

# Water Heater Unit



Feel the drive

**Thermo Top E Auxiliary Heating**  00 0003

**Thermo Top C Auxiliary Heating**  00 0002

**Thermo Top P Auxiliary Heating**  00 0104

## Installation Instructions

### Hyundai Santa Fe

2,7l V6 Benzin

From model year 2006

For left-hand drive vehicles only



#### **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 warning instructions.**

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

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## Validity

Manufacturer	Model	Type	EG-BE No. / ABE
Hyundai	Santa Fe		e11 * 2001 / 116 * 0268 * ...

Engine type	Engine	Power in kW	Engine capacity in cm <sup>3</sup>
G6EA	Gasoline	139	2656

Vehicle and engine types, equipment variants as well as national specifications, which are not listed in these installation instructions, have not been tested. Installation according to these installation instructions may, however, be possible.

The installation location of a time switch and summer / winter switch should be confirmed with the end customer before installation.

## Heater Unit / Installation Kit

Amount	Description	Order no.:
1	Commercial supply of required control	See price list
1	Installation kit for Hyundai Santa Fe 2,7l V6 Benzin	9015630A

### Recommended heater unit for the relevant vehicle class:

Vehicle	Heater unit
Compact car	Thermo Top E
Mid-class, station wagon	Thermo Top C
Luxury, van, off-roader	Thermo Top P

Select the heater unit based on the size of the vehicle passenger compartment and the customer's comfort requirements.



## Foreword

These installation instructions apply to vehicles Hyundai Santa Fe with 2,7l V6 Benzin engines.  
 – Re. 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* are to be observed in any event.

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 cable harnesses to original vehicle lines and cable harnesses using cable clips.

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

Spray unfinished body areas, such as bore holes, with anti-corrosion wax (Tectyl 100K, Order no. 111329).

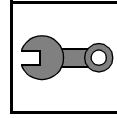
## Special Tools

- Torque spanner for 2.0 - 10 Nm
- Vise-grip wrench
- Riveting nut tool

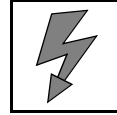
## Explanatory Notes on the Document

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.

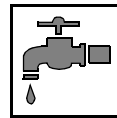
### Mechanics



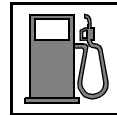
### Electrics



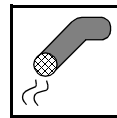
### Water connection



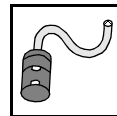
### Fuel connection



### Exhaust system



### Combustion air



Special features are highlighted using the following symbols:



Specific risk of injury or fatal accidents.



Specific risk of damage to components.



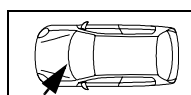
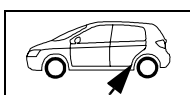
Specific risk of fire or explosion.



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



Reference to a special technical feature.

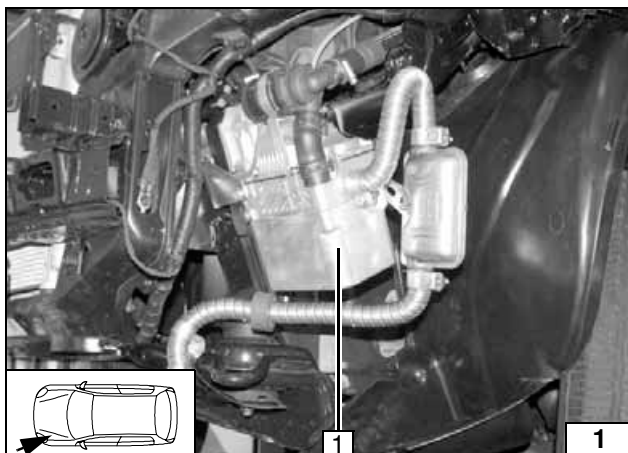


The arrow in the vehicle icon indicates the position on the vehicle and the viewing angle.

## Preliminary Work

### WARNING!

- Open the tank cap, ventilate the tank.
- Close the tank cap again.
- Disconnect the battery.
- Vent the pressure in 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 air filter with intake hose.
- Remove the cover from the engine compartment entry.
- Unfasten the engine control unit and place it to one side.
- Remove the left underride protection
- Remove the bumper.
- Remove the left rear seat.
- Open the left tank mounting service lid
- Remove the dashboard panel on the driver's side.
- Remove the air conditioning control
- Remove the lower dashboard panel on the passenger's side (only for Thermo Call).
- Please remove page 25 "Operating instructions for the end customer" and add this to the operating instructions.



## Heater Unit Installation Location

- 1 Heater unit

Installation  
location

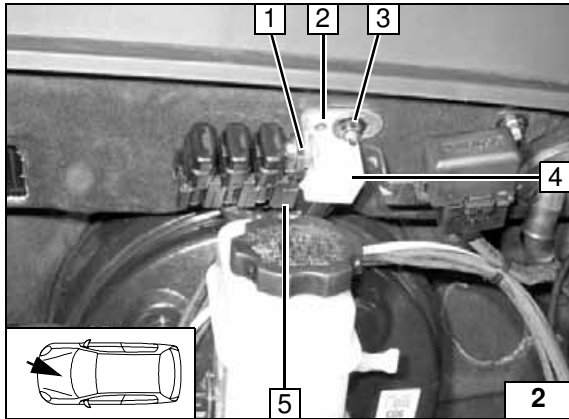


## Electrical Connections



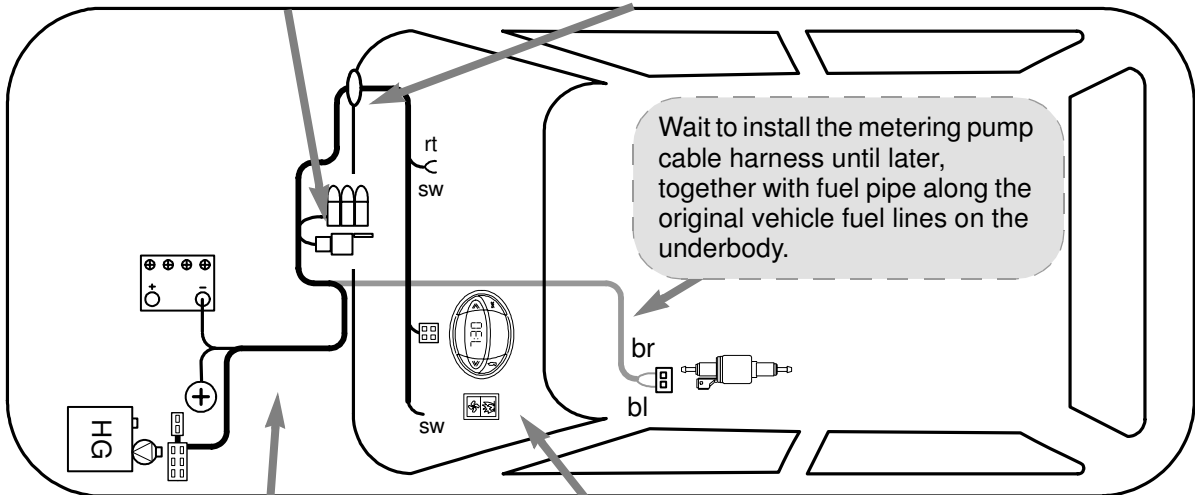
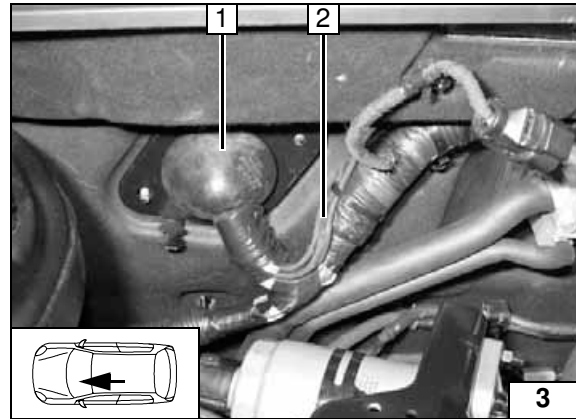
### Fuse holder, K3 relay

- 1 Bolt M5x16, Washer, Nut
- 2 Angle bracket
- 3 Original vehicle stay bolts, flanged nut
- 4 K3 relay
- 5 Fuse holder retaining plate

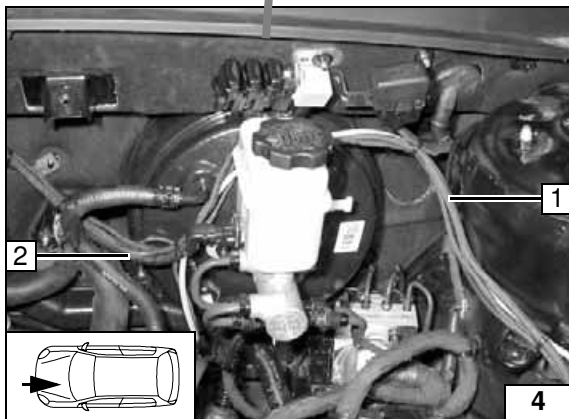


### Cable harness feed-through

- 1 Protective rubber sleeve
- 2 Blower control cable harness and Time switch cable harness

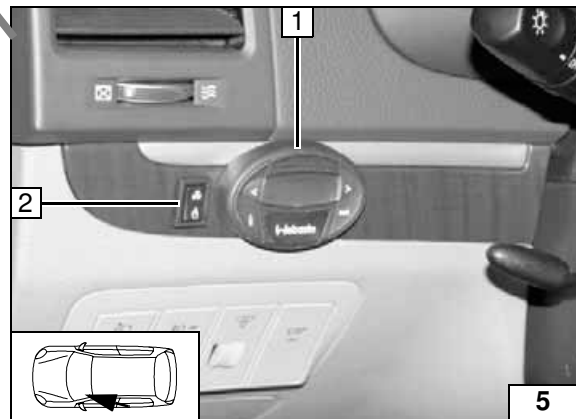


Cable harness installation diagram



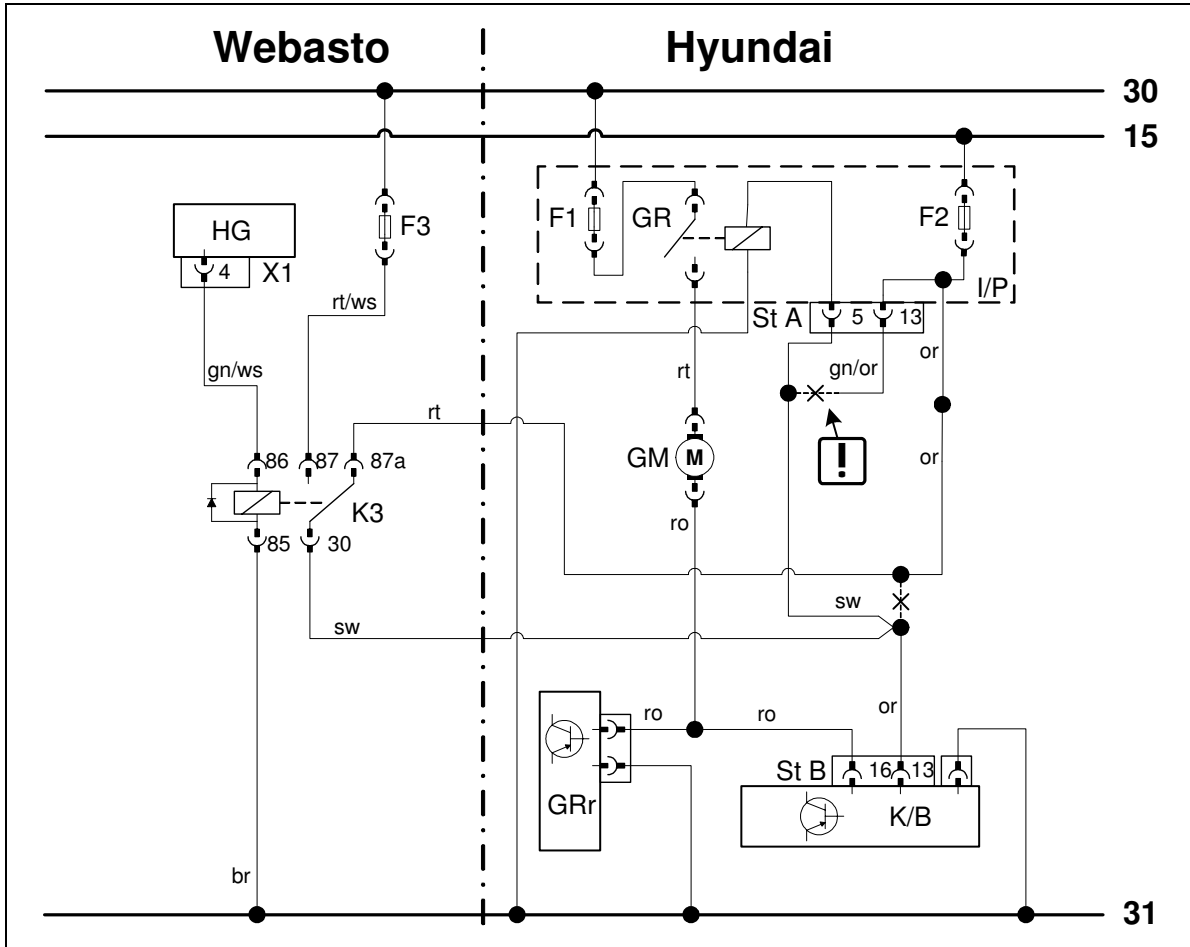
### Cable harness installation

- 1 Heater unit cable harness
- 2 Blower control cable harness and Time switch cable harness



### Time switch, summer / winter switch option

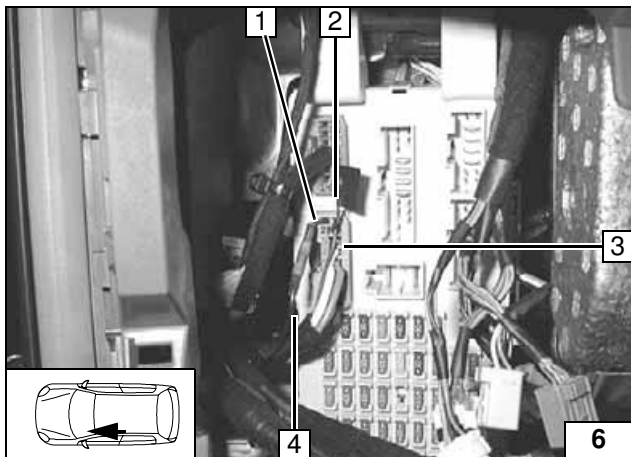
- 1 Time switch
- 2 Summer / winter switch, bore hole Ø 12 mm



Manual air conditioning circuit diagram

Webasto components		Components Hyundai Santa Fe		Colors and symbols	
HG	Heater unit TT-C/E/P	GM	Blower motor	rt	red
X1	6-pin connector	GR	Blower relay	ws	white
F3	Fuse, 10A	K/B	Air conditioning control (A/C)	sw	black
K3	Blower relay	F1	Fuse, 30A	br	brown
		F2	Fuse, 10A	gn	green
		I/P	Fuse boxes	or	orange
		St A	Connector, 14-pin I/P-A	ro	pink
		St B	Connector, 26-pin M43-B		
		GRr	Blower controller	!	Insulate and tie back wire ends
				X	Splitting point
					Cable colors may vary.

Legend



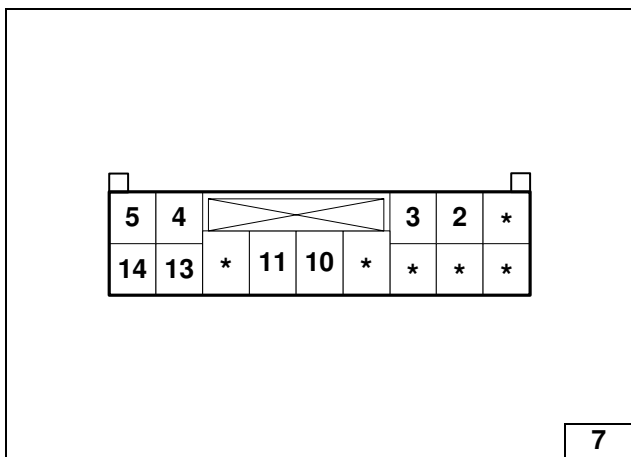
## Manual air conditioning blower control

Connect to connector I/P-A 3 from the central electrics. Connect according to the circuit diagram.

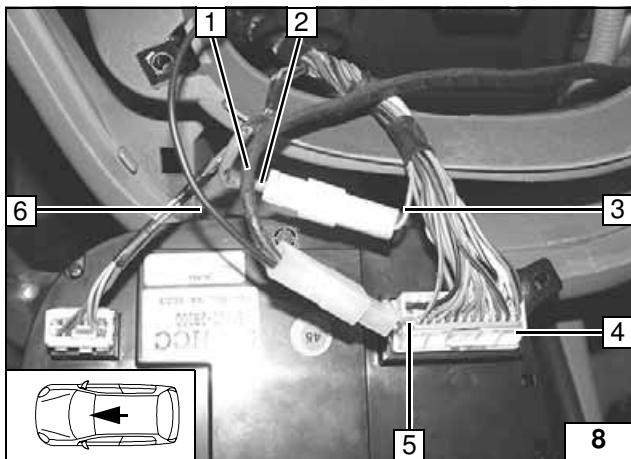
- 1 Cable (gn/or) to I/P-A/5
- 2 Insulate and tie back cable (gn/or) to I/P-A/13
- 4 Additional cable sw to air conditioning control

Central electrics connection

View on ignition side



Connector I/P-A

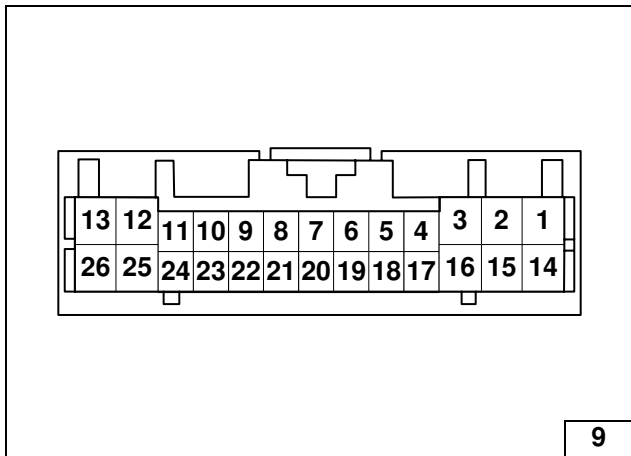


Connection to 26-pin connector M43-B 4 from the air conditioning control. Connect according to the circuit diagram.

- 1 Cable (sw) from K3/30
- 2 Cable (rt) to K3/87a
- 3 Cable (or) to central electrics
- 5 Cable (or) to M43-B/13 air conditioning control
- 6 Additional cable sw from blower relay

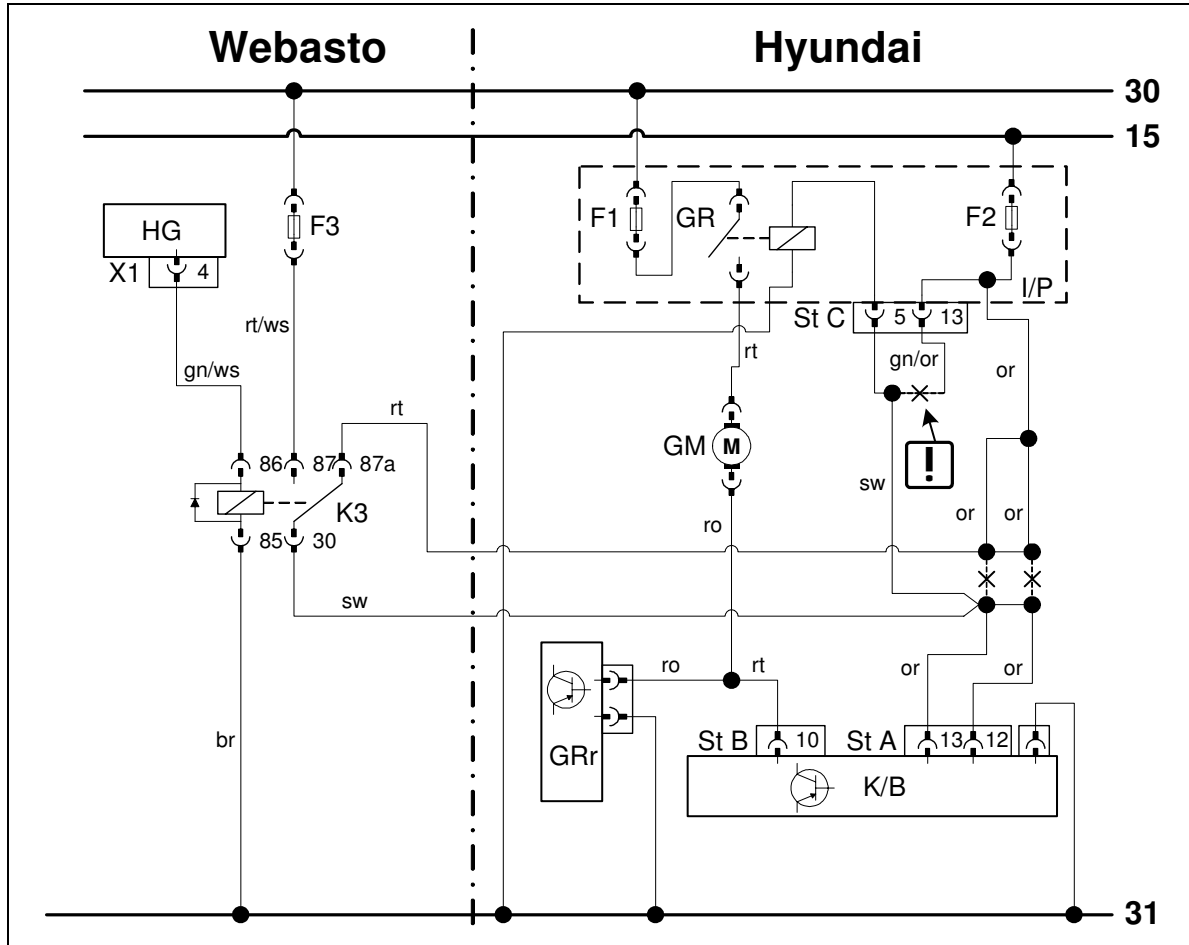
Blower controller connection

View on ignition side



Connector M43-B

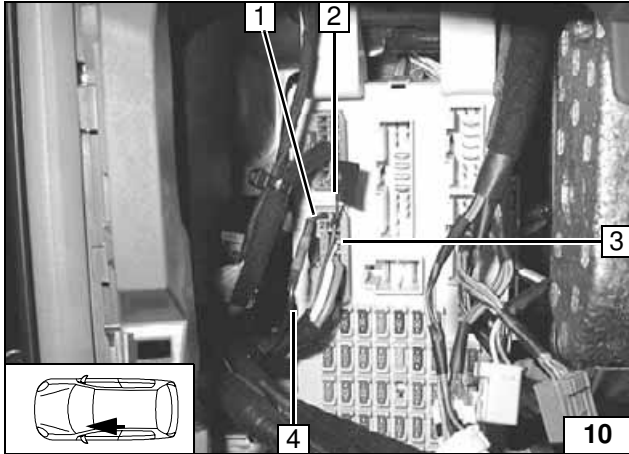




Automatic air conditioning circuit diagram

Webasto components		Components Hyundai Santa Fe		Colors and symbols	
HG	Heater unit TT-C/E/P	GM	Blower motor	rt	red
X1	6-pin connector	GR	Blower relay	ws	white
F3	Fuse, 10A	K/B	Air conditioning control (A/C)	sw	black
K3	Blower relay	F1	Fuse, 30A	br	brown
		F2	Fuse, 10A	gn	green
		I/P	central electrics Interior	or	orange
		St A	Connector, 26-pin M41-A	ro	pink
		St B	Connector, 22-pin M41-B	!	Insulate and tie back wire ends
		St C	Connector, 14-pin I/P-A	X	Splitting point
		GRr	Blower controller		Cable colors may vary.

Legend



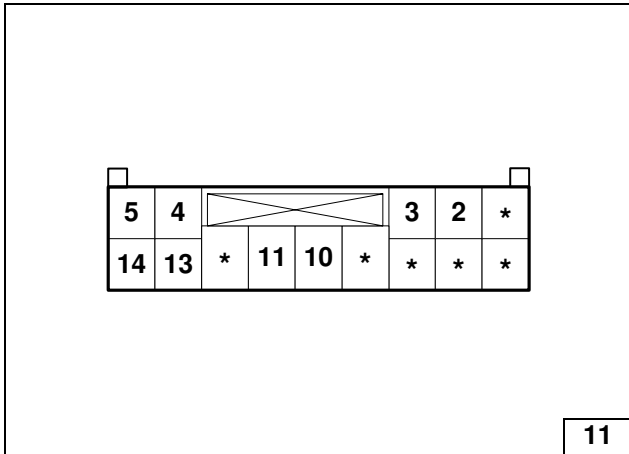
## Automatic air conditioning blower control

Connect to connector I/P-A 3 from the central electrics. Connect according to the circuit diagram.

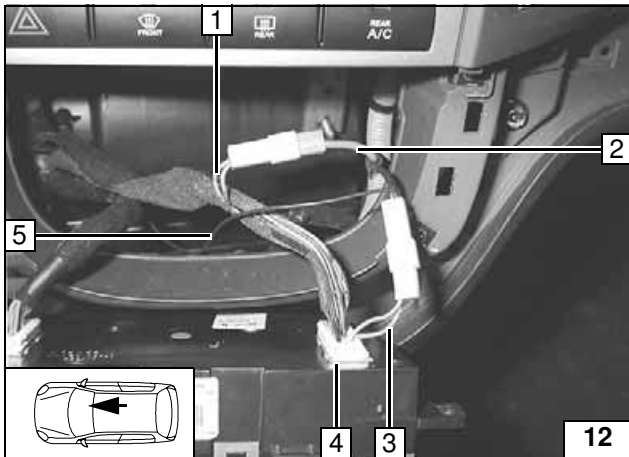
- 1 Cable (gn) to I/P-A/5
- 2 Insulate and tie back cable (gn) to I/P-A/13
- 4 Additional cable sw to air conditioning control

Central electrics connection

View on ignition side



Connector I/P-A

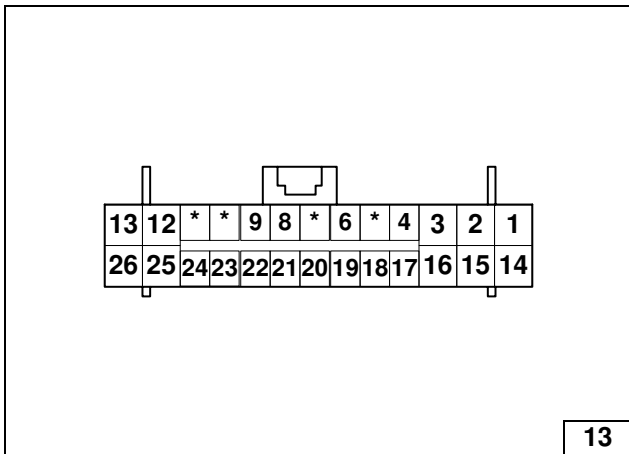


Connection to 26-pin connector M43-B 4 from the air conditioning control. Connect according to the circuit diagram.

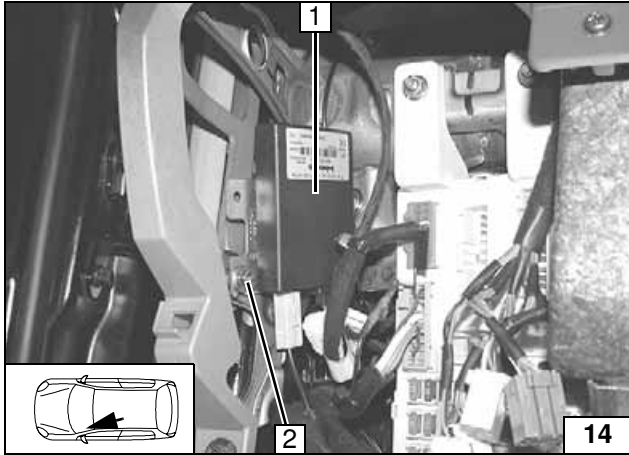
- 1 Cable (or, 2x) to central electrics
- 2 Cable (rt) to K3/87a
- 3 Cable (or, 2x) to air conditioning control
- 4 Connector
- 5 Additional cable sw from blower relay

Air conditioning control connection

View on ignition side



Connector M41-A

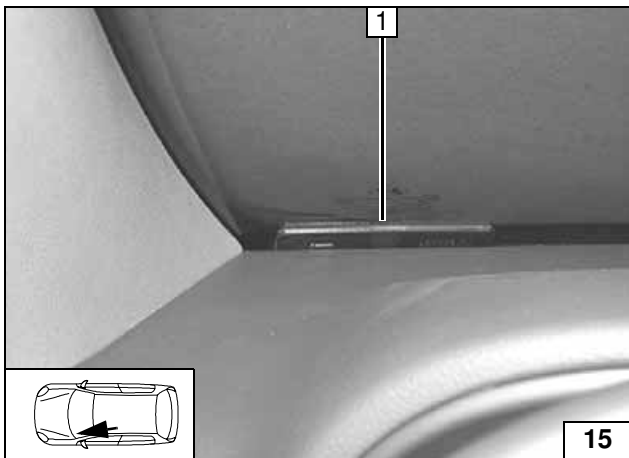


## Remote Start Option

- 1 Receiver
- 2 Bolt M5x16, Washer, Flanged nut in previously drilled hole

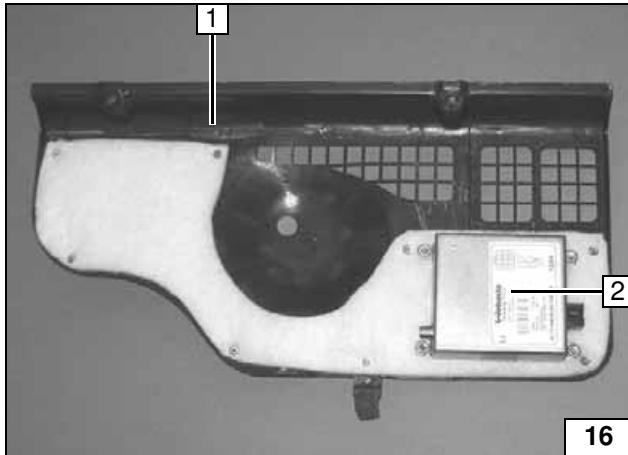


**Assembling the receiver**



- 1 Antenna

**Assembling the antenna**

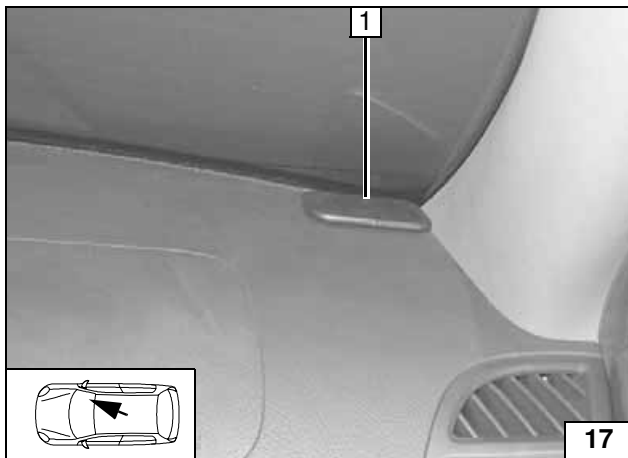


## Thermo Call Option

- 1 Lower passenger side dashboard panel
- 2 Receiver, bolts M5x20, flanged nuts, washers [each 4x]

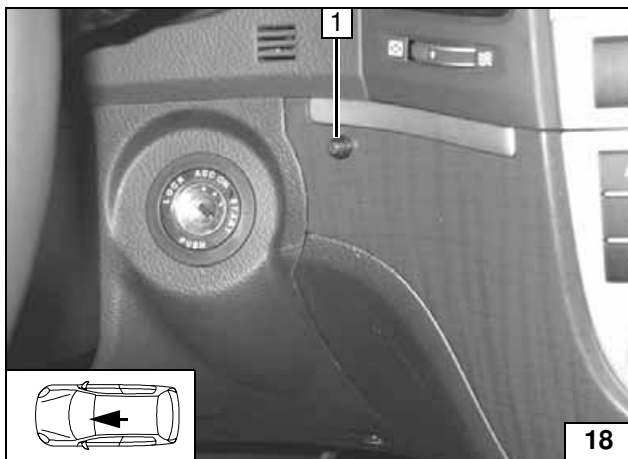


Assembling the receiver



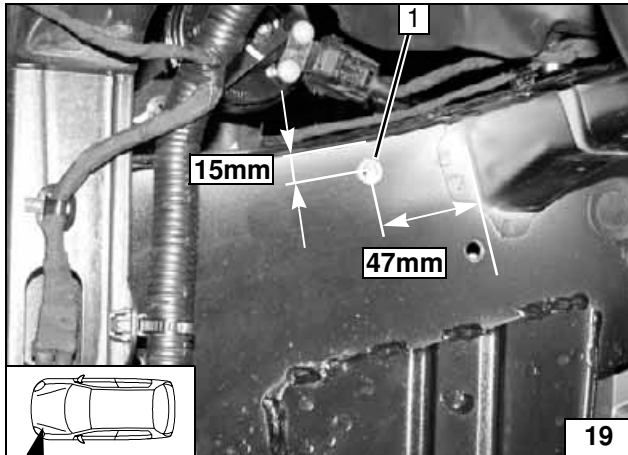
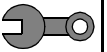
- 1 Antenna

Assembling the antenna



- 1 Tip switch

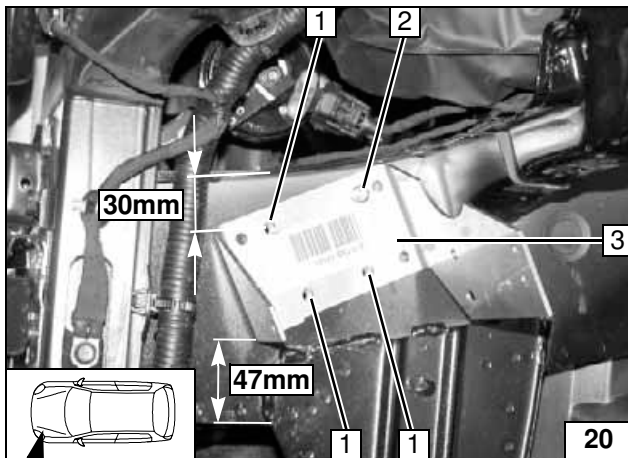
Assembling the tip switch



## Preparing the Installation Location

- 1 Ø 9.1mm bore hole, insert rivet nuts

Inserting rivet nuts

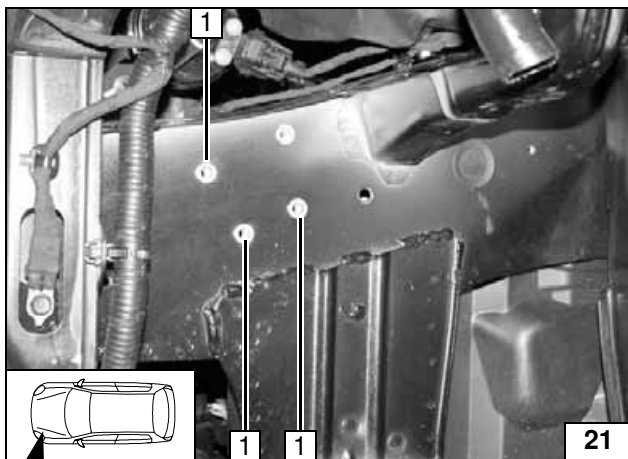


Loosely fit the retainer 3.

- 1 Transfer template [3x]
- 2 Bolt M6x30 in rivet nut



Copying the hole template

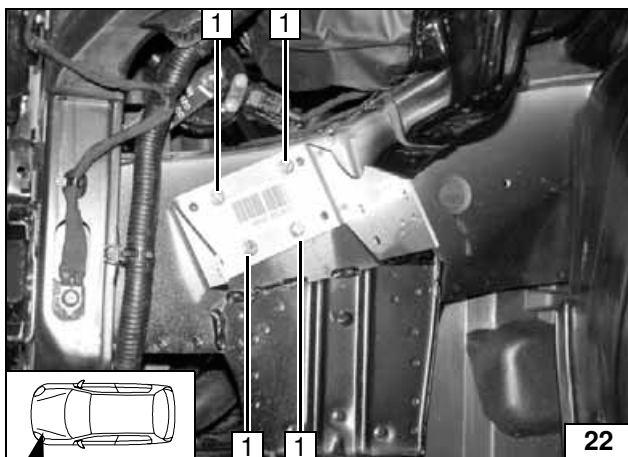


Removing the bracket

- 1 Ø 9.1mm bore hole, insert rivet nuts [3x]

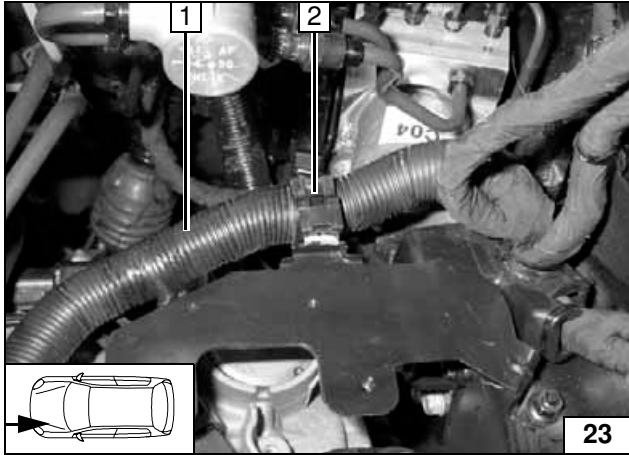
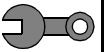


Inserting rivet nuts



- 1 Bolt M6x30, Spring washer, Spacer 5mm [each 4x] in prepared rivet nut between bracket and side member

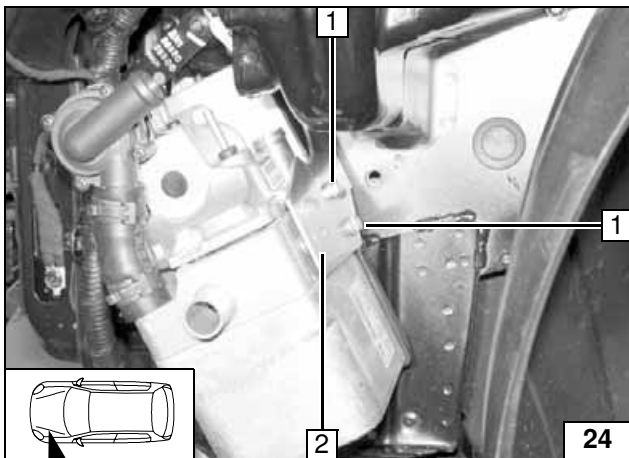
Installing the Bracket



Remove the mounting bracket **2** from the vehicle cable harness **1**, rotate 180° and refit in position **2**!



**Rotate the mounting bracket**



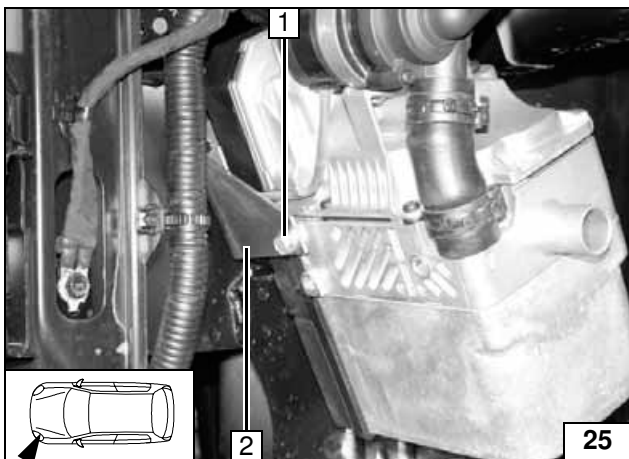
## Installing the Heater Unit

Eject screw bolts tightening torque 10 Nm!

- 1 Eject screw bolt [2x]
- 2 Bracket



**Assembling the heater unit**

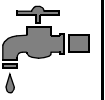


Eject screw bolt tightening torque 10 Nm!

- 1 Eject screw bolt
- 2 Bracket



**Assembling the heater unit**



**Water Connection**

**WARNING!**

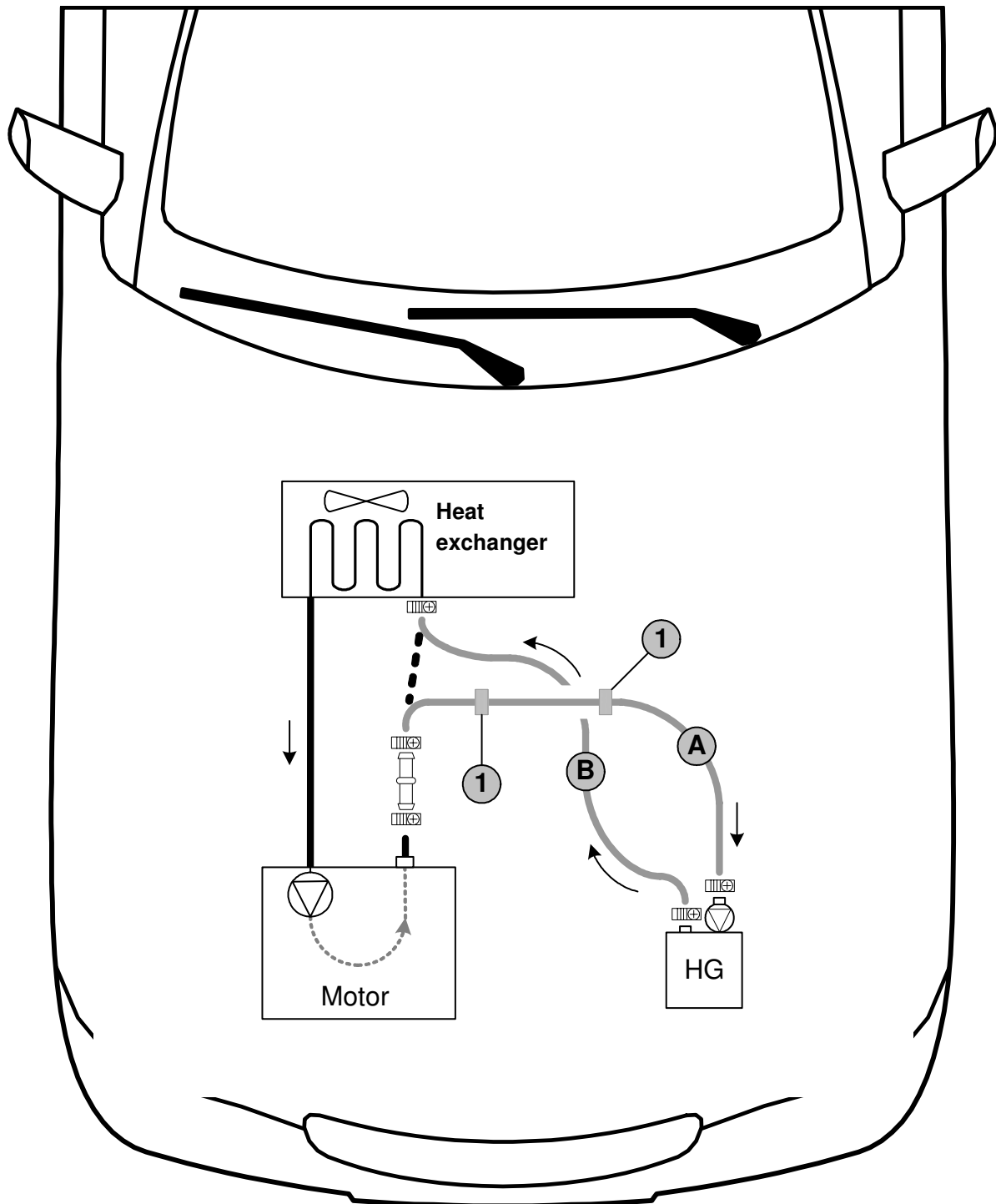
Tighten all hose clamps to 2.0 + 0.5 Nm.

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 clips.

Position hose clamps and spring band clamps so that no other hose can be damaged.

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

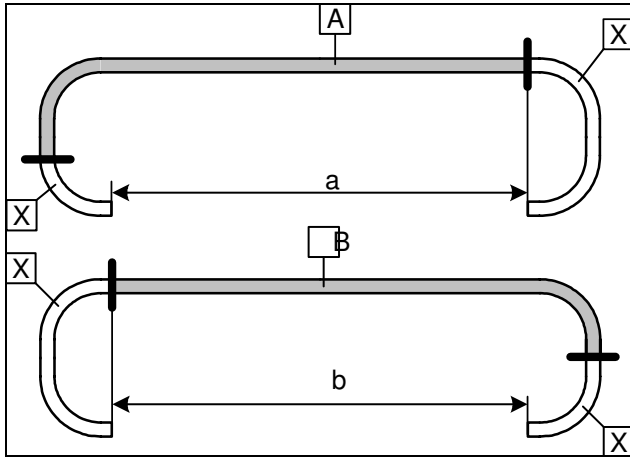


Water installation diagram

All hose clamps = Ø 20-27mm. All connecting pipes = Ø 18x20.

1 = Black (sw) rubber profile [2x]



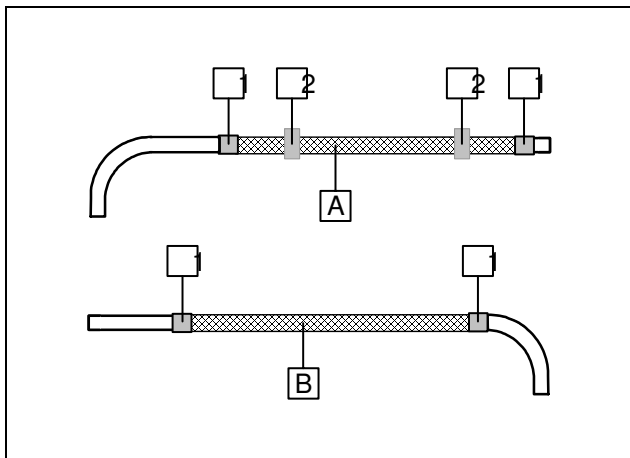


a = 1,070mm  
b = 1,170mm

Dispose of sections **X**  
Cut off hose **A** just after bend!



**Cutting  
water  
hoses into  
sections**

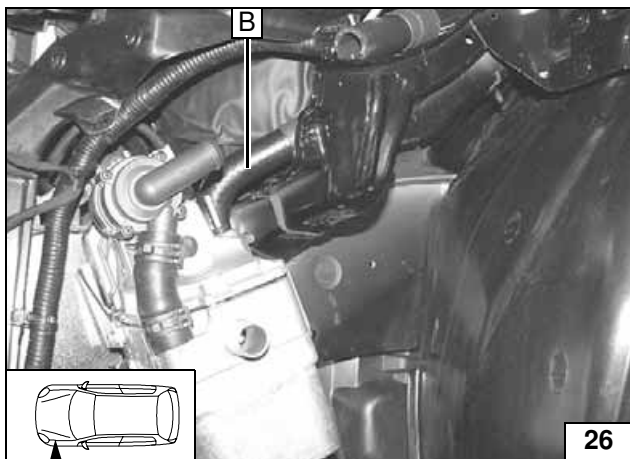


Slide braided protective hoses onto hoses **A** and **B**. Cut shrink-fit hose to size. Slide on rubber profile

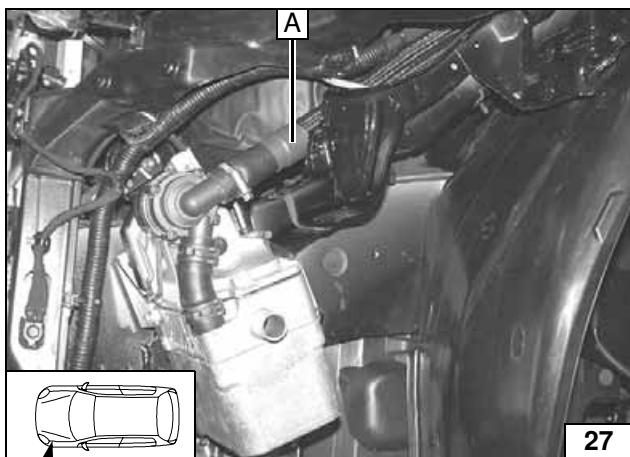
- 1 25 mm shrink-fit hose [4x]
- 2 Black (sw) rubber profile [2x]



**Preparing  
the water  
hoses**

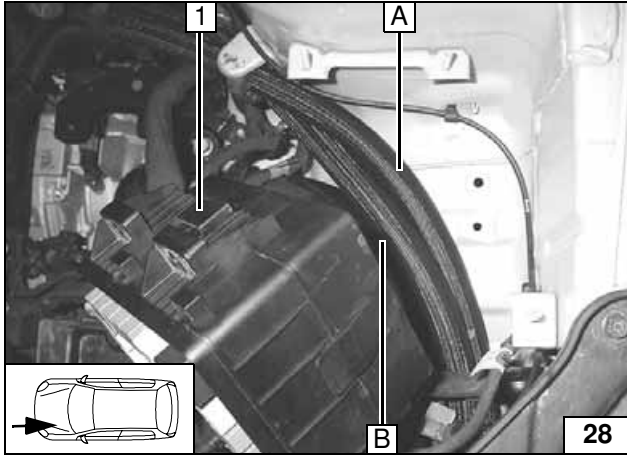
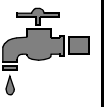


**Conne-  
ction to  
Heater  
Outlet**



**Conne-  
ction to  
Heater Inlet**

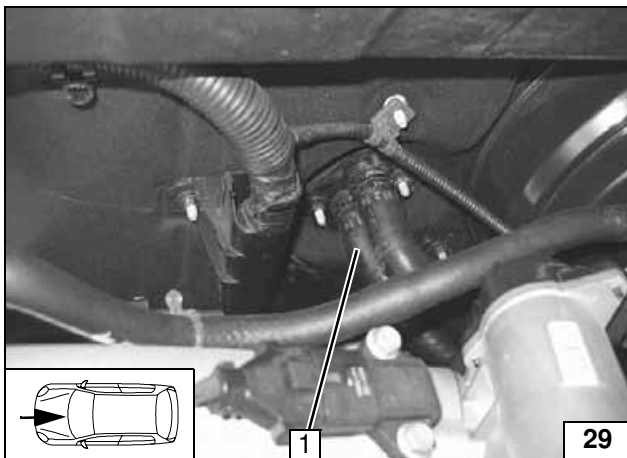




Loosen central electric box **1** and place to one side, re-attach after rerouting the hose. Ensure sufficient distance from adjacent components.

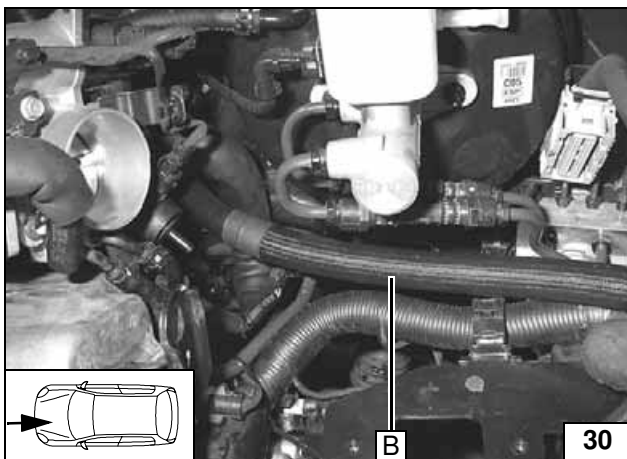


**Rerouting under central electric box**



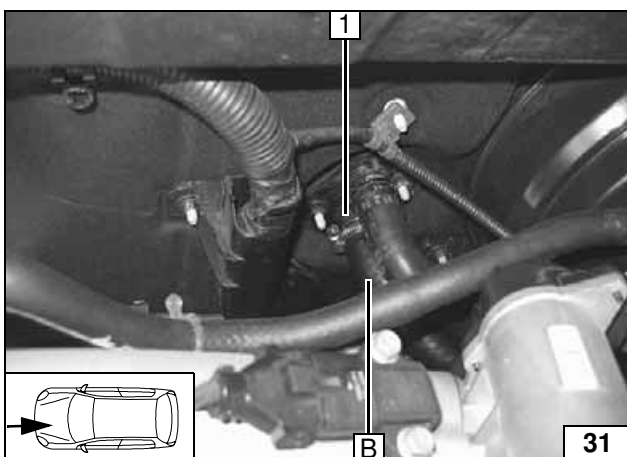
**1** Remove vehicle engine outlet hose to heat exchanger inlet

**Remove hose**



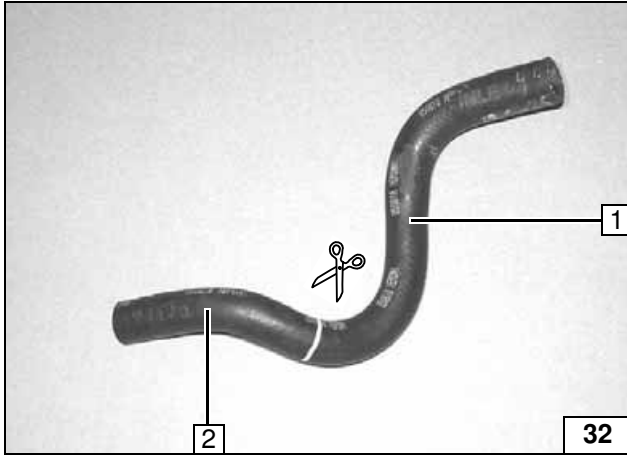
Reroute hose **B** according to illustration

**Reroute water hose**



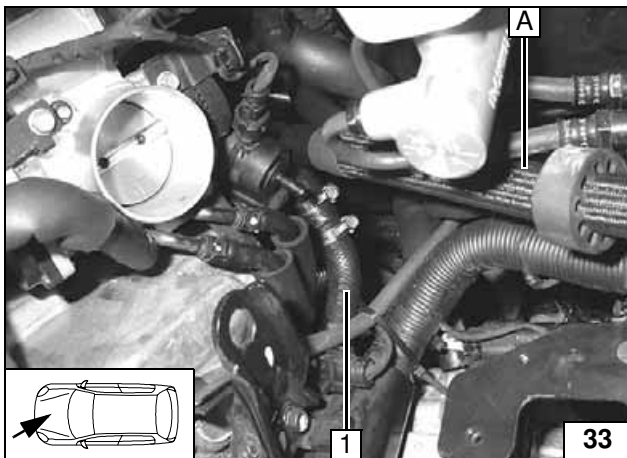
**1** Heat exchanger inlet

**Heat exchanger inlet connection**



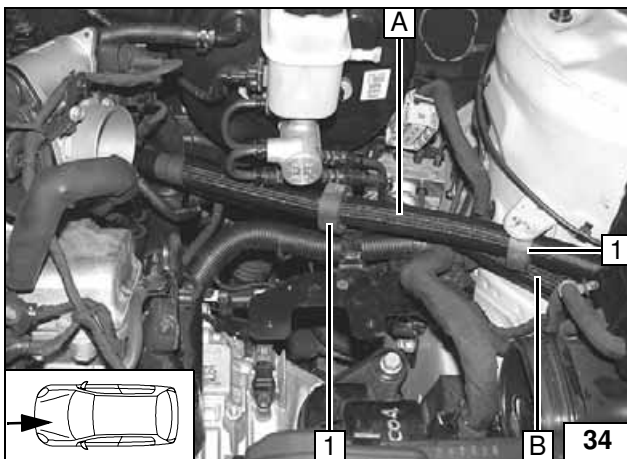
- 1 Dispose of hose section
- 2 Refit hose section to engine outlet

Shorten engine outlet hose



- 1 Engine outlet hose section

Connecting engine outlet



- 1 Black (sw) rubber profile [2x]

Aligning rubber profile



## Fuel Connection

### CAUTION!

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

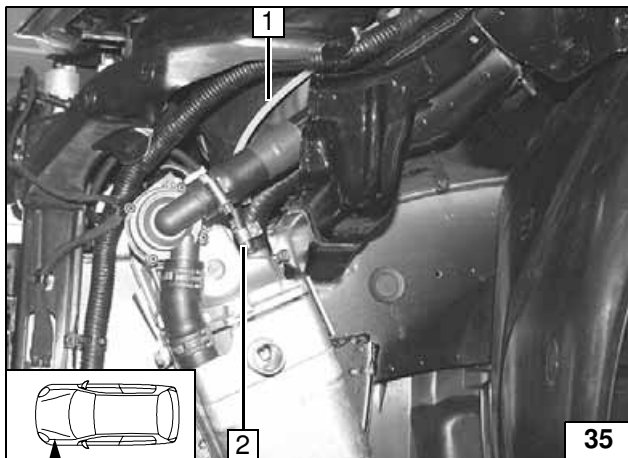
Catch any fuel running off with an appropriate container.

Install fuel line and metering pump cable harness so that they are protected against stone impact. Unless specified otherwise, always fasten using cable clips.

Fit the fuel line and cable harness with edge protectors around sharp edges.

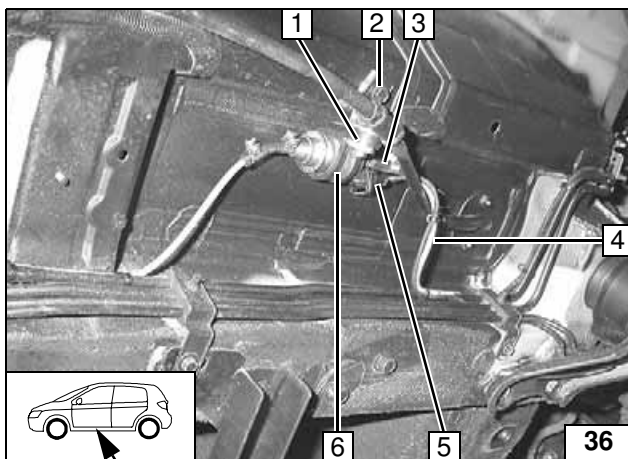
### WARNING!

The fuel line and cable harness to the metering pump should be installed based on the cable harness installation diagram.



- 1 Mecanyl fuel line
- 2 Hose section with hose bracket  
Ø 10mm [2x]

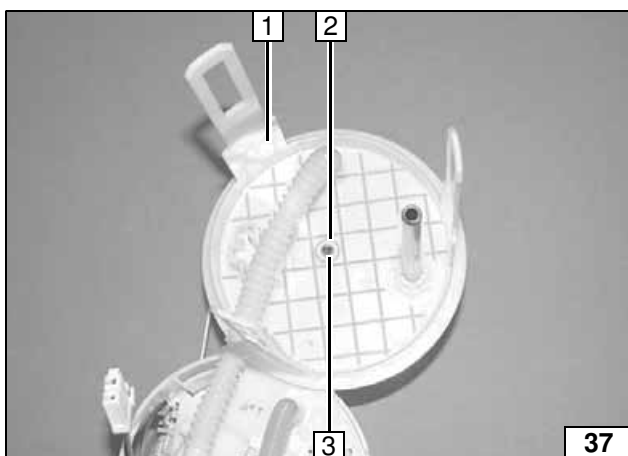
Conne-  
tion to  
heater



Note the installation position of the metering pump, see the Installation Instructions. Fuel line from the heater unit 4 on the pressure side of the metering pump [side with connector].

- 1 Tube clamp cable harness, silentblock, flanged nut [2x]
- 2 Vehicle bolt with handbrake cable bracket
- 3 Hose section, Ø 10mm hose clamps [2x]
- 5 Metering pump cable harness, wire seals, flat connector, connector housing
- 6 Metering pump with rubber hose clip

Metering  
pump  
installation  
location

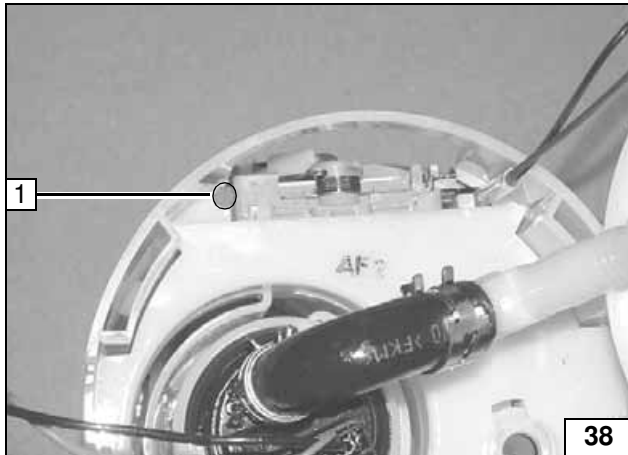


Remove the tank mounting according to the manufacturer's instructions and take it apart.

- 1 Tank mounting, upper
- 2 Washer Ø 6mm
- 3 Copy the hole template, Ø 6mm bore hole

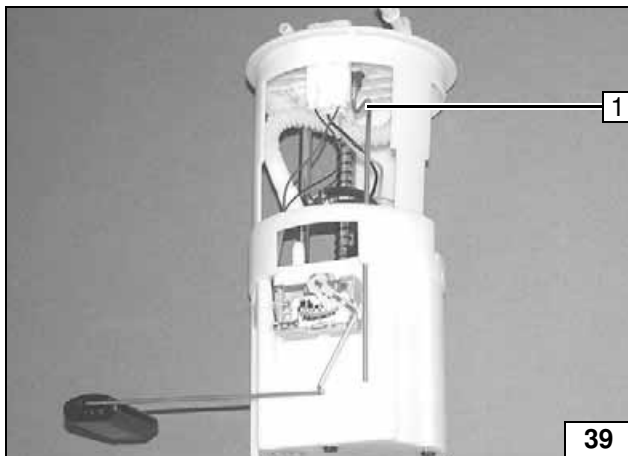
Hole for  
tank  
extracting  
device





Finish the tank extracting device **1** feed-through as shown in illustration.

Hole for tank extracting device

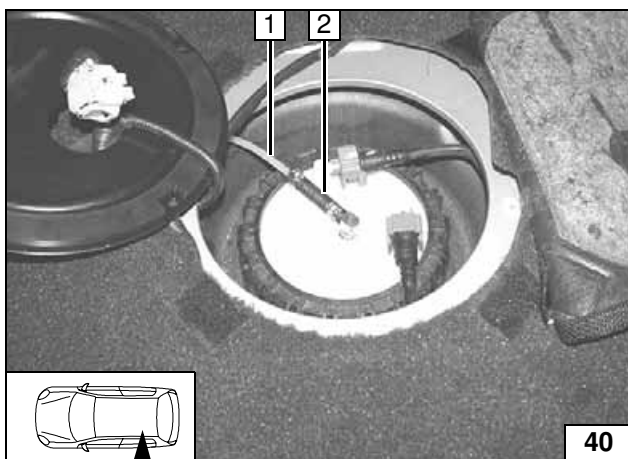


Shape, cut into sections, and insert the tank extracting device according to the template, see the Installation Instructions. Pay attention to the free movement of the level sensor.



**1** Tank extracting device

Inserting tank extracting device

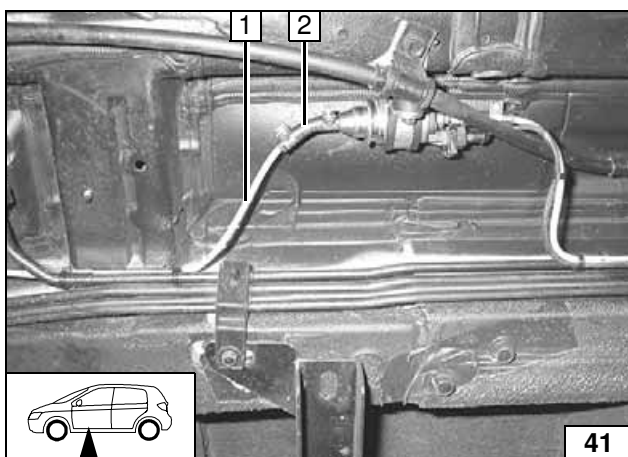


Install the tank mounting according to manufacturer's instructions.

- 1** Mecanyl fuel line
- 2** Hose section, Ø 10mm hose clamps [2x]



Installing the tank mounting

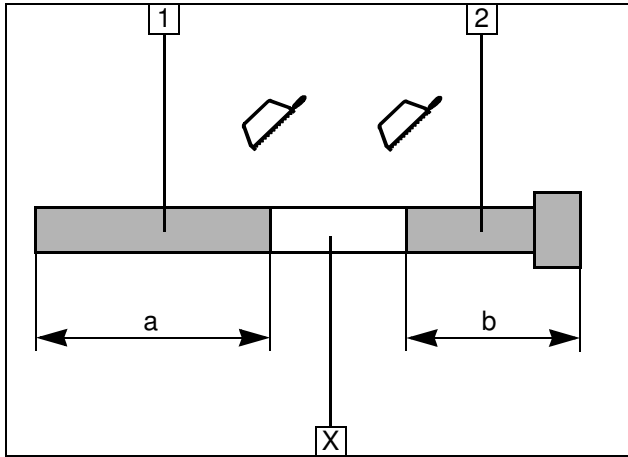
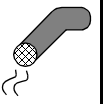


Fuel line from the tank extracting device **1** on the intake side of the metering pump [side without connector]. Check the position of the components; adjust if necessary. Check that these rotate freely.

- 2** Hose section, Ø 10mm hose clamps [2x]



Connection to metering pump

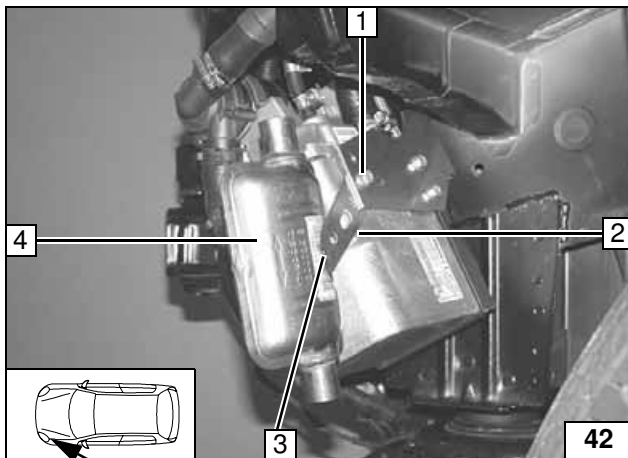


## Exhaust System

- 1 Exhaust pipe  
a = 235mm
- 2 Exhaust end section  
b = 380mm

Dispose of section X

**Preparing the exhaust pipe**

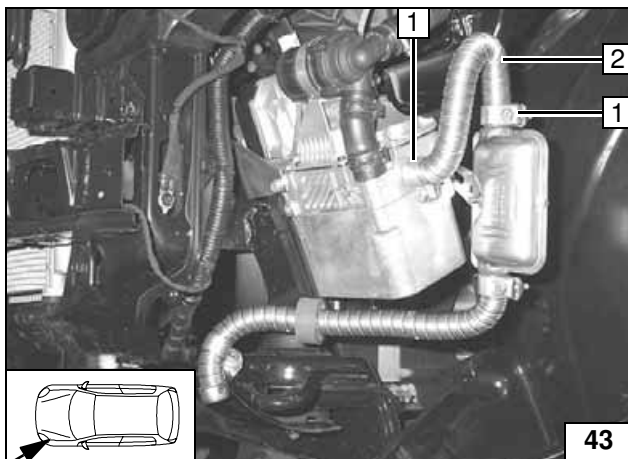


Bend the fastening strap 2 according to the template

- 1 E-jot screw bolt tightening torque 10 Nm!
- 3 Bolt M6x20, flanged nut
- 4 Exhaust silencer

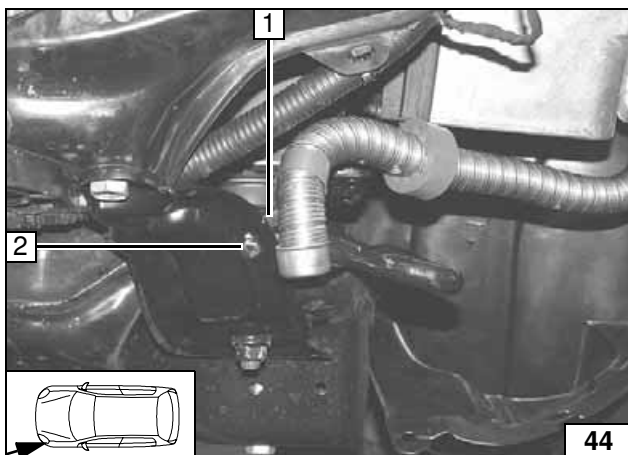


**Assembling the silencer**



- 1 E-jot screw bolt [2x]
- 2 Exhaust pipe

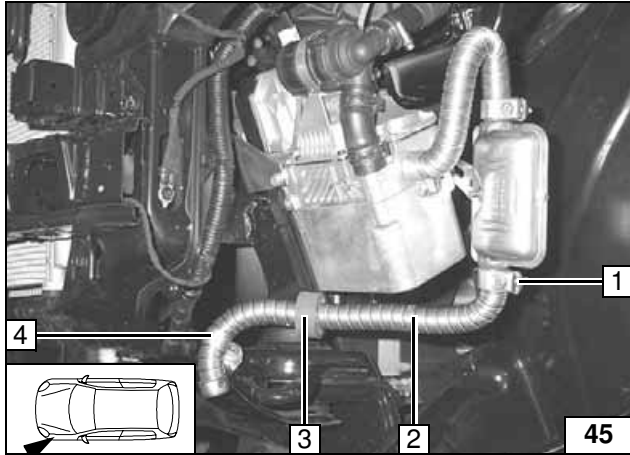
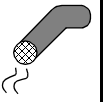
**Assembling the exhaust pipe**



Hole  $\varnothing$  6mm in diagonal position 2. Secure hose clamp 1 with bolt M6x20 2, upholstery washer and flanged nut.

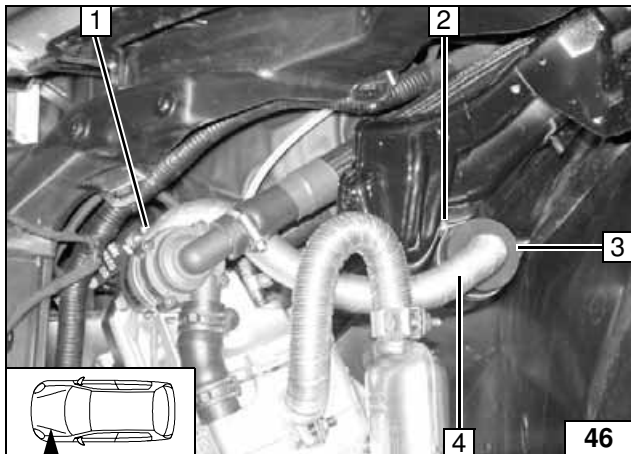
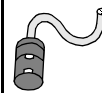


**Exhaust pipe end section bracket**



- 1 Hose bracket
- 2 Exhaust end section
- 3 Red (rt) rubber profile
- 4 Rubber hose clip, bolt M6x20, flanged nut on bracket

**Assembling the exhaust line and end piece**



## Combustion Air

Remove the rubber washer from the hose clip!

- 1 Ø 27mm hose clamp
- 2 Bolt M6x20, hose clip Ø 48mm, upholstery washer [2x], flanged nut on diagonal hole
- 3 Combustion air intake silencer
- 4 Combustion air intake pipe



**Assembling the combustion air line**



## Final Work

### WARNING!

Reassemble disassembled components in reverse order.

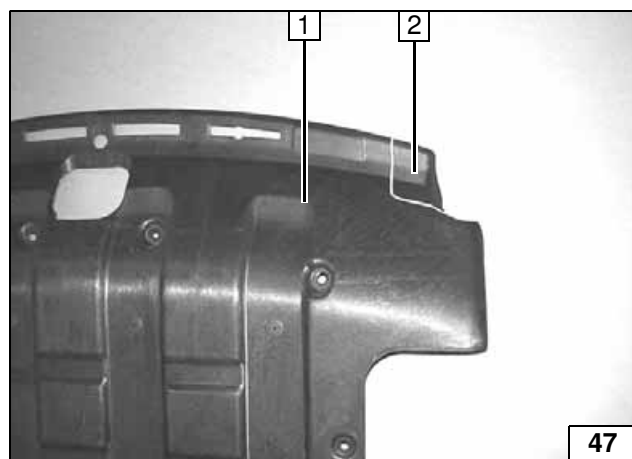
Check that all hose lines, hose, spring band clamps and universal clips, and all electrical connections are securely fastened.

Secure all loose cables using cable clips.

Only use manufacturer-approved coolant.

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

- Connect battery.
- Fill and bleed the coolant circuit according to the vehicle manufacturer's specifications.
- Set the time switch.
- Set the manual air conditioning or automatic air conditioning according to the "operating instructions for the end customer".
- Check that the auxiliary heating operates properly, see operating instructions / installation instructions.
- Attach the "Switch off auxiliary heating before re-fuelling" sticker onto the left side of the B-pillar.



During mounting, pay attention to the clearance of the outlet gas, otherwise increase the size of the cutout!

- 1 Underride protection
- 2 Make a cutout for the exhaust end piece feed-through

**Cut out the underride protection**

# Webasto

*Feel the drive*

Webasto AG  
Postfach 80 - 82132 Stockdorf - Hotline 0 18 05 / 93 22 78  
Hotfax (0395) 55 92-353 - <http://www.webasto.de>

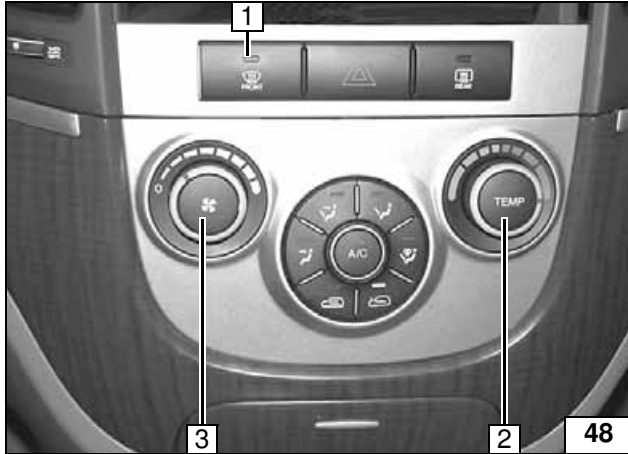


## Operating instructions for the end customer

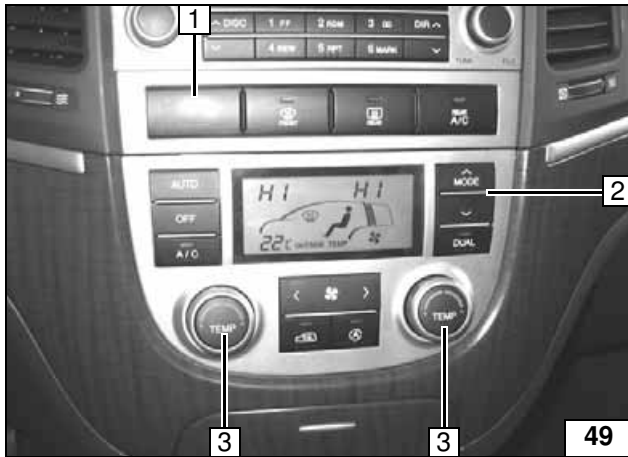
Please remove page and add to the vehicle operating instructions.



Before parking the vehicle, make the following settings:



- 1 Air outlet to windscreen
- 2 Temperature to "max."
- 3 Blower set to "2" or "3"



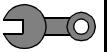
- 1 Air outlet to windscreen
- 2 Blower set to "1" or "2"
- 3 Temperature on both sides to "HI"

For vehicles with manual air conditioning

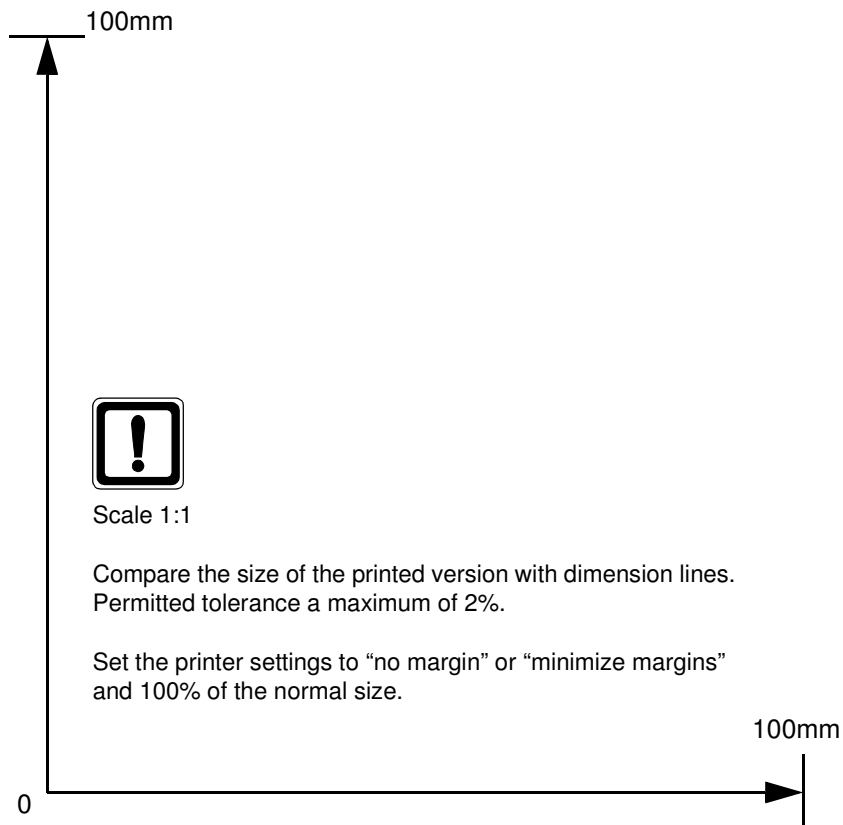
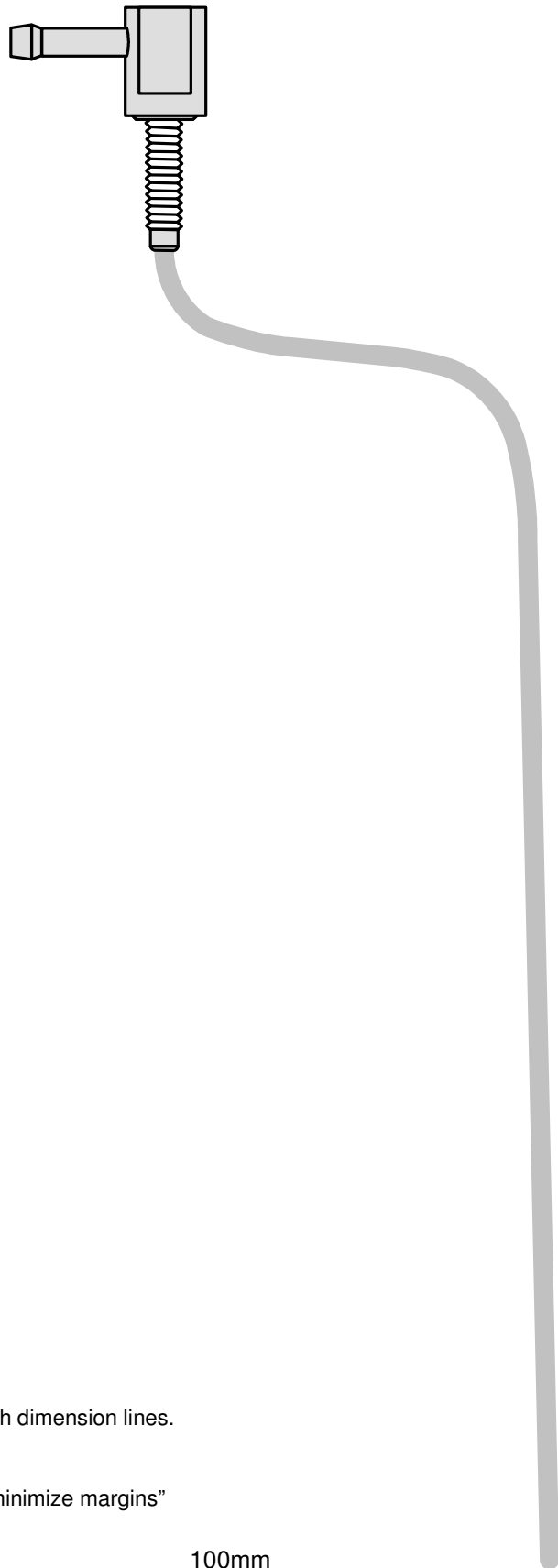
For vehicles with automatic air conditioning

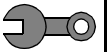
**For short distance trips, it is not recommended that the rear window heating be used. To be avoided!**

**Rule of thumb for operating the auxiliary heating: driving time = heating time.**



Tank Extracting Device Template





Fastening Strap Template

