Water Heater

Webasto
Feel the Drive

***Thermo Top Evo* Parking Heater**

E1
00 0258

Installation Documentation
Kia Sportage

Validity

Manufacturer	Model	Type	EG-BE No./ABE
Kia	Sportage	SL	e11 * 2007 / 46 * 0136 * ...

Motorisation	Fuel	Transmission type	Output in kW	Displacement in cm³	Engine code
1.6 GDi	Petrol	SG	99	1591	G4FD
2.0 CVVT	Petrol	SG	120	1998	G4KD
2.0 CVVT	Petrol	AG	120	1998	G4KD

SG = Manual transmission
AG = Automatic transmission

From Model Year 2010
Left-hand drive vehicle

Verified equipment variants: Manual / automatic air-conditioning system

Front fog light
2WD

Not verified: Passenger compartment monitoring

Total installation time: approx. 8 hours

Kia Sportage

Table of Contents

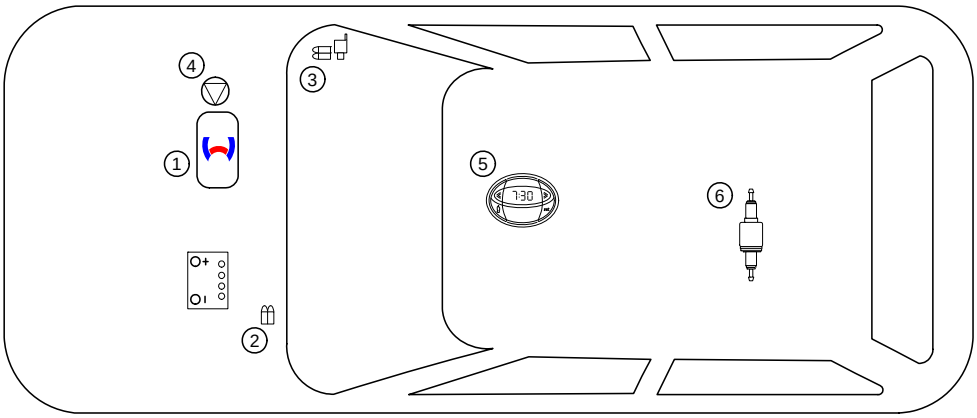
Necessary Components

- Basic delivery scope *Thermo Top Evo* in accordance with price list
- Installation kit for Kia Sportage 2010 Petrol: **1316587A**
- additionally required in case of automatic air-conditioning:
  Automatic air-conditioning kit: **1315911B**
- Heater control in accordance with price list and upon consultation with end customer
- In case of Telestart, indicator lamp in accordance with price list and in consultation with end customer

Installation Overview

Legend:

1. Heater
2. Engine compartment fuse holder
3. Passenger compartment fuse holder
4. Circulating pump
5. Digital timer
6. Metering pump



Information on Total Installation Time

The total installation time includes the time needed for mounting and demounting of the vehicle-specific components, the heater specific installation time and all other times required for the system integration and initial start-up of the heater.
The total installation time may vary for vehicle equipment other than provided.

Information on Operating and Installation Instructions

1 Important Information (not complete)

1.1 Installation and Repair

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.

Installation and repair may ONLY be carried out by persons trained and certified in a Webasto training course. NEVER try to install or repair Webasto heating or cooling systems if you have not completed a Webasto training course, you do not have the necessary technical skills and you do not have the technical documentation, tools and equipment available to ensure that you can complete the installation and repair work properly.

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

1.2 Operation

To ensure safe operation, we recommend having the heater checked every two years by an authorised Webasto dealer, especially when used over a long period and/or under extreme environmental conditions.

Do not operate the heater in closed rooms due to the danger of poisoning and suffocation.

Always switch off the heater before refuelling.

The heater may only be used with the prescribed fuel Diesel (DIN EN 590) or petrol (DIN EN 227).

The heater may not be cleaned with a high-pressure cleaner.

1.3 Please note

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

To become familiar with and understand all functions and properties of the heater, the operating instructions must be read carefully and observed at all times.

For proper, safe installation and repair work, the installation instructions with all warnings and safety information must be carefully read and observed at all times. Please always contact a workshop authorised by Webasto for all installation and repair work.

Important

Webasto shall assume no liability for defects, damage and injuries resulting from a failure to observe the installation, repair and operating instructions of the information contained in them.

This liability exclusion particularly applies to improper installations and repairs, installations and repairs by untrained persons or in the case of a failure to use genuine spare parts.

The liability due to culpable disregard to life, limb or health and due to damage or injuries caused by a wilful or reckless breach of duty remain unaffected, as does the obligatory product liability.

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 must audibly snap into place during assembly.

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).

Observe the instructions and guidelines of the respective vehicle manufacturer for demounting and mounting vehicle specific components!

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

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

2 Statutory regulations governing installation

Guidelines	Thermo Top Evo
Heating Directive ECE R122	E1 00 0258
EMC Directive ECE R10	E1 03 5627

Note

The regulations of these guidelines are binding in the scope of the Directive 70/156/EEC and/or 2007/46/EC (for new vehicle models from 29/04/2009) and should also be observed in countries in which there are no special regulations.

Important

Failure to follow the installation instructions will result in the invalidation of the type approval for the heater and therefore invalidation of the general **homologation of the vehicle**.

Note

For vehicles with an EU permit, no entry in accordance with § 19 Sub-Section 4 of Annex VIII b to the Road Traffic Act is required.

2.1 Excerpt from the directive 2001/56/EC Appendix VII for the installation of the heater

Beginning of excerpt.

ANNEX VII

REQUIREMENTS FOR COMBUSTION HEATERS AND THEIR INSTALLATION

1. GENERAL REQUIREMENTS

1.7.1. A clearly visible tell-tale in the operator's field of view shall inform when the combustion heater is switched on or off.

2. VEHICLE INSTALLATION REQUIREMENTS

2.1. Scope

2.1.1. Subject to paragraph 2.1.2. combustion heaters shall be installed according to the requirements of this Annex.

2.1.2. Vehicles of category O having liquid fuel heaters are deemed to comply with the requirements of this Annex.

2.2. Positioning of heater

2.2.1. Body sections and any other components in the vicinity of the heater must be protected from excessive heat and the possibility of fuel or oil contamination.

2.2.2. The combustion heater shall not constitute a risk of fire, even in the case of overheating. This requirement shall be deemed to be fulfilled if the installation ensures an adequate distance to all parts and suitable ventilation, by the use of fire resistant materials or by the use of heat shields.

2.2.3. In the case of M2 and M3 vehicles, the heater must not be positioned in the passenger compartment. However, an installation in an effectively sealed envelope which also complies with the conditions in paragraph 2.2.2 may be used.

2.2.4. The label referred to in paragraph 1.4 or a duplicate, must be positioned so that it can be easily read when the heater is installed in the vehicle.

2.2.5. Every reasonable precaution should be taken in positioning the heater to minimise the risk of injury and damage to personal property.

2.3. Fuel supply

2.3.1. The fuel filler must not be situated in the passenger compartment and must be provided with an effective cap to prevent fuel spillage.

2.3.2. In the case of liquid fuel heaters, where a supply separate to that of the vehicle is provided, the type of fuel and its filler point must be clearly labelled.

2.3.3. A notice, indicating that the heater must be shut down before refuelling, must be affixed to the fuelling point. In addition a suitable instruction must be included in the manufacturer's operating manual.

2.4. Exhaust system

2.4.1. The exhaust outlet must be located so as to prevent emissions from entering the vehicle through ventilators, heated air inlets or opening windows.

2.5. Combustion air inlet

2.5.1. The air for the combustion chamber of the heater must not be drawn from the passenger compartment of the vehicle.

2.5.2. The air inlet must be so positioned or guarded that blocking by rubbish or luggage is unlikely.

2.6. Heating air inlet

2.6.1. The heating air supply may be fresh or recirculated air and must be drawn from a clean area not likely to be contaminated by exhaust fumes emitted either by the propulsion engine, the combustion heater or any other vehicle source.

2.6.2. The inlet duct must be protected by mesh or other suitable means.

2.7. Heating air outlet

2.7.1. Any ducting used to route the hot air through the vehicle must be so positioned or protected that no injury or damage could be caused if it were to be touched.

2.7.2. The air outlet must be so positioned or guarded that blocking by rubbish or luggage is unlikely.

End of excerpt.

In multilingual versions the German language is binding.

Kia Sportage

Information on Validity

This installation documentation applies to Kia Sportage Petrol vehicles - for validity, see page 1 - from model year 2010 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 this installation documentation.

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

Technical Information

Special Tools
- Hose clamp pliers for self-clamping hose clamps
- Hose clamp pliers for Clic hose clamps of type W
- Automatic wire stripper 0.2 - 6mm²
- Crimping pliers for cable lug / tab connector 0.5 - 6mm²
- Torque wrench for 2.0 - 10 Nm
- Hose clamping pliers
- Metric thread-setter kit
- Webasto Thermo Test diagnosis with current software

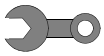
Dimensions
- All dimensions are in mm.

Tightening torque values
- Tightening torque values of 5x13 heater bolts and 5x11 heater stud bolts = 8Nm.
- Tightening torque values of 5x15 retaining plate of water connection piece bolt = 7Nm.
- Tighten other bolt connections in accordance with manufacturer's instructions or in accordance with state-of-the-art-technology.

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

Combustion air

Fuel

Exhaust gas

Software

Special features are highlighted using the following symbols:

Specific risk of injury or fatal accidents

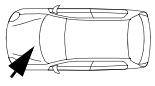
Specific risk of damage to components

Specific risk of fire and explosion

Reference to general installation instructions of the 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



Kia Sportage

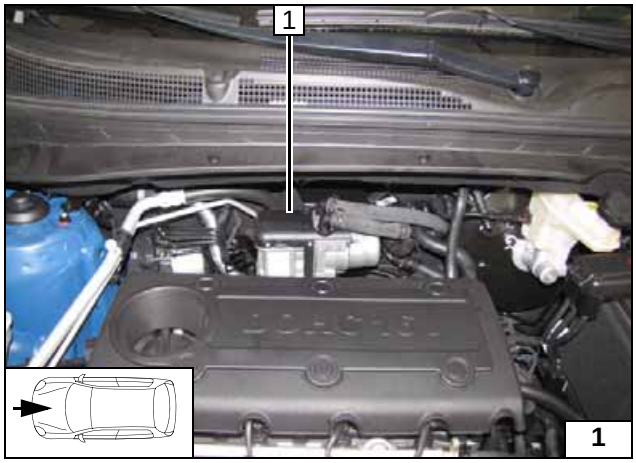
Preliminary Work

Vehicle

- Open the fuel tank cap.
- Ventilate the fuel tank.
- Close the fuel tank cap again.
- Depressurise the cooling system.
- Disconnect the battery.
- Remove the windscreen wipers.
- Remove the coolant reservoir cap and the coolant reservoir.
- Remove the horn on the right on the spring dome.
- Remove the underride protection.
- Remove the underbody trim on the left before the fuel tank.
- Remove the seating surface of the rear bench seat.
- Open the tank-fitting service lid.
- Remove the fuel-tank sending unit in accordance with the manufacturer's instructions.
- Remove the glove compartment.
- Remove the entrance strip on the front passenger's side.
- Remove the lower A-pillar trim in the front passenger's side footwell.
- Remove the trim of the shift lever (for digital timer only).

Heater

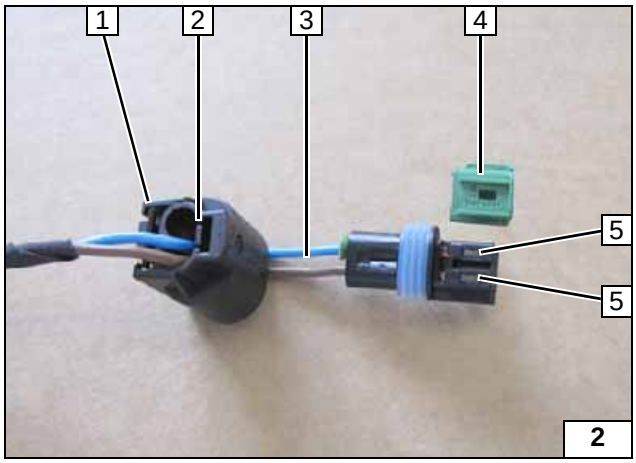
- Remove years that do not apply from the type and duplicate label.
- Attach the duplicate label (type label) in the appropriate place in the engine compartment.



Heater Installation Location

1 Heater

Installation location

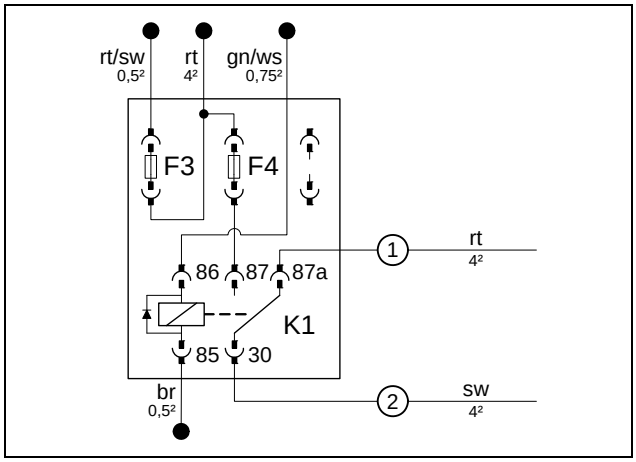


Preparing Electrical System

Complete connector of metering pump again after routing. Pin assignment is not relevant.

Dismantling connector

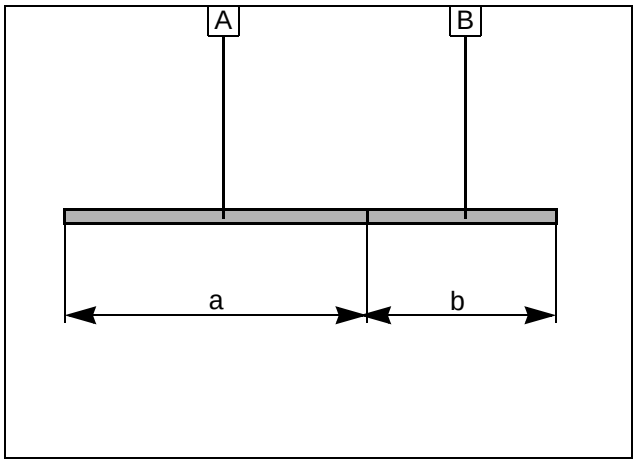
1 Connector housing
2 Lock
3 Blue/brown (bl / br) wires
4 Coding
5 Timer lock



Wire sections retain their numbering in the entire document.

Produce connections as shown in wiring diagram. Insert fuse F4 25A, K1 relay will be installed after assembly.

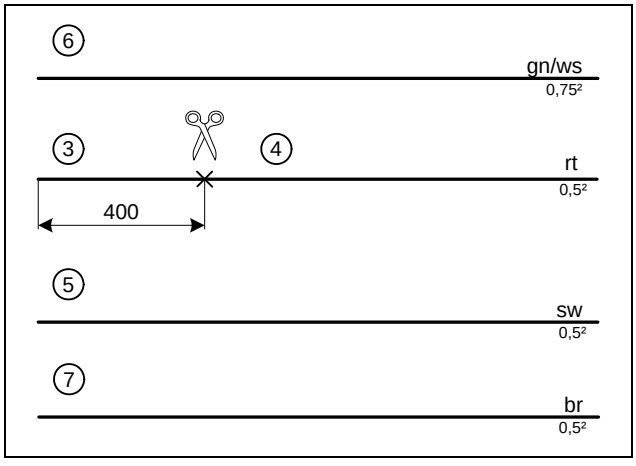
Inserting F4, preparing K1 relay



Automatic air-conditioning

a = 600
b = 400

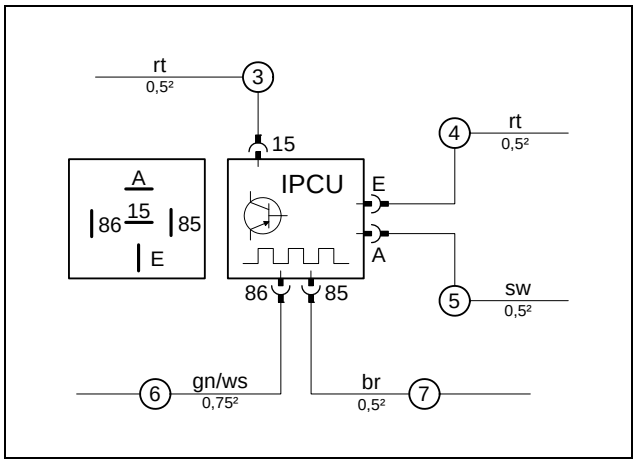
Cutting protective sleeving to length

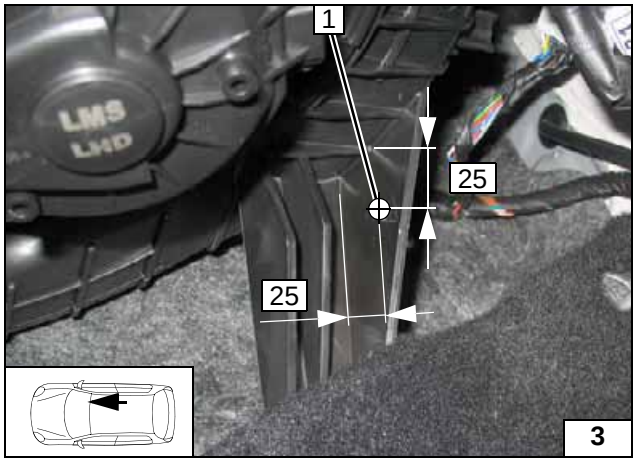


Pull red (rt) wire ④ and black (sw) wire ⑤ through protective sleeving **A**. Pull green/white (gn/ws) wire ⑥ and red (rt) wire ③ through protective sleeving **B**.

Preparing lines

③ Red (rt) wire socket IPCU/15
④ Red (rt) wire socket IPCU/E
⑤ Black (sw) wire socket IPCU/A
⑥ Green/white (gn/ws) wire socket IPCU/86
⑦ Brown (br) wire socket IPCU/85





Connect wires to socket IPCU. IPCU view on contact side.
IPCU is preprogrammed with the adjustment values of model year 2011. The adjustment values must be checked during the function check on the vehicle and adjusted, if necessary.

Preparing IPCU

Model year:	**2010**	**2011**
Duty cycle:	100%	100%
Frequency:	14 kHz	1 kHz
Voltage:	4.4V	3.6V
Function:	High side	High side

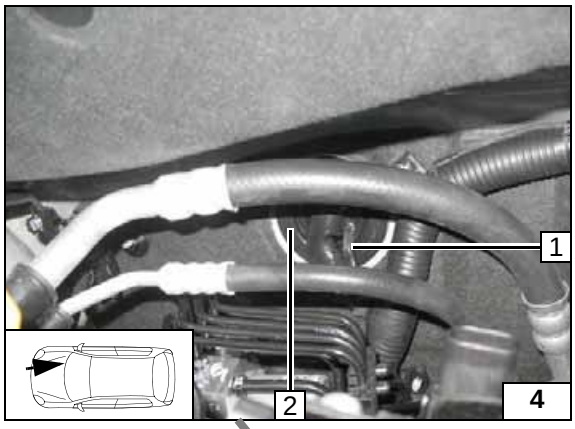
1 5.5 mm dia. hole (short drill)

Hole for fuse holder for passenger compartment

Electrical System

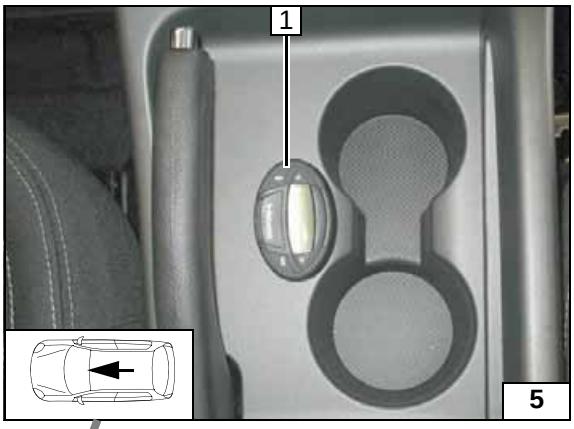
Wiring harness pass through

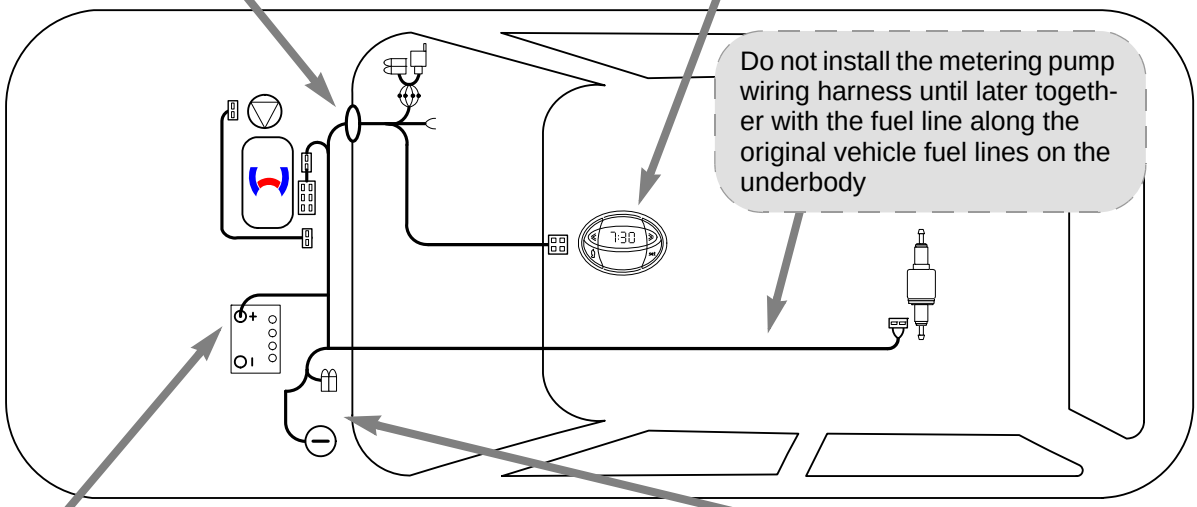
1 Wiring harness of inner fuse holder, heater control
2 Protective rubber plug



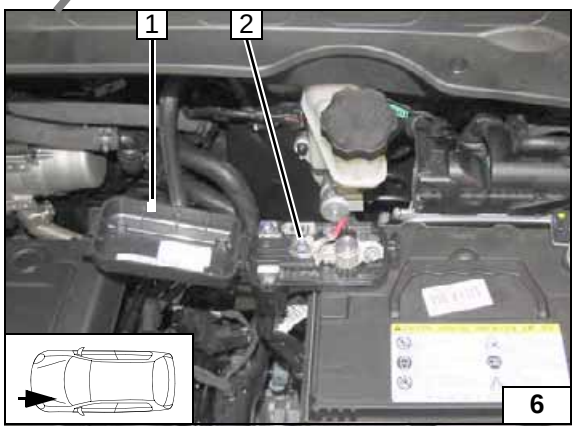
Digital timer

1 Digital timer



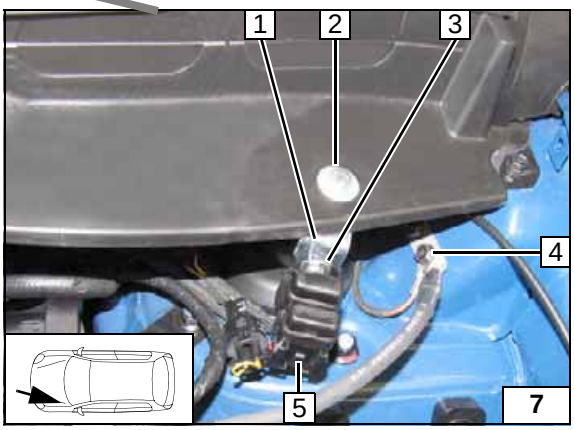


Wiring harness routing diagram



Positive wire

1 Nick positive terminal cover
2 Positive wire, original vehicle bolt

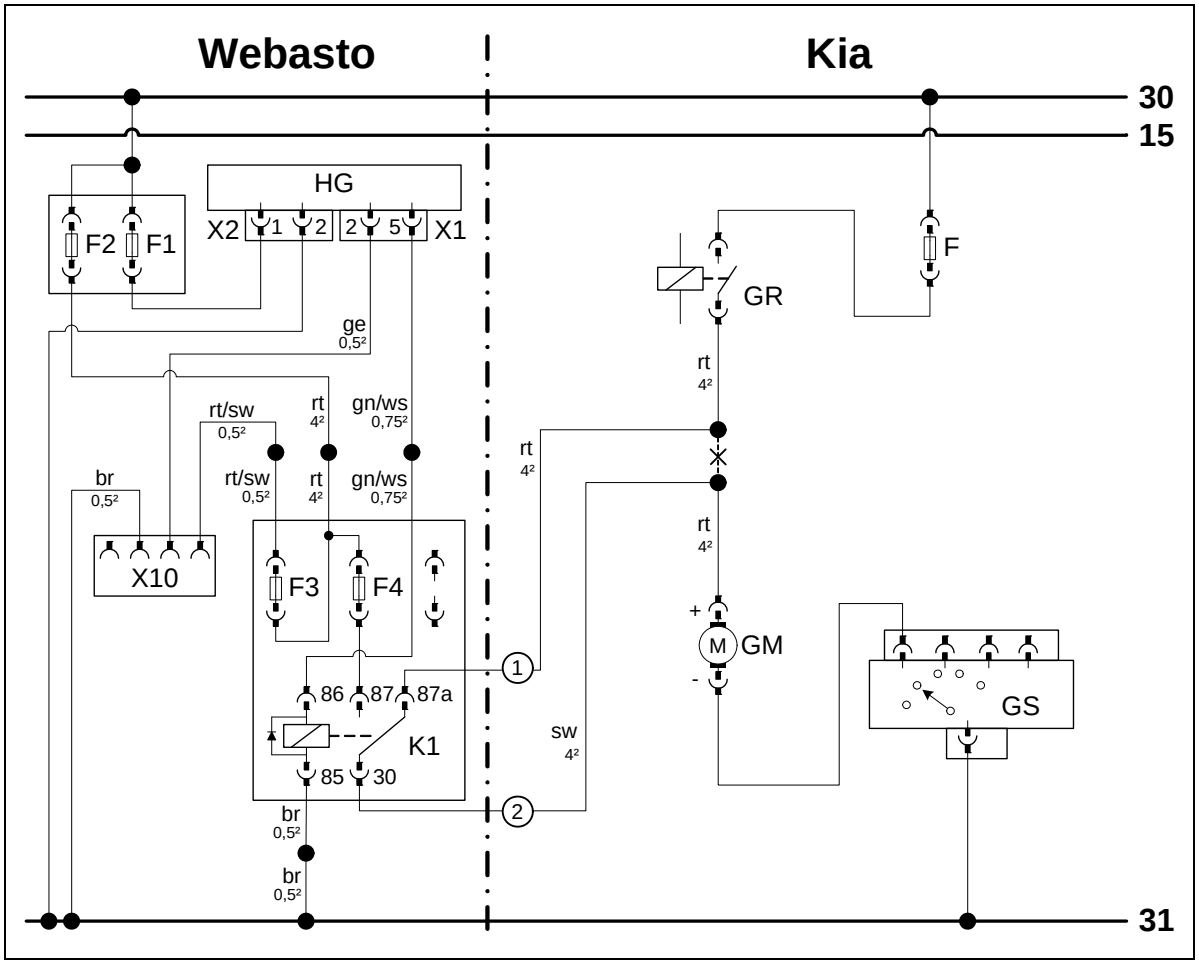


Engine compartment fuse holder, earth wire

Install angle bracket **1** loosely.

2 Remove clip, M6x20 bolt, large diameter washer, flanged nut
3 M5x16 bolt, washer, retaining plate for fuse holder, washer, nut
4 Earth wire on original vehicle earth point
5 F1-2 fuses mounted

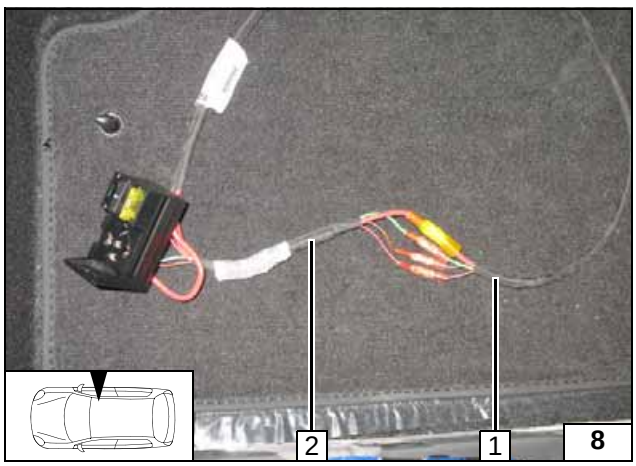
Fan Controller for Manual Air-Conditioning



Wiring diagram

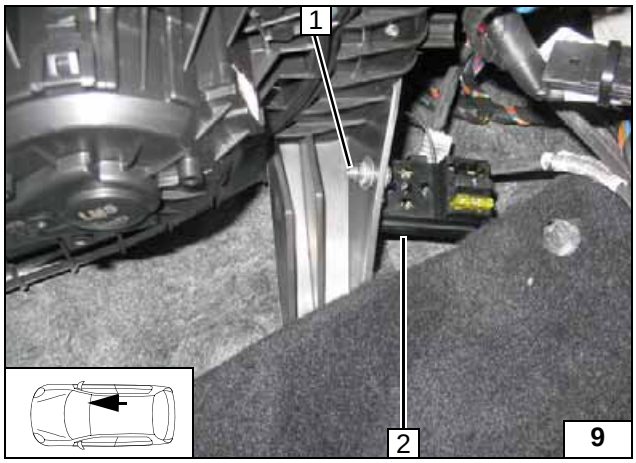
Webasto components		Vehicle components		Colours and symbols	
HG	Heater TT-Evo	F	Fuse	rt	red
X1	6-pin heater connector	GR	Fan relay	sw	black
X2	2-pin heater connector	GM	Fan motor	br	brown
X10	4-pin connector of Heater control	GS	Fan switch	gn	green
				ws	white
K1	Fan relay			ge	yellow
F1	20A fuse				
F2	30A fuse				
F3	1A fuse			**X**	Cutting point
F4	25A fuse			Wiring colours may vary.	

Legend



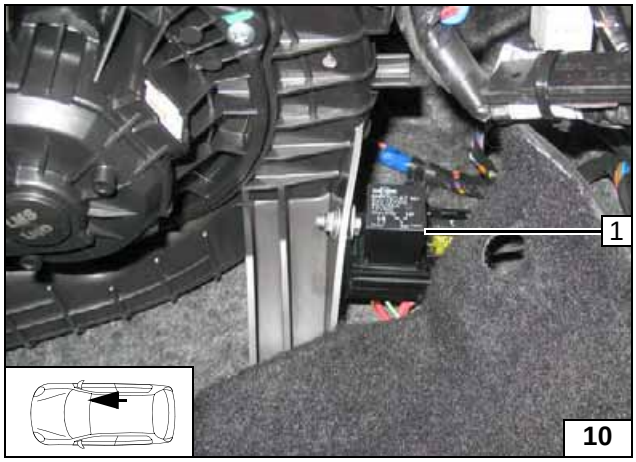
Connect wiring harness of passenger compartment fuse holder **2** to wiring harness of engine compartment fuse holder **1** according to the wiring diagram

Connecting wiring harnesses



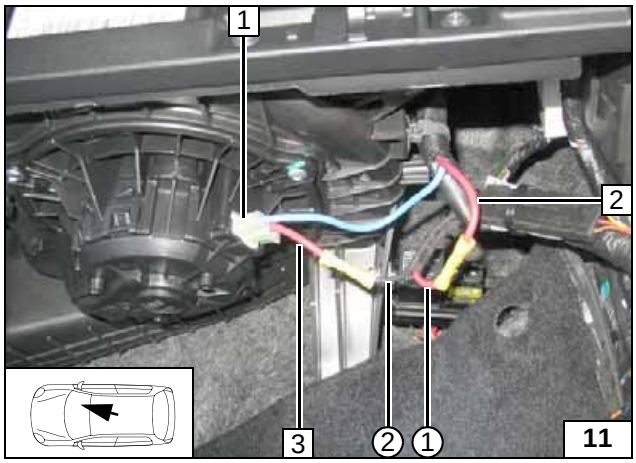
1 M5x16 bolt, large diameter washer [2x], nut
2 Inner fuse holder

Installing inner fuse holder



1 K1 relay

Installing relay



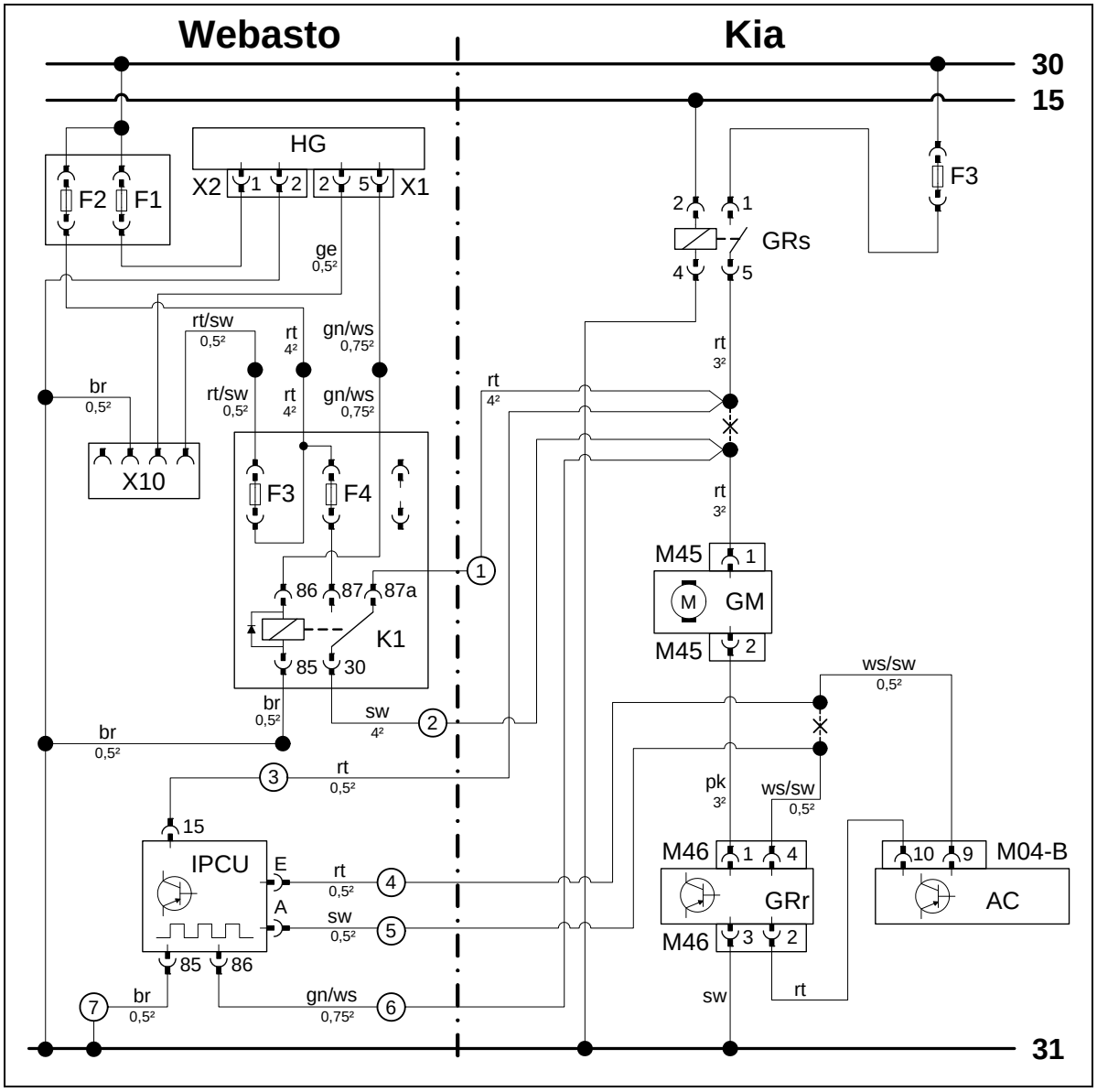
Connection to 2-pin connector **1** from fan motor.
Produce connections as shown in wiring diagram.

2 Red (rt) wire from fuse
3 Red (rt) wire, fan motor connector
① Red (rt) wire, K1/87a
② Black (sw) wire, K1/30

Connecting fan motor

Fan Controller for Automatic Air-Conditioning

Wiring diagram



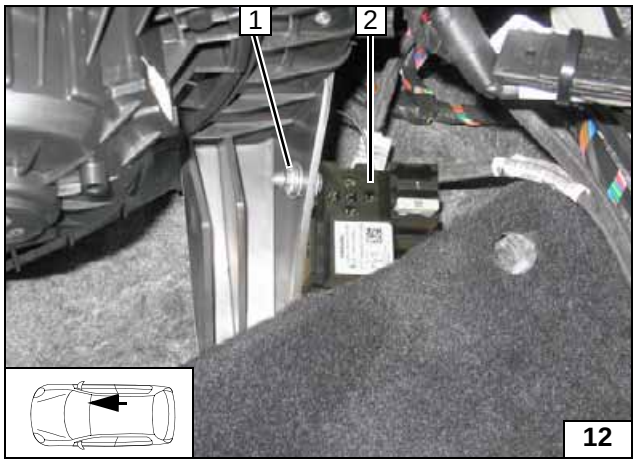
Webasto components		Vehicle components		Colours and symbols	
HG	Heater TT-Evo	F3	40A fuse	rt	red
X1	6-pin heater connector	GRs	Fan relay	sw	black
X2	2-pin heater connector	M45	2-pin connector GM	br	brown
X10	4-pin connector of Heater control	GM	Fan motor	gn	green
		M46	4-pin connector, GRr	ws	white
K1	Fan relay	GRr	Fan controller	ge	yellow
F1	20A fuse	M04-B	AC connector	ro	pink
F2	30A fuse	AC	Air-conditioning control unit		
F3	1A fuse				
F4	25A fuse				
IPCU	Pulse width modulator				

IPCU setting values		
Model year:	**2010**	**2011**
Duty cycle:	100%	100%
Frequency:	14 kHz	1 kHz
Voltage:	4.4V	3.6V
Function:	High side	High side

X Cutting point

Wiring colours may vary.

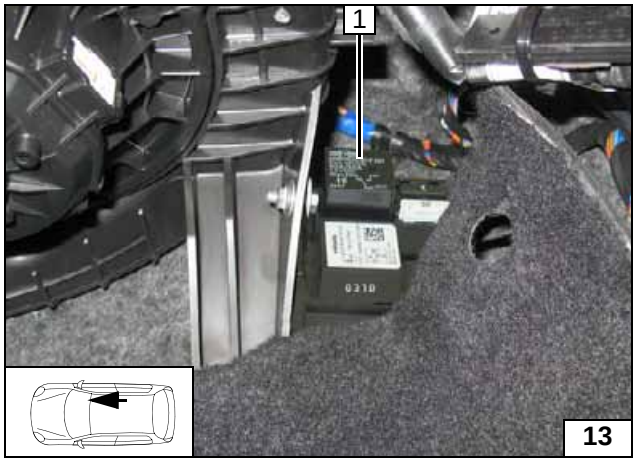
Legend



Latch together IPCU socket and passenger compartment fuse holder.

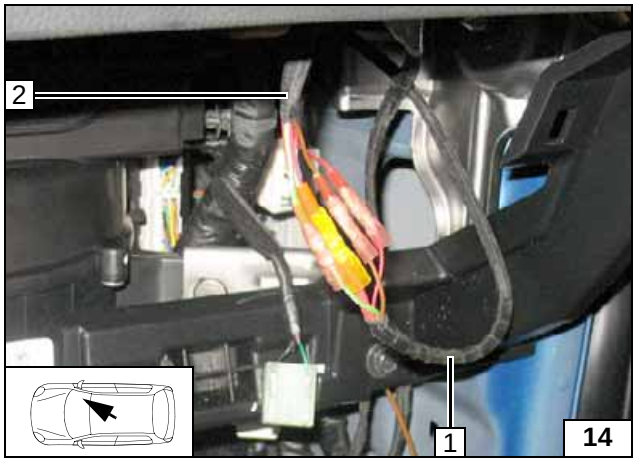
1 M5x16 bolt, large diameter washer [2x], nut
2 Passenger compartment fuse holder

Installing inner fuse holder



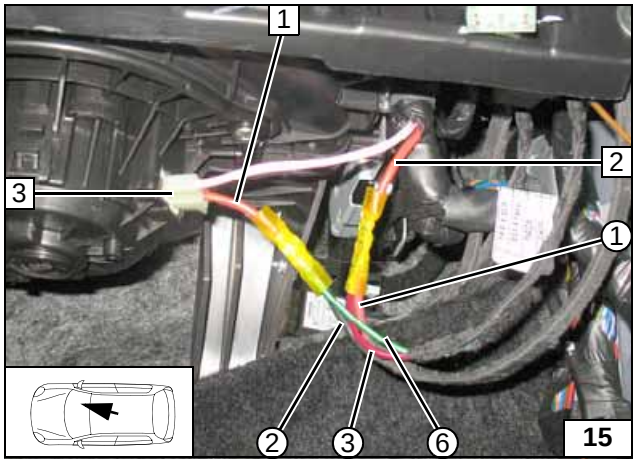
1 K1 relay

Mounting K1 relay



Connect the wiring harness of passenger compartment fuse holder **2** with the wiring harness of heater **1** according to the wiring diagram in such a way that the wires of the same colour are connected.

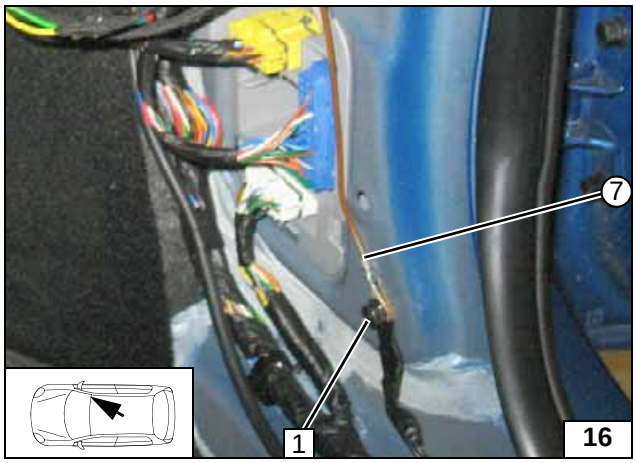
Connecting wiring harnesses



Connection to 2-pin connector M45 **3** from fan motor. Produce connections as shown in wiring diagram.

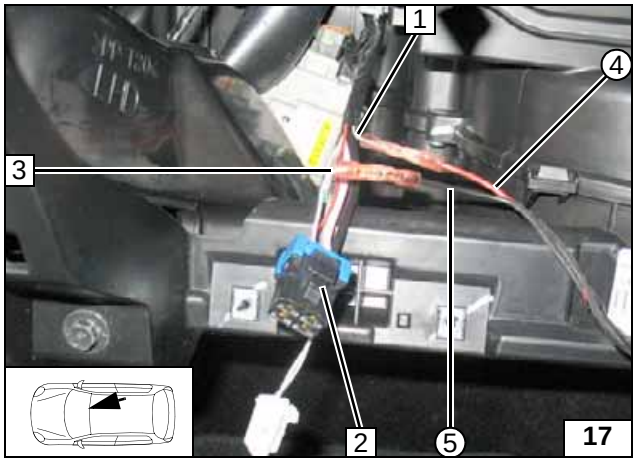
1 Red (rt) wire, M45 connector
2 Red (rt) wire from fan relay
① Red (rt) wire, K1/87a
② Black (sw) wire, K1/30
③ Red (rt) wire IPCU/15
⑥ Green/white (gn/ws) wire IPCU/86

Connecting fan motor



1 Original vehicle bolt
⑦ Brown (br) wire IPCU/85

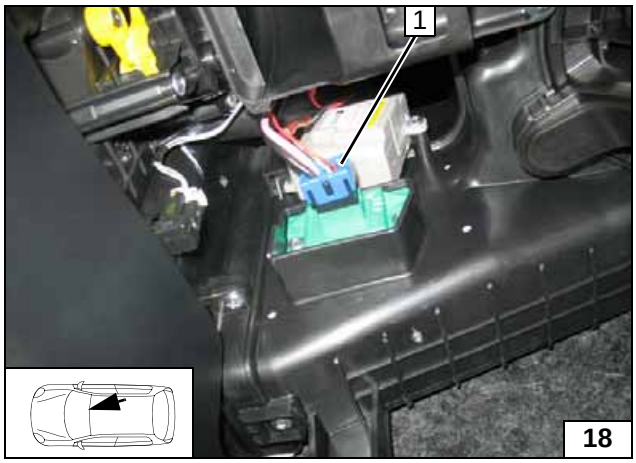
IPCU earth connection



Connection to 4-pin connector M46 **2** from fan controller. Produce connections as shown in wiring diagram.

1 White/black (ws/sw) wire for A/C control unit pin 9
2 Red (rt) wire from K1/87a
3 White/black (ws/sw) wire for connector M46 pin 4
④ Red (rt) wire IPCU/E
⑤ Black (sw) wire IPCU/A

Fan controller connection

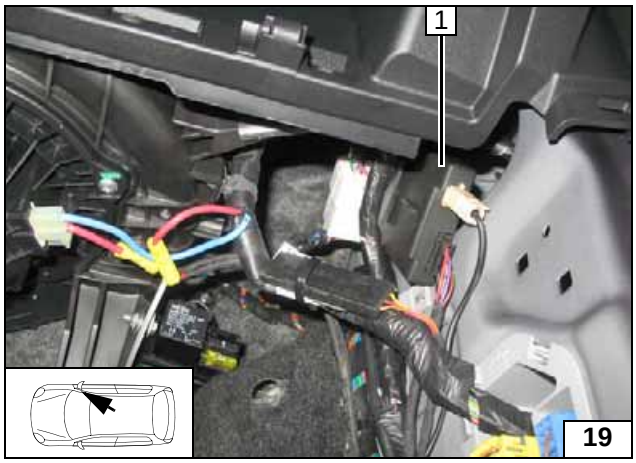


1 Socket for connector M46

Mounting connector

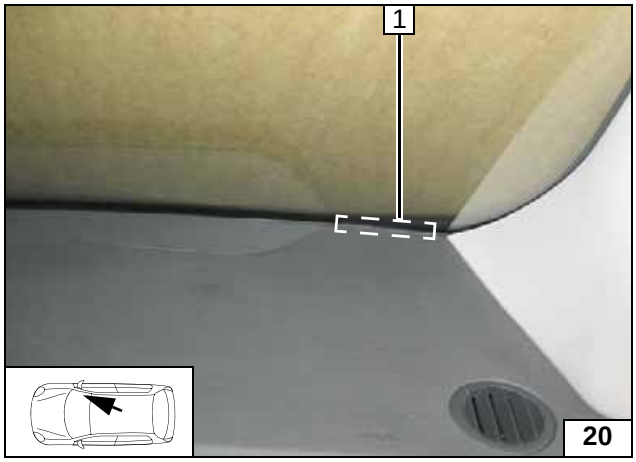
Remote Option (Telestart)

Mounting receiver



1 Receiver installed with adhesive tape.

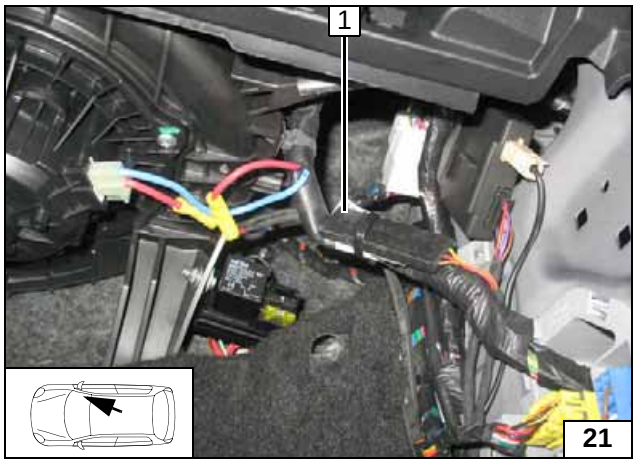
Mounting antenna



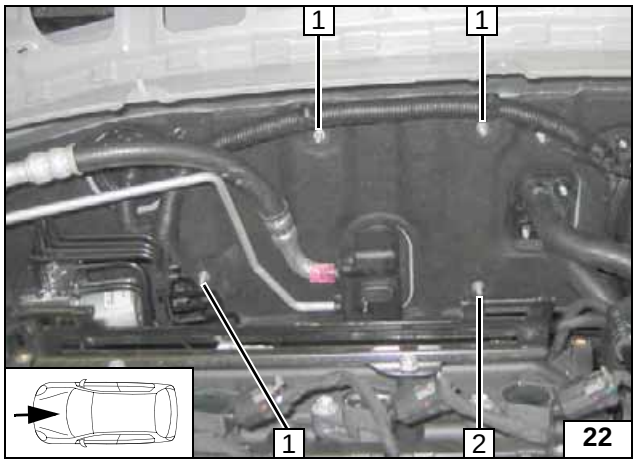
1 Antenna

Installing temperature sensor

Only for Telestart T100 HTM



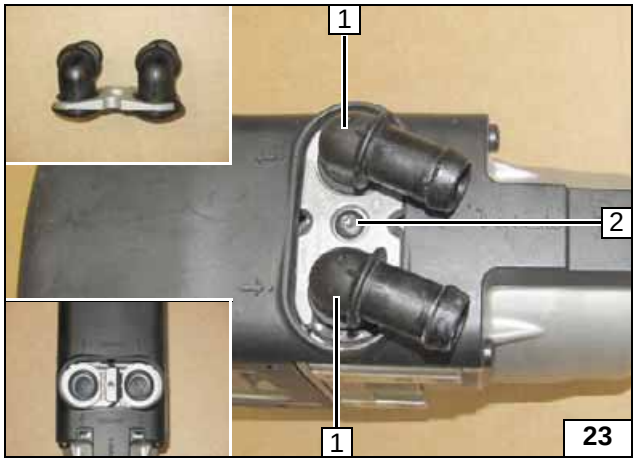
1 Temperature sensor



Preparing Installation Location

Remove original vehicle wiring harness from clip at position **1**. Mount one plain washer each on stud bolt **1** [3x] and **2** (washers as offset for insulation mat and bracket). Cut out a little insulation mat if necessary!

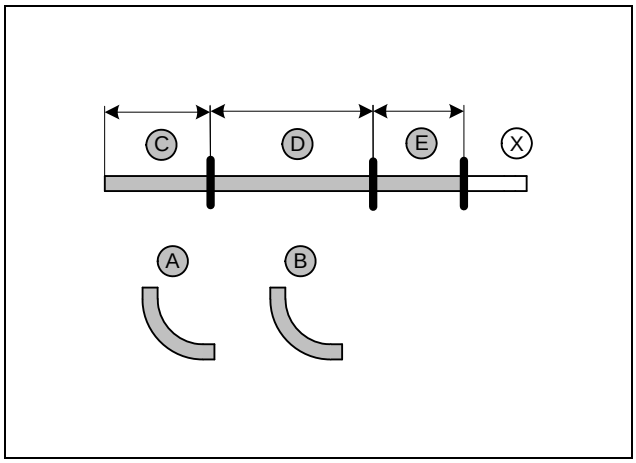
Detaching wiring harness



Preparing Heater

1 Water connection pieces, sealing ring [2x each]
2 5x15 self-tapping bolt, retaining plate of water connection pieces

Mounting water connection pieces

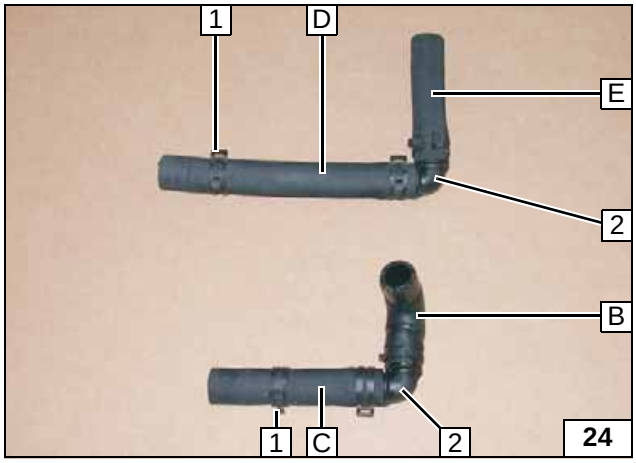


1.6 B

A and **B** = 90° moulded hoses
Discard section **X**.

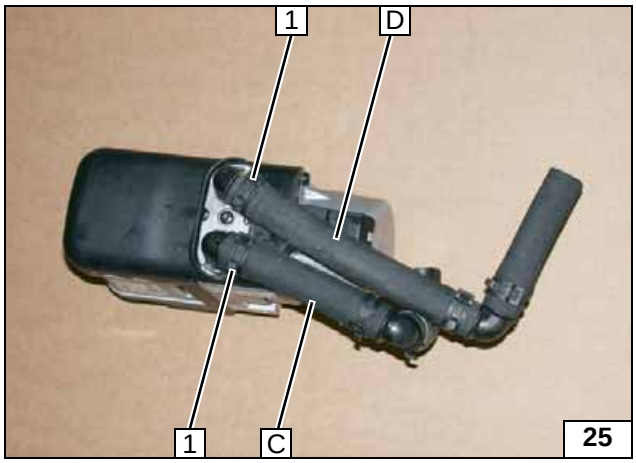
C = 130
D = 190
E = 100

Cutting hoses to length



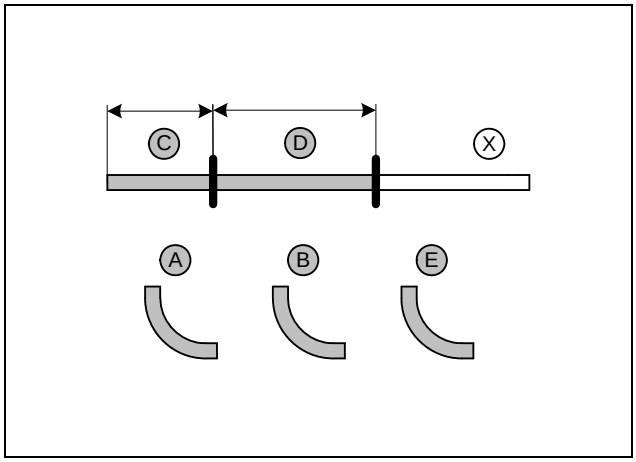
1 Slide on 25mm dia. spring clip [2x]
2 90° 18x18 mm [2x] connecting pipes, 25mm dia. spring clip [4x]

Premounting water hoses



1 25 mm dia. spring clip [2x]

Installing water hoses

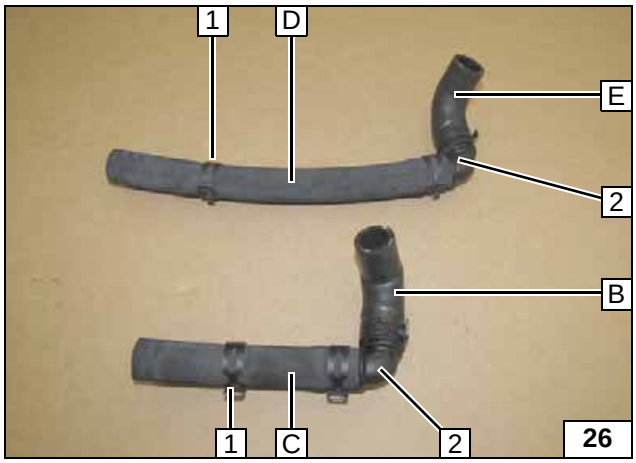


2.0 B

A, **B** and **E** = 90° moulded hoses
Discard section **X**.

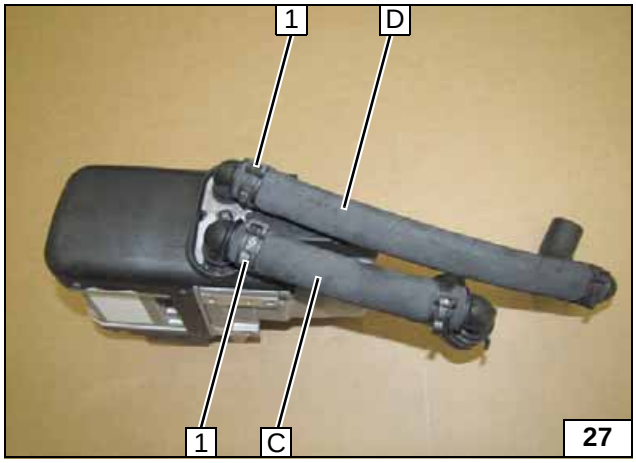
C = 130
D = 240

Cutting water hoses to length



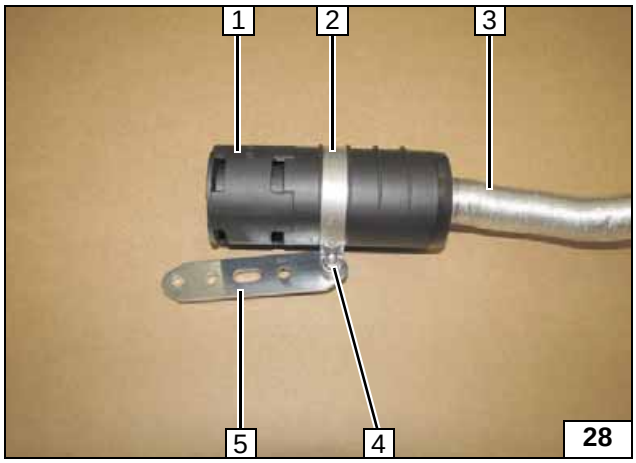
1 Slide on 25mm dia. spring clip [2x]
2 90° 18x18 mm [2x] connecting pipes, 25 mm dia. spring clip [4x]

Premounting water hoses



1 25 mm dia. spring clip [2x]

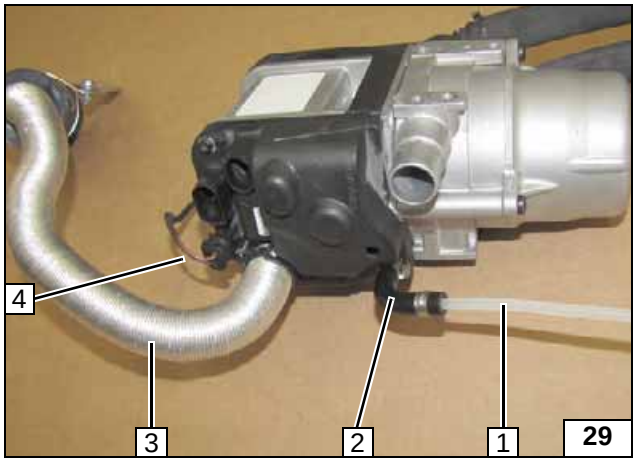
Installing water hoses



All vehicles

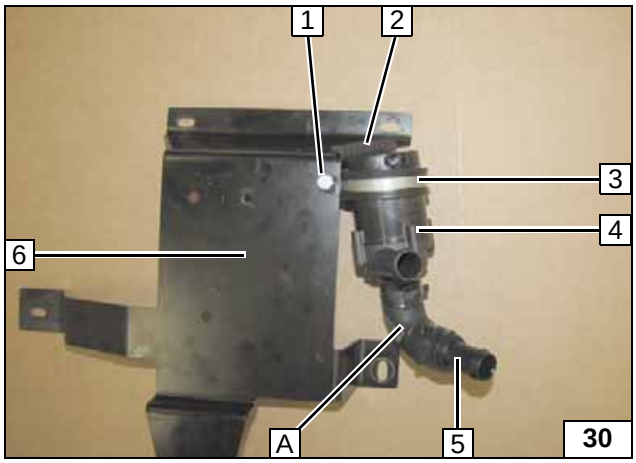
1 Combustion air silencer
2 51 mm dia. clamp
3 Combustion air pipe
4 M5x13 torx bolt, M5 flanged nut
5 Perforated bracket

Premounting combustion air silencer



1 Fuel line
2 90° moulded hose, 10 mm dia. clamp [2x]
3 Combustion air pipe
4 Mount wiring harness of circulating pump

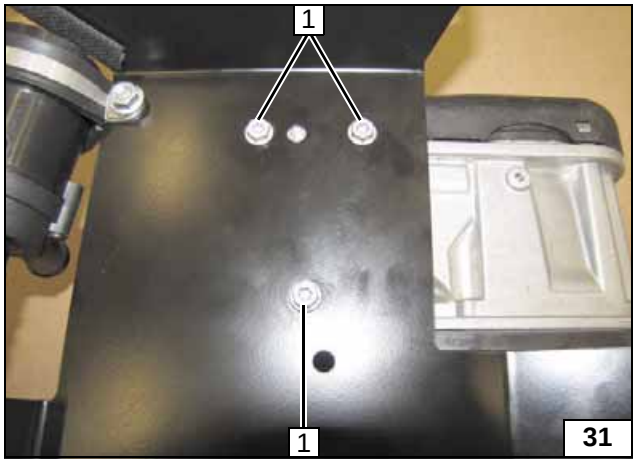
Premounting heater



All spring clips = 25 mm dia.!

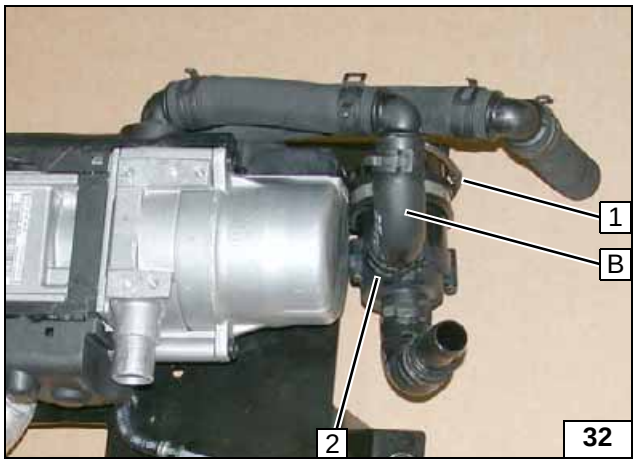
1 M6x20 bolt, flanged nut
2 50 mm edge protection
3 Rubber-coated pipe clamp, 48 mm dia.
4 Circulating pump
5 18x18 connecting pipe
6 Bracket

Premounting bracket



1 5x13 self-tapping bolt [3x]

Installing bracket

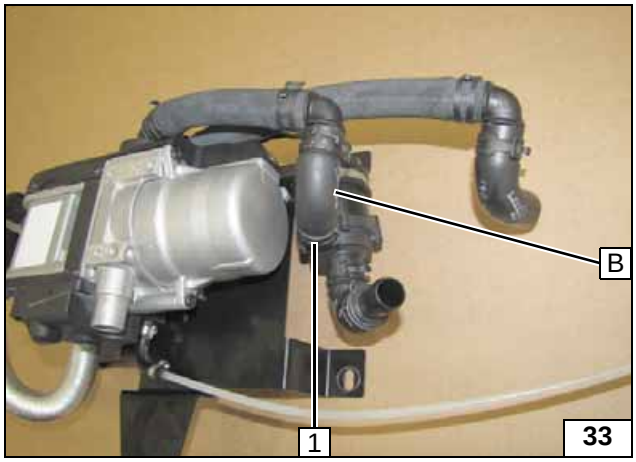


1.6 B

Mount wiring harness of circulating pump **1**.

2 25 mm dia. spring clip

Installing hose B

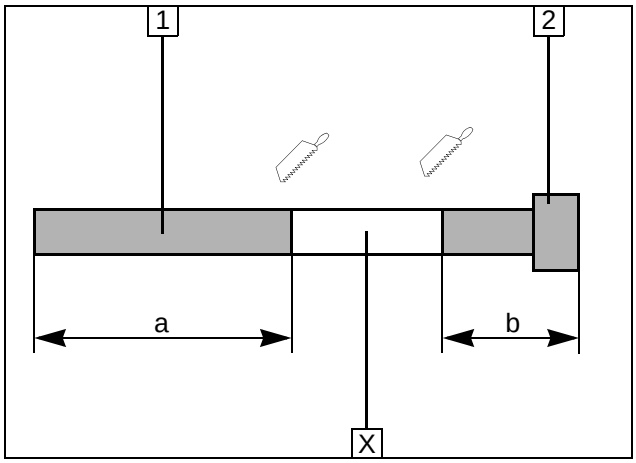


2.0 B

Mount wiring harness of circulating pump.

1 25 mm dia. spring clip

Installing hose B

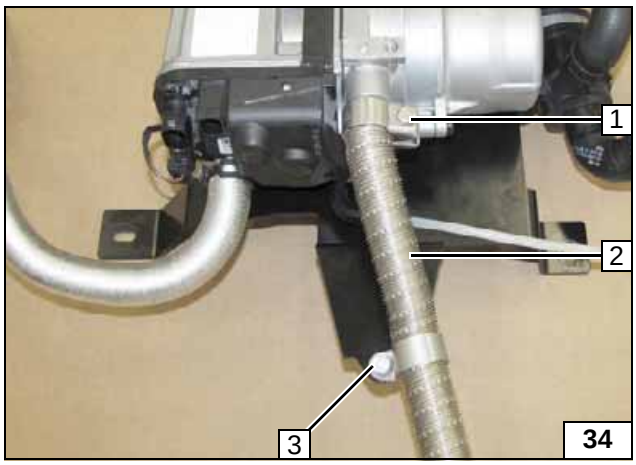


All vehicles

Discard section X.

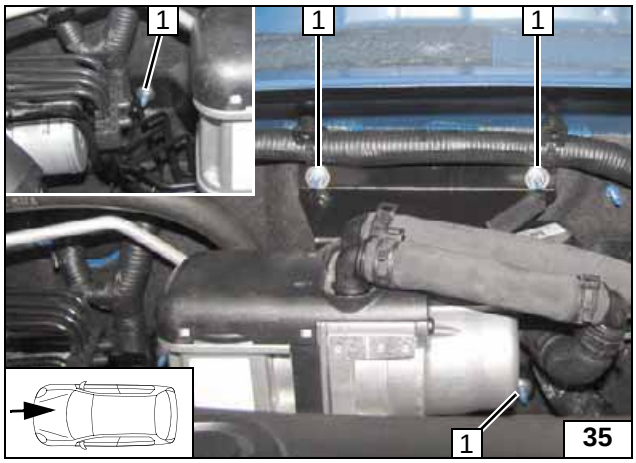
1 Exhaust pipe
a =580
2 Exhaust end section
b = 120

Preparing exhaust pipe



1 Hose clamp
2 Exhaust pipe
3 M6x20 bolt, pipe clamp, flanged nut

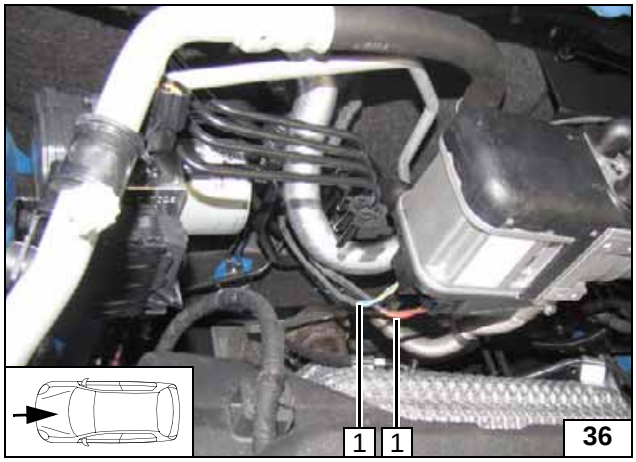
Installing exhaust pipe



Installing Heater

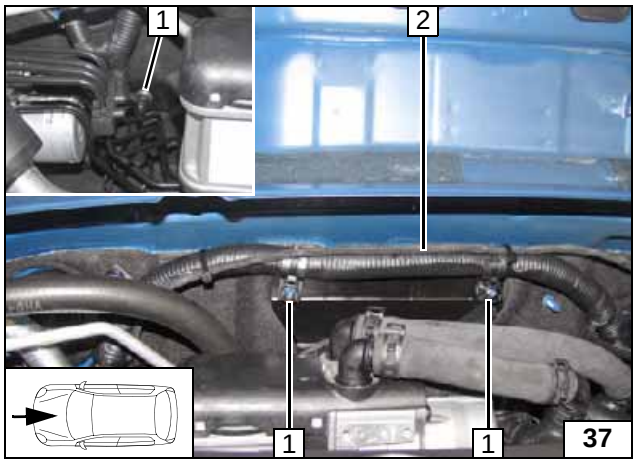
1 Large diameter washer, flanged nut [4x each]

Mounting heater



Mount wiring harness of heater **1** [2x].

Routing wiring harness



Refasten original vehicle wiring harness on stud bolt **1** [3x].

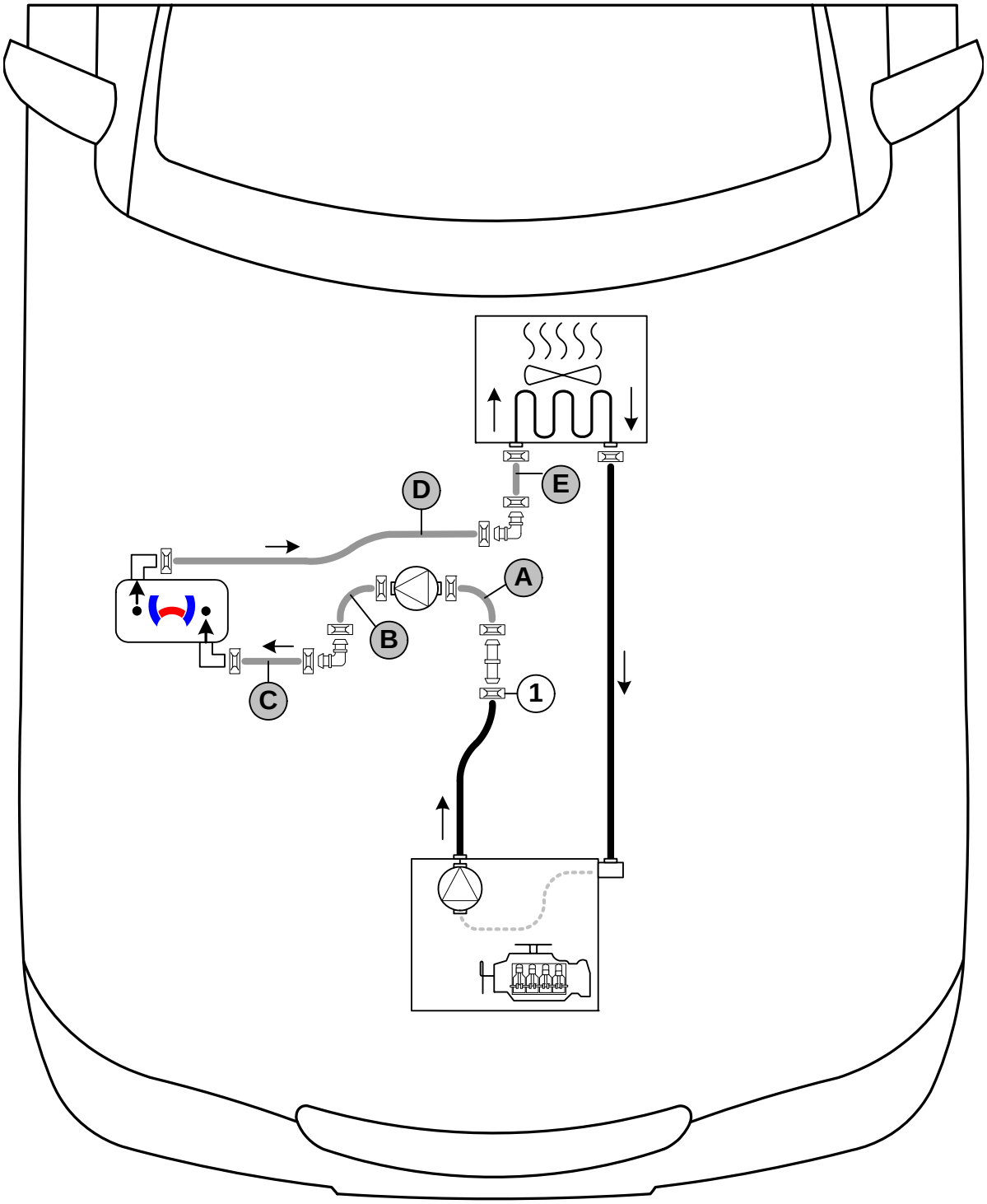
2 Fasten wiring harnesses of inner fuse holder, heater control and heater

Fastening wiring harness

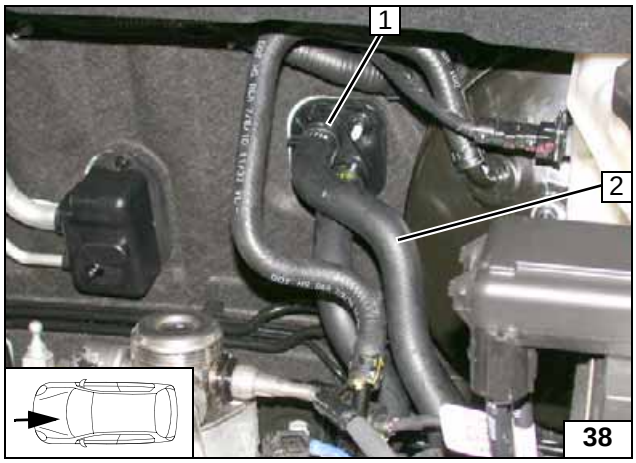
Coolant Circuit

WARNING!
Any coolant running off should be collected in a suitable container. Install hoses so that they are kink-free. Unless specified otherwise, always fasten using cable ties. Position clamps so that other hoses cannot be damaged. The heater must be filled with coolant when installing the hoses.
The connection should be based on the following diagram:

Hose installation diagram



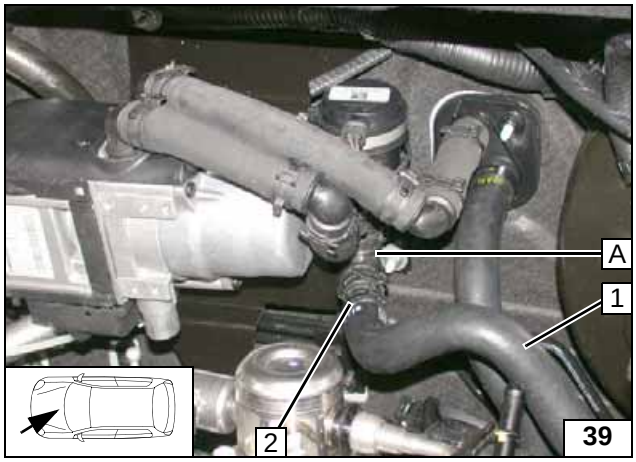
All spring clips without a specific designation = 25 mm dia. **1**= Original vehicle spring clip .
All connecting pipes and = 18x18 mm dia.



1.6 B

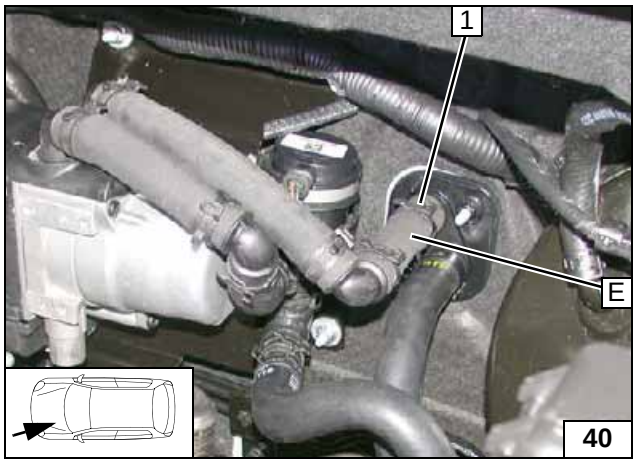
The heater was dismantled for better display. Remove engine outlet hose **2** on heat exchanger inlet connection piece. Spring clip **1** will be reused.

Cutting point



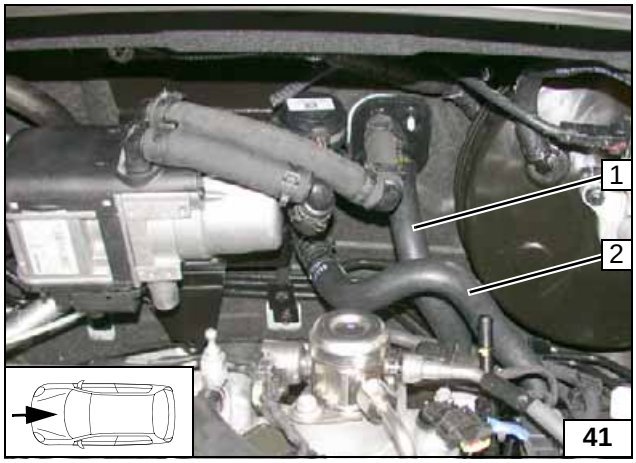
1 Hose of engine outlet
2 Original vehicle spring clip

Connecting engine outlet



1 Original vehicle spring clip

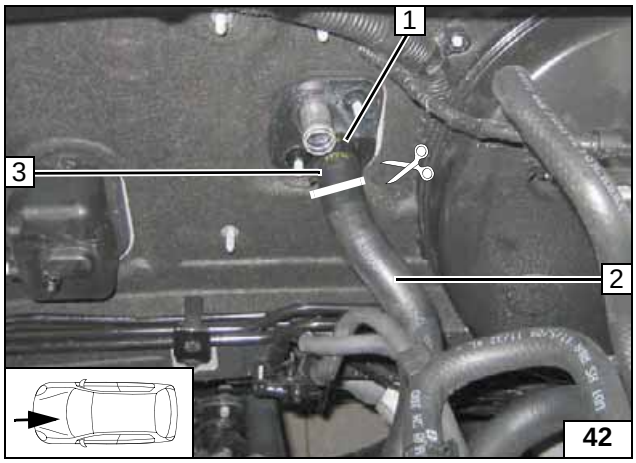
Connection of heat exchanger inlet



Align hoses. Ensure sufficient distance from neighbouring components.

1 Hose on heat exchanger outlet
2 Hose of engine outlet

Routing

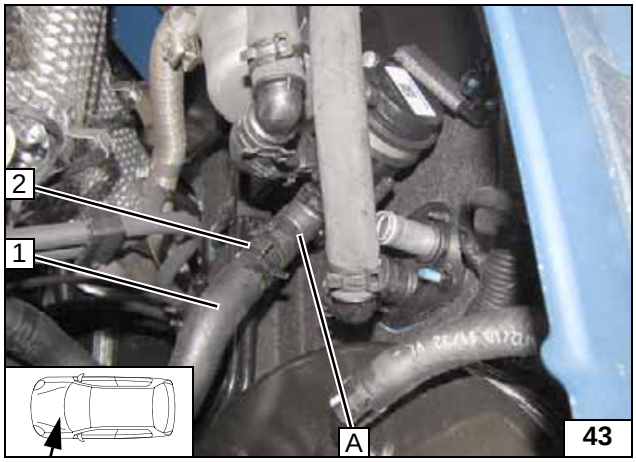


2.0 B

The heater and heat exchanger outlet hose were dismantled for better display.
Remove hose section **3** from connection piece of heat exchanger inlet and discard. Spring clip **1** will be reused.

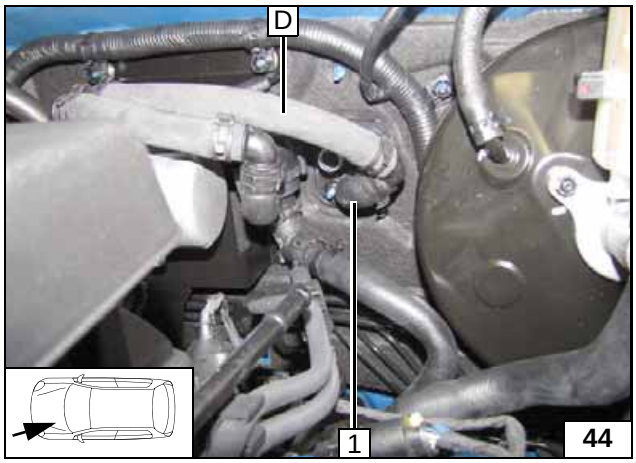
2 Hose of engine outlet

Cutting point



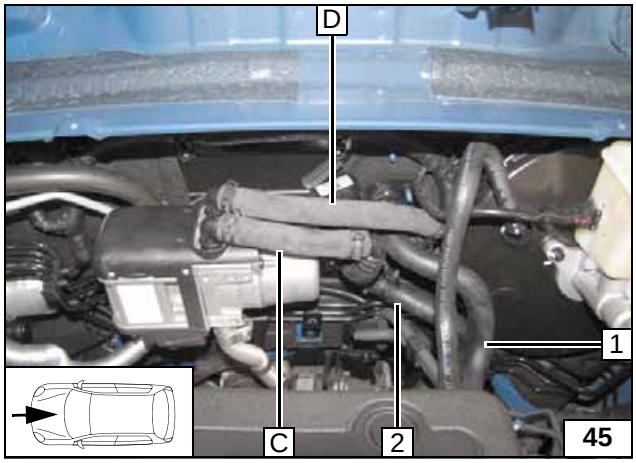
1 Hose of engine outlet
2 Original vehicle spring clip

Connecting engine outlet



1 Hose **E** on heat exchanger inlet

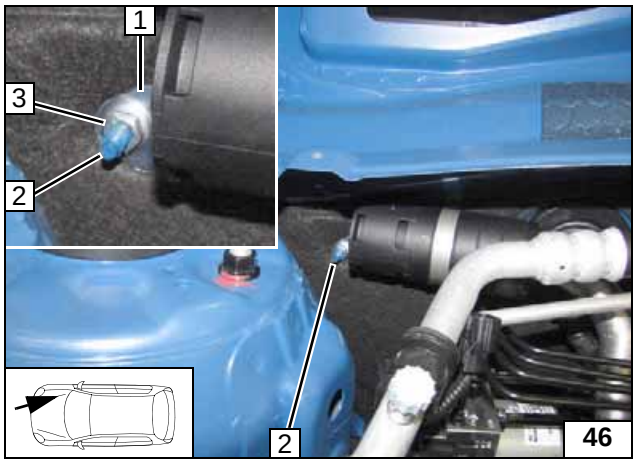
Connection of heat exchanger inlet



Align hoses. Ensure sufficient distance from neighbouring components.

1 Hose on heat exchanger outlet
2 Hose of engine outlet

Routing



Remove original vehicle plastic nut at position **3** and discard.

1 Perforated bracket
2 Original vehicle stud bolt
3 M6 flanged nut

Mounting silencer

Fuel

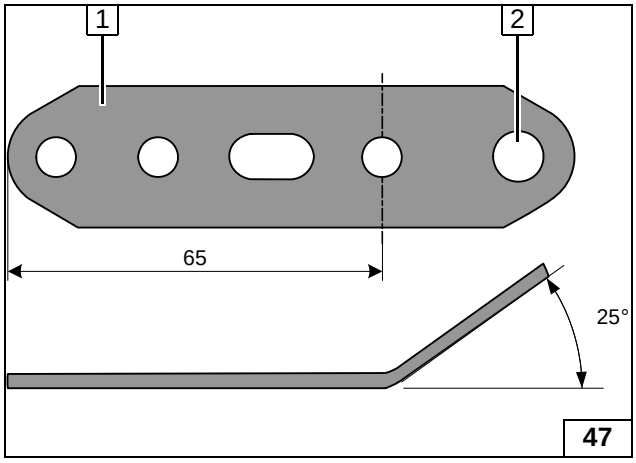
CAUTION!
Open the vehicle's fuel tank cap, ventilate the tank and then re-close the tank lock.

Catch any fuel running off in a suitable 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.

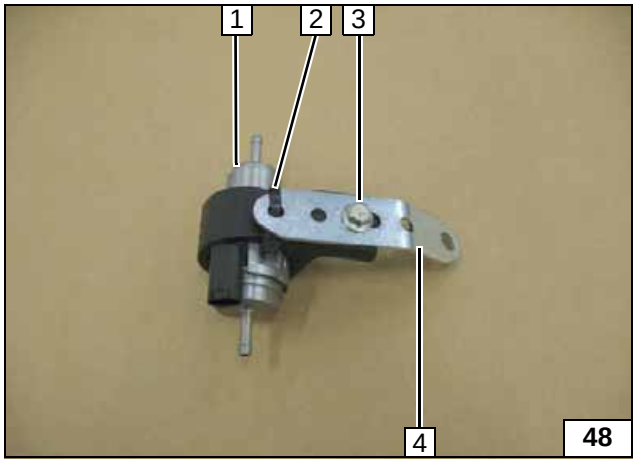
WARNING!
The fuel line and wiring harness are routed to the metering pump as shown in the wiring harness routing diagram.

Preparing perforated bracket



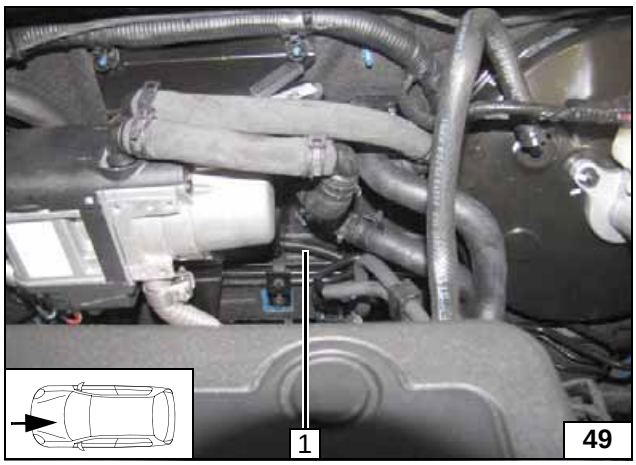
1 Perforated bracket
2 Drill hole up to 8.5 mm dia.

Premounting metering pump

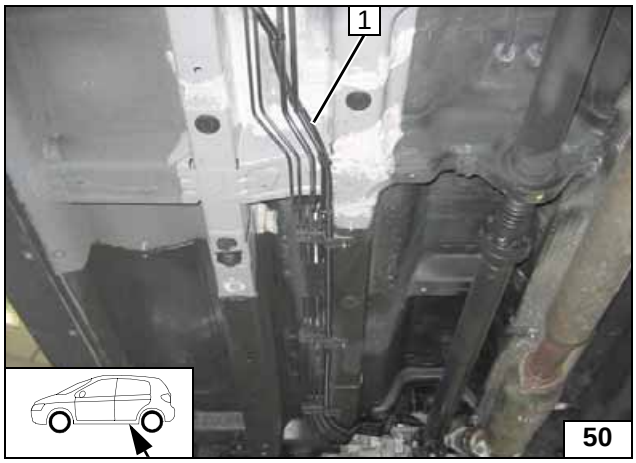


1 Metering pump
2 Cable tie
3 M6x25 bolt, support angle, flanged nut
4 Perforated bracket

Routing lines

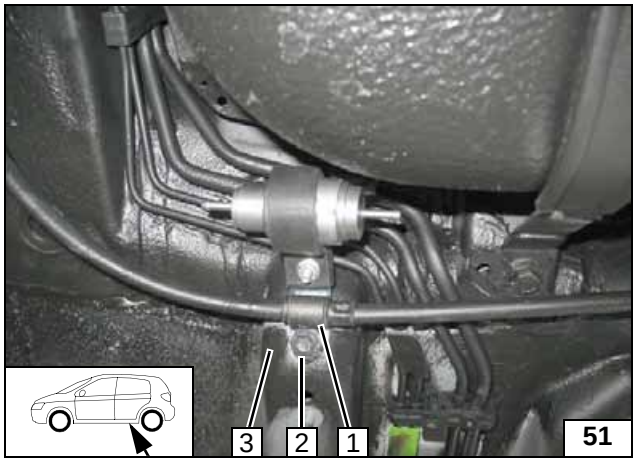


Draw fuel line and wiring harness of metering pump into 2100 mm corrugated tube **1** and route along original vehicle fuel lines to the underbody.



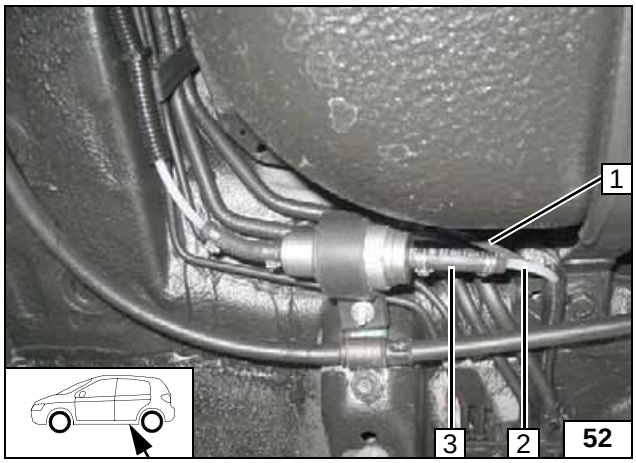
Route fuel line and wiring harness of metering pump into corrugated tube **1** on the underbody to the installation location of the metering pump.

Routing lines



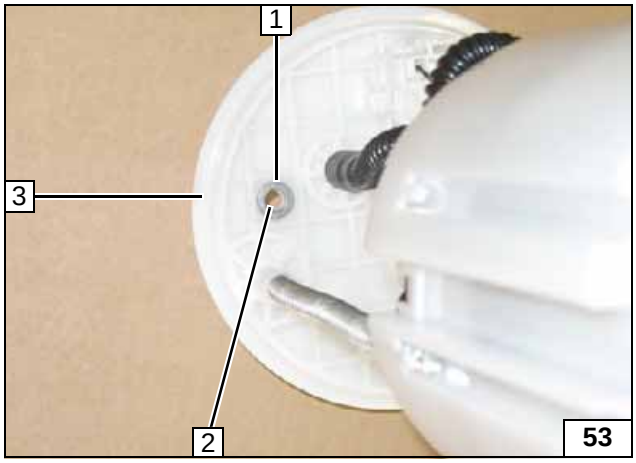
Fasten premounted metering pump between handbrake cable clamp **1** and body **3** with original vehicle bolt **2**.

Mounting metering pump



1 Wiring harness of metering pump, connector mounted
2 Fuel line of heater
3 Hose section, 10 mm dia. clamp [2x]

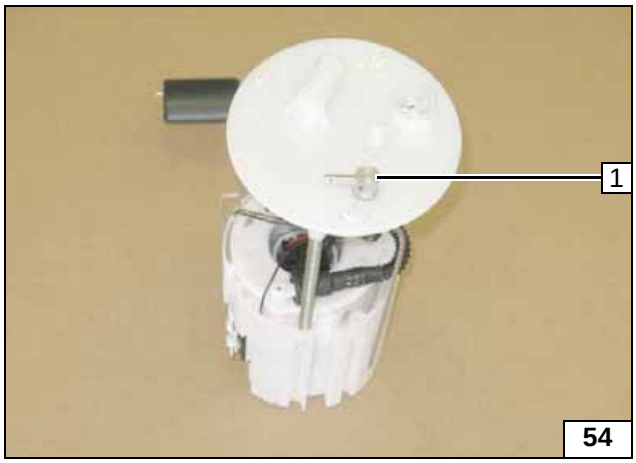
Connecting metering pump



Remove and detach fuel-tank sending unit **3** according to manufacturer's instructions. Position washer (outer dia. d_a = 12mm) **1** centrally between the bars.

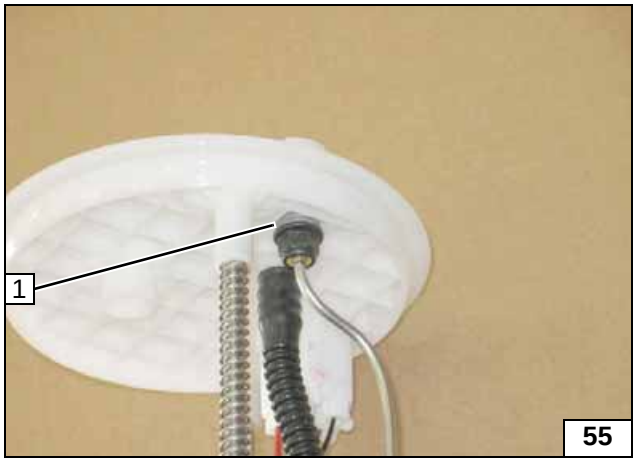
2 Copy hole pattern, 6 mm dia. hole

Fuel extraction



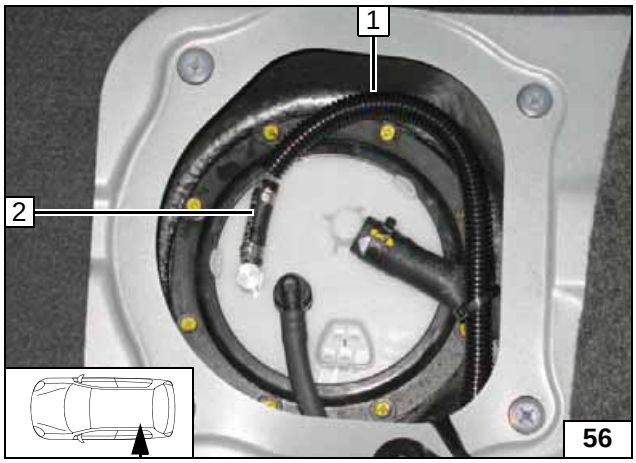
Shape fuel standpipe **1** according to template and cut to length.

Installing fuel standpipe



Insert five plain washers at position **1** of outer dia. d_a = 12mm as height compensation.

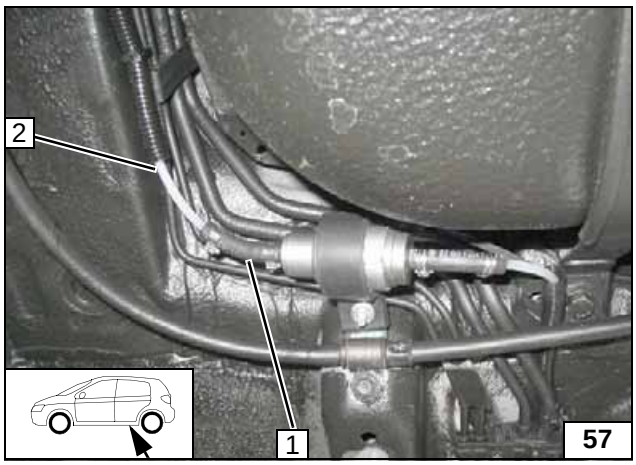
Installing fuel standpipe



Install fuel-tank sending unit in accordance with manufacturer's instructions. Route fuel line in 1130 mm corrugated tube**1** to the metering pump.

2 Fuel line, hose section, 10 mm dia. clamp [2x]

Connecting fuel line

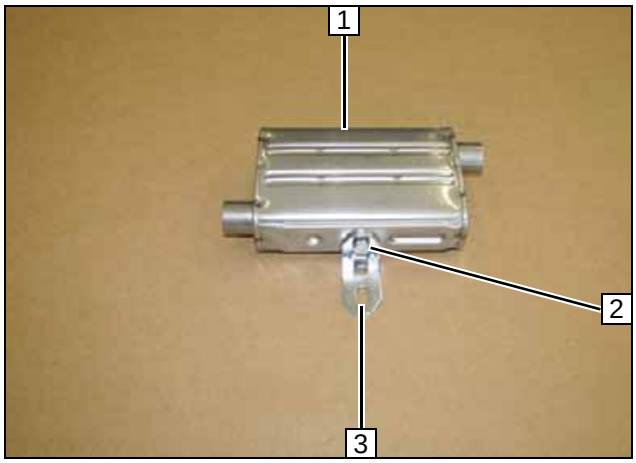


Check the position of the components; adjust if necessary. Check that they have freedom of movement.

1 Hose section, 10 mm dia. clamp [2x]
2 Fuel line of fuel standpipe

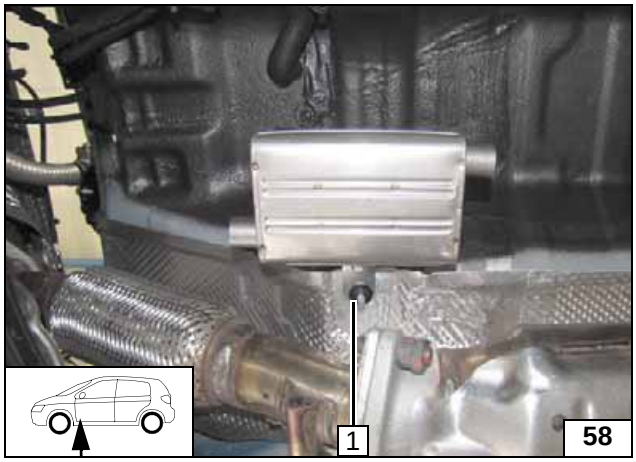
Connecting metering pump

Exhaust Gas



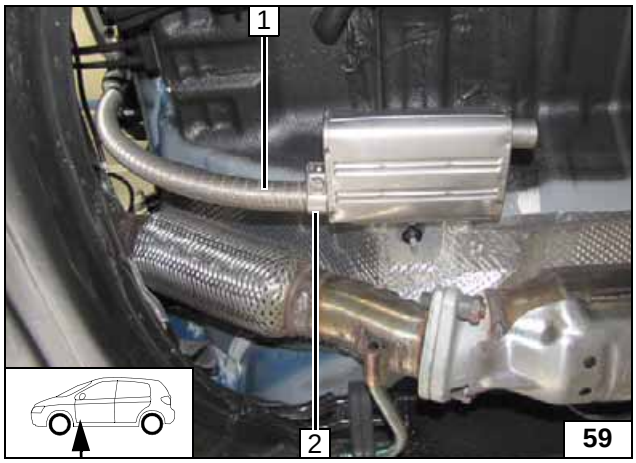
1 Silencer
2 M6x16 bolt, spring lockwasher
3 Angle bracket

Premounting silencer



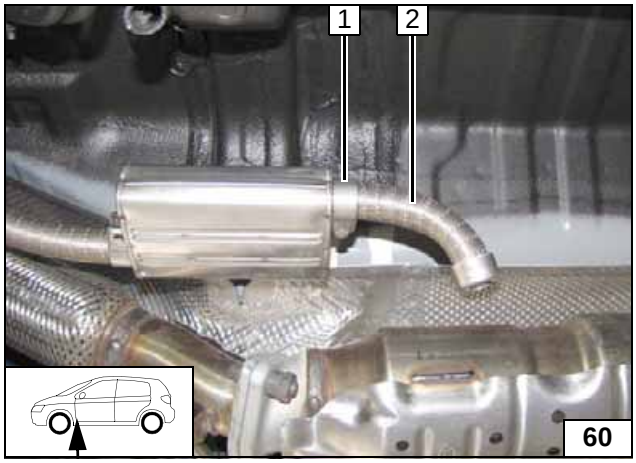
1 Original vehicle stud bolt, angle bracket, original vehicle flanged nut

Mounting silencer



1 Exhaust pipe
2 Hose clamp

Fastening exhaust pipe



Align exhaust end section **2**.

1 Hose clamp

Aligning end section

Final Work

WARNING!
Reassemble the components in reverse order. Check all hoses, clamps and all electrical connections for firm seating. Insulate all loose lines and tie back.
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.**
- **Set the digital timer, teach telestart transmitter**
- **Make settings on A/C control panel according to the "Operating Instructions for End Customer".**
- **Place signboard "Switch off parking heater before refuelling" in the area of the filler neck**
- **See installation instructions for initial start-up and function test**

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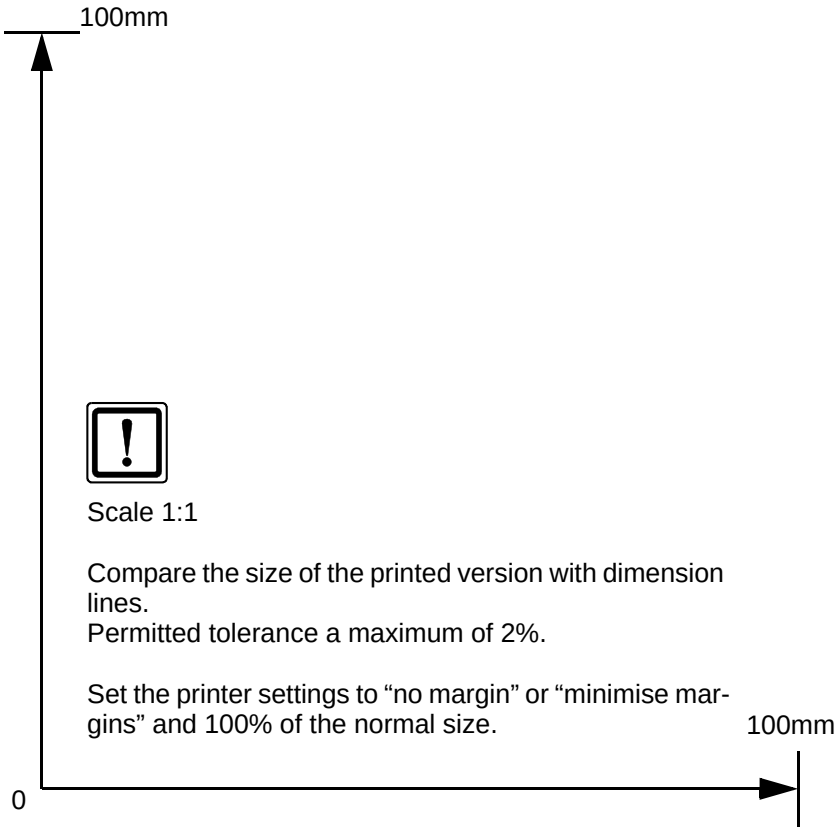
82199 Gilching
Germany
Internet: www.webasto.com
Technical Extranet:
http://dealers.webasto.com

Template for Fuel Standpipe



Scale 1:1

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

Set the printer settings to “no margin” or “minimise margins” and 100% of the normal size.

Operating Instructions for Manual Air-Conditioning

Please remove this page in case of manual air-conditioning and add it 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.

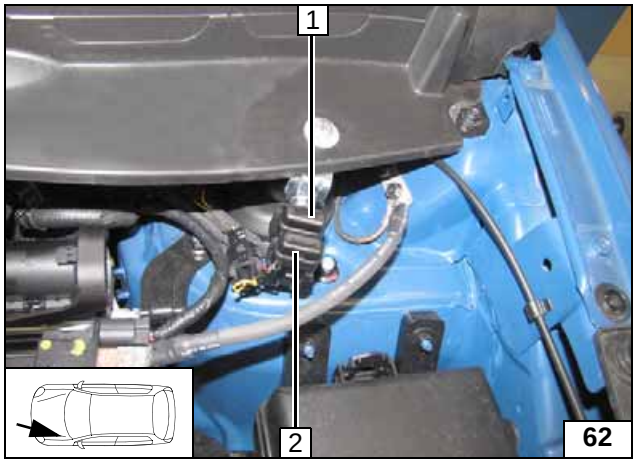
Passenger compartment monitoring , if installed, must be deactivated in addition to the vehicle settings for the heating operation.
Instructions for de-activation may be obtained from the operating instructions of the vehicle.

Before parking the vehicle, make the following settings:

A/C control panel

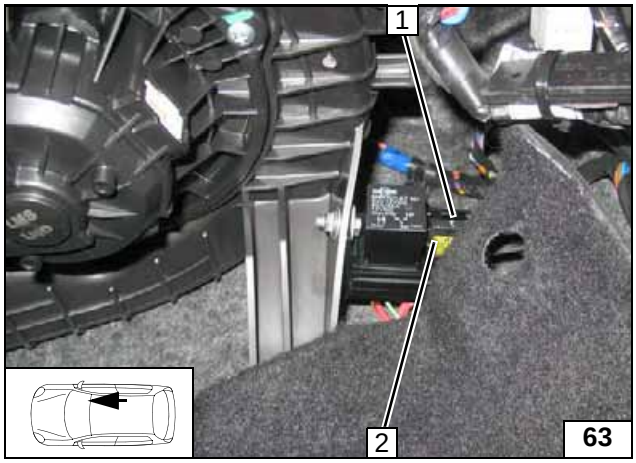
1 Set fan to level "1", or max. "2"
2 Air outlet to windscreen
3 Set temperature to "max."

Fuses of engine compartment



1 30A main fuse F2 of passenger compartment
2 20A heater fuse F1

Fuses of passenger compartment



1 1A fuse F3 of heater control
2 25A fan fuse F4

Webasto
Feel the Drive

Operating Instructions for Automatic Air-Conditioning

Please remove this page in case of automatic air-conditioning and add it to the vehicle operating instructions.

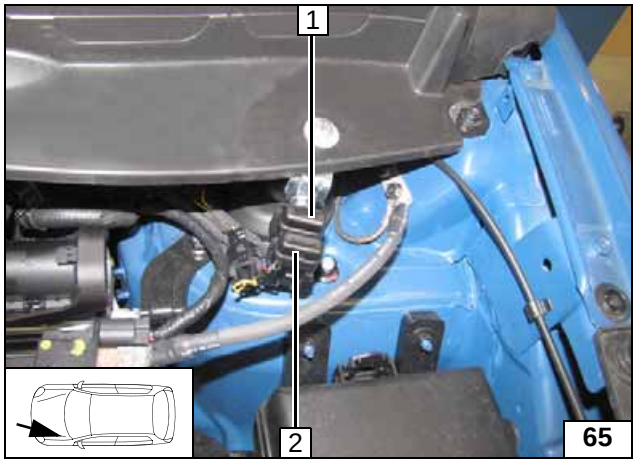
Note:
We recommend matching the heating time to the driving time.
Heating time = driving time
Example:
For a driving time of approx. 20 min. (in one direction), we recommend not exceeding a switch-on time of 20 min.

Passenger compartment monitoring , if installed, must be deactivated in addition to the vehicle settings for the heating operation.
Instructions for de-activation may be obtained from the operating instructions of the vehicle.

Before parking the vehicle, make the following settings:

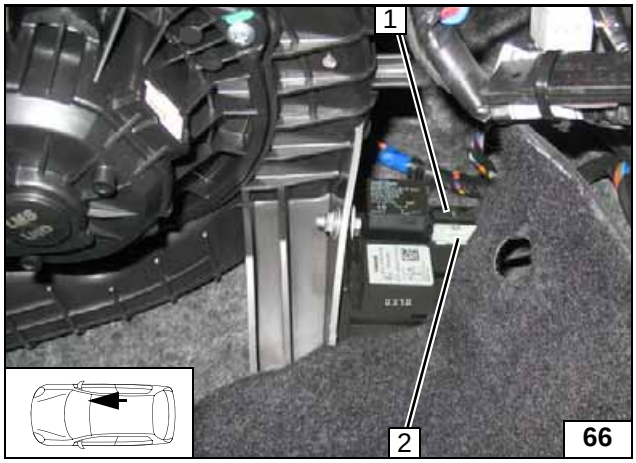
1 Air outlet faces "upward"
2 Set temperature on both sides to "HI“

A/C control panel



1 30A main fuse F2 of passenger compartment
2 20A heater fuse F1

Fuses of engine compartment



1 1A fuse F3 of heater control
2 25A fan fuse F4

Fuses of passenger compartment