

Water Heater

Thermo Top E Parking Heater



Thermo Top C Parking Heater



Installation Documentation



Subaru Legacy / Outback

2.0 and 2.5 Petrol

From model year 2010

Left-hand drive vehicle

Automatic air-conditioning

Gear box / Lineartronic



WARNING!

Hazard warning:

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.

Only use genuine Webasto parts. See the Webasto air and water heaters accessories catalogue for this purpose.

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.

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Validity

Manufacturer	Model	Type	EG-BE-No. / ABE
Subaru	Legacy / Outback	BM /BR	e1 * 2007 / 46 * 0079 * ...
Subaru	Legacy / Outback	BM /BRS	e13 * 2007 / 46 * 1074 * ...

Engine type	Engine model	Output in kW	Displacement in cm ³
EJ20	Petrol	110	1994
EJ25	Petrol	123	2457

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.

Optional:

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

Heater/Installation Kit

Quantity	Designation	Order No.:
1	Retail accessories <i>Thermo Top E / C</i>	See price list
1	Installation Kit for Subaru Legacy / Outback 2.0 and 2.5 Petrol MY 2010	1315484A
1	Heater control	See price list

Heater recommended for the relevant vehicle class:

Vehicle	Heater
Compact car	Thermo Top E
Mid-size car, estate car	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 the Subaru Legacy / Outback 2.0 and 2.5 Petrol vehicles - for validity, see page 2 - from model year 2010 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 "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. Insulate loose wires and tie back. Connectors on electronic components have to audibly click into place.

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

When installing an IPCU, check or adjust the corresponding settings before installation.

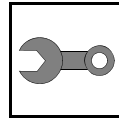
Special Tools

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

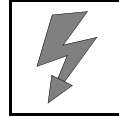
Explanatory Notes on Document

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.

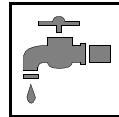
Mechanical system



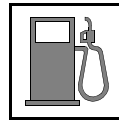
Electrical system



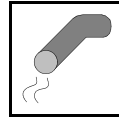
Coolant circuit



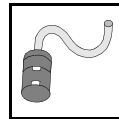
Fuel



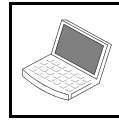
Exhaust gas



Combustion air



Software



Special features are highlighted using the following symbols:



Specific risk of injury or fatal accidents.



Specific risk of damage to components.



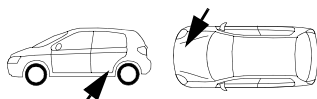
Specific risk of fire or explosion.



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 the fuel tank cap, ventilate the tank.
- Close the fuel tank cap again.
- Disconnect the battery.
- 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 the air filter together with the intake hose.
- Remove the engine cover.
- Remove the underbody trim on the left in front of the tank.
- Open the tank-fitting service lid on the right and left.
- Remove the fuel-tank sending unit in accordance with manufacturer's instructions.
- Remove the instrument panel trim on the driver's side.
- Remove the instrument panel trim in the footwell on the front passenger's side.
- Remove the lateral trim of the instrument panel on the front passenger's side (for Telestart only).

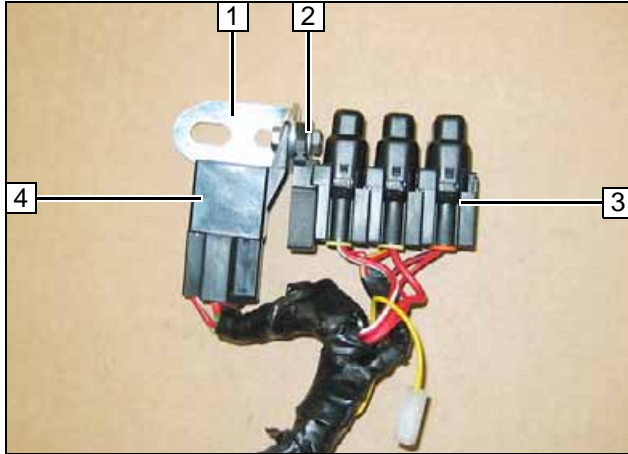
Remove page 28 "Operating Instructions for End Customer" and add to the vehicle operating instructions.



Heater Installation Location

1 Heater

Installation location



Preparing Electrical System

Replace 25A fuse F3 with 10A fuse.

- 1 Angle bracket
- 2 M5x16 bolt, large diameter washer [2x] retaining plate for fuse holder, flanged nut
- 3 F1-3 fuses mounted
- 4 K3 relay



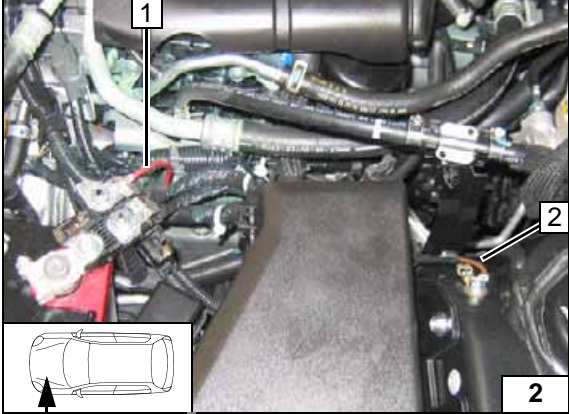
**Pre-install-
ing fuse
holder**



Electrical System

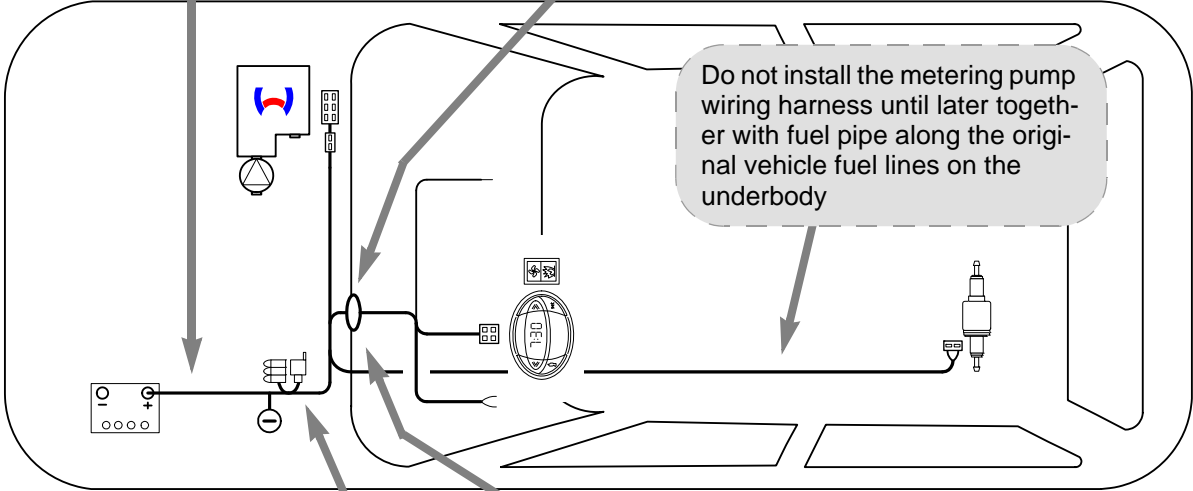
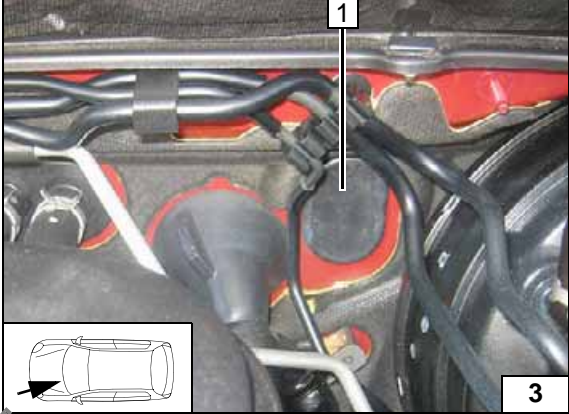
Positive and earth wire

- 1 Positive wire on positive battery terminal
- 2 Earth wire on earth support point

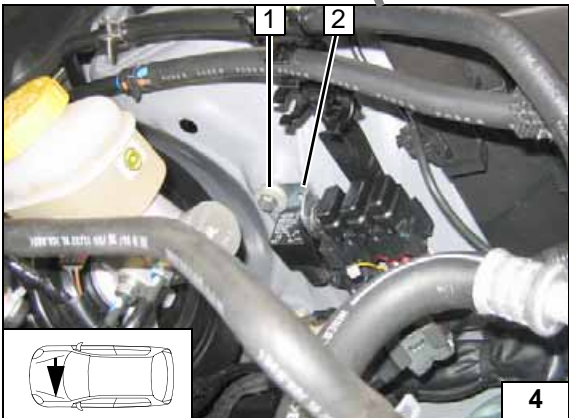


Wiring harness pass through of lineartronic

- 1 Protective rubber plug

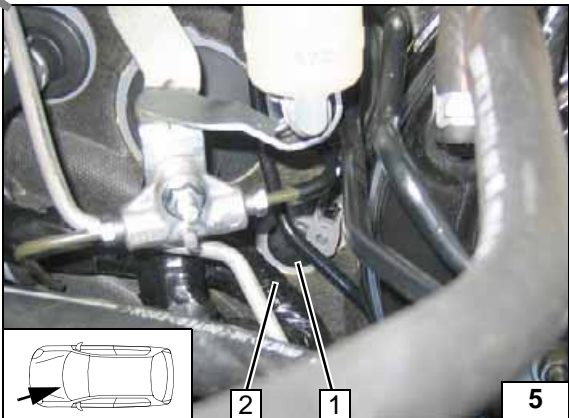


Wiring harness routing diagram



Fuse holder, K3 relay

- 1 M6x20 bolt, spring lockwasher, large diameter washer in existing threaded hole
- 2 Angle bracket

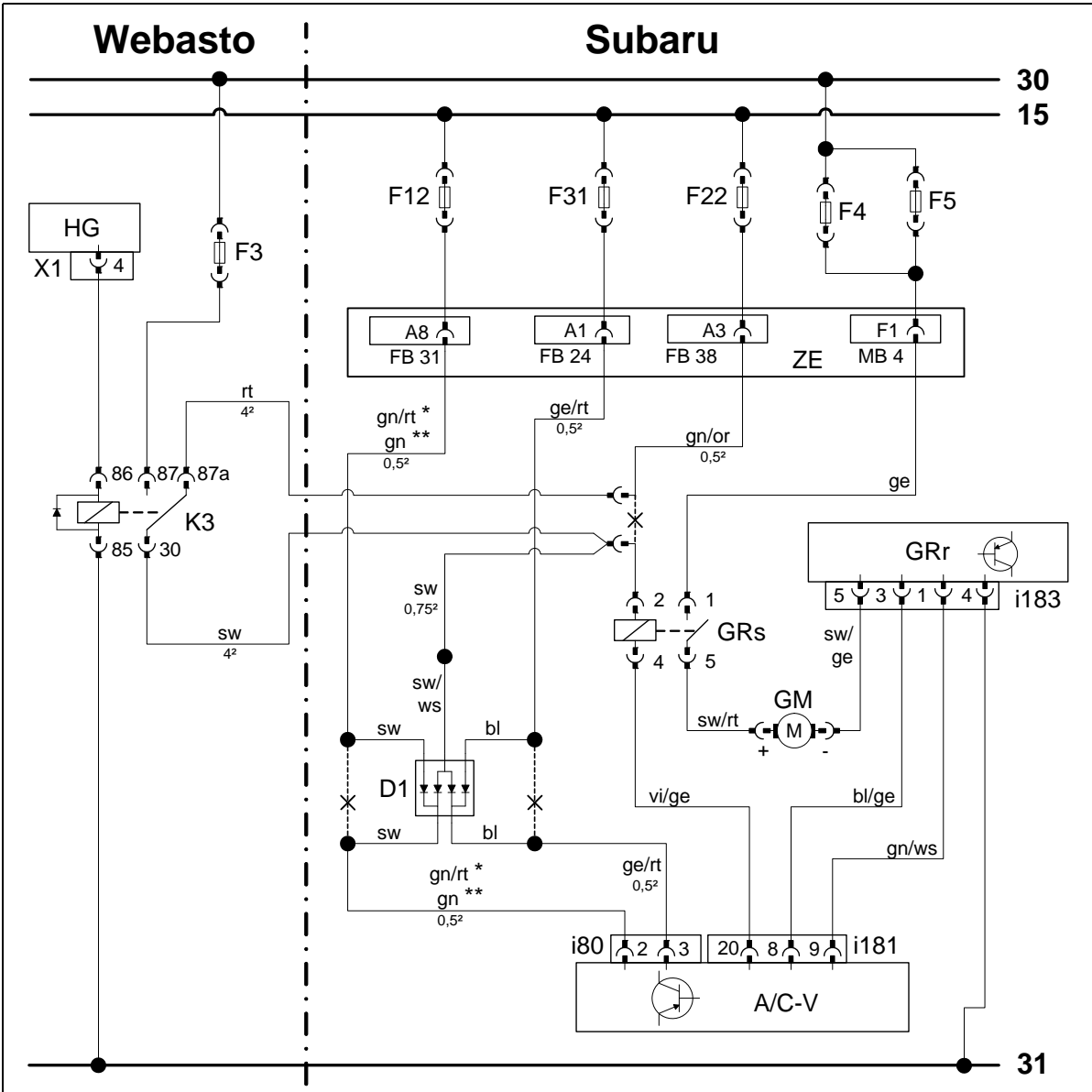


Wiring harness pass through of gear box

- Detach original vehicle wiring harness 2 and put it away.
- 1 Protective rubber plug



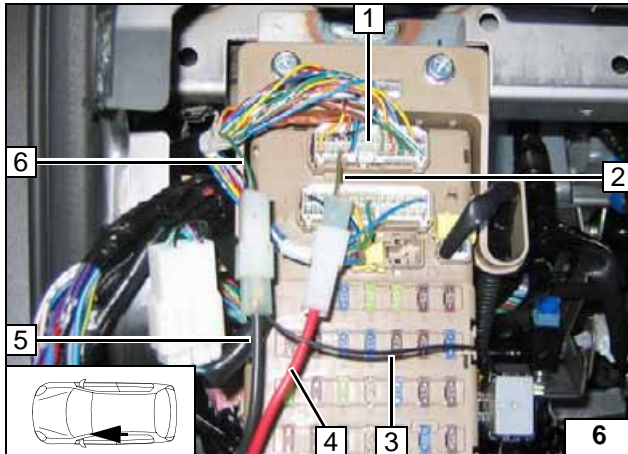
Fan Controller



Wiring diagram

Webasto components		Vehicle components		Colours and symbols	
HG	Heater TT-C/E	F31	Fuse, 7.5A	rt	red
X1	6-pin heater connector	F22	Fuse, 15A	ws	white
F3	Replace 25 A fuse with 10A fuse	F12	Fuse, 15A	sw	black
K3	Fan relay	F4	Fan fuse	br	brown
D1	Diode group	F5	Fan fuse	gn	green
		ZE	Central electrical box	bl	blue
		A8	Connector A (i5) PIN 8 ZE	ge	yellow
		A1	Connector A (i5) PIN 1 ZE	vi	violet
		A3	Connector A (i5) PIN 3 ZE	or	orange
		GRs	Fan relay		
		GRr	Fan controller		
		i183	5-pin connector, GRr		
		GM	Fan motor	*	up to MY 2012
		A/C-V	A/C booster	**	from MY 2013
		i80	26-pin connector A/C-V	X	Cutting point
		i181	24-pin connector A/C-V		Wiring colours may vary.

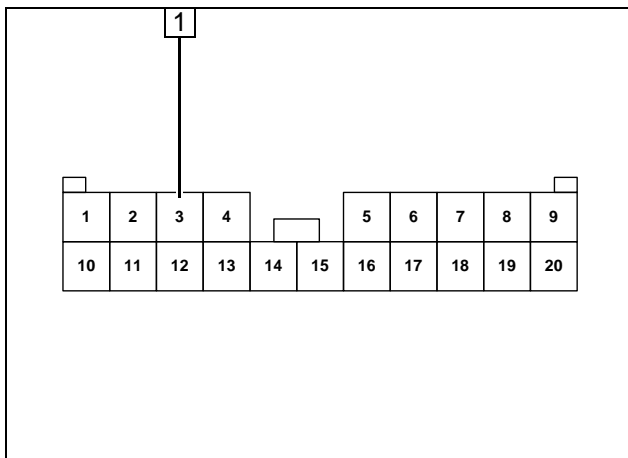
Legend



Connection on 20-pin connector A (i5) 1 of central electrical box.
Produce connections as shown in wiring diagram.

- 2 Green/orange (gn/or) wire of connector A(i5), Pin 3
- 3 Black (sw) wire of diode group D1
- 4 Red (rt) wire from K3/87a
- 5 Black (sw) wire from K3/30
- 6 Green/orange (gn/or) wire of fan relay Pin 2

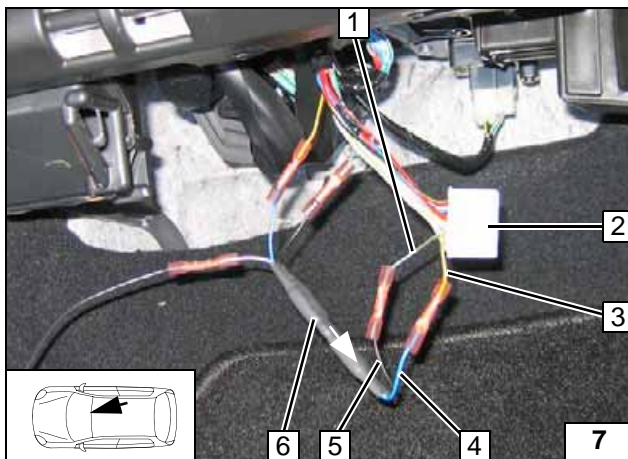
**Connec-
tion to cen-
tral
electrical
box**



Connector A (i5) contact side

- 1 Green/orange (gn/or) wire of Pin 3

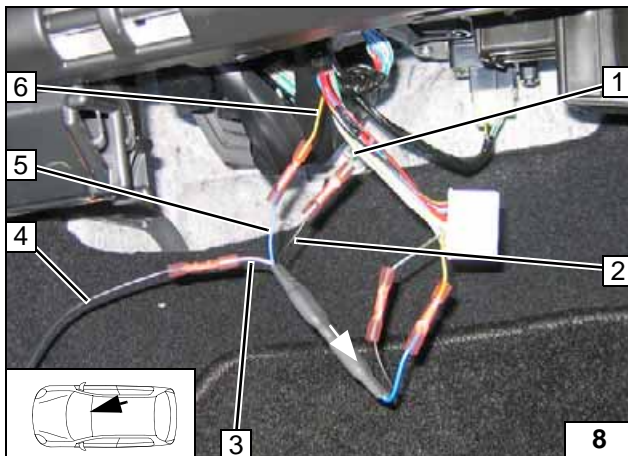
**Connector
A (i5)**



Connection on 26-pin connector A (i80) 2 from A/C booster. Watch direction of flow of diode group D1 6. Produce connections as shown in wiring diagram.

- 1 Green/red (gn/rt) wire up to MY 2012 / green (gn) wire from MY 2013 of connector A (i80) Pin 2
- 3 Green/red (gn/rt) wire of connector A(i80), Pin 3
- 4 Blue (bl) wire of diode group D1
- 5 Black (sw) wire of diode group D1

**Connect-
ing to A/C
booster**

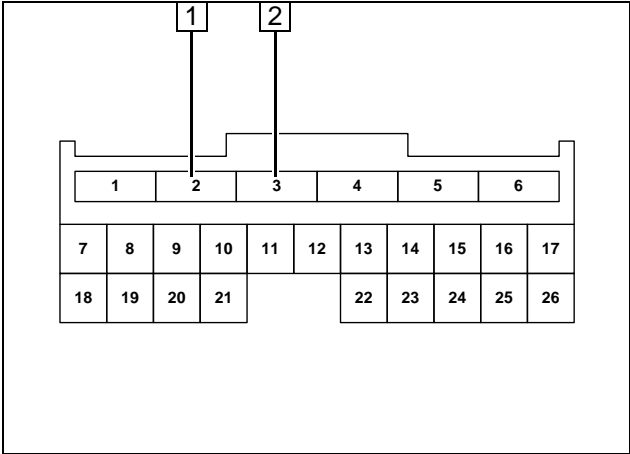


Produce connections as shown in wiring diagram.

- 1 Green/red (gn/rt) wire up to MY 2012 / green (gn) wire from MY 2013 fuse F12
- 2 Black (sw) wire of diode group D1
- 3 White/black (ws/sw) wire of diode group D1
- 4 Additional black (sw) wire from K3/30
- 5 Blue (bl) wire of diode group D1
- 6 Yellow/red (ge/rt) wire of fuse F31

**Connect-
ing to A/C
booster**



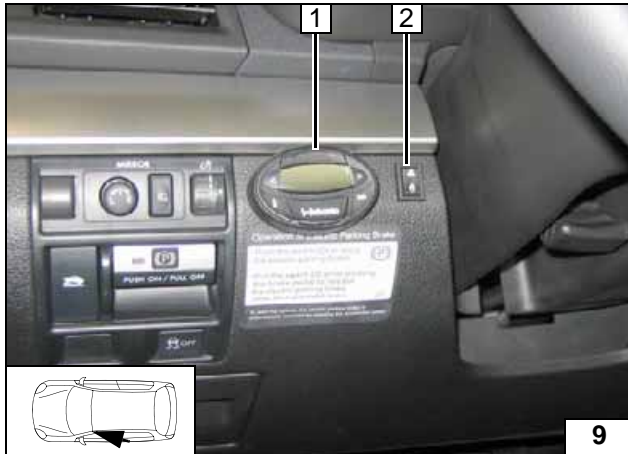


Connector A (i80) contact side

- 1 Green/red (gn/rt) wire of Pin 2
- 2 Yellow/red (ge/rt) wire of Pin 3



Connector A (i80)

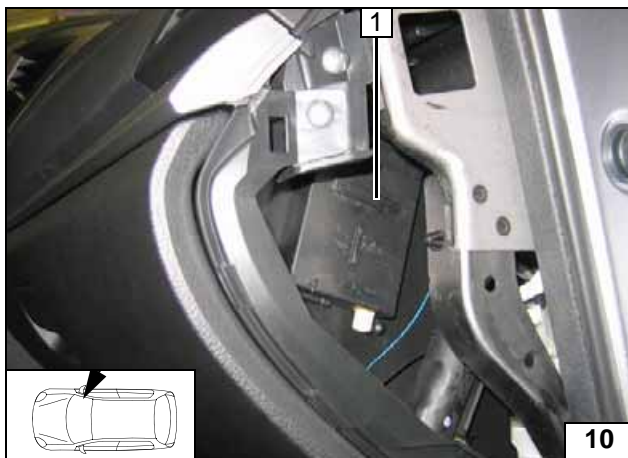


Digital Timer and Summer/Winter Switch Option

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



Installing digital timer



Remote Option (Telestart)

Fasten receiver 1 with adhesive tape.

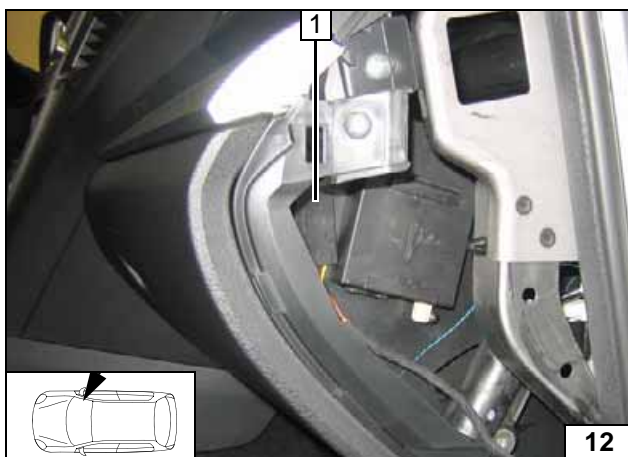


Mounting receiver



- 1 Antenna

Mounting antenna

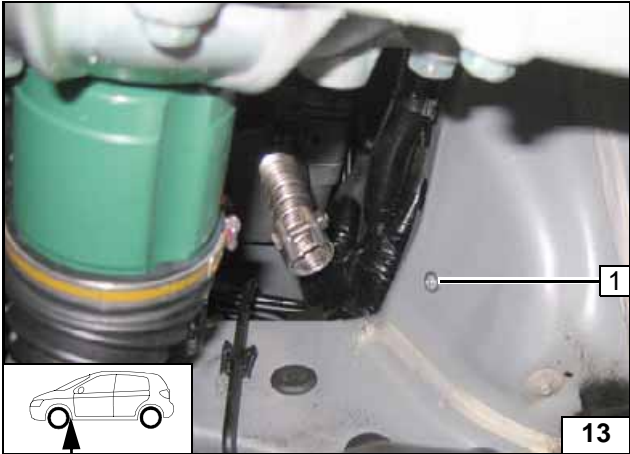
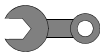


Temperature sensor T100 HTM

Fasten temperature sensor 1 with adhesive tape.



Mounting temperature sensor



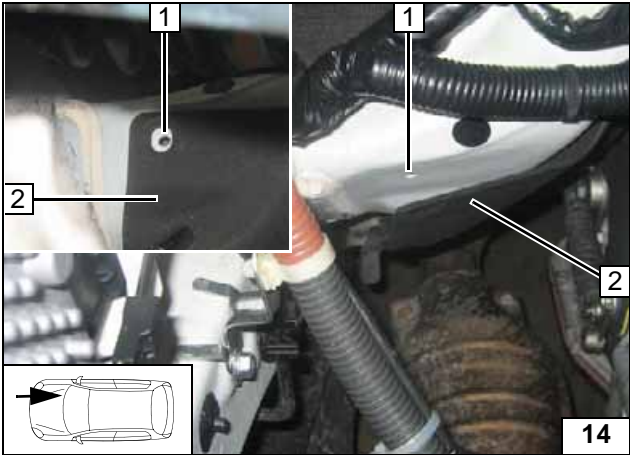
Preparing Installation Location



Manual transmission

Remove plug. Drill out existing hole to 9.1 mm dia. and mount rivet nut 1.

Installing rivet nut

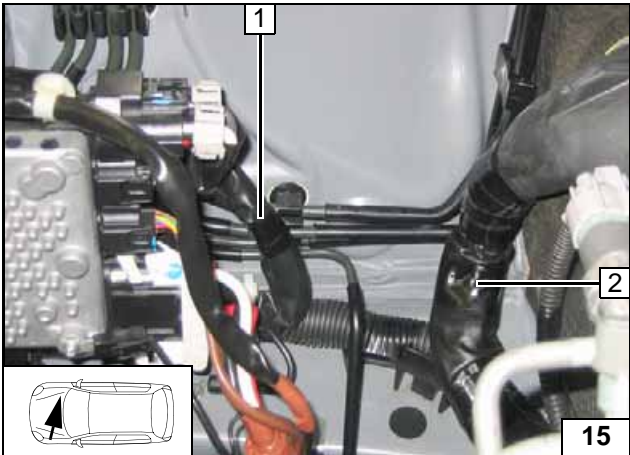


Lineartronic



Remove clip at position 1 drill hole up to 9.1mm dia and tighten rivet nut. Insulation mat 2 is retained.

Installing rivet nut



All vehicles



Fasten original vehicle wiring harnesses 1, 2 with cable tie.

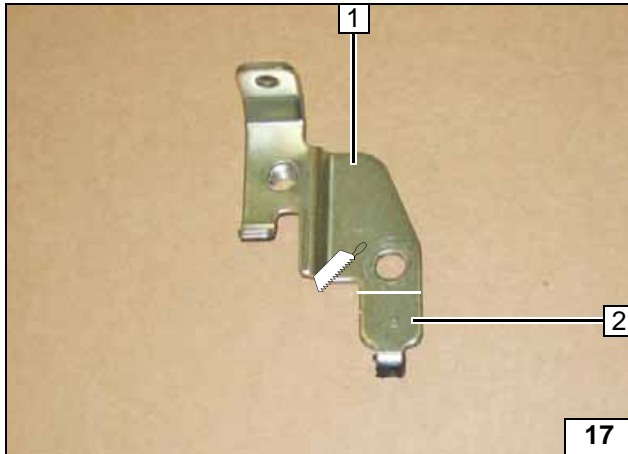
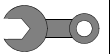
Preparing installation location



Remove brake line bracket 1.



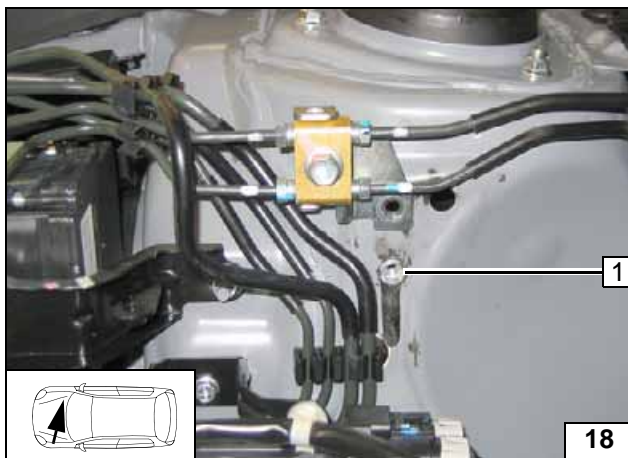
Removing bracket



Cut and discard tab at position 2. Remount brake line bracket 1.

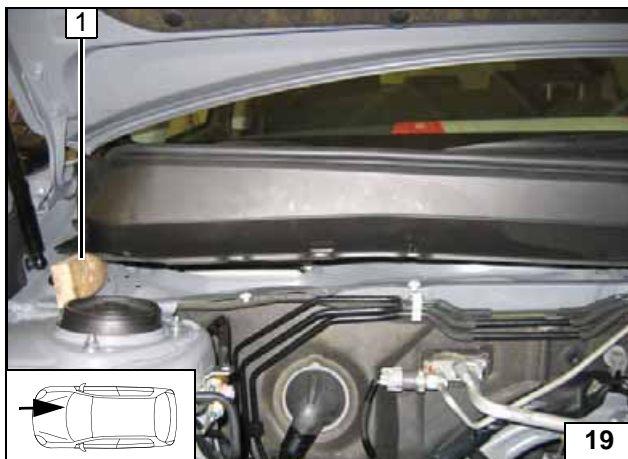


Preparing bracket



1 Drill 9.1 mm dia. hole; install rivet nut

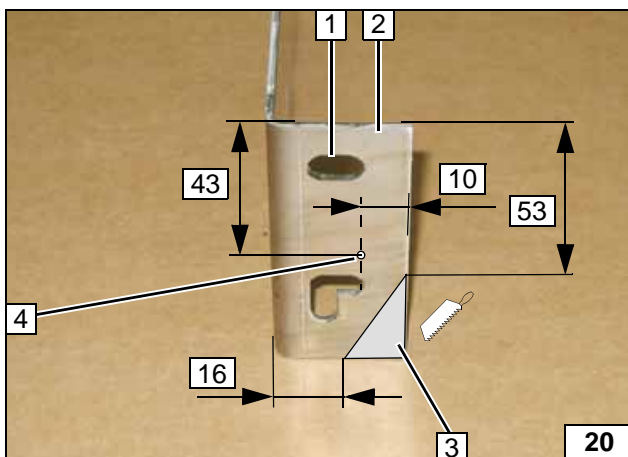
Installing rivet nut



Detach coolant reservoir, lift and insert suitable material 1 in between



Loosening coolant reservoir



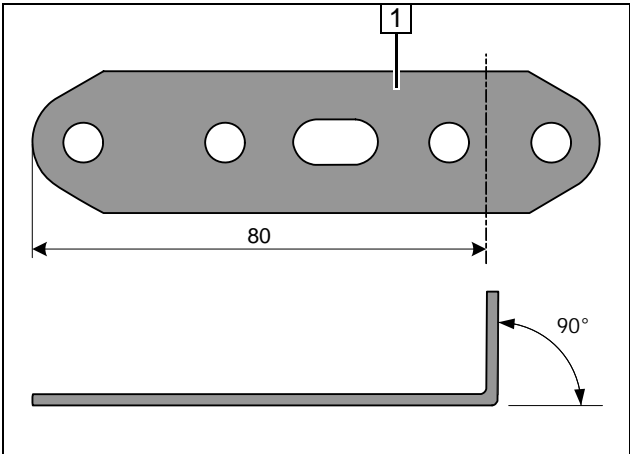
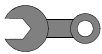
Preparing Bracket

Only for bracket version 1310449C!
Drill out oblong hole at position 1 to 8.5 mm dia.

- 2 Bracket
- 3 Discard section
- 4 7 mm dia. hole



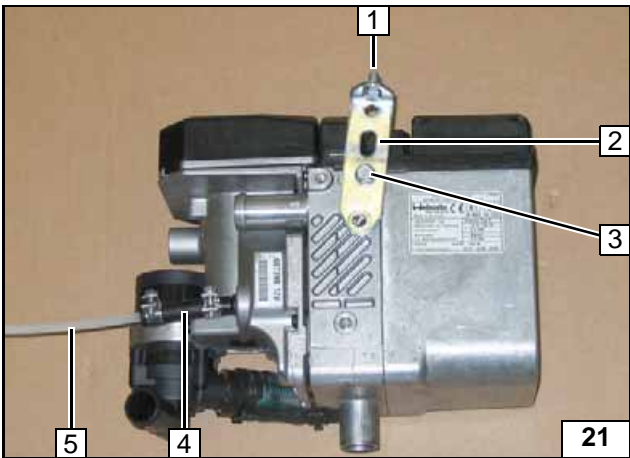
Preparing bracket



Preparing Heater

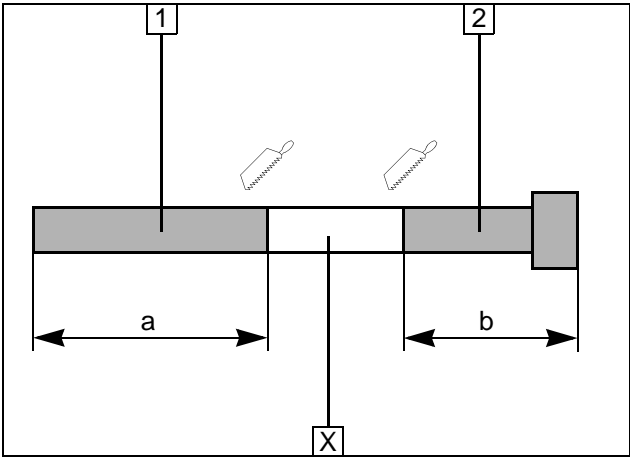
- 1 Perforated bracket

Angling down perforated bracket



- 1 M6x12 bolt, pin lock
- 2 Perforated bracket
- 3 Ejet screw
- 4 Hose section, 10 mm dia. clamp [2x]
- 5 Fuel line

Premounting heater



Discard section X

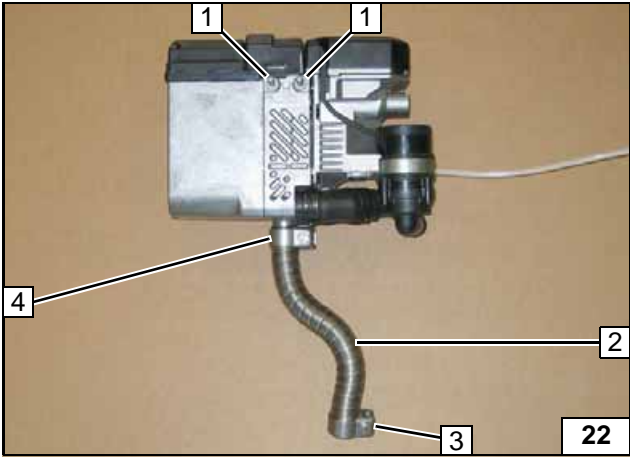
Manual transmission

- 1 Exhaust pipe
a = 220
- 2 Exhaust end section
b = 500

Preparing exhaust pipe

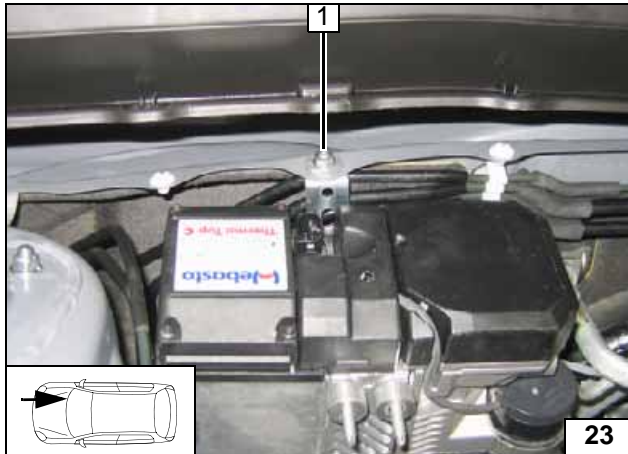
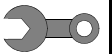
Lineartronic

- 1 Exhaust pipe
a = 220
- 2 Exhaust end section
b = 440



- 1 Ejet stud [2x]
- 2 Exhaust pipe
- 3 Hose clamp, install loosely
- 4 Hose clamp

Premounting heater



Installing Heater

1 Large diameter washer, flanged nut on existing hole

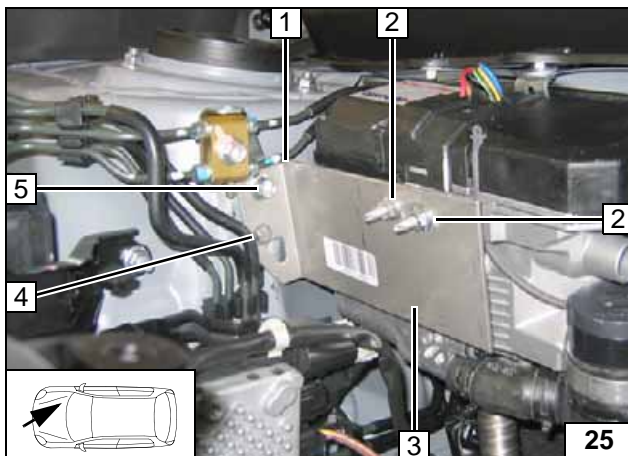
Mounting heater



Slide one 10mm shim 1 [2x] on each ejot stud.



Mounting heater

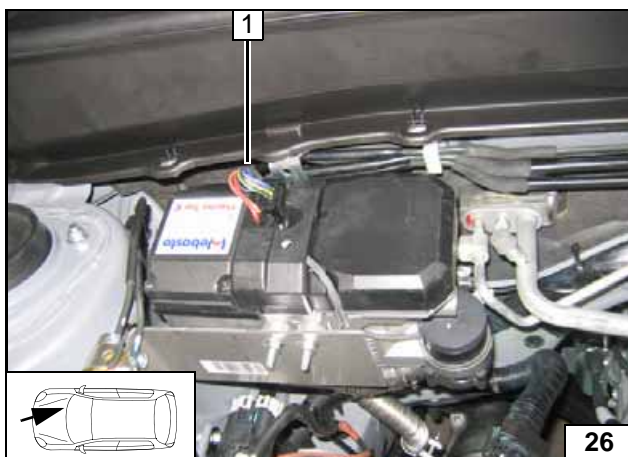


Ensure freedom of movement between bracket of heater 3 and brake lines at position 1

- 2 Flanged nut [2x]
- 4 M6x20 bolt, spring lockwasher
- 5 Large diameter washer, original vehicle bolt



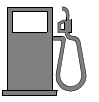
Mounting heater



Mount wiring harness of heater 1 and close coolant reservoir again. Check the position of the components; adjust if necessary. Check that they have freedom of movement.



Mounting wiring harness



Fuel

CAUTION!

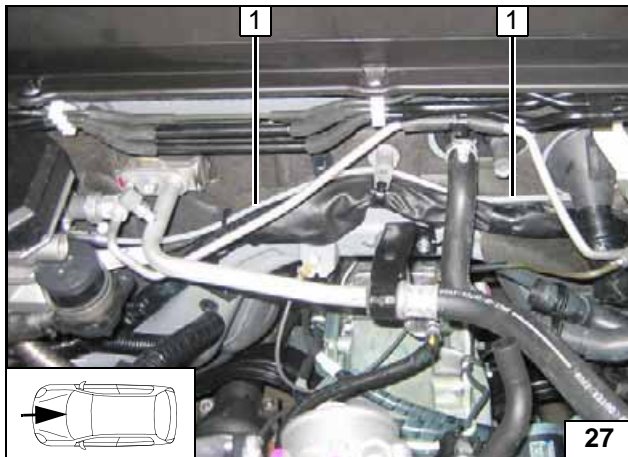
Open the vehicle's fuel tank cap, ventilate the tank and then re-close the tank lock.

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.

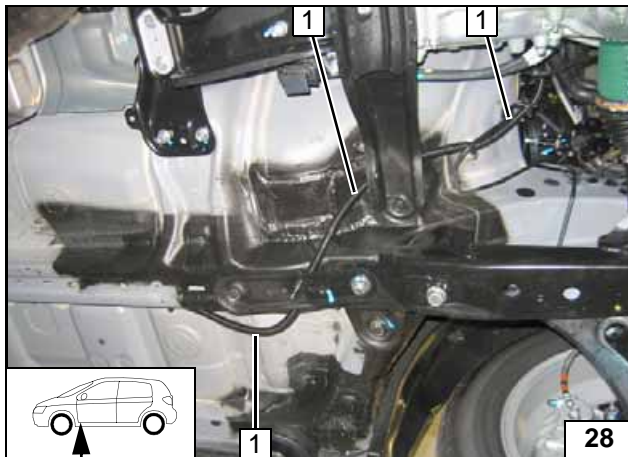
WARNING!

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



Route wiring harness of heater and fuel line 1 to original vehicle wiring harness on the left side of vehicle.

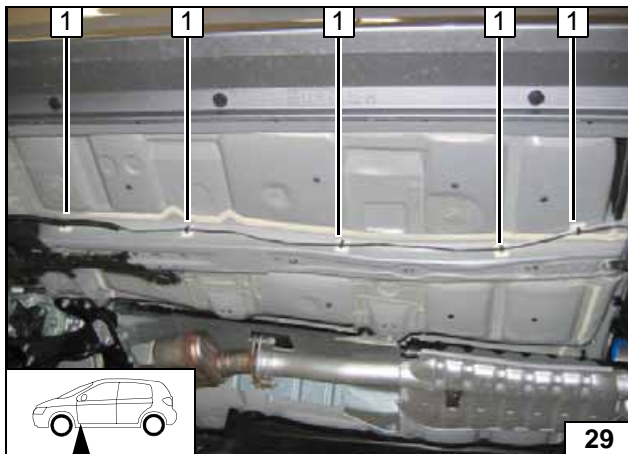
Routing lines



Divide corrugated tube at the centre. Route fuel line and wiring harness of metering pump in corrugated tube 1 of underbody



Routing lines

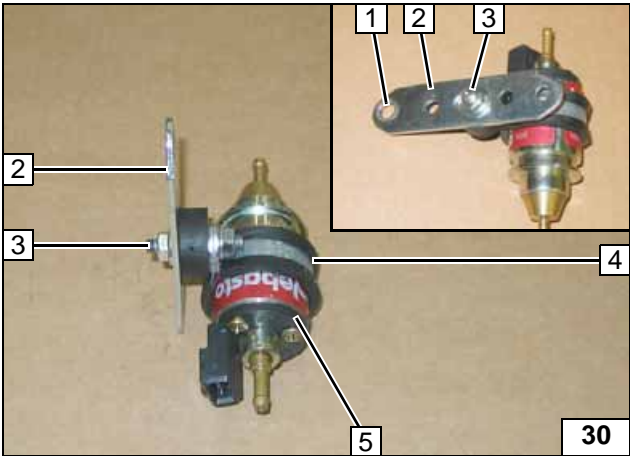


Route fuel line and wiring harness of metering pump to the installation location of metering pump

1 Adhesive base, cable tie [5x each]



Routing lines

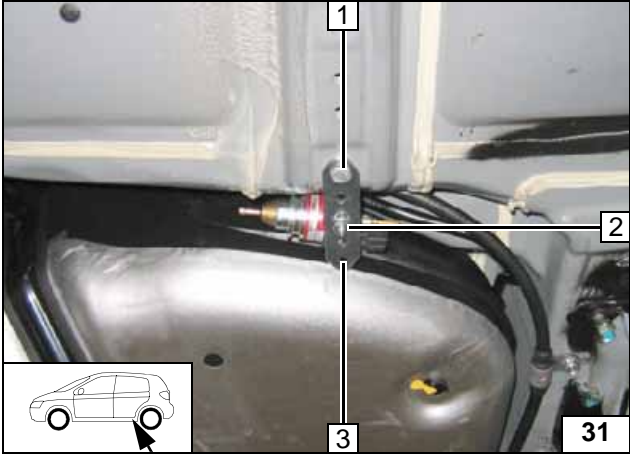


Drill out perforated bracket 2 at position 1 to 8.5mm dia. and install loosely

- 3 Silent block, flanged nut [2x]
- 4 Rubber-coated p-clamp
- 5 Metering pump



Pre-install-
ing meter-
ing pump

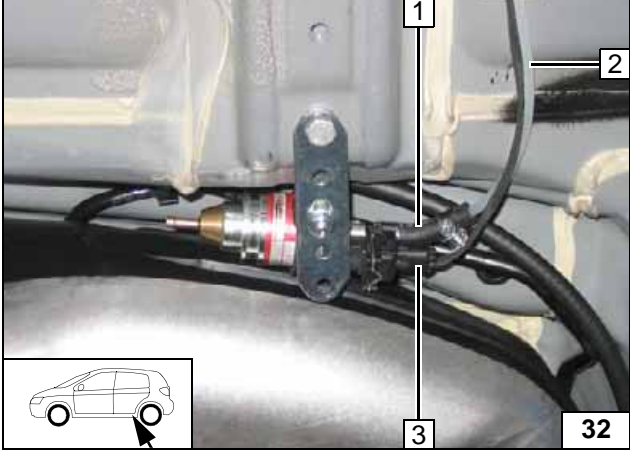


Align metering pump, tighten nut at position 2

- 1 M8x20 bolt, spring lockwasher, existing threaded hole
- 3 Perforated bracket

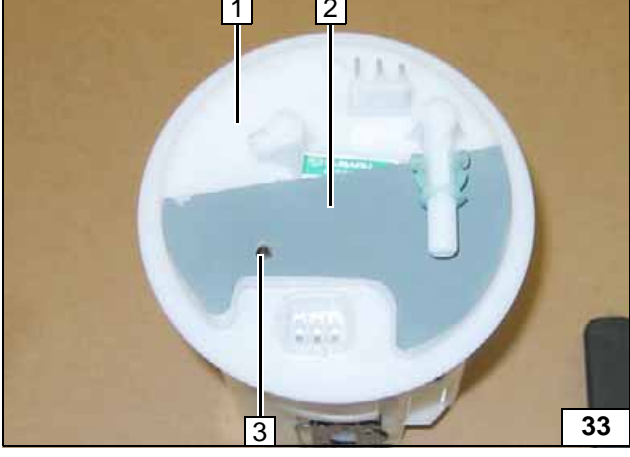


Mounting
metering
pump



- 1 Hose section, 10 mm dia. clamp [2x]
- 2 Fuel line
- 3 Wiring harness of metering pump, connector mounted

Connect-
ing meter-
ing pump

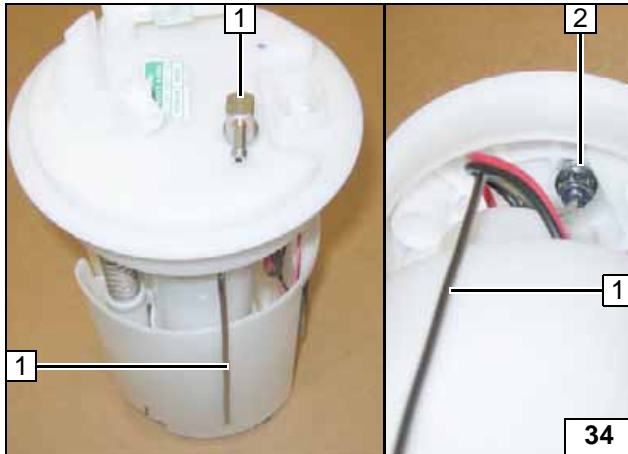


Remove fuel-tank sending unit 1 in accordance with manufacturer's instructions. Cut out template 2 and lay on.

- 3 Copy hole pattern, 6 mm dia. hole



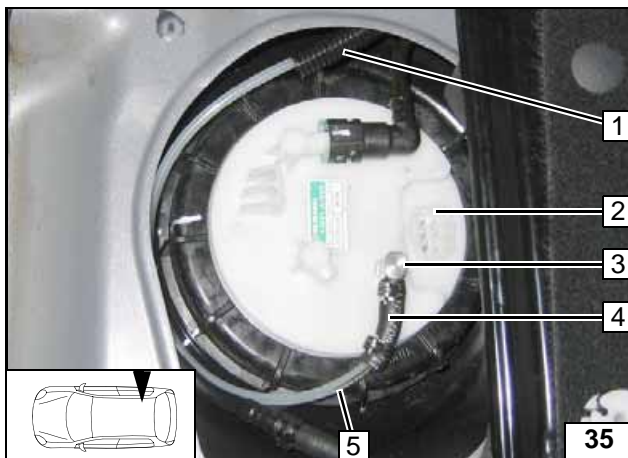
Fuel ex-
traction



Shape fuel standpipe **1** according to template and cut to length. At position **2** insert five plane washers $d_a = 12\text{mm}$ as height compensation.



Installing fuel standpipe

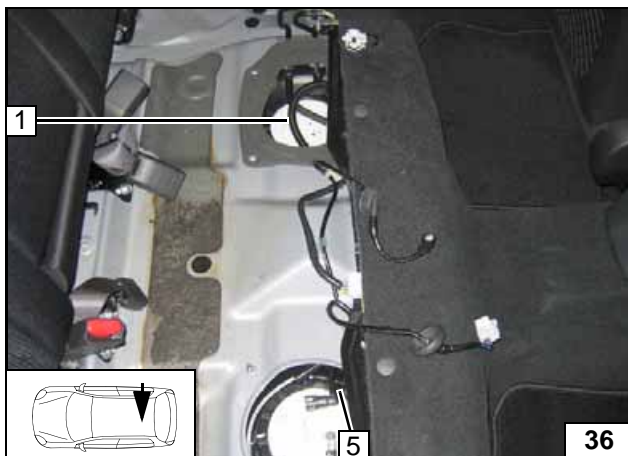


Install fuel-tank sending unit **2** in accordance with manufacturer's instructions. Slide corrugated tube **1** onto fuel line **5** and route to the left vehicle side.



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

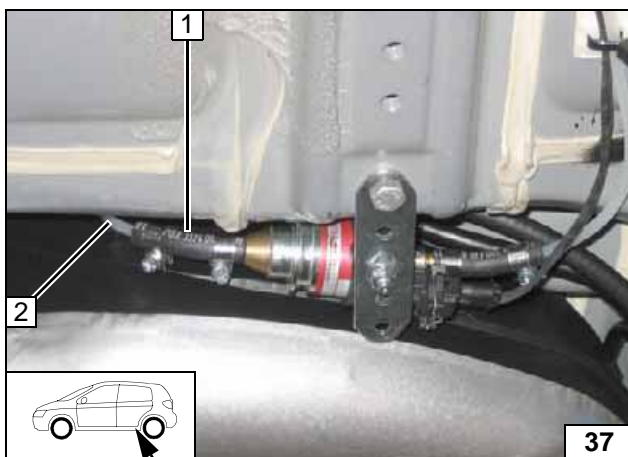
Connecting fuel line



Route fuel line in corrugated tube **1** to metering pump.



Routing fuel line



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

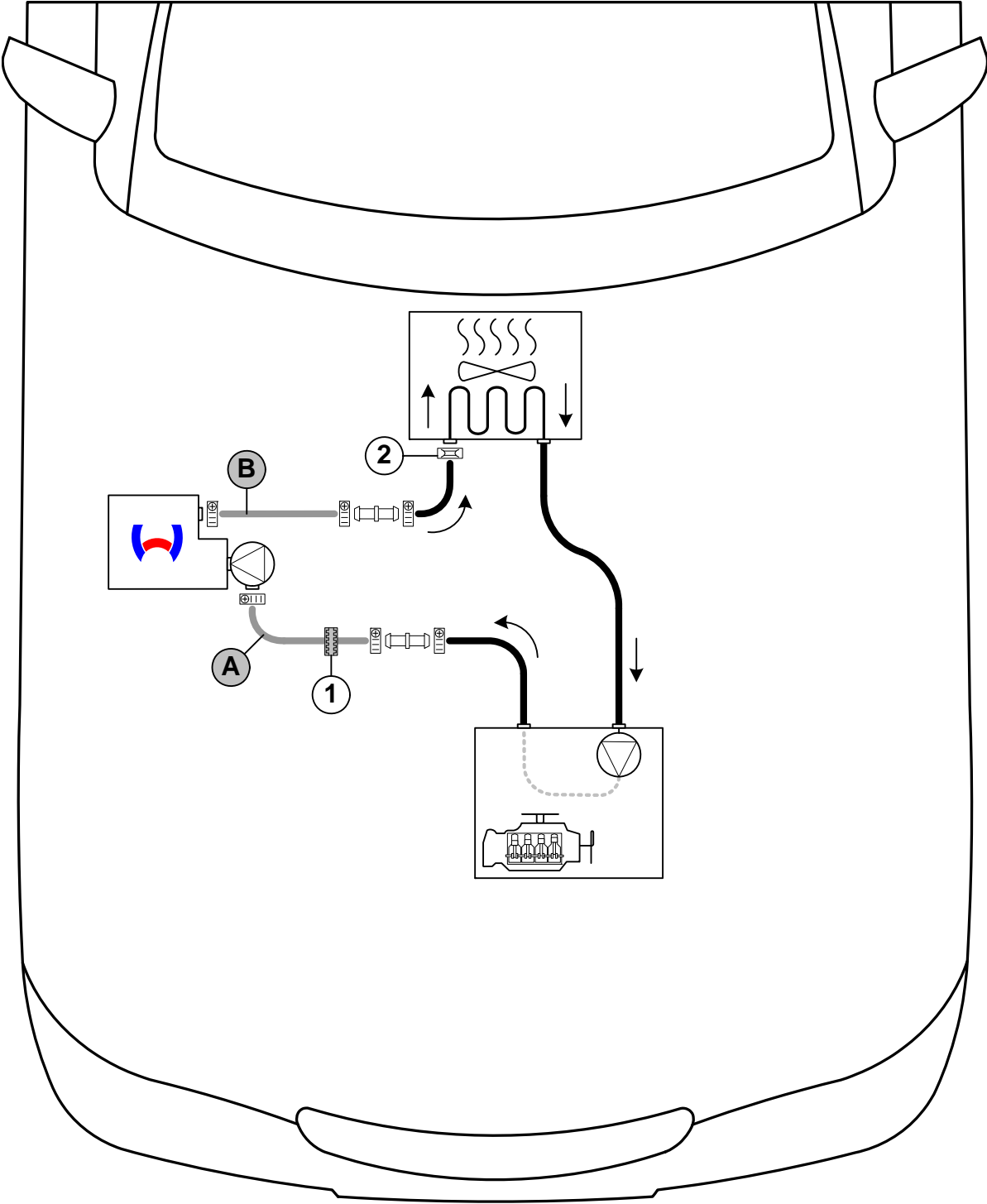
Connecting metering pump







Coolant Circuit

WARNING!

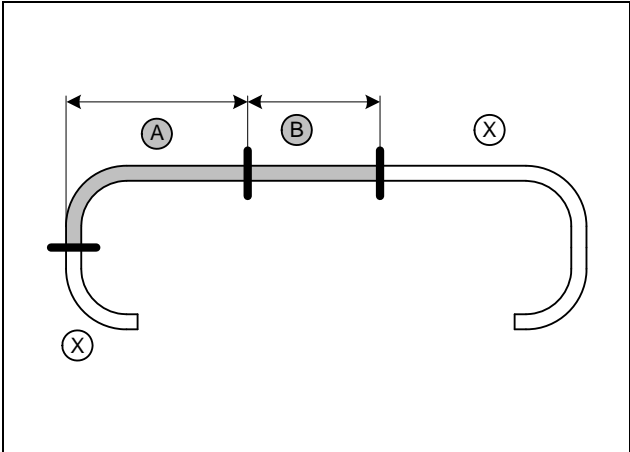
Any coolant running off should be collected in an appropriate container. Install coolant hoses kink-free. Unless specified otherwise, always fasten using cable ties. Position clamps so that other hoses cannot be damaged. The heater must be filled with coolant when installing the hoses. The connection should be "inline" based on the following diagram:



Hose routing diagram

All hose clamps  = 20-27 mm dia.!
1 = Black (sw) rubber isolator . 2= Original vehicle spring clip .
All connecting pipes  = 15x20 dia..



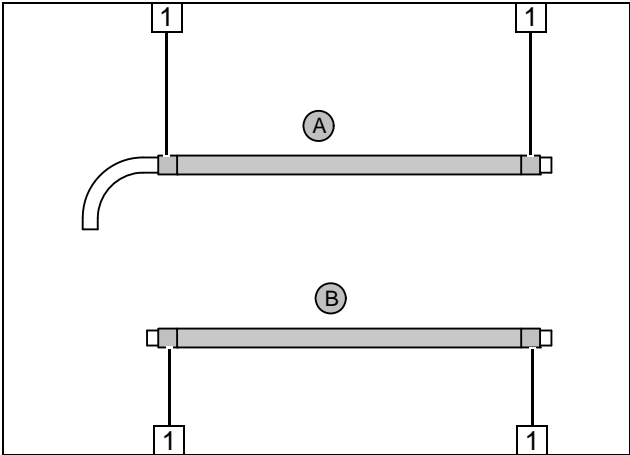


Discard section X

A = 380
B = 360



Cutting wa-
ter hoses
to length

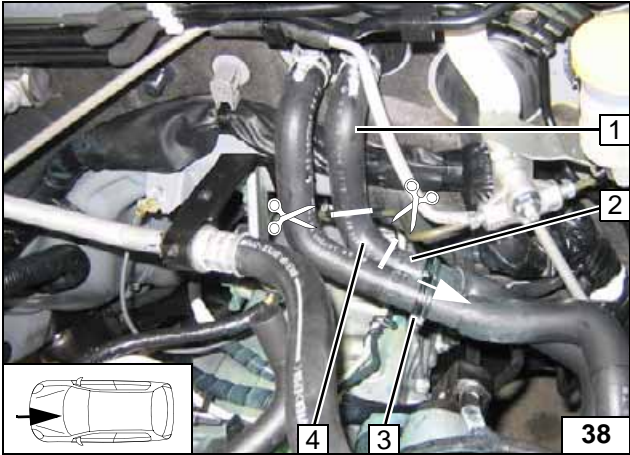


Push braided protection hoses onto hose A and B and cut to length.
Cut heat shrink plastic tubing to length.



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

Preparing
water hoses

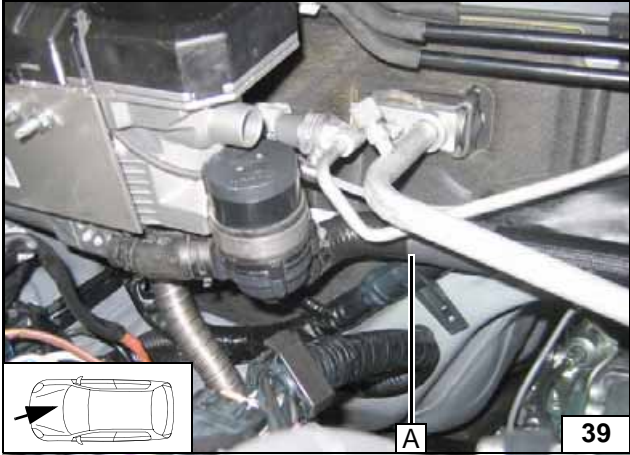


Remove hose section of heat exchanger inlet 1. Spring clip will be reused. Adjust original vehicle spacer bracket 3 as shown.

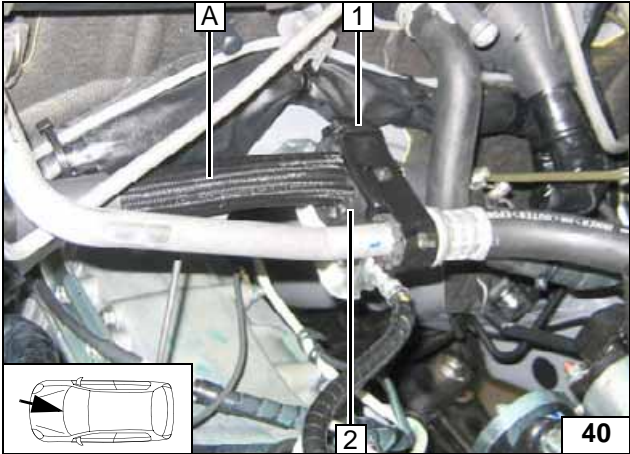
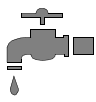
2 Engine outlet hose section
4 Discard hose section



Cutting
point

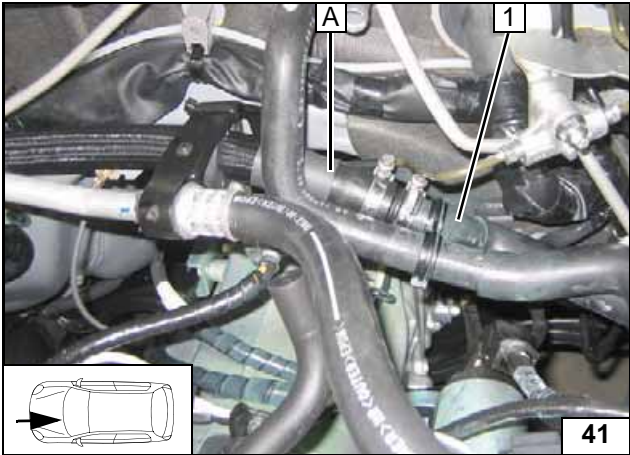


Connect-
ing heater
inlet



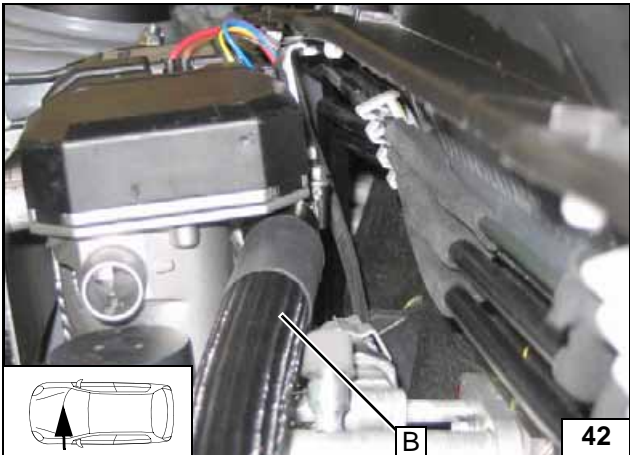
- 1 Cable tie
- 2 Black (sw) rubber isolator

Routing in engine compartment

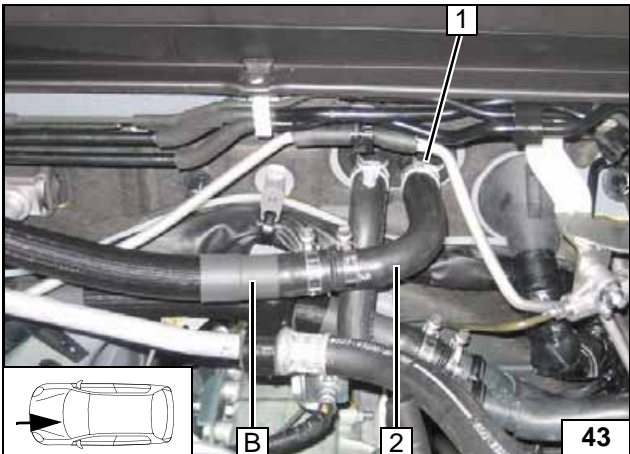


- 1 Hose of engine outlet

Connecting engine outlet



Connecting heater outlet

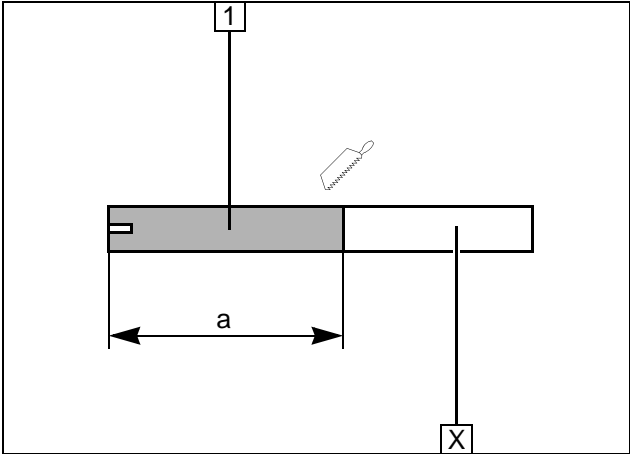


Install hose of heat exchanger inlet 2 with cut side on connection piece of heat exchanger inlet. Ensure sufficient distance from neighbouring components.

- 1 Original vehicle spring clip



Connecting heat exchanger inlet



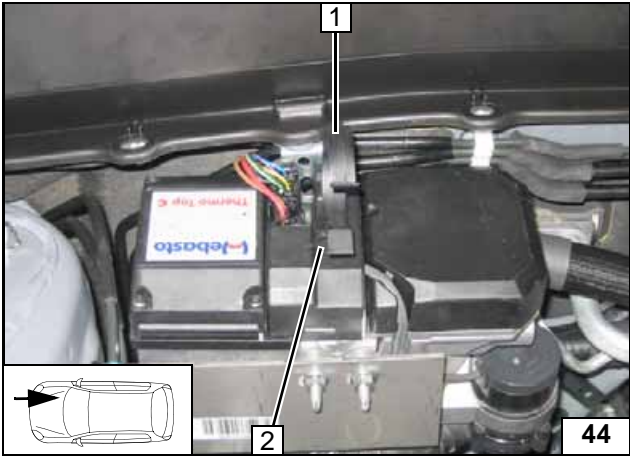
Combustion Air

Discard section X

- 1 Combustion air pipe
a = 200



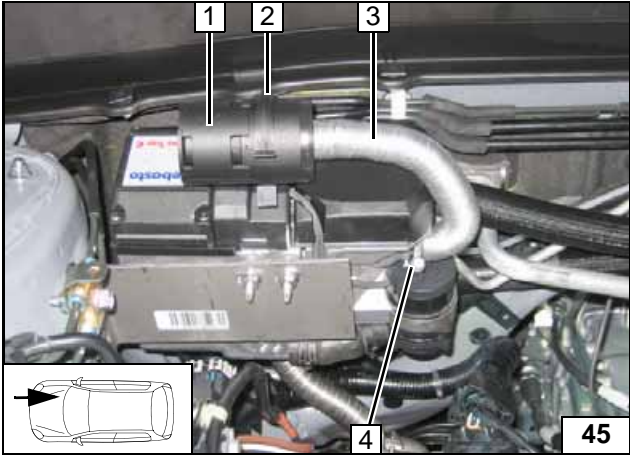
Cutting combustion air pipe to length



Pierce through perforation at centre of heater cover at position 2 and insert retaining clip 1.



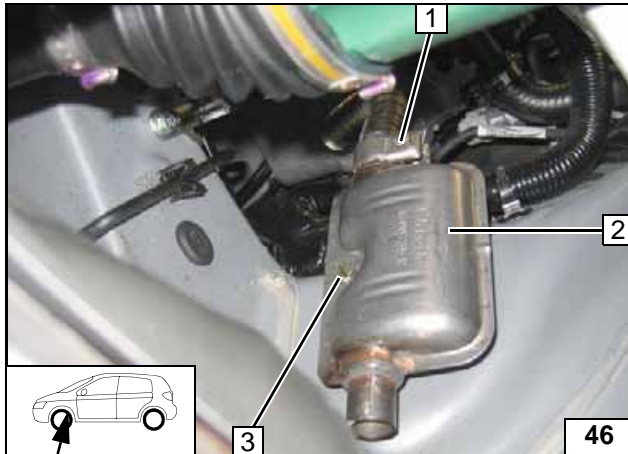
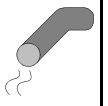
Inserting retaining clip



- 1 Silencer
- 2 Retaining clip in hole
- 3 Combustion air pipe
- 4 27 mm dia. clamp



Installing silencer

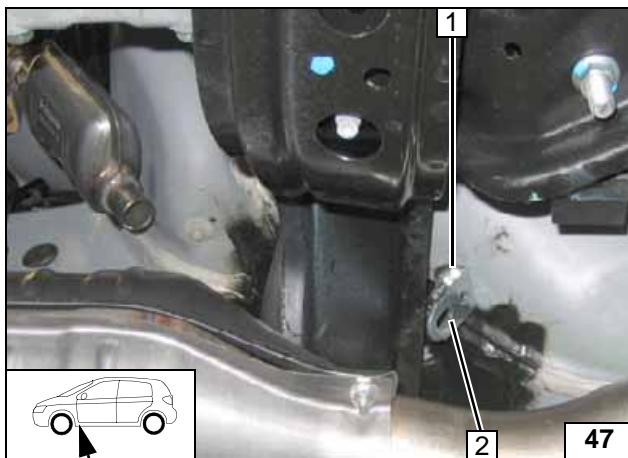


Exhaust Gas

Insert 30 mm shim between silencer and rivet nut. For Lineartronic, insert an additional large diameter washer between shim and insulation mat.

- 1 Tighten hose clamp
- 2 Silencer
- 3 M6x50 bolt, spring lockwasher, 30 mm shim, large diameter washer (Lineartronic only)

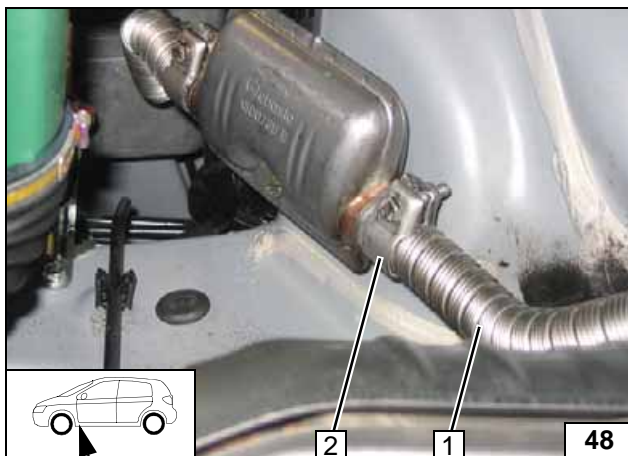
Installing silencer



Manual transmission

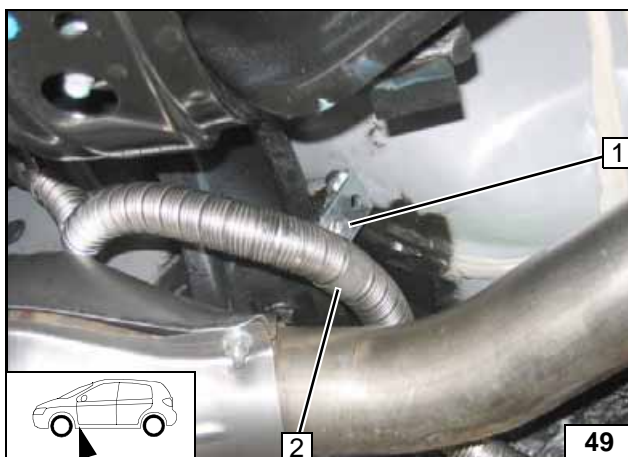
- 1 Original vehicle stud bolt, flanged nut
- 2 Angle bracket

Installing angle bracket



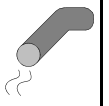
- 1 Exhaust end section
- 2 Hose clamp

Installing exhaust end section

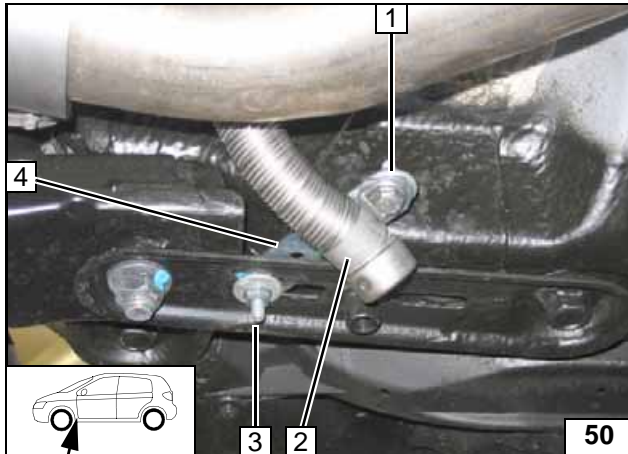


- 1 M6x20 bolt, flanged nut
- 2 P-clamp

Fastening exhaust end section



Fastening exhaust end section



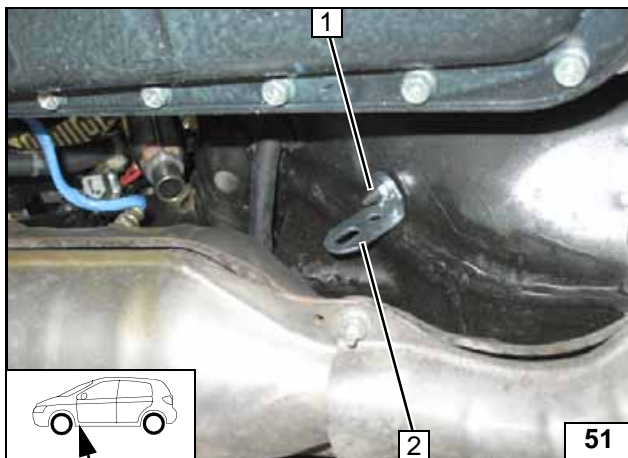
Align exhaust end section. Ensure sufficient distance from neighbouring components.

- 1 M6x20 bolt, flanged nut
- 2 P-clamp
- 3 M6x20 bolt, large diameter washer, flanged nut, existing oblong hole
- 4 Perforated bracket

Lineartronic

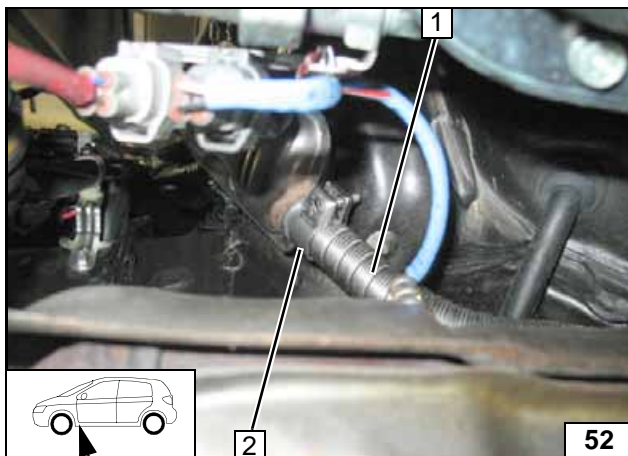
- 1 Original vehicle stud bolt, flanged nut
- 2 Angle bracket

Installing angle bracket



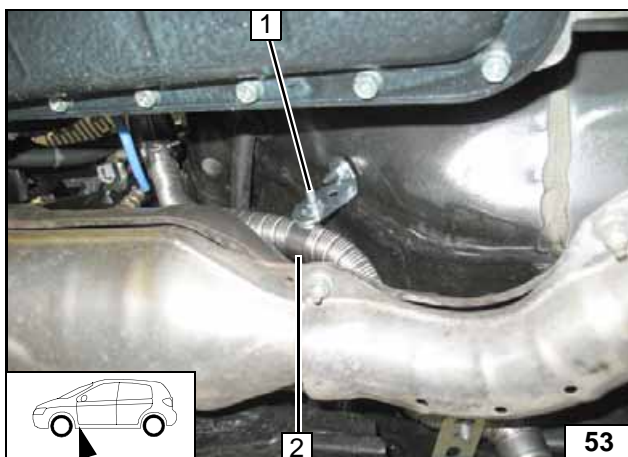
- 1 Exhaust end section
- 2 Hose clamp

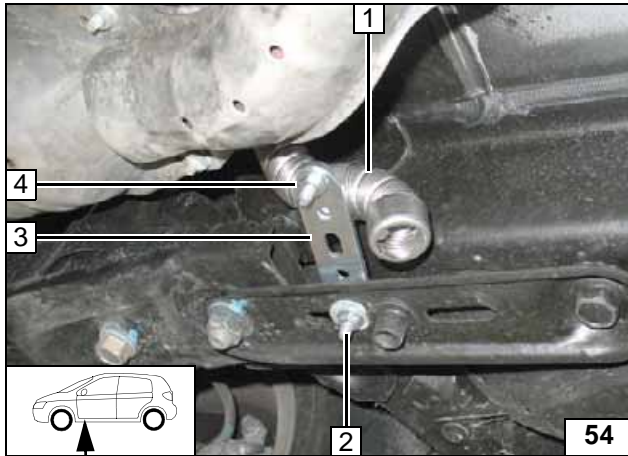
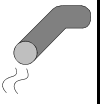
Installing exhaust end section



- 1 M6x20 bolt, flanged nut
- 2 P-clamp

Fastening exhaust end section





- 1 Exhaust end section
- 2 M6x20 bolt, large diameter washer, flanged nut, existing oblong hole
- 3 Perforated bracket
- 4 M6x20 bolt, pipe clamp, flanged nut

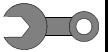
**Fastening
exhaust
end sec-
tion**



Align exhaust end section 1. Ensure sufficient distance from neighbouring components.



**Aligning
exhaust
end sec-
tion**



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

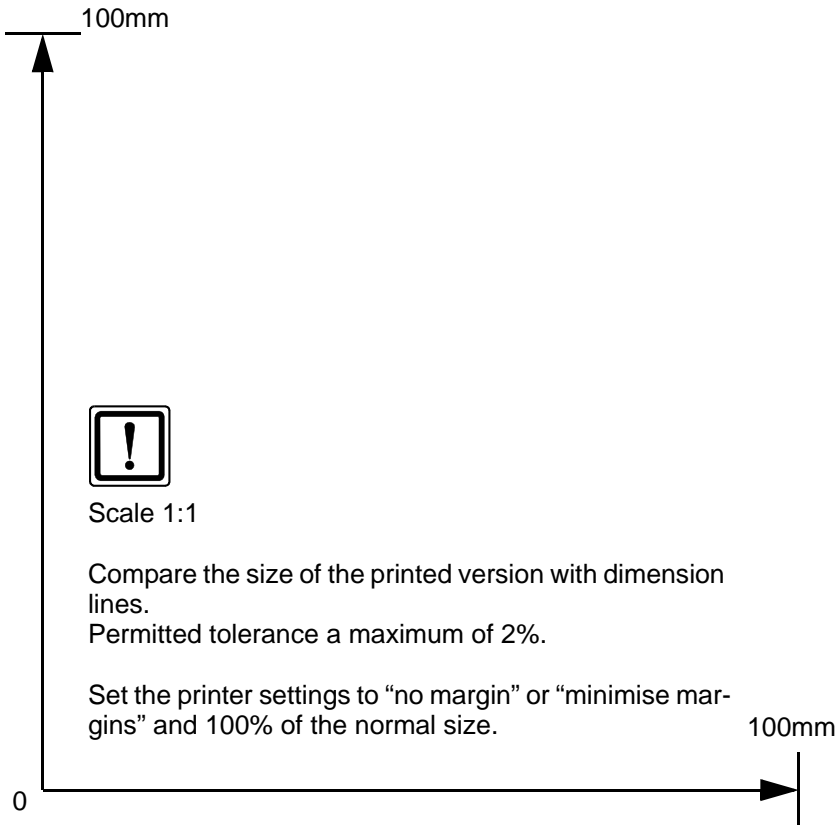
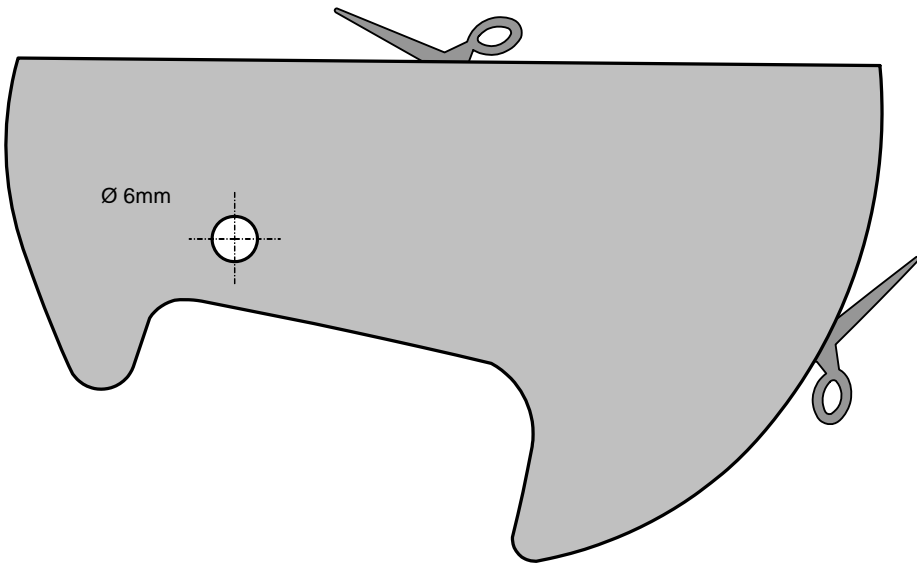
- Connect the battery.
- Fill and bleed the coolant circuit according to the vehicle manufacturer's specifications.
- Adjust digital timer / remote control
- Make settings on A/C control panel according to the "Operating Instructions for End Customer".
- Check the proper operation of the parking heater, see the operating instructions/installation instructions.
- Place the "Switch off parking heater before refuelling" signboard in the area of the filler neck





Template for Fuel Standpipe

Template for Fuel-Tank Sending Unit



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

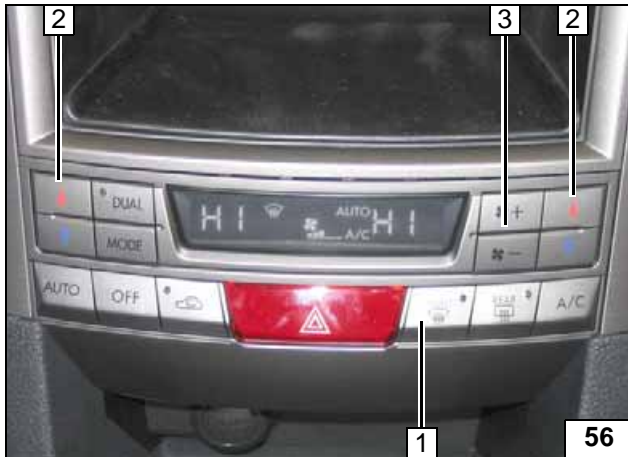
Example:

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 on the heater, it 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 on both sides to "HI"
- 3 Set fan to level "2", or "3"

**Automatic
air-conditioning**

