

# Water Heater

## Thermo Top Evo Parking Heater



# Installation Documentation

## Peugeot 4008

### Validity

| Manufacturer | Model | Type | EG-BE No. / ABE             |
|--------------|-------|------|-----------------------------|
| Peugeot      | 4008  | GB6  | e2 * 2007 / 46 * 0115 * ... |

| Motorisation | Fuel   | Transmission type | Output in kW | Displacement in cm <sup>3</sup> | Engine code |
|--------------|--------|-------------------|--------------|---------------------------------|-------------|
| 1.8 HDI      | Diesel | 6 gear SG         | 110          | 1798                            | 4N13        |

SG = Manual transmission

**From Model Year 2012**  
**Left-hand drive vehicle**

|                                     |  |
|-------------------------------------|--|
| <b>Verified equipment variants:</b> | Automatic air-conditioning<br>Front fog light<br>Xenon headlights<br>Headlight washer system<br>Start-Stop<br>4 WD |
| <b>Not verified:</b>                | Manual air-conditioning<br>Passenger compartment monitoring<br>Automatic transmission                              |
| <b>Total installation time:</b>     | approx. 7.5 hours  |

# Peugeot 4008

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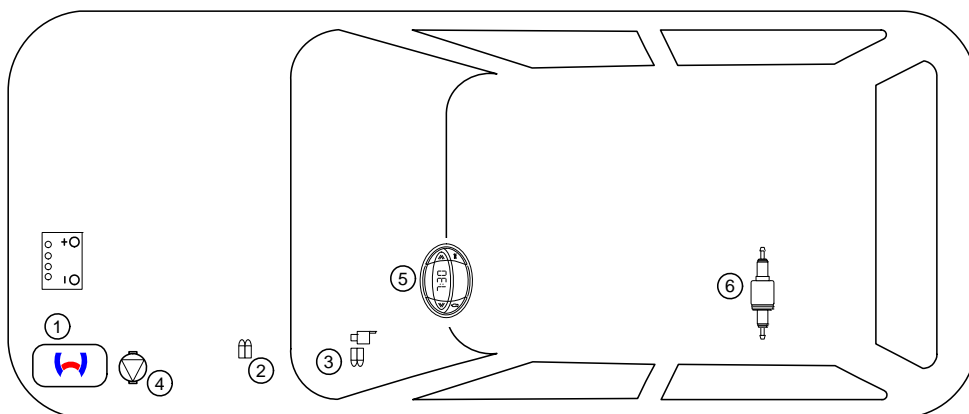
## Necessary Components

- Basic delivery scope *Thermo Top Evo* in accordance with price list
- Installation kit for Peugeot 4008 2012 Diesel: **1318665A**
- Heater control in accordance with price list and upon consultation with end customer
- In case of Telestart, indicator lamp in accordance with price list and in consultation with end customer

## Installation Overview

### Legend:

1. Heater
2. Engine compartment fuse holder
3. Fuse holder of passenger compartment
4. Circulating pump
5. Digital timer
6. Metering pump



## Information on Total Installation Time

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

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

## Information on Operating and Installation Instructions

### 1 Important Information (not complete)

#### 1.1 Installation and Repair



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



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



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

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

#### 1.2 Operation

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

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

Always switch off the heater before refuelling.

The heater may only be used with the prescribed fuel Diesel (DIN EN 590) or petrol (DIN EN 227).

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

#### 1.3 Please note

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

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

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

### IMPORTANT

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

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

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

**Installation should be carried out according to the general, standard rules of technology. Unless specified otherwise, fasten hoses, lines and wiring harnesses to original vehicle lines and wiring harnesses using cable ties. Insulate loose wire ends and tie back.**

**Sharp edges should be fitted with rub protection (split-open fuel hose)! Spray unfinished body areas, e.g. drilled holes, with anti-corrosion wax (Tectyl 100K, Order No. 111329).**

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

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

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

### 2 Statutory regulations governing installation

| Guidelines                 | Thermo Top Evo |
|----------------------------|----------------|
| Heating Directive ECE R122 | E1 00 0258     |
| EMC Directive ECE R10      | E1 03 5627     |

### NOTE

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

### IMPORTANT

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

### NOTE

For vehicles with an EU permit, no entry in accordance with § 19 Sub-Section 4 of Annex VIII b to the Road Traffic Act is required.

#### 2.1 Excerpt from the directive 2001/56/EC Appendix VII for the installation of the heater

Beginning of excerpt.

### ANNEX VII

#### REQUIREMENTS FOR COMBUSTION HEATERS AND THEIR INSTALLATION

##### 1. GENERAL REQUIREMENTS

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

##### 2. VEHICLE INSTALLATION REQUIREMENTS

###### 2.1. Scope

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

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

###### 2.2. Positioning of heater

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

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

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

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

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

###### 2.3. Fuel supply

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

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

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

###### 2.4. Exhaust system

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

###### 2.5. Combustion air inlet

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

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

###### 2.6. Heating air inlet

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

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

###### 2.7. Heating air outlet

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

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

End of excerpt.

In multilingual versions the German language is binding.

# Peugeot 4008

## Information on Validity

This installation documentation applies to Peugeot 4008 Diesel vehicles - for validity, see page 1 - from model year 2012 and later, assuming technical modifications to the vehicle do not affect installation, any liability claims excluded. Depending on the vehicle version and equipment, modifications may be necessary during installation with respect to this installation documentation.

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

## Technical Information

### Special tools

- Hose clamp pliers for self-clamping hose clamps
- Hose clamp pliers for Clic hose clamps of type W
- Automatic wire stripper 0.2 - 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
- Webasto Thermo Test Diagnosis with current software

### Dimensions

- All dimensions are in mm

### Tightening torque values

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

## Explanatory Notes on Document

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

Special features are highlighted using the following symbols:

### Mechanical system



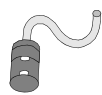
### Electrical system



### Coolant circuit



### Combustion air



### Fuel



### Exhaust gas



### Software



### Specific risk of injury or fatal accidents



### Specific risk of damage to components



### Specific risk of fire and explosion



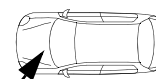
### Reference to general installation instructions of the Webasto components or to the manufacturer's vehicle-specific documents.



### Reference to a special technical feature



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



# Peugeot 4008

## Preliminary Work

### Vehicle

- Open the fuel tank cap.
- Ventilate the fuel tank.
- Close the fuel tank cap again.
- Depressurise the cooling system.
- Disconnect and remove the battery.
- Remove the air filter together with the intake hose.
- Remove the engine cover.
- Remove the lower engine trim.
- Remove the left-hand stoneguard in front of the fuel tank (if present).
- Loosen the wheel well trim on the right and remove it on the left.
- Remove the bumper.
- Drain the coolant into suitable container.
- Remove the underride protection on the front left.
- Remove the rear seats.
- Fold back the floor covering.
- Open the tank-fitting service lid.
- Remove the fuel-tank sending unit in accordance with manufacturer's instructions.
- Remove the footwell trim on the driver's and front passenger side.
- Remove the lateral instrument panel trim on the driver's side.
- Remove the A-pillar trim on the driver's side.
- Remove the lower instrument panel trim in the front passenger side footwell.

### Heater

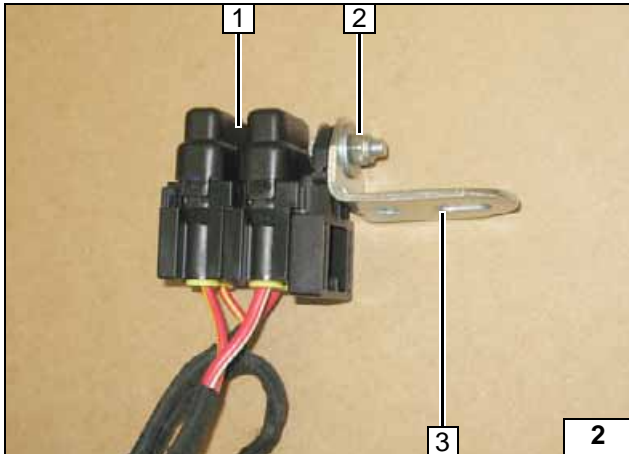
- Remove years that do not apply from the type and duplicate label.
- Attach the duplicate label (type label) in the appropriate place in the engine compartment.



### Heater Installation Location

- 1 Heater

Installation location

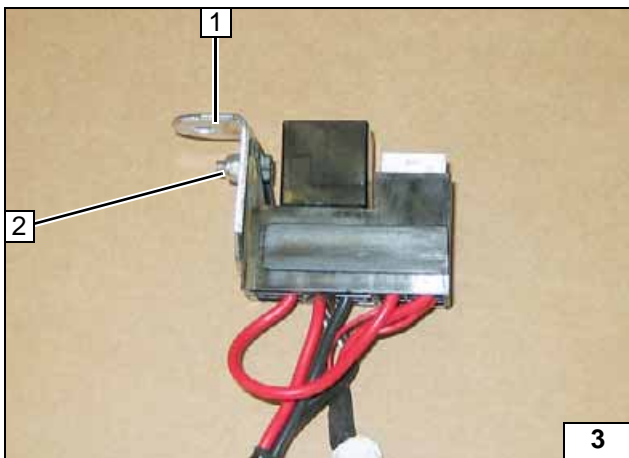


## Preparing Electrical System

### Fuse holder of engine compartment

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

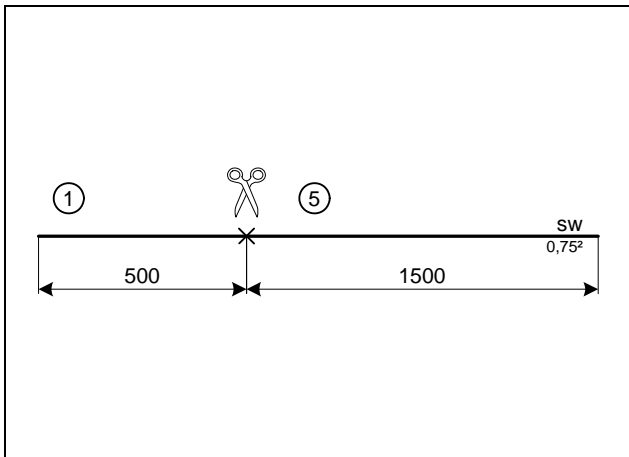
Premounting fuse holder of engine compartment



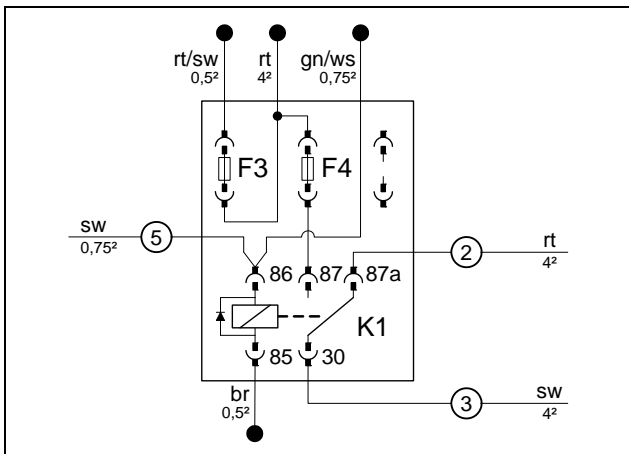
### Fuse holder of passenger compartment

- 1 Angle bracket
- 2 M5x12 bolt, large diameter washer [2x], nut

Premounting fuse holder of passenger compartment



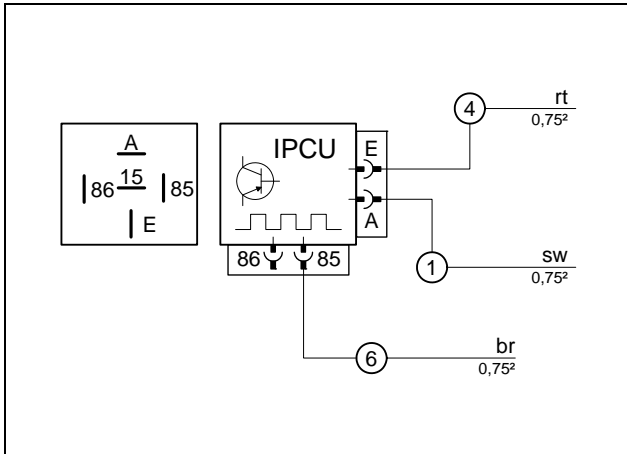
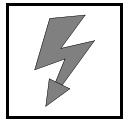
Cutting wires to length



Insert fan wiring harness with red (rt) wire ② into K1/87a relay socket and black (sw) wire ③ into K1/30 relay socket. Also connect black (sw) 0.75<sup>2</sup> additional wire ⑤ to K1/86 and pull it into protective sleeving. Insert 25A fuse F4 and K1 relay.



Preparing fuse holder of passenger compartment

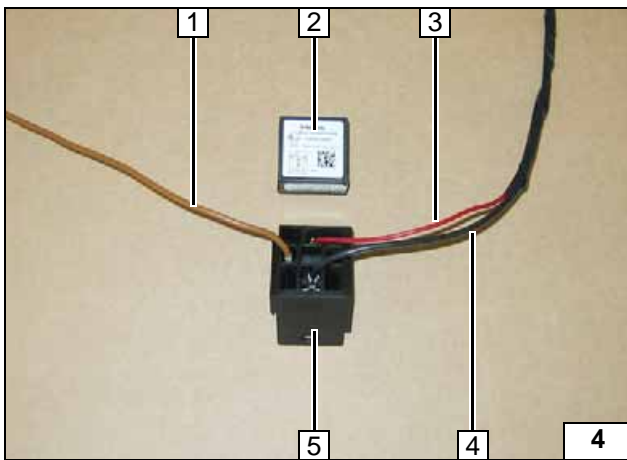


The preprogrammed data of the IPCU are mean values which can differ in individual cases. This is specified in dependence on the design by the fan module of the vehicle. If the fan output is too low or high, the IPCU can be reprogrammed with the Webasto diagnostic system. Change voltage in 0.1 V steps. Measure current consumption on blue (bl) wire of fan motor. Comply with value < 6A!

Duty cycle: 100%  
 Frequency: 14kHz  
 Voltage: 4.2V  
 Function: High-side



**Premounting IPCU (view on the contact side)**



IPCU 2 will be attached after installation.

- 1 Brown (br) wire ⑥ of IPCU/85 socket
- 3 Red (rt) wire ④ of IPCU/E socket
- 4 Black (sw) wire ⑤ of IPCU/A socket
- 5 IPCU socket



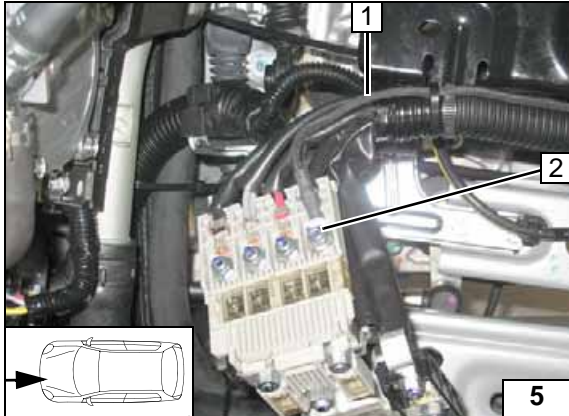
**Premounting IPCU**



## Electrical System

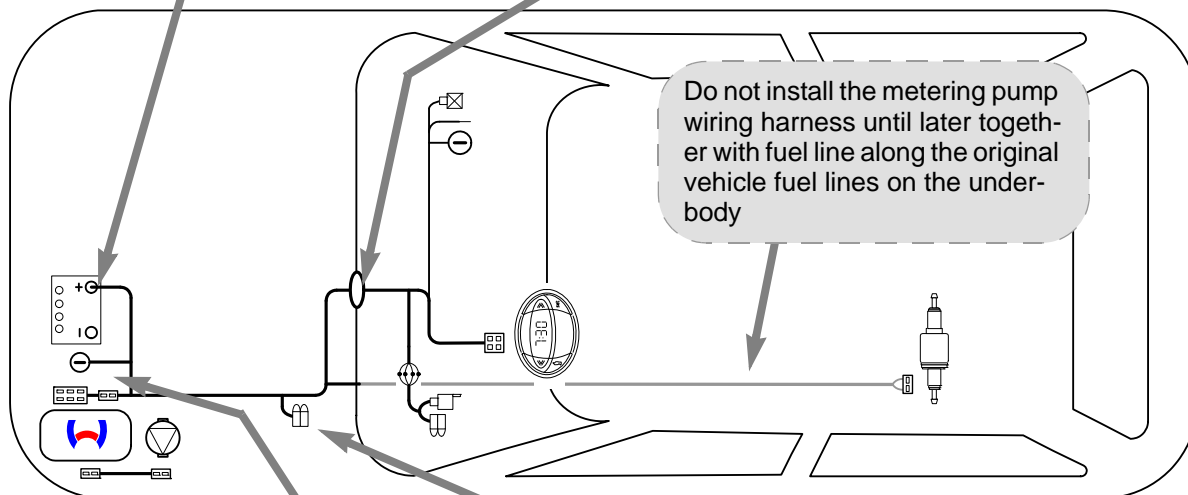
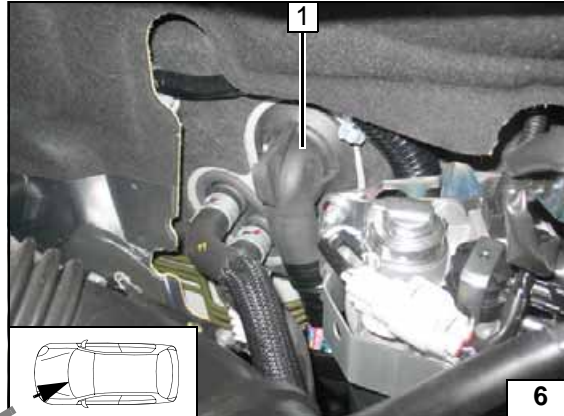
### Positive wire

- 1 Red (rt) positive wire, 6mm dia. cable lug
- 2 Battery positive distributor

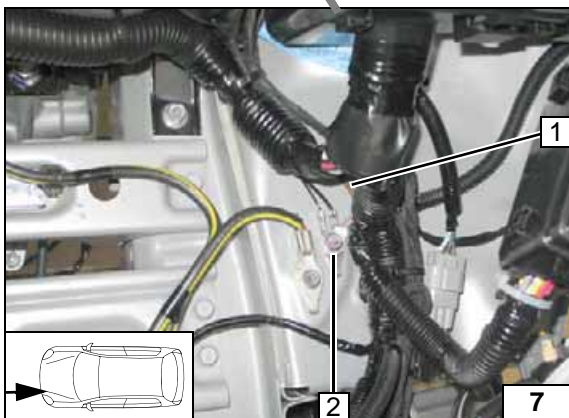


### Wiring harness pass through

Route wiring harnesses of engine compartment fuse holder and heater control through original vehicle protective rubber plug 1 to the passenger compartment.

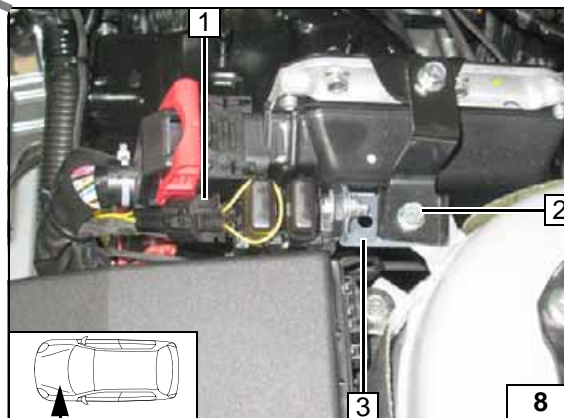


**Wiring harness routing diagram**



### Earth wire

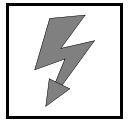
- 1 Brown (br) earth wire, 6mm dia. cable lug
- 2 Original vehicle earth point



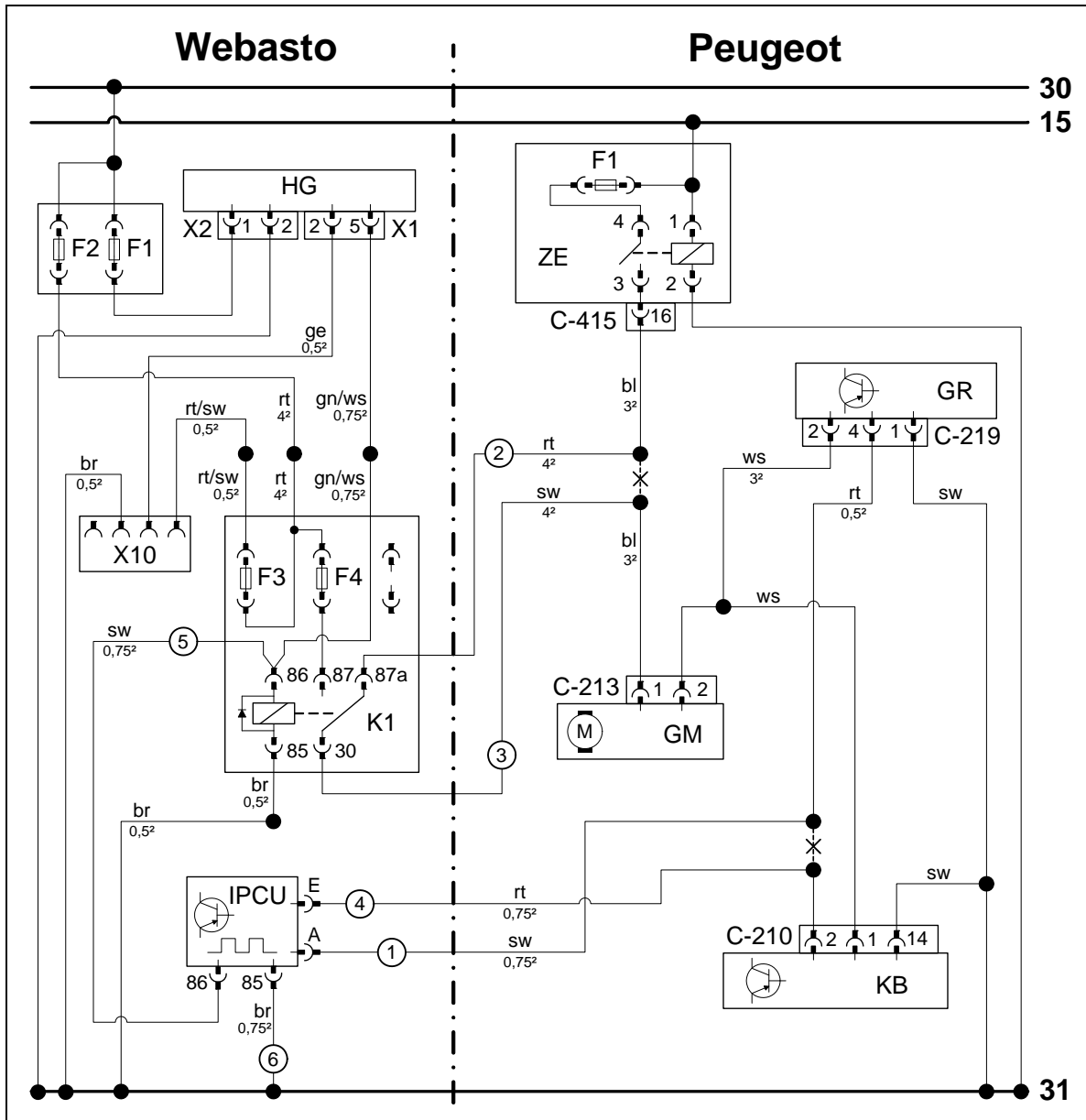
### Fuse holder of engine compartment

- 1 Diagnosis connection of heater
- 2 Original vehicle bolt
- 3 Angle bracket





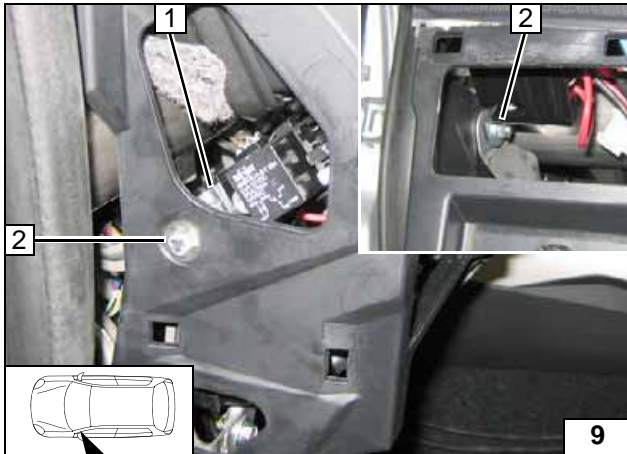
Fan Controller



Wiring diagram

| Webasto components             |                                   | Vehicle components |                     | Colours and symbols |               |
|--------------------------------|-----------------------------------|--------------------|---------------------|---------------------|---------------|
| HG                             | Heater TT-Evo                     | GM                 | Fan motor           | rt                  | red           |
| X1                             | 6-pin heater connector            | C-213              | 2-pin connector GM  | ws                  | white         |
| X2                             | 2-pin heater connector            | GR                 | Fan controller      | sw                  | black         |
| X10                            | 4-pin connector<br>Heater control | C-219              | 4-pin connector GR  | br                  | brown         |
| K1                             | Fan relay                         | KB                 | A/C control panel   | gn                  | green         |
| F1                             | 20A fuse                          | C-210              | 20-pin connector KB | ge                  | yellow        |
| F2                             | 30A fuse                          | C-415              | 19-pin connector ZE | bl                  | blue          |
| F3                             | 1A fuse                           | F1                 | 10A fuse            |                     |               |
| F4                             | 25 A fuse                         |                    |                     |                     |               |
| IPCU                           | Pulse width modulator             |                    |                     |                     |               |
| <b>IPCU adjustment values:</b> |                                   |                    |                     |                     |               |
| Duty cycle: 100%               |                                   |                    |                     |                     |               |
| Frequency: 14kHz               |                                   |                    |                     |                     |               |
| Voltage: 4.2V                  |                                   |                    |                     |                     |               |
| Function: High-side            |                                   |                    |                     |                     |               |
|                                |                                   |                    |                     | X                   | Cutting point |
| Wiring colours may vary.       |                                   |                    |                     |                     |               |

Legend

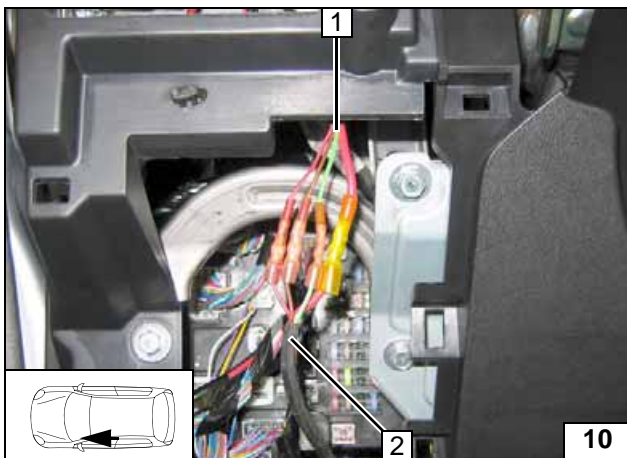


Replace original vehicle bolt at position **2** with M6x20 bolt, large diameter washer and flanged nut. Original vehicle bolt will be re-used for Telestart.

**1** Angle bracket



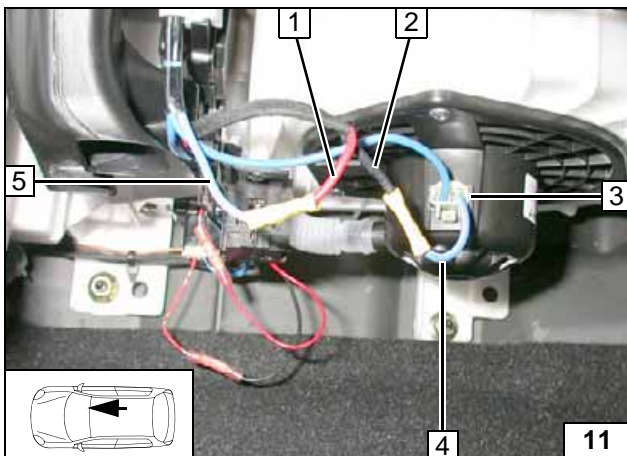
**Installing, connecting fuse holder of passenger compartment**



Connect same colour wires of fuse holder wiring harness of passenger compartment **1** with wiring harness of heater **2** as shown in wiring diagram.



**Connecting wiring harnesses**

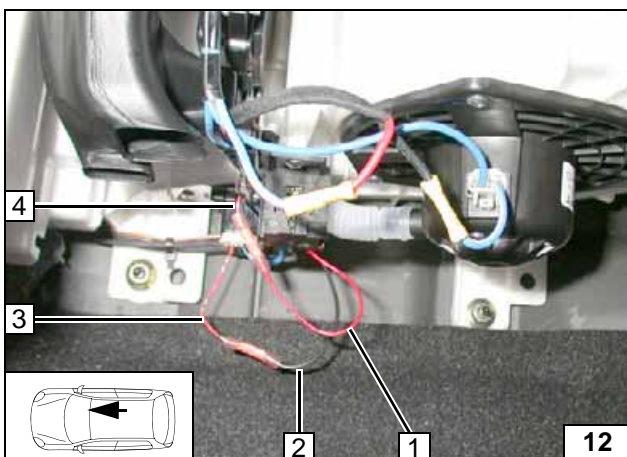


Connection to 2-pin connector C-213 **3** from fan motor. Connect additional black (sw) wire of K1/86 to IPCU/86. Produce connections as shown in wiring diagram.

- 1** Red (rt) wire of K1/87a
- 2** Black (sw) wire of K1/30
- 4** Blue (bl) wire of connector C-213, Pin 1
- 5** Blue (bl) wire of fan relay in central electrical box

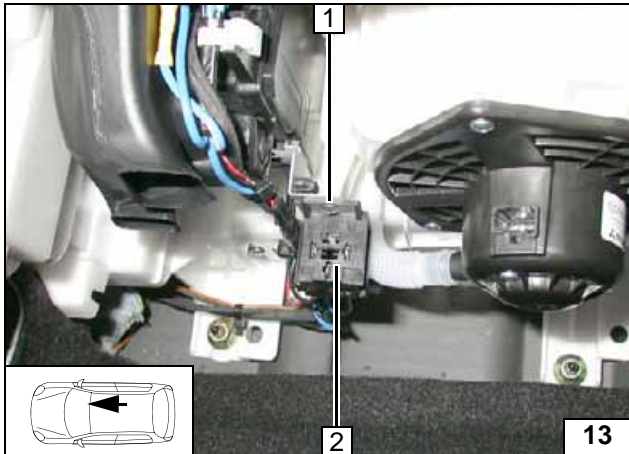


**Connecting fan motor**



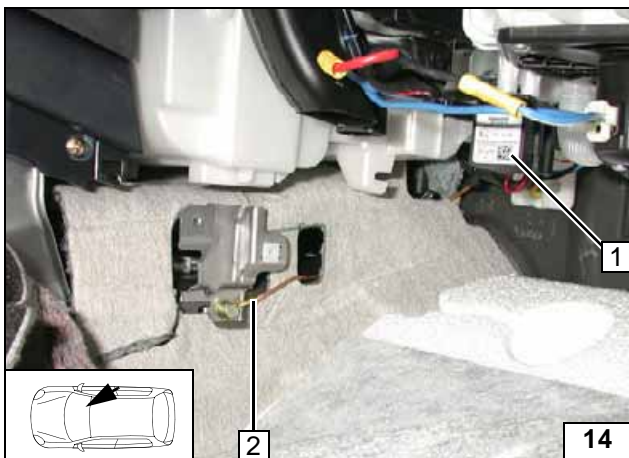
- 1** Red (rt) wire of IPCU/E
- 2** Black (sw) wire of IPCU/A
- 3** Red (rt) wire of fan controller
- 4** Red (rt) wire of A/C control panel

**Connecting IPCU**



- 1 Original vehicle bolt
- 2 IPCU socket

**Installing IPCU**

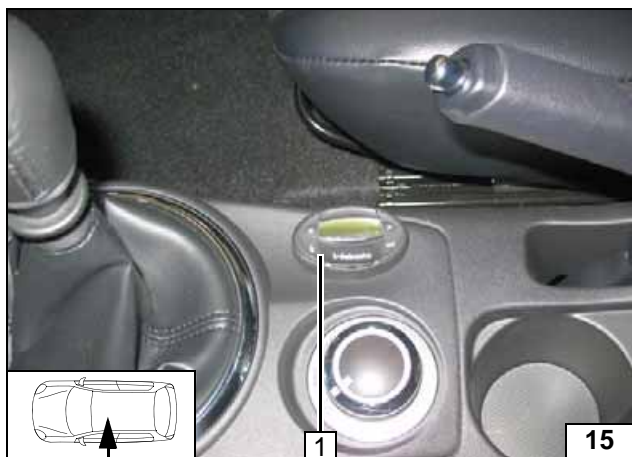


Produce connections as shown in wiring diagram.

- 1 Connect IPCU
- 2 Brown (br) wire of IPCU/85 on original vehicle earth point



**Connecting earth wire**

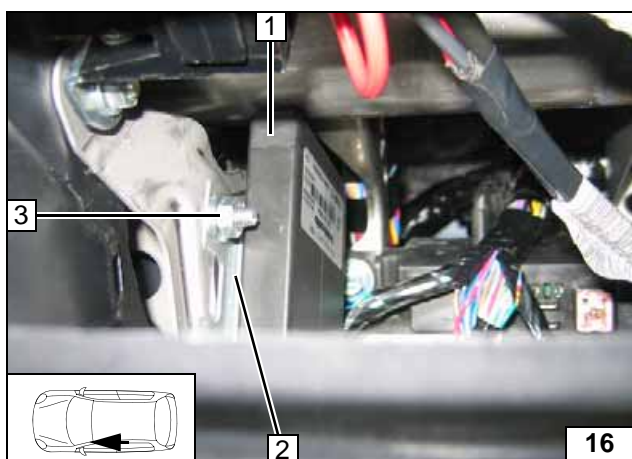


### Digital Timer

- 1 Digital timer



Installing digital timer

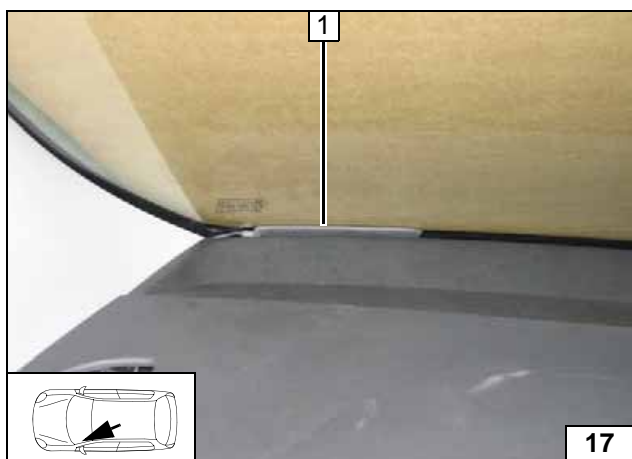


### Remote Option (Telestart)

- 1 Receiver
- 2 Bracket
- 3 Original vehicle bolt, flanged nut

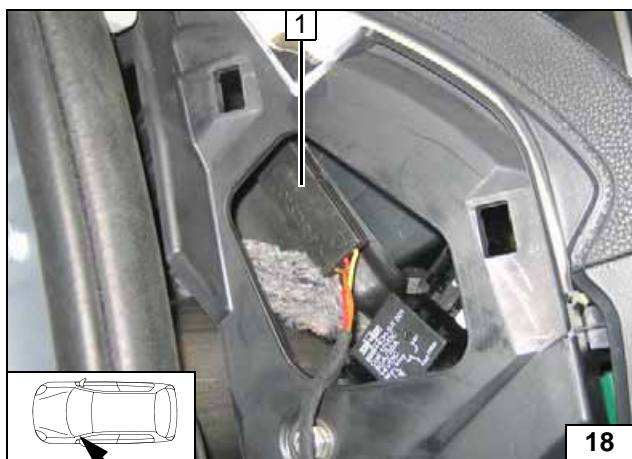


Mounting receiver



- 1 Antenna

Mounting antenna

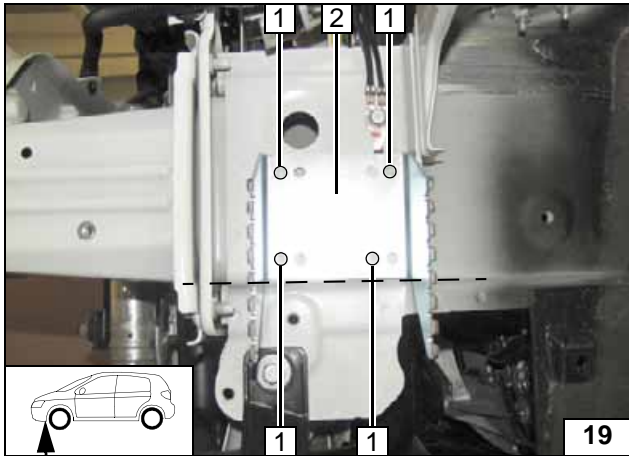


### Temperature sensor T100 HTM

Fasten temperature sensor 1 with adhesive tape.



Installing temperature sensor

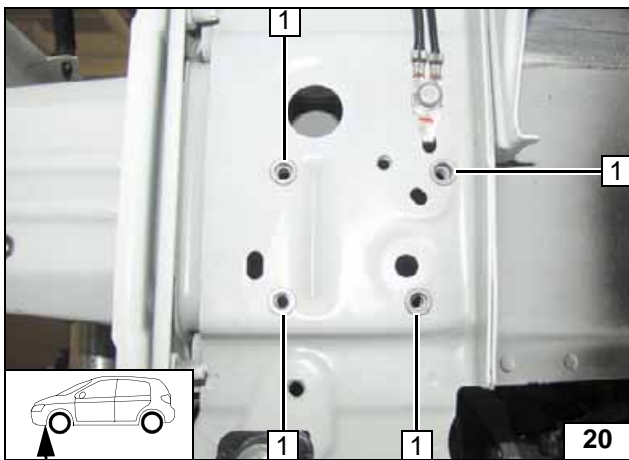


### Preparing Installation Location

Place bracket **2** on lower edge (see marking and align to the right (at least 1mm distance to the vertical edge)).

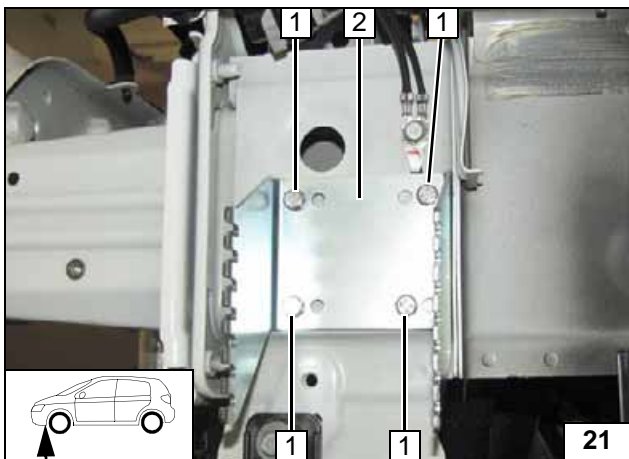
- 1 Copy hole pattern [4x]

Copying hole pattern



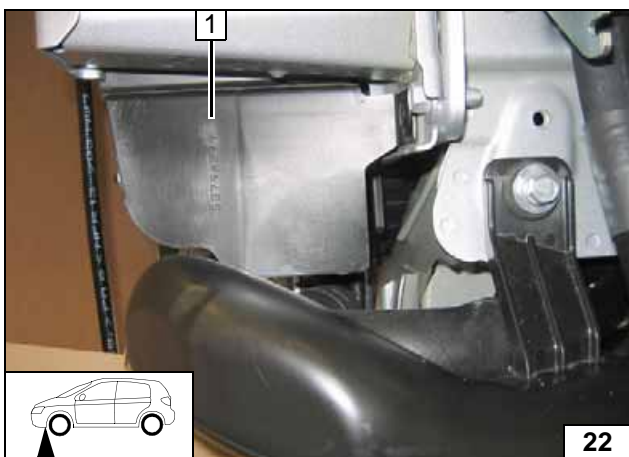
- 1 9.1mm dia. hole [4x]; rivet nut [4x]

Installing rivet nut



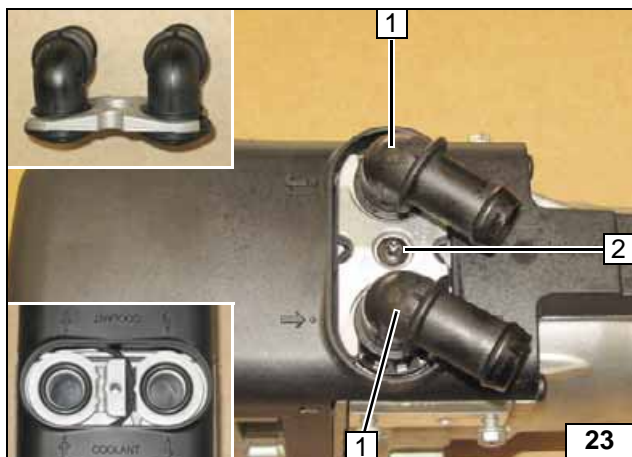
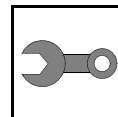
- 1 M6x20 bolt [4x], spring lockwasher [4x]
- 2 Bracket

Mounting bracket



- 1 Remove air ducting and discard

Removing air ducting

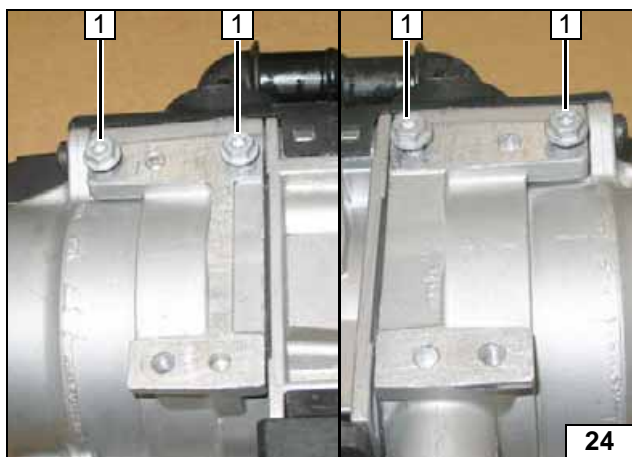


### Preparing Heater

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



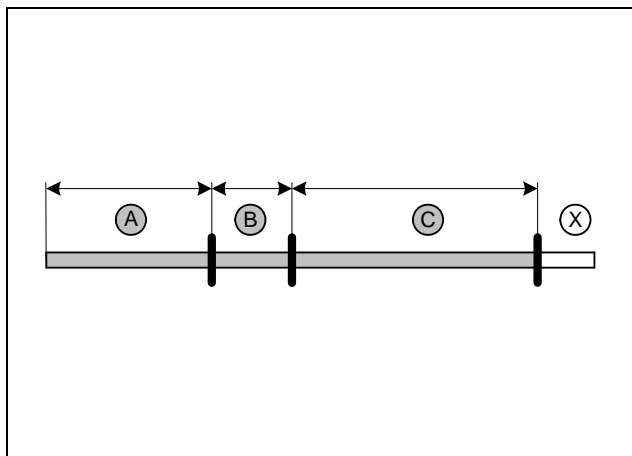
**Mounting water connection piece**



Tap threads with 5x13 self-tapping screw 1 [4x] and install loosely (max. 3 turns of the thread).



**Premounting bolts loosely**

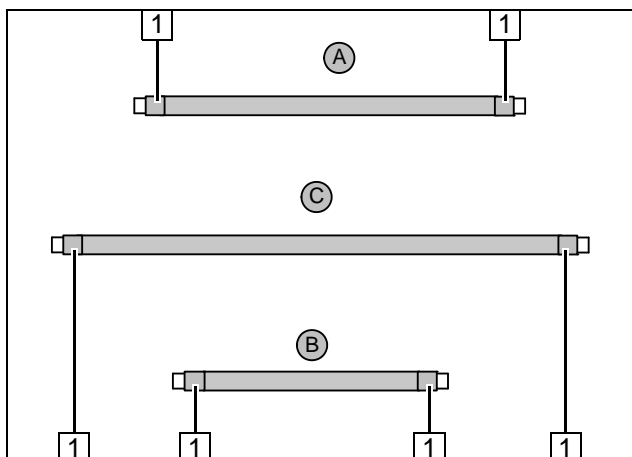


Discard section X.  
18mm dia. straight moulded hose

- A = 680
- B = 320
- C = 1140



**Cutting hoses to length**

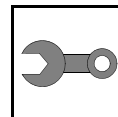


Push braided protection hose onto hose A, B and C and cut to length.  
Cut heat shrink plastic tubing into 6 equal parts.



- 1 Heat shrink plastic tubing [6x]

**Preparing hoses**

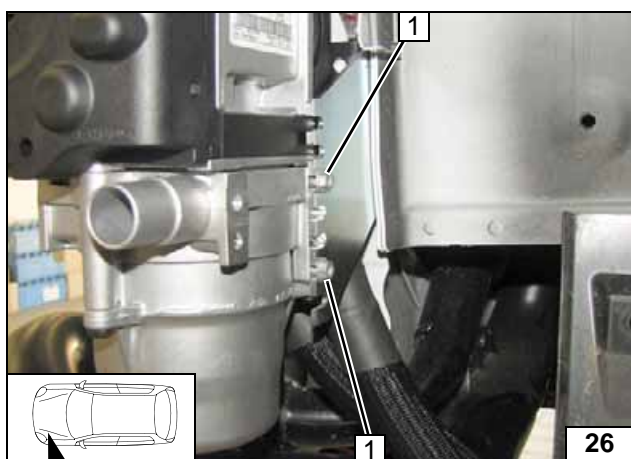


Connect hose **B** to heater inlet.  
Hose **C** on heater outlet

- 1 25 mm dia. spring clip [2x]



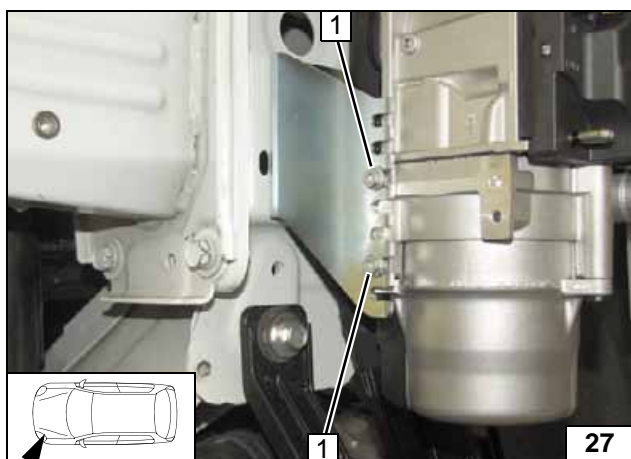
Premounting hoses



**Installing Heater**

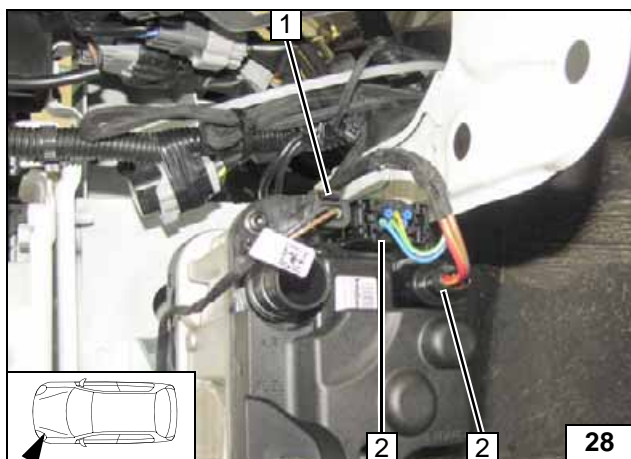
- 1 Tighten 5x13 self-tapping bolt [2x]

Mounting heater



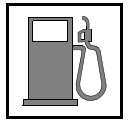
- 1 Tighten 5x13 self-tapping bolt [2x]

Mounting heater



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

Mounting wiring harnesses



**Fuel**

**CAUTION!**

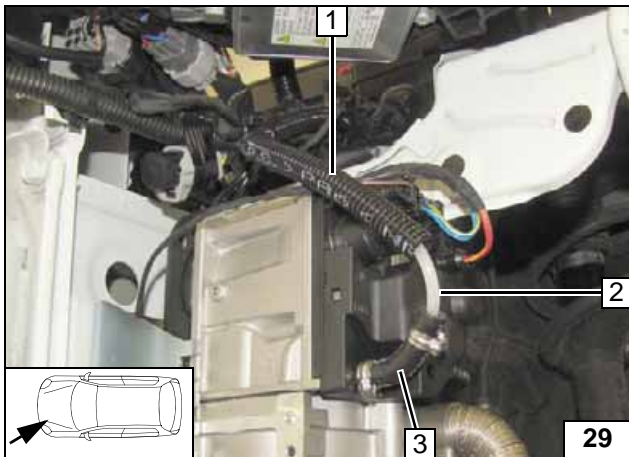
Open the vehicle's fuel tank cap, ventilate the tank and then re-close the tank lock.

Catch any fuel running off in an appropriate container.

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!**

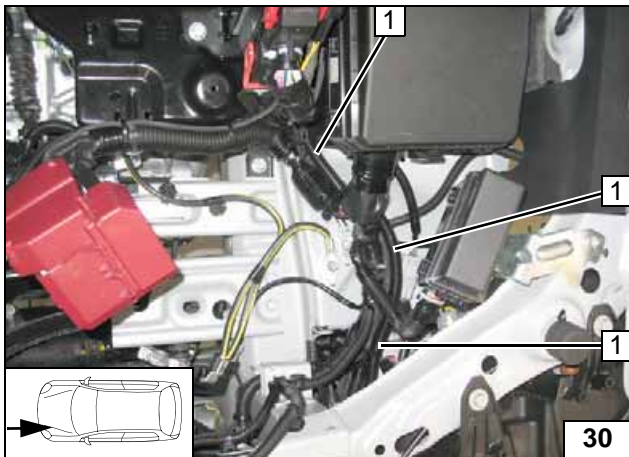
The fuel line and wiring harness are routed to the metering pump as shown in the wiring harness routing diagram.



Separate wiring harness of metering pump at about 150mm from connector of metering pump. Section will be re-used!

- 1 Fuel line, wiring harness of metering pump in corrugated tube
- 2 Fuel line
- 3 Hose section, 10 mm dia. clamp [2x]

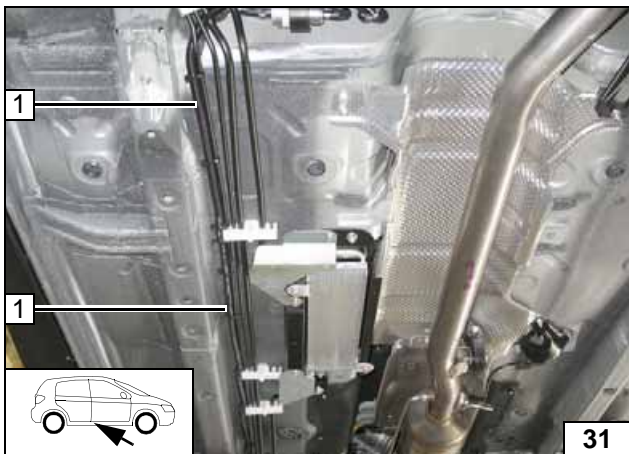
**Connect-  
ing heater**



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



**Routing  
lines**

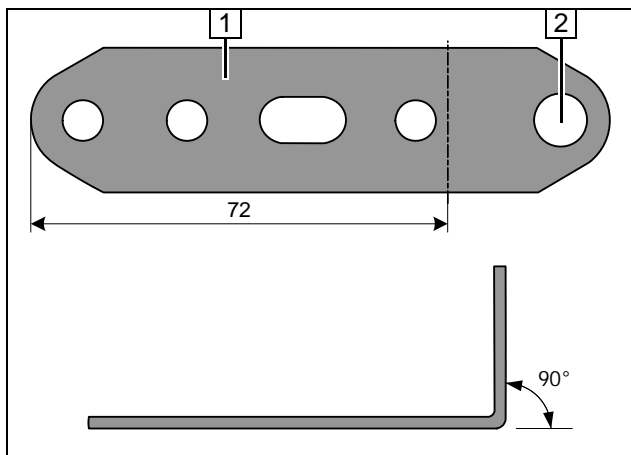


Route fuel line and wiring harness of metering pump in corrugated tube 1 on original vehicle fuel lines to the installation location of the metering pump.



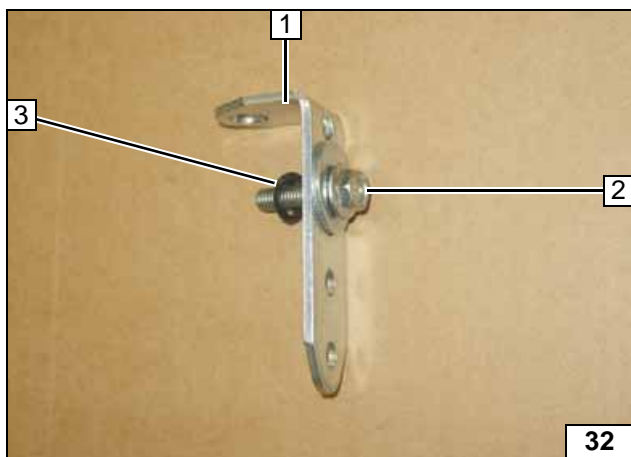
**Routing  
lines**





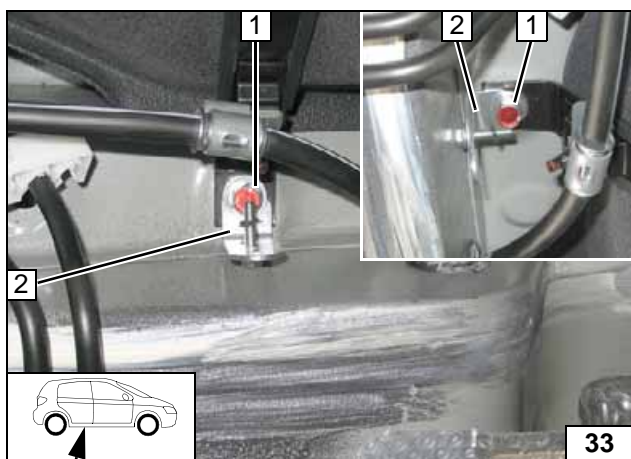
- 1 Perforated bracket
- 2 10.5mm dia. hole

Preparing perforated bracket



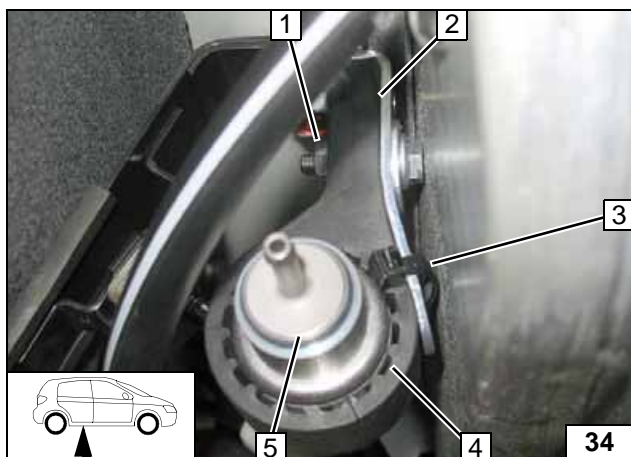
- 1 Perforated bracket
- 2 M6x25 bolt, large diameter washer
- 3 Pin lock (only push on 3 thread pitches)

Preparing perforated bracket



- 1 Original vehicle bolt, fuel-tank fastening
- 2 Perforated bracket

Installing perforated bracket

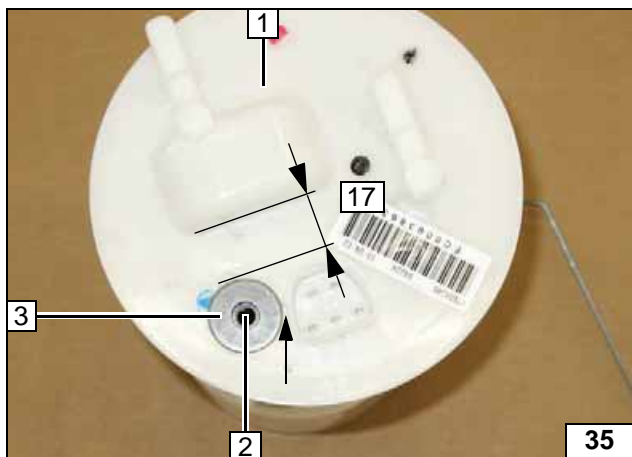


Align perforated bracket 2 after installation as shown.

- 1 Flanged nut
- 3 Cable tie
- 4 Metering pump mount
- 5 Metering pump



Mounting metering pump

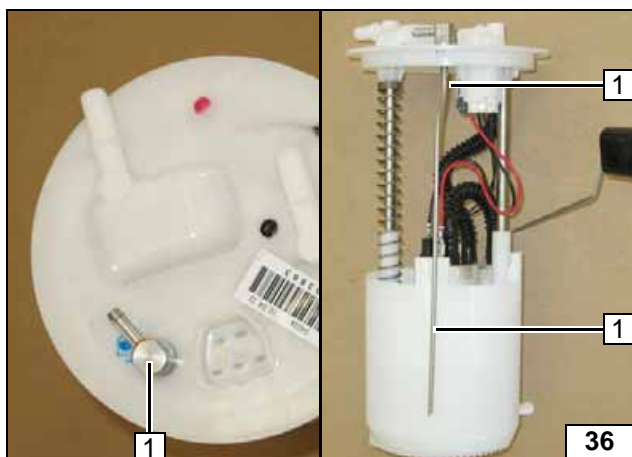


Remove fuel-tank sending unit **1** in accordance with manufacturer's instructions. Place washer **3** outer dia. = 21.6 on connector housing (see arrow).

**2** Copy hole pattern, 6 mm dia. hole



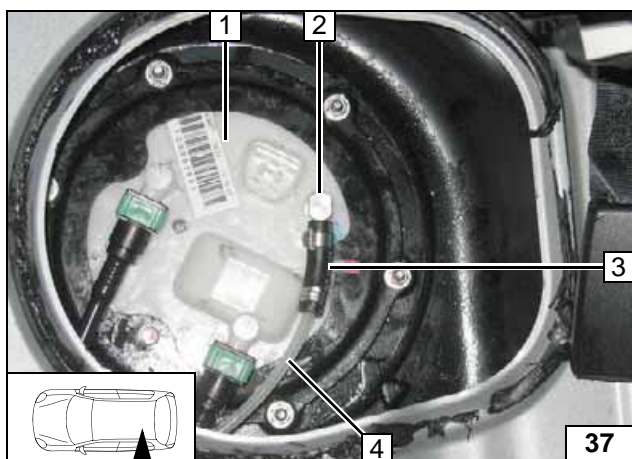
**Fuel extraction**



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



**Installing fuel standpipe**

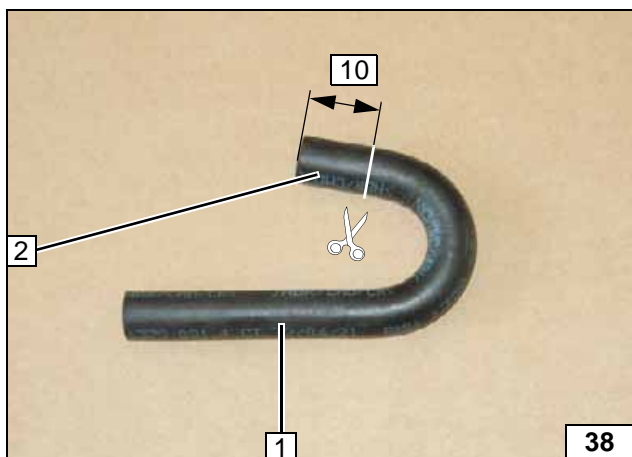


Install fuel-tank sending unit **1** in accordance with manufacturer's instructions.

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

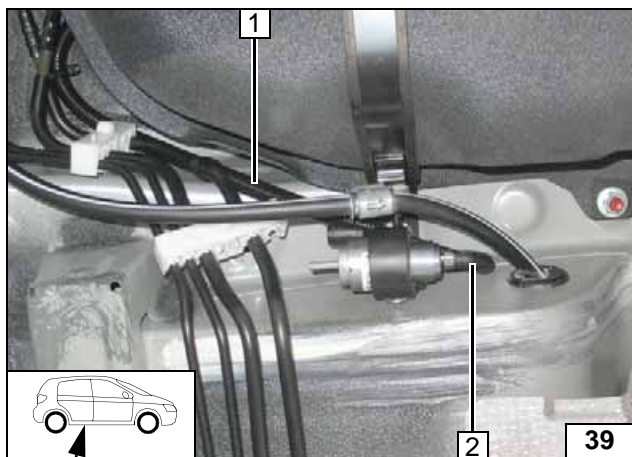


**Connecting fuel line**



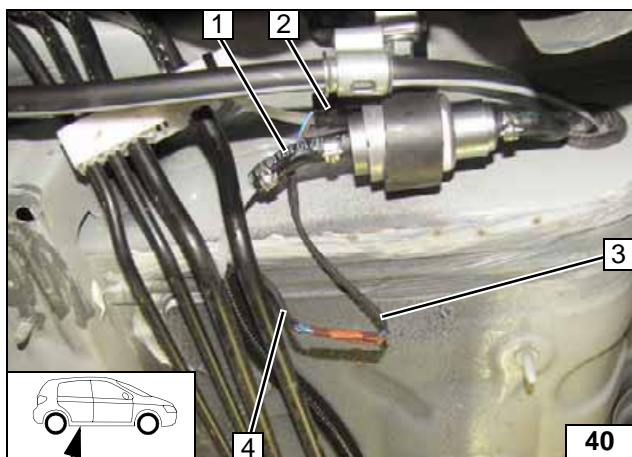
- 1** 180° moulded hose
- 2** Discard section

**Shortening moulded hose**



- 1 Corrugated tube on fuel line of fuel standpipe
- 2 Fuel line of fuel standpipe, 180° moulded hose, 10mm dia. Caillau clamp [2x]

**Connect-  
ing meter-  
ing pump**

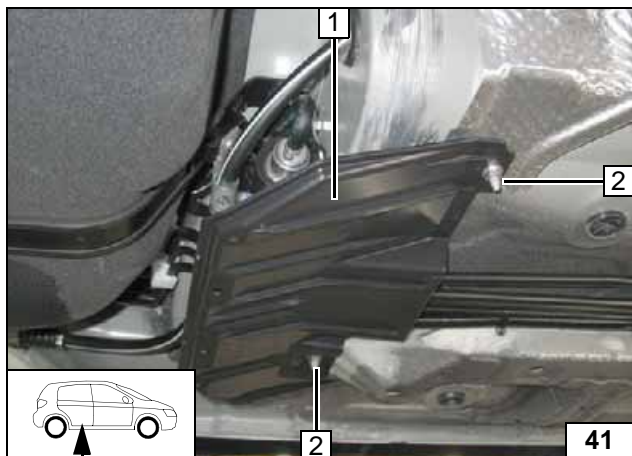


Cut wiring harness of metering pump 4 to length accordingly (section will be re-used later in the "Relocating Temperature Sensor" working step). Connect wiring harness of metering pump 4 and section of metering pump connector 3 using same-colour wires.



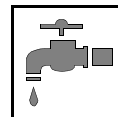
**Connect-  
ing meter-  
ing pump**

- 1 Fuel line of heater, hose section, 10mm dia. Caillau clamp [2x]
- 2 Connector attached



- 1 Stoneguard
- 2 Original vehicle nut [2x]

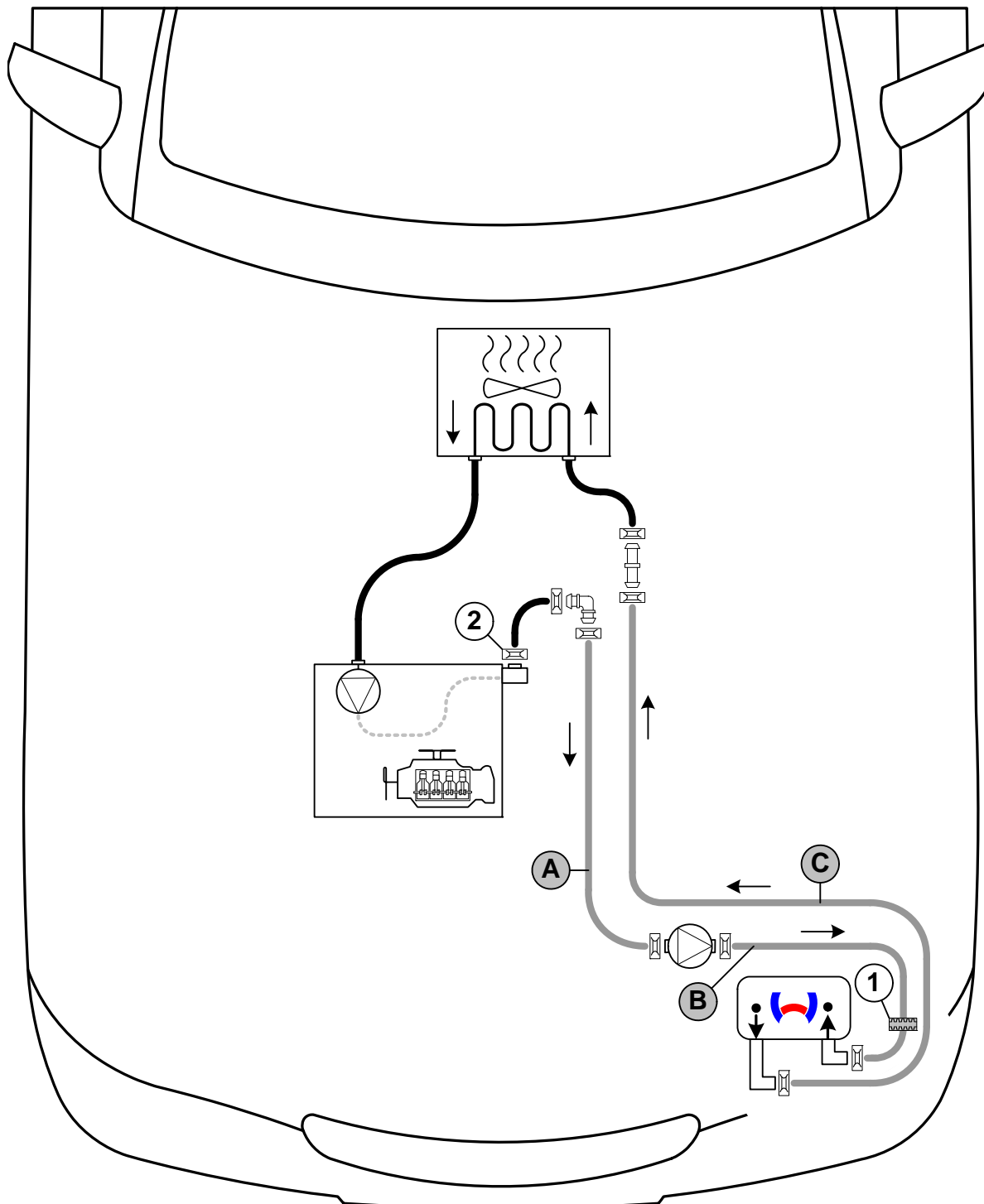
**Installing  
stoneguard**








## Coolant Circuit

### WARNING!

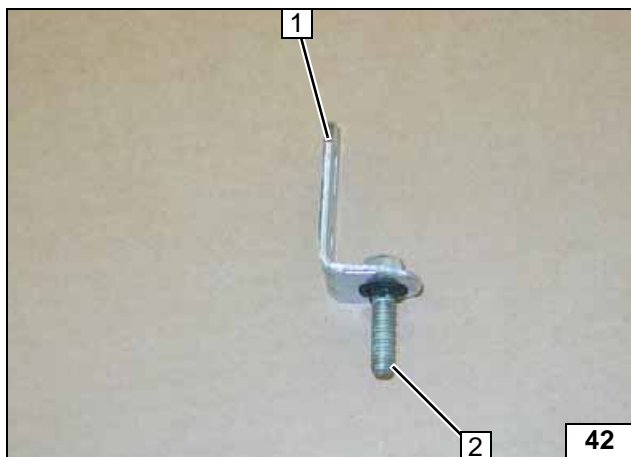
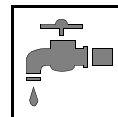
Any coolant running off should be collected in an appropriate container. Install hoses so that they are kink-free. Unless specified otherwise, always fasten using cable ties. Position clamps so that other hoses cannot be damaged. The heater must be filled with coolant when installing the hoses. The connection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



Hose routing diagram

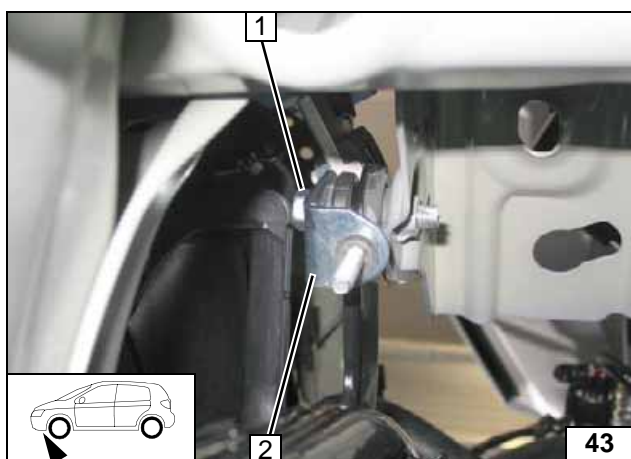
1 = Black (sw) rubber isolator . 2 = Original vehicle spring clip .  
 All spring clips without a specific designation  = 25mm dia.  
 All connecting pipes  and  = 18x18 mm dia.





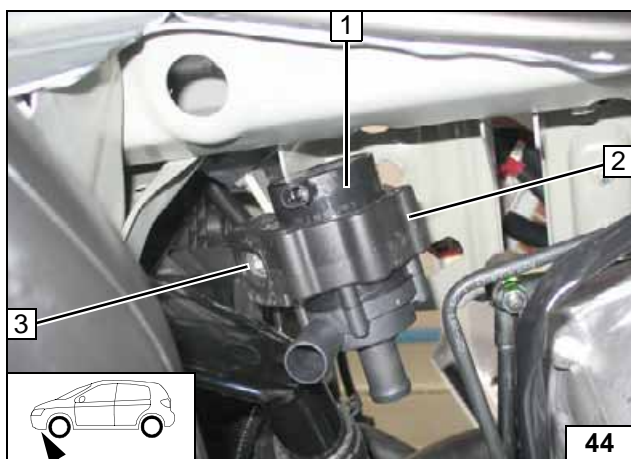
- 1 Angle bracket
- 2 M6x25 bolt, pin lock

Preparing angle bracket



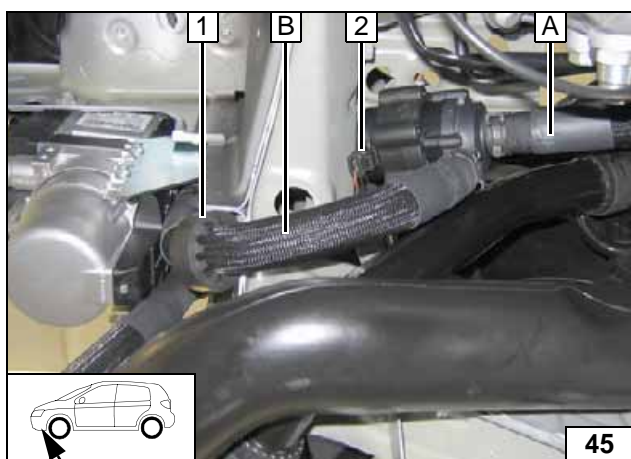
- 1 Original vehicle bolt
- 2 Angle bracket

Installing angle bracket



- 1 Circulating pump
- 2 Mounting circulating pump
- 3 Flanged nut

Mounting circulating pump

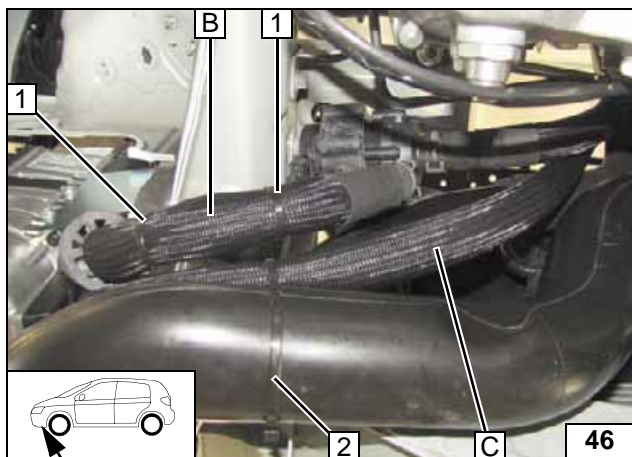
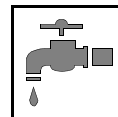


Push black (sw) rubber isolator 1 onto hose B and position.

- 2 Attach wiring harness of circulating pump



Connecting circulating pump

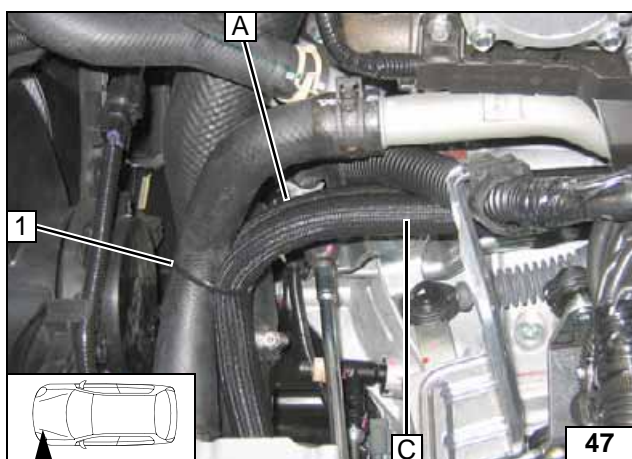


Fasten wiring harness of circulating pump to hose **B** using cable tie **1**.



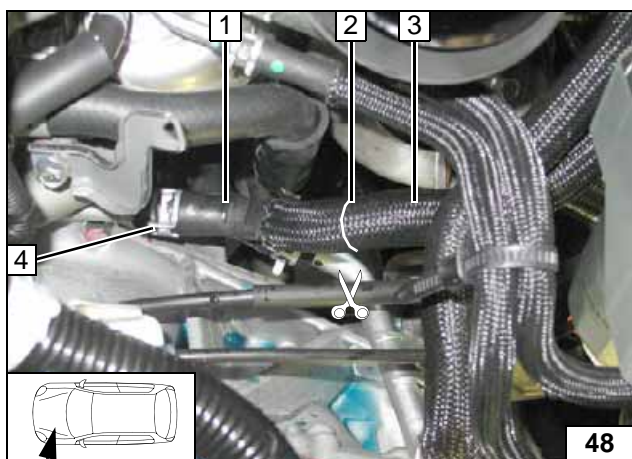
**2** Cable tie

Routing in engine compartment



**1** Cable tie

Routing in engine compartment

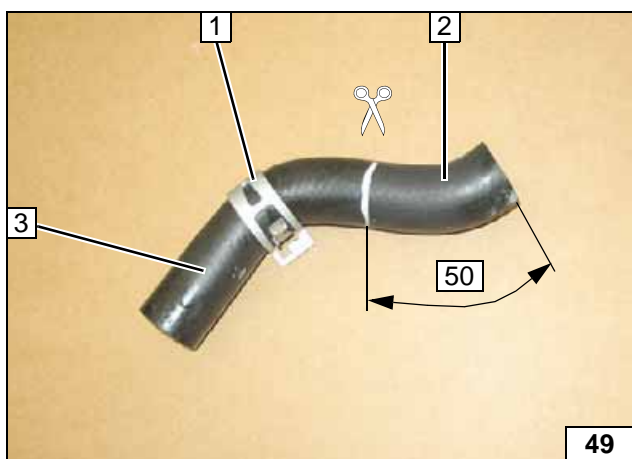


Remove braided protection hose in the area of the cutting point **2**, then separate the hose. Remove hose section of engine outlet **1**. Spring clip **4** will be re-used.



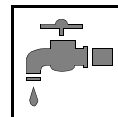
**3** Hose section of heat exchanger inlet

Cutting point



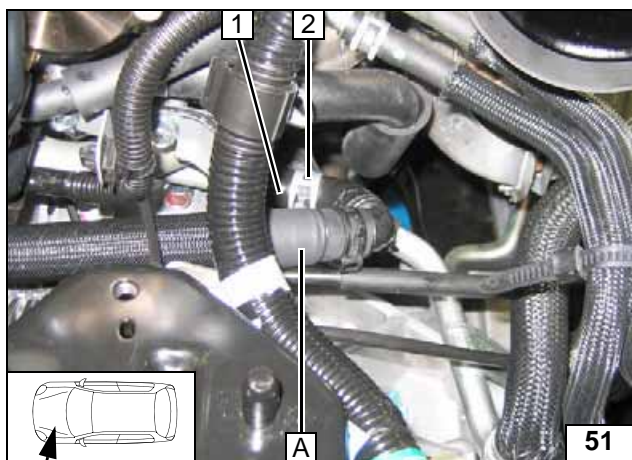
**1** Original vehicle spring clip  
**2** Discard hose section  
**3** Engine outlet hose section

Cutting hose section of engine outlet to length



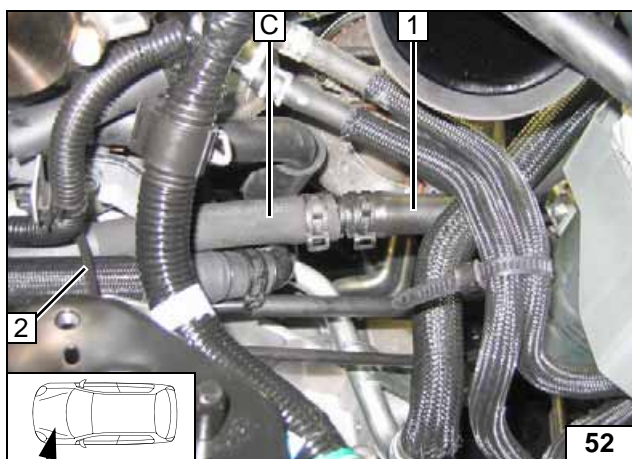
- 1 Engine outlet hose section
- 2 90°, 18x18 mm dia. connecting pipe, 25 mm spring clip

Premounting hose section of engine outlet



- 1 Connection piece for engine outlet
- 2 Original vehicle spring clip

Connecting engine outlet

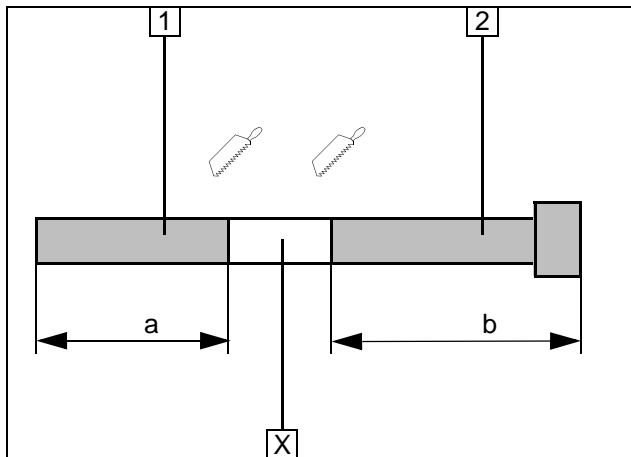
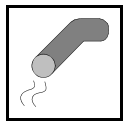


Ensure sufficient distance from neighbouring components.

- 1 Hose on heat exchanger inlet
- 2 Cable tie



Connection of heat exchanger inlet



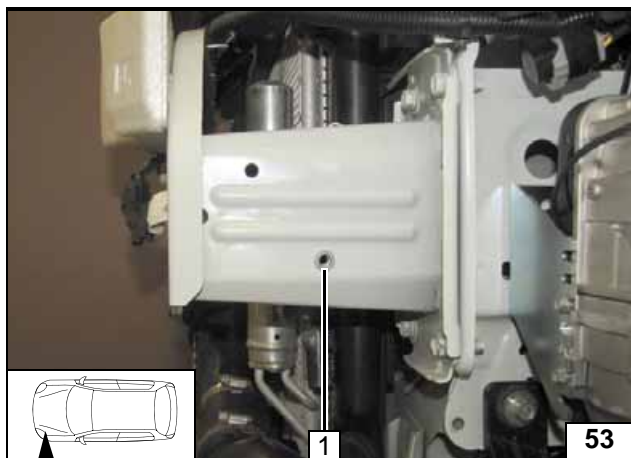
### Exhaust Gas

Discard section X.

- 1 Exhaust pipe  
a = 360
- 2 Exhaust end section  
b = 440



**Preparing exhaust pipe**

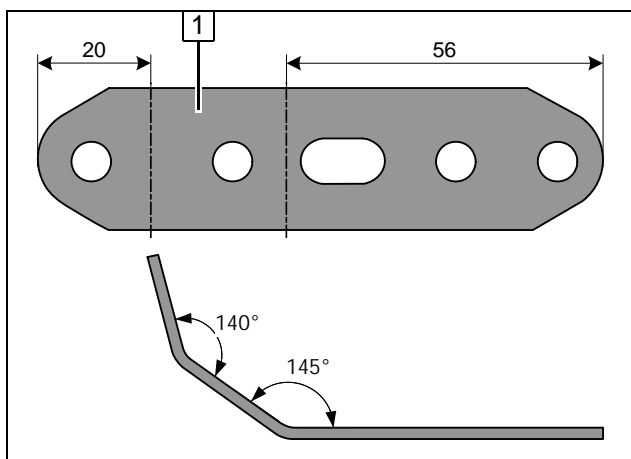


Drill out existing hole at position 1 to 9.1mm dia.

- 1 Rivet nut

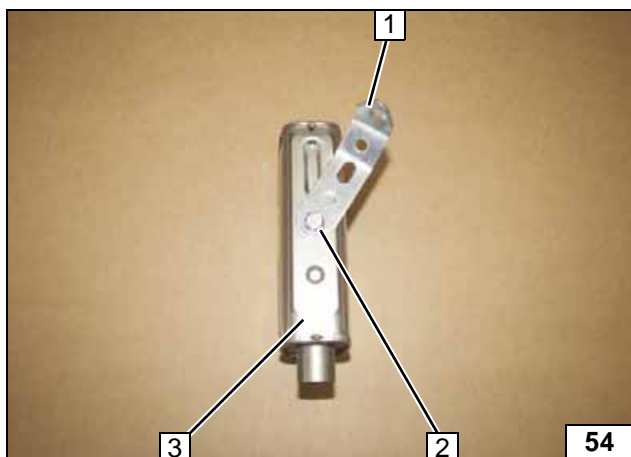


**Installing rivet nut**



- 1 Perforated bracket

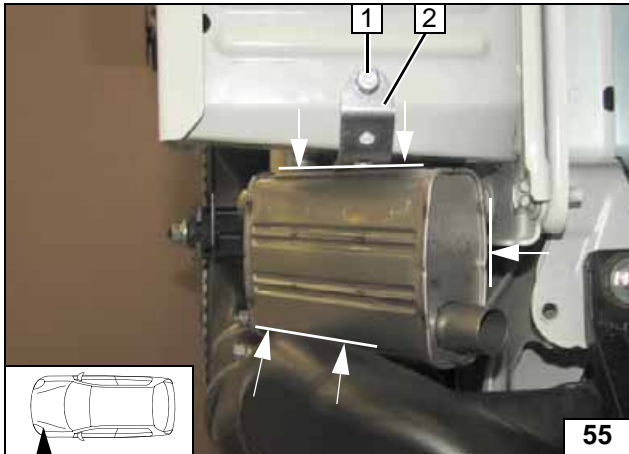
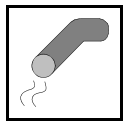
**Angling down perforated bracket 2x**



- 1 Perforated bracket
- 2 M6x16 bolt, spring lockwasher
- 3 Silencer

**Premounting silencer**



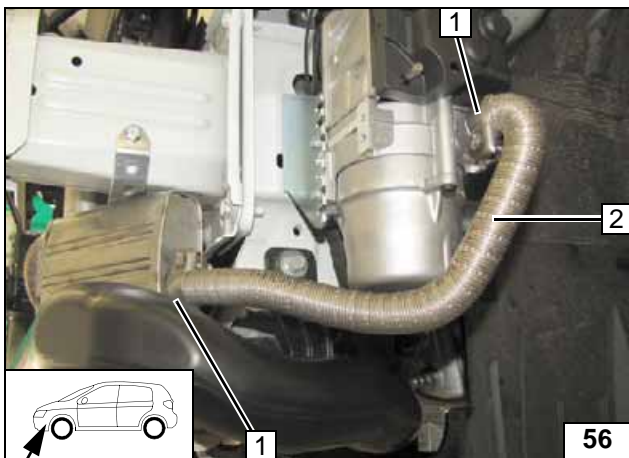


Ensure sufficient distance from adjacent components; correct if necessary.



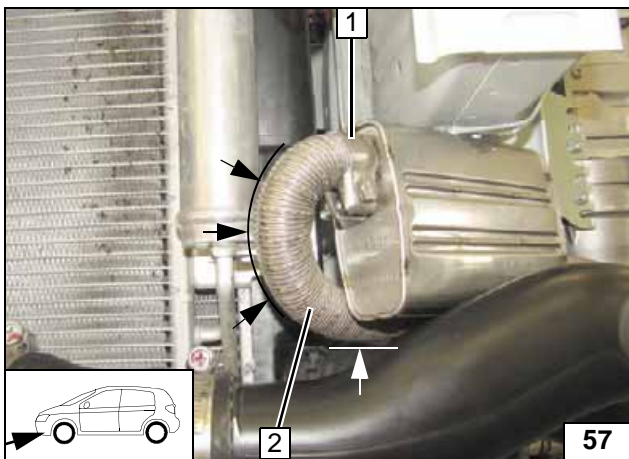
- 1 M6x20 bolt, spring lockwasher
- 2 Perforated bracket

**Installing silencer**



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

**Mounting exhaust pipe**

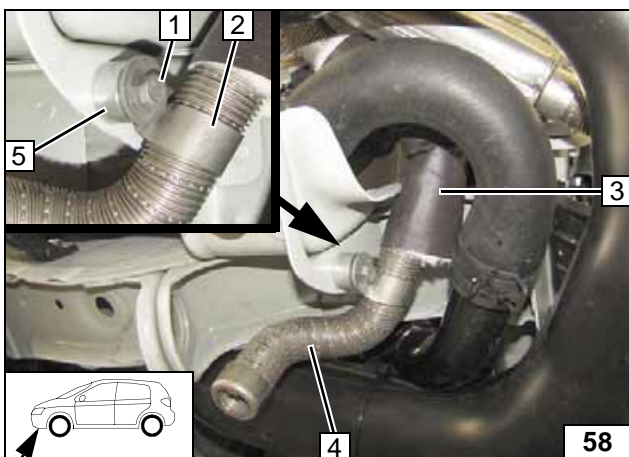


Ensure sufficient distance from adjacent components; correct if necessary.



- 1 Hose clamp
- 2 Exhaust end section

**Mounting end section**

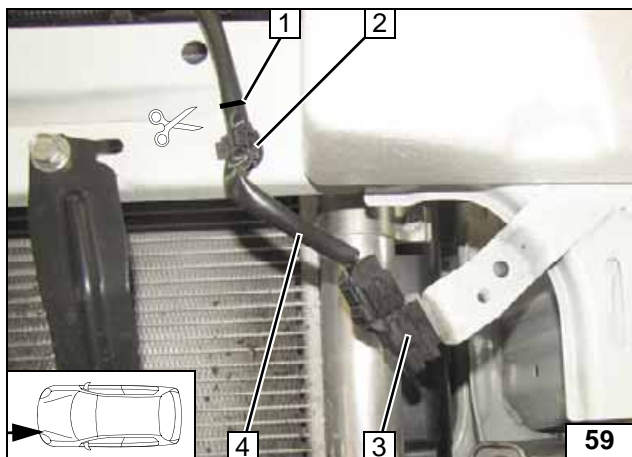


Slide exhaust-gas insulation 3 onto exhaust end section 4 and align. Ensure sufficient distance from adjacent components; correct if necessary.



- 1 M6x25 bolt, large diameter washer, flanged nut, existing hole
- 2 P-clamp
- 5 Shim 10

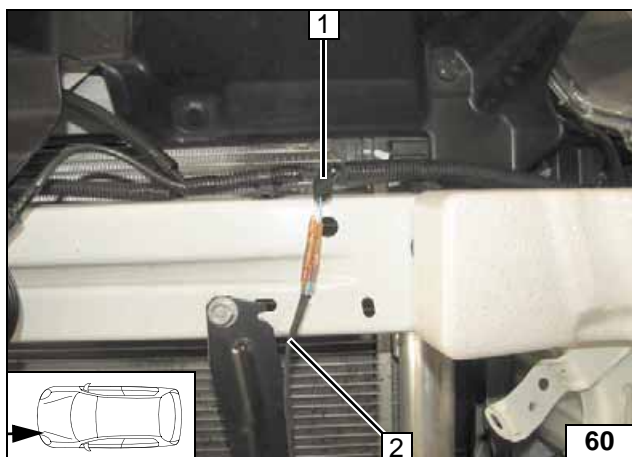
**Installing exhaust end section**



### Relocating Temperature Sensor

- 1 Cutting point
- 2 Remove clip and discard
- 3 Detach retaining clip of temperature sensor
- 4 Section of temperature sensor wiring harness (will be re-used)

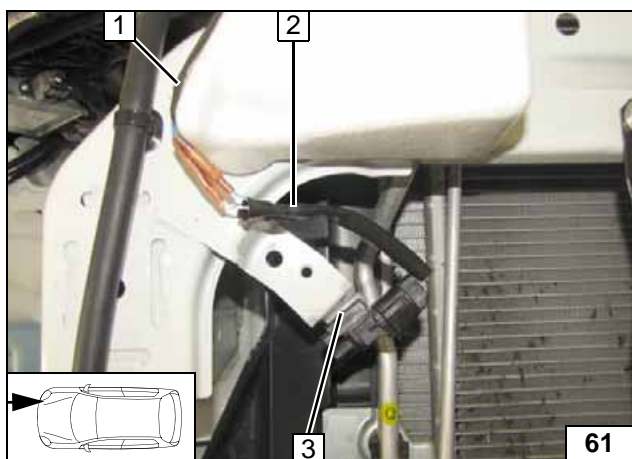
**Separating wiring harness**



Connect section of metering pump wiring harness 2 and wiring harness of temperature sensor 1. Route section of metering pump wiring harness 2 to the right side of the vehicle.



**Routing wiring harness**

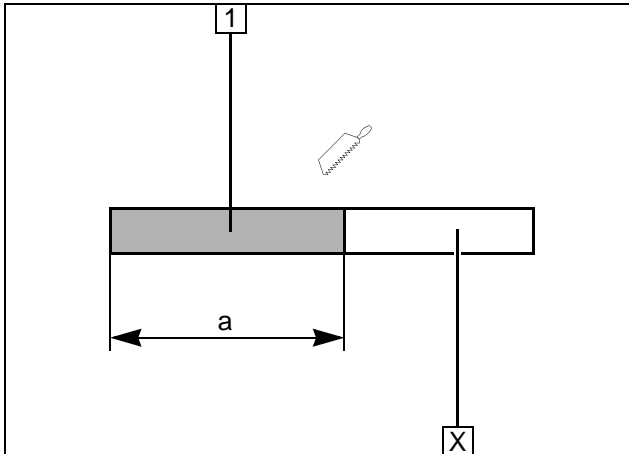
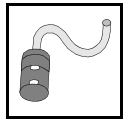


Connect section of metering pump wiring harness 1 and section of temperature sensor wiring harness 2 with connector.

- 3 Retaining clip of temperature sensor, existing hole



**Inserting temperature sensor**

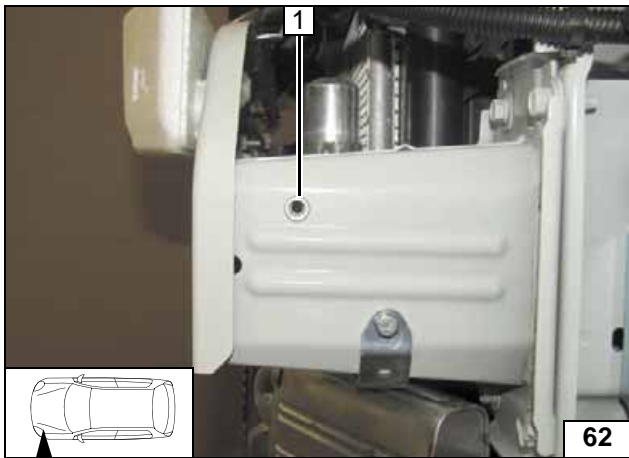


### Combustion Air

Discard section X.

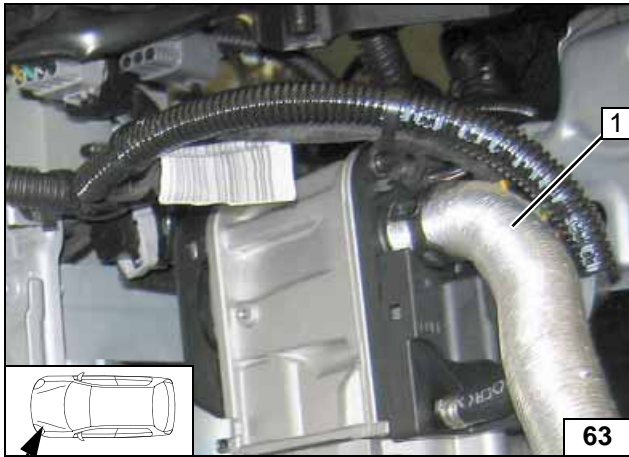
- 1 Combustion air pipe  
a = 300

Cutting combustion air pipe to length



- 1 9.1mm dia. hole drilled out; rivet nut

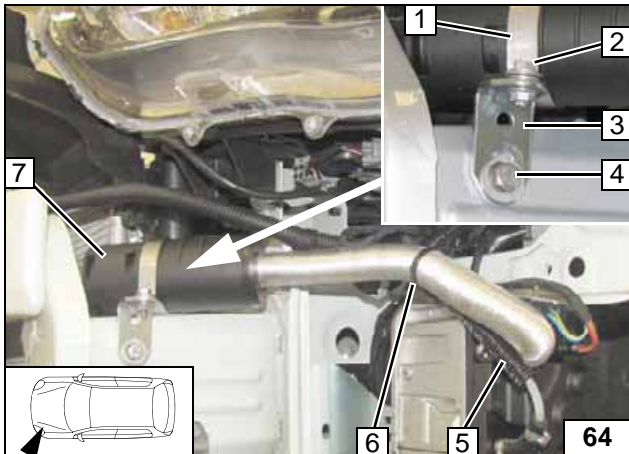
Installing rivet nut



- 1 Combustion air pipe



Mounting combustion air pipe



- 1 51 mm dia. clamp
- 2 M5x16 bolt, flanged nut
- 3 Angle bracket
- 4 M6x20 bolt, spring lockwasher, large diameter washer
- 5 Fuel line in corrugated tube
- 6 Cable tie
- 7 Silencer

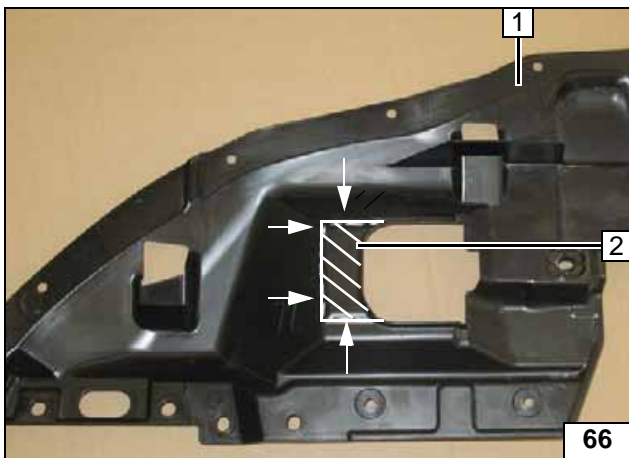
Installing silencer



Install bumper. Check whether connection piece **1** (if present) is at a sufficient distance to neighbouring components. If necessary, twist by 90°. Ensure sufficient distance, especially between exhaust system and bumper, correct if necessary.



**Aligning headlight washer system**

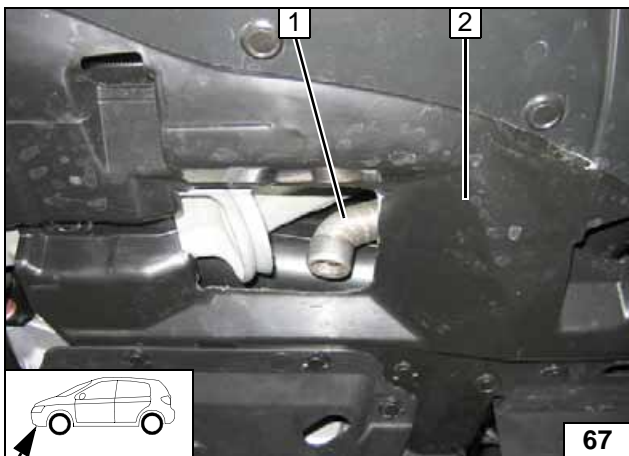


Cut out underide protection **1** at the marking.

**2** Discard section



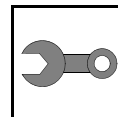
**Cutting out underide protection**



Mount underide protection **2**. Centrally align exhaust end section **1** in the area of the cut-out. Ensure sufficient distance from neighbouring components.



**Aligning exhaust end section**



### Final Work

#### WARNING!

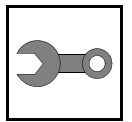
Mount removed parts in reverse order. Check all hoses, clamps and all electrical connections for firm seating. Insulate all loose wires and tie back.

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

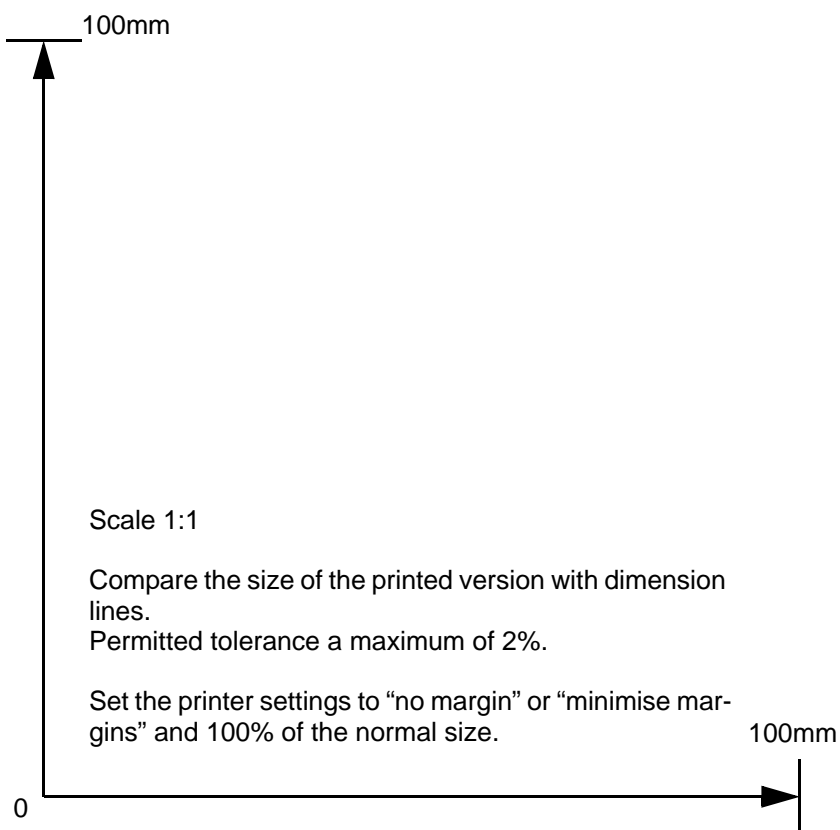


- **Connect the battery.**
- **Fill and bleed the coolant circuit according to the vehicle manufacturer's specifications.**
- **Adjust digital timer, teach Telestart transmitter.**
- **Make settings on A/C control panel according to the "Operating Instructions for End Customer".**
- **Place the "Switch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





## Template for Fuel Standpipe



## Operating Instructions for Automatic Air-Conditioning

Please remove this page in case of automatic air-conditioning and add it to the vehicle operating instructions.

**Note:**

We recommend matching the heating time to the driving time.

Heating time = driving time

**Example:**

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

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

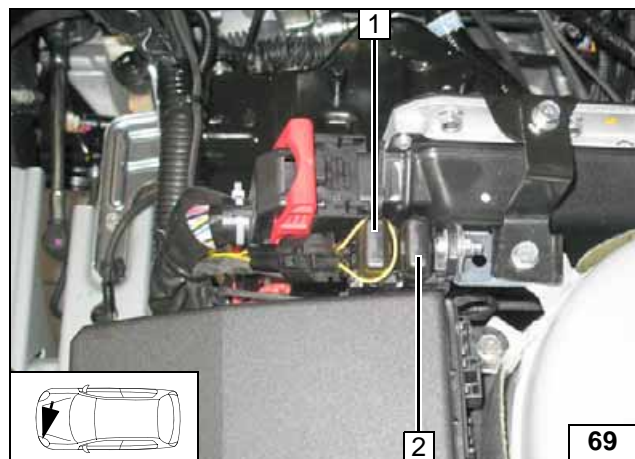
For information on deactivation, please see the vehicle owner's manual.

Before parking the vehicle, make the following settings:



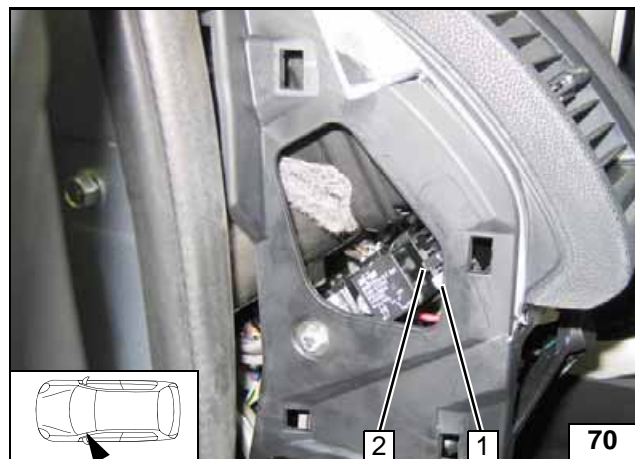
- 1 Air outlet to windscreen
- 2 Set temperature to "max."

**Automatic air-conditioning**



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

**Fuses of engine compartment**



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

**Fuses of passenger compartment**

