

Water Heater



Thermo Top E Parking Heater


00 0003

Thermo Top C Parking Heater


00 0002

Installation instructions

Suzuki Alto

1.0 Petrol

from Model Year 2009

Left-hand drive vehicle

Manual air conditioning



WARNING!

Hazard warning:

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



Specialist company training, technical documentation, specialised tools and equipment are required to install and repair Webasto heating and cooling systems.

NEVER attempt to install or repair Webasto heating or cooling systems if you have not successfully completed the company training and thereby acquired the required technical skills, or if you do not have access to the required technical documentation, tools and equipment needed to carry out correct installation and repairs.

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

Webasto does not accept any liability for defects and damage that are attributable to installation by untrained staff.

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Validity

Manufacturer	Model	Type	EG BE No. / ABE
Suzuki	Alto	GF	e6 * 2001 / 116 * 0124 * ...

Engine type	Engine model	Output in kW	Displacement in cm ³
K10B	Petrol	50	996

Vehicle and engine types, equipment variants and national specifications not listed in these installation instructions have not been tested. However, installation according to these installation instructions may be possible.

The installation location of a digital timer and summer/winter switch should be confirmed with the end customer before installation.

Heater / Installation Kit

Quantity	Description	Order No.:
1	Suzuki-specific delivery scope <i>Thermo Top E</i> petrol	See Suzuki price list
1	Installation kit for Suzuki Alto 2009 1.0 Petrol	1315149A
1	Heater control	See Suzuki price list

Heater recommended for the respective vehicle class:

Vehicle	Heater
Compact car	Thermo Top E
Mid-size car, station wagon	Thermo Top C

The selection of the heater is based on the passenger compartment size of the vehicle and the level of comfort required by the customer!

**Foreword**

These installation instructions apply to Suzuki Alto 1.0 Petrol vehicles - for validity, see page 2 - from model year 2009 and later, assuming technical modifications to the vehicle do not affect installation, any liability claims excluded. Depending on the vehicle version and equipment, modifications may be necessary during installation with respect to these installation instructions.

However, the stipulations in these "installation instructions" and the "operating and maintenance instructions" for the *Thermo Top E / C* must always be observed.

The corresponding rules of technology and any information from the vehicle manufacturer should be observed during the installation work.

General Instructions

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

Sharp edges should be fitted with rub protection (split-open plastic hose).

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

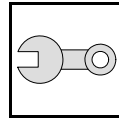
Special Tools

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

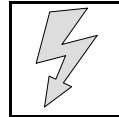
Explanatory Notes on Document

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

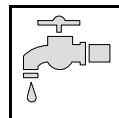
Mechanical system



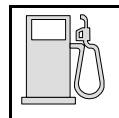
Electrical system



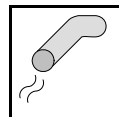
Coolant circuit



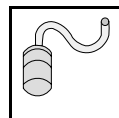
Fuel



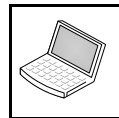
Exhaust gas



Combustion air



Software



Special features are highlighted using the following symbols:



Specific risk of injury or fatal accidents.



Specific risk of damage to components.



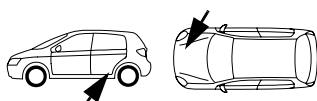
Specific risk of fire or explosion.



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



Reference to a special technical feature.



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

All dimensions are in mm!

Tightening torque of hose clamps = 2.0 + 0.5 Nm!

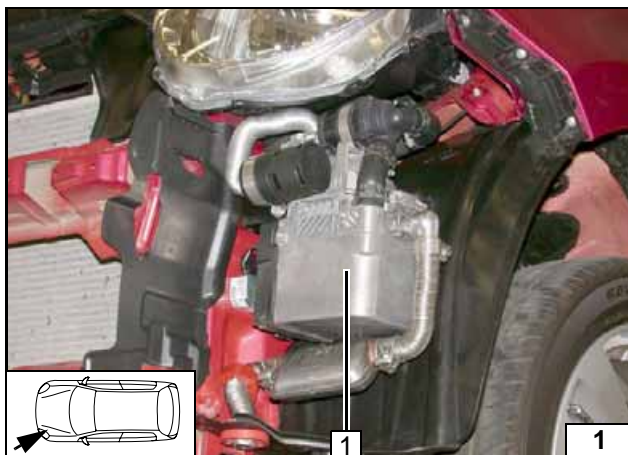
Tightening torque of Ejet screws, Ejet studs = 10 Nm!

Preliminary Work

WARNING!

- Open fuel tank cap, ventilate tank.
- Close the fuel tank cap again.
- Disconnect the battery "earth" or "ground" connection.
- Depressurise the cooling system.
- Copy the factory number from the original type label to the duplicate type label.
- Remove years that do not apply from the duplicate label.
- Attach the duplicate label (type label) in the appropriate place.
- Remove battery
- Remove air filter fully with intake hose
- Detach the wheel well trim on the right and left.
- Remove bumper trim
- Remove fuel tank according to manufacturer's instructions.
- Remove the fuel-tank sending unit in accordance with manufacturer's instructions.
- Remove footwell trim on driver's side

Remove page 24 "Operating Instructions for End Customer" and add to the vehicle operating instructions.



Heater installation location

1 Heater

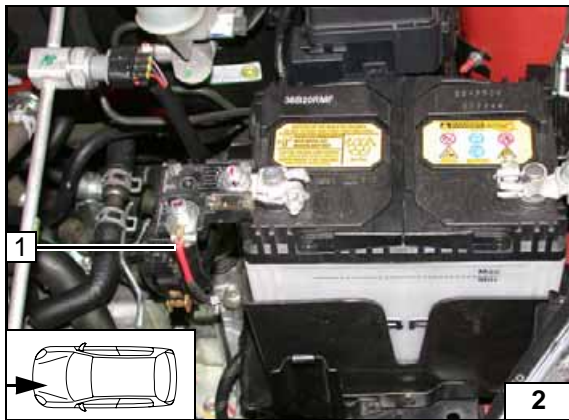
Installation location



Electrical system

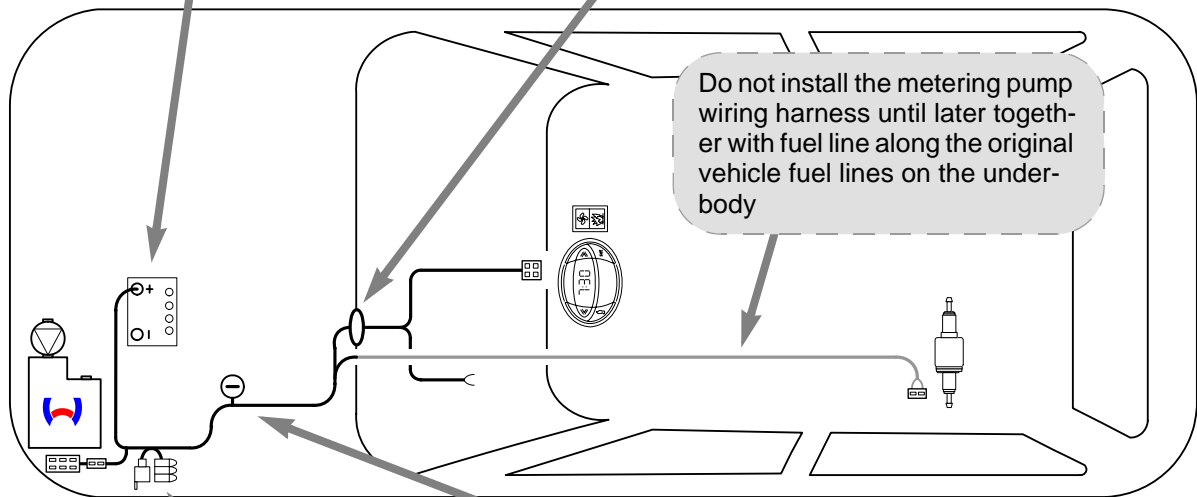
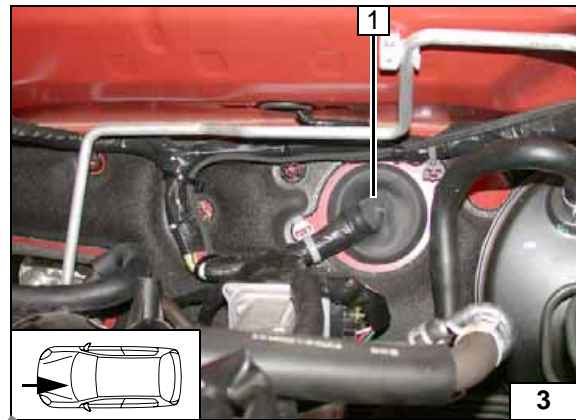
Positive wire

- 1 Positive wire on positive terminal of battery

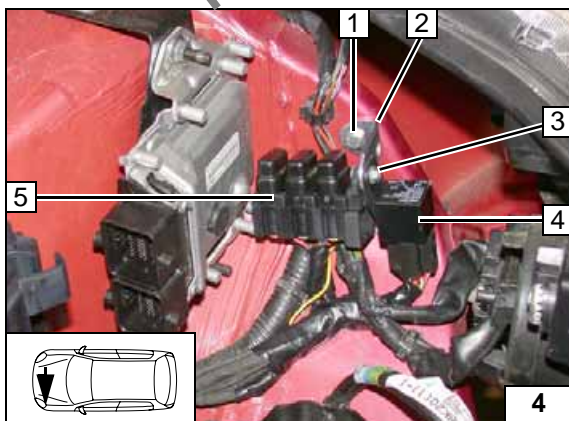


Wiring harness pass through

- 1 Protective rubber plug

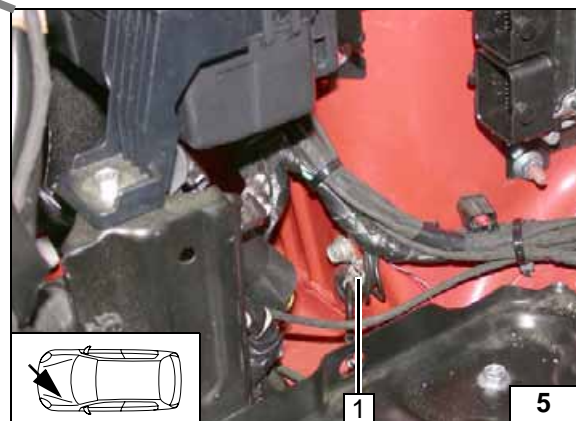


Wiring harness routing diagram



Fuse holder, K3 relay

- 1 M6x20 bolt, spring lockwasher, flanged nut, existing hole
- 2 Angle bracket
- 3 M5x16 bolt, washers, retaining plate of fuse holder, flanged nut
- 4 K3 relay
- 5 Fuse F1-3

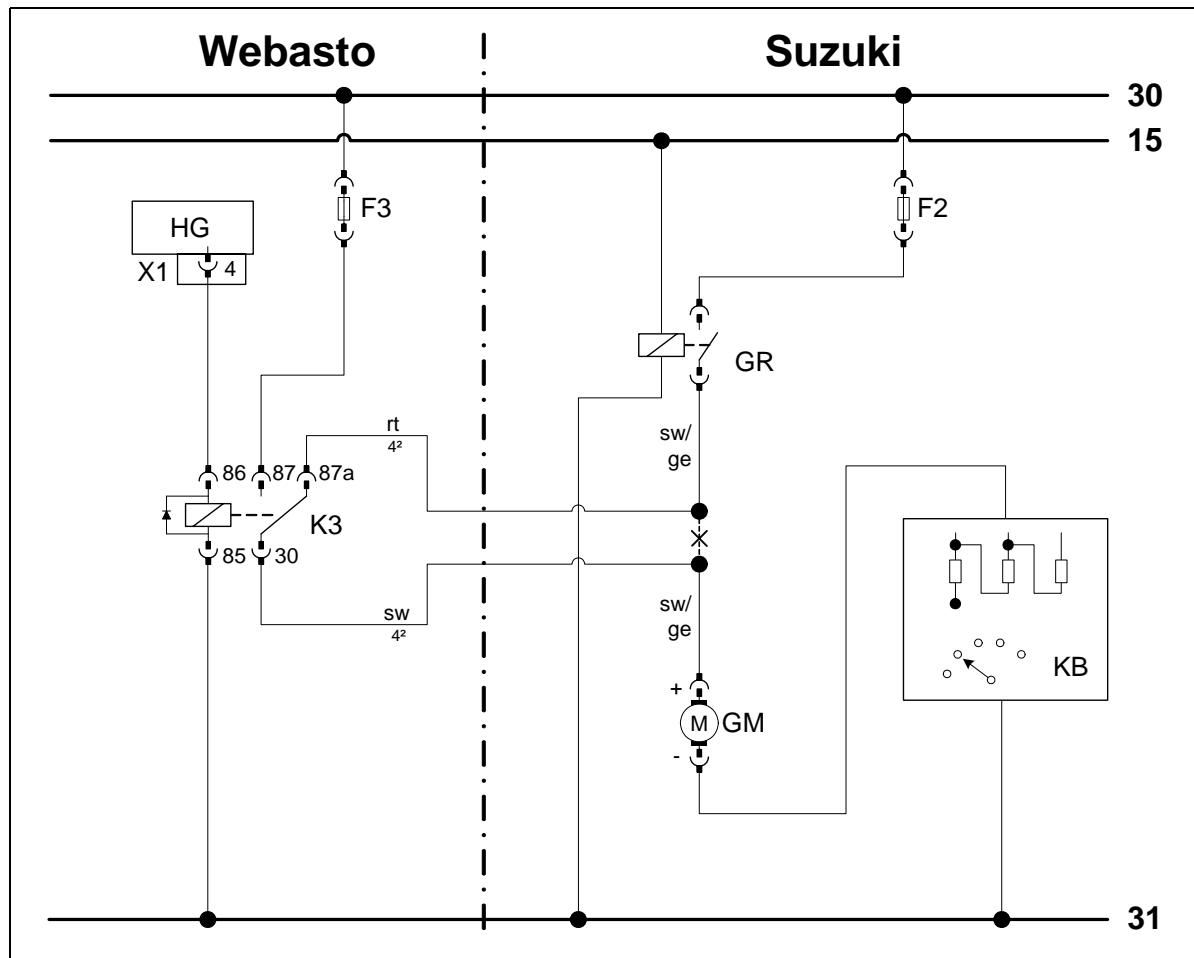


Earth wire

- 1 Earth wire to original vehicle earth support point



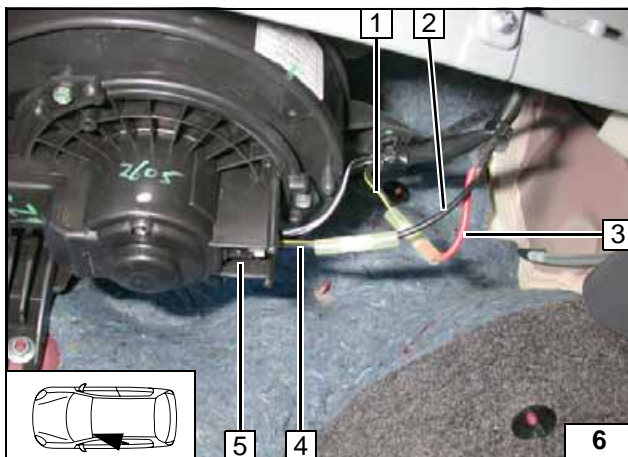
Fan control



Wiring diagram

Webasto components		Vehicle components		Colours and symbols	
HG	Heater TT-E/C	GM	Fan motor	rt	red
X1	6-pin heater connector	GR	Fan relay	ge	yellow
K3	Fan relay	KB	Air-conditioning control panel	sw	black
F3	25 A fuse	F2	30A fuse		
				X	Cutting point
				Wiring colours may vary.	

Legend

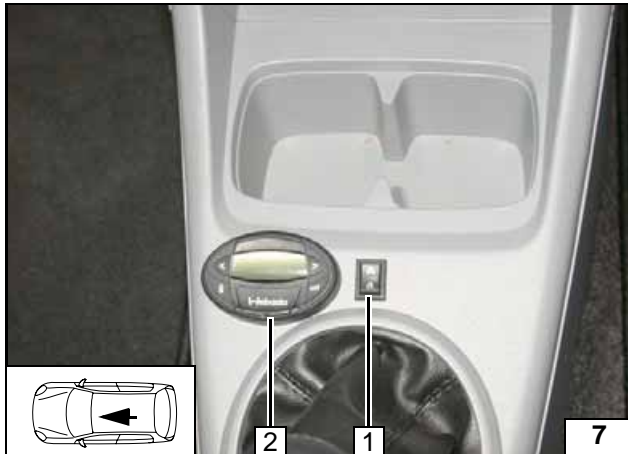


Connection to 2-pin connector 5 from the fan motor. Produce connections as shown in wiring diagram.

- 1 Black/yellow (sw/ge) wire of fan relay
- 2 Black (sw) wire from K3/30
- 3 Red (rt) wire from K3/87a
- 4 Black/yellow (sw/ge) connector



Connecting fan-motor

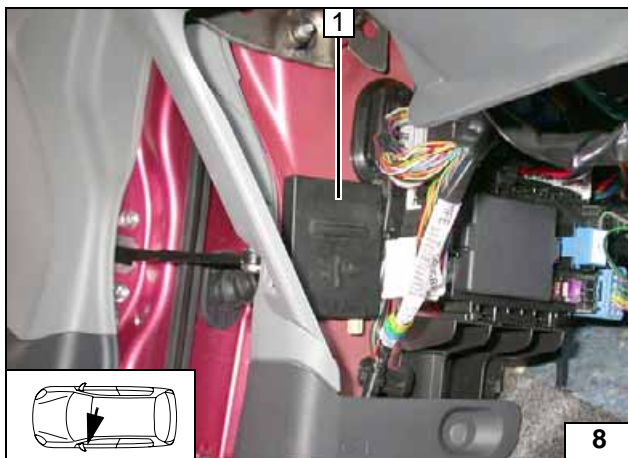


Digital timer, Summer/winter switch option

- 1 Summer/winter switch, 12 mm dia. hole
- 2 Digital timer



Installing digital timer

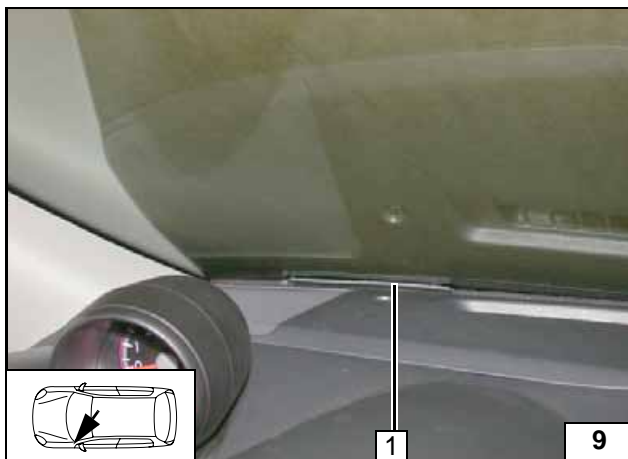


Remote option (Telestart)

Fasten receiver 1 with adhesive tape.

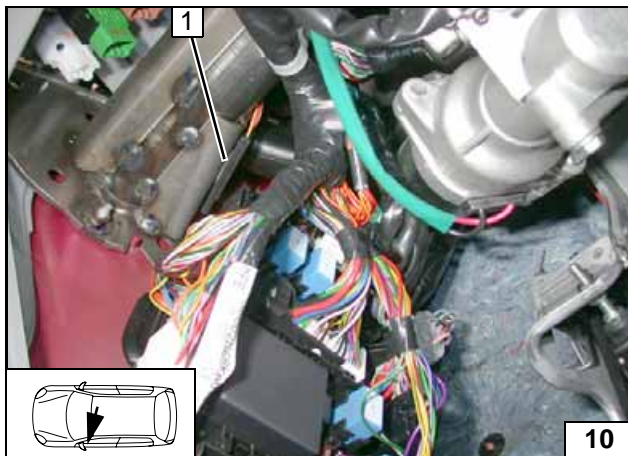


Installing receiver



- 1 Antenna

Installing antenna

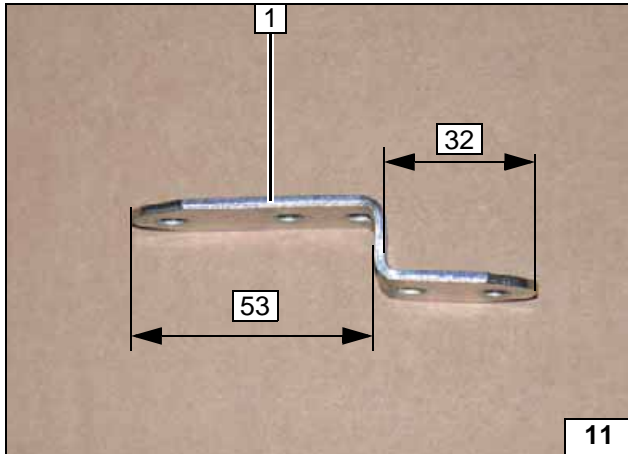
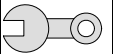


Temperature sensor HTM100

Fasten temperature sensor1 with adhesive tape.



Installing temperature sensor

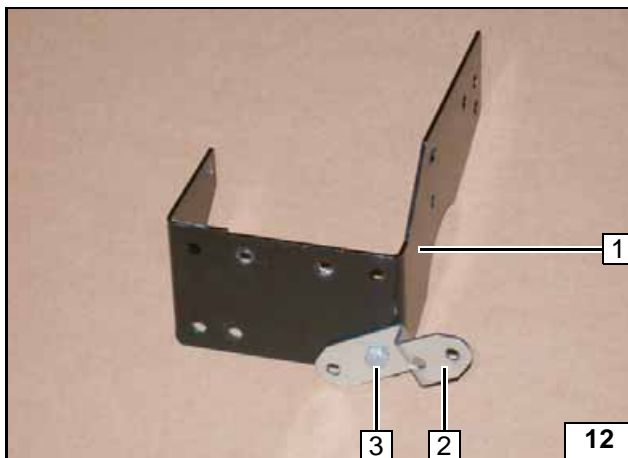


Preparing installation location

Angle down perforated bracket 1 2x by 90°

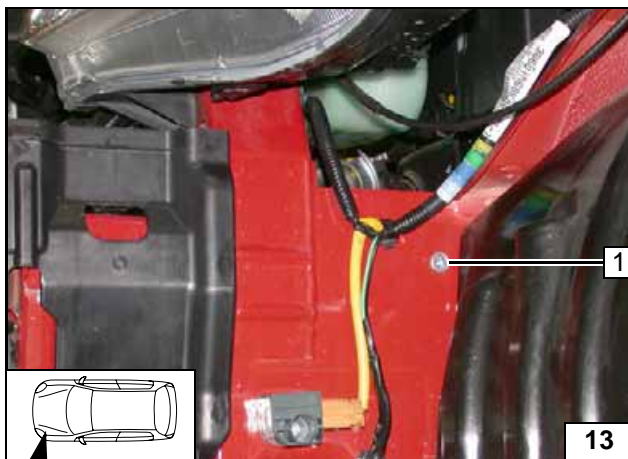


Angling down perforated bracket



- 1 Bracket
- 2 Loosely mount perforated bracket
- 3 M6x12 bolt, flanged nut

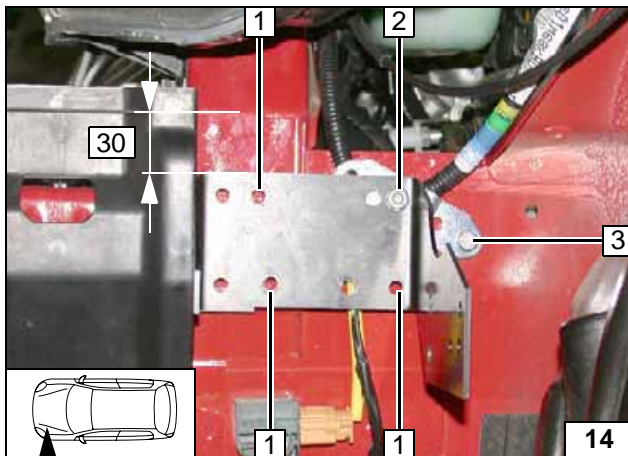
Premounting bracket



Drill existing hole to 9.1 mm dia. and install rivet nut.



Installing rivet nut

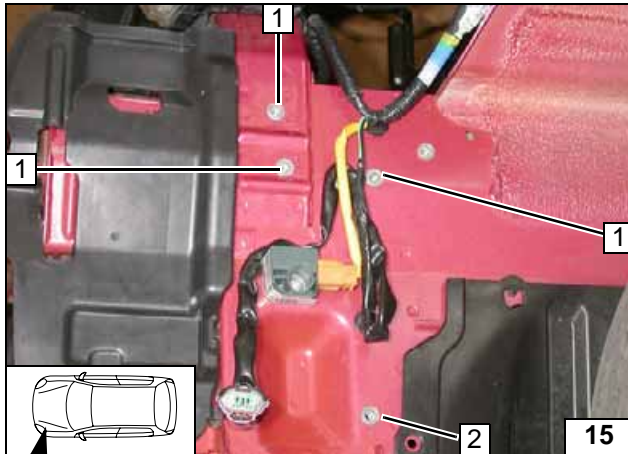
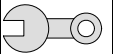


Align bracket 2, mount loosely and copy hole pattern to Position 1 [3x].



Copying hole pattern

- 3 M6x20 bolt

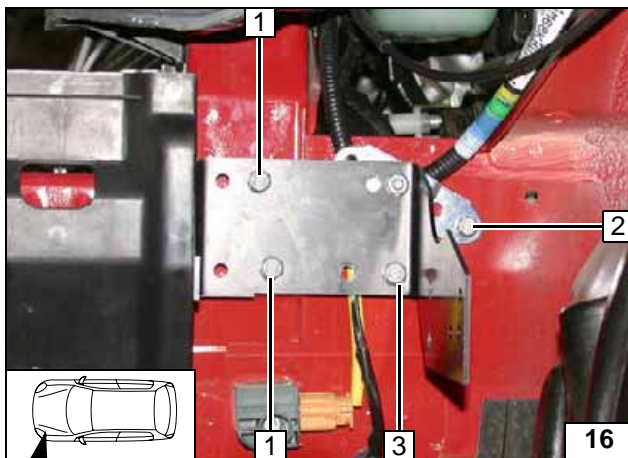


Removing bracket

- 1 9.1 mm dia. hole, rivet nut [3x each]
- 2 Drill out existing hole to 9.1 mm dia., rivet nut



Installing rivet nut

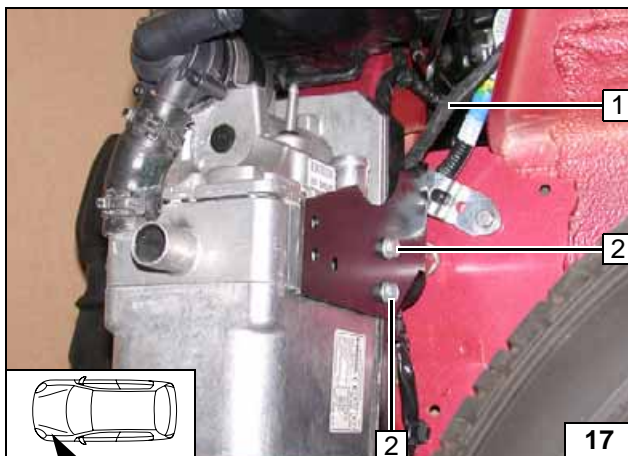


Insert one 15mm spacer nut each between bracket and frame side member at Position 1 and 3, as well as a large diameter washer at Position 3 .

- 1 M6x35 bolt, spring lockwasher, 15mm shim [2x each]
- 2 M6x20 bolt, spring lockwasher
- 3 M6x35 bolt, spring lockwasher, 15mm spacer nut, large diameter washer



Installing bracket



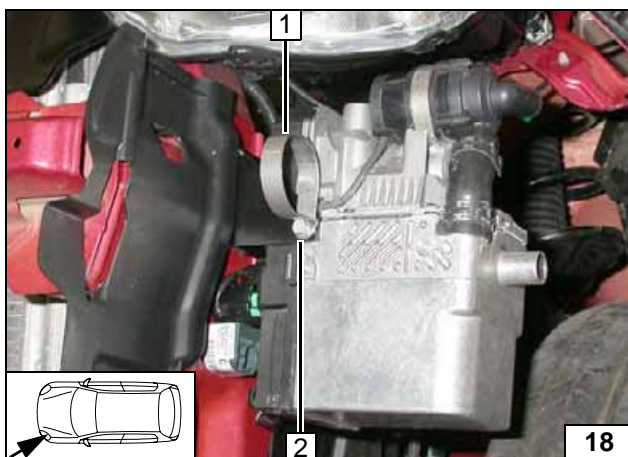
Installing heater

Before installation, mount wiring harness 1 on heater.

- 2 Eject screw [2x]

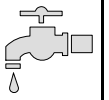


Installing heater



- 1 48 mm dia. pipe clamp
- 2 Loosely mount Eject screw

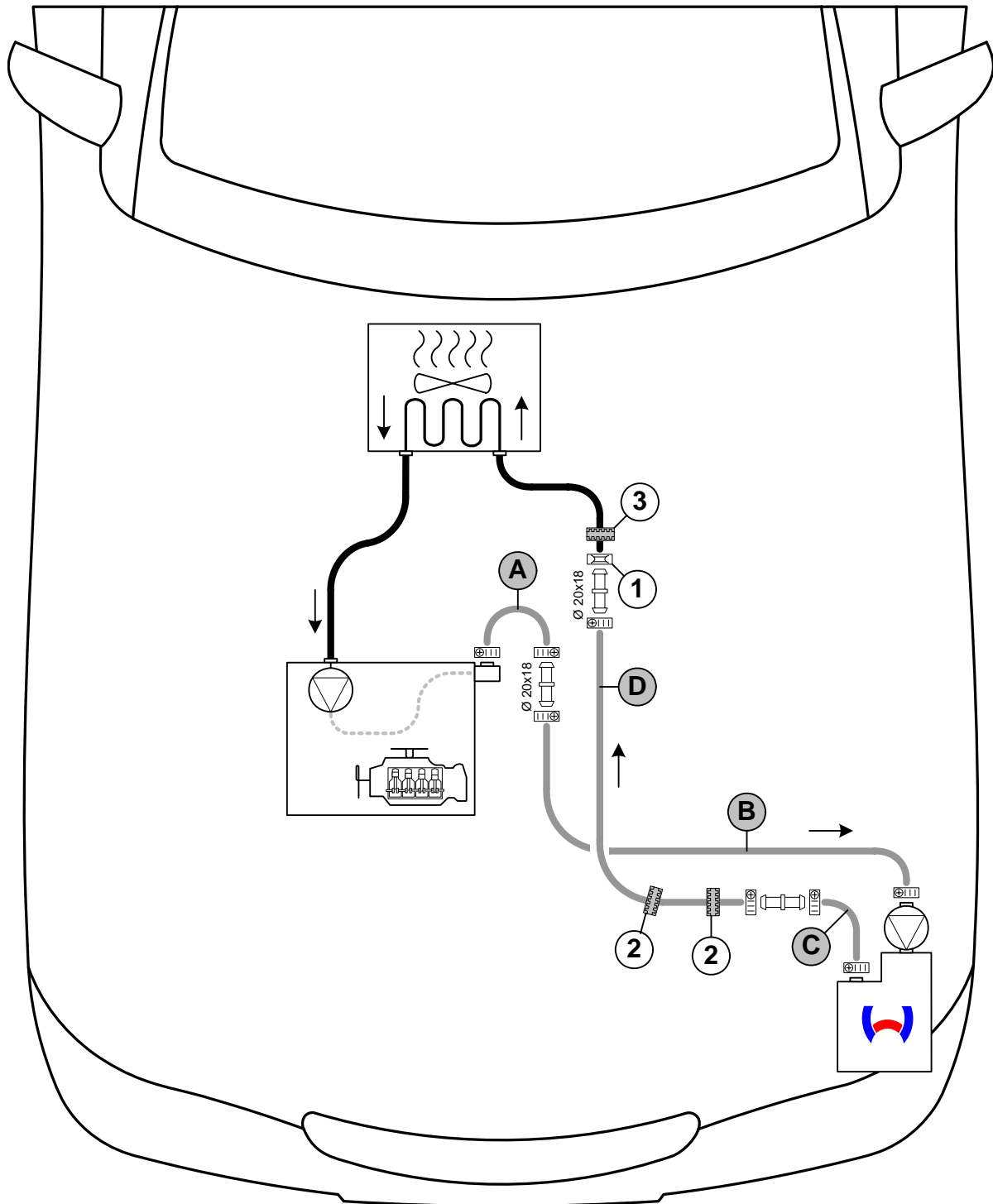
Installing heater



Coolant circuit

WARNING!

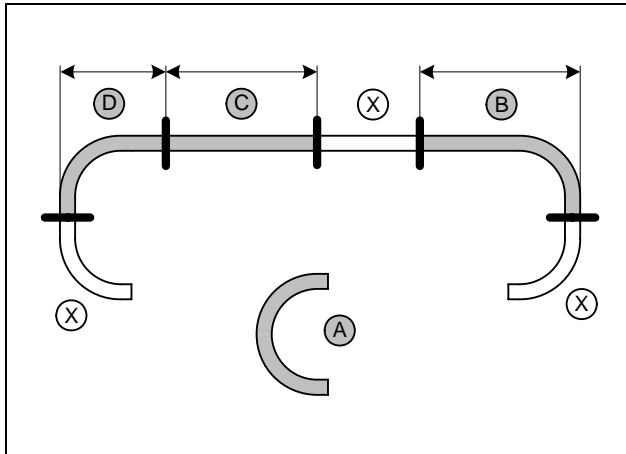
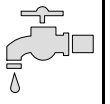
Any coolant running off should be collected using an appropriate container. Install hoses so that they are kink-free. Unless specified otherwise, always fasten using cable ties. Position clamps so that no other hose can be damaged! When installing the hoses, the heater must be filled with coolant. The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



Coolant circuit

Not designated connecting pipe (□) = 20x20 mm dia. 1 = Original vehicle spring clip (□).
 All not designated hose clamps (⊕) = 20-27 mm dia.
 2 = Black (sw) rubber isolator (▨) dia. = 25.5 mm.
 3 = Black (sw) rubber isolator (▨) dia. = 22 mm.



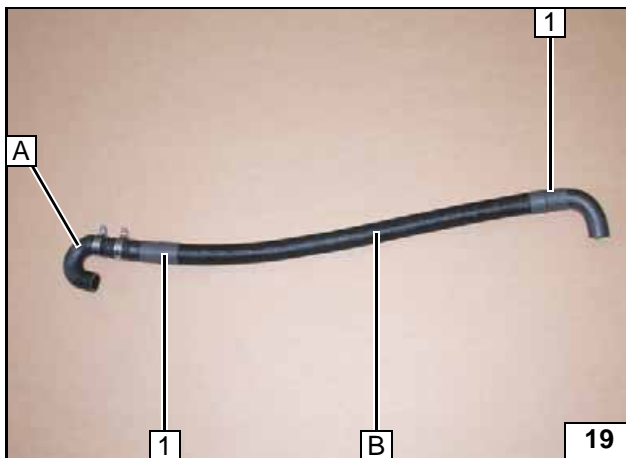


Discard section **X**
Hose **A** = 180°, 18x18 moulded hose

B = 635
C = 450
D = 100



Cutting coolant hoses to length

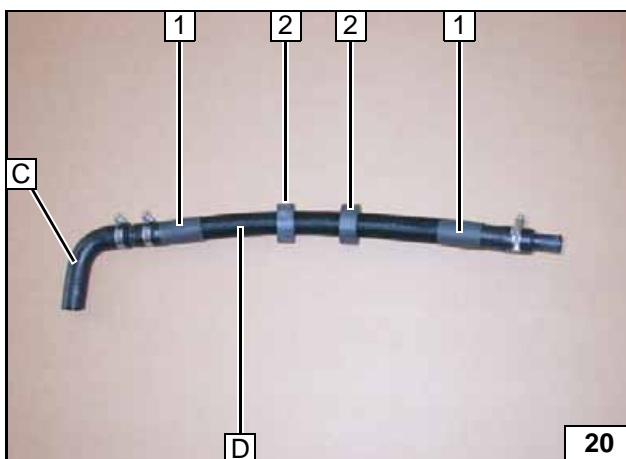


Push braided protection hose onto hose **B** and cut to length.
Cut heat shrink plastic tubing to length.

1 50 mm long heat shrink plastic tubing [2x]



Preparing hoses A and B

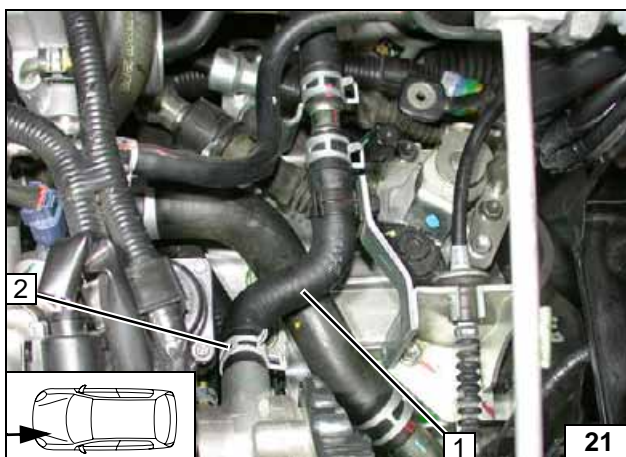


Push braided protection hose onto hose **D** and cut to length.
Cut heat shrink plastic tubing to length.

1 50 mm long heat shrink plastic tubing [2x]
2 Slide on black (sw) rubber isolator [2x]



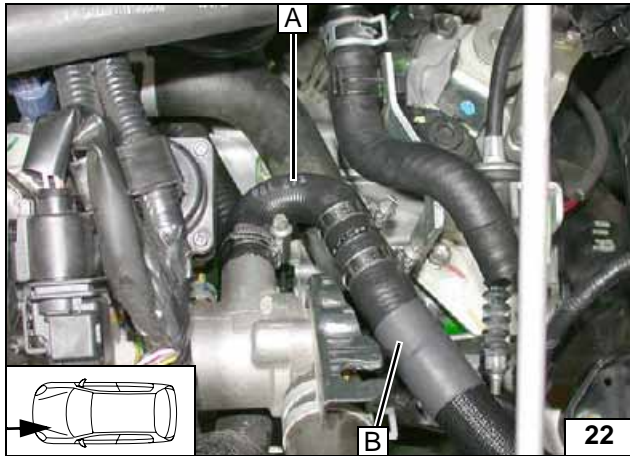
Preparing hoses C and D



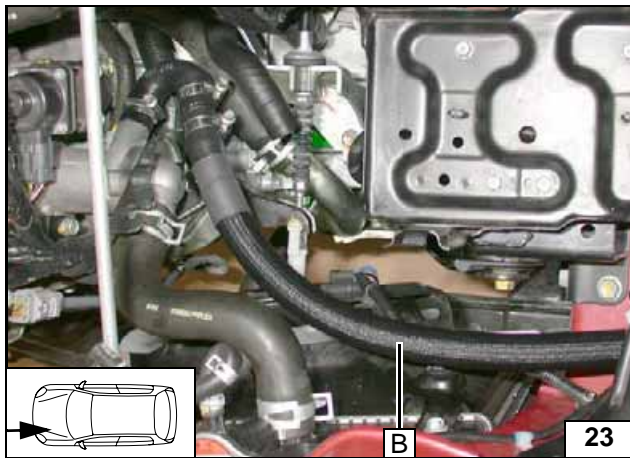
Disconnect hose to engine outlet/heat exchanger inlet **1** at connection piece of engine outlet. Spring clip **2** will be reused.



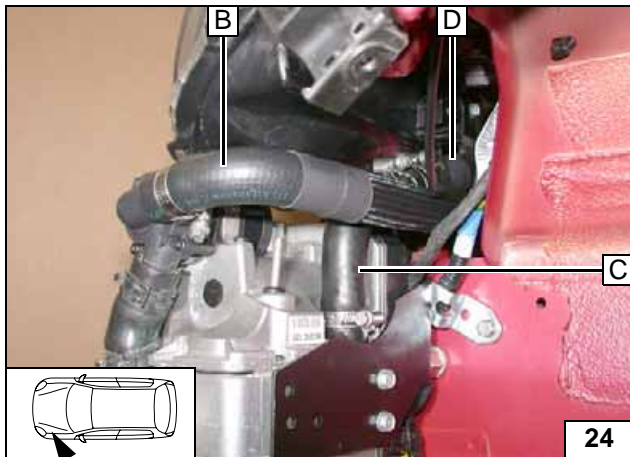
Cutting point



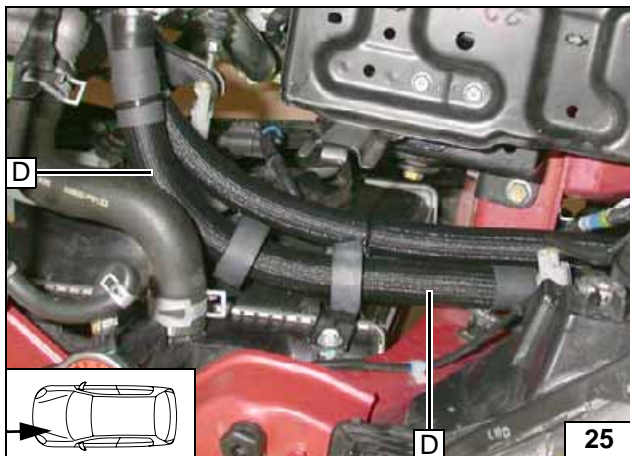
Connect-
ing engine
outlet



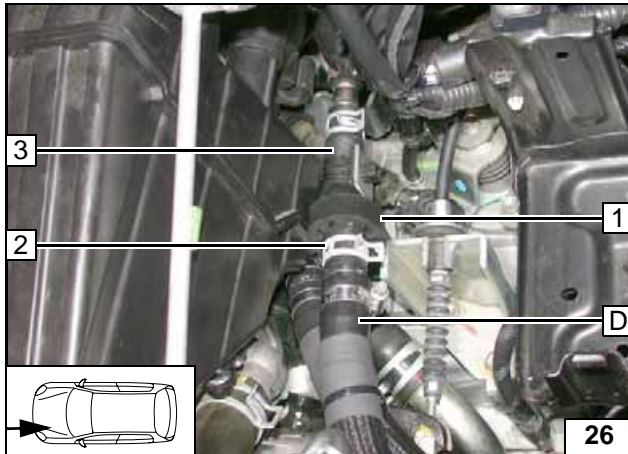
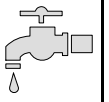
Routing in
engine
compart-
ment



Connect-
ing heater



Routing in
engine
compart-
ment

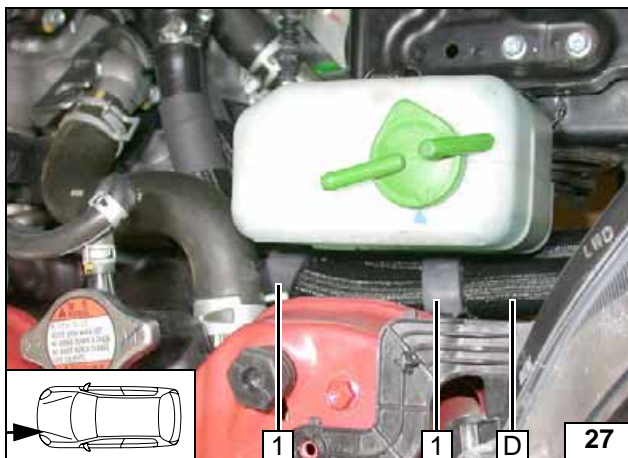


Slide on 22 mm dia. black (sw) rubber isolator 1 onto hose of heat exchanger inlet 3 and align to air filter box.

2 Original vehicle spring clip



**Connect-
ing heat
exchanger
inlet**



Ensure sufficient distance to neighbouring components. Align black (sw) rubber isolator 1 [2x] on expansion tank.



**Aligning
rubber iso-
lator**



Fuel

CAUTION!

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

Catch any fuel running off with an appropriate container.

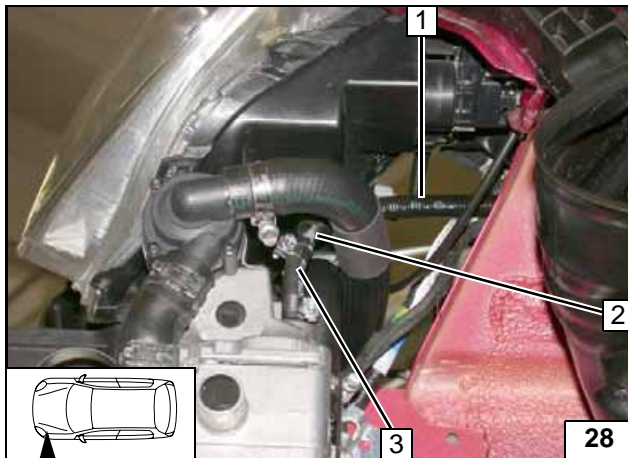
Install fuel line and metering-pump wiring harness so that they are protected against stone impact. Unless specified otherwise, always fasten using cable ties. Mount the fuel line and wiring harness with rub protection on sharp edges.

WARNING!

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

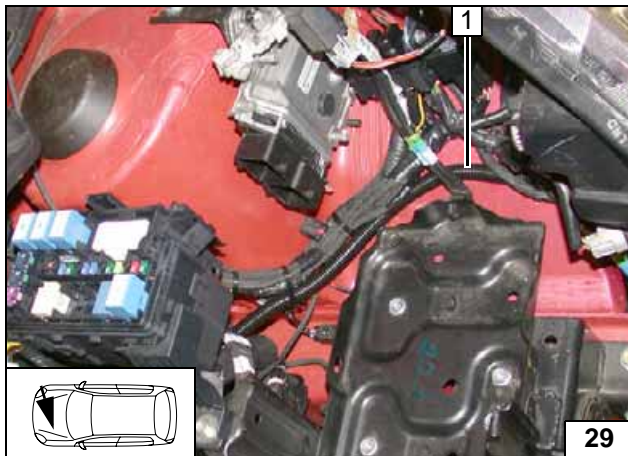


**Connect-
ing heater**



Slide on corrugated tube 1 onto fuel line 2.

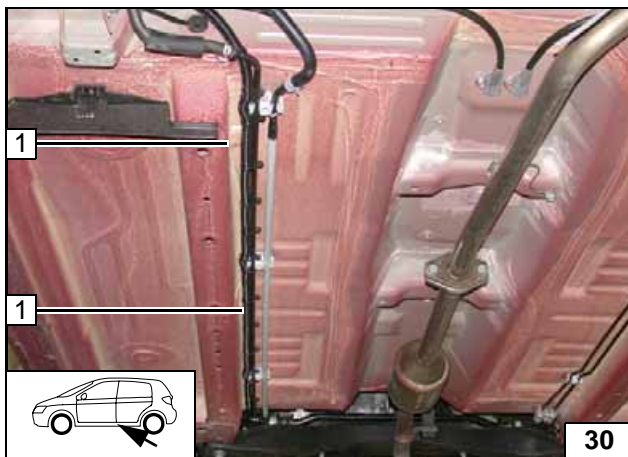
3 Hose section, 10 mm dia. clamp [2x]



Separate corrugated tube 1. Route fuel line and wiring harness of metering pump into the corrugated tube 1 to the firewall.



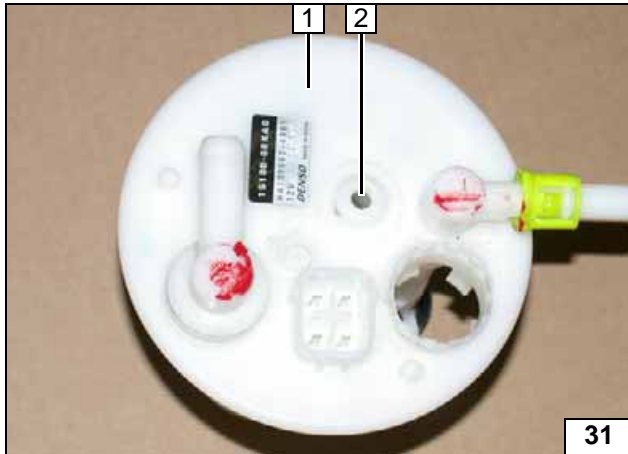
**Installing
lines**



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



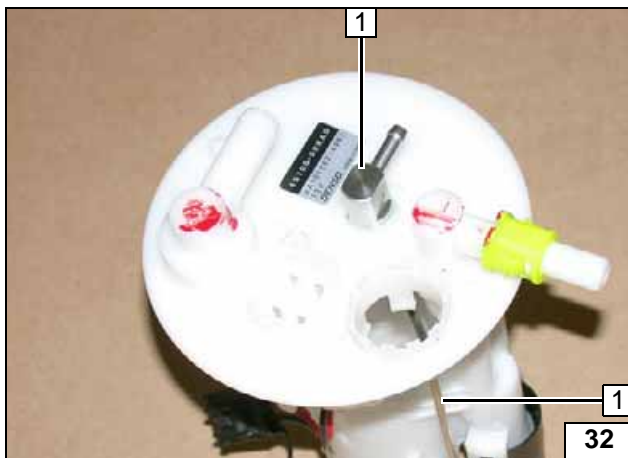
**Installing
lines**



Remove fuel tank according to manufacturer's instructions. Remove fuel-tank sending unit 1 in accordance with manufacturer's instructions. Remove fuel pump, fuel gauge and connection pieces of activated charcoal filter. Drill 6 mm dia. hole 2 at the centre of the circular elevation. When drilling hole watch the components in the rear.



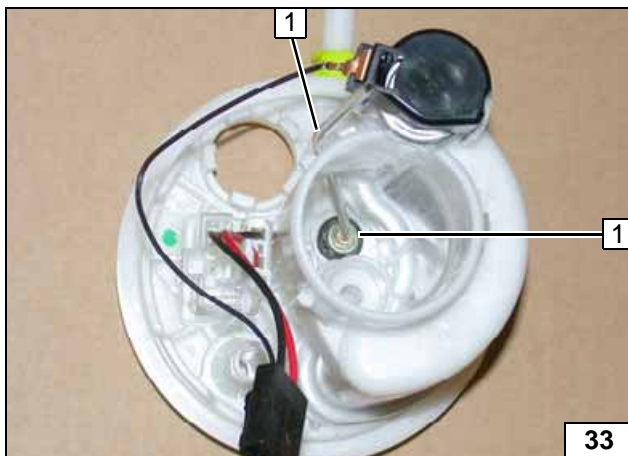
Removing fuel



Mould fuel standpipe 1 according to template, cut to length and insert as shown.



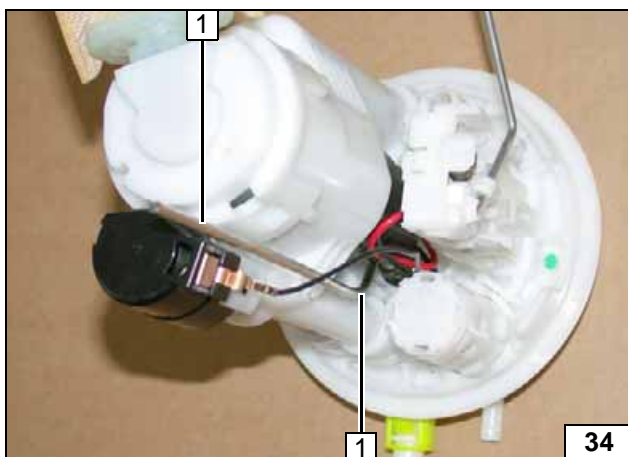
Installing fuel standpipe



1 Fuel standpipe



Installing fuel standpipe

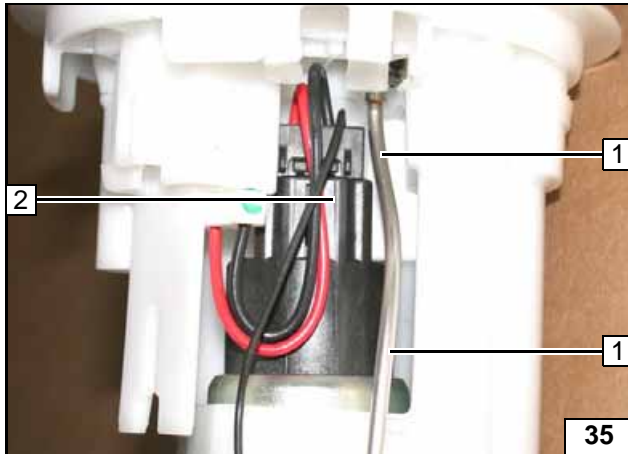


Completing fuel tank sending unit. Check the position of the components; adjust if necessary. Check that they have freedom of movement.



Installing fuel standpipe

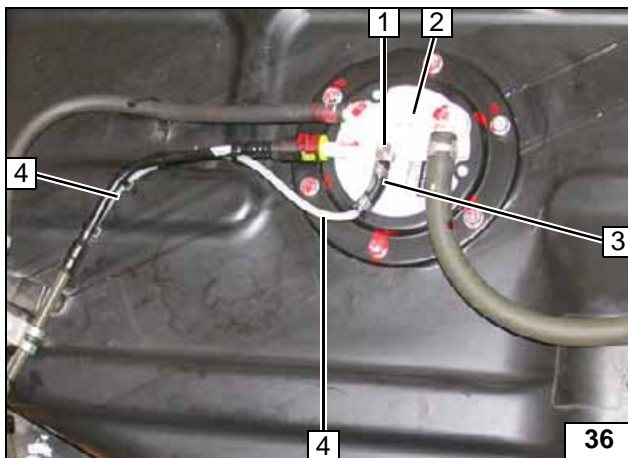
1 Fuel standpipe



Ensure sufficient distance from fuel standpipe 1 to connector 2.



Installing fuel standpipe

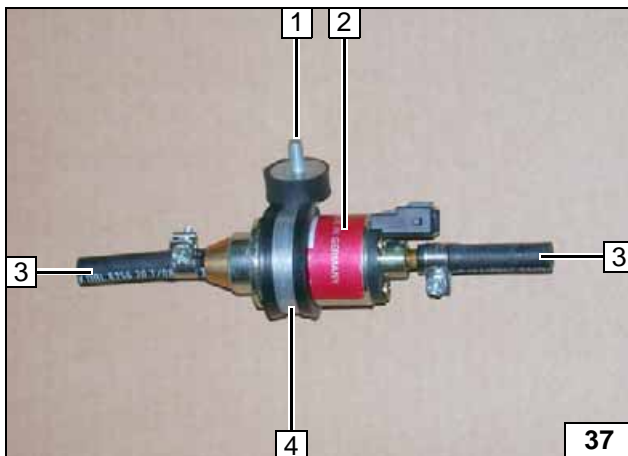


Install fuel-tank sending unit 2 in accordance with manufacturer's instructions.



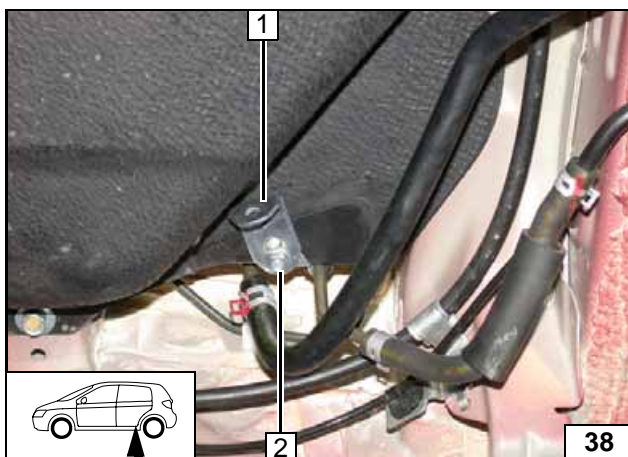
Connecting fuel line

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



- 1 Silent block, flanged nut
- 2 Metering pump
- 3 Hose section, 10 mm dia. clamp [2x each]
- 4 Rubber-coated pipe clamp

Premounting metering pump

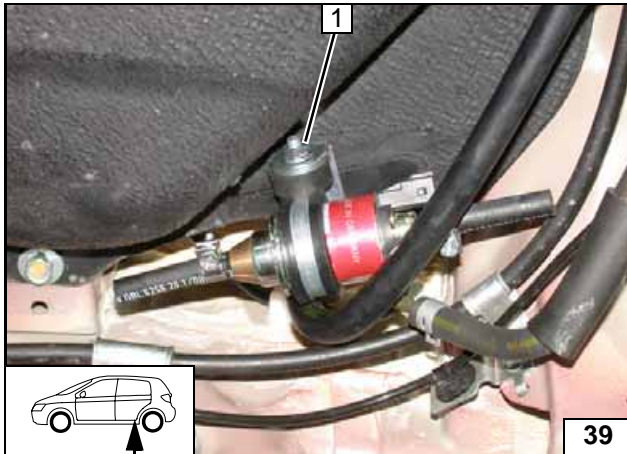


Install tank according to manufacturer's instructions.



Installing metering pump

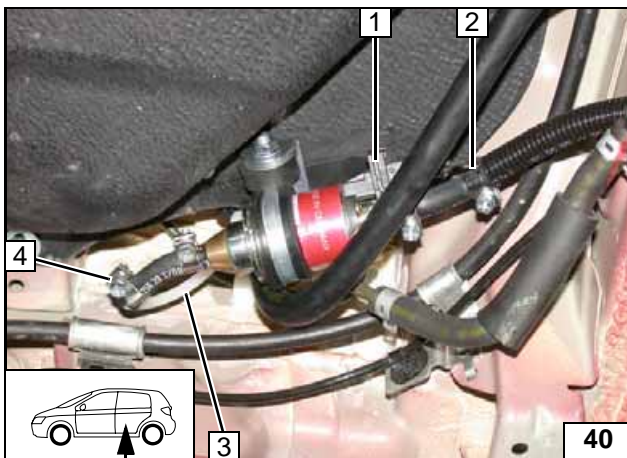
- 1 Angle bracket
- 2 Original vehicle bolt, flanged nut



1 Flanged nut



Installing metering pump

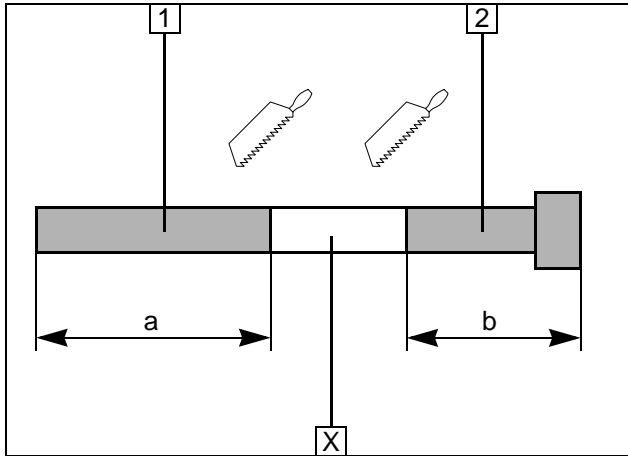
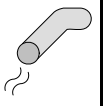


Route fuel line from fuel standpipe **3** to metering pump. Check the position of the components; adjust if necessary. Check that they have freedom of movement.



Connecting metering pump

- 1 Wiring harness of metering pump, connector installed
- 2 Fuel line of heater, 10 mm dia. clamp
- 4 10 mm dia. clamp



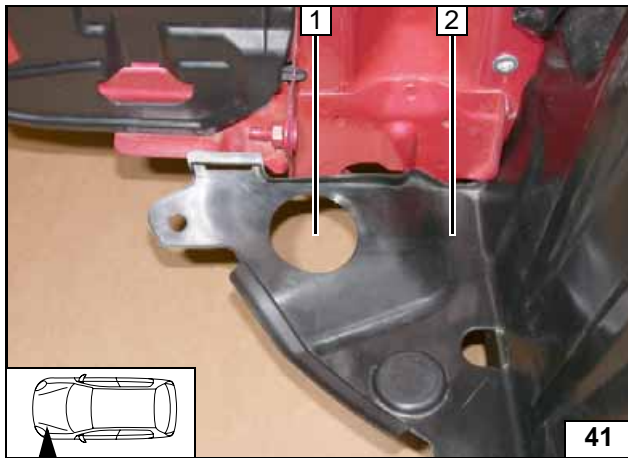
Exhaust gas

Discard section X

- 1 Exhaust pipe
a = 145
- 2 Exhaust end section
b = 145

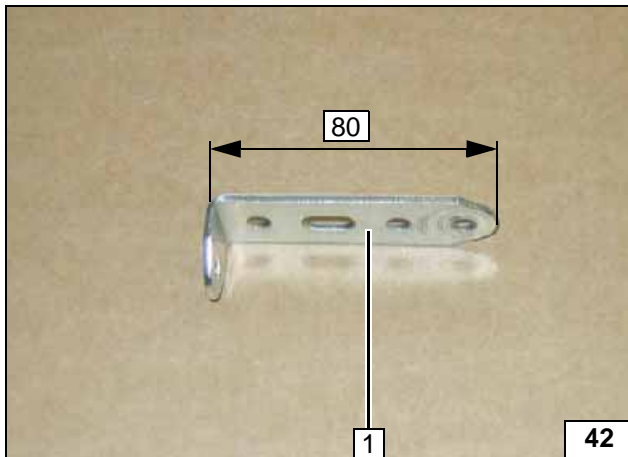


Preparing exhaust pipe



- 1 42 mm dia. hole
- 2 Wheel-well inner panel

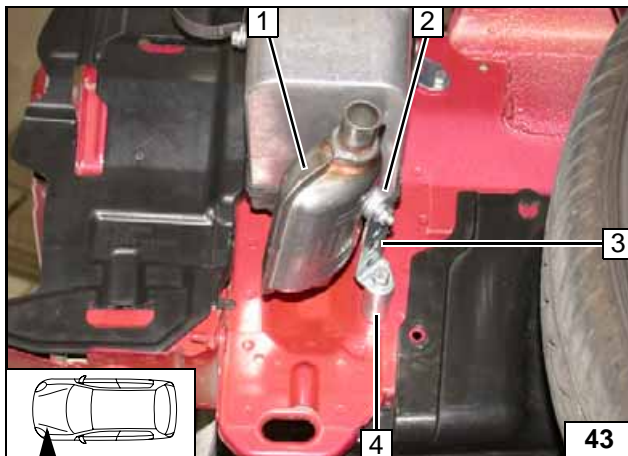
Cutting out wheel-well inner panel



Angle down perforated bracket 1 by 90°

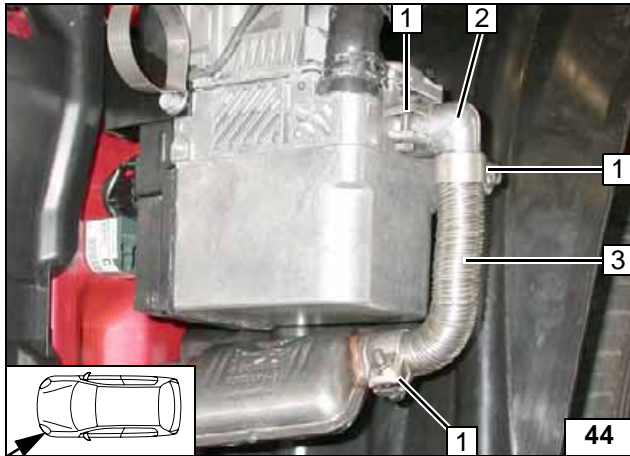
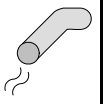


Angling down perforated bracket



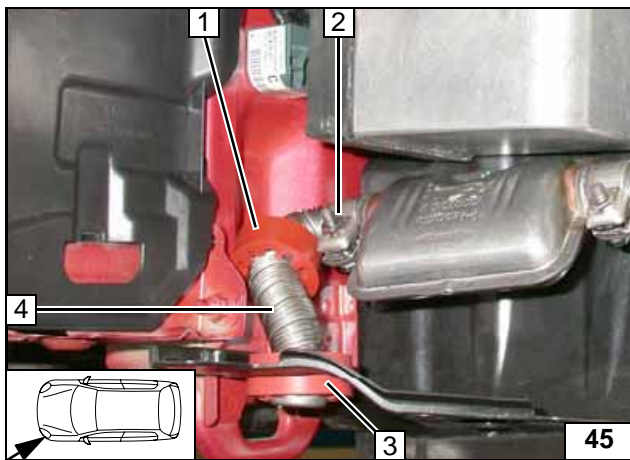
- 1 Exhaust silencer
- 2 M6x35 bolt, spring lockwasher, 20 mm shim, flanged nut
- 3 Perforated bracket
- 4 M6x55 bolt, spring lockwasher, 40 mm shim

Installing silencer



- 1 Hose clamp [3x]
- 2 Exhaust manifold
- 3 Exhaust pipe

Installing exhaust pipe

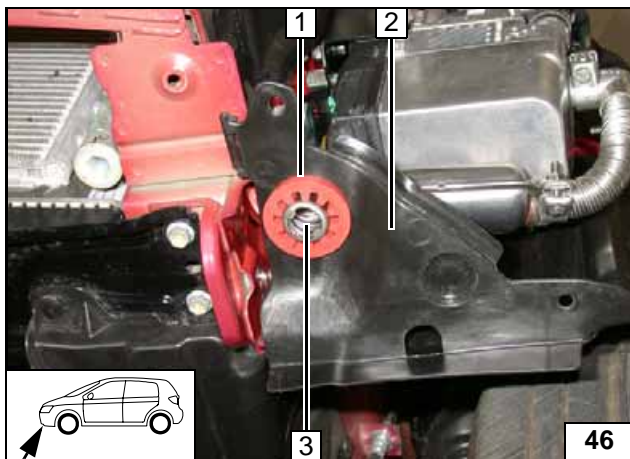


Slide on red (rt) rubber isolator 1 and red (rt) rubber isolator with groove 3 on to exhaust end section 4. Position red (rt) rubber isolator 1 on frame side member.



- 2 Hose clamp

Installing exhaust end section

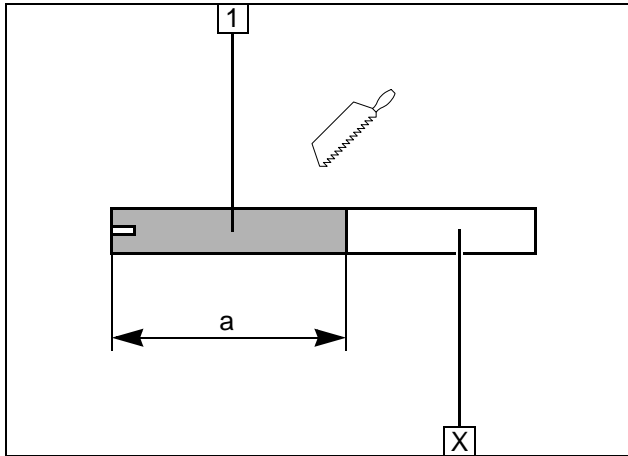
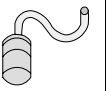


Ensure sufficient distance to neighbouring components. Align exhaust end section 3 flush on red (rt) rubber isolator 1.



- 2 Wheel-well inner panel

Mounting rubber isolator



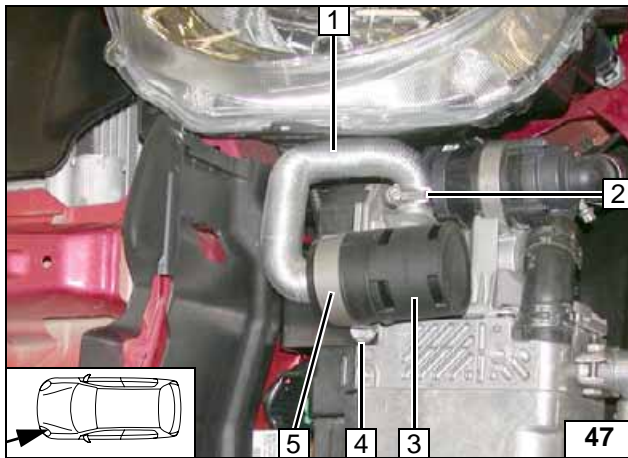
Combustion air

Discard section X

- 1 Combustion air pipe
a = 220



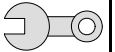
Cutting combustion air pipe to length



- 1 Combustion air pipe
- 2 27 mm dia. clamp
- 3 Silencer
- 4 Tighten Eject screw
- 5 48 mm dia. pipe clamp



Installing silencer



Final Work

WARNING!

Reassemble the disassembled components in reverse order.

Check all hoses, clamps and all electrical connections for firm seating.

Secure all loose wires using cable ties.

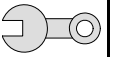
Only use manufacturer-approved coolant.

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.
- Set the digital timer.
- Make settings on A/C control panel according to the "Operating Instructions for End Customer".
- Check the proper functioning of the parking heater, see the operating instructions/installation instructions.
- Place adhesive label "Switch off parking heater before refilling" in the area of the filler neck



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Template for Fuel Standpipe



100 mm

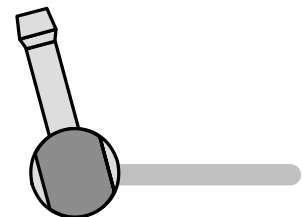


Scale 1:1

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.

Top view



100 mm

0

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

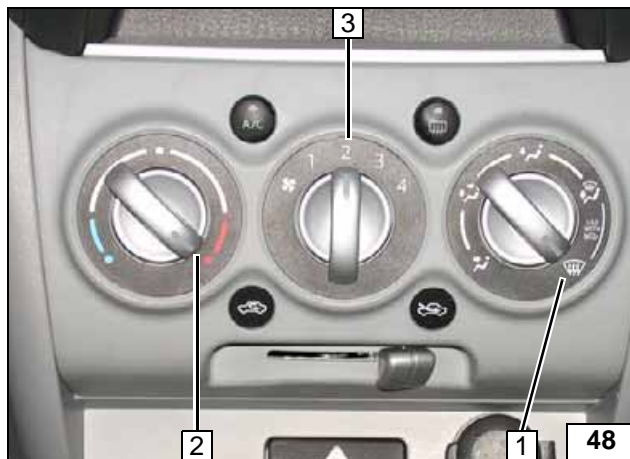
Example:

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

In vehicles with anti-theft alarm, passenger compartment monitoring is to be deactivated. Instructions on deactivation can be taken from the operating instructions of the vehicle

If the summer/winter switch option has been installed, this must be switched in accordance with the time of year. The heater will then heat in the position Winter  and in the position Summer  it will only switch on the vehicle fan to ventilate the vehicle interior.

Before parking the vehicle, make the following settings:



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

Manual air conditioning