

Water Heater Unit



Thermo Top C Additional Heater ^{e1}_{00 0002}

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

Installation Instructions

Dodge Journey (JC)

Gasoline and Diesel
from Model Year 2009
Left-hand drive vehicle
Manual air conditioning



WARNING!

Hazard warning:

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

Specialist company training, technical documentation, specialized tools and equipment are required to install and repair Webasto heating and cooling systems.

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

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

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

Table of Contents

| | | | |
|-----------------------------------|----|---|----|
| Validity | 2 | Coolant | 14 |
| Heater Unit/Installation Kit | 3 | Gasoline | 23 |
| Foreword | 3 | Diesel | 18 |
| General Instructions | 3 | Fuel | 22 |
| Special Tools | 3 | Gasoline | 23 |
| Explanatory Notes on Document | 4 | Diesel | 18 |
| Preliminary Work | 5 | Combustion air | 26 |
| Heater unit installation location | 5 | Exhaust gas | 27 |
| Preparing electrical system | 6 | Final Work | 28 |
| Electrical system | 7 | Template for Gasoline Fuel Standpipe | 29 |
| Fan controller | 8 | Template for Diesel fuel standpipe | 30 |
| Remote option (Telestart) | 9 | Operating Instructions for End Customer | 31 |
| Remote option (Thermo Call) | 10 | | |
| Preparing installation location | 11 | | |
| Installing heater unit | 12 | | |

Validity

| Manufacturer | Model | Type | EG-BE No./ABE |
|----------------|---------------|------|-----------------------------|
| Chrysler (USA) | Dodge Journey | JC | e1 1* 2001/116 * 0145 * ... |

| Engine type | Engine model | Output in kW | Displacement in cm ³ |
|-------------|--------------|--------------|---------------------------------|
| B | Gasoline | 125 | 2360 |
| BWD | Diesel | 103 | 1968 |

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 Dodge Journey (JC) Gasoline and Diesel | 1314072A |

Heater unit recommended for the respective vehicle class:

| Vehicle | Heater Unit |
|-------------------------------|--------------|
| 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 Dodge Journey (JC) Gasoline and Diesel vehicles - for validity, see page 2 - from model year 2009 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* 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).

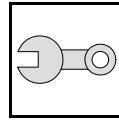
Special Tools

- Torque wrench for 2.0 - 10 Nm
- Hose clamping pliers
- Metric thread-setter kit
- Chrysler Special Tool for Fuel-Tank Sending Unit

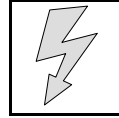
Explanatory Notes on Document

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.

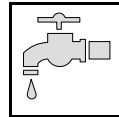
Mechanical system



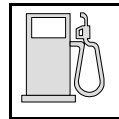
Electrical system



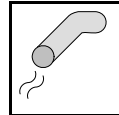
Coolant



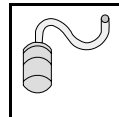
Fuel



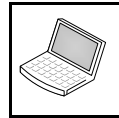
Exhaust gas



Combustion air



Software



Special features are highlighted using the following symbols:



Specific risk of injury or fatal accidents.



Specific risk of damage to components.



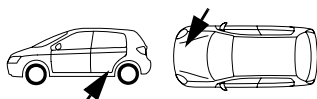
Specific risk of fire or explosion.



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 Ejet screws, Ejet 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.
- Remove the engine cover.
- Detach the servo reservoir.
- Detach the coolant expansion tank.
- Detach the fuse and relay box in the engine compartment.
- Detach and remove the right and left-hand wheel well trim.
- Remove the bumper.
- Remove the underride protection.
- Remove the fuel tank in accordance with the manufacturer's instructions (empty if necessary).
- Remove the lower instrument panel trim in the driver's side footwell.
- Remove the trim below the steering wheel.

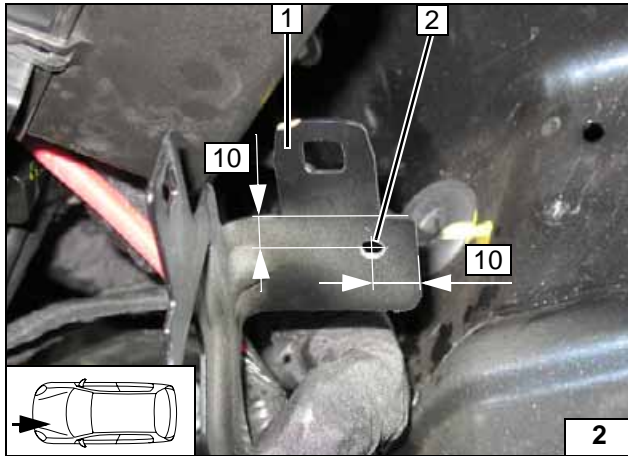
Remove page 31 "Operating Instructions for End Customer" and add to the vehicle operating instructions.



Heater unit installation location

1 Heater unit

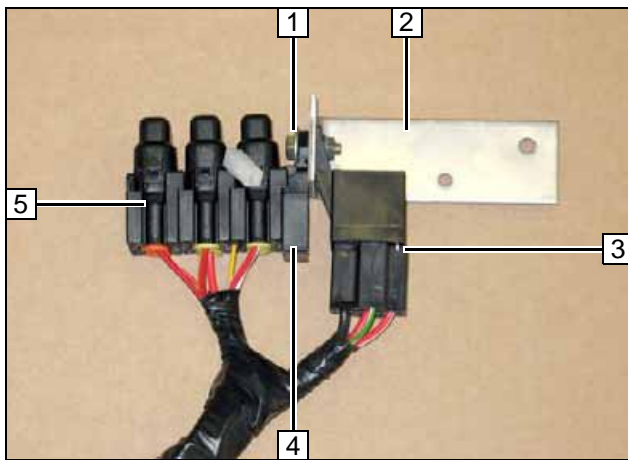
Installation location



Preparing electrical system

- 1 Bracket of fuse and relay box
- 2 5.5 mm dia. hole

Hole for angle bracket



- 1 M5x16 bolt, washer, flanged nut
- 2 Fuse holder
- 3 K3 relay
- 4 Retaining plate for fuse holder
- 5 Fuses pushed on

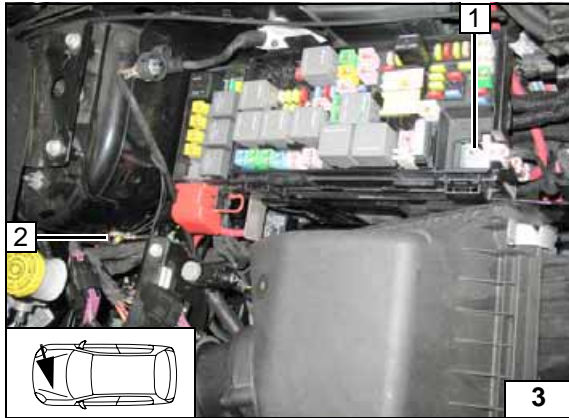
Premount wiring harness



Electrical system

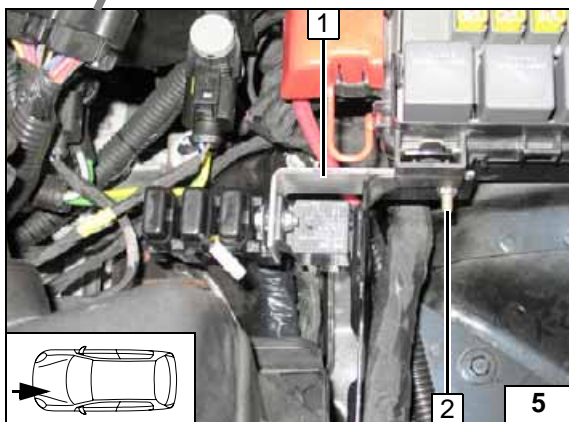
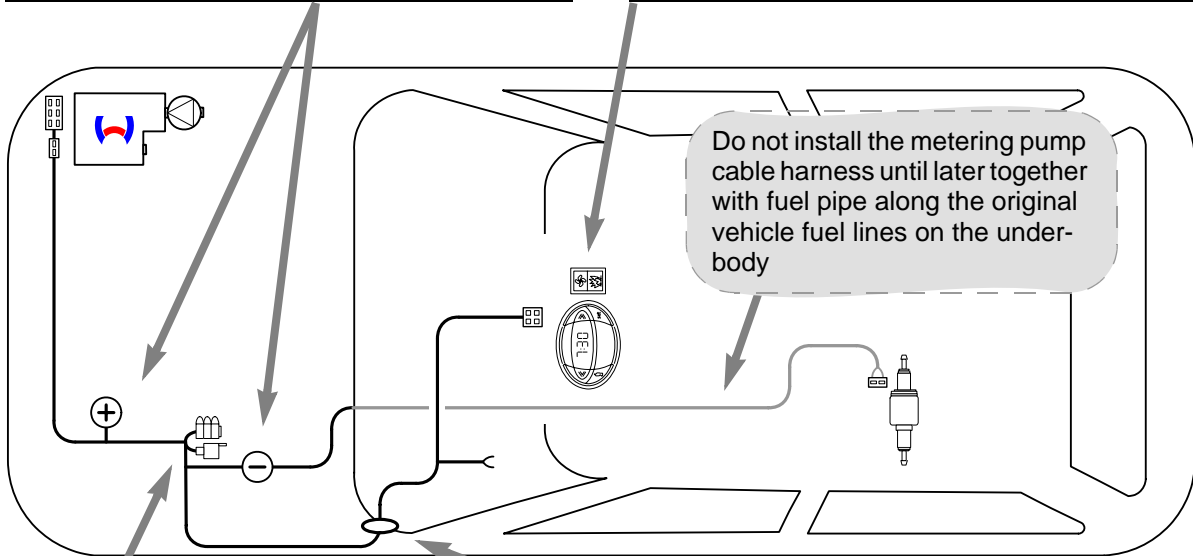
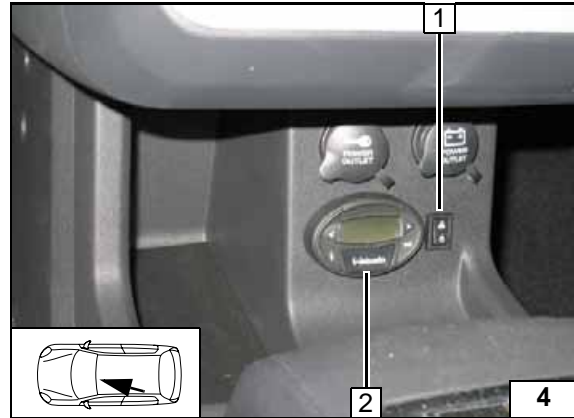
Positive and ground connection

- 1 Positive wire on original vehicle positive support point
- 2 Ground wire on original vehicle ground support point



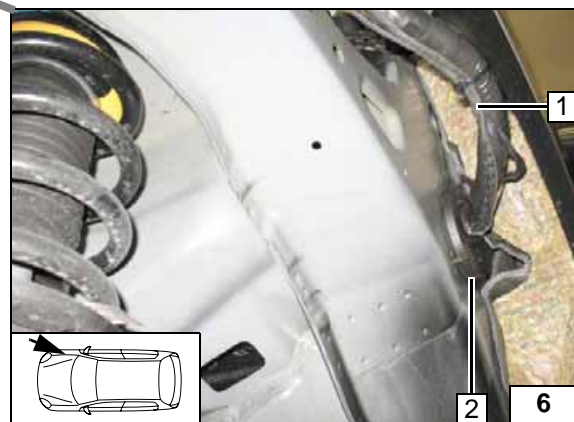
Digital timer and summer/winter switch option

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



Fuse holder, relay K3

- 1 Angle bracket
- 2 M5x16 bolt, washers, M5 flanged nut



Wiring harness pass through

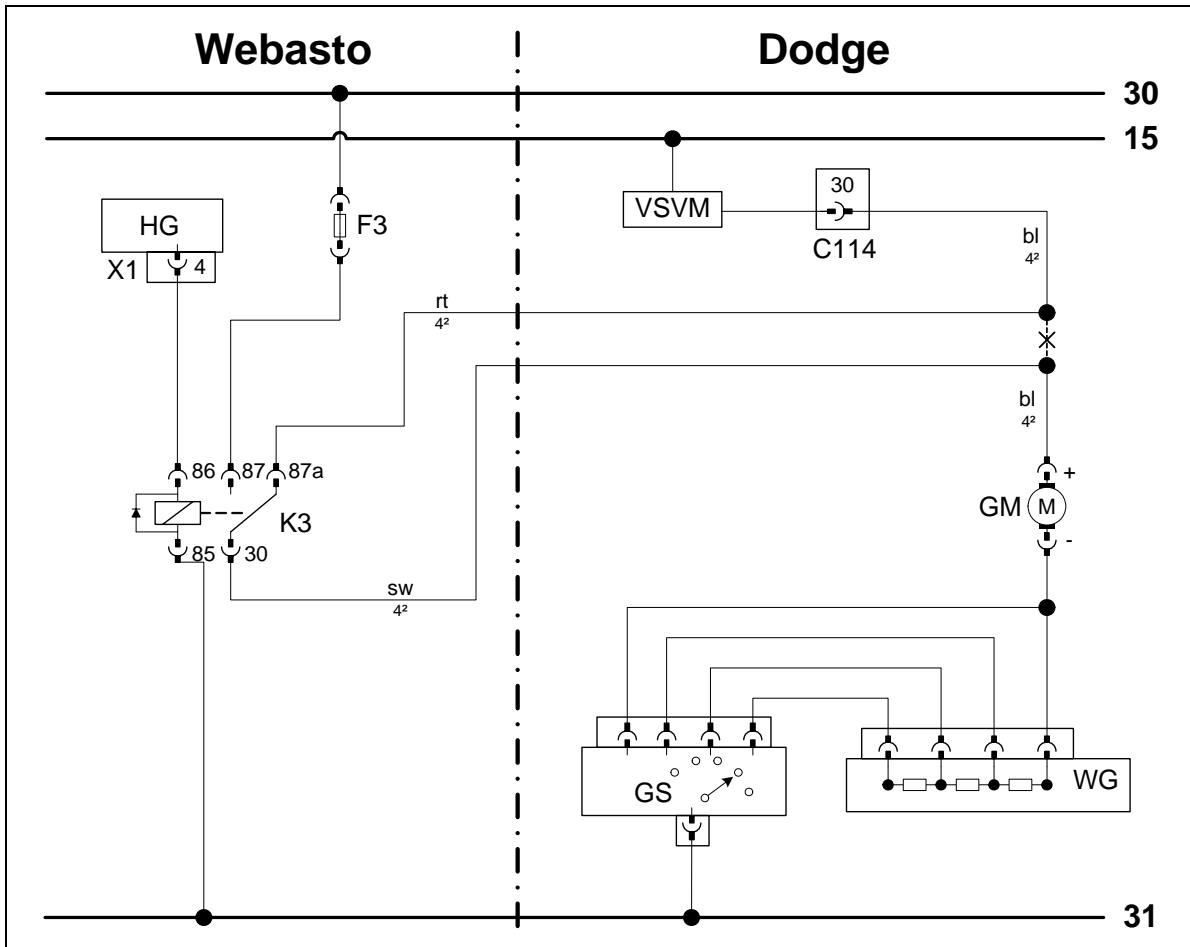
- 1 Wiring harness of fan controller and digital timer
- 2 Protective rubber plug



Wiring harness installation diagram



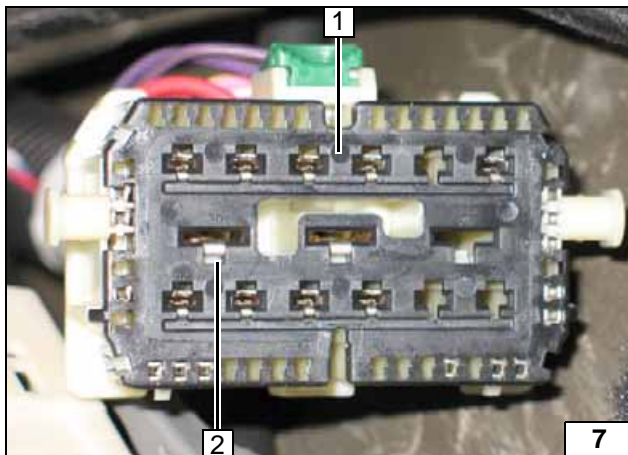
Fan controller



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 | WG | Resistor group | bl | blue |
| F3 | 25 A fuse | GS | Fan switch | sw | black |
| K3 | Fan relay | VSVM | Power supply module | | |
| | | C114 | 57-pin connector | | |
| | | | | X | Cutting point |
| | | | | | Wiring colors may vary. |

Legend

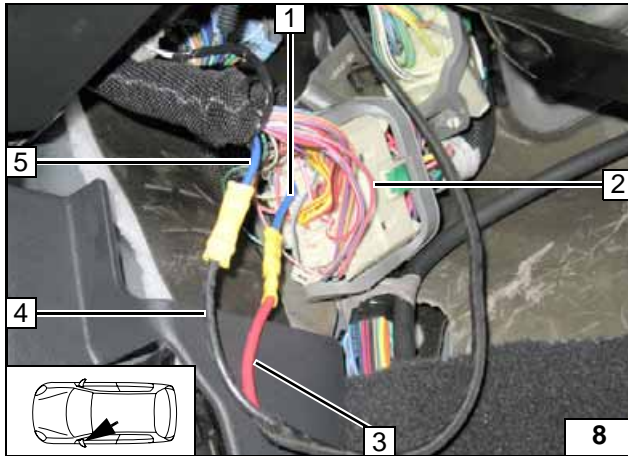


Connector C114 1 disconnected (on contact side)!

2 Socket 30



Connector C114

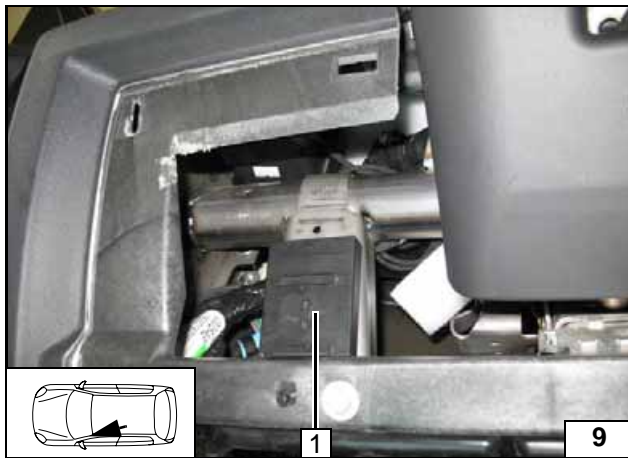


Connection on 57-pin connector C114 2 in driver's side footwell.
Produce connections as shown in wiring diagram.

- 1 Blue (bl) wire connector C114/30
- 3 Red (rt) wire from K3/87a
- 4 Black (sw) wire from K3/30
- 5 Blue (bl) wire of fan motor



**Connect-
ing fan-mo-
tor**

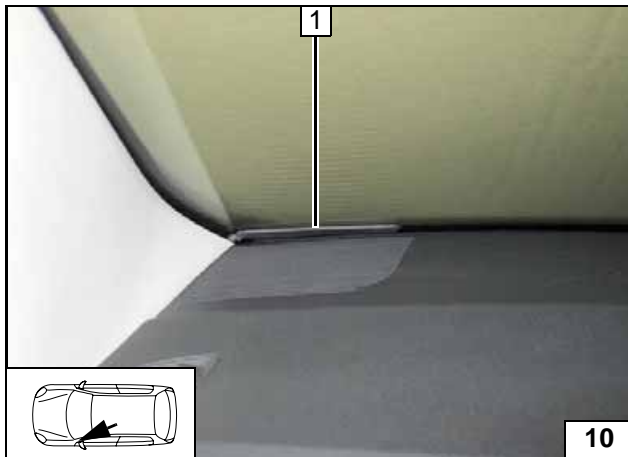


Remote option (Telestart)

Fasten receiver 1 with adhesive tape.

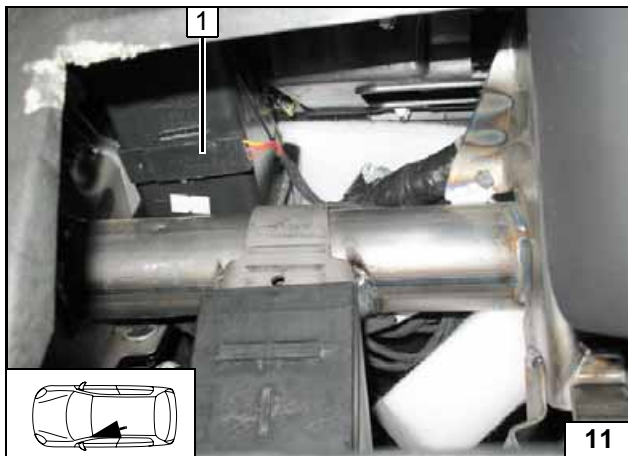


**Installing
receiver**



1 Antenna

**Installing
antenna**

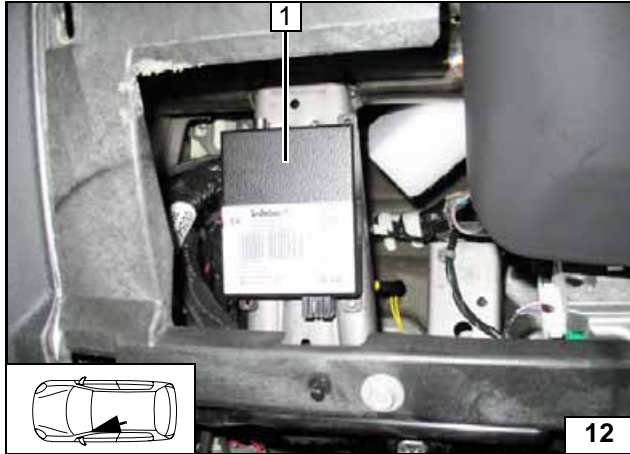


Temperature sensor for HTM100 only

Fasten temperature sensor 1 with adhesive tape.



**Installing
tempera-
ture sensor**

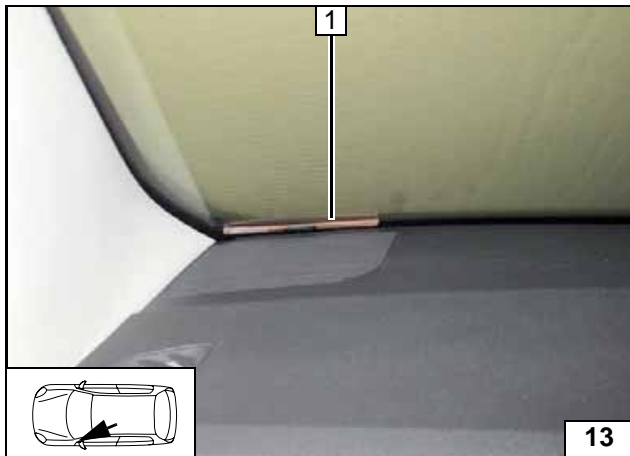


Remote option (Thermo Call)

Fasten receiver 1 with adhesive tape.

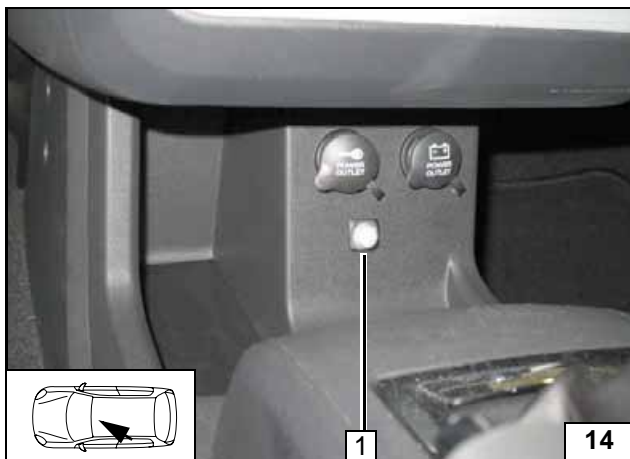


Installing receiver



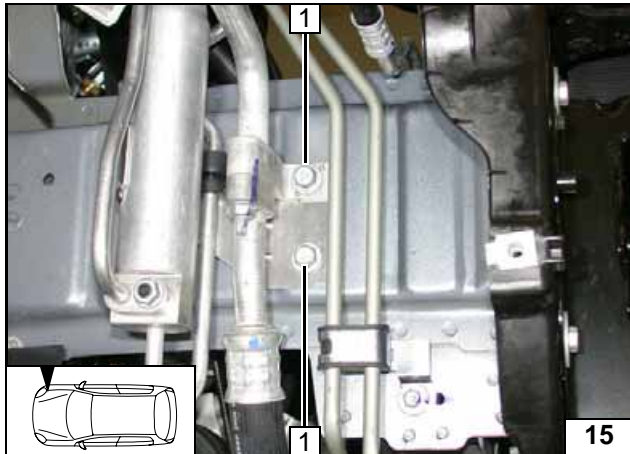
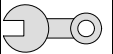
1 Antenna

Installing antenna



1 Push button

Installing push button

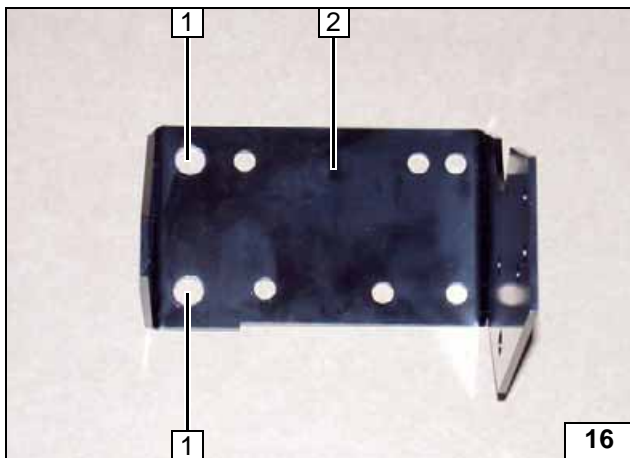


Preparing installation location

Remove original vehicle bolts at position 1 [2x] and discard.



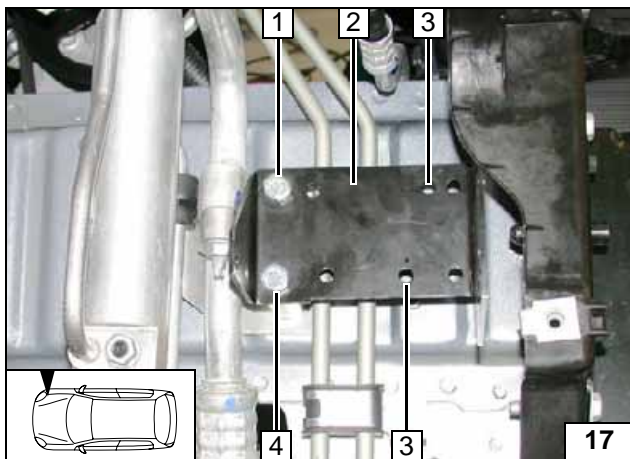
Removing bolts



Drill out bracket 2 to 9.5 mm dia. at position 1 [2x].



Preparing bracket

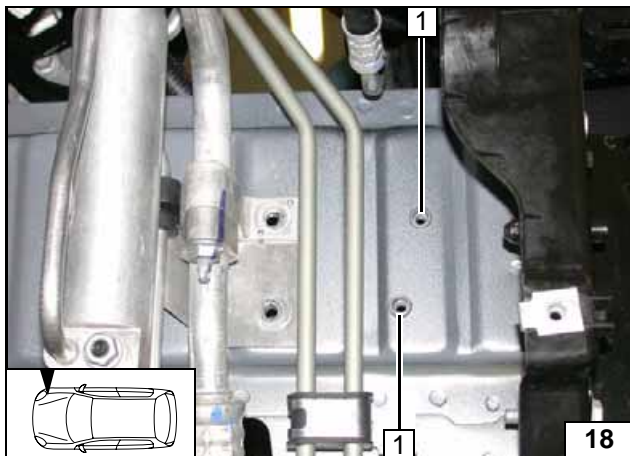


Copy hole pattern to battery tray at position 3 [2x] on frame side member.

- 1 M8x70 bolt, 40 mm shim
- 2 Bracket
- 4 M8x70 bolt, 40 mm shim, 5 mm shim



Loosely mount bracket

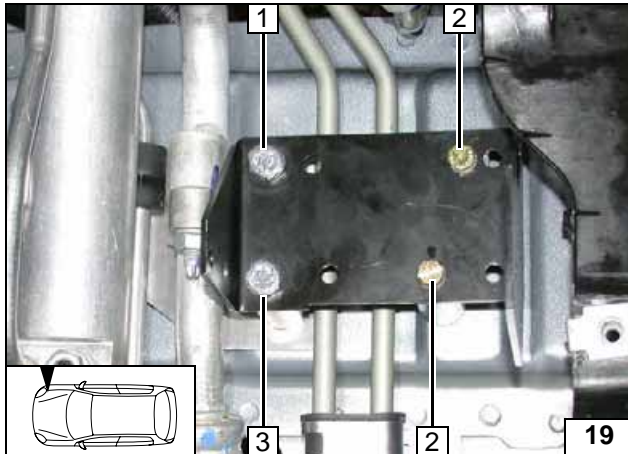
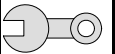


Remove bracket.

- 1 9.1 mm dia. hole; mount rivet nut [2x each]

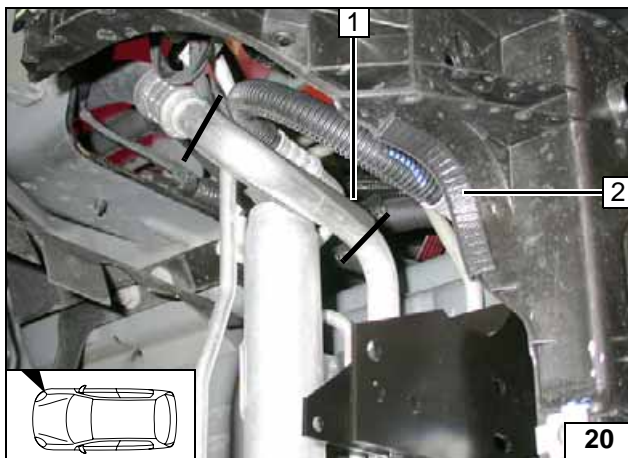


Installing rivet nut



- 1 M8x70 bolt, spring lockwasher, 40 mm shim
- 2 M6x70 bolt, spring lockwasher, 40 mm shim, 5 mm shim [2x each]
- 3 M8x70 bolt, spring lockwasher, 40 mm shim, 5 mm shim

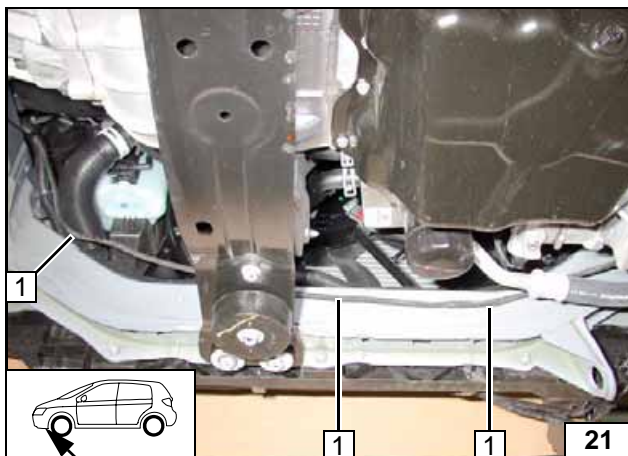
Installing bracket



Glue on a foam strip in area of marking at position 1. Cut 120 mm off edge protection 2 and mount.



Preassembling bracket on heater unit



Installing heater unit

Loosely route wiring harness of heater unit 1 (will be fastened later with fuel line).



Routing wiring harness

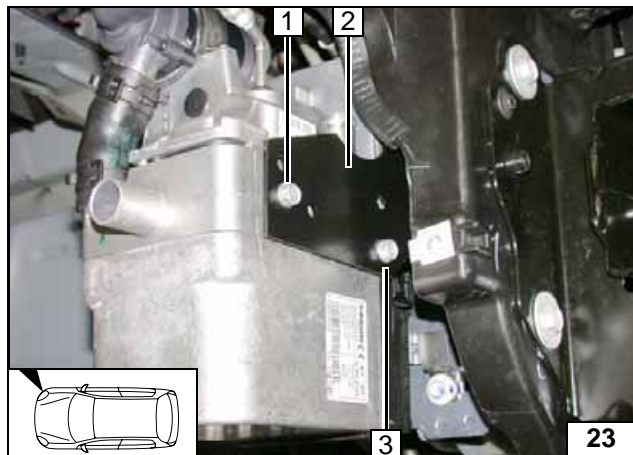
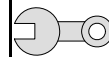


Mount connector before installing heater unit.

- 1 Wiring harness of heater unit



Routing wiring harness

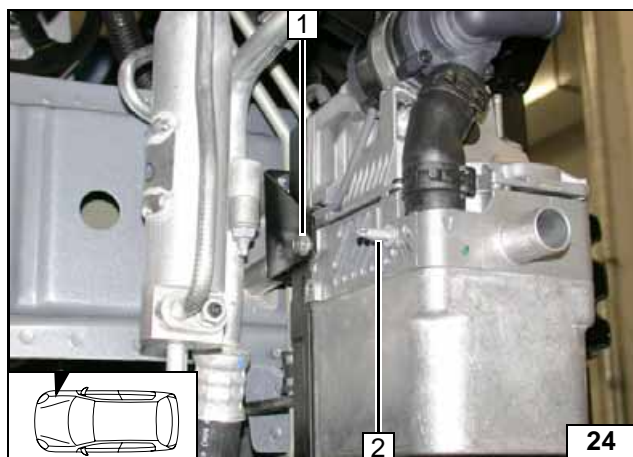


Insert two washers between heater unit and bracket 2 at Position 1.

- 1 E-jot screw, washer [2x]
- 3 E-jot screw



**Installing
heater unit**



- 1 E-jot screw
- 2 E-jot stud

**Installing
heater unit**

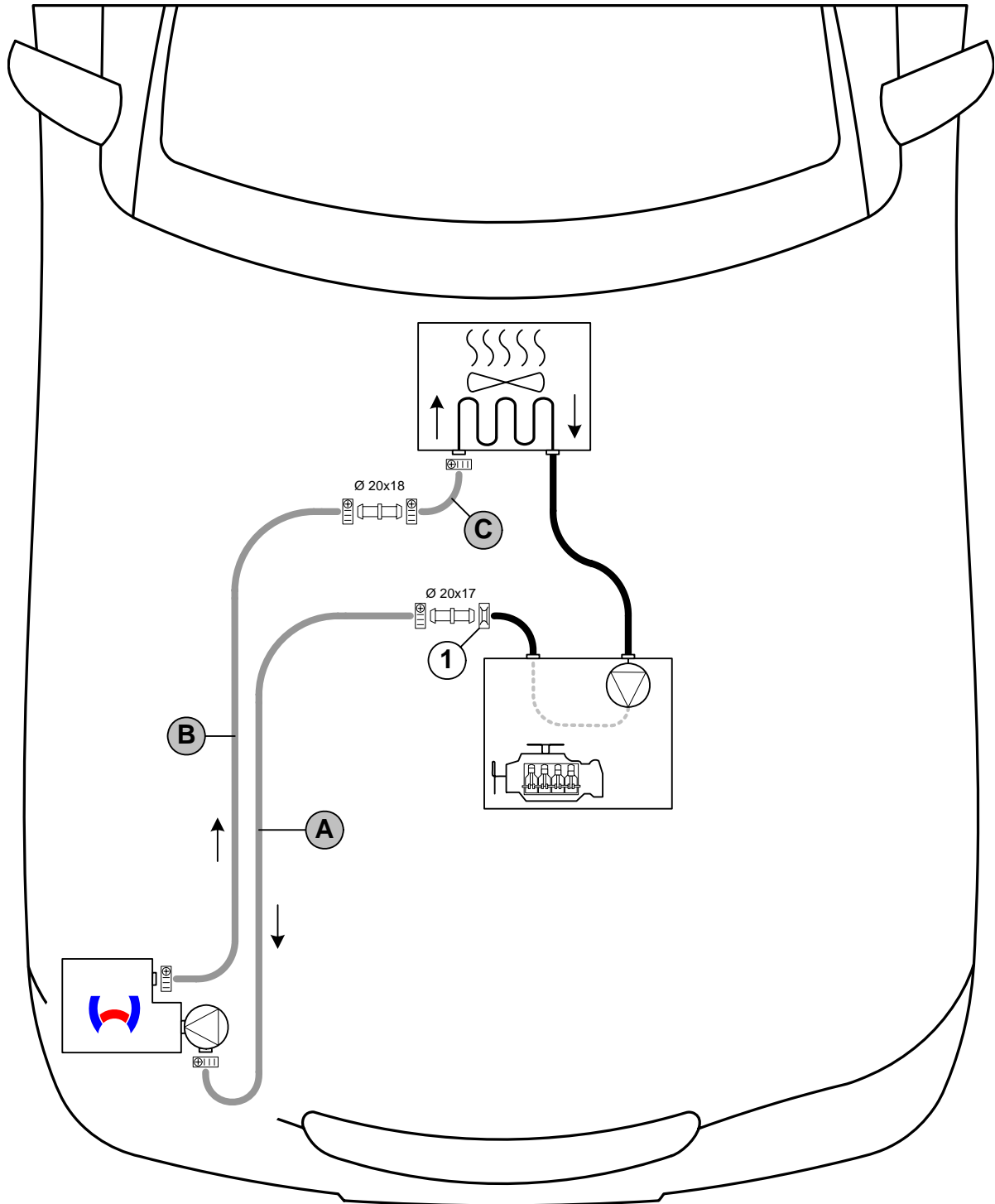


Coolant

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.

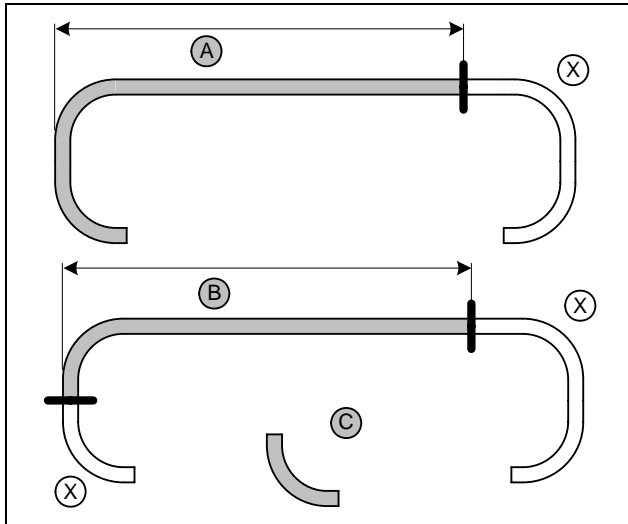
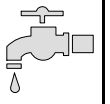
The connection should be "inline" based on the following diagram:



Coolant routing diagram

Connecting pipe . All hose clamps = 20-27 mm dia.
 1 = Original vehicle spring clip !





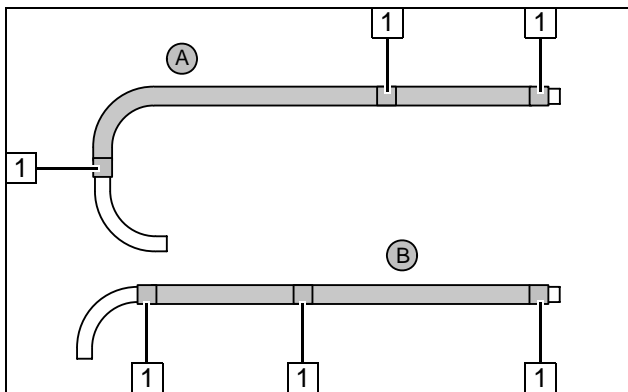
Gasoline

a = 1300
b = 1440

Hose C = 90° elbow, 18x18
Discard section X



Cutting coolant hoses to length

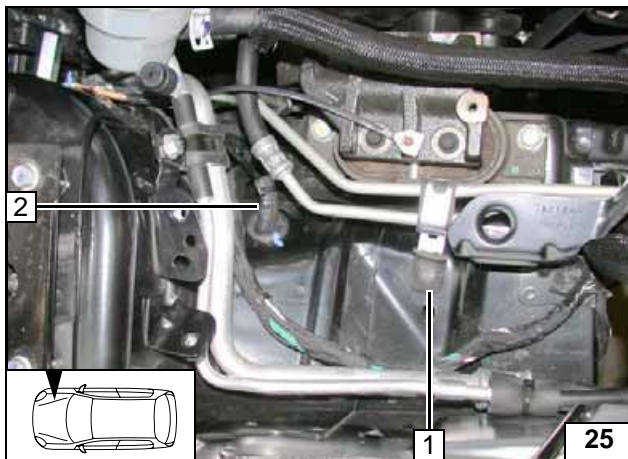


Push braided protection hoses onto hose **A** and **B** and cut to length.
Cut heat shrink plastic tubing to length.

1 50 mm long heat shrink plastic tubing [6x]



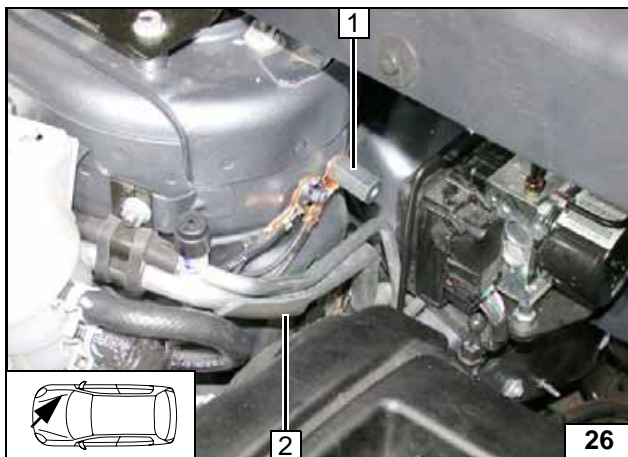
Preparing coolant hoses



Cut 40 mm off second foam strip and glue onto original vehicle bolt **1**. Cut open fabric protective hose **2** and fasten on brake line with cable tie.



Installing rub protection

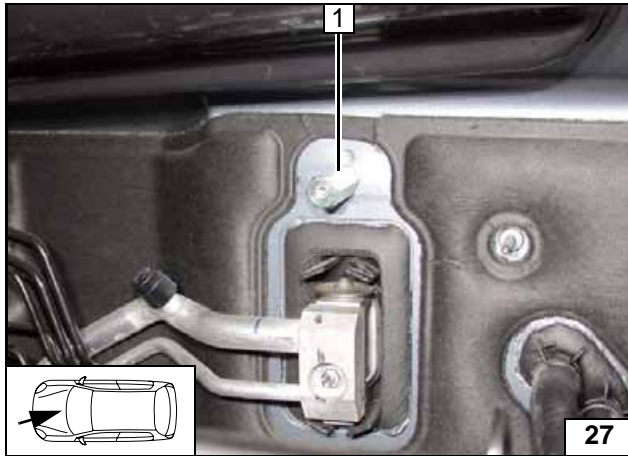


Remove original vehicle nut at position **1** and discard.

1 Original vehicle stud bolt, M6x30 spacer nut
2 85 mm foam strip

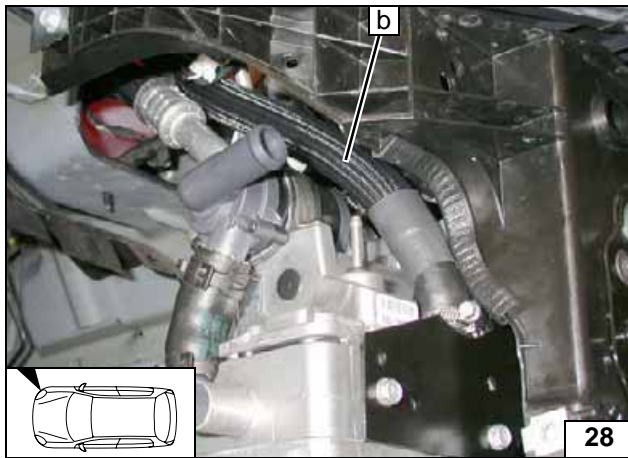


Installing spacer nut

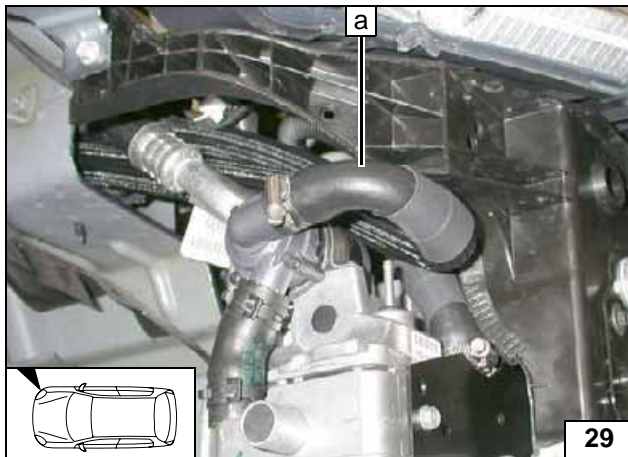


1 Original vehicle stud bolt, M6x40 spacer nut

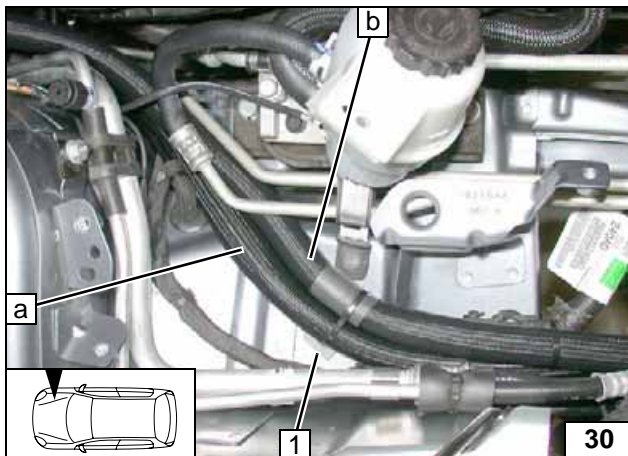
Installing spacer nut



Connecting heater unit outlet



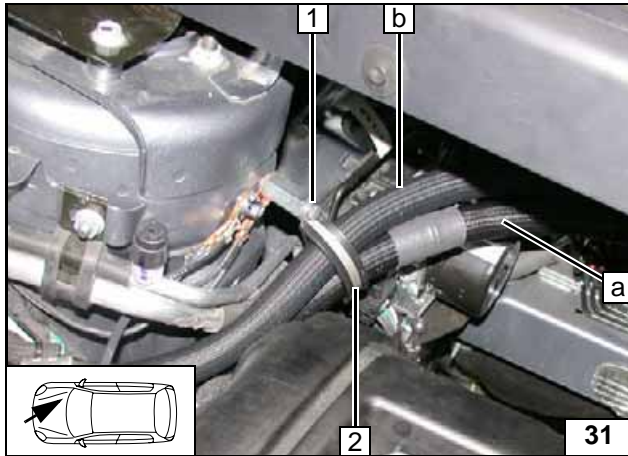
Connecting heater unit inlet



Glue on adhesive base 1, secure hoses A and B with cable tie

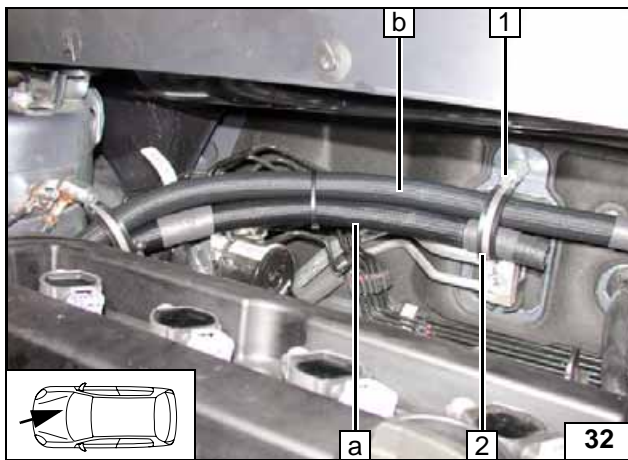


Routing in engine compartment



- 1 Spacer nut, M6x20 bolt, spring lockwasher
- 2 48 mm dia. rubber-coated p-clamp

Routing in engine compartment



- 1 Spacer nut, M6x20 bolt, spring lockwasher
- 2 48 mm dia. rubber-coated p-clamp

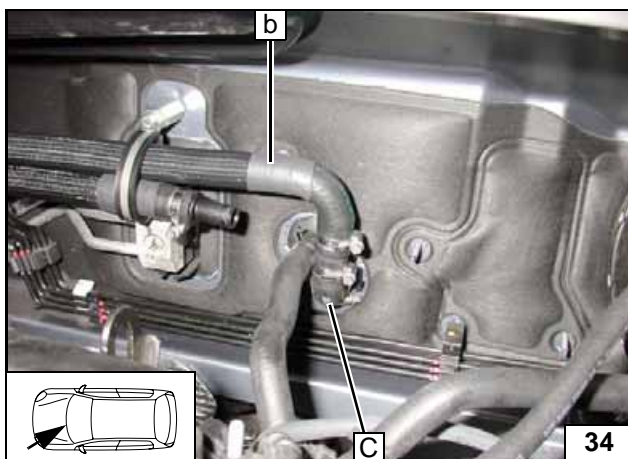
Routing in engine compartment



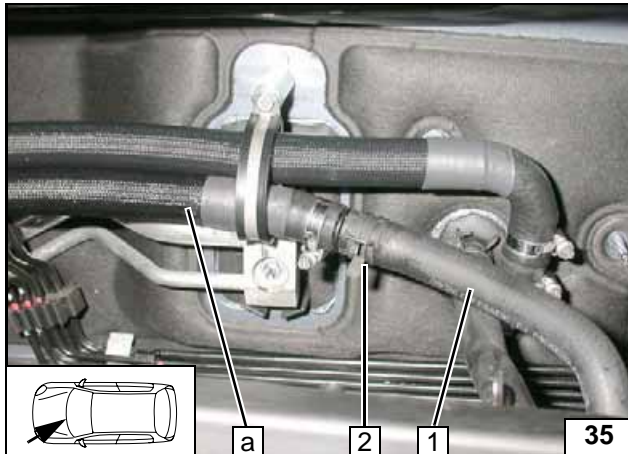
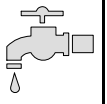
Disconnect hose to engine outlet/heat exchanger inlet **2** at connection piece on heat exchanger inlet. Spring clip **1** will be reused.



Cutting point



Connecting heat exchanger inlet

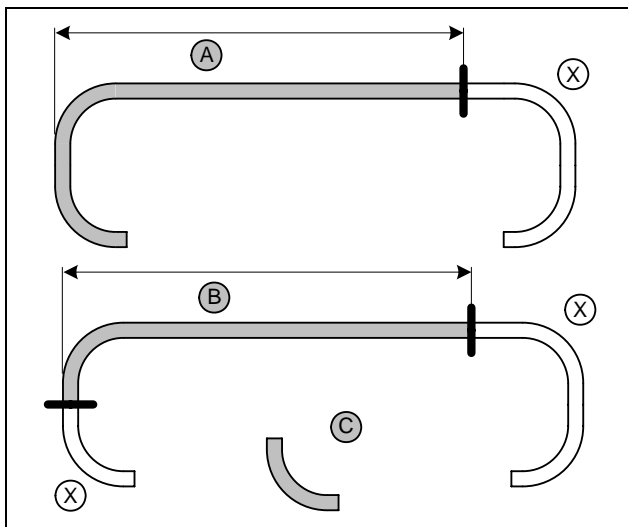


Ensure sufficient distance to neighboring components.

- 1 Hose of engine outlet
- 2 Original vehicle spring clip



Connect-
ing engine
outlet



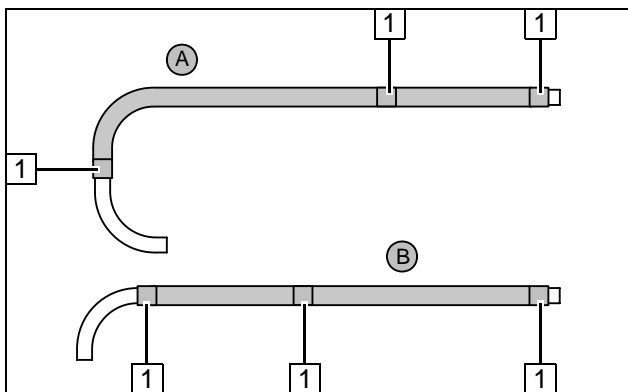
Diesel

- a = 1400
- b = 1440

Hose **C** = 90° elbow, 18x18
Discard section **X**



Cutting
coolant
hoses to
length

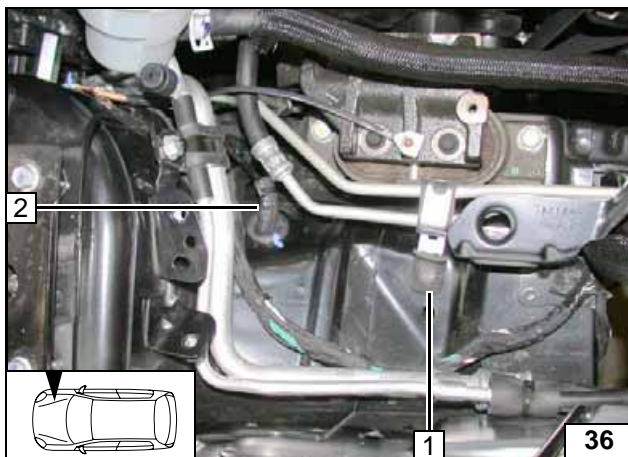


Push braided protection hoses onto hose **A** and **B** and cut to length.
Cut heat shrink plastic tubing to length.

- 1 50 mm long heat shrink plastic tubing [6x]



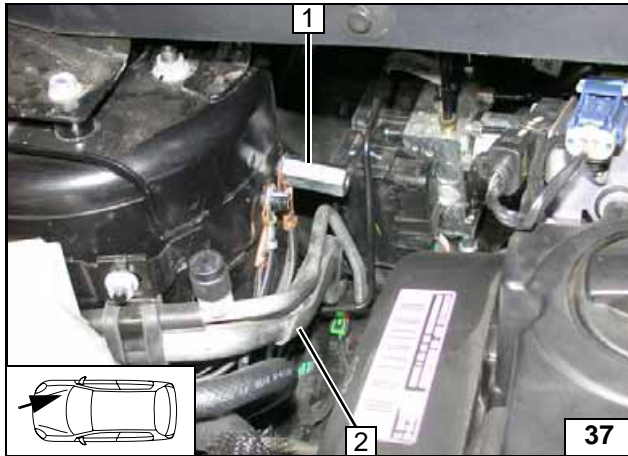
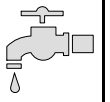
Preparing
coolant
hoses



Cut 30 mm off second foam strip **1** and glue onto original vehicle bolt. Cut open fabric protective hose **2** and fasten on brake line with cable tie.



Installing
rub protec-
tion

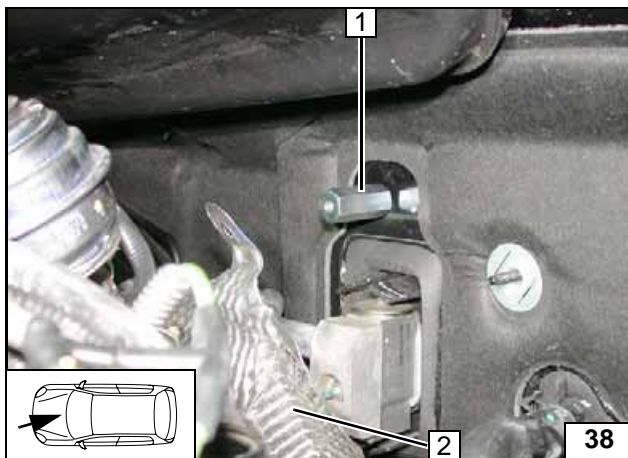


Remove original vehicle nut at position 1 and discard.

- 1 Original vehicle stud bolt, M6x30 spacer nut
- 2 85 mm foam strip



Installing spacer nut

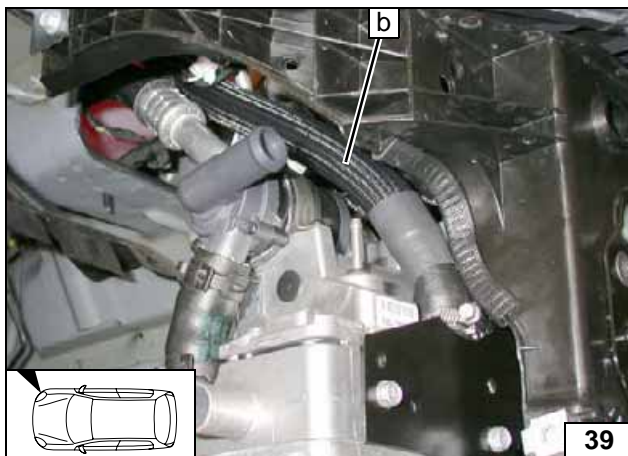


Remove original vehicle nut at position 1 and discard.

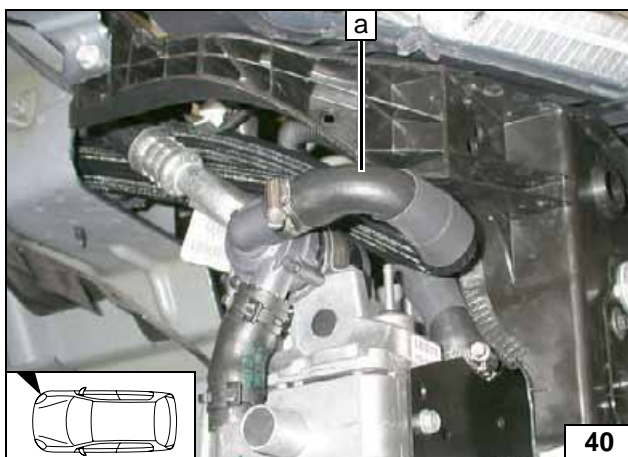
- 1 Original vehicle stud bolt, M6x40 spacer nut
- 2 Heat guard plate detached



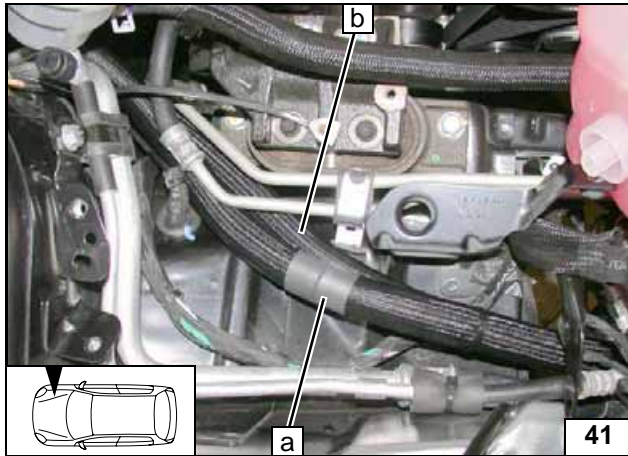
Installing spacer nut



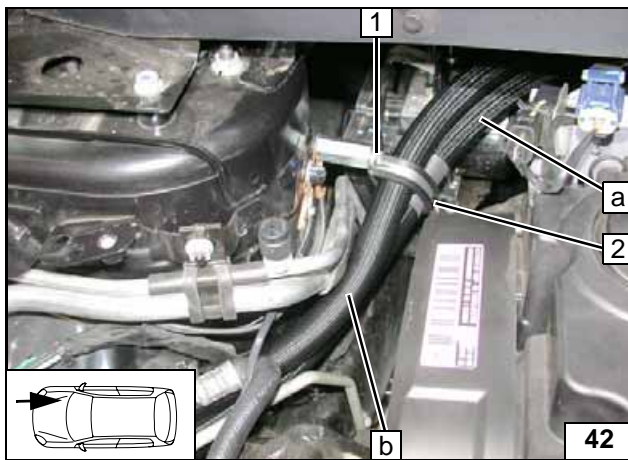
**Connect-
ing heater
unit outlet**



**Connect-
ing heater
unit inlet**

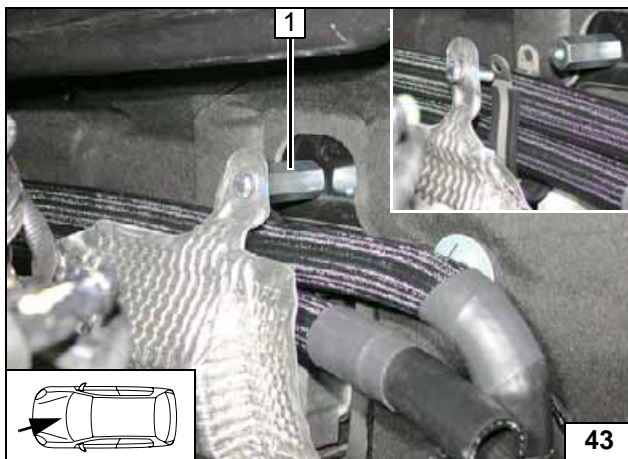


Routing in engine compartment



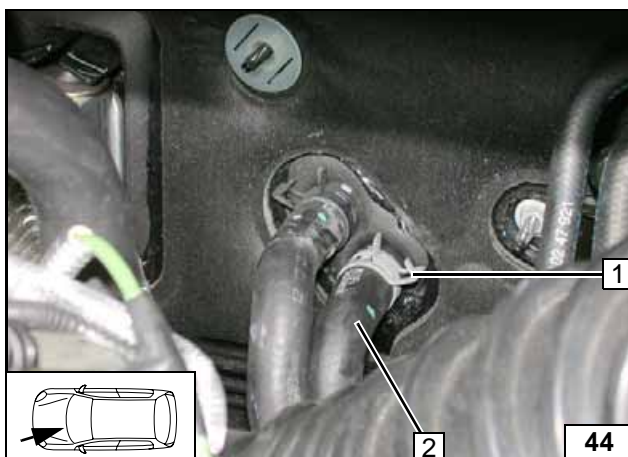
- 1 Spacer nut, M6x20 bolt, spring lockwasher
- 2 48 mm dia. rubber-coated p-clamp

Routing in engine compartment



- 1 Spacer nut, M6x20 bolt, spring lockwasher, 48 mm dia. rubber-coated p-clamp, heat guard plate

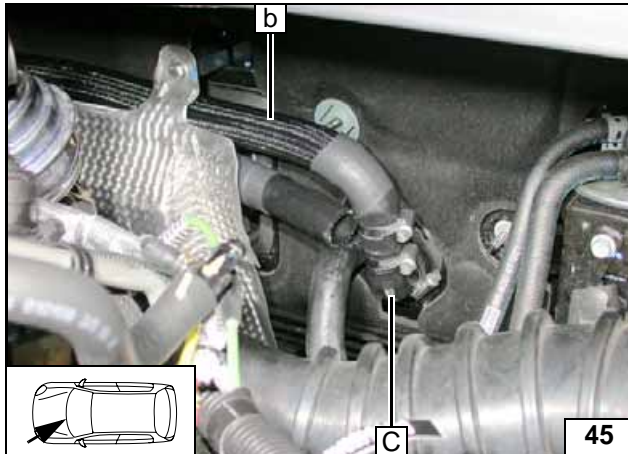
Routing in engine compartment



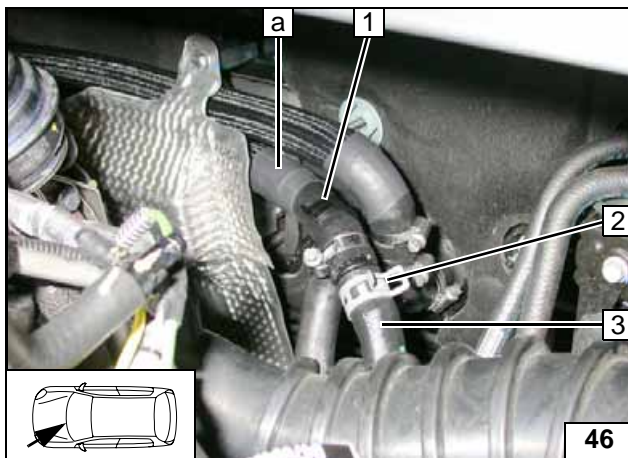
Disconnect hose to engine outlet/heat exchanger inlet 2 at connection piece on heat exchanger inlet. Spring clip 1 will be reused.



Cutting point



Connect-
ing heat
exchanger
inlet



Ensure sufficient distance to neighboring components.

- 1 Spacer bracket
- 2 Original vehicle spring clip
- 3 Hose of engine outlet



Connect-
ing engine
outlet



Fuel

CAUTION!

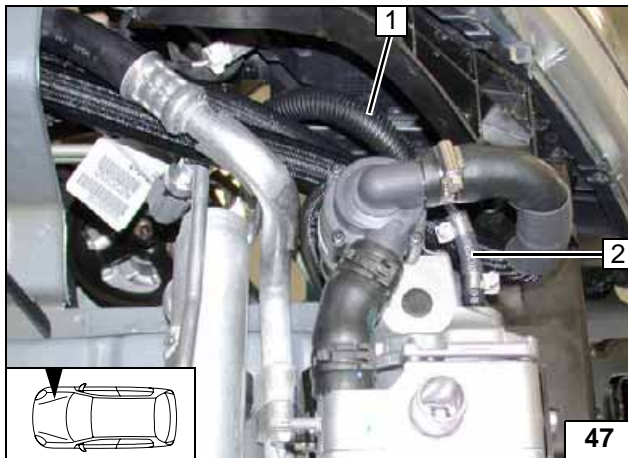
Open the vehicle's fuel tank cap, ventilate the tank and then re-close the tank lock.

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.

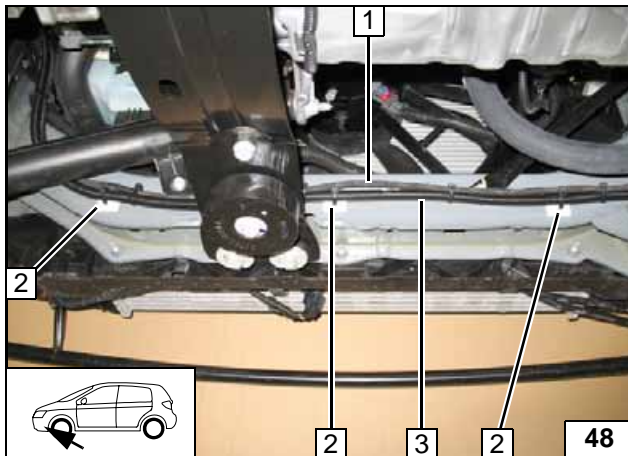
WARNING!

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



- 1 Fuel line in 2,100 mm corrugated tube
- 2 Hose section, 10 mm dia. clamp [2x]

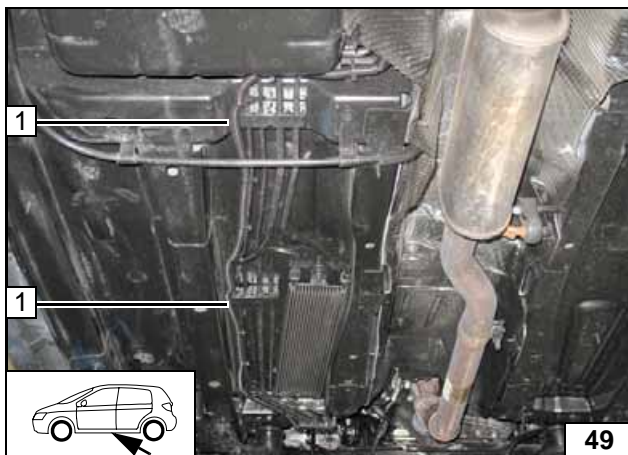
Connect-
ing heater
unit



Fasten wiring harness of heater unit 1 and fuel line in corrugated tube 3 with adhesive base 2 and cable tie.



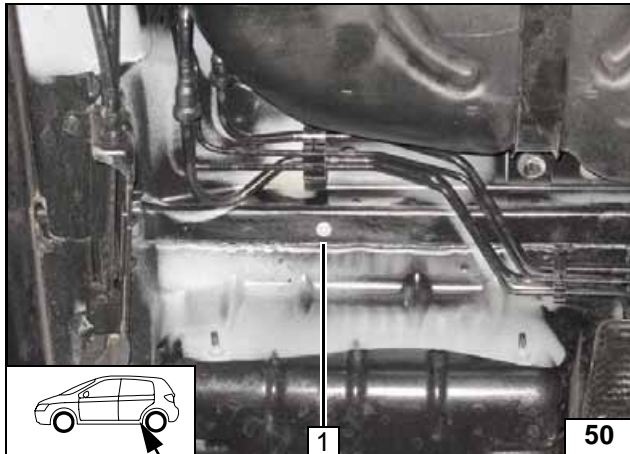
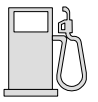
Install-
ing
lines



Fasten wiring harness of metering pump and fuel line in corrugated tube 1 on original vehicle lines.

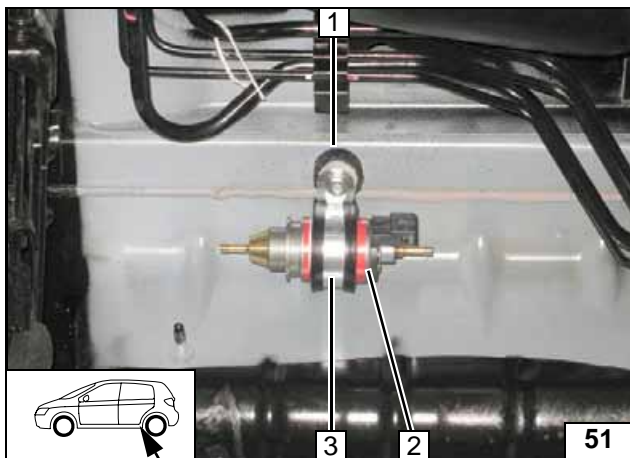


Install-
ing
lines



1 Drill 9.1 mm dia. hole; install rivet nut

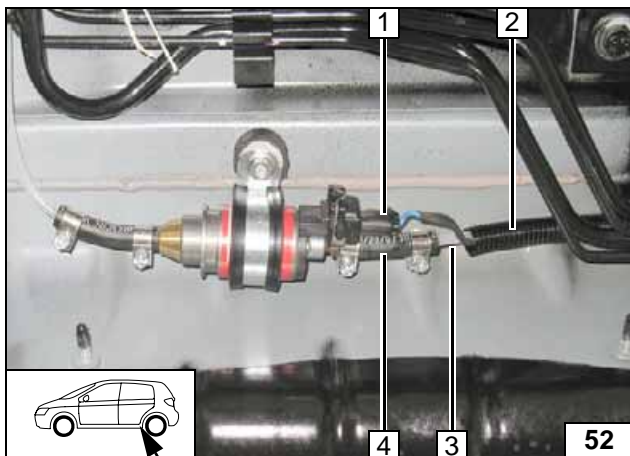
Installing rivet nut



1 Silent block, flanged nut, rivet nut
2 Metering pump
3 Rubber-coated pipe clamp



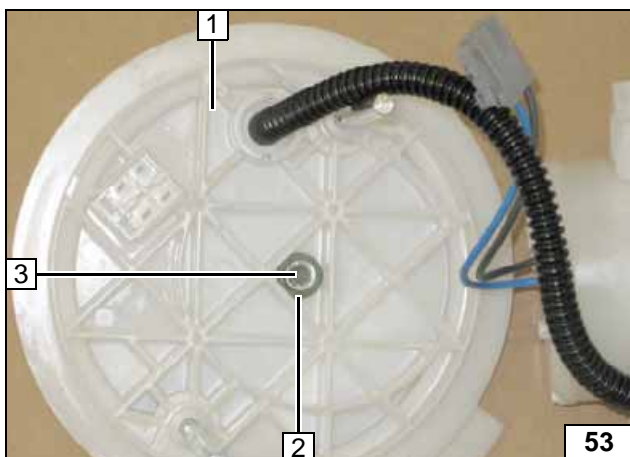
Installing metering pump



1 Wiring harness of metering pump, connector mounted
2 Wiring harness of metering pump, fuel line in corrugated tube
3 Fuel line
4 Hose section, 10 mm dia. clamp [2x]



Connecting metering pump



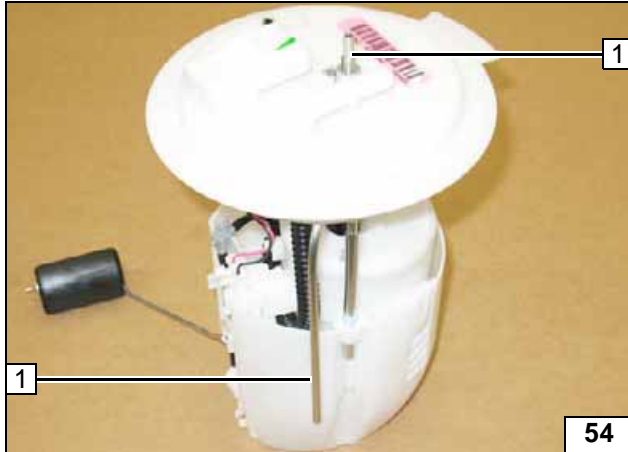
Gasoline

Remove and dismantle fuel-tank sending unit 1 according to manufacturer's instructions.

2 Flanged nut
3 Copy hole pattern, 6 mm dia. hole



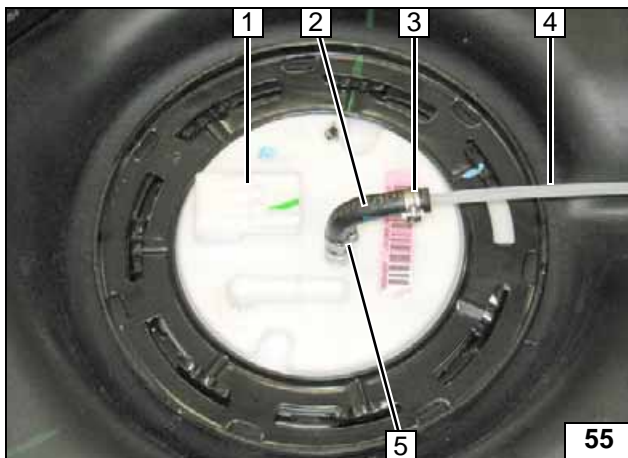
Removing fuel



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



Installing fuel standpipe

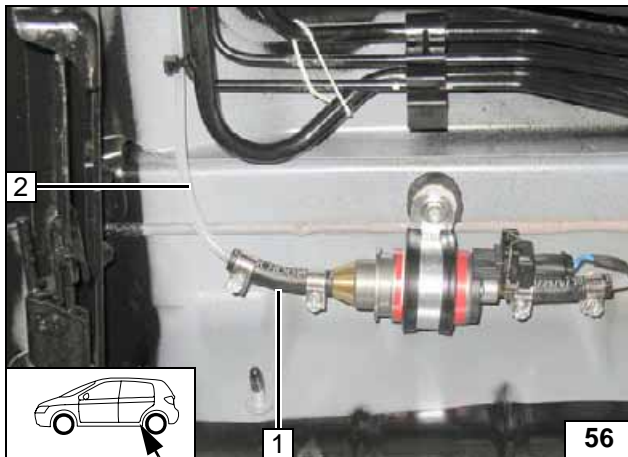


Install fuel-tank sending unit **1** in accordance with manufacturer's specifications. Install fuel tank in accordance with manufacturer's specifications.



Connecting fuel line

- 2** 90° molded hose
- 3** 10 mm dia. clamp
- 4** Fuel line
- 5** 9 mm dia. clamp

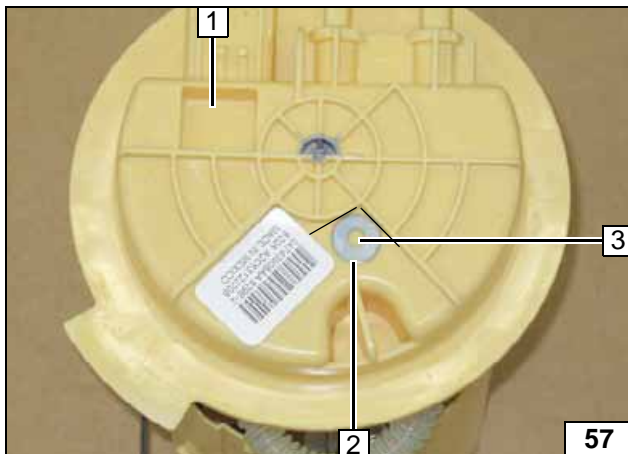


Check the position of the components; adjust if necessary. Check that they have free clearance.



Connecting metering pump

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



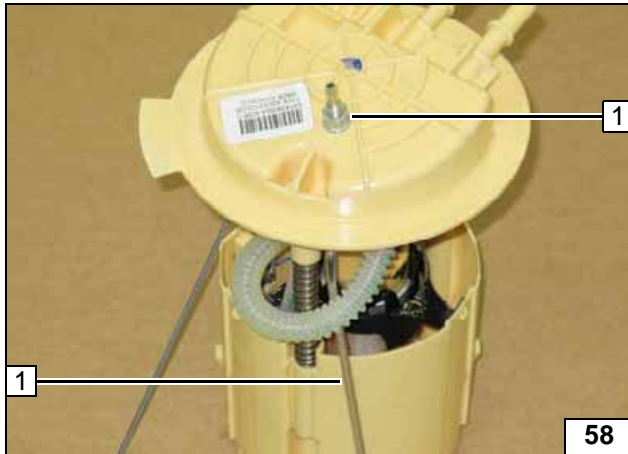
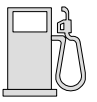
Diesel

Remove fuel-tank sending unit **1** according to manufacturer's specifications. Place 5.5 mm dia. large diameter washer **2** on bars.



Removing fuel

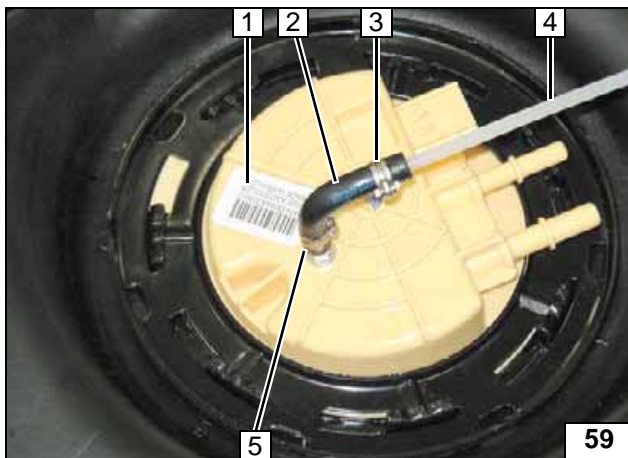
- 3** Copy hole pattern, 6 mm dia. hole



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



Installing fuel standpipe

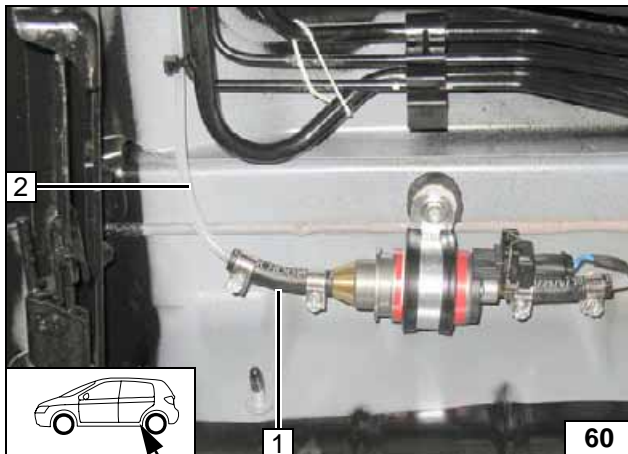


Install fuel-tank sending unit 1 in accordance with manufacturer's specifications. Install fuel tank in accordance with manufacturer's specifications.



Connecting fuel line

- 2 90° molded hose
- 3 10 mm dia. clamp
- 4 Fuel line
- 5 9 mm dia. clamp

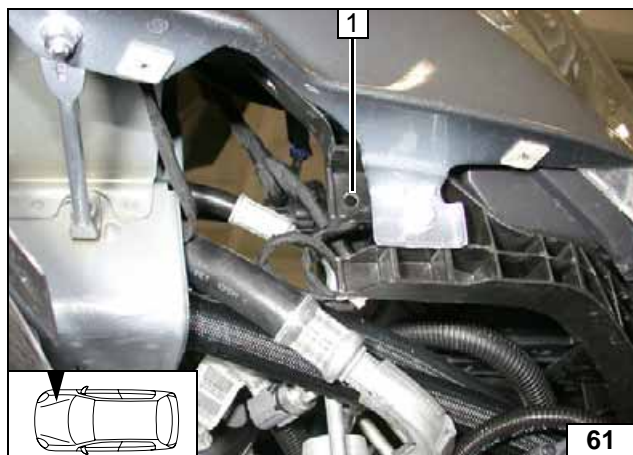


Check the position of the components; adjust if necessary. Check that they have free clearance.



Connecting metering pump

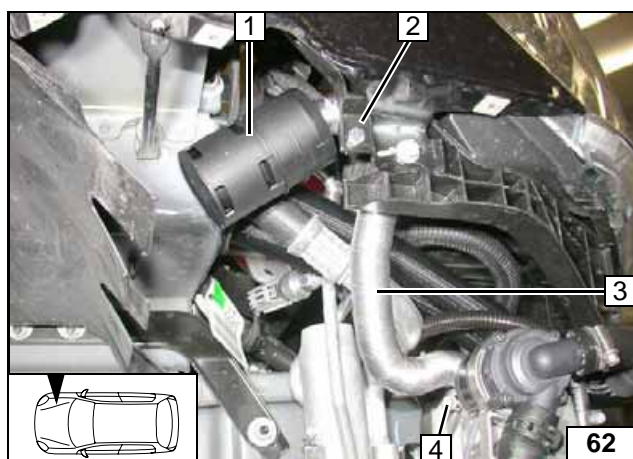
- 1 Hose section, 10 mm dia. clamp [2x]
- 2 Fuel line



Combustion air

- 1 6.5 mm dia. hole

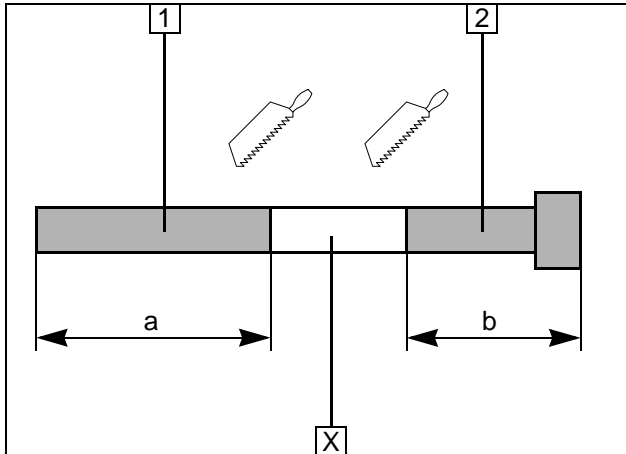
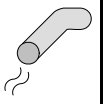
Hole in bumper trim



- 1 Muffler
- 2 M6x20 bolt, p-clamp, flanged nut
- 3 Combustion air pipe
- 4 27 mm dia. clamp



Installing muffler

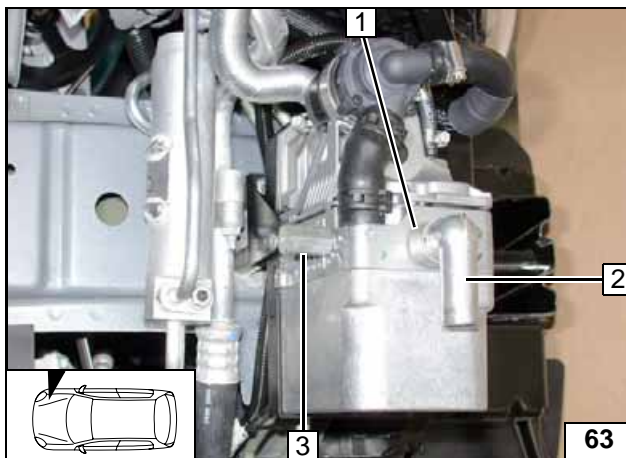


Exhaust gas

- 1 Exhaust pipe
a = 360
- 2 Exhaust end section
b = 195

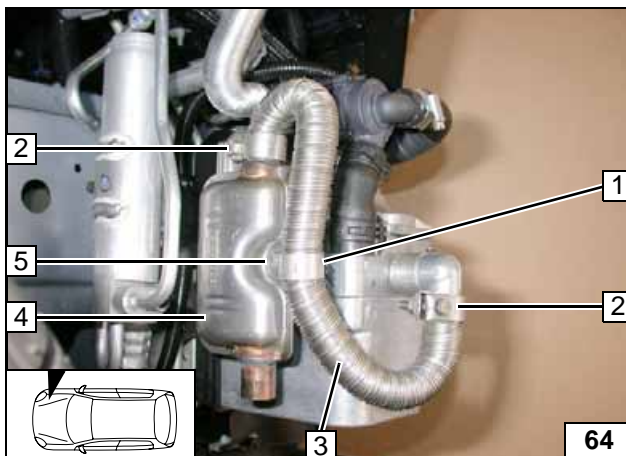
Discard section X

Preparing exhaust pipe



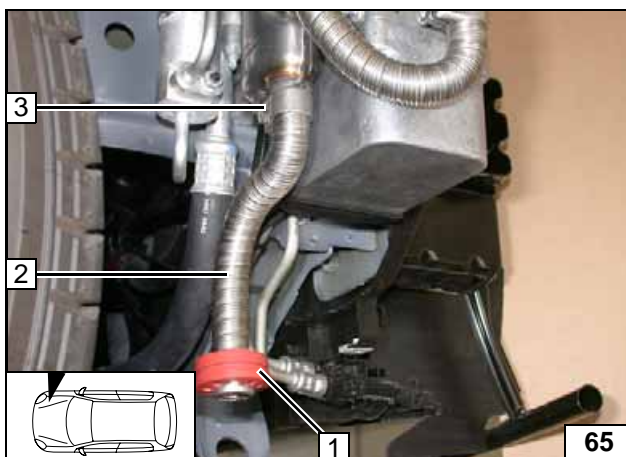
- 1 Hose clamp
- 2 Exhaust manifold
- 3 M6x30 spacer nut, E-jet stud

Installing exhaust manifold



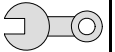
- 1 P-clamp
- 2 Hose clamp [2x]
- 3 Exhaust pipe
- 4 Muffler
- 5 Spacer nut, M6x16 bolt, spring lockwasher

Installing exhaust pipe and muffler



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

Installing exhaust end section



Final Work

WARNING!

Reassemble the disassembled components in reverse order.

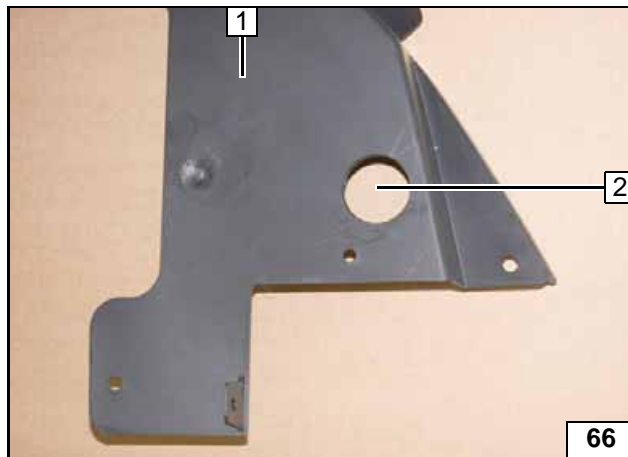
Check all hoses, clamps and all electrical connections for firm seating.

Secure all loose cables using cable ties.

Only use manufacturer-approved coolant.

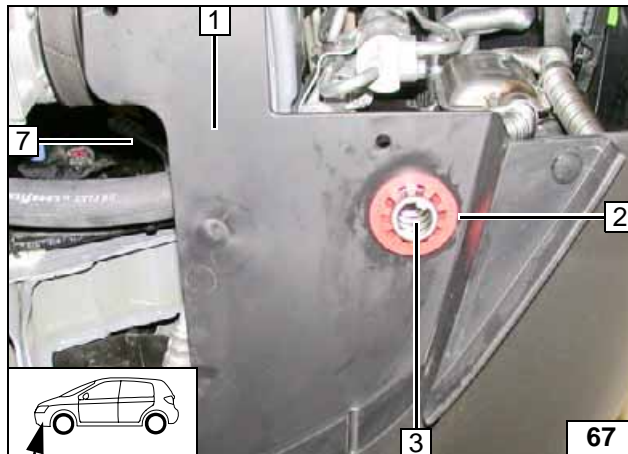
Spray the heater unit components with anti-corrosion wax (Tectyl 100K, Order No. 111329).

- Connect the battery.
- Fill and bleed the coolant circuit according to the vehicle manufacturer's specifications.
- Set the digital timer.
- Make settings 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.



- 1 Underride protection
- 2 42 mm dia. hole

**Cutting out
underride
protection**



Align exhaust end section **3** flush on red rubber isolator **2**.

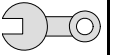
- 1 Underride protection



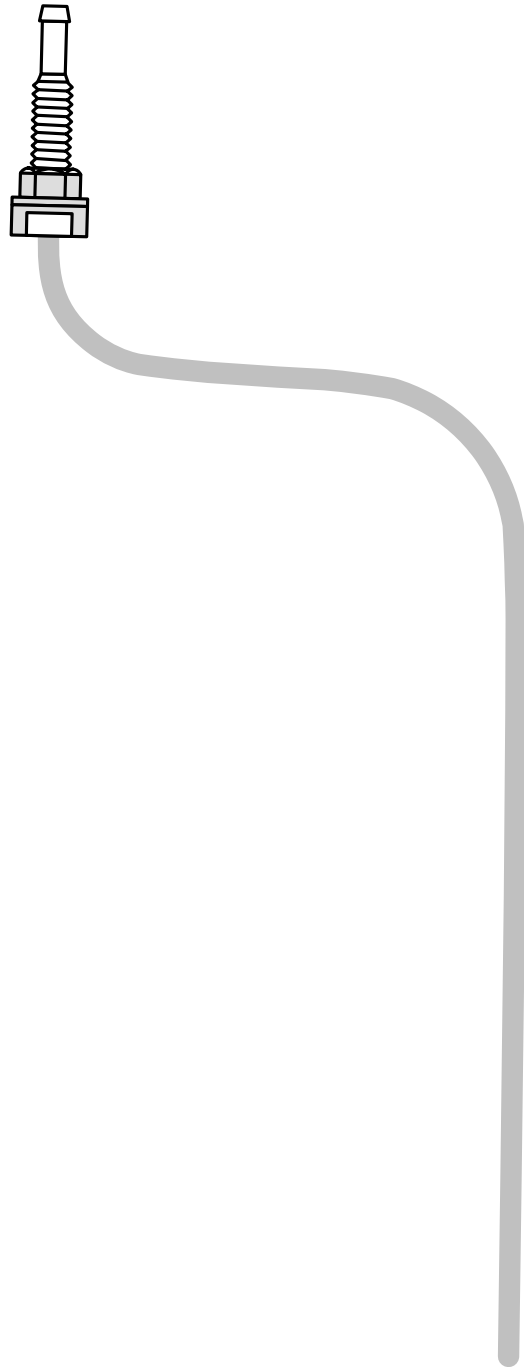
**Mounting
rubber iso-
lator**

Webasto
Feel the drive

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



Template for Gasoline Fuel Standpipe



100 mm



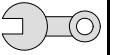
Scale 1:1

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

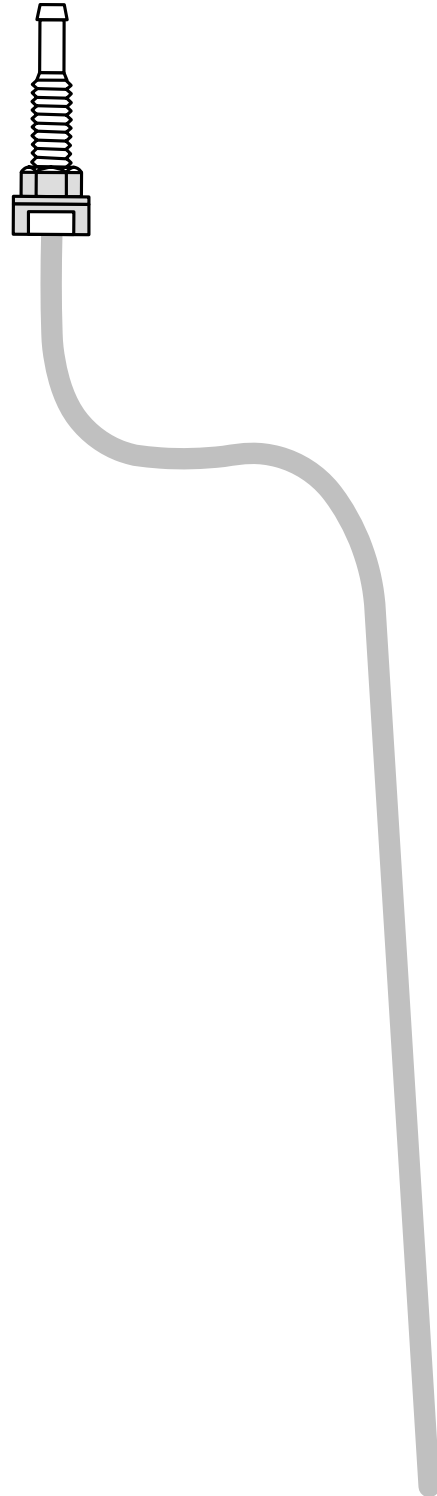
Set the printer settings to "no margin" or "minimize margins" and 100% of the normal size.

100 mm

0



Template for Diesel fuel standpipe



100 mm



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.

100 mm

0

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:

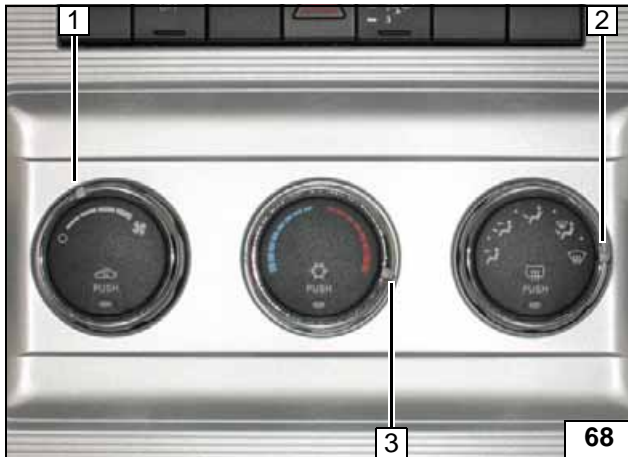
For a driving time of approx. 20 min. (in one direction), we recommend not exceeding a switch-on time of 20 min.

On vehicles with passenger compartment monitoring, this must be deactivated during heating!



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

Before parking the vehicle, make the following settings:



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

Manual air conditioning