

# 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

### Citroen C4 Picasso

Gasoline and Diesel  
from Model Year 2006  
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.

## Table of Contents

Validity	2	Remote option (Telestart)	12
Heater Unit/Installation Kit	3	Preparing heater unit	13
Foreword	3	Preparing installation location	14
General Instructions	3	Installing heater unit	16
Special Tools	3	Water	18
Explanatory Notes on Document	4	Fuel	24
Preliminary Work	5	Gasoline	24
Heater unit installation location	5	Diesel	26
Preparing electrical system	6	Combustion air	28
Electrical system	7	Exhaust gas	29
Fan controller for manual air conditioning	8	Final Work	30
Automatic air-conditioning fan controller	9	Operating Instructions for End Customer	31
Digital timer, summer/winter switch option	12	Template for Gasoline Fuel Standpipe	32

## Validity

Manufacturer	Model	Type	EG-BE No./ABE
Citroen	C4 Picasso	U	e2 * 2001 / 116 * 0345

Engine type	Engine model	Output in kW	Displacement in cm <sup>3</sup>
6FY	Gasoline	92	1749
9 Hz	Diesel	80	1560
RHJ	Diesel	100	1997

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 Citroen C4 Picasso Gasoline	1311819B
or		
1	Installation kit for Citroen C4 Picasso Diesel	1311846B

### 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 Citroen C4 Picasso Gasoline and Diesel vehicles - for validity, see page 2 - from model year 2006 and later, assuming technical modifications to the vehicle do not affect installation, any liability claims excluded. Depending on the vehicle version and equipment, modifications may be necessary during installation with respect to these installation instructions.

However, the stipulations in the "installation instructions" and "operating and maintenance instructions" for the *Thermo Top C/P/E* must always be observed.

The corresponding rules of technology and any information from the vehicle manufacturer should be observed during the installation work.

## General Instructions

Installation should be carried out according to the general, standard rules of technology. Unless specified otherwise, fasten hoses, lines and wiring harnesses to original vehicle lines and wiring harnesses using cable ties.

Sharp edges should be fitted with edge protectors (split-open plastic hose).

Spray unfinished body areas, e.g. drilled holes, with anti-corrosion wax (Tectyl 100K, Order No. 111329).

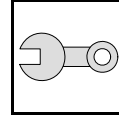
## Special Tools

- Torque wrench for 2.0 - 10 Nm
- Hose clamping pliers

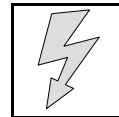
**Explanatory Notes on Document**

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.

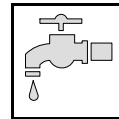
**Mechanical system**



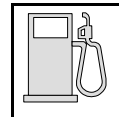
**Electrical system**



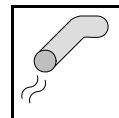
**Water**



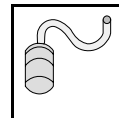
**Fuel**



**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!**

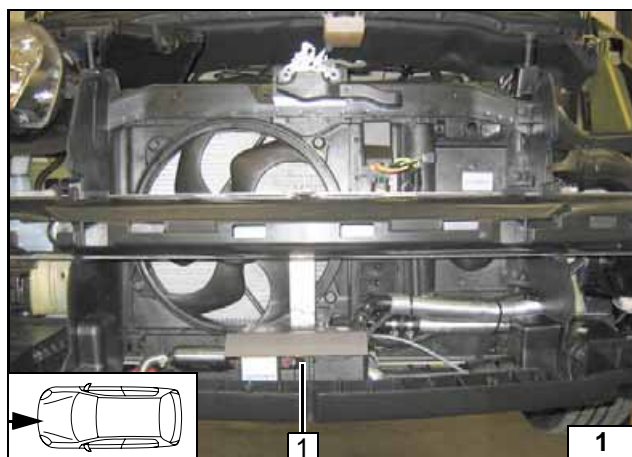
**Tightening torque of Ejet screws, Ejet studs = 10 Nm!**

**Preliminary Work**

**WARNING!**

- Disconnect the battery "earth" or "ground" connection.
- Depressurize the cooling system.
- Copy the factory number from the original type label to the duplicate type label.
- Remove years that do not apply from the duplicate label.
- Attach the duplicate label (type label) in the appropriate place.
- Open the fuel tank cap, ventilate the tank.
- Close the tank cap again.
- Remove the engine cover (depending on the vehicle equipment, if installed)
- Remove the air cleaner box with the intake hose and resonator (depending on the vehicle equipment, if installed)
- Completely remove the battery and the battery carrier.
- Remove the exhaust system (only on gasoline vehicles)
- Remove the tank according to the manufacturer's specifications (only on gasoline vehicles)
- Detach the wheel well trim on the right and left.
- Remove the bumper.
- Remove the underride protection
- Remove the lower instrument panel trim on the driver's and front passenger side
- Remove the glove compartment

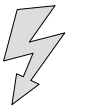
Remove page 31 "Operating Instructions for End Customer" and add to the vehicle operating instructions.



**Heater unit installation location**

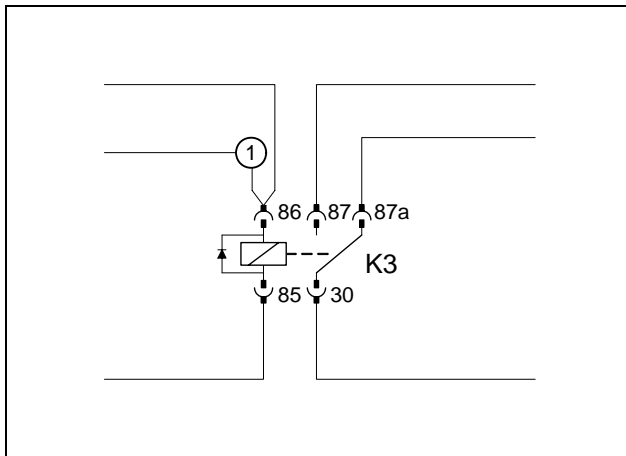
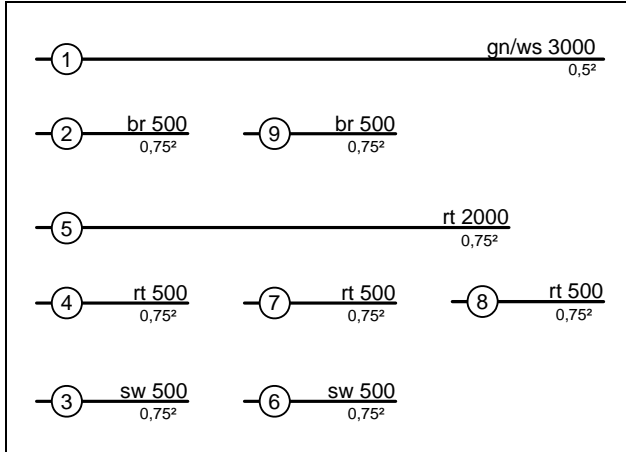
1 Heater unit

**Installation location**

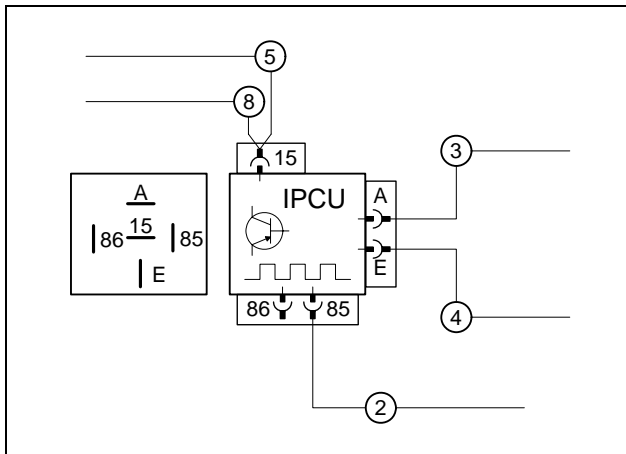


**Preparing electrical system**

Wires **6** to **9** only with automatic air-conditioning

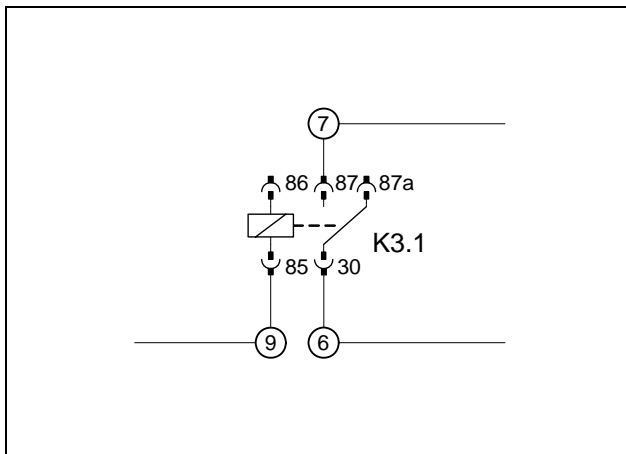


Produce connections as shown in wiring diagram. Pull wire section **1** into protective sleeving provided and route together with wiring harness of digital timer and fan controller into passenger compartment.



Connect wires to IPCU (IPCU view on contact side).

Pull wire **5** into the protective sleeving provided and route to OBD socket outlet. Wire **8** only with automatic air-conditioning



**Automatic air-conditioning**

Produce connections as shown in wiring diagram.



**Cutting wires to length**



**Preparing K3 relay**



**Preassembling IPCU**



**Preparing additional relay K3.1**

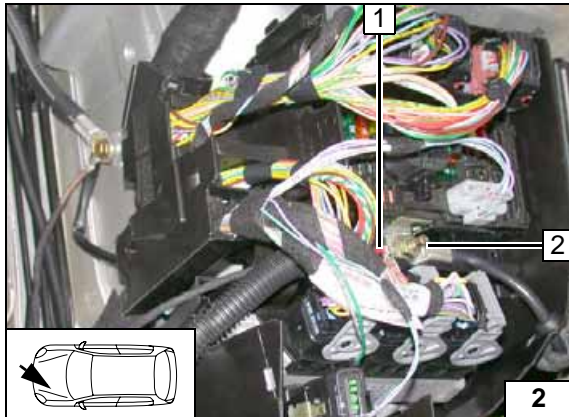


**Electrical system**

**Connecting positive wire**

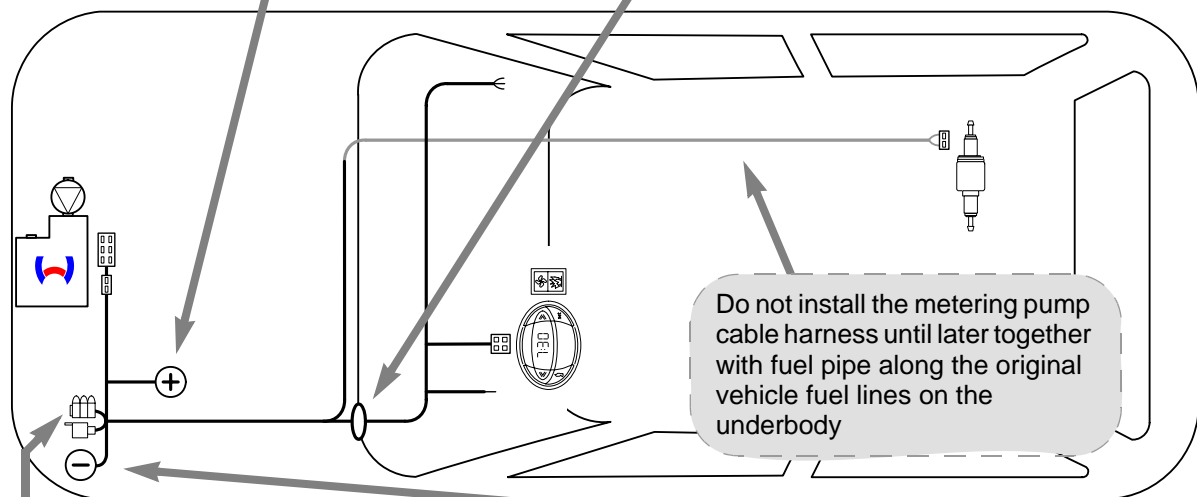
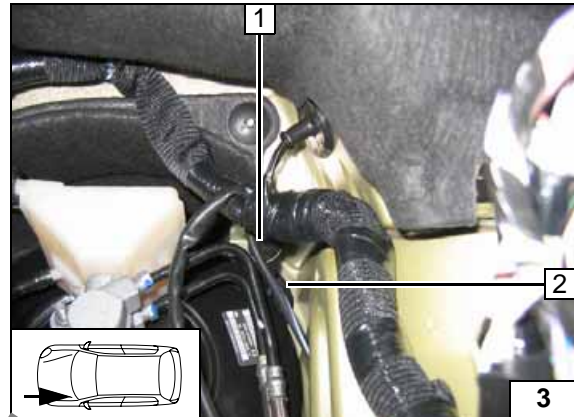
Before installing, crimp 8 mm dia. cable lug onto positive wire.

- 1 Red (rt) wire
- 2 Original vehicle positive support point

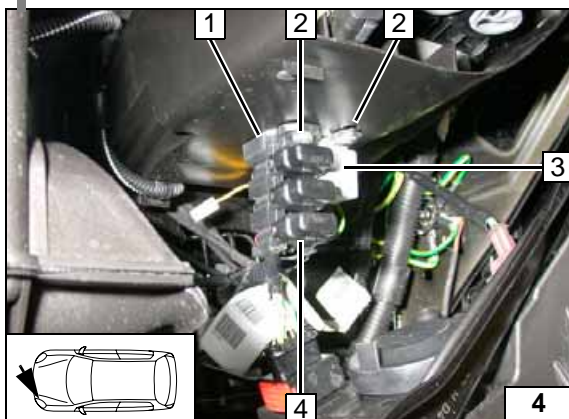


**Wiring harness pass through**

Route wiring harnesses (digital timer, fan controller and green/white (gn/ws wire in protective sleeving) on original vehicle wiring harness 1 to protective rubber plug 2 and route into passenger compartment.

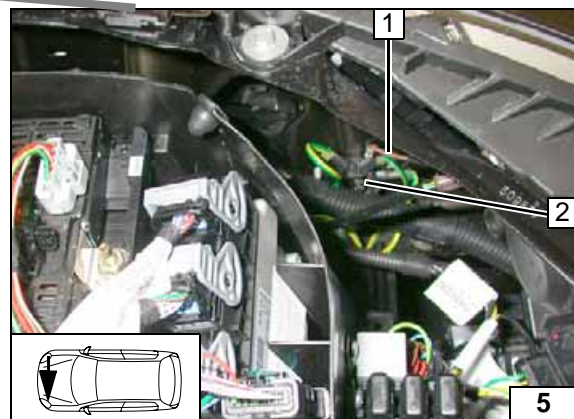


**Wiring harness installation diagram**



**Fuse holder, relay K3**

- 1 Retaining plate for fuse holder
- 2 4 mm dia. hole, 5.5x13 self-tapping screw; plastic nut [2x each]
- 3 K3 relay
- 4 Fuse holder

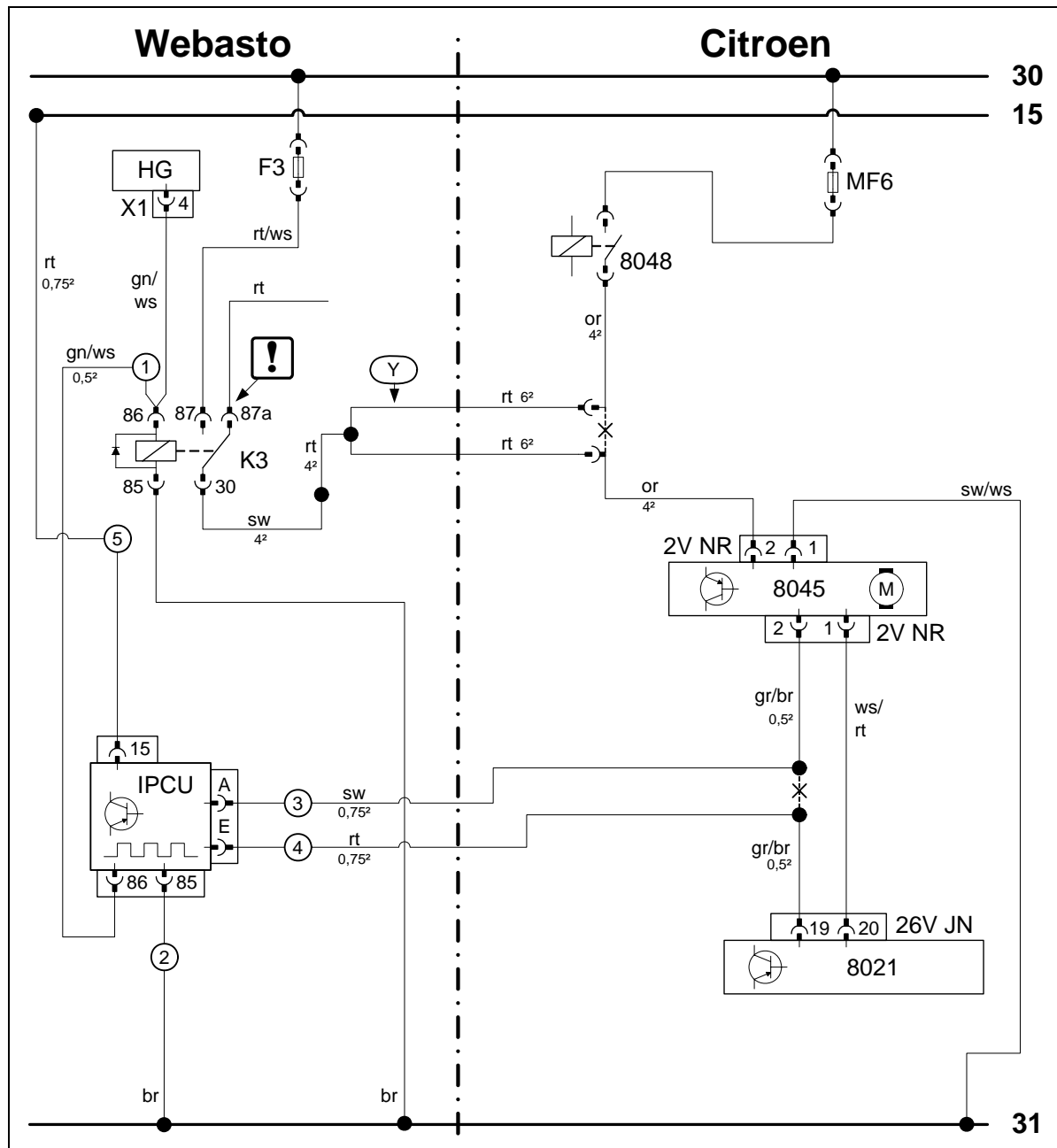


**Connecting ground wire**

- 1 Brown (br) wire
- 2 Original vehicle ground support point



Fan controller for manual air conditioning



Wiring diagram

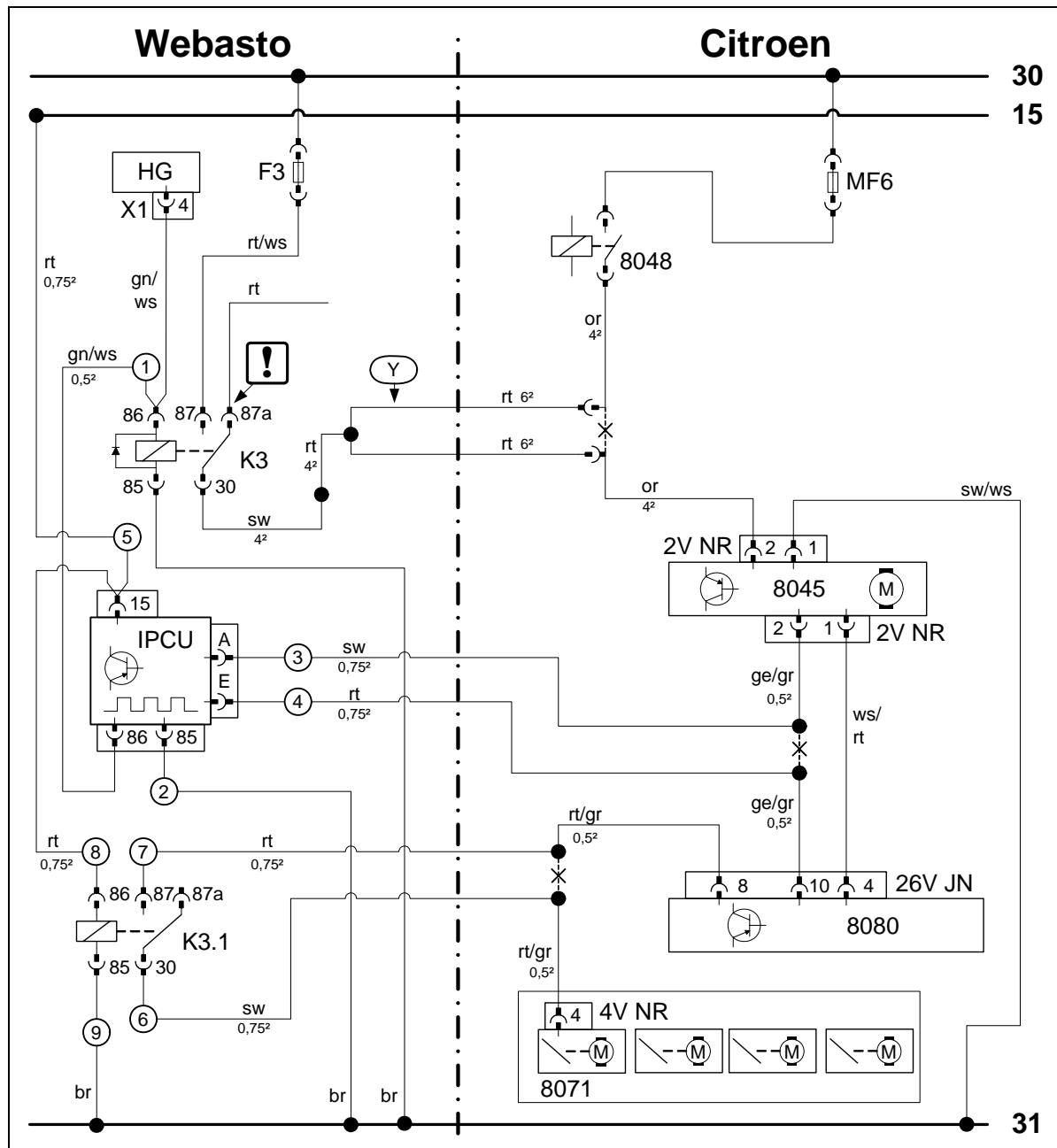
Webasto components		Vehicle components		Colors and symbols	
HG	Heater unit TT-C/E	8021	Air-conditioning control unit	rt	red
X1	6-pin heater unit connector	8071	Air distribution	ws	white
F3	25 A fuse	8048	Fan relay	sw	black
K3	Fan relay	8045	Fan module	br	brown
IPCU	Pulse width modulator	2V NR	2-pin connector	gn	green
Y	Wiring adapter	4V NR	4-pin connector	bl	blue
		26V JN	26-pin connector	or	orange
		MF6	Fuse	gr	gray
<b>IPCU adjustment values:</b>					Press out wire end, insulate and tie back
Duty cycle: 42 %					
Frequency: 1000 Hz					
Voltage: 5 V					
Function: High-side				<b>X</b>	Cutting point
				Wiring colors may vary.	

Legend





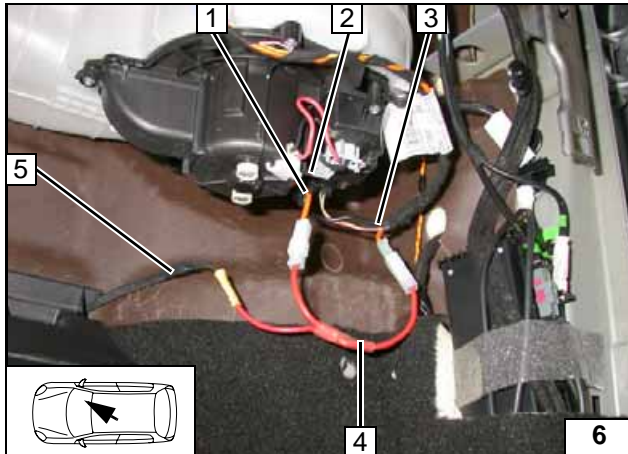
Automatic air-conditioning fan controller



Wiring diagram

Webasto components		Vehicle components		Colors and symbols	
HG	Heater unit TT-C/E	8080	Air-conditioning control unit	rt	red
X1	6-pin heater unit connector	8071	Air distribution	ws	white
F3	25 A fuse	8048	Fan relay	sw	black
K3	Fan relay	8045	Fan module	br	brown
IPCU	Pulse width modulator	2V NR	2-pin connector	gn	green
Y	Wiring adapter	4V NR	4-pin connector	bl	blue
K3.1	Additional relay	26V JN	26-pin connector	ge	yellow
		MF6	Fuse	gr	gray
				or	orange
<b>IPCU adjustment values:</b>				Press out wire end, insulate and tie back  Cutting point  Wiring colors may vary.	
Duty cycle: 42 %					
Frequency: 1000 Hz					
Voltage: 5 V					
Function: High-side					

Legend



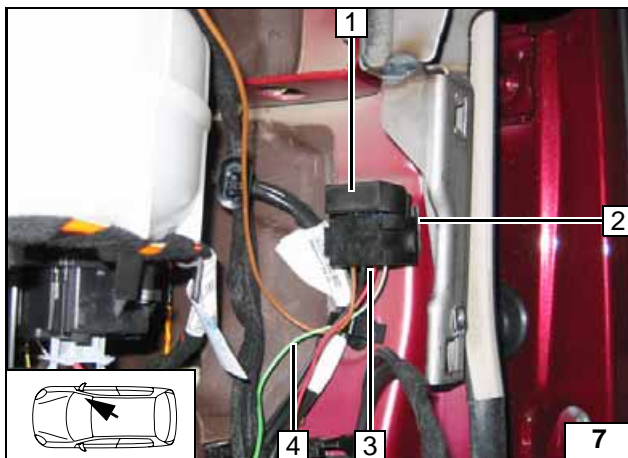
**Fan controller on all vehicles**

Fan motor is controlled on 2-pin connector 2 of fan module.  
Produce connections as shown in wiring diagram.

- 1 Orange (or) wire connector 2V NR, Pin 2
- 3 Orange (or) wire of fan relay 8048
- 4 Y-adaptor
- 5 Black (sw) wire from K3/30



**Connec-  
tion to fan  
module**

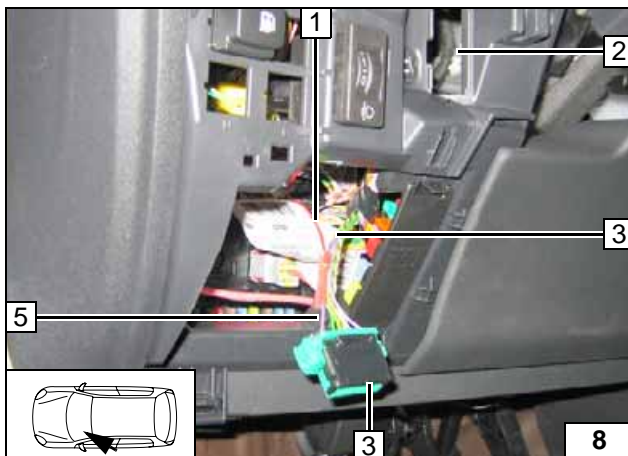


Before installing, connect green/white (gn/ws) wire 4 from K3/86 to socket of IPCU terminal 86.

- 1 IPCU
- 2 Double-sided adhesive tape



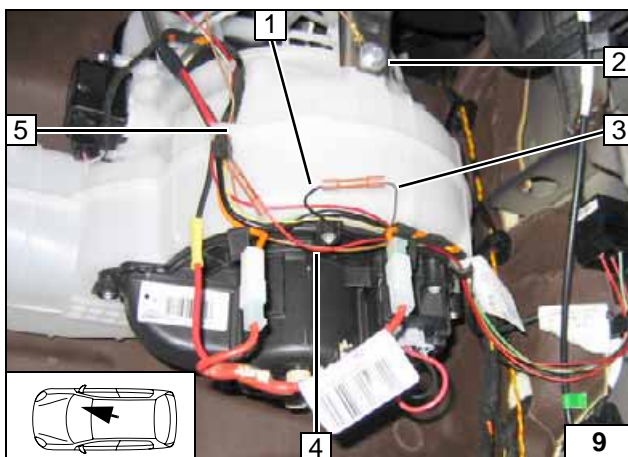
**Installing  
socket  
from IPCU**



Control changeover of IPCU is carried out on 16-pin OBD socket outlet 3.  
Produce connections as shown in wiring diagram.

- 1 Red (rt) wire IPCU/15
- 2 Socket of OBD socket outlet
- 3 Pink (pk) wire (terminal 15)
- 5 Pink (pk) wire of 16-pin OBD socket outlet, Pin 1

**Power  
supply of  
IPCU**

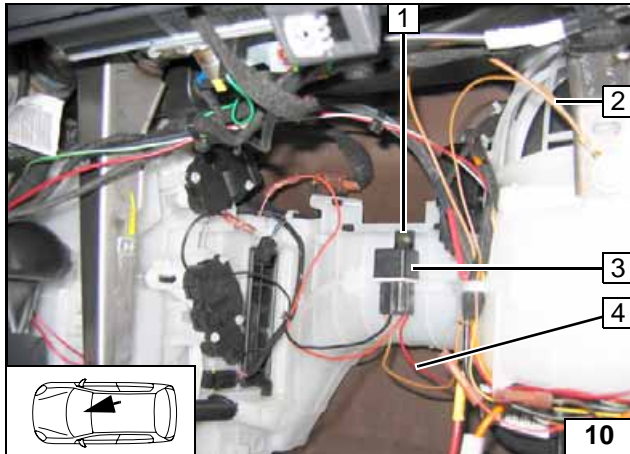
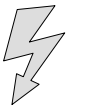


Fan controller is controlled before 2-pin connector from fan module.  
Brown (br) wire of IPCU/85 1 with 6 mm dia. cable lug on original vehicle bolt.  
Produce connections as shown in wiring diagram.

- 1 Black (sw) wire of IPCU/A
- 3 Yellow/gray (ge/gr) (gray/brown (gr/br)) wire of connector 2V NR, Pin 2
- 4 Red (rt) wire of IPCU/E
- 5 Yellow/gray (ge/gr) (gray/brown (gr/br)) wire of A/C control panel connector 26V JN



**Connect-  
ing fan  
controller**



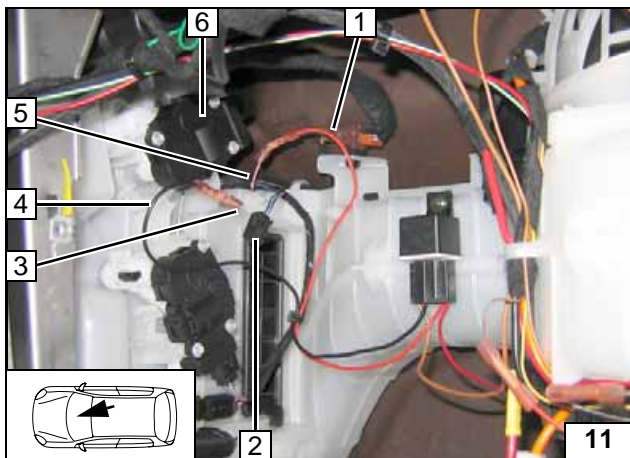
**Also with automatic air-conditioning**

Brown (br) wire 2 with 6 mm dia. cable lug on original vehicle bolt. Connect red (rt) wire 4 from IPCU/15 to K3.1/86 according to wiring diagram.

- 1 Self-tapping screw on existing hole
- 3 K3.1 relay



**Installing K3.1 relay**



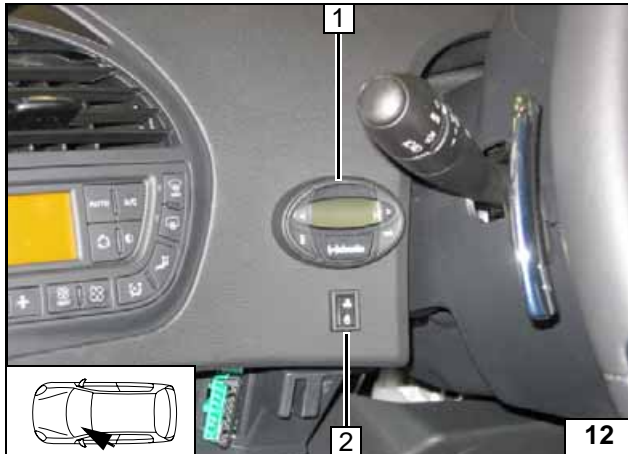
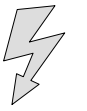
Control changeover of air distribution is carried out on 4-pin connector 4V NR 2 from flap motor 6.

Produce connections as shown in wiring diagram.

- 1 Red (rt) wire to K3.1/87
- 3 Red/gray (rt/gr) wire of connector 8071 4V NR, Pin 4
- 4 Black (sw) wire K3.1/30
- 5 Red/gray (rt/gr) wire of A/C control unit



**Connec-  
tion to air  
distribu-  
tion**



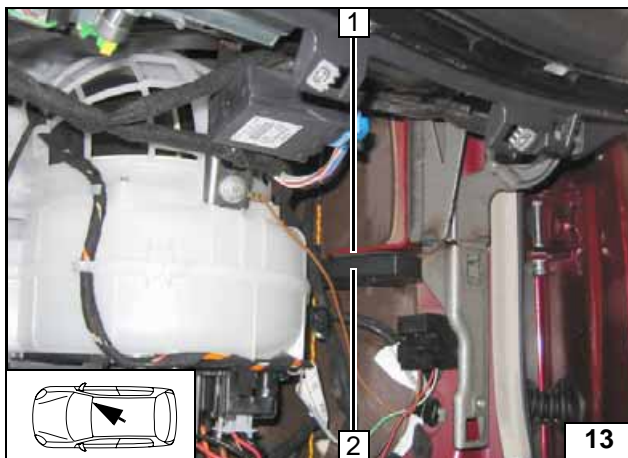
**Digital timer, summer/winter switch option**

Installation location shown is a recommendation. Agree upon with final customer before installing.

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



**Installing digital timer**

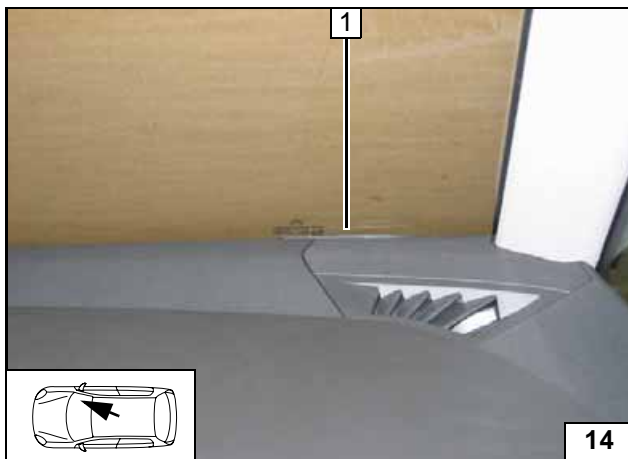


**Remote option (Telestart)**

- 1 Double-sided adhesive tape
- 2 Receiver

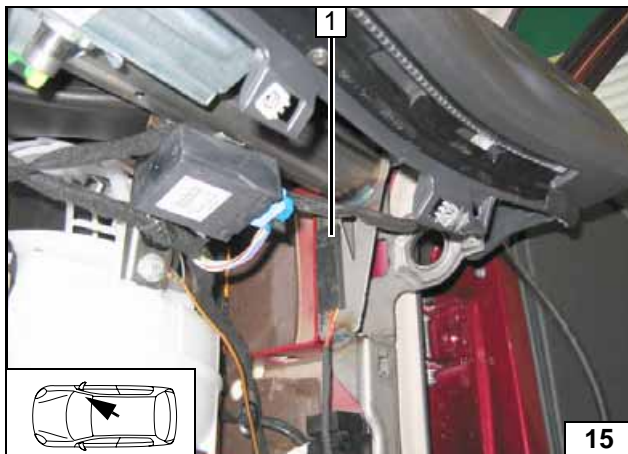


**Installing receiver**



- 1 Antenna

**Installing antenna**

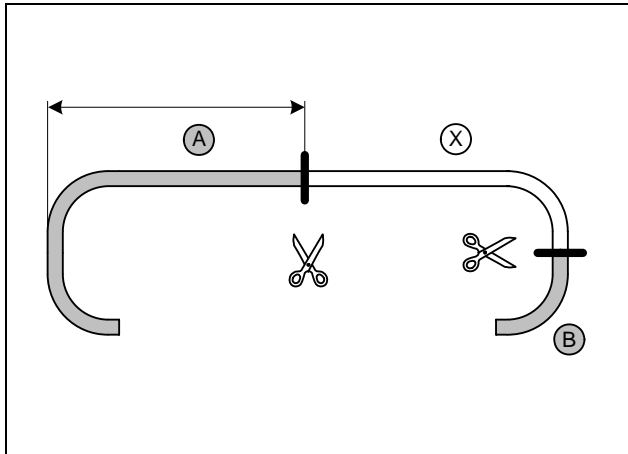


**Temperature sensor for HTM100 only**

- 1 Fasten temperature sensor with adhesive tape



**Installing temperature sensor**



**Preparing heater unit**

**1.8 liter gasoline engine**  
a = 1240 mm

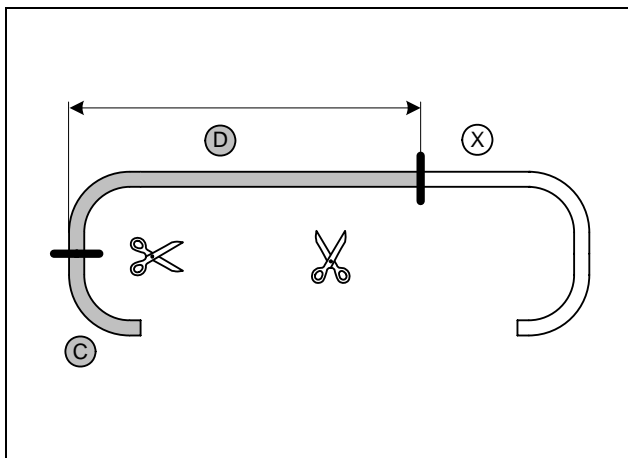
**1.6 liter diesel engine**  
a = 1100 mm

**2.0 liter diesel engine**  
a = 1200 mm

Discard section X



**Cutting coolant hoses to length**



**1.8 liter gasoline engine**  
d = 1240 mm

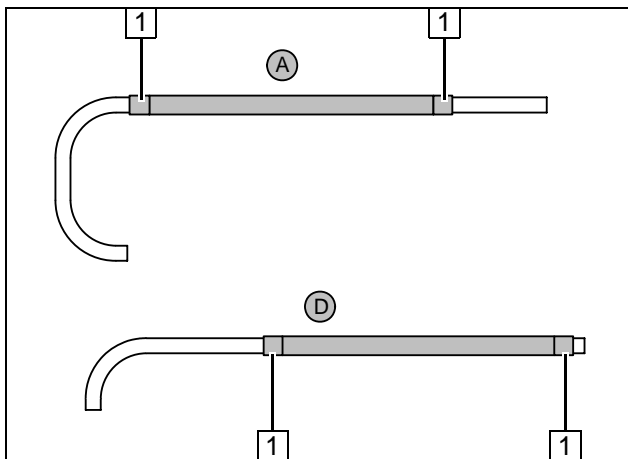
**1.6 liter diesel engine**  
d = 1180 mm

**2.0 liter diesel engine**  
d = 1200 mm

Discard section X



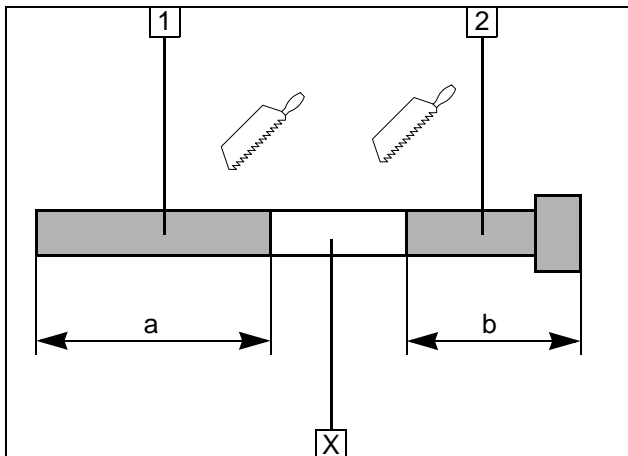
**Cutting coolant hoses to length**



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

1 25 mm long heat shrink plastic tubing [4x]

**Preparing coolant hoses**

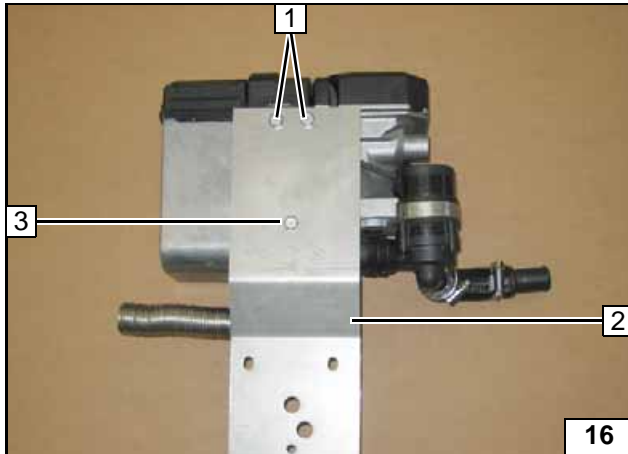
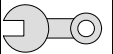


**1** Exhaust pipe  
a = 120

**2** Exhaust end section  
b = 110

Discard section X

**Preparing exhaust pipe**

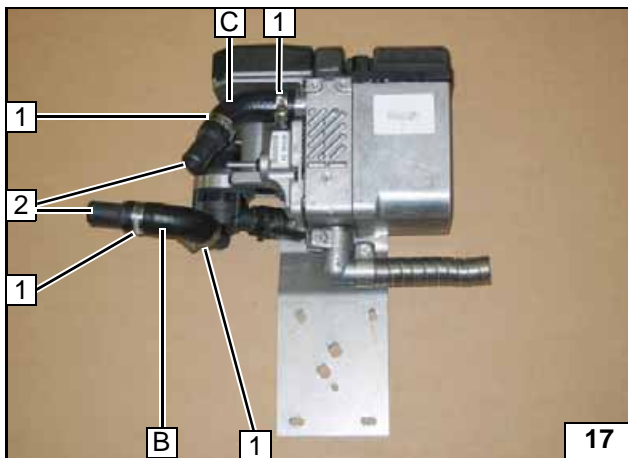


Insert two washers at position 3 between bracket 2 and heater unit 1.

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

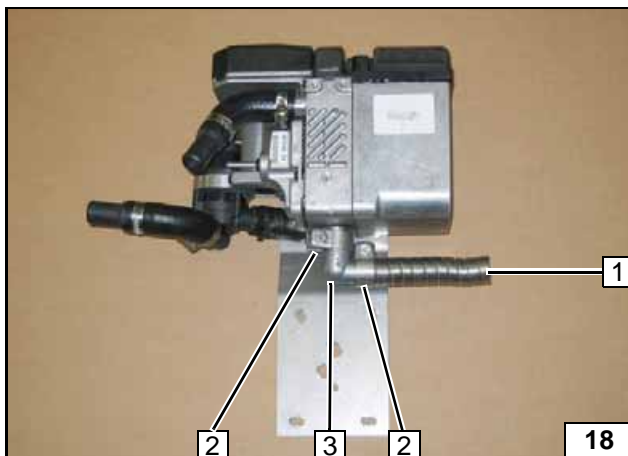


**Preassembling bracket**



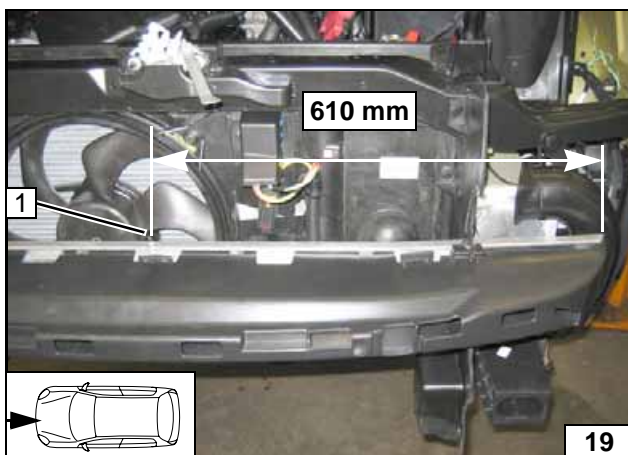
- 1 Hose clamp [4x]
- 2 20x20 connecting pipe [2x]

**Premounting coolant hoses**



- 1 Exhaust pipe
- 2 Hose clamp [2x]
- 3 Exhaust manifold

**Premounting exhaust system**



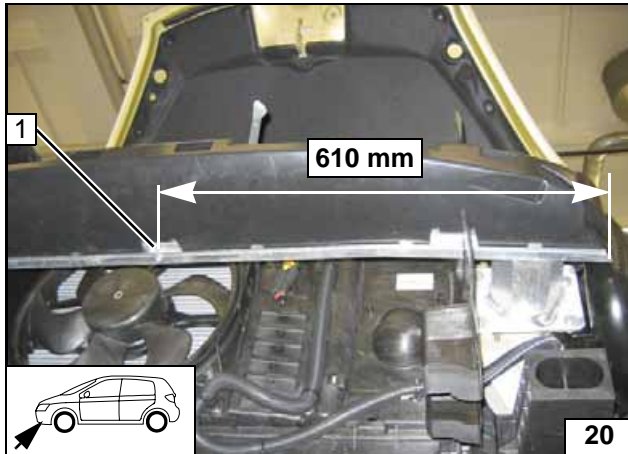
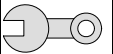
**Preparing installation location**

Copy hole pattern as shown.

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



**Mounting rivet nut**

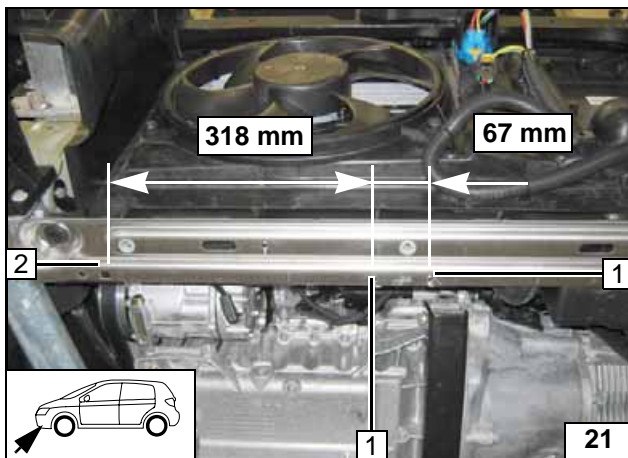


Copy hole pattern as shown.

1 Drill 9.1 mm dia. hole; install rivet nut



Mounting rivet nut

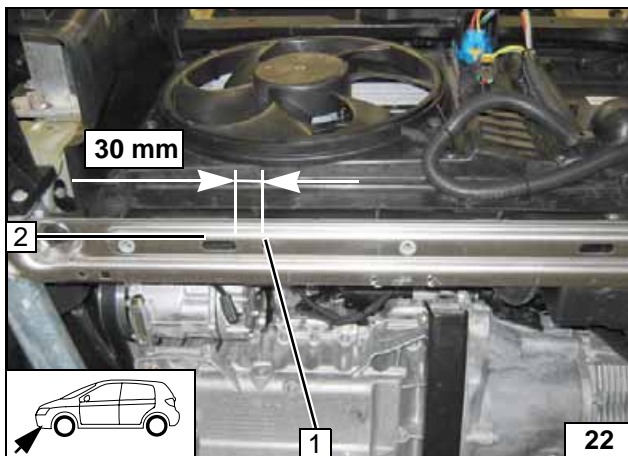


Square cut-out at position 2.

1 7 mm dia. hole [2x] (centered from bar)



Holes for bracket in radiator cross member

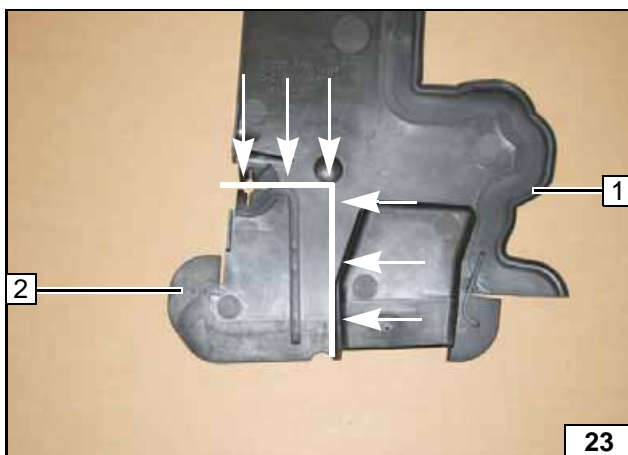


Cut-out of oblong hole at position 2.

1 7 mm dia. hole (centered from bar)



Hole for exhaust muffler in radiator cross member

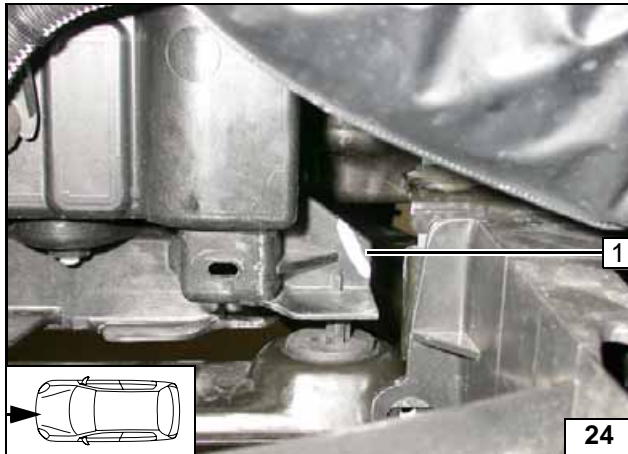
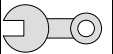


Cut away partition wall 1 at markings.

2 Discard remaining piece



Cutting out partition wall

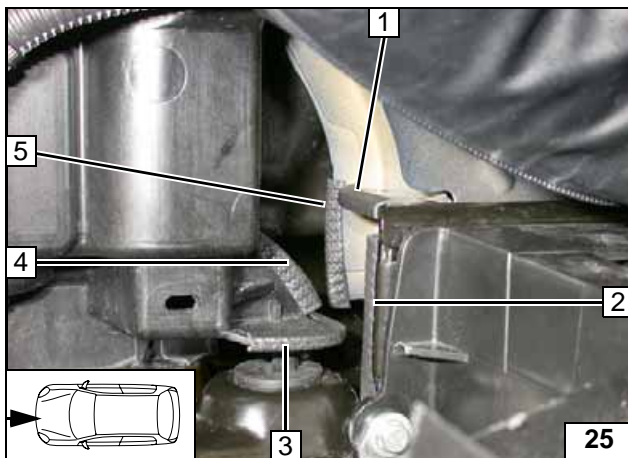


**2.0 liter gasoline engine only**

Cut away edge 1 at marking and discard.



**Cutting away edge on radiator cross member**

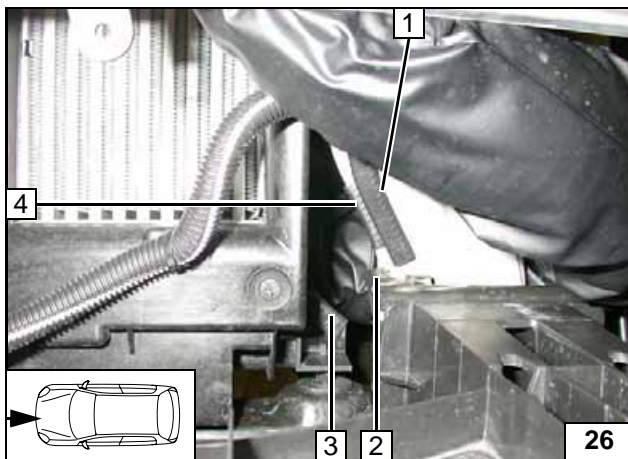


Cut 5 consecutive 500 mm ends from edge protection provided and install.



**Installing edge protection**

- 1 Edge protection 50
- 2 Edge protection 70
- 3 Edge protection 130
- 4 Edge protection 60
- 5 Edge protection 60



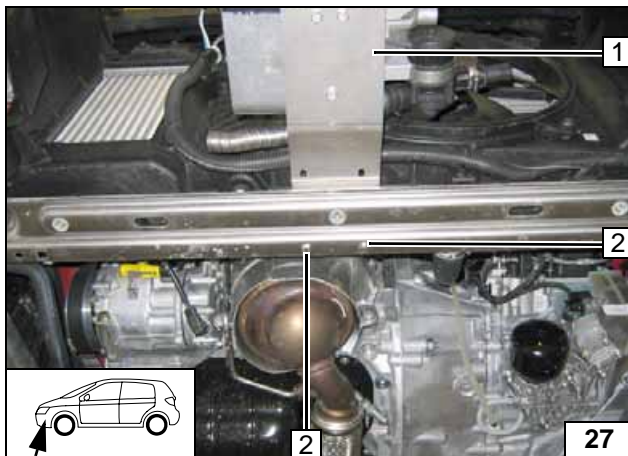
**All vehicles except 2.0 liter gasoline engine**

Cut 4 consecutive 500 mm ends from edge protection provided and install.



**Installing edge protection**

- 1 Edge protection 60
- 2 Edge protection 40
- 3 Edge protection 40
- 4 Edge protection 40



**Installing heater unit**

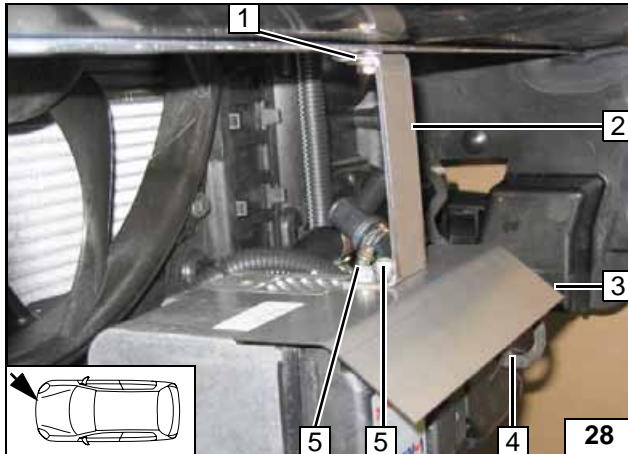
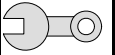
Install one shim 10 each at position 2 between bracket and radiator cross member.



**Installing heater unit**

- 1 Preassembled heater unit
- 2 M6x25 bolt, flanged nut [2x each]



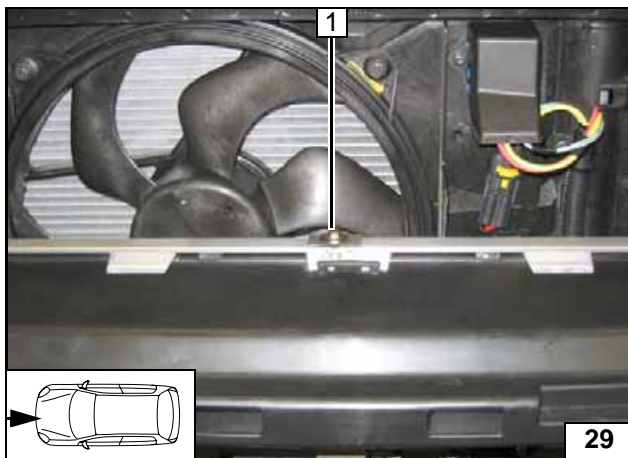


Before installing wind deflector plate 3, mount wiring harness for heater unit 4.

- 1 Loosely mount M6x20 bolt, spring lockwasher and large diameter washer
- 2 Strut
- 5 Loosely mount Eject screw [2x]



**Installing strut**

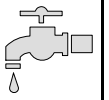


Tighten all connections following installation.

- 1 M6x20 bolt, spring lockwasher, large diameter washer



**Installing strut**

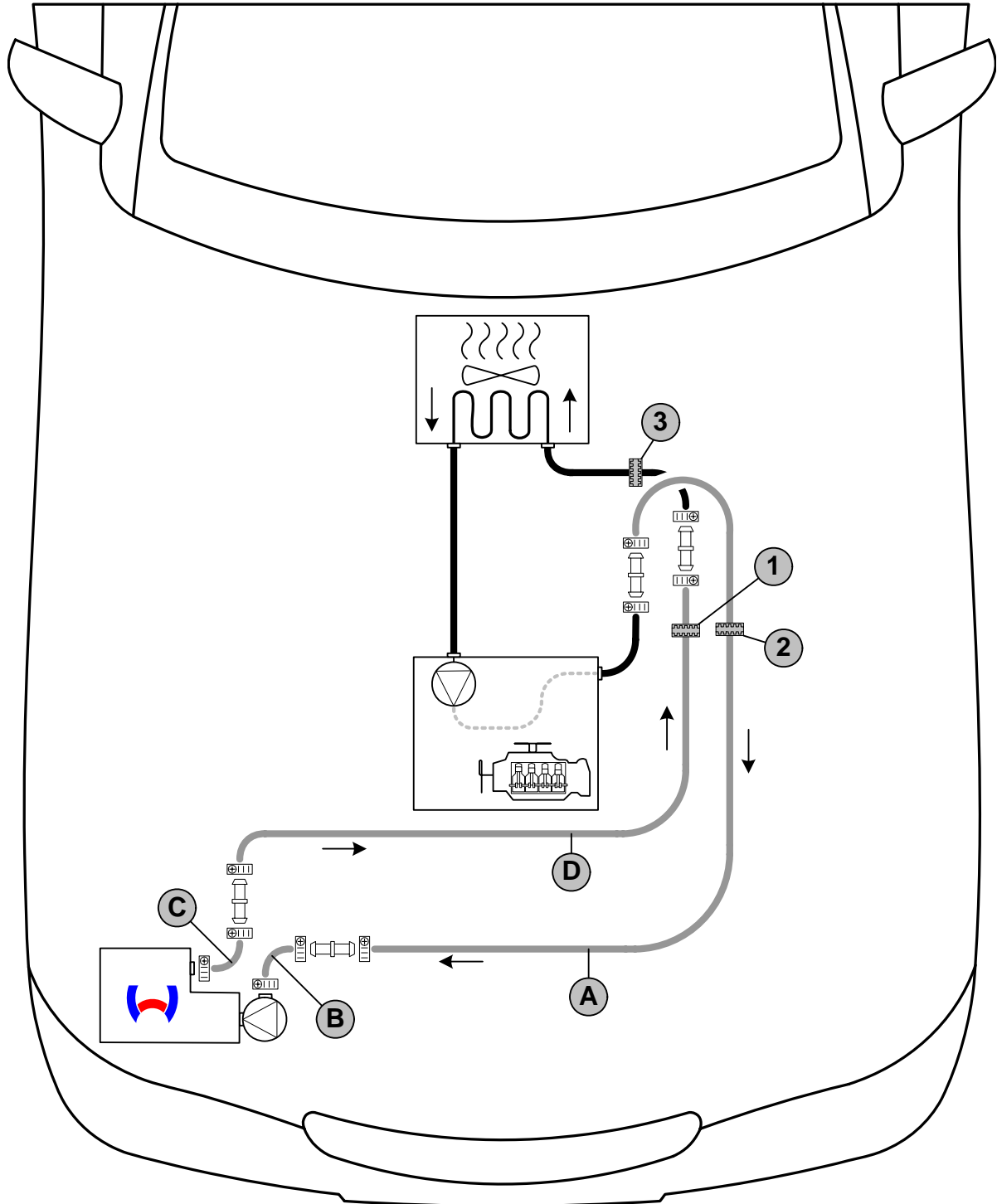


**Water**

**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.

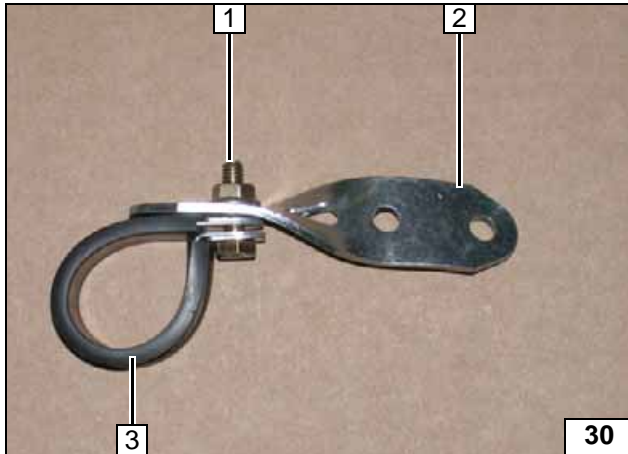
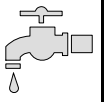
The connection should be "inline" based on the following diagram:



**Coolant routing diagram**

All hose clamps = 20-27 mm dia.! All connecting pipes as follows:  
**1.8 liter gasoline** = dia. 18x20! **1.6 liter diesel** = dia. 18x20! **2.0 liter diesel** = dia. 20x20  
**1** = Black (sw) rubber isolator (1.8 liter gasoline only)! **2** = Black (sw) rubber isolator (1.6 and 2.0 liter diesel)! **3** = Black (sw) rubber isolator (2.0 liter diesel only)!



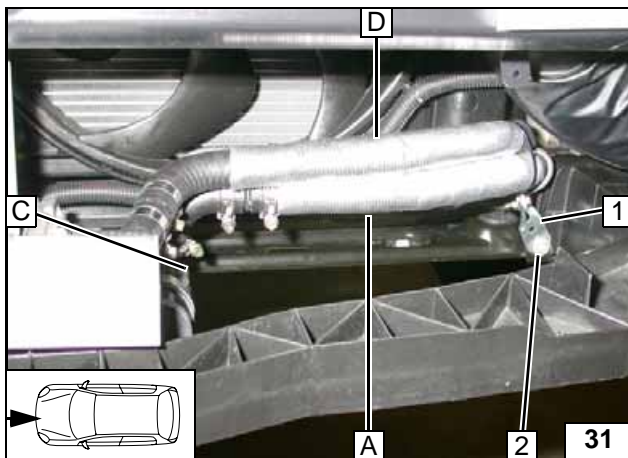


Turn perforated bracket 2 by approx. 75° in longitudinal axis.

- 1 M6x20 bolt, flanged nut
- 2 Perforated bracket
- 3 Rubber-coated pipe clamp



**Preparing perforated bracket**

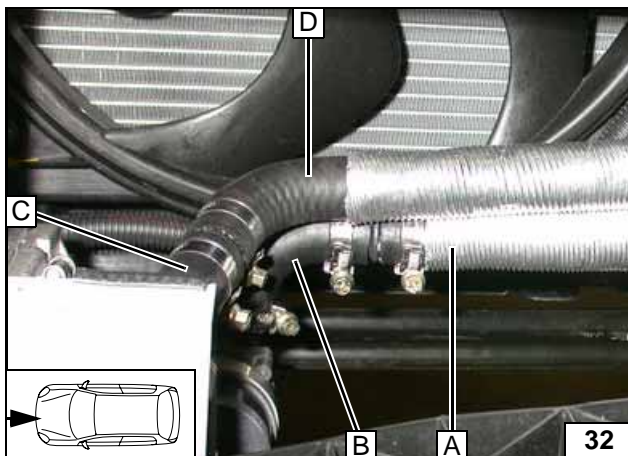


Slide on heat protection hoses. Route coolant hoses A and D through original vehicle pass through on radiator at left to heater unit. When doing so, guide hose A through rubber-coated p-clamp.

- 1 Prepared perforated bracket
- 2 Original vehicle bolt



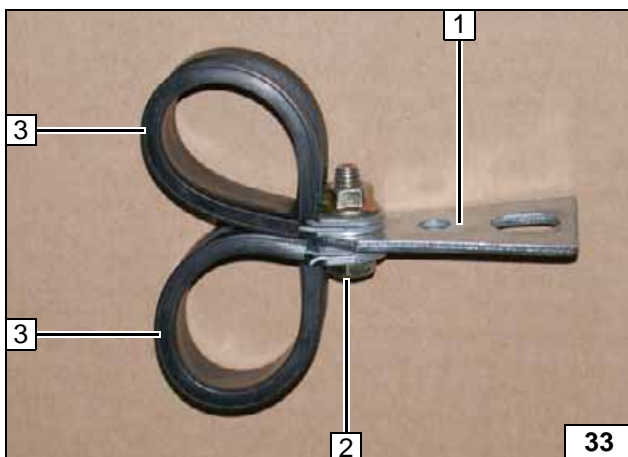
**Installing coolant hoses**



Only loosely preassemble connecting point from hose A and B (hose clamps will be tightened later).



**Coolant connection on heater unit**

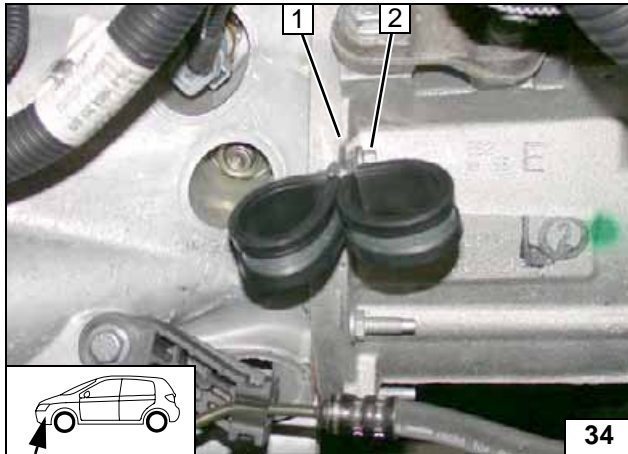
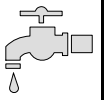


Cut perforated bracket to approx. 58 mm.

- 1 Perforated bracket
- 2 M6x20 bolt, flanged nut
- 3 Rubber-coated p-clamp [2x]



**Preparing perforated bracket**

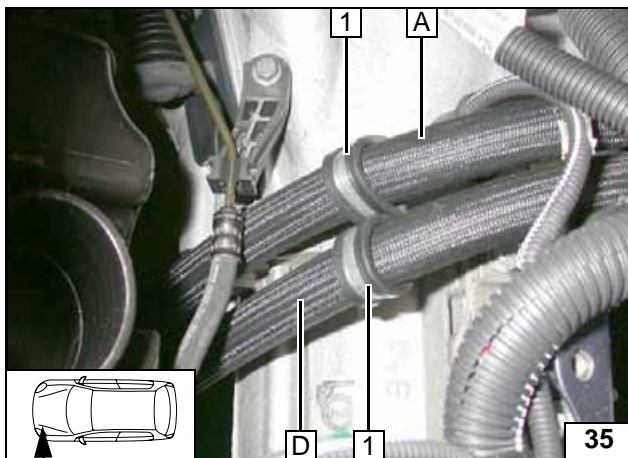


Fasten perforated bracket on transmission block.

- 1 Prepared perforated bracket
- 2 Original vehicle bolt



**Installing perforated bracket**



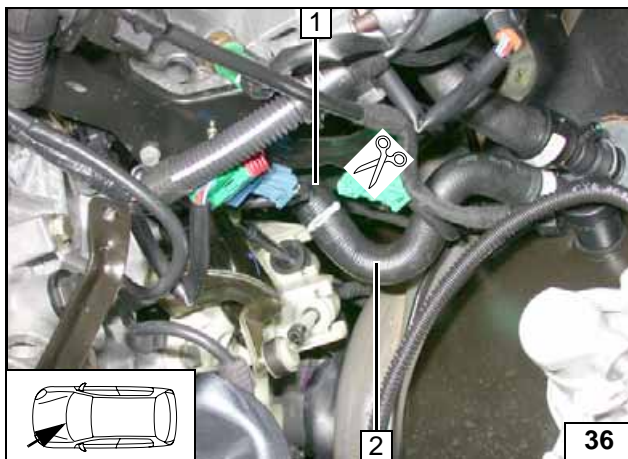
**1.8 liter gasoline**

Route hose **A** and **D** through rubber-coated p-clamps.

- 1 Rubber-coated p-clamp [2x]



**Routing to cutting point**

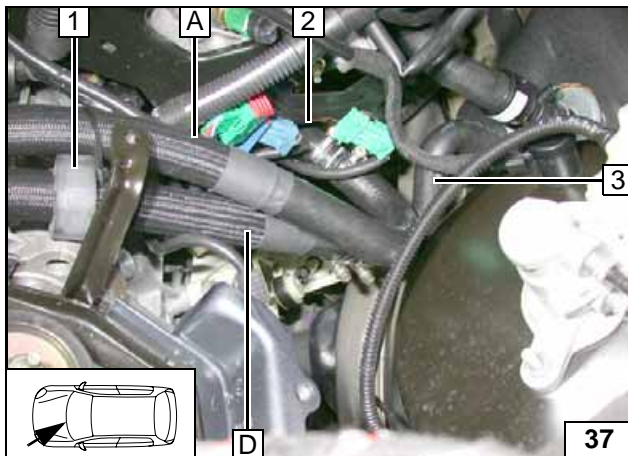


Disconnect hose from engine outlet to heat exchanger inlet with hose clamping pliers.

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



**Cutting point**

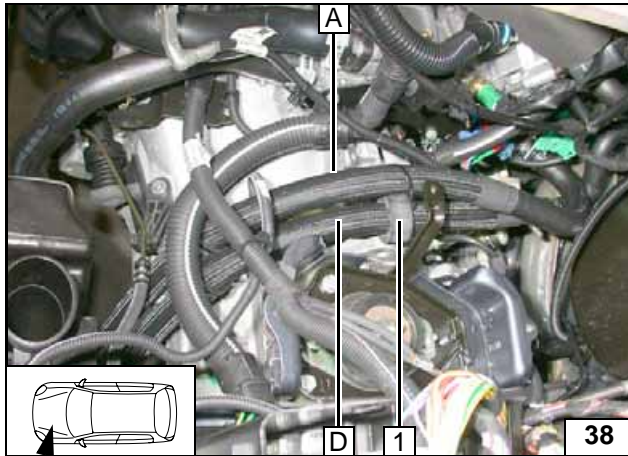


Before installation, push black (sw) rubber isolator **1** onto hose **D**.

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



**Connecting heat exchanger inlet and engine outlet**

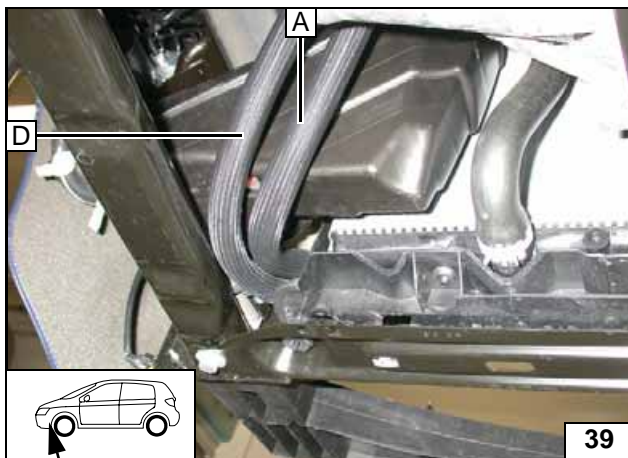


Fasten rubber isolator on hose **A** with cable tie.

- 1 Black (sw) rubber isolator



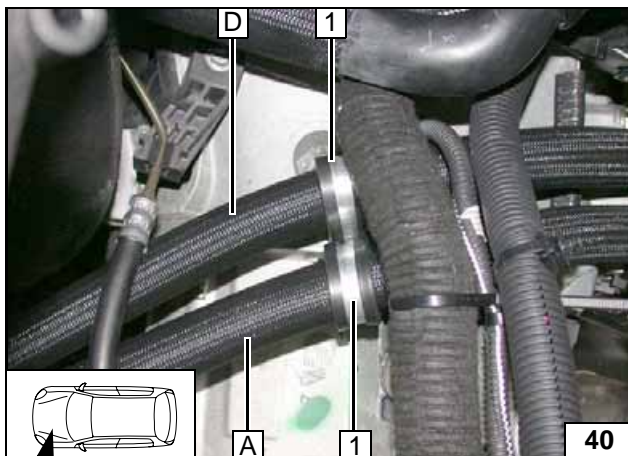
Routing in engine compartment



Align hoses and tighten hose clamps at connecting point of hose **A** and **B** on heater unit.  
Check the position of the components; adjust if necessary. Check that they have free clearance.



Positioning hose **A** and **D**



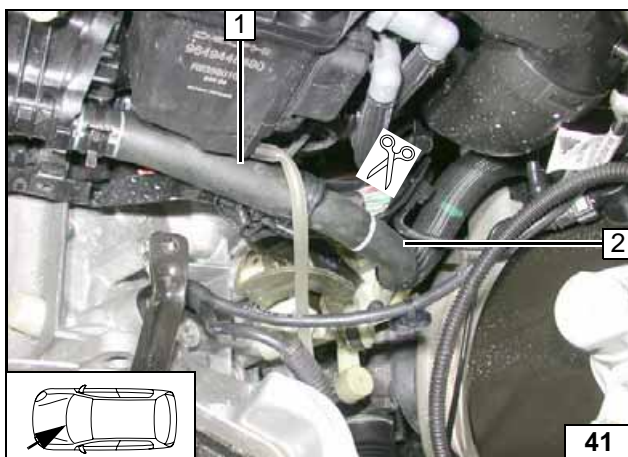
1.6 liter diesel

Route hose **A** and **D** through rubber-coated p-clamps.

- 1 Rubber-coated p-clamp [2x]



Routing to cutting point

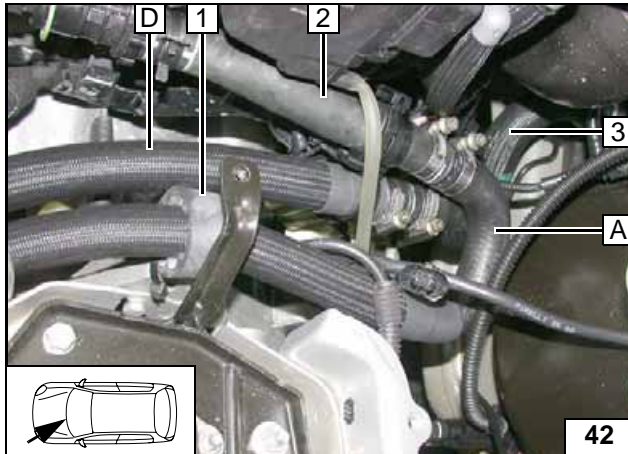
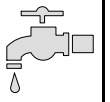


Disconnect hose from engine outlet to heat exchanger inlet with hose clamping pliers.

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



Cutting point

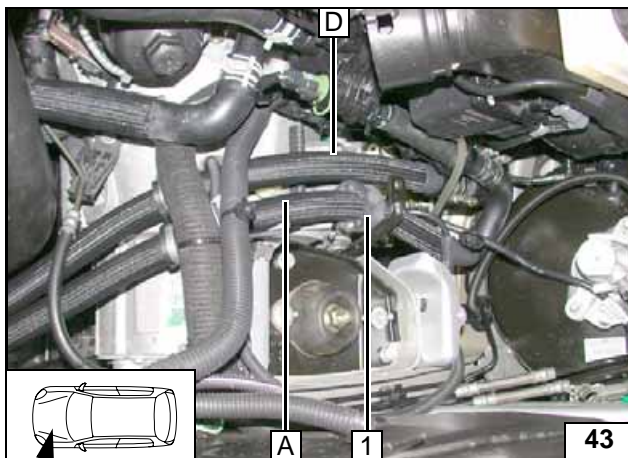


Before installation, push black (sw) rubber isolator 1 onto hose A.

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



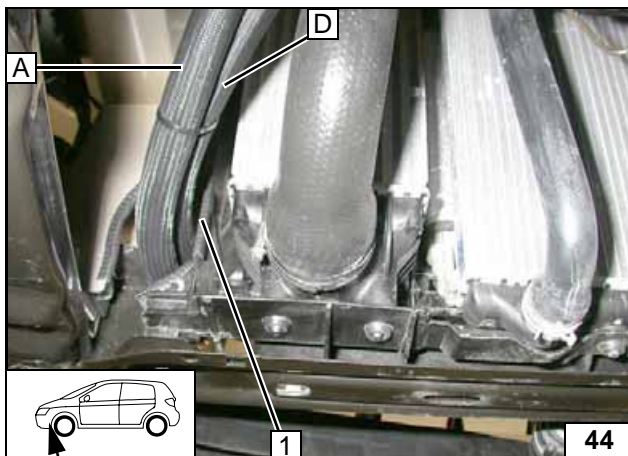
**Connect-**  
**ing heat**  
**exchanger**  
**inlet and**  
**engine out-**  
**let**



Fasten black (sw) rubber isolator 1 on hole of transmission block with cable tie.



**Routing in**  
**engine**  
**compart-**  
**ment**

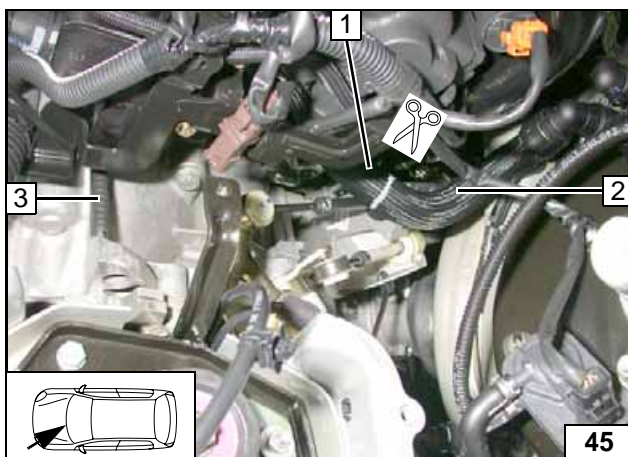


Align hoses and tighten hose clamps at connecting point of hose A and B on heater unit. Check the position of the components; adjust if necessary. Check that they have free clearance.

- 1 Edge protection 50



**Position-**  
**ing hose A**  
**and D**



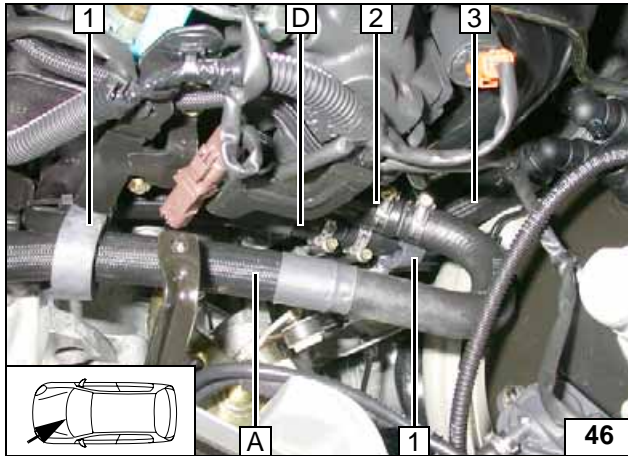
**2.0 liter diesel**

Remove braided protection hose in area of cutting point.

- 1 Engine-outlet hose section
- 2 Hose section of heat exchanger inlet
- 3 Edge protection 50



**Cutting**  
**point**

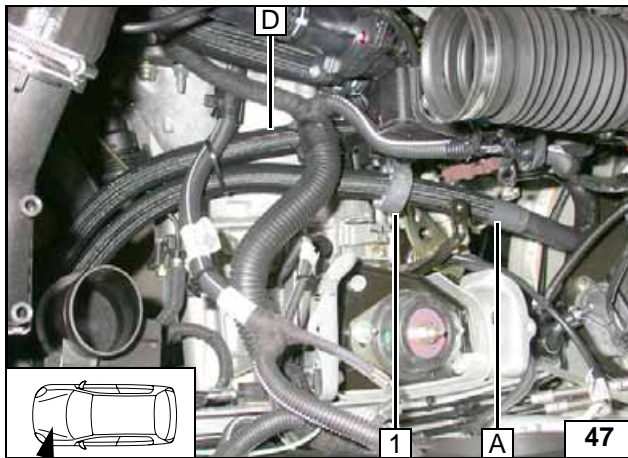


Before installing, push black (sw) rubber isolator **1** onto hose **A** and onto hose section of heat exchanger inlet **3**.

**2** Engine outlet hose section



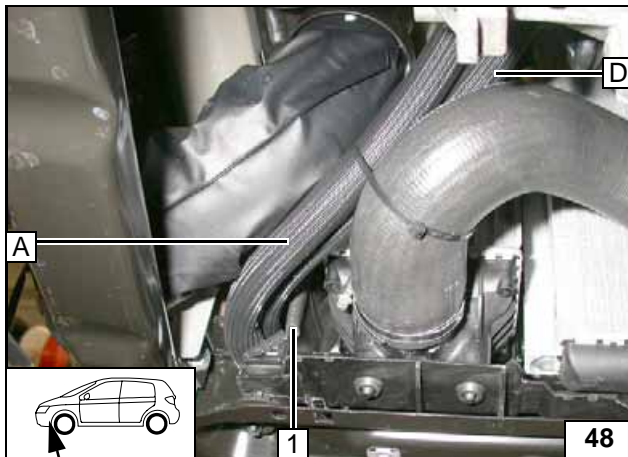
**Connect-**  
**ing heat**  
**exchanger**  
**inlet and**  
**engine out-**  
**let**



Fasten black (sw) rubber isolator **1** on original vehicle wiring harness bracket with cable tie.



**Position-**  
**ing hose A**  
**and D**



Align hoses and tighten hose clamps at connecting point of hose **A** and **B**. Check the position of the components; adjust if necessary. Check that they have free clearance.

**1** Edge protection 50



**Position-**  
**ing hose A**  
**and D**



**Fuel**

**CAUTION!**

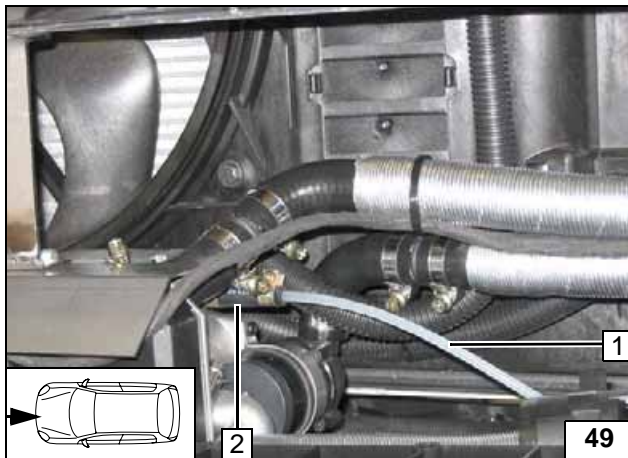
Open the vehicle's fuel tank cap, ventilate the tank and then re-close the tank lock.

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.

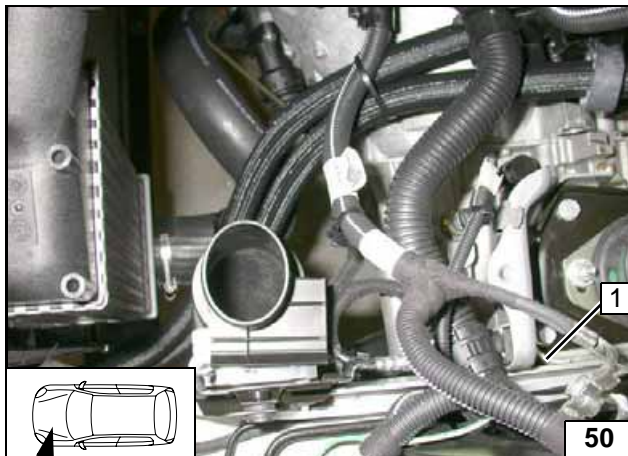
**WARNING!**

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

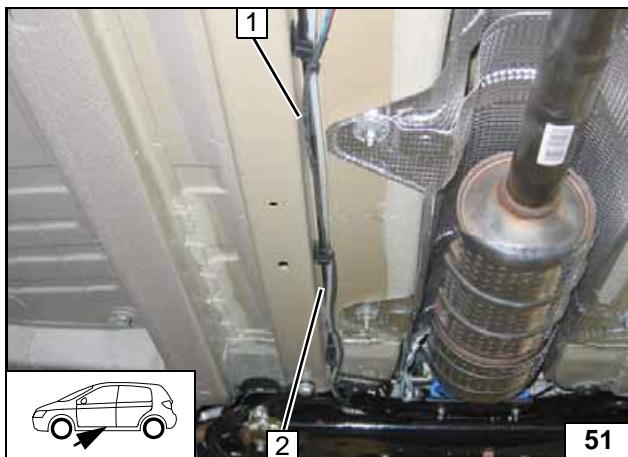


**Gasoline**

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



- 1 Fuel line
- 2 Edge protection 70



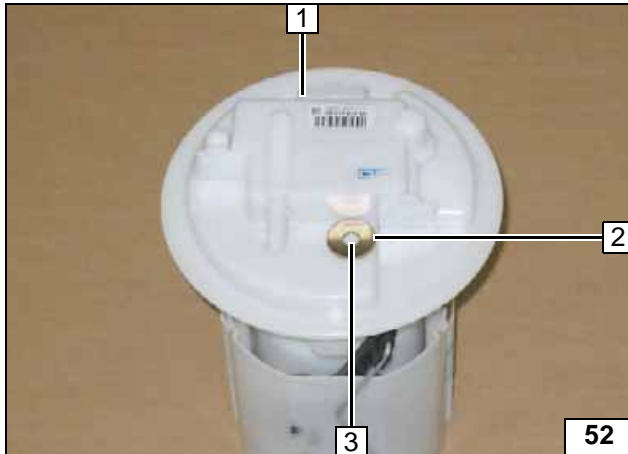
- 1 Metering pump wiring harness
- 2 Fuel line from heater unit

**Connec-  
tion on  
heater unit**

**Installing  
lines**

**Installing  
lines**



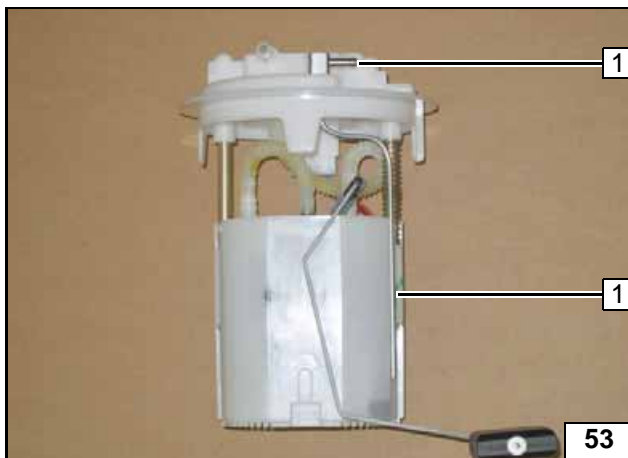


Remove fuel tank and fuel-tank sending unit **1** according to manufacturer's information.

- 2** Large diameter washer
- 3** Copy hole pattern, 6 mm dia. hole



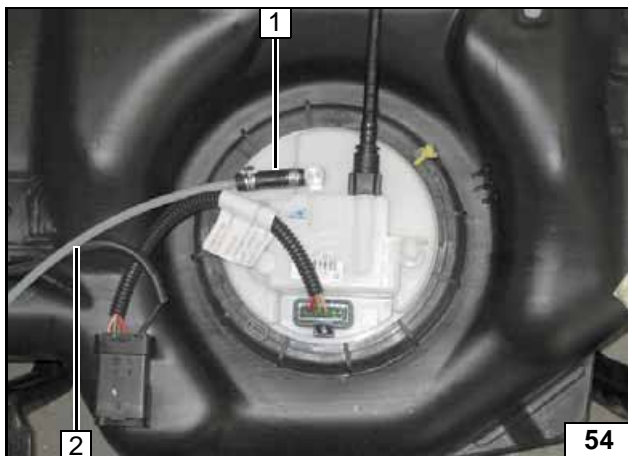
**Removing fuel**



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



**Installing fuel standpipe**

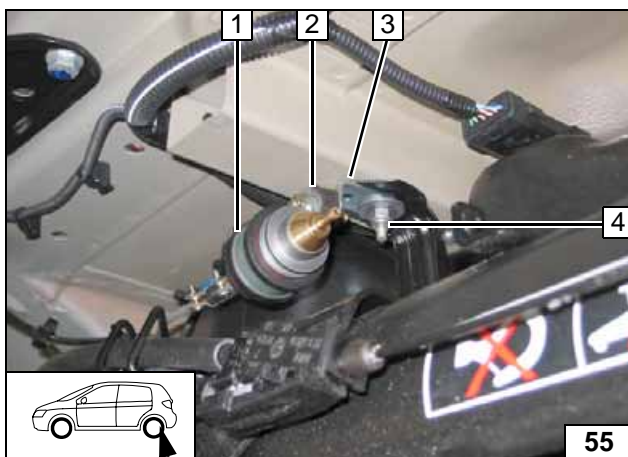


Install fuel-tank sending unit according to manufacturer's specifications.  
Install fuel tank in accordance with manufacturer's specifications.

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



**Connecting fuel line**

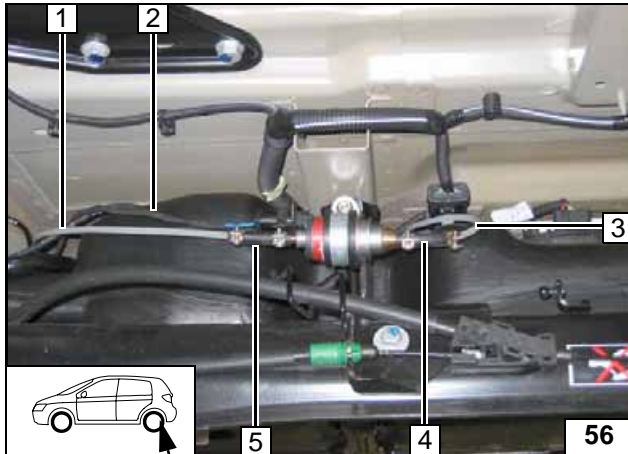


Ensure proper installation position of metering pump, see "Installation Instructions".  
Installation location behind vehicle fuel tank!

- 1** Rubber-coated pipe clamp
- 2** Silent block, flanged nut [2x]
- 3** Angle bracket
- 4** Original vehicle nut, washer



**Installing metering pump**

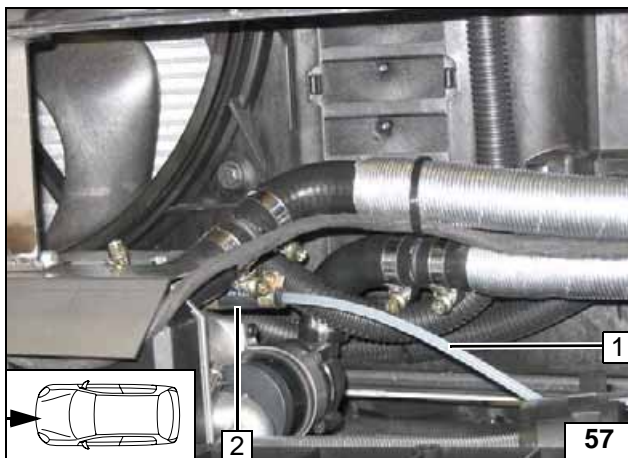


Connect fuel line from heater unit **1** to pressure side and fuel line from fuel standpipe **3** to intake side of metering pump.

- 2** Wiring harness of metering pump, connector mounted
- 4** Hose section, 10 mm dia. clamps [2x]
- 5** Hose section, 10 mm dia. clamps [2x]



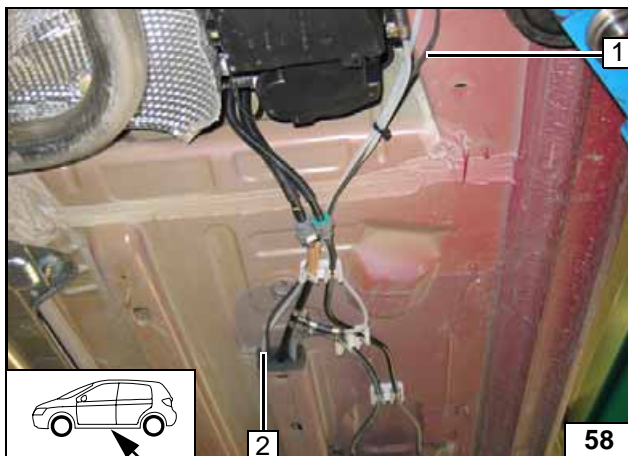
**Connect-  
ing meter-  
ing pump**



## Diesel

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

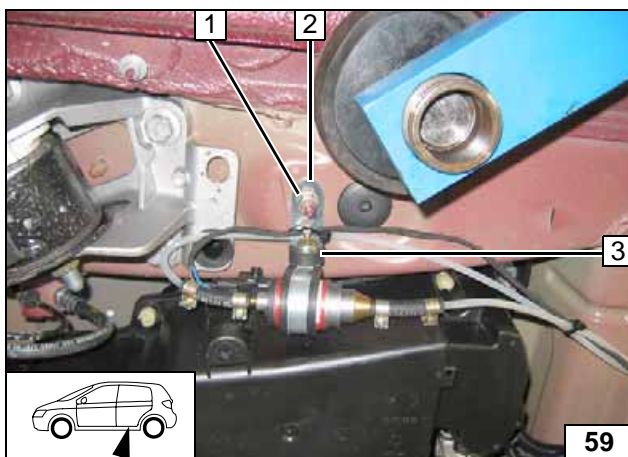
**Conne-  
ction on  
heater unit**



Route wiring harness of metering pump **1** together with fuel line **2** along original vehicle fuel lines to installation location of metering pump.



**Install-  
ing  
lines**

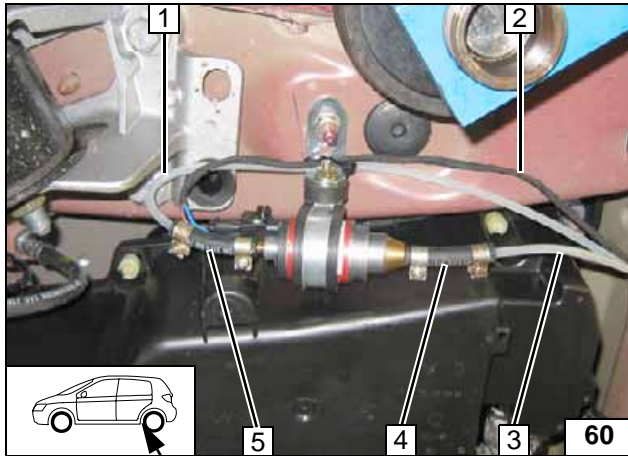


Ensure proper installation position of metering pump, see "Installation Instructions".  
Installation location on vehicle fuel tank at side.

- 1** Original vehicle stud bolt; M8 flanged nut
- 2** Angle bracket
- 3** Rubber-coated p-clamp, silent block, flanged nut [2x]



**Install-  
ing  
metering  
pump**

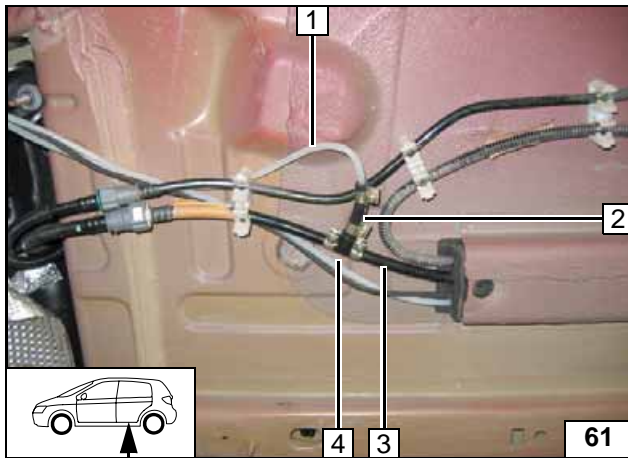


Connect fuel line from heater unit 1 on pressure side and fuel line to fuel standpipe 3 on intake side of metering pump.

- 2 Wiring harness of metering pump, connector mounted
- 4 Hose section, 10 mm dia. clamps [2x]
- 5 Hose section, 10 mm dia. clamps [2x]



## Connecting metering pump

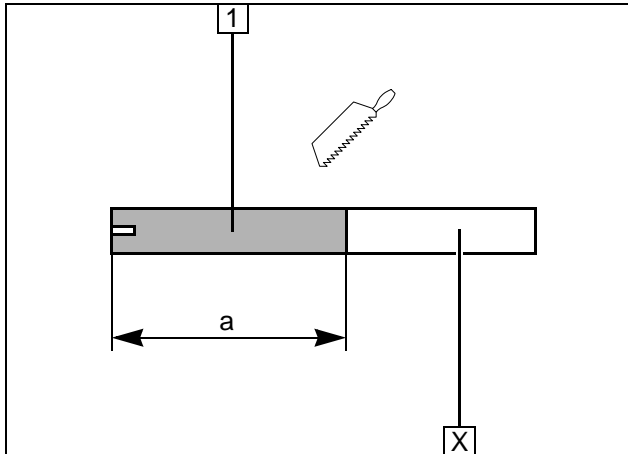
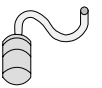


Fuel is removed from original vehicle fuel supply line 3.

- 1 Fuel line from metering pump
- 2 Hose section, 10 mm dia. clamps [2x]
- 4 8x5x8 fuel standpipe



## Removing fuel

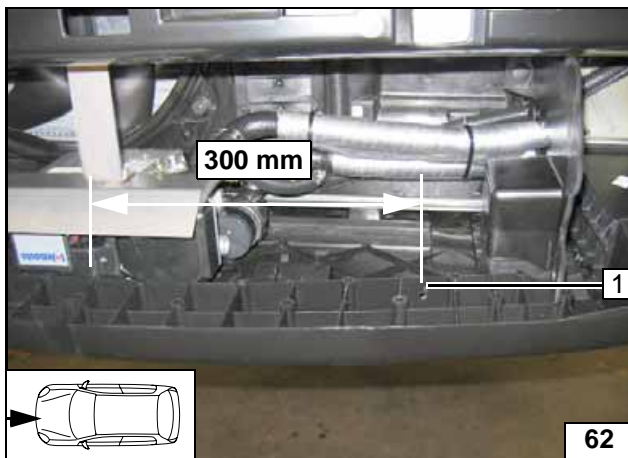


**Combustion air**

- 1 Combustion air pipe  
a = 250

Discard section X

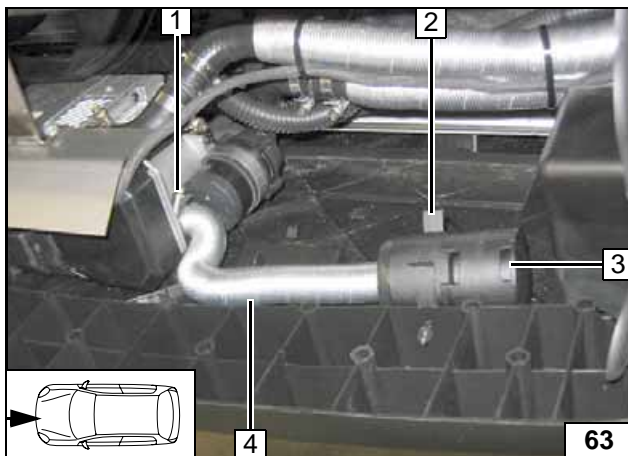
**Cutting combustion air pipe to length**



Drill 6.2 mm dia. hole 1 in center of grid as shown.



**Hole for muffler**

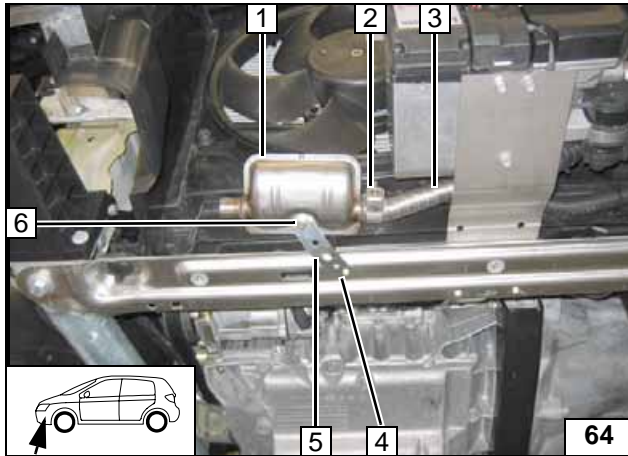
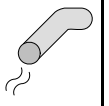


Ensure proper installation position of air intake muffler, see "Installation Instructions". Check the position of the components; adjust if necessary. Check that they have free clearance.



**Installing combustion air pipe**

- 1 27 mm dia. hose clamp
- 2 Retaining clip in hole
- 3 Combustion-air intake muffler
- 4 Combustion-air intake pipe



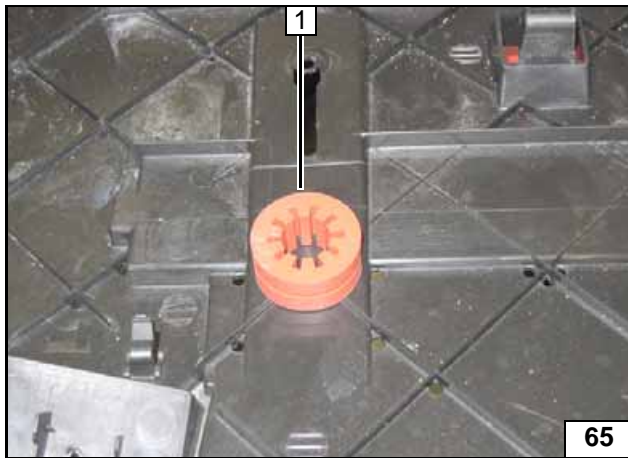
**Exhaust gas**

Following installation, bend muffer upward approx. 30°.

- 1 Muffer
- 2 Hose clamp
- 3 Exhaust pipe
- 4 M6x20 bolt, spring lockwasher
- 5 Perforated bracket
- 6 M6x20 bolt, flanged nut



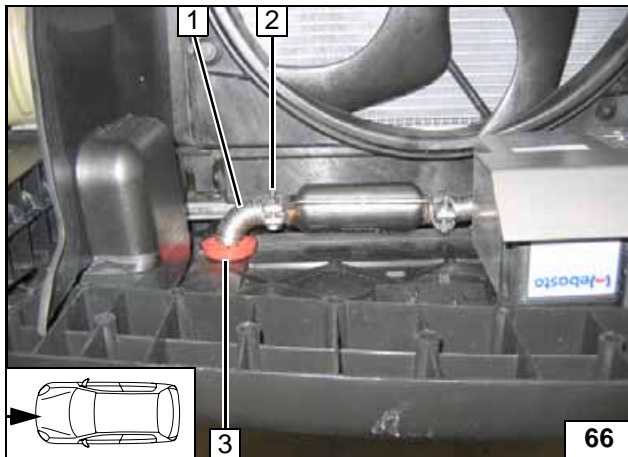
**Installing exhaust system**



Lay on red (rt) rubber isolator at position 1, copy hole pattern and drill 42 mm dia. hole in under-ride protection.



**Cutting out under-ride protection**

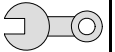


Insert rubber isolator 3 in 42 mm dia. hole. Check the position of the components; adjust if necessary. Check that they have free clearance.

- 1 Exhaust end section
- 2 Hose clamp



**Mounting under-ride protection**



## 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.



**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.

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 shutting off the engine, make the following settings:



1 Air outlet to windshield

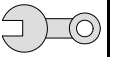


1 Air outlet to windshield



Manual air conditioning

Automatic air-conditioning



Template for Gasoline Fuel Standpipe

