

# Water Heater

*Thermo Top E* Parking Heater



*Thermo Top C* Parking Heater



## Installation Documentation

### Citroen Jumpy / Fiat Scudo / Peugeot Expert

From Model Year 2007

### Toyota Proace

From model year 2013

Diesel

Left-hand drive vehicle

Manual and automatic transmission

Manual air-conditioning and automatic air-conditioning  
Manual air-conditioning and automatic air-conditioning



#### WARNING!

Hazard warning:

The improper installation or repair of Webasto heating and cooling systems can cause fire or the leakage of deadly carbon monoxide, leading to serious injury or death.



To install and repair Webasto heating and cooling systems you need to have completed a special company training course and have the appropriate technical documentation, special tools and special equipment.

Only use genuine Webasto parts. See the Webasto air and water heaters accessories catalogue for this purpose.

**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.

**The initial startup is to be executed with the Webasto Thermo Test Diagnosis.**

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

## Table of Contents

Validity	2	Preparing Installation Location	15
Heater / Installation Kit	3	Preparing Heater	15
Foreword	3	Installing Heater	18
General Instructions	3	Fuel	19
Special Tools	3	Coolant Circuit	20
Explanatory Notes on Document	4	Final Work	28
Preliminary Work	5	Operating Instructions for End Customer	29
Heater Installation Location	5		
Preparing Electrical System	6		
Electrical System	8		
Fan Controller for Manual Air-Conditioning	9		
Fan Controller for Automatic Air-Conditioning	11		
Digital Timer	14		
Remote Option (Telestart)	14		

## Validity

Manufacturer	Model	Type	EG-BE No. / ABE
Citroen	Jumpy	G9	e2 * 2001 / 116 * 0348 * ...
Citroen	Jumpy	G9	e2 * 2001 / 116 * 0350 * ...
Citroen	Jumpy	G9	e2 * 2007 / 46 * 0045 * ...
Fiat	Scudo	270	e2 * 2001 / 116 * 0351 * ...
Peugeot	Expert	G9	e2 * 2001 / 116 * 0349 * ...
Peugeot	Expert	G9	e2 * 2007 / 46 * 0046 * ...
Toyota	Proace	X	e2 * 2007 / 46 * 0388 * ...

Engine type	Engine model	Output in kW	Displacement in cm <sup>3</sup>
9HU	Diesel	66	1560
RHK	Diesel	88	1997
RH02	Diesel	94	1997
AHZ	Diesel	94	1997
4WZ-FTV	Diesel	94	1997
4WZ-FHV	Diesel	120	1997
RHH	Diesel	120	1997

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

The installation location of the digital timer should be confirmed with the end customer before installation.

## Heater / Installation Kit

Quantity	Description	Order No.:
1	Basic delivery scope of <i>Thermo Top E/C</i>	see price list
1	Heater control	see price list

### Also required:

1	Installation kit for Citroen Jumpy / Fiat Scudo / Peugeot Expert / Toyota Proace Diesel manual air-conditioning	1313563C
---	---	----------

### or:

1	Installation kit for Citroen Jumpy / Fiat Scudo / Peugeot Expert Diesel automatic air-conditioning	1313585E
---	--	----------

## Foreword

This installation documentation applies to Citroen Jumpy / Fiat Scudo / Peugeot Expert diesel vehicles from model year 2007 and later as well as Toyota Proace from model year 2013 and later - for validity, see page 2 -, 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 regulations in this "installation documentation", the "operating instructions" and "installation instructions" for the *Thermo Top E/C* 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. Insulate loose wire ends and tie back. Connectors on electronic components have to audibly click into place during installation.

Sharp edges should be fitted with rub protection. Spray unfinished body areas, e.g. drilled holes, with anti-corrosion wax (Tectyl 100K, Order No. 111329).

When installing an IPCU, the relevant settings must be checked or adjusted before the installation.

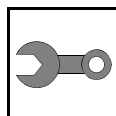
## Special Tools

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

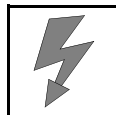
## Explanatory Notes on Document

You will find an identification mark on the outside top right corner of the page in question to provide you with a quick overview of the individual working steps.

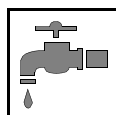
### Mechanical system



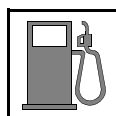
### Electrical System



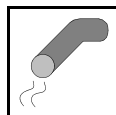
### Coolant Circuit



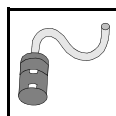
### Fuel



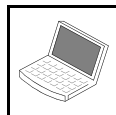
### Exhaust gas



### Combustion Air



### Software



Special features are highlighted using the following symbols:



Specific risk of injury or fatal accidents.



Specific risk of damage to components.



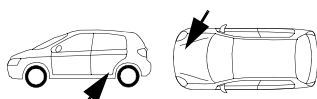
Specific risk of fire or explosion.



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!**

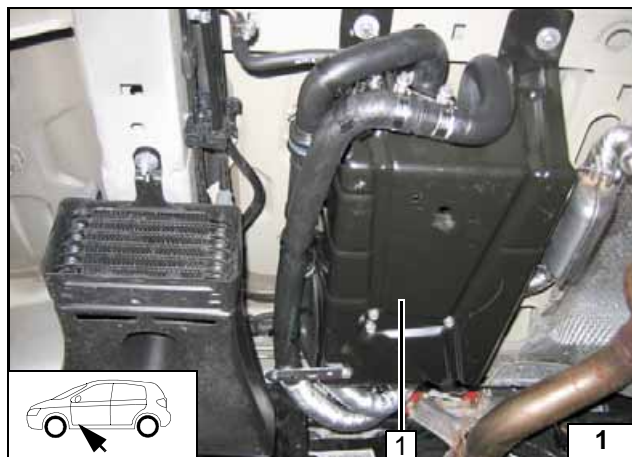
**Tightening torque of Ejet screws, Ejet studs = 10 Nm!**

## Preliminary Work

### WARNING!

- Open the fuel tank cap, ventilate the fuel tank.
- Close the fuel tank cap again.
- Disconnect the battery.
- Depressurise 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 air filter together with the intake hose.
- Remove the fresh-air supply line above the engine.
- Open the fuse box in the engine compartment.
- Remove the cover above the glove compartment.
- Remove the footwell trim on the driver's side.
- Remove the lower instrument panel trim on the driver's side.

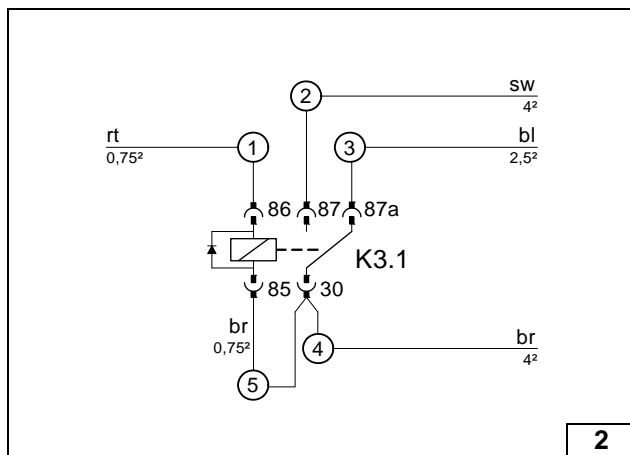
Please remove page 29 "Operating Instructions for End Customer" and add to the operating instructions.



## Heater Installation Location

1 Heater

Installation location



2

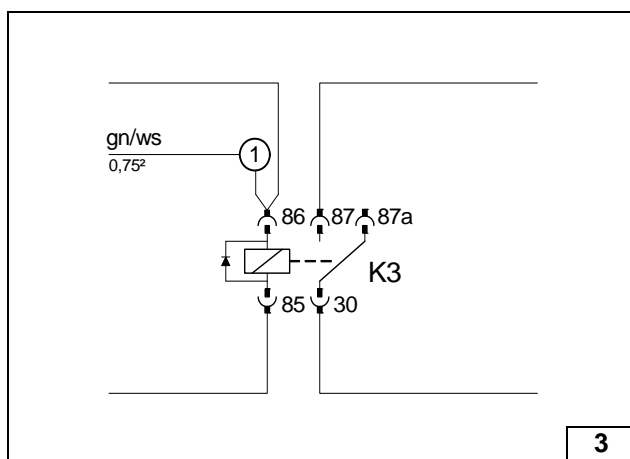
## Preparing Electrical System

Wire sections retain their numbering throughout the entire document.

### Manual air-conditioning

Produce connections as shown in wiring diagram.

Preparing additional relay K3.1



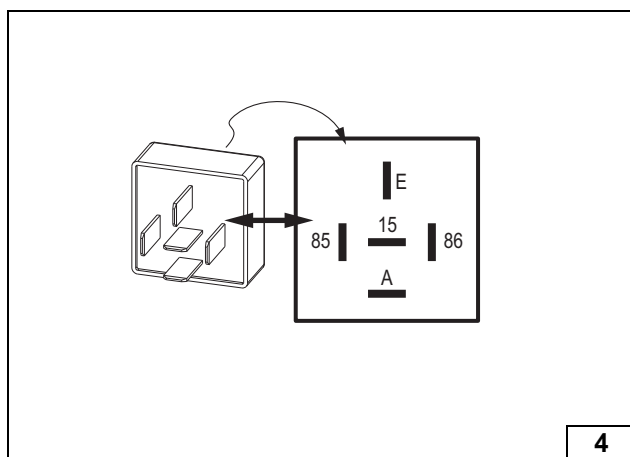
3

### Automatic air-conditioning

Produce connections as shown in wiring diagram.

Remove red (rt) wire from K3/87a and discard. Pull wire ① into provided protective sleeving.

Preparing K3 relay



4

Check the IPCU settings when starting up the heater and adjust if necessary.

Settings:

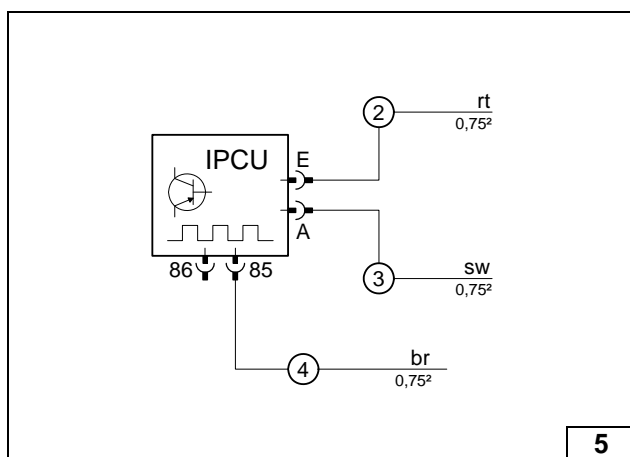
Duty cycle: 42%

Frequency: 1200Hz

Voltage: 4.6V

Function: High side

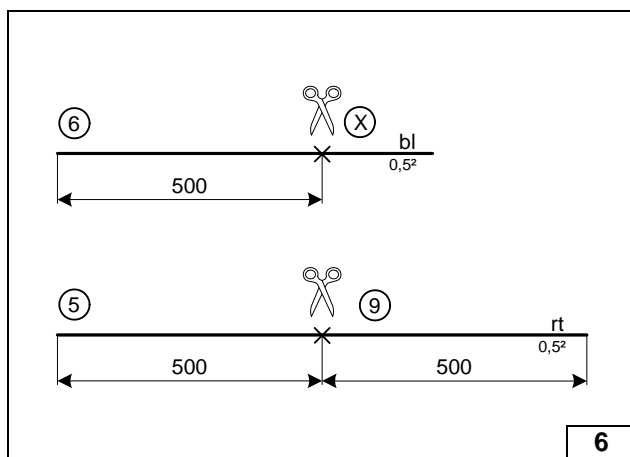
Preparing IPCU



5

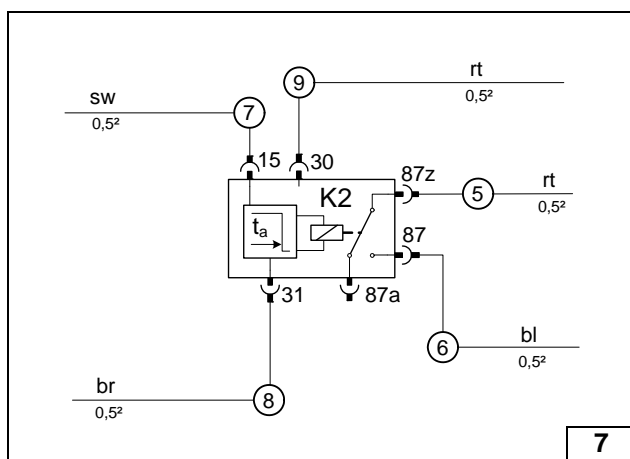
Connect lines to IPCU socket.

Preparing IPCU



6

Cutting wires to length



7

Produce connections as shown in wiring diagram. Pull wires ⑦, ⑧ and ⑨ into protective sleeving.



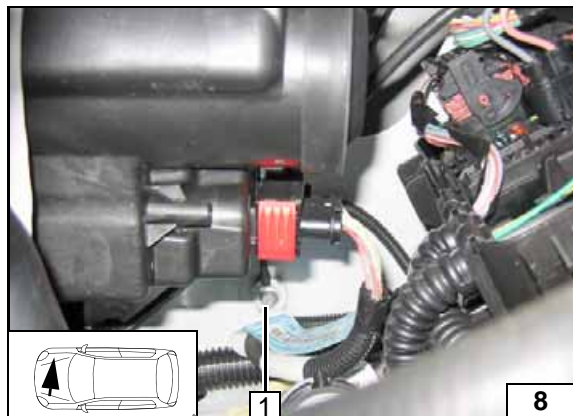
Preparing K2-relay



## Electrical System

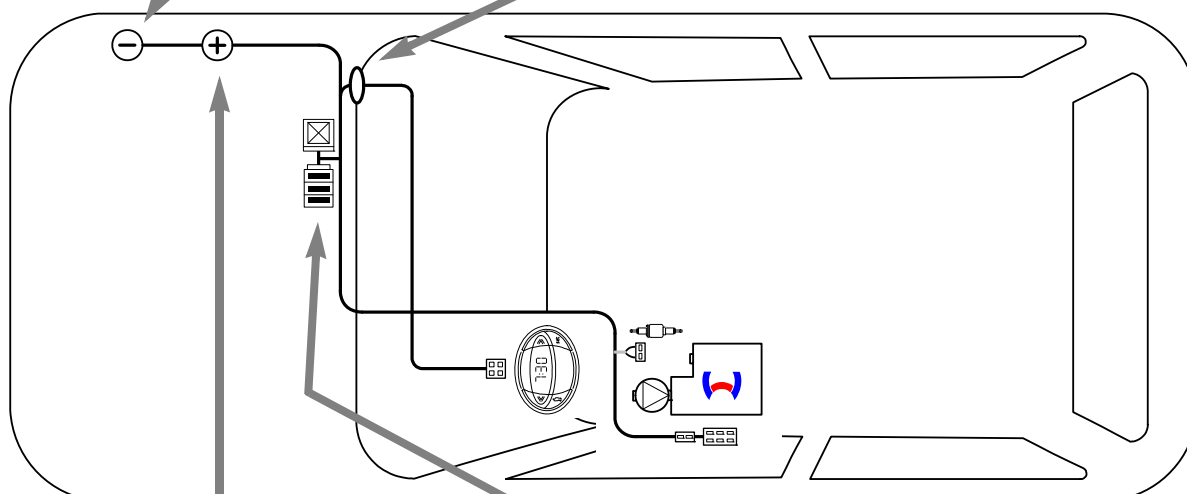
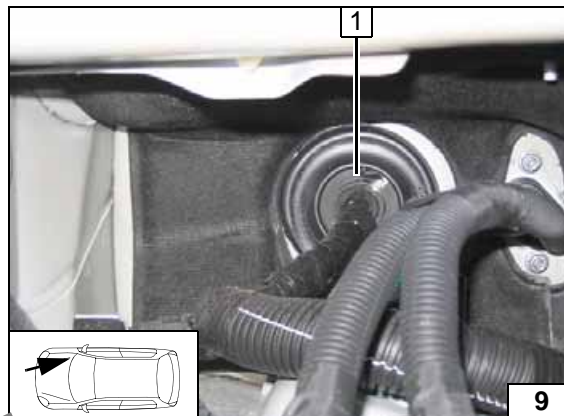
### Earth wire

- 1 Original vehicle earth support point

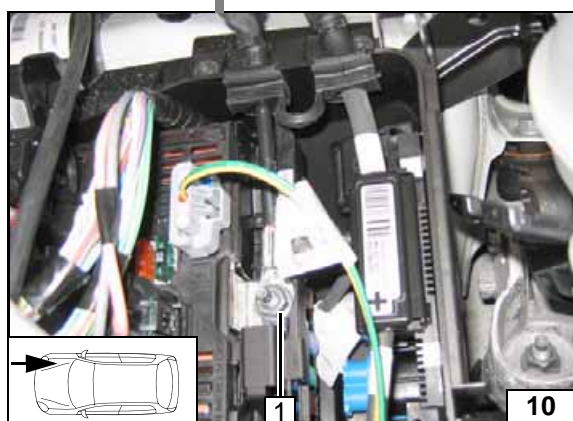


### Wiring harness pass through

- 1 Protective rubber plug

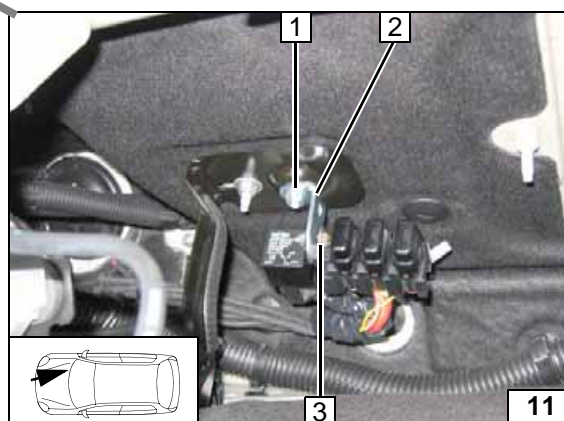


Wiring harness routing diagram



### Positive wire

- 1 Original vehicle positive support point



### Fuse holder, K3 relay

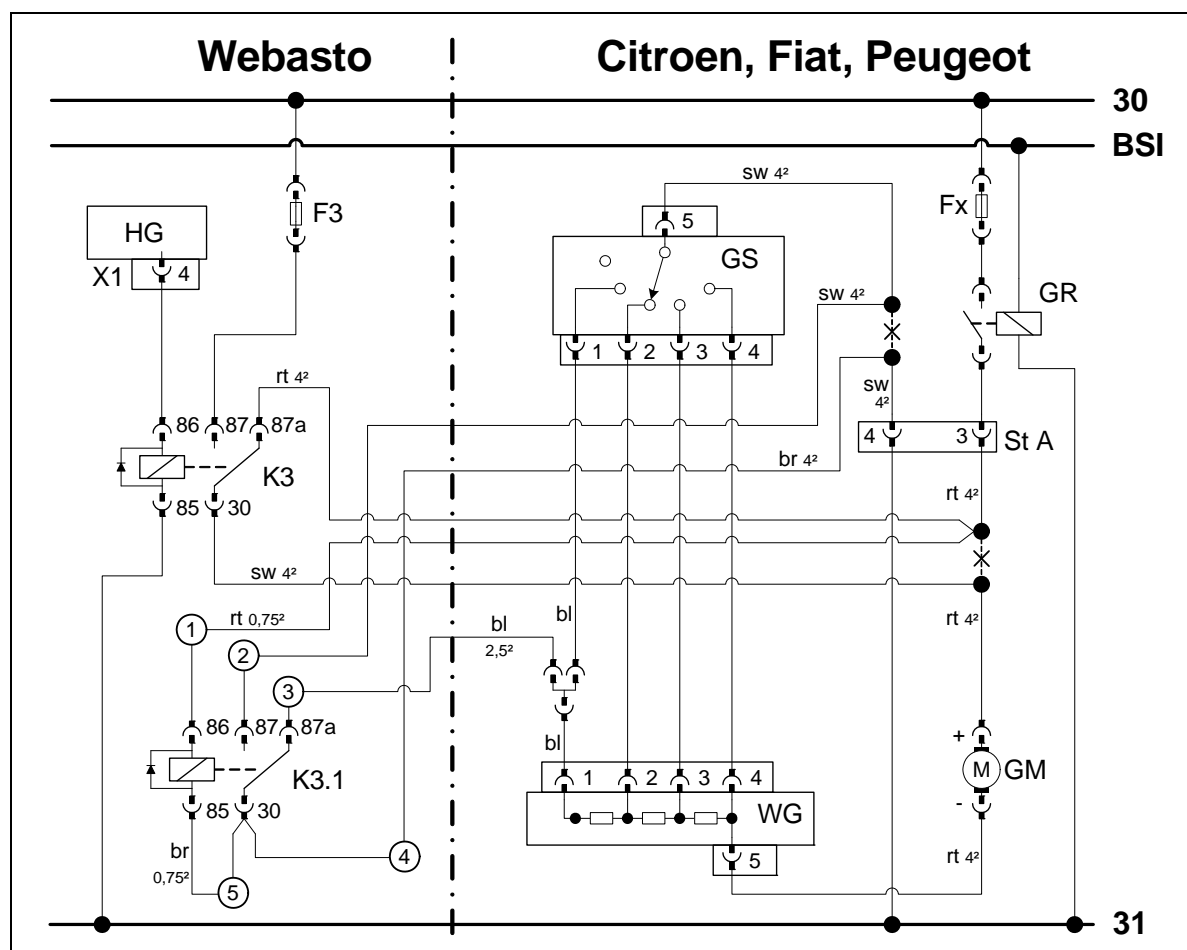
- 1 Original vehicle stud bolt, flanged nut  
2 Angle bracket  
3 M5x16 bolt, washer, retaining plate of fuse holder, K3 relay, flanged nut on angle bracket



# Fan Controller for Manual Air-Conditioning

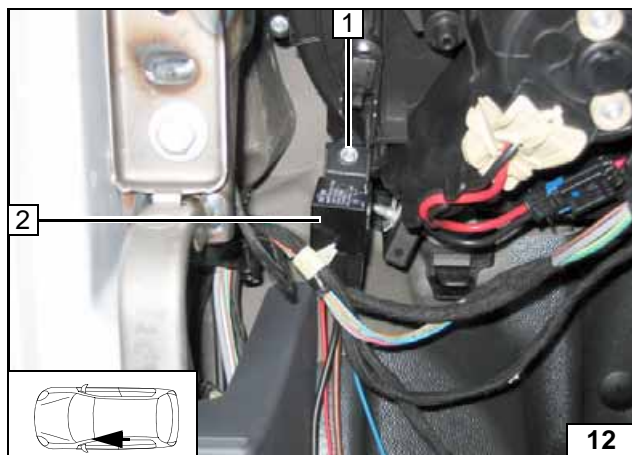


Wiring diagram



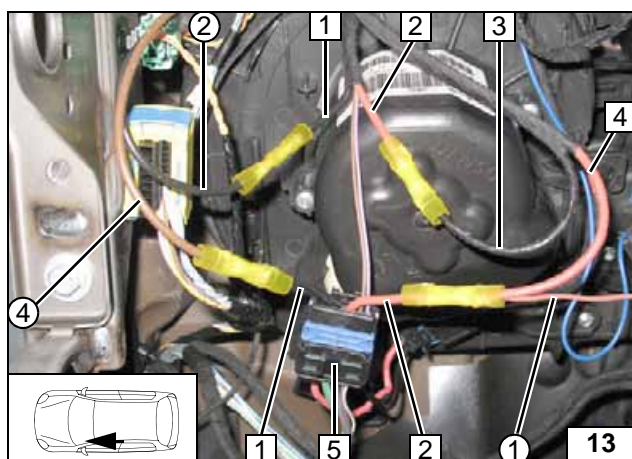
Webasto components		Vehicle components		Colours and symbols	
HG	Heater TT-C/E	Fx	Fuse	rt	red
X1	6-pin heater connector	GS	Fan switch	ws	white
F3	25A fuse	GR	Fan relay	sw	black
K3	Fan relay	St A	6-pin connector	br	brown
K3.1	Additional relay	GM	Fan motor	bl	blue
		WG	Resistor group		
				X	Cutting point
				Wiring colours may vary.	

Legend



- 1 Original vehicle bolt
- 2 K3.1 relay

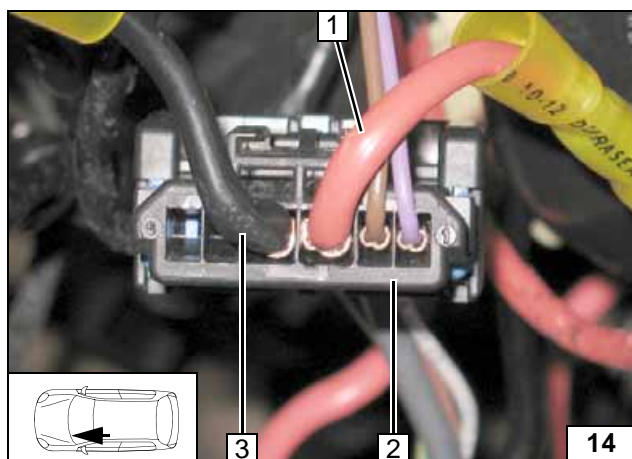
Installing  
K3.1 relay



Connection to 6-pin connector **5** before the fan motor. Produce connections as shown in wiring diagram.

- 1 Black (sw) wire of connector, pin 4, separated
- 2 Red (rt) wire of connector, pin 3, separated
- 3 Black (sw) wire from K3/30
- 4 Red (rt) wire from K3/87a
- ① Red (rt) wire from K3.1/86
- ② Black (sw) wire from K3.1/87
- ④ Brown (br) wire from K3.1/30

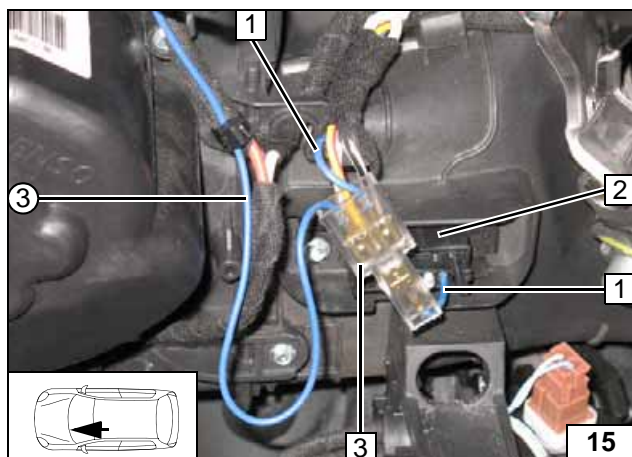
Connect-  
ing fan mo-  
tor



Wire-side view of connection on 6-pin connector **2**.

- 1 Red (rt) wire of connector, pin 3
- 3 Black (sw) wire of connector, pin 4

View of 6-  
pin con-  
nector



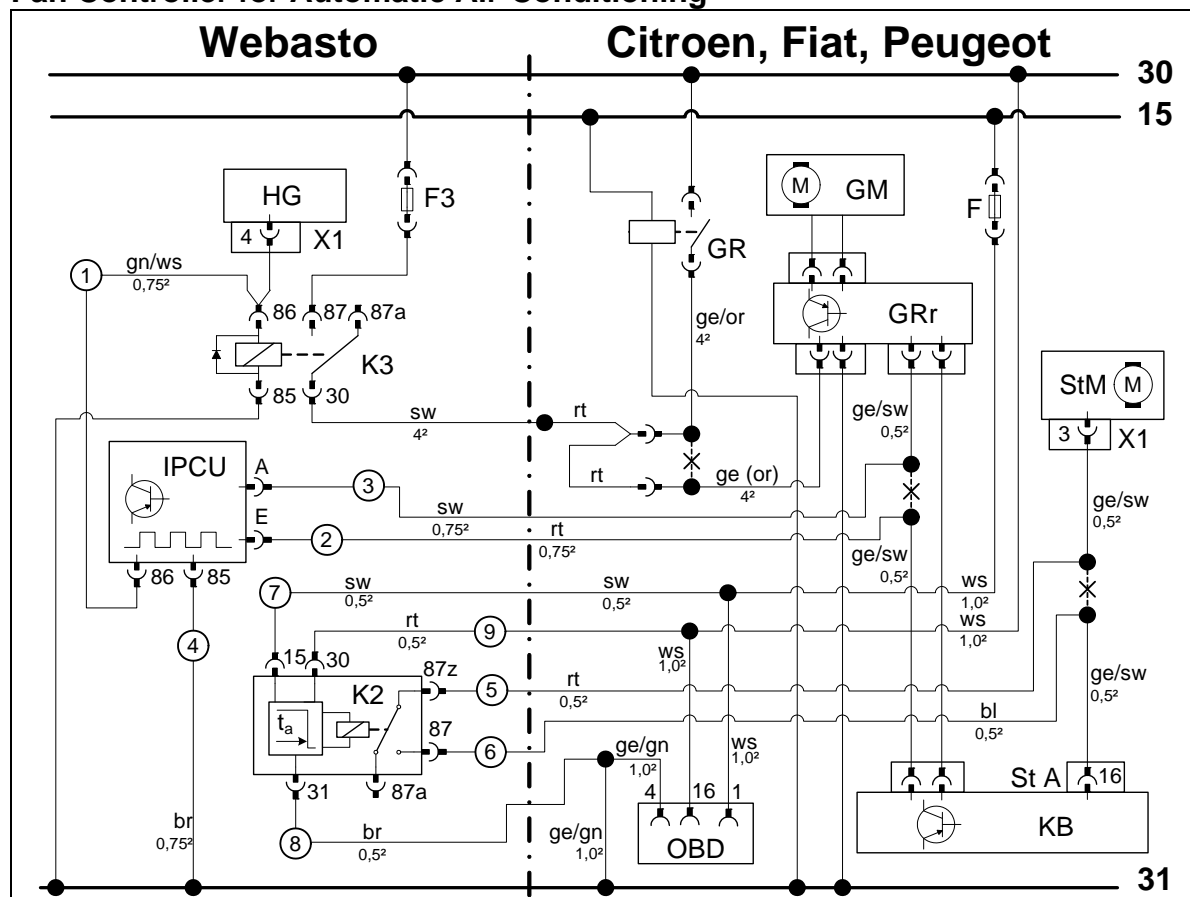
Connection to 5-pin connector **2** from resistor group. Produce connections as shown in wiring diagram.

- 1 Blue (bl) wire of connector, pin 1, disconnected
- 3 3x connector
- ③ Blue (bl) wire from K3.1/87a

Connect-  
ing resistor  
group



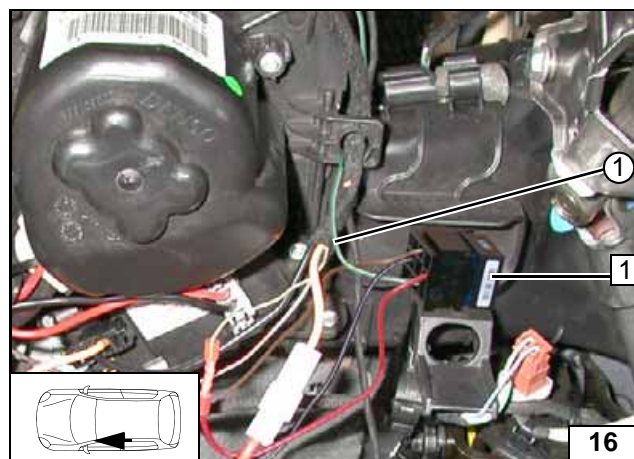
# Fan Controller for Automatic Air-Conditioning



Wiring diagram

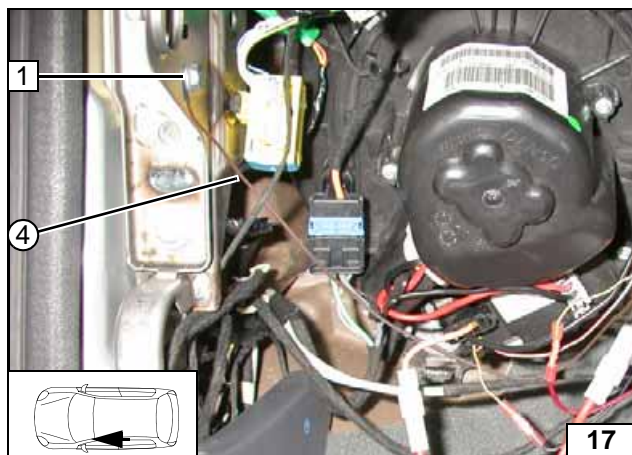
Webasto components		Vehicle components		Colours and symbols	
HG	Heater TT-C/E	GRr	Fan controller	rt	red
X1	6-pin heater connector	GR	Fan relay	ws	white
F3	25A fuse	GM	Fan motor	sw	black
K3	Fan relay	KB	A/C control panel	br	brown
K2	Additional relay delayed by 20 sec.	St A	Connector KB	ge	yellow
IPCU	Pulse width modulator	OBD	Diagnosis connector OBD	gn	green
<b>IPCU settings:</b>		F	Fuse	or	orange
Duty cycle: 42%		StM	Positioning motor of air distribution		
Frequency: 1200Hz		X1	6-pin connector of StM		
Voltage: 4.6V					
Function: High side					
				Wiring colours may vary.	

Legend



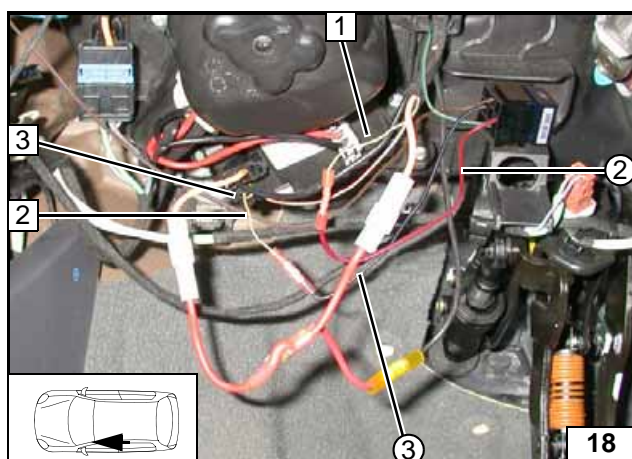
Secure IPCU socket 1 with double-sided adhesive tape. Connect green/white (gn/ws) wire ① from K3/86 to IPCU/86.

Installing IPCU



- 1 M6x16 bolt, flanged nut on existing hole
- ④ Cable lug, brown (br) wire from IPCU/85

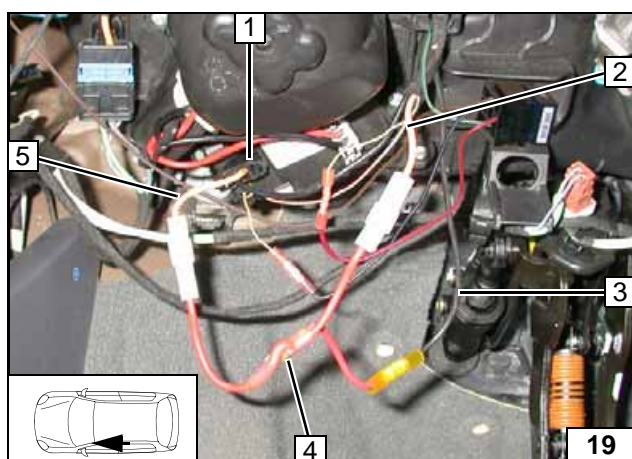
Connect-  
ing earth  
wire of  
IPCU



Connection on 2-pin connector **3** from fan controller. Produce connections as shown in wiring diagram.

- 1 Yellow/black (ge/sw) wire of A/C control panel
- 2 Yellow/black (ge/sw) wire of connector fan controller
- ② Red (rt) wire from IPCU/E
- ③ Black (sw) wire from IPCU/A

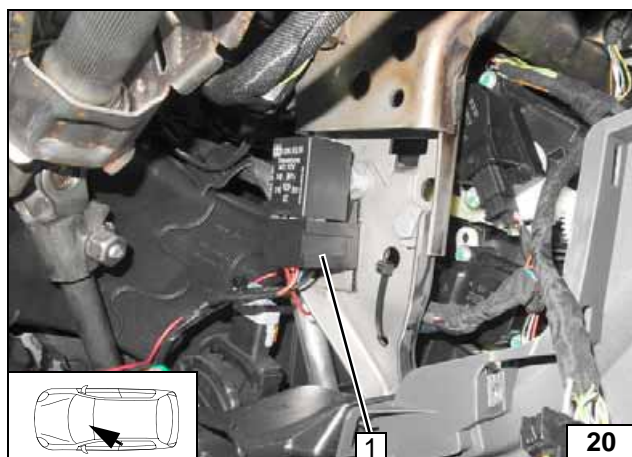
Connect-  
ing IPCU



Connection on 2-pin connector **1** from fan controller. Produce connections as shown in wiring diagram.

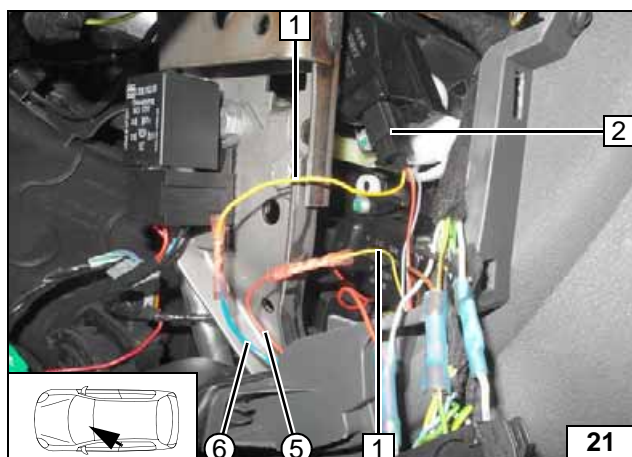
- 2 Yellow or orange (ge/or) wire of fan relay
- 3 Black (sw) wire from K3/30
- 4 Y-adapter
- 5 Yellow (ge) wire of connector fan controller

Connect-  
ing fan  
controller



Fasten K2 relay socket **1** with double-sided adhesive tape.

Installing  
K2 relay



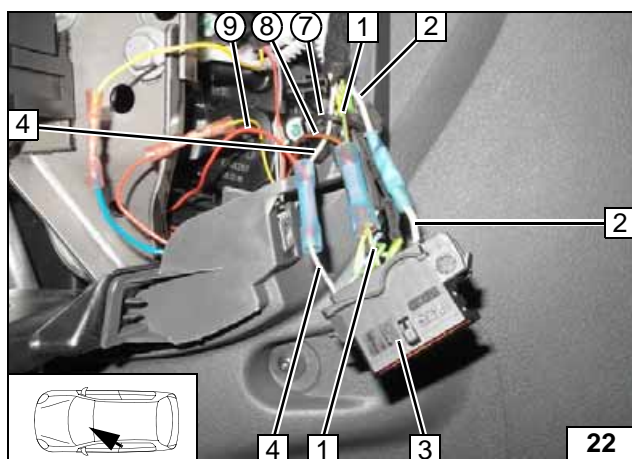
Connection to 6-pin connector X1 2 pin 3 from air distribution positioning motor.

1 Yellow/black (ge/sw) wire of X1/3 separated

⑤ Red (rt) wire from K2/87z

⑥ Blue (bl) wire from K2/87

Con-  
nection to po-  
sitioning  
motor



Connection to OBD socket outlet 3. Produce connections as shown in wiring diagram.

1 Green/yellow (gn/ge) wire of 4-pin, dis-  
connected

2 White (ws) wire, Pin 1, disconnected

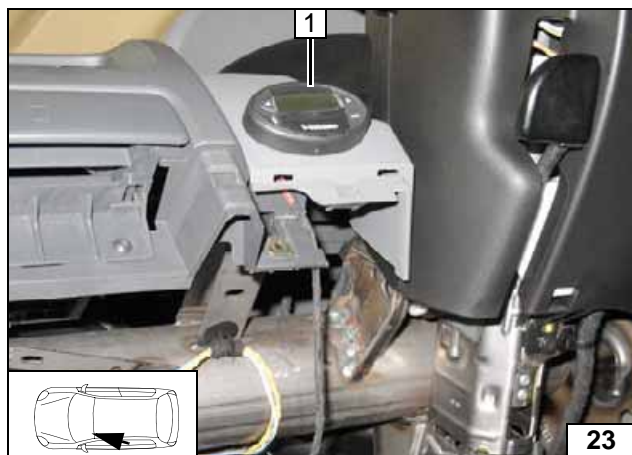
4 White (ws) wire, Pin 16, disconnected

⑦ Black (sw) wire from K2/15

⑧ Brown (br) wire from K2/31

⑨ Red (rt) wire from K2/30

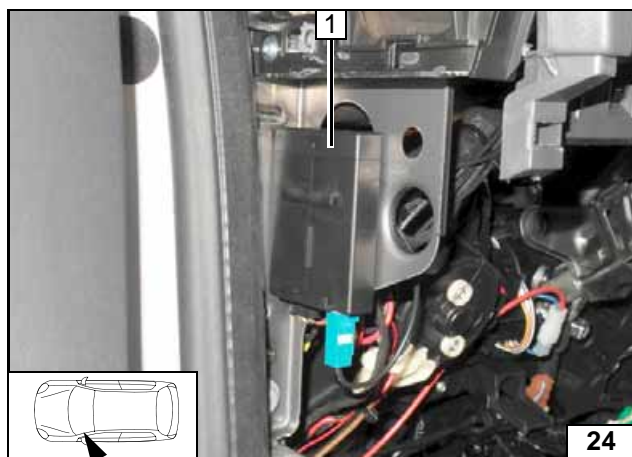
Con-  
nection to  
OBD sock-  
et outlet



## Digital Timer

1 Digital timer

Installing digital timer

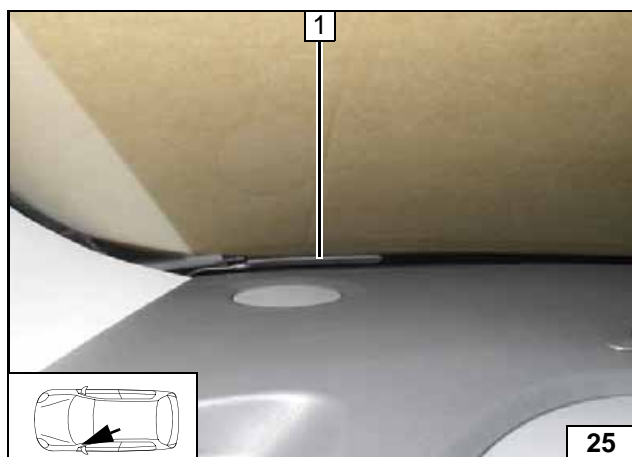


## Remote Option (Telestart)

Fasten receiver 1 with adhesive tape.

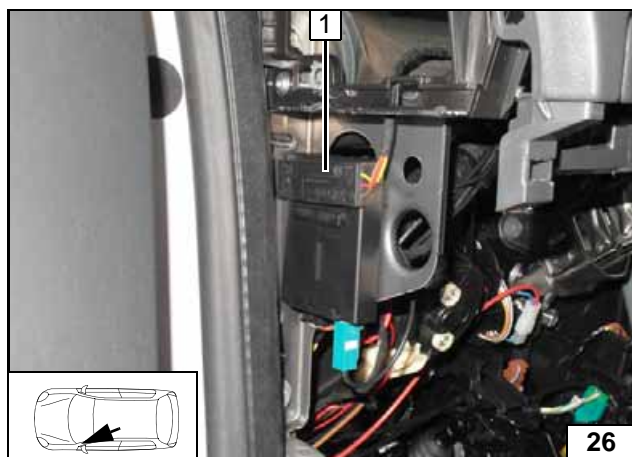


Installing receiver



1 Antenna

Installing antenna

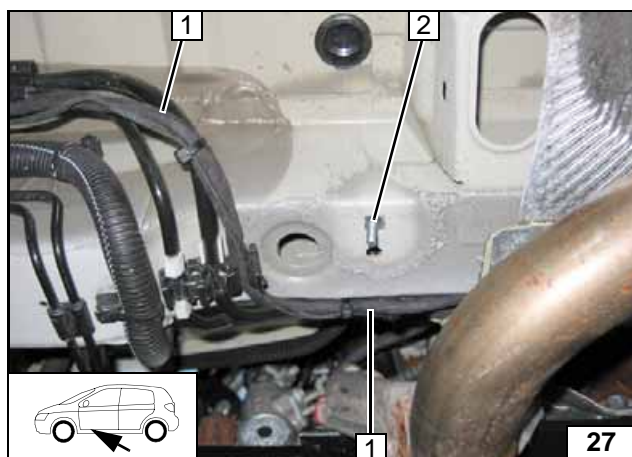


## Temperature sensor T100 HTM

Fasten temperature sensor 1 with adhesive tape.



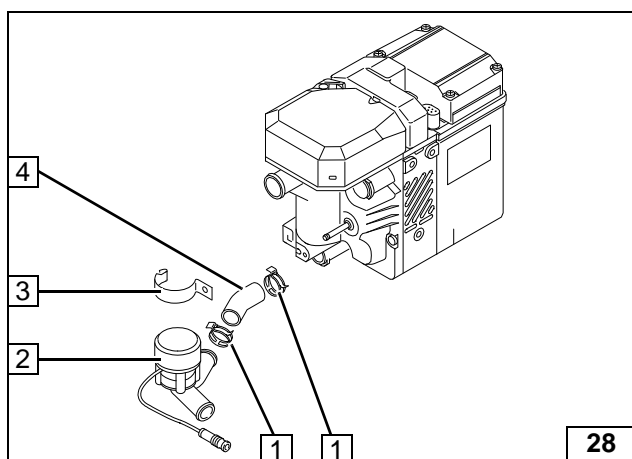
Installing temperature sensor



## Preparing Installation Location

Route wiring harnesses of heater and metering pump **1** to installation location of heater. Insert M6x20 bolt **2** with large diameter washer in original vehicle hole from above.

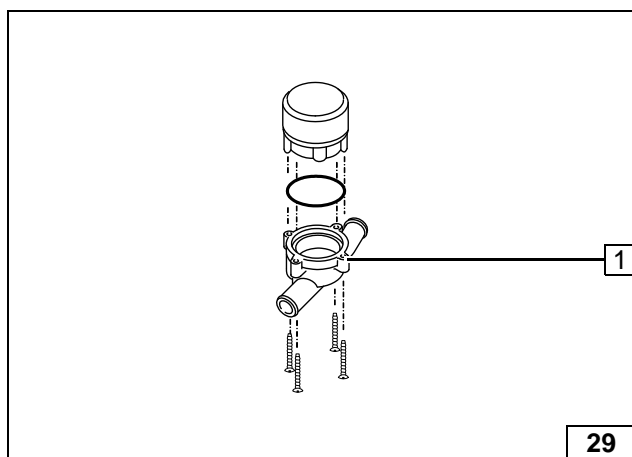
**Mounting bolt**



## Preparing Heater

- 1 Spring clip [2x]
- 2 Circulating pump
- 3 Clamp
- 4 Hose of heater inlet

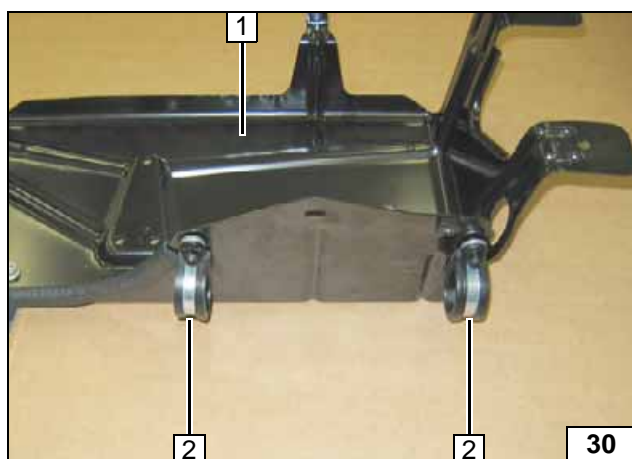
**Dismantling circulating pump**



Reinstall circulating pump after replacing.

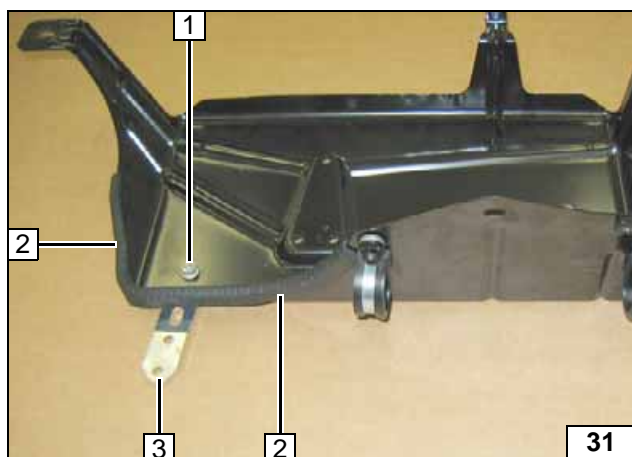
- 1 193° pump cover

**Replacing circulating pump cover**



- 1 Bracket
- 2 29 mm dia. rubber-coated p-clamp, plastic nut [2x each] on existing stud bolt

**Preparing bracket**

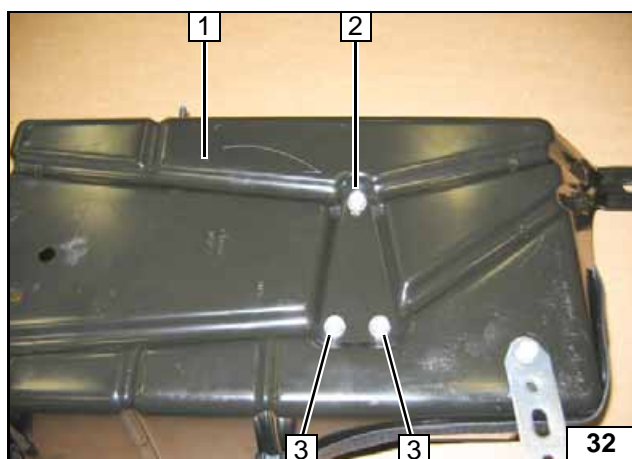


Cut 280 mm off edge protection.

- 1 M6x20 bolt, flanged nut
- 2 280 mm edge protection
- 3 Perforated bracket



**Preparing bracket**

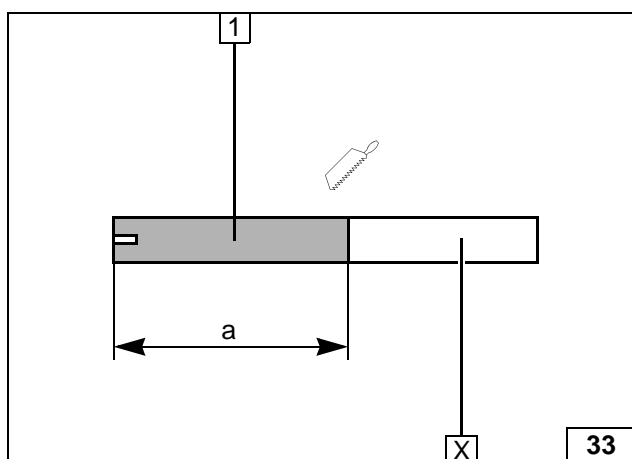


Insert two washers between heater and bracket 1 at position 2.

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



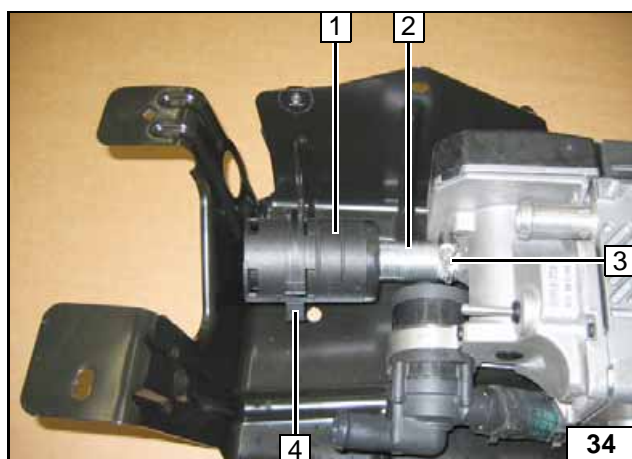
**Premounting heater**



- 1 Combustion air pipe  
a = 50

Discard section X

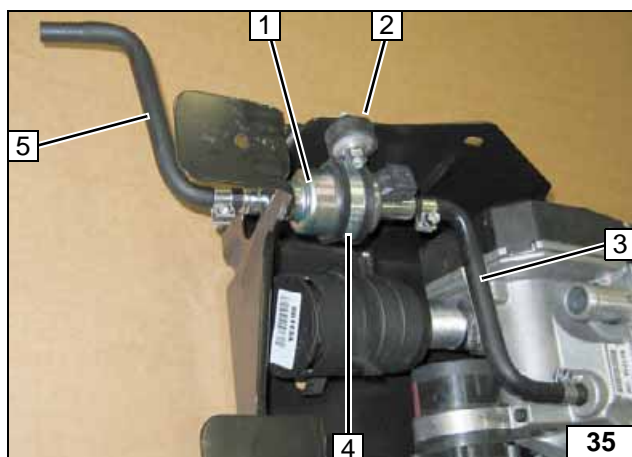
**Cutting combustion air pipe to length**



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

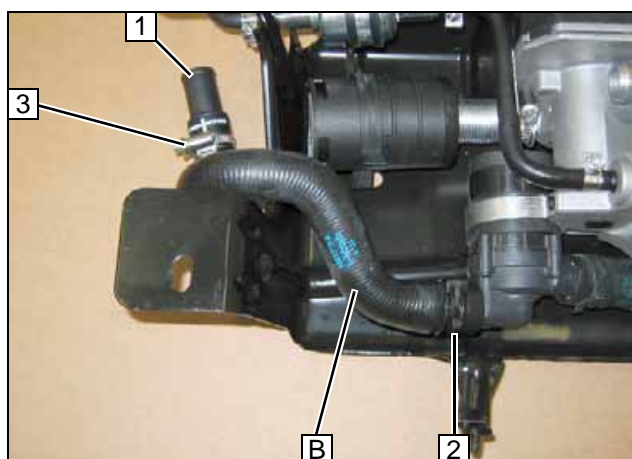


**Premounting silencer**



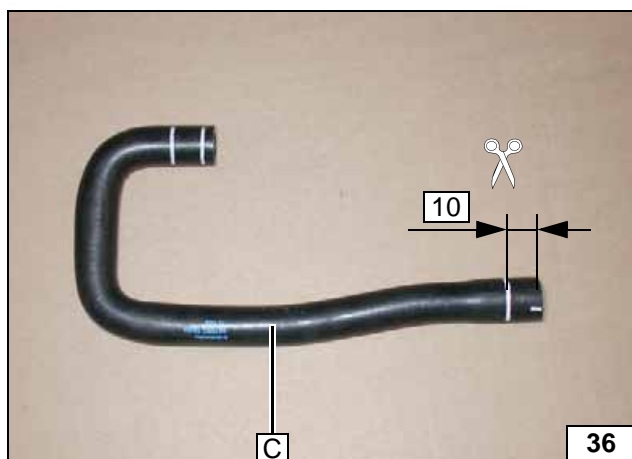
- 1 Metering pump
- 2 Silent block on existing threaded hole
- 3 Moulded hose, 10 mm dia. clamp [2x]
- 4 Rubber-coated p-clamp, flanged nut on silent block
- 5 Moulded hose, 10 mm dia. clamp

**Premounting metering pump**



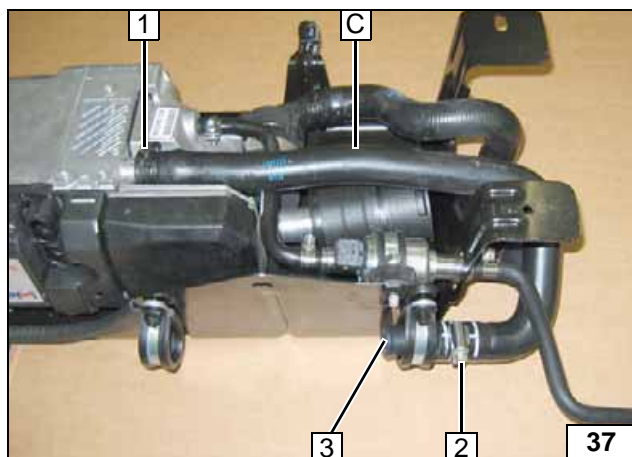
- 1 18x20 connecting pipe
- 2 27mm dia. spring clip
- 3 27mm dia. clamp

**Premounting hose B**



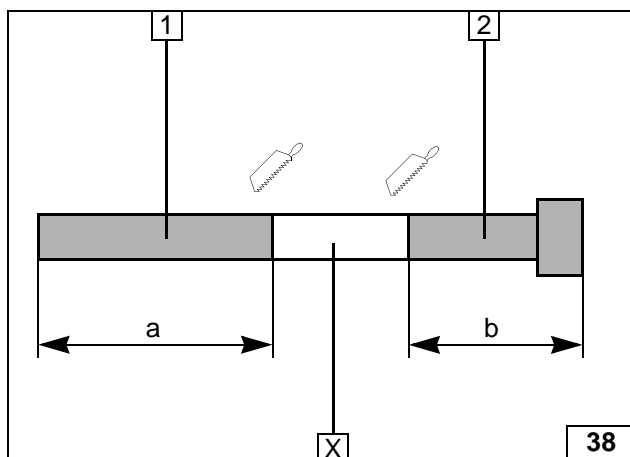
Shorten hose **C** by 10mm

**Cutting hose C to length**



- 1 27mm dia. spring clip
- 2 27mm dia. clamp
- 3 18x20 connecting pipe

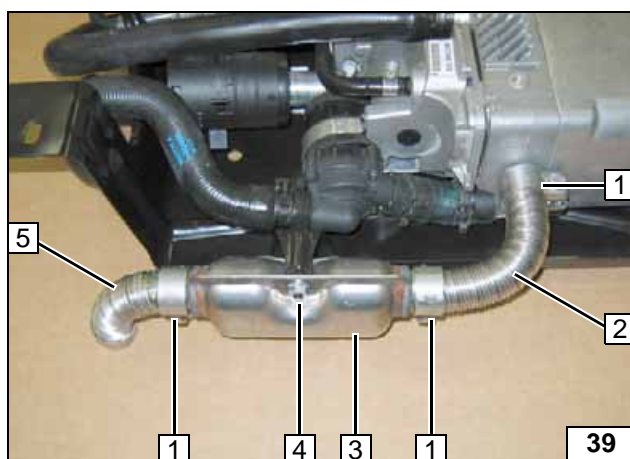
**Premounting hose C**



- 1 Exhaust pipe  
a = 130
- 2 Exhaust end section  
b = 90

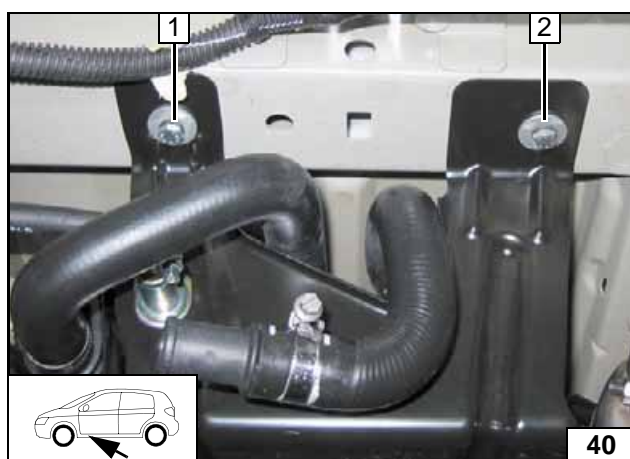
Discard section X

Preparing  
exhaust  
pipe



- 1 Hose clamp [3x]
- 2 Exhaust pipe
- 3 Exhaust silencer
- 4 Flanged nut on existing stud bolt
- 5 Exhaust-pipe end section

Premount-  
ing ex-  
haust  
system

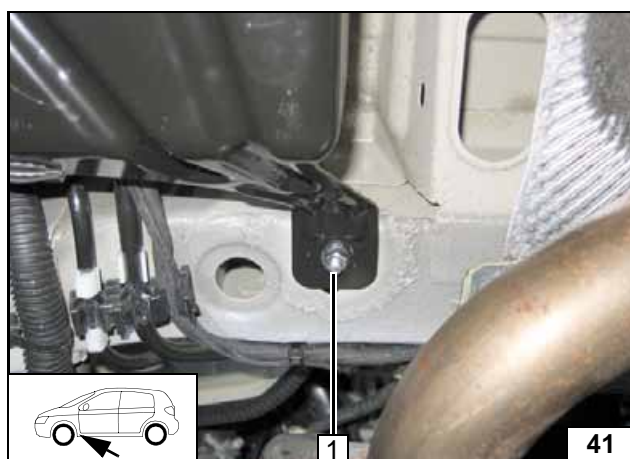


## Installing Heater

Attach wiring harnesses of heater and metering pump to heater prior to assembly.

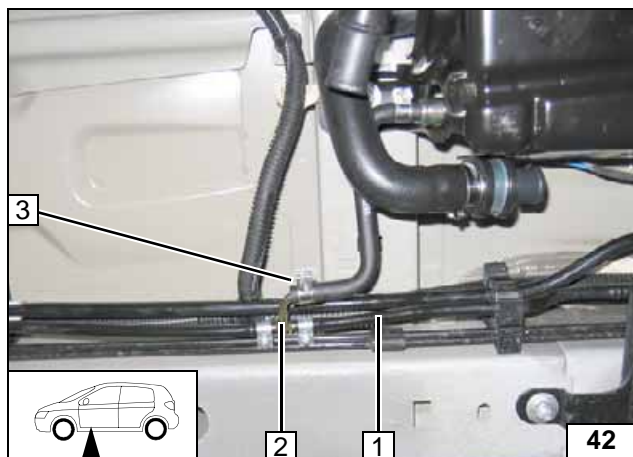
- 1 M6x20 bolt, spring lockwasher, large diameter washer
- 2 Original vehicle bolt, if available, otherwise M6x20 bolt, spring lockwasher, large diameter washer

Installing  
heater



- 1 Flanged nut

Installing  
heater



## Fuel

Cut off fuel return line **1** at position **2**. Mount fuel standpipe **2** in cutting point.

- 2** 6x5x6 fuel standpipe, 8 mm dia. clamp [2x]
- 3** 10mm dia. clamp



**Fuel ex-  
traction**

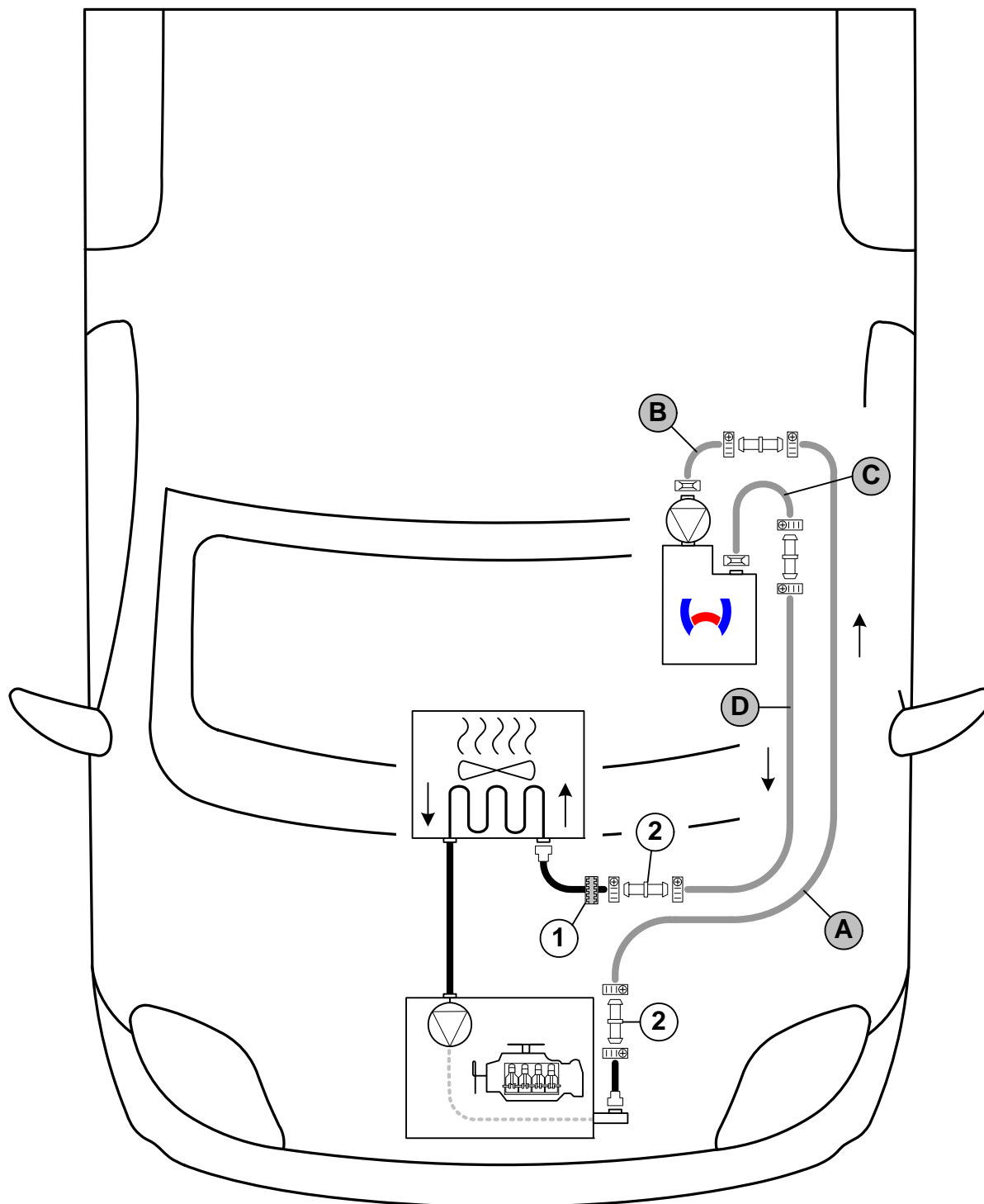


## Coolant Circuit



Any coolant running off should be collected in an appropriate container. Route hoses so that they are kink-free. Unless specified otherwise, always fasten using cable ties. Position clamps so that other hoses cannot be damaged. When installing the hoses, the heater must be filled with coolant. The connection should be "inline" based on the following diagram:





Hose routing diagram

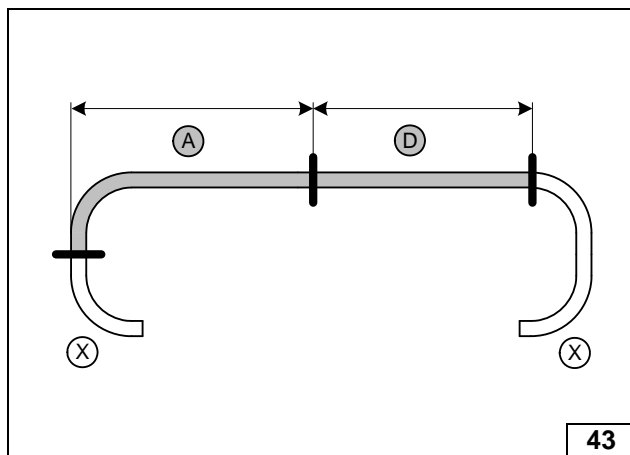


All spring clips  = 27 mm dia. All hose clamps  = 20-27 mm dia.

1 = Black (sw) rubber isolator  inner dia.  $d_i$  = 20 mm 1.6 D. 1 = Black (sw) rubber isolator  inner dia.  $d_i$  = 25 2.0 D.

2 = connecting pipe  = 15x20 mm dia. 1.6 D 2 = Connecting pipe  = dia. 18x20 2.0 D.





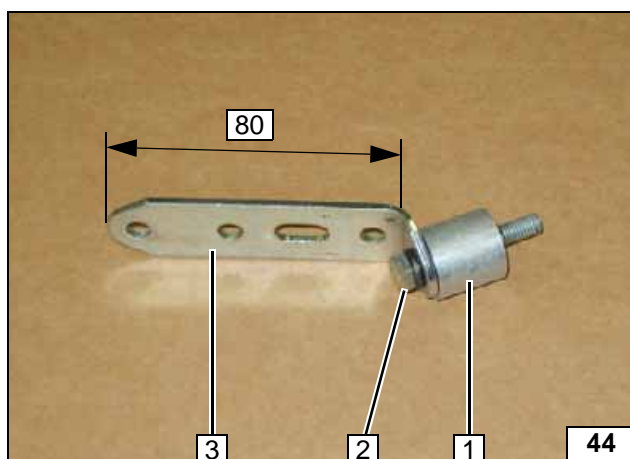
**All vehicles**

Discard section X

A = 1100

D = 1070

**Cutting hoses to length**

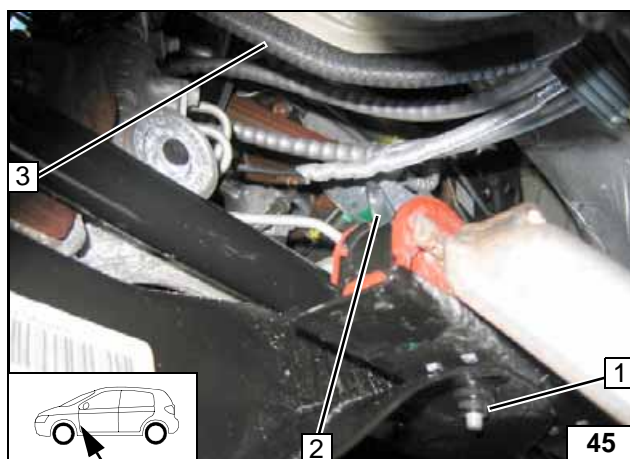


Angle down perforated bracket 3 by approx. 60°.

1 20 mm spacer sleeve

2 M6x40 bolt, spring lockwasher, pin lock

**Preparing perforated bracket**



Remove original vehicle bolt at position 1 .

1 M6x40 bolt on threaded hole

2 Perforated bracket

3 220 mm edge protection

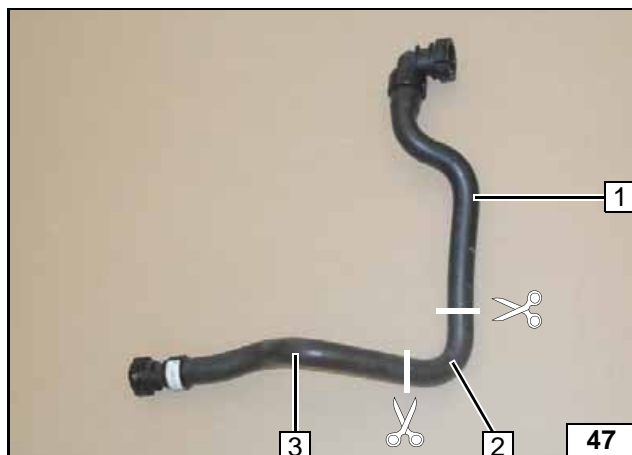
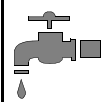
**Installing perforated bracket**



**1.6 D 9HU**

Remove hose 1 from engine outlet/heat exchanger inlet.

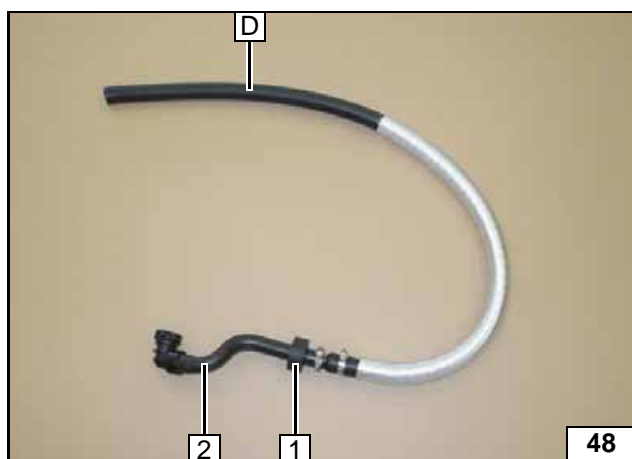
**Cutting point**



Cut off hose on engine outlet/heat exchanger inlet at markings.

- 1 Hose section of heat exchanger inlet
- 2 Discard section
- 3 Hose section of engine outlet

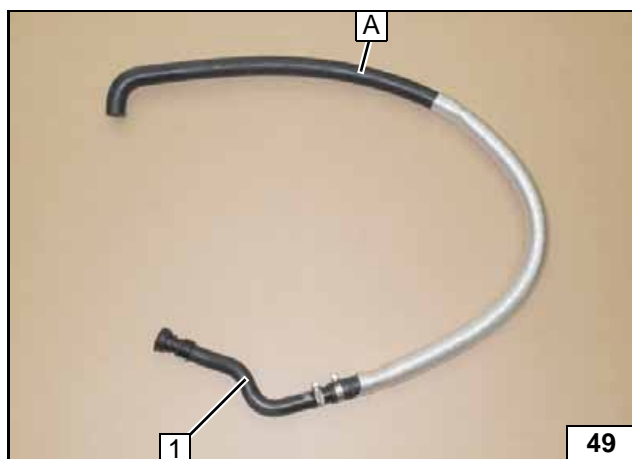
**Cutting hose**



Slide heat protection hose onto hose D.

- 1 Black (sw) rubber isolator inner dia.  $d_i = 20\text{mm}$
- 2 Hose section of heat exchanger inlet

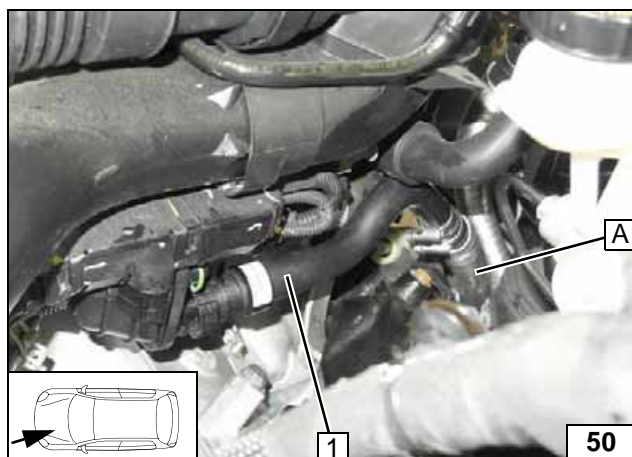
**Preparing hose D**



Slide heat protection hose onto hose A.

- 1 Hose section of engine outlet

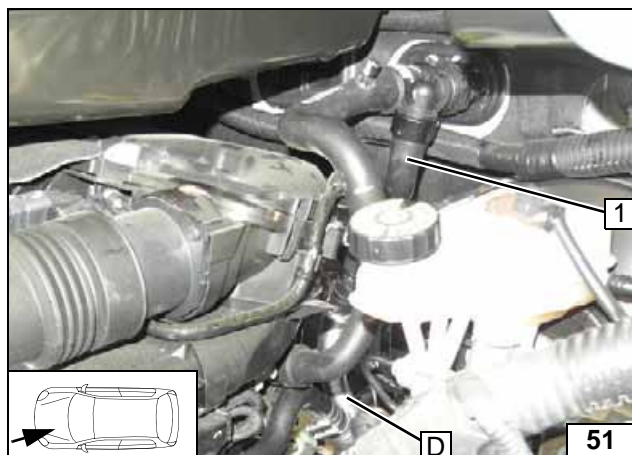
**Preparing hose A**



Route through hose A to underbody and connect to connection piece on engine outlet.

- 1 Hose section of engine outlet

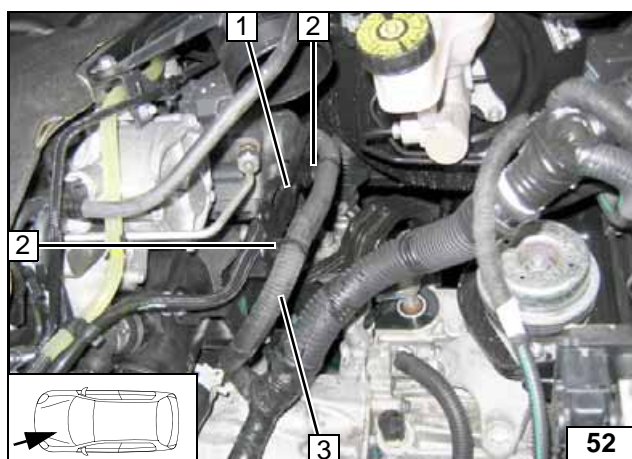
**Connecting engine outlet**



Route through hose **D** to underbody and connect to connection piece on heat exchanger inlet.

- 1 Hose section of heat exchanger inlet

Connect-  
ing heat  
exchanger  
inlet



## 2.0 D RHK und RH02

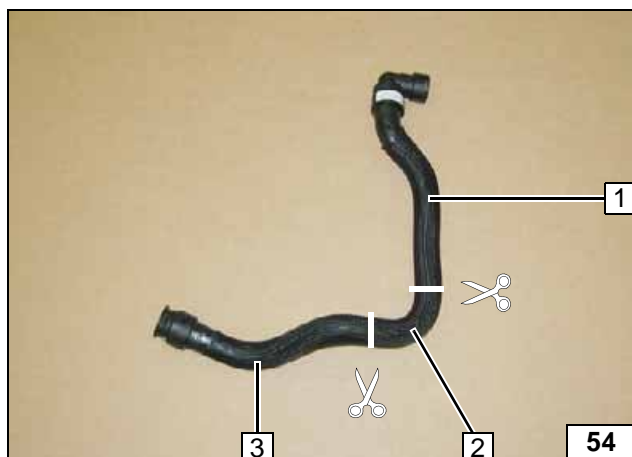
Detach retaining clip **2** [2x] from original vehicle wiring harness **3**. Remove retaining plate **1**.

Removing  
retaining  
plate



Remove hose **1** from engine outlet/heat exchanger inlet.

Cutting  
point



Remove protective hose. Cut off hose on engine outlet/heat exchanger inlet at markings.

- 1 Hose section of heat exchanger inlet
- 2 Discard section
- 3 Hose section of engine outlet

Cutting  
hose



Slide heat protection hose onto hose **D**.

- 1 Black (sw) rubber isolator inner dia.  $d_i = 25 \text{ mm}$
- 2 Hose section of heat exchanger inlet

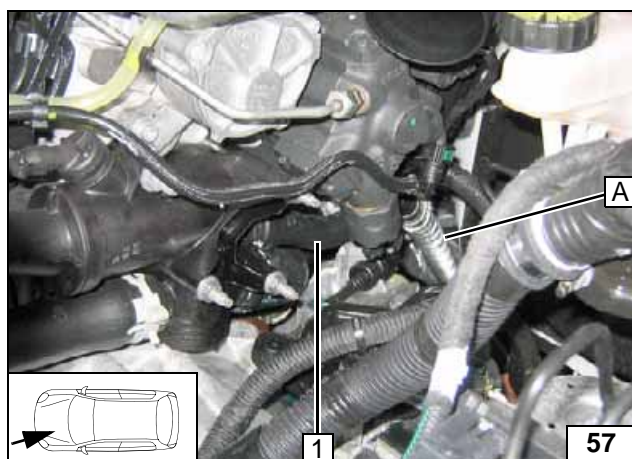
Preparing hose **D**



Slide heat protection hose onto hose **A**.

- 1 Hose section of engine outlet

Preparing hose **A**



Route through hose **A** to underbody and connect to connection piece on engine outlet.

- 1 Hose section of engine outlet

Connect-  
ing engine  
outlet



Route through hose **D** to underbody and connect to connection piece on heat exchanger inlet.

- 1 Hose section of heat exchanger inlet

Connect-  
ing heat  
exchanger  
inlet

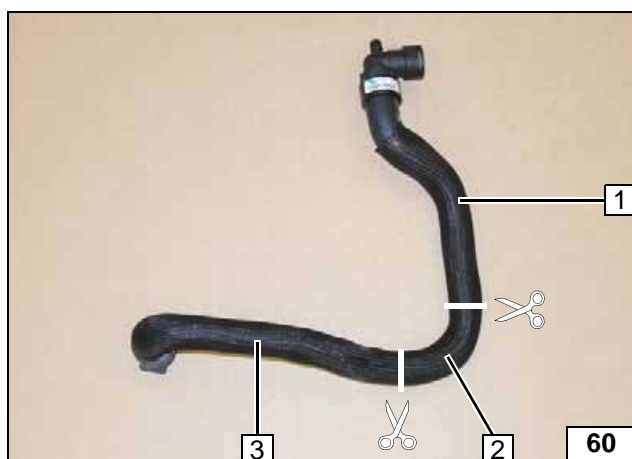




2.0 D AHZ, RHH, 4WZ-FTV und 4WAZ-FHV

Remove hose 1 from engine outlet/heat exchanger inlet.

**Cutting point**



Remove protective hose. Cut off hose on engine outlet/heat exchanger inlet at markings.

- 1 Hose section of heat exchanger inlet
- 2 Discard section
- 3 Hose section of engine outlet

**Cutting hose**



Slide heat protection hose onto hose D.

- 1 Black (sw) rubber isolator inner dia.  $d_i = 25 \text{ mm}$
- 2 Hose section of heat exchanger inlet

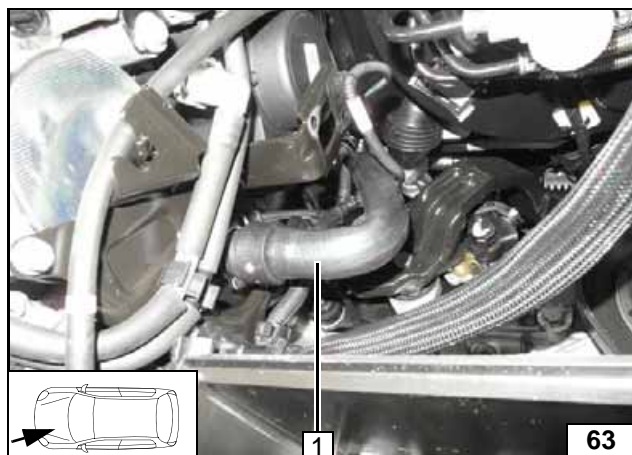
**Preparing hose D**



Slide heat protection hose onto hose A.

- 1 Hose section of engine outlet

**Preparing hose A**



Route through hose **A** to underbody and connect to connection piece on engine outlet.

1 Hose section of engine outlet



**Connect-  
ing engine  
outlet**

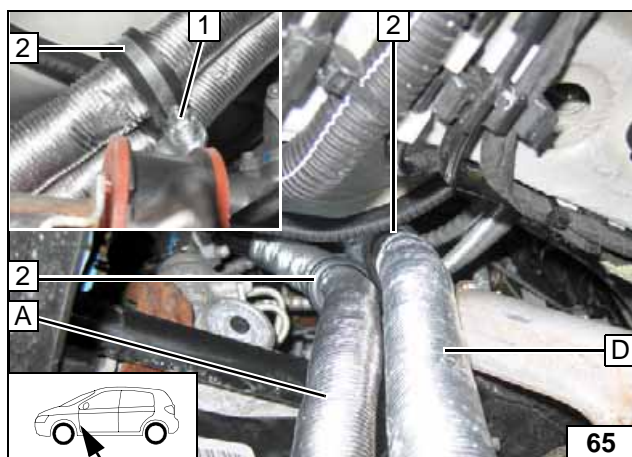


Route through hose **D** to underbody and connect to connection piece on heat exchanger inlet.

1 Hose section of heat exchanger inlet



**Connect-  
ing heat  
exchanger  
inlet**

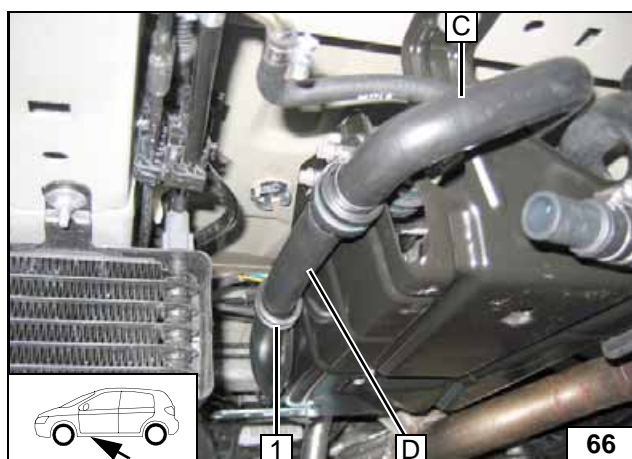


**All vehicles**

Fasten hose **A** and **D** on premounted perforated bracket with rubber-coated 34 mm dia. p-clamp 1 [2x], M6x20 bolt and flanged nut.



**Routing on  
underbody**



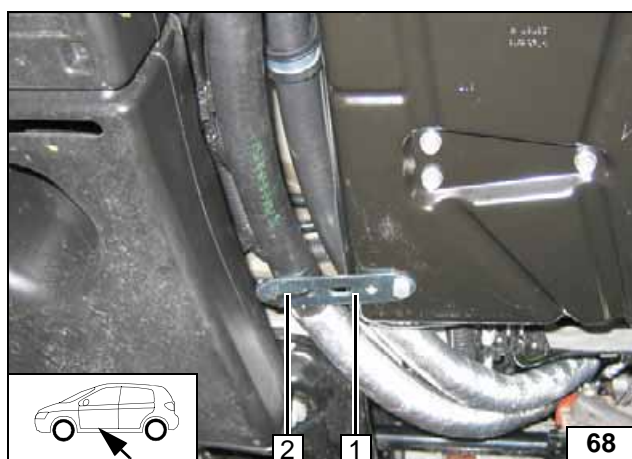
Route hose **D** through rubber-coated p-clamp 1.



**Connect-  
ing heater  
outlet**

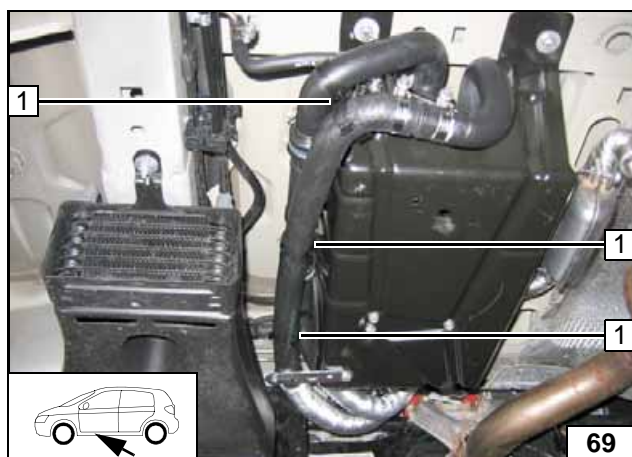


Connect-  
ing heater  
inlet



- 1 Perforated bracket
- 2 Cable tie

Fastening  
hose A



Align hoses. Ensure sufficient distance from neighbouring components.

- 1 Spacer bracket [3x]

Installing  
spacer  
bracket



## Final Work

### WARNING!

Mount removed parts in reverse order.

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

Secure all loose wires using cable ties.

Only use manufacturer-approved coolant.

Spray the heater 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.**
- **Adjust digital timer, teach telestart transmitter.**
- **Make settings on A/C control panel according to the "Operating Instructions for End Customer".**
- **Place the "Switch off parking heater before refuelling" caution label in the area of the filler neck.**
- **For initial startup and function check, please see installation instructions.**



## 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.

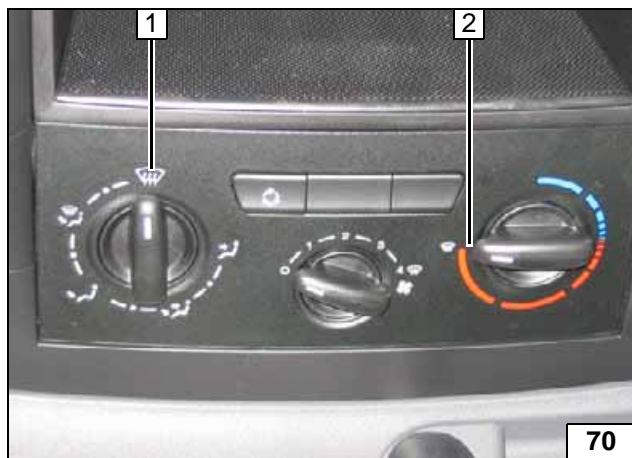
Heating time = driving time

### 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 on the heater, this must be switched in accordance with the time of year. The heater will then heat in the position Winter  and in the position Summer  it will only switch on the vehicle fan to ventilate the vehicle interior.

Before parking the vehicle, make the following settings:



- 1 Air outlet onto windscreen
- 2 Set temperature to "max."

Manual air-conditioning



- 1 Set temperature on right and left to "HI"
- 2 Air outlet faces upward

Automatic air-conditioning