

# 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

### Chevrolet Lacetti

Diesel

from Model Year 2007

Left-hand drive vehicle



#### **WARNING!**

Hazard warning:

Incorrect installation or repair of Webasto heating systems may cause a fire or result in the emission of carbon monoxide, which can be fatal. Serious or fatal injuries can be caused as a result.

Specialist company training, technical documentation, 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
Chevrolet	Lacetti	KLAN	e4 * 2001/116 * 0069 * ...

Engine type	Engine model	Output in kW	Displacement in cm <sup>3</sup>
Z20S	Diesel	89	1991

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 Chevrolet Lacetti Diesel	1313112A

**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 Chevrolet Lacetti 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).

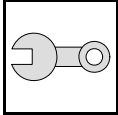
**Special Tools**

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

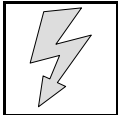
**Explanatory Notes on Document**

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**



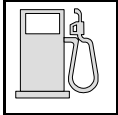
**Electrical system**



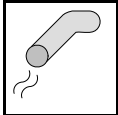
**Coolant**



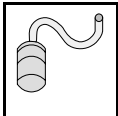
**Fuel**



**Exhaust gas**



**Combustion air**



**Special features are highlighted using the following symbols:**



Specific risk of injury or fatal accidents.



Specific risk of damage to components.



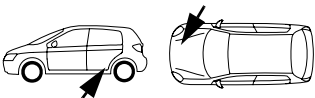
Specific risk of fire or explosion.



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



Reference to a special technical feature.



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

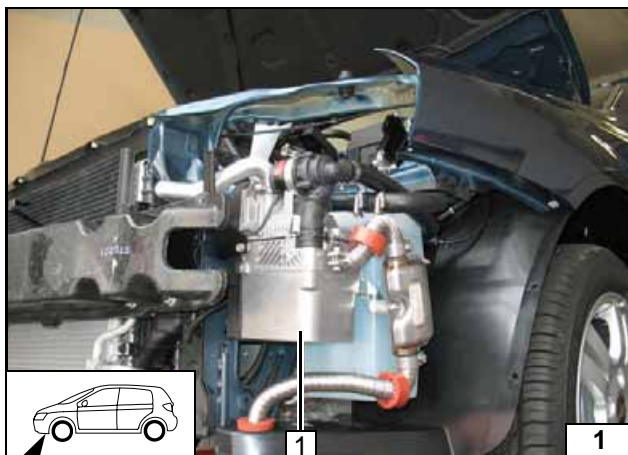
**All dimensions are in mm!**  
**Tightening torque of hose clamps = 2.0 + 0.5 Nm!**  
**Tightening torque of Ejoy screws, Ejoy studs = 10 Nm!**

## Preliminary Work

### WARNING!

- Open fuel tank cap, ventilate tank.
- Close the tank cap again.
- Disconnect the battery "earth" or "ground" connection.
- Depressurize the cooling system.
- Copy the factory number from the original type label to the duplicate type label.
- Remove years that do not apply from the duplicate label.
- Attach the duplicate label (type label) in the appropriate place.
- Completely remove the battery.
- Remove the engine cover.
- Remove the intake hose between the air-mass sensor and the turbocharger.
- Detach the wheel well trim on the right and left.
- Remove the left and right-hand headlight.
- Remove the bumper.
- Remove the washer reservoir.
- Remove the rear bench seat.
- Open the tank-fitting service lid.
- Remove the fuel-tank sending unit in accordance with the manufacturers specifications.
- Remove the fuel filter.
- Remove the lower instrument panel trim on the driver's side.

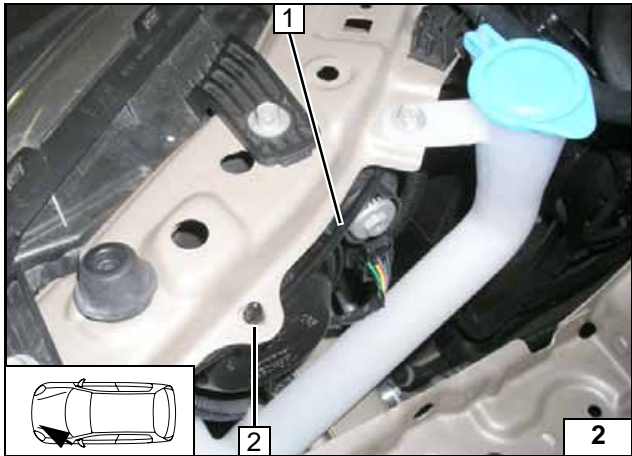
Remove page 27 "Operating Instructions for End Customer" and add to the vehicle operating instructions.



### Heater unit installation location

- 1 Heater unit

Installation  
location

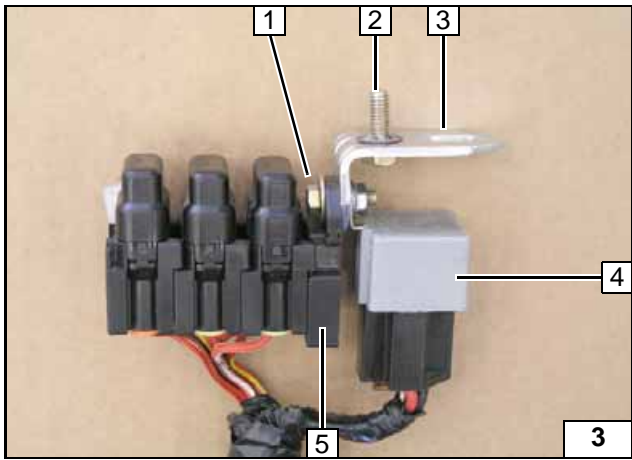


**Preparing wiring harness**

Remove retaining clip 2 of hood release cable 1 from hole.



**Removing retaining clip**



- 1 M5x16 bolt, washer, flanged nut
- 2 M6x20 bolt, pin lock
- 3 Angle bracket
- 4 K3 relay
- 5 Retaining plate for fuse holder

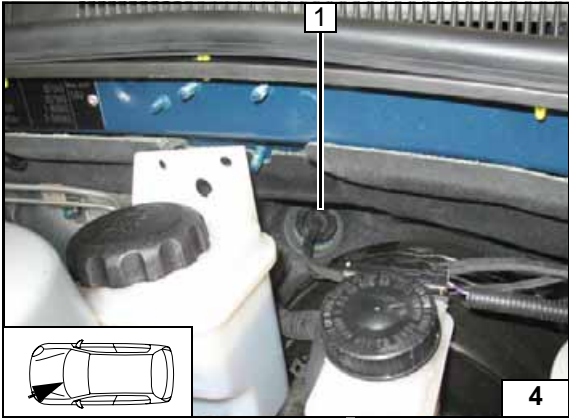
**Preparing wiring harness**



Electrical system

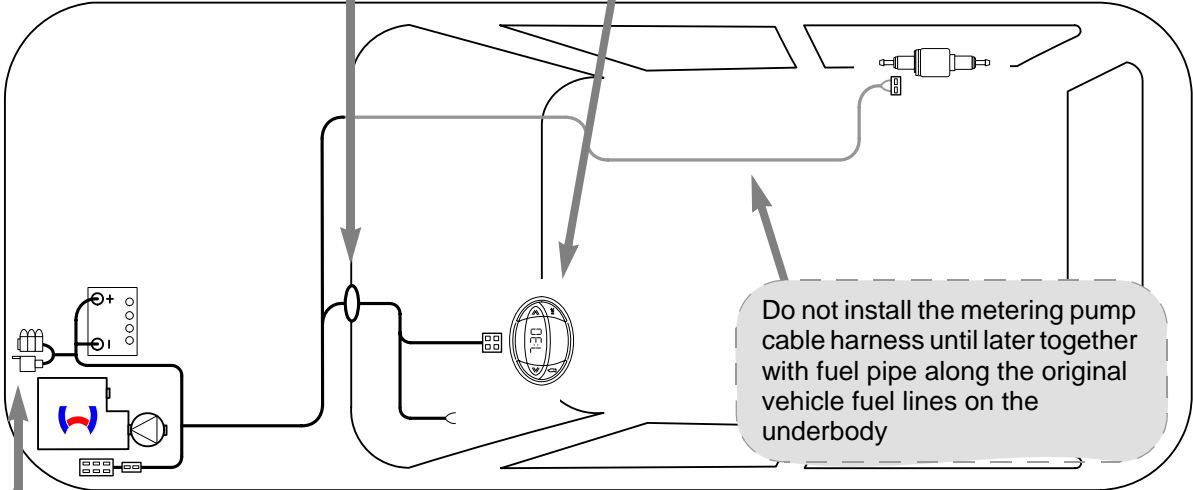
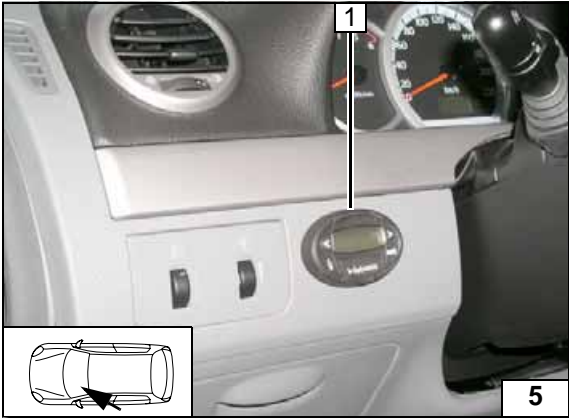
Wiring harness pass through

1 Protective rubber plug

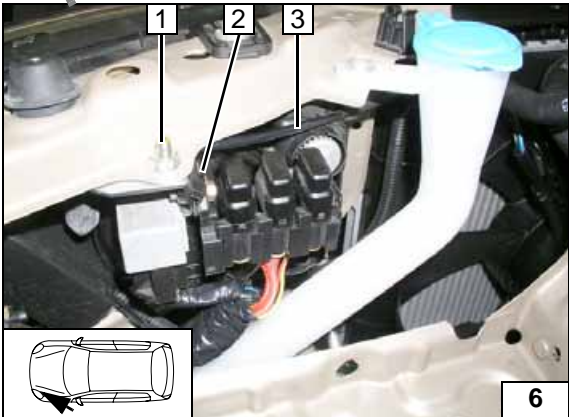


Digital timer

1 Digital timer



Wiring harness installation diagram

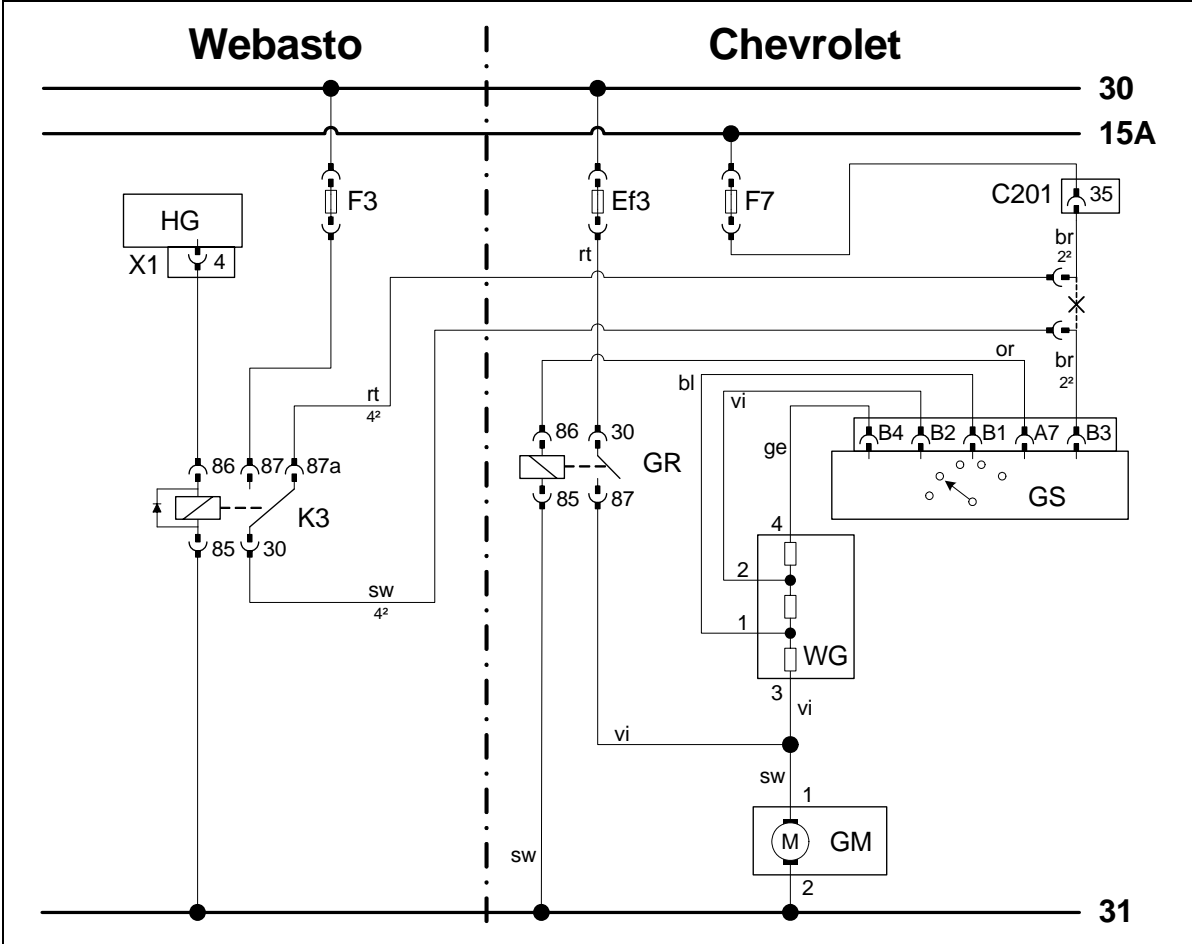


Fuse holder, relay K3

- 1 M6 flanged nut
- 2 Cable tie
- 3 Hood release cable



Fan controller for manual air conditioning

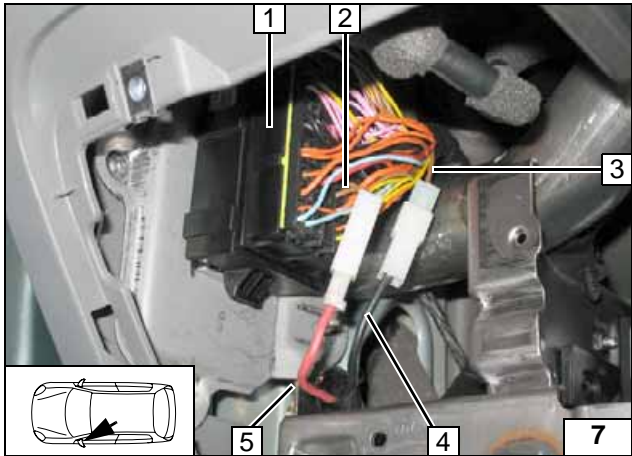


Wiring diagram

Webasto components		Vehicle components		Colors and symbols	
HG	Heater unit TT-C/E	GM	Fan motor	rt	red
X1	6-pin heater unit connector	GR	Fan relay	ws	white
F3	Replace 25 A fuse with 20 A fuse.	WG	Resistor group	sw	black
K3	Fan relay	GS	Fan switch	br	brown
		F7	Fuse, 20 A	ge	yellow
		Ef3	Fuse 30A	bl	blue
		C201	76-pin connector of central electrical box	or	orange
				vi	violet
				X	Cutting point
				Wiring colors may vary.	

Legend



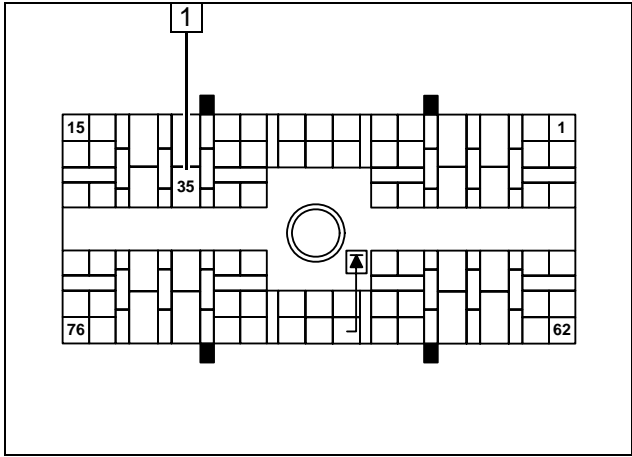


Connection on 76-pin connector C201 1 of fuse block on central electrical box. Produce connections as shown in wiring diagram.

- 2 Brown (br) wire of connector C201, Pin 35
- 3 Brown (br) wire of fuse for fan switch
- 4 Black (sw) wire from K3/30
- 5 Red (rt) wire from K3/87a



**Connect-  
ing central  
electrical  
box**



View on line side.

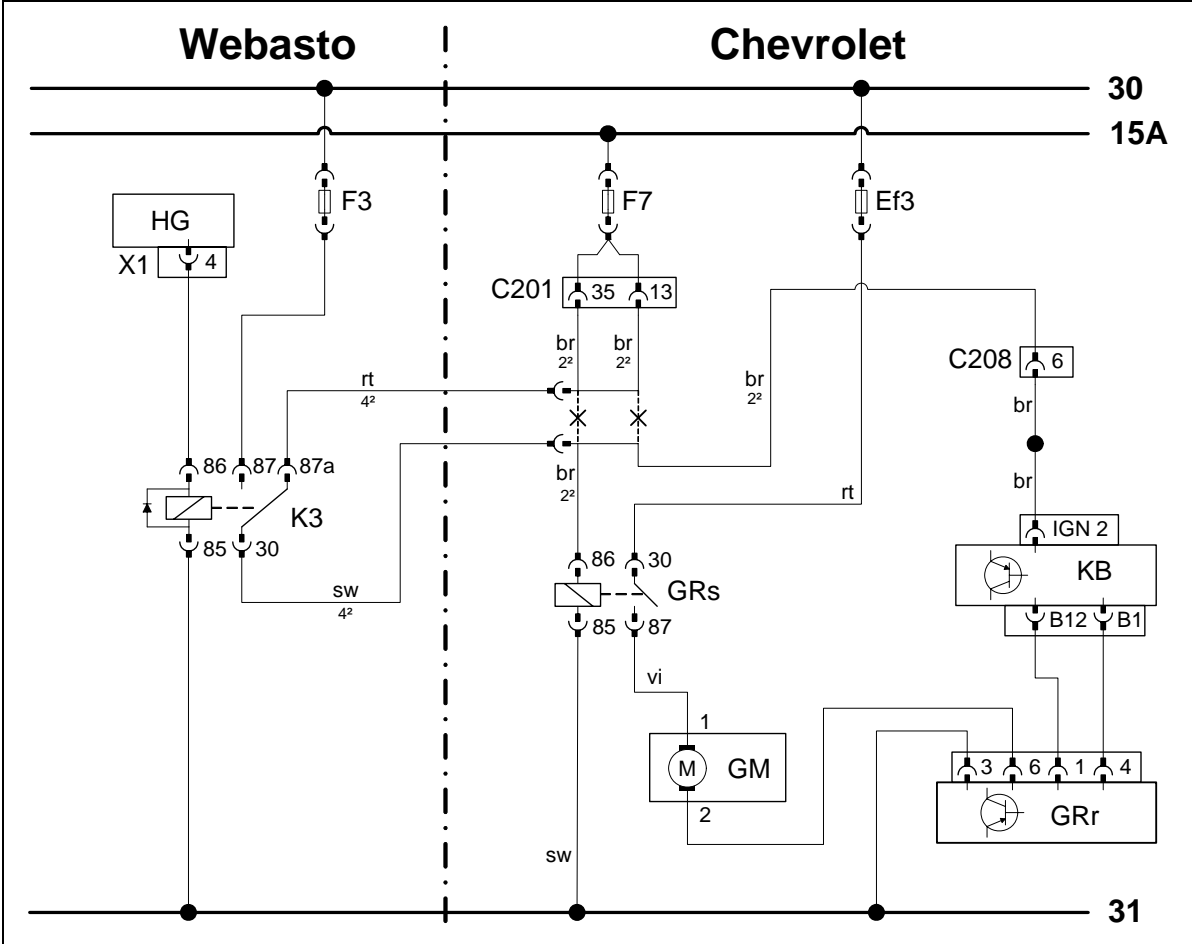
- 1 Pin 35



**Connector  
C201**



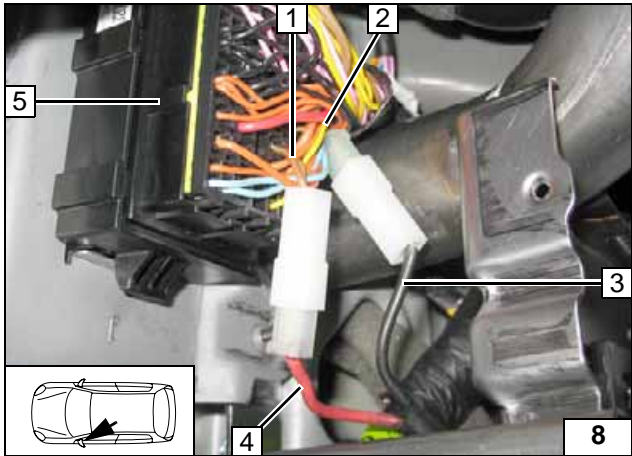
Automatic air-conditioning fan controller



Wiring diagram

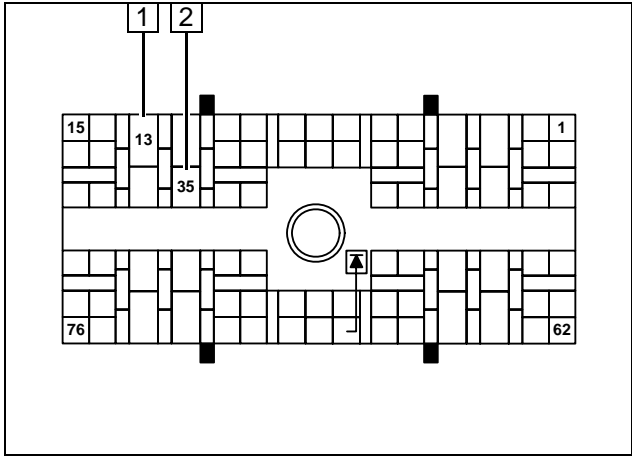
Webasto components		Vehicle components		Colors and symbols	
HG	Heater unit TT-C/E	GM	Fan motor	rt	red
X1	6-pin heater unit connector	GRs	Fan relay	ws	white
F3	Replace 25 A fuse with 20 A fuse.	GRr	Fan controller	sw	black
K3	Fan relay	KB	Air-conditioning control panel	br	brown
		F7	Fuse, 20 A	vi	violet
		EF3	Fuse 30A		
		C201	76-pin connector of central electrical box		
				X	Cutting point
				Wiring colors may vary.	

Legend



Connection on 76-pin connector C201 5 of fuse block on central electrical box. Produce connections as shown in wiring diagram.

- 1 Brown (br) wire (2x) of connector C201, Pin 35 and Pin 13
- 2 Brown (br) wire (2x) of A/C control panel and fan relay
- 3 Black (sw) wire from K3/30
- 4 Red (rt) wire from K3/87a



View on line side.

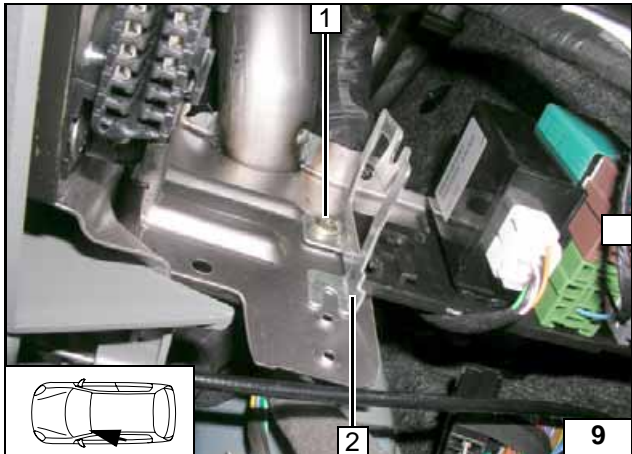
- 1 Pin 13
- 2 Pin 35



**Connect-  
ing central  
electrical  
box**



**Connector  
C201**



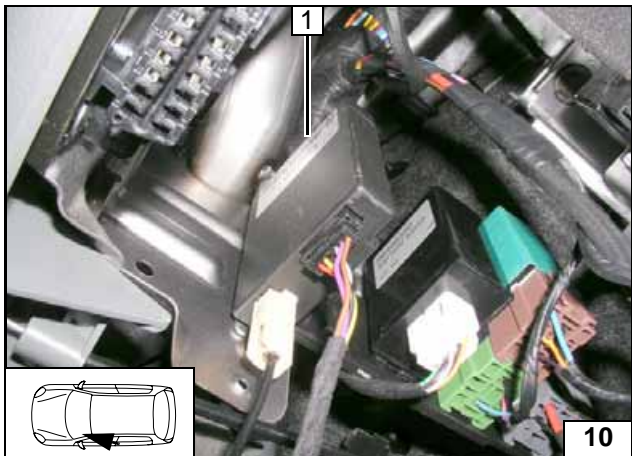
**Remote option (Telestart)**

Angle down bracket 2 by 90°.

1 5.5x13 self-tapping screw on existing hole



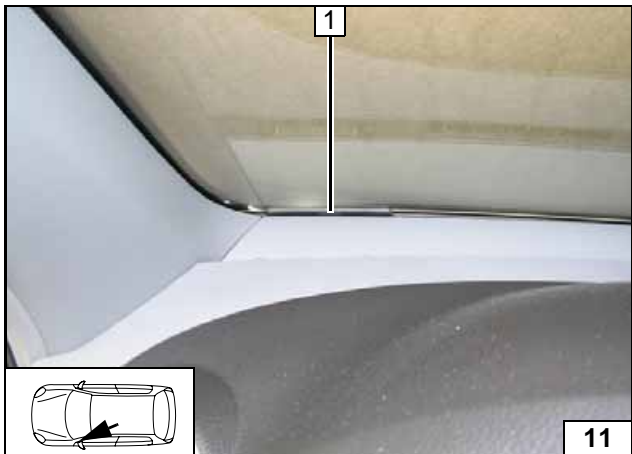
**Installing bracket**



1 Receiver, mounted on bracket

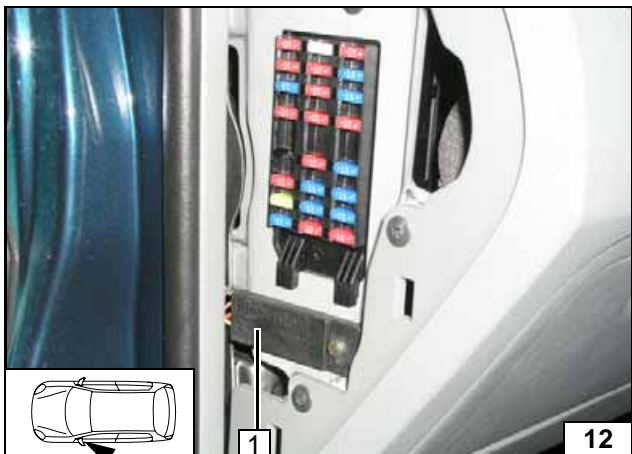


**Installing receiver**



1 Antenna

**Installing antenna**

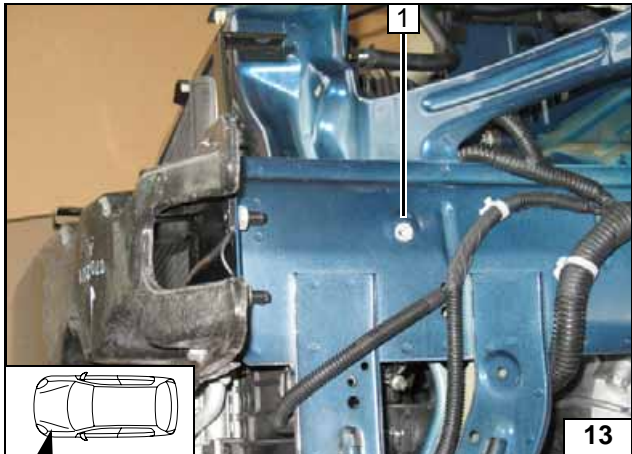
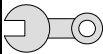


**Temperature sensor for HTM100 only**

Fasten temperature sensor 1 with suitable means.



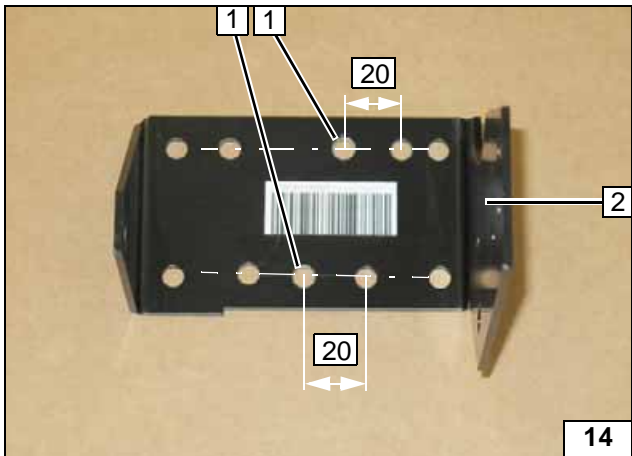
**Installing temperature sensor**



**Preparing installation location**

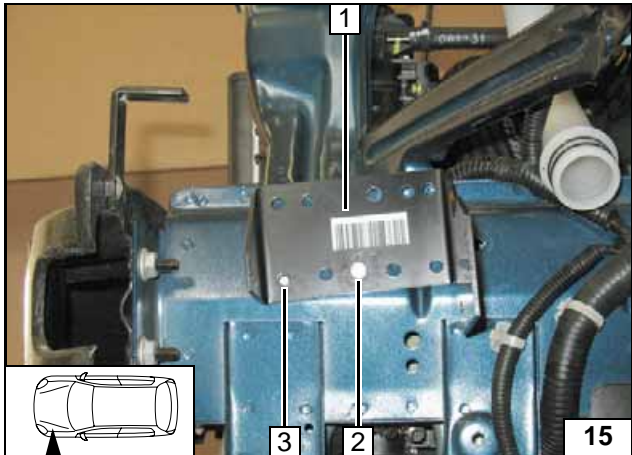
- 1 Install rivet nut in original vehicle hole

Installing rivet nut



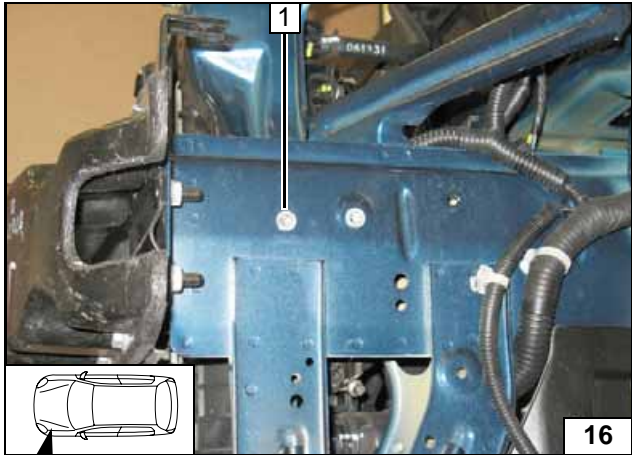
- 1 7 mm dia. hole [2x]
- 2 Bracket

Preparing bracket



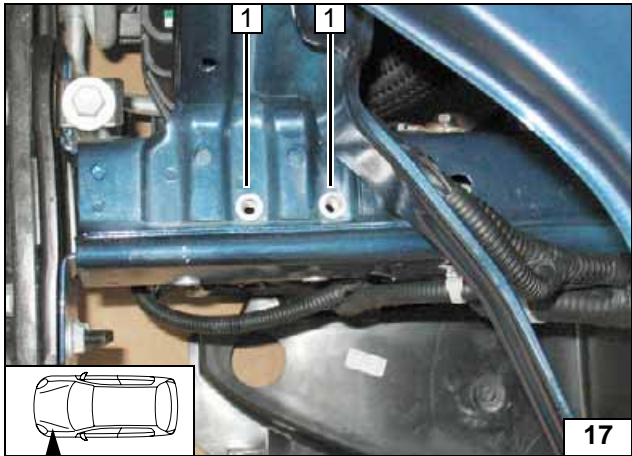
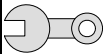
- 1 Loosely mount bracket
- 2 M6x20 bolt, spring lockwasher on rivet nut
- 3 Copy hole pattern

Copying hole pattern



- 1 Drill 9.1 mm dia. hole; install rivet nut

Installing rivet nut

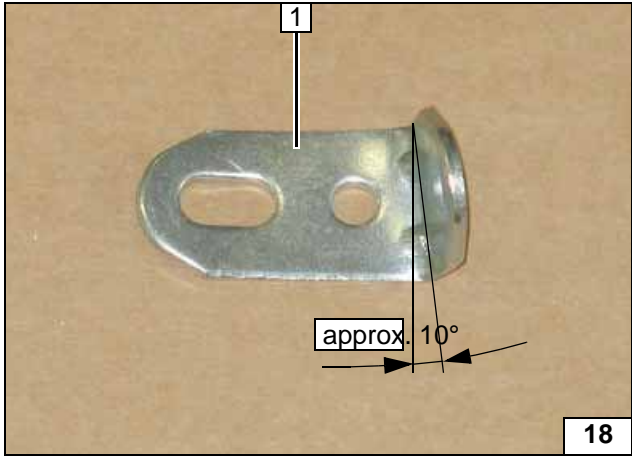


Holes in center of beads!

- 1 Drill 9.1 mm dia. hole; install rivet nut (2x each)



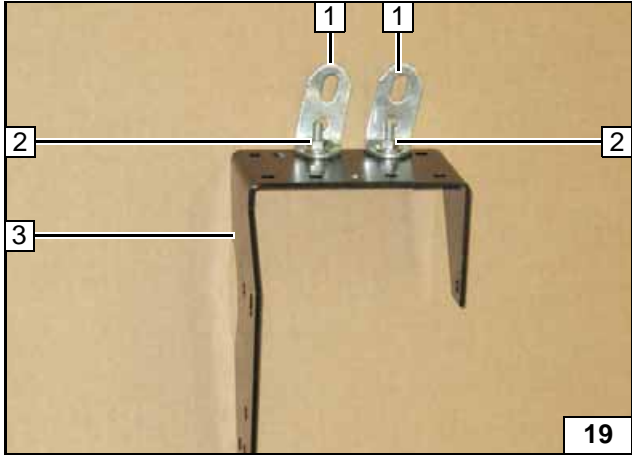
Installing rivet nut



Preparing bracket

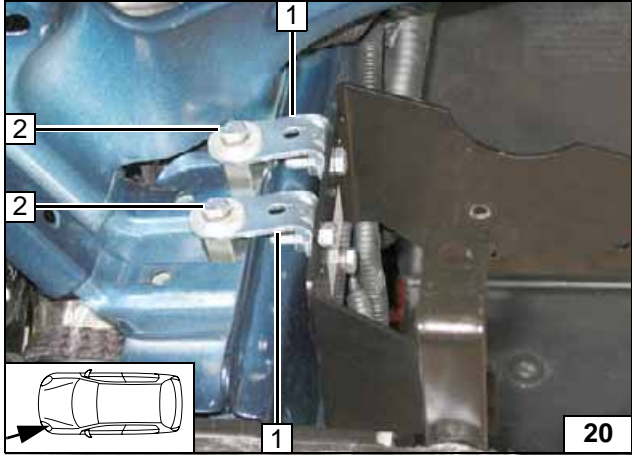
Turn angle bracket 1 [2x] by approx. 10°.

Preparing angle bracket



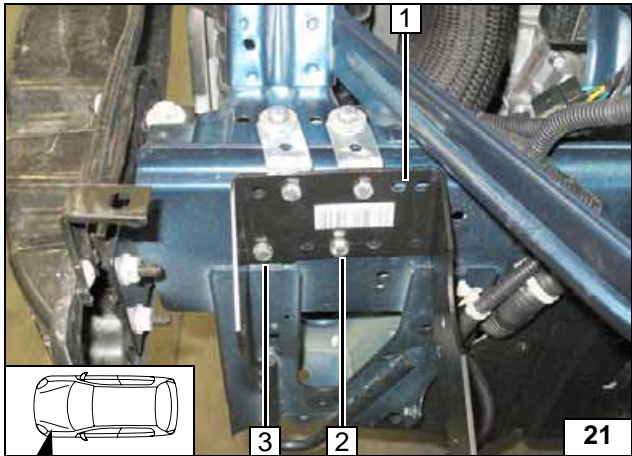
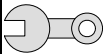
- 1 Angle bracket [2x]
- 2 M6x20 bolt, flanged nut [2x each]
- 3 Bracket

Installing angle bracket



- 1 Angle bracket [2x]
- 2 M6x40 bolt, spring lockwasher, large diameter washer, 15 mm spacer nut (2x each) on rivet nut

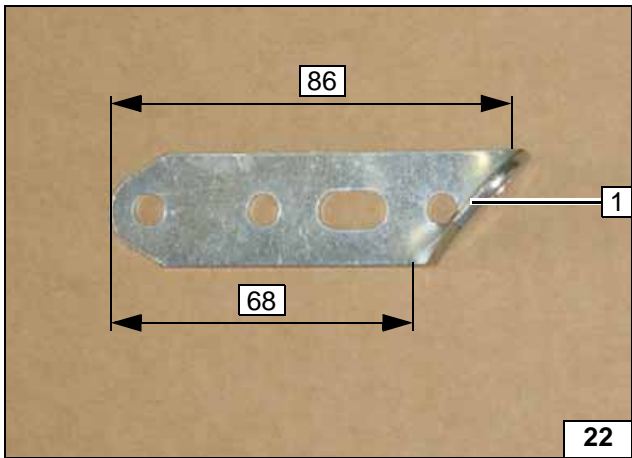
Installing bracket



Insert one washer between frame side member and bracket 1 at Position 3.

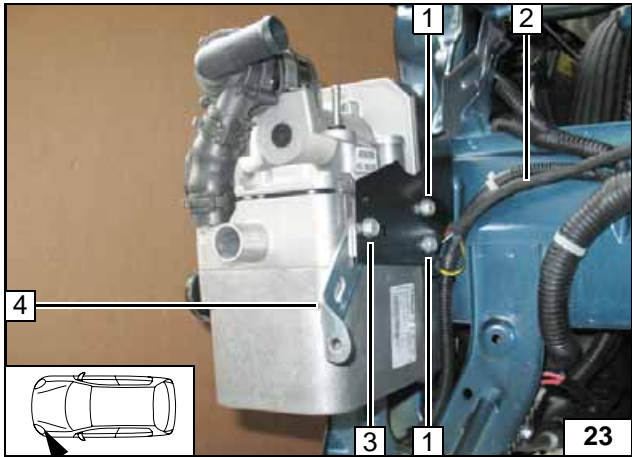
- 1 Bracket
- 2 M6x20 bolt, spring lockwasher on rivet nut
- 3 M6x20 bolt, spring lockwasher, washer on rivet nut

Installing bracket



Angle down perforated bracket 1 by 90°.

Preparing perforated bracket

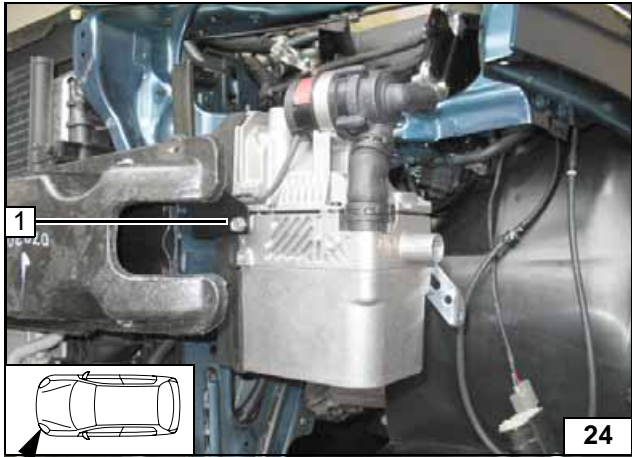


Installing heater unit

Before installing, connect wiring harness of heater unit 2. Insert perforated bracket 4 between heater unit and bracket.

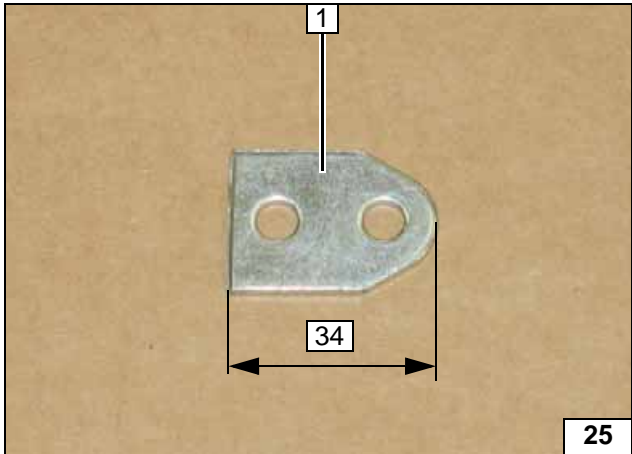
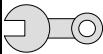
- 1 E-jot screw [2x]
- 3 Loosely mount E-jot screw

Installing heater unit



- 1 E-jot screw

Installing heater unit

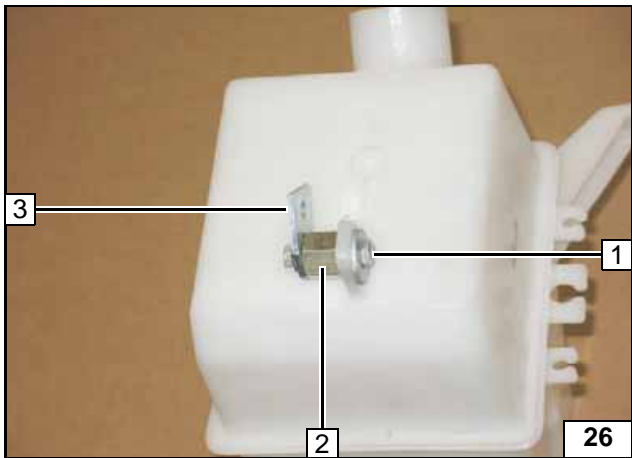


**Installing washer reservoir**

- 1 Perforated bracket

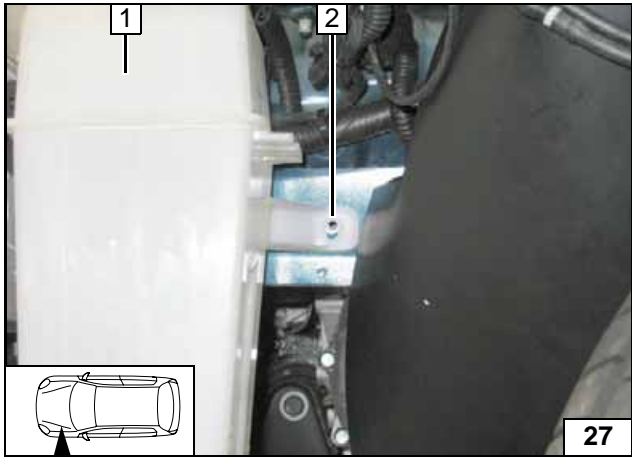


**Cutting perforated bracket to length**



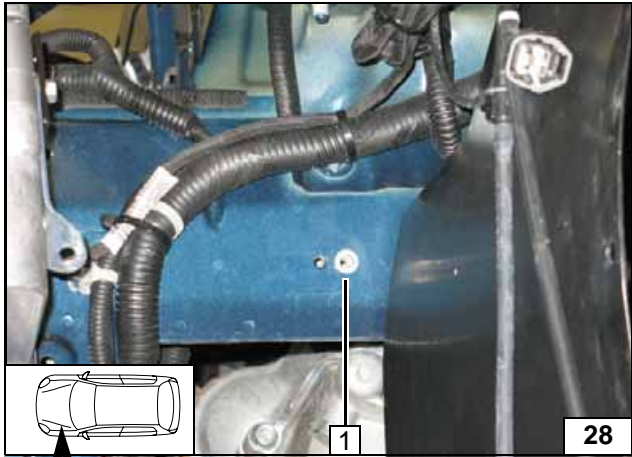
- 1 M6x35 bolt, large diameter washer, flanged nut
- 2 15 mm dia. spacer nut
- 3 Perforated bracket cut to length

**Premounting perforated bracket**



- 1 Hold on washer reservoir
- 2 Copy hole pattern

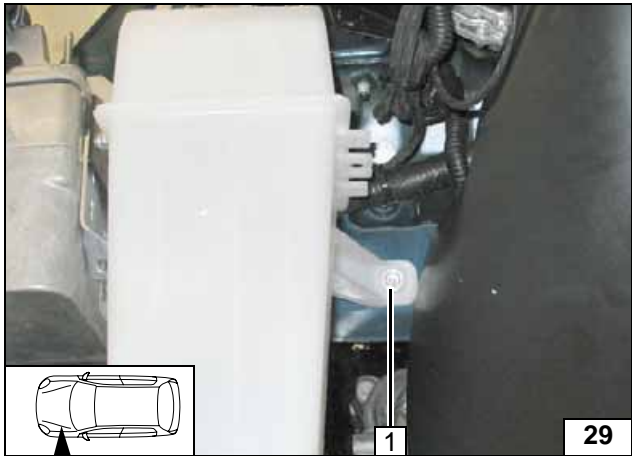
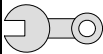
**Copying hole pattern**



- 1 Drill 9.1 mm dia. hole; install rivet nut

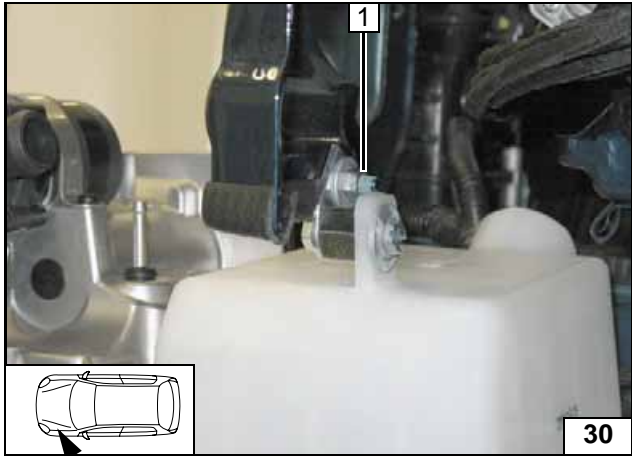
**Installing rivet nut**





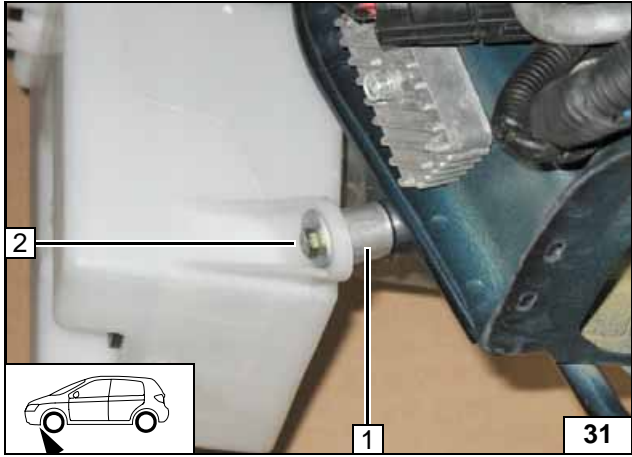
1 Original vehicle bolt on rivet nut

Installing washer reservoir



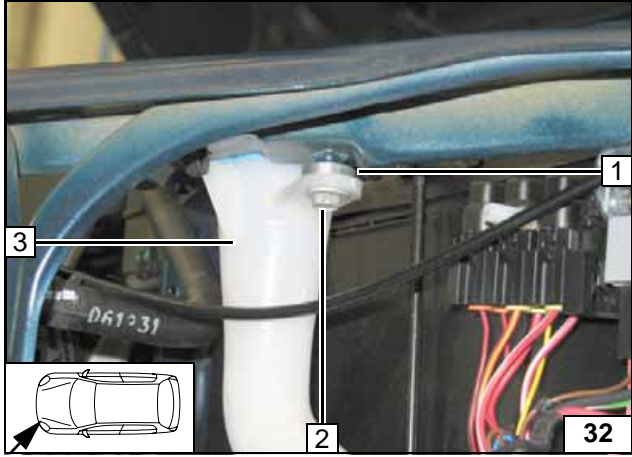
1 Original vehicle flanged nut on stud bolt

Installing washer reservoir



1 20 mm spacer sleeve  
2 M6x35 bolt, large diameter washer in existing threaded hole

Installing washer reservoir



1 5 mm spacer sleeve  
2 Original vehicle bolt  
3 Filler neck

Installing filler neck

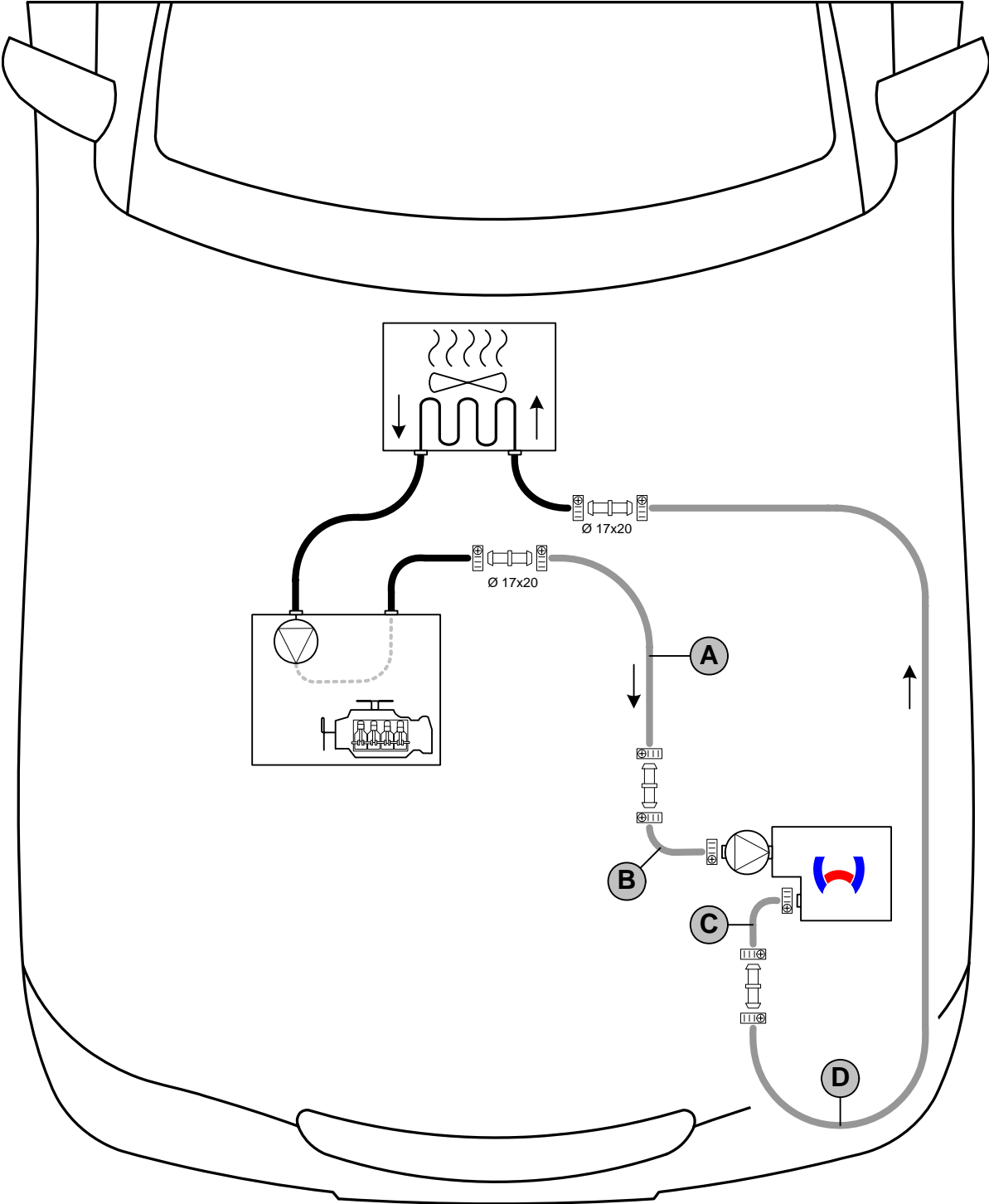


Coolant



WARNING!

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 clamps so that no other hose can be damaged! When installing the coolant hose, the heater unit must be filled with coolant.

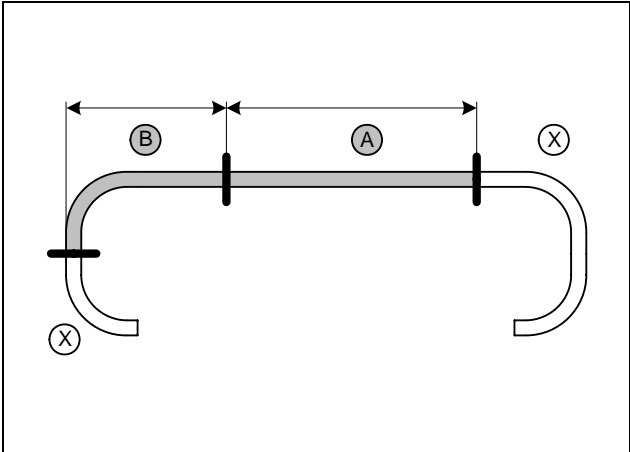
The connection should be "inline" based on the following diagram:



Coolant routing diagram

All connecting pipes without a specific designation  = dia. 20x20.  
All hose clamps  = 20-27 mm dia.!

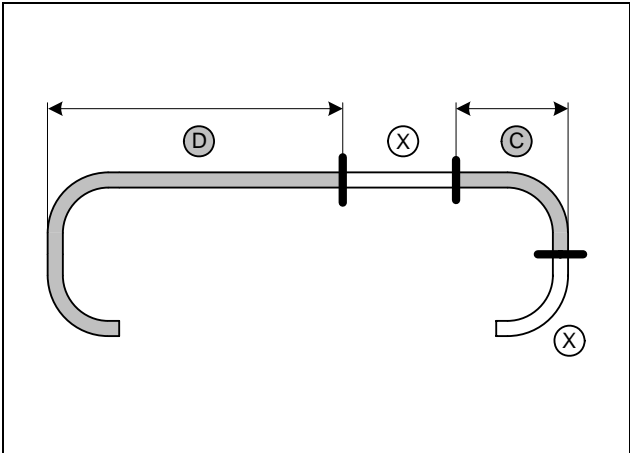




a = 1150  
b = 250

Discard section X

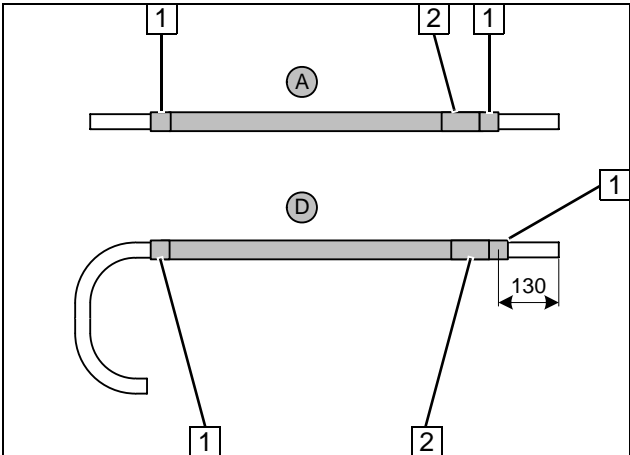
Cutting coolant hose 1 to length



c = 130  
d = 1210

Discard section X

Cutting coolant hose 2 to length

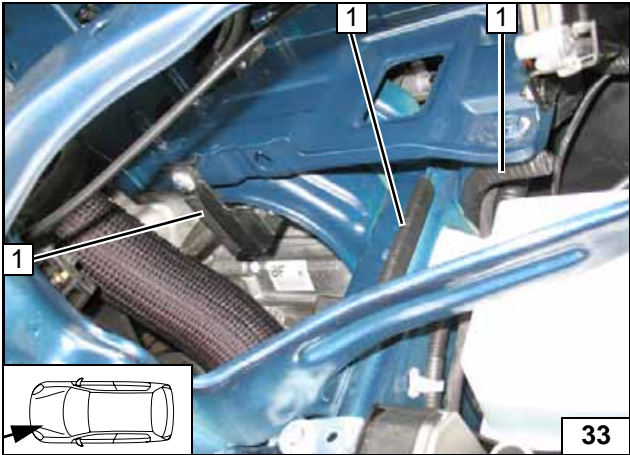


Slide a braided protection hose onto hose A and center. Slide second braided protection hose onto hose D. Cut heat shrink plastic tubing to length.



- 1 50 mm long heat shrink plastic tubing [4x]
- 2 Also slide heat shrink plastic tubing, 100 mm long [2x], over braided protection hoses

Preparing coolant hoses

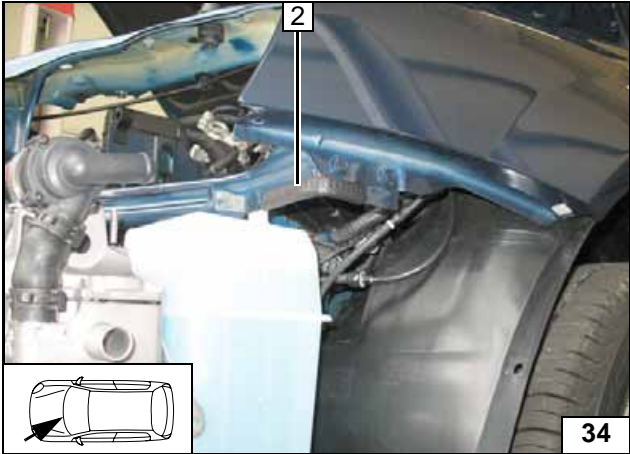


Cut each edge protection [2x 200 mm long] in center.



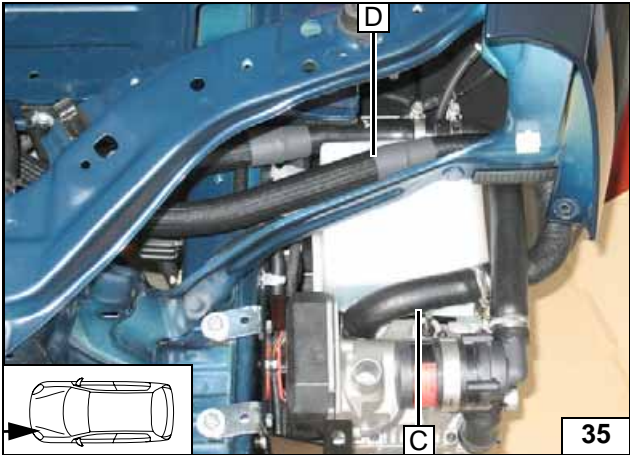
- 1 100 mm long edge protection [3x]

Installing edge protection



1 Edge protection, 100 mm long

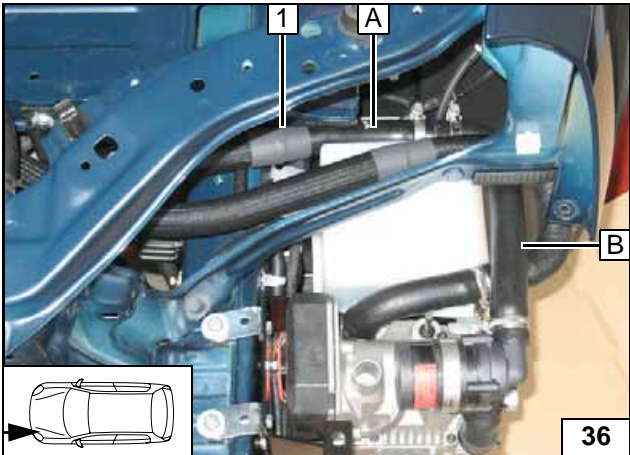
Installing edge protection



Connect hose C and D (with 180° elbow).



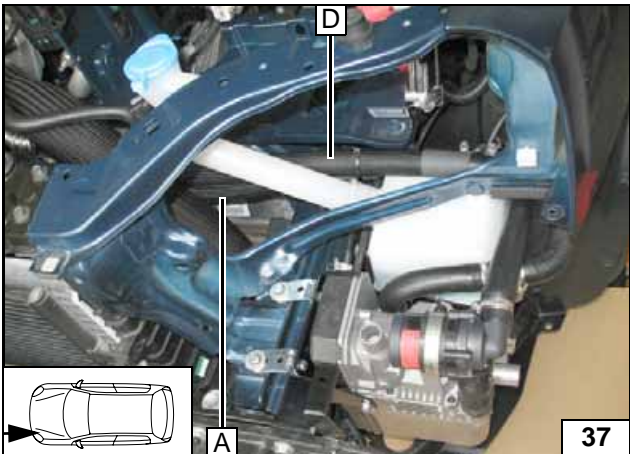
Connecting heater unit outlet



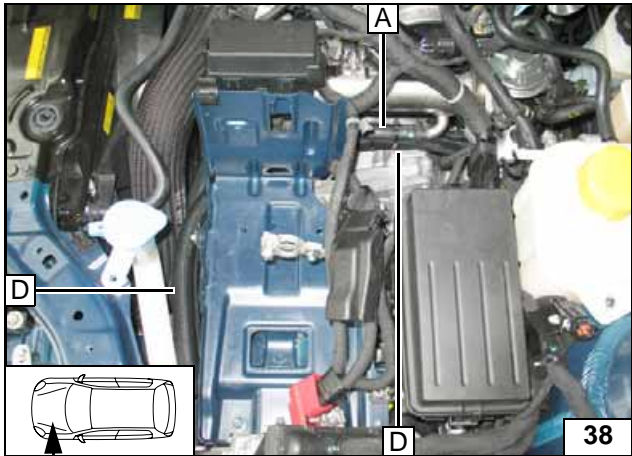
Connect hose A and B (with 90° elbow). Single heat shrink plastic tubing 1 on hose A faces toward heater unit!



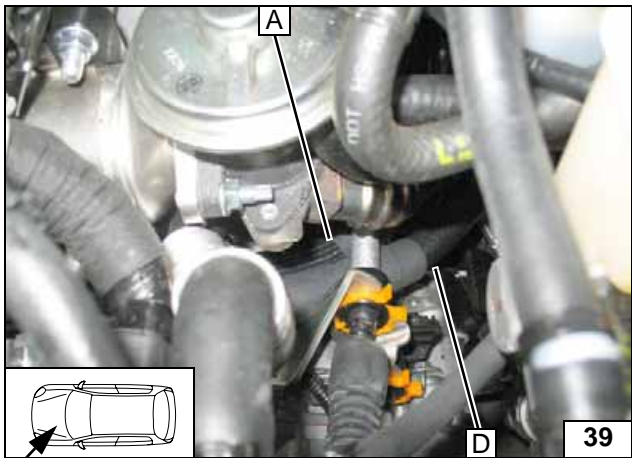
Connecting heater unit inlet



Routing in engine compartment



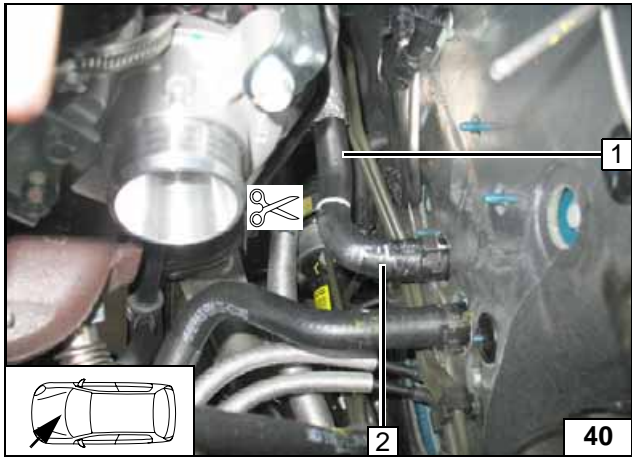
Routing in engine compartment



Align hose A and D with double heat shrink plastic tubing.

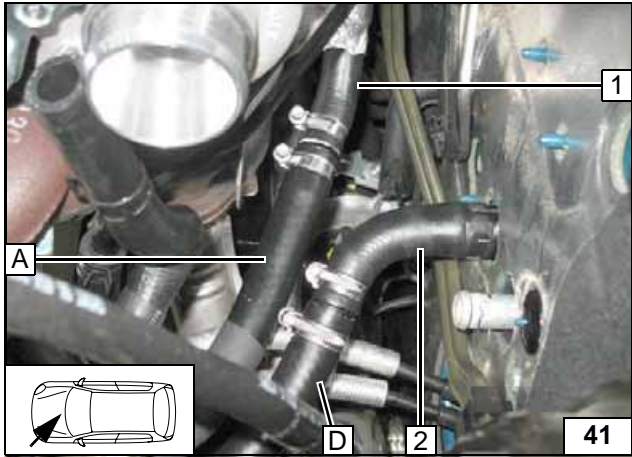


Routing in engine compartment



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

Cutting point

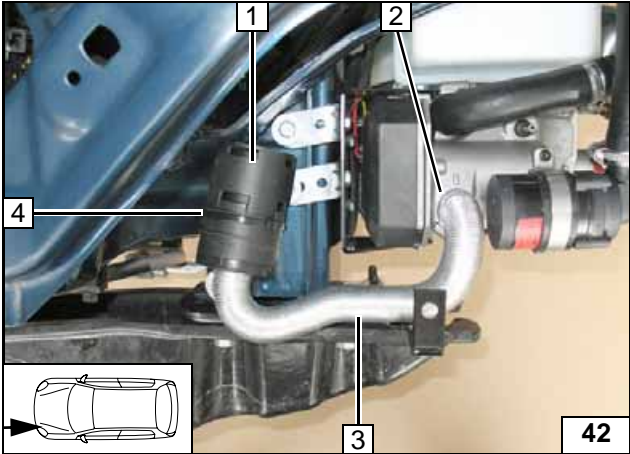


Hose from heat exchanger outlet only removed for demonstration purposes!

- 1 Hose of engine outlet
- 2 Hose of heat exchanger inlet, turned to left on connection piece



Connection on engine outlet and heat exchanger inlet

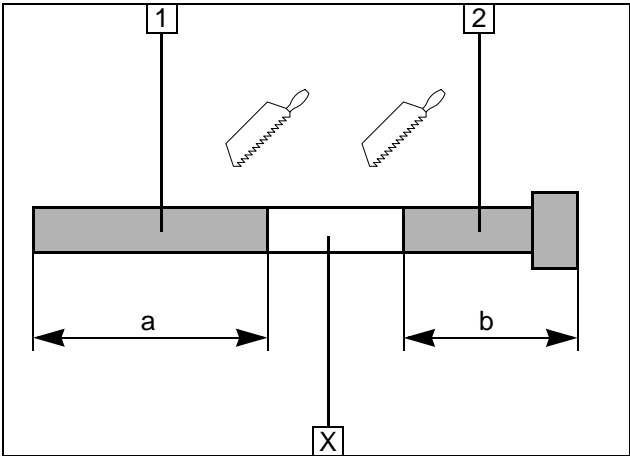


**Combustion air**

- 1 Combustion-air intake muffler
- 2 27 mm dia. clamp
- 3 Combustion air pipe
- 4 Cable tie through existing holes



**Installing combustion air pipe**

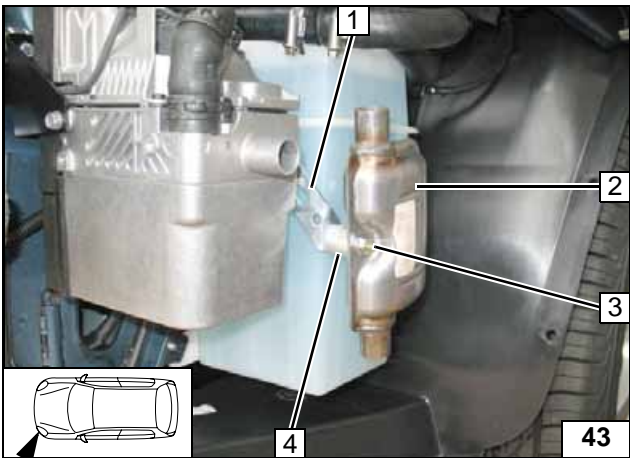


**Exhaust gas**

- 1 Exhaust pipe  
a = 150
- 2 Exhaust end section  
b = 310

Discard section X

**Preparing exhaust pipe**

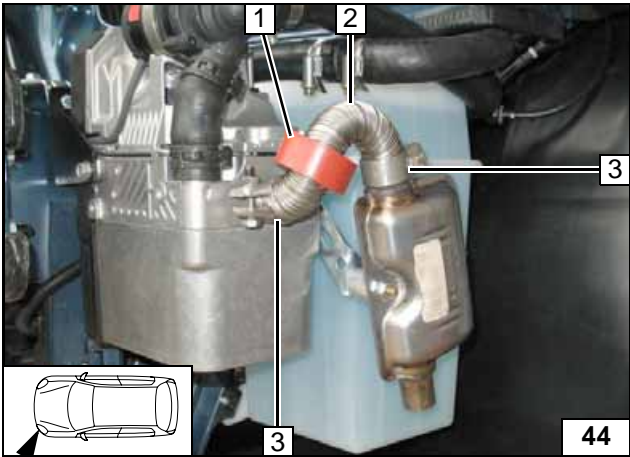


Align muffler with perforated bracket and tighten E-jot screw on heater unit.



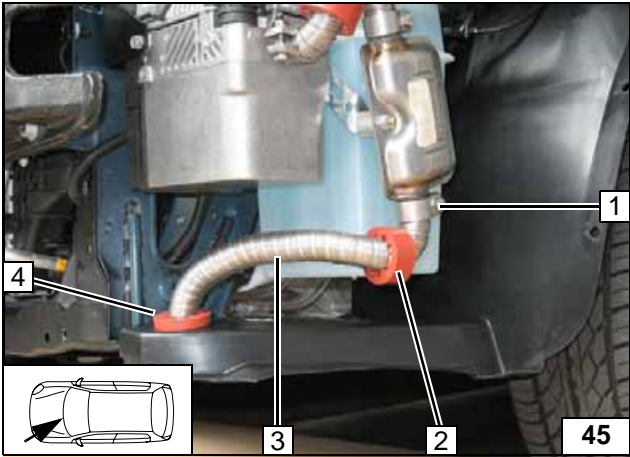
- 1 Perforated bracket
- 2 Muffler
- 3 M6x40 bolt, flanged nut
- 4 20 mm shim

**Installing muffler**



- 1 Red (rt) rubber isolator
- 2 Exhaust pipe
- 3 Hose clamp [2x]

**Installing exhaust pipe**



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

**Installing end section**



**Fuel**

**CAUTION!**

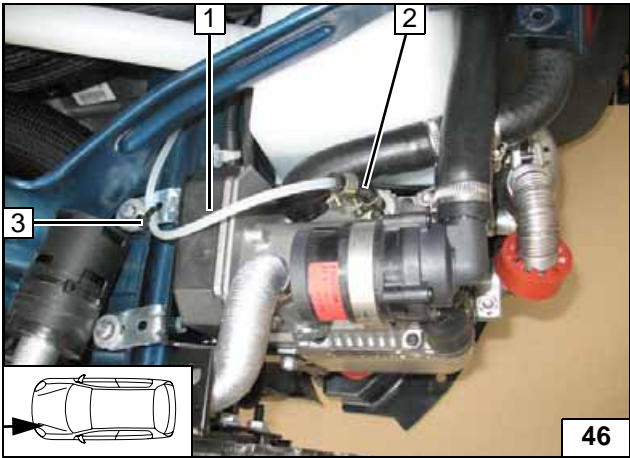
Open the vehicle's fuel tank cap, ventilate the tank and then re-close the tank lock.

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.

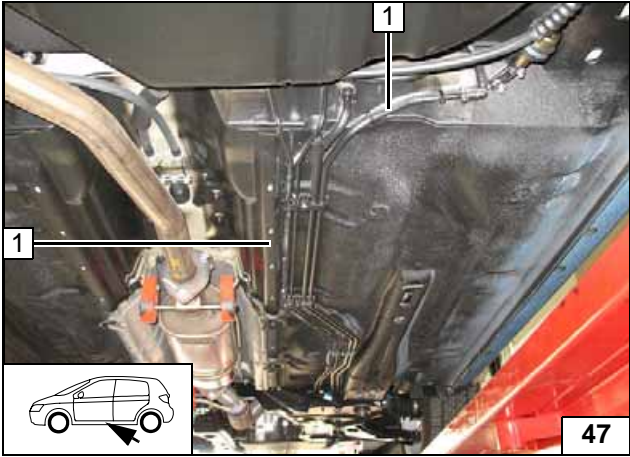
**WARNING!**

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



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

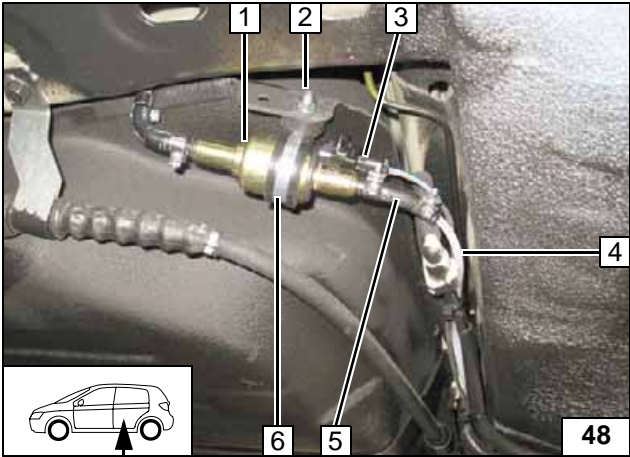
Conne-  
ction to  
heater unit



Route fuel line and wiring harness of metering pump 1 along original vehicle lines.



Installing  
lines

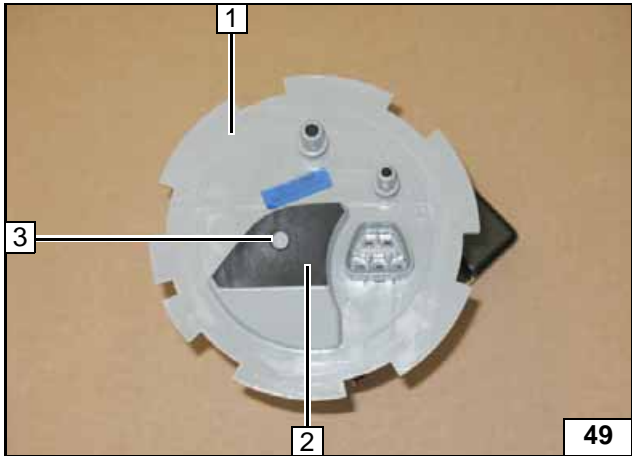


- 1 Metering pump
- 2 Silent block, flanged nut [2x]
- 3 Wiring harness of metering pump, connector mounted
- 4 Fuel line
- 5 Hose section, 10 mm dia. clamp [2x]
- 6 Rubber-coated pipe clamp



Metering  
pump



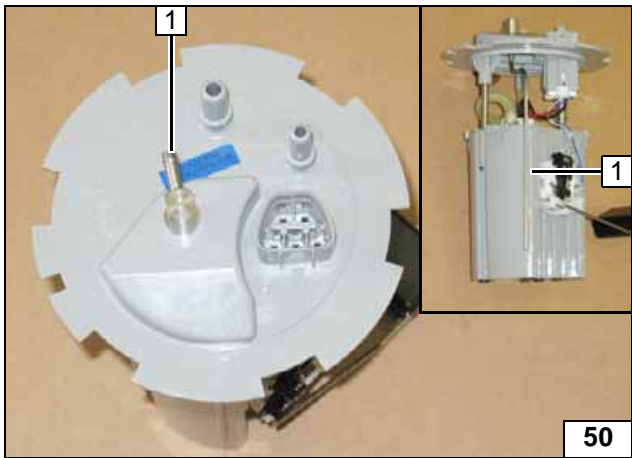


Remove fuel-tank sending unit 1 in accordance with manufacturer's specifications.

- 2 Cut out template and lay on
- 3 Copy hole pattern, 6 mm dia. hole



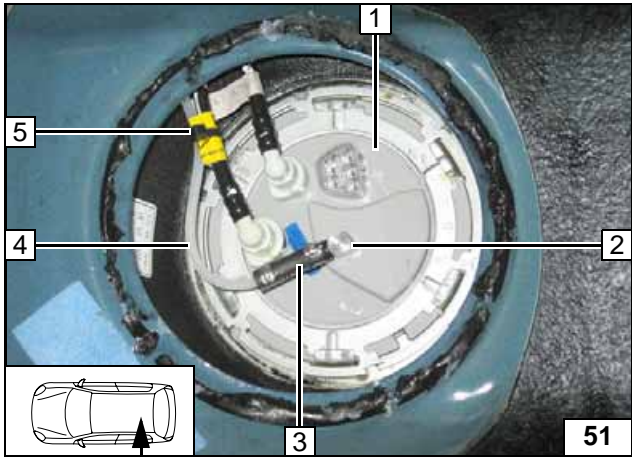
Removing fuel



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



Installing fuel standpipe

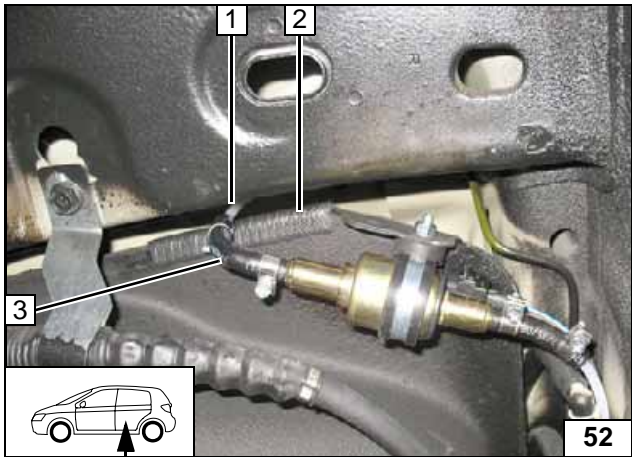


Install fuel-tank sending unit 1 in accordance with manufacturer's specifications.

- 2 Fuel standpipe
- 3 Hose section, 10 mm dia. Caillau clamp [2x]
- 4 Fuel line
- 5 Cable tie



Connecting fuel line

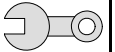


Check the position of the components; adjust if necessary. Check that they have free clearance.

- 1 Fuel line
- 2 100 mm edge protection
- 3 90° molded hose, 10 mm dia. clamp [2x]



Connecting to metering pump



## Final Work

### WARNING!

Reassemble the disassembled components in reverse order.

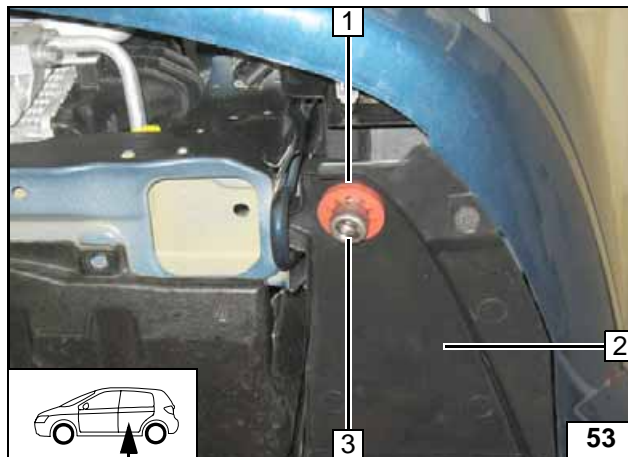
Check all hoses, clamps and all electrical connections for firm seating.

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.
- Check the headlight adjustment.
- Set the digital timer.
- Make settings on A/C control panel according to the "Operating Instructions for End Customer".
- Check the proper operation of the additional heater, see the operating instructions/installation instructions.
- Attach the "Switch off additional heater before refueling" sticker to the left-hand B-pillar.



42 mm dia. hole in wheel well trim **2** at Position **3**!

- 1** Red (rt) rubber isolator with groove
- 3** Exhaust end section

**Mounting  
rubber  
isolator**

**Webasto**  
*Feel the drive*

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.

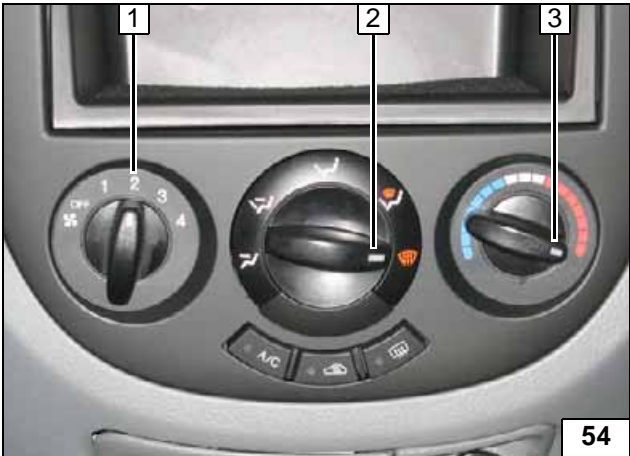
Note:

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.

Before parking the vehicle, make the following settings:



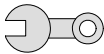
- 1 Set fan to level "1", or possibly "2"
- 2 Air outlet to windshield
- 3 Set temperature to "max."

Manual air conditioning

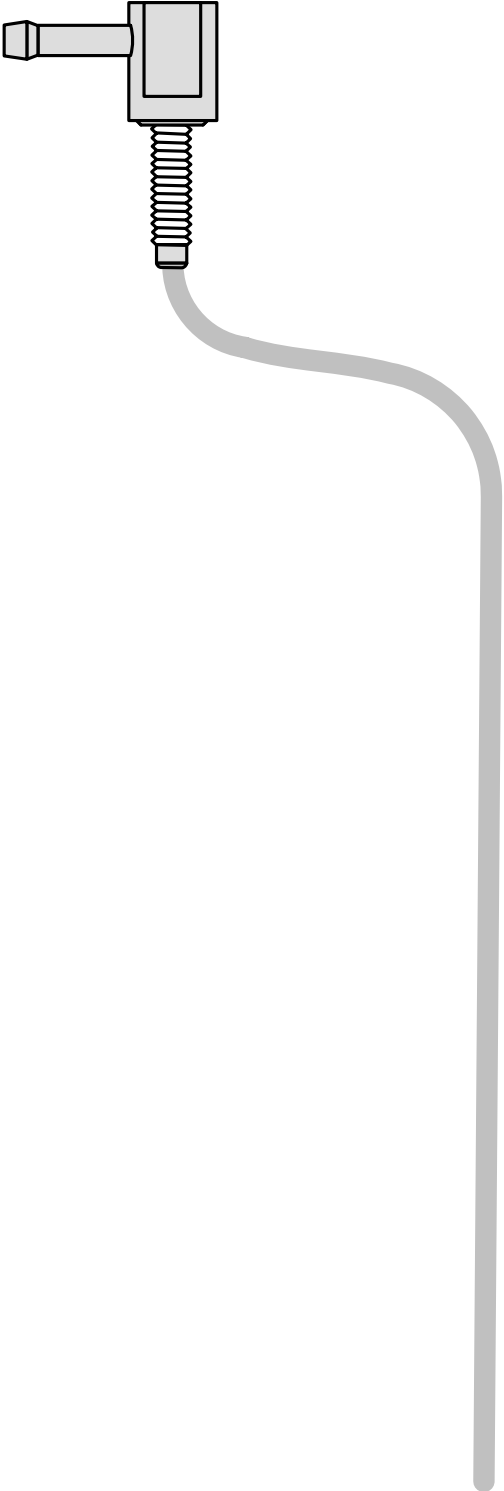


- 1 Air outlet to windshield
- 2 Set fan to level "3"
- 3 Set temperature to "HI"

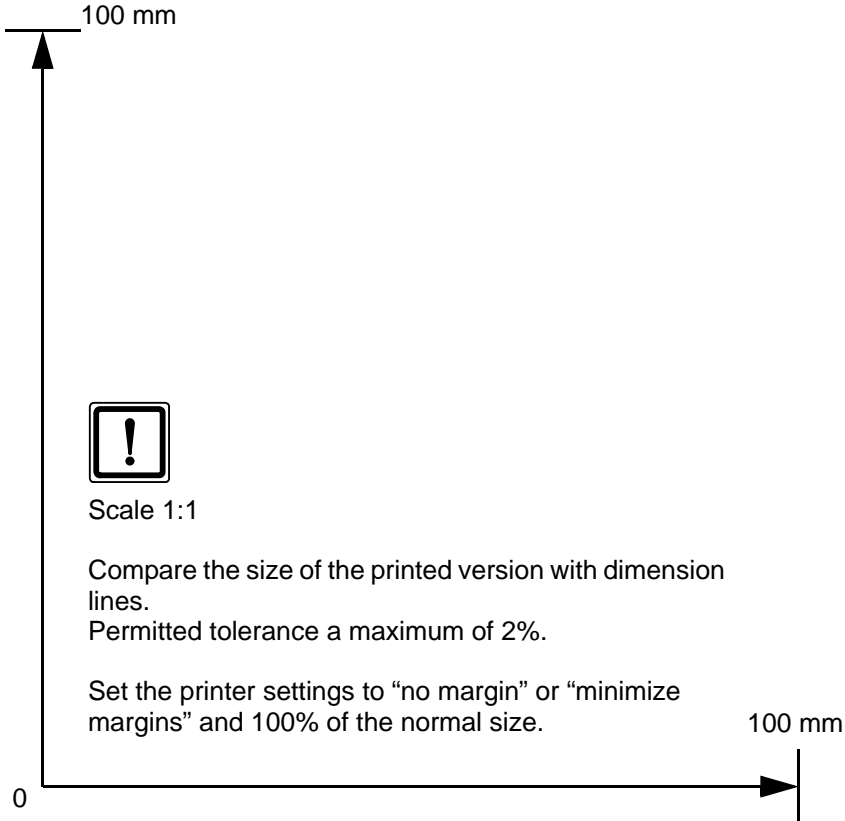
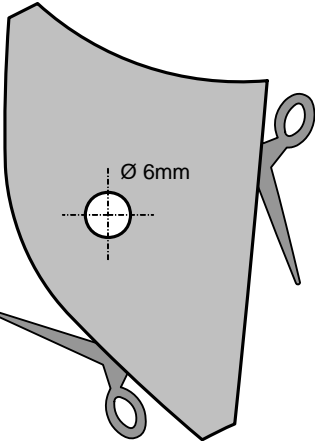
Automatic air-conditioning



Template for Fuel Standpipe



Template for Fuel sender



Scale 1:1

Compare the size of the printed version with dimension lines.  
Permitted tolerance a maximum of 2%.

Set the printer settings to "no margin" or "minimize margins" and 100% of the normal size.