

Water Heater

Thermo Top Evo Parking Heater



Installation Documentation Peugeot 508

Validity

Manufacturer	Model	Type	EG-BE No. / ABE
Peugeot	508	W3	e2 * 2007 / 46 * 0080 *...

Motorisation	Fuel	Transmission type	Output in kW	Displacement in cm ³	Engine code
1.6 eHDI	Diesel	EGS6	84	1560	9HR

EGS6 = Electronically controlled 6 gear transmission

From Model Year 2012
Left-hand drive vehicle

Verified equipment variants: Automatic air-conditioning
Front fog light
Start-Stop

Not verified: Passenger compartment monitoring
Manual air-conditioning
Headlight washer system

Total installation time: approx. 9.5 hours

Peugeot 508

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Necessary Components

- Basic delivery scope *Thermo Top Evo* in accordance with price list
- Installation kit for Peugeot 508 2012 1.6 Diesel: **1318507C**
- Heater control in accordance with price list and upon consultation with end customer
- In case of Telestart, indicator lamp in accordance with price list and in consultation with end customer

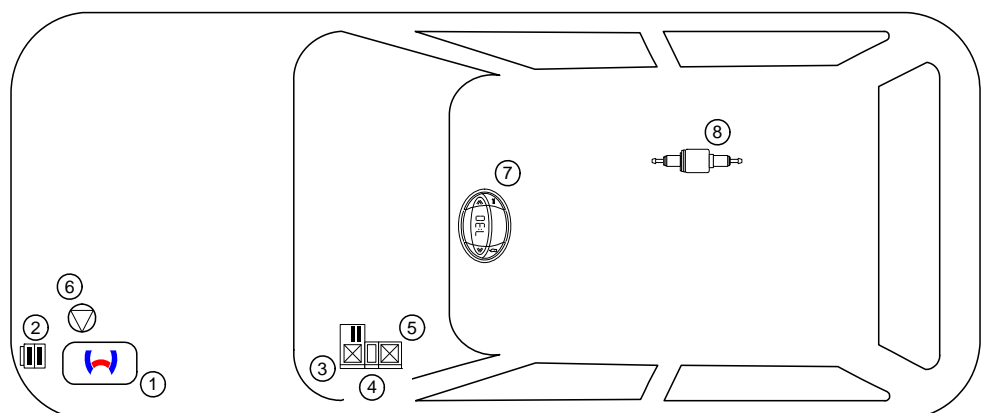
Installation instructions:

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

Installation Overview

Legend:

1. Heater
2. Engine compartment fuse holder
3. Relay and fuse holder of passenger compartment
4. K2 relay
5. PWM Gateway
6. Circulating pump
7. Digital timer
8. 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. 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 a PWM-Gateway, the corresponding settings must be checked or adjusted.

2 Statutory regulations governing installation

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

Note

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

Important

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

Note

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 508

Information on Validity

This installation documentation applies to Peugeot 508 1.6 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 - 6mm²
- Crimping pliers for cable lug / tab connector 0.5 - 6mm²
- Torque wrench for 2.0 - 10 Nm
- Hose clamping pliers
- Metric thread-setter kit
- Webasto Thermo Test Diagnosis with current software
- Peugeot special tool to discharge "Ultra Capacity" S-1288

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 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:

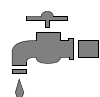
Mechanical system



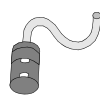
Electrical system



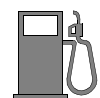
Coolant circuit



Combustion air



Fuel



Exhaust gas



Software



Specific risk of injury or fatal accidents



Specific risk of damage to components



Specific risk of fire or explosion.



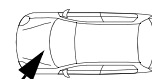
Reference to general installation instructions of the Webasto components or to the manufacturer's vehicle-specific documents.



Reference to a special technical feature



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



Peugeot 508

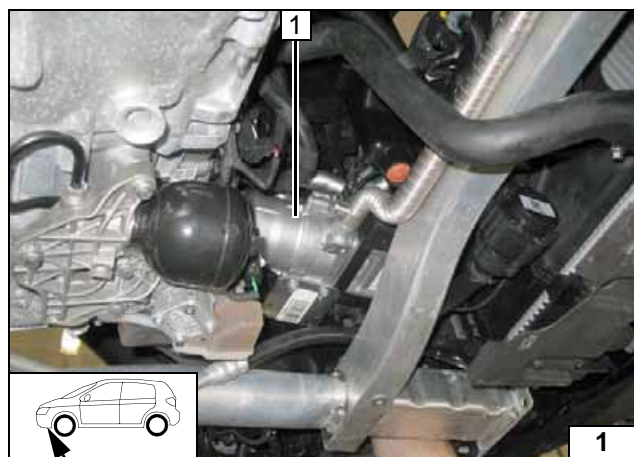
Preliminary Work

Vehicle

- Open the fuel tank cap.
- Ventilate the fuel tank.
- Close the fuel tank cap again.
- Depressurise the cooling system.
- Completely remove the battery together with the carrier.
- Remove the air filter together with the intake hose.
- Remove the left front wheel.
- Remove the left-hand wheel well trim.
- Remove the underride protection on the front left.
- Remove the right-hand underbody trim.
- Remove the right rear underride protection.
- Remove the rear bench seat.
- Open the tank-fitting service lid.
- Remove the lower instrument panel trim on the driver's side.
- Remove the instrument panel trim on the driver's side (only with Telestart).
- Remove the footwell trim on the driver's side.
- Remove the driver's side storage compartment.
- Remove the radio, CD unit and A/C control panel according to the manufacturer's instructions.
- Remove the A/C booster.

Heater

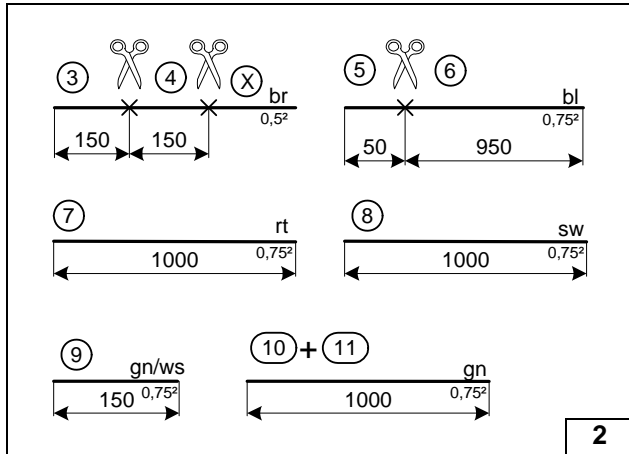
- Remove years that do not apply from the type and duplicate label.
- Attach the duplicate label (type label) in the appropriate place in the engine compartment.



Heater Installation Location

- 1 Heater

Installation location

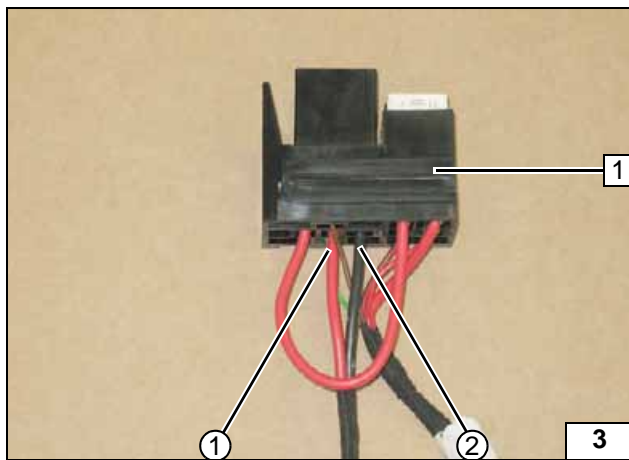


Preparing Electrical System

Wire sections retain their numbering in the entire document.



Cutting wires to length

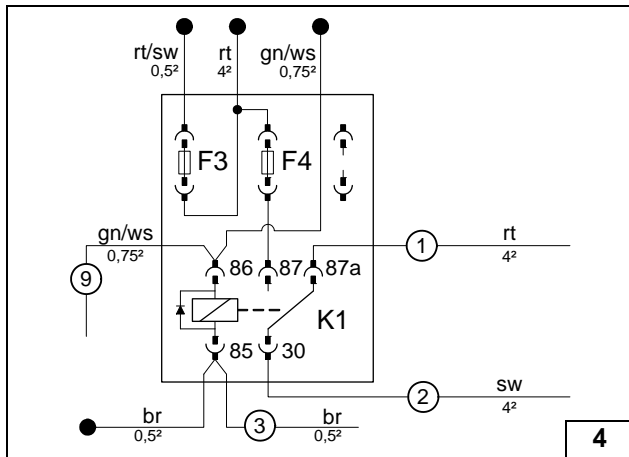


Remove and discard contacts K1/86 and K1/85.
Install wires as shown in following wiring diagram with contacts supplied.



Preparing passenger compartment relay and fuse holder

- 1 Relay and fuse holder of passenger compartment
- ① Red (rt) wire from K1/87a, fan wiring harness
- ② Black (sw) wire from K1/30, fan wiring harness

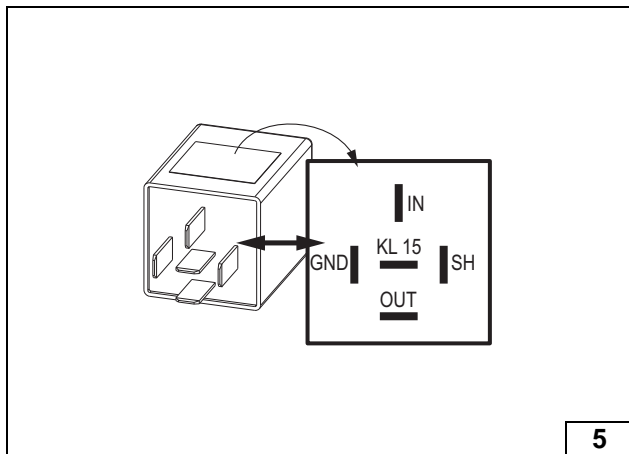


Insert 25A fuse F4 and K1 relay.



Inserting F4 and preparing K1 relay

- ⑨ Green/white (gn/ws) wire of K1/86
- ③ Brown (br) wire of K1/85



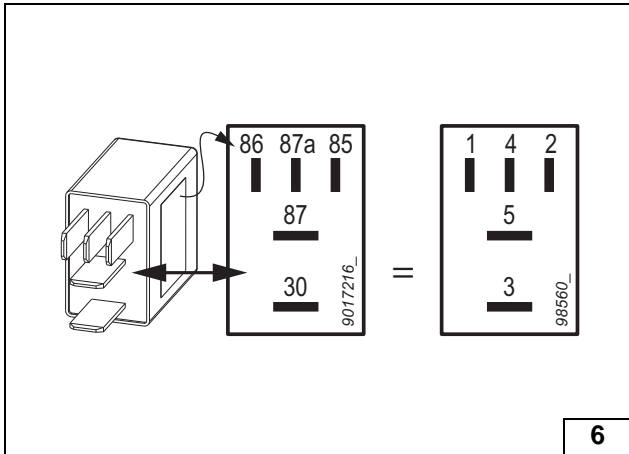
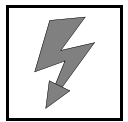
Check the PWM Gateway settings during start-up of the heater and adjust if necessary.



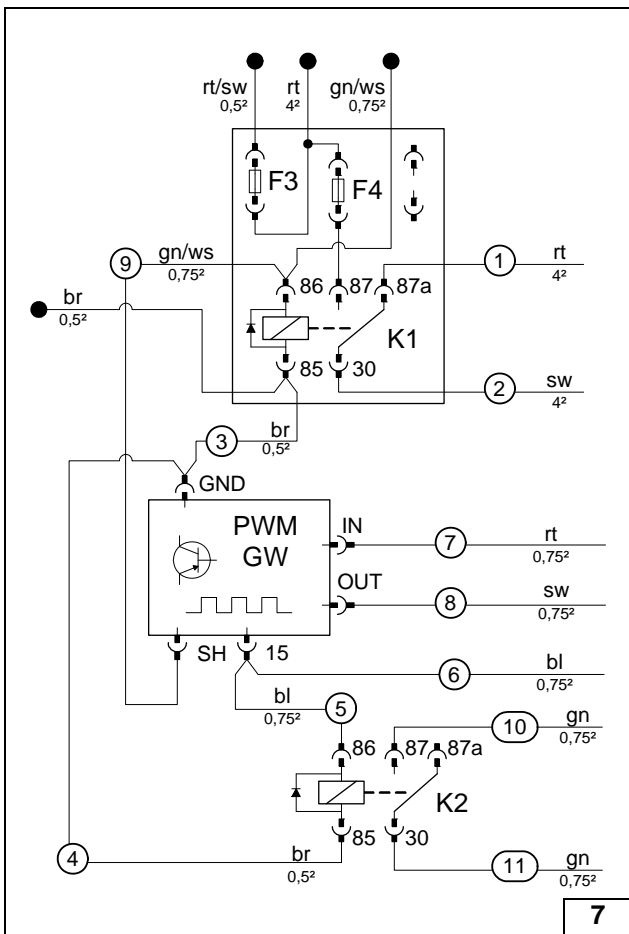
Settings:

- Duty cycle: 70%
- Frequency: 400Hz
- Voltage: not relevant
- Function: Low side

Preparing PWM Gateway



View of K2 relay



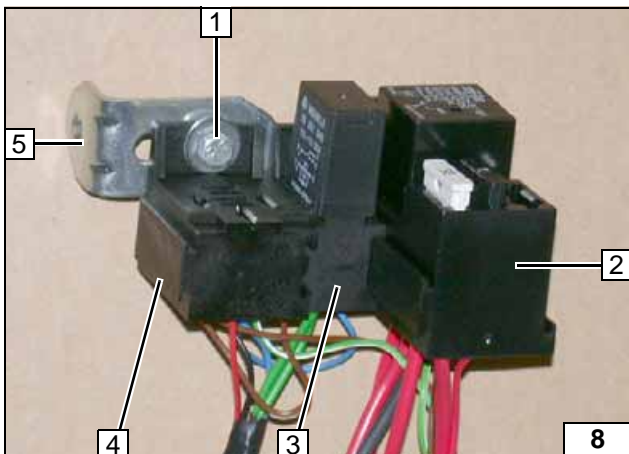
Connect wires to K2 relay socket and PWM Gateway socket.



Pull following wires into one protective sleeving each:

- Blue (bl) wire ⑥
- Red (rt) wire ⑦ and black (sw) wire ⑧
- Green (gn) wire ⑩ and green (gn) wire ⑪

Connecting wires



Interlock relay and fuse holder of passenger compartment 2 with K2 relay socket 3 and PWM Gateway socket 4. Mount K2 relay and PWM Gateway after installing angle bracket 5.



- 1 M5x16 bolt, large diameter washer [2x], nut

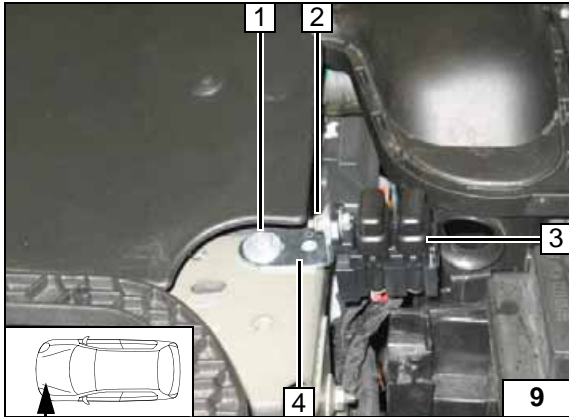
Assembling relay and fuse holder of passenger compartment



Electrical System

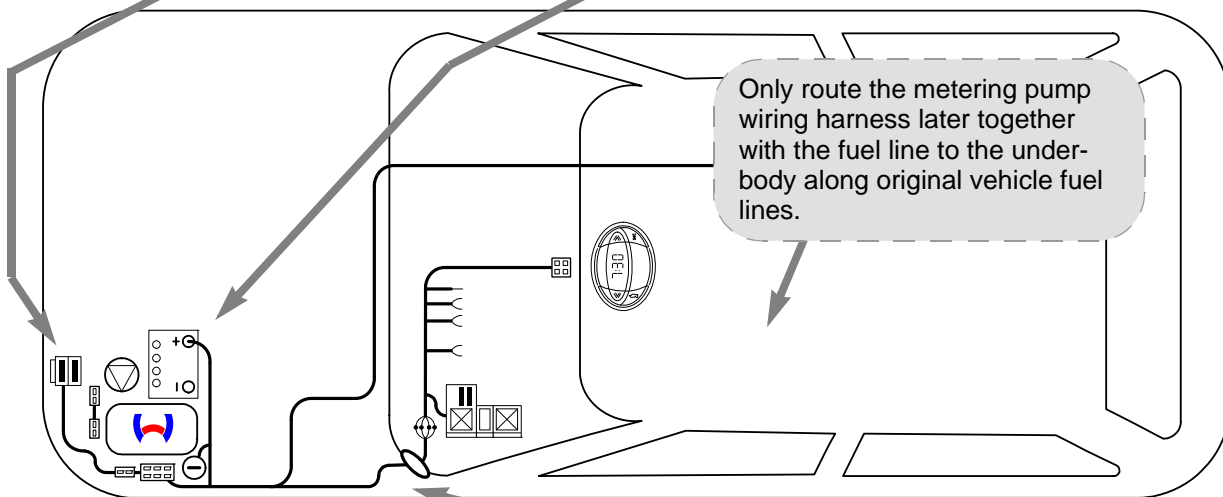
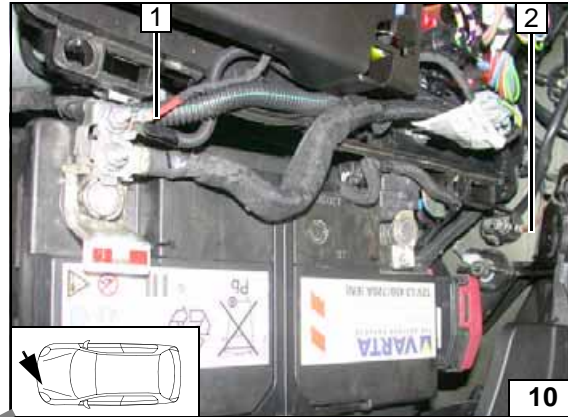
Fuse holder of engine compartment

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

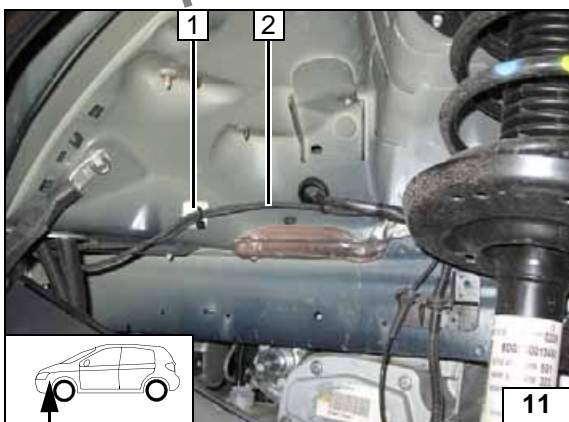


Positive and earth wire

- 1 Positive wire
- 2 Earth wire on original vehicle earth support point

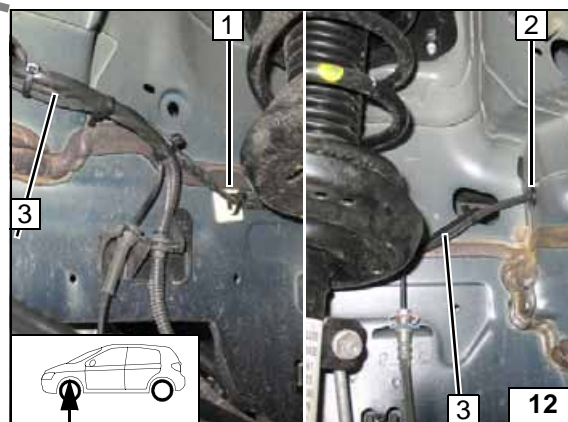


Wiring harness routing diagram



Wiring Harness Routing

- 1 Adhesive base, cable tie
- 2 Wiring harnesses of heater and heater control

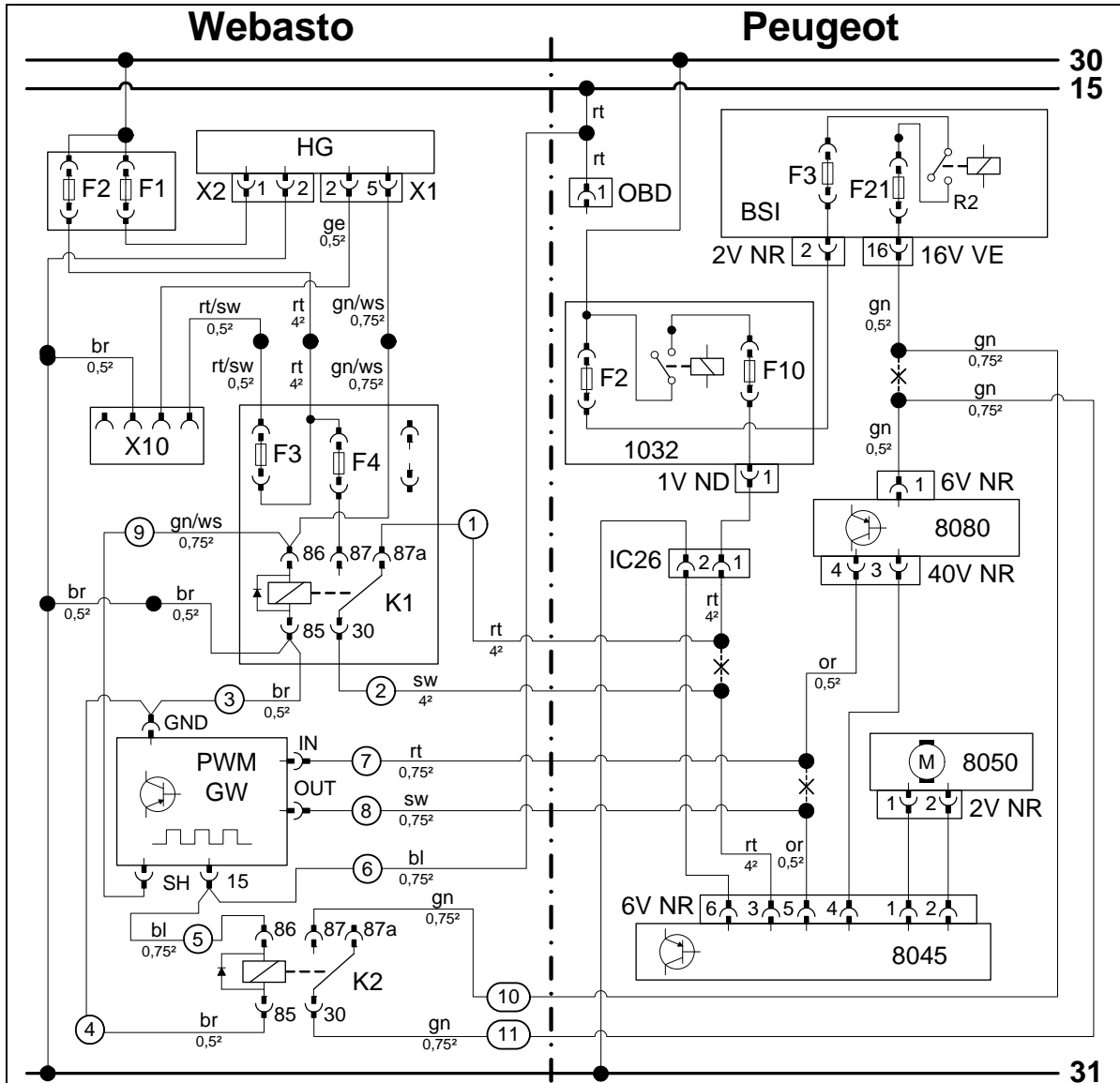


Wiring harness pass through of passenger compartment

- 1 Adhesive base, cable tie
- 2 Protective rubber plug (perforate hole)
- 3 Wiring harnesses of heater and heater control



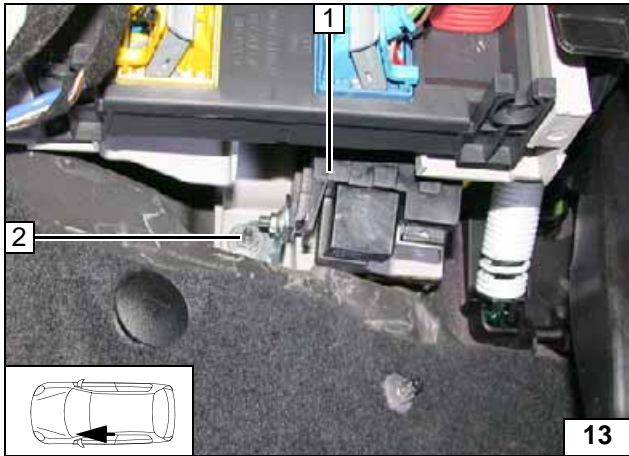
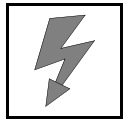
Fan Controller



Wiring diagram

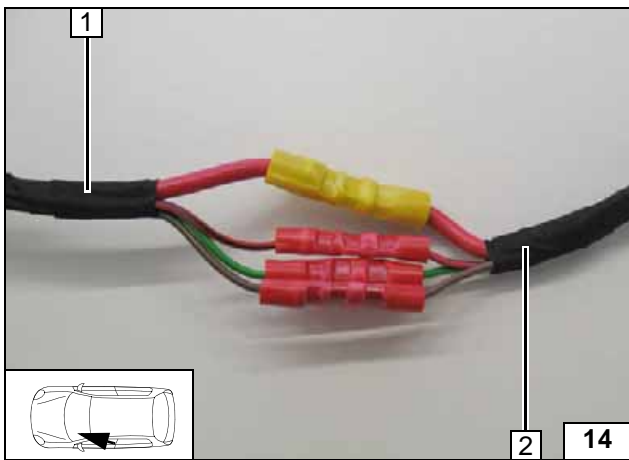
Webasto components		Vehicle components		Colours and symbols	
HG	TT-Evo heater	OBD	OBD connector	rt	red
X1	6-pin heater connector	BSI	Central electrical box for passenger compartment	sw	black
X2	2-pin heater connector	2V NR	BSI connector	ge	yellow
X10	4-pin connector of heater control	16V VE	BSI connector	gn	green
K1	Fan relay	1032	Main power supply	or	orange
F1	20A fuse	1V ND	Connector 1032	ws	white
F2	30A fuse	6V NR	6-pin connector 8080	br	brown
F3	1A fuse	8080	A/C control unit		
F4	25A fuse	40V NR	40-pin connector 8080		
K2	Additional relay	IC26	6-pin connector		
PWM GW	Pulse width modulator	8050	Fan motor		
PWM GW settings:		2V NR	2-pin connector 8050		
Duty cycle: 70%		6V NR	6-pin connector 8045		
Frequency: 400Hz		8045	Fan controller		
Voltage: not relevant				X	Cutting point
Function: Low side					Wiring colours may vary.

Legend



- 1 Relay and fuse holder of passenger compartment
- 2 Original vehicle stud bolt, flanged nut

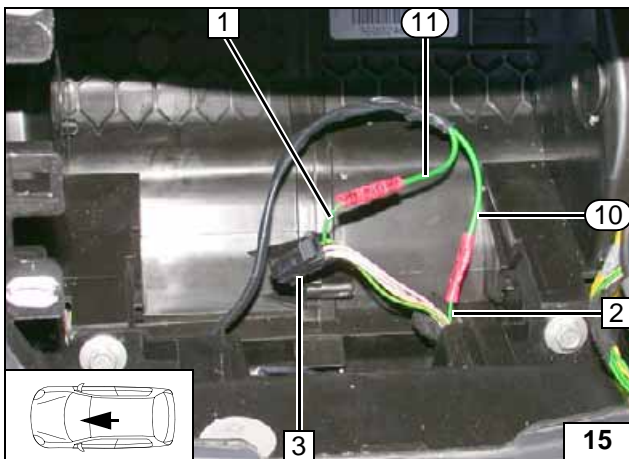
Mounting Passenger Compartment Relay and Fuse Holder



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



Connecting same colour wiring harnesses

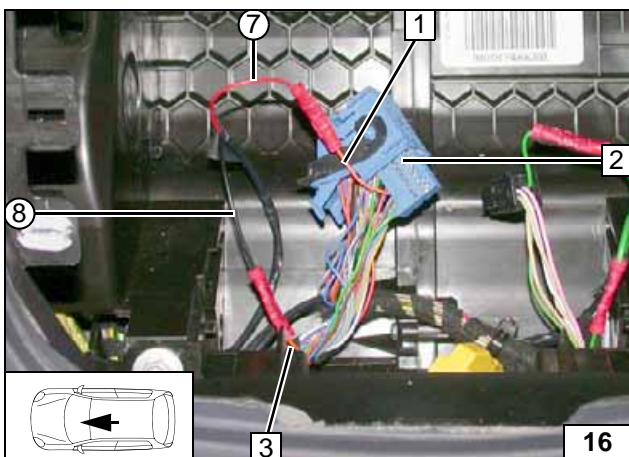


Connection to 6-pin connector 3 of A/C control unit. Produce connections as shown in wiring diagram.

- 1 Green (gn) wire of 6-pin connector, Pin1
- 2 Green (gn) wire of BSI fuse F21
- ⑩ Green (gn) wire of K2/87
- ⑪ Green (gn) wire of K2/30



Connection of K2 relay

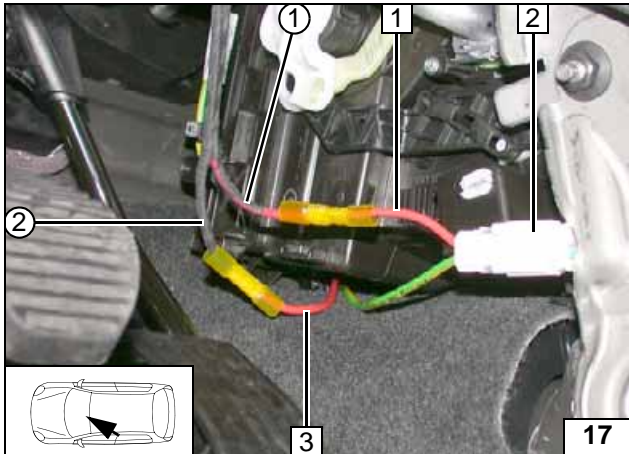


Connection to 40-pin connector 2 of A/C control unit. Produce connections as shown in wiring diagram.

- 1 Orange (or) wire of 40-pin connector, Pin 4
- 3 Orange (or) wire of fan controller, Pin 5
- ⑦ Red (rt) wire of PWM Gateway/IN
- ⑧ Black (sw) wire of PWM Gateway/OUT



Connection of PWM Gateway

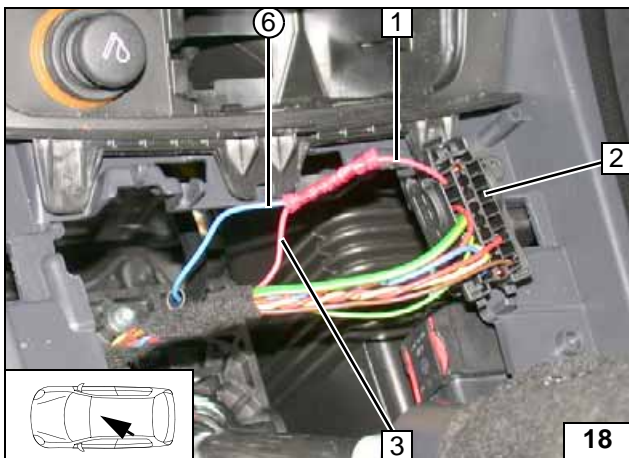


Connection after intermediate connector IC26 **2**. Produce connections as shown in wiring diagram.



- 1 Red (rt) wire of 2-pin connector IC26, Pin1
- 3 Red (rt) wire of fan controller, Pin 3
- ① Red (rt) wire from K1/87a, fan wiring harness
- ② Black (sw) wire from K1/30, fan wiring harness

**Connect-
ing K1 re-
lay**



Connection to OBD connector **2**. Produce connections as shown in wiring diagram.



- 1 Red (rt) wire of OBD connector, Pin 1
- 3 Red (rt) wire of terminal 15
- ⑥ Blue (bl) wire of PWM Gateway/15

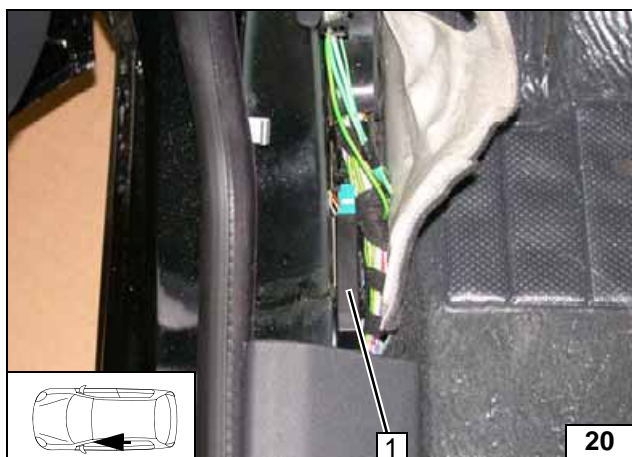
**Connec-
tion of ter-
minal 15**



Digital Timer

- 1 Digital timer

Installing digital timer

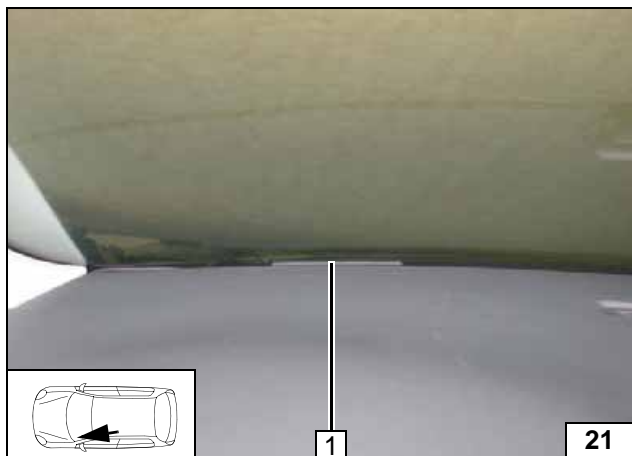


Remote Option Telestart

Push back foot mat on the driver's side. Fasten receiver 1 with adhesive tape.

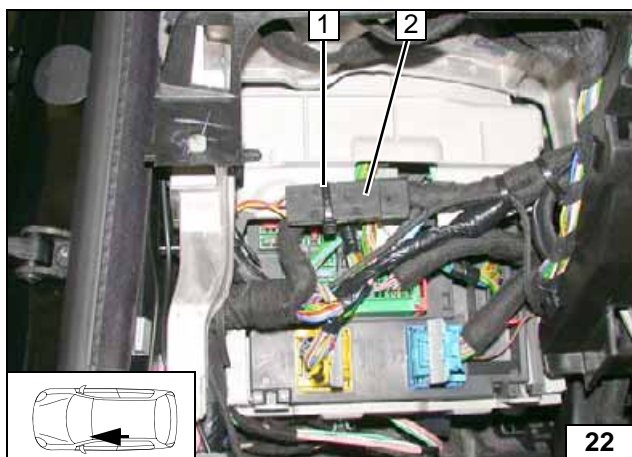


Installing receiver



- 1 Antenna

Installing antenna

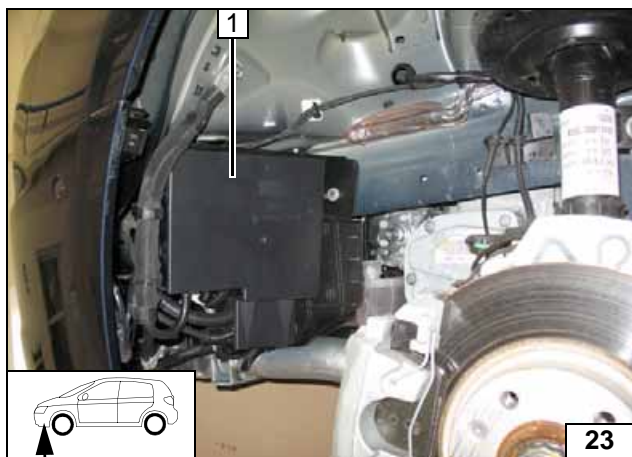


Temperature sensor T100 HTM

Fasten temperature sensor 2 with cable tie 1 on original vehicle wiring harness.



Mounting temperature sensor

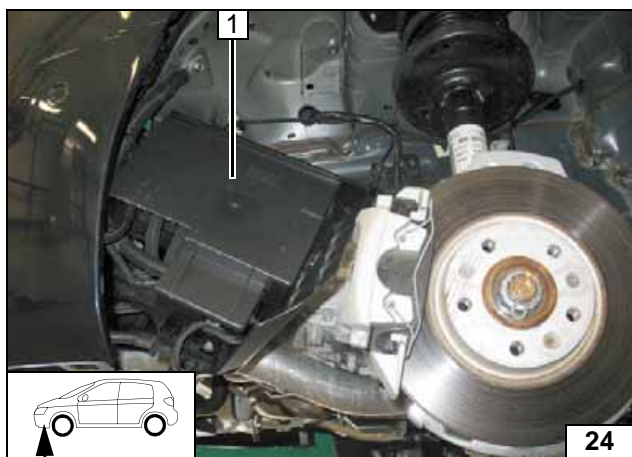


Preparing Installation Location

Prior to disengaging condenser unit 1, discharge "Ultra-Capacity" (UCAP) in accordance with manufacturer's instructions using special tool S-1288 .



Disengag-
ing capaci-
tor unit



Disengage capacitor unit 1 and secure it to prevent it from falling using suitable means.

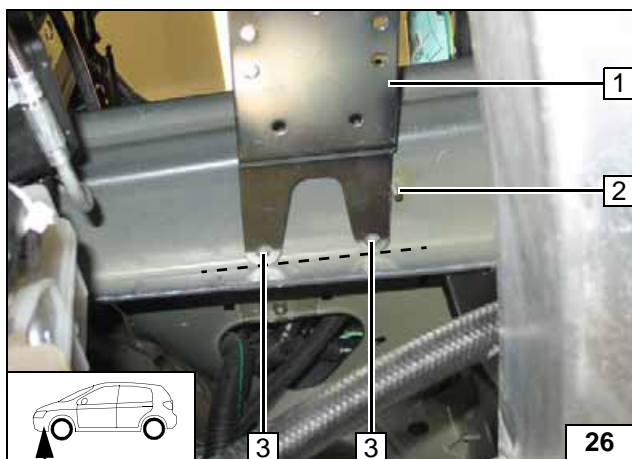


Securing
capacitor
unit



1 Insulation mat

Removing
insulation
mat

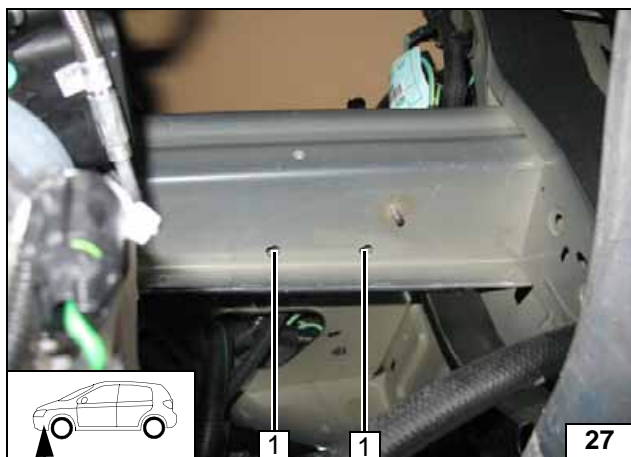


Place bracket 1 on original vehicle stud bolt 2 and edge of frame side member (see marking).

3 Copy hole pattern [2x]

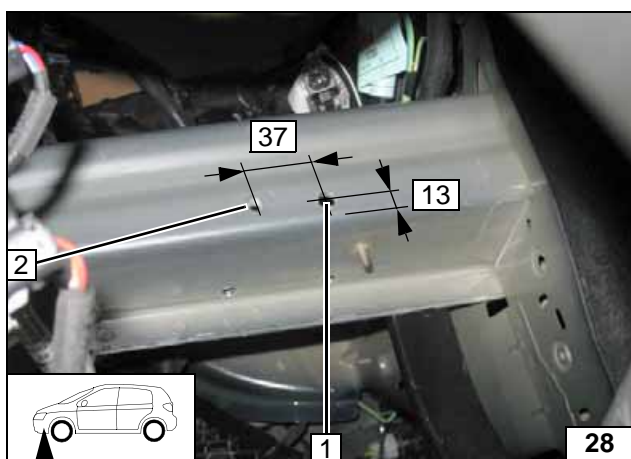


Copying
hole pat-
tern



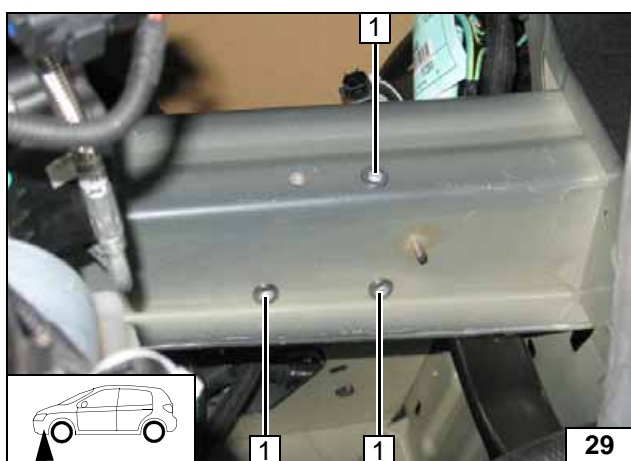
1 9.1 mm dia. hole [2x] for bracket

Hole in frame side member



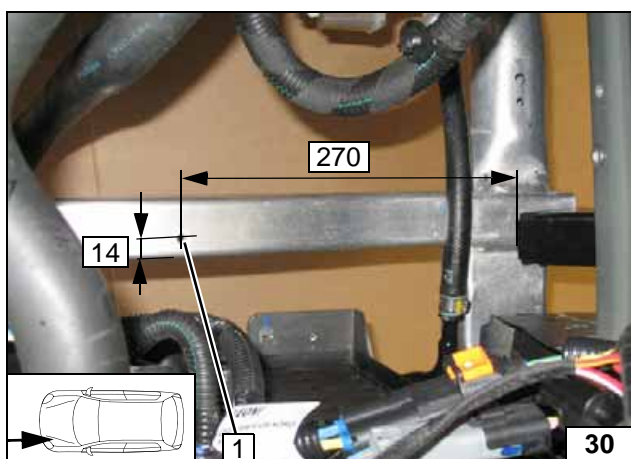
1 Drill 9.1 mm dia. hole for angle bracket
2 Original vehicle threaded hole

Hole in frame side member



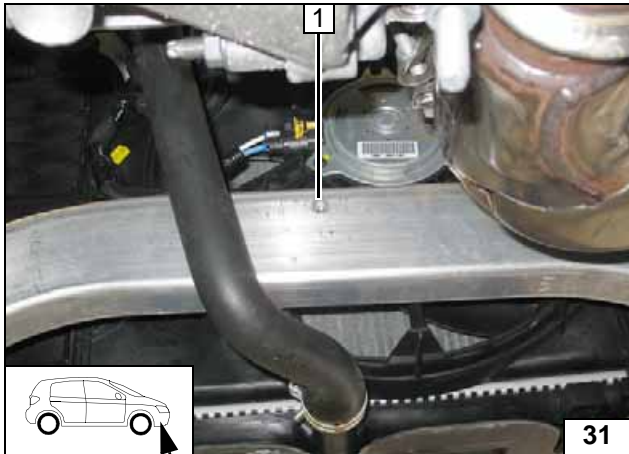
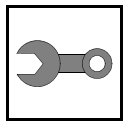
1 Rivet nut (steel) [3x]

Installing rivet nut



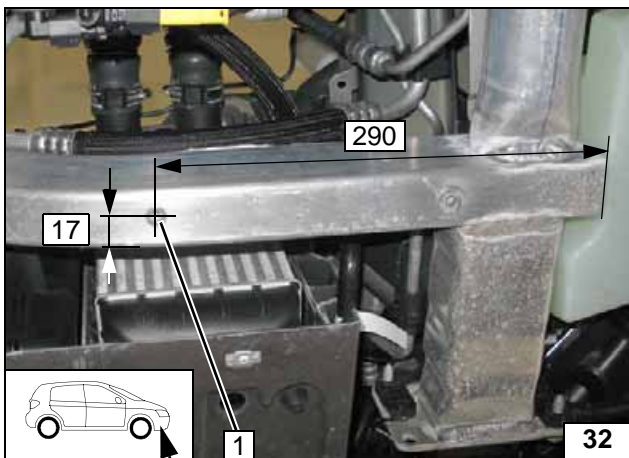
1 Drill 9.1 mm dia. hole; rivet nut (aluminum) for circulating pump

Installing rivet nut



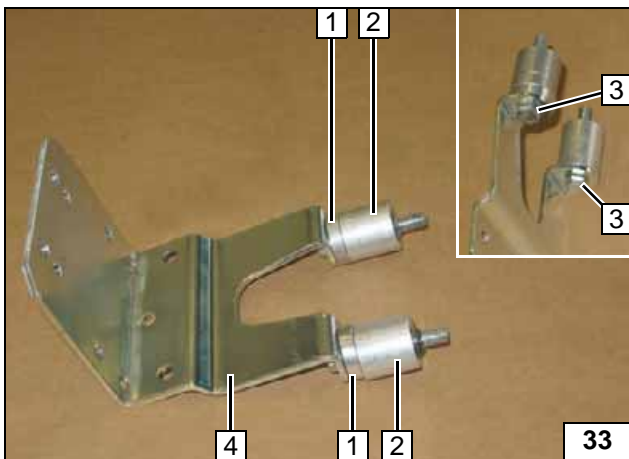
1 Drill out 9.1 mm dia. hole; rivet nut (aluminium) for exhaust pipe

Installing rivet nut



1 Drill 9.1 mm dia. hole; rivet nut (aluminium) for exhaust silencer

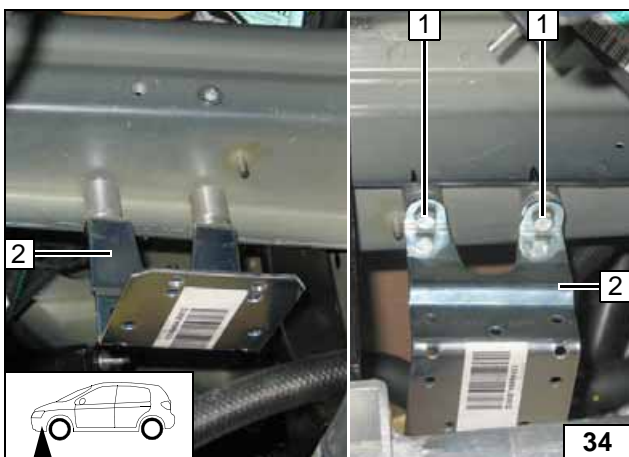
Installing rivet nut



Prepare bracket 4 in accordance with template.

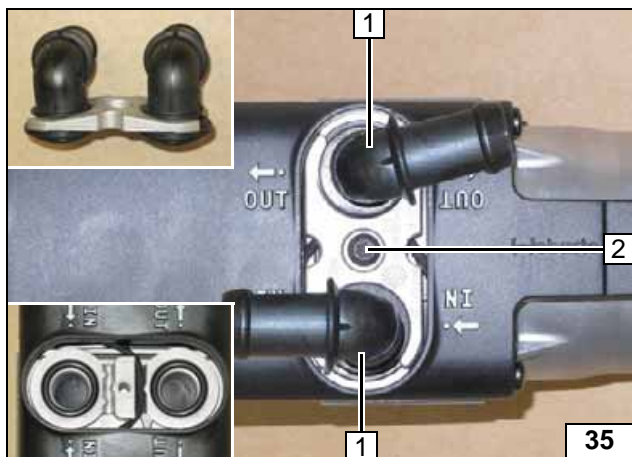
- 1 5mm shim [2x]
- 2 20mm shim [2x]
- 3 M6x40 bolt, spring lockwasher, pin lock [2x each]

Preparing bracket



- 1 Loosely mount M6x40 bolt
- 2 Bracket

Mounting bracket loosely

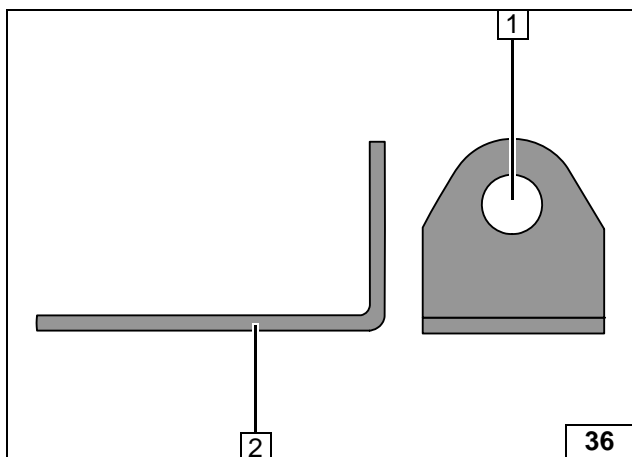


Preparing Heater

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



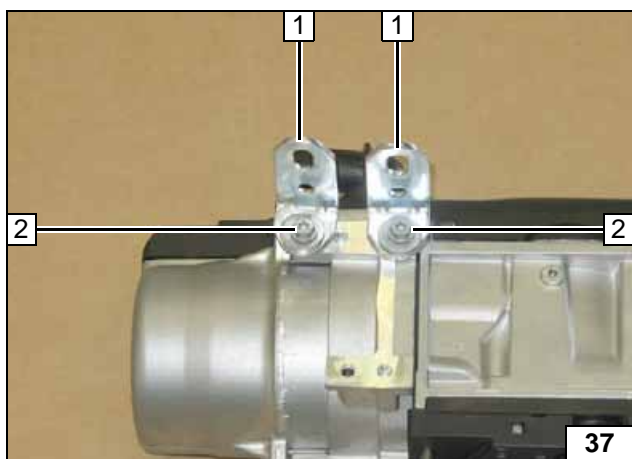
Installing water connection pieces



- 1 Drill out 8 mm dia. hole
- 2 Angle bracket [2x]

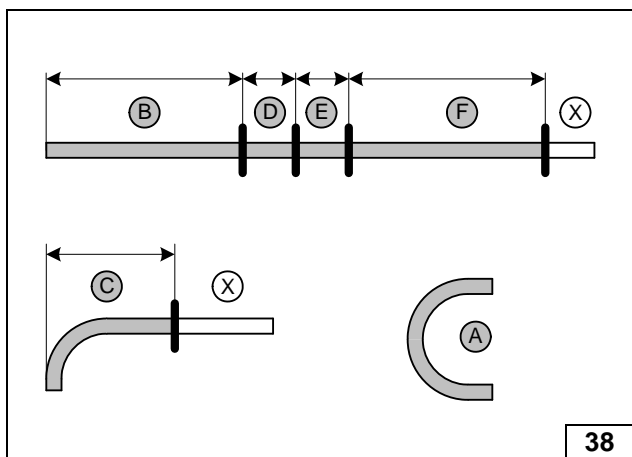


Drilling out two angle brackets



- 1 Loosely mounting angle bracket [2x]
- 2 M5x13 self-tapping bolts, large diameter washer [2x each]

Mounting angle bracket loosely

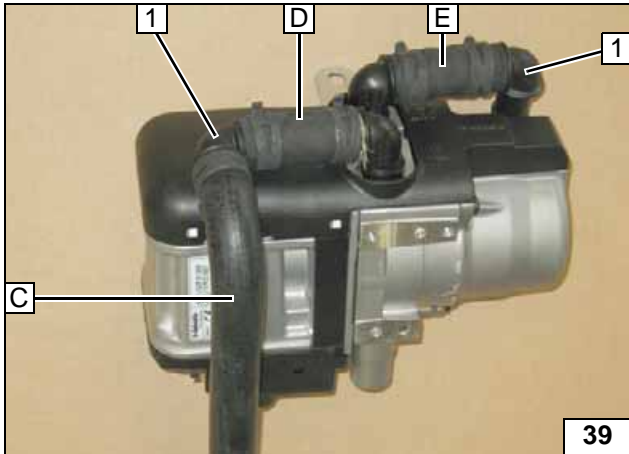


Discard section **X**.
 Hose **A** = 18mm dia., 180° moulded hose
 Shorten hose **C** = 90°, 18 mm dia. moulded hose

- B** = 750
- C** = 230
- D** = 55
- E** = 60
- F** = 630



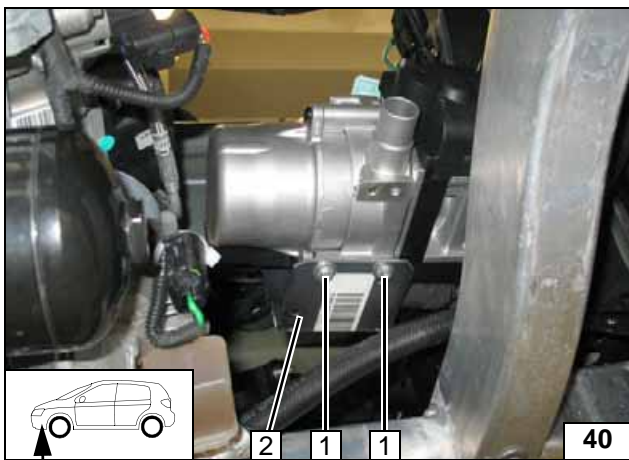
Cutting hoses to length



All spring clips, 25 mm dia.

- 1 90° connecting pipe [2x]

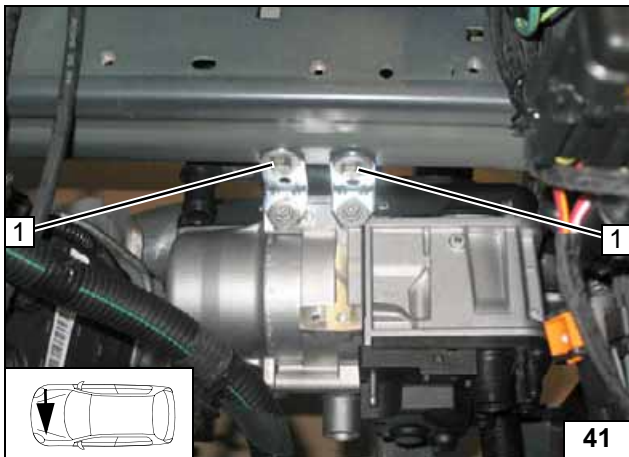
Premounting hoses



Installing Heater

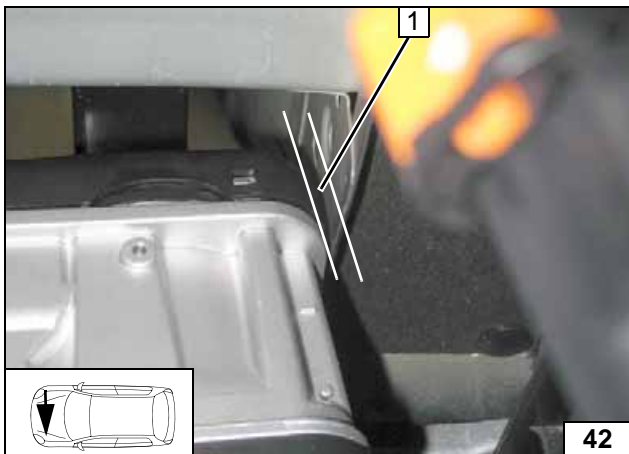
- 1 M5x13 self-tapping bolts, washer [2x each]
- 2 Bracket

Mounting heater



- 1 Loosely mount M6x20 bolt, large diameter washer [2x each]

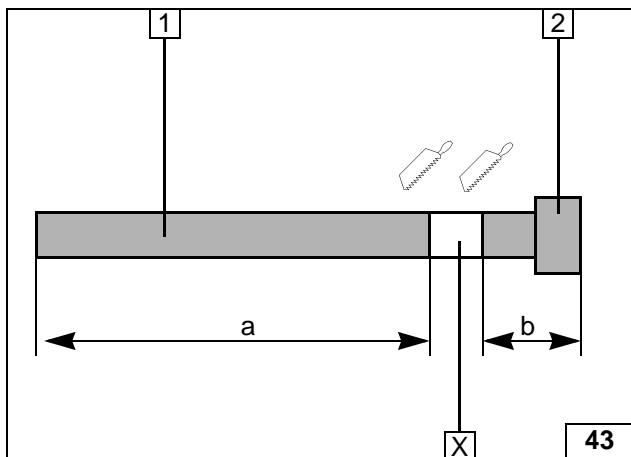
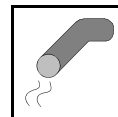
Mounting heater



Align heater. Ensure sufficient distance at position 1. Tighten all loose bolt connections.



Mounting heater



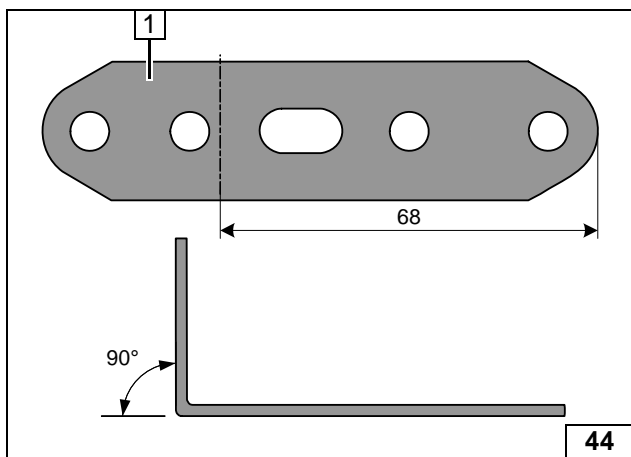
Exhaust Gas

Discard section X.

- 1 Exhaust pipe
a = 580
- 2 Exhaust end section
b = 85



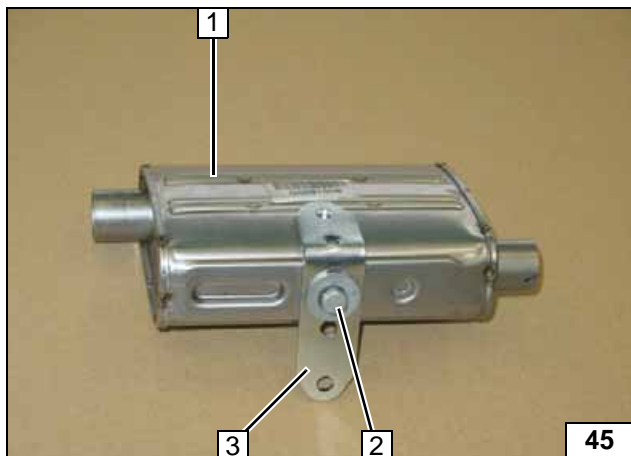
Preparing exhaust pipe



- 1 Perforated bracket

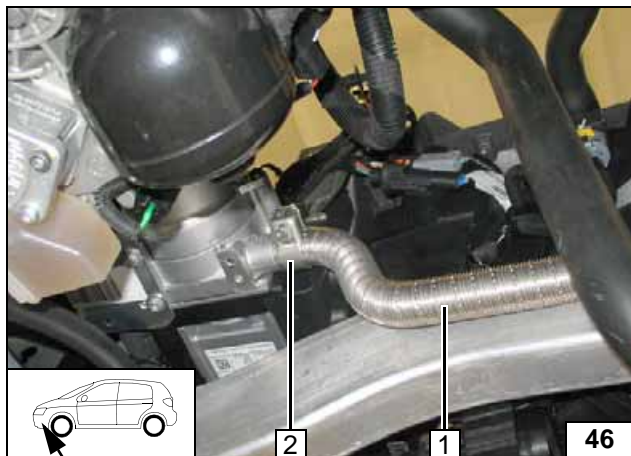


Angling down perforated bracket



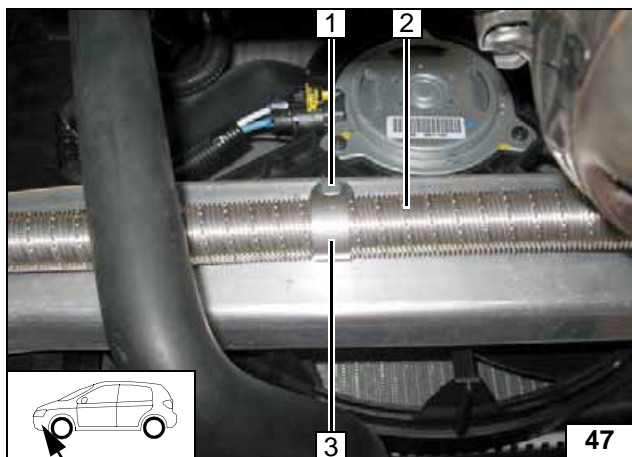
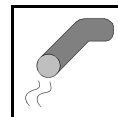
- 1 Silencer
- 2 M6x16 bolt, spring lockwasher, large diameter washer
- 3 Perforated bracket

Premounting silencer



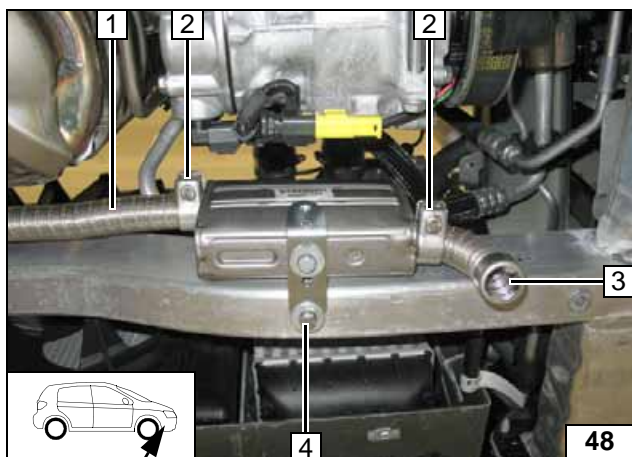
- 1 Exhaust pipe
- 2 Hose clamp

Mounting exhaust pipe



- 1 M6x25 bolt, 5 mm shim
- 2 P-clamp
- 3 Exhaust pipe

Fastening exhaust pipe

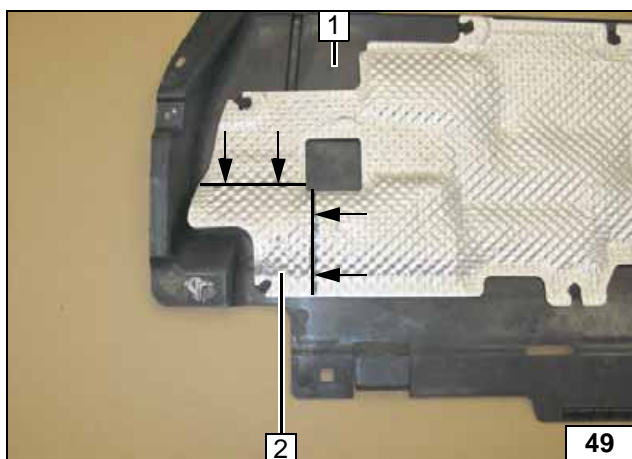


Ensure sufficient distance from adjacent components; correct if necessary.



- 1 Exhaust pipe
- 2 Hose clamp [2x]
- 3 Exhaust end section
- 4 M6x20 bolt, spring lockwasher, large diameter washer

Installing silencer and exhaust end section

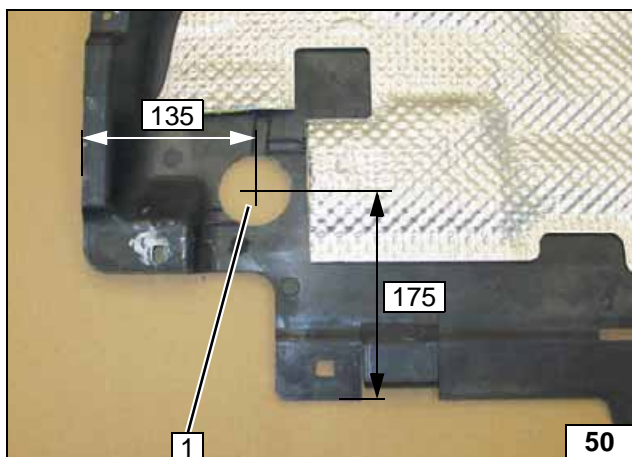


Cut out insulation in the area of the marking.



- 1 Underride protection
- 2 Discard section

Cutting out insulation of underride protection



- 1 60 mm dia. hole

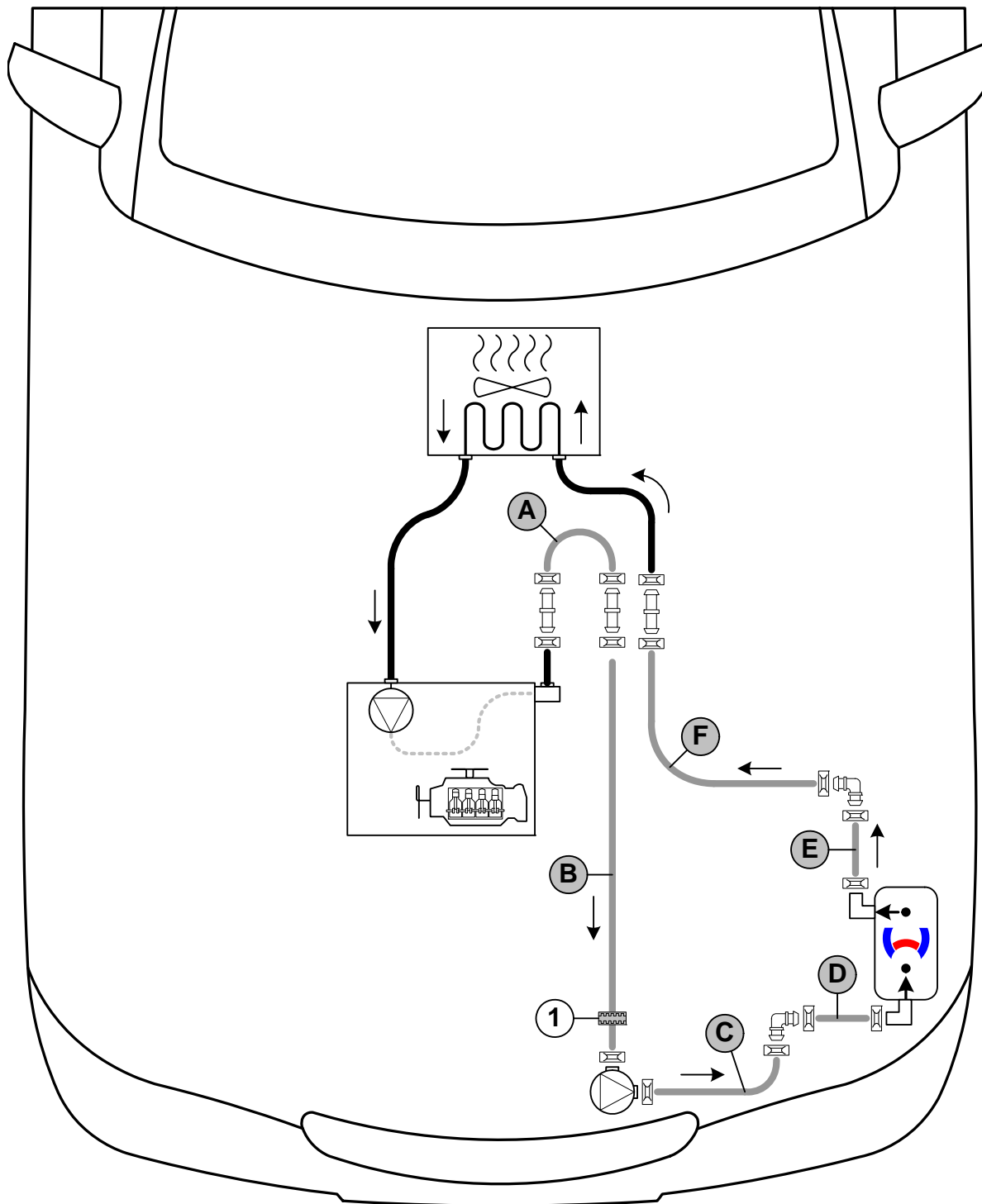
Hole in underride protection







Coolant Circuit

WARNING!

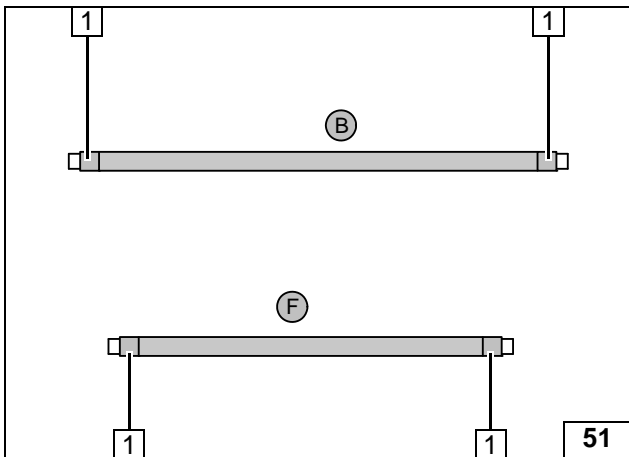
Any coolant running off should be collected using an appropriate container. Route hoses so that they are kink-free. Unless specified otherwise, always fasten using cable ties. Position clamps so that no other hose can be damaged. The heater must be filled with coolant when installing the hoses. The connection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



Hose routing diagram

All spring clips  = 25mm dia.
 1 = black (sw)  rubber isolator.
 All connecting pipes  and  = 18x18mm dia.

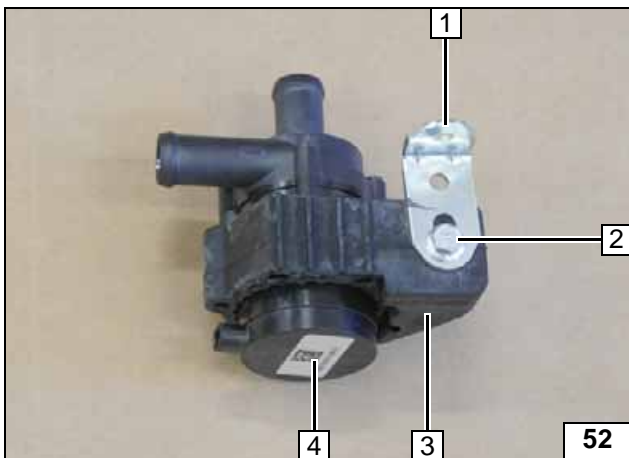




Push braided protection hoses onto hose **B** and **F** and cut to length. Cut heat shrink plastic tubing to size.

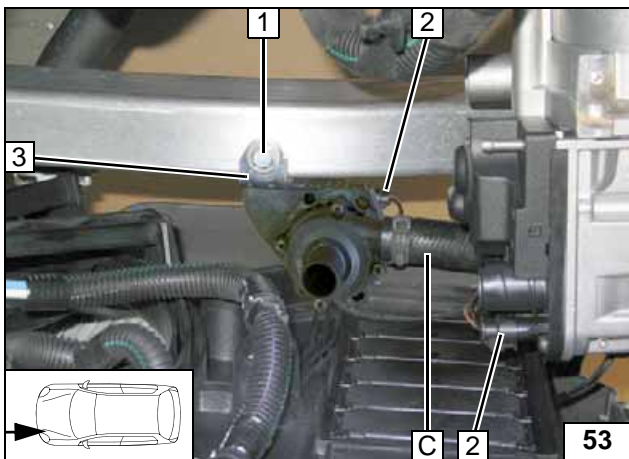
- 1 25 mm long heat shrink plastic tubing [4x]

Preparing hoses



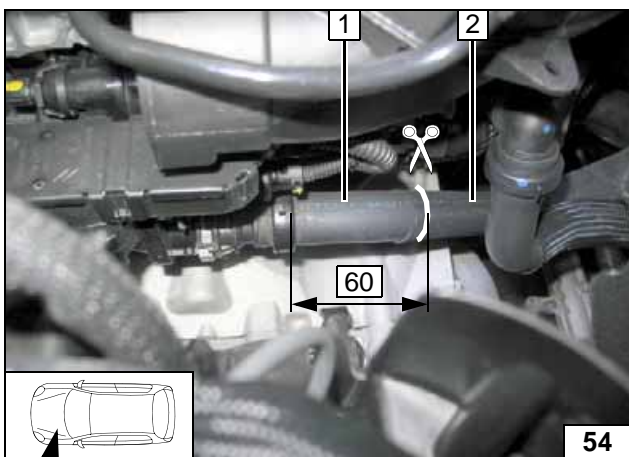
- 1 Angle bracket
- 2 M6x25 bolt, flanged nut
- 3 Circulating pump mounting
- 4 Circulating pump

Premounting circulating pump



- 1 M6x20 bolt, large diameter washer
- 2 Mount wiring harness of circulating pump [2x]
- 3 Angle bracket

Mounting circulating pump

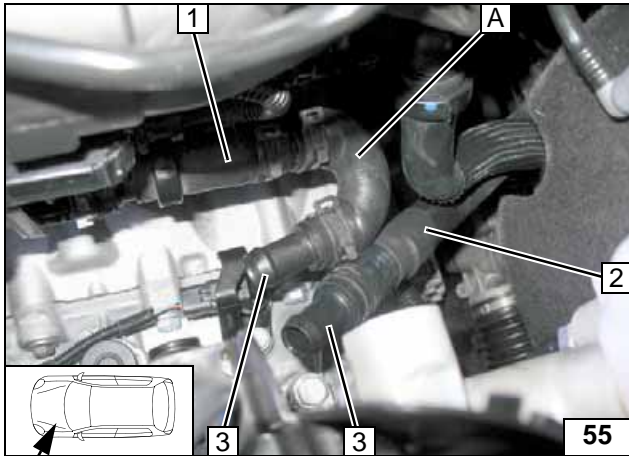


Cut off hose on engine outlet/heat exchanger inlet at marking. Remove braided protection hose in the area of the cutting point.

- 1 Hose section of engine outlet
- 2 Hose section of heat exchanger inlet



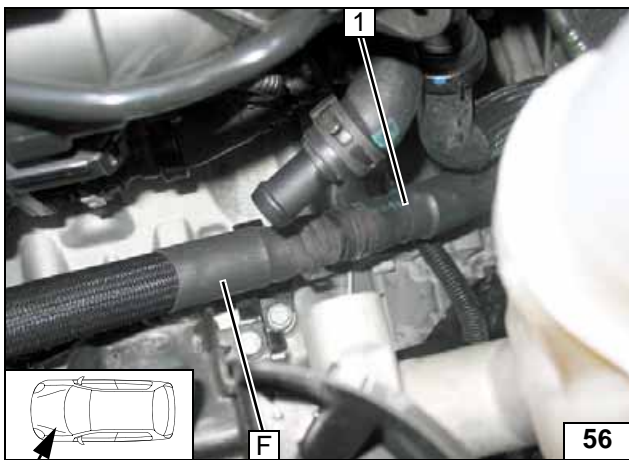
Cutting point



Premount connecting pipes [2x] 3.

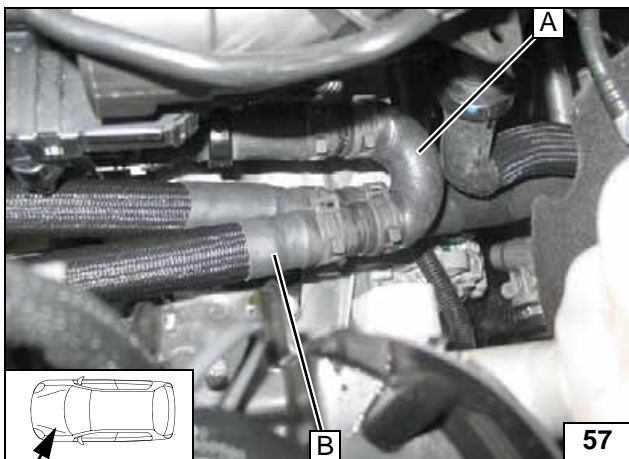
- 1 Hose of engine outlet
- 2 Hose of heat exchanger inlet

Preparing connection

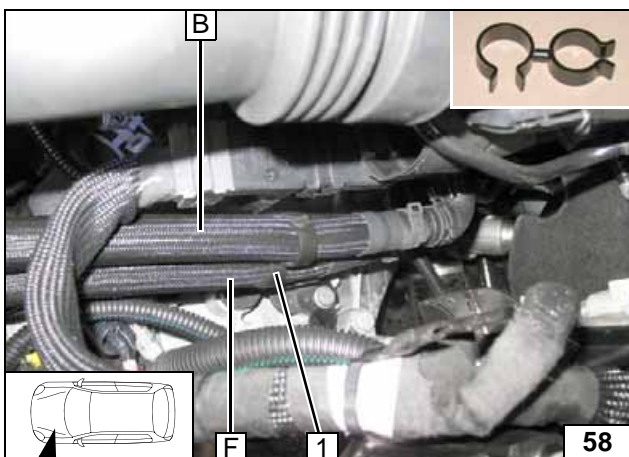


- 1 Hose of heat exchanger inlet

Connecting heat exchanger inlet

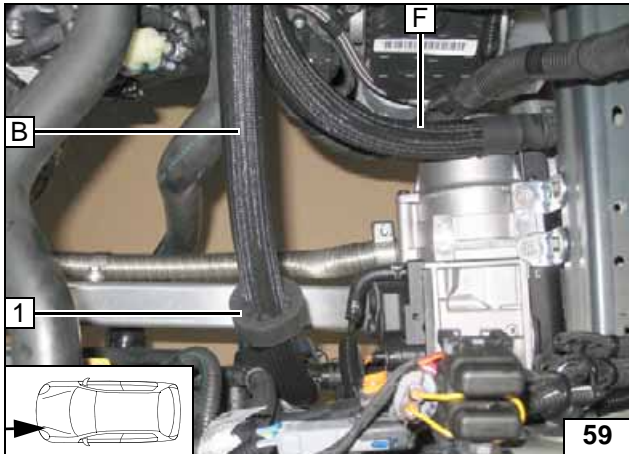


Connecting engine outlet



- 1 Hose bracket

Installing hose bracket



Push black (sw) rubber isolator **1** onto hose **B** and align. Connect hose **B** to circulating pump. Connect hose **F** with hose **E**.



Connect-
ing heater



1 Hose bracket

Installing
hose
bracket



Align hoses. Ensure sufficient distance from adjacent components; correct if necessary.



1 Hose bracket [2x] on hose **F** (hidden)

Installing
hose
bracket



Fuel

CAUTION!

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

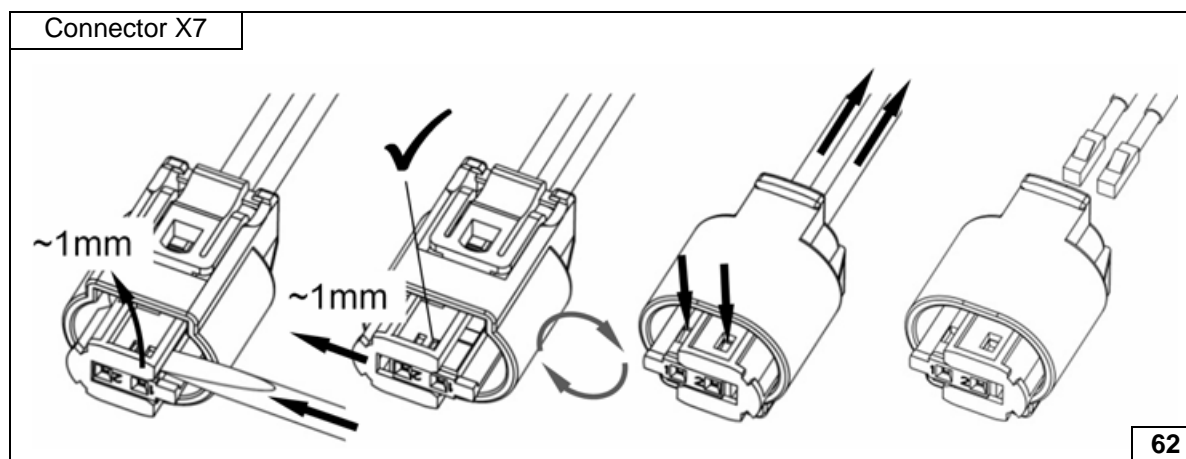
Catch any fuel running off in an appropriate container.

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

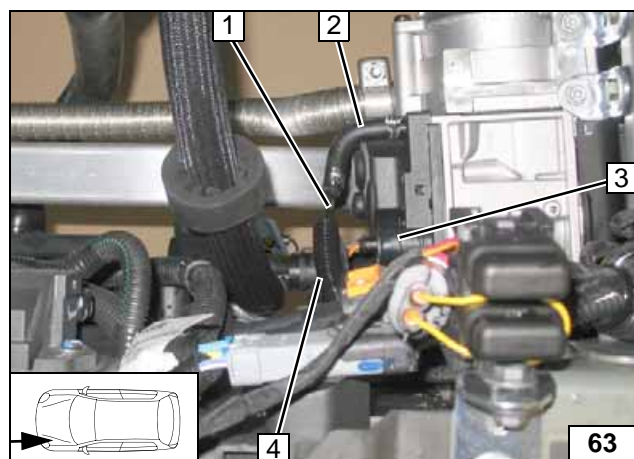
Provide rub protection for fuel line and wiring harness in areas where there are sharp edges.

WARNING!

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



Dismantling connector of metering pump

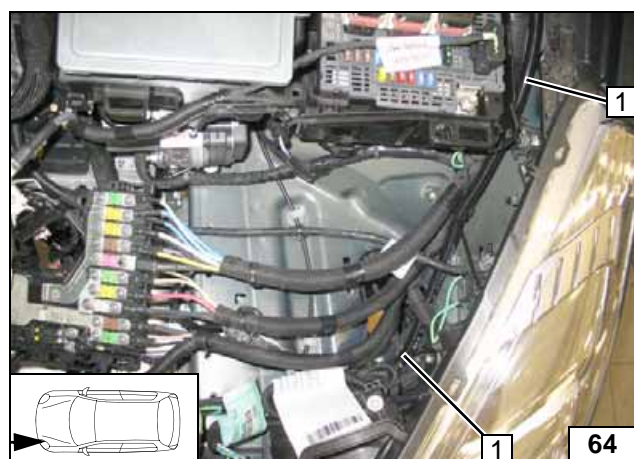


Pull fuel line 1 and wiring harness of metering pump into 10mm dia. corrugated tube 4.

- 2 90° moulded hose, 10mm dia. clamp [2x]
- 3 Mount wiring harness of heater [2x]



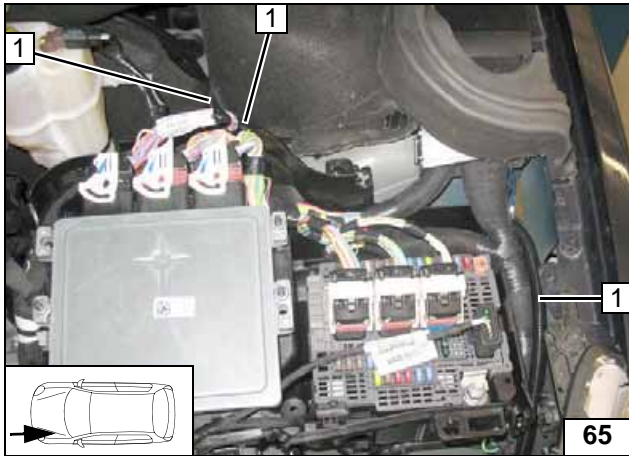
Connecting heater



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



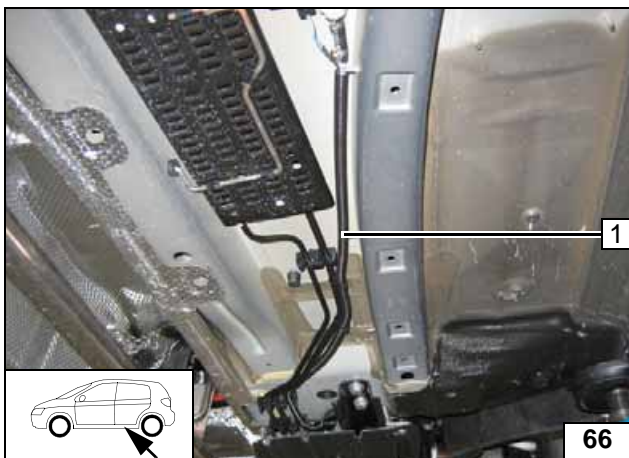
Routing lines



Route fuel line and wiring harness of metering pump in 10mm dia. corrugated tube **1** behind fuse and relay carrier to the firewall and on to the underbody .



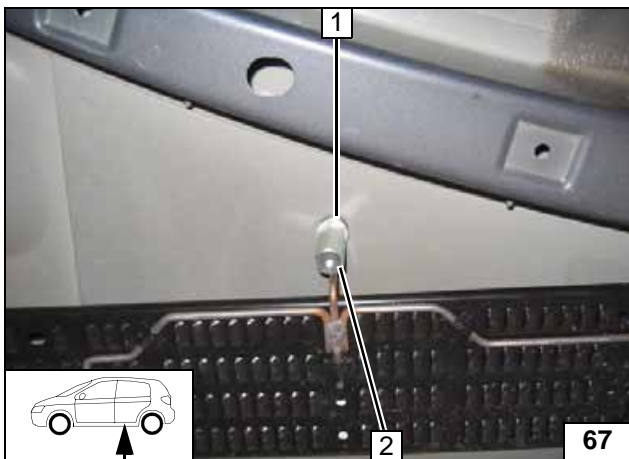
Routing lines



1 Fuel line and wiring harness of metering pump in corrugated tube



Routing lines

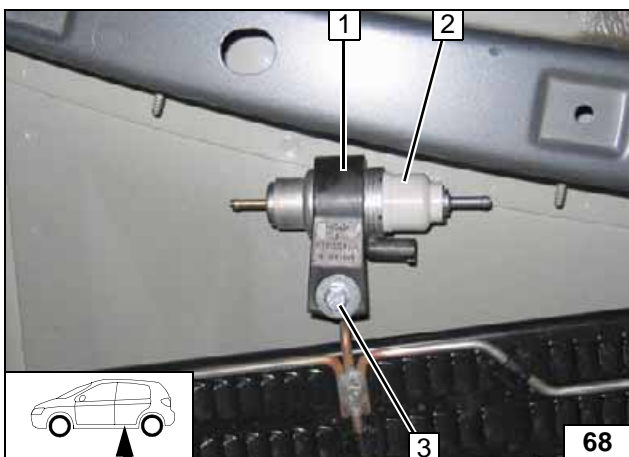


Remove original vehicle nut at position **1** and discard.

2 Large diameter washer, 30 mm spacer nut, stud bolt of original vehicle



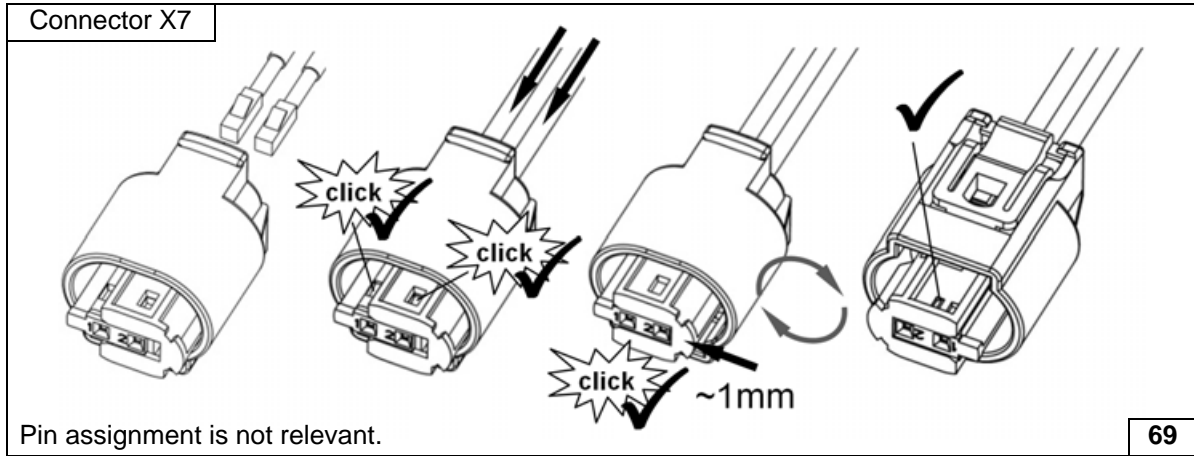
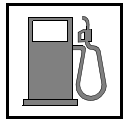
Mounting metering pump



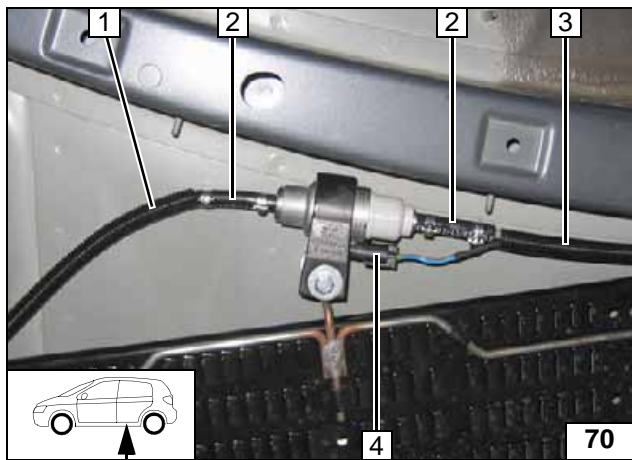
1 Mounting of metering pump
2 Metering pump
3 M6x25 bolt, support angle bracket, large diameter washer



Mounting metering pump



Completing connector of metering pump

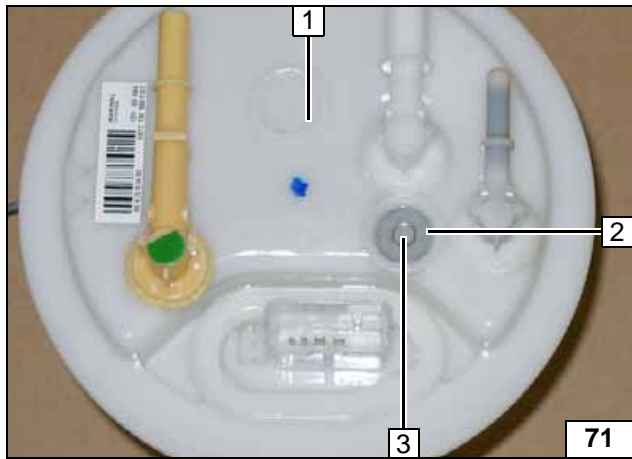


Check the position of the components; correct if necessary. Check that they have freedom of movement.



- 1 Fuel line of fuel standpipe in corrugated tube
- 2 Hose section [2x], 10 mm dia. clamp [4x]
- 3 Fuel line of heater, wiring harness of metering pump in corrugated tube
- 4 Wiring harness of metering pump, connector mounted

Connection of metering pump

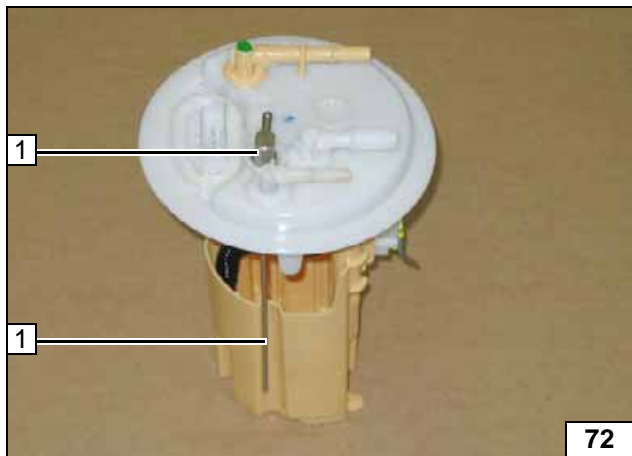


Remove fuel-tank sending unit 1 in accordance with manufacturer's instructions. Position large diameter washer outer dia. $d_a = 14.6\text{mm}$ 2 centrally in recess.



- 3 Copy hole pattern, 6mm dia. hole

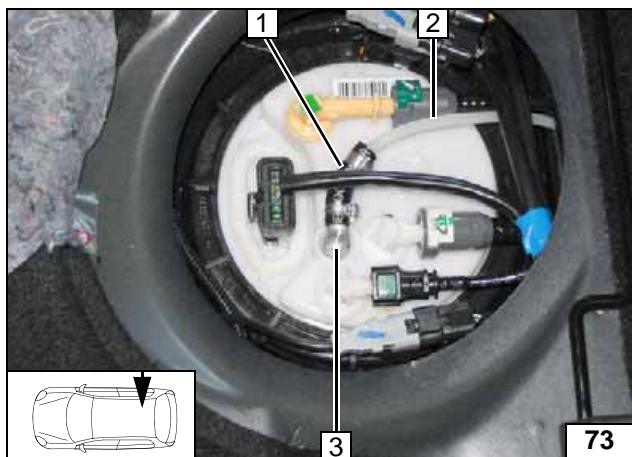
Fuel extraction



Shape fuel standpipe 1 as shown in the template and cut it to length.



Mounting fuel standpipe



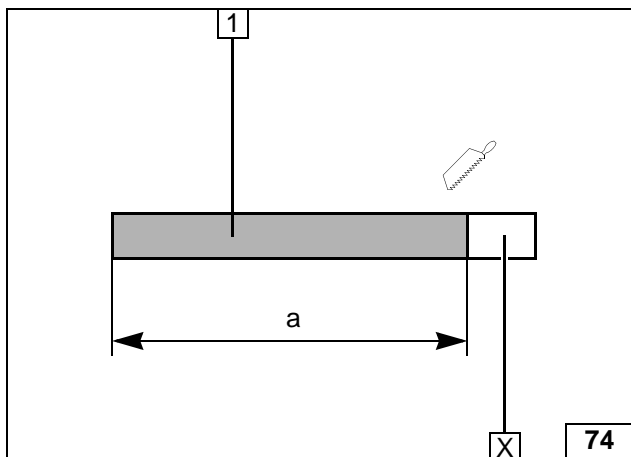
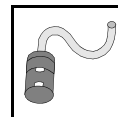
Check the position of the components; correct if necessary. Check that they have freedom of movement.

Install fuel-tank sending unit according to manufacturer's instructions.

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



**Connect-
ing fuel
line**

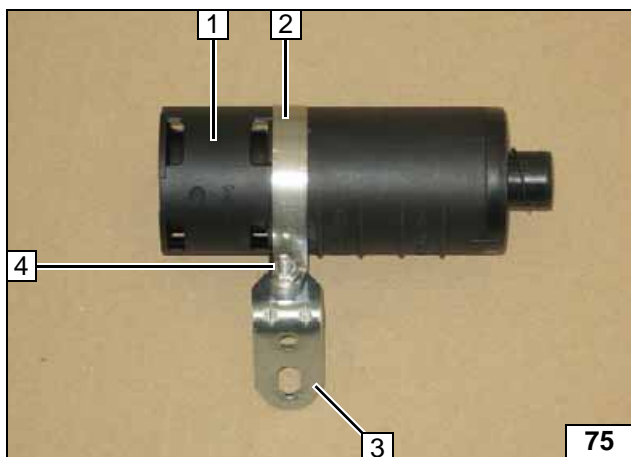


Combustion Air

Discard section X.

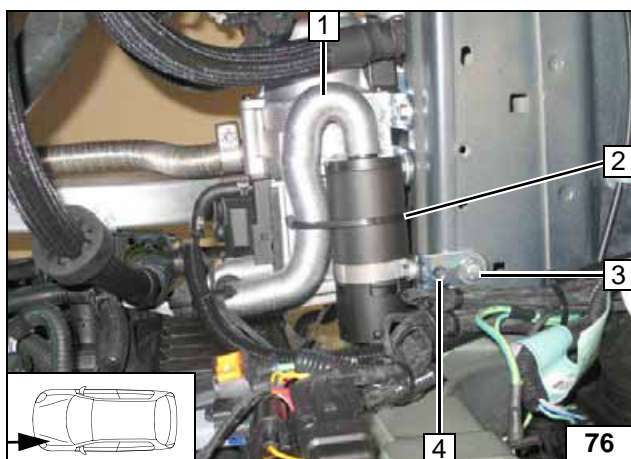
- 1 Combustion air pipe
a = 345

Cutting combustion air pipe to length



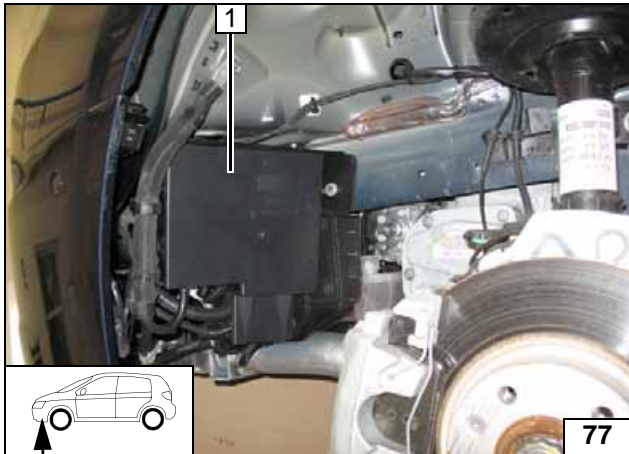
- 1 Silencer
- 2 51 mm dia. clamp
- 3 Angle bracket
- 4 M5x16 bolt, large diameter washer, flanged nut

Premounting silencer



- 1 Combustion air pipe
- 2 Cable tie
- 3 M6x20 bolt, large diameter washer, existing threaded hole
- 4 Angle bracket

Installing combustion air pipe and silencer

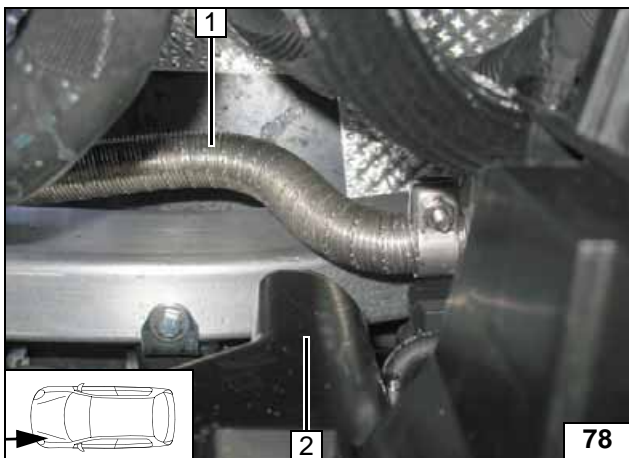


Final Work

Mount capacitor unit 1.



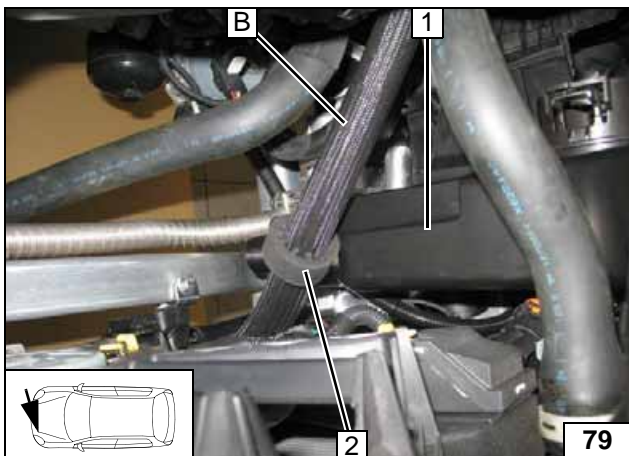
Mounting capacitor unit



Install resonator 2. Ensure sufficient distance between exhaust pipe 1 and resonator 2, keep at least 20mm.



Checking distance



Align black (sw) rubber isolator 2 to resonator 1.



Aligning rubber isolator



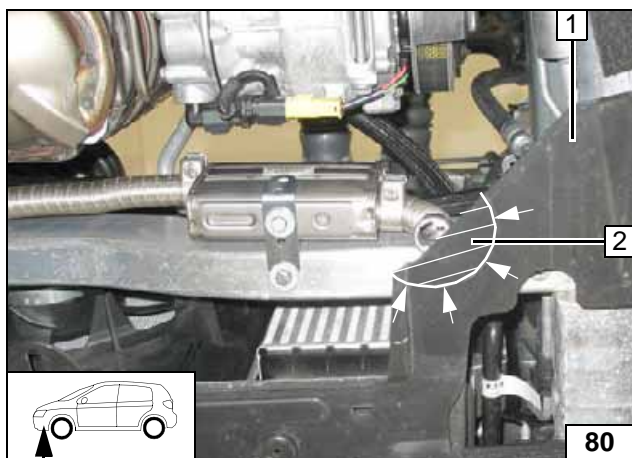
WARNING!

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 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 instructions.**
- **Adjust digital timer, teach Telestart transmitter.**
- **Place caution label "Switch off parking heater before refuelling" in the area of the filler neck.**
- **For initial startup and function check, please see installation instructions.**

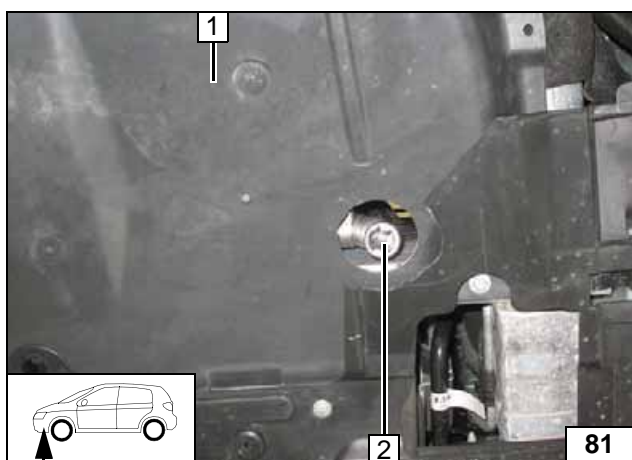


Mount front left underside protection **1** and cut out in the area of the marking.

2 Discard section



**Cutting out
underside
protection**



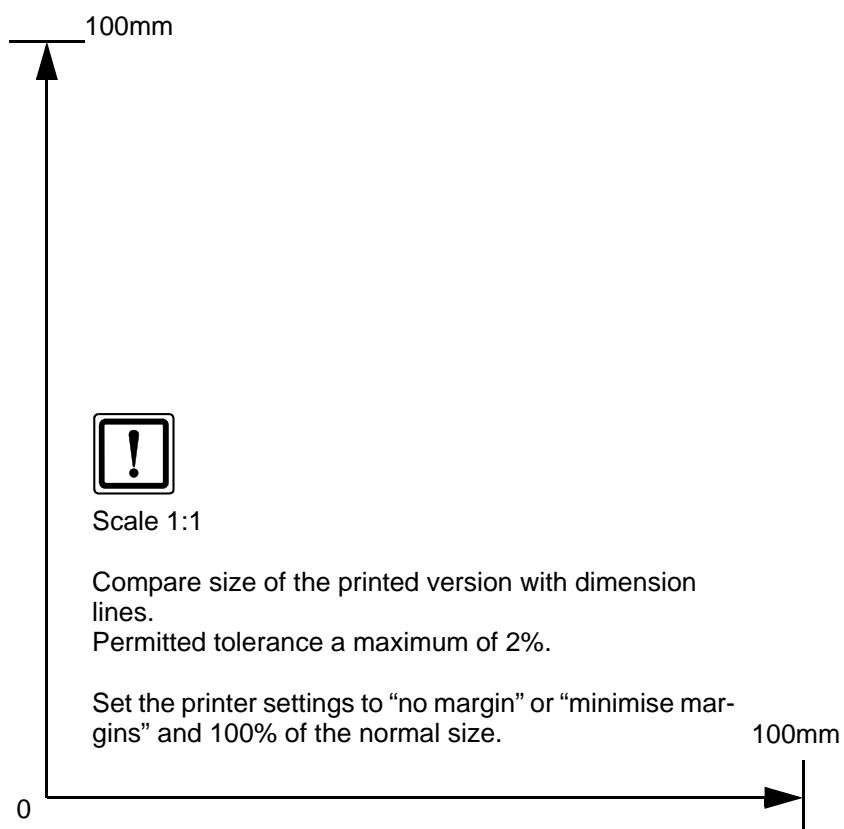
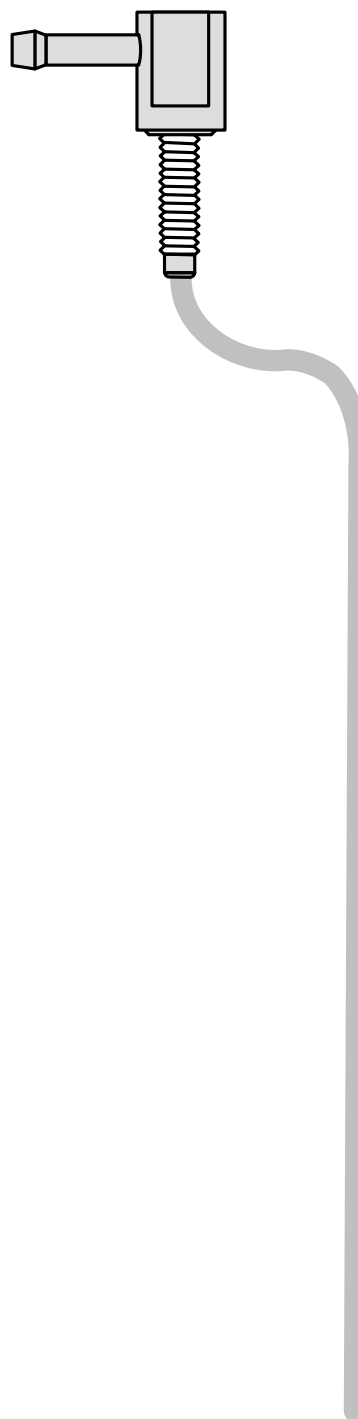
Mount underside protection **1**. Align exhaust end section **2** centrally in hole of underside protection **1**.

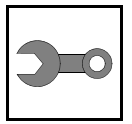


**Aligning
exhaust
end section**

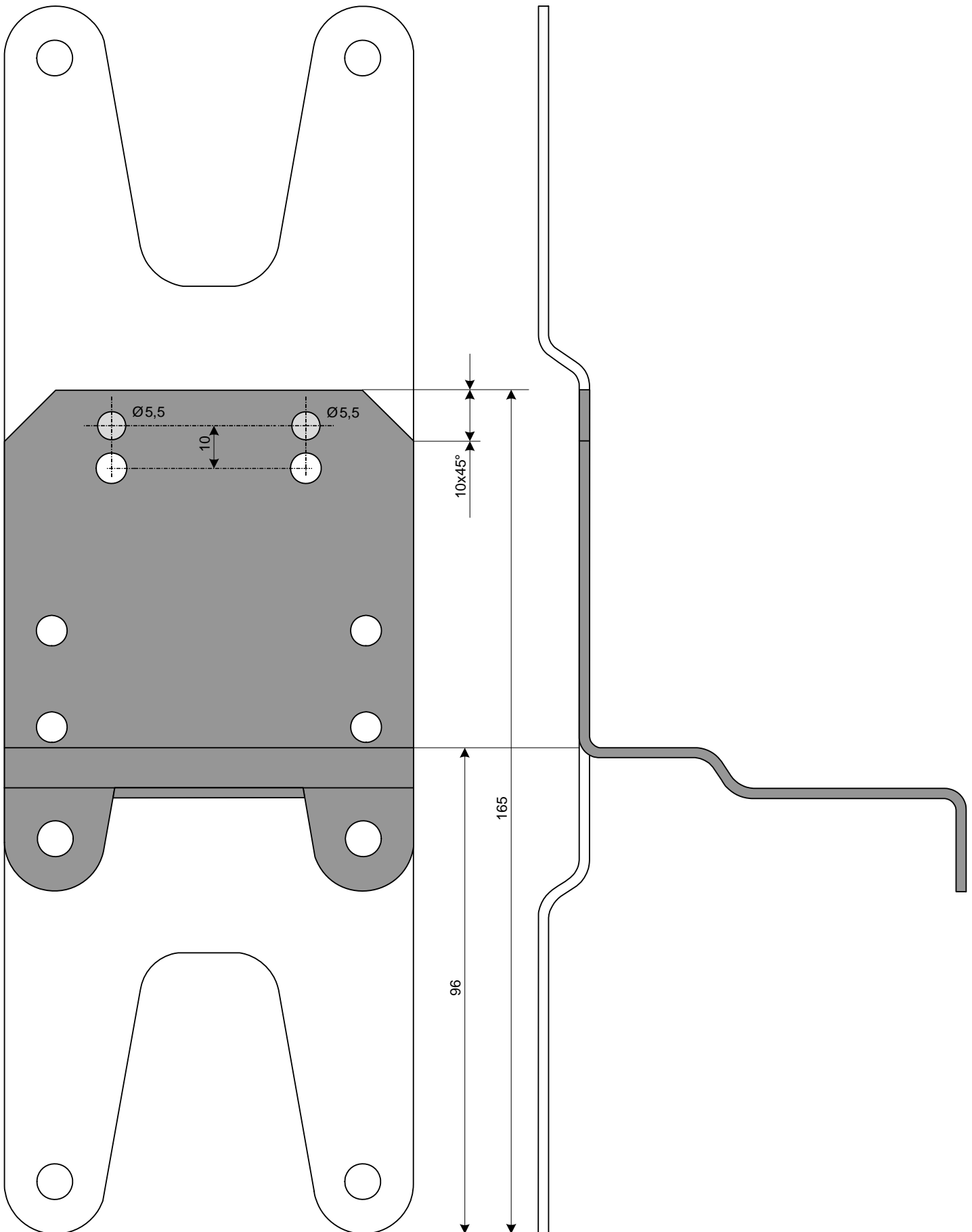


Template for Fuel Standpipe





Template for Bracket



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

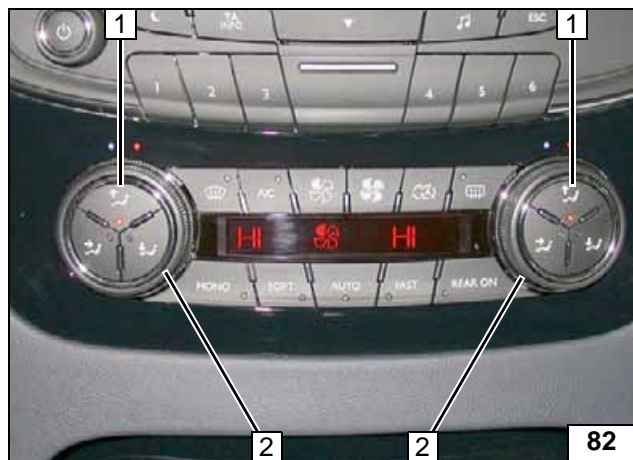
Example:

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

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

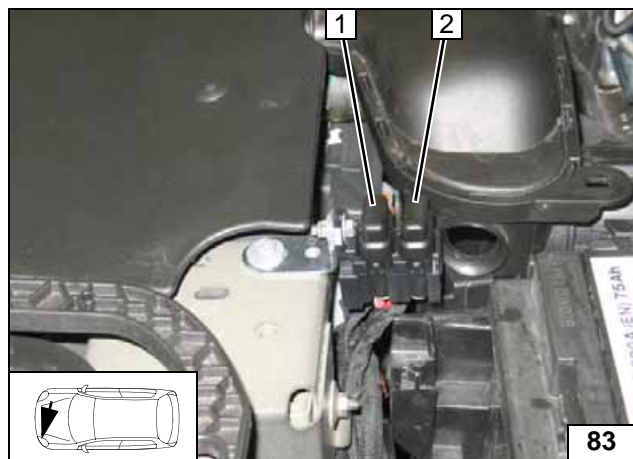
For instructions on deactivation, please refer to the operating instructions of the vehicle.

Before parking the vehicle, make the following settings:



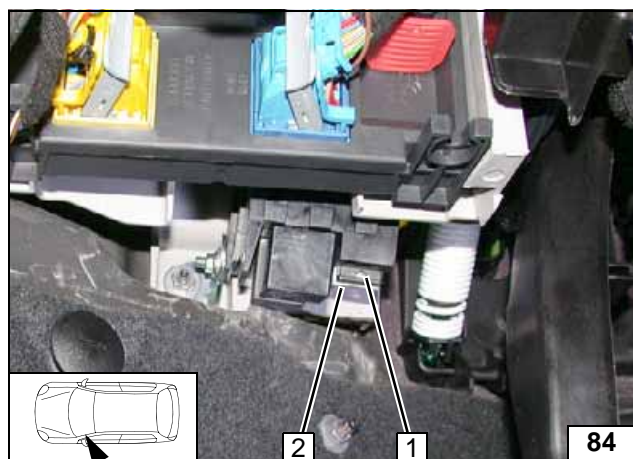
- 1 Air outlet on both sides "upward"
- 2 Set temperature on both sides to "Hi"

A/C control panel



- 1 30A fan fuse F2
- 2 20A heater fuse F1

Engine compartment fuses



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

Passenger compartment fuses

