

Water Heater Unit



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

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

Installation Instructions

Jeep Wrangler

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
Daimler Chrysler (USA)	Wrangler / Unlimited	JK	e4 * 2001/116 * 0116 * ...

Engine type	Engine model	Output in kW	Displacement in cm ³
49C / 50C	Diesel	130	2777

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 Jeep Wrangler Diesel	1312783A

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 Jeep Wrangler 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).

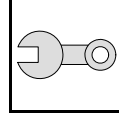
Special Tools

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

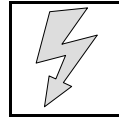
Explanatory Notes on Document

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.

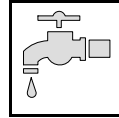
Mechanical system



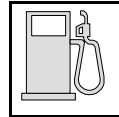
Electrical system



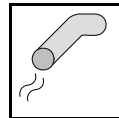
Water



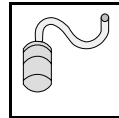
Fuel



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!

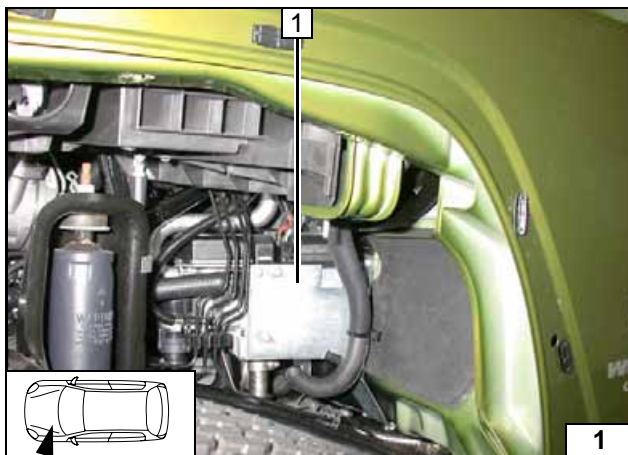
Preliminary Work

WARNING!

- Open the fuel tank cap, ventilate the 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 battery box.
- Remove the air filter together with the intake hose.
- Remove the fuse and relay box.
- Remove the left-hand wheel well trim.



Remove page 21 "Operating Instructions for End Customer" and add to the vehicle operating instructions.



Heater unit installation location

1 Heater unit

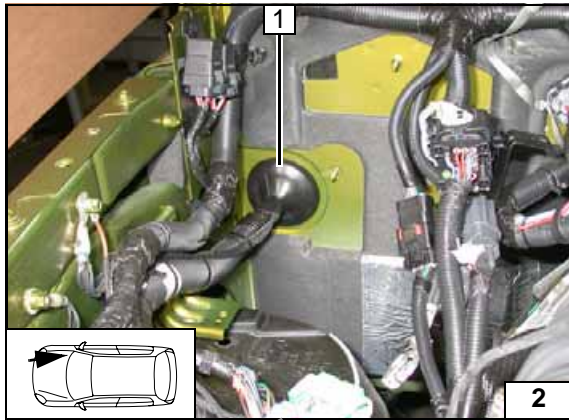
Installation location



Electrical system

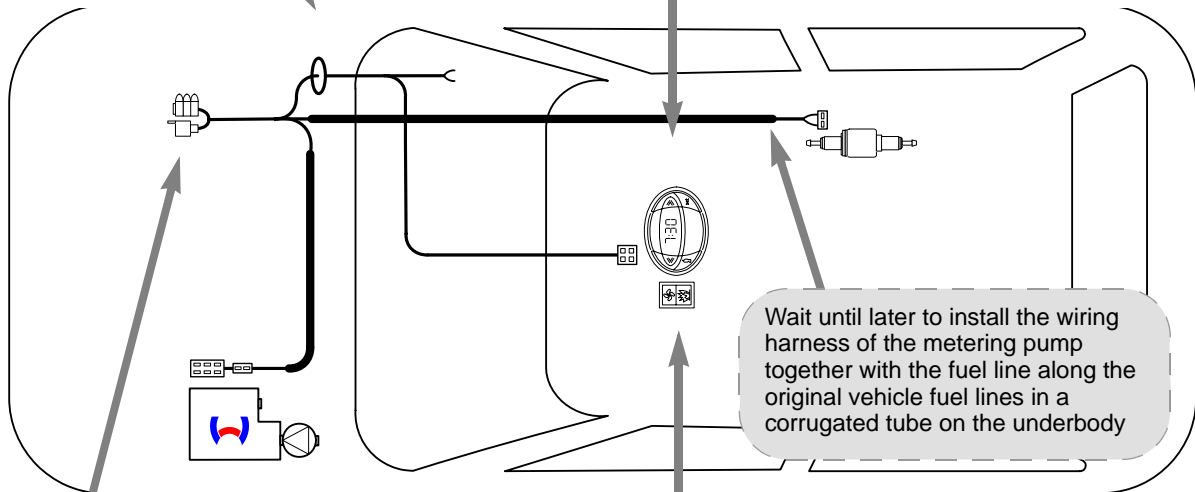
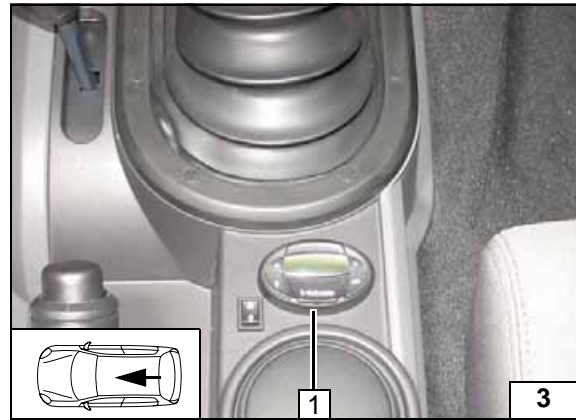
Wiring harness pass through

- 1 Protective rubber plug

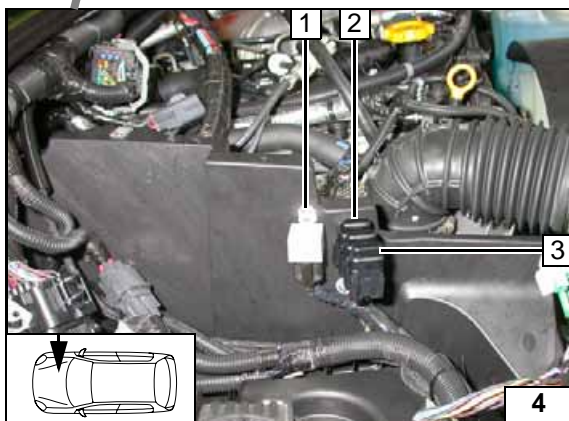


Digital timer

- 1 Digital timer



Wiring harness installation diagram



Fuse holder, relay K3

- 1 K3 relay, M5x16 bolt, washer, M5 nut
- 2 Retaining plate of fuse holder, M5x16 bolt, washers, M5 nut
- 3 Fuse holder

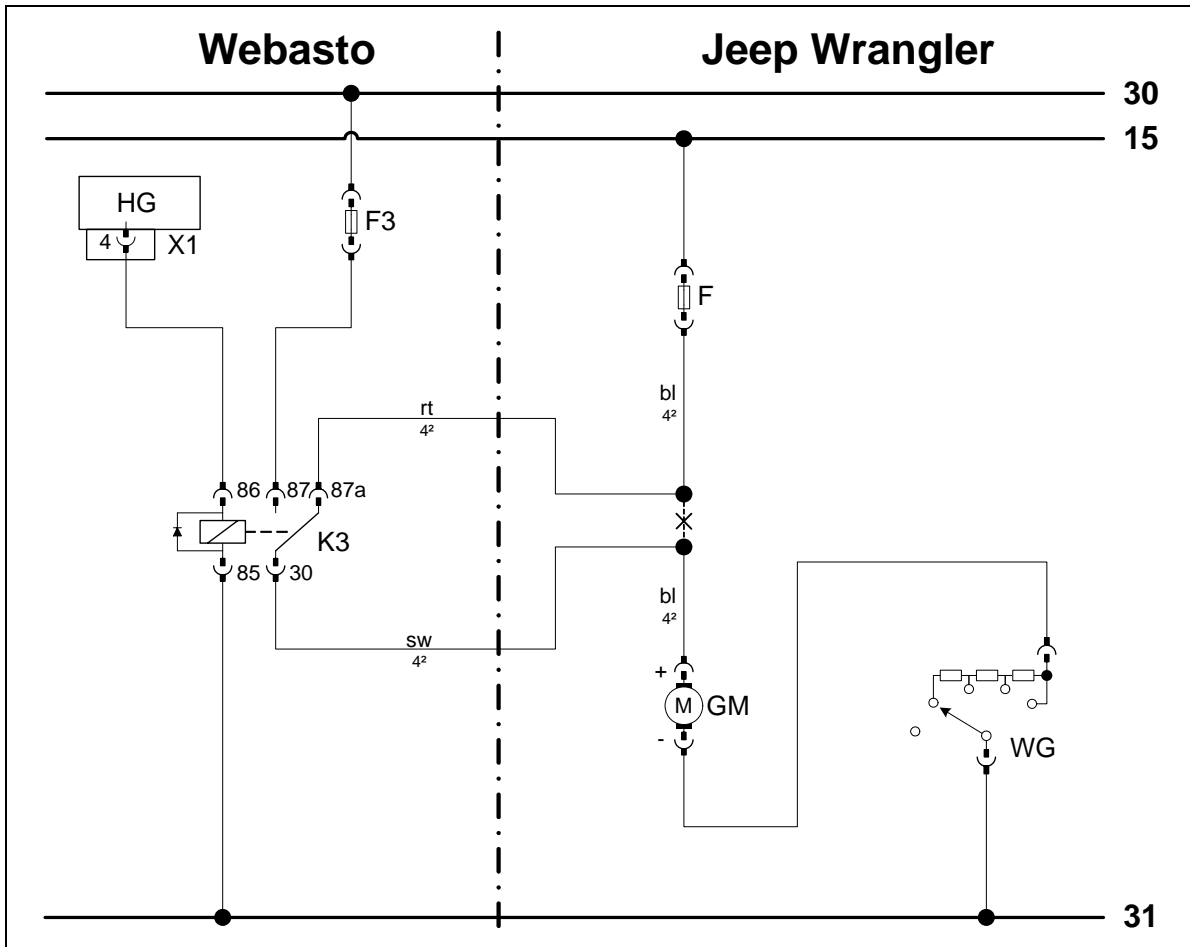


Summer/winter switch option

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



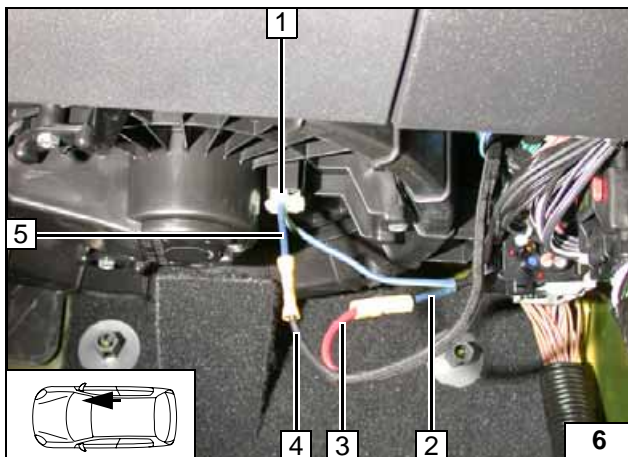
Fan controller for manual air conditioning



Wiring diagram

Webasto components		Vehicle components		Colors and symbols	
HG	Heater unit TT-C/E	GM	Fan motor	rt	red
X1	6-pin connector	WG	Resistor group	sw	black
F3	Fuse, 25 A	F	Fan fuse	bl	blue
K3	Fan relay				
				X	Cutting point
				Wiring colors may vary.	

Legend



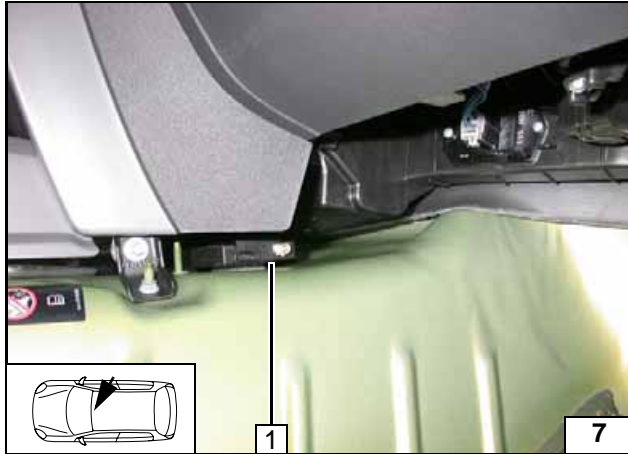
Connection to 2-pin connector 1 from the blower motor.

Produce connections as shown in wiring diagram.

- 2 Blue (bl) wire of fuse
- 3 Red (rt) wire from K3/87a
- 4 Black (sw) wire from K3/30
- 5 Blue (bl) wire of connector



Connecting fan-motor

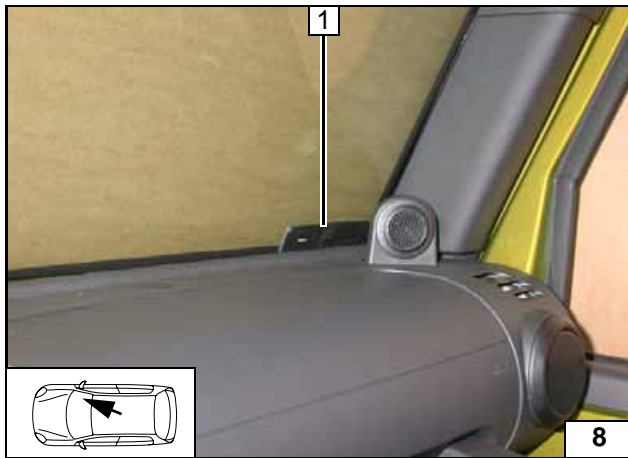


Remote option (Telestart)

1 Fasten receiver with adhesive tape

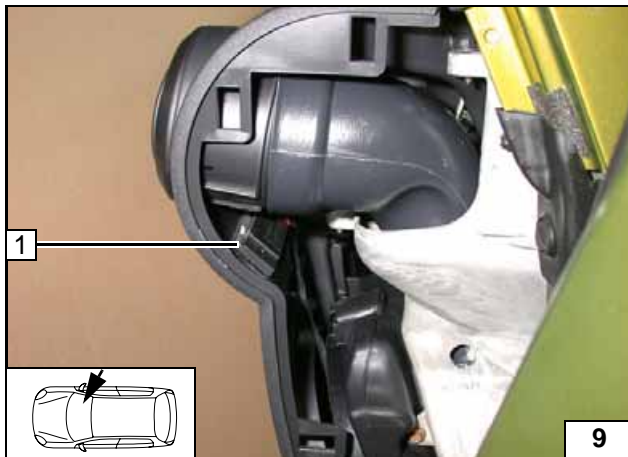


Installing receiver



1 Antenna

Installing antenna

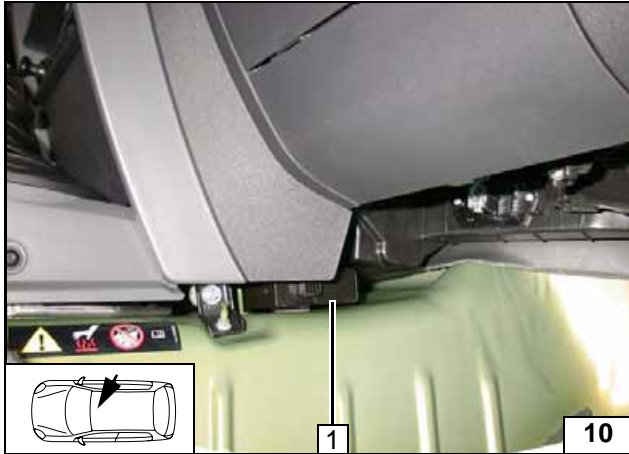


Temperature sensor for HTM100 only

1 Fasten temperature sensor with adhesive tape



Installing temperature sensor



Remote option (Thermo Call)

1 Fasten receiver with adhesive tape



Installing receiver



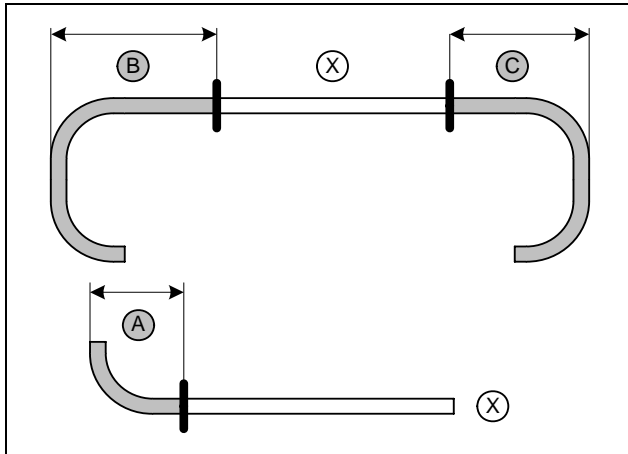
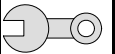
1 Antenna

Installing antenna



1 Pushbutton

Installing push button



Preparing heater unit

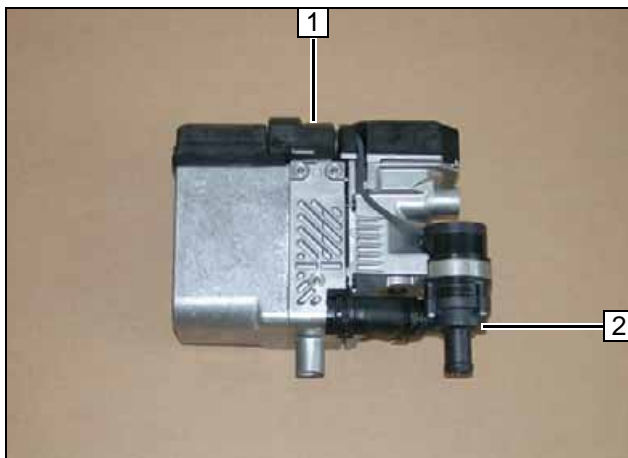
15 mm dia. hose A.

- a = 165
- b = 130
- c = 150

Discard section X



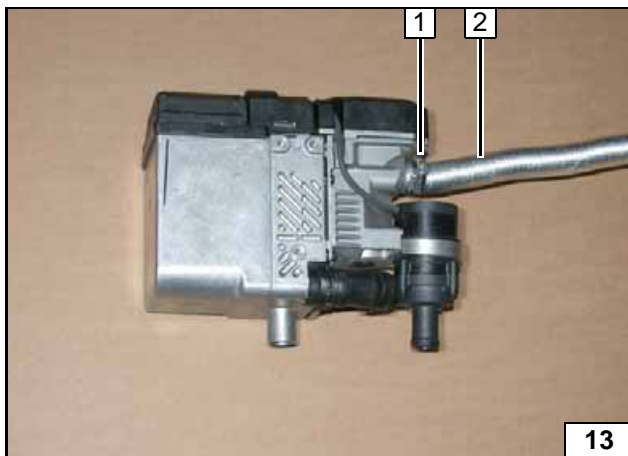
Cutting coolant hoses to length



Replace original circulating pump cover with circulating pump cover 2.



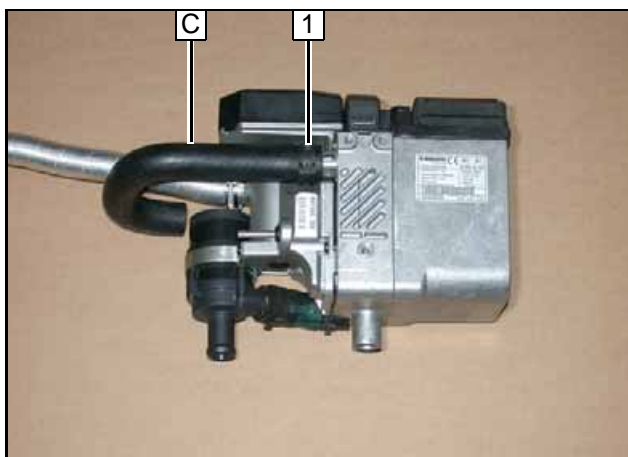
Pre-mounting circulating pump cover



Push through perforated hole at position 1.

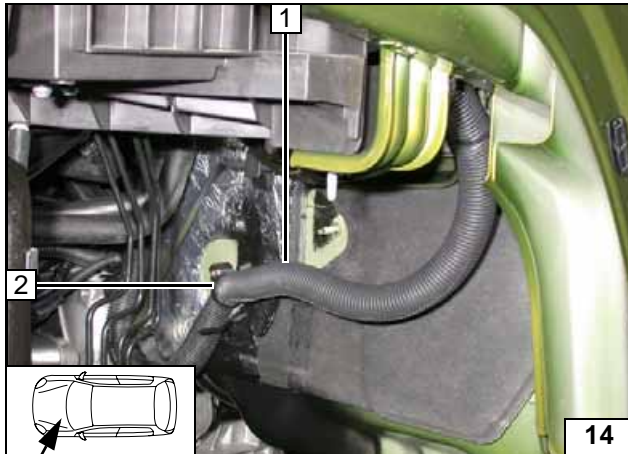
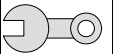
- 1 27 mm dia. clamp
- 2 Combustion-air intake pipe

Pre-mounting combustion air



- 1 Spring clip 27

Pre-mounting coolant hose



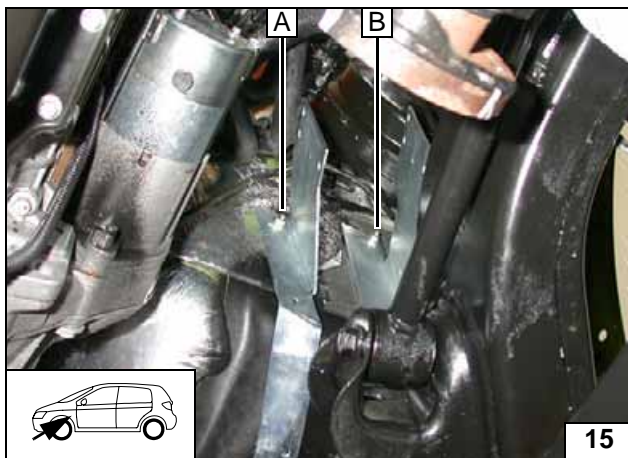
Preparing installation location

Remove retaining clip **2** for original vehicle wiring harness from stud bolt and discard

1 Original vehicle wiring harness



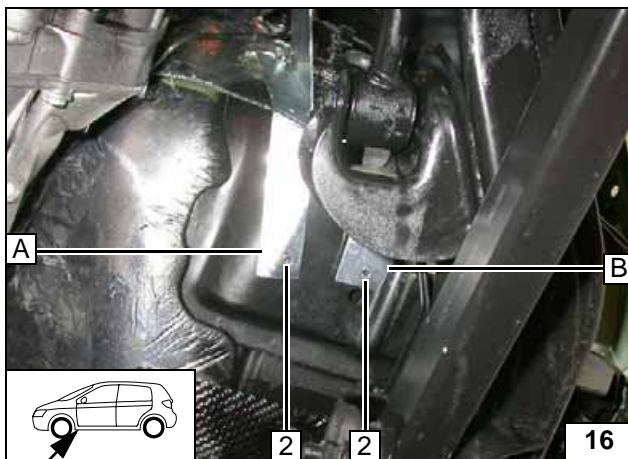
Preparing installation location



Install bracket **A** and **B** on stud bolt with [1x each] shim 10 and flanged nut.



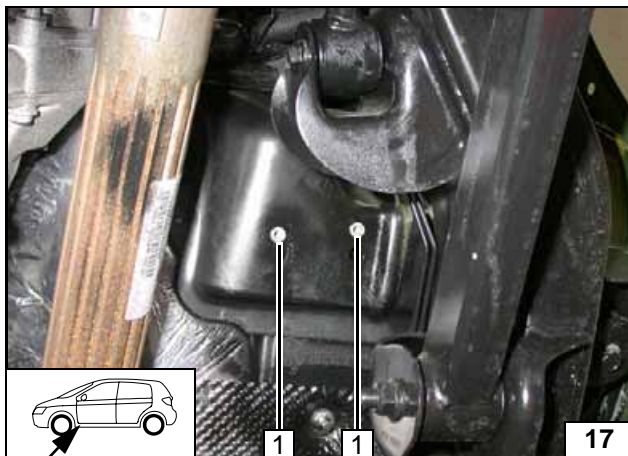
Preparing installation location



Copy hole pattern **2** [2x], remove bracket **A** and **B**.

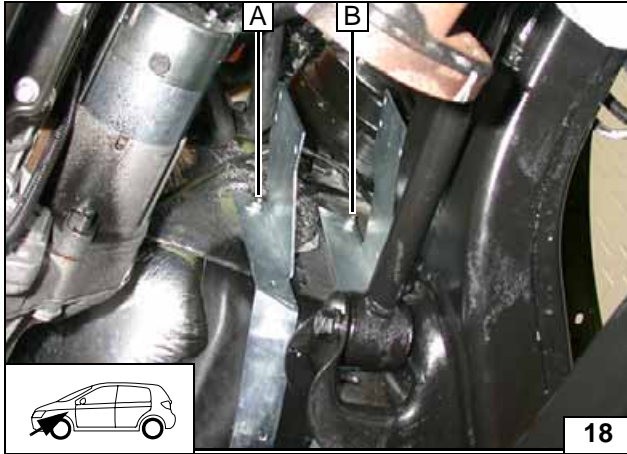
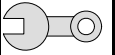


Copying hole pattern



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

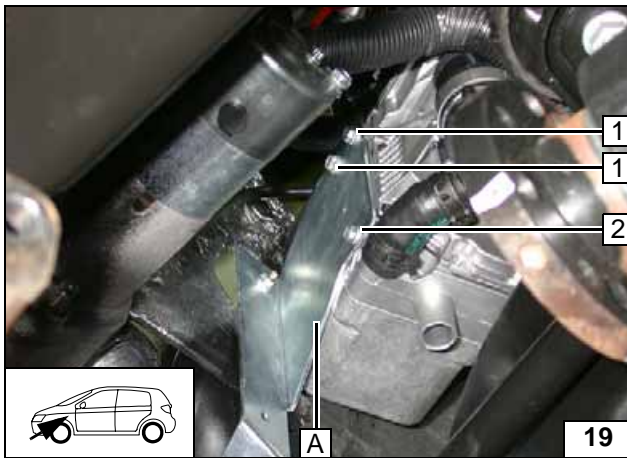
Installing rivet nut



Installing bracket

Install bracket **A** and **B** on stud bolt with [1x each] shim 10 and flanged nut.

Installing bracket



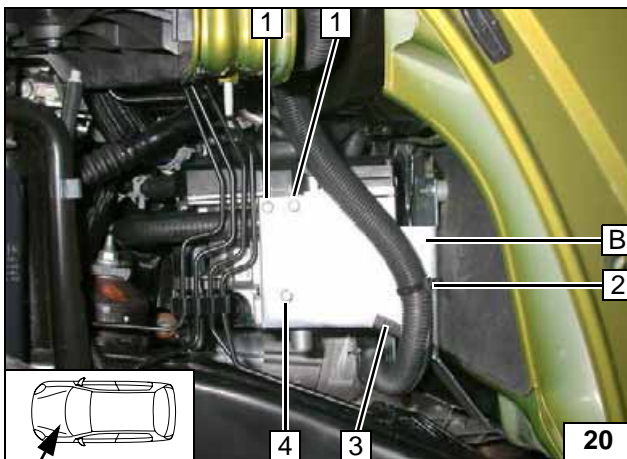
Installing heater unit

Connect wiring harness of heater unit prior to installation.

Insert two washers between heater unit and bracket **A** at position **2**.

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

Installing heater unit

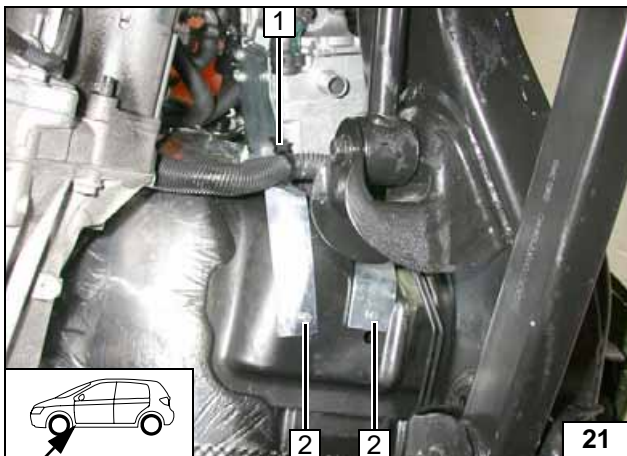


Insert two washers between heater unit and bracket **B** at position **5**.

- 1 E-jot screw [2x]
- 2 Hole cable tie
- 3 Edge protection 50
- 4 E-jot screw, washer [2x]



Installing heater unit



- 1 Hole cable tie
- 2 M6x20 bolt, spring lockwasher [2x each]

Installing bracket

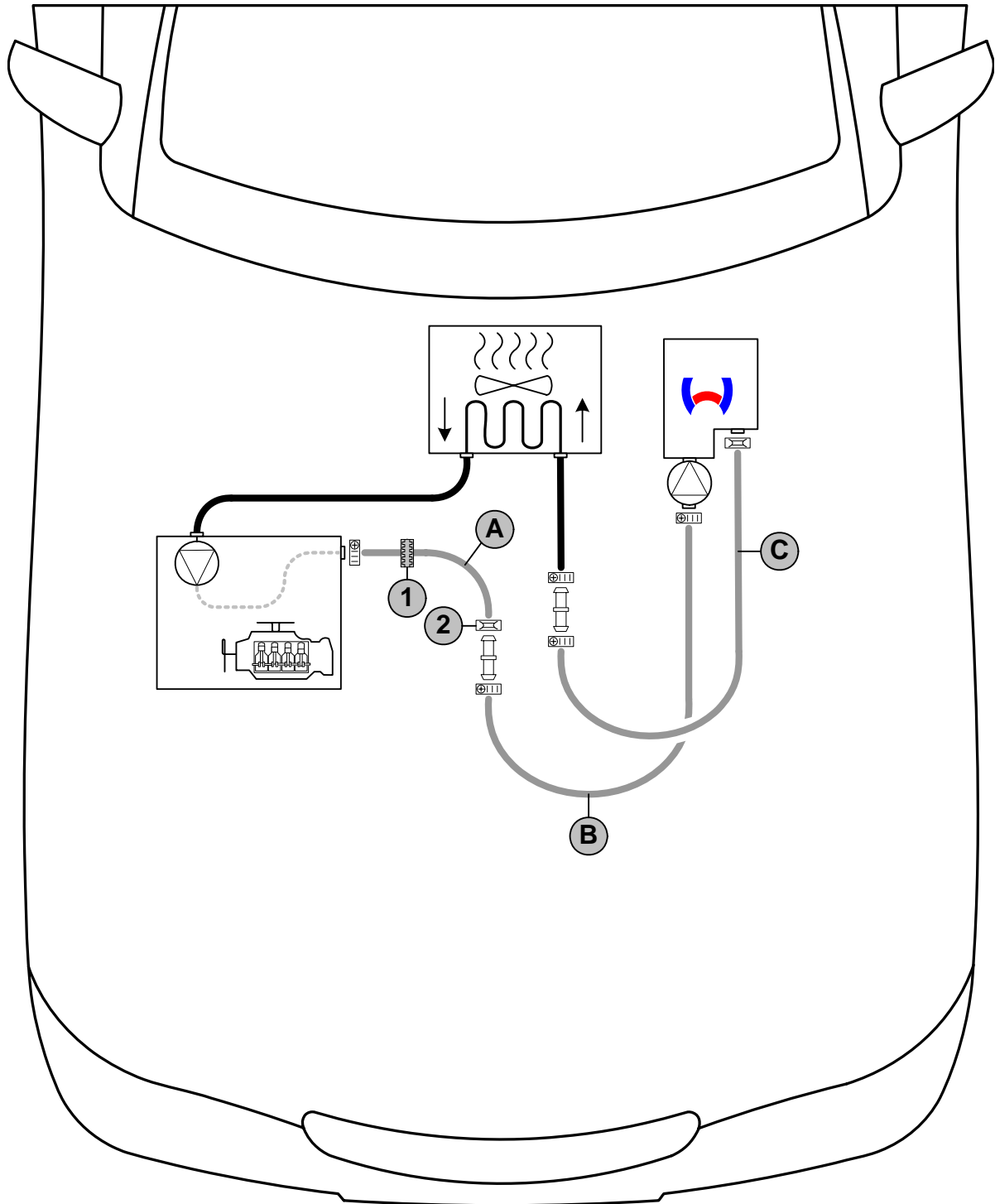


Coolant for diesel engine





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.

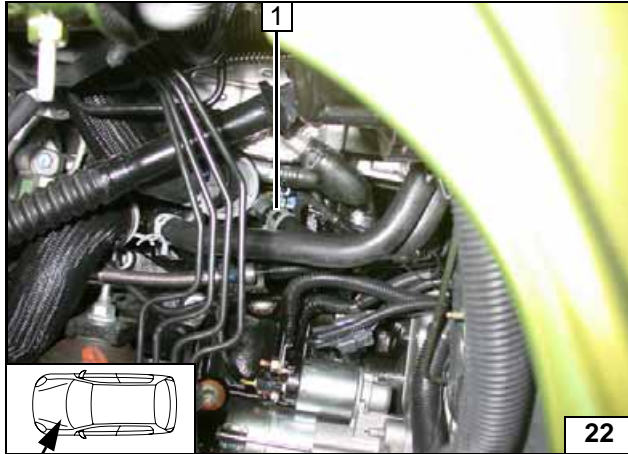
The connection should be "inline" based on the following diagram:



Coolant routing diagram

Non-designated spring clip  = 27 mm dia. All connecting pipes  = 15x20 dia..
 All hose clamps  = 20-27 mm dia.! **1** = Black (sw) rubber isolator .
2 = Original vehicle spring clip

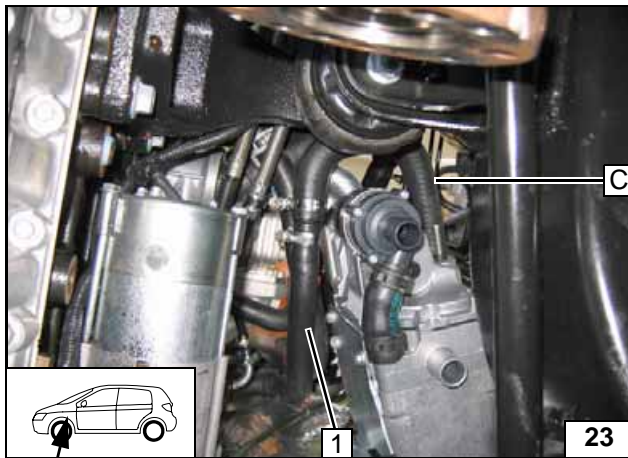




Pull original vehicle hose off connection piece on engine outlet **1**.
Spring clip will be reused.

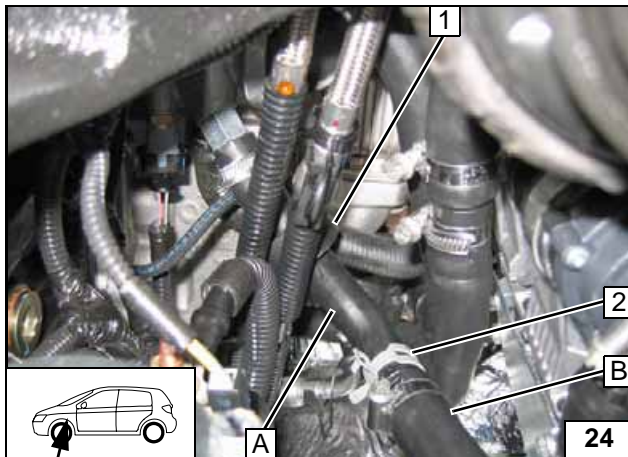


Cutting point



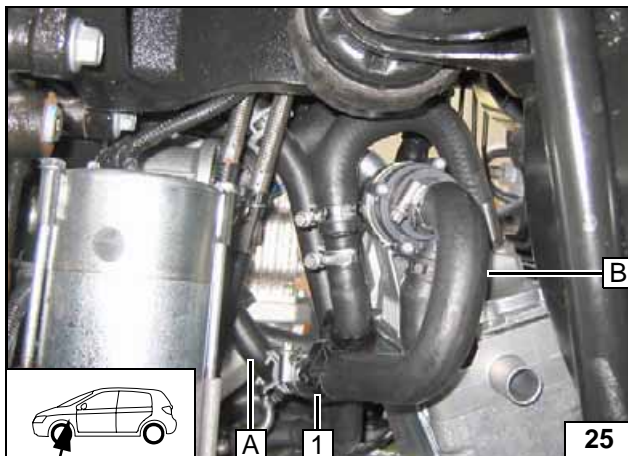
1 Original vehicle hose on heater exchanger inlet

Connecting heat exchanger inlet



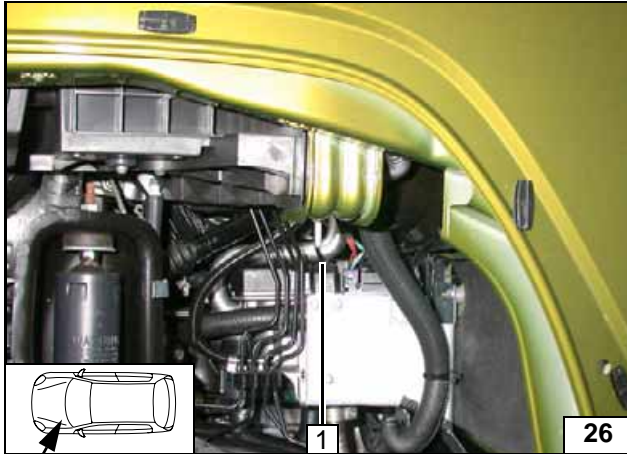
1 Black (sw) rubber isolator
2 Original vehicle spring clip

Connecting engine outlet



1 Spacer bracket

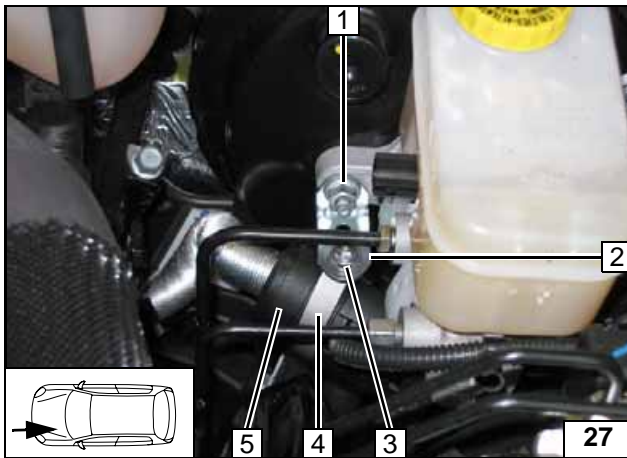
Connecting heater unit



Combustion air

- 1 Hole cable tie in central cover of heater unit

**Installing
intake pipe**



Drill out angle bracket 2 to 8.5 mm dia. at position 1.

- 1 M8 nut of brake booster
- 3 M5x16 bolt, washer, flanged nut
- 4 51 mm dia. clamp
- 5 Combustion-air intake muffler



**Installing
muffler**



Fuel

CAUTION!

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

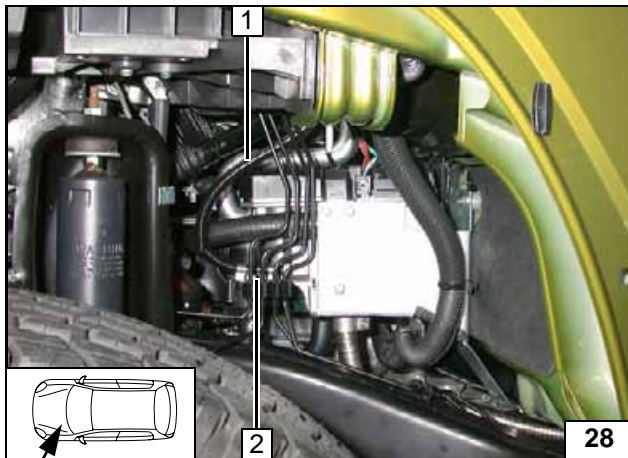
Catch any fuel running off with an appropriate container.

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.

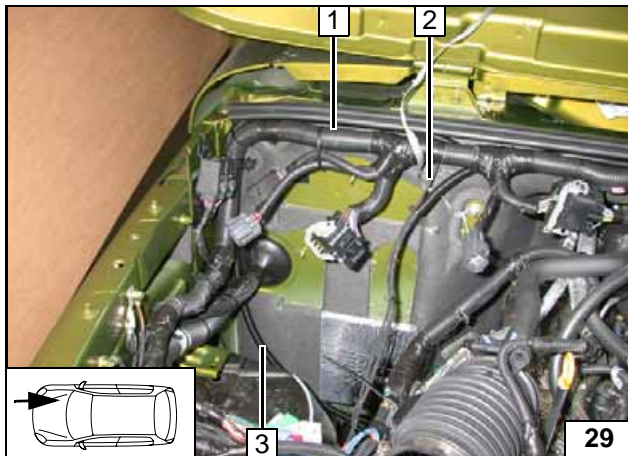
WARNING!

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 corrugated tube
- 2 Hose section, 10 mm dia. clamp [2x]

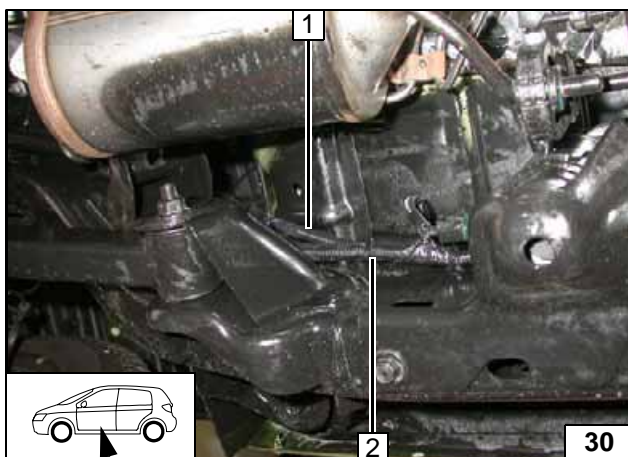
Con-
nection to
heater unit



Route fuel line in corrugated tube **3** together with wiring harness of metering pump **2** along original vehicle wiring harness **1**.

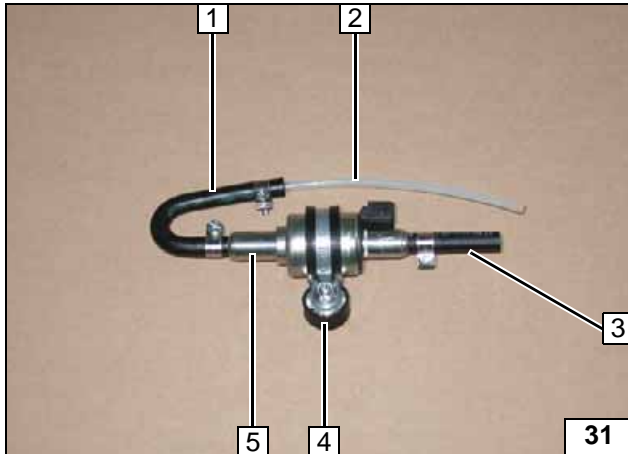


Installing
lines



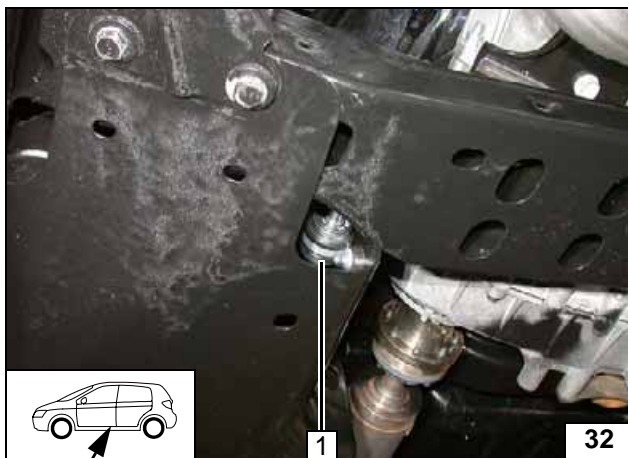
- 1 Fuel line and wiring harness of metering pump in corrugated tube
- 2 Original vehicle wiring harness

Installing
lines



- 1 180° molded hose, 10 mm dia. clamp [2x]
- 2 200 mm fuel line
- 3 Hose section, 10 mm dia. clamp
- 4 Silent block, rubber-coated p-clamp, flanged nut
- 5 Metering pump

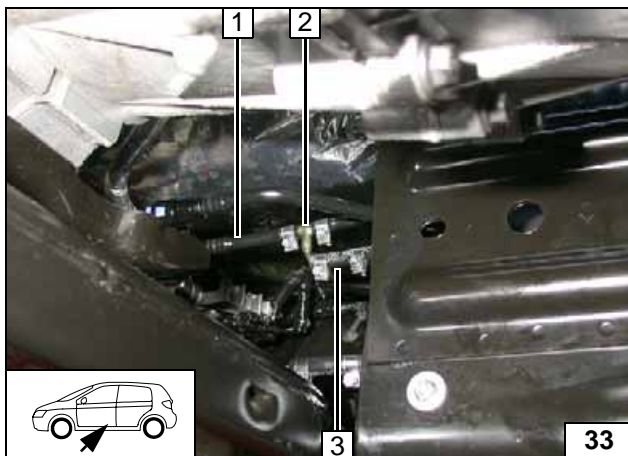
Pre-mounting metering pump



Fasten preassembled metering pump 1 on existing hole with flanged nut.



Installing metering pump

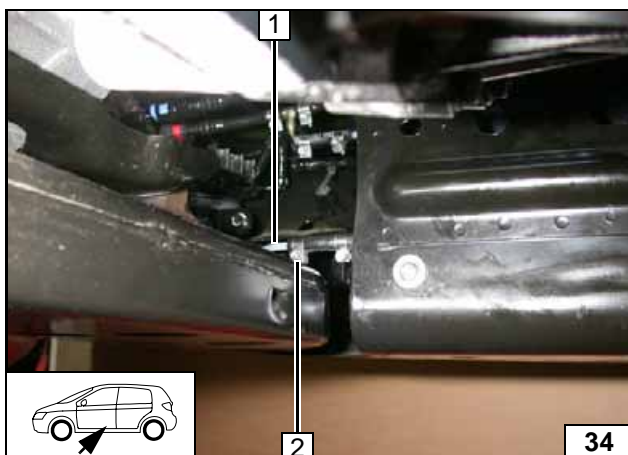


Separate fuel return line 1 approx. 50 mm before coupling.
Slide hose section and 10 mm dia. clamp [2x] 3 onto 200 mm long fuel line.



Mounting fuel standpipe

- 2 8x5x8 fuel standpipe, 10 mm dia. clamp [2x]



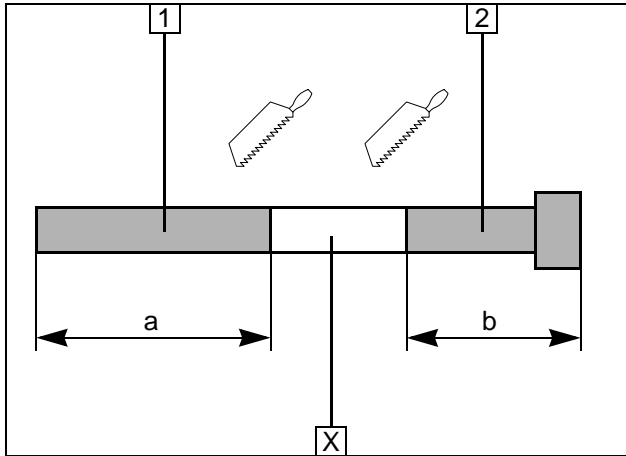
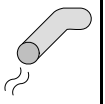
Check the position of the components; adjust if necessary. Check that they have free clearance.

Connect wiring harness of metering pump with connector mounted onto metering pump [covered].



Connecting to metering pump

- 1 Fuel line
- 2 10 mm dia. clamp

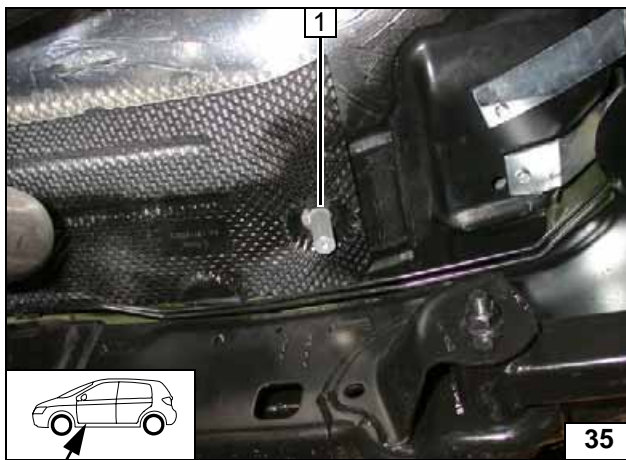


Exhaust gas

- 1 Exhaust pipe
a = 420
- 2 Exhaust end section
b = 250

Discard section X

Preparing exhaust pipe

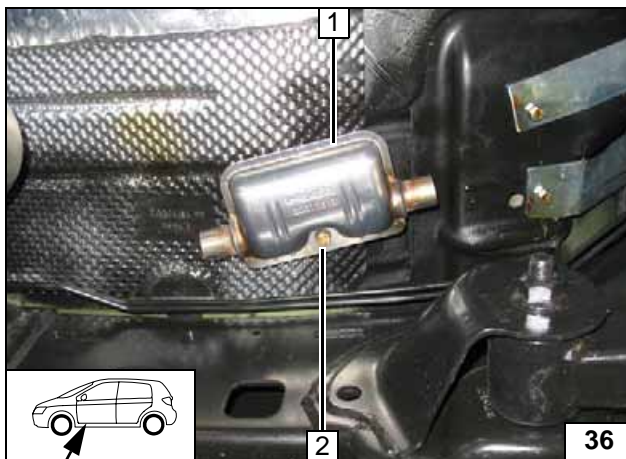


Remove original vehicle plate nut from stud bolt at position 1 and discard.

- 1 Spacer nut 40

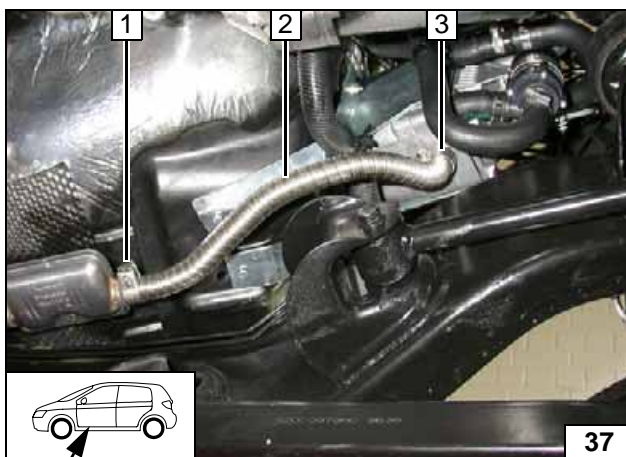


Preparing installation of muffler



- 1 Exhaust muffler
- 2 M6x12 bolt, spring lockwasher

Installing muffler

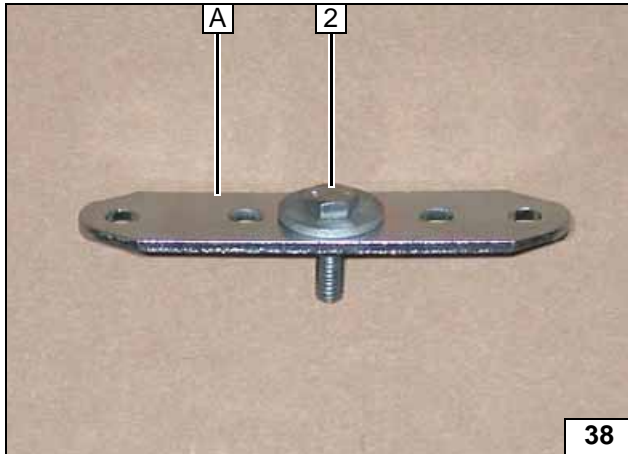
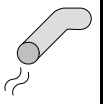


Ensure sufficient distance to neighboring components.

- 1 Hose clamp
- 2 Exhaust pipe
- 3 Hose clamp

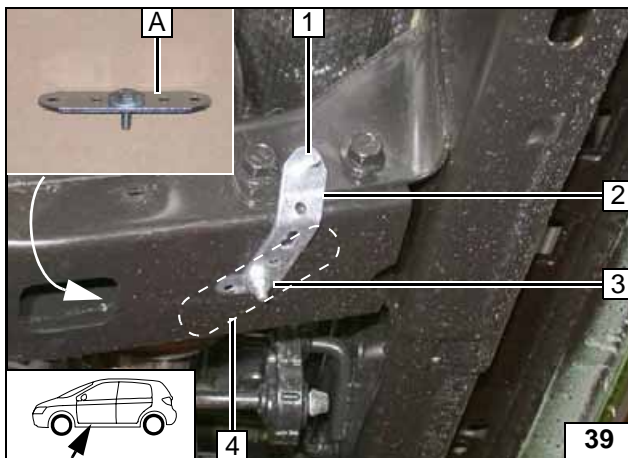


Installing exhaust pipe



- 1 Perforated bracket A
- 2 M6x20 bolt, large diameter washer, pin lock

Preparing perforated bracket

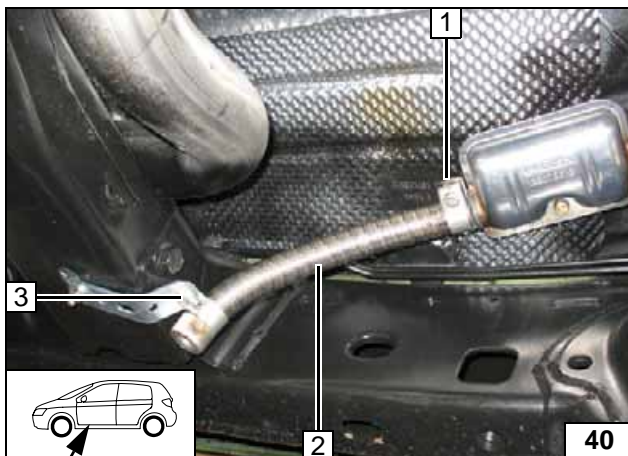


Bend perforated bracket B.

- 1 M6x20 bolt, pin lock
- 2 Perforated bracket B
- 3 Flanged nut
- 4 Perforated bracket A covered (see diagram)



Installing perforated bracket



Ensure sufficient distance to neighboring components.

- 1 Hose clamp
- 2 Exhaust end section
- 3 P-clamp, flanged nut



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.



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Operating Instructions for End Customer

Please remove page and add to the vehicle operating instructions.

Note:



Comply with fording depth of 510 mm.

Note:

We recommend matching the heating time to the driving time.
Heating time = driving time

Example:

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

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

Before parking the vehicle, make the following settings:



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



Manual air conditioning