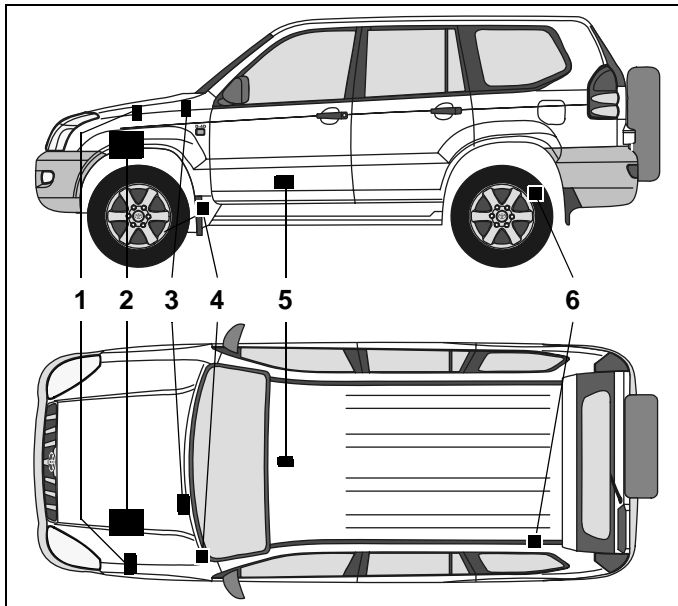


Water Heater Unit

Thermo Top P Additional Heater ^{e1}_{00 0104}



Installation Instructions Toyota Land Cruiser J10

Diesel

from Model Year 2005

For left-hand drive vehicles only
Manual air conditioning not tested!

Legend:

- 1 Combustion-air intake muffler
- 2 Thermo Top P heater unit
- 3 Blade-type fuse holder
- 4 Exhaust muffler
- 5 Digital timer
- 6 Metering pump



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.

Toyota Land Cruiser J10

Table of Contents

Validity	2	Exhaust-Gas Connection	16
Heater Unit/Installation Kit	3	Fuel Connection	17
Foreword	3	Installation Location of Metering Pump	17
Special Tools	3	Removing Fuel	18
Heater Unit/Installation Kit	3	Combustion Air Connection	19
Preliminary Work	5	Coolant Connection	20
Heater Unit Installation Location	5	Final Work	23
Preparing Electrical System	6	Operating Instructions for End Customer	24
Electrical Connections	7		
Automatic Air-Conditioning Fan Controller	8		
Digital Timer and Summer/Winter Switch Option	10		
Remote Option (Telestart)	10		
Thermo Call option	11		
Preparing Heater Unit	12		
Preparing Installation Location	13		
Installing Heater Unit	15		

Validity

Manufacturer	Model	Type	EG-BE No./ABE
Toyota	Land Cruiser	J10	e6 * 2001/116 * 0055 * ...

Engine type	Engine model	Output in kW	Displacement in cm ³
1HD-FTE	Diesel	150	4164

Vehicle types, engine types and equipment variants, which are 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	Designation	Order No.
1	Retail accessories with desired heater control	see Price List
1	Installation kit for Toyota Land Cruiser J10 Diesel	1303577A

Heater unit recommended for the respective vehicle class:

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

Foreword

These installation instructions apply to Toyota Land Cruiser J10 vehicles with a Diesel engine - for validity, see page 2 - from model year 2005 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, where this is the case the stipulations in the "installation instructions" and "operating and maintenance instructions" for the *Thermo Top P* should 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

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 work



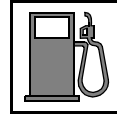
Electrical connection



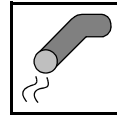
Coolant connection



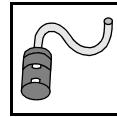
Fuel connection



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.



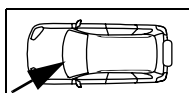
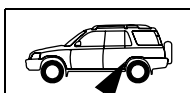
Specific risk of fire or explosion.



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



Reference to a special technical feature.



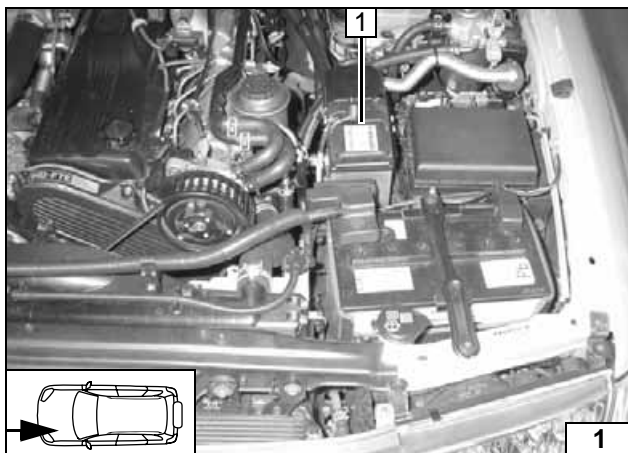
The arrow in the vehicle icon indicates the position on the vehicle and the viewing angle.

WARNING!

- Disconnect both batteries.
- Depressurize the cooling system.
- Remove years that do not apply from the type label.
- Open the fuel tank cap, ventilate the tank.
- Close the tank cap again.
- Remove the glove compartment.
- Remove the cover in the glove compartment.
- Remove the underride protection.

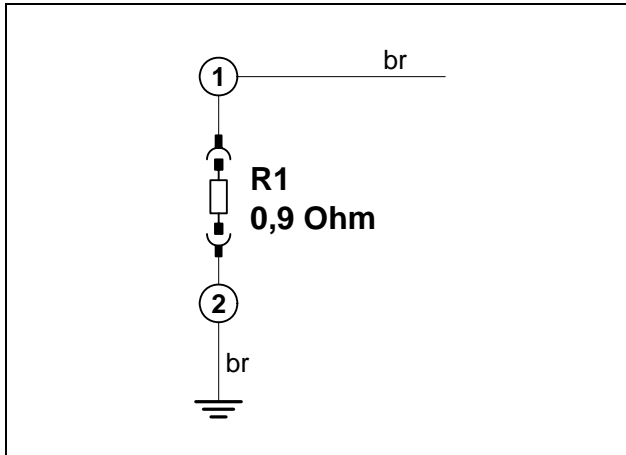


Pre-liminary Work



1 Heater unit

Heater unit installation location



Preparing electrical system
Only with automatic air-conditioning
Pull wire section 1 together with wiring
harnesses of digital timer and fan controller
into protective hose



Cutting
wires to
length

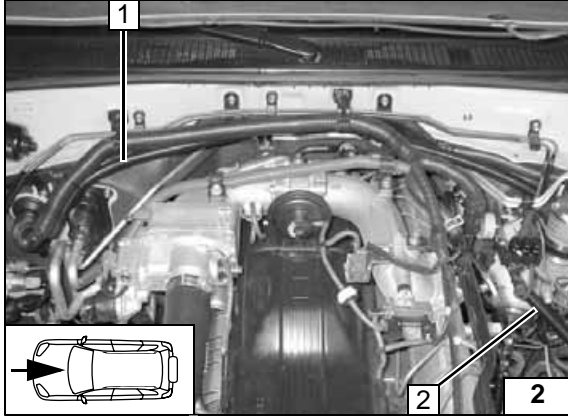


Installation should be carried out according to the general, standard rules of technology. Unless otherwise described, fastening is carried out with cable ties on original vehicle lines and wiring harnesses. Sharp edges must be provided with scuff guards.

Electrical Connections

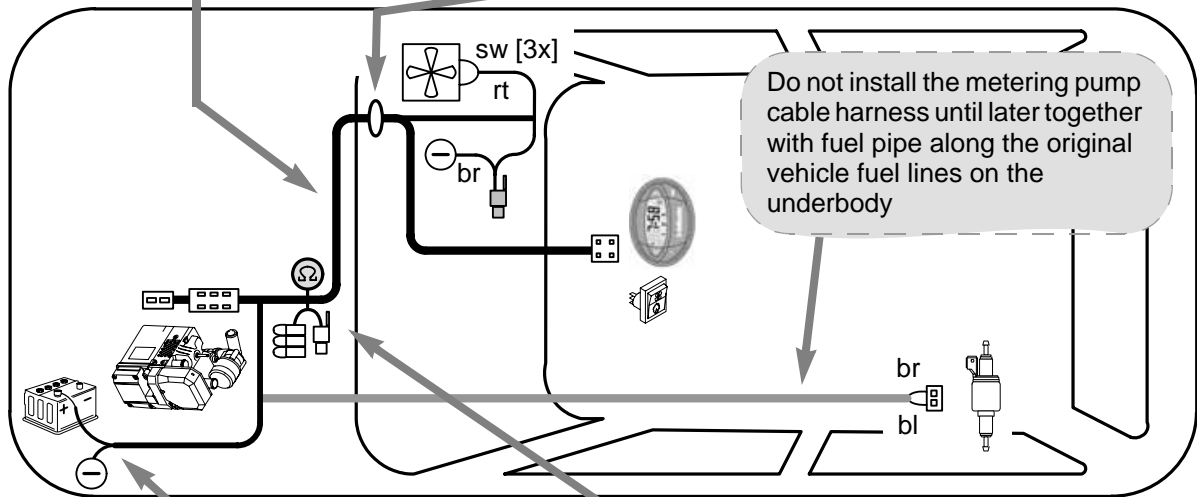
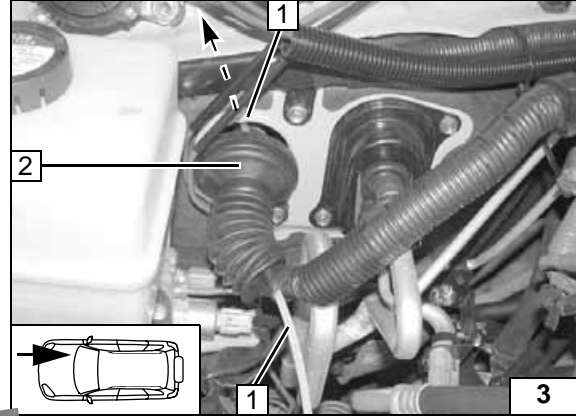
Wiring routing

- 1 Protective hose (to protective rubber plug)
- 2 Protective hose (to heater unit)

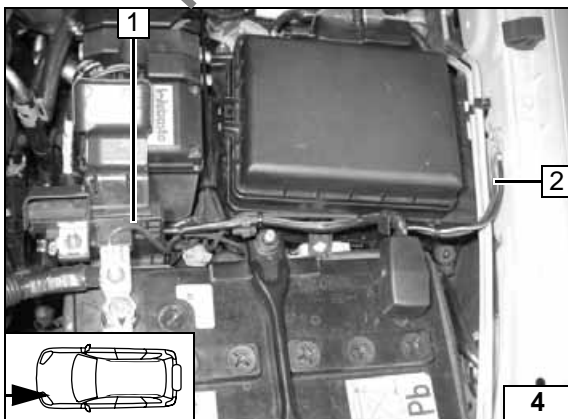


Wiring harness pass through

- 2 Remove protective rubber plug (use mecyanl line 1 as aid from pulling in.)



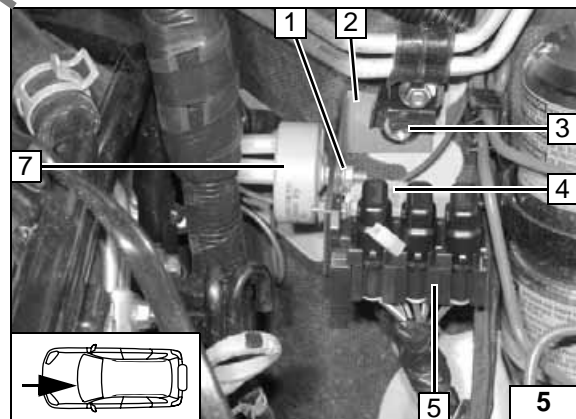
Electrical diagram



Positive and ground connection

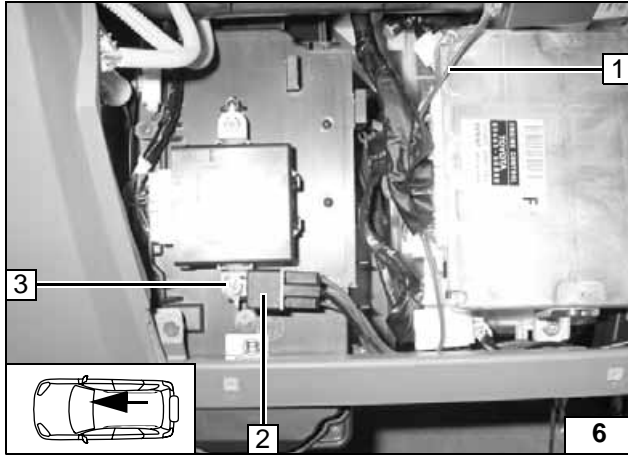
Crimp 8 mm dia. cable lug onto positive wire.

- 1 Red (rt) wire on positive battery terminal
- 2 Brown (br) wire on original vehicle ground support point



Fuse holder, relay K3

- 2 Angle bracket
- 3 Original vehicle bolt
- 4 K3 relay
- 7 Resistor
- 1 M5x20 bolt, flanged nut, washer, flanged nut
- 6 Fuse holder retaining plate, M4x12 bolt, washers, M4 nut
- 5 Fuse holder mounted

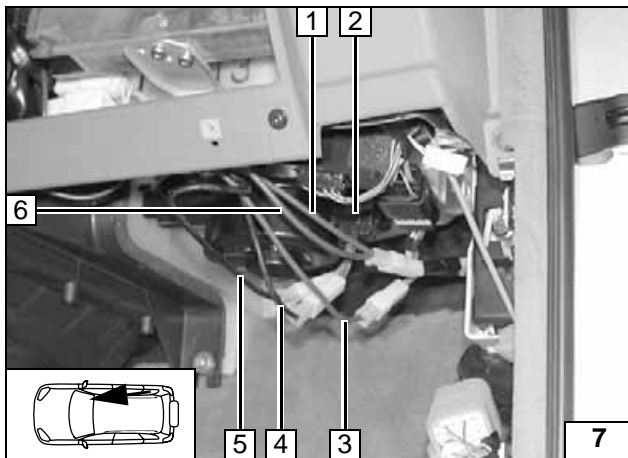


Automatic air-conditioning fan controller

Produce connections as shown in wiring diagram.

- 2 K3.1 relay
- 3 Original vehicle bolt
- 1 Brown (br) wire from K3.1/85 to control unit mounting

Installing K3.1 relay

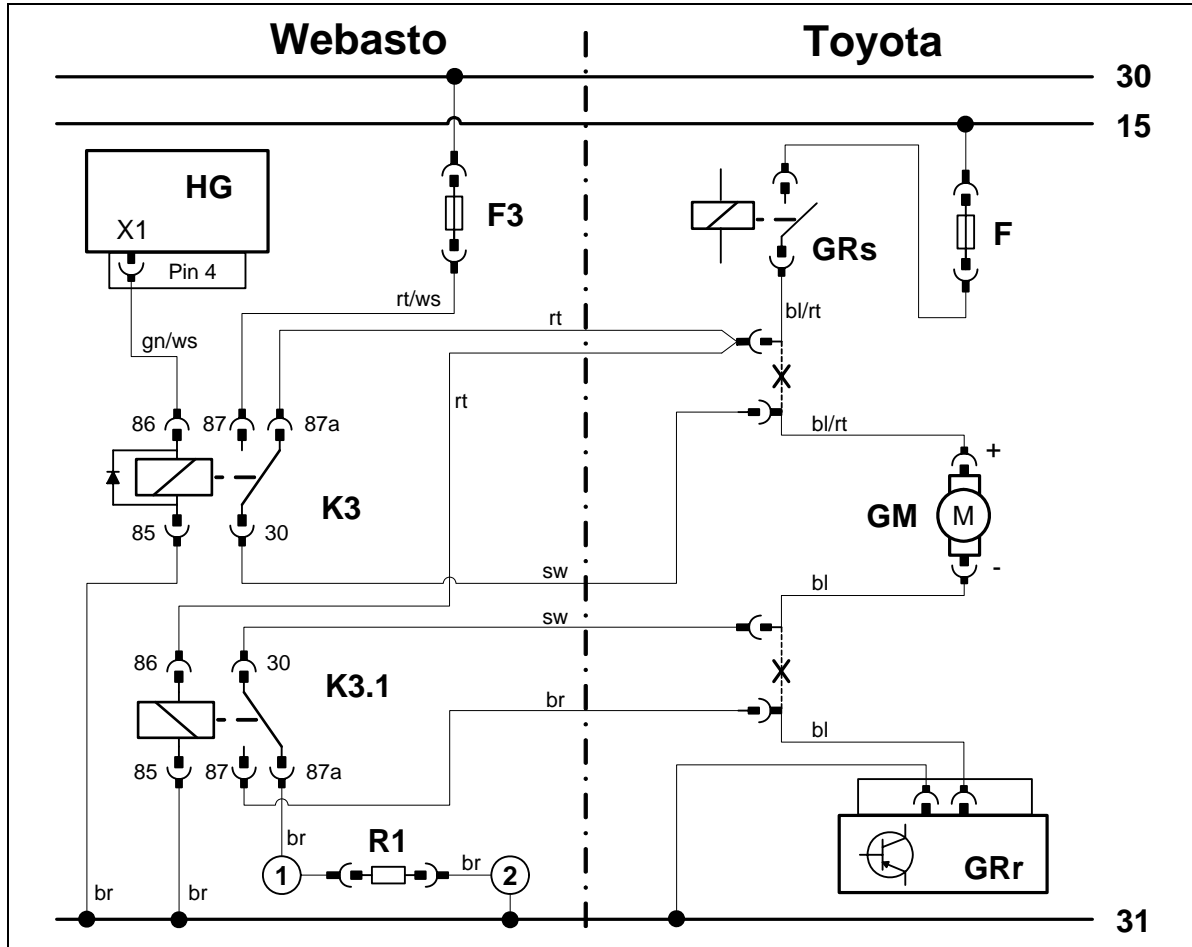


Make connections as shown in the wiring diagram with the tab receptacles provided.

- 1 Red (rt) wire from K3.1/86
- 2 Socket of fan motor connector
- 3 Brown (br) wire from K3.1/87
- 4 Black (sw) wire from K3/30
- 5 Black (sw) wire from K3.1/30
- 6 Red (rt) wire from K3.1/86

**Con-
nection on
fan motor**

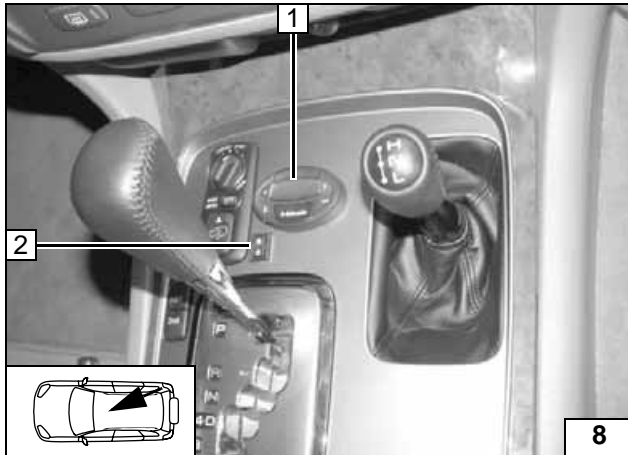




Automatic air-conditioning circuit diagram

Webasto components		Toyota components		Colors and symbols	
HG	Heater unit TT-C/E	GM	Fan motor	rt	red
F3	Fuse, 25 A	GRs	Fan relay	ws	white
K3	Fan relay	GRr	Fan controller	sw	black
K3.1	Additional relay	F	Fuse 30A	br	brown
R1	0.9 ohm resistor			gn	green
				bl	blue
				X	Cutting point

Legend

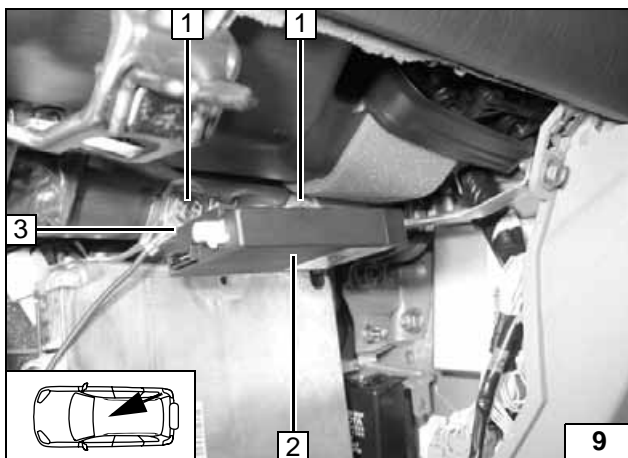


Digital timer and summer/winter switch option

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



Installing receiver



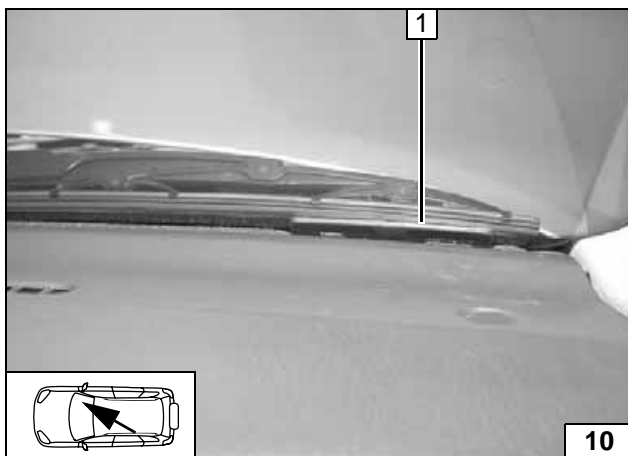
Remote option (Telestart)

Bend bracket from receiver upward by approx. 90° before installing.

- 1 Original vehicle bolt
- 3 Bracket (align as shown following installation)
- 2 Receiver

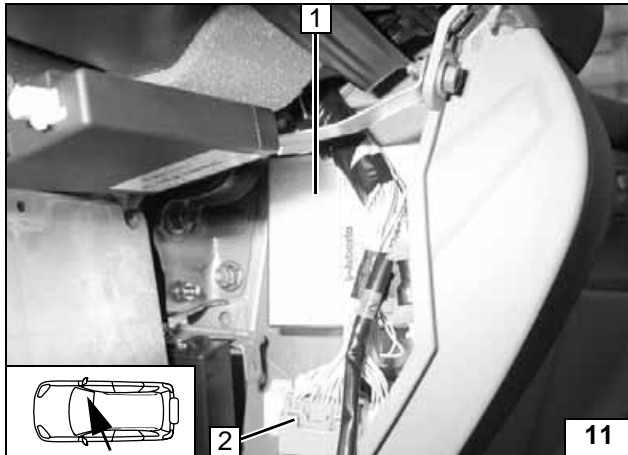


Installing receiver



- 1 Antenna

Installing antenna

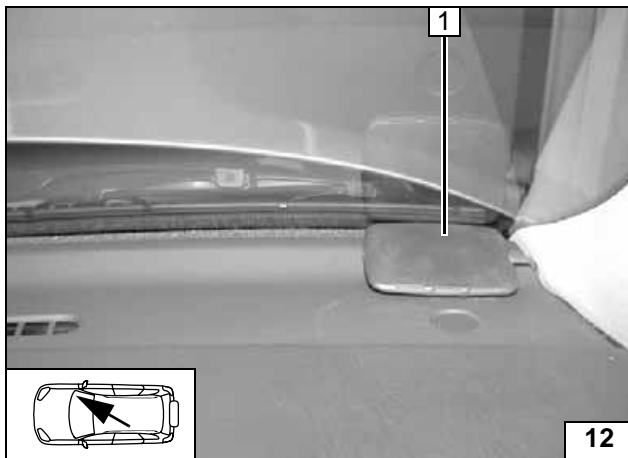


Remote option (Thermo Call)

Unclip connector package at position 2 before installation.
Fasten Thermo Call receiver to interior trim with adhesive tape provided.

1 Receiver

Installing receiver



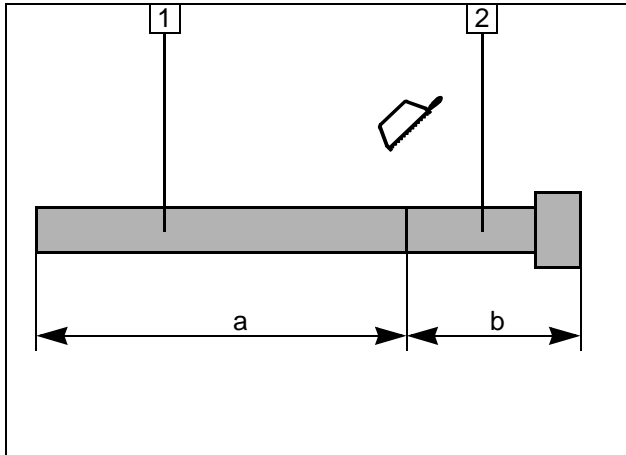
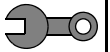
1 Antenna

Installing antenna



1 Pushbutton

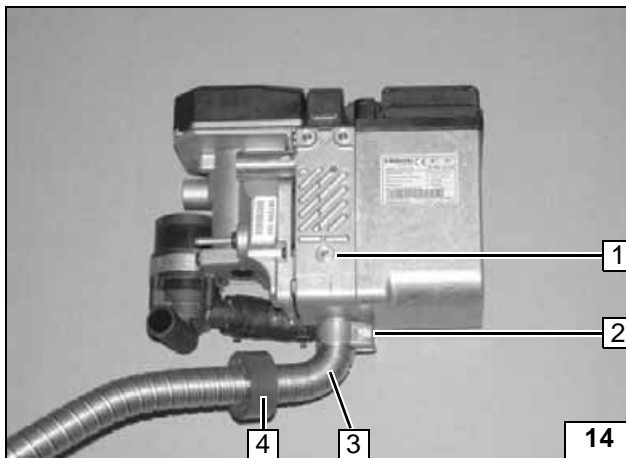
Installing push button



Preparing heater unit

- 1 Exhaust pipe
a = 720 mm
- 2 Exhaust end section
b = 280 mm

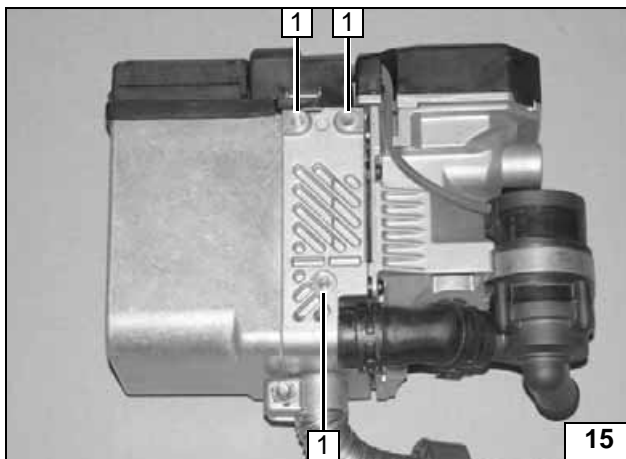
Preparing exhaust pipe



Precut M6 thread at position 1

- 3 Exhaust pipe
- 2 Hose clamp
- 4 Push on red (rt) rubber isolator

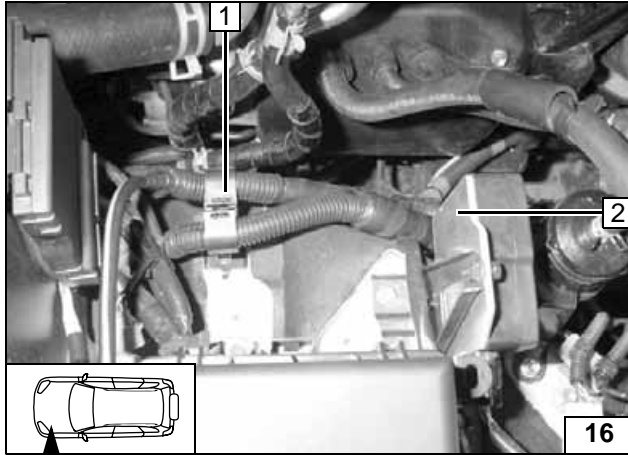
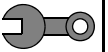
Installing exhaust pipe



Precut M6 thread at position 1 [3x]



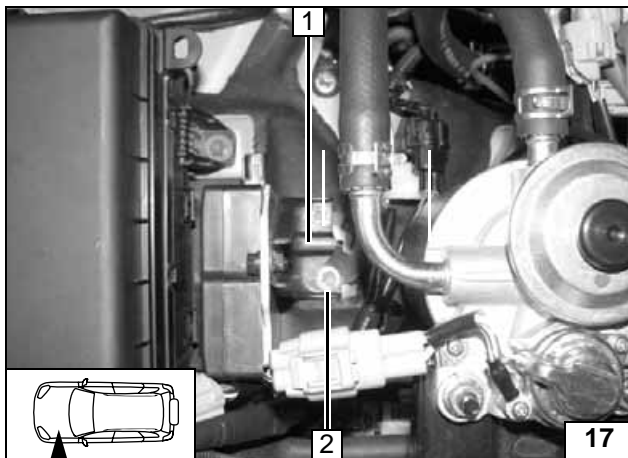
Pre-cutting thread



Preparing installation location

- 1 Remove cable holder and discard
- 2 Remove bracket of control unit (bolt will be reused)

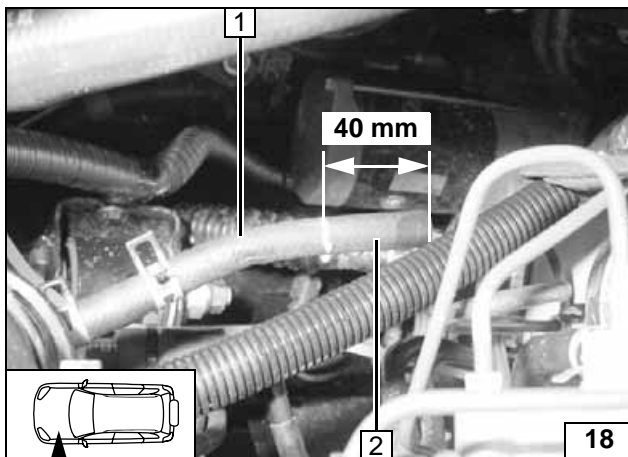
Removing control unit



Ensure exact ground connection from control unit; use toothed washer

- 1 Control unit bracket
- 2 Original vehicle bolt, toothed washer

Installing control unit

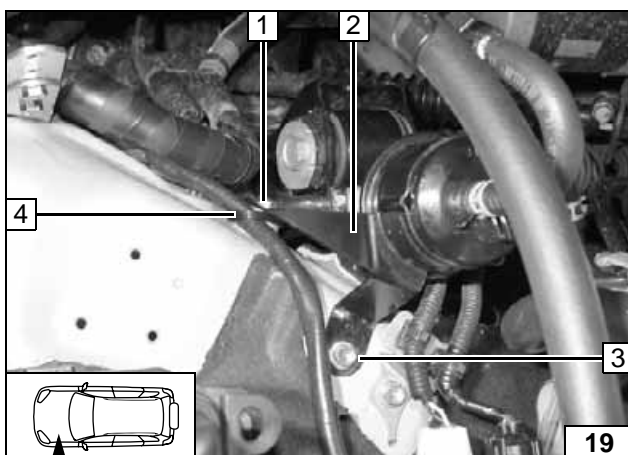


Shorten supply line from fuel filter and reinstall.

- 1 Fuel line



Shortening fuel line

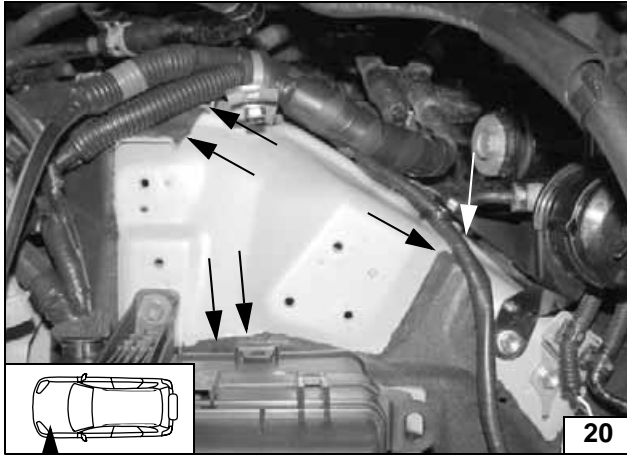
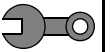


Detach bracket from fuel filter at position 3. Replace bolt at position 1 with M6x30 bolt and 14 mm spacer nut. Align bracket for fuel filter and secure again. Fasten original vehicle wiring harness with cable tie.

- 2 Bracket for fuel filter
- 1 M6x30 bolt, 14 mm spacer sleeve
- 3 Original vehicle bolt
- 4 Cable tie



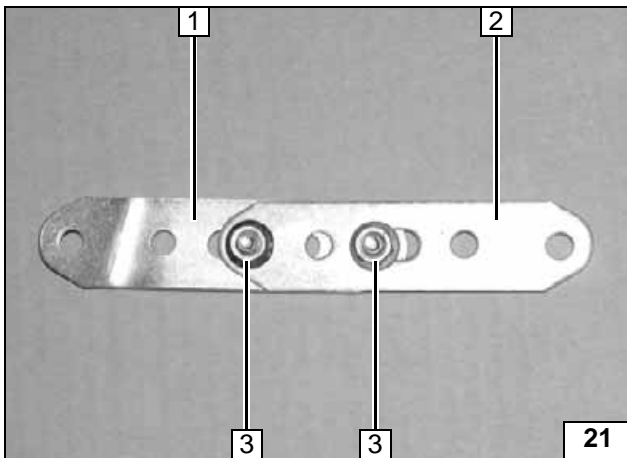
Repositioning fuel filter



Cut away insulation in area of marking.



Cutting out insulation

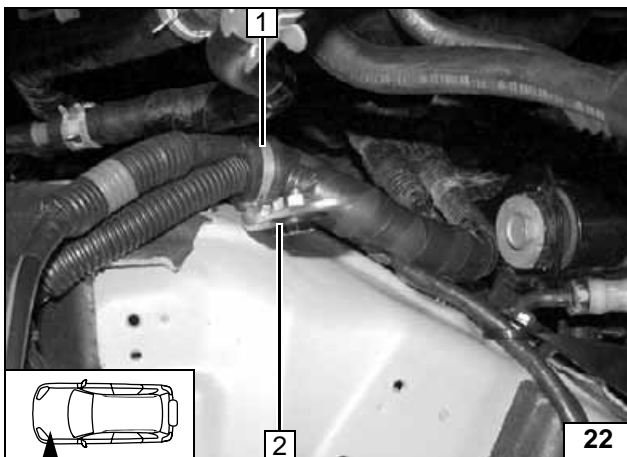


Bend perforated bracket **1** by approx. 30° as shown.



- 1** Perforated bracket, bent
- 2** Perforated bracket
- 3** M6x12 bolt, flanged nut [2x each]

Preparing perforated brackets

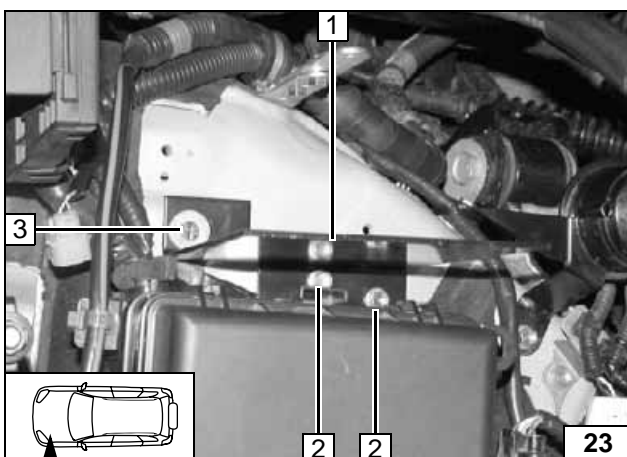


Fasten original vehicle wiring harnesses with rubber-coated p-clamp, prepared perforated brackets and M6x20 bolt on existing threaded hole.



- 1** Rubber-coated pipe clamp
- 2** Prepared perforated brackets

Preparing installation location

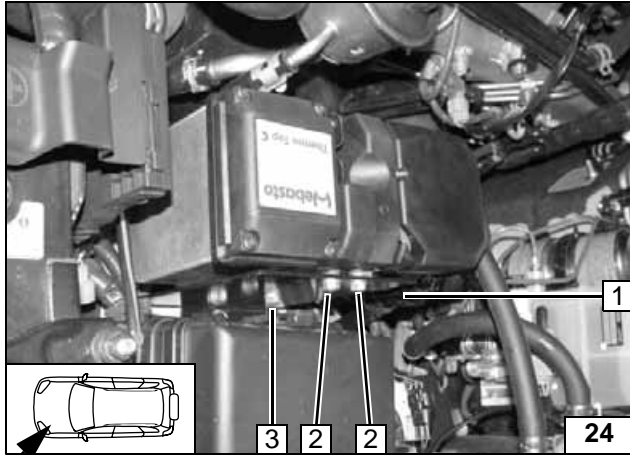
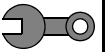


Fasten bracket on existing threaded holes. Insert 15 mm spacer nut between body and bracket at position **3**.



- 1** Bracket
- 2** Original vehicle bolt, spring lockwasher [2x each]
- 3** M6x30 bolt, spring lockwasher, large diameter washer, 15 mm shim

Installing bracket



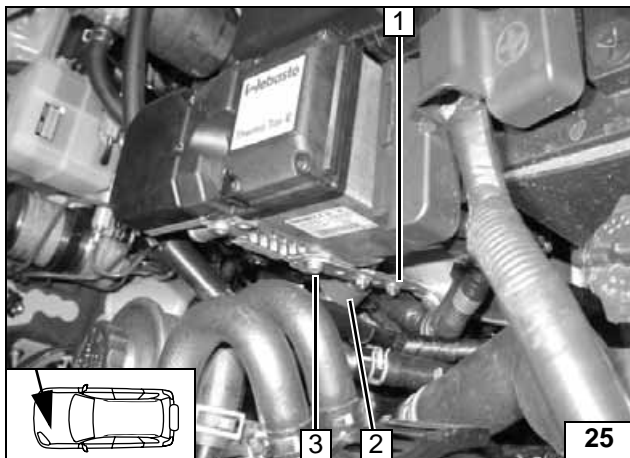
Installing heater unit

Tighten EJOT screws to 10 Nm!
 Insert two washers between heater unit and bracket at position **3**.
 Route exhaust pipe downward during installation.

- 1 Premounted bracket
- 2 Ejot screw [2x]
- 3 Ejot screw



Installing heater unit

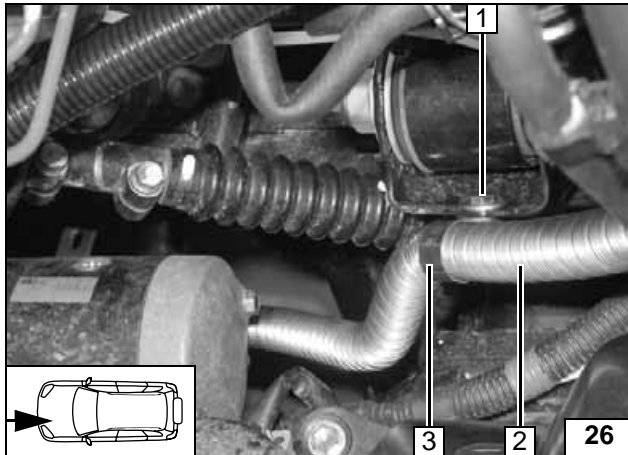


Ejot screw bolt, tightening torque 10 Nm!

- 1 Premounted perforated brackets
- 3 Ejot screw
- 2 Position red (rt) rubber isolator



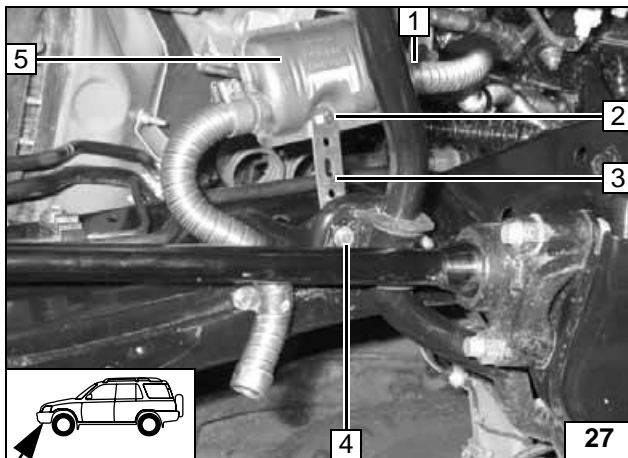
Installing heater unit



Exhaust-gas connection

- 2 Exhaust pipe
- 3 P-clamp
- 1 M6x20 bolt, large diameter washer [2x], flanged nut

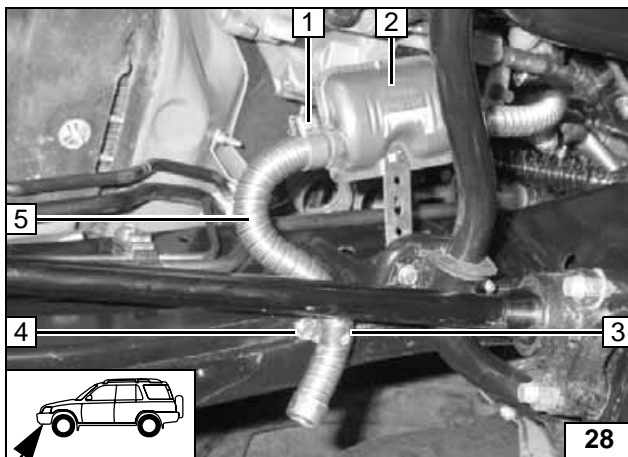
Installing exhaust pipe



Angle down perforated bracket at end by approx. 45° and drill out to 8.5 mm dia. Fasten perforated bracket on original vehicle bolt with M8 flanged nut.

- 3 Perforated bracket
- 4 Original vehicle bolt
- 5 Exhaust muffler
- 2 M6x20 bolt, flanged nut
- 1 Hose clamp

Installing muffler



Drill 4 mm hole at position 4.

- 2 Exhaust muffer
- 5 Exhaust pipe
- 1 Hose clamp
- 3 P-clamp
- 4 5.5x13 mm hexagon self-tapping screw

Installing exhaust end section



Fuel Connection

CAUTION!

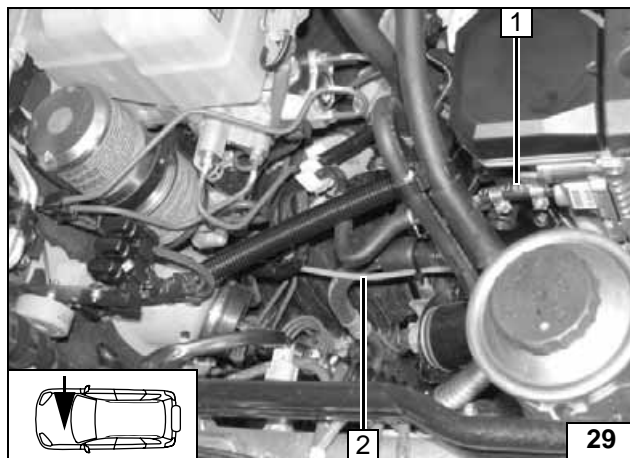
Open the vehicle's fuel tank cap, ventilate the tank and then re-close the tank lock.

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.

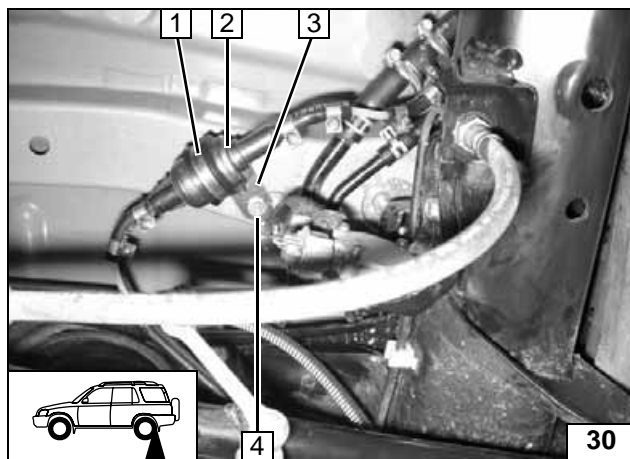
WARNING!

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



- 1 Mecanyl fuel line
- 2 Hose section, 10 mm dia. hose clamp [2x]

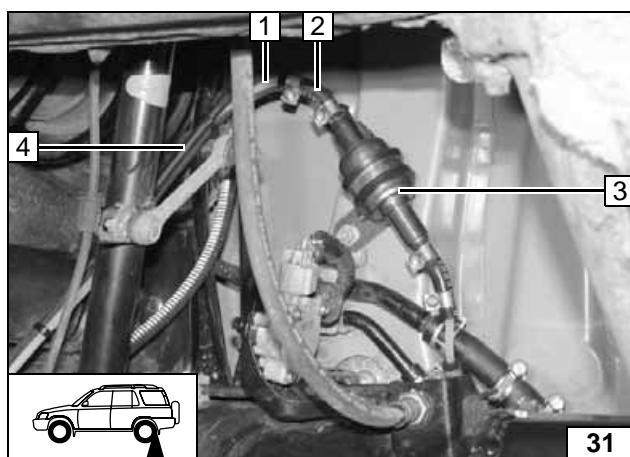
Con-
nection on
heater unit



Ensure proper installation position of metering pump, see "Installation Instructions".
Installation location on left behind vehicle fuel tank!
Route wiring harness of metering pump and fuel line from heater unit along original vehicle lines toward rear.

- 3 Angle bracket
- 4 Original vehicle stud bolt, flanged nut
- 2 Metering pump
- 1 Rubber-coated p-clamp, silent block, flanged nut [2x] on angle bracket

Installa-
tion
location of
metering
pump

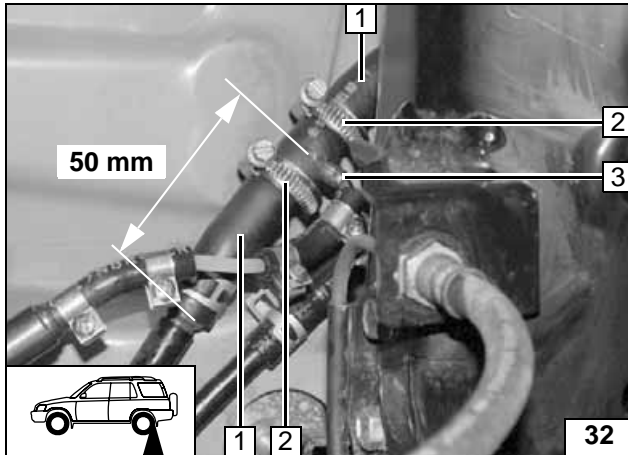


Fuel line from heater unit on pressure side of metering pump [side with connector].

- 3 Metering pump
- 1 Fuel line from heater unit
- 2 Hose section, 10 mm dia. hose clamps [2x]
- 4 Wiring harness for metering pump, single-wire sealing, tab connector, connector housing

Con-
necting
metering
pump





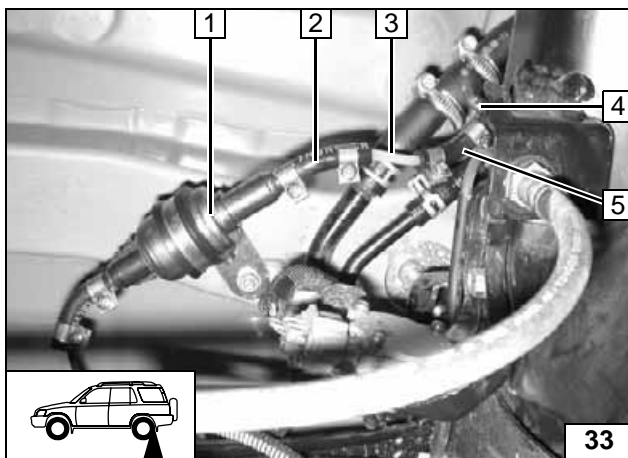
Removing fuel

Cut off fuel supply line approx. 50 mm before connecting point. Insert fuel standpipe at cutting point.

- 1 Fuel supply line
- 3 Fuel standpipe
- 2 16-24 mm dia. hose clamps [2x]



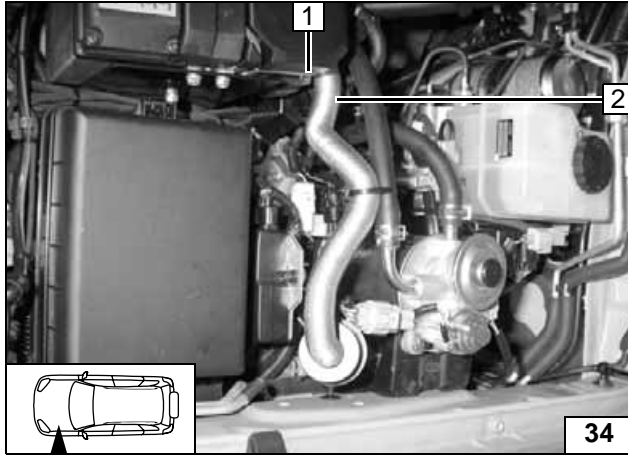
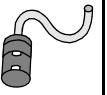
**Inserting-
fuel
standpipe**



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



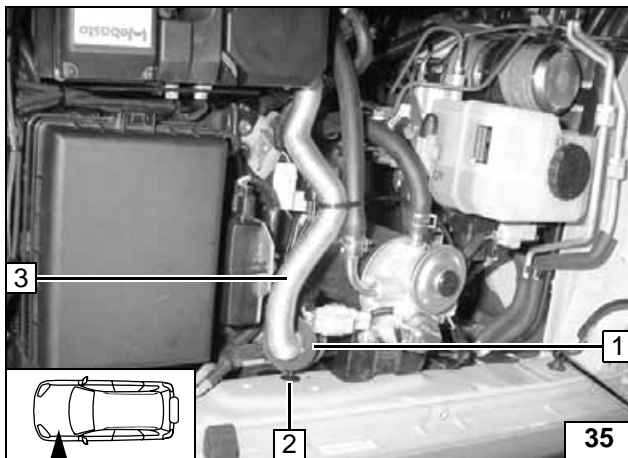
**Con-
nection to
metering
pump**



Combustion air connection

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

Installing combustion-air intake muffler



Ensure proper installation position of air intake muffler, see "Installation Instructions".

- 3 Combustion-air intake pipe
- 2 Retaining clip in existing hole
- 1 Combustion-air intake muffler in retaining clip



Installing combustion-air intake muffler



Coolant connection

WARNING!

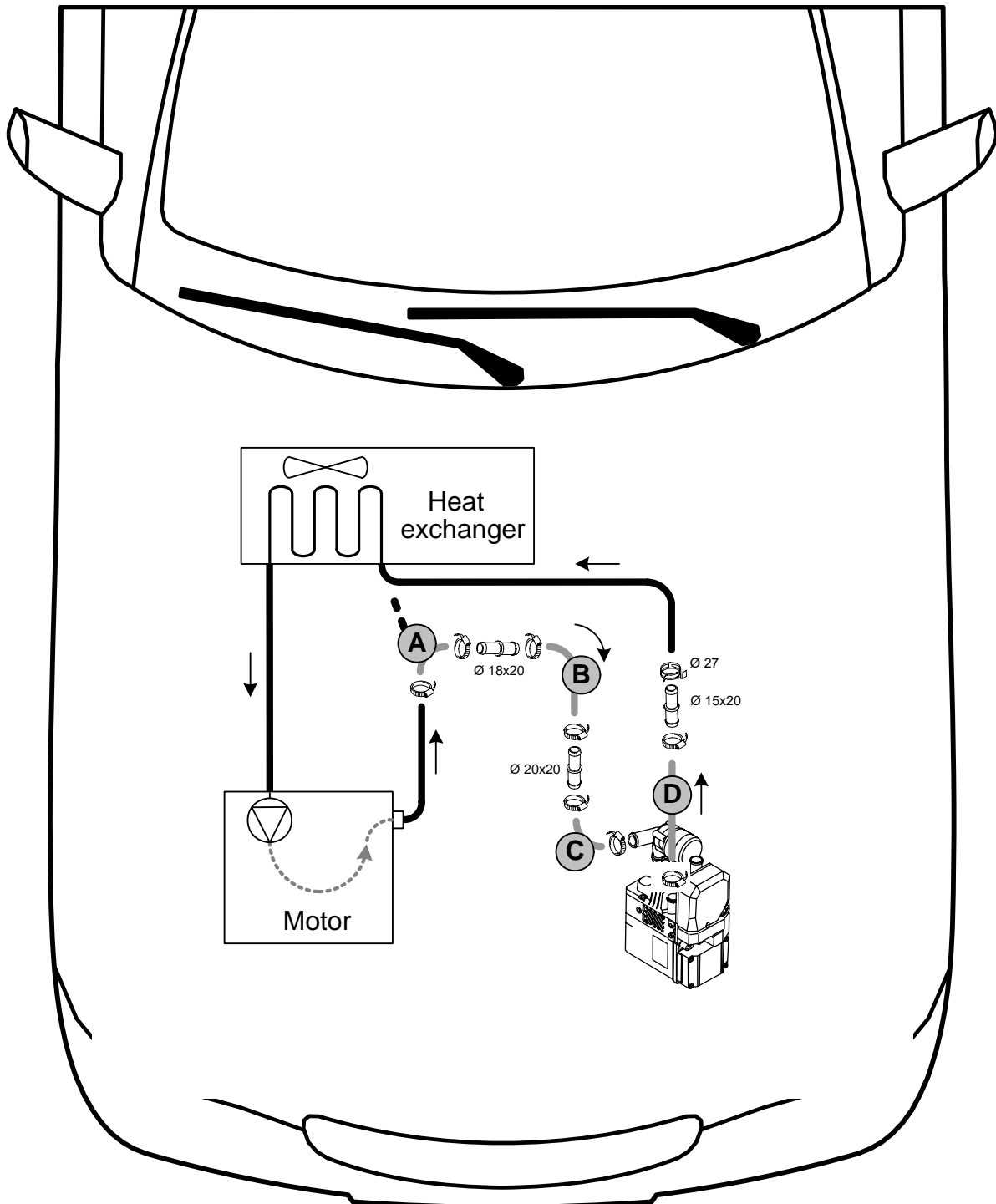
Tighten all hose clamps to $2.0 + 0.5$ Nm.

Any cold water 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.

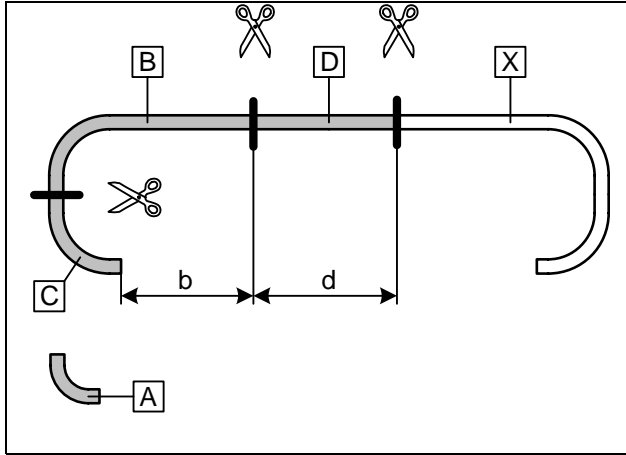
The connection should be "inline" based on the following diagram:



Coolant routing diagram

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

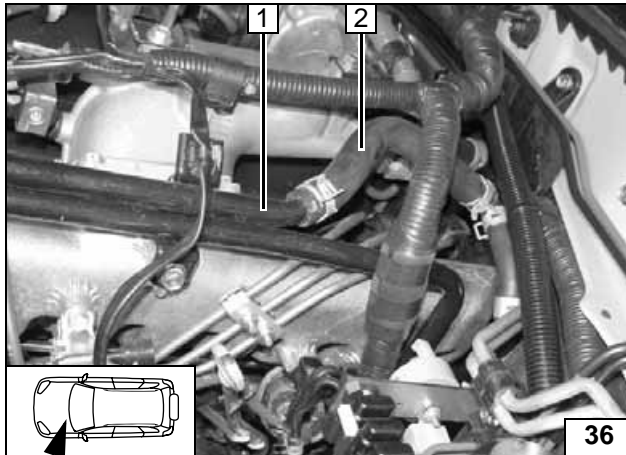




b = 300 mm
d = 380 mm

Hose **A** = 90° 15x18 mm molded hose.
Discard section **X**

**Cutting
coolant
hoses to
length**

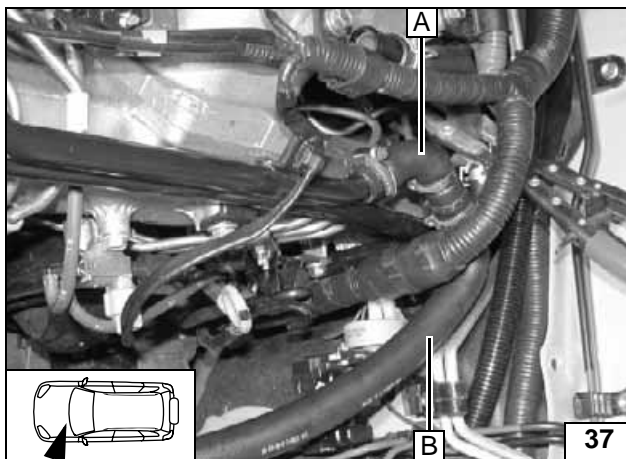


Disconnect original vehicle hose from engine outlet to heat exchanger inlet with hose clamping pliers and pull off connection piece on engine outlet.
Original vehicle spring clip will be reused.



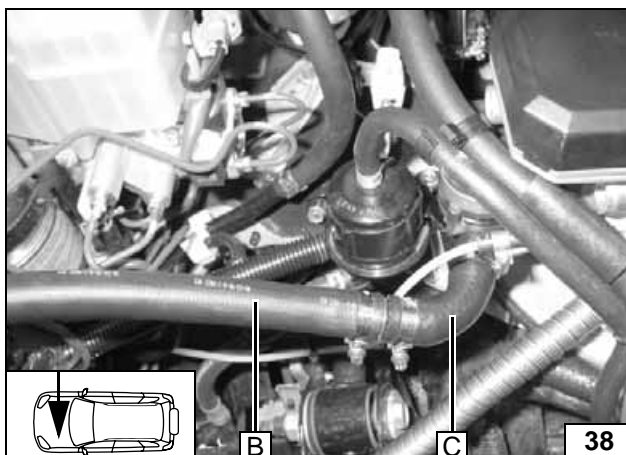
2 Hose on engine outlet/heat exchanger inlet
1 Connection piece for engine outlet

**Cutting
point**

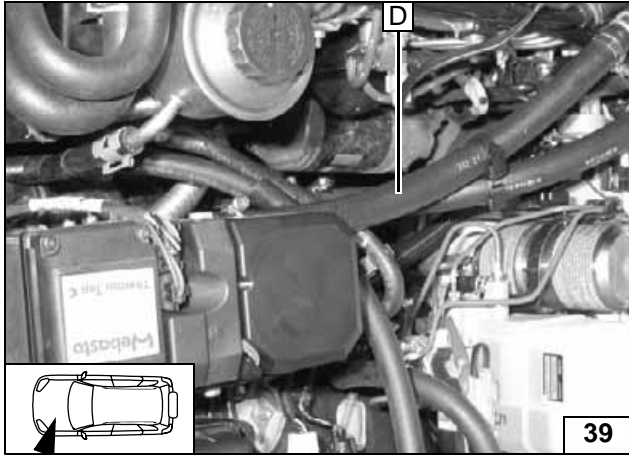


Molded hose **A** provided on connection piece on engine outlet.

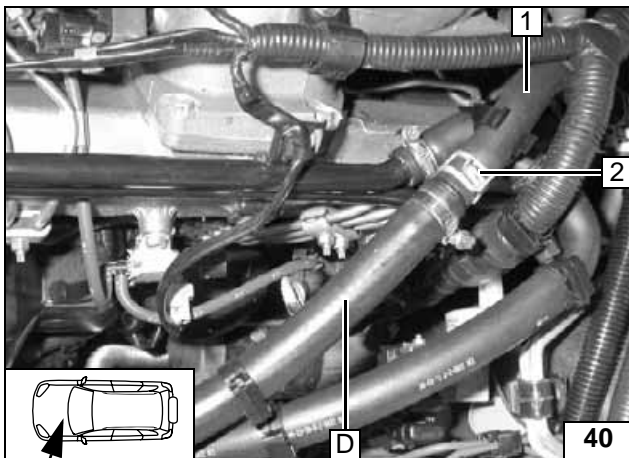
**Con-
nection
on
con-
nection
piece on
engine
outlet**



**Con-
nection
on
heater
unit
inlet**



Con-
nection on
heater unit
outlet

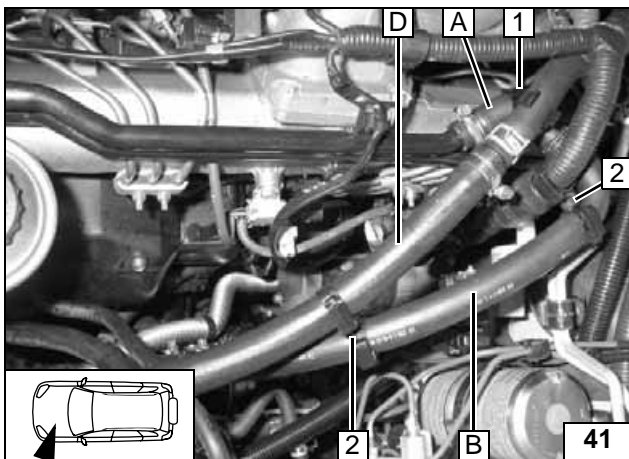


Before connecting, fill the water hoses with coolant.

- 1 Hose on heat exchanger inlet
- 2 Original vehicle spring clip

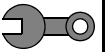


Con-
nection on
heat
exchanger
inlet



- 1 Double clip
- 2 Spacer bracket [2x]

Installing
spacer
bracket



Final Work

WARNING!

Reassemble the disassembled components in reverse order.

Ensure sufficient spacing from the exhaust outlet to the underride protection when installing the underride protection; correct if necessary.

Check all hoses, hose, spring and Caillau clamps, as well as all electrical connections for firm seating. Secure all loose cables using cable ties.

Spray heater unit components with anti-corrosion wax (Tectyl 100K, Order No. 111 329).

- Connect battery
- Start the engine, bleed the coolant circuit according to the instructions of the vehicle manufacturer and add coolant
- Set the digital timer.
- Adjust the vehicle heater with automatic air-conditioning or without automatic air-conditioning according to "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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Feel the drive

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(0)1805-932278

Operating Instructions for End Customer

Please remove page and add to the vehicle operating instructions.



Before parking the vehicle, make the following settings:



- 2 Air outlet to windshield
- 1 Temperature set to "max./HOT"

For vehicles with automatic air conditioning