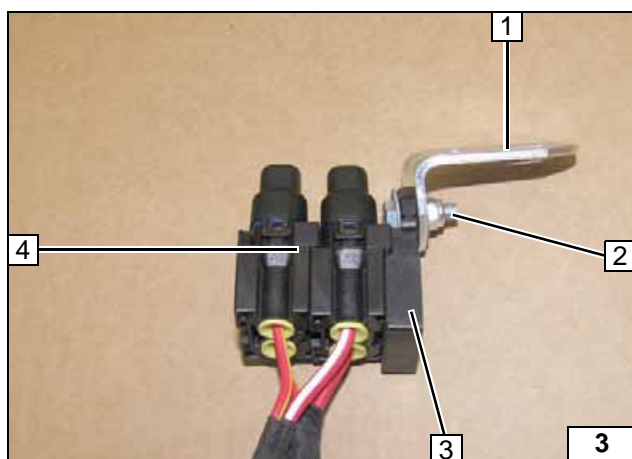




Lock IPCU socket 2 with fuse holder of passenger compartment 1.

- ① Red (rt) wire K1/87a
- ② Black (sw) wire K1/30
- ③ Red (rt) wire of IPCU/E
- ④ Black (sw) wire of IPCU/A
- ⑤ Brown (br) wire of IPCU/85
- ⑥ Green/white (gn/ws) IPCU/86
- ⑧ Red (rt) wire of K1/87a and IPCU/15

**Preparing passenger compartment fuse holder**



## Fuse holder of engine compartment

- 1 Angle bracket
- 2 M5x16 bolt, large diameter washer [2x], nut
- 3 Fuse holder retaining plate
- 4 Fuses F1-2 connected

**Preparing the fuse holder for the engine compartment**



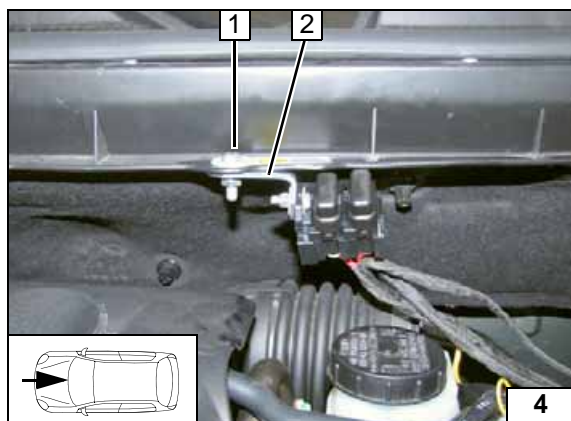


## Electrical system

### Fuse holder of engine compartment

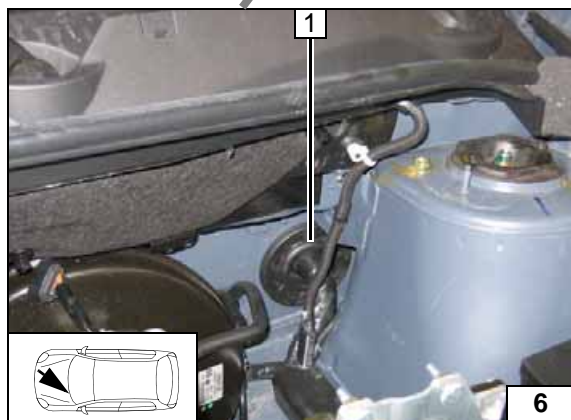
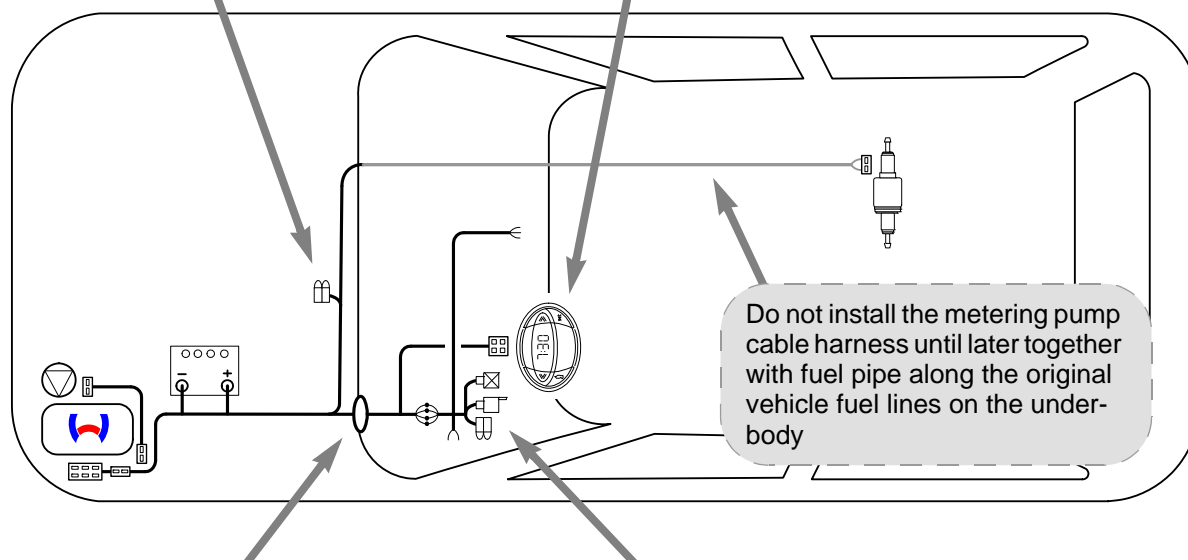
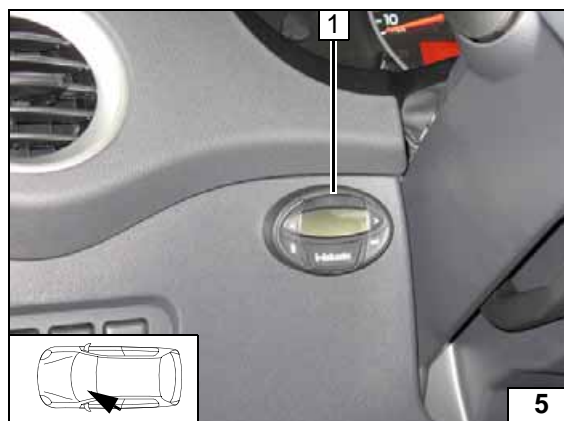
Remove the original vehicle clip on position 1.

- 1 M6x20 bolt, large diameter washer, flanged nut, existing hole
- 2 Angle bracket



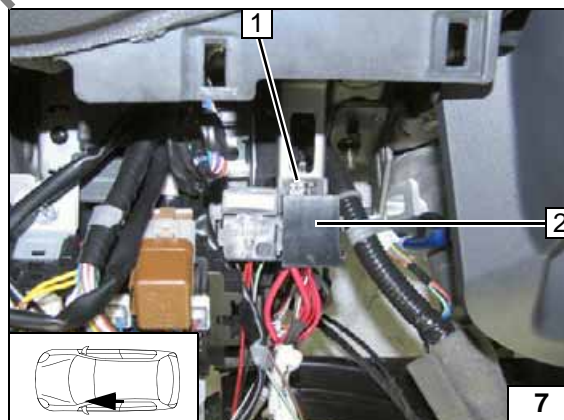
### Digital timer

- 1 Digital timer



### Wiring harness pass through

- 1 Protective rubber plug



### Fuse holder of passenger compartment

Connect K1 relay and IPCU.

- 1 M5x16 torx screw, existing hole
- 2 Fuse carrier, passenger compartment



Wiring harness installation diagram

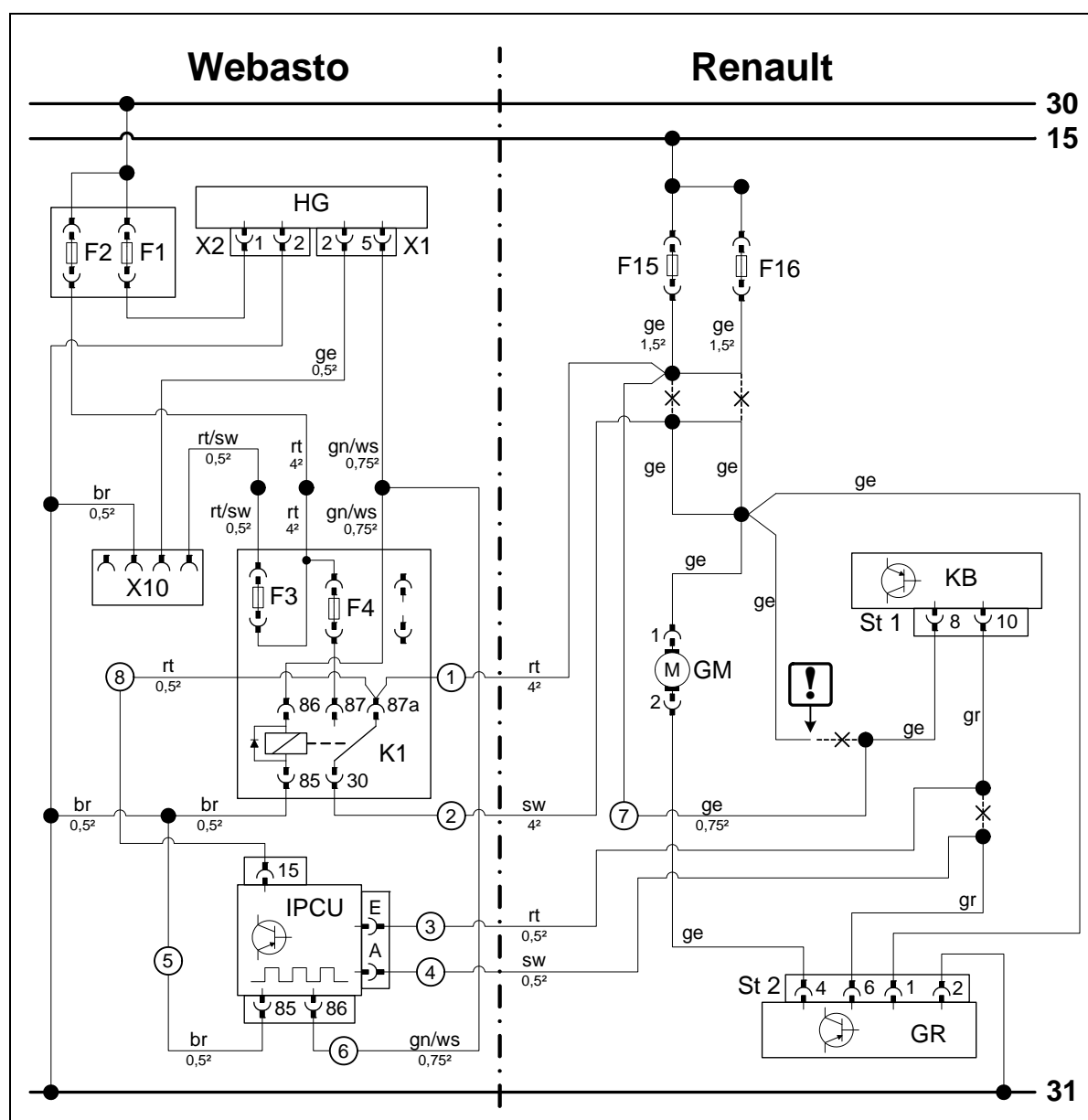




## Fan controller

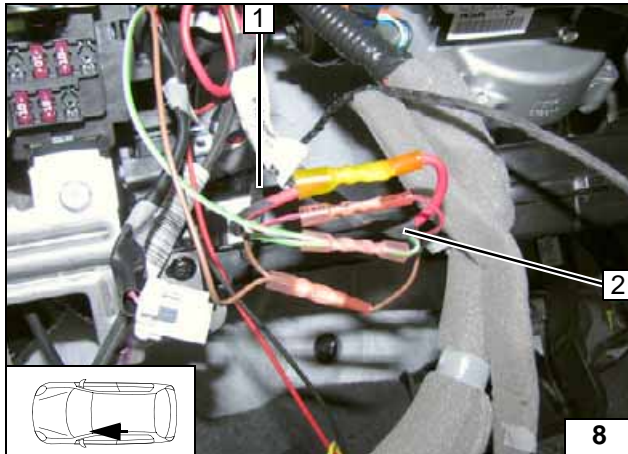


Wiring diagram



Webasto components		Vehicle components		Colours and symbols	
HG	TT-Evo heater	GR	Fan controller	rt	red
X1	6-pin heater connector	St 2	6-pin connector GR	sw	black
X2	2-pin heater connector	KB	A/C control panel	ge	yellow
X10	4-pin connector Heater control	St 1	40-pin connector KB	gn	green
K1	Fan relay	F15	Fuse	br	brown
F1	20A fuse	F16	Fuse	ws	white
F3	1A fuse	GM	Fan motor	gr	gray
F4	25A fuse				
IPCU	Pulse width modulator				
<b>IPCU adjustment values:</b>					
Duty cycle: 52%				!	Insulate wire end and tie back
Frequency: 2,000Hz					
Voltage: 10V				X	Cutting point
Function: Low-side				Wiring colours may vary.	

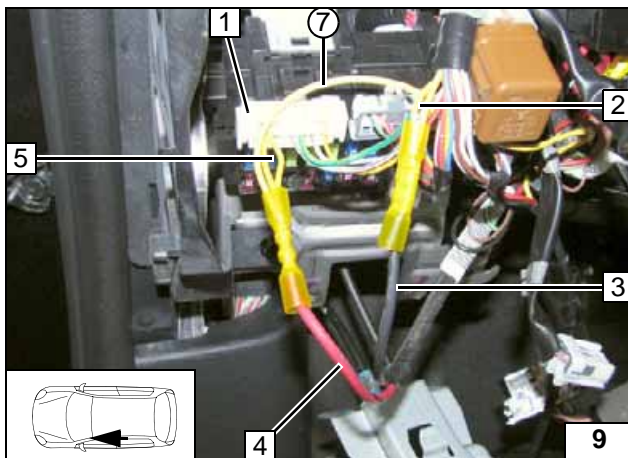
Legend



Connect the wiring harness of the fuse holder for the passenger compartment **2** with the wiring harness of the heater **1** according to the circuit diagram such that the wires of the same colour are connected.



**Connect-  
ing wiring  
harnesses**



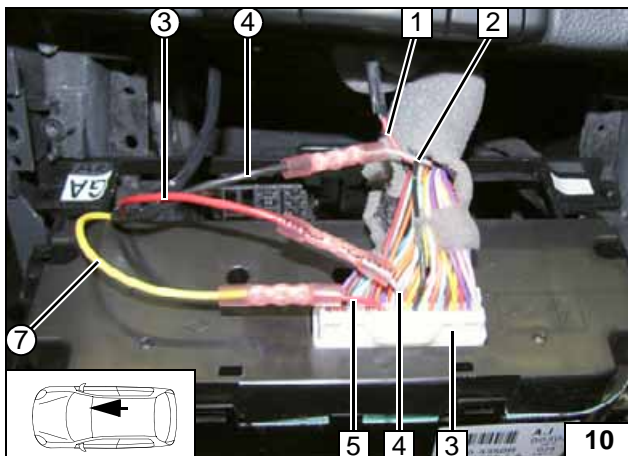
Connection on central electrical box **1** on driver's side.

Connect yellow (ge) wire **7** with yellow (ge) wire [2x] **5** of fuses F15 and F16 and route into the protective sleeving for the air conditioning control panel. Produce connections as shown in wiring diagram.



**Connect-  
ing fan mo-  
tor**

- 2** Yellow (ge) wire [2x] of fan motor
- 3** Black (sw) wire from K1/30
- 4** Red (rt) wire from K1/87a

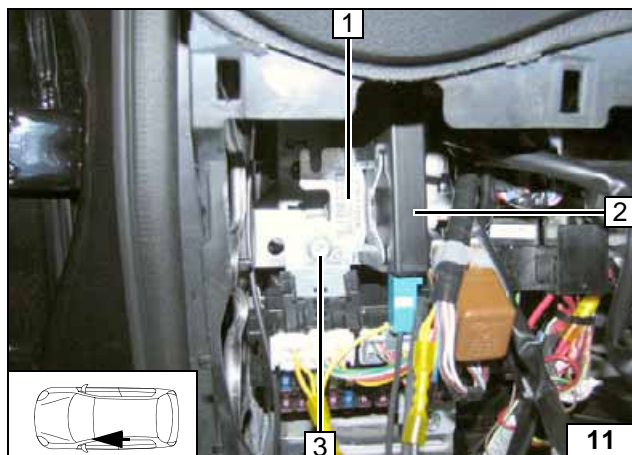


Connection on the 20-pin connector **3** of the air conditioning control panel. Insulate and tie back red (rt) wire **1** of F15 /F16. Produce connections as shown in wiring diagram.



**Connect-  
ing A/C  
control  
panel**

- 2** Gray (gr) wire of fan controller
- 4** Gray (gr) 20-pin connector Pin 10
- 5** Red (rt) 20-pin connector Pin 8
- 3** Red (rt) wire of IPCU/E
- 4** Black (sw) wire of IPCU/A
- 7** Yellow (ge) wire



### Remote option (Telestart)

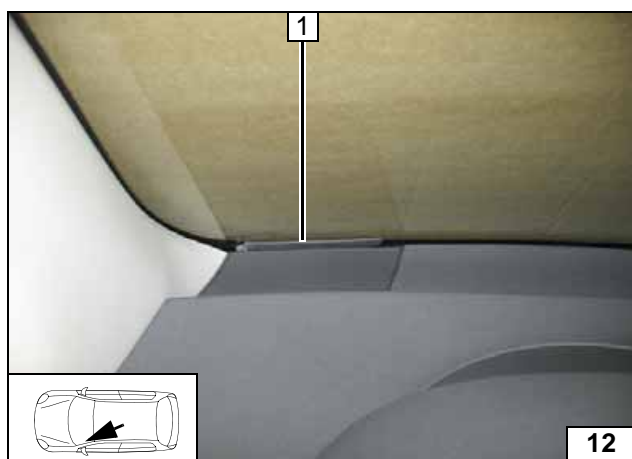
Bracket **1** angled down by 90° and drilled on position **3** to 6.5 mm dia.

**2** Receiver

**3** Original vehicle bolt

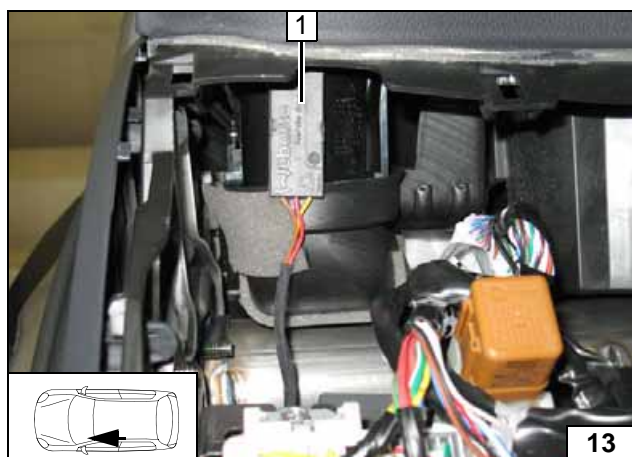


**Installing receiver**



**1** Antenna

**Installing antenna**

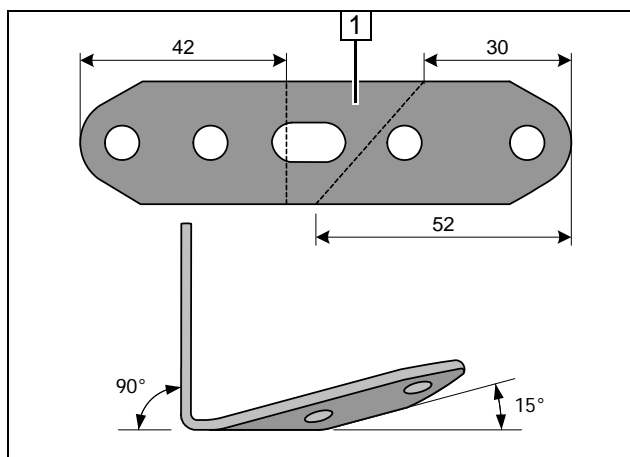


### Temperature sensor only with T100 HTM

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



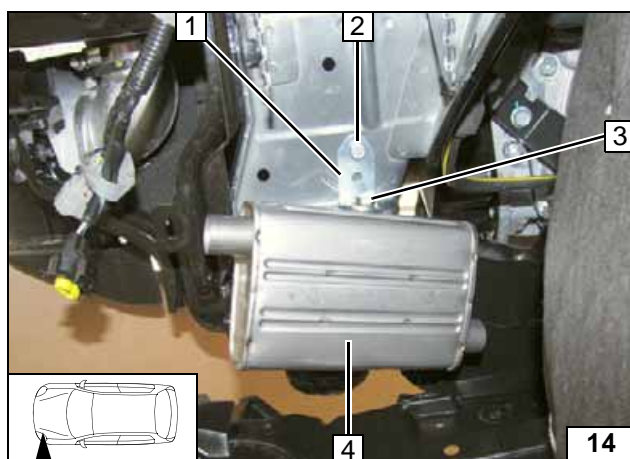
**Installing temperature sensor**



## Preparing installation location

1 Perforated bracket

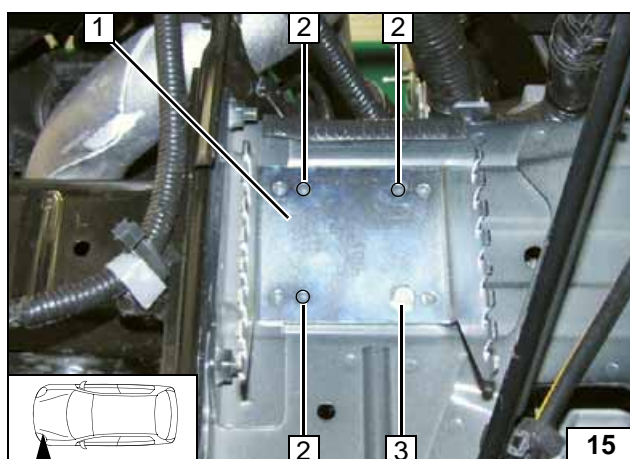
Angling down perforated bracket



- 1 Perforated bracket
- 2 M6x20 bolt, spring lockwasher, existing threaded hole
- 3 M6x16 bolt, spring lockwasher
- 4 Exhaust silencer

Mounting exhaust silencer

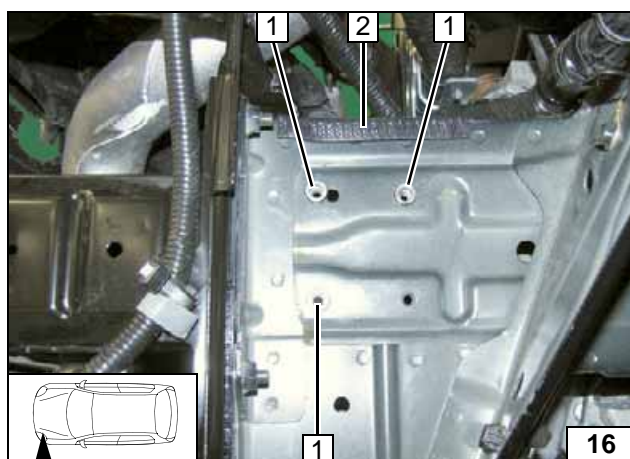
Loosely mount bracket 1 and align vertically.



- 2 Copy hole pattern [3x]
- 3 M6x20 bolt, existing threaded hole

Copying hole pattern

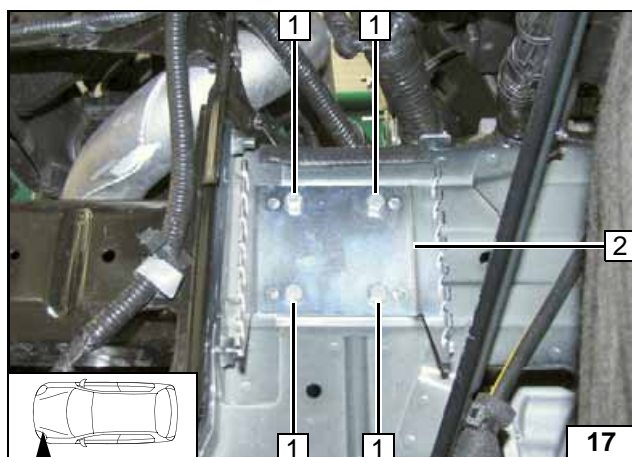
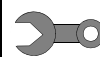
Remove bracket.



- 1 9.1 mm dia. hole; rivet nut [3x each]
- 2 100 mm edge protection

Installing rivet nut

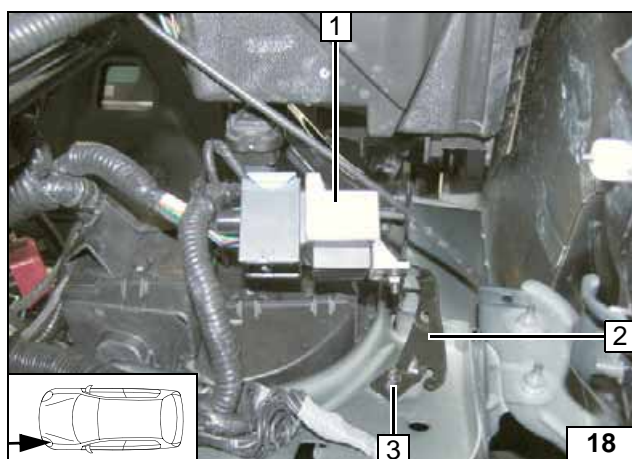




Insert one large diameter washer each between bracket **2** and body.

**1** M6x20 bolt, spring lockwasher, large diameter washer [4x each]

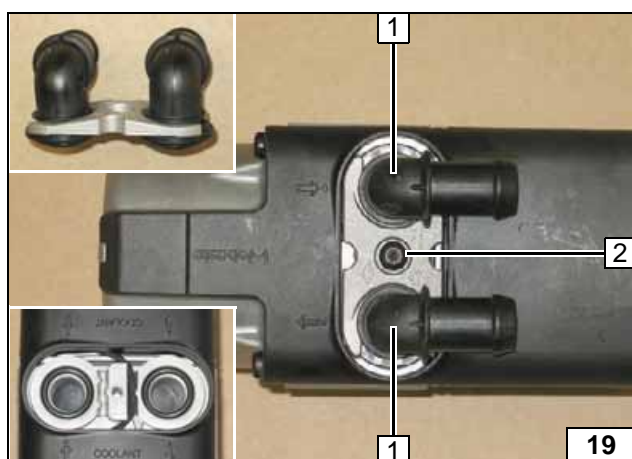
**Installing bracket**



Remove control unit **1** with bracket **2** and re-install according to the figure.

**3** Original vehicle bolt

**Repositioning control unit**

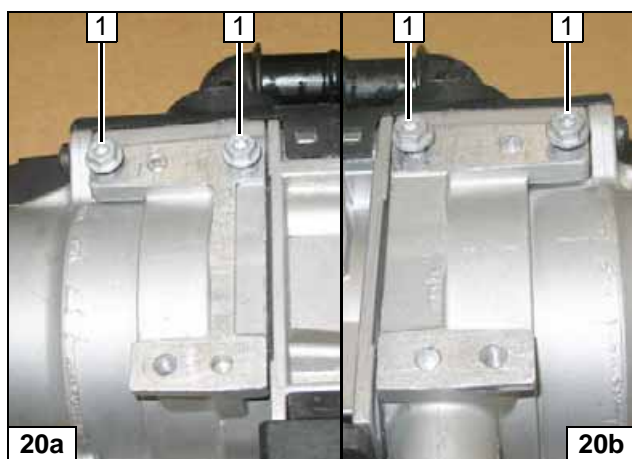


### Preparing heater

**1** Coolant connecting piece, sealing ring[2x each]

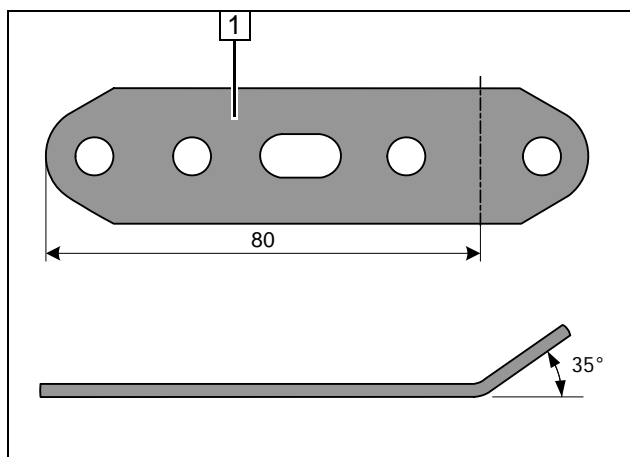
**2** 5x15mm Self-tapping bolt, retaining plate of coolant connecting piece

**Installing coolant connecting pieces**



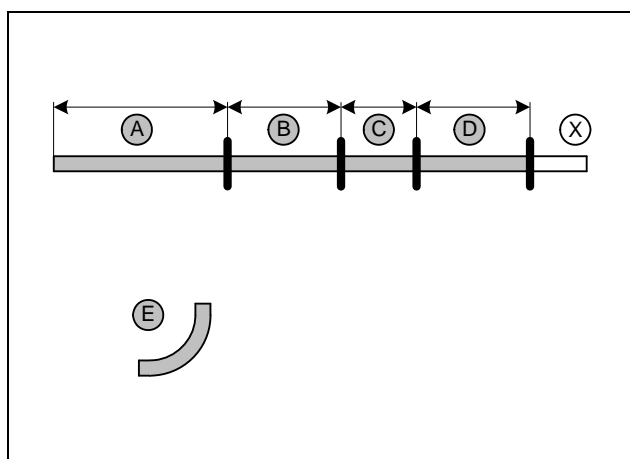
Pre-cut threads with 5x13 self-tapping screws **1** [4x] and loosely install (turn in a max. of 3 threads).

**Loosely pre-assemble screws**



1 Perforated bracket

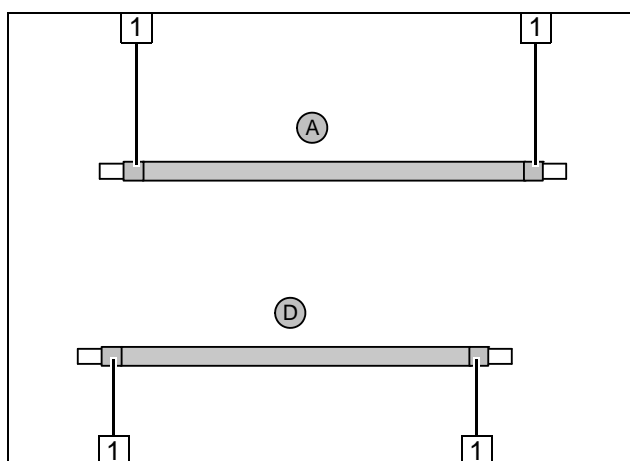
Angling down perforated bracket



Discard section X.  
Hose E = 20 mm dia. 90° moulded hose

A = 470  
B = 130  
C = 110  
D = 420

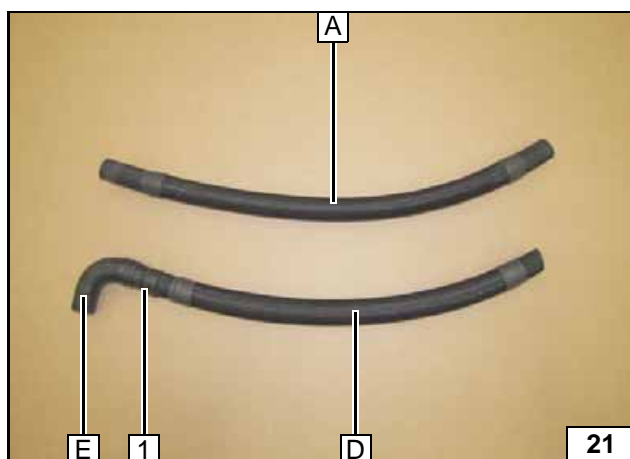
Cutting hoses to length



Push braided protection hoses onto hose A and D and cut to length.  
Cut heat shrink plastic tubing to length.

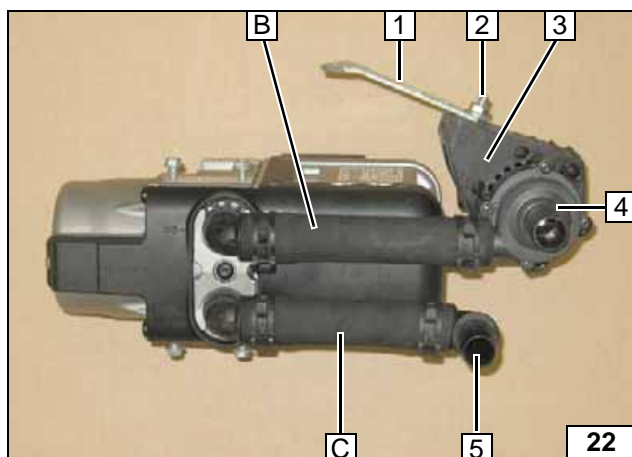
1 50 mm long heat shrink plastic tubing [4x]

Preparing hoses



1 18x20 mm dia. connecting pipe, 25 mm dia. spring clip, 27 mm dia. spring clip.

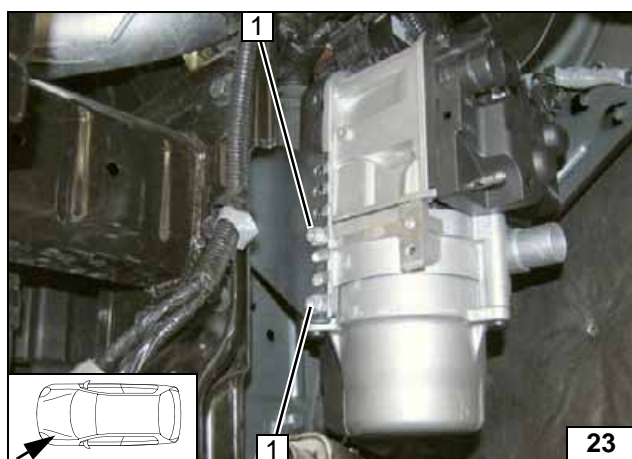
Preparing hoses



All spring clips 25 mm dia.!

- 1 Bent perforated bracket
- 2 M6x25 bolt, flanged nut
- 3 Mounting of circulating pump
- 4 Circulating pump
- 5 18 mm dia. 90° connecting pipe

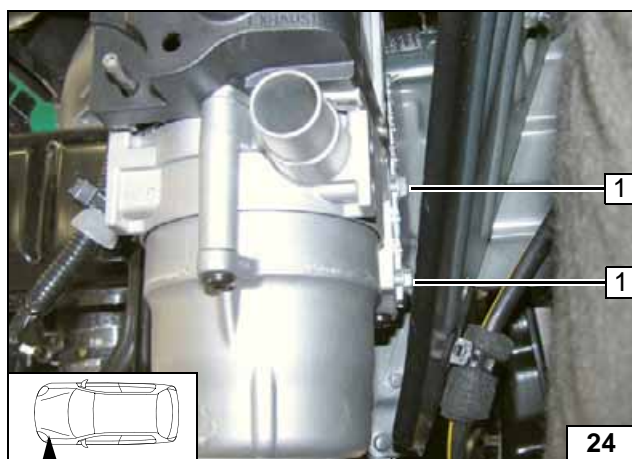
**Premounting circulating pump**



### Installing heater

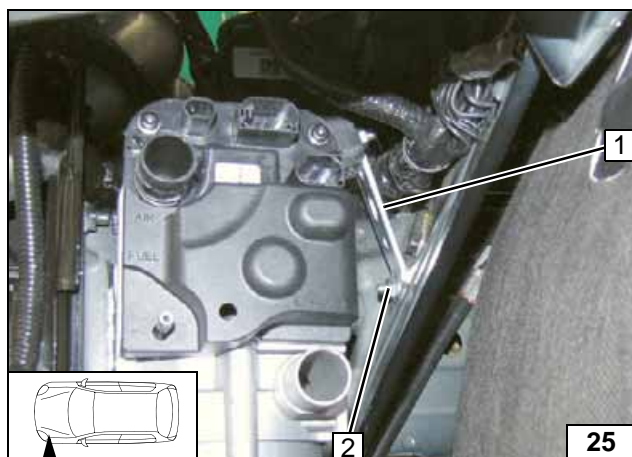
- 1 Tighten 5x13 self-tapping bolt [2x]

**Installing heater**



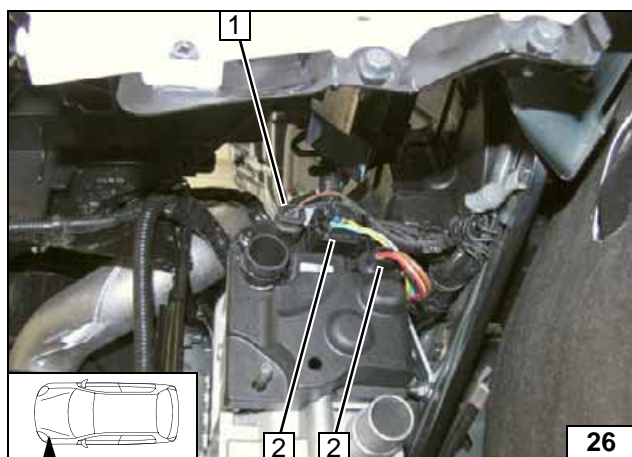
- 1 Tighten 5x13 self-tapping bolt [2x]

**Installing heater**



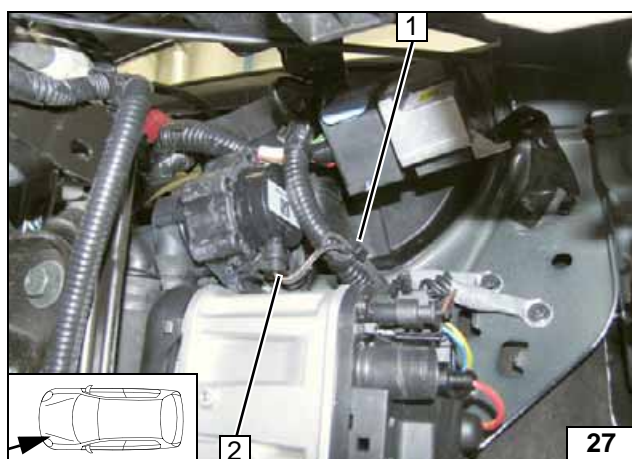
- 1 Perforated bracket
- 2 M6x16 bolt, large diameter washer, flanged nut, existing hole

**Installing perforated bracket**



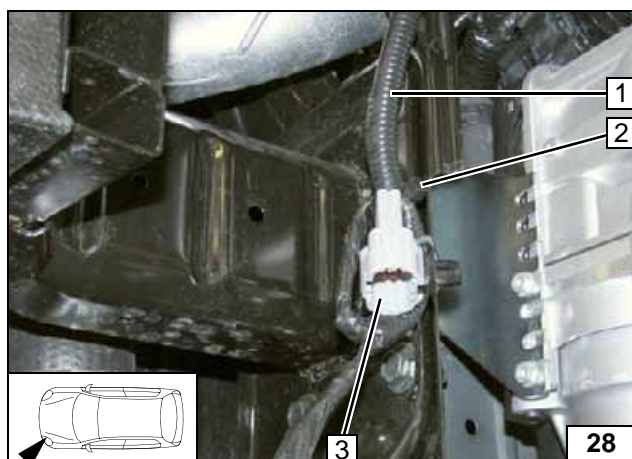
- 1 Wiring harness of circulating pump
- 2 Wiring harness of heater [2x]

**Connect-  
ing wiring  
harness**



- 1 Cable tie
- 2 Wiring harness of circulating pump

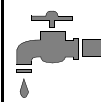
**Connect-  
ing wiring  
harness**



- 1 Original vehicle wire
- 2 Cable tie
- 3 Original vehicle connector

**Attaching  
connector**





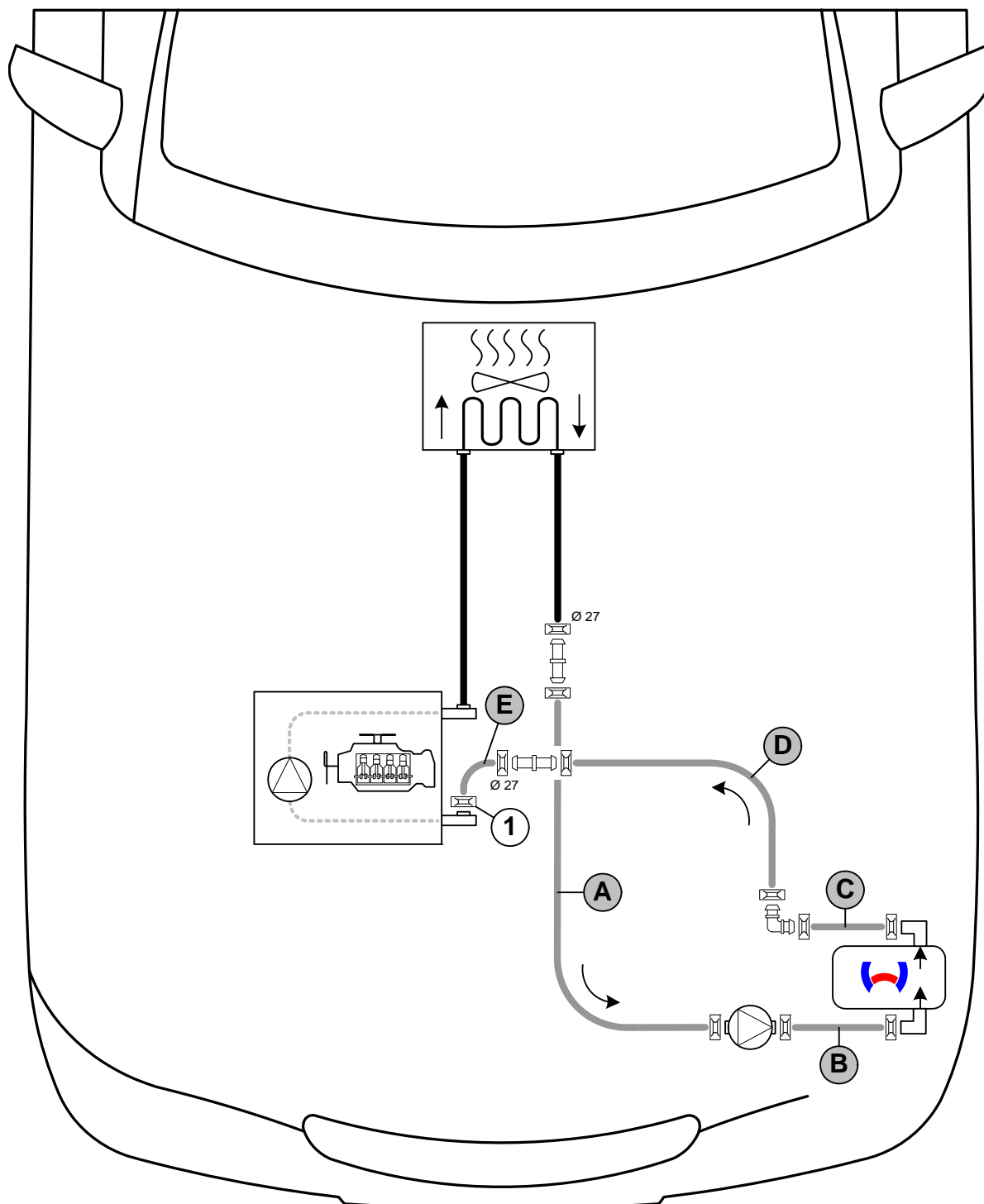
## Coolant circulation


## WARNING!


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



### Hose installation diagram

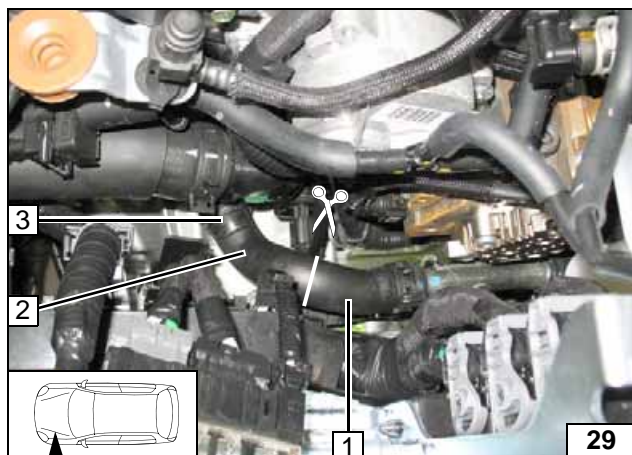
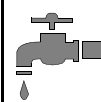


All spring clips without a specific designation  = 25mm dia.

1 = Original vehicle spring clip .

All connecting pipes  = 18x20 mm dia. Connecting pipe  = 18x18 mm dia.

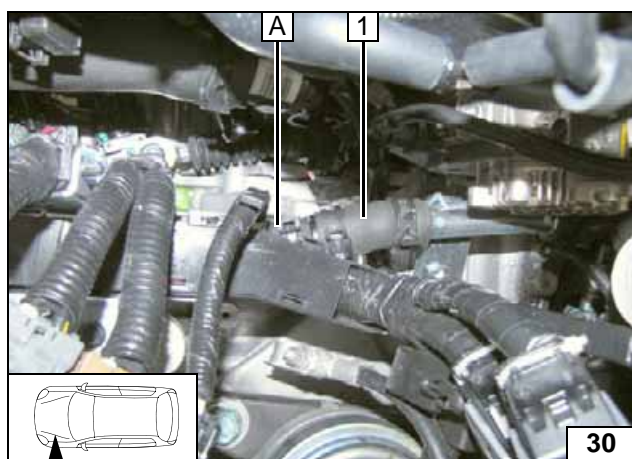




Remove original vehicle hose on engine inlet **2** and discard. Spring clip **3** will be reused.

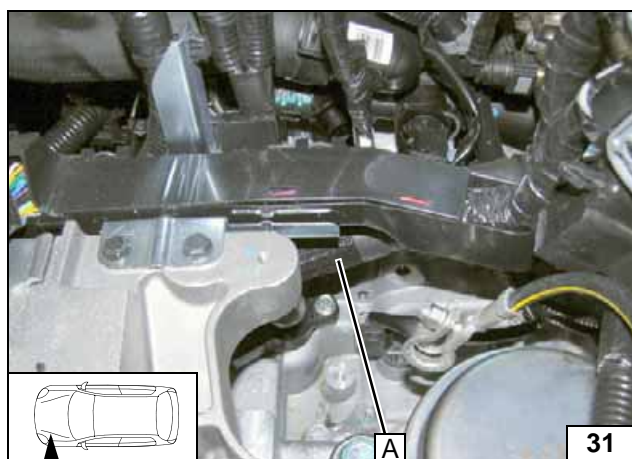
**1** Hose section of heat exchanger outlet

**Cutting point**

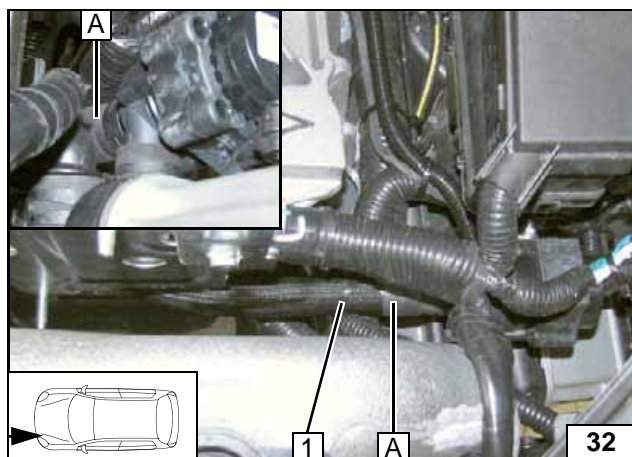


**1** Hose on heat exchanger inlet

**Connection on heat exchanger outlet**

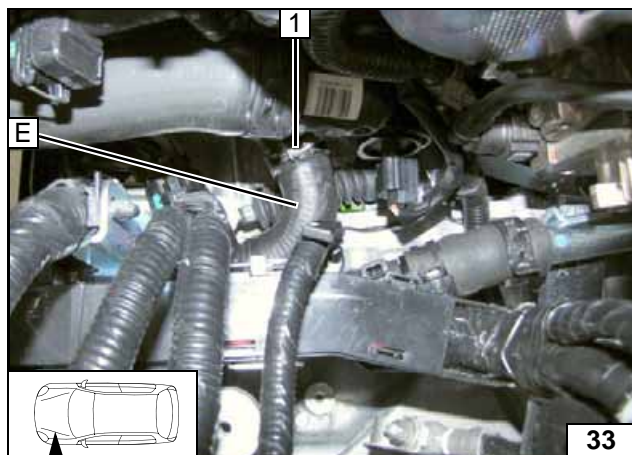
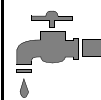


**Routing in engine compartment**



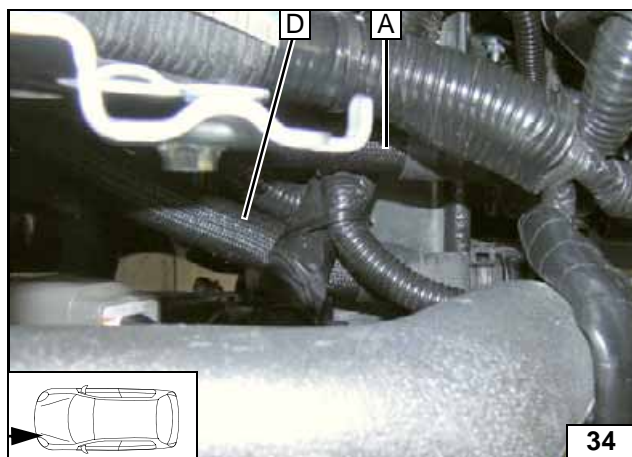
**1** Cable tie

**Circulating pump connection**

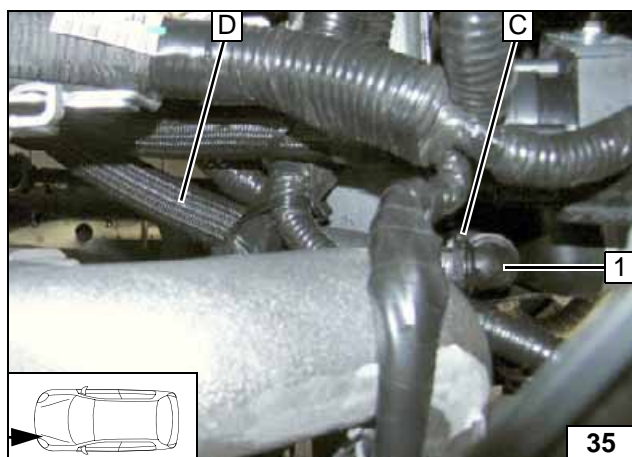


1 Original vehicle spring clip

Conne-  
ction on en-  
gine inlet



Routing in  
engine  
compart-  
ment



Ensure sufficient distance to neighbouring components.

1 90° connecting pipe

Connect-  
ing heater  
outlet





## Fuel

### CAUTION!

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

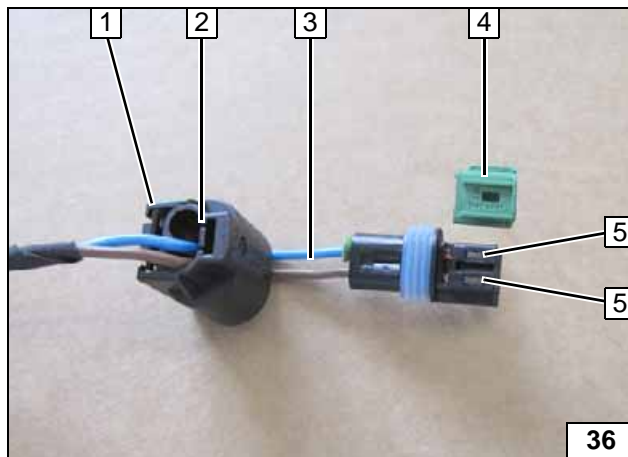
Catch any fuel running off with an appropriate container.

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

Mount the fuel line and wiring harness with rub protection on sharp edges.

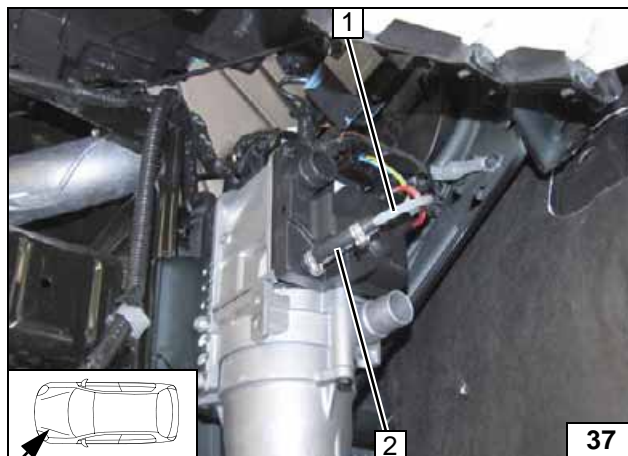
### WARNING!

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

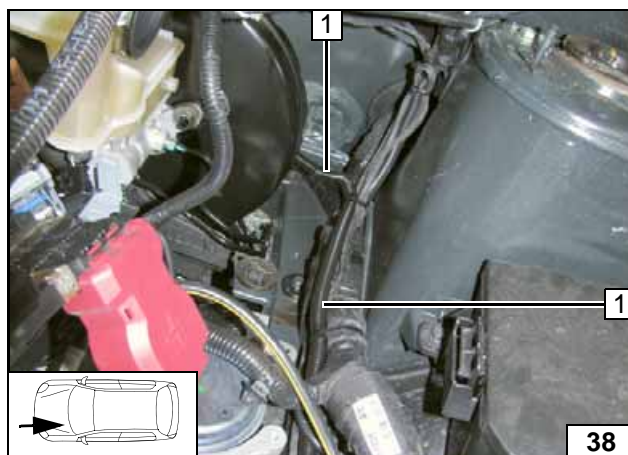


Complete connector or metering pump again after installation. Pin allocation is not relevant!

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



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



Route fuel line and wiring harness of metering pump in corrugated tube 1 on original vehicle wires to underbody.



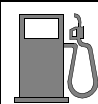
**Dismantling connector**

**Connecting heater**



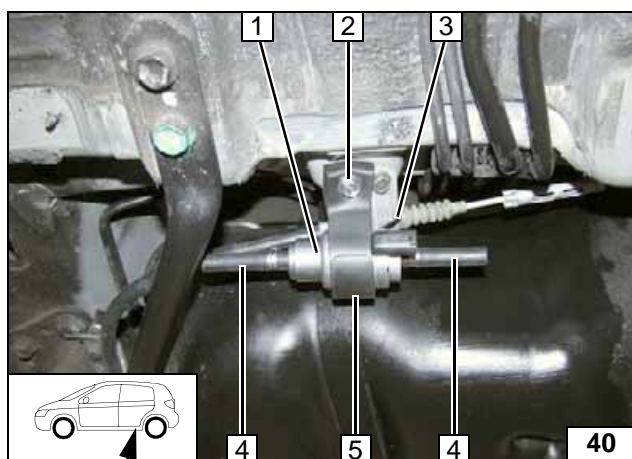
**Installing lines**





Route fuel line and wiring harness of metering pump in corrugated tube **1** on original vehicle wires to the installation location of the metering pump.

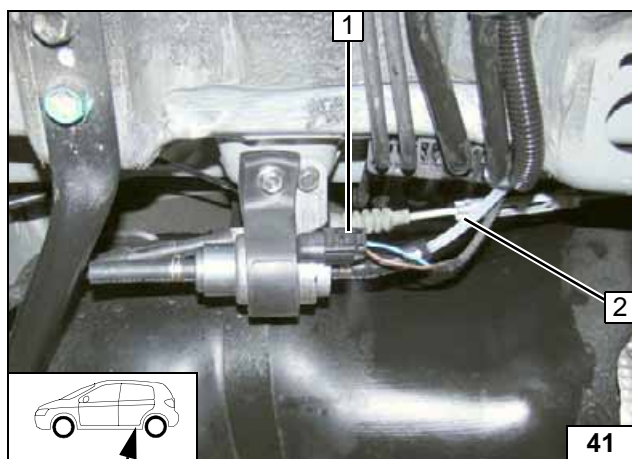
**Installing lines**



Remove original vehicle bolt on position **2** and discard.

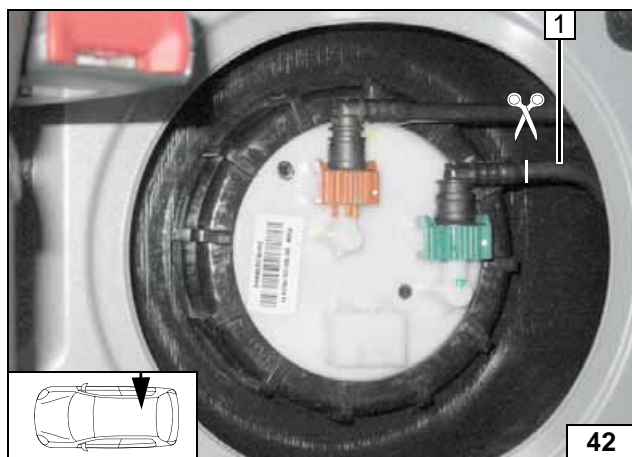
- 1** Metering pump
- 2** M6x25 bolt, existing threaded hole
- 3** Cable tie
- 4** Hose section, 10 mm dia. clamp [2x]
- 5** Mounting of metering pump

**Installing metering pump**



- 1** Wiring harness of metering pump, connector mounted
- 2** Fuel line from heater, 10 mm dia. clamp

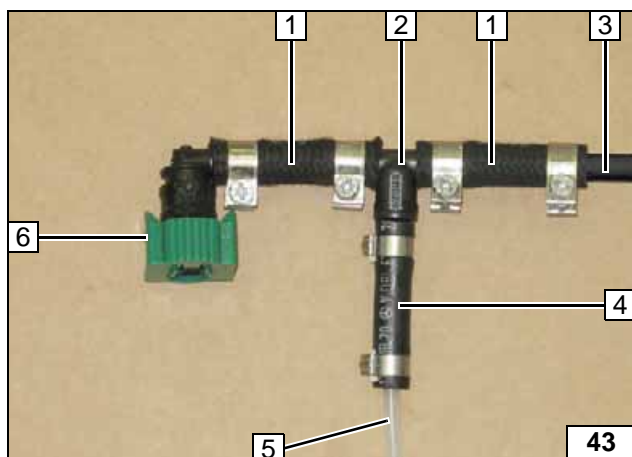
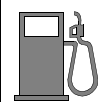
**Installing connection of metering pump**



Completely remove fuel supply line **1** and disconnect on the marking directly behind the coupling piece. Remove fuel hose from coupling piece. Do not damage coupling piece!

**Removing fuel**

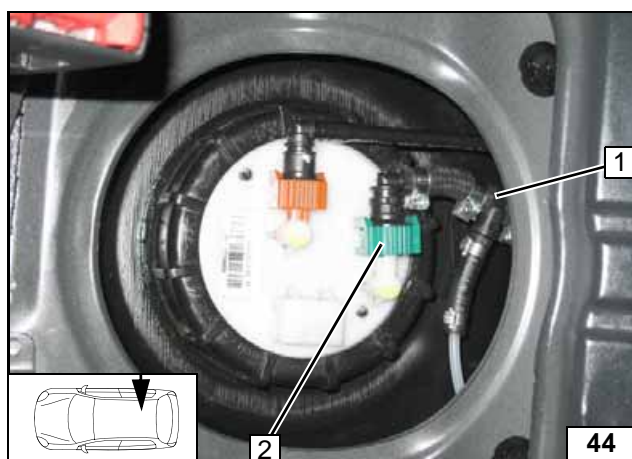




Shorten 8x12 fuel hose **1** [2x] by 20 mm. Install supporting sleeve of the fuel supply line **3**.

- 1** 8x12 fuel hose [2x], 12 mm dia. hose clamp [4x]
- 2** 8x5x8 mm fuel standpipe
- 4** Hose section, 10 mm dia. Caillau clamp [2x]
- 5** Fuel line
- 6** Coupling piece

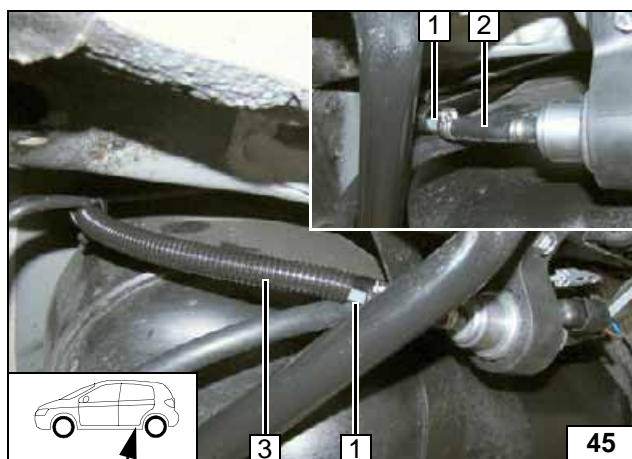
**Preparing fuel standpipe**



Re-install fuel supply line.

- 1** Fuel standpipe
- 2** Coupling piece connected

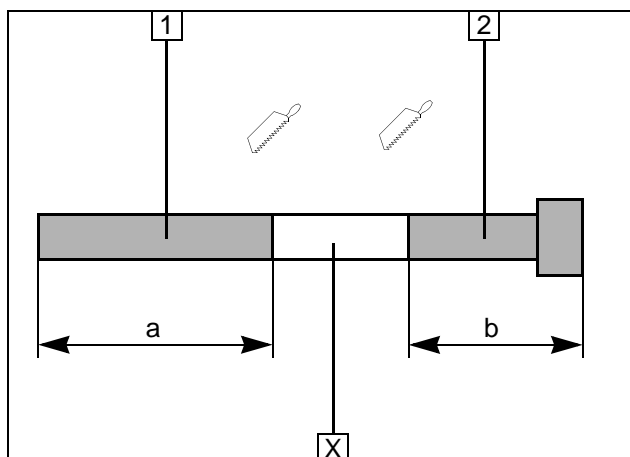
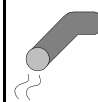
**Mounting fuel standpipe**



Slide corrugated tube **3** on fuel line of fuel standpipe **1**. Check the position of the components; adjust if necessary. Check that they have free clearance.

- 2** Hose section, 10 mm dia. clamp [2x]

**Connecting metering pump**

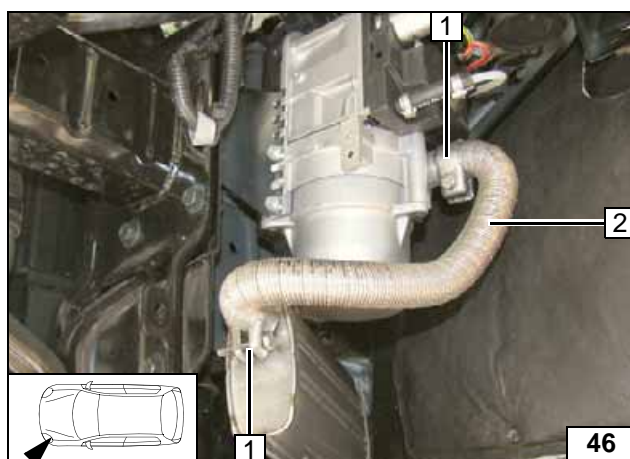


## Exhaust gas

Discard section X.

- 1 Exhaust pipe  
a = 320
- 2 Exhaust end section  
b = 80

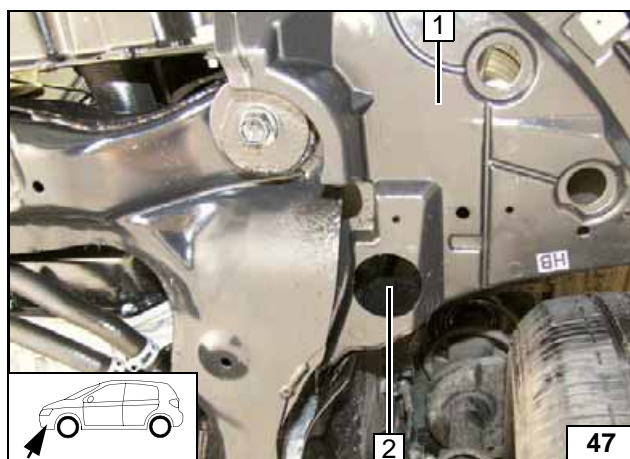
**Preparing  
exhaust  
pipe**



Ensure sufficient distance to the wheel-well inner panel (at least 20 mm).

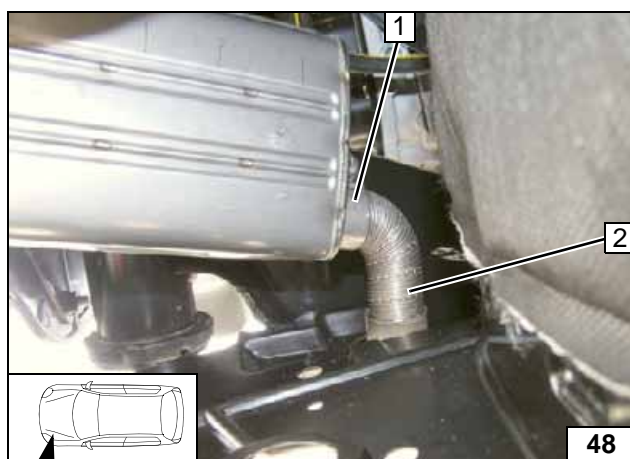
- 1 Hose clamp [2x]
- 2 Exhaust pipe

**Installing  
exhaust  
pipe**



- 1 Wheel well trim
- 2 50 mm dia. hole

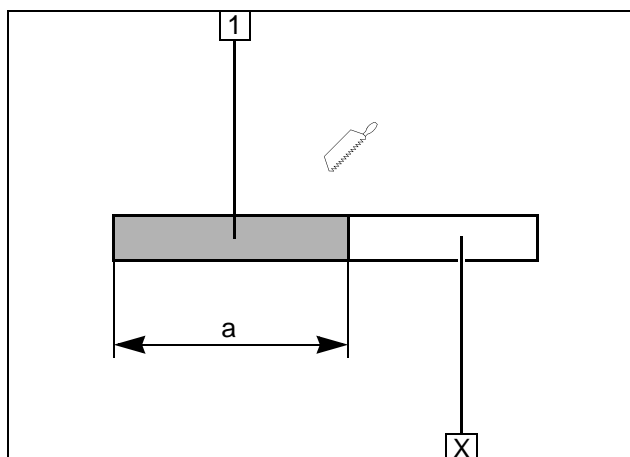
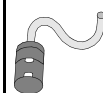
**Hole in  
wheel well  
trim**



Align exhaust end section 2 in centre of hole of wheel well trim.

- 1 Hose clamp

**Installing  
exhaust  
end sec-  
tion**

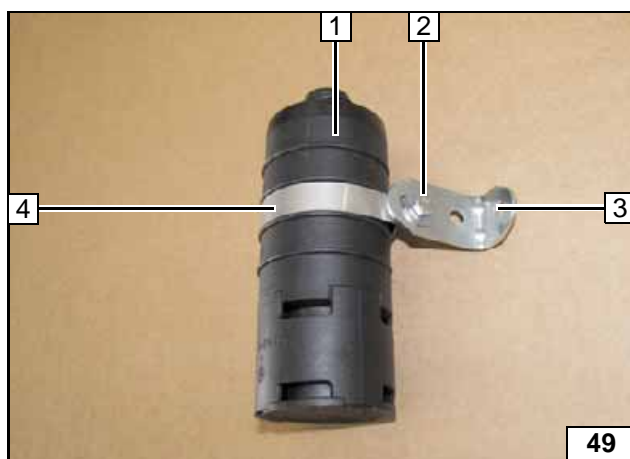


## Combustion air

Discard section **X**.

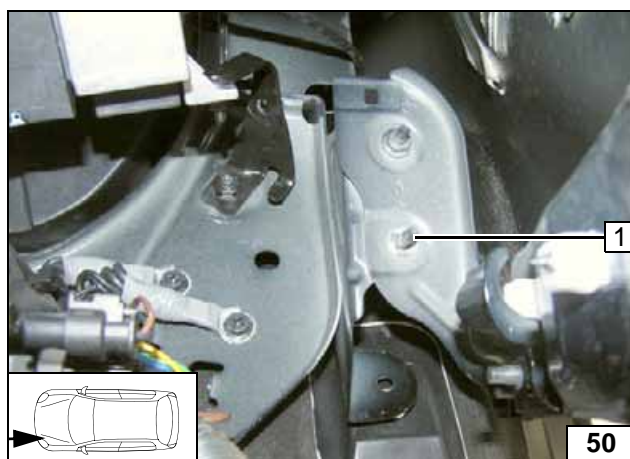
- 1** Combustion air pipe  
a = 320

**Cutting combustion air pipe to length**



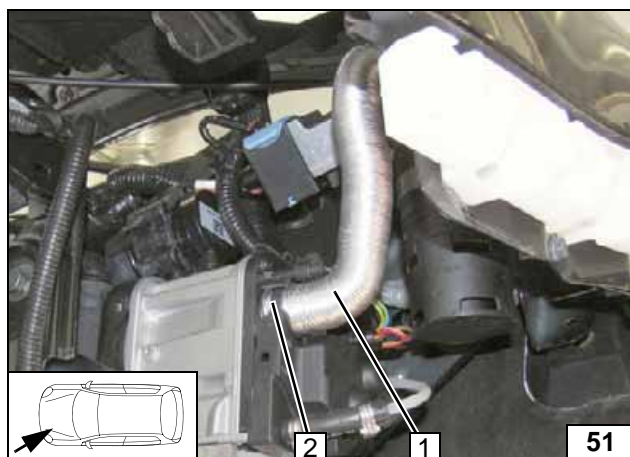
- 1** Silencer  
**2** M5x16 bolt, large diameter washer, flanged nut  
**3** Angle bracket  
**4** 51 mm dia. clamp

**Premounting silencer**



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

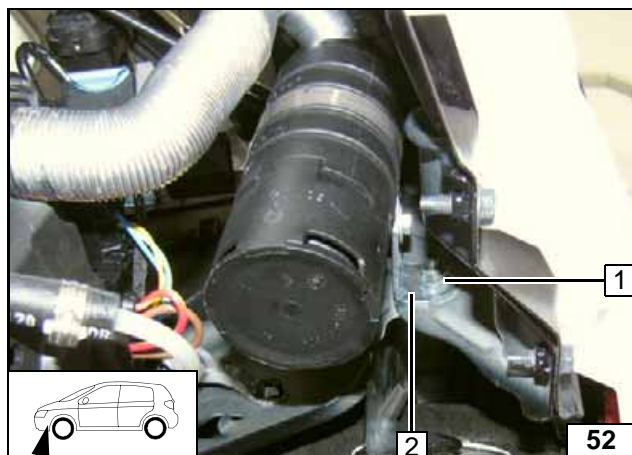
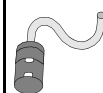
**Removing nut**



- 1** Combustion air pipe  
**2** 25 mm dia. spring clip

**Installing combustion air pipe**





- 1 Original vehicle stud bolt, original vehicle flanged nut
- 2 Angle bracket



**Fastening  
silencer**



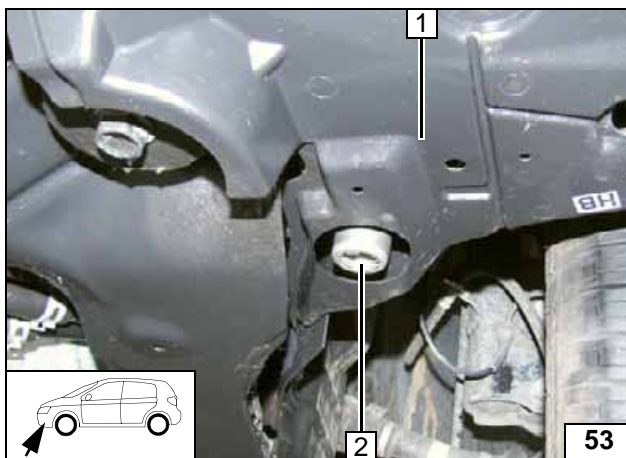
## Final Work

### WARNING!

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

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

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



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



Aligning  
exhaust  
end sec-  
tion



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## 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

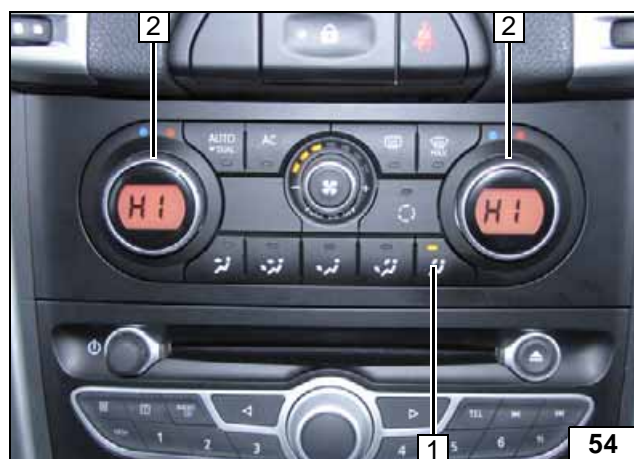
**Example:**

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

For vehicles with passenger compartment monitoring, it must be deactivated additionally, besides making the vehicle settings for the heating operation.

Instructions on deactivation can be taken from the operating instructions of the vehicle!

Before parking the vehicle, make the following settings:



1 Air outlet faces "upward"

2 Set temperature on both sides to "HI"

Automatic  
air-condi-  
tioning