

# Water Heater

## Thermo Top Evo Parking Heater



# Installation Documentation

## Dacia Sandero / Sandero Stepway / Logan MCV

### Validity

Manufacturer	Model	Type	EG-BE No. / ABE
Dacia	Sandero	SD	e2 * 2001 / 116 * 0314 * ...
Dacia	Sandero Stepway	SD	e2 * 2001 / 116 * 0314 * ...
Dacia	Logan MCV	SD	e2 * 2001 / 116 * 0314 * ...

Motorisation	Fuel	Transmission type	Output in kW	Displacement in cm <sup>3</sup>	Engine code
0.9 B	Petrol	5-speed SG	66	898	H4B
1.5 D	Diesel	5-speed SG	66	1461	K9K

SG = Manual transmission

**From model year 2013**

**Left-hand drive vehicle**

**Verified equipment variants:**

Manual air-conditioning

Front fog light

Daytime running lights

Euro 5 emission standard

**Not verified:**

Passenger compartment monitoring

Automatic air-conditioning

**Total installation time:**

approx. 7 hours

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## Necessary Components

- Basic delivery scope of *Thermo Top Evobased* on price list
- Installation kit for Dacia Sandero / Sandero Stepway / Logan MCV 2013 Petrol and diesel: **1319229B**
- Heater control in accordance with price list and upon consultation with final customer
- In case of Telestart, indicator lamp in accordance with price list and upon consultation with final customer

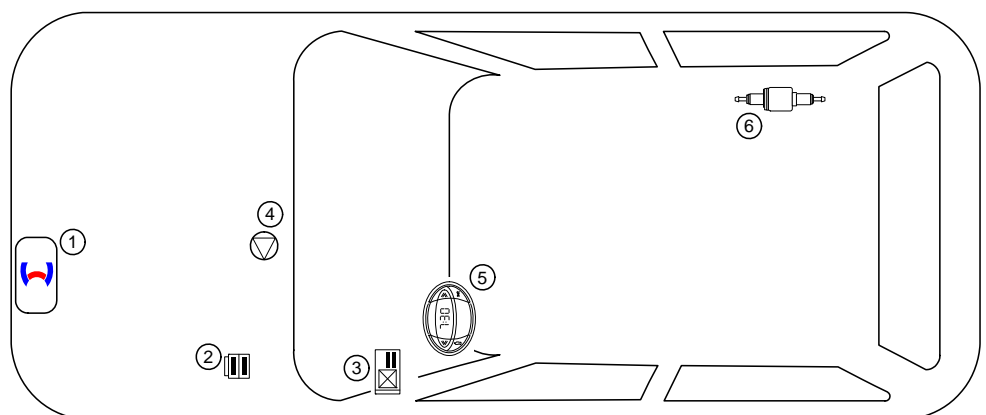
## Installation instructions:

- Arrange for the vehicle to be delivered with the tank only about ¼ full!
- The installation location of the push button in the case of Telestart or Thermo Call should be confirmed with the end customer.
- When installing a parking heater, we recommend the use of a larger battery for the vehicle.

## Installation Overview

### Legend:

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



## Notes 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. Connectors on electronic components must audibly snap into place during assembly.**

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

## Notes on Validity

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

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

## Technical Instructions

### 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 5x13 heater bolts and 5x11 heater stud bolts = 8Nm.
- Tightening torque values of 5x15 retaining plate of water connection piece bolt = 7Nm.
- Tighten other screw 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



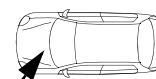
### Reference to general installation instructions of the Webasto components or to the manufacturer's vehicle-specific documents.



### Reference to a special technical feature



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



# Dacia Sandero / Sandero Stepway / Logan MCV

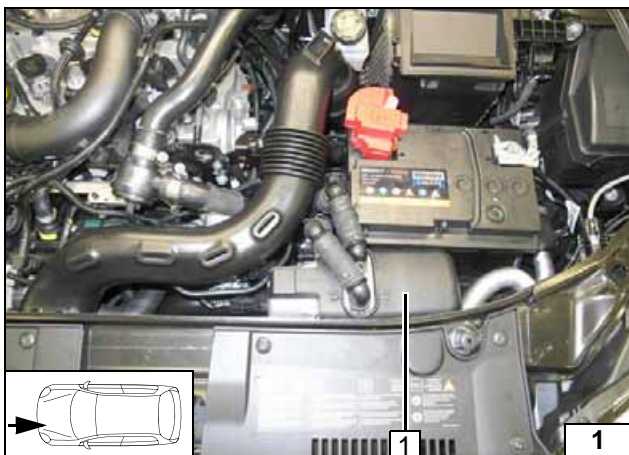
## Preliminary Work

### 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 ducting to the air filter.
- Remove the air filter housing.
- Loosen the upper screw fitting of the bumper trim.
- Remove the left-hand wheel well trim.
- Remove the left front wheel.
- Remove the lower engine cover.
- Fold over the seating area of the rear bench seat.
- Open the right-hand tank-fitting service lid.
- Remove the fuel-tank sending unit in accordance with the manufacturer's instructions.
- Remove the lateral instrument panel trim on the driver's side (only in case of Telestart T100 HTM).
- Remove the lower instrument panel trim on the driver's side.
- Remove the trim piece of the centre console (clipped).
- Remove the radio and navigation system in accordance with manufacturer's instructions.
- Remove the A/C control panel.

### Heater

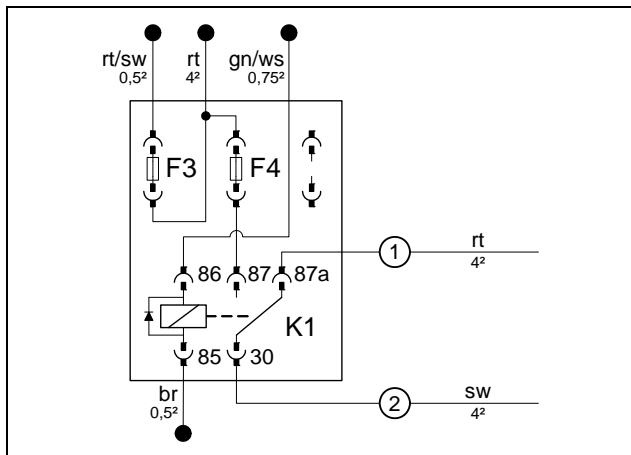
- Remove years that do not apply from the type and duplicate label
- Attach the duplicate label (type label) in the appropriate place inside the engine compartment.



### Heater Installation Location

1 Heater

Installation location



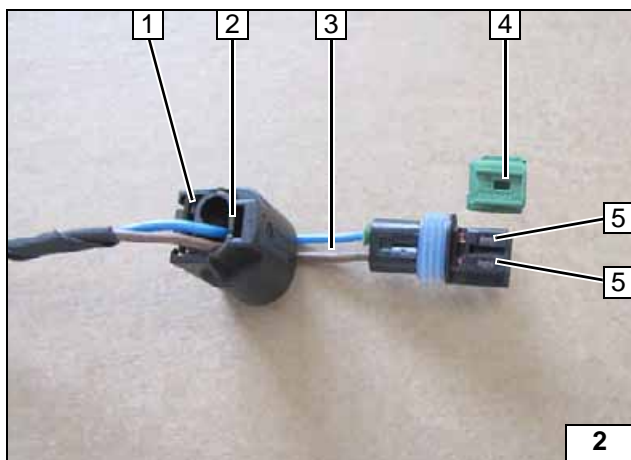
### Preparing Electrical System

Wire sections retain their numbering in the entire document.

- ① Red (rt) wire from K1/87a
- ② Black (sw) wire of K1/30



**Cutting wires to length**



Complete connector of metering pump again after routing. Pin assignment is not relevant.

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



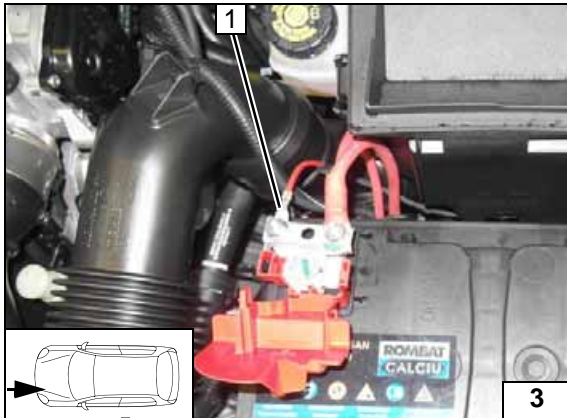
**Dismounting connector**



## Electrical System

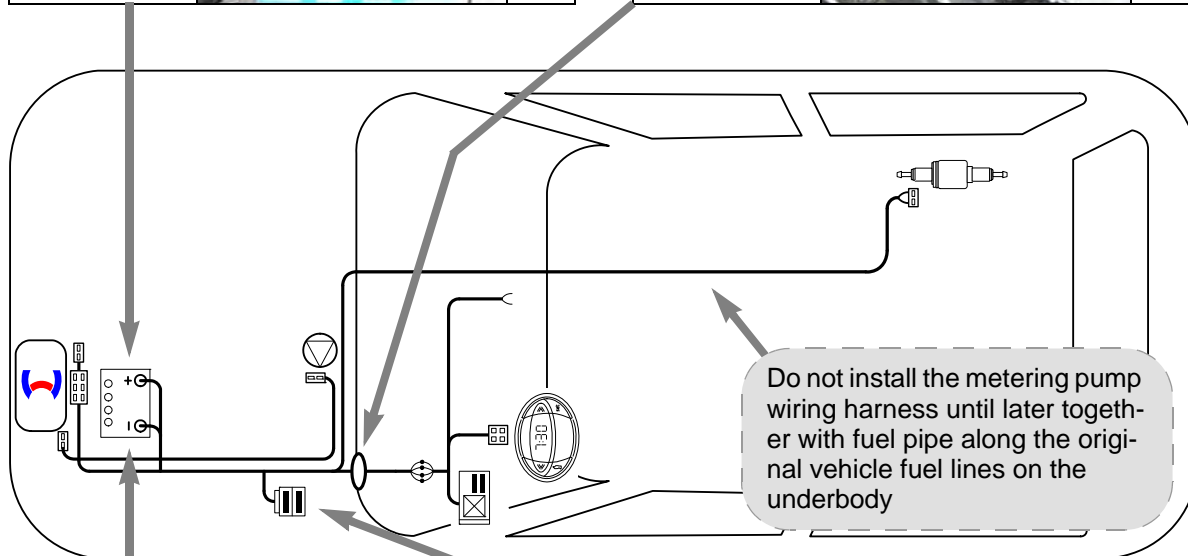
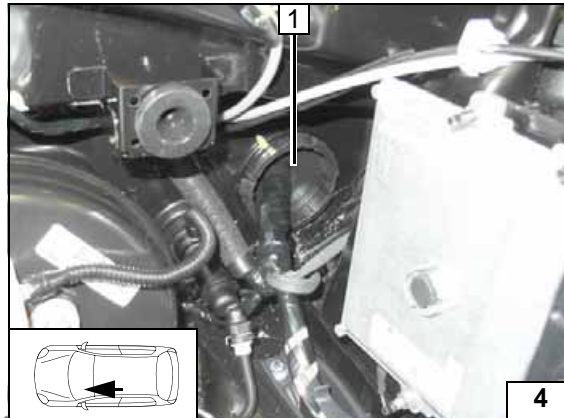
### Positive wire

- 1 Positive wire, cable lug on positive terminal of battery

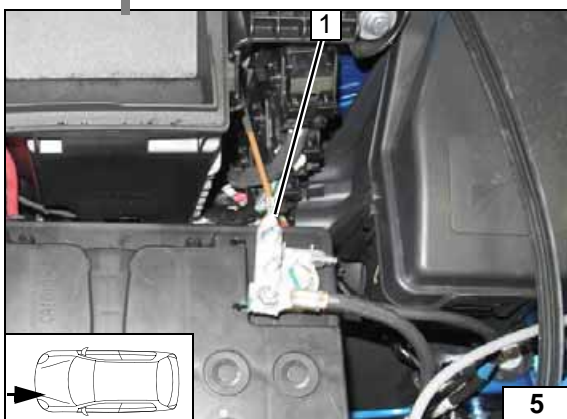


### Wiring harness pass through

- 1 Protective rubber plug

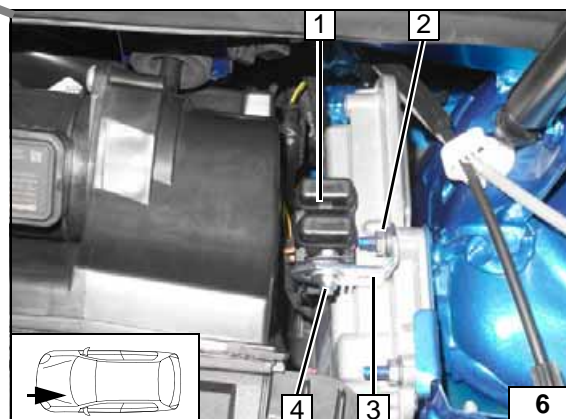


Wiring harness routing diagram



### Earth wire

- 1 Earth wire, cable lug on negative terminal of battery

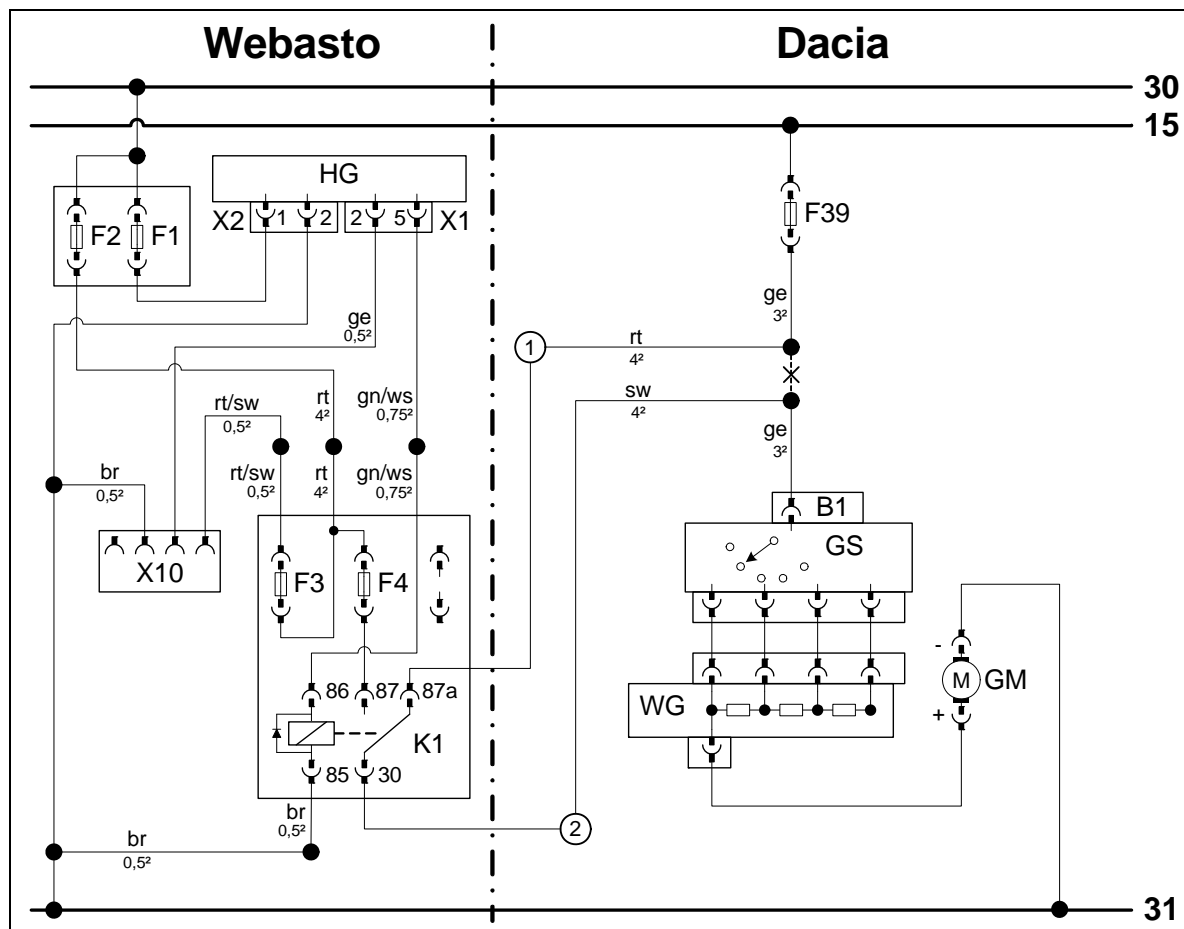


### Fuse holder of engine compartment

- 1 F1-2 fuses
- 2 Original vehicle stud bolt of control unit, flanged nut
- 3 Angle bracket
- 4 M5x16 bolt, washer [2x], retaining plate of fuse holder, nut



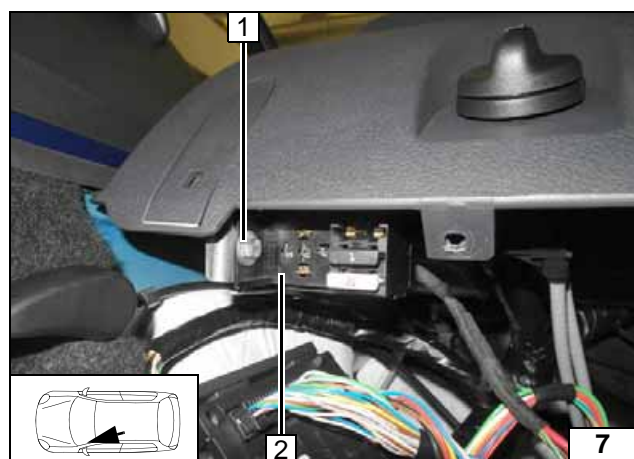
Fan Controller



Wiring diagram

Webasto components		Vehicle components		Colours and symbols	
HG	TT-Evo heater	F39	30A fuse	rt	red
X1	6-pin heater connector	B1	Connector B Pin 1	sw	black
X2	2-pin heater connector	GS	Fan switch	ge	yellow
X10	4-pin connector of heater control	GM	Fan motor	gn	green
K1	Fan relay	WG	Resistor group	br	brown
F1	20A fuse			ws	white
F2	30A fuse			br	brown
F3	1A fuse			X	Cutting point
F4	25A fuse			*Wiring colours may vary.	

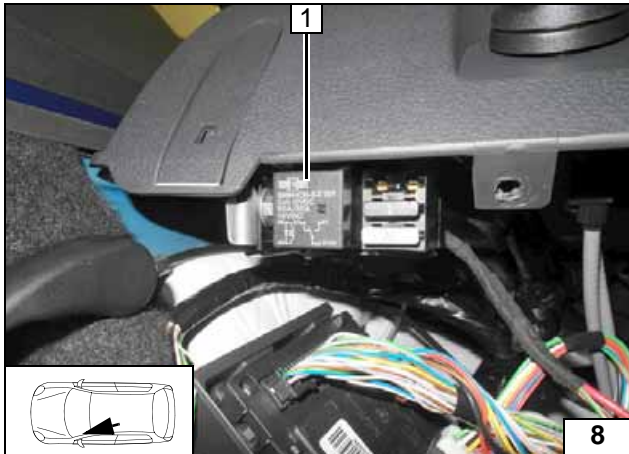
Legend



- 1 M5x16 bolt, large diameter washer [2x], nut, existing hole
- 2 Relay and fuse holder of passenger compartment

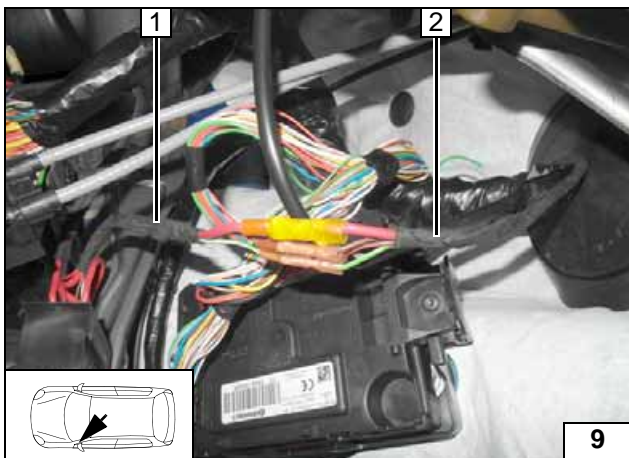
Installing relay and fuse holder of passenger compartment





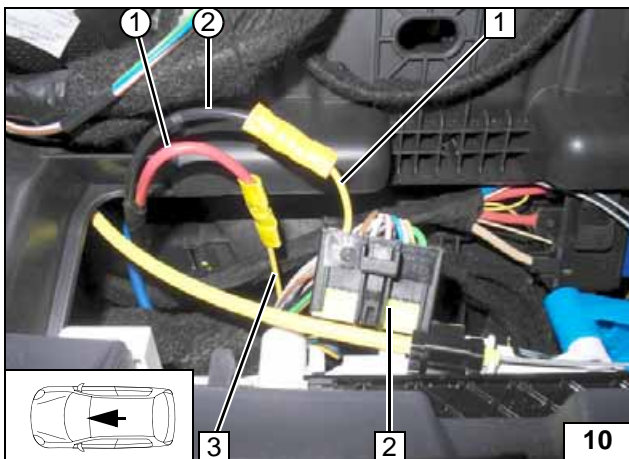
1 K1 relay

Attaching K1 relay



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

Connecting wiring harness using same colour wires



Connection to connector B 2 of fan switch. Produce connections as shown in wiring diagram.

- 1 Yellow (ge) wire from connector B, Pin1
- 3 Yellow (ge) wire from fuse 39
- ① Red (rt) wire from K1/87a
- ② Black (sw) wire of K1/30



Connecting fan motor

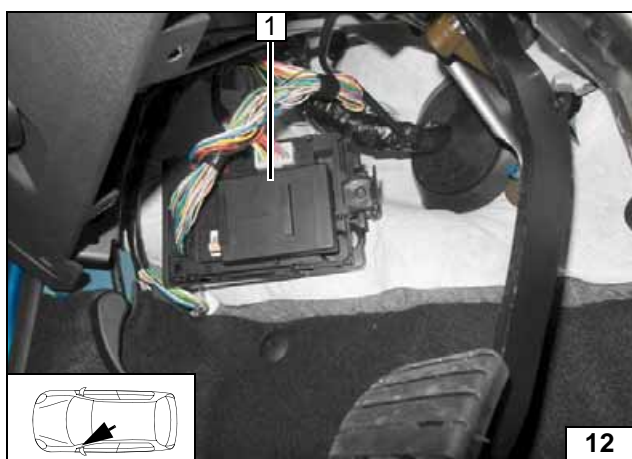


### Digital Timer

1 Digital timer



Installing digital timer

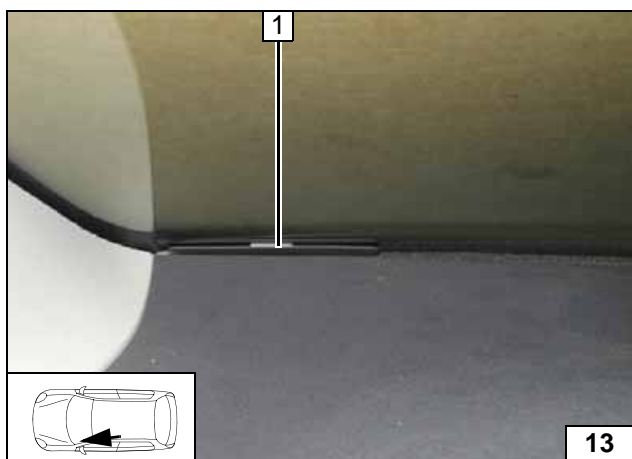


### Remote Option (Telestart)

Fasten receiver 1 with adhesive tape.

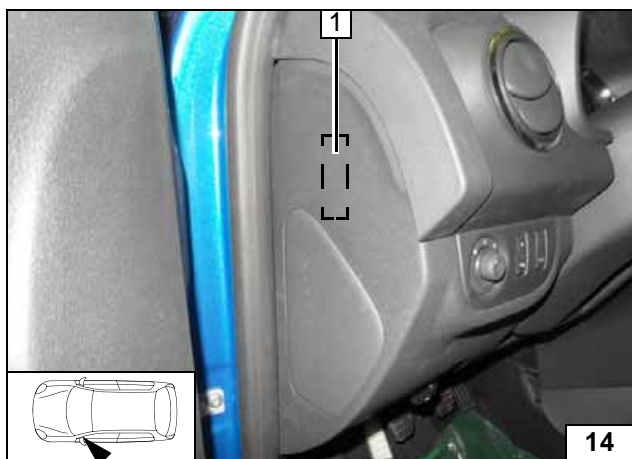


Installing receiver



1 Antenna

Installing antenna

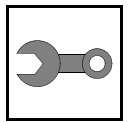


### Temperature sensor T100 HTM

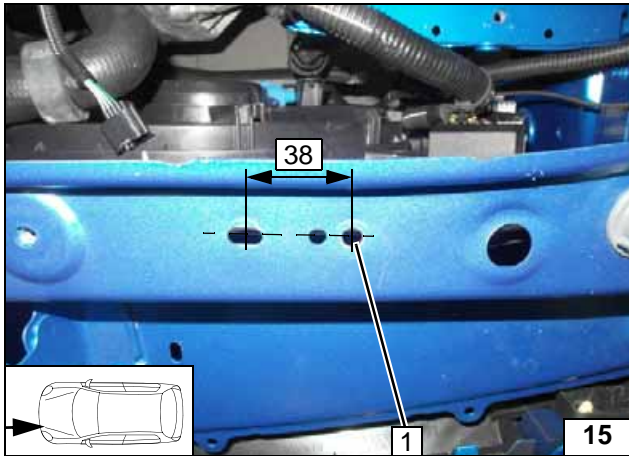
Fasten temperature sensor 1 behind the lateral instrument panel trim with adhesive tape.



Installing temperature sensor

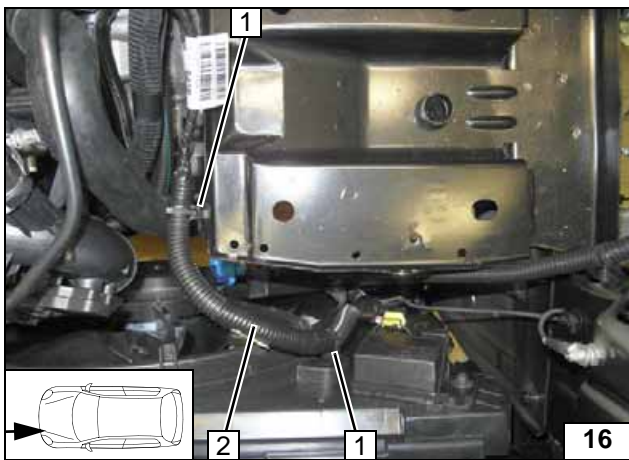


### Preparing Installation Location



1 7 mm dia. hole

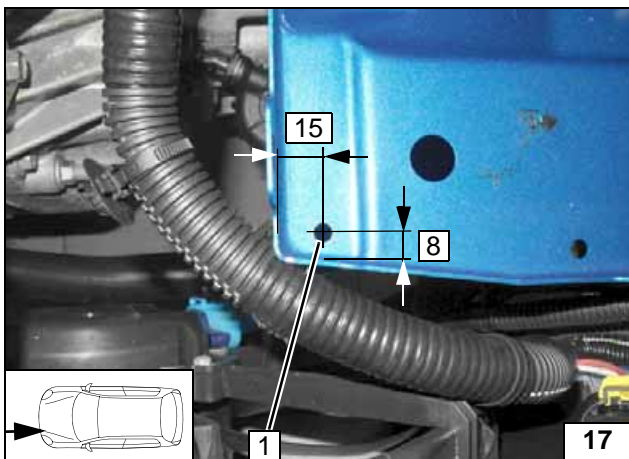
Hole for heater



Loosen retaining clip [2x] 1 of original vehicle wiring harness 2.

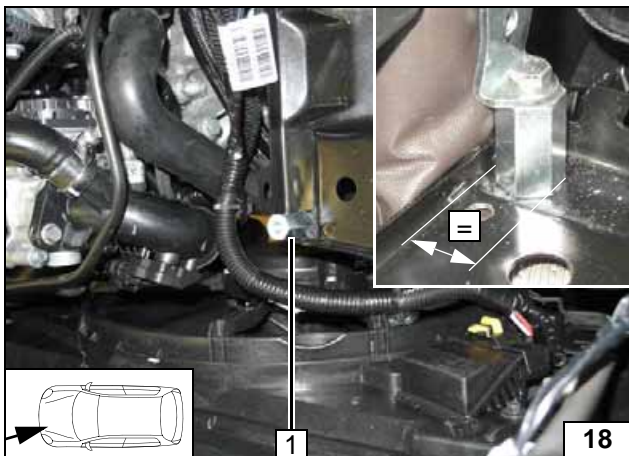


Unclipping wiring harness



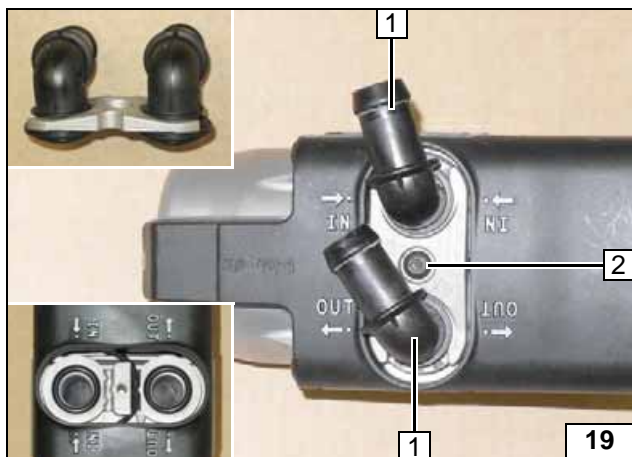
1 7 mm dia. hole

Hole in battery carrier



1 M6x30 spacer nut, M6x12 bolt, spring lockwasher (align as shown).

Mounting spacer nut

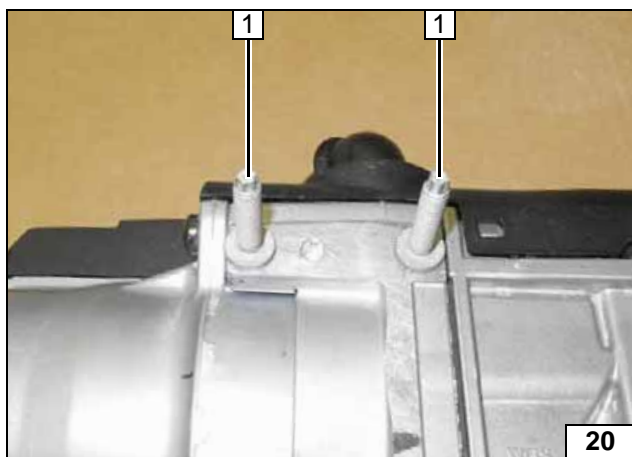


### Preparing Heater

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

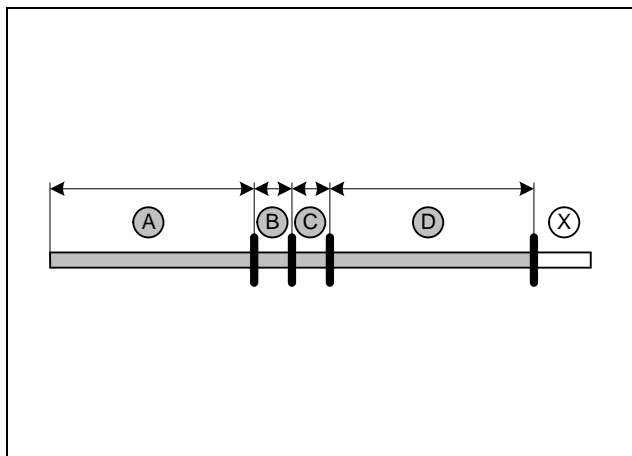


Installing water connection pieces



- 1 Stud bolt [2x]

Premounting stud bolts

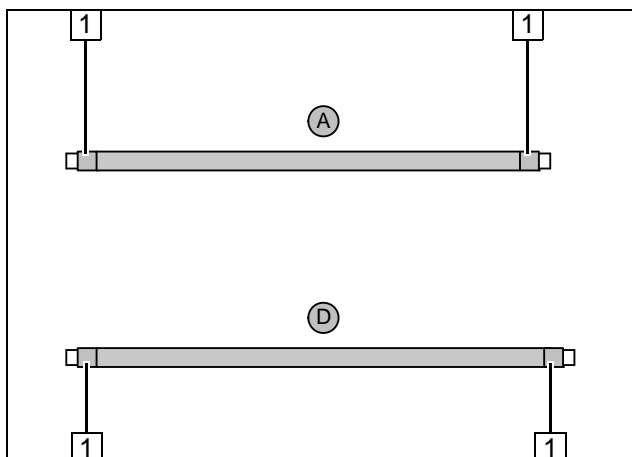


Discard section X.

	0.9 B	1.5 D
A =	590	770
B =	60	60
C =	60	60
D =	700	790



Cutting hoses to length

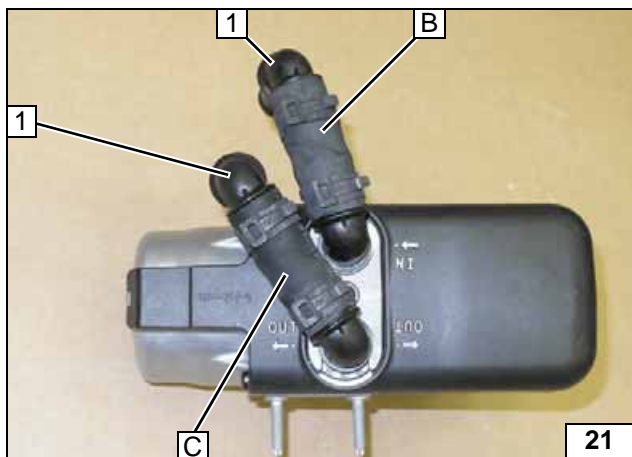


Push braided protection hoses onto hoses A and D and cut to length. Cut heat shrink plastic tubing to length.

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



Preparing hoses

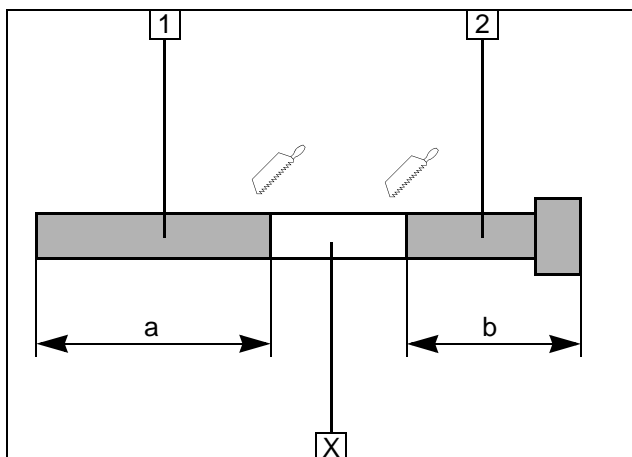


All spring clips = 25 mm dia.

- 1 90° connecting pipe [2x]



Premounting hoses

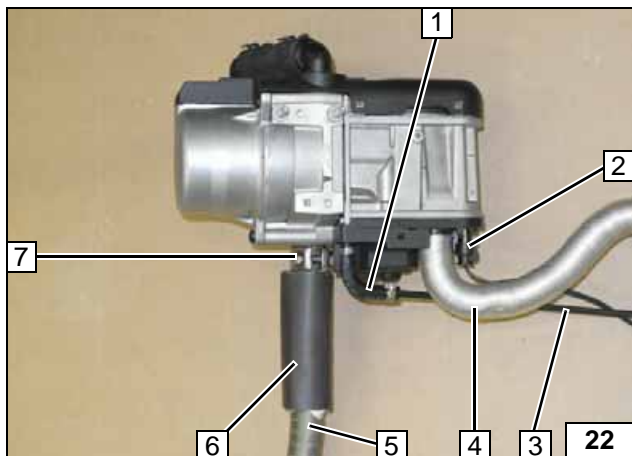


Discard section X.

- 1 Exhaust pipe  
a = 330
- 2 Exhaust end section  
b = 220

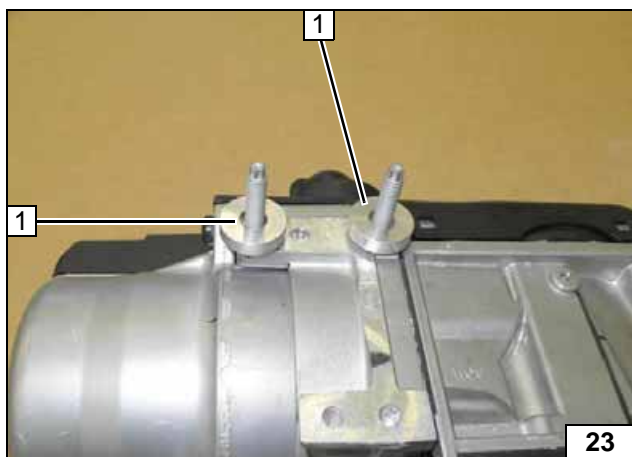


Preparing exhaust pipe



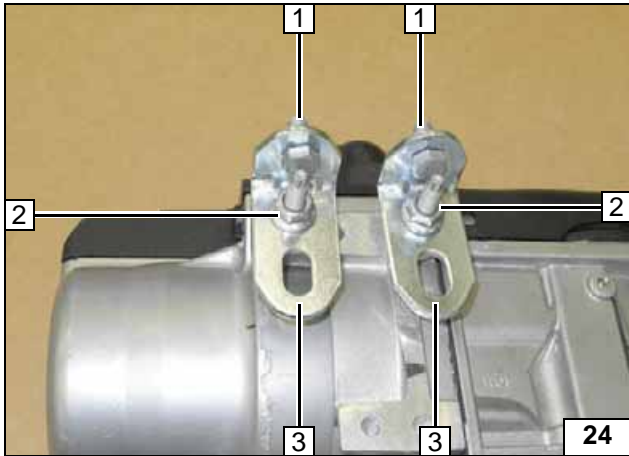
- 1 90° moulded hose, 10 mm dia. clamp [2x]
- 2 Mount wiring harness of circulating pump
- 3 Fuel line
- 4 Combustion air pipe
- 5 Exhaust pipe
- 6 Push on exhaust-gas insulation
- 7 Hose clamp

Premounting heater



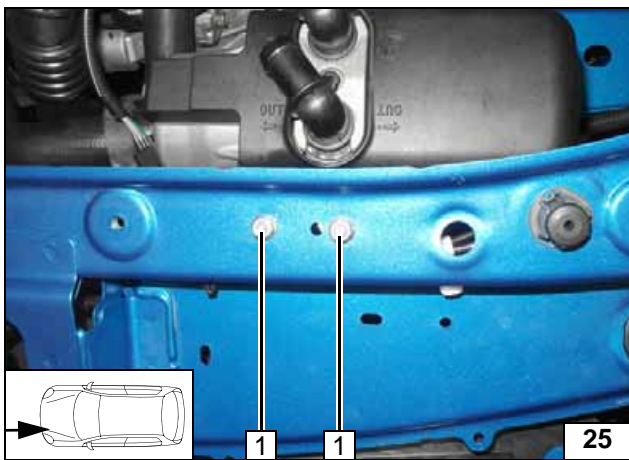
- 1 5mm shim [2x]

Attaching shims



- 1 M6x12 bolt, pin lock [2x each]
- 2 Flanged nut [2x]
- 3 Angle bracket [2x]

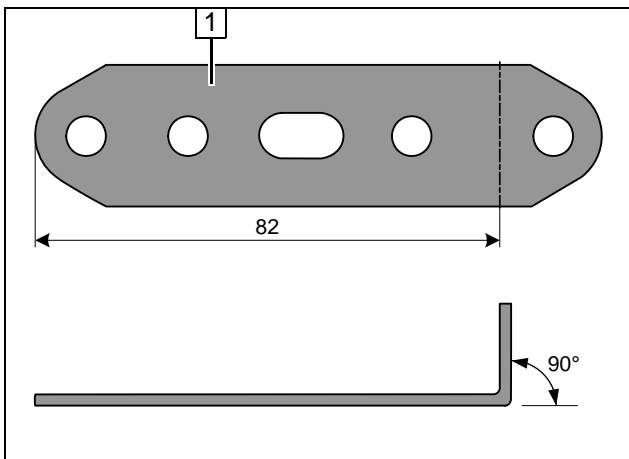
Premounting heater



**Installing Heater**

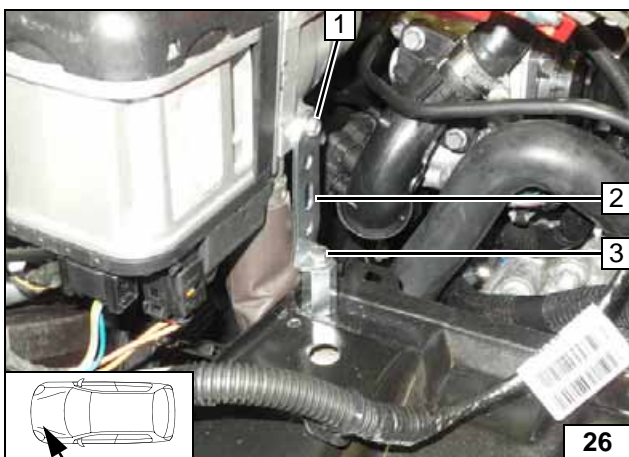
- 1 Flanged nut [2x]

Installing heater



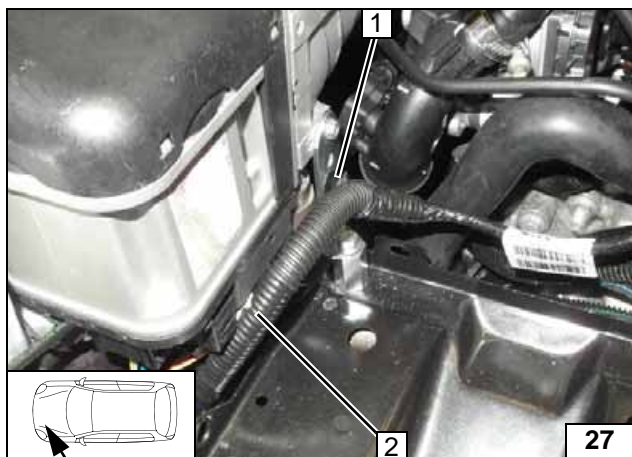
- 1 Perforated bracket

Preparing perforated bracket



- 1 5x13 self-tapping bolt
- 2 Perforated bracket
- 3 M6x12 bolt, spring lockwasher

Installing heater



- 1 Insert retaining clip into hole
- 2 Original vehicle wiring harness

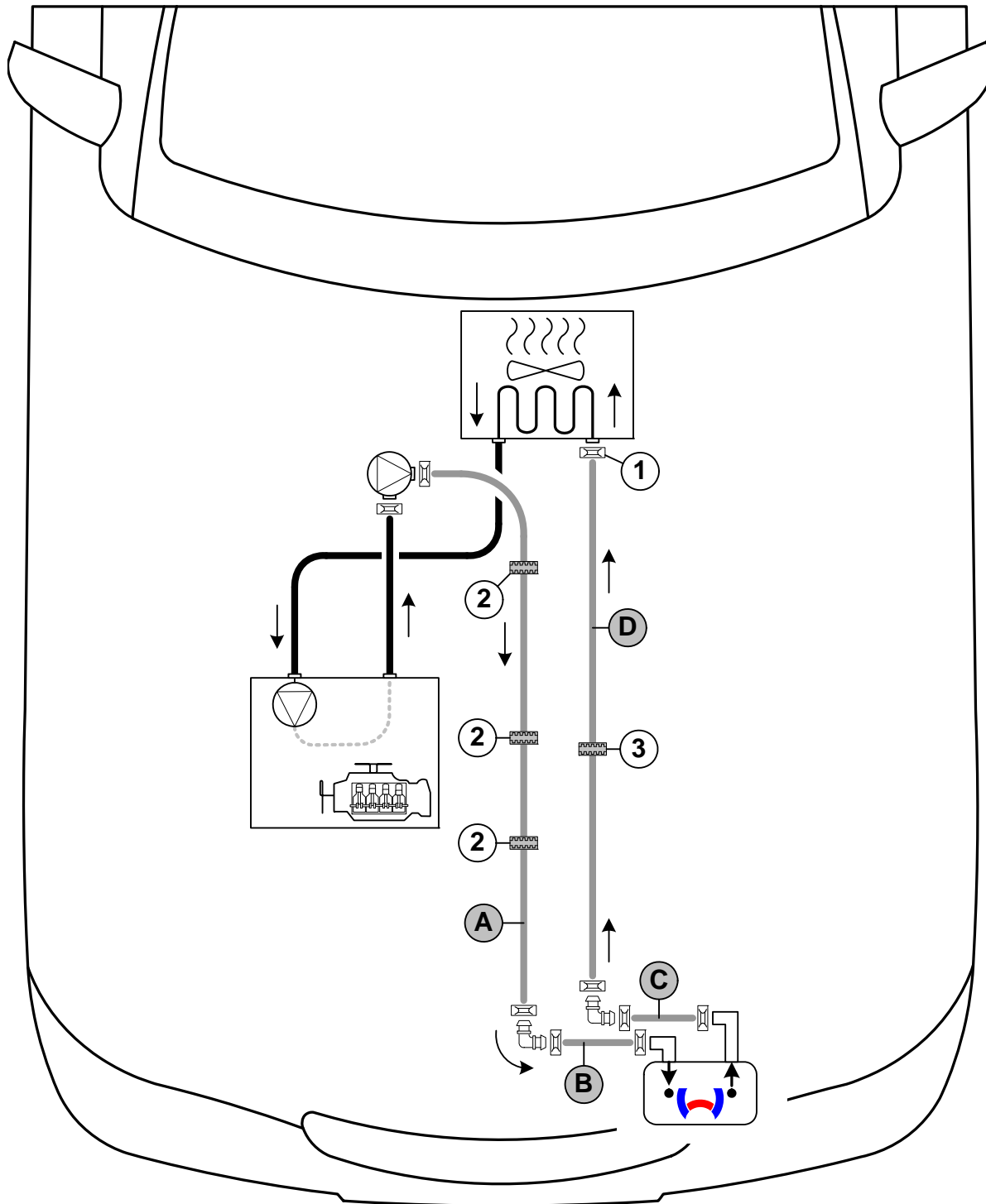
**Fastening  
wiring har-  
ness**




## Coolant Circuit



### 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 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

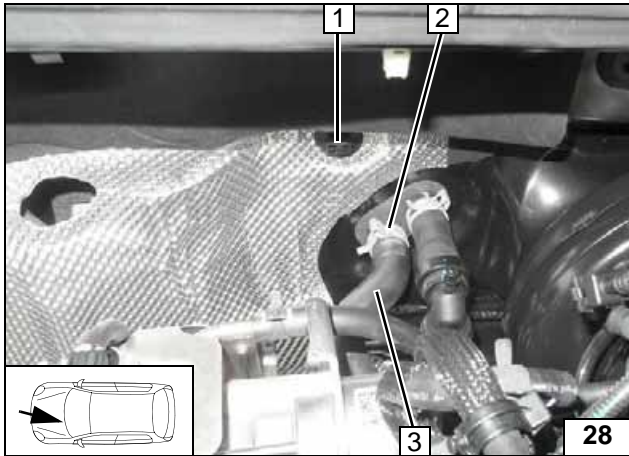
All non-designated spring clips  = 25mm dia.!

2 = black (sw) rubber isolator  (3x for 0.9 B)! 3 = Black (sw) rubber isolator  (1x for 1.5D).

1 = Original vehicle spring clip  . All connecting pipes  = 18x18mm dia.





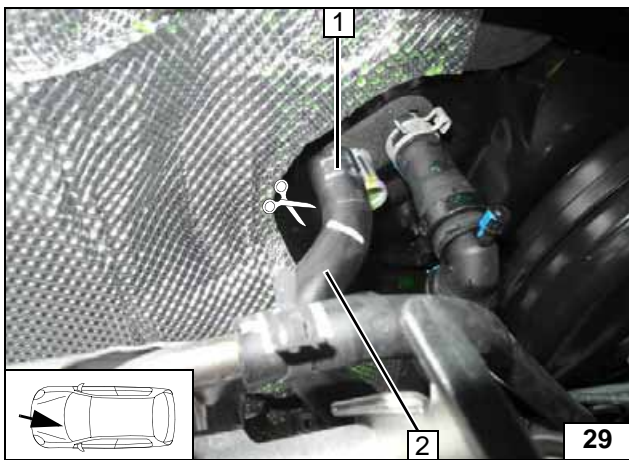


**0.9 B**

Pull engine outlet / heat exchanger inlet hose 3 off heat exchanger inlet connection piece. Spring clip 2 will be reused.

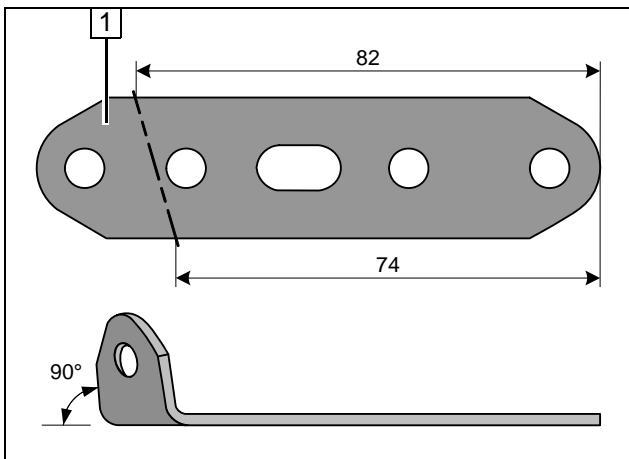
- 1 Remove and discard plastic nut

**Cutting point**



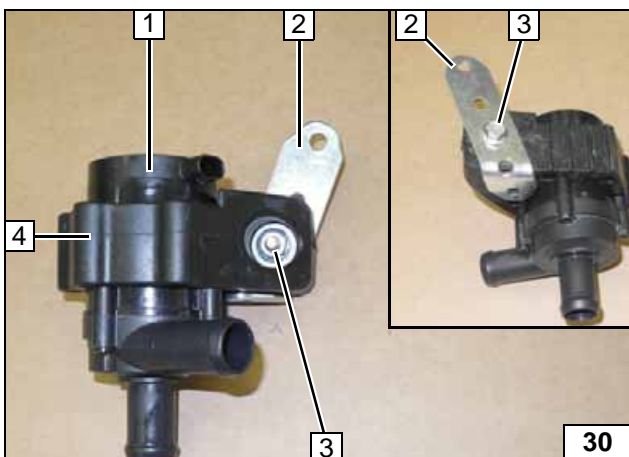
- 1 Separate and discard hose section
- 2 Engine outlet hose section

**Cutting point**



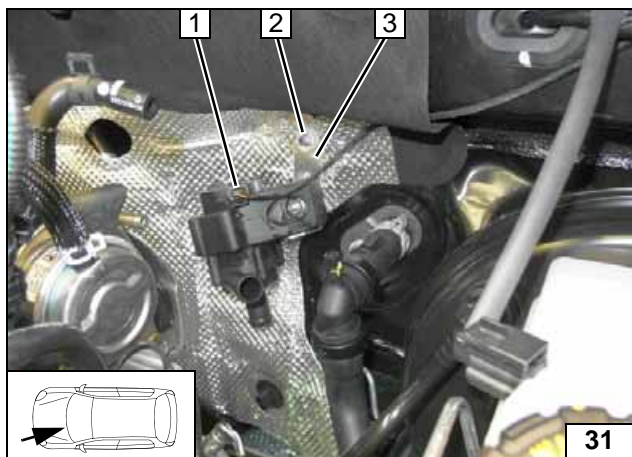
- 1 Perforated bracket

**Preparing perforated bracket**



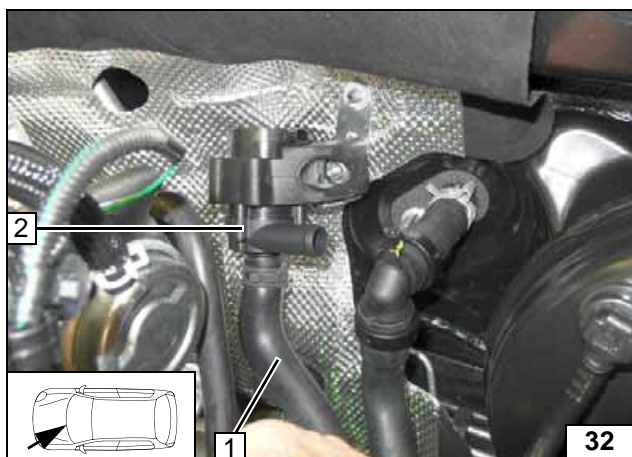
- 1 Circulating pump
- 2 Perforated bracket
- 3 M6x25 bolt, flanged nut
- 4 Mounting for circulating pump

**Premounting circulating pump**



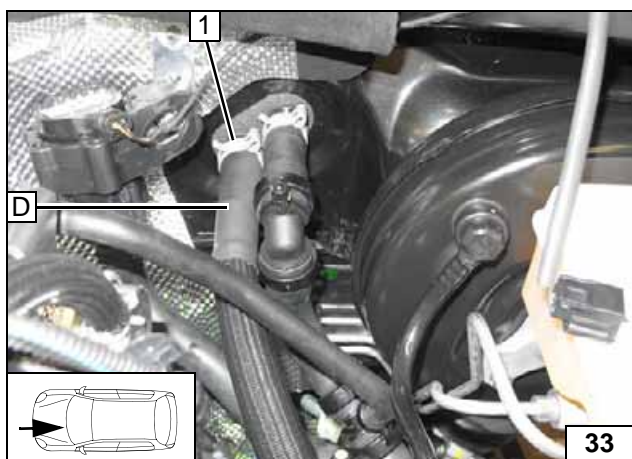
- 1 Wiring harness of circulating pump
- 2 Plate nut, original vehicle stud bolt
- 3 Perforated bracket

Installing circulating pump



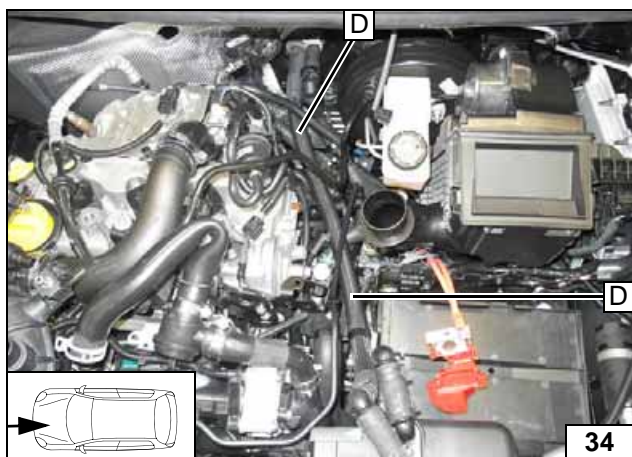
- 1 Hose on engine outlet
- 2 Circulating pump

Connecting engine outlet

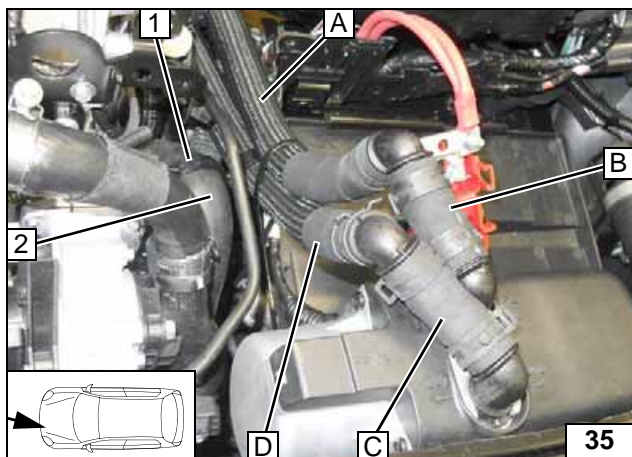


- 1 Original vehicle spring clip

Connection of heat exchanger inlet

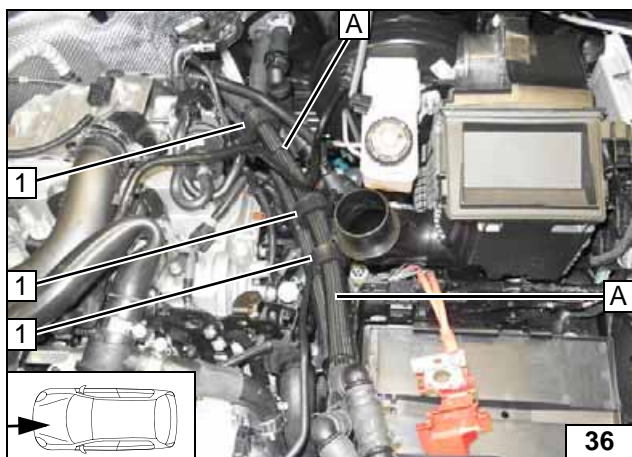


Routing in engine compartment



- 1 Install hose bracket
- 2 Original vehicle hose

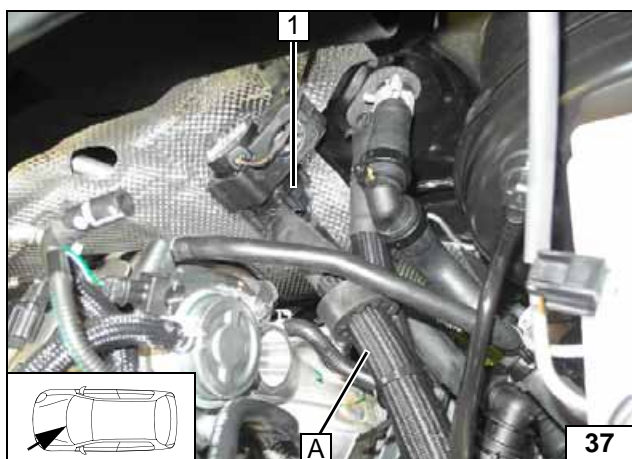
Connect-  
ing heater



Push black (sw) rubber isolator [3x] 1 onto hose A.

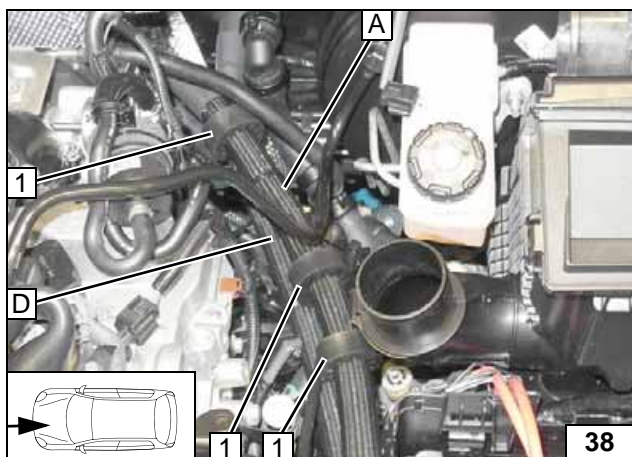


Routing in  
engine  
compartment



- 1 Circulating pump

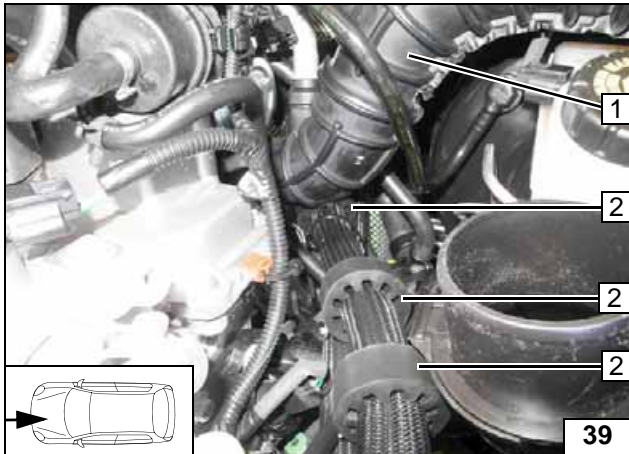
Connect-  
ing circu-  
lating  
pump



Position black (sw) rubber isolator [3x] 1.



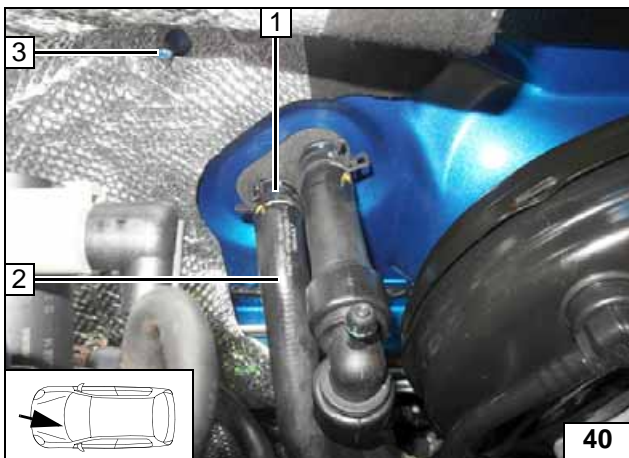
Aligning  
hoses



Align black (sw) rubber isolator [3x] 2 onto hose A after installation of intake manifold. Ensure sufficient distance to neighbouring components, correct if necessary.



Aligning hoses



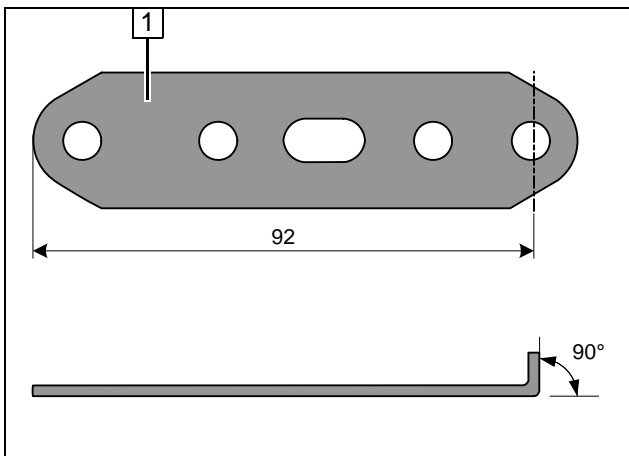
1.5 D

Pull engine outlet / heat exchanger inlet hose 2 off heat exchanger inlet connection piece. Spring clip 1 will be reused.



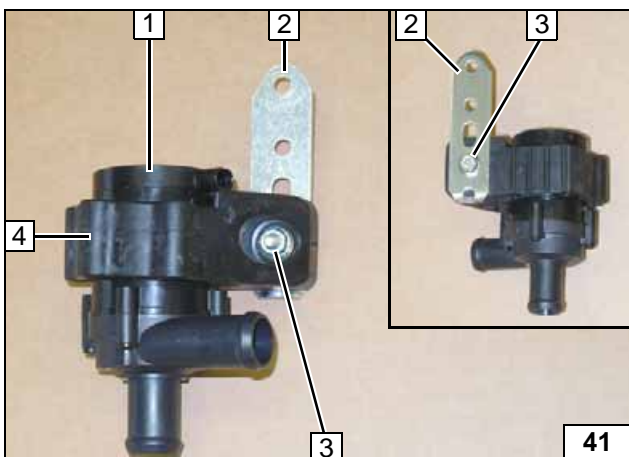
3 Remove and discard plastic nut

Cutting point



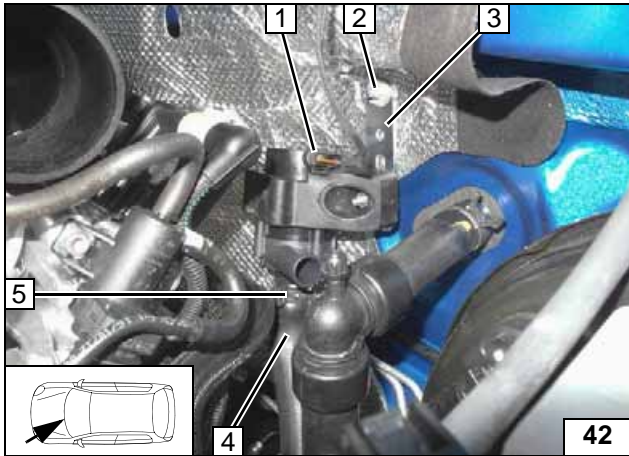
1 Perforated bracket

Preparing perforated bracket



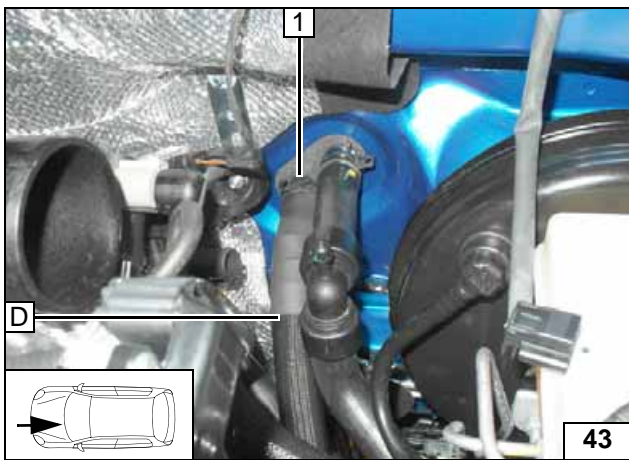
- 1 Circulating pump
- 2 Perforated bracket
- 3 M6x25 bolt, flanged nut
- 4 Mounting for circulating pump

Premounting circulating pump



- 1 Wiring harness of circulating pump
- 2 Plate nut, original vehicle stud bolt
- 3 Perforated bracket
- 4 Hose on engine outlet
- 5 Original vehicle spring clip

Installation and connection of circulating pump



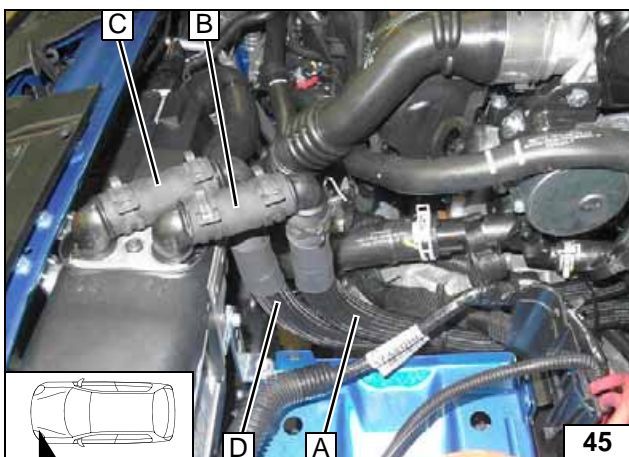
- 1 Original vehicle spring clip

Connection of heat exchanger inlet

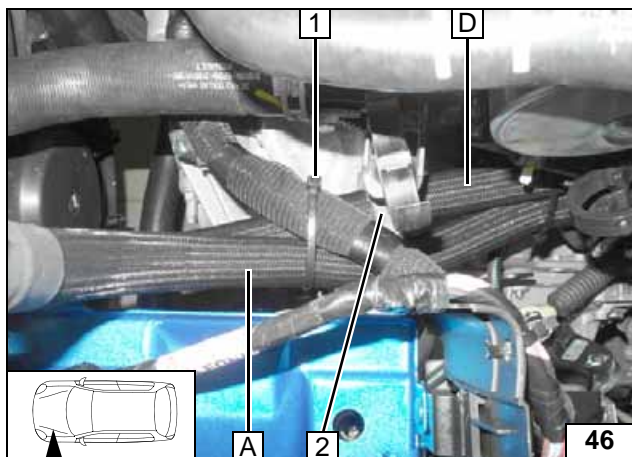


- 1 Slide on black (sw) rubber isolator

Routing in engine compartment

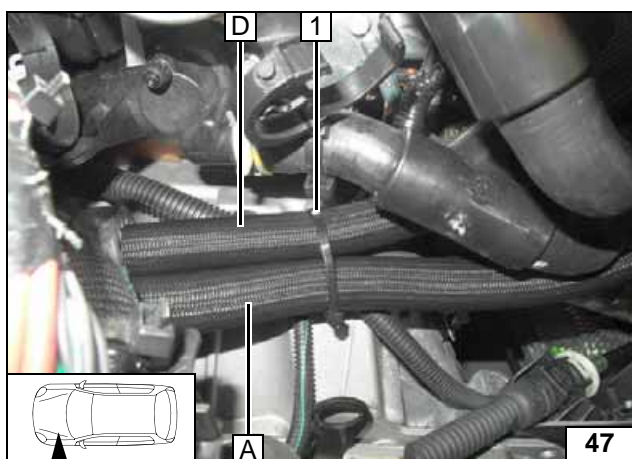


Connecting heater



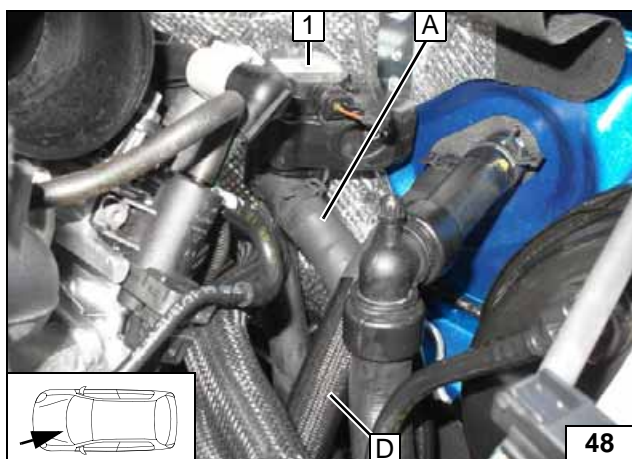
- 1 Cable ties around hoses **A**, **D** and original vehicle wiring harness
- 2 Align black (sw) rubber isolator

Routing in engine compartment



- 1 Cable ties around hoses **A**, **D** and original vehicle wiring harness

Routing in engine compartment



Align hoses. Ensure sufficient distance to neighbouring components, correct if necessary.

- 1 Circulating pump



Connecting circulating pump



**Fuel**

**CAUTION!**

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

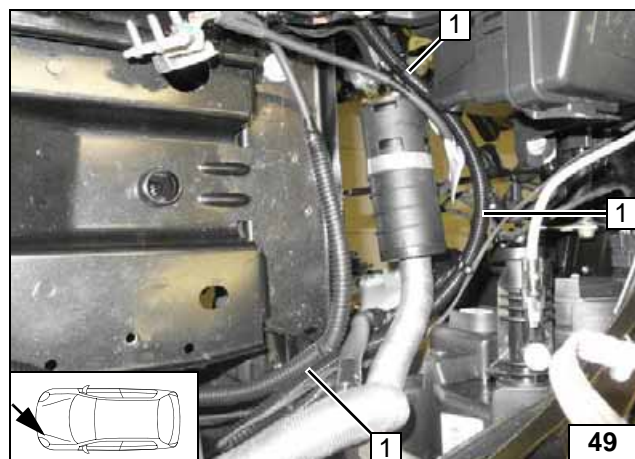
Catch any fuel running off in an appropriate container.

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

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

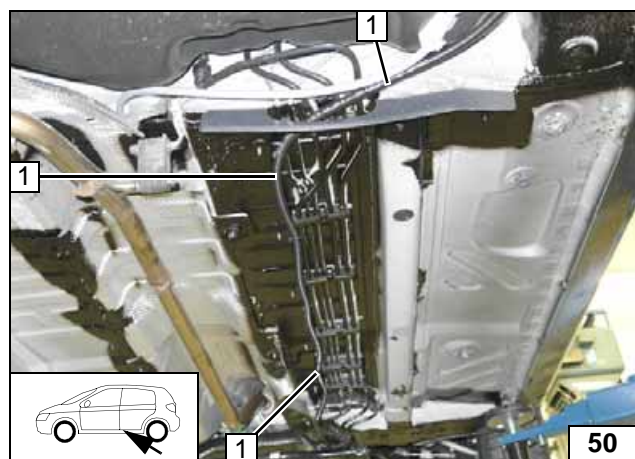
**WARNING!**

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



Pull fuel line and wiring harness of metering pump into 10mm dia. corrugated tube 1, route it to the firewall and on to the underbody on original vehicle lines.

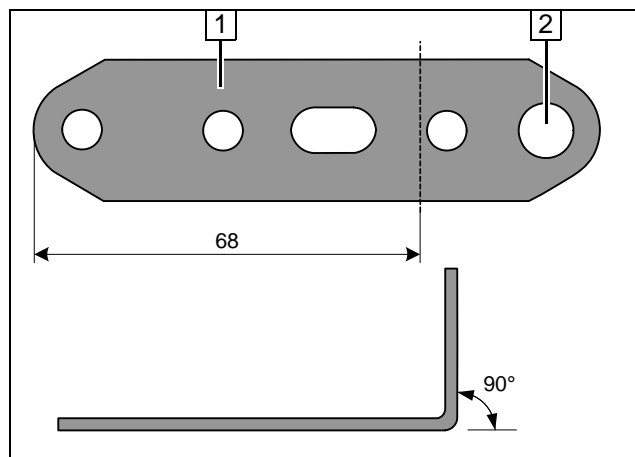
**Routing lines**



Route fuel line and wiring harness of metering pump in 10 mm dia. corrugated tube 1 to the installation location of the metering pump.

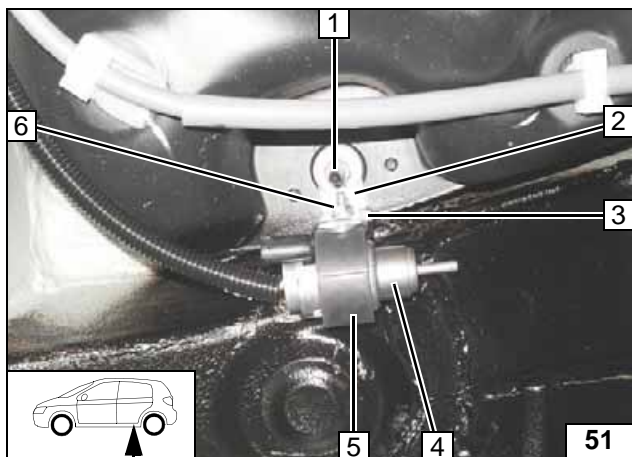


**Routing lines**



- 1 Perforated bracket
- 2 8.5mm dia. hole

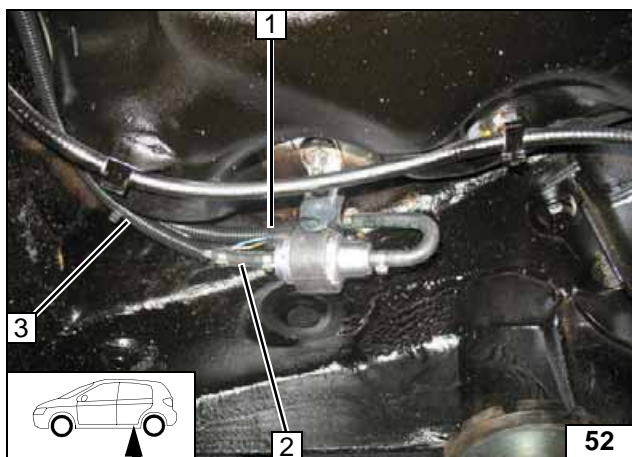
**Preparing perforated bracket**



- 1 Original vehicle stud bolt
- 2 Perforated bracket
- 3 Cable tie
- 4 Metering pump
- 5 Metering pump mounting
- 6 M6x25 bolt, support angle bracket, flanged nut



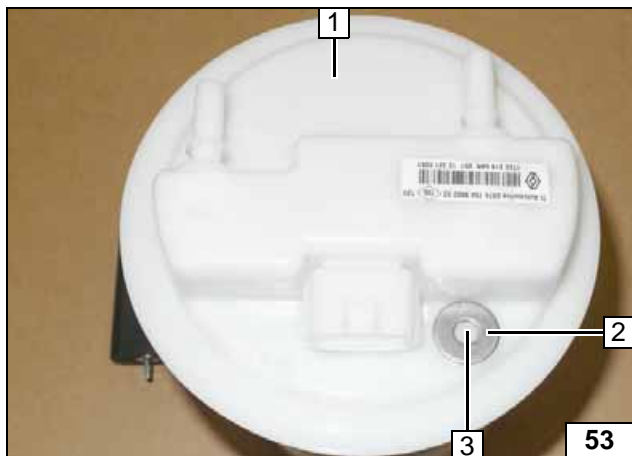
**Mounting metering pump**



- 1 Wiring harness of metering pump, connector mounted
- 2 Hose section, 10 mm dia. clamp [2x]
- 3 Corrugated tube with metering pump wiring harness and fuel line



**Connection of metering pump**



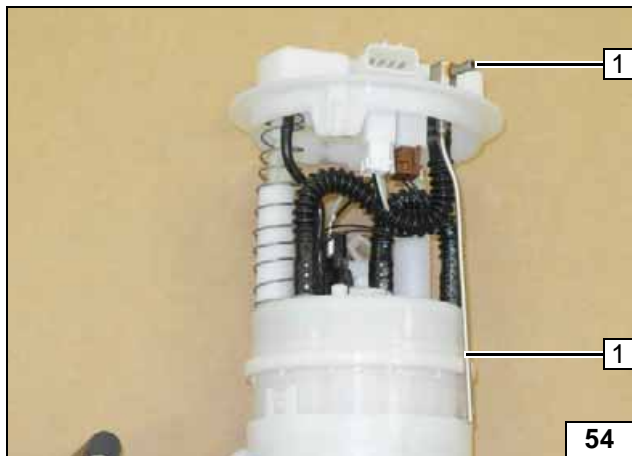
**0.9 B**

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

- 2 Washer outer dia. = 17.6 mm
- 3 Copy hole pattern, 6 mm dia. hole



**Fuel extraction**

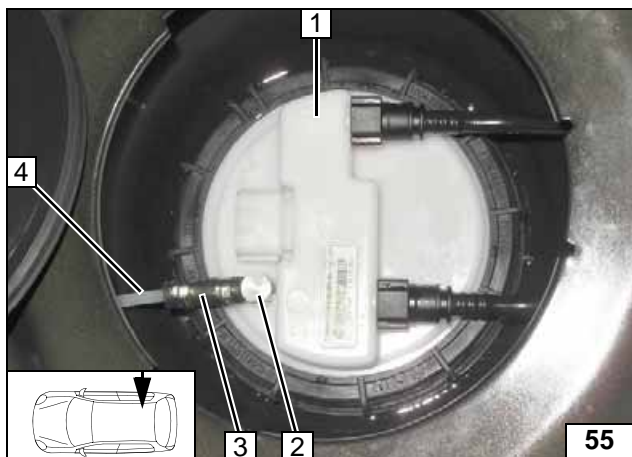


Shape fuel standpipe 1 according to template and cut to length.



**Installing fuel standpipe**



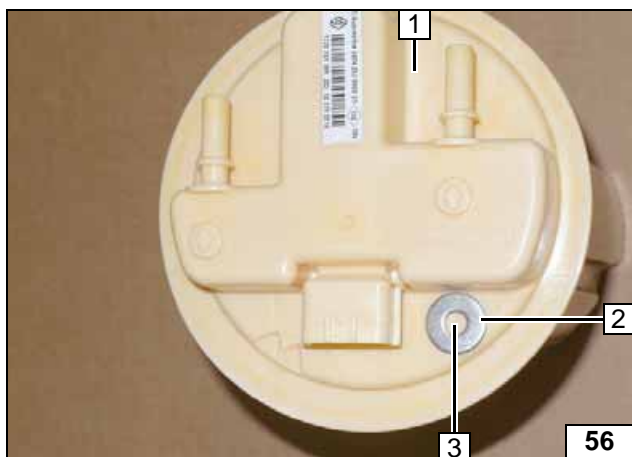


Install fuel-tank sending unit **1** in accordance with manufacturer's instructions.

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



**Connect-  
ing fuel line**



**1.5 D**

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

- 2** Washer outer dia. = 17.6 mm
- 3** Copy hole pattern, 6 mm dia. hole



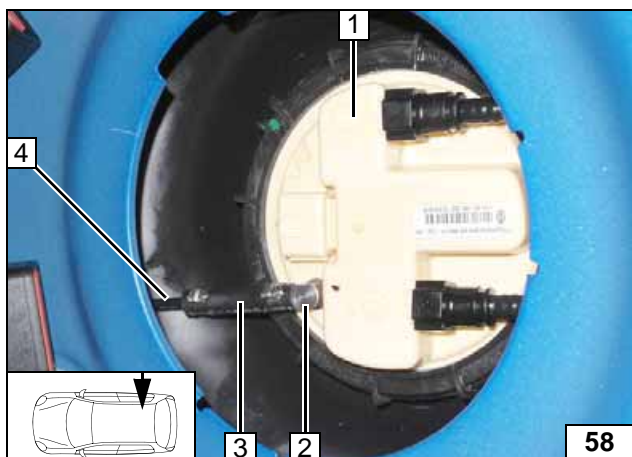
**Fuel ex-  
traction**



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



**Installing  
fuel stand-  
pipe**

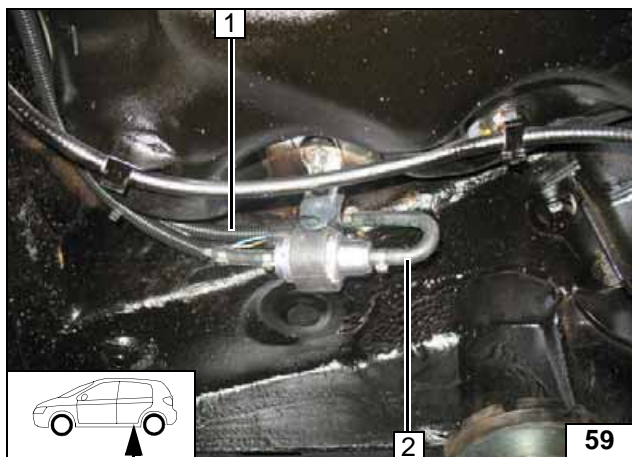


Install fuel-tank sending unit **1** in accordance with manufacturer's instructions.

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



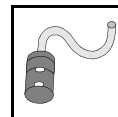
**Connect-  
ing fuel line**



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

- 1 Corrugated tube with fuel line
- 2 180° moulded hose, 10 mm dia. clamp [2x]

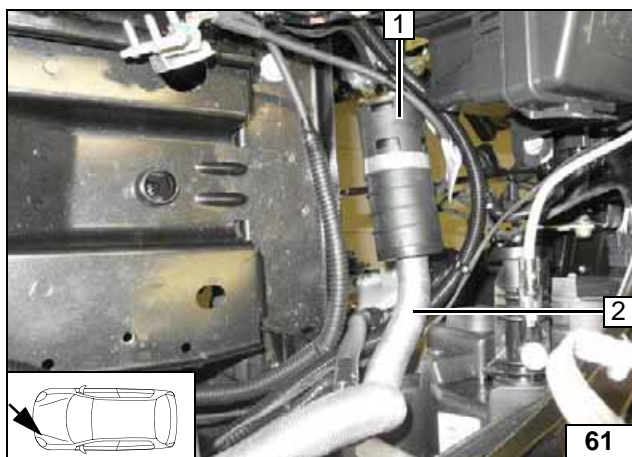
**Connec-  
tion of me-  
tering  
pump**



### Combustion Air

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

Premounting silencer



- 1 Silencer
- 2 Combustion air pipe

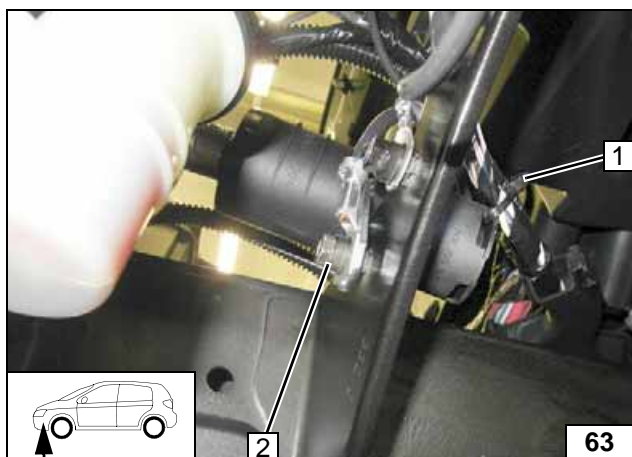
Mounting silencer



Install angle bracket 1 on original vehicle earth point (see following figure).



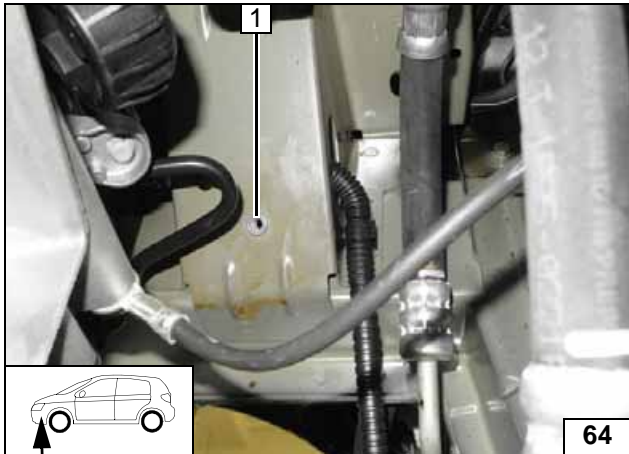
Mounting silencer



- 1 Cable tie (through silencer on original vehicle wiring harness)
- 2 Earth support point, angle bracket, original vehicle earth wire with cable lug, original vehicle nut



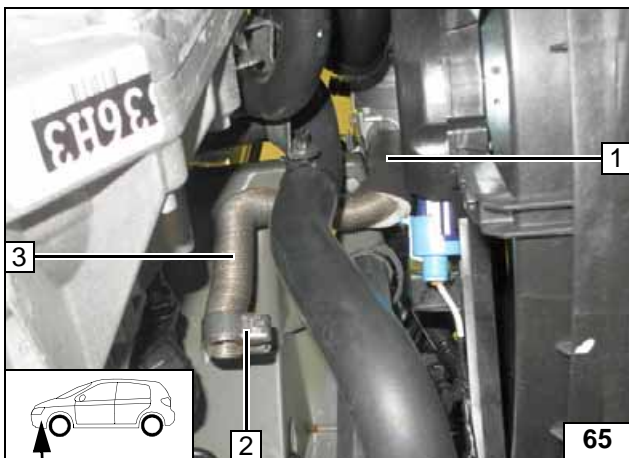
Mounting silencer



**Exhaust Gas**

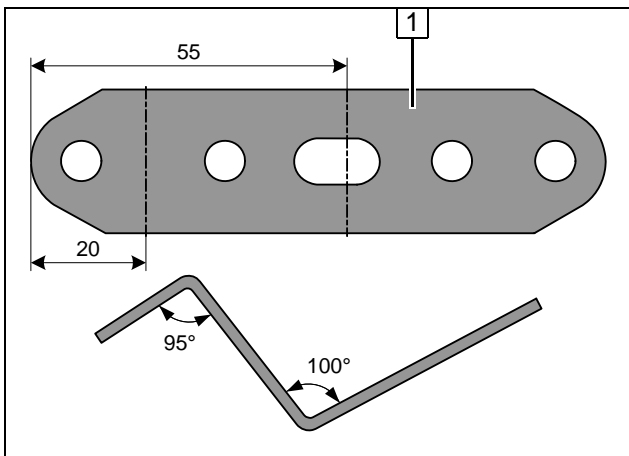
- 1 Drill out hole to 9.1mm dia.; Rivet nut

Installing rivet nut



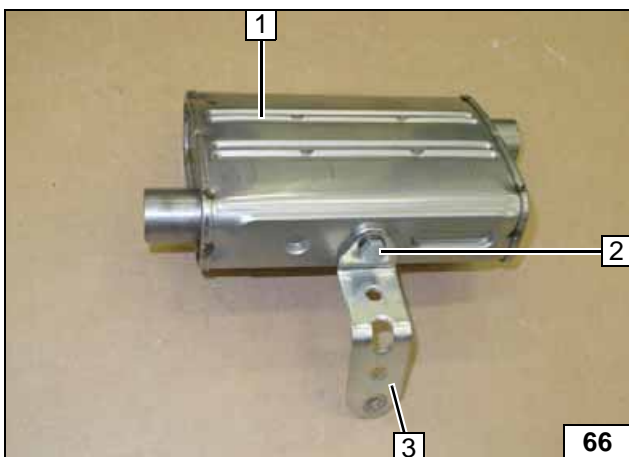
- 1 Align exhaust-gas insulation
- 2 Mount hose clamp
- 3 Shape exhaust pipe

Routing exhaust pipe



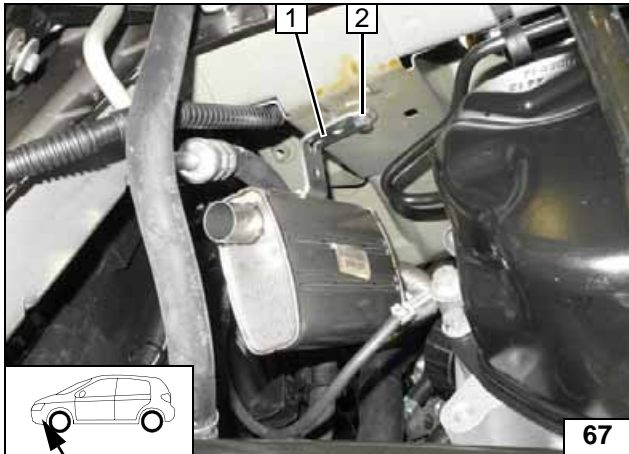
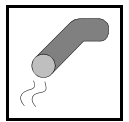
- 1 Perforated bracket

Preparing perforated bracket



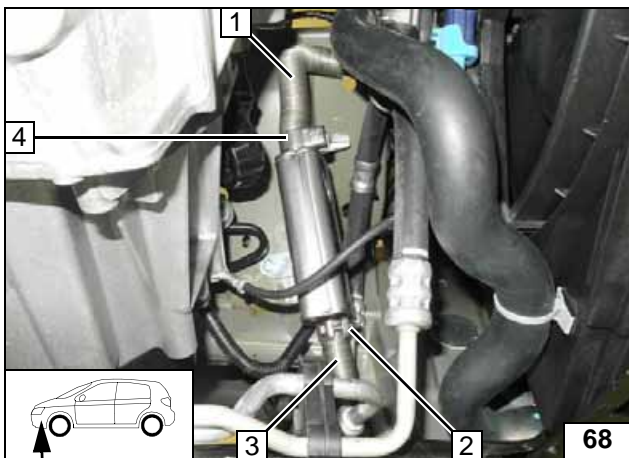
- 1 Silencer
- 2 M6x16 bolt, spring lockwasher
- 3 Perforated bracket

Premounting silencer



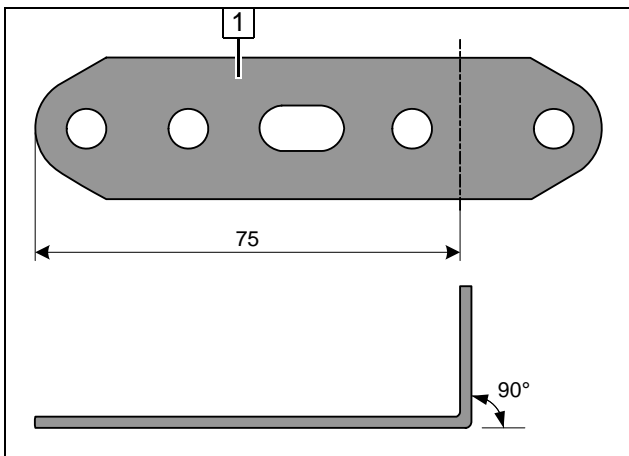
- 1 Perforated bracket
- 2 M6x20 bolt, spring lockwasher

**Mounting  
silencer**



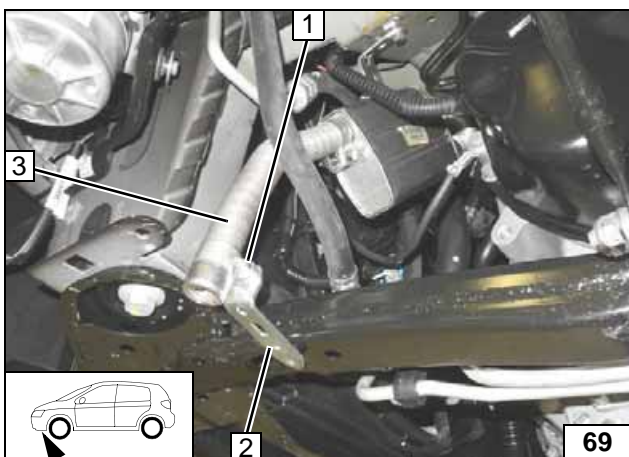
- 1 Exhaust pipe
- 2 Hose clamp
- 3 Exhaust end section
- 4 Tighten hose clamp

**Mounting  
exhaust  
pipe and  
end section**



- 1 Perforated bracket

**Preparing  
perforated  
bracket**



- 1 M6x12 bolt, pipe clamp, flanged nut
- 2 Perforated bracket
- 3 Exhaust end section

**Mounting  
perforated  
bracket**



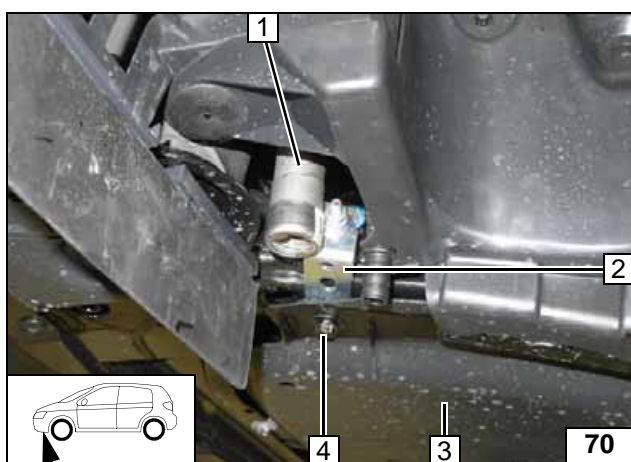
## Final Work

### WARNING!

Reassemble the disassembled components 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 heater components with anti-corrosion wax (Tectyl 100K, Order No. 111329).



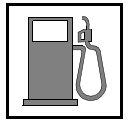
- **Connect the battery.**
- **Fill and bleed the coolant circuit according to the vehicle manufacturer's instructions.**
- **Adjust digital timer, teach Telestart transmitter.**
- **Make settings on A/C control panel according to the "Operating Instructions for End Customer".**
- **Place caution label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



Install perforated bracket **2** together with under-ride protection **3**. Align exhaust end section **1** with the centre of the recess. Ensure sufficient distance to neighbouring components, correct if necessary.

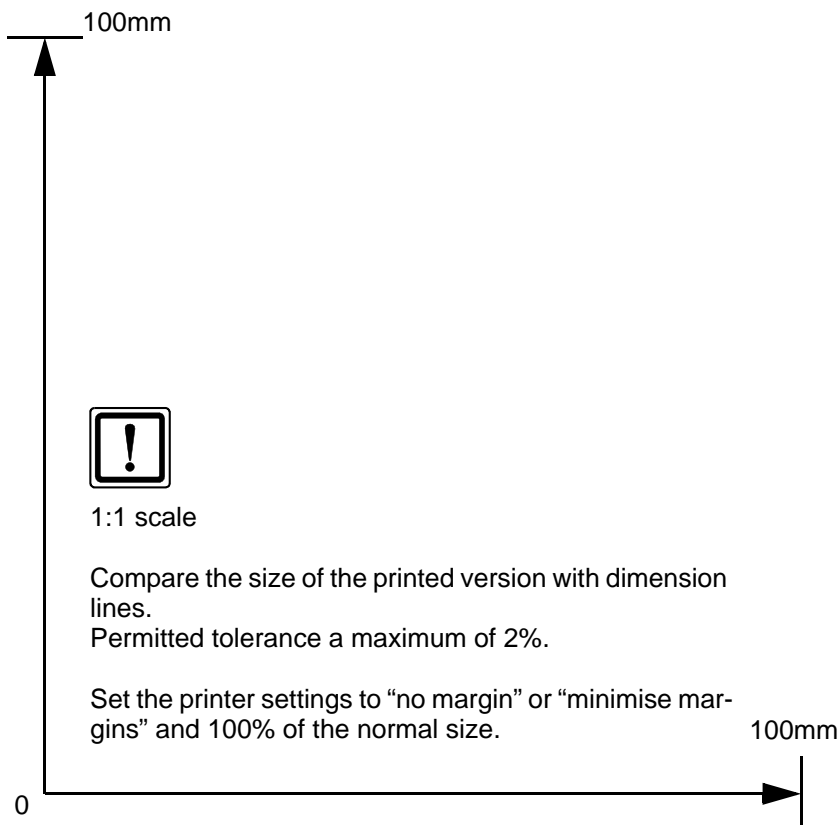
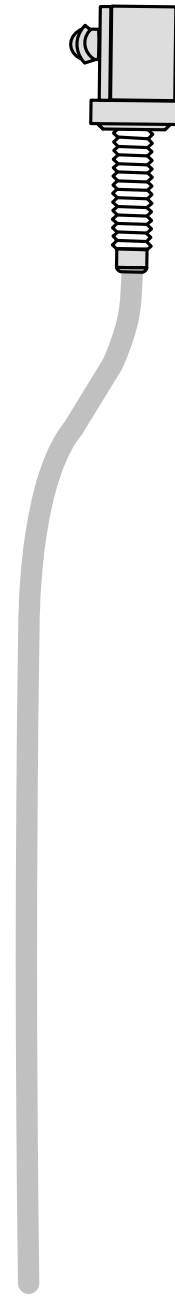
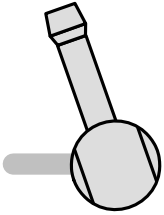
**4** Original vehicle bolt

**Aligning  
exhaust  
end section**



Template for Fuel Standpipe Petrol+Diesel

Top view



## 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

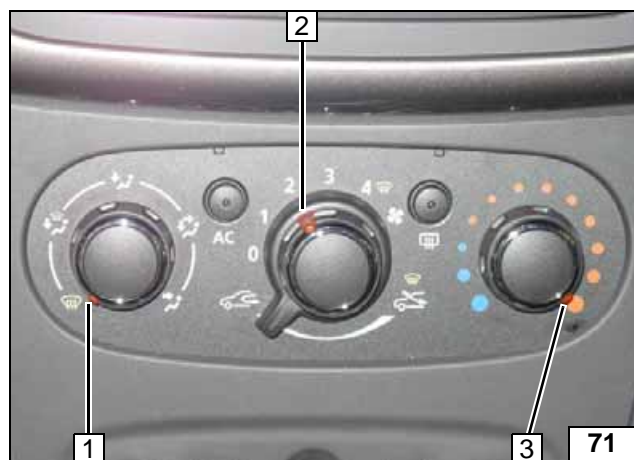
### Example:

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

If the vehicle has passenger compartment monitoring this must be deactivated in addition to the vehicle settings for the heating operation.

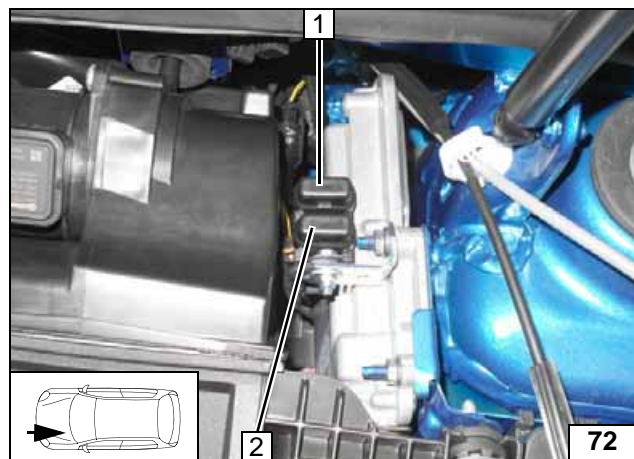
Instructions on deactivation can be taken from the operating instructions of the vehicle.

Before parking the vehicle, make the following settings:



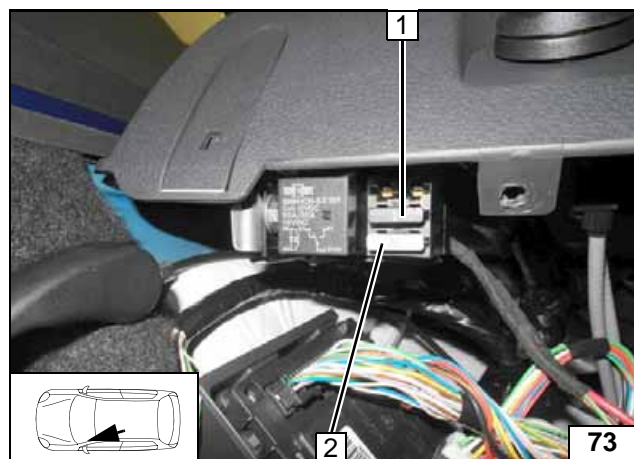
- 1 Direct air outlet towards windscreen
- 2 Set fan to level "1", or max. "2"
- 3 Set temperature to "max."

A/C control panel



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

Fuses of engine compartment



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

Fuses of passenger compartment

