

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

Mitsubishi Pajero

Diesel

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.

Table of Contents

Validity	2	Fuel Connection	19
Heater Unit/Installation Kit	3	Exhaust system	21
Foreword	3	Final Work	23
General Instructions	3	Operating Instructions for End Customer	24
Special Tools	3		
Explanatory Notes on Document	4		
Preliminary Work	5		
Heater unit installation location	5		
Preparing electrical system	6		
Electrical Connections	7		
Automatic air-conditioning fan controller	8		
Remote option (Telestart)	10		
Preparing heater unit	11		
Preparing installation location	12		
Installing heater unit	13		
Coolant connection	14		
Combustion air	18		

Validity

Manufacturer	Model	Type	EG-BE No./ABE
Mitsubishi	Pajero	V80/90	e1 * 2001/116 * 0385

Engine type	Engine model	Output in kW	Displacement in cm ³
4M41	Diesel	118	3200
4M41	Diesel	125	3200

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

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

Heater Unit/Installation Kit

Quantity	Description	Order No.:
1	Retail accessories with desired heater control	See price list
1	Installation Kit for Mitsubishi Pajero Diesel MY 2007	1312098A

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 Mitsubishi Pajero Diesel 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).

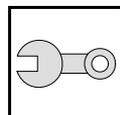
Special Tools

- Torque wrench for 2.0 - 10 Nm
- Hose clamping pliers
- Metric thread-setter kit
- Flexible socket wrench, 7 mm

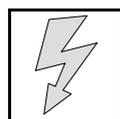
Explanatory Notes on Document

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



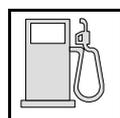
Electrical system



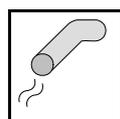
Coolant connection



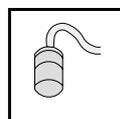
Fuel connection



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.



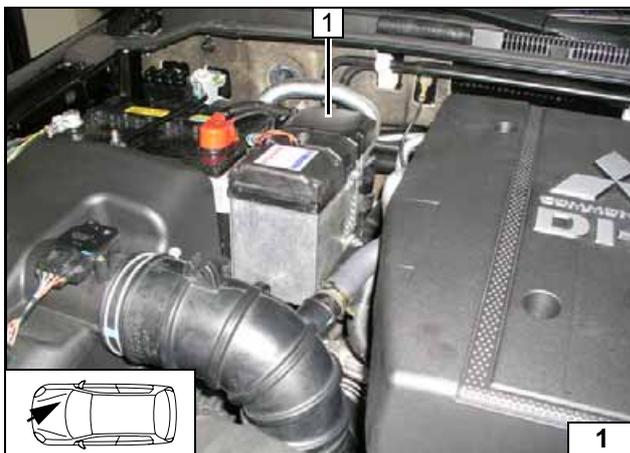
The arrow in the vehicle icon indicates the position on the vehicle and the viewing angle.

Preliminary Work

WARNING!

- Open the fuel tank cap, ventilate the tank.
- Close the tank cap again.
- 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.
- Depressurize the cooling system.
- Disconnect the ground terminals of both batteries
- Remove the right-hand battery
- Remove the battery base plate
- Remove the entire air filter with the intake hose and the lower section
- Remove the engine cover
- Detach the diesel filter from the firewall
- Remove the wiring harness positive connection of the additional battery
- Remove the protective pan under the transmission
- Remove the footwell trim on the front passenger side
- Remove the A/C control panel.
- Remove the footwell trim on the driver's side
- Detach the lower instrument panel trim on the driver's side

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



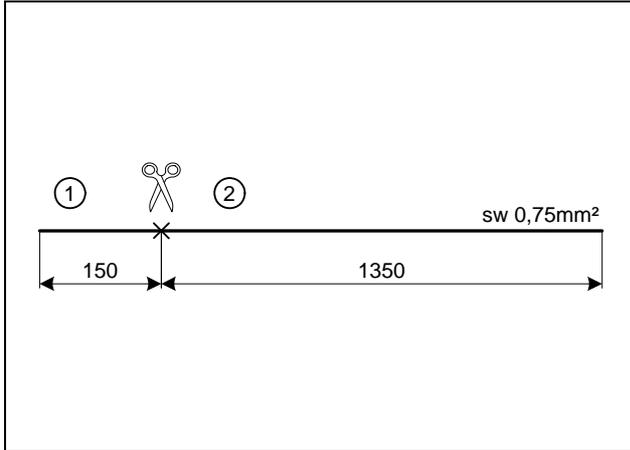
Heater unit installation location

- 1 Heater unit

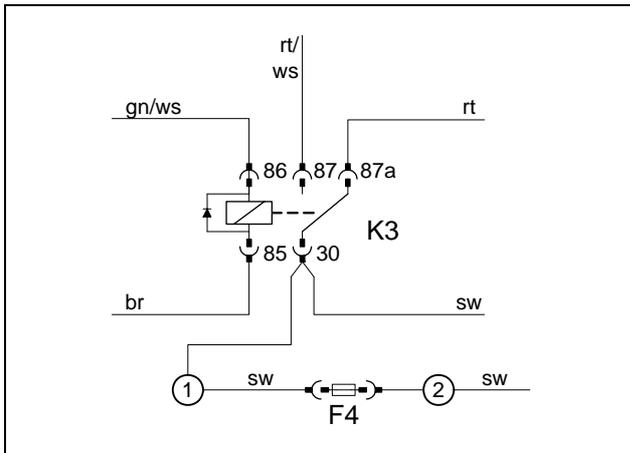
Installation location



Preparing electrical system



Cutting wires to length



Produce connections as shown in wiring diagram. Install wire section 2 in protective sleeving provided



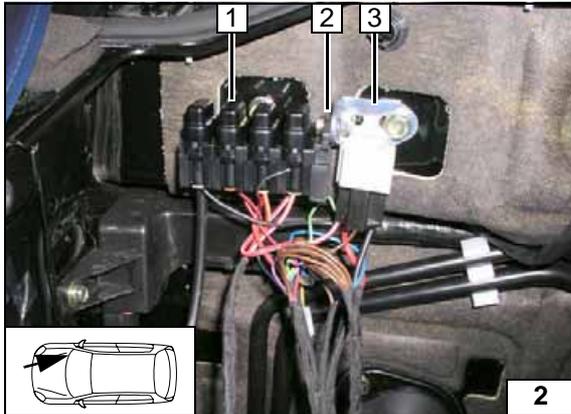
Preparing fuse F4



Electrical Connections

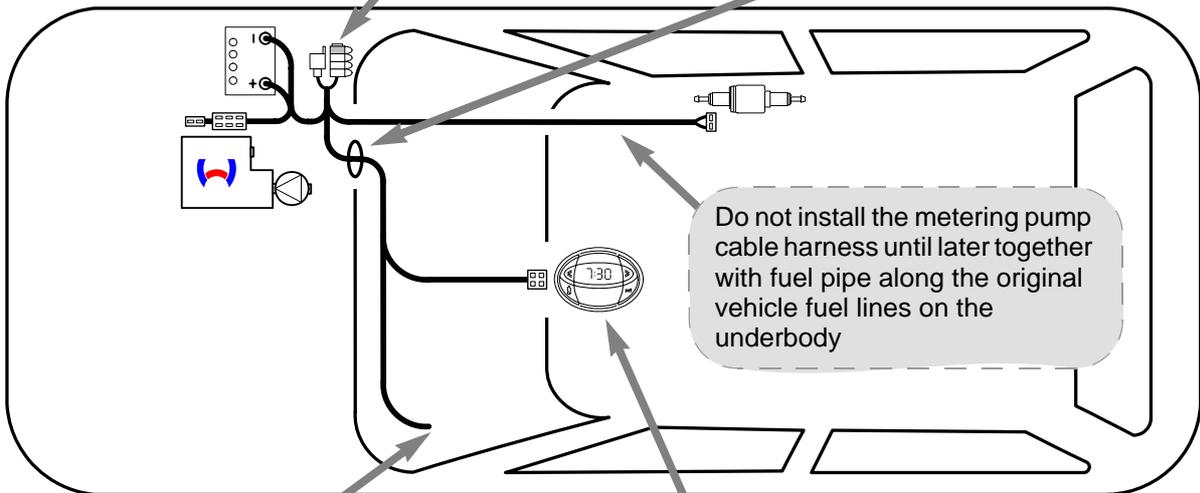
Fuse holder, relay K3

- 1 Fuse holder
- 2 Fuse holder retaining plate, M5x16 bolt, washer, M5 nut
- 3 Relay K3, angle bracket, original vehicle M8 bolt



Wiring harness pass through

- 1 Protective rubber plug
- 2 Wiring harness of heater unit



Central electrical box

- 1 Fuse/relay holder



Digital timer option

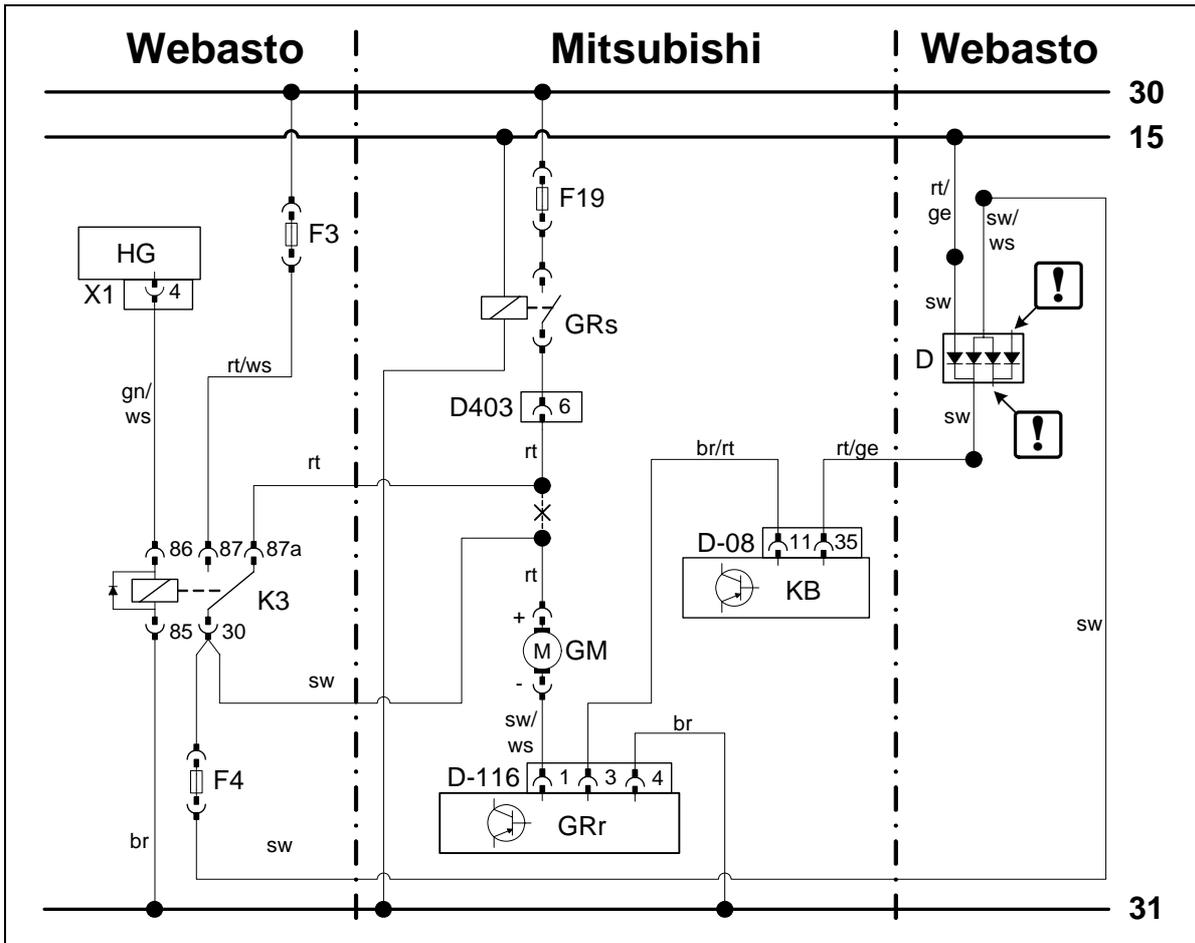
- 1 Digital timer



Wiring harness installation diagram



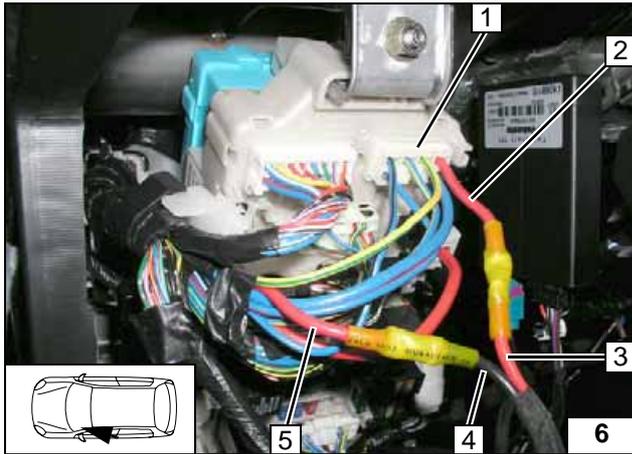
Automatic air-conditioning fan controller



Wiring diagram

Webasto components		Vehicle components		Colors and symbols	
HG	Heater unit TT-C/E	GM	Fan motor	rt	red
X1	6-pin connector	GRs	Fan relay	ws	white
F3	Fuse, 25 A	GRr	Fan controller	sw	black
K3	Fan relay	KB	Air-conditioning control element	br	brown
F4	Fuse 5A	F19	30 A fan fuse	gn	green
D	Diode group	D-08	36-pin connector D-08	ge	yellow
		D-116	Connector D-116		
		D-403	Connector D-403 for central electrical box		Insulate wire ends and tie back
				X	Cutting point
				Wiring colors may vary.	

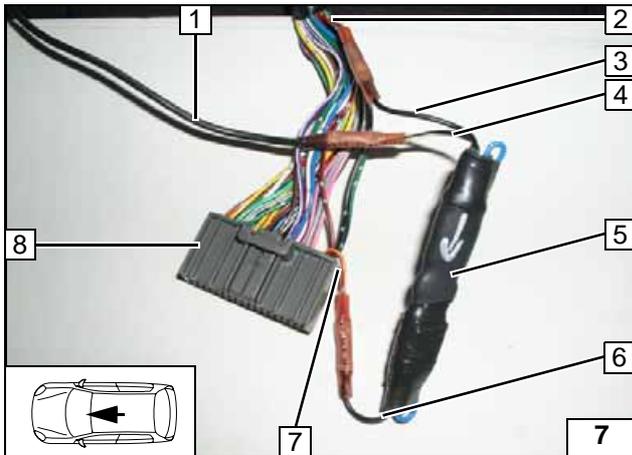
Legend



Connection to 6-pin connector D-403 1 of central electrical box.
Produce connections as shown in wiring diagram.

- 1 Connector D403
- 2 Red (rt) wire to connector D403
- 3 Red (rt) wire to K3/87a
- 4 Black (sw) wire from K3/30
- 5 Red (rt) wire from fuse F19

**Con-
nection to
central
electrical
box**

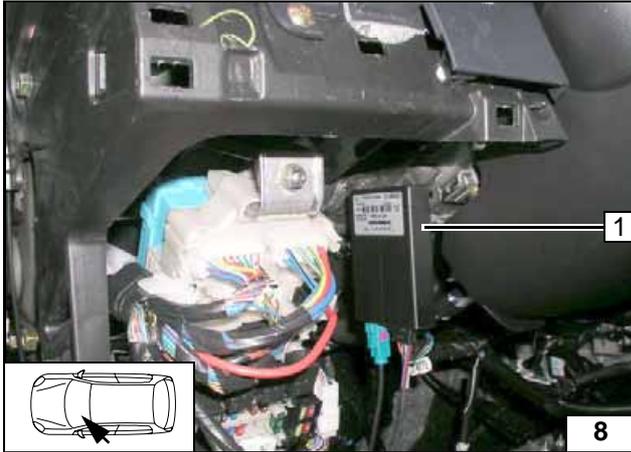


Connection to connector D-08 (36-pin) on A/C control panel.
Produce connections as shown in wiring diagram.

- 1 Black (sw) wire from F4
- 2 Red/yellow (rt/ge) wire to wiring harness
- 3 Black (sw) wire to anode side of diode group
- 4 Black/white (sw/ws) wire to anode side of diode group
- 5 Diode group
- 6 Black (sw) wire from cathode side of diode group
- 7 Red/yellow (rt/ge) wire to connector D-08
- 8 Connector D-08

**Con-
nection to
connector
of A/C
control
panel**

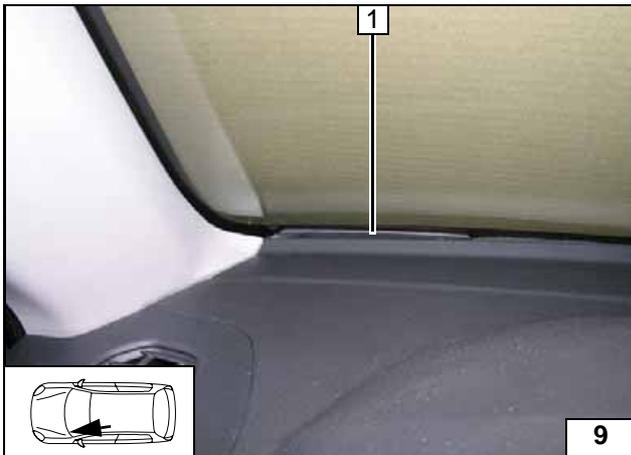




Remote option (Telestart)

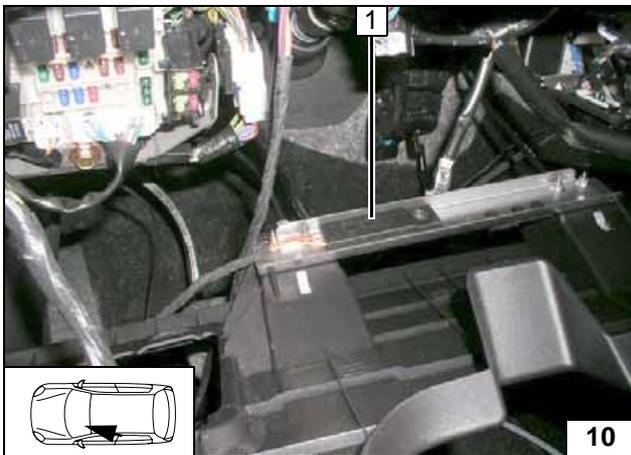
- 1 Receiver, M5x16 bolt, washer, flanged nut, original vehicle hole

Installing receiver



- 1 Antenna

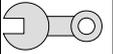
Installing antenna



Temperature sensor for HTM100 only

- 1 Fasten temperature sensor with suitable means

Installing temperature sensor

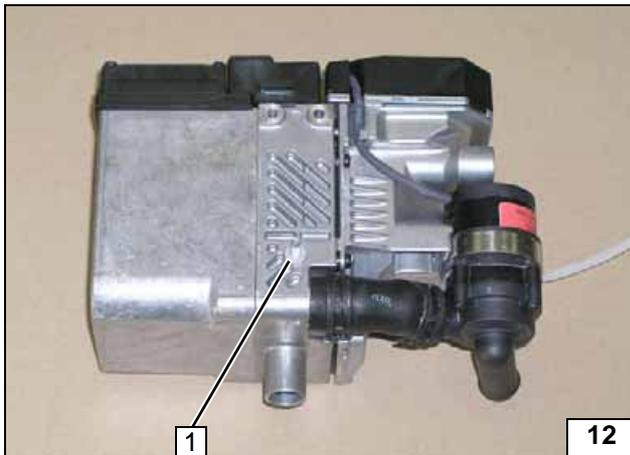


Preparing heater unit

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



Con-necting fuel line

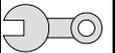


Ejot stud bolt, tightening torque 10 Nm!

- 1 Stud bolt



Installing stud bolt

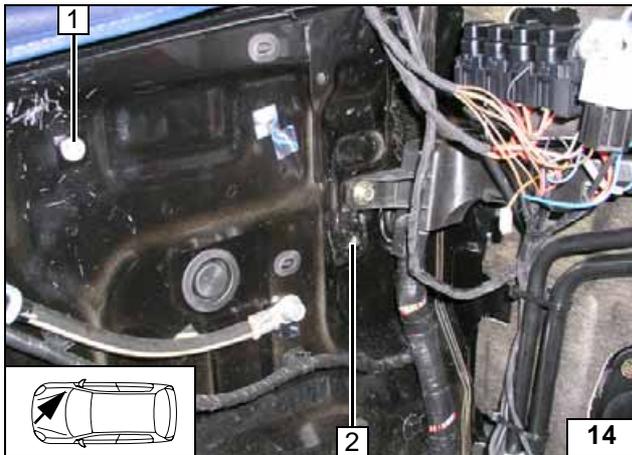


Preparing installation location

Remove original vehicle M8 bolt of line holder 1

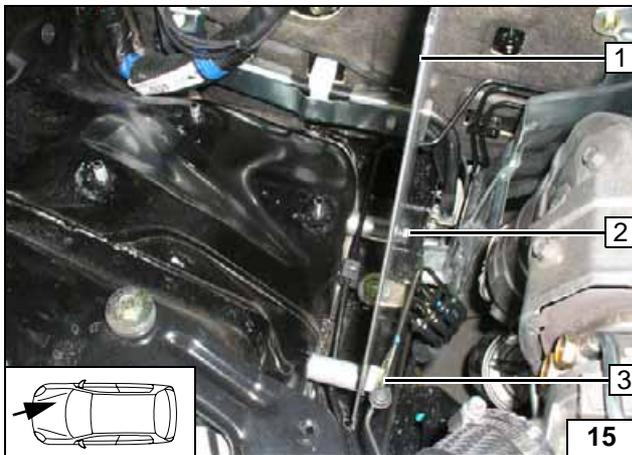


Detaching line holder



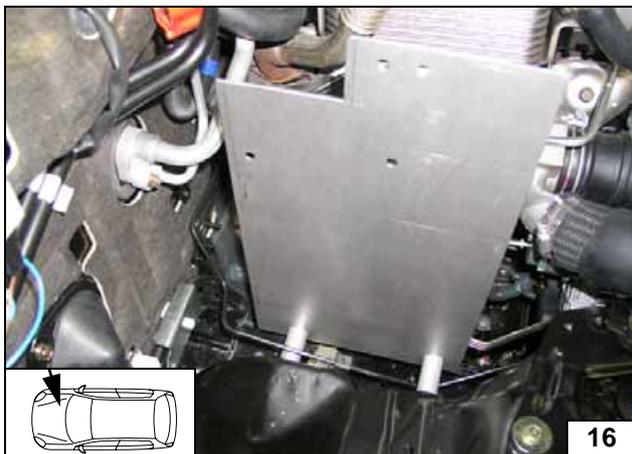
- 1 Existing hole drilled out to 9.1 mm dia., rivet nut
- 2 Remove adhesive sign over M threaded hole

Preparing fastening points



- 1 Bracket
- 2 M8x55 bolt, spring lockwasher, 40 mm spacer, original vehicle threaded hole
- 3 M8x55 bolt, spring lockwasher, line holder, 40 mm spacer, original vehicle threaded hole

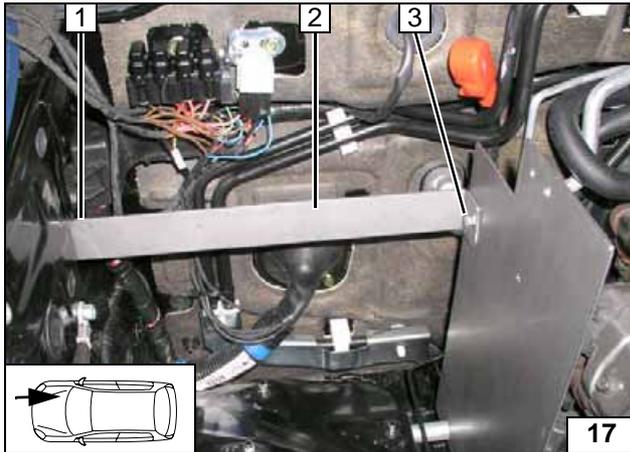
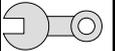
Installing bracket



Align holder vertically

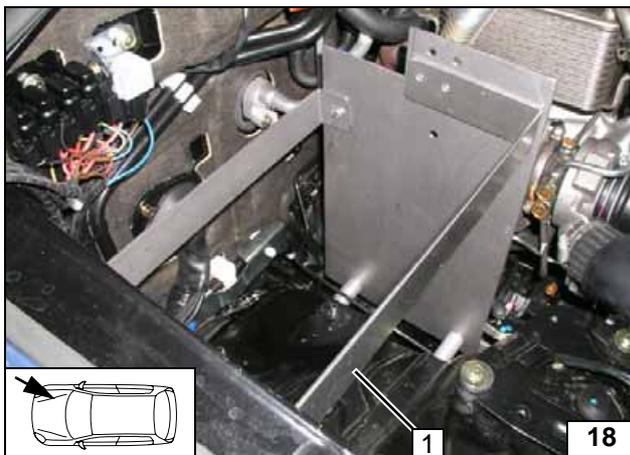


Aligning holder



- 1 M6x20 bolt, spring lockwasher (covered)
- 2 Strut
- 3 M6x20 bolt, M6 flanged nut

Installing rear strut

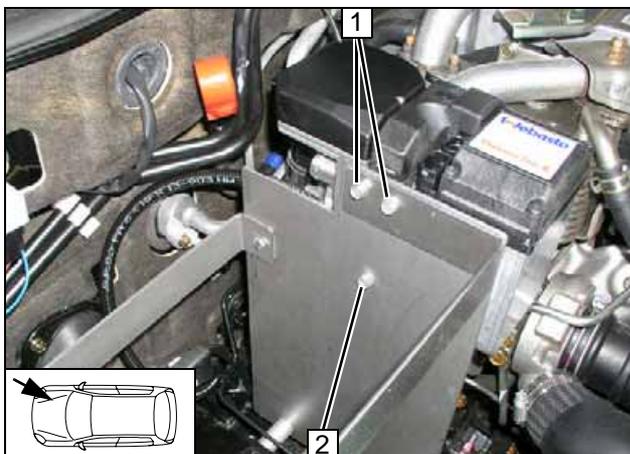


Loosely mount strut.

- 1 Strut, M6x20 bolt, spring lockwasher



Installing front strut on rivet nut



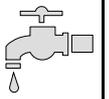
Installing heater unit

Tighten EJOT screws to 10 Nm!
Insert two washers between heater unit and bracket at position 2.

- 1 Ejot screw [2x], strut
- 2 Ejot screw



Installing heater unit



Coolant connection

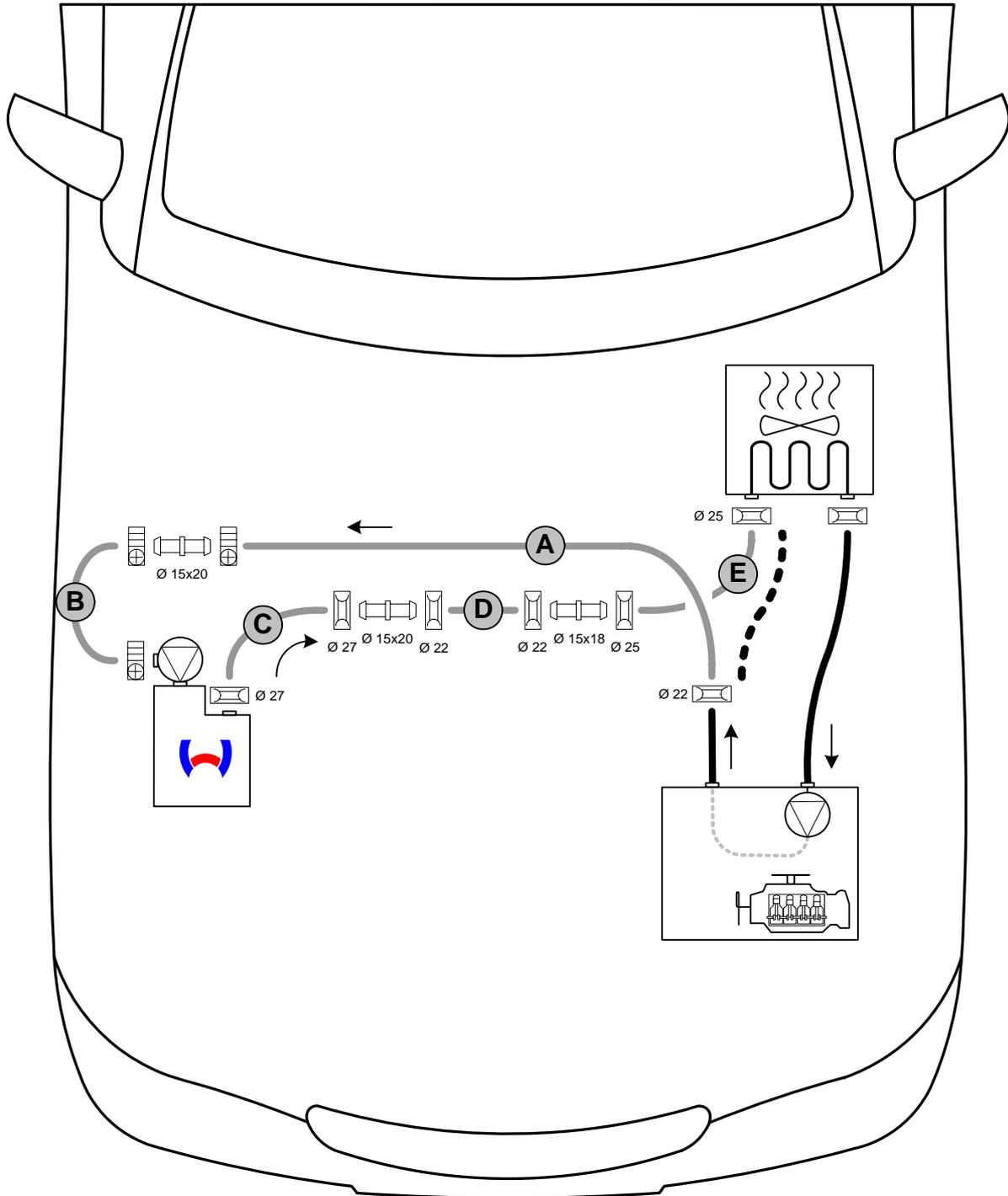
WARNING!

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:

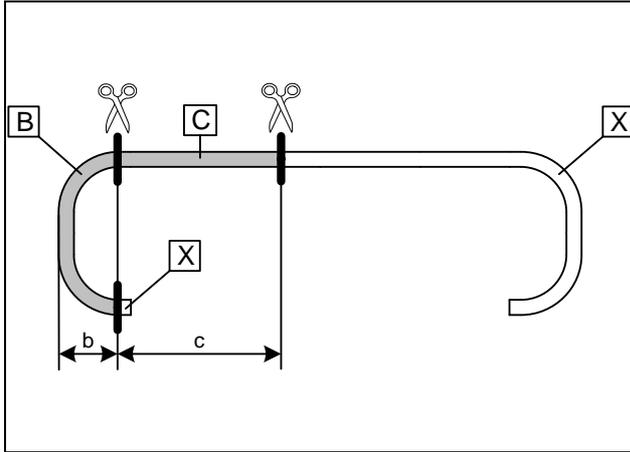


Coolant routing diagram

Symbol	Description	Symbol	Description	Symbol	Description
	Connecting pipe		Hose clamp		Spring clip

All hose clamps without a specific designation = 20-27 mm dia



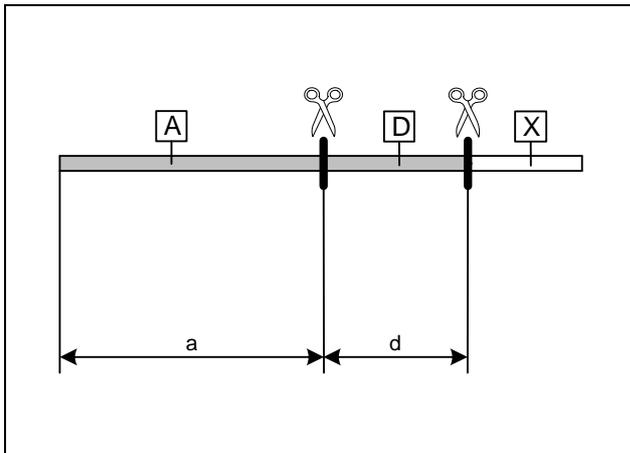


$b = 40\text{ mm}$
 $c = 290\text{ mm}$

Discard section X



Cutting water hoses
 $d = 20\text{ mm}$
 to length

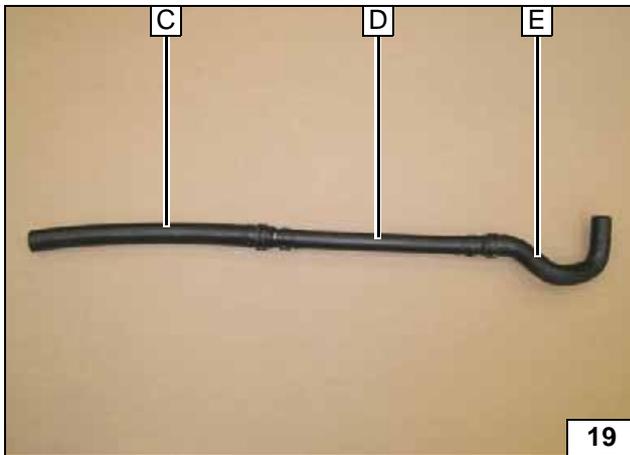


$a = 650\text{ mm}$
 $d = 240\text{ mm}$

Discard section X

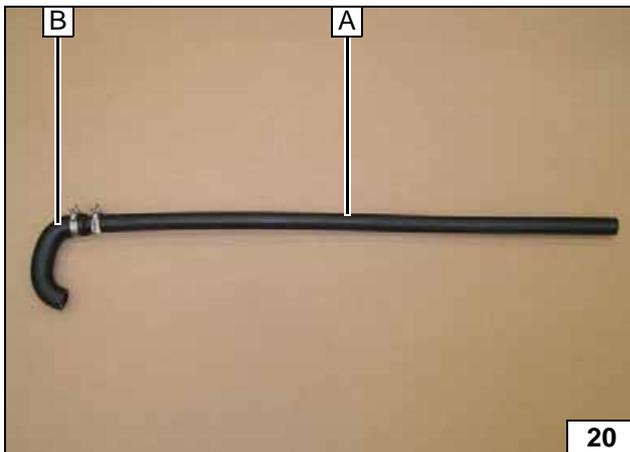


Cutting water hoses
 $d = 15\text{ mm}$
 to length

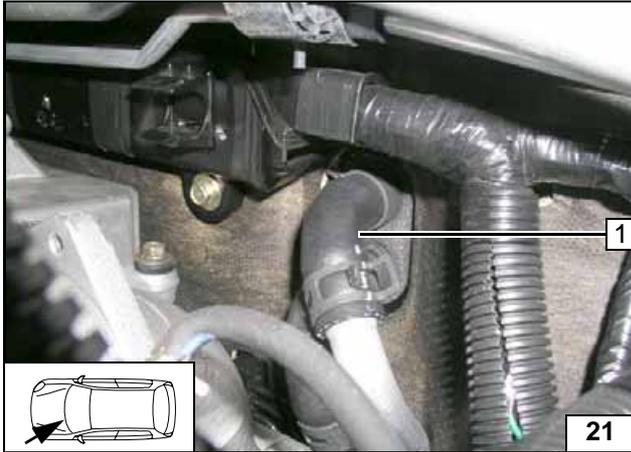


E Molded hose no. 89960

Pre-mounting hoses on heater unit outlet

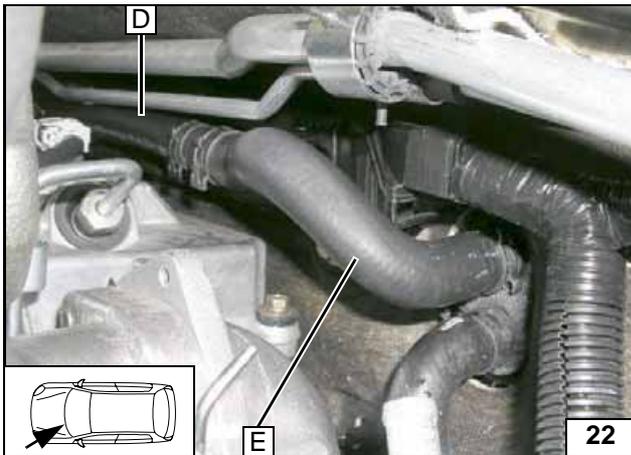


Pre-mounting hose on heater unit inlet

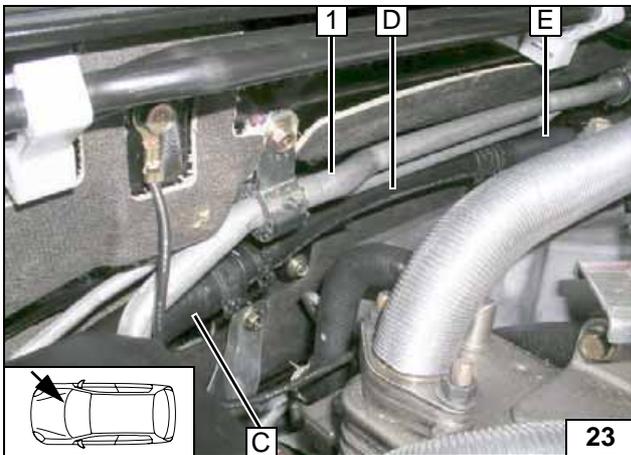


1 Remove 90° elbow

Removing hose



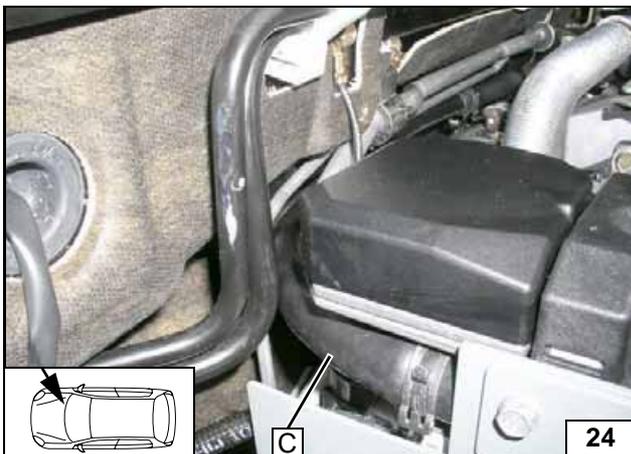
Con-
nection on
heat
exchanger
inlet



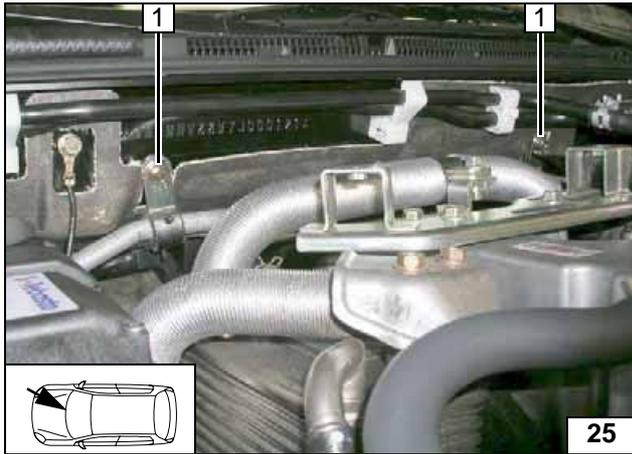
Route hose under A/C lines 1 in guide for battery cable



Installing
hoses on
firewall



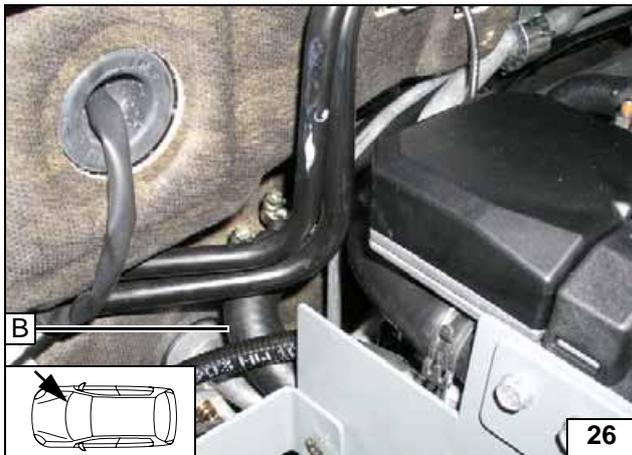
Con-
nection on
heater unit
outlet



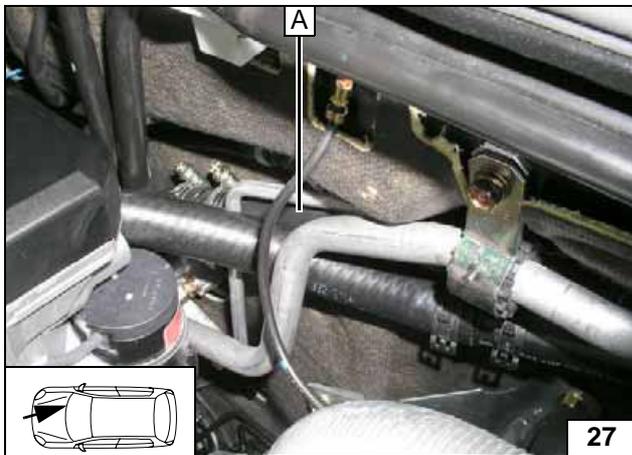
Unscrew screws 1 [2x], loosen p-clamps of A/C line



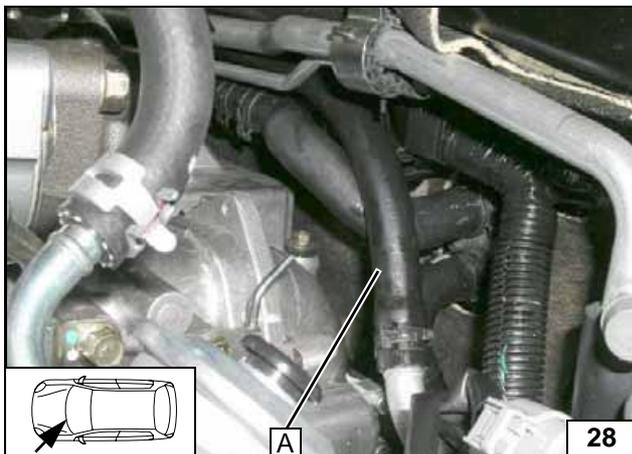
Loosening A/C line for hose installation area



Connection on heater unit inlet



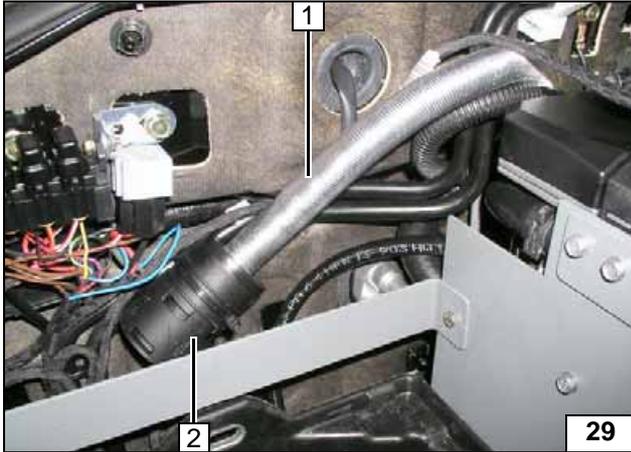
Installing hose behind A/C line



Before connecting, fill the coolant hoses with coolant. Tighten p-clamps of A/C line again.



Connection to engine outlet



Combustion air

- 1 Combustion air pipe, 16-27 mm dia. hose clamp
- 2 Intake muffler, cable tie

Installing combustion air pipe



Fuel Connection

CAUTION!

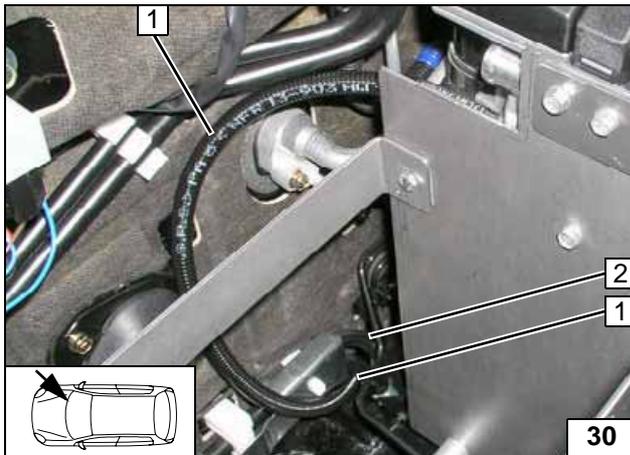
Open the vehicle's fuel tank cap, ventilate the tank and then re-close the tank lock.

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.

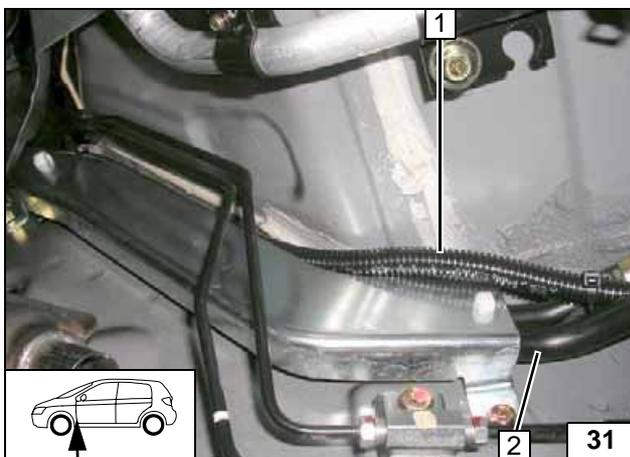
WARNING!

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



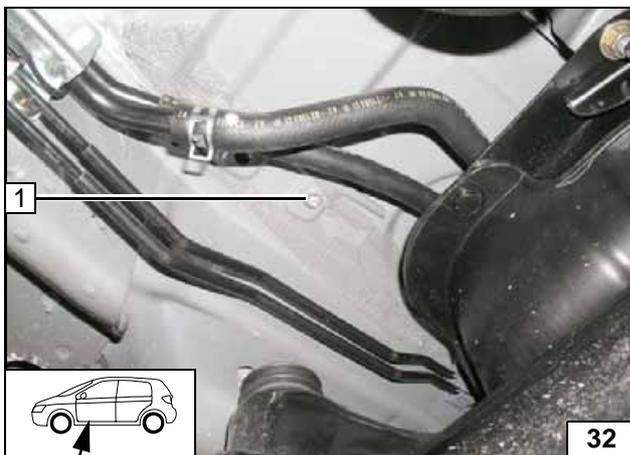
Pull fuel line into corrugated tube 1 and route along original vehicle fuel lines 2 to underbody

Installing fuel line



1 Fuel line in corrugated tube
2 Original vehicle fuel line

Installing fuel line

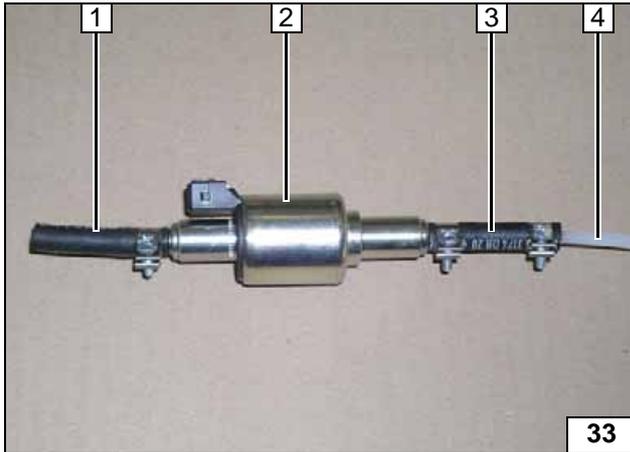


Installation location on right in front of vehicle fuel tank! Cut corrugated tube and fuel line at installation location of metering pump to length.

1 Existing hole drilled out to 9.1 mm dia., rivet nut

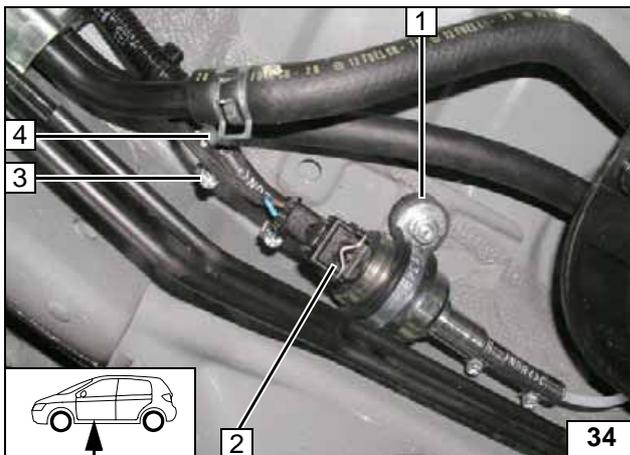


Installation location of metering pump



- 1 Hose section, 10 mm dia. hose clamp
- 2 Metering pump
- 3 Hose section, 10 mm dia. hose clamps [2x]
- 4 Remaining section of fuel line

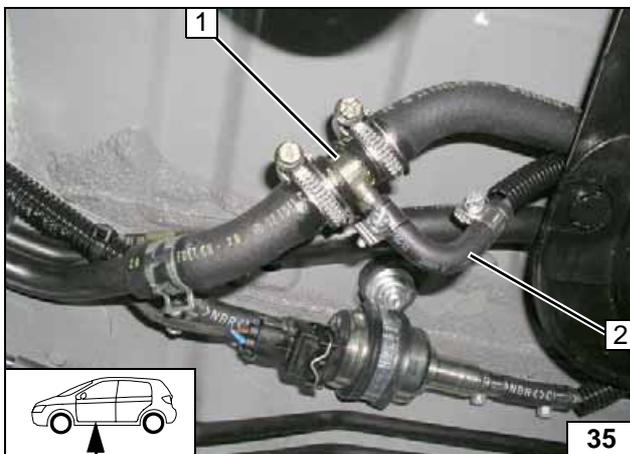
Preassembling metering pump



Ensure proper installation position of metering pump, see "Installation Instructions". Fuel line from heater unit on pressure side of metering pump [side with connector].

- 1 Silent block, rubber-coated p-clamp, flanged nut
- 2 Wiring harness of metering pump, metering pump connector
- 3 10 mm dia. hose clamp
- 4 Fuel line

Connecting to metering pump



Separate fuel supply line between elbows.

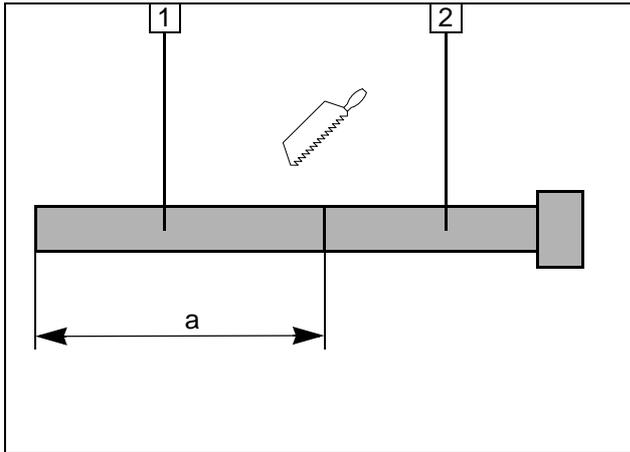
- 1 15x5x15 mm dia. fuel standpipe, 16-27 mm dia. hose clamp [2x]
- 2 Cut molded hose, 10 mm dia. hose clamp [2x], remaining section of fuel line, corrugated tube to length

Removing fuel



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

Aligning components



Exhaust system

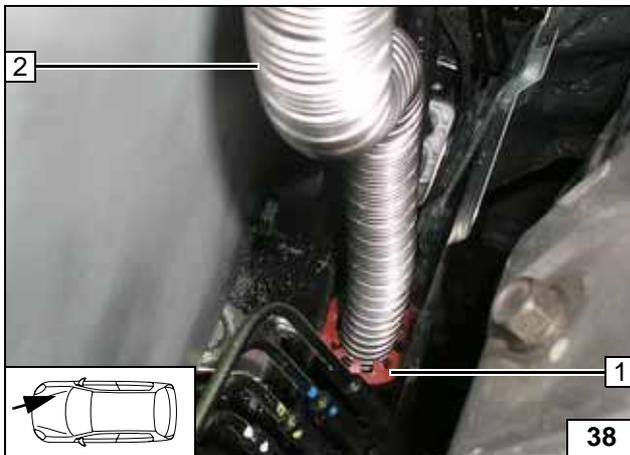
- 1 Exhaust pipe
a = 560 mm
- 2 End section

Preparing exhaust pipe



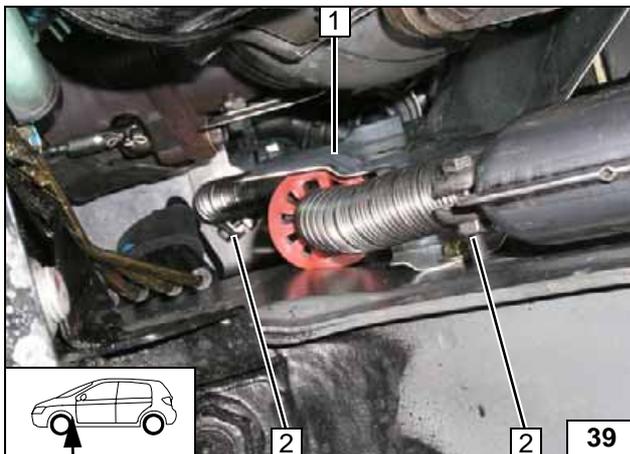
- 1 M6x50 bolt, spring lockwasher, 30 mm spacer, original vehicle threaded hole
- 2 Muffler

Installing muffler



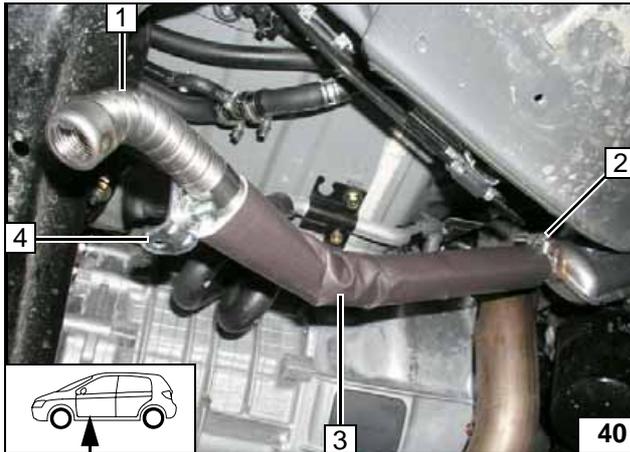
- 1 Red (rt) rubber isolator
- 2 Exhaust pipe

Shaping exhaust pipe



- 1 Heat shield plate
- 2 Hose clamp [2x]

Installing exhaust pipe



- 1 Exhaust end section
- 2 Hose clamp
- 3 Heat shield hose
- 4 M6x20 bolt, angle bracket, p-clamp, M6 flanged nut

Pre-mounting exhaust end section



- 1 Under-ride protection installed
- 2 Original vehicle hole

Mounting under-ride protection

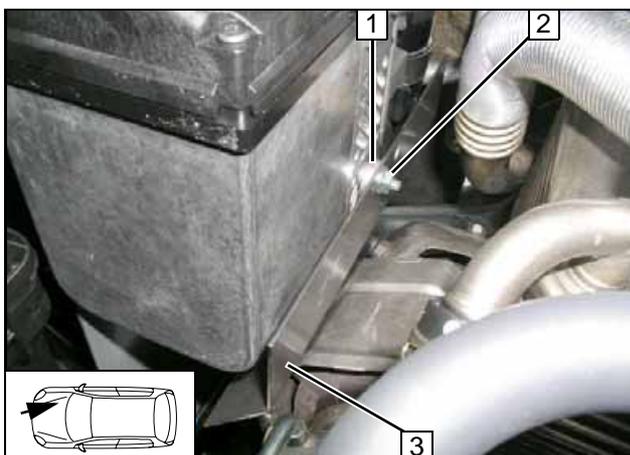


Ensure sufficient distance to neighboring components.

- 1 M6x20 bolt, large diameter washer, M6 flanged nut mounted on angle bracket

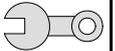


Installing exhaust end section on under-ride protection



- 1 5 mm spacer
- 2 M6 flanged nut
- 3 Heat shield plate

Installing heat shield plate

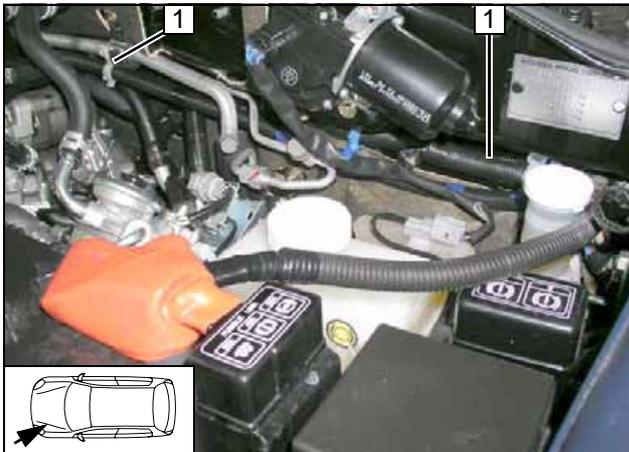


Final Work

WARNING!

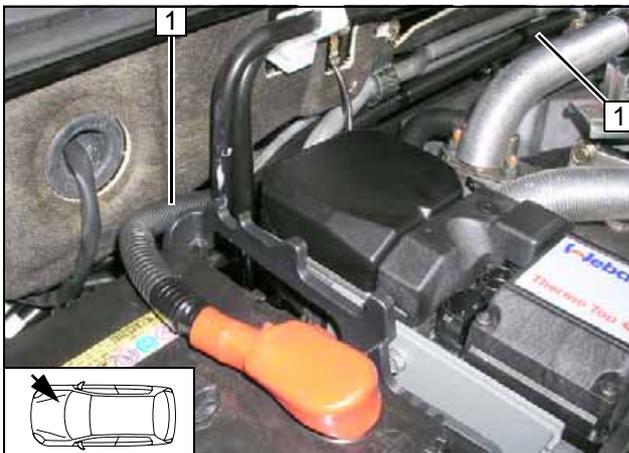
Reassemble the disassembled components in reverse order.
 Check all hoses, clamps and all electrical connections for firm seating.
 Secure all loose cables using cable ties.
 Only use manufacturer-approved coolant.
 Spray the heater unit components with anti-corrosion wax (Tectyl 100K, Order No. 111329).

- Connect the batteries
- Fill and bleed the coolant circuit according to the vehicle manufacturer's specifications.
- Adjust the digital timer if installed
- Make the settings for the automatic air-conditioning in accordance with "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.



WARNING!

Positive wire 1 not secured. Route rub-free and fasten with spacers and cable ties.



Route positive wire 1 between original vehicle wires to battery and fasten with cable ties.



Installing positive wire for additional battery



Installing positive wire for additional battery



Webasto AG
 Postfach 80 - 82132 Stockdorf
 Hotline 01805 / 932278 - Hotfax 0395 / 5592-353
<http://www.webasto.de>

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.

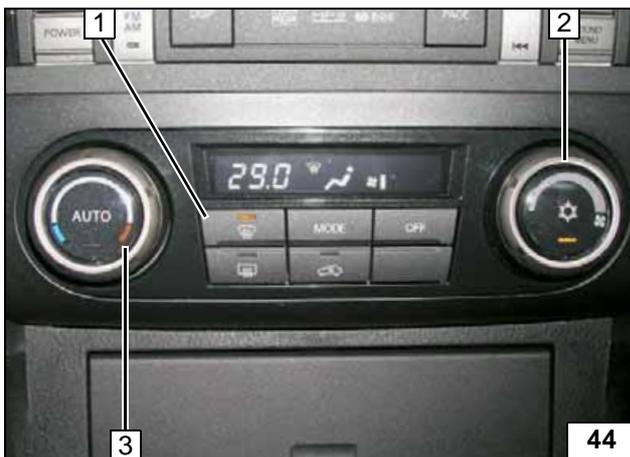
If the summer/winter switch option has been installed, this must be switched in accordance with the time of year. The heater unit will then only switch on the vehicle fan to ventilate the vehicle interior in the position Winter  heat and in the position Summer .

Before parking the vehicle, make the following settings:



- 1 Set temperature to 28.5°
- 2 Set fan to level "1", or possibly "2"

For vehicles with automatic air conditioning



Alternative setting:

- 1 Air outlet onto windshield (press Defrost button)
- 2 Set fan to level "1", or possibly "2"
- 3 Set temperature to 29° (max.)



For vehicles with automatic air conditioning