

# Water Heater Unit



Feel the drive

**Thermo Top E Additional Heater**



00 0003

**Thermo Top C Additional Heater**



00 0002

## Installation Instructions



# SUBARU

## SUBARU Forester 2.5XT

Gasoline

from Model Year 2006

For left-hand drive vehicles only

Only for automatic transmission



### 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.

# SUBARU Forester 2.5XT

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## Validity

Manufacturer	Model	Type	EG-BE No./ABE
SUBARU	Forester	SGS	e1 * 2001/116 * 0209 * ...
SUBARU	Forester	SG	e13 * 98/14 * 0087* ...

Engine type	Engine model	Output in kW	Displacement in cm <sup>3</sup>
EJ25	Gasoline	169	2457

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

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 SUBARU Forester 2.5XT Gasoline	1310452A

### Heater unit recommended for the respective vehicle class:

Vehicle	Heater unit
Compact car	Thermo Top E
Mid-size car, station wagon	Thermo Top C

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 SUBARU Forester 2.5XT vehicles with a gasoline engine - for validity, see page 2 - from model year 2006 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



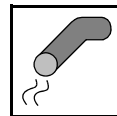
### Coolant connection



### 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.



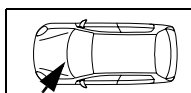
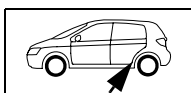
Specific risk of fire or explosion.



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



Reference to a special technical feature.

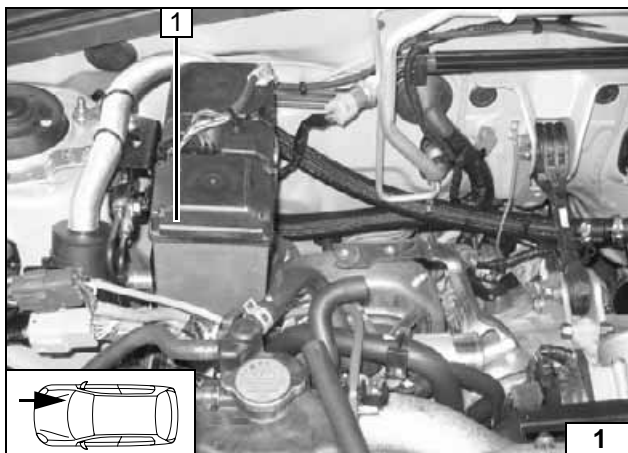


The arrow in the vehicle icon indicates the position on the vehicle and the viewing angle.

## Preliminary Work

### WARNING!

- 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 all intake hoses together with the intercooler
- Remove the coolant reservoir cap.
- Open the fuel tank cap, ventilate the tank.
- Close the tank cap again.
- Remove the A-pillar trim in the driver's side footwell
- Remove the left front and rear door sill cover
- Remove the rear seat bench
- Remove the lower luggage compartment trim
- Open the right-hand fuel sender service lid.
- Remove the fuel-tank sending unit in accordance with the manufacturers specifications.



### Heater unit installation location

1 Heater unit

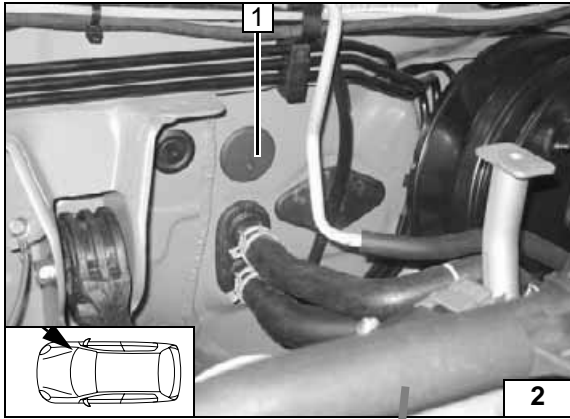
Installation  
location



## Electrical Connections

### Wiring harness pass through

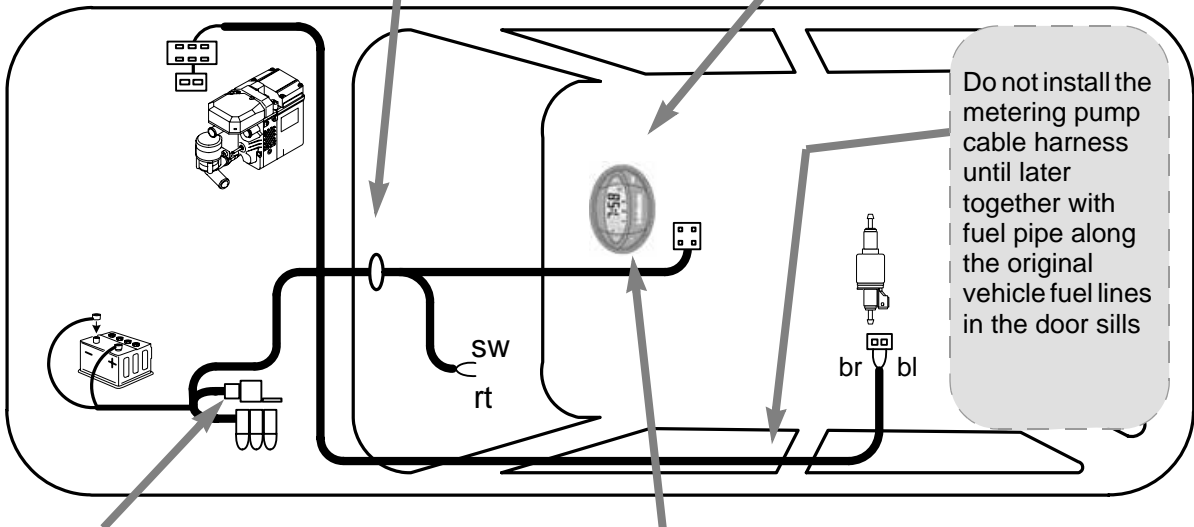
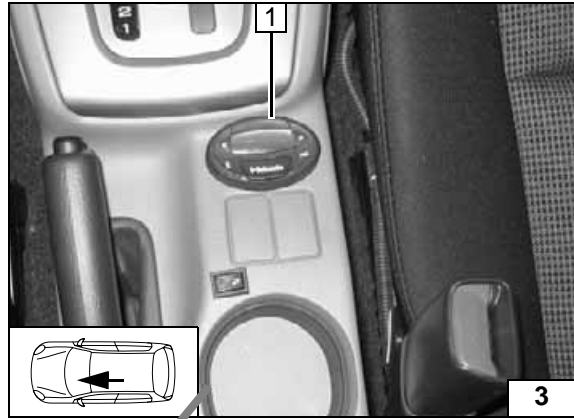
- 1 Protective rubber plug



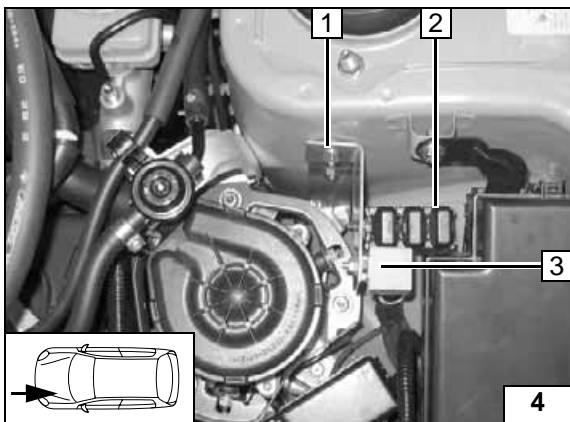
### Digital timer

- 1 Digital timer

The installation location must be coordinated with the customer!

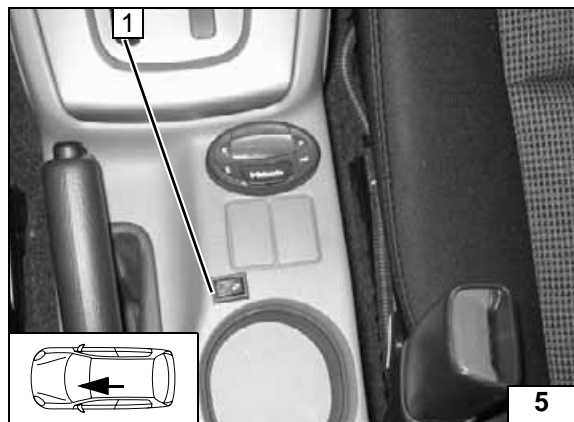


Wiring harness installation diagram



### Fuse holder, relay K3

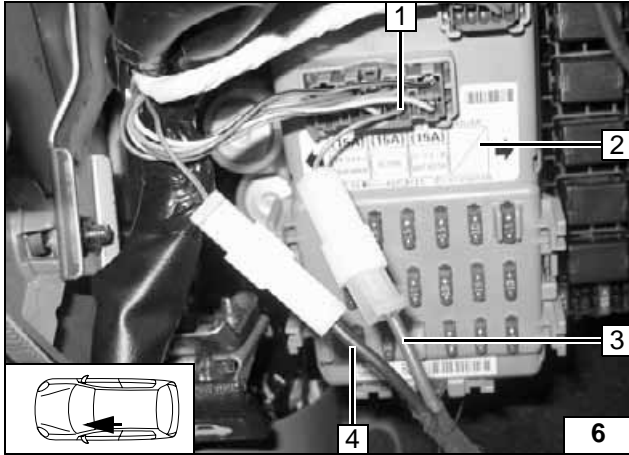
- 1 Fuse holder, original vehicle bolt
- 2 Fuse holder retaining plate, M4x12 bolt, washers, M4 nut
- 3 Relay K3, M5x12 bolt, washer, M5 flanged nut



### Summer/winter switch option

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

The installation location must be coordinated with the customer!



## Automatic air-conditioning fan controller

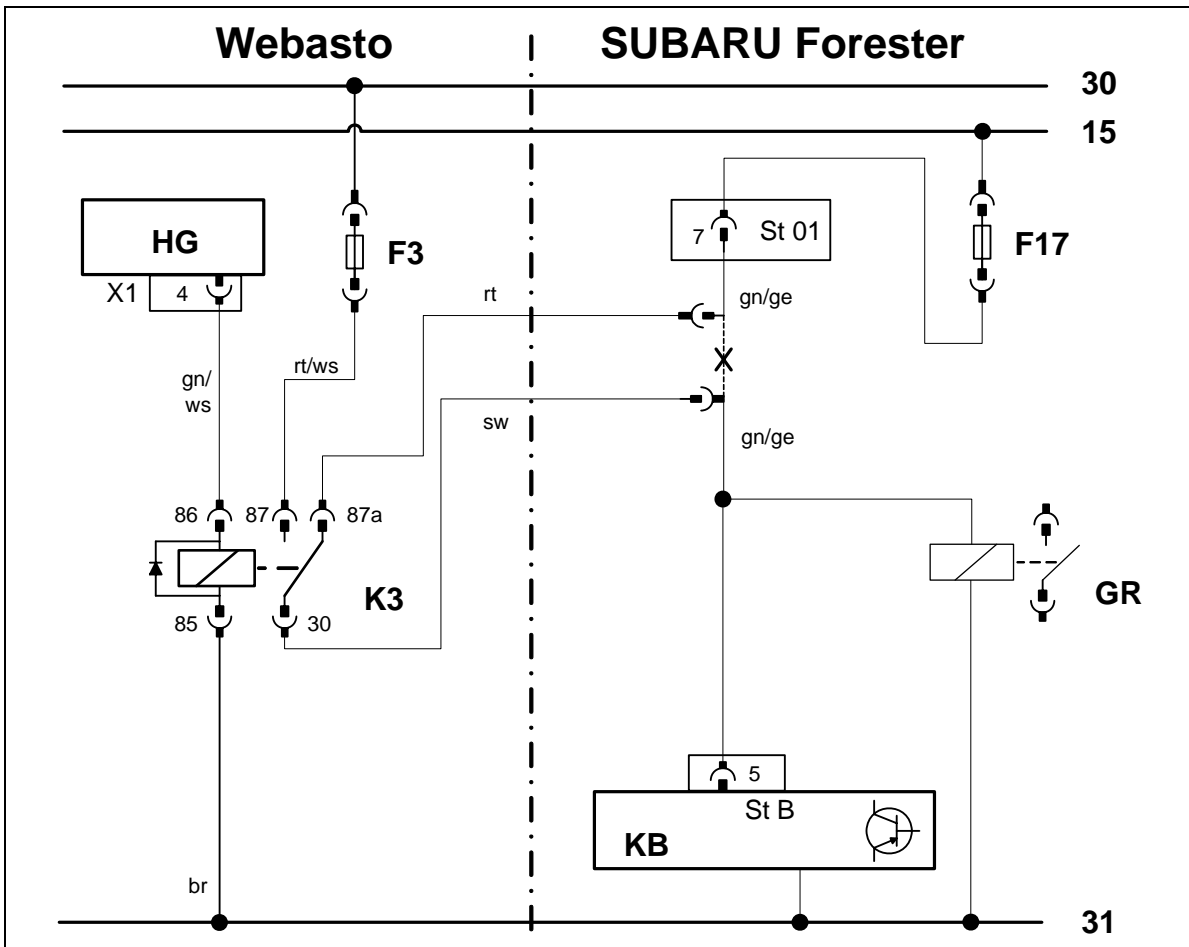
Replace F3 25A fuse with 15 A fuse!  
Integrate on blue connector, Pin 7, in central electrical box  
Produce connections as shown in wiring diagram.

- 2 Central electrical box
- 1 Blue connector, Pin 7
- 3 Red (rt) wire to K3/87a
- 4 Black (sw) wire to K3/30

### Note:

Green/yellow (gn/ge) wire color is shown as green/orange (gn/or) in the workshop manual!

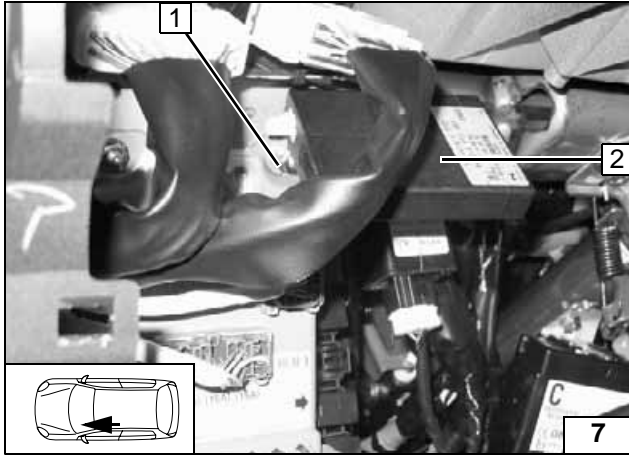
**Con-  
nection to  
central  
electrical  
box**



**Automatic  
air-  
condition-  
ing circuit  
diagram**

Webasto components		SUBARU components		Colors and symbols	
HG	Heater unit TT-C/E	GR	Fan relay	rt	red
F3	15 A fuse	St 01	Blue connector of central electrical box	ws	white
K3	Fan relay	St B	Connector B of A/C control unit	sw	black
		KB	Air-conditioning control unit	br	brown
		F17	15 A fuse	gn	green
				bl	blue
				gn	green
				ge	yellow
				X	Cutting point

**Legend**

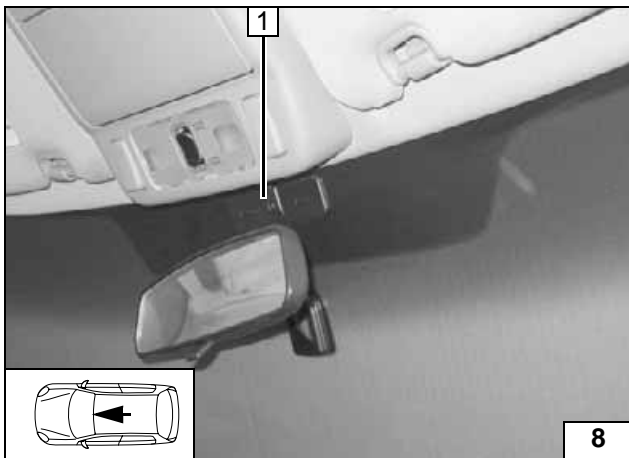


## Telestart T90, T100 HTM option

- 1 Original vehicle bolt, receiver bracket (curved by approx.90°)
- 2 Receiver

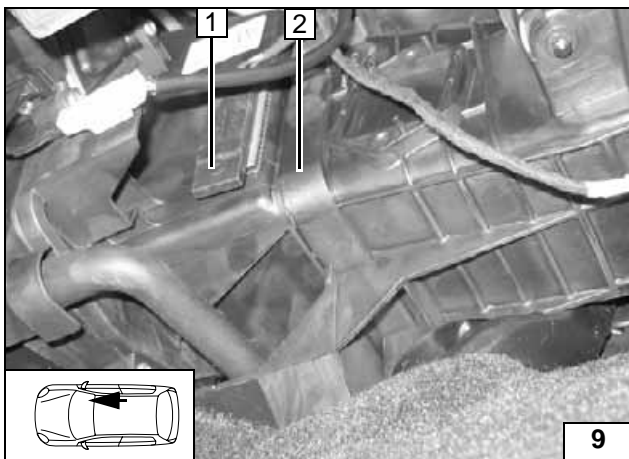


Installing receiver



- 1 Antenna

Installing antenna



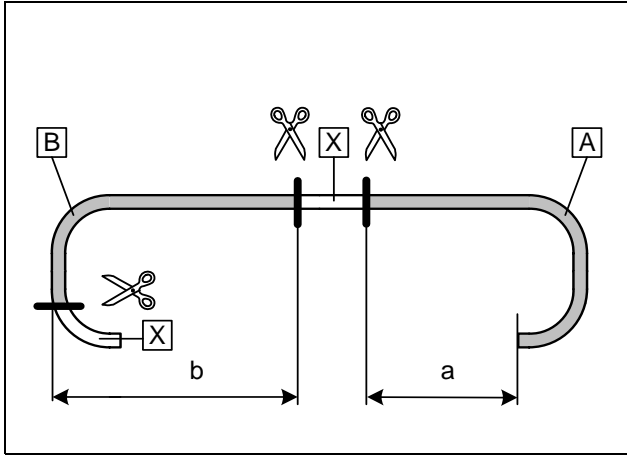
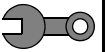
## Temperature sensor only T100 HTM

- 1 Temperature sensor, Dual Lock, self-adhesive
- 2 Air duct for passenger compartment fan



Installing temperature sensor



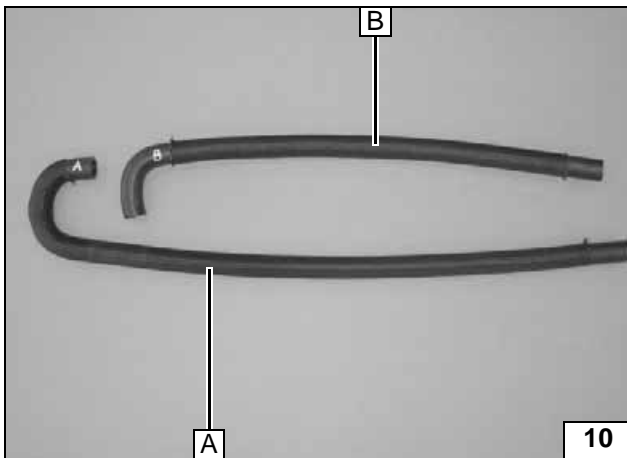


## Preparing heater unit

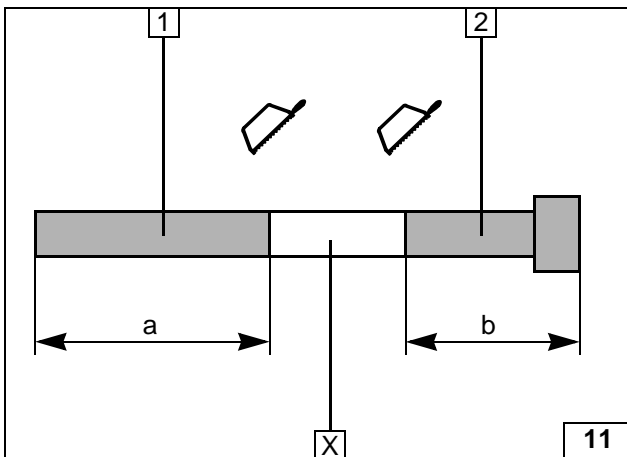
a = 650 mm  
b = 580 mm

Discard section **X**

Cut braided protection hoses to length and push onto hose **A** and **B**.



Cut braided protection hoses to length and push onto hose **A** and **B**.



- 1 Exhaust pipe  
a = 600 mm
- 2 Exhaust end section  
b = 120 mm

Discard section **X**

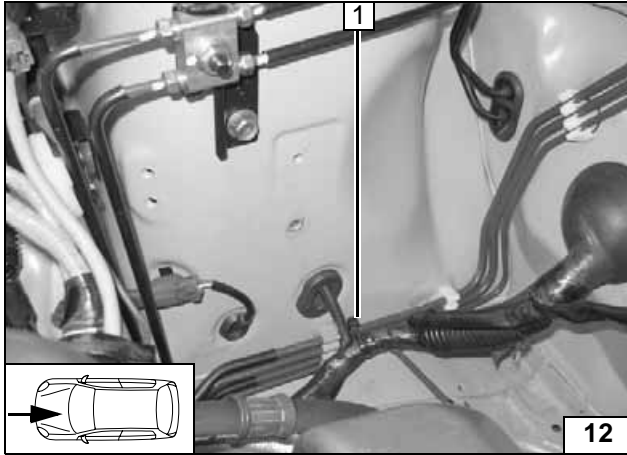
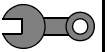


**Cutting coolant hoses to length**



**Preparing coolant hoses**

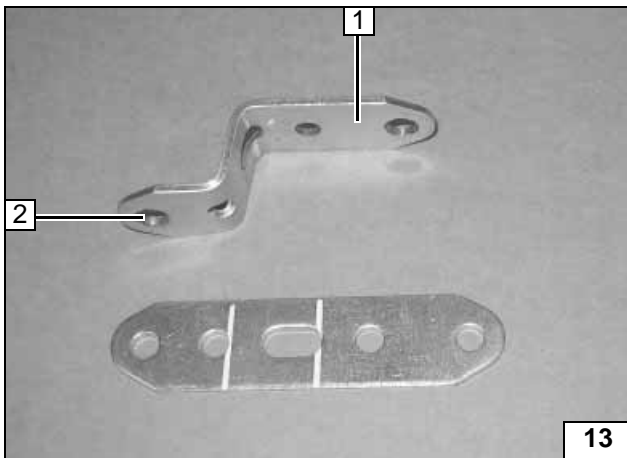
**Preparing exhaust pipe**



## Preparing installation location

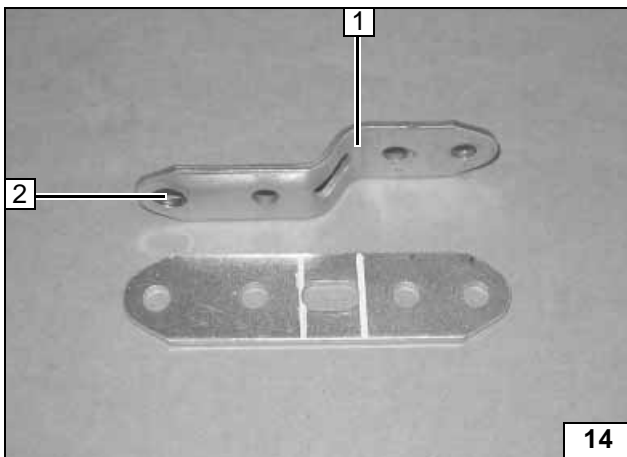
Secure original vehicle wiring harness with cable tie as shown.

- 1 Cable tie



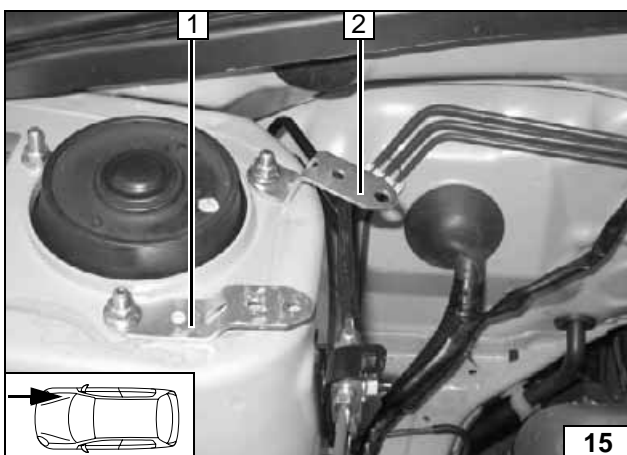
Bend down and drill perforated bracket as shown.

- 1 Perforated bracket A
- 2 Drill out hole to 9 mm dia.



Bend down and drill perforated bracket as shown.

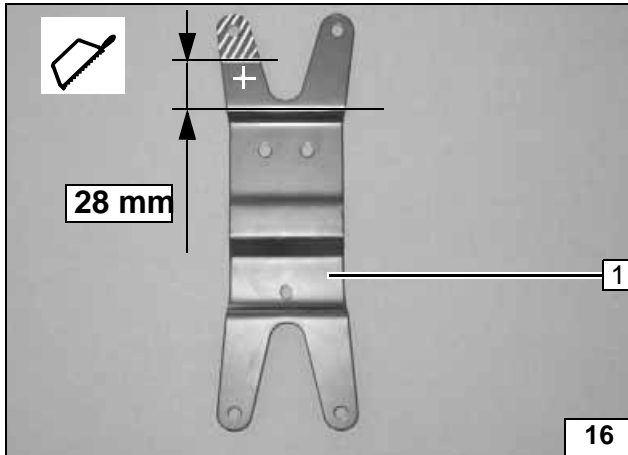
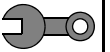
- 1 Perforated bracket B
- 2 Drill out hole to 9 mm dia.



Loosely secure perforated plates A and B on strut tower on original vehicle stud bolt.

- 1 Perforated bracket B
- 2 Perforated bracket A





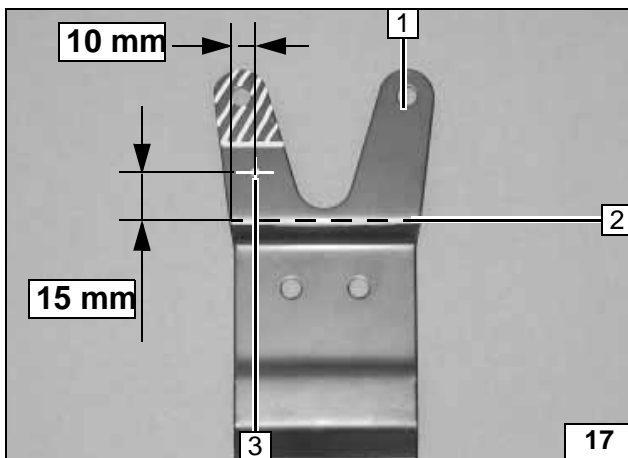
## Preassembling heater unit

Modify bracket as shown. Cut off tab and discard.

- 1 Bracket



**Cutting bracket to shape**

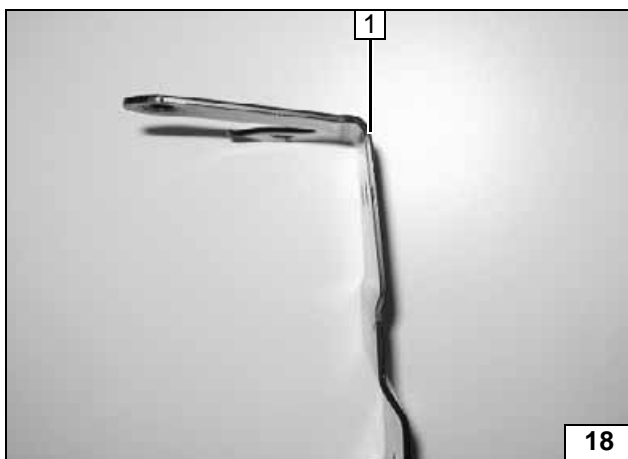


Drill 7 mm hole at position 3.

- 1 Bracket
- 2 Bending edge
- 3 7 mm dia. hole



**Drilling bracket**

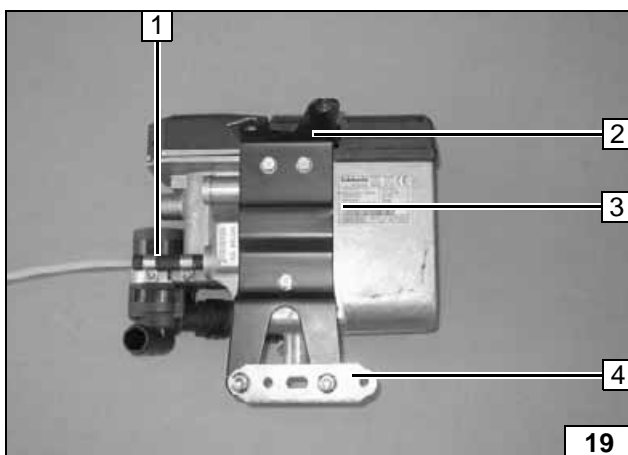


Bend bracket as shown, bend approx. 80°.

- 1 Bracket



**Bending bracket**

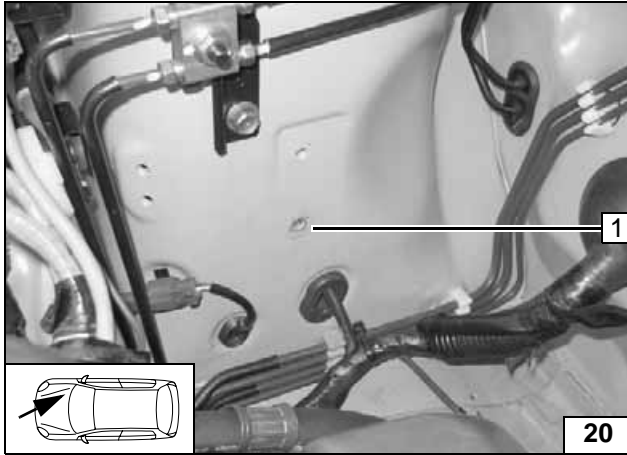
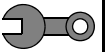


Tighten EJOT screws to 10 Nm!

Premount bracket.

- 2 Bracket
- 3 Heater unit
- 4 Perforated plate, bracket, M6x10 bolt [2x], M6 flanged nut [2x]
- 1 Hose section, Mecanyl fuel line, 10 mm dia. hose clamp [2x]

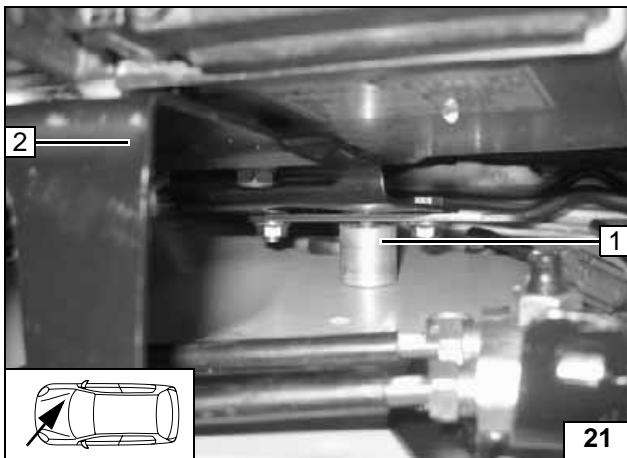
**Preassembling heater unit**



## Installing heater unit

- 1 Threaded insert on vehicle

Screw-on point for bracket

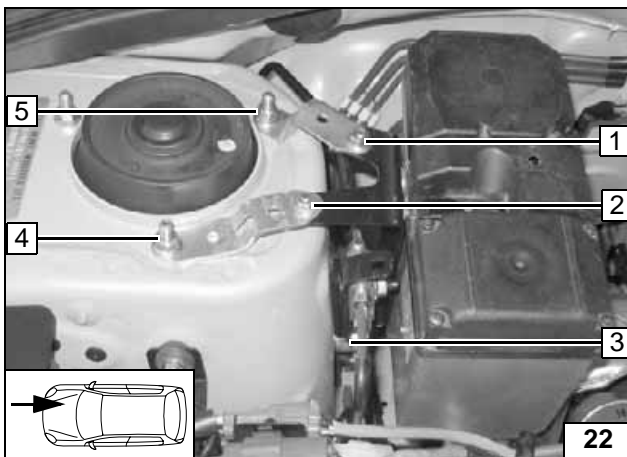


Loosely mount preassembled heater unit as shown.

- 1 Preassembled perforated plate, large diameter washer, spring lockwasher, M6x40 bolt
- 2 Install bracket on heater unit



Mounting heater unit



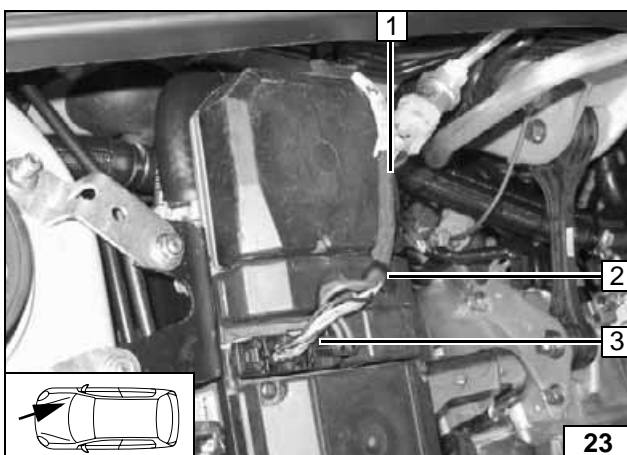
Align preassembled heater unit in longitudinal axis relative to firewall.

Ensure correct tightening torque for screw filling for strut tower according to manufacturer's specifications. Tighten screw fittings.

- 1 M6x10 bolt, M6 flanged nut
- 2 M6x10 bolt, M6 flanged nut
- 3 Lower screw-on point of bracket
- 4 Original vehicle stud bolt, perforated plate B
- 5 Original vehicle stud bolt, perforated plate A



Mounting heater unit



Punch through pre-punched hole in cover.

- 1 Wiring harness of heater unit
- 2 Hole, wiring harness, clip cable tie
- 3 Heater unit connector



Connecting connector on heater unit



## Coolant connection

### WARNING!

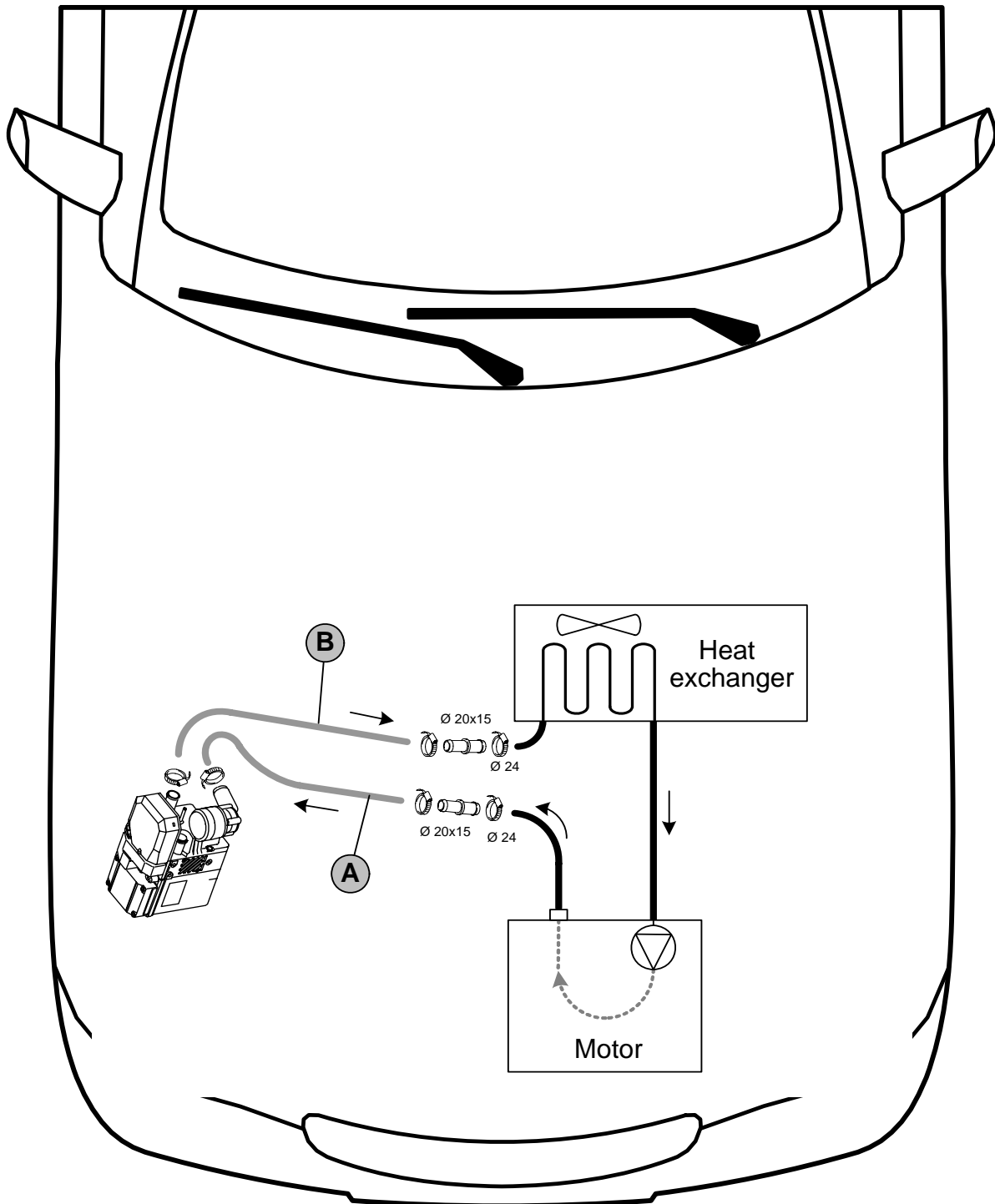
Tighten all hose clamps to 2.0 + 0.5 Nm.

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.

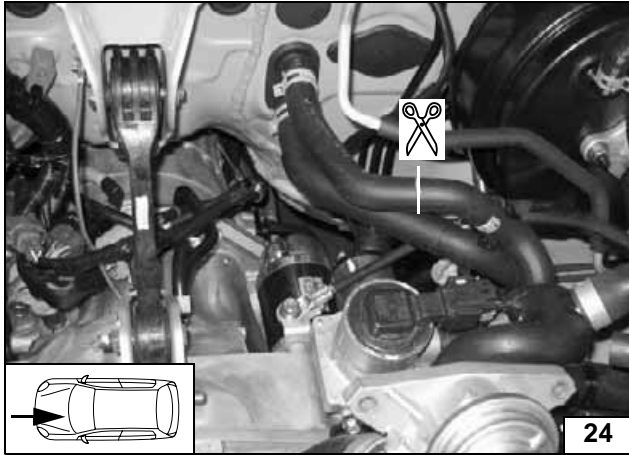
The connection should be "inline" based on the following diagram:



Coolant routing diagram

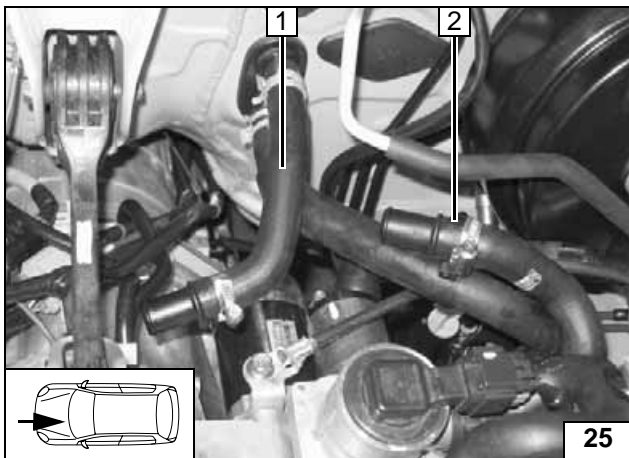
All clamps without a specific designation are 20-27 mm dia. hose clamps





1 Hose on heat exchanger inlet

Cutting point

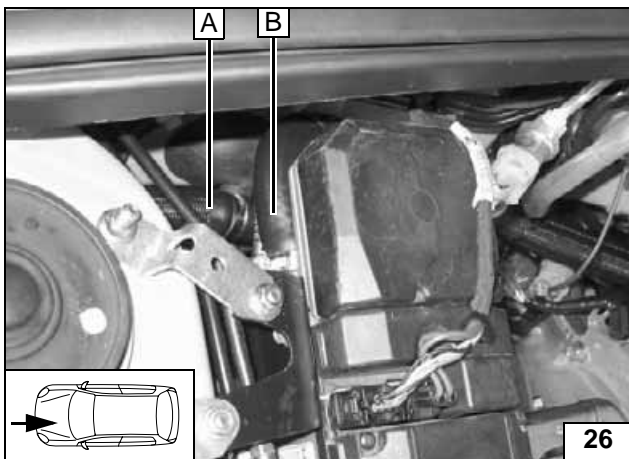


Turn hose section on heat exchanger inlet as shown.

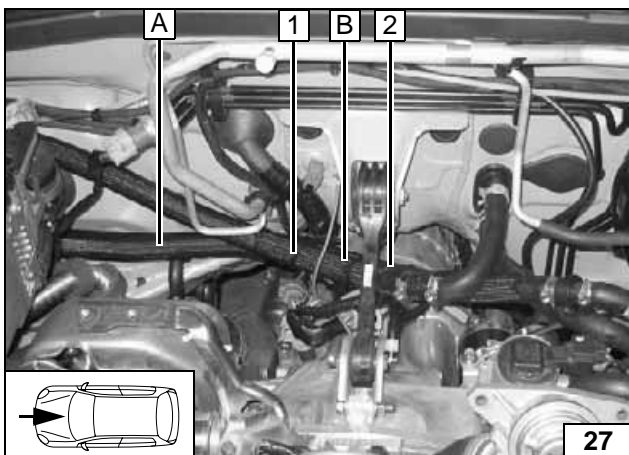
- 1 Hose section of heat exchanger inlet
- 2 Engine outlet hose section



Routing in engine compartment

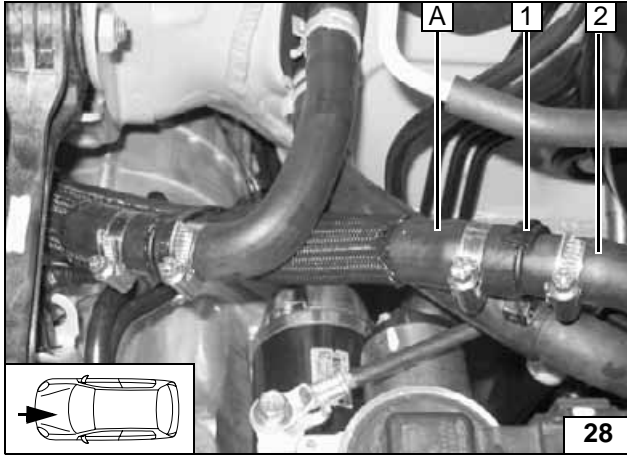


Con-  
nection on  
heater unit



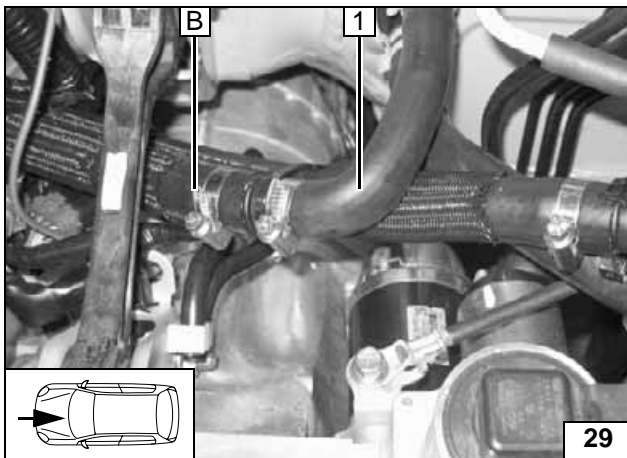
- 1 Cable tie
- 2 Cable tie

Routing in engine compartment



- 2 Engine outlet hose section
- 1 Original vehicle hose bracket

Con-  
nection to  
engine  
outlet



- 1 Hose section of heat exchanger inlet

Con-  
nection on  
heat  
exchanger  
inlet



## Fuel Connection

### CAUTION!

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

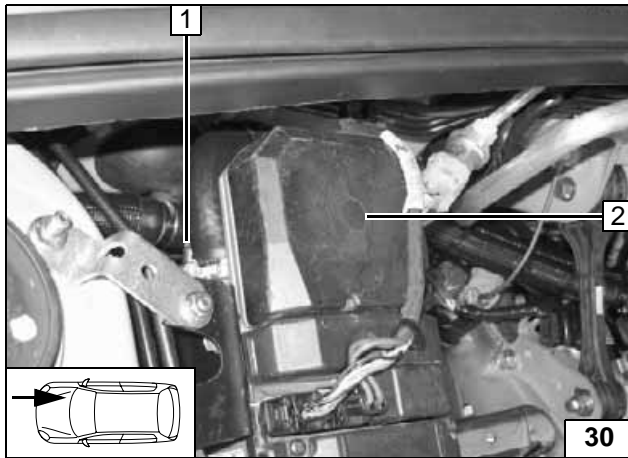
Catch any fuel running off with an appropriate container.

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.

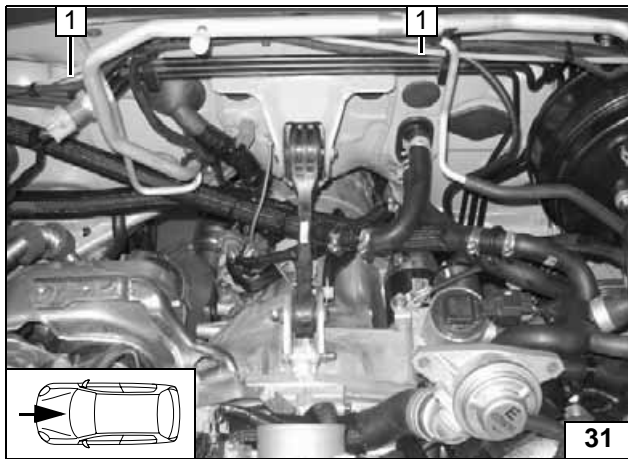
### WARNING!

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



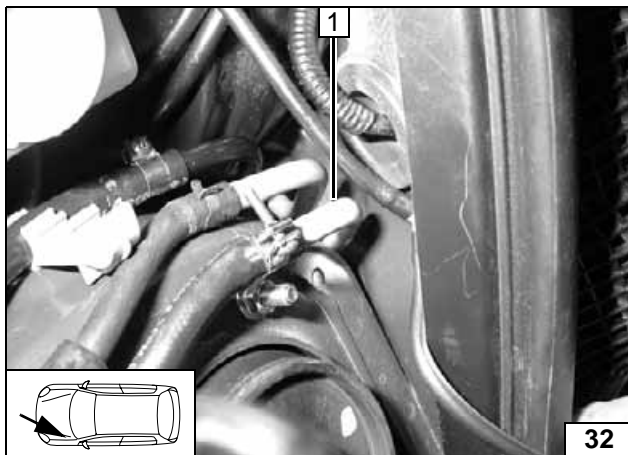
Route Mecanyl fuel line to firewall.

- 1 Mecanyl fuel line
- 2 Heater unit



Fasten Mecanyl fuel line with cable ties on original vehicle lines.

- 1 Mecanyl fuel line



Route Mecanyl fuel line together with wiring harness of metering pump with lubricant through original vehicle fuel pass through into passenger compartment, and downward along original vehicle lines into door sills.

- 1 Pass through



Installing lines

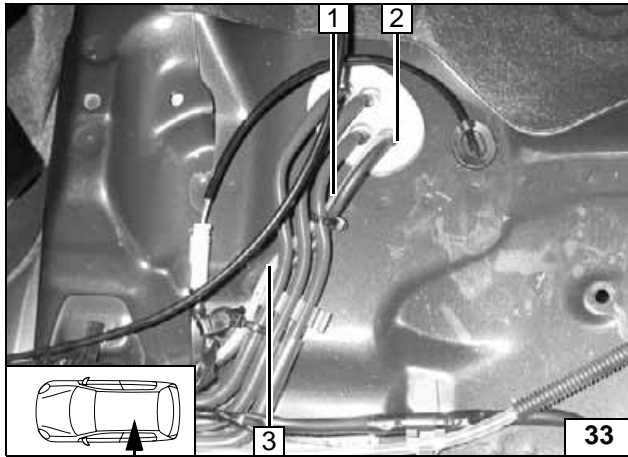


Installing lines



Installing lines



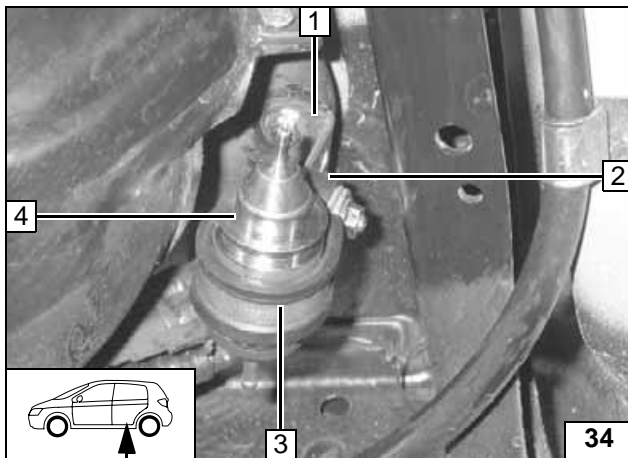


Route Mecanyl fuel line and metering pump wiring harness through original vehicle pass through with lubricant to outside.

- 1 Wiring harness of metering pump, Mecanyl fuel line, cable tie
- 3 Wiring harness of metering pump, Mecanyl fuel line, cable tie
- 2 Pass through



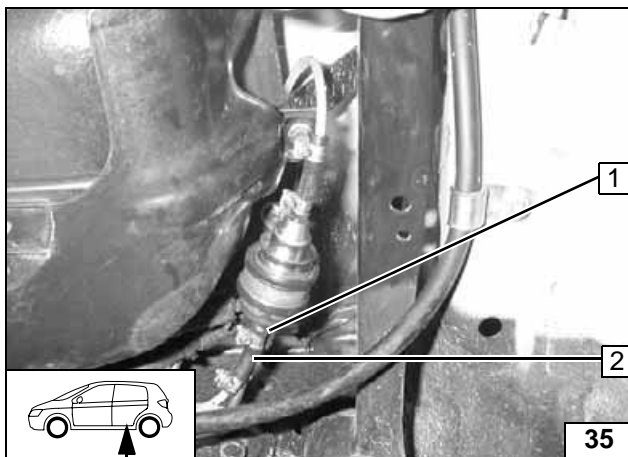
## Installing lines



- 1 Angle bracket, M6x20 bolt, large diameter washer, flanged nut, existing hole
- 4 Metering pump
- 3 Rubber-coated pipe clamp
- 2 Silentblock



## Installing metering pump

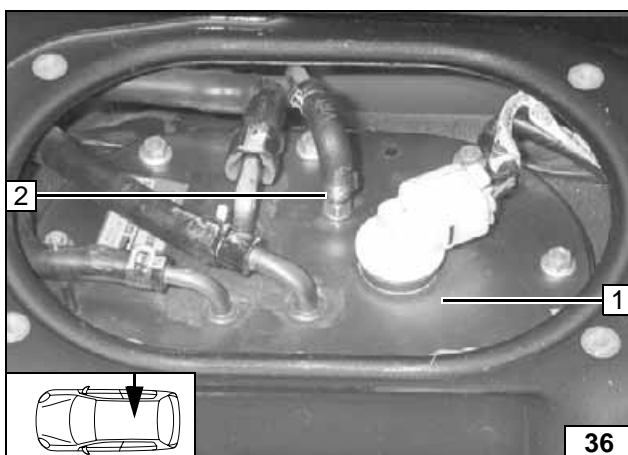


Fuel line from heater unit on pressure side of metering pump [side with connector].

- 1 Metering pump wiring harness
- 2 Fuel line, hose section, 10 mm dia. hose clamps [2x]



## Connection to metering pump

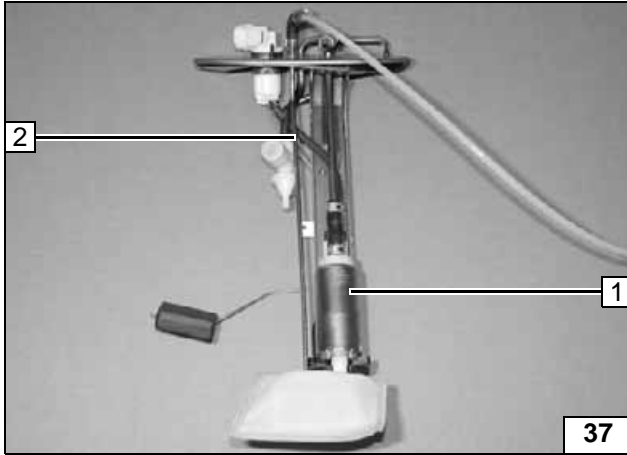


Watch chips when drilling and remove chips!

- 1 Right-hand fuel-tank sending unit
- 2 Copy hole pattern for 6.0 mm dia. hole



## Removing fuel

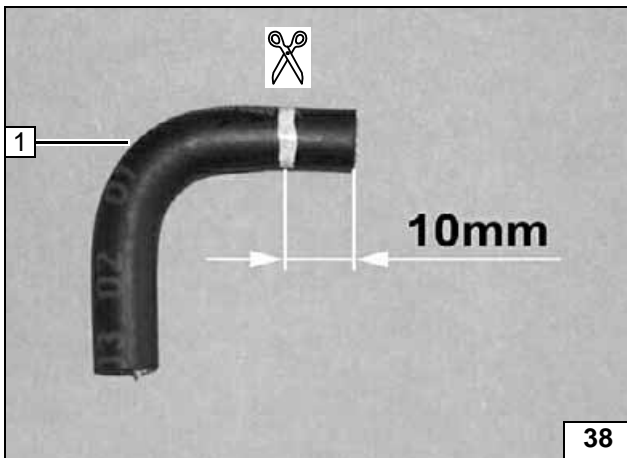


Shape fuel standpipe as shown and cut to length [ 5-7 mm above bottom of fuel tank]

- 1 Fuel sender
- 2 Fuel standpipe



Removing fuel

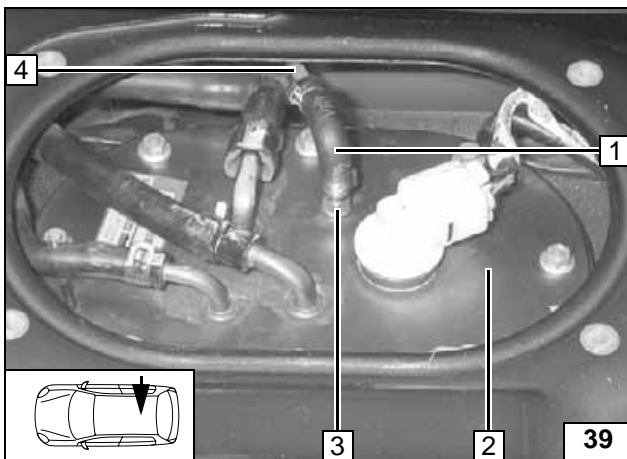


Shorten molded hose by 10 mm on side inside dia. 3.5 mm.

- 1 Molded hose



Connecting fuel line

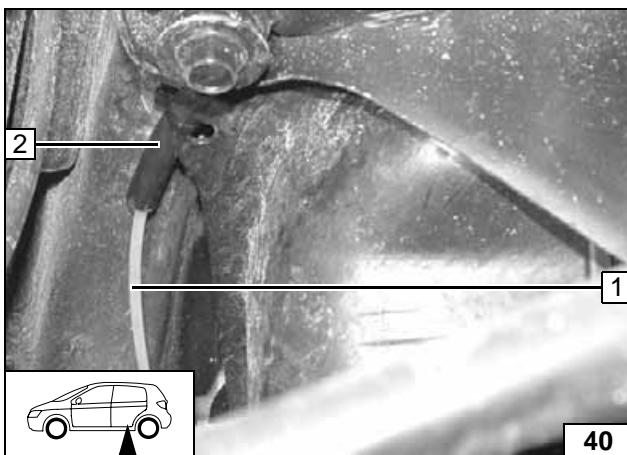


Connect fuel line and route to metering pump.

- 2 Fuel-tank sending unit
- 3 Fuel standpipe
- 4 Fuel line
- 1 Molded hose, 8 mm dia. Caillau clamp, 10 mm dia. Caillau clamp



Connecting fuel line

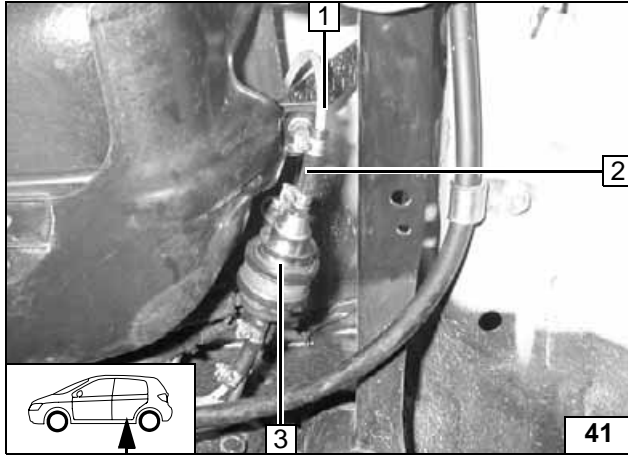


Use included fabric-reinforced hose as rub protection.

- 1 Mecanyl fuel line
- 2 Fabric-reinforced hose, cable tie



Installing fuel line

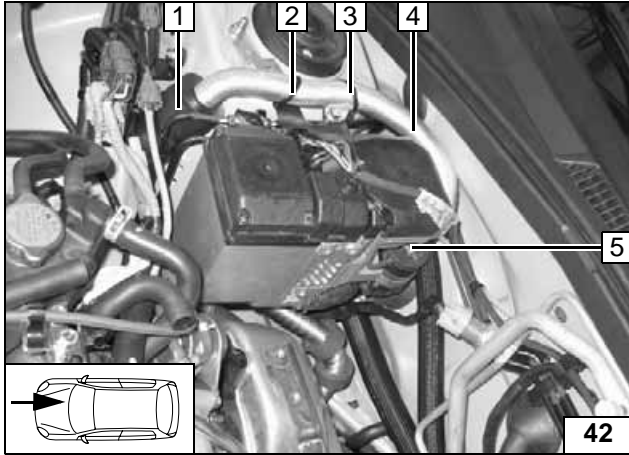
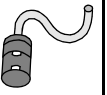


Fuel line from fuel standpipe on intake side of metering pump [side without connector]. Check the position of the components; adjust if necessary. Check that they have free clearance.

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



**Con-  
nection to  
metering  
pump**

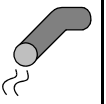


## Combustion air

- 4 Combustion air pipe
- 5 27 mm dia. hose clamp
- 2 Cable tie
- 3 Cable tie
- 1 Combustion-air intake muffler, cable tie



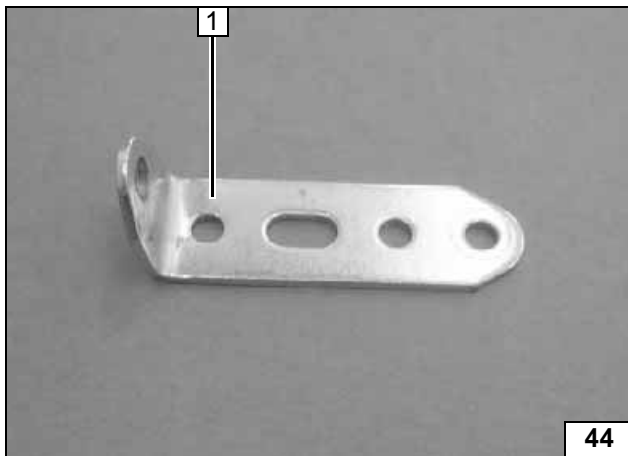
**Installing  
intake pipe  
and muffler**



## Exhaust system

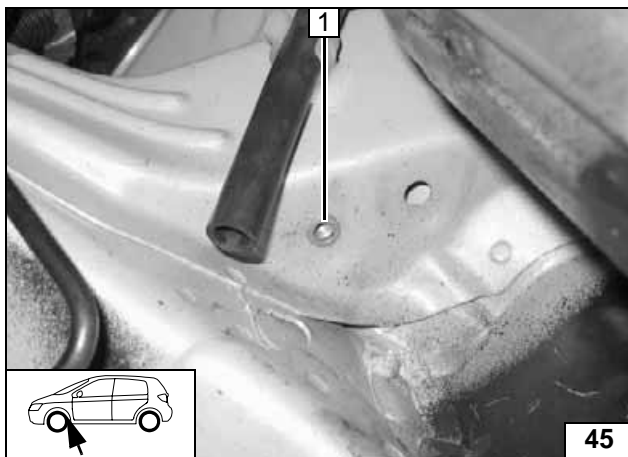
- 1 Angle bracket, large diameter washer, M6x20 bolt, M6 flanged nut
- 2 Exhaust muffler
- 3 Exhaust end section, hose clamp

**Preassembling exhaust muffler**



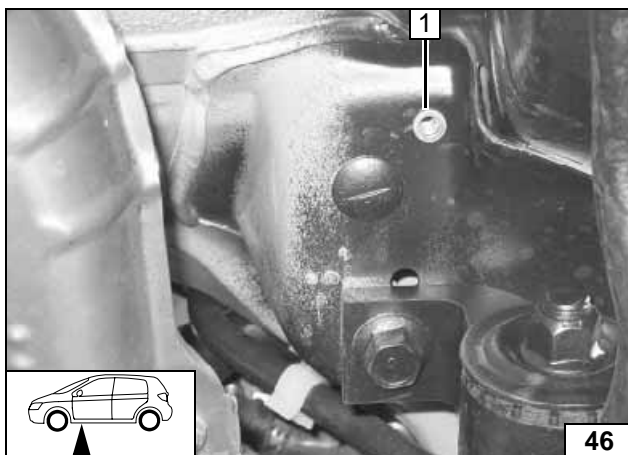
Bend perforated bracket as shown!

- 1 Perforated bracket



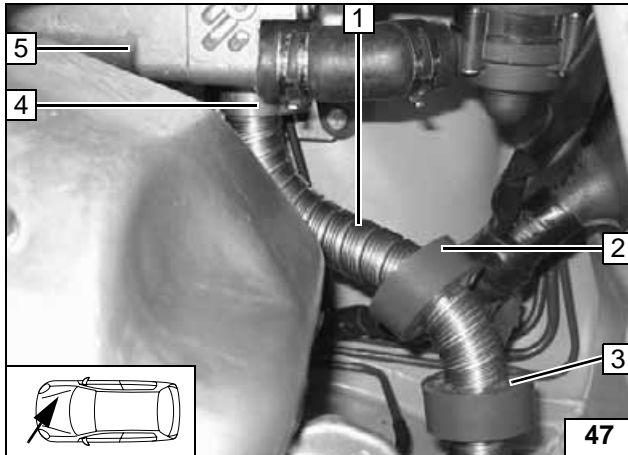
- 1 Rivet nut, original vehicle hole

**Installing rivet nut**



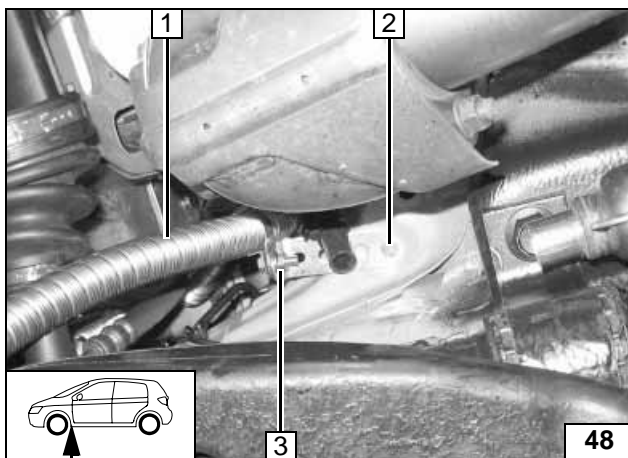
- 1 Rivet nut, original vehicle hole

**Installing rivet nut**



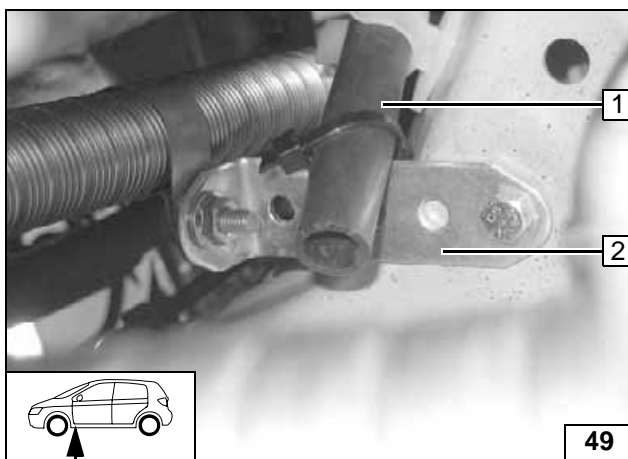
- 5 Heater unit
- 1 Exhaust pipe
- 2 Red (rt) rubber isolator
- 3 Red (rt) rubber isolator
- 4 Hose clamp

## Installing exhaust pipe



- 1 Exhaust pipe
- 2 Perforated bracket, M6x20 bolt, spring lockwasher, M6 rivet nut
- 3 Pipe clamp, M6x20 bolt, M6 flanged nut

## Routing exhaust pipe

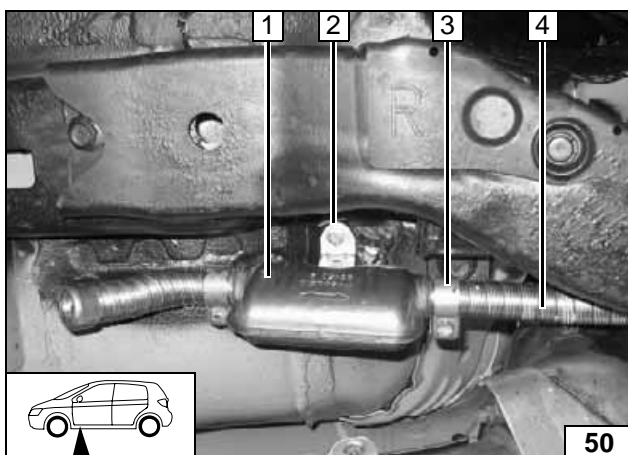


Secure original vehicle condensed-water drain hose on perforated bracket with cable tie.  
Make sure that drain hose remains clear.

- 1 Drain hose, cable tie
- 2 Perforated bracket



## Securing drain hose

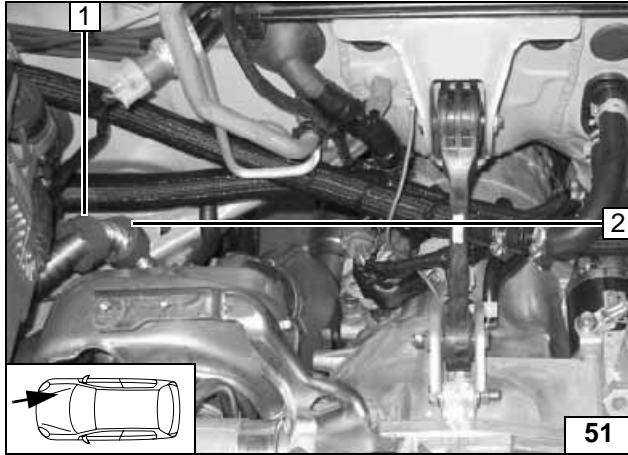


Check the position of the components; adjust if necessary. Check that they have free clearance.

- 1 Exhaust muffer
- 2 Angle bracket, M6x20 bolt, spring lock washer, rivet nut
- 3 Hose clamp
- 4 Exhaust pipe



## Installing exhaust muffer

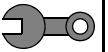


Check the position of the components; adjust if necessary. Check that they have free clearance.

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



**Aligning  
rubber  
isolator**



## Final Work

### WARNING!

Reassemble the disassembled components in reverse order.

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

- Connect the 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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## Operating Instructions for End Customer

Please remove page and add to the vehicle operating instructions.



Before parking the vehicle, make the following settings:



- 1 Set temperature to 30°
- 2 Set fan to approx. 1/3 fan output
- 3 Direct air outlet toward windshield

For vehicles with automatic air conditioning