Water Heater

***Thermo Top E* Parking Heater** e1 00 0003

***Thermo Top C* Parking Heater** e1 00 0002

Installation documentation

Mazda 2

1.6 Diesel
from Model Year 2009
Left-hand drive vehicle

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.
Only original Webasto parts must be used. For this, also see the catalog of air and water heater accessories from Webasto.

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.

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

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

Ident. No.: 1314867C_EN Fee Euro 10.00

Table of Contents

Validity

Manufacturer	Model	Type	EG-BE No./ ABE
Mazda	2	DE	e13 * 2001/116 * 0254 * ...

Engine type	Engine model	Output in kW	Displacement in cm³
Y6	Diesel	66	1560
Y6	Diesel	70	1560

Vehicle and engine types, equipment variants and national specifications not listed in this installation documentation have not been tested. However, installation according to this installation documentation 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	Retail accessories *Thermo Top E / C / P*	See price list
1	Installation kit for Mazda 2 2009 1.6 Diesel	1314866B
	Mazda Order No.:	4100-78-769A
1	Heater control	See 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

This installation document applies to the Mazda 2 1.6 Diesel 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 this installation documentation.

However, the stipulations in this "installation documentation" and the "operating and maintenance instructions" for the *Thermo Top C/E* 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 must be provided with rub protection (cut-open fuel hose)!
Spray unfinished body areas, e.g. drilled holes, with anti-corrosion wax (Tectyl 100K, Order No. 111329).

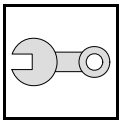
Special tools

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

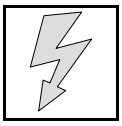
Explanatory notes on document

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

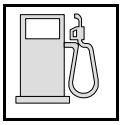


Electrical system



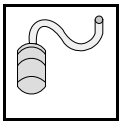
Coolant circuit

Fuel



Exhaust gas

Combustion air



Special features are highlighted using the following symbols:

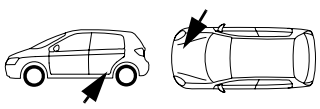
Specific risk of injury or fatal accidents.

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.

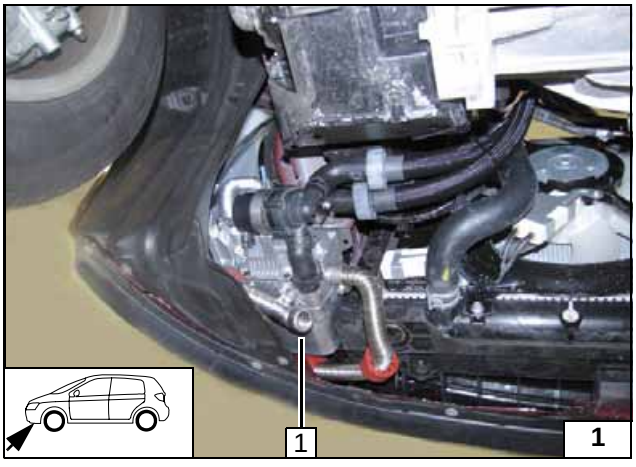
All dimensions are in mm!
Tightening torque of hose clamps = 2.0 + 0.5 Nm!
Tightening torque of Ejot screws, Ejot studs = 10 Nm!

Preliminary work

WARNING!

- Open the fuel tank cap and vent the fuel tank.
- Close the 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.
- Completely remove the battery together with the carrier.
- Remove the air filter together with the intake hose
- Remove the left-hand wheel well trim.
- Remove the bumper.
- Remove the instrument panel trim on the driver's side.
- Expose the central electrical box on the driver's side.

Remove page 26 "Operating Instructions for End Customer" and attach to vehicle operating instructions.



Heater installation location

1 Heater

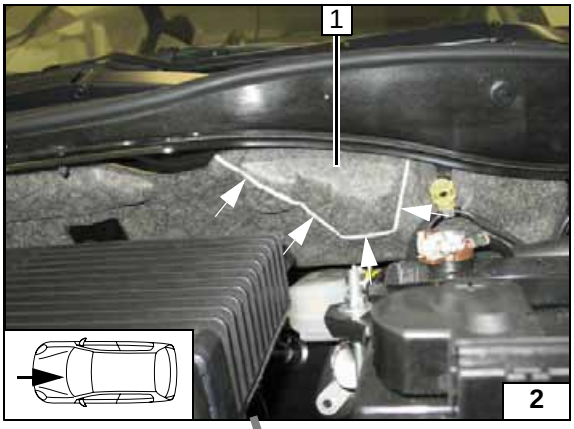
Installation location

Electrical system

Preparing fuse holder, K3 relay

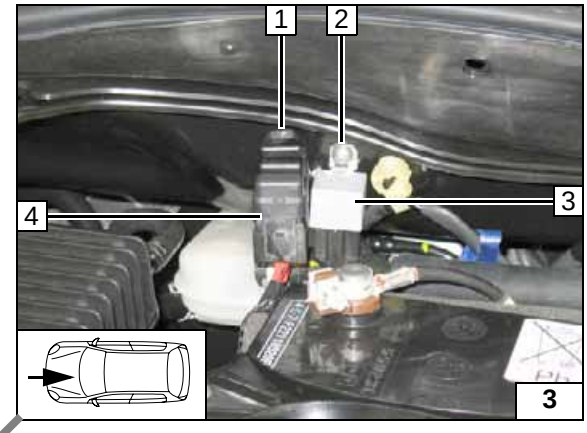
Cut away insulation mats (if present) at marking.

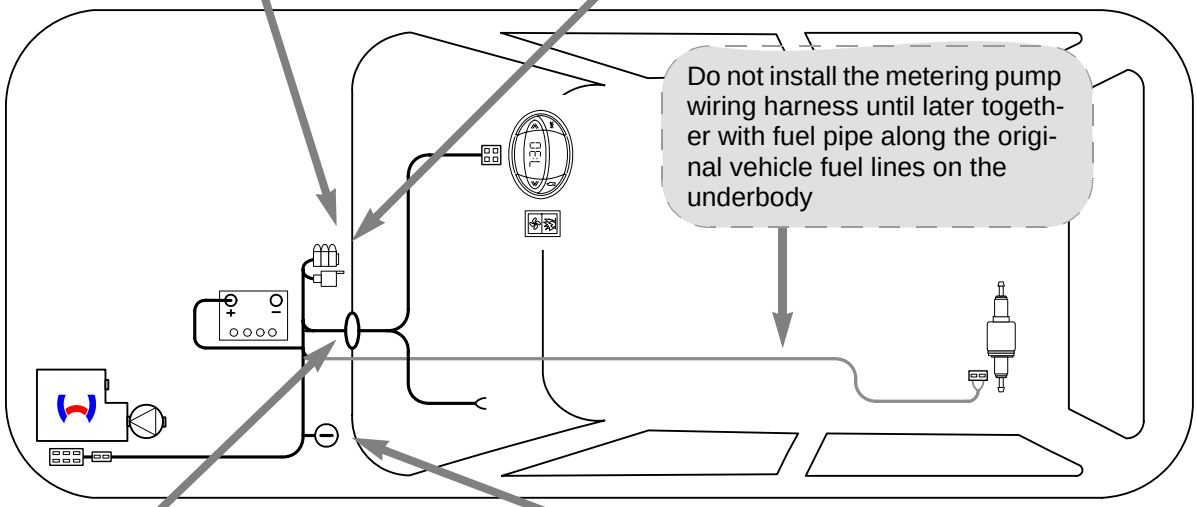
1 Discard section



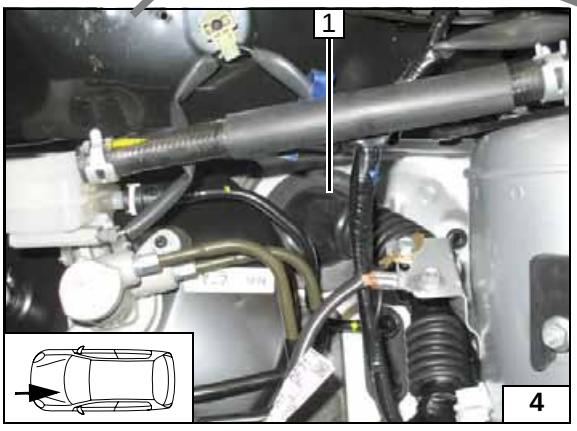
Fuse holder, K3 relay

1 4 mm dia. hole, 5.5x13 self-tapping screw, retaining plate of fuse holder on coolant reservoir
2 4 mm dia. hole, 5.5x13 self-tapping screw
3 K3 relay
4 Fuse holder





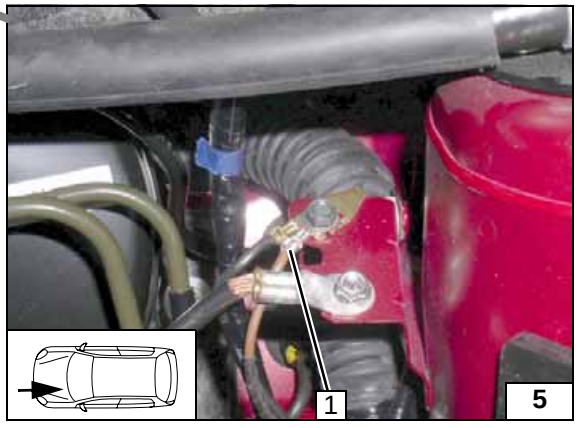
Wiring harness routing diagram



Wiring harness pass through

Positive wire on battery - positive distributor, tightening torque 8-13 Nm.

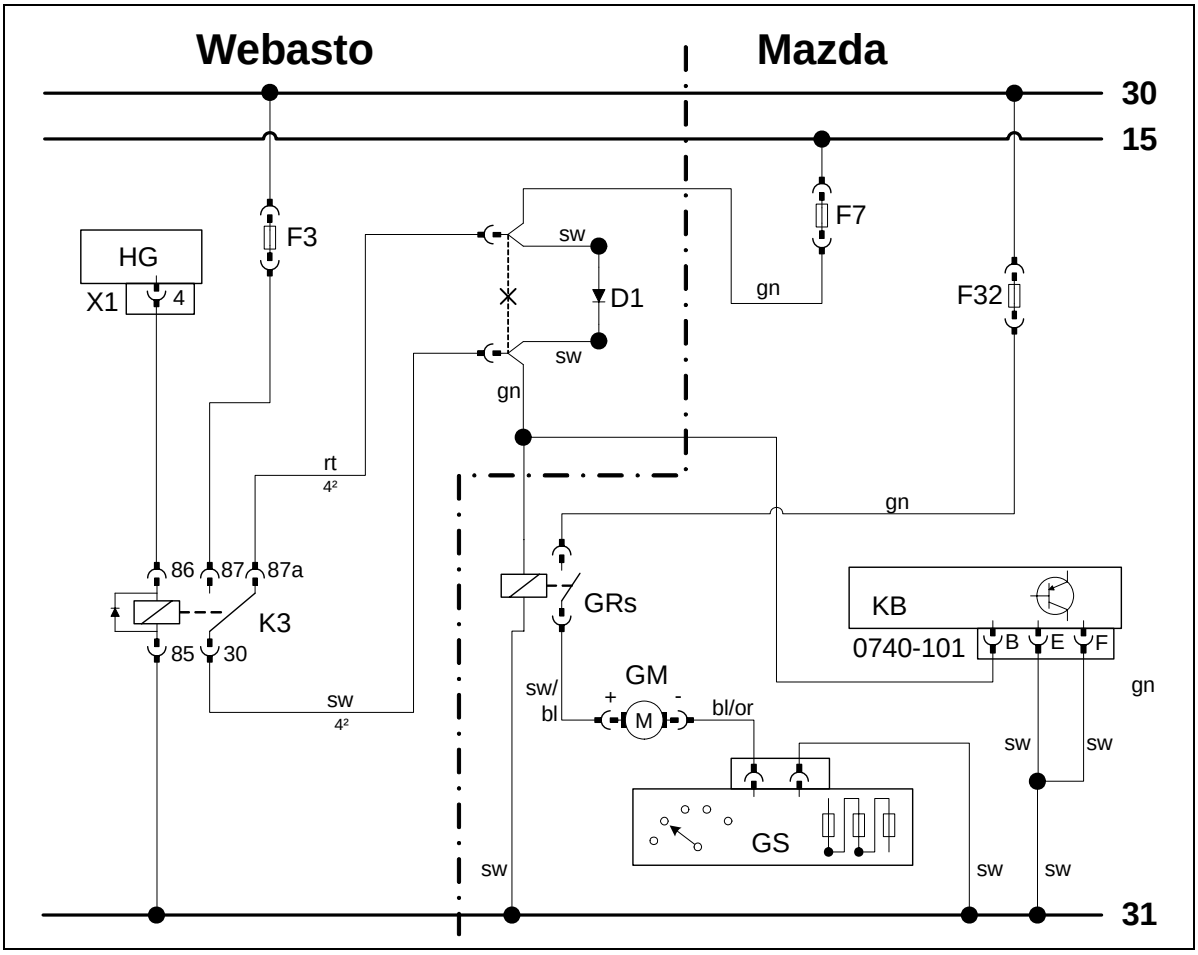
1 Protective rubber plug



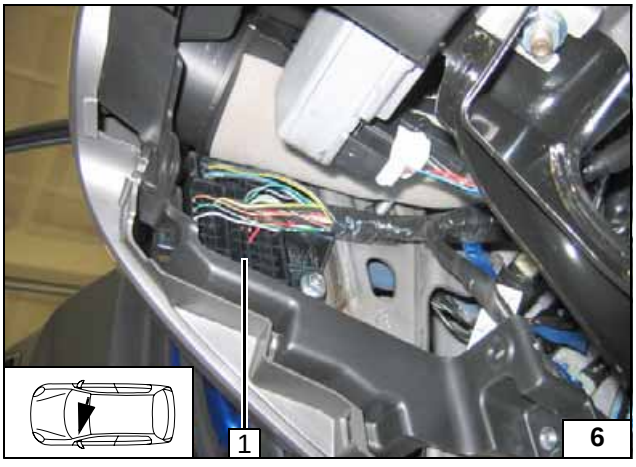
Earth wire

1 Earth wire on original vehicle earth point, tightening torque 8-13 Nm!

Fan control for manual air conditioning



Webasto components		Vehicle components		Colours and symbols	
HG	Heater TT-C/E	GM	Fan motor	rt	red
X1	6-pin heater connector	GRs	Fan relay	or	orange
F3	Replace 25 A with 7,5A fuse.	GS	Fan switch/resistor group	sw	black
				bl	blue
K3	Fan relay	KB	Air-conditioning control unit	gn	green
D1	Diode 3A	F7	7.5 A A/C fuse		
		F32	30 A blower fuse		
				X	Cutting point
				Wiring colours may vary.	

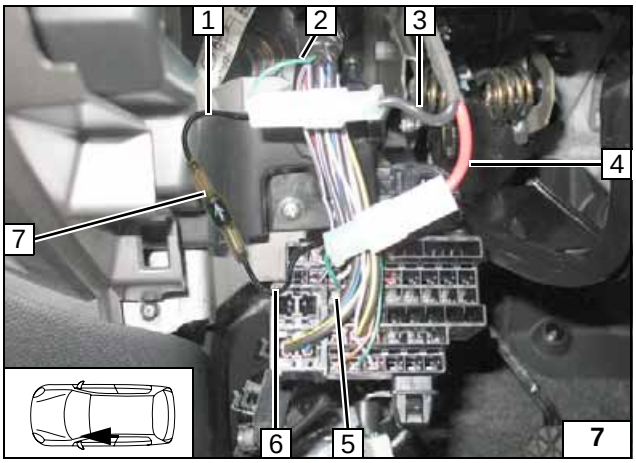


Connection on fuse box F02 **1** of central electrical box.
Produce connections as shown in wiring diagram.

Wiring diagram

Legends

Installation location of central electrical box

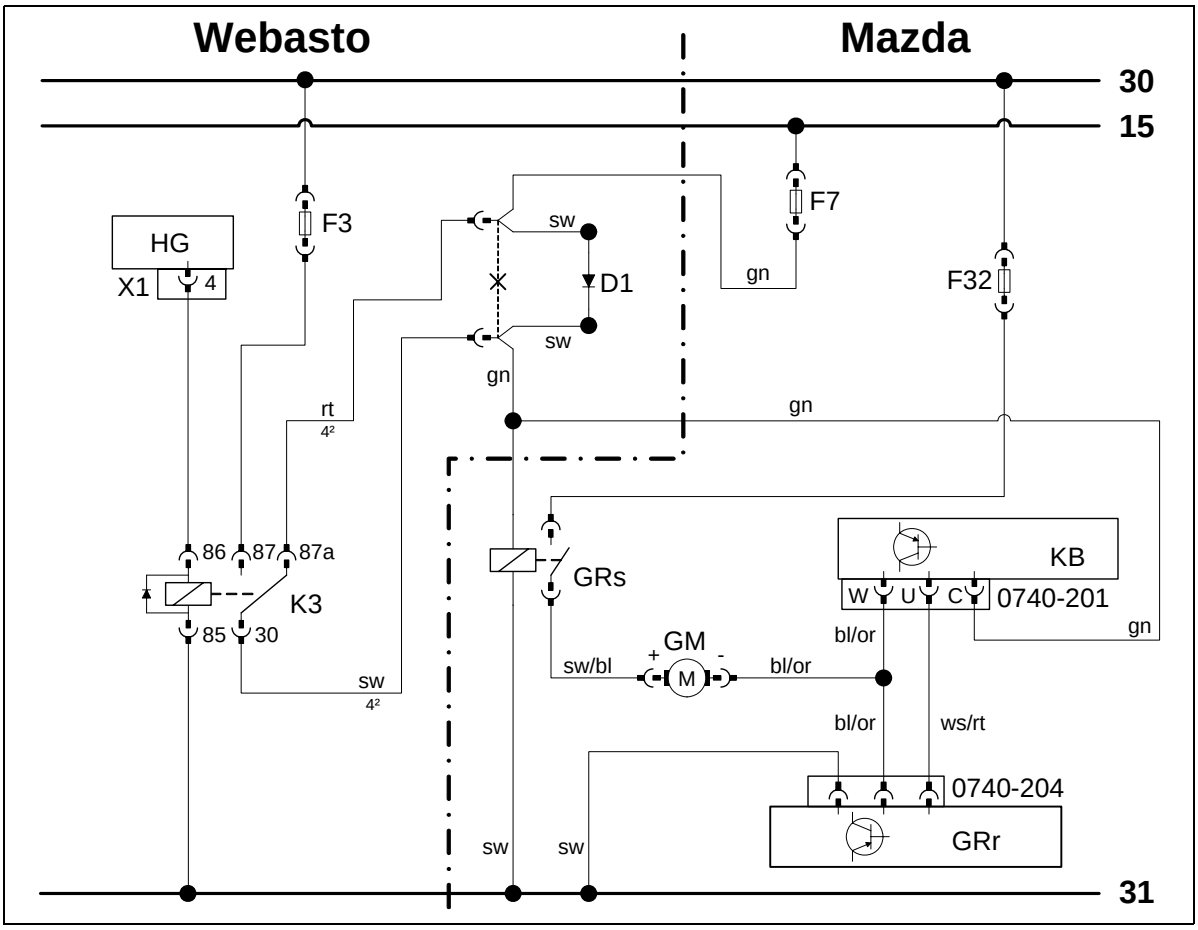


Pay attention to the through-flow direction of the diode **7**.

1 Black (sw) wire on output of diode D1
2 Green (gn) wire of A/C control panel connector 0740-101, Pin B
3 Black (sw) wire of K3/30
4 Red (rt) wire of K3/87a
5 Green (gn) wire of fuse F7
6 Black (sw) wire on input of diode D1

Connecting central electrical box

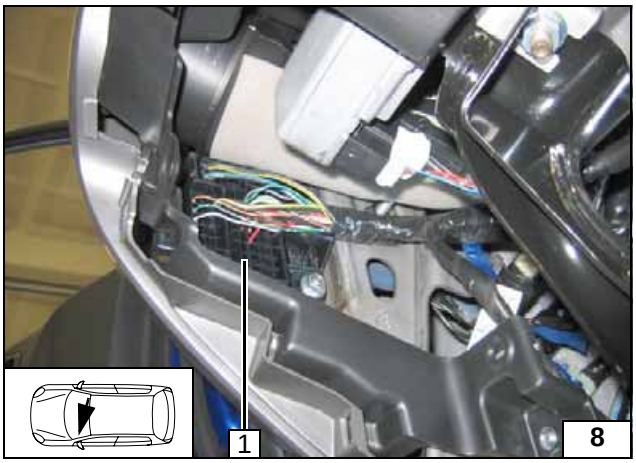
Automatic air-conditioning fan control



Wiring diagram

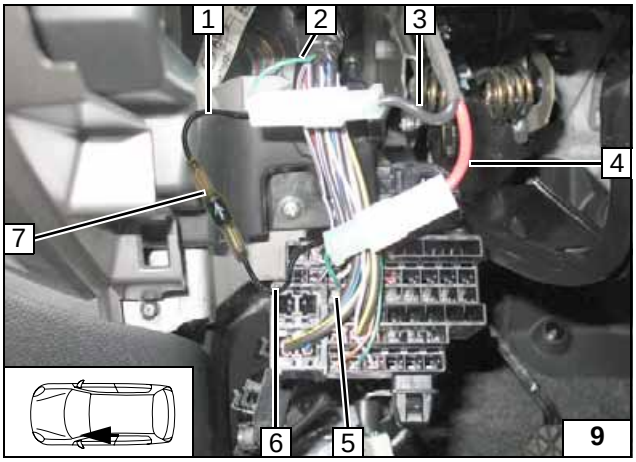
Webasto components		Vehicle components		Colours and symbols	
HG	Heater TT-C/E	GM	Fan motor	rt	red
X1	6-pin heater connector	GRs	Fan relay	ws	white
F3	Replace 25 A with 7,5A fuse.	GRr	Fan controller	sw	black
		KB	A/C control panel	bl	blue
K3	Fan relay	F7	7.5 A A/C fuse	gn	green
D1	Diode 3A	F32	30 A blower fuse	or	orange
				X	Cutting point
				Wiring colours may vary.	

Legends



Connection on fuse box F02 **1** of central electrical box.
Produce connections as shown in wiring diagram.

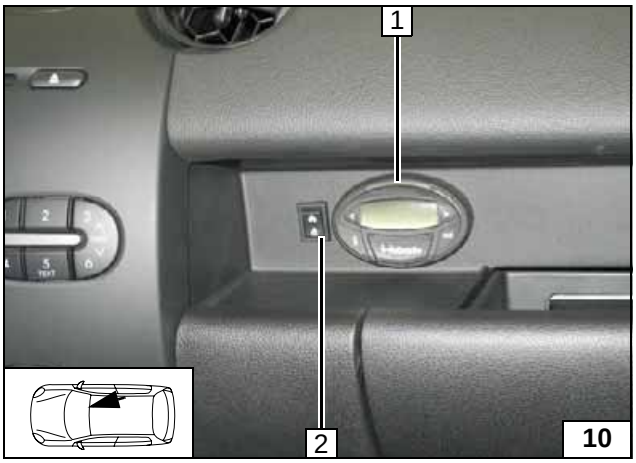
Installation location of central electrical box



Pay attention to the through-flow direction of the diode **7**.

1 Black (sw) wire on output of diode D1
2 Green (gn) wire of A/C control panel connector 0740-101, Pin B
3 Black (sw) wire of K3/30
4 Red (rt) wire of K3/87a
5 Green (gn) wire of fuse F7
6 Black (sw) wire on input of diode D1

Connecting central electrical box

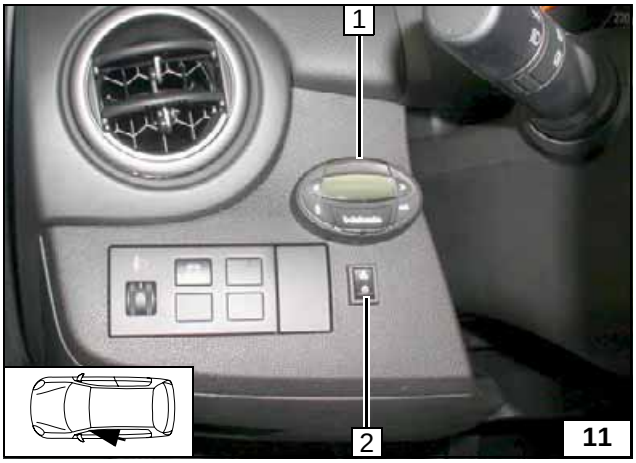


Digital timer and optional summer/winter switch

Up to model year 2009!

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

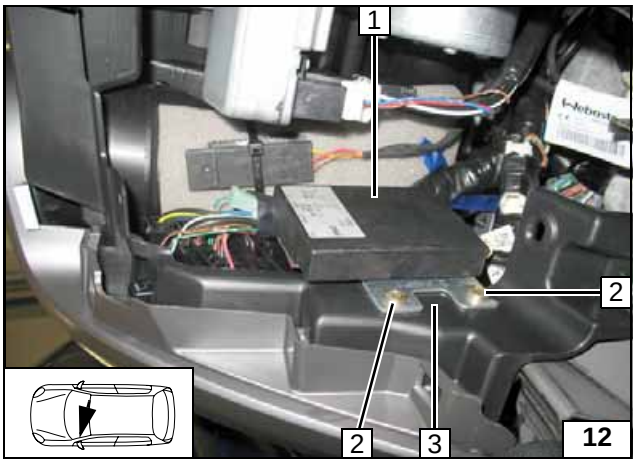
Installing digital timer



From model year 2010!

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

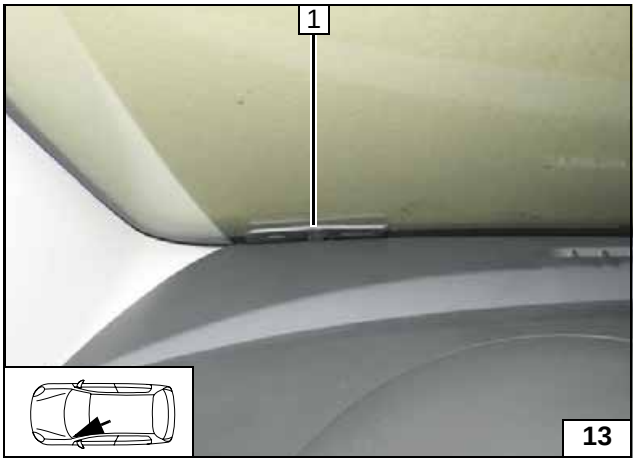
Installing digital timer



Remote option (Telestart)

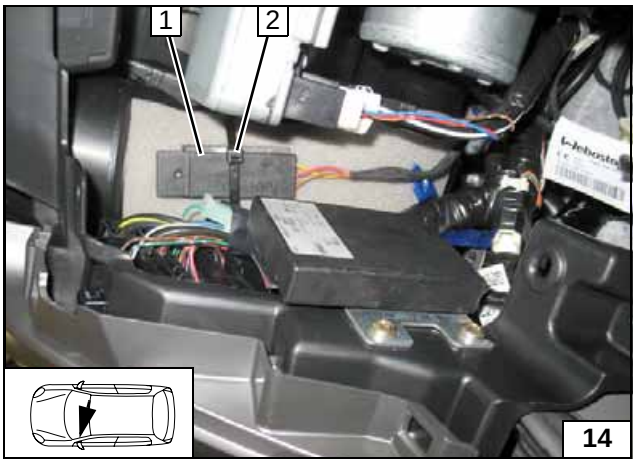
1 Receiver
2 4 mm dia. hole, 5.5x9.5 self-tapping screw
3 Bracket

Installing receiver



1 Antenna

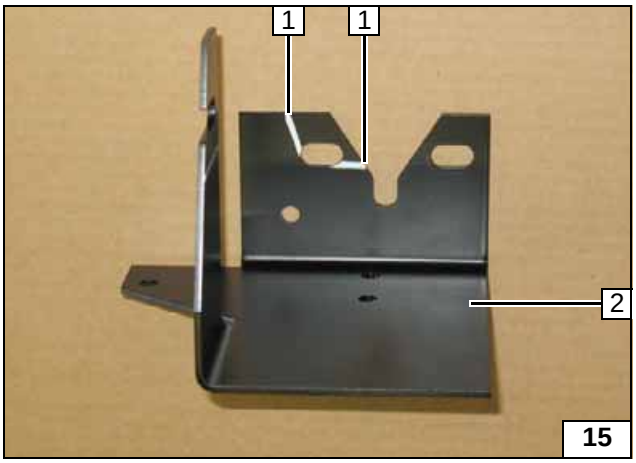
Installing antenna



Temperature sensor T100 HTM

1 Temperature sensor
2 Cable tie

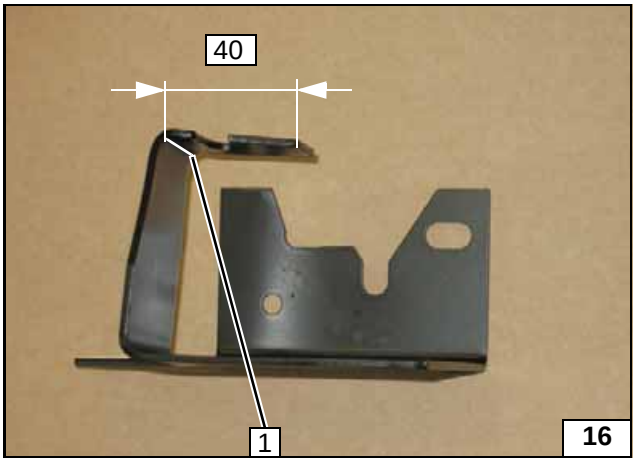
Installing temperature sensor



Preparing bracket

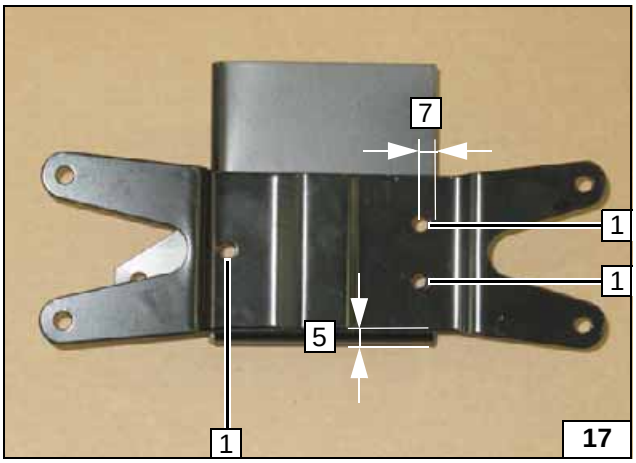
Cut out bracket **2** at marking **1** [2x].

Preparing bracket



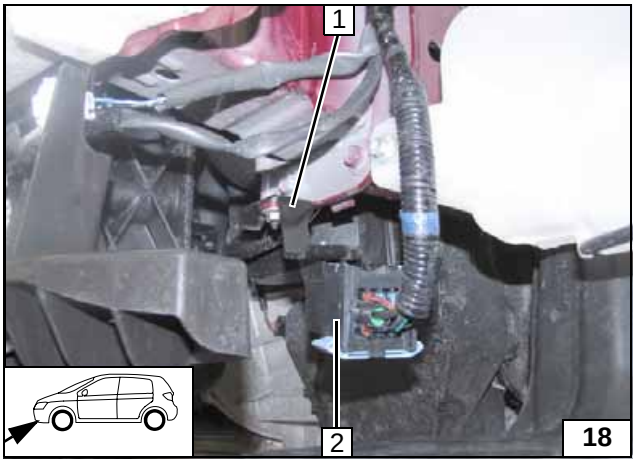
Bend bracket by 90° at position **1**.

Preparing bracket



1 Copy hole pattern [3x], 7 mm dia. hole

Preparing bracket

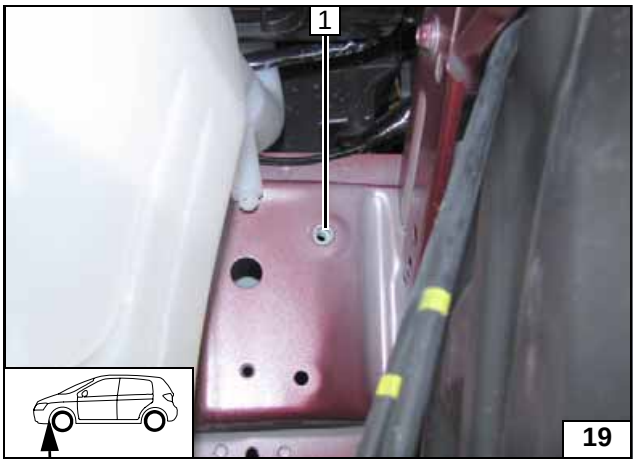


Preparing installation location

From model year 2010

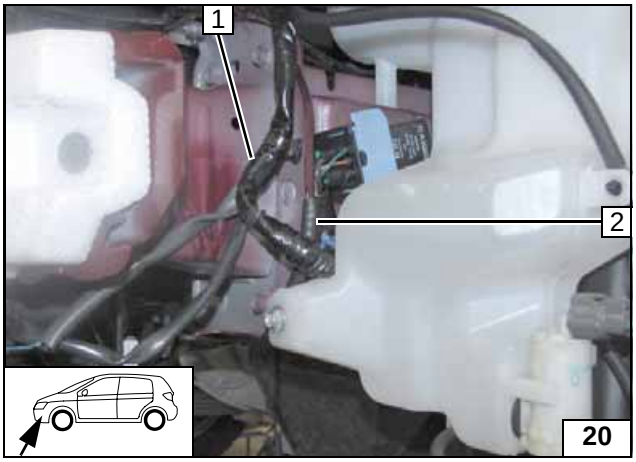
Remove relay **2** with bracket **1**. Discard bracket; bolt will be reused.

Removing relay



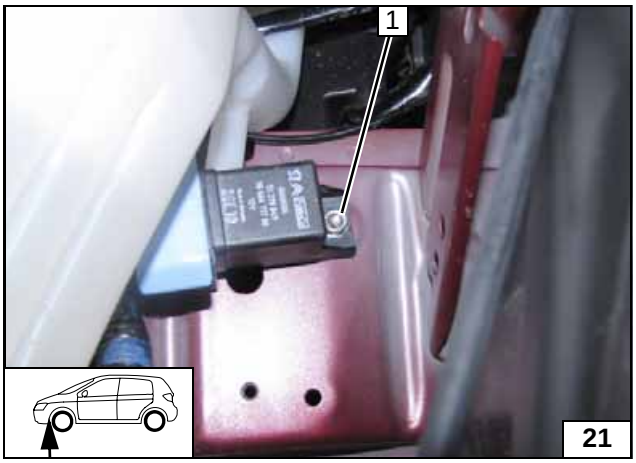
1 Drill 9.1 mm dia. hole; install rivet nut

Installing rivet nut



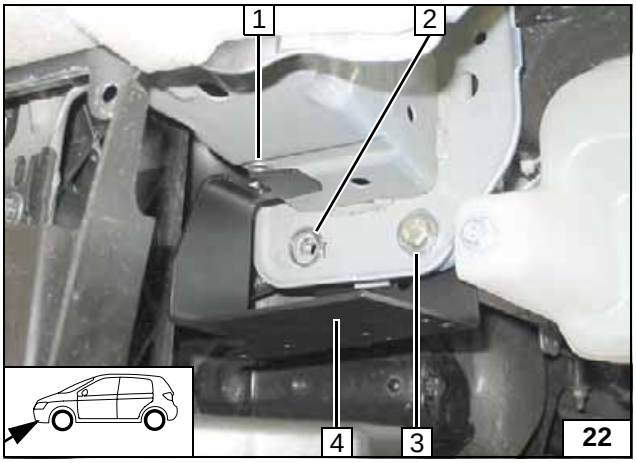
1 Wiring harness
2 50 mm edge protection

Routing wiring harness



1 Original vehicle bolt, relay

Installing relay

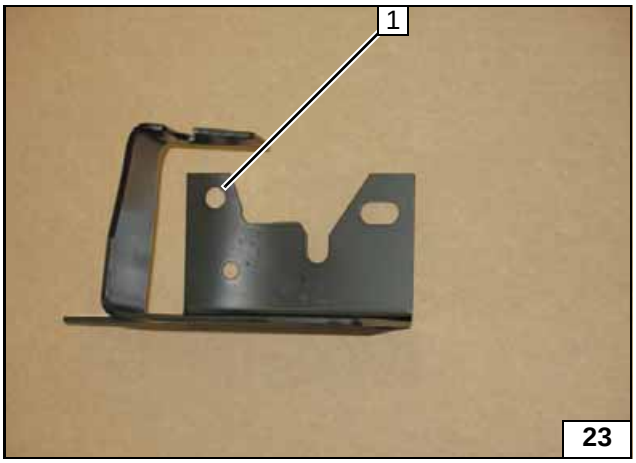


All vehicles

Copy hole pattern **2** to bracket **4**. Remove bracket**4**.

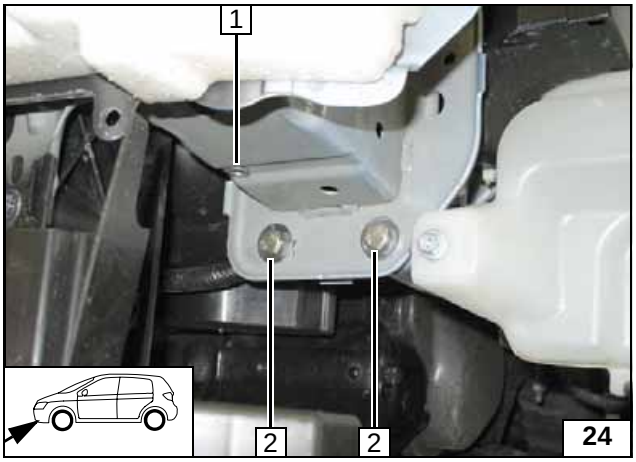
1 Copy hole pattern
3 M8x40 bolt

Copying hole pattern



1 8.5 mm dia. hole

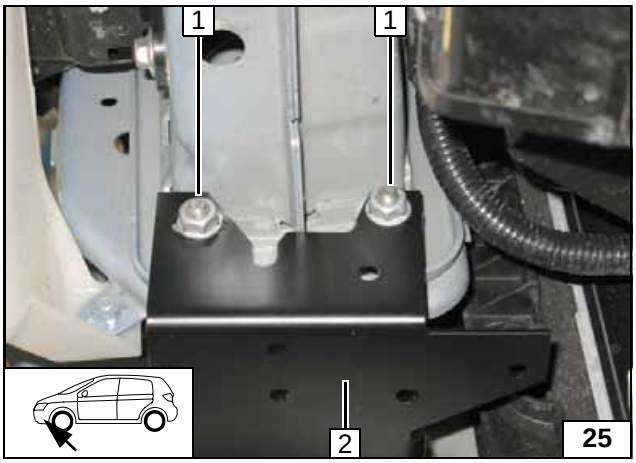
Copying hole pattern



1 Drill 9.1 mm dia. hole; install rivet nut
2 M8x40 bolt, spring lock washer, large diameter washer [2x each]

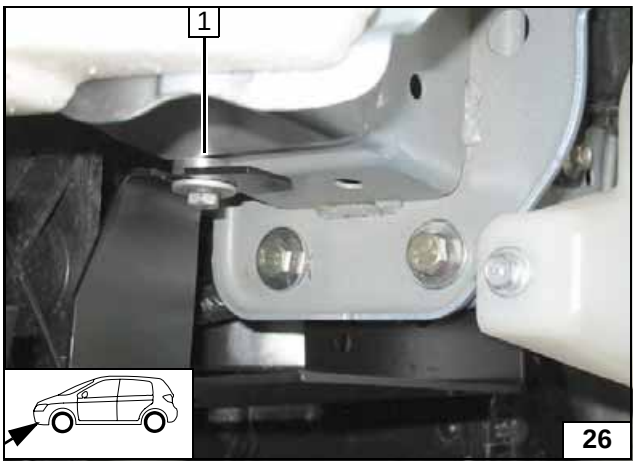
Preparing installation location

Installing heater



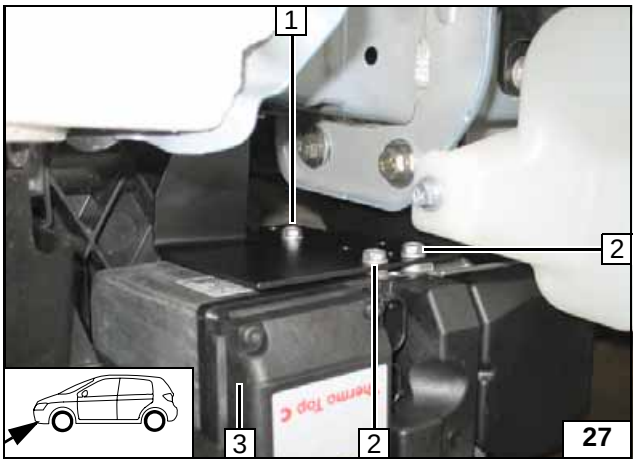
1 15 mm shim, M8 flanged nut [2x]
2 Bracket

Installing bracket



1 M6x25 bolt, spring lockwasher, large diameter washer, 5 mm shim

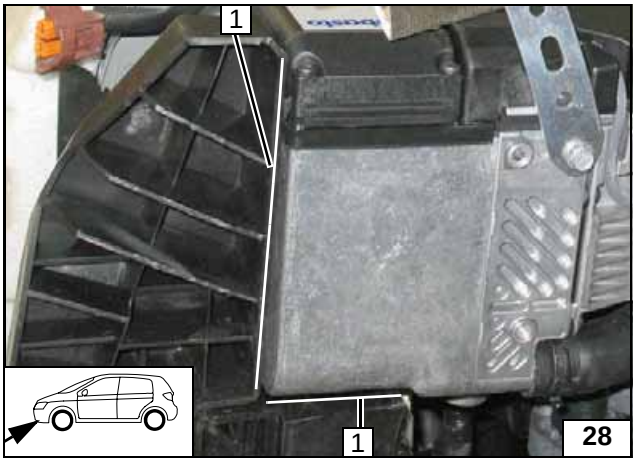
Installing bracket



Insert two washers between heater and bracket at position **1**.

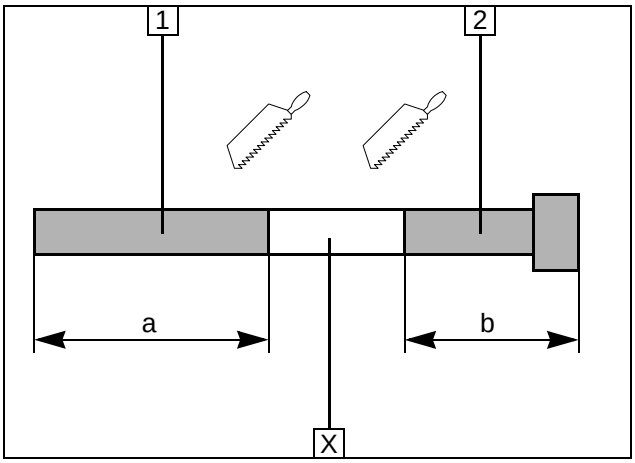
1 Ejot screw, washer [2x]
2 Ejot screw [2x]
3 Heater

Installing heater



Check position of components and correct if necessary. Ensure freedom of movement at position **1** [2x].

Installing heater

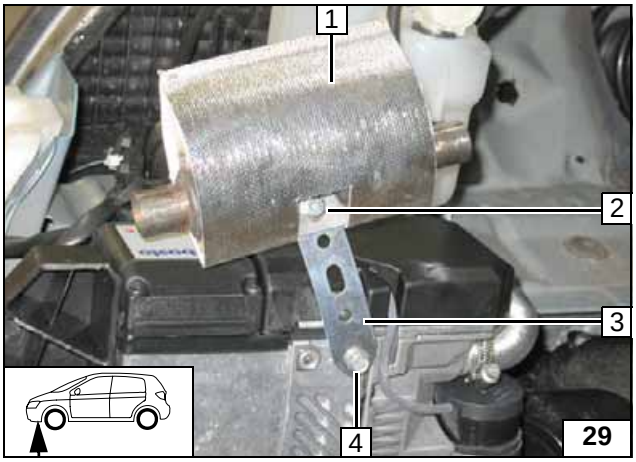


Exhaust gas

1 Exhaust pipe
a = 500
2 Exhaust end section
b = 340

Discard section **X**

Preparing exhaust pipe

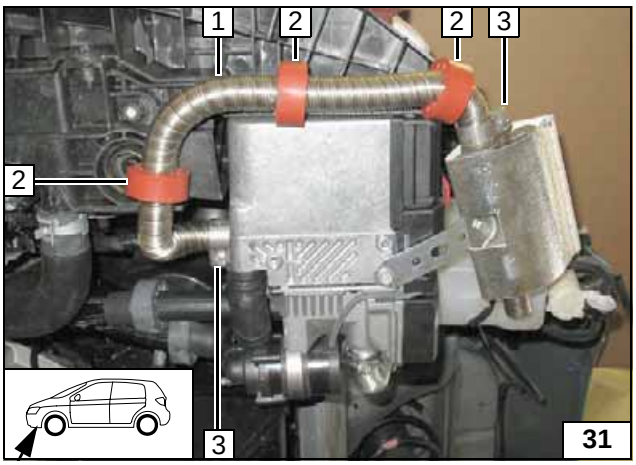


1 Silencer in silencer insulation
2 M6x20 bolt, flanged nut
3 Perforated bracket
4 Ejot screw

Installing silencer

Cut off cross member strips at the marked position **1** [4x]

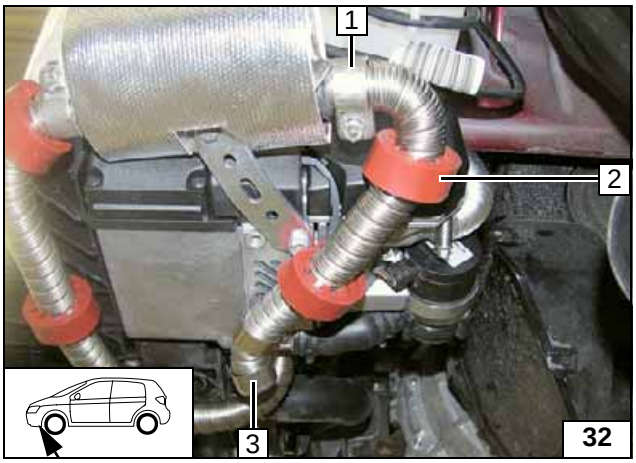
Cutting out cross member



Ensure sufficient distance to neighbouring components.

1 Exhaust pipe
2 Red (rt) rubber isolator [3x]
3 Hose clamp [2x]

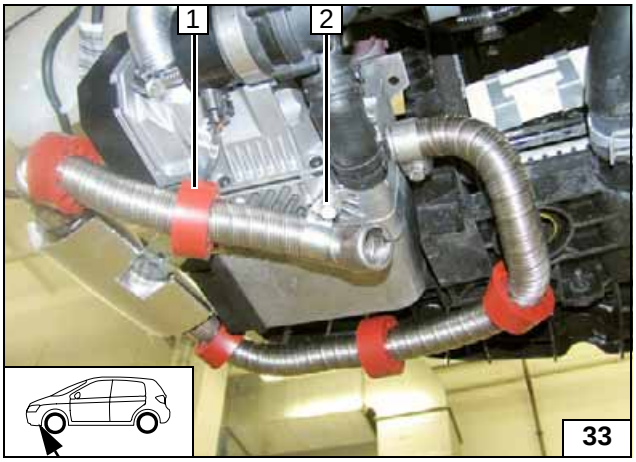
Installing exhaust pipe



Ensure sufficient distance to neighbouring components.

1 Hose clamp
2 Red (rt) rubber isolator
3 Exhaust end section

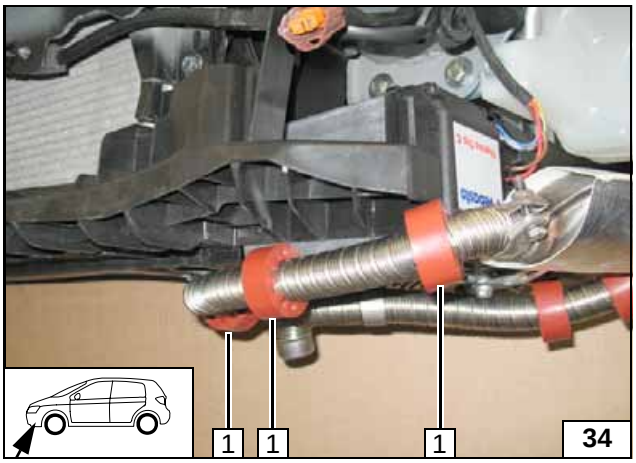
Installing exhaust end section



Ensure sufficient distance to neighbouring components.

1 Red (rt) rubber isolator
2 Ejot screw, p-clamp

Installing exhaust end section



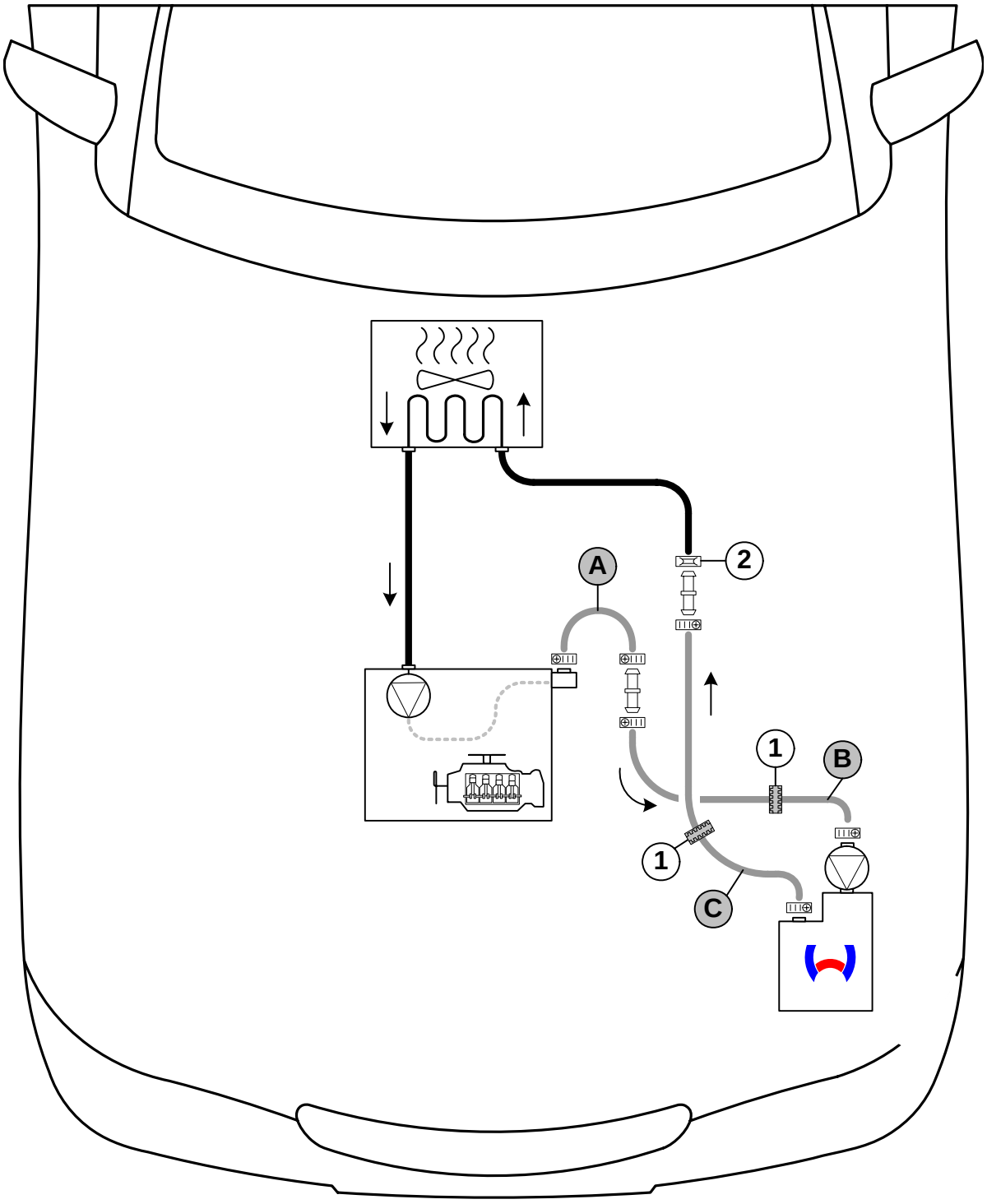
Ensure sufficient distance to neighbouring components. Align red (rt) rubber isolator **1** [3x].

Aligning exhaust pipe

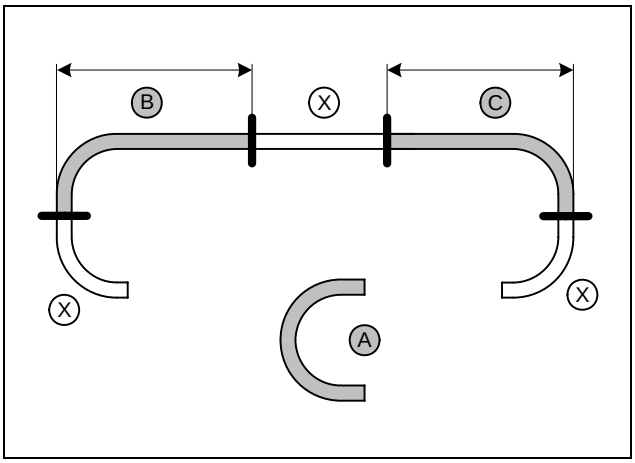
Coolant circuit

WARNING!
Any coolant running off should be collected using an appropriate container! Route hoses 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:

Hose routing diagram



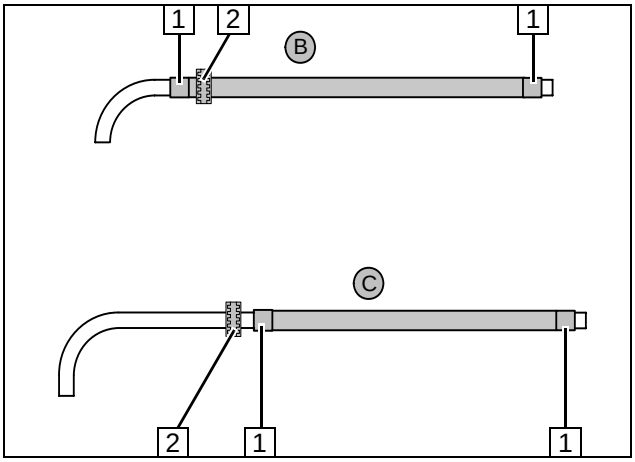
All connecting pipes = Ø 18x20. All hose clamps = 20-27 mm dia.
1 = Black (sw) rubber isolator. **2** = Original vehicle spring clip.



Discard section **X**
Hose **A** = 180° elbow

B = 560
C = 710

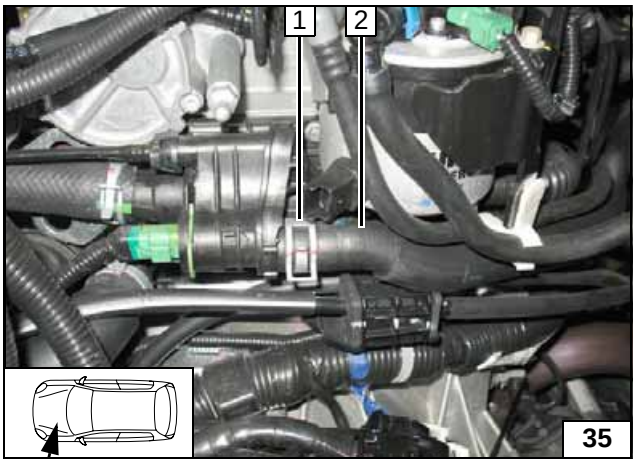
Cutting coolant hoses to length



Cut braided protection hose in half and slide onto hose **B** and **C**.
Cut heat shrink plastic tubing to length.

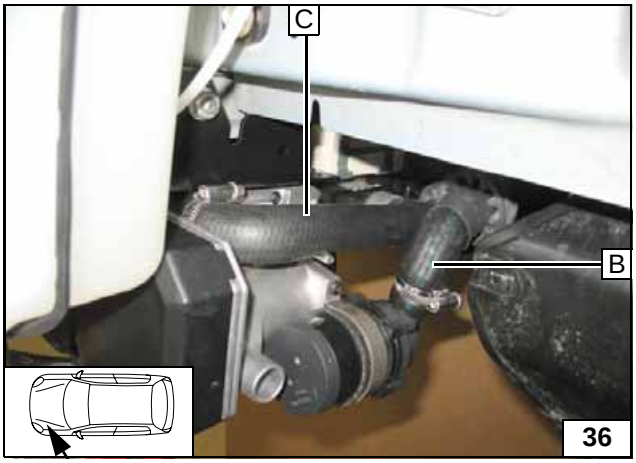
1 50 mm long heat shrink plastic tubing [4x]
2 Push on black (sw) rubber isolator [2x]

Preparing coolant hoses

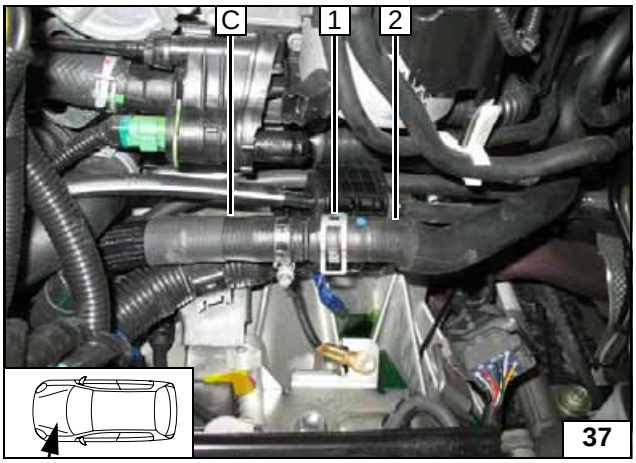


Disconnect hose to engine outlet/heat exchanger inlet **2** at connection piece of engine outlet. Spring clip **1** will be reused.

Cutting point

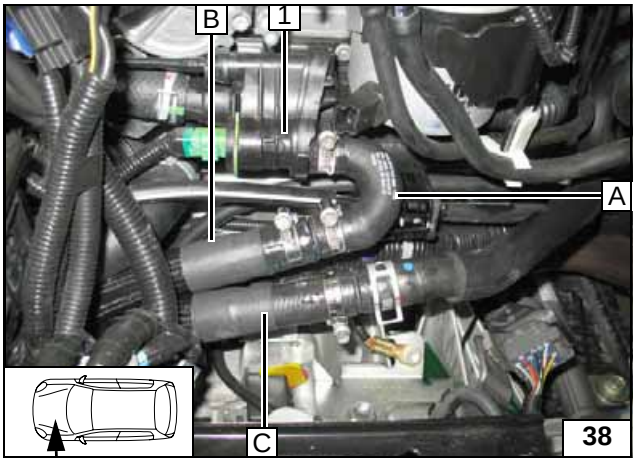


Connection of heater



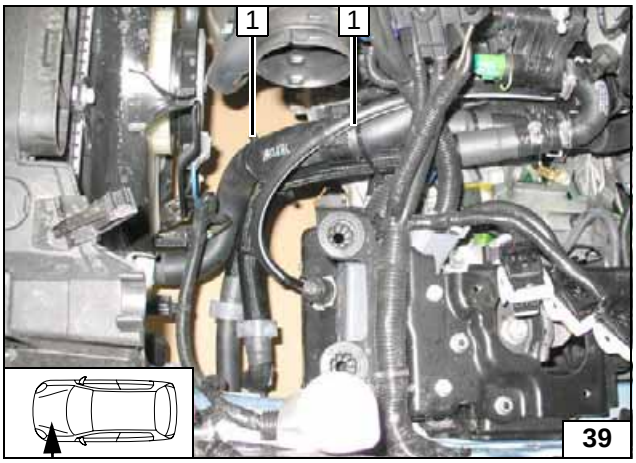
1 Original vehicle spring clip
2 Hose on heat exchanger inlet

Connecting heat exchanger inlet



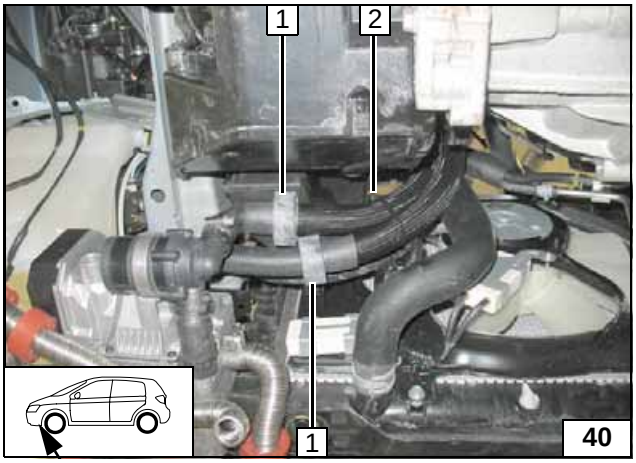
1 Connection piece for engine outlet

Connecting engine outlet



1 Cable tie [2x]

Routing in engine compartment



Ensure sufficient distance to neighbouring components.

1 Position black (sw) rubber isolator [2x]
2 Cable tie

Aligning hoses

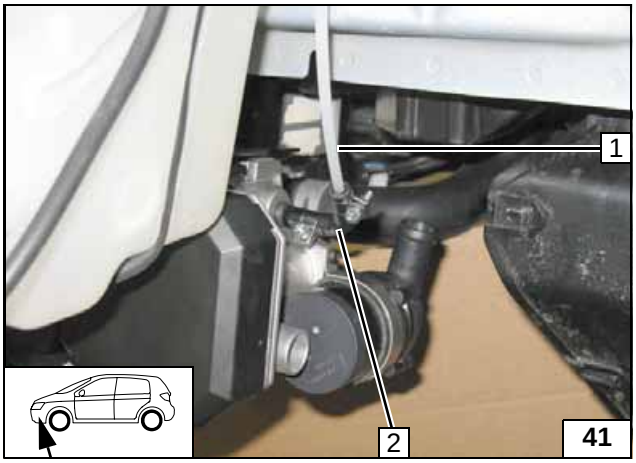
Fuel

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.

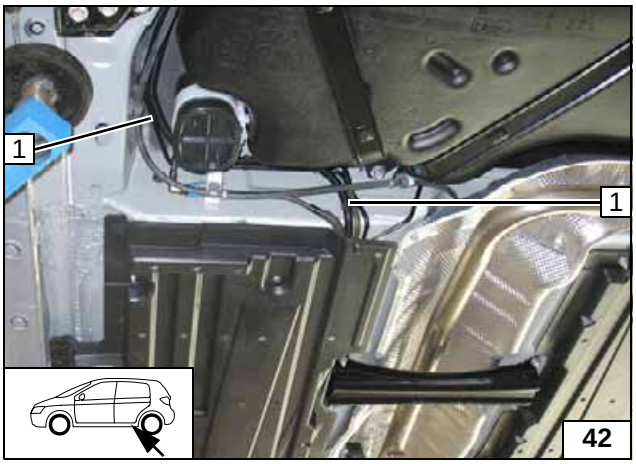
Install fuel line and metering-pump wiring harness so that they are protected against stone impact. Unless specified otherwise, always fasten using cable ties.
Mount the fuel line and wiring harness with rub protection on sharp edges.

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



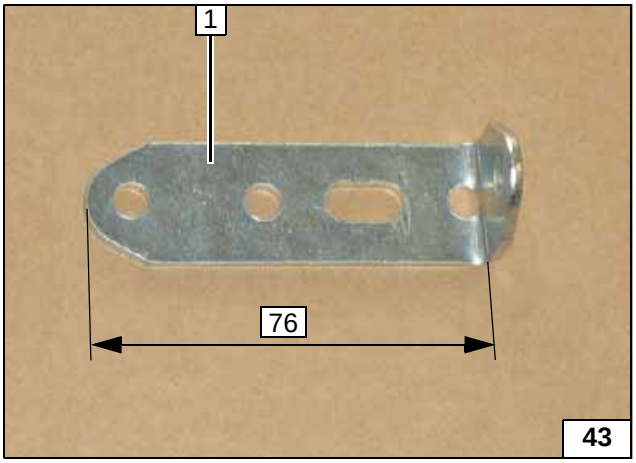
1 Fuel line
2 90° moulded hose, 10 mm dia. clamp [2x]

Connection of heater



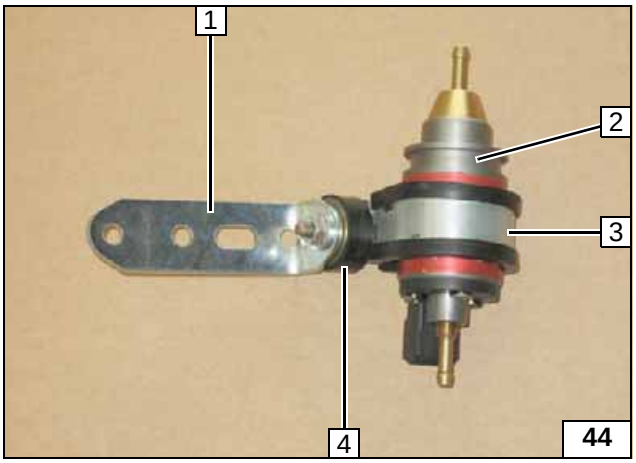
Fuel line and wiring harness of metering pump **1** in corrugated tube

Installing lines



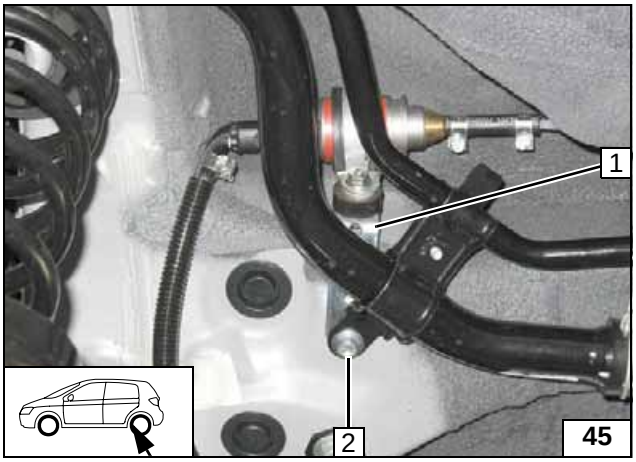
Bend perforated bracket **1** by 90°.

Preparing perforated bracket



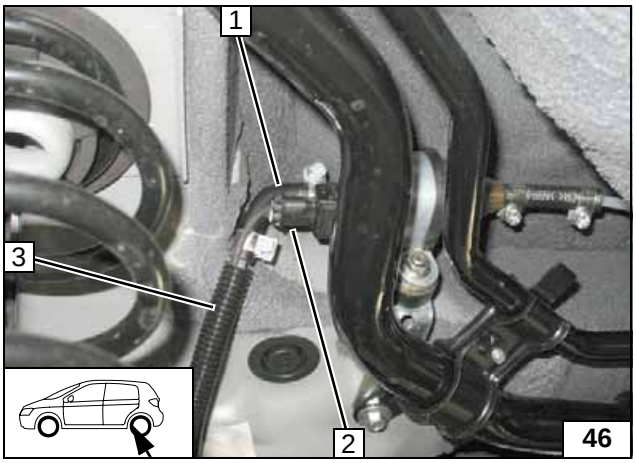
1 Perforated bracket
2 Metering pump
3 Rubber-coated pipe clamp
4 Silent block, flanged nut [2x]

Preparing metering pump



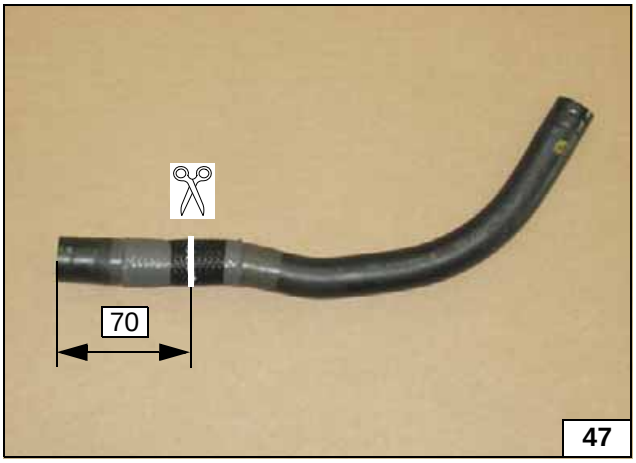
1 Perforated bracket
2 Original vehicle bolt

Installing metering pump



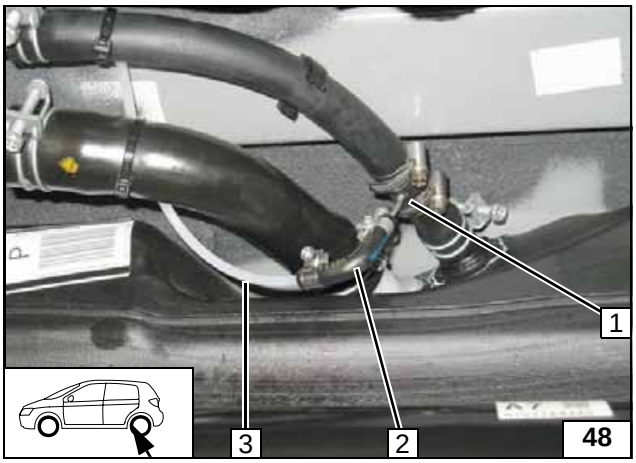
1 90° moulded hose, 10 mm dia. clamp [2x]
2 Wiring harness of metering pump, connector mounted
3 Fuel line in corrugated tube

Connecting metering pump



Remove fuel-tank vent line and braided protection and separate at marking.

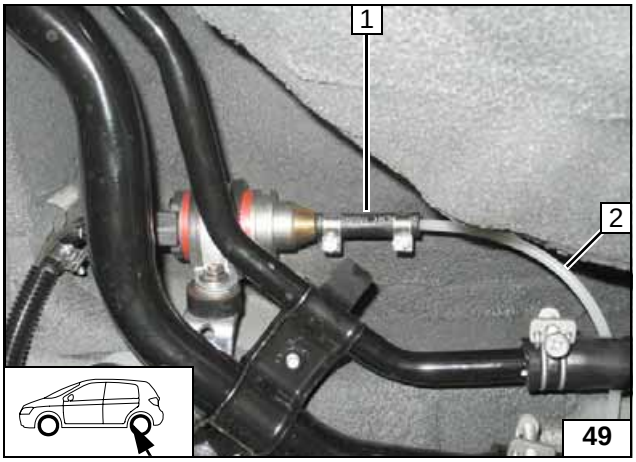
Removing fuel



Install hose section of fuel-tank vent line. Shape fuel standpipe **1** according to template and cut to length. Align removal pipe of fuel standpipe to fuel tank bottom.

1 Fuel standpipe, 24-27 mm dia. clamp [2x]
2 90° moulded hose, 10 mm dia. clamp [2x]
3 Fuel line

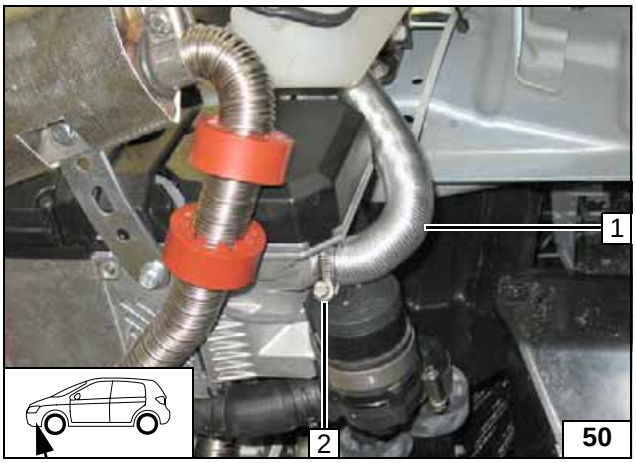
Installing fuel standpipe



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

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

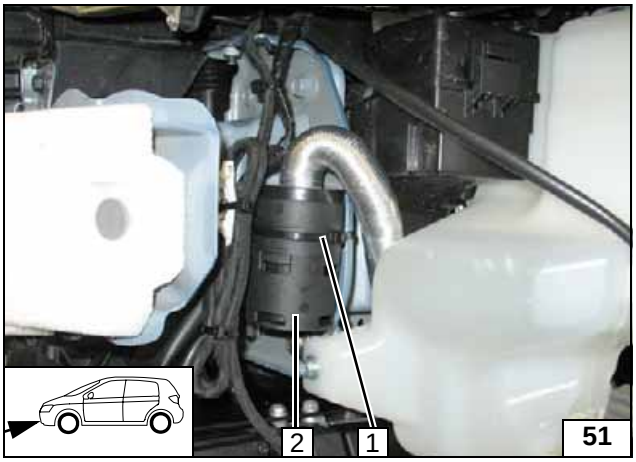
Connecting metering pump



Combustion air

1 Combustion-air intake pipe
2 27 mm dia. clamp

Installing intake pipe



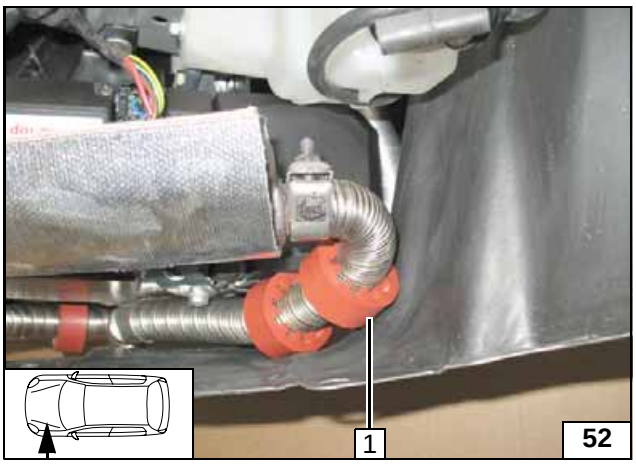
1 Cable tie through existing hole
2 Intake silencer

Installing silencer

Final Work

WARNING!
Mount removed parts 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 heater components with anti-corrosion wax (Tectyl 100K, Order No. 111329).

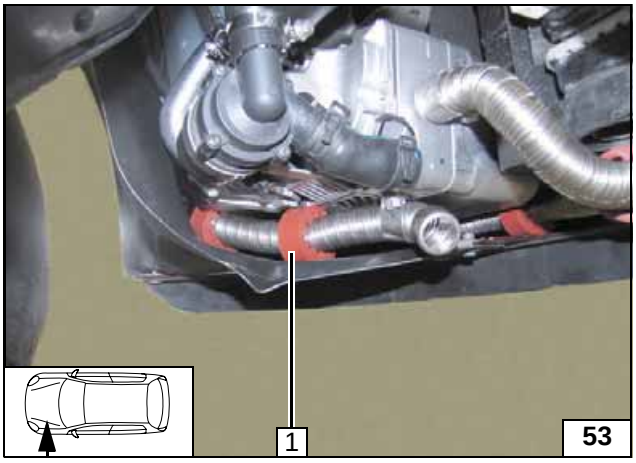
- **Connect the battery.**
- **Fill and bleed the coolant circuit according to the vehicle manufacturer's specifications.**
- **Adjust digital timer, teach telestart remote option**
- **Make settings on A/C control panel according to the "Operating Instructions for End Customer".**
- **Place the sticker "Switch off parking heater before re-fuelling" in the area of the filler neck**
- **For initial startup and function test, see installation instructions**



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

1 Position red (rt) rubber isolator

Positioning rubber isolator



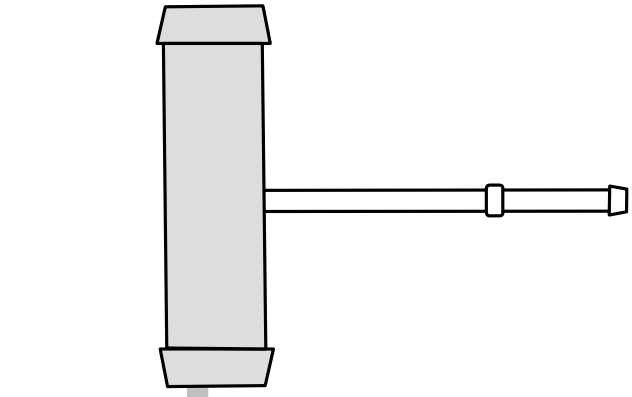
Check the position of the components; adjust if necessary. Check that they have freedom of movement.

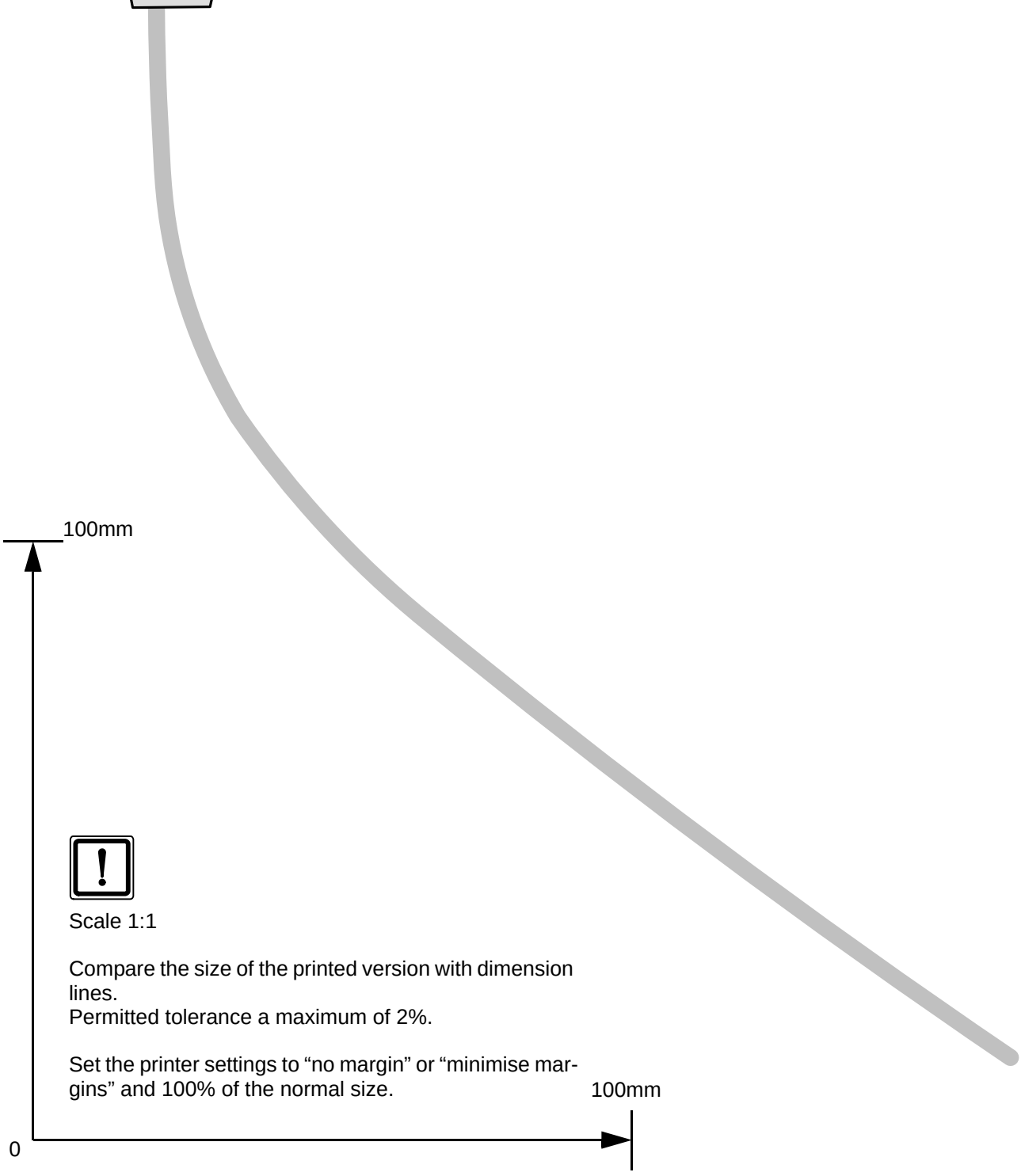
1 Position red (rt) rubber isolator

Positioning rubber isolator

Webasto AG
Postfach 80
D-82132 Stockdorf / Germany
National Hotline: 01805 93 22 78
(14 Cent aus dem deutschen Festnetz)
Hotfax: 0395 5592 353
Hotmail: hotline@webasto.de
http://www.webasto.de

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

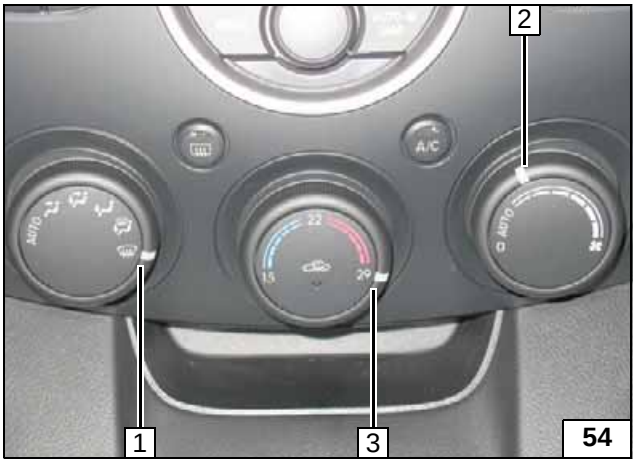
Please remove page and add to the vehicle operating instructions.

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.

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.

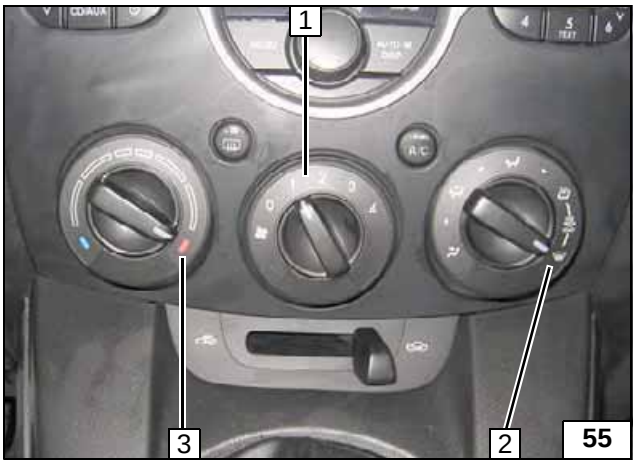
Before parking the vehicle, make the following settings:

Automatic air-conditioning



1 Air outlet to windscreen
2 Set fan to level "1", or possibly "2"
3 Set temperature to "max."

Manual air conditioning



1 Set fan to level "1", or possibly "2"
2 Air outlet to windscreen
3 Set temperature to "max."