

Water Heater Unit



Thermo Top E Additional Heater e1 00 0003

Thermo Top C Additional Heater e1 00 0002

Thermo Top P Additional Heater e1 00 0104

Installation Instructions

Lexus LS 460

Gasoline

from Model Year 2007

For left-hand drive vehicles only



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, specialized tools and equipment are required to install and repair Webasto heating and cooling systems.

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

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

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

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Validity

Manufacturer	Model	Type	EG-BE No./ABE
Lexus	LS 460	F4	e6 * 2001 / 116 * 0108 * ...

Engine type	Engine model	Output in kW	Displacement in cm ³
1UR-FSE	Gasoline	280	4608

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.

Heater Unit/Installation Kit

Quantity	Description	Order No.:
1	Retail accessories with desired heater control	See price list
1	Installation kit for Lexus LS 460 Gasoline	1311852A

Heater unit recommended for the respective vehicle class:

Vehicle	Heater unit
Compact car	Thermo Top E
Mid-size car, station wagon	Thermo Top C
Full-size car, van, offroader	Thermo Top P

The selection of the heater unit 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 Lexus LS 460 Gasoline vehicles - for validity, see page 2 - from model year 2007 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).

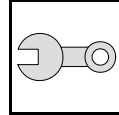
Special Tools

- Torque wrench for 2.0 - 10 Nm
- Hose clamping pliers
- Metric Thread-Setter Kit

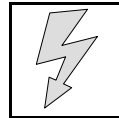
Explanatory Notes on Document

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.

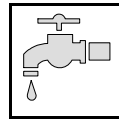
Mechanical system



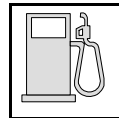
Electrical system



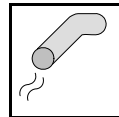
Coolant connection



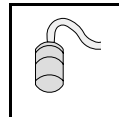
Fuel connection



Exhaust system



Combustion air



Special features are highlighted using the following symbols:



Specific risk of injury or fatal accidents.



Specific risk of damage to components.



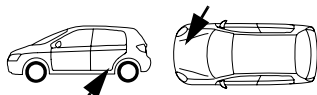
Specific risk of fire or explosion.



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



Reference to a special technical feature.



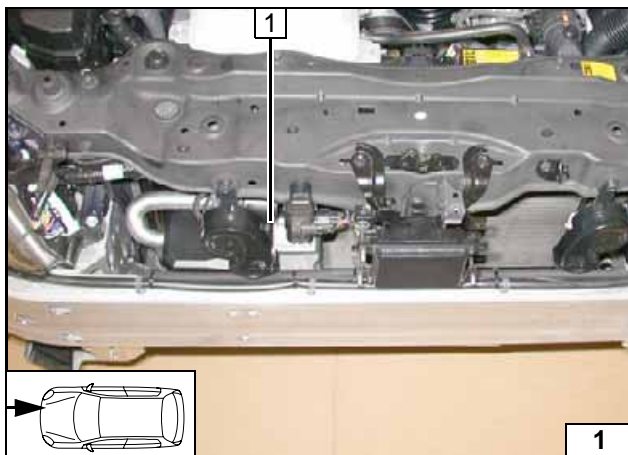
The arrow in the vehicle icon indicates the position on the vehicle and the viewing angle.

Preliminary Work

WARNING!

- Open the fuel tank cap, ventilate the tank.
- Close the tank cap again.
- 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 engine cover, side and front trim
- Remove the battery
- Remove the air filter with the intake hose
- Remove the bumper trim
- Remove the right-hand radiator side trim
- Remove the entire underbody trim
- Remove the rear left rear bench seat
- Open the tank-fitting service lid
- Remove the fuel-tank sending unit in accordance with the manufacturers specifications
- Remove the lower instrument panel trim on the front passenger side
- Remove the glove compartment
- Remove the A-pillar trim in the footwell on the front passenger side

Remove page 22 "Operating Instructions for End Customer" and insert with vehicle operating instructions.



Heater unit installation location

1 Heater unit

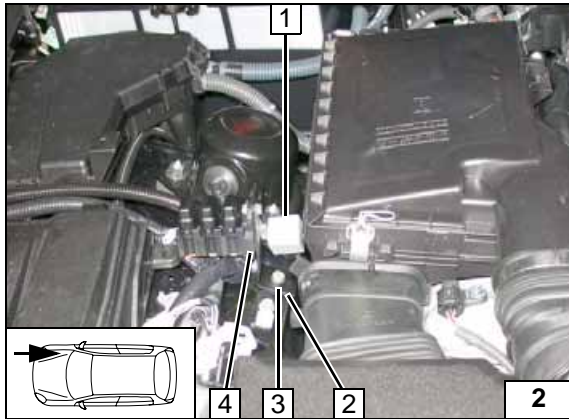
Installation location



Electrical Connections

Fuse holder, K3 relay

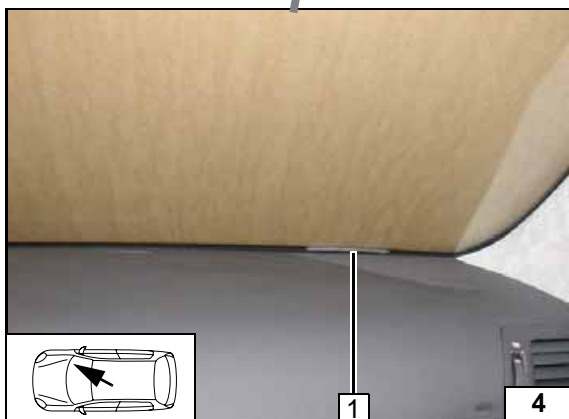
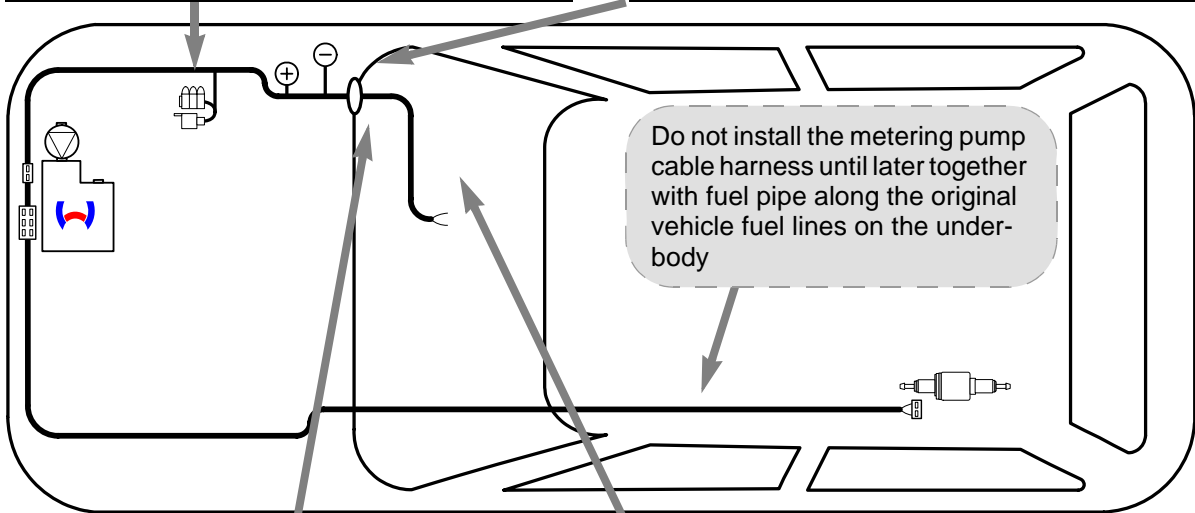
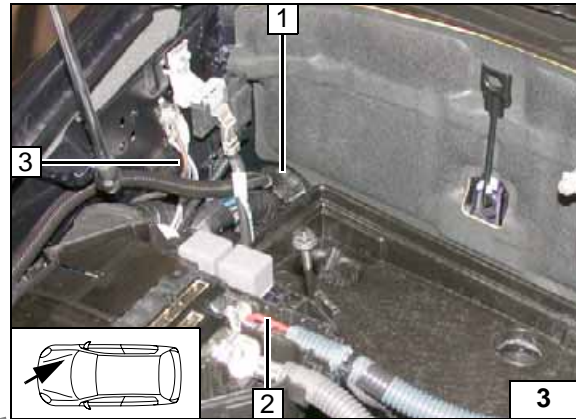
- 1 K3 relay, M5x12 bolt, flanged nut on angle bracket
- 2 Bend angle bracket to shape as shown
- 3 Original vehicle bolt
- 4 Retaining plate for fuse holder, M5x12 bolt, flanged nut on angle bracket



Wiring harness pass through

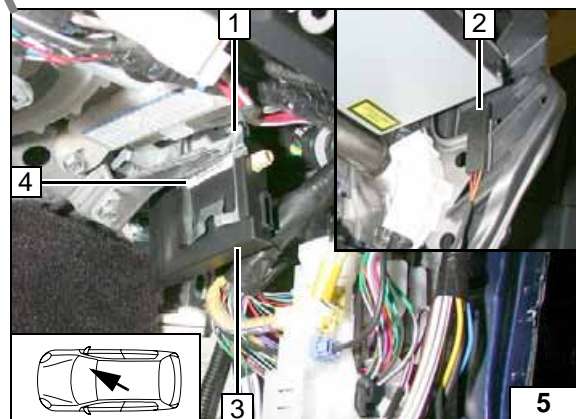
Protect wiring harnesses with corrugated hoses.

- 1 Protective rubber plug
- 2 Positive wire on positive support point
- 3 Ground wire on ground support point



Telestart antenna

- 1 Antenna



Telestart receiver

Mount bracket 4 on existing threaded hole 1 with M6x20 bolt. Push on receiver 3.

- 2 Temperature sensor; only use double-sided Velcro strip with HTM 100



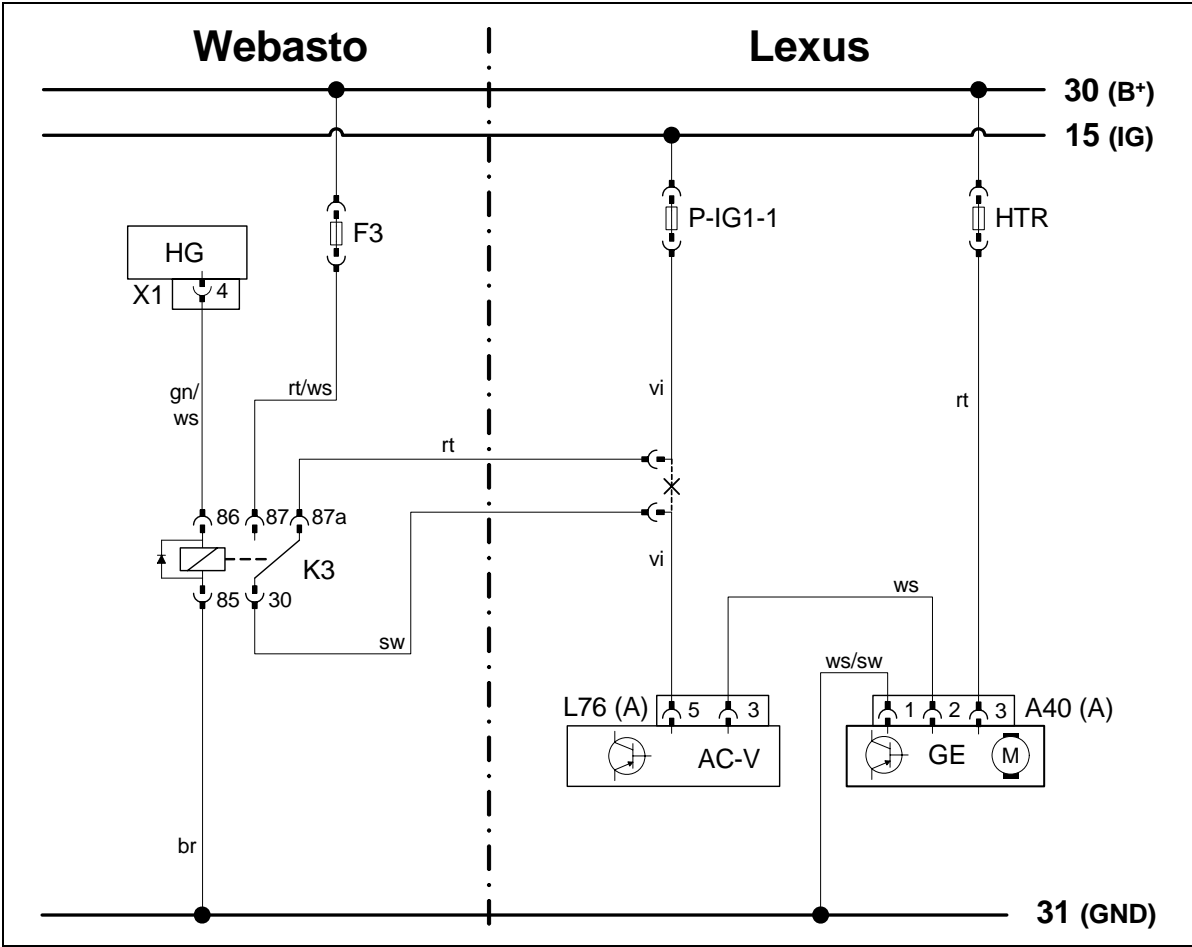
Wiring harness installation diagram



Automatic air-conditioning fan controller

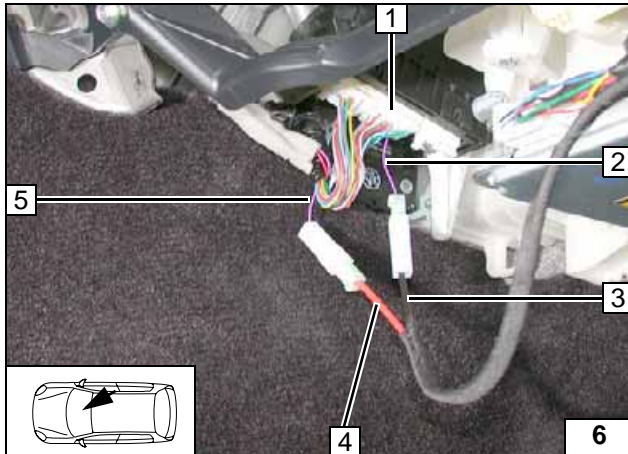


Wiring diagram



Webasto components		Vehicle components		Colors and symbols	
HG	Heater unit TT-C/E	ge	Fan unit	rt	red
X1	6-pin connector	A40 (A)	GE connector	ws	white
F3	Replace 25 A with 10 A fuse.	AC-V	A/C booster	sw	black
K3	Fan relay	L76 (A)	White (ws) 35-pin connector A/C-V	br	brown
		P-IG1-1	Fuse 10A	gn	green
		HTR	50 A fan fuse	vi	violet
				X	Cutting point
				Wiring colors may vary.	

Legend

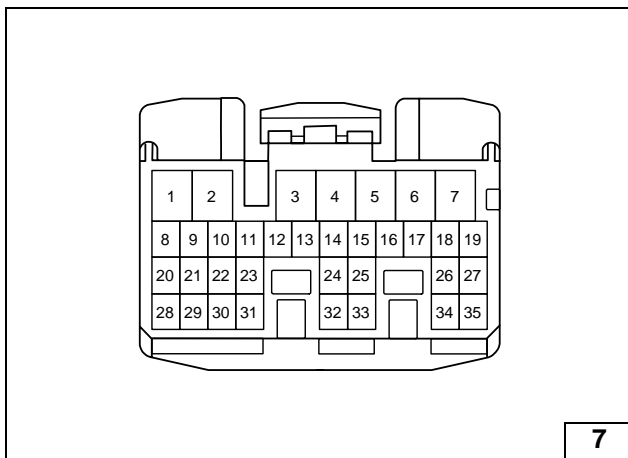


Connection on white (ws) 35-pin connector L76 (A) 1, Pin 5 from A/C booster. Produce connections as shown in wiring diagram.

- 2 Violet (vi) wire to connector
- 3 Black (sw) wire from K3/30
- 4 Red (rt) wire to K3/87a
- 5 Violet (vi) wire from fuse P-IG1-1



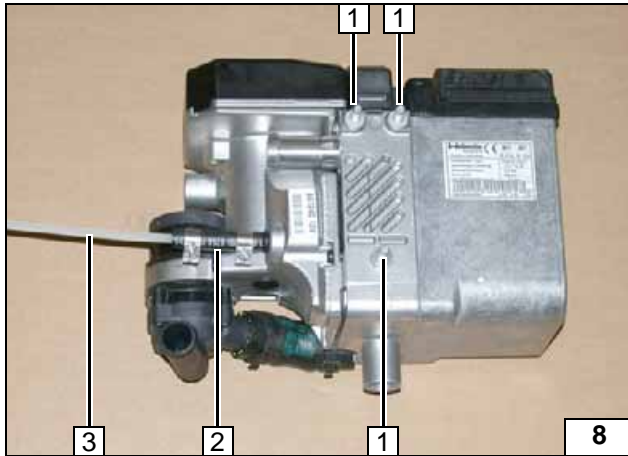
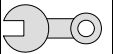
**Connect-
ing A/C
booster**



Connector L76 (A) on contact side.



**Connector
assign-
ment
L76 (A)**



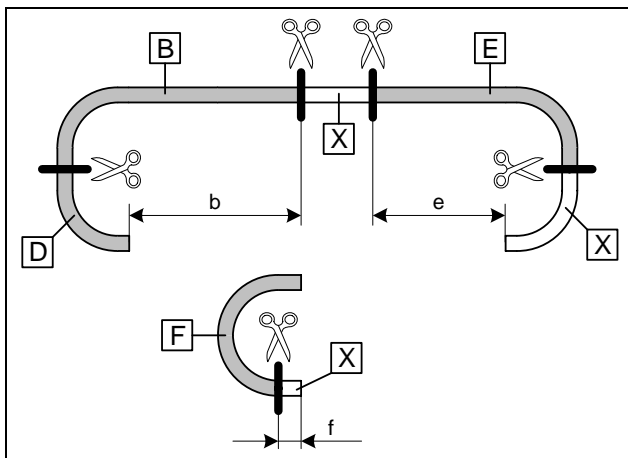
Preparing heater unit

E-jet stud, tightening torque 10 Nm.

- 1 E-jet stud [3x]
- 2 Hose section, 10 mm dia. hose clamp [2x]
- 3 Fuel line



Preassembling heater unit

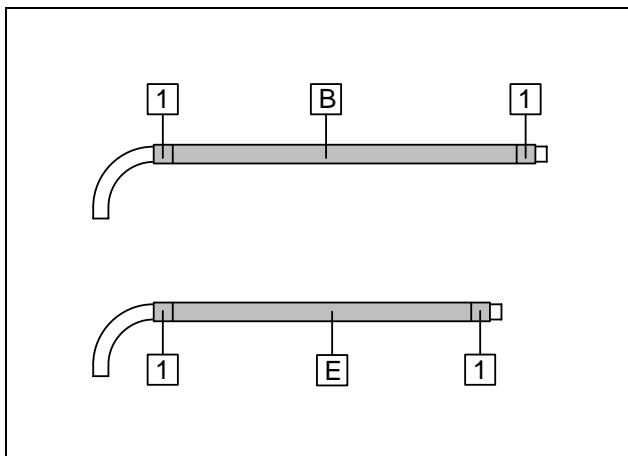


- b = 660 mm
- b = 530 mm
- b = 20 mm

Discard section **X**



Cutting coolant hoses to length

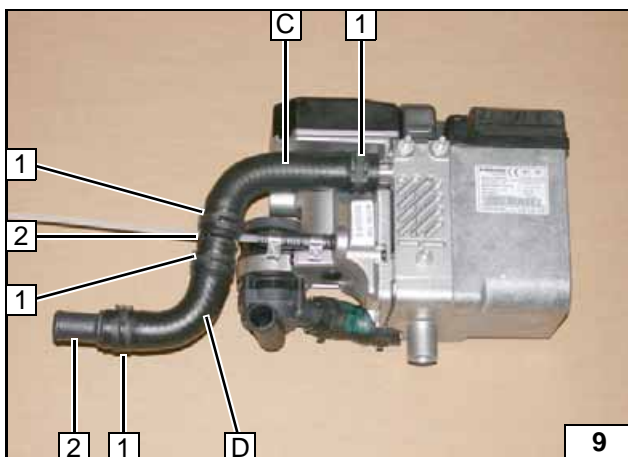


Push braided protection hose onto hose **B** and **E** and cut to length.
Cut heat shrink plastic tubing to length.

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



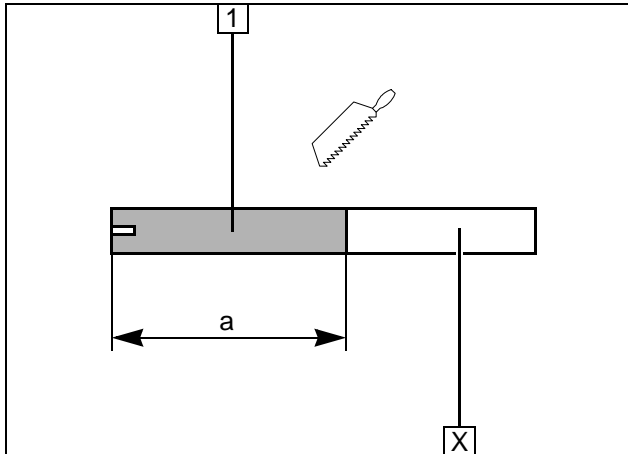
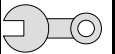
Preparing coolant hoses



Hose **C** is included molded hose.

- 1 27 mm dia. spring clip [4x]
- 2 20x20 connecting pipe [2x]

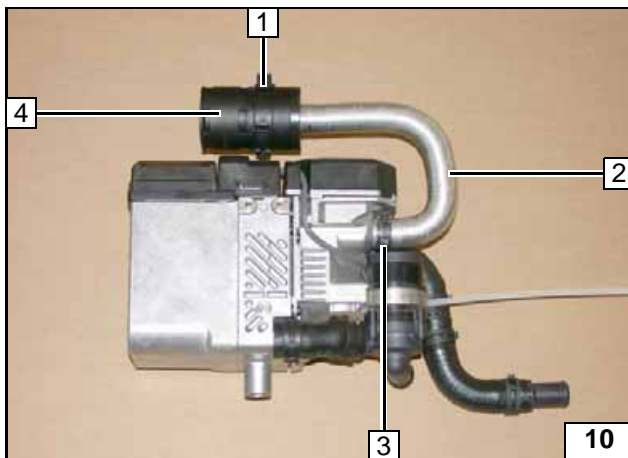
Preassembling hose C and D on heater unit



1 Combustion air pipe
a = 260 mm

Discard section X

Cutting combustion air pipe to length

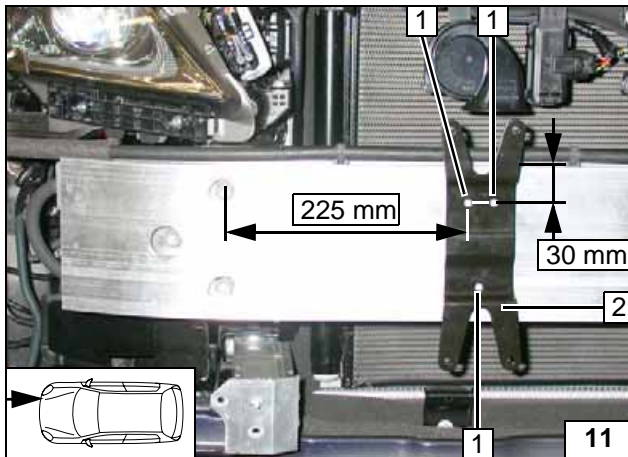


Puncture perforation on heater unit cover.

- 1 Retaining clip
- 2 Combustion air pipe
- 3 22 mm dia. spring clip
- 4 Intake muffler



Installing intake muffler



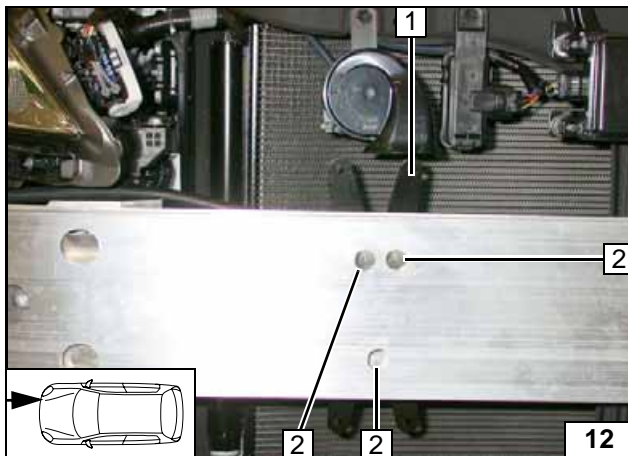
Preparing installation location

Align bracket 2 vertically on bumper as shown.

- 1 Copy hole pattern [3x]



Copying hole pattern

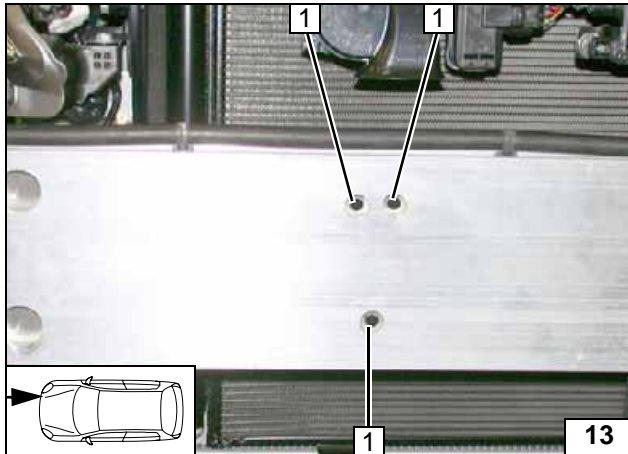
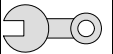


Only drill through front wall of bumper. Used to pass through fastening tool.
Copy hole pattern 2 [3x] through holes on back of bumper, check with bracket 1 and correct if necessary.

- 2 16 mm dia. hole [3x]



Copying hole pattern

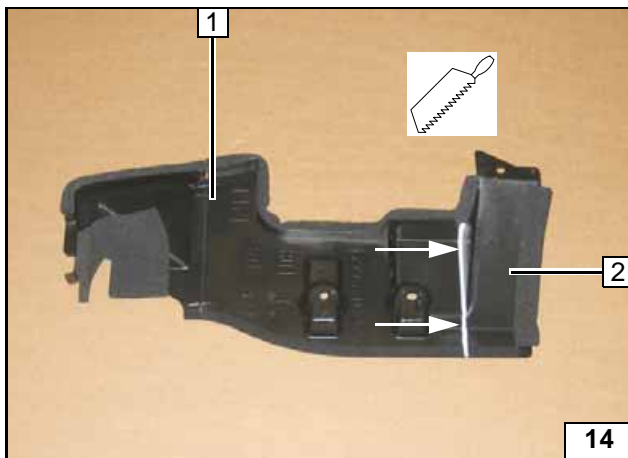


Be careful not to damage radiator when drilling.

2 7 mm dia. hole [3x]

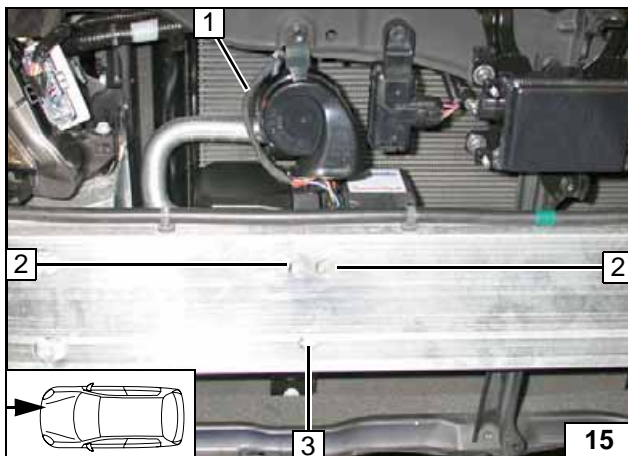


Holes



1 Radiator side trim
2 Discard section

Cutting radiator side trim to size



Installing heater unit

Insert two washers between heater unit and bumper at position 3.

1 Wiring harness of heater unit
2 Flanged nut [2x] on E-jot stud
3 Flanged nut, washer [2x] on E-jot stud



Installing heater unit



Fuel Connection

CAUTION!

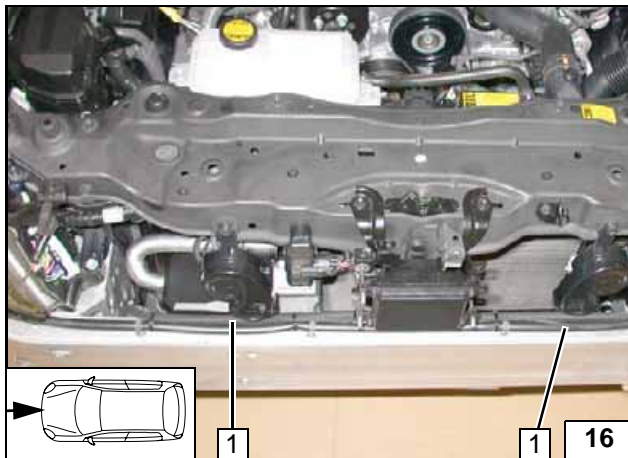
Open the vehicle's fuel tank cap, ventilate the tank and then re-close the tank lock.

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!

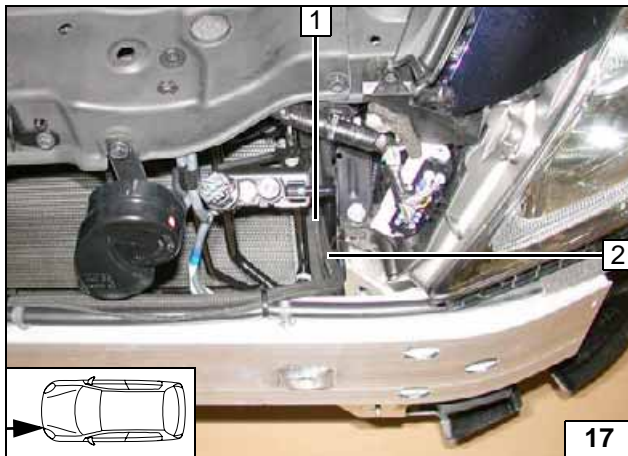
The fuel line and wiring harness are routed to the metering pump in as shown in the wiring harness routing diagram.



Push protective hose onto fuel line.

- 1 Fuel line in protective hose, wiring harness for metering pump

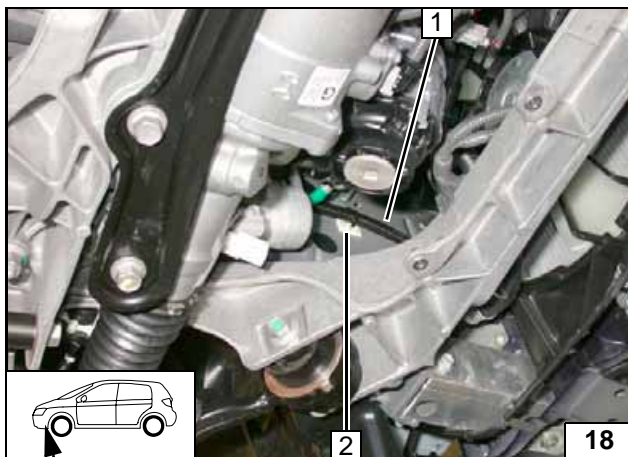
Installing lines



Route fuel line in protective hose 2 and wiring harness for metering pump 1 on frame side member on left next to radiator.



Installing lines

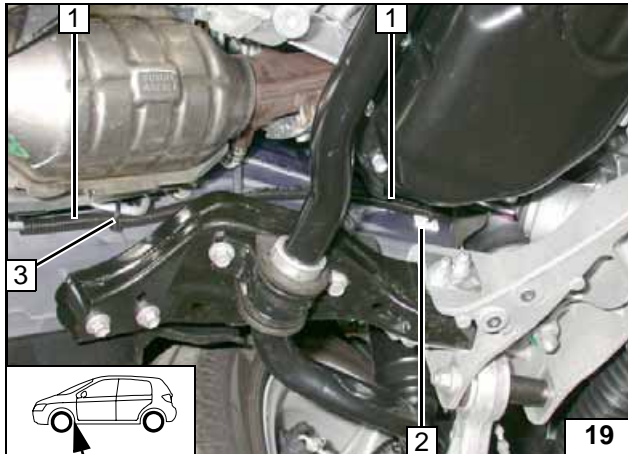


Before installing, degrease gluing points.

- 1 Fuel line and wiring harness for metering pump in corrugated hose
- 2 Cable tie with adhesive base

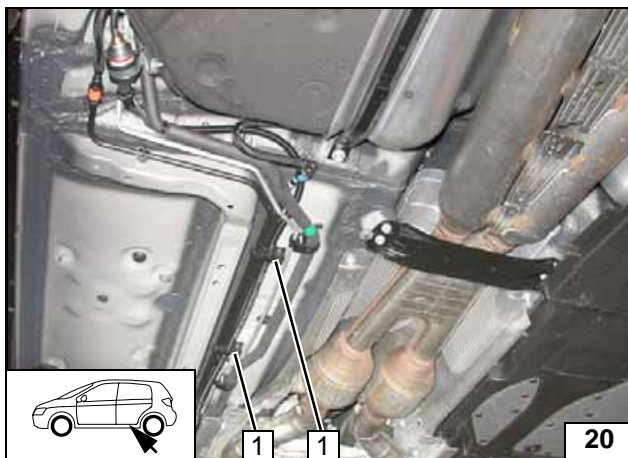


Installing lines



- 1 Fuel line and wiring harness for metering pump in corrugated hose
- 2 Cable tie with adhesive base
- 3 Cable tie

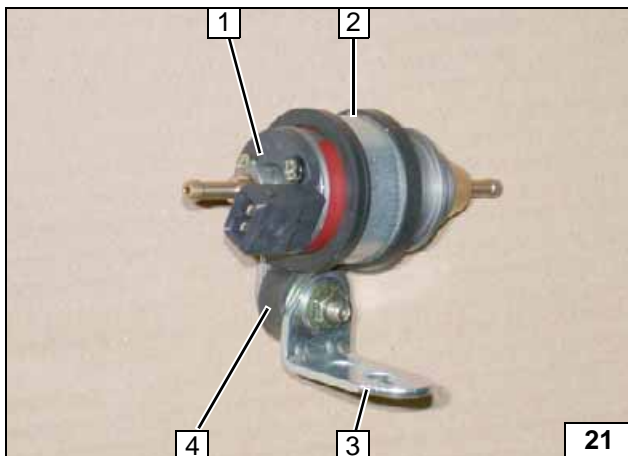
Installing lines



Insert corrugated hose (with fuel line and wiring harness for metering pump) in line holder 1.

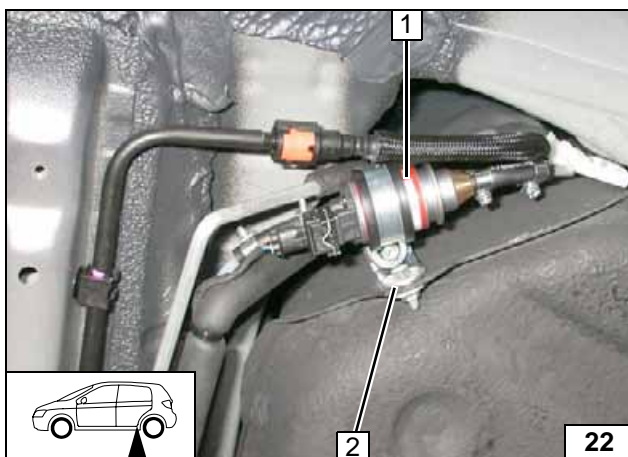


Installing lines



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

Preassembling metering pump

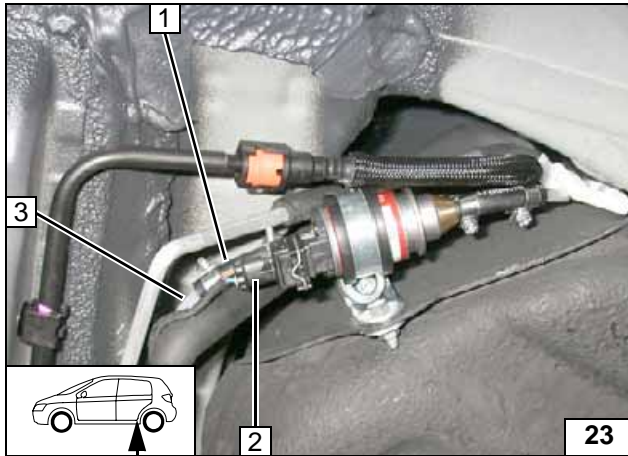


Ensure correct installation position of metering pump, see "Installation Instructions". Installation location on left next to vehicle fuel tank.



- 1 Preassembled metering pump
- 2 M6x20 bolt, large diameter washer [2x], flanged nut in original hole

Installation location of metering pump

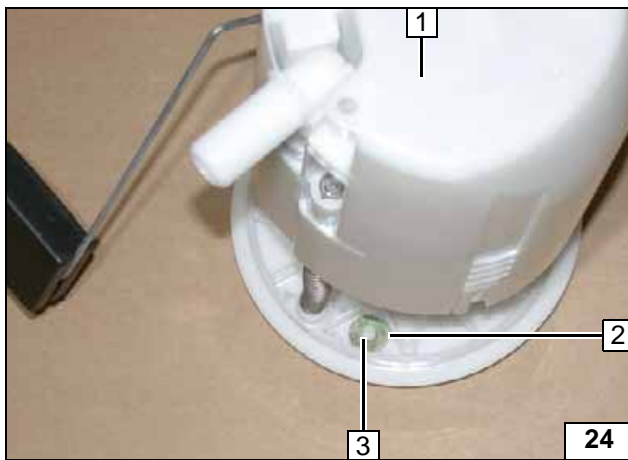


Fuel line **3** from heater unit on pressure side of metering pump [side with connector].

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



Connecting to metering pump

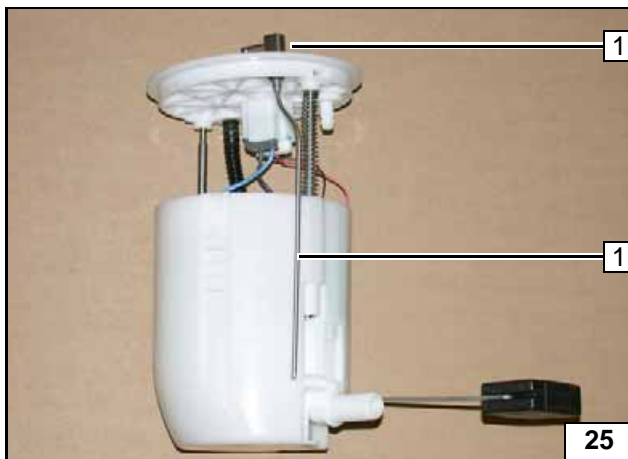


Remove fuel-tank sending unit **1** according to manufacturer's specifications. Align 5 mm dia. large diameter washer **2** on bars.

- 1** Fuel-tank sending unit
- 3** Copy hole pattern, drill 6 mm dia. hole



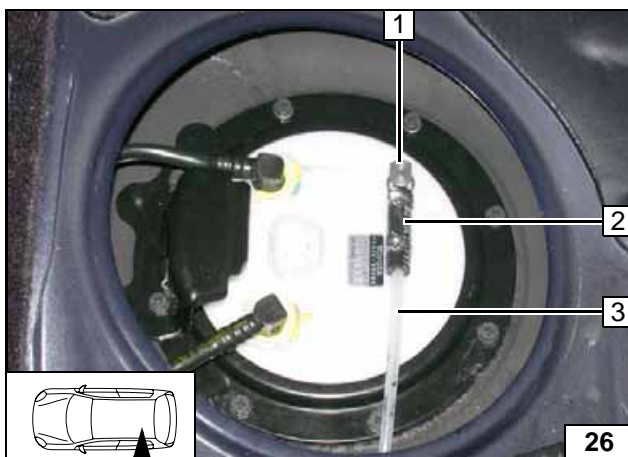
Removing fuel



Shape fuel standpipe **1** according to template, cut to length and install, see "installation instructions".



Installing fuel standpipe

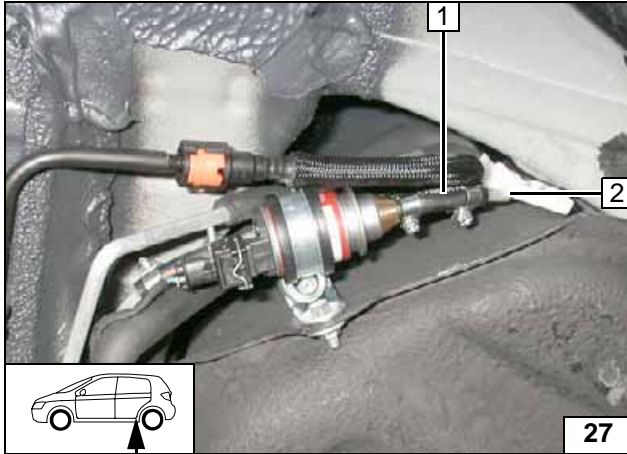


Install fuel-tank sending unit according to manufacturer's specifications.

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



Connecting fuel line



Fuel line **2** from fuel standpipe on intake side of metering pump [side without connector]. Check the position of the components; adjust if necessary. Check that they have free clearance.

Fasten fuel line and wiring harness for metering pump with cable ties over entire length.

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

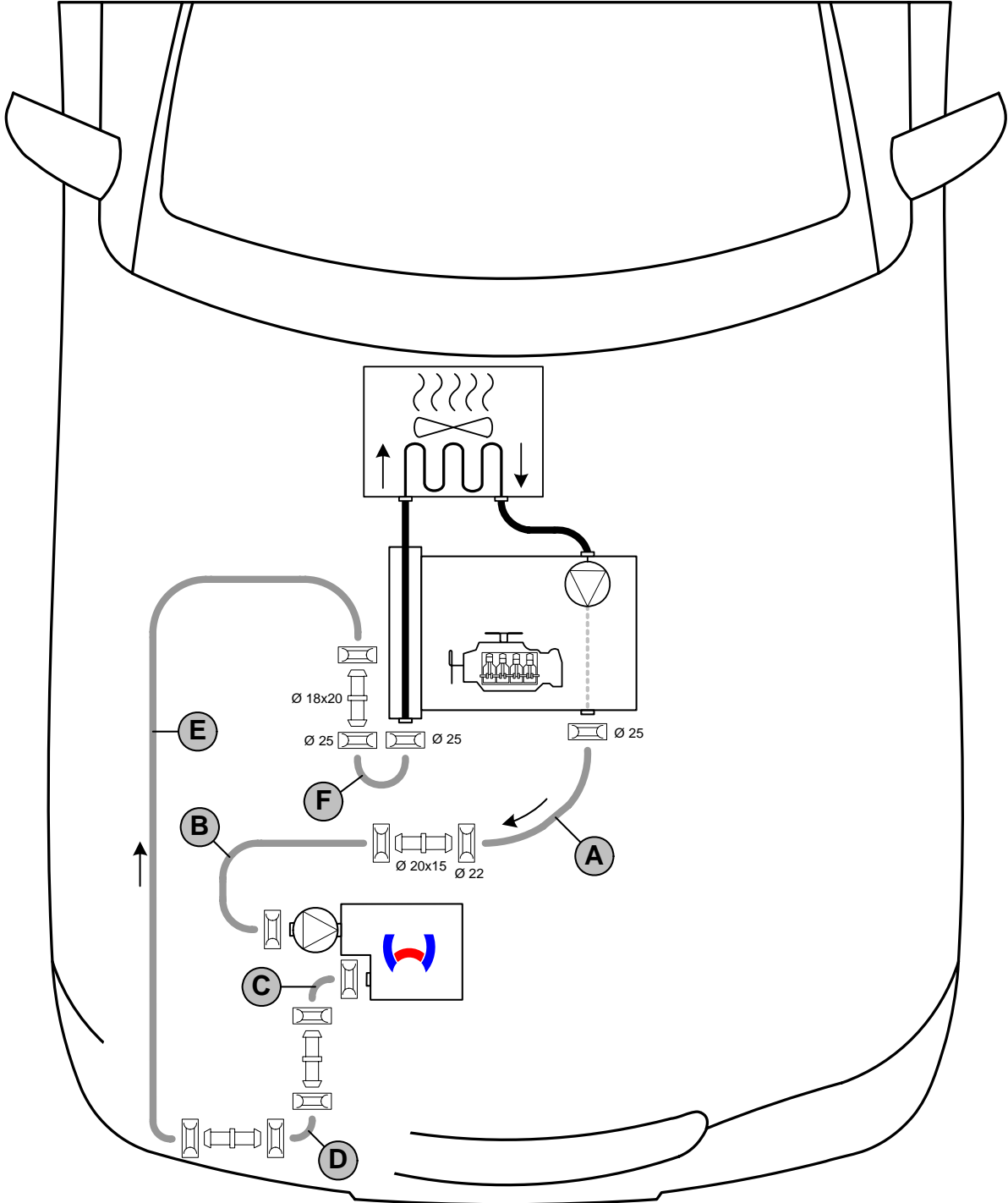
Connecting to metering pump



Coolant connection for gasoline

WARNING!

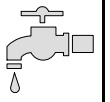
Tighten all hose clamps to 2.0 + 0.5 Nm. Any coolant running off should be collected using an appropriate container. Install hoses so that they are kink-free. Unless specified otherwise, always fasten using cable ties. Position hose clamps and spring band clamps so that no other hose can be damaged. The connection should be "inline" based on the following diagram:



Coolant routing diagram

All spring clips without a specific designation = 27 mm dia. All connecting pipes without a specific designation = dia. 20x20.

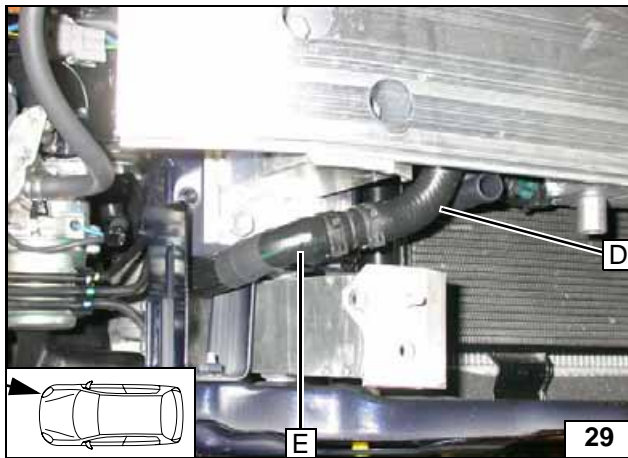




Remove hose from engine outlet/heat exchanger inlet **1**. Discard spring clips.



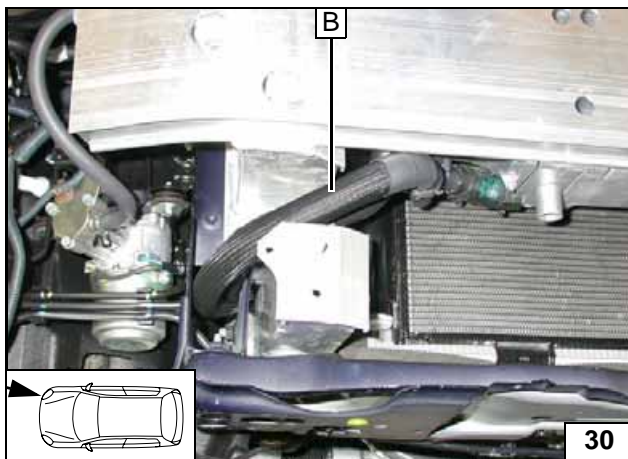
Cutting point



Connect hose **D** and **E**.



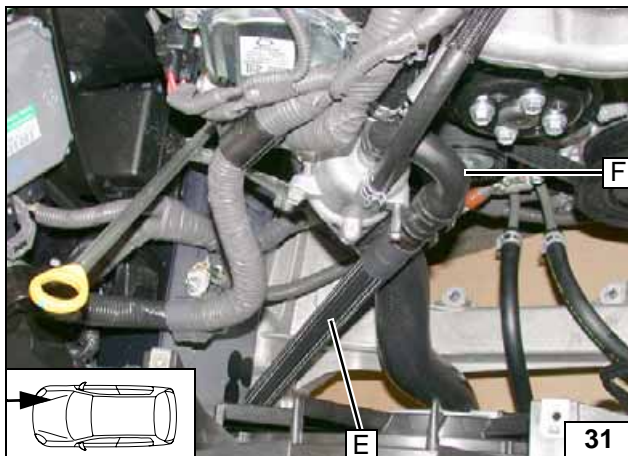
Connection to heater unit



Hose **B** on circulating pump. Route hose **B** and **E** below frame side member into passenger compartment.



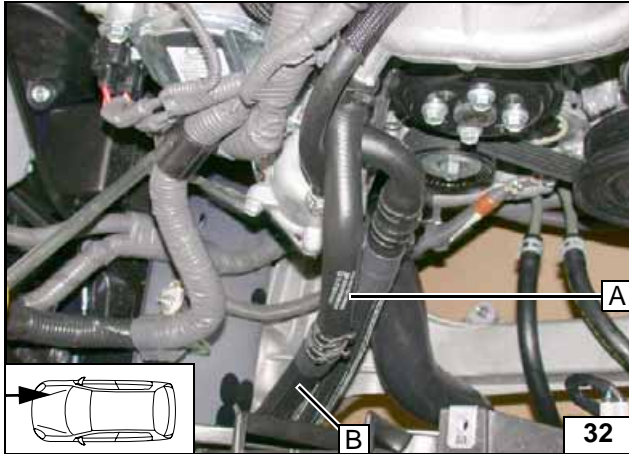
Connection to heater unit



Hose **F** with shortened end on heat exchanger inlet. Connect hose **E** and **F**.



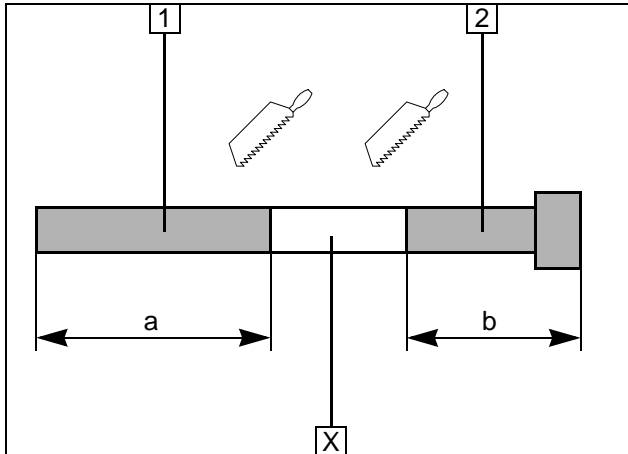
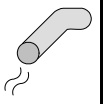
Connection on heat exchanger inlet



Before connecting, fill the coolant hoses with coolant. Connect included molded hose **A** and hose **B**.



**Con-
nec-
tion on en-
gine outlet**

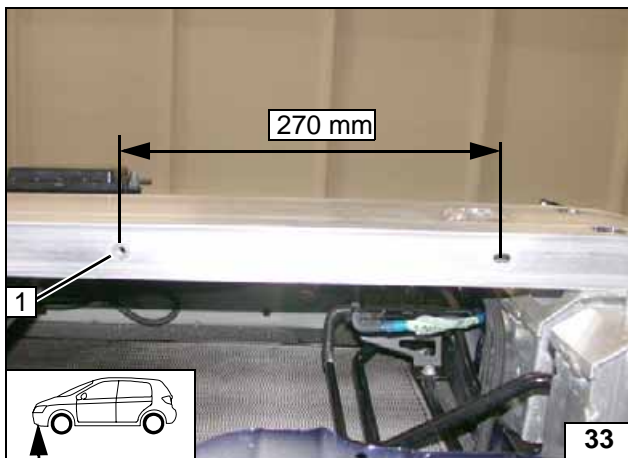


Exhaust system

- 1 Exhaust pipe
a = 310 mm
- 2 Exhaust end section
b = 285 mm

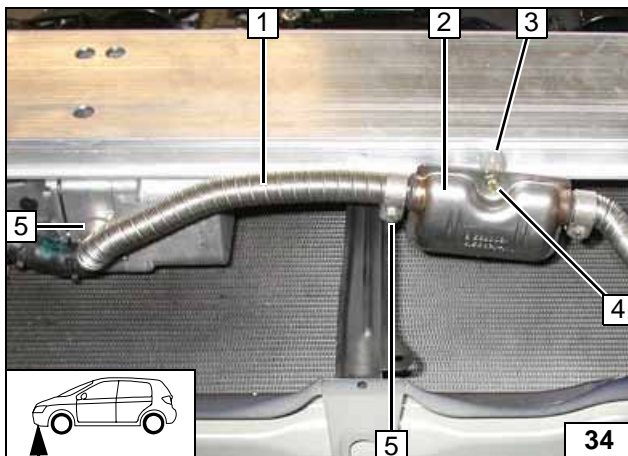
Discard section X

Preparing exhaust pipe



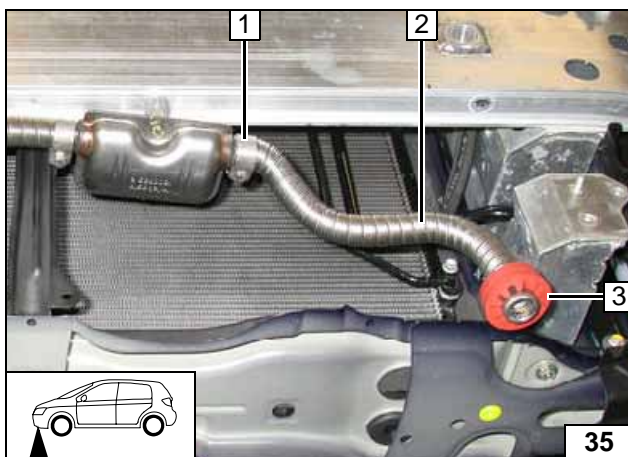
- 1 Install rivet nut in 9.1 mm dia. hole

Installing rivet nut



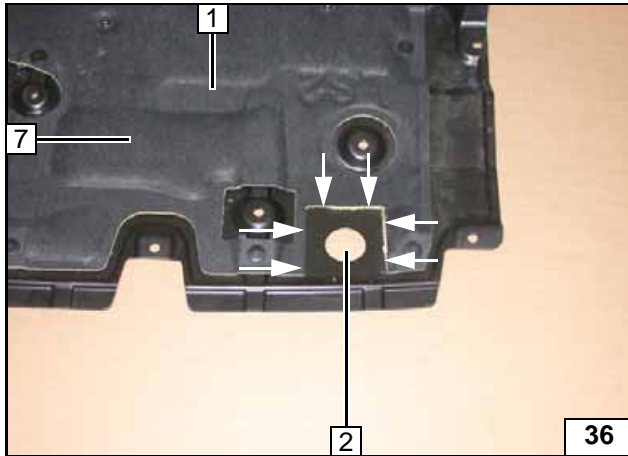
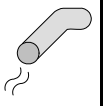
- 1 Exhaust pipe
- 2 Muffler
- 3 40 mm spacer sleeve
- 4 M6x55 screw, spring lockwasher on rivet nut
- 5 Hose clamp [2x]

Installing muffler and exhaust pipe



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

Installing exhaust end section

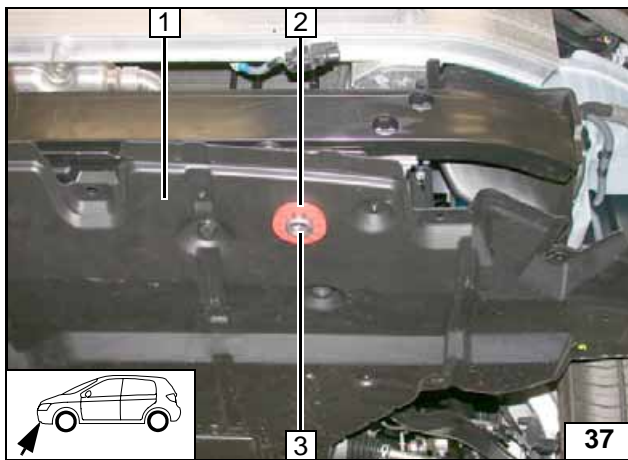


Cut out insulation in area of marking.

- 1 Underride protection
- 2 42 mm dia. hole



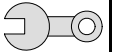
**Cutting out
underride
protection**



Mount underride protection 1. Align exhaust end section 3 flush on red (rt) rubber isolator 2 as shown.



**Mounting
rubber iso-
lator**



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 the heater unit 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 according to the "Operating Instructions for End Customer"
- Check the proper operation of the additional heater, see the operating instructions/installation instructions.
- Attach the "Switch off additional heater before refueling" sticker to the left-hand B-pillar.



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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.

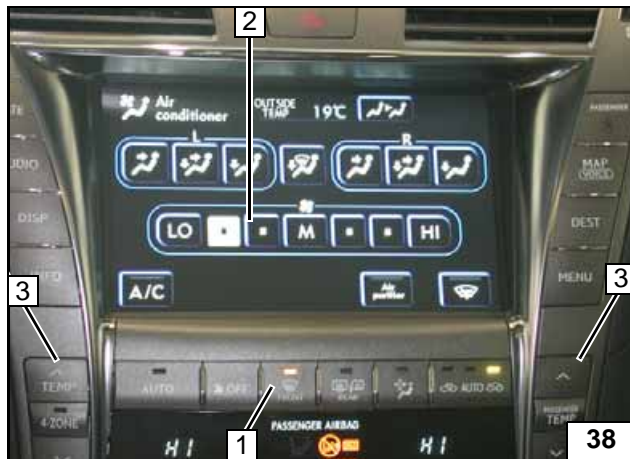
Heating time = driving time

Example:

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

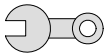
If the summer/winter switch option has been installed, this must be switched in accordance with the time of year. The heater unit will then only switch on the vehicle fan to ventilate the vehicle interior in the position Winter heat and in the position Summer .

Before switching off the vehicle, the settings must be made in the following order:



1. Air outlet at windshield
2. Set fan to level "1"
3. Set temperature on both sides to "HI".

Automatic
air-conditioning



Template for Fuel Standpipe

