Water Heater

Webasto
Feel the Drive

***Thermo Top Evo* Parking Heater**

E1
00 0258

Installation Documentation
Suzuki Jimny

Validity

Manufacturer	Model	Type	EG BE No. / ABE
Suzuki	Jimny	FJ	e1 * 2001 / 116 * 0056 * ...

Motorisation	Fuel	Transmission type	Output in kW	Displacement in cm³	Engine code
1.3	Petrol	5-speed SG	63	1328	M13A

SG = Manual transmission

from Model Year 2011
Left-hand drive vehicle

verified equipment variants: Manual air-conditioning
Front fog light
4WD

Total installation time: about 8 hours

Suzuki Jimny

Table of Contents

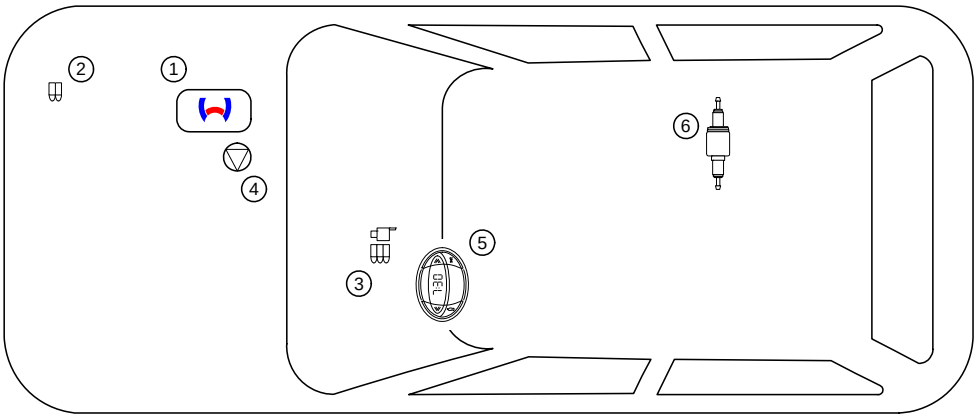
Necessary Components

- Basic delivery scope of *Thermo Top Evo* based on price list
- Installation kit for Suzuki Jimny 2011 Petrol: **1318038A**
- 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 Overview

Legend:

1. Heater
2. Fuse holder of engine compartment
3. 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.

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

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

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

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

2 Statutory regulations governing installation

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

Note

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

Important

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

Note

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

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

Beginning of excerpt.

ANNEX VII

REQUIREMENTS FOR COMBUSTION HEATERS AND THEIR INSTALLATION

1. GENERAL REQUIREMENTS

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

2. VEHICLE INSTALLATION REQUIREMENTS

2.1. Scope

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

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

2.2. Positioning of heater

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

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

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

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

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

2.3. Fuel supply

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

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

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

2.4. Exhaust system

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

2.5. Combustion air inlet

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

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

2.6. Heating air inlet

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

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

2.7. Heating air outlet

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

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

End of excerpt.

In multilingual versions the German language is binding.

Suzuki Jimny

Notes on Validity

This installation documentation applies to Suzuki Jimny Petrol vehicles for validity, see page 1 - from model year 2011 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 the 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 - 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**

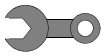
Dimensions
- **All dimensions are in mm.**

Tightening torque values
- **Tightening torque values for 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.

Mechanical system



Electrical system

Coolant circuit

Combustion air

Fuel

Exhaust gas

Software

Special features are highlighted using the following symbols:

Specific risk of injury or fatal accidents

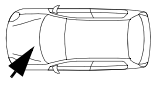
Specific risk of damage to components

Specific risk of fire 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



Suzuki Jimny

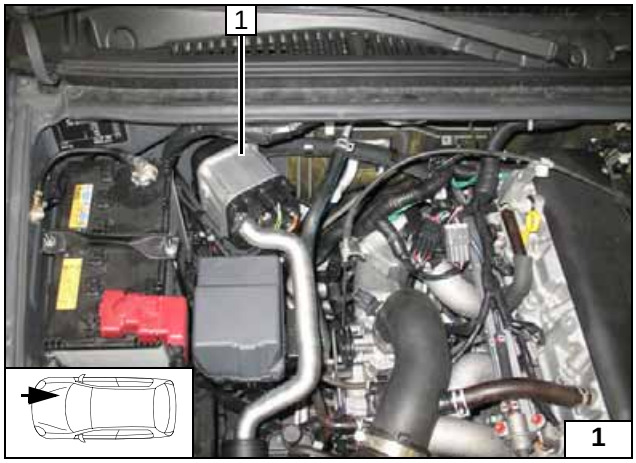
Preliminary Work

Vehicle

- **Open the fuel tank cap.**
- **Ventilate the fuel tank.**
- **Close the fuel tank cap again.**
- **Depressurise the cooling system.**
- **Disconnect and completely remove the battery.**
- **Remove the air filter completely.**
- **Remove the exhaust pipe between the middle and end silencer.**
- **Remove the fuel tank according to the manufacturer's instructions.**
- **Remove the fuel-tank sending unit in accordance with the manufacturer's instructions.**
- **Remove the glove compartment.**
- **Remove the steering column trim on the driver's side.**

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.**



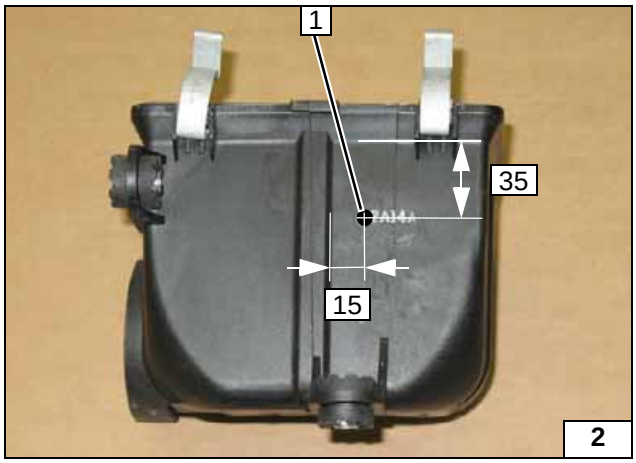
Heater Installation Location

1 Heater

Installation location

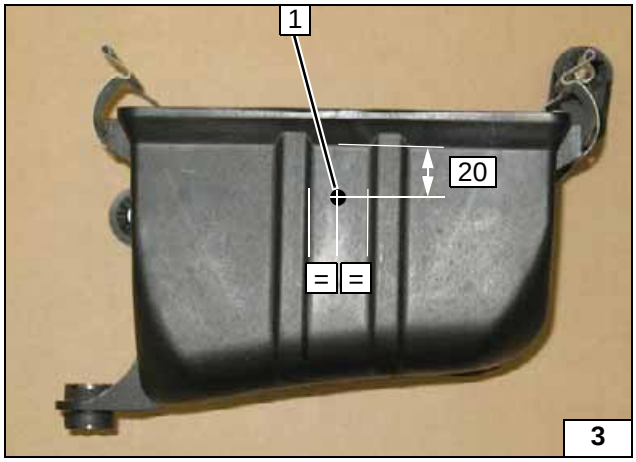
Preparing Electrical System

Wire sections retain their numbering in the whole document.



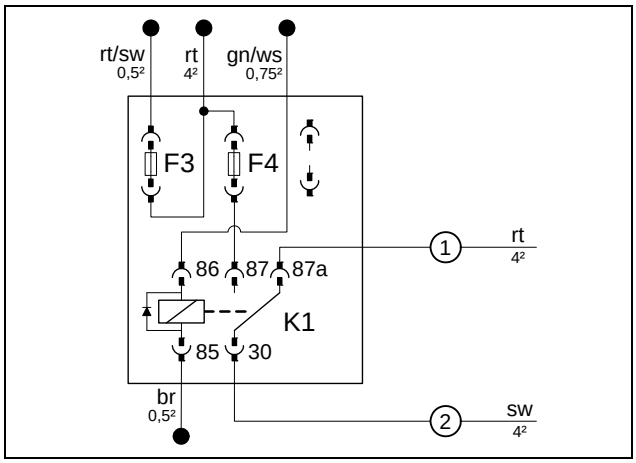
1 5.5 mm dia. hole

Preparing air filter box



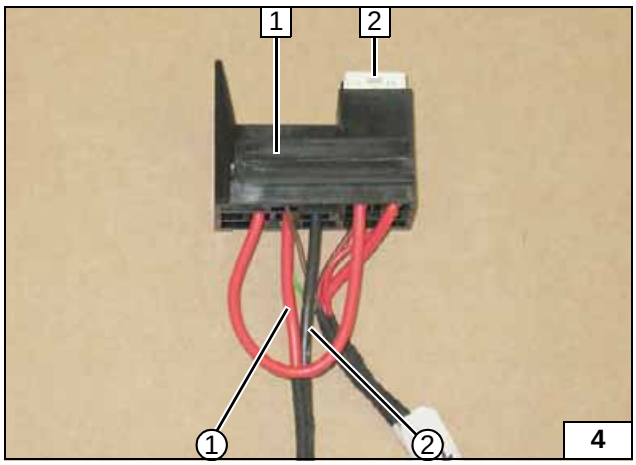
1 6.2 mm dia. hole

Preparing air filter box



Produce connections as shown in wiring diagram. Install fuse F4 and K1 relay will be inserted after installation of fuse holder.

Installing F4, preparing K1 relay



Connect wires according to wiring diagram.

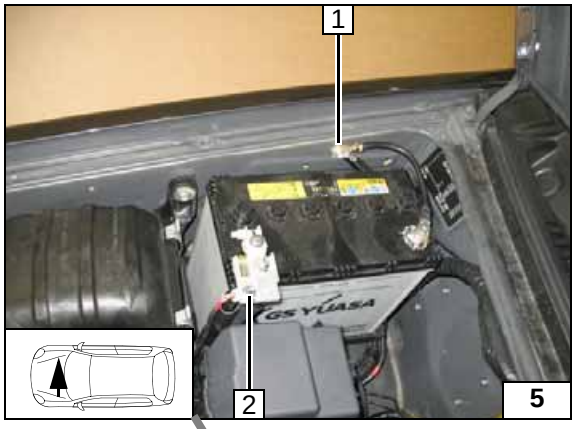
1 Fuse holder of passenger compartment
2 Fuse F4 25A
① Red (rt) wire from K1/87a
② Black (sw) wire from K1/30

Connecting wires

Electrical System

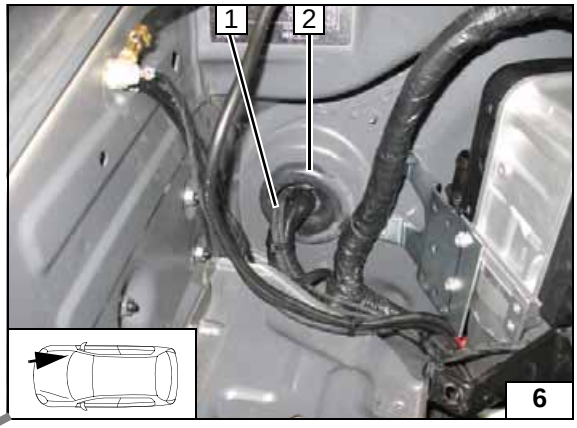
Positive and earth wire

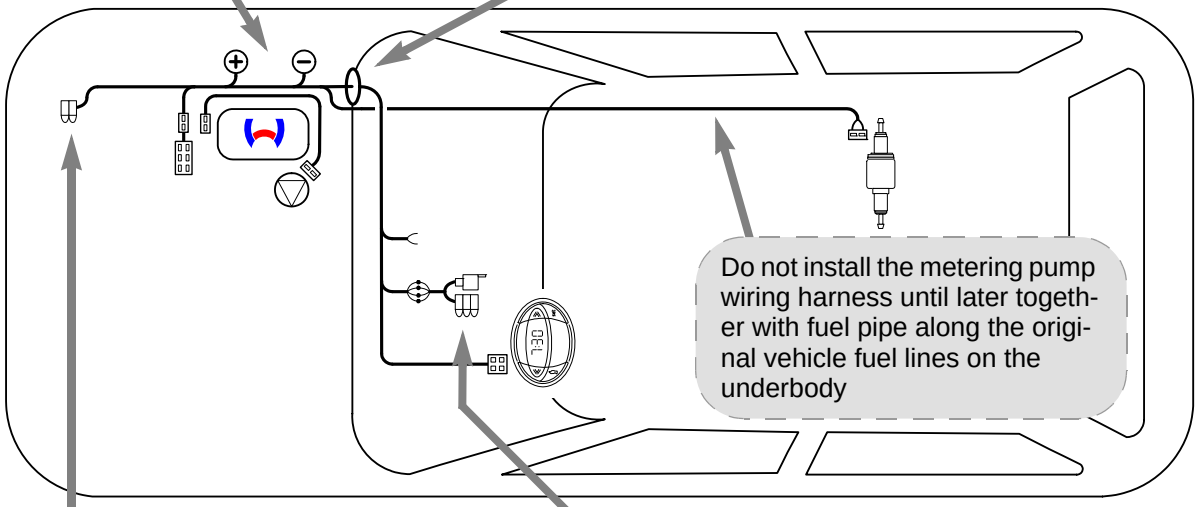
1 Earth wire to original vehicle earth support point
2 Positive wire on positive battery terminal



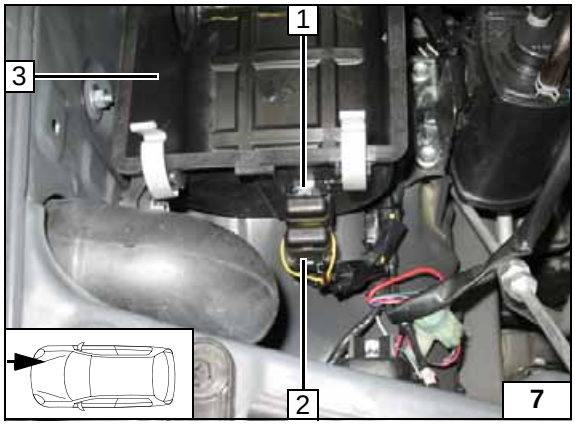
Wiring harness pass through

1 Wiring harnesses of heater, heater control
2 Protective rubber plug



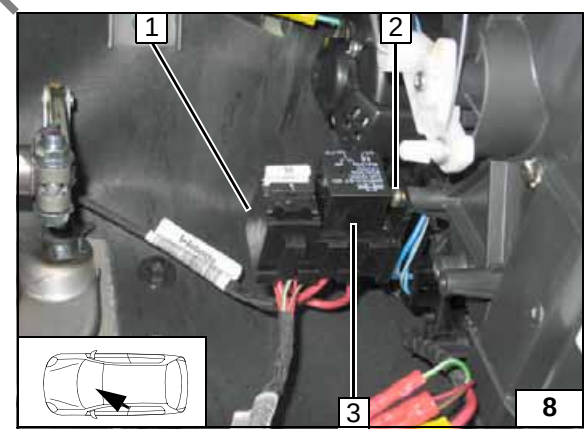


Wiring harness routing diagram



Fuse holder of engine compartment

1 M5x16 bolt, washer [2x], retaining plate of fuse holder, nut
2 Fuse F1-2
3 Air filter box

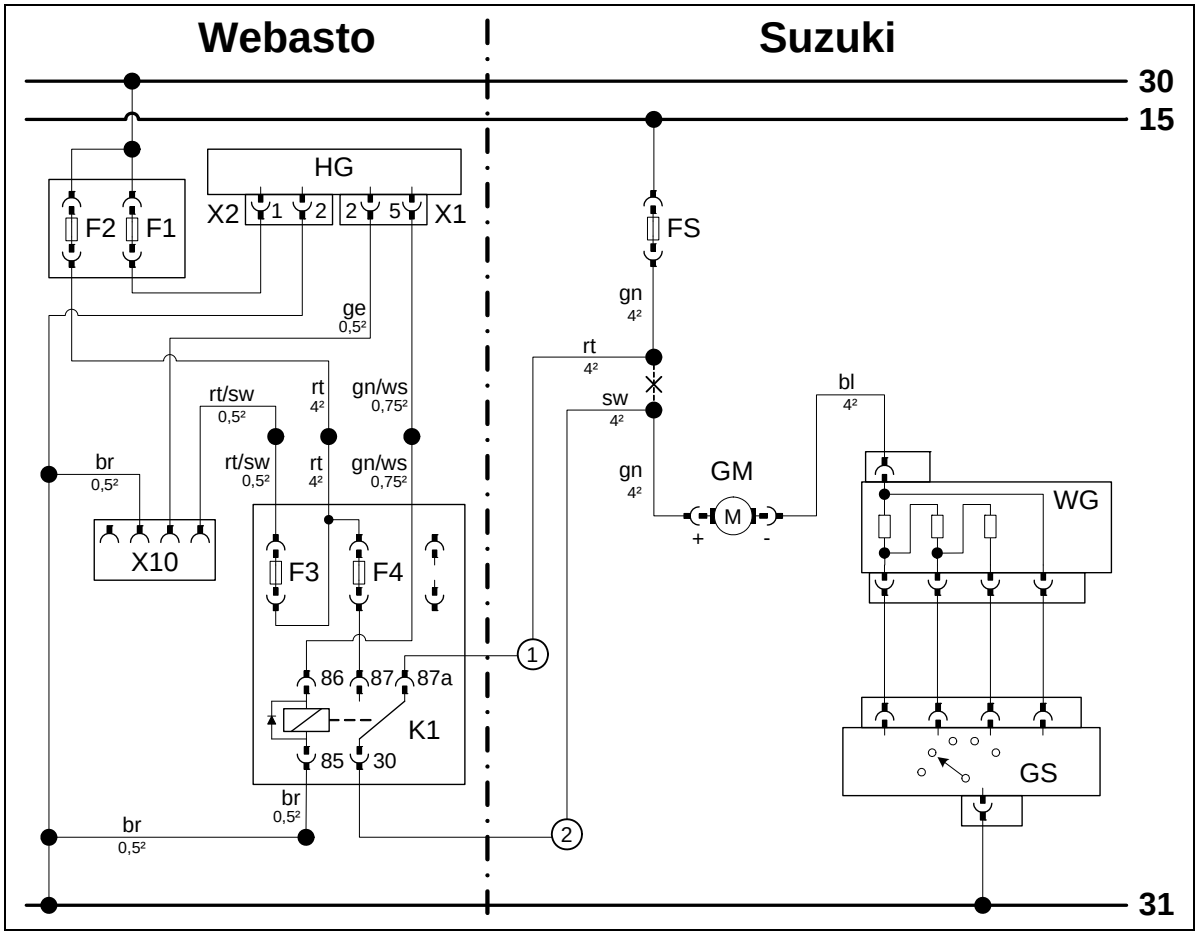


Fuse holder of passenger compartment

1 Fuse holder of passenger compartment
2 5x13 self-tapping screw
3 K1 relay

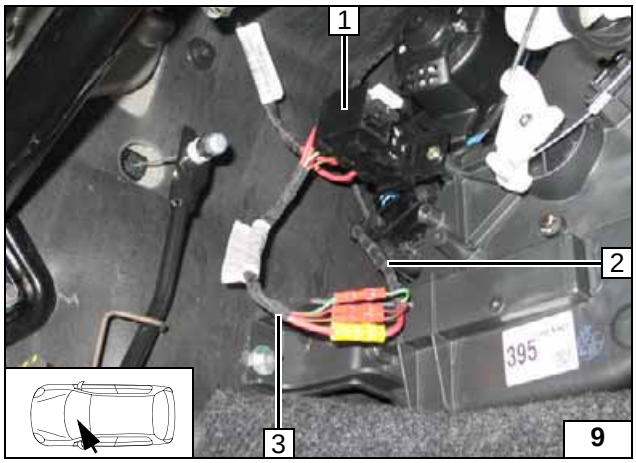
Fan Control

Wiring diagram



Legend

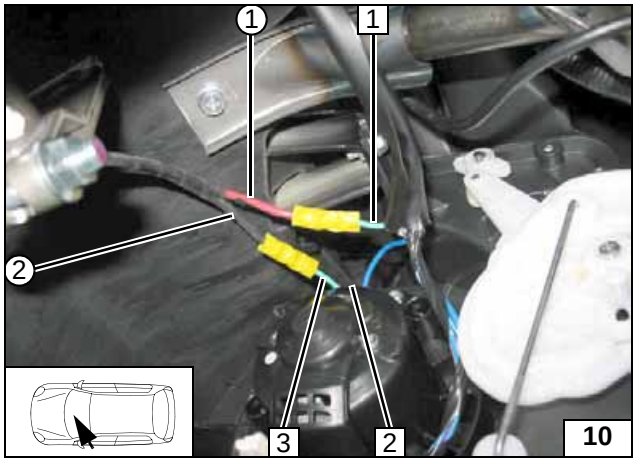
Webasto components		Vehicle components		Colours and symbols	
HG	Heater TT Evo	FS	Vehicle 30A fuse	rt	red
X1	6-pin heater connector	GM	Fan motor	sw	black
X2	2-pin heater connector	WG	Resistor group	ge	yellow
X10	4-pin connector Heater control	GS	Fan switch	gn	green
				bl	blue
K1	Fan relay			ws	white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



Connect same colour wires of wiring harness of passenger compartment fuse holder **3** to wiring harness of heater **2** according to wiring diagram.

1 Fuse holder of passenger compartment

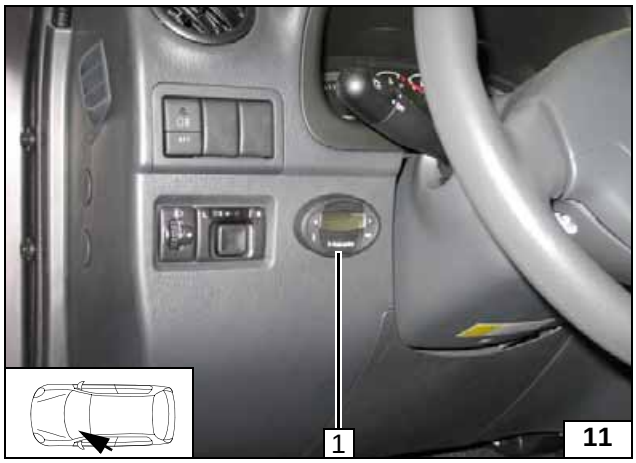
Connecting wiring harnesses



Connection to 2-pin connector **2** [hidden] from the fan motor.
Produce connections as shown in wiring diagram.

1 Green (gn) wire of fuse
3 Green (gn) wire of fan motor
① Red (rt) wire from K1/87a
② Black (sw) wire from K1/30

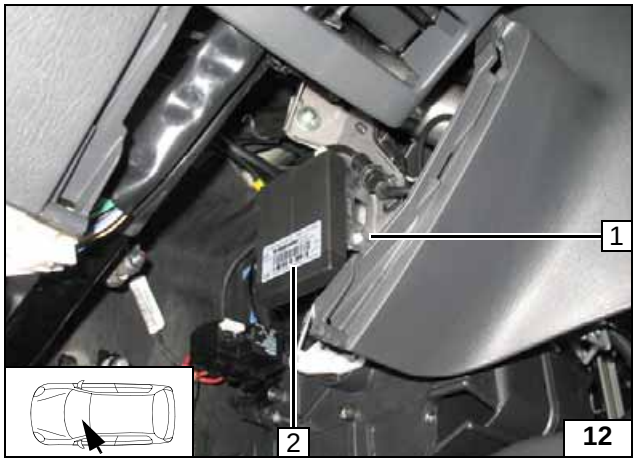
Connecting fan motor



Digital Timer

1 Digital timer

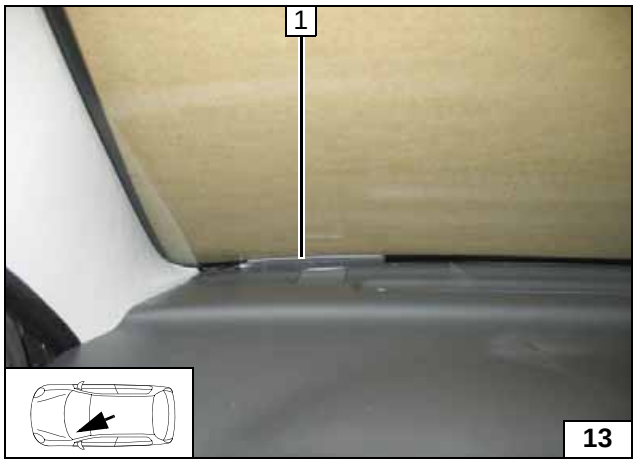
Installing digital timer



Remote Option (Telestart)

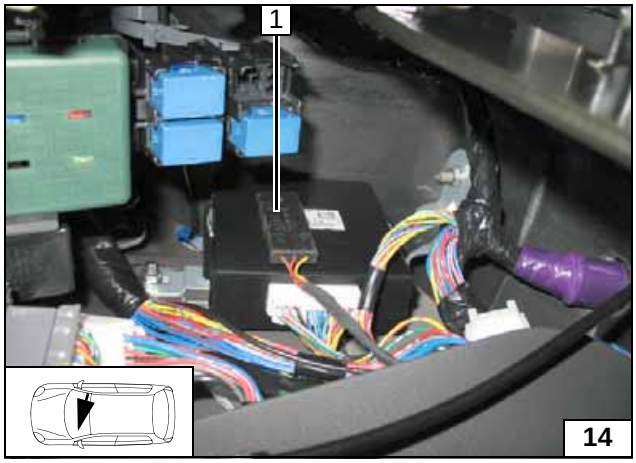
1 M6x20 bolt, flanged nut, existing hole
2 Receiver

Mounting receiver



1 Antenna

Mounting antenna



Temperature sensor T100 HTM

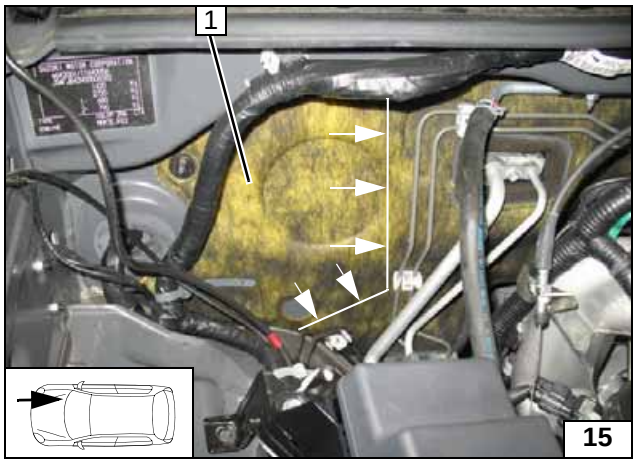
Fasten temperature sensor **1** with adhesive tape.

Installing temperature sensor

Preparing Installation Location

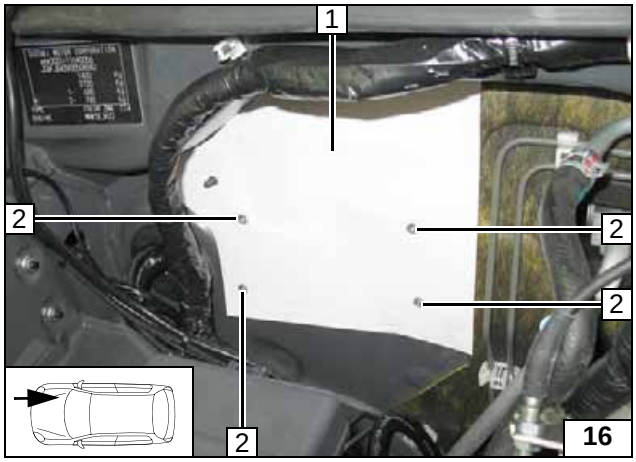
Cut out insulation mat **1** at the markings.

Cutting out insulation mat



1 Template of hole pattern in bracket
2 Copy hole pattern [4x]

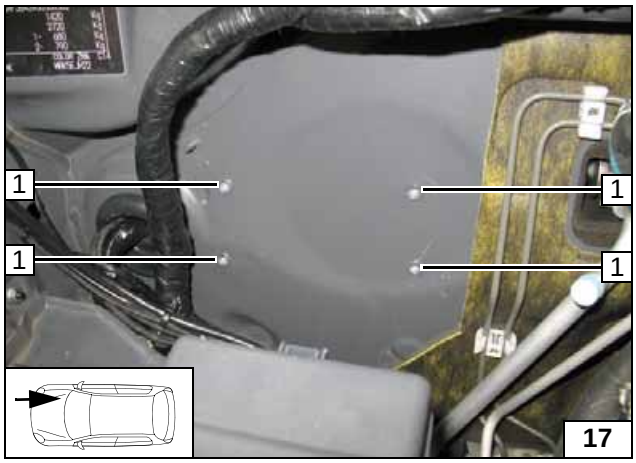
Copying hole pattern



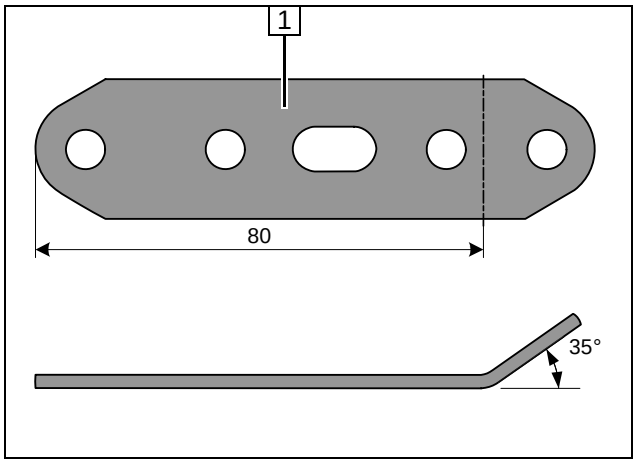
When drilling hole watch the components at the rear

1 9.1 mm dia. hole, rivet nut [4x each]

Installing rivet nut

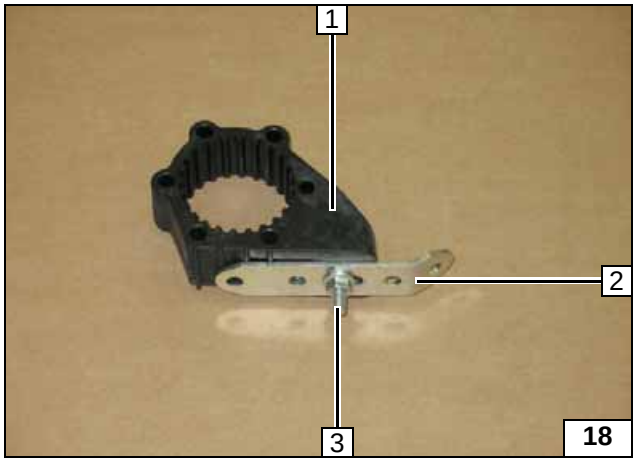


Preparing Heater



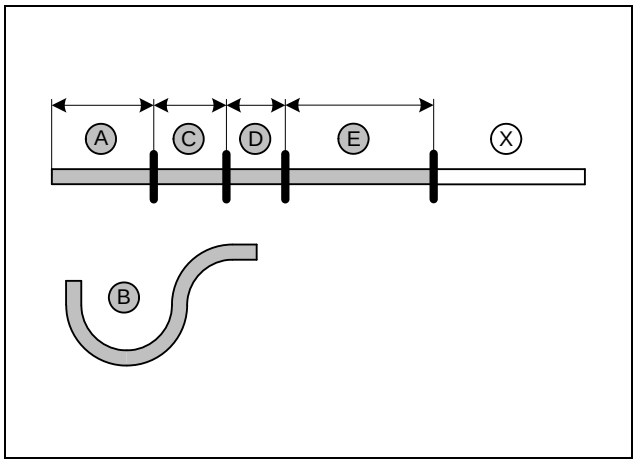
1 Perforated bracket

Bending perforated bracket



1 Circulating pump mounting
2 Perforated bracket angled down
3 M6x25 bolt, flanged nut

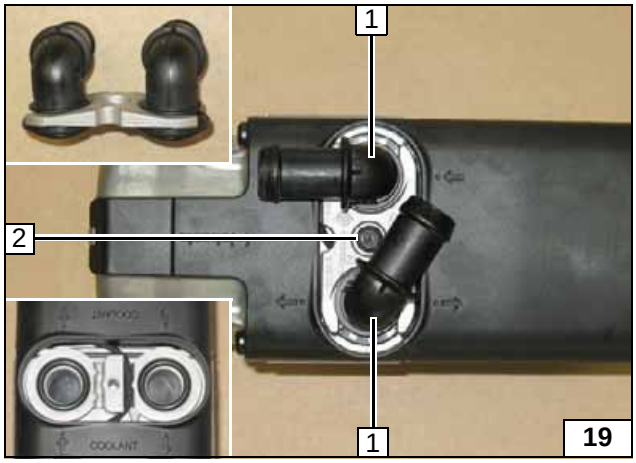
Preparing mounting of circulating pump



Discard section **X**
Hose **B** = 180°, 18 mm dia. moulded hose

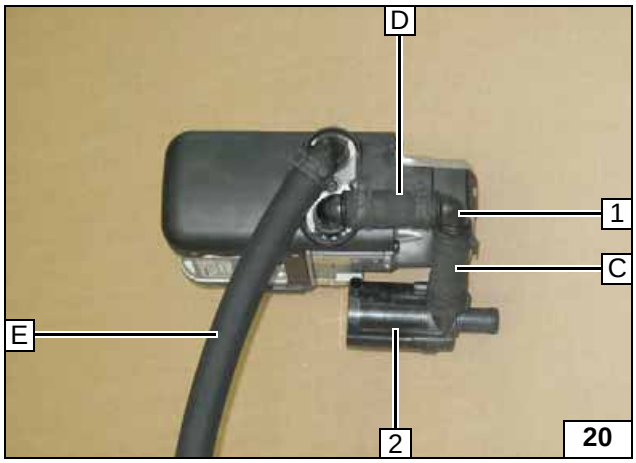
A = 100
C = 75
D = 60
E = 370

Cutting hoses to length



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

Mounting water connection pieces

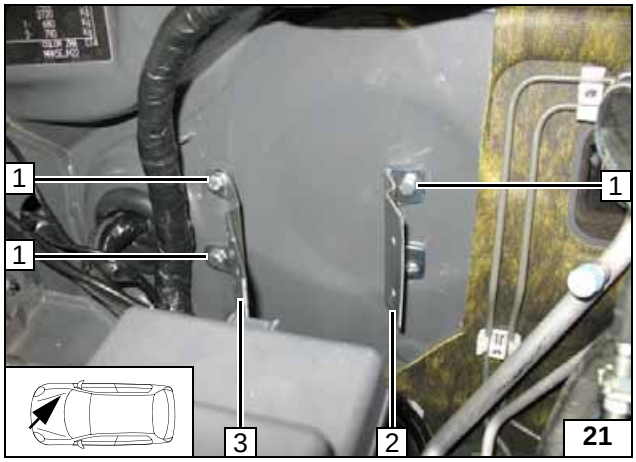


1 90° connecting pipe
2 Circulating pump

Mounting hoses

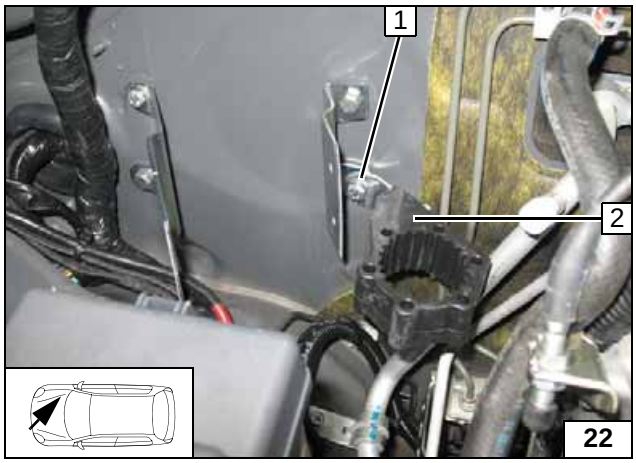
Installing Bracket

Cut bracket to length and bend according to template.



1 M6x20 bolt, spring lockwasher [3x each]
2 Bracket part A
3 Bracket part B

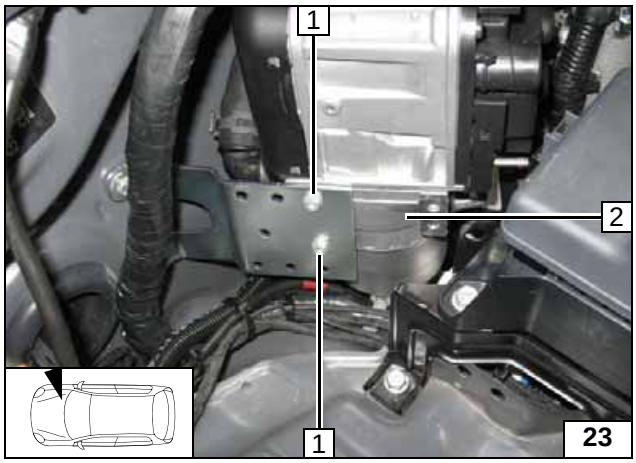
Mounting bracket



1 M6x20 bolt, spring lockwasher
2 Circulating pump mounting premounted

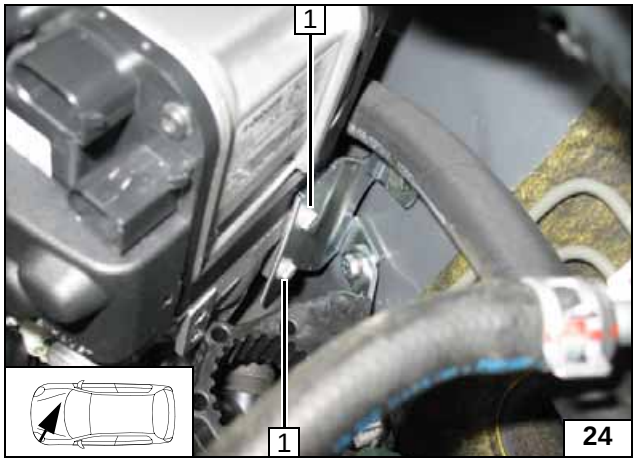
Mounting circulating pump mount

Installing Heater



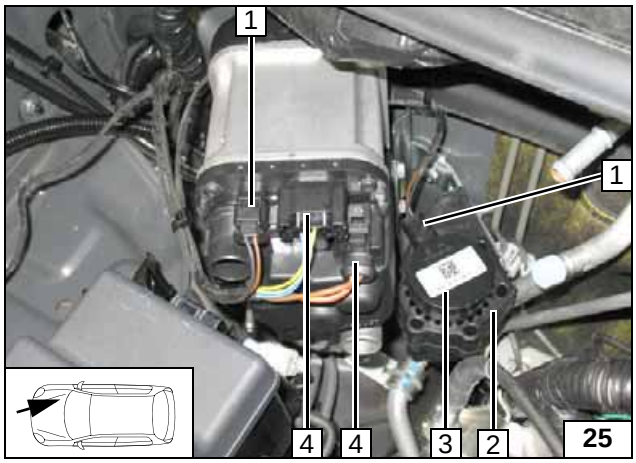
1 5x13 self-tapping bolt [2x]
2 Heater

Mounting heater



1 5x13 self-tapping bolt [2x]

Mounting heater



Insert circulating pump **3** into circulating pump mounting **2**.

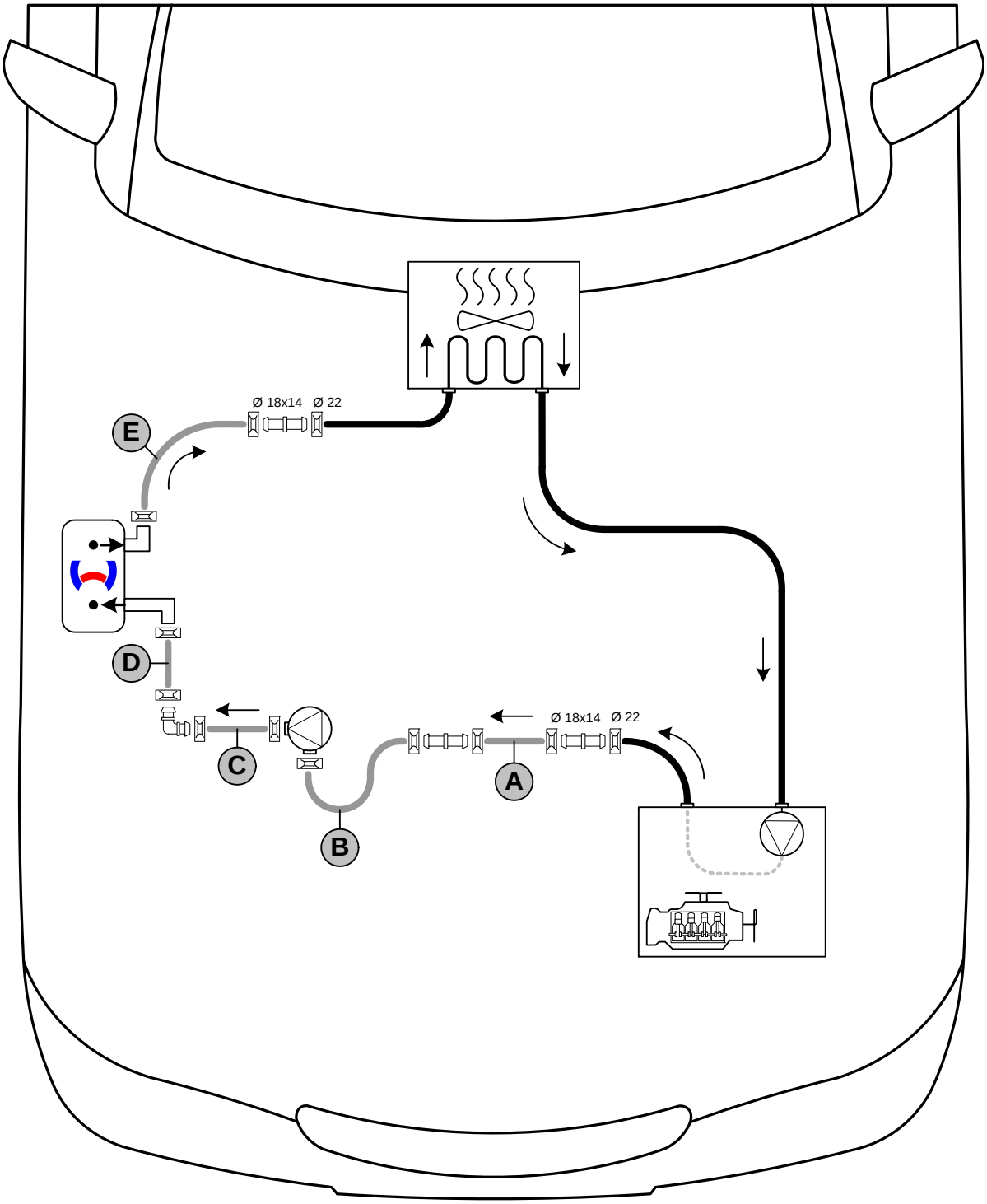
1 Mount wiring harness of circulating pump [2x]
4 Mount wiring harness of heater [2x]

Mounting circulating pump

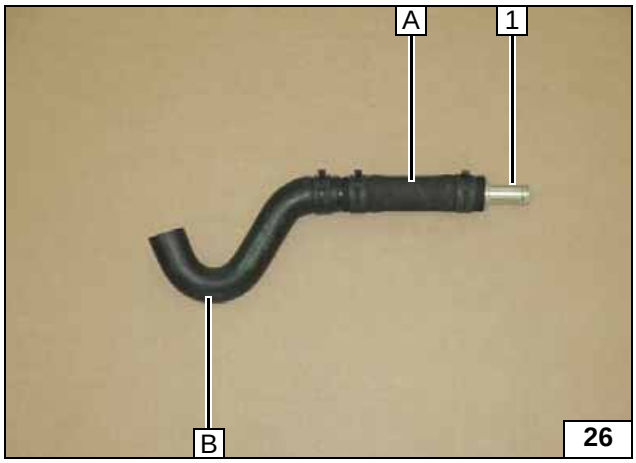
Coolant Circuit

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 other hoses cannot be damaged. The heater must be filled with coolant when mounting the hoses.
The connection should be "inline" based on the following diagram:

Hose routing diagram

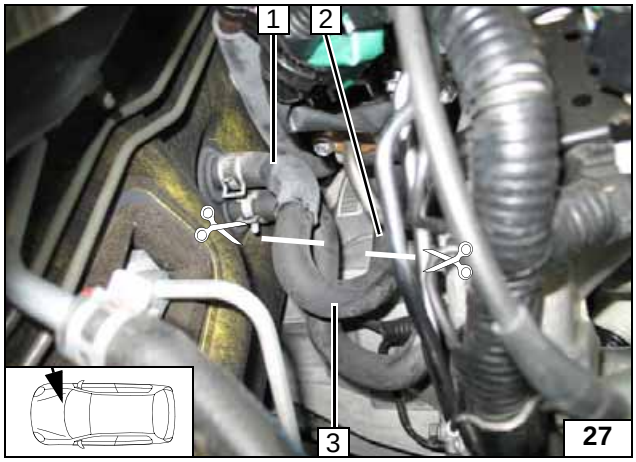


All connecting spring clips not designated = 25 mm dia.
All connecting pipes without a specific designation and = 18x18 mm dia.



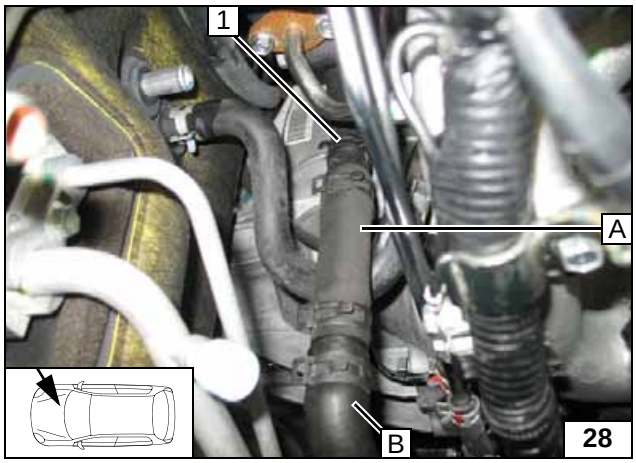
1 14x18 mm connecting pipe

Preparing hoses



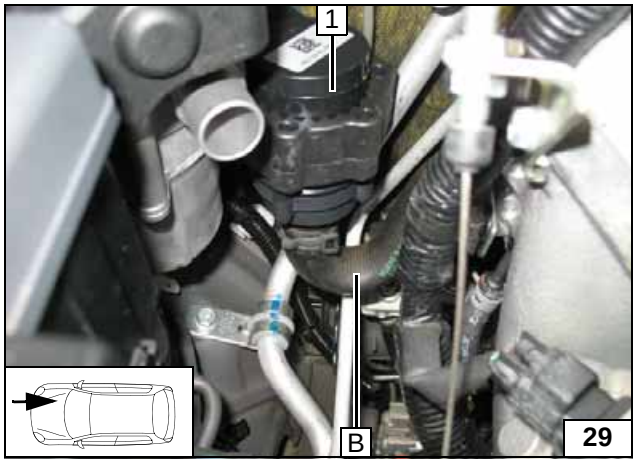
1 Hose section of heat exchanger inlet
2 Engine outlet hose section
3 Discard hose section

Cutting point



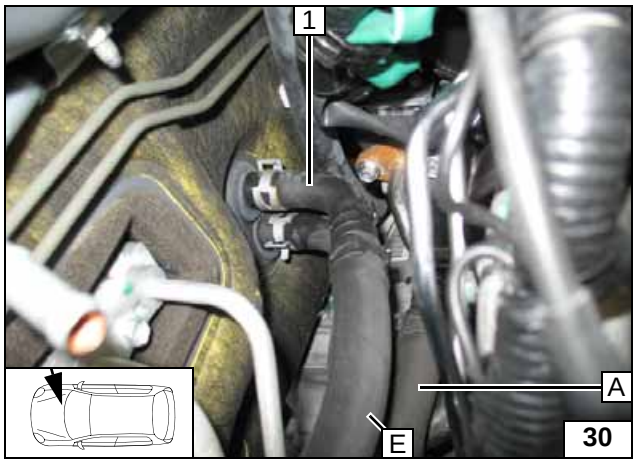
1 Engine outlet hose section

Connecting engine outlet



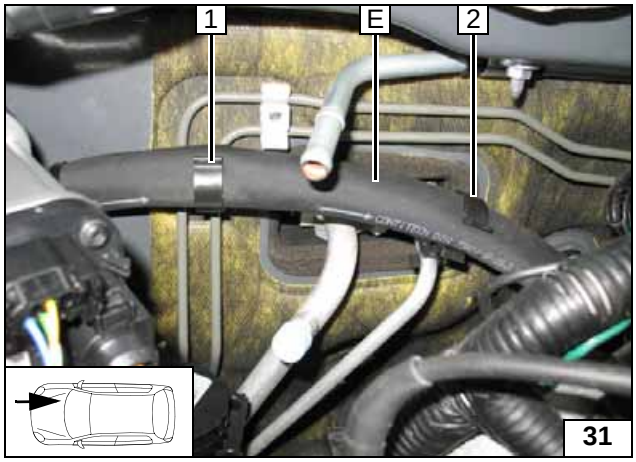
1 Circulating pump

Connecting circulating pump



1 Hose section of heat exchanger inlet

Connection of heat exchanger inlet



Ensure sufficient distance from neighbouring components.

1 4x20 hose bracket
2 8x22 hose bracket

Routing

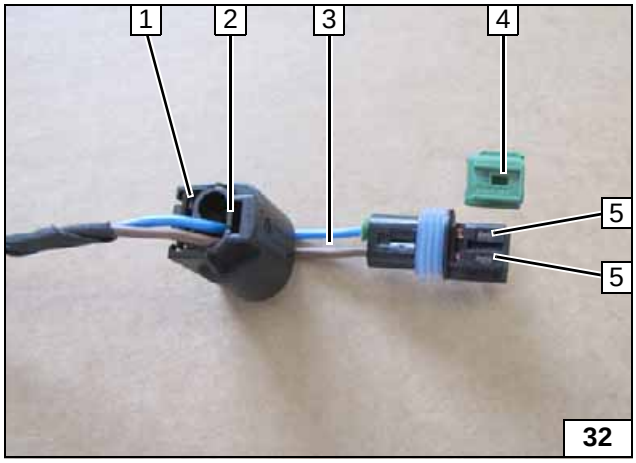
Fuel

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

Catch any fuel running off with an appropriate container.

Route fuel line and metering pump wiring harness so that they are protected against stone impact. Unless specified otherwise, always fasten using cable ties.
Mount the fuel line and wiring harness with rub protection on sharp edges.

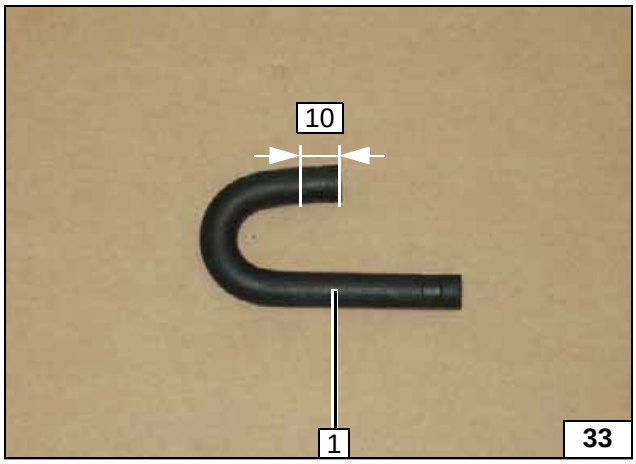
WARNING!
The fuel line and wiring harness are routed to the metering pump as shown in the wiring harness routing diagram.



Removing connector

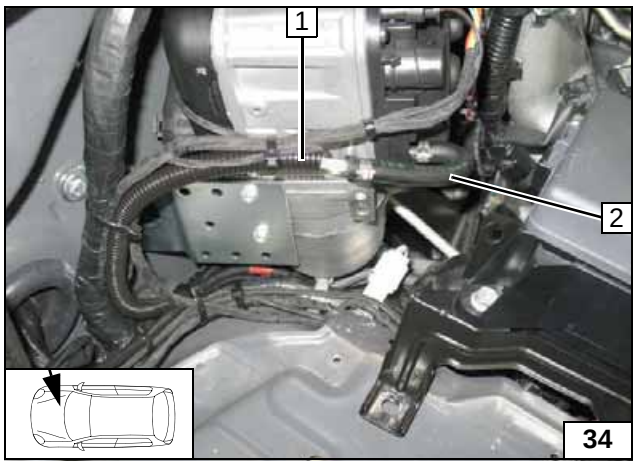
Complete connector of metering pump after routing. Pin assignment is irrelevant.

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



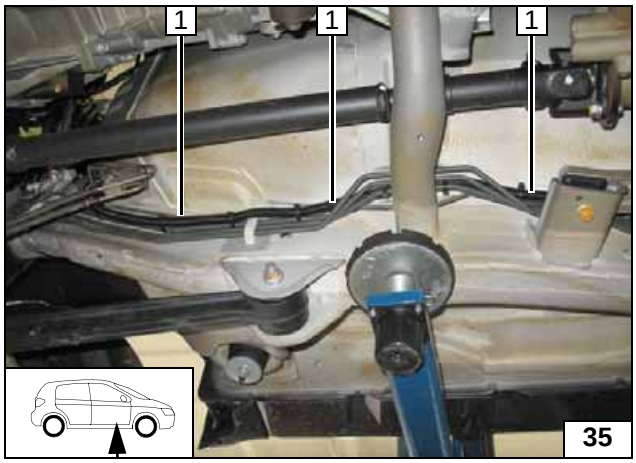
Preparing hose

1 Shorten 180° moulded hose



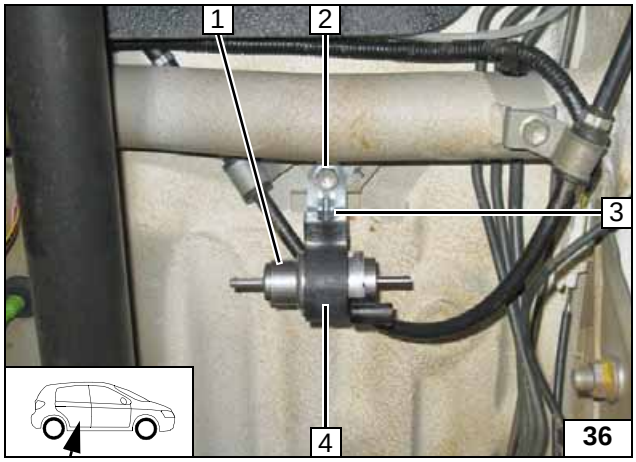
Connecting heater

1 Fuel line and wiring harness of metering pump in 10 mm dia. corrugated tube
2 Shorten 180° moulded hose
10 mm dia. clamp [2x]



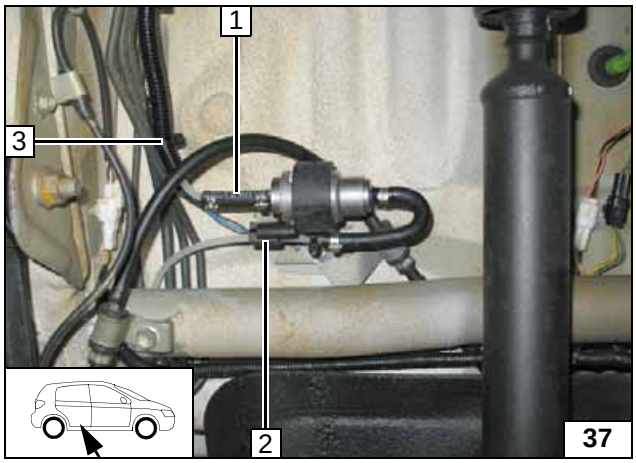
1 Fuel line and wiring harness of metering pump in corrugated tube

Routing lines



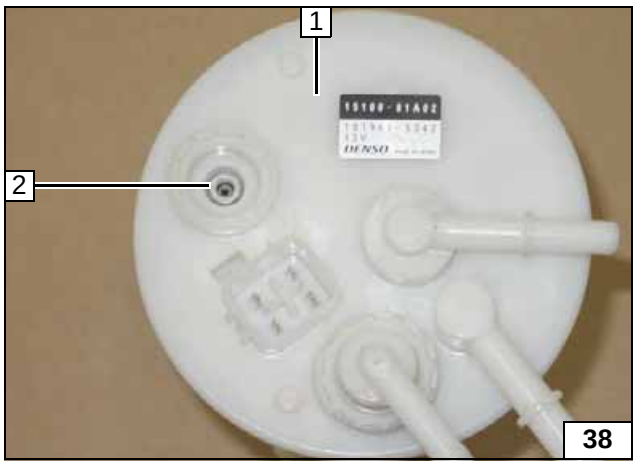
1 Metering pump
2 Original vehicle bolt, angle bracket
3 M6x25 bolt, flanged nut
4 Metering pump mounting

Mounting metering pump



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

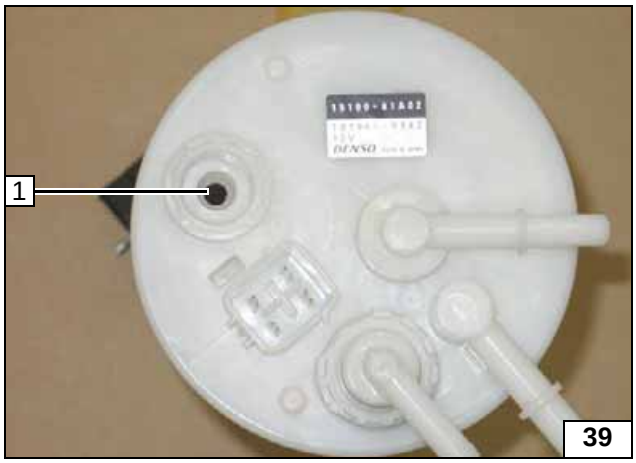
Connecting metering pump



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

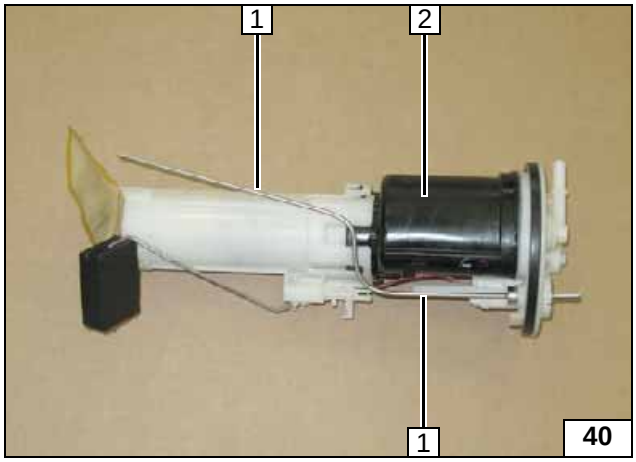
2 M5 nut, copy hole pattern, 2.0 mm dia. hole

Fuel extraction



1 Drill out 2.0 mm dia. hole to 6.0 mm dia.

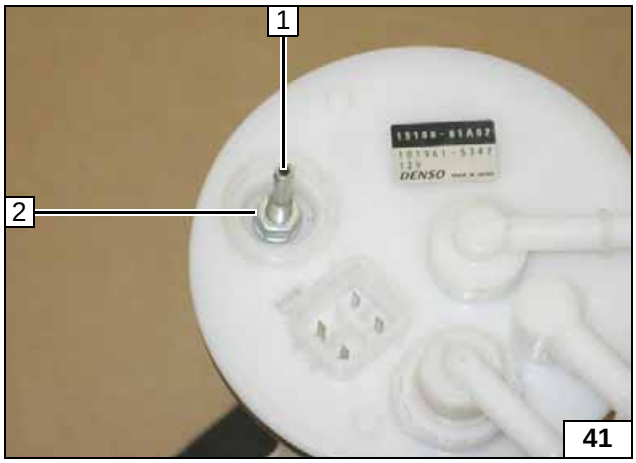
Fuel extraction



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

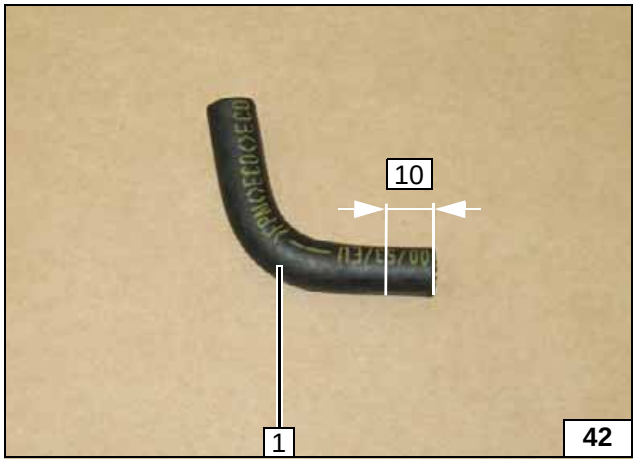
2 Fuel-tank sending unit

Installing fuel standpipe



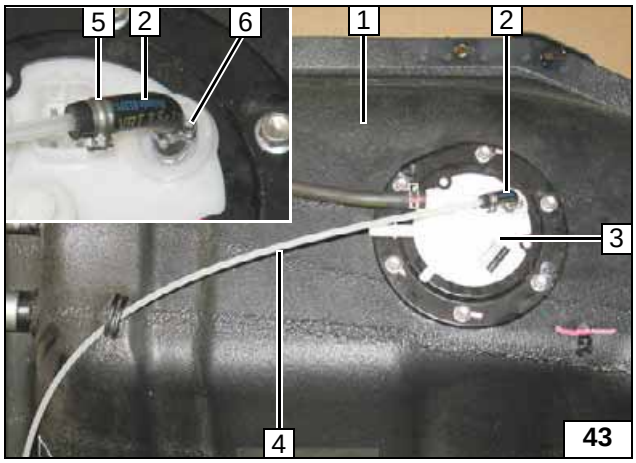
1 Fuel standpipe
2 Sealing nut

Installing fuel standpipe



Shorten 90° moulded hose **1** at the side with 3.5 mm dia.

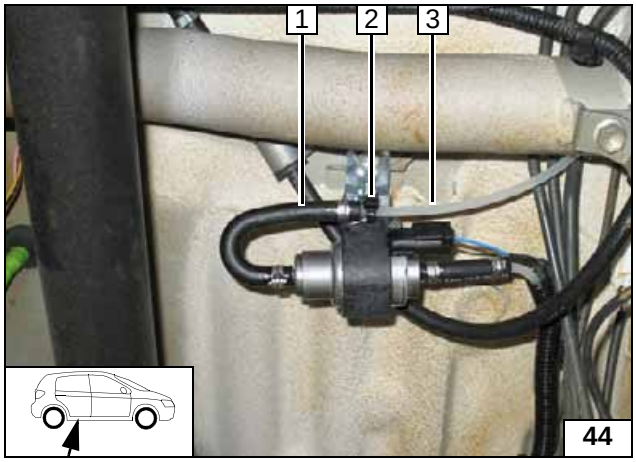
Preparing hose



Install fuel-tank sending unit **3** in accordance with manufacturer's instructions.

1 Fuel tank
2 90° moulded hose with 3.5 mm dia. on fuel standpipe
4 Fuel line
5 10 mm dia. clamp
6 9 mm dia. clamp

Connecting fuel line



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

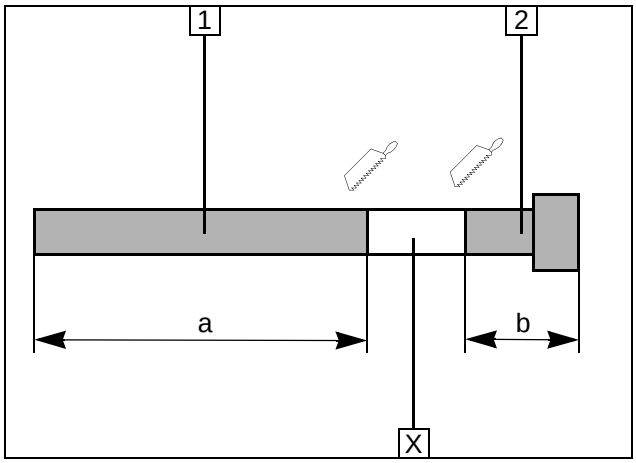
1 180° moulded hose, 10 mm dia. clamp [2x]
2 Cable tie
3 Fuel line

Connecting metering pump

Exhaust Gas

Discard section **X**.

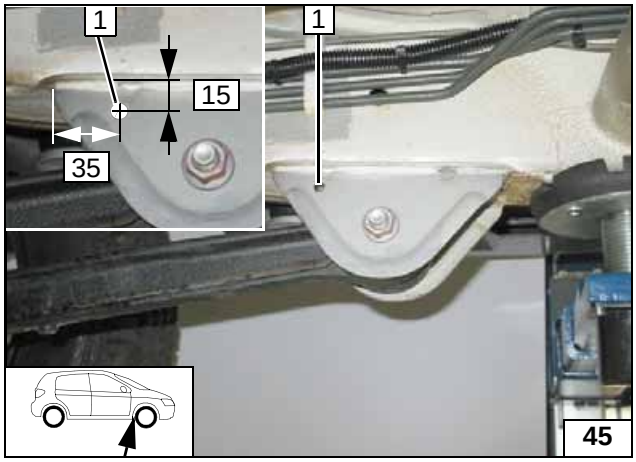
Preparing exhaust pipe



1 Exhaust pipe
a = 880

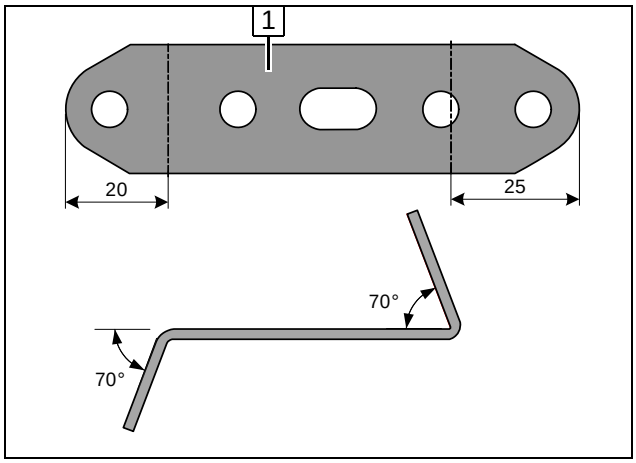
2 Exhaust end section
b = 60

Copying hole pattern



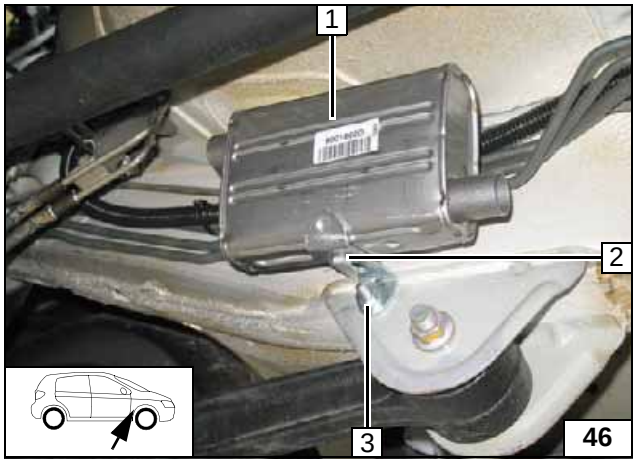
1 7.0 mm dia. hole

Bending perforated bracket

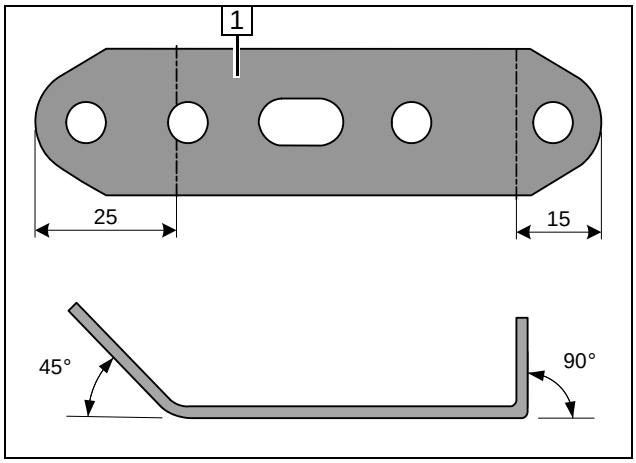


1 Perforated bracket

Mounting silencer

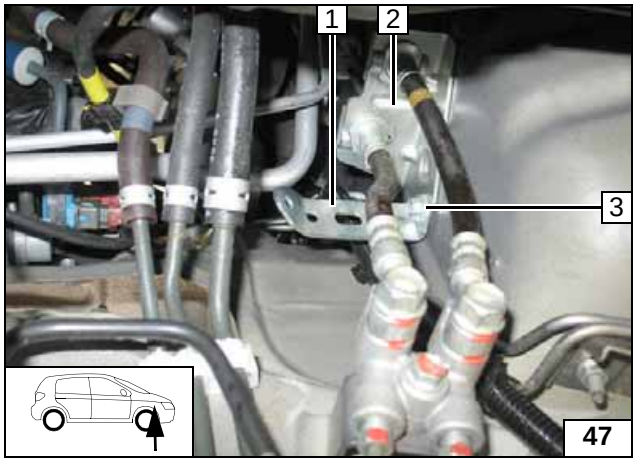


1 Silencer
2 M6x16 bolt, spring lockwasher, perforated bracket
3 M6x20 bolt, flanged nut



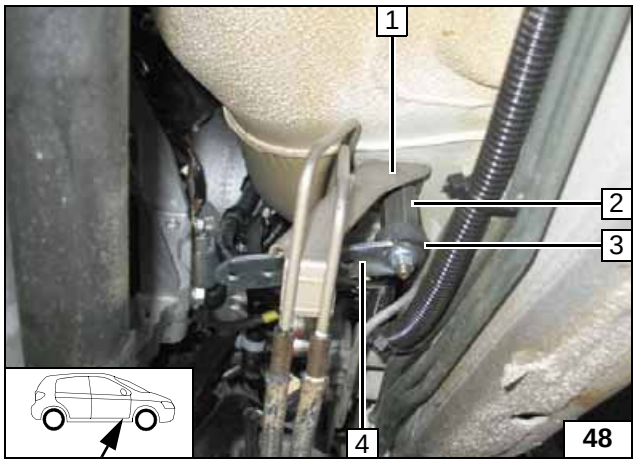
1 Perforated bracket

Bending perforated bracket



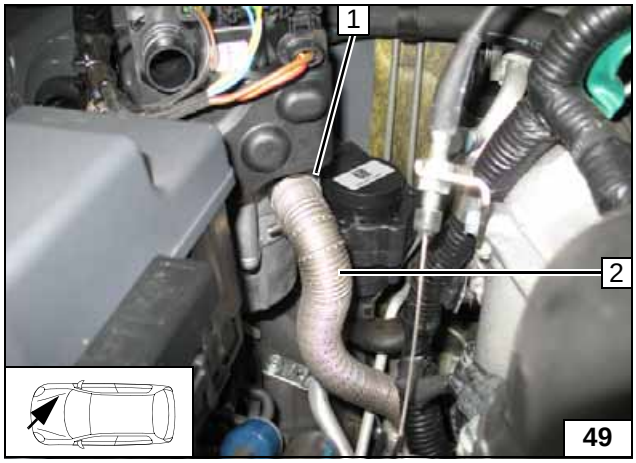
1 Perforated bracket angled down
2 Brake line bracket
3 Original vehicle bolt

Mounting perforated bracket



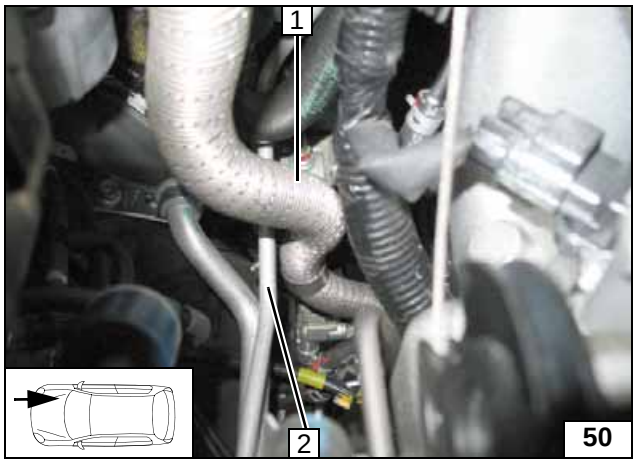
1 Bracket of vacuum line
2 M6x30 spacer nut on original vehicle stud bolt
3 Silent block, flanged nut
4 Perforated bracket

Mounting perforated bracket



1 Hose clamp
2 Exhaust pipe

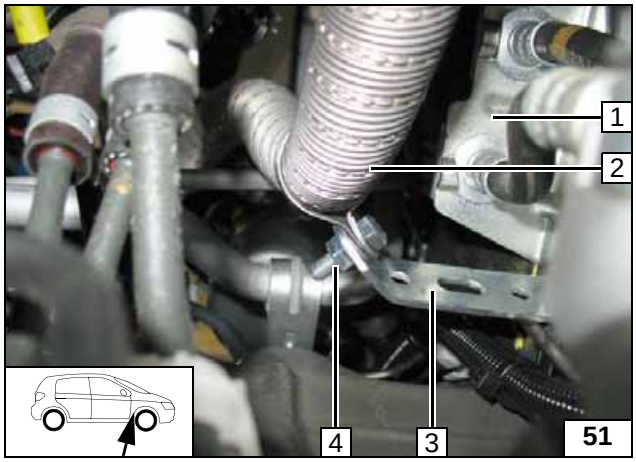
Mounting exhaust pipe



Ensure freedom of movement of A/C wire **2** and all neighbouring components. (min. 20 mm)

1 Exhaust pipe

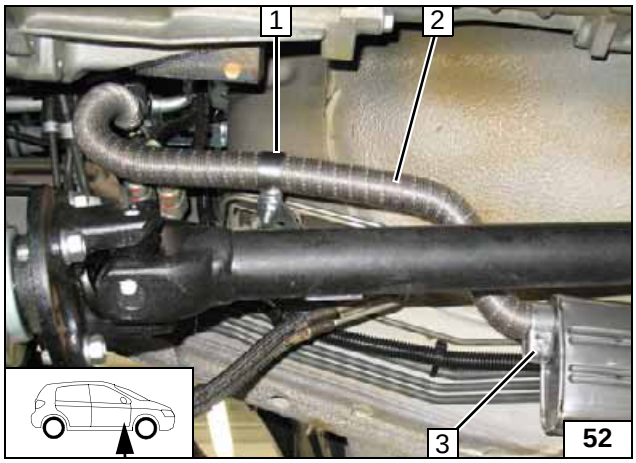
Mounting exhaust pipe



Ensure freedom of movement of all neighbouring components. (min. 20 mm)

1 Brake line bracket
2 Exhaust pipe
3 Perforated bracket
4 M6x20 bolt, p-clamp, flanged nut

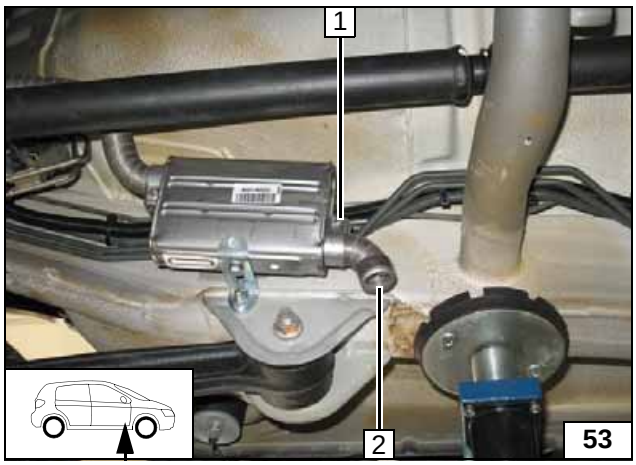
Mounting exhaust pipe



Ensure freedom of movement of all neighbouring components. (min. 20 mm)

1 M6x20 bolt, p-clamp, flanged nut
2 Exhaust pipe
3 Hose clamp

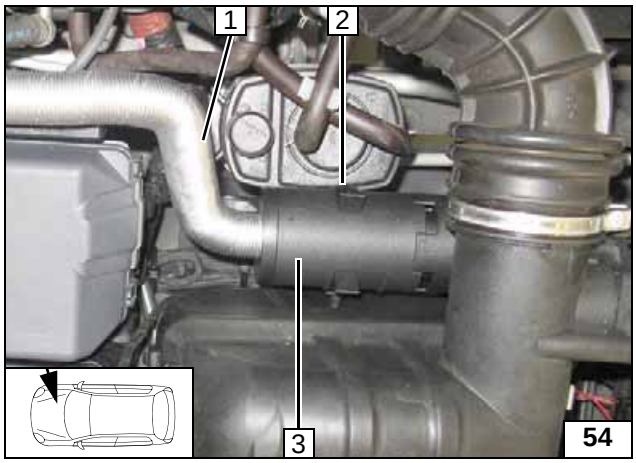
Mounting exhaust pipe



Ensure freedom of movement of all neighbouring components. (min. 20 mm)

1 Hose clamp
2 Exhaust end section

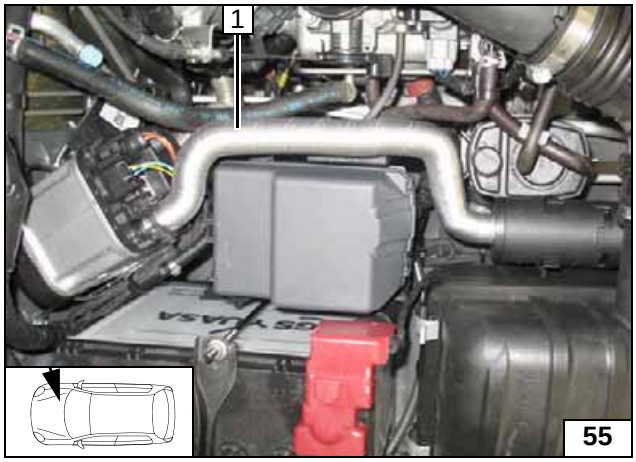
Installing exhaust end section



Combustion Air

1 Combustion air pipe
2 Retaining clip in hole
3 Silencer

Mounting silencer



1 Combustion air pipe

Mounting combustion air pipe

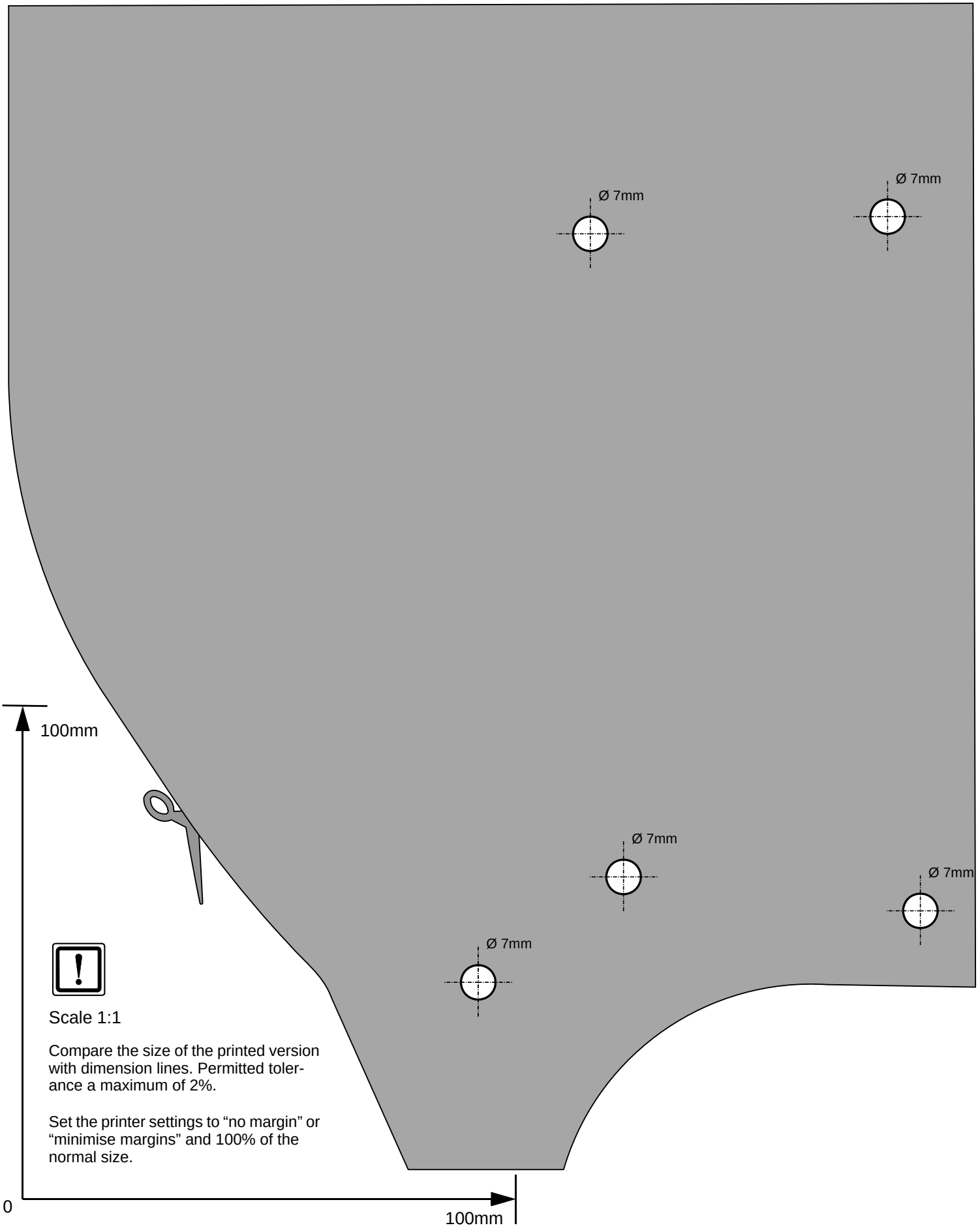
Final Work

WARNING!
Reassemble the disassembled components in reverse order. Check all hoses, clamps and all electrical connections for firm seating. Insulate and tie back all loose wires.
Only use manufacturer-approved coolant. Spray the heater components with anti-corrosion wax (Tectyl 100K, Order No. 111329).

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

Webasto Thermo & Comfort SE
Postfach 1410
82199 Gilching
Germany
Internet: www.webasto.com
Technical Extranet:
http://dealers.webasto.com

Copy Template of Bracket Hole Pattern

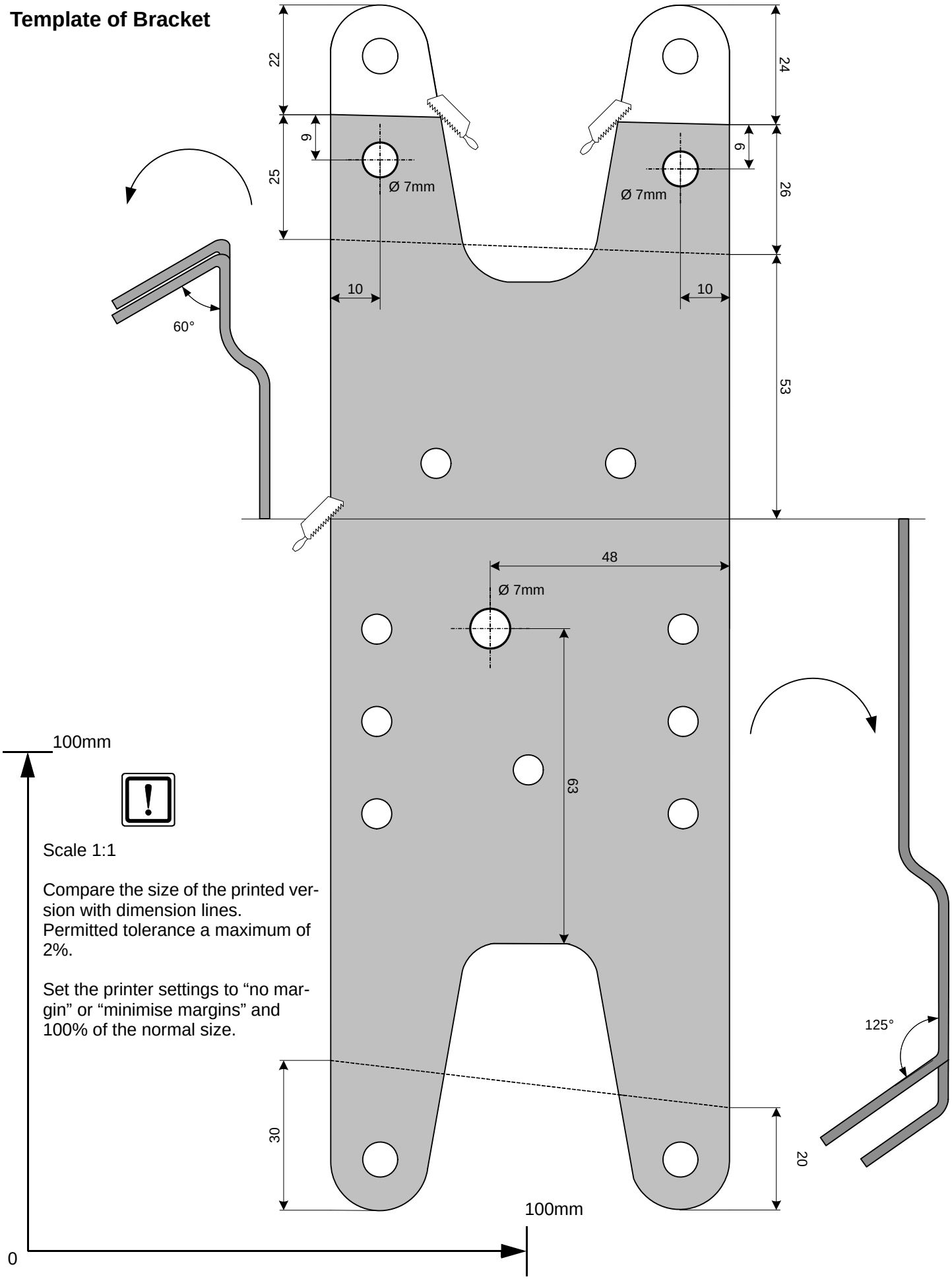


Scale 1:1

Compare the size of the printed version with dimension lines. Permitted tolerance a maximum of 2%.

Set the printer settings to “no margin” or “minimise margins” and 100% of the normal size.

Template of Bracket

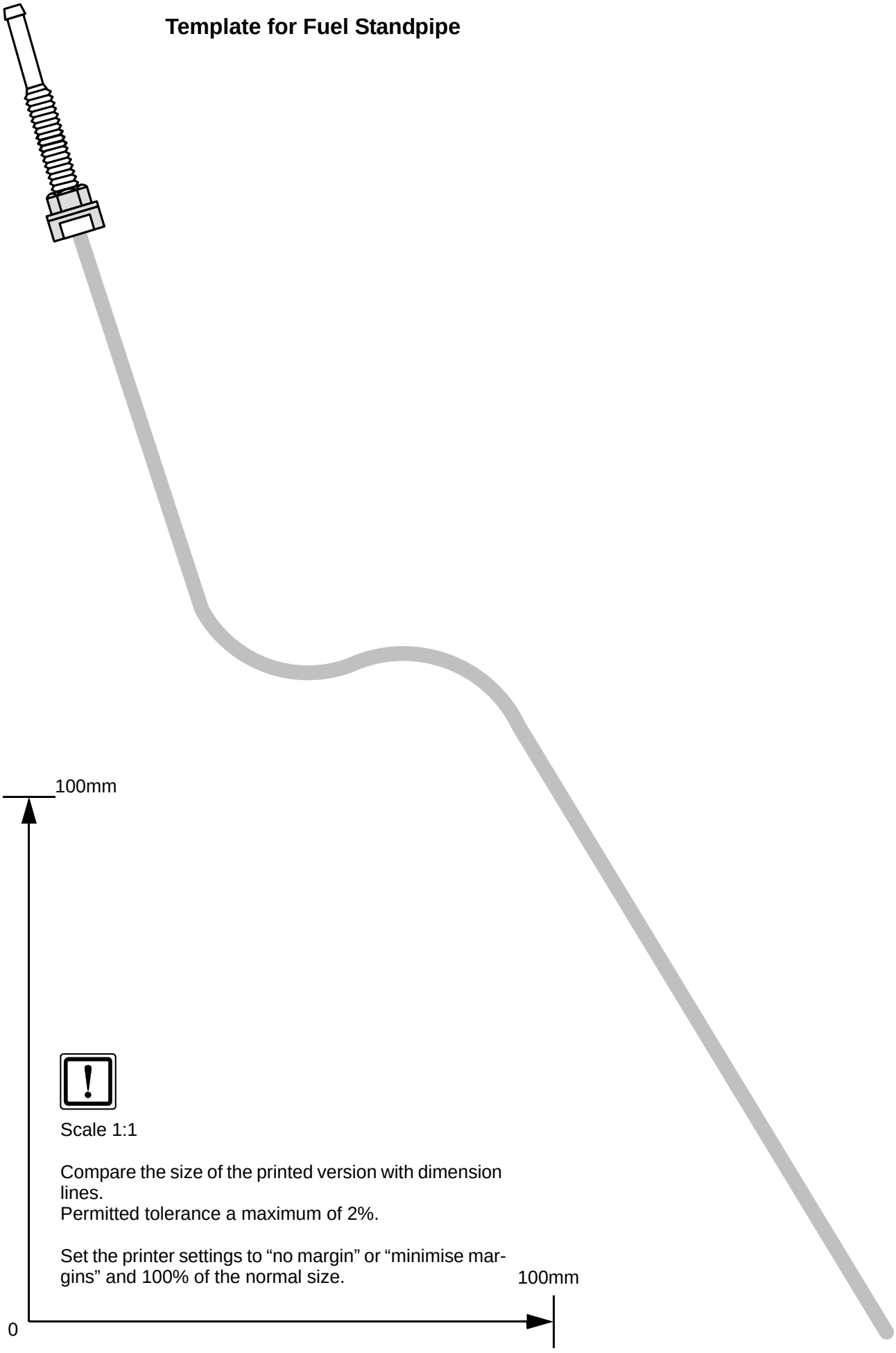


Scale 1:1

Compare the size of the printed version with dimension lines. Permitted tolerance a maximum of 2%.

Set the printer settings to “no margin” or “minimise margins” and 100% of the normal size.

Template for Fuel Standpipe



Scale 1:1

Compare the size of the printed version with dimension lines.
Permitted tolerance a maximum of 2%.

Set the printer settings to “no margin” or “minimise margins” and 100% of the normal size.

Operating Instructions for End Customer

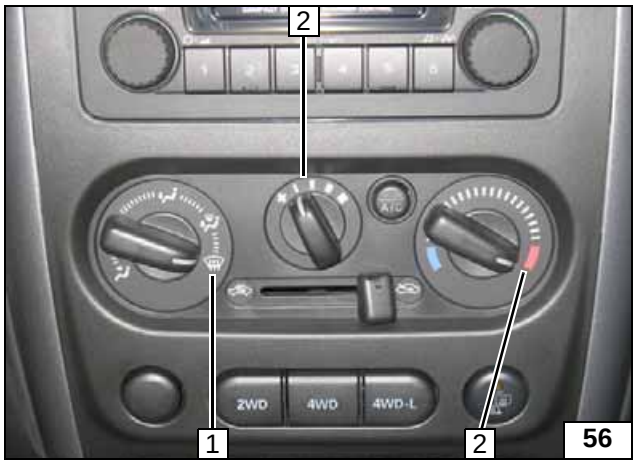
Please remove page and add to the vehicle operating instructions.

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, when installed, must be deactivated as well as deactivating the vehicle settings for the heating operation.
Instructions for deactivation can be taken from the operating instructions of the vehicle

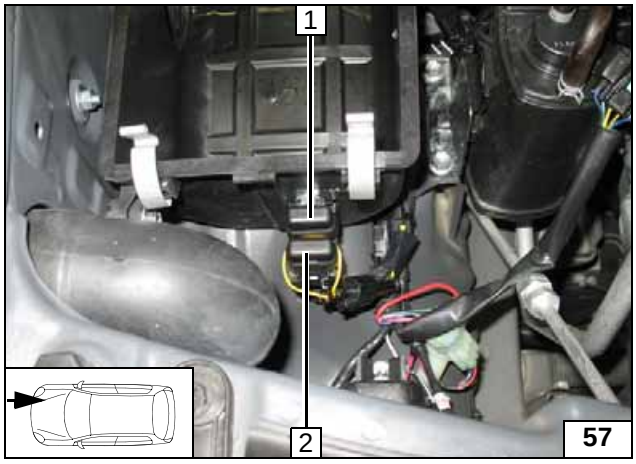
Before parking the vehicle, make the following settings:

A/C control panel



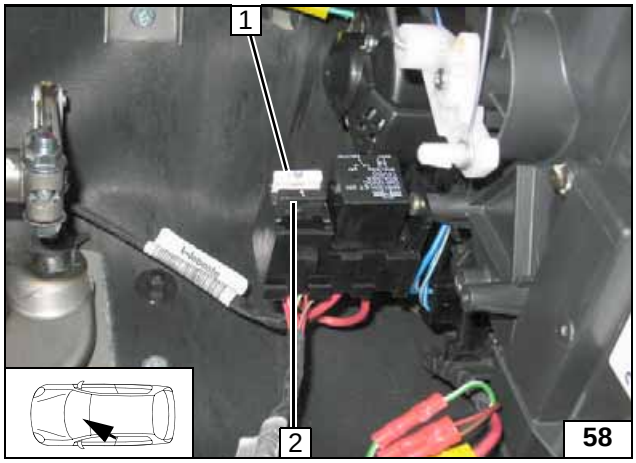
1 Air outlet to windscreen
2 Set fan to Level "1" or max. "2"
3 Set temperature to "max."

Fuses of engine compartment



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

Fuses of passenger compartment



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