

Water Heater



Thermo Top E Parking Heater

e1
00 0003

Thermo Top C Parking Heater

e1
00 0002

Installation instructions



Subaru Legacy / Out-back 2.0 D Boxer Diesel

Diesel
from Model Year 2008
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.

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

Subaru Legacy / Outback 2.0 D Boxer Diesel

Table of Contents

Validity	2	Preparing Installation Location	12
Heater/Installation Kit	3	Preparing Heater	13
Foreword	3	Installing Heater	15
General Instructions	3	Fuel Connection	16
Special Tools	3	Combustion Air	19
Explanatory Notes on the Document	4	Water	20
Preliminary Work	5	Final Work	23
Heater Installation Location	5	Template for Fuel Standpipe	24
Electrical Connections	6	Operating Instructions for End Customer	25
Fan controller with Engine Start/Stop Push Button	7		
Fan controller without Engine Start/Stop Push Button	9		
Remote Option (Telestart)	11		

Validity

Manufacturer	Model	Type	EG-BE No./ABE
SUBARU	Legacy / Outback	BL / BP	e1 * 2001/116 * 0228 * ...
SUBARU	Legacy / Outback	BL / BPS	e1 * 2001/116 * 0256 * ...

Engine type	Engine model	Output in kW	Displacement in cm ³
EE20	Diesel	110	1998

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.

Subaru Legacy / Outback 2.0 D Boxer Diesel

Heater/Installation Kit

Quantity	Description	Order No.:
1	Retail accessories with desired heater control	See price list
1	Installation kit Subaru Legacy / Outback / Forester / Impreza 2.0 D Boxer Diesel	1313756D

Heater recommended for the relevant 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 vehicles Subaru Legacy / Outback 2.0 D Boxer Diesel - for validity, see page 2 - from model year 2008 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 the "installation instructions" and "operating and maintenance instructions" for the *Thermo Top C/P/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 should be fitted with edge protectors (split-open plastic hose).

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

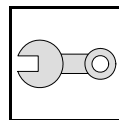
Special Tools

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

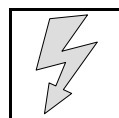
Explanatory Notes on Document

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.

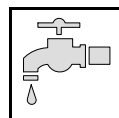
Mechanical system



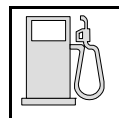
Electrical system



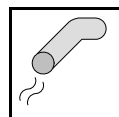
Water



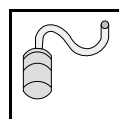
Fuel



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.



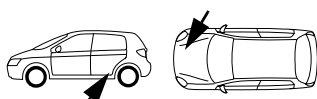
Specific risk of fire or explosion.



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!

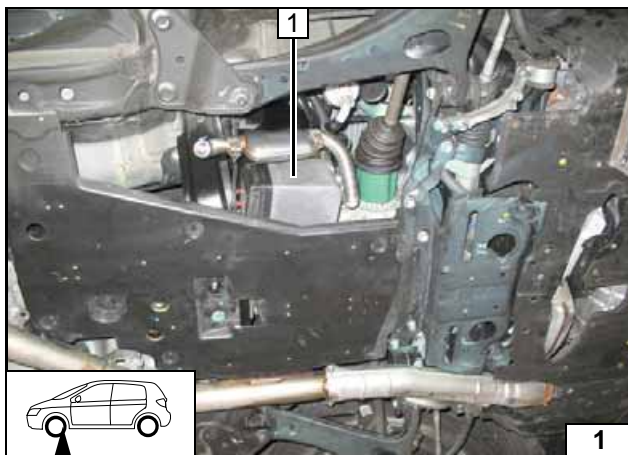
Tightening torque of Ejet screws, Ejet studs = 10 Nm!

Preliminary Work

WARNING!

- Open fuel tank cap, ventilate tank.
- Close the tank cap again.
- Disconnect the battery "earth" or "ground" connection.
- Depressurize 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 rear bench seat.
- Open the right-hand fuel sender service lid.
- Remove the footwell trim on the driver's side.
- Remove the lower instrument panel trim on the driver's side.
- Remove the A-pillar trim in the footwell on the front passenger side.
- Remove the lower B-pillar trim on the front passenger side.
- Remove the door sill cover on the front passenger side.
- Remove the right-hand fuel tank trim.

Please remove page 25 "Operating instructions for the end customer" and add this to the vehicle operating instructions.



Heater installation location

1 Heater

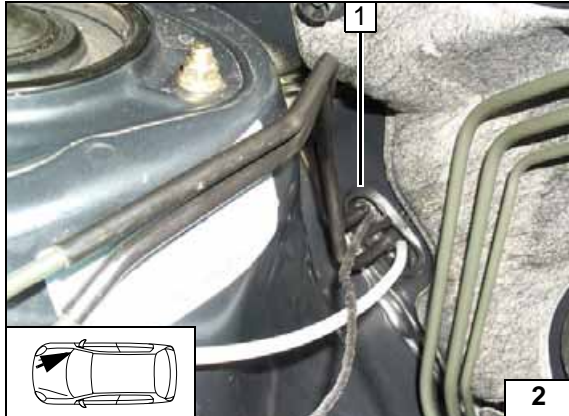
Installation location



Electrical Connections

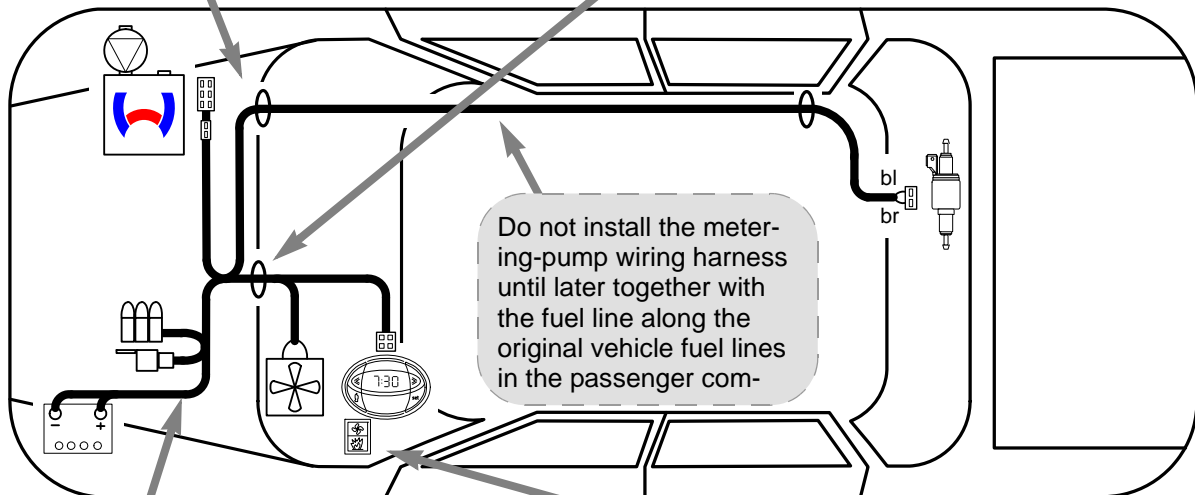
Pass through of fuel line and wiring harness of metering pump

- 1 Protective rubber plug

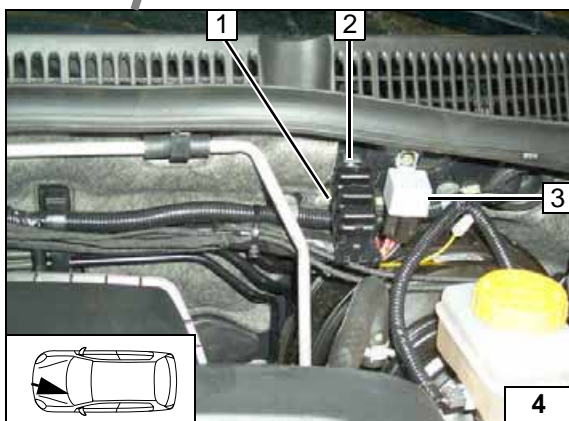


Wiring harness pass through

- 1 Protective rubber plug
- 2 Original vehicle wiring harness

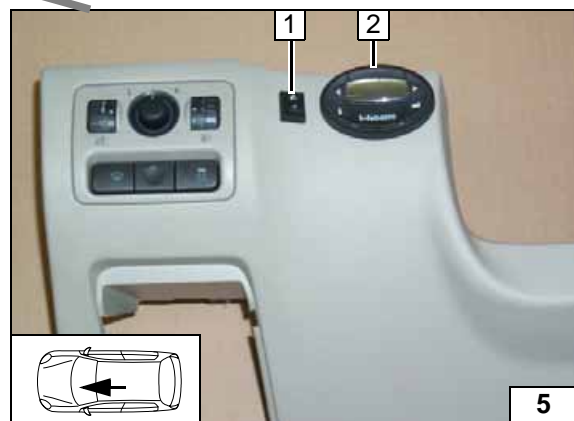


Wiring harness installation routing



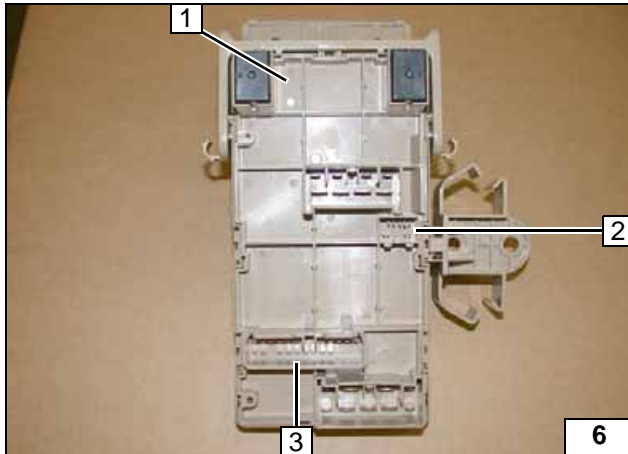
Fuse holder, K3 relay
Cut out insulation mat.

- 1 Fuse holder (replace F25A with 7.5 A)
- 2 Retaining plate of fuse holder, 4 mm dia. hole, 5.5x9.5 self-tapping screw
- 3 K3 relay, 4 mm dia. hole, 5.5x9.5 self-tapping screw



Digital timer / Summer/winter switch option

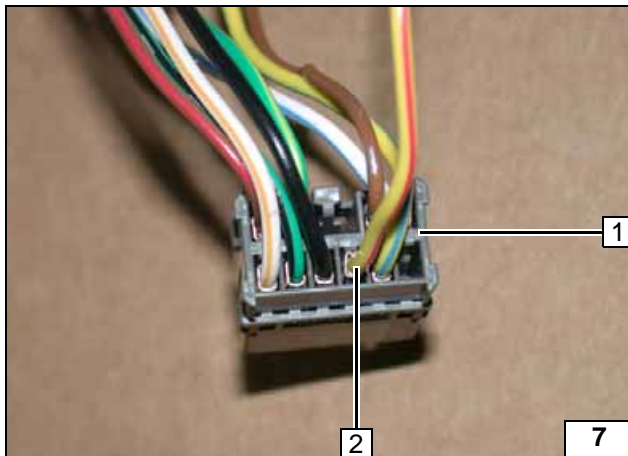
- 1 Summer/winter switch, drilled hole 12 mm dia.
- 2 Digital timer



Fan controller with engine start/stop push button

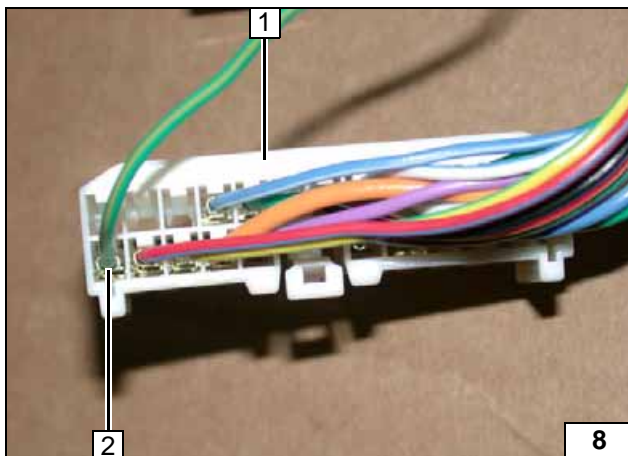
- 1 Remove central electrical box, back
- 2 Socket of 10-pin connector
- 3 Socket of 24-pin connector

Disconnecting connector from central electrical box



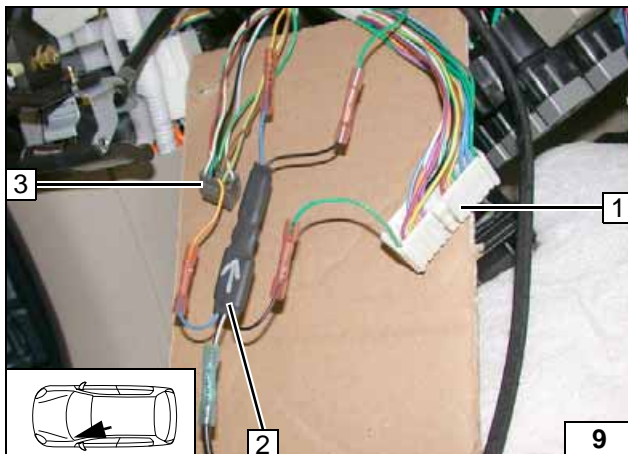
- 1 10-pin connector, gray D (B152) disconnected
- 2 Yellow/red (ge/rt) wire from PIN 7

10-pin connector



- 1 24-pin connector white C (B52) disconnected
- 2 Green/orange (gn/or) from PIN 1

24-pin connector

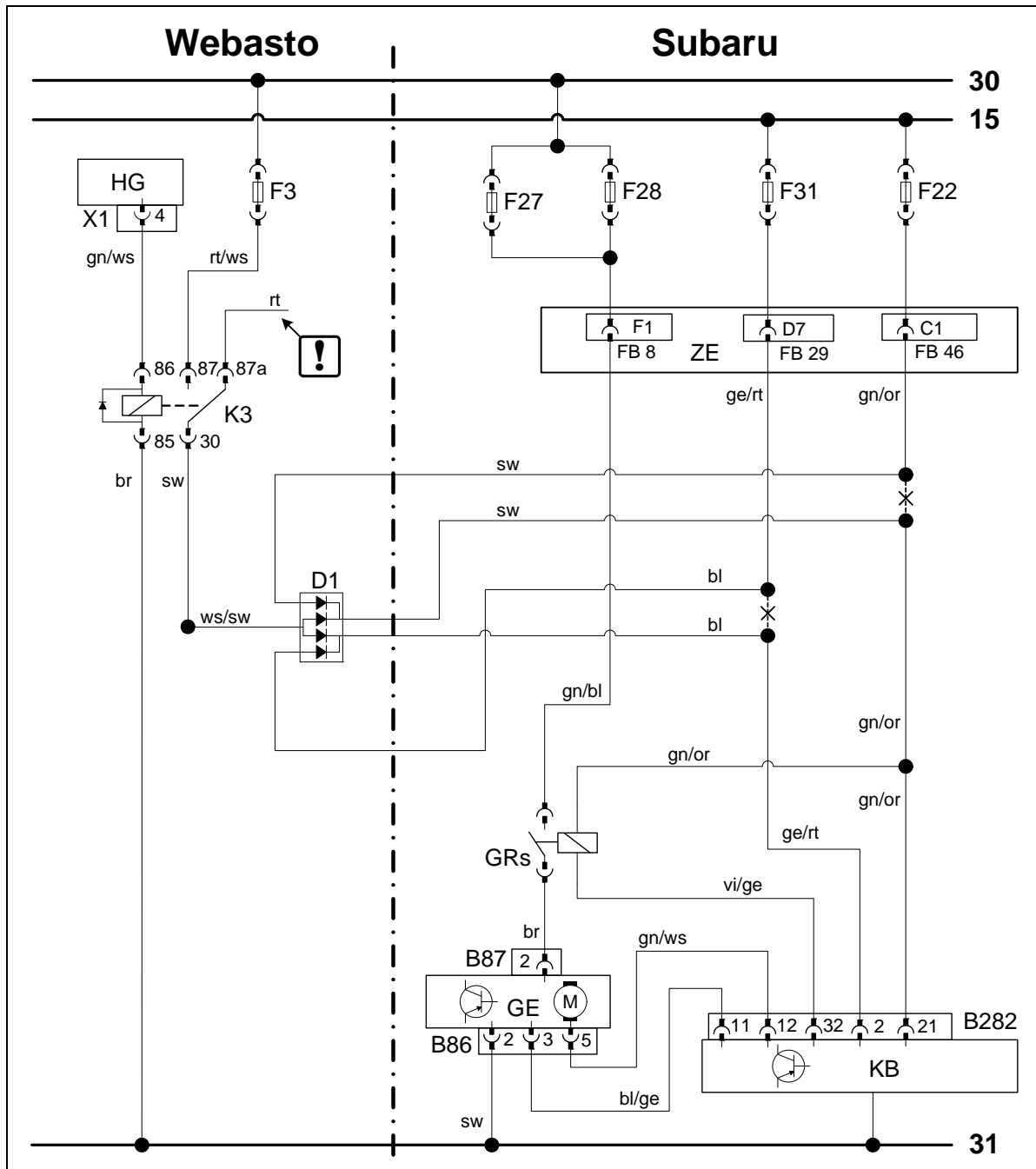


Make connections as shown in the wiring diagram with the connectors provided.

- 1 24-pin connector white C (B52)
- 2 Diode group D1
- 3 10-pin connector, gray D (B152)



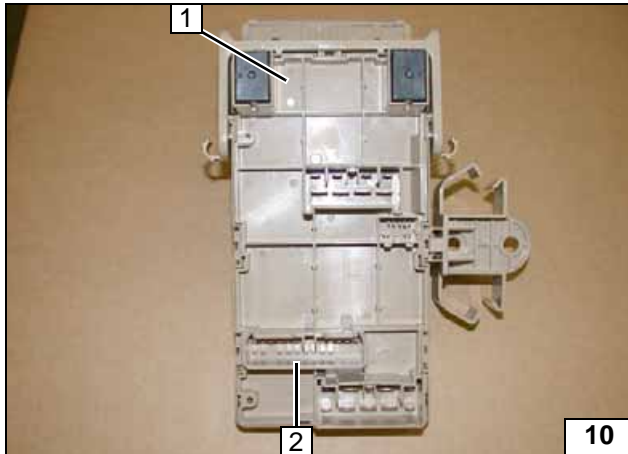
Connecting diode group



Wiring Diagram with Engine Start/Stop Push Button

Webasto components		Vehicle components		Colours and symbols	
HG	Heater TT-C/E/P	F31	Fuse, 7.5 A	rt	red
X1	6-pin heater connector	F22	Fuse, 15A	ws	white
F3	Replace 25 A fuse with 7.5 A fuse	F27	Fuse, 15A	sw	black
K3	Fan relay	F28	Fuse, 15A	br	brown
D1	Diode group	ZE	Central electrical box	gn	green
		C1	Connector C (B52) PIN 1	bl	blue
		D7	Connector D (B152) PIN 7	ge	yellow
		KB	A/C control panel	or	orange
		B282	40-pin connector KB	vi	violet
		GE	Fan unit		
		B87	2-pin connector of fan motor	Insulate wire end and tie back	
		B86	5-pin connector of fan controller		
				X	Cutting point
				Wiring colours may vary.	

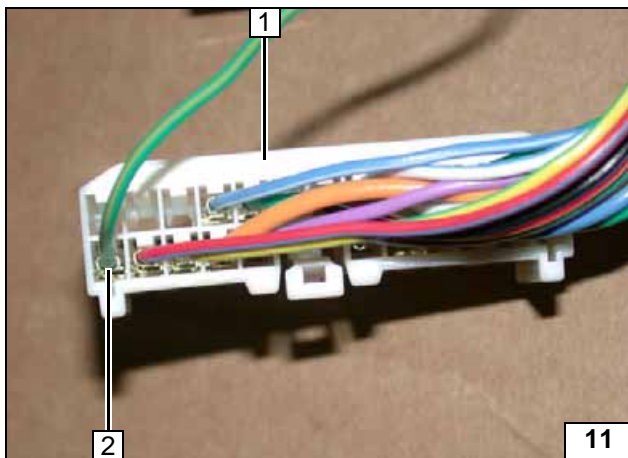
Legends



Fan controller without engine start/stop push button

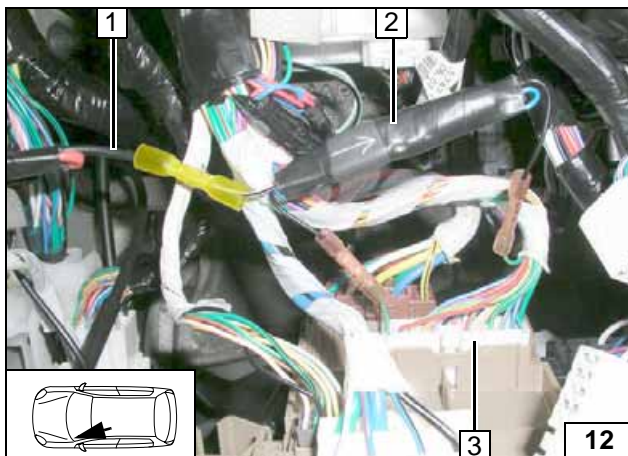
- 1 Remove central electrical box, back
- 2 Socket of 24-pin connector

Discon-necting connector from central electrical box



- 1 24-pin connector white C (B52) disconnected
- 2 Green/orange (gn/or) from PIN 1

24-pin con-connector

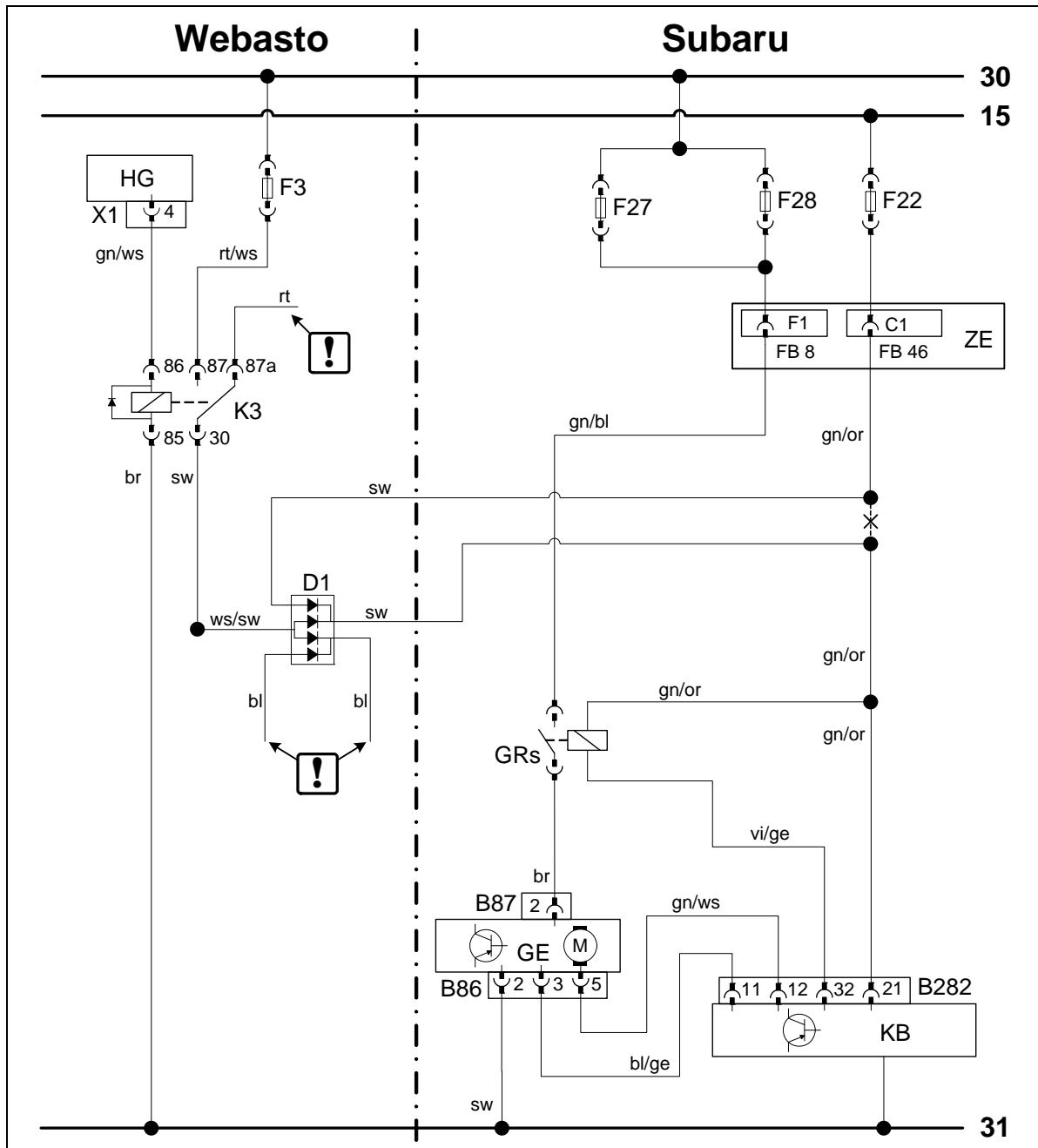


Make connections as shown in the wiring diagram with the connectors provided.

- 1 Black (sw) wire from K3/30
- 2 Diode group D1
- 3 24-pin connector white C (B52)



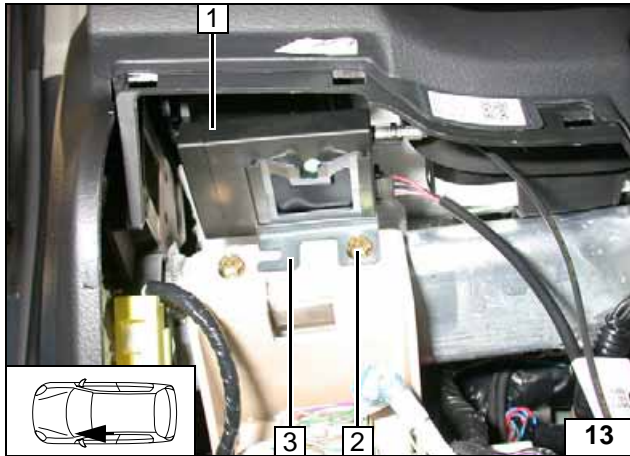
Connect-ing diode group



Wiring Diagram without Engine Start/Stop Push Button

Webasto components		Vehicle components		Colours and symbols	
HG	Heater TT-C/E/P	F27	Fuse, 15A	rt	red
X1	6-pin heater connector	F28	Fuse, 15A	ws	white
F3	Replace 25 A fuse with 7.5 A fuse	F22	Fuse, 15A	sw	black
K3	Fan relay	ZE	Central electrical box	br	brown
D1	Diode group	C1	Connector C (B52) PIN 1	gn	green
		KB	A/C control panel	bl	blue
		B282	40-pin connector KB	ge	yellow
		GE	Fan unit	or	orange
		B87	2-pin connector of fan motor	vi	violet
		B86	5-pin connector of fan controller	!	Insulate wire ends and tie back
				X	Cutting point
					Wiring colours may vary.

Legends

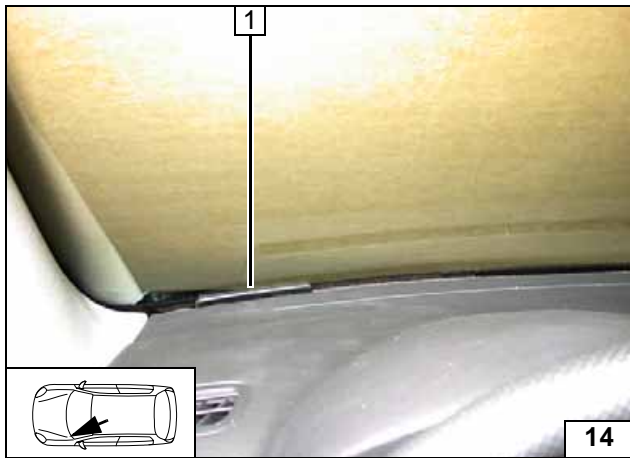


Remote option (Telestart)

- 1 Receiver
- 2 Original vehicle bolt
- 3 Bracket, angle down 90°

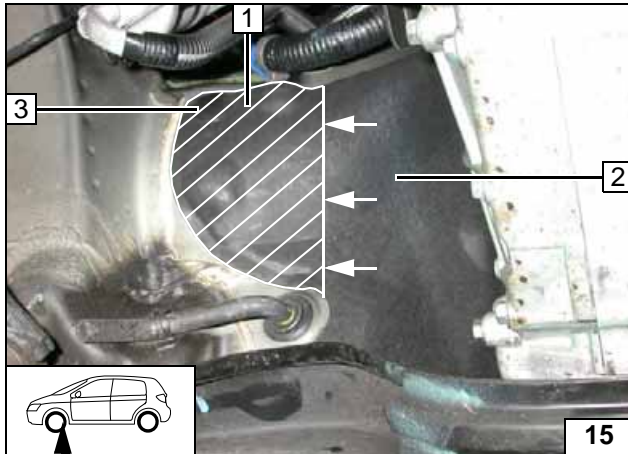
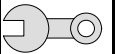


Installing receiver



- 1 Antenna

Installing antenna



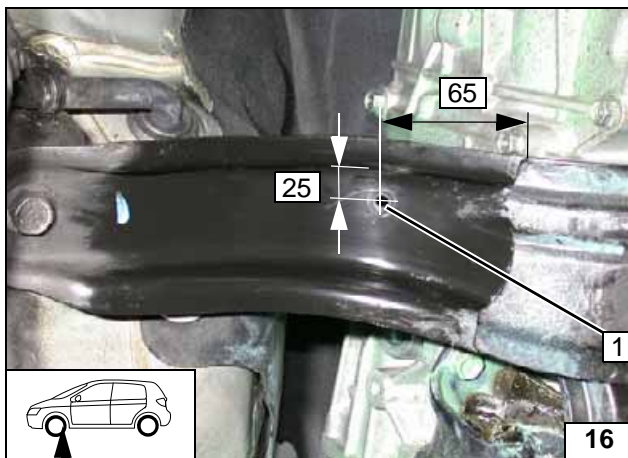
Preparing installation location

Cut insulation mat 2 at marking.

- 1 Discard section
- 3 Remove clip and discard

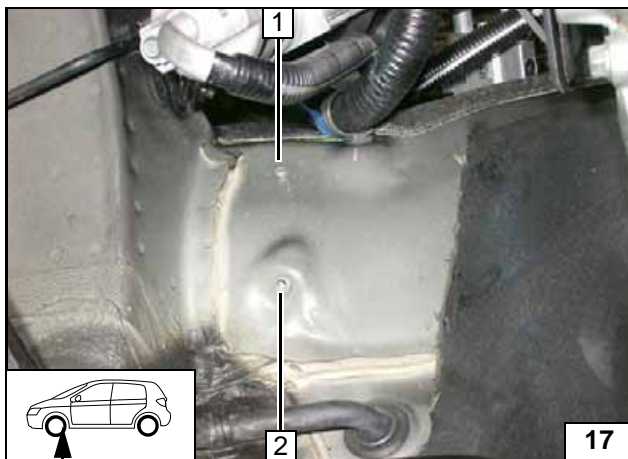


Cutting out insulation mat



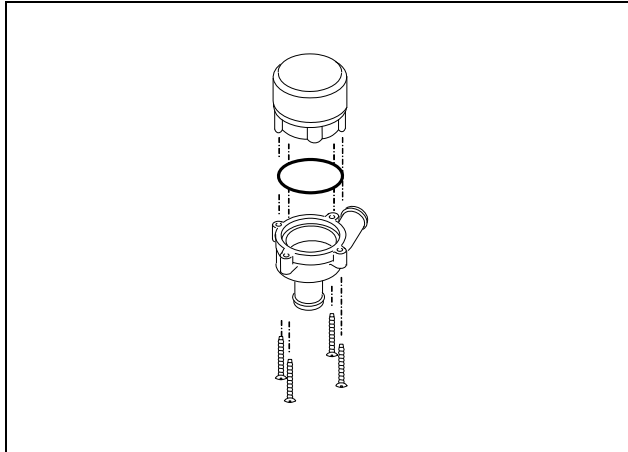
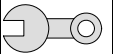
- 1 7 mm dia. hole

Hole in transmission mounting



- 1 Drill out 9.1 mm dia. hole; install rivet nut
- 2 Rivet nut in existing hole

Installing rivet nut

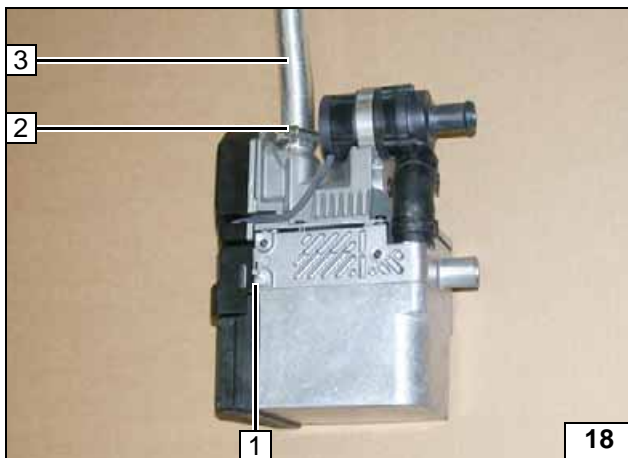


Preparing heater

Replace 193° cover of circulating pump with axial cover.

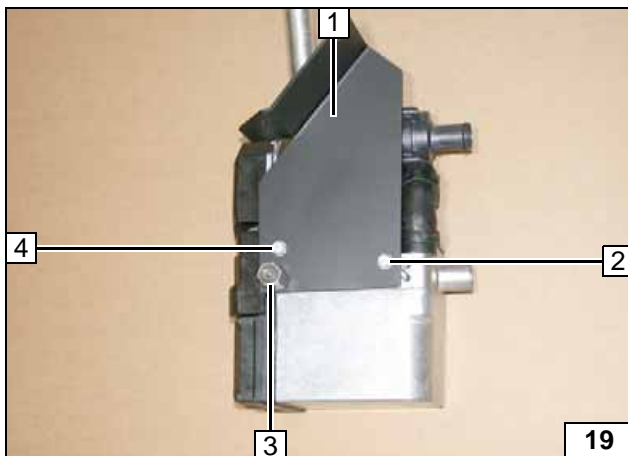


Replacing pump lid



- 1 Eجت stud
- 2 29 mm dia. clamp
- 3 Combustion air pipe

Preassembling heater

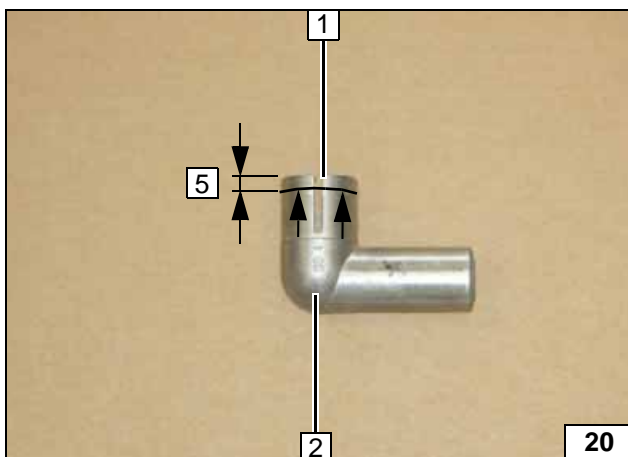


Insert three washers between heater and bracket **1** at Position **2** and one washer at Position **4**.



Preassembling bracket on heater

- 1 Bracket
- 2 Eجت screw, washer [3x]
- 3 M6x30 spacer nut
- 4 Eجت screw, washer

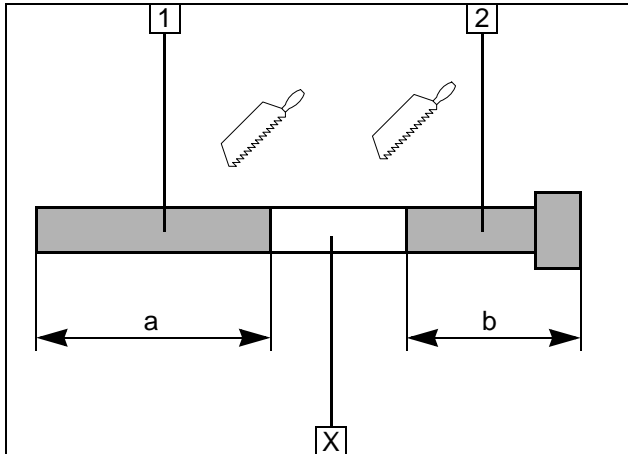
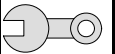


Shorten exhaust manifold **2** by 5 mm at marking.



Shortening exhaust manifold

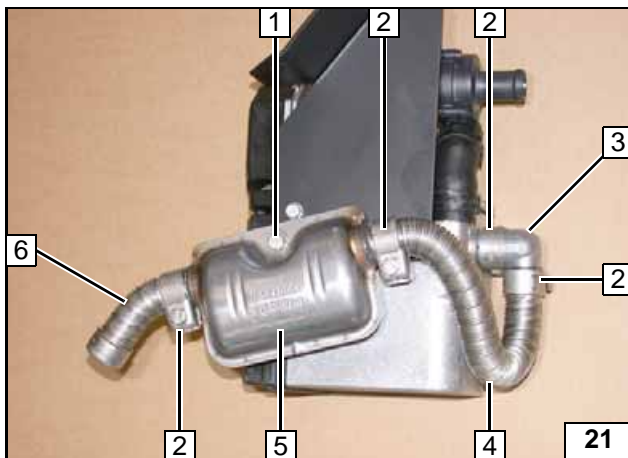
- 1 Discard section



- 1 Exhaust pipe
a = 240
- 2 Exhaust end section
b = 80

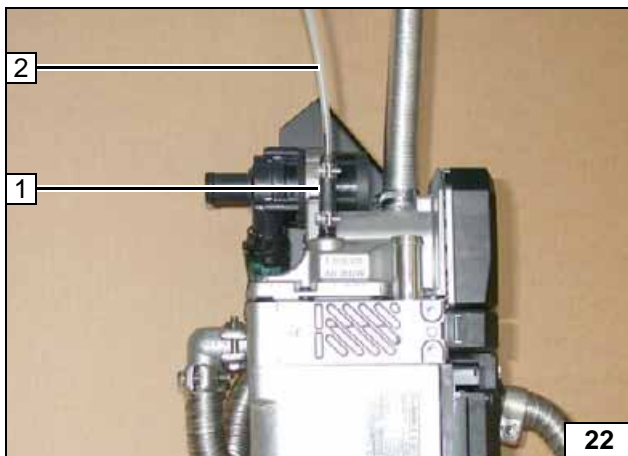
Discard section X

Preparing exhaust pipe



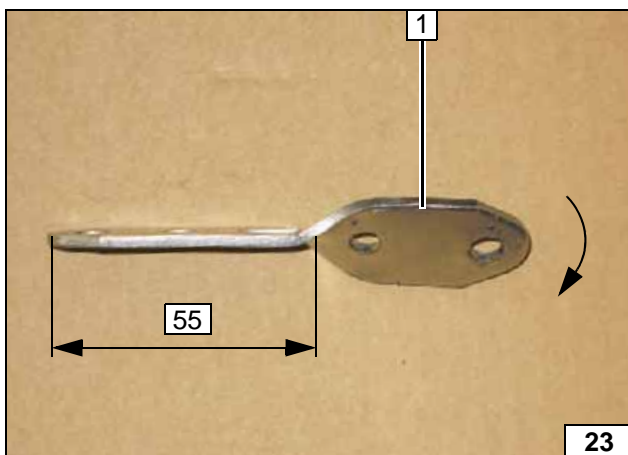
- 1 M6x16 bolt, spring lockwasher
- 2 Hose clamp [4x]
- 3 Exhaust manifold
- 4 Exhaust pipe
- 5 Exhaust muffler
- 6 Tail pipe

Preassembling exhaust system



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

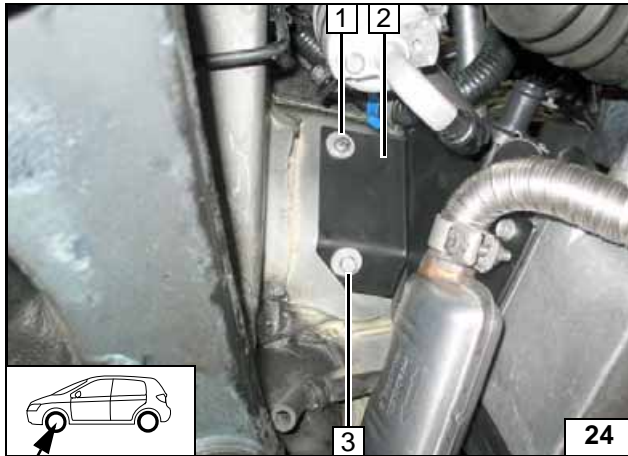
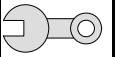
Premounting fuel hose on heater



Twist perforated bracket 1 by approx. 45°.



Preparing perforated bracket

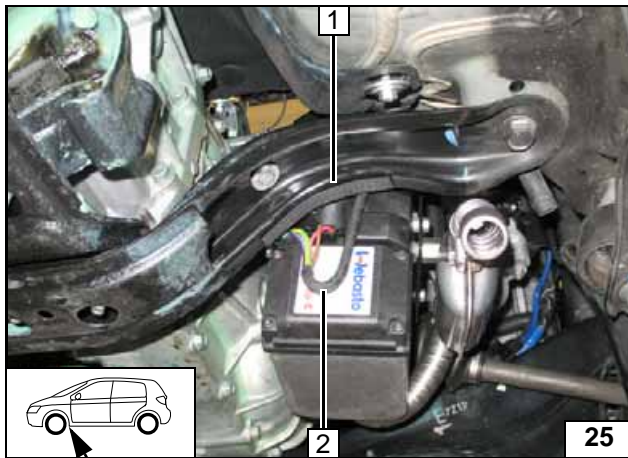


Installing heater

Insert 5 mm shim between bracket of heater 2 and body at Position 3.

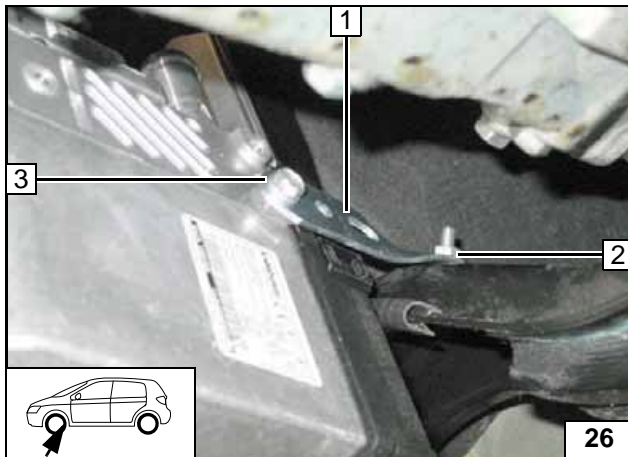
- 1 M6x20 bolt, spring lockwasher, large diameter washer
- 3 M6x25 bolt, spring lockwasher, large diameter washer, 5 mm shim

Installing heater



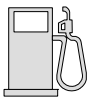
- 1 Edge protection 100
- 2 Mount wiring harness of heater

Installing heater



- 1 Perforated bracket
- 2 M6x20 bolt, large diameter washer, flanged nut
- 3 Ejet screw

Installing heater



Fuel Connection

CAUTION!

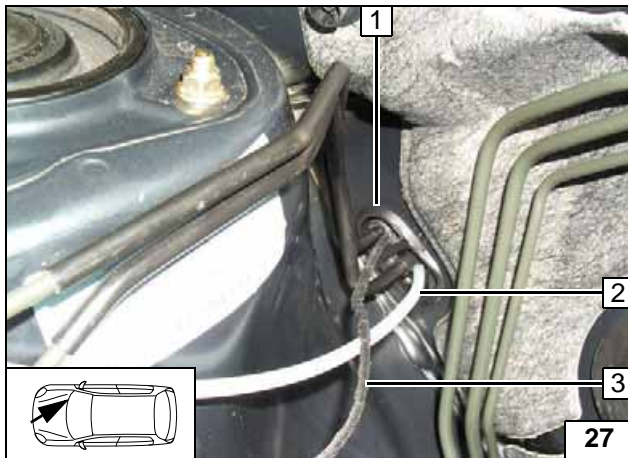
Open the vehicle's fuel tank cap, ventilate the tank and then re-close the tank lock.

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.



Route fuel line along original vehicle lines in passenger compartment to rear.

- 1 Wiring harness pass through
- 2 Fuel line
- 3 Metering pump wiring harness

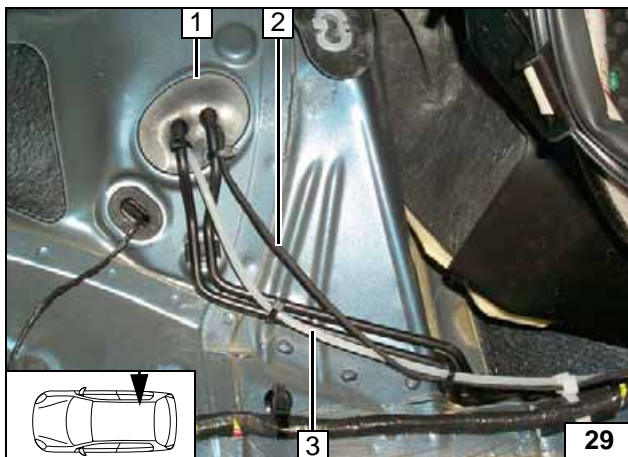
Routing lines in passenger compartment



Route fuel line under door sill cover to rear.

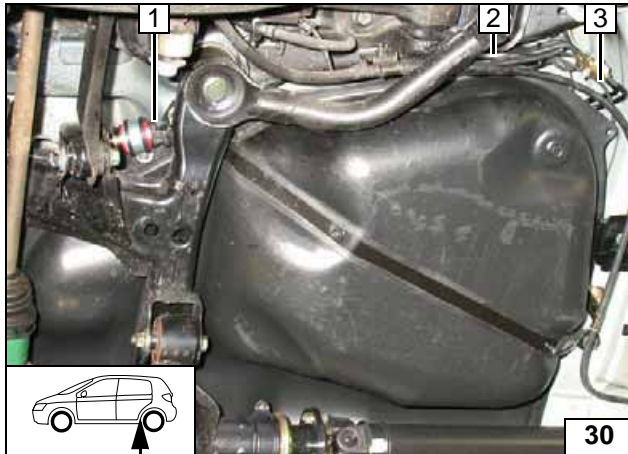
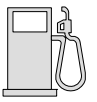
- 1 Metering pump wiring harness
- 2 Fuel line

Routing lines in passenger compartment



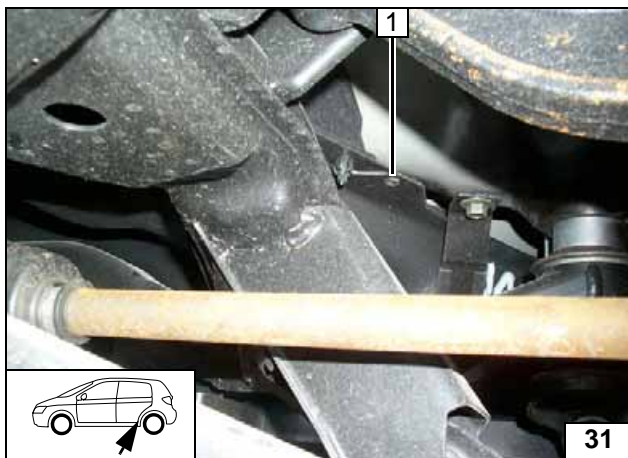
- 1 Protective rubber plug
- 2 Metering pump wiring harness
- 3 Fuel line

Installing lines to underbody



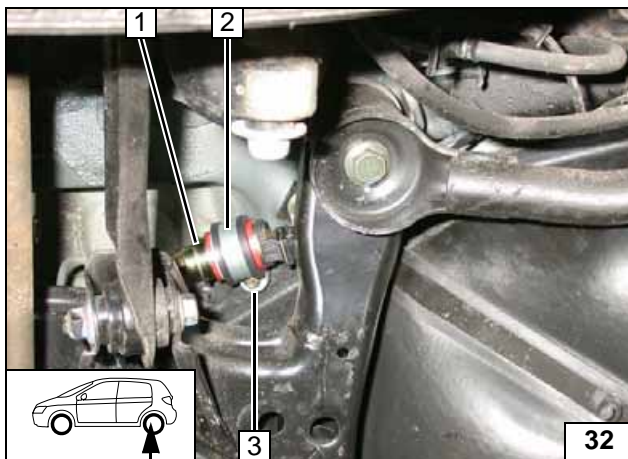
- 1 Metering pump
- 2 Fuel line
- 3 Metering pump wiring harness

Installation location of metering pump



- 1 Existing hole

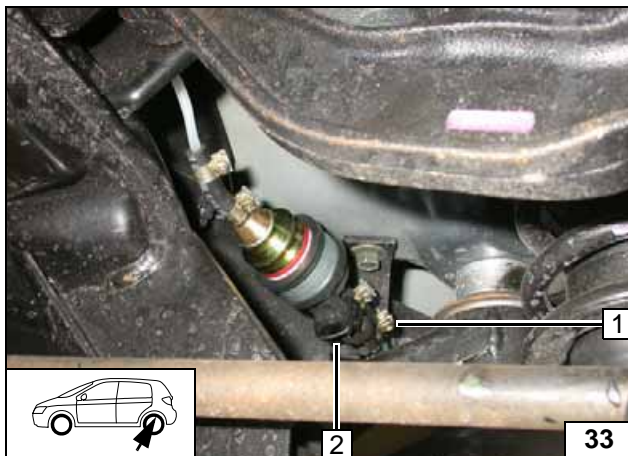
Mounting metering pump



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



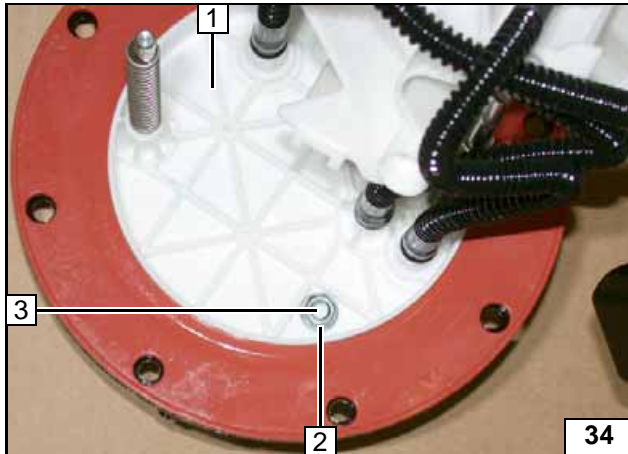
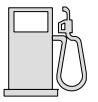
Installing metering pump



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



Connecting metering pump

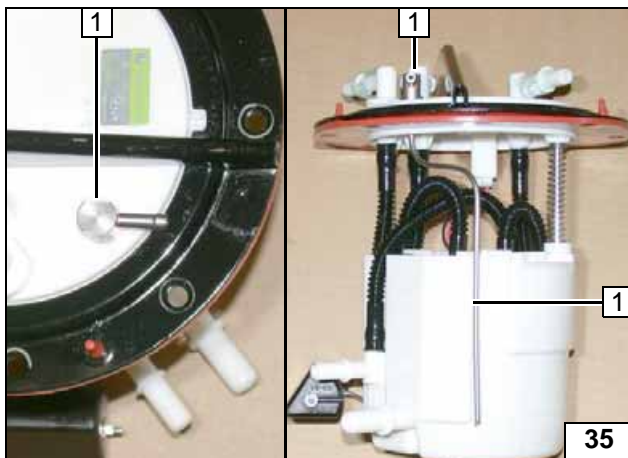


Remove and dismantle fuel-tank sending unit **1** according to manufacturer's instructions.

- 2** Flanged nut
- 3** Copy hole pattern, 6 mm dia. hole



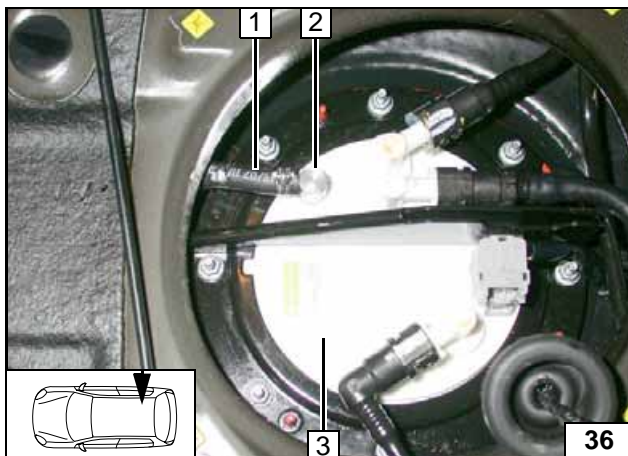
Removing fuel



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



Installing fuel standpipe

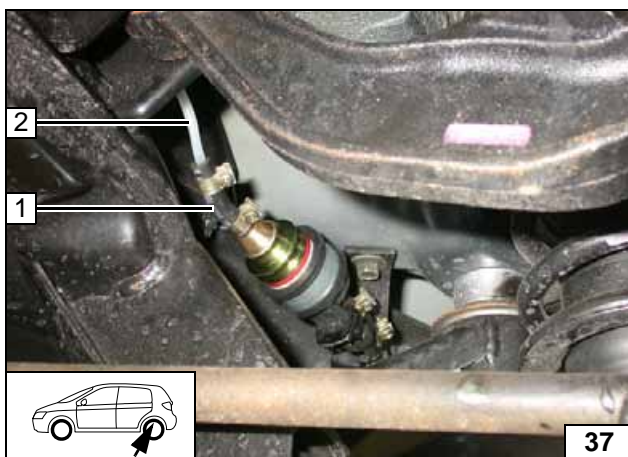


Install fuel-tank sending unit **3** in accordance with manufacturer's instructions.

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



Connecting fuel line

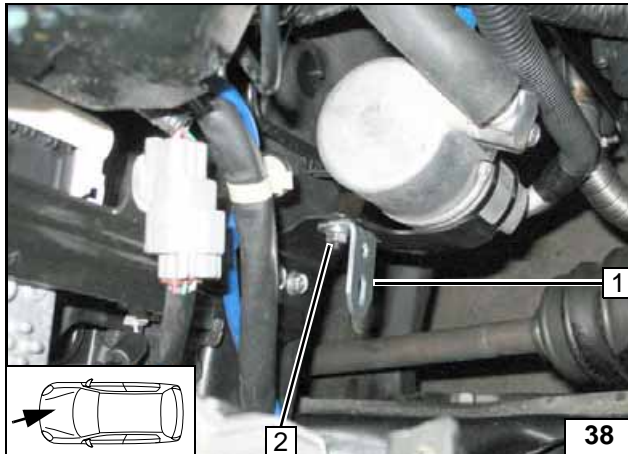
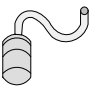


Check the position of the components; adjust if necessary. Check that they have free clearance.

- 1** Hose section, 10 mm dia. hose clamps [2x]
- 2** Fuel line



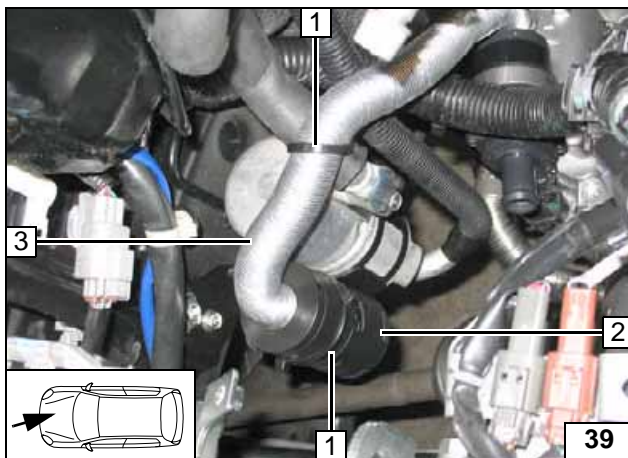
Connecting to metering pump



Combustion air

- 1 Angle bracket
- 2 Existing stud bolt, original vehicle nut

Installing angle bracket



- 1 Cable tie [2x]
- 2 Muffler
- 3 Combustion air pipe



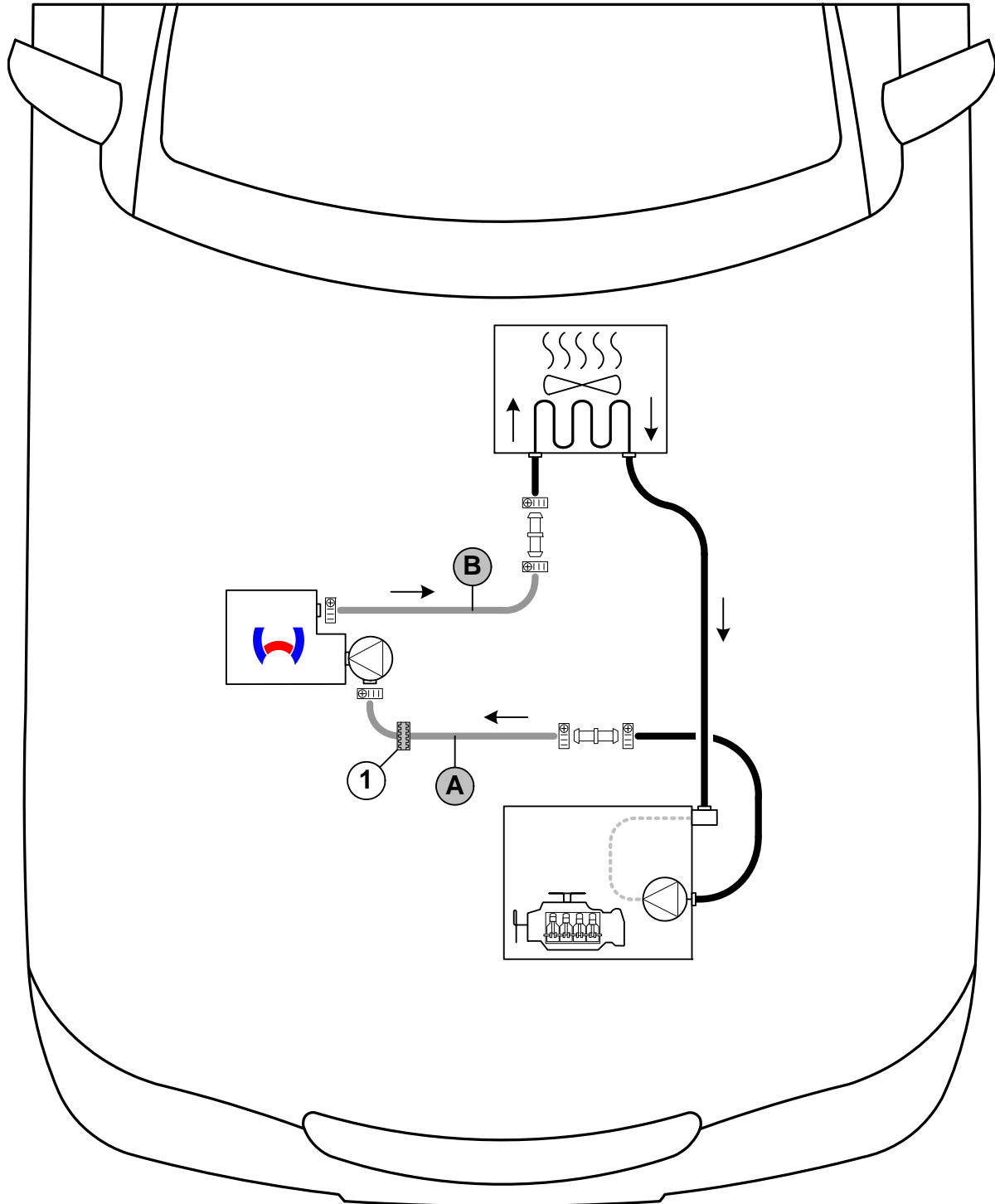
Installing muffler






Water

WARNING!

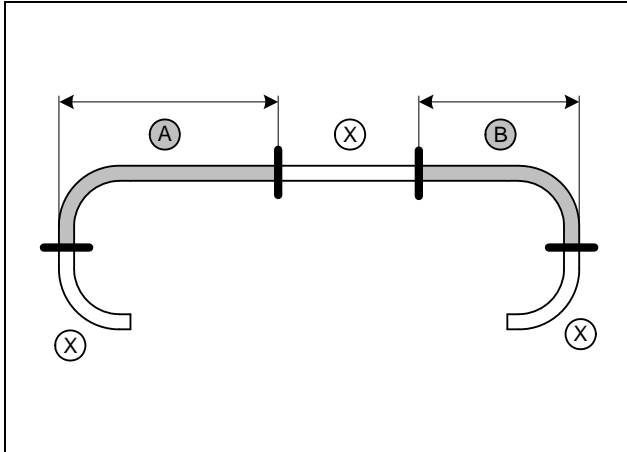
Any coolant running off should be collected using an appropriate container. Install coolant hoses kink-free. Unless specified otherwise, always fasten using cable ties. Position clamps so that no other hose can be damaged! When installing the coolant hose, the heater must be filled with coolant. The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



Coolant routing diagram

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

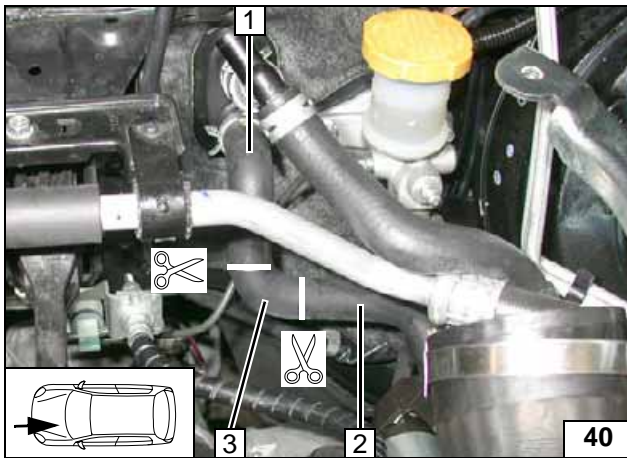




a = 430
b = 490

Discard section **X**

Cutting coolant hoses to length

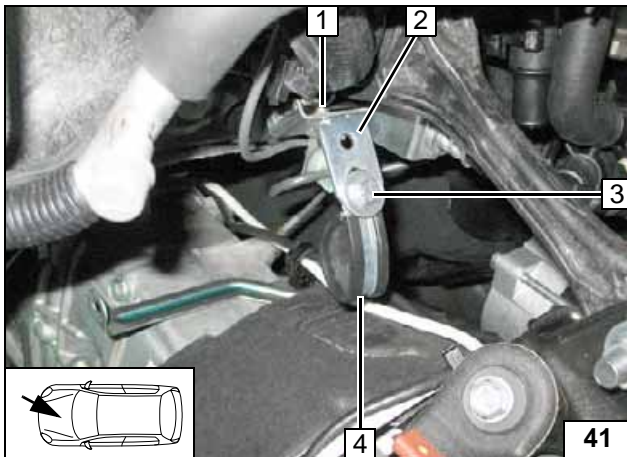


Cut off hose on engine outlet/heat exchanger inlet at markings.

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



Cutting point

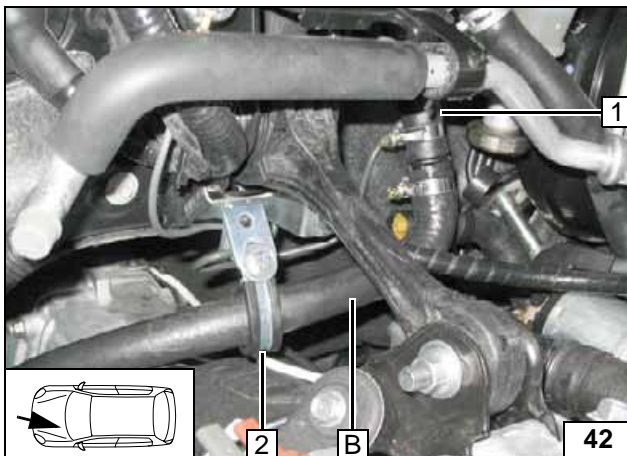


Drill out angle bracket **2** to 8.5 mm dia. at position **1**.

- 1 Original vehicle bolt
- 3 M6x20 bolt, large diameter washer, flanged nut
- 4 29 mm dia. rubber-coated p-clamp



Installing angle bracket

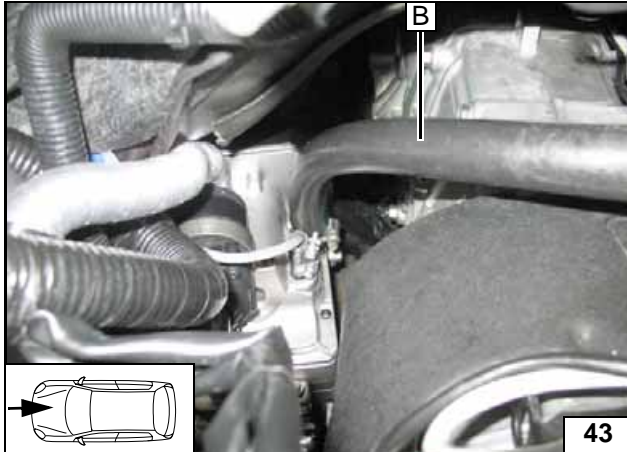


Route hose **B** through rubber-coated p-clamp **2**.

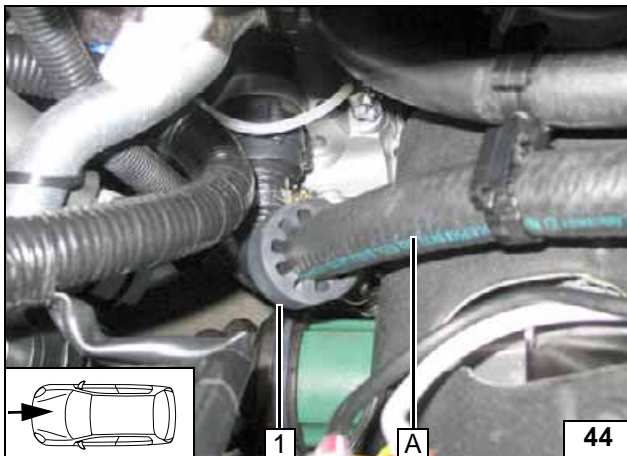
- 1 Hose on heat exchanger inlet



Connecting heat exchanger inlet



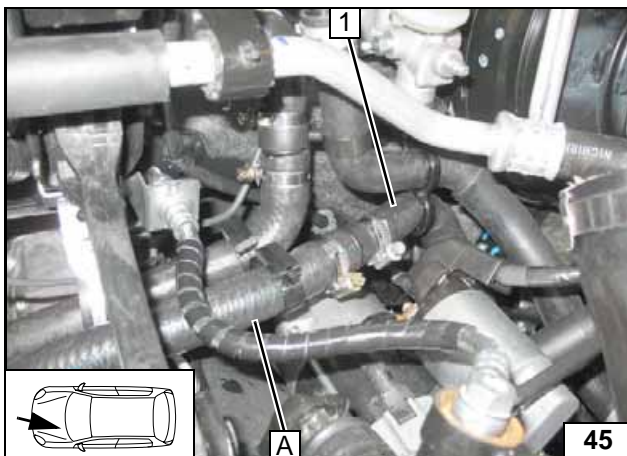
Connect-
ing heater
outlet



Slide black (sw) rubber isolator 1 onto hose A.

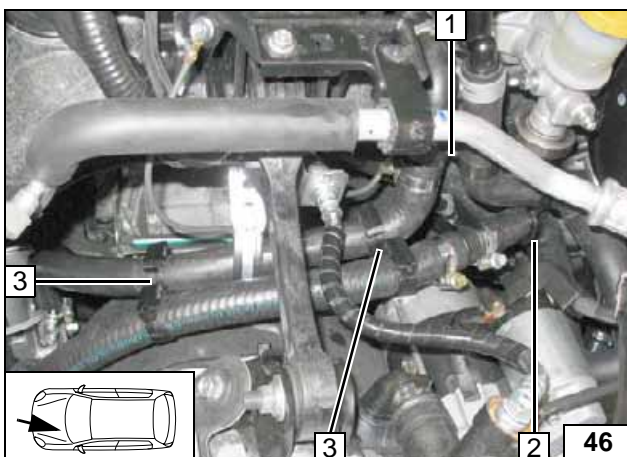


Connect-
ing heater
inlet



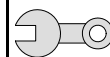
1 Hose of engine outlet

Connect-
ing engine
outlet



- 1 20x20 mm spacer bracket
- 2 Original vehicle spacer bracket
- 3 Lockable spacer bracket [2x]

Install-
ing
spacer
bracket



Final Work

WARNING!

Reassemble the disassembled components in reverse order.

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

Secure all loose cables using cable ties.

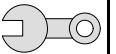
Only use manufacturer-approved coolant.

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

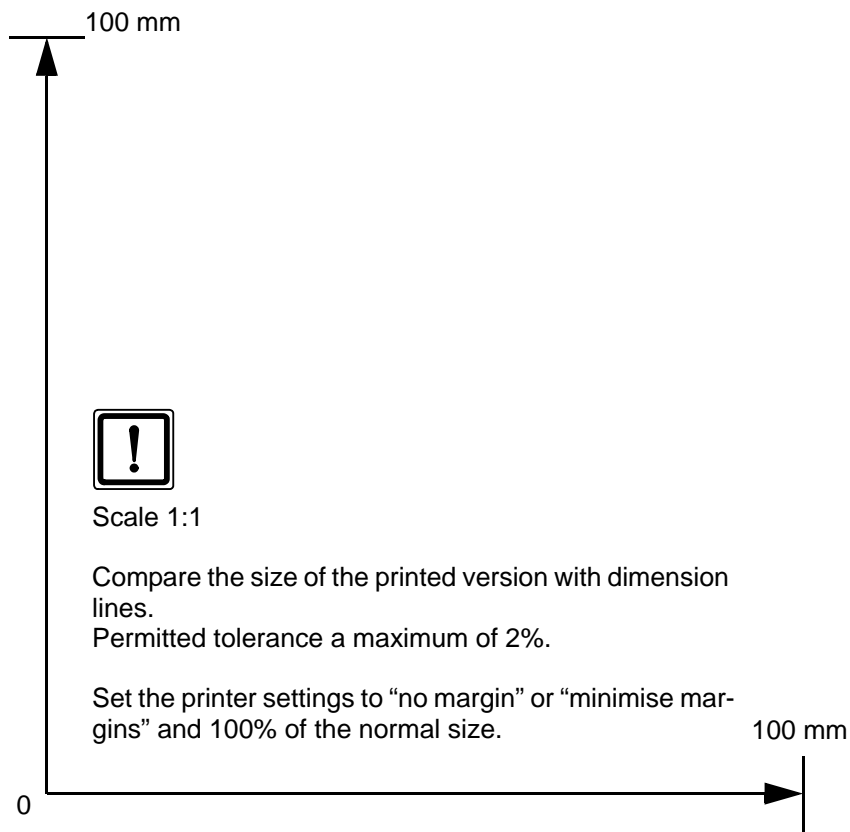
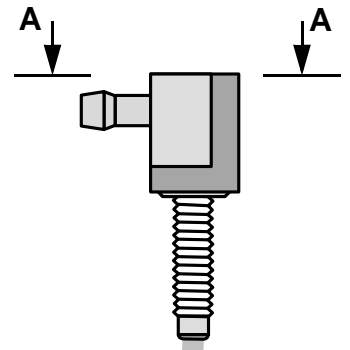
- Connect the battery.
- Fill and bleed the coolant circuit according to the vehicle manufacturer's specifications.
- Set the digital timer.
- Make settings on A/C control panel according to the "Operating Instructions for End Customer".
- Check the proper operation of the parking heater, see the operating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



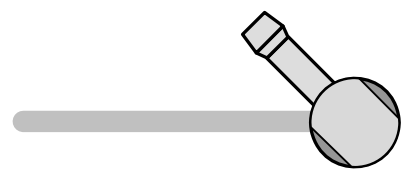
Webasto AG
Postfach 80
D-82131 Stockdorf / Germany
National Hotline: 01805 93 22 78
(14 Cent aus dem deutschen Festnetz)
Hotfax: 0395 5592 353
Hotmail: hotline@webasto.de
<http://www.webasto.de>



Template for Fuel Standpipe



Section A-A



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 only switch on the vehicle fan to ventilate the vehicle interior in the position Winter  heat and in the position Summer .

Before parking the vehicle, make the following settings:



- 1 Air outlet to windshield
- 2 Set temperature on both sides to "max." (29°C.)
- 3 Set fan to level "1", or possibly "2"

Two-zone automatic air-conditioning