Water Heater

Webasto
Feel the Drive

***Thermo Top Evo* Parking Heater**

E1
00 0258

Installation Documentation
Hyundai ix35

Validity

Manufacturer	Model	Type	EG-BE No. / ABE
Hyundai	ix35	ELH	e11 * 2007 / 46 * 0192 * ...

Motorisation	Fuel	Transmission type	Output in kW	Displacement in cm³	Engine code
1.6	Petrol	SG	99	1591	G4FD
2.0 GDI	Petrol	SG	122	1999	G4KD
2.0 GDI	Petrol	AG	122	1999	G4KD

SG = manual transmission
AG = automatic transmission

From Model Year 2014
Left-hand drive vehicle

Verified equipment variants: Manual / automatic air-conditioning system
Front fog light
2 WD / 4 WD
Headlight washer system
BI Xenon

Total installation time: approx. 8 hours

Hyundai ix35

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Necessary Components

- Basic delivery scope *Thermo Top Evo* in accordance with price list
- Installation kit for Hyundai ix35 2014 Petrol **1321641A**
- To be ordered additionally for vehicles with automatic air-conditioning: automatic air-conditioning kit: **1321645A**
- 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

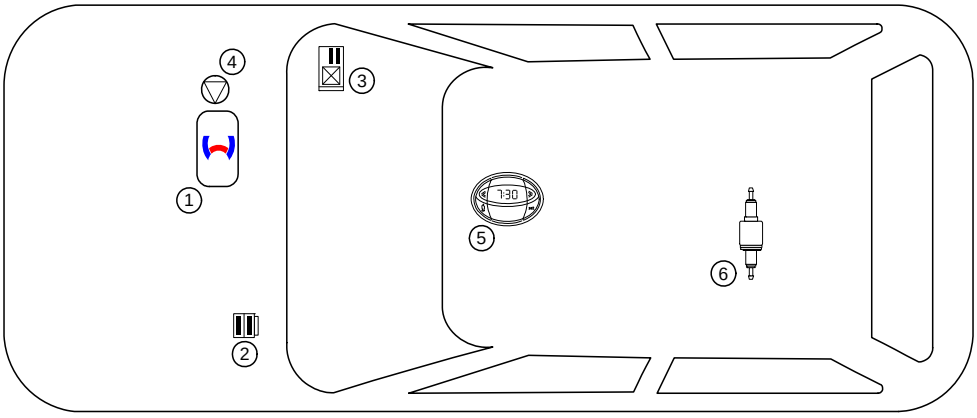
Installation instructions:

- Arrange for the vehicle to be delivered with the tank only about ¼ full.
- The installation location of the push button for Telestart or Thermo Call must be agreed with the end customer.
- Depending on the space requirement and the manufacturer's instructions for the vehicle, we recommend the use of a vehicle battery with a higher electrical capacity.

Installation Overview

Legend:

1. Heater
2. Engine compartment fuse holder
3. Passenger compartment relay and 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 PWM-Gateway, 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 04 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.

Hyundai ix35

Information on Validity

This installation documentation applies to Hyundai ix35 Petrol vehicles - for validity, see page 1 - from model year 2014 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

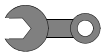
Dimensions
- All dimensions are in mm.

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.

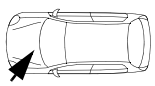
Specific risk of damage to components.

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.



Tightening torque according to the manufacturer's vehicle-specific documents

Hyundai ix35

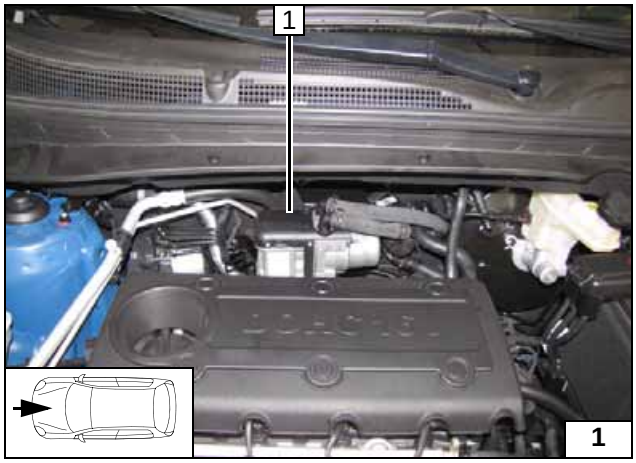
Preliminary Work

Vehicle

- Open the fuel tank cap.
- Ventilate the fuel tank.
- Close the fuel tank cap again.
- Depressurise the cooling system.
- Disconnect the battery "earth" connection.
- Remove the windscreen wiper.
- 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 in front of the tank.
- Remove the seat 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.
- Removing the glove compartment.
- Remove the entrance strip on the front passenger's side.
- Remove the A-pillar trim in the front passenger's side footwell.
- Remove the shift lever trim (only in case of digital timer).

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

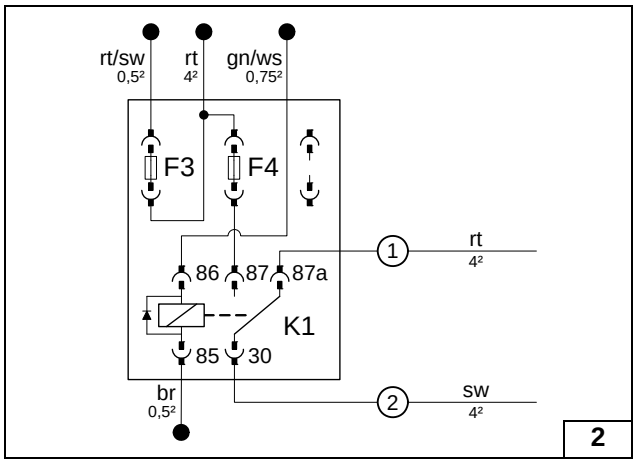
All vehicles

Wire sections retain their numbering in the entire document.

Preparing F4 and K1 relay

Produce connections as shown in wiring diagram. Insert 25 A fuse F4; K1 relay is not installed until assembly is complete.

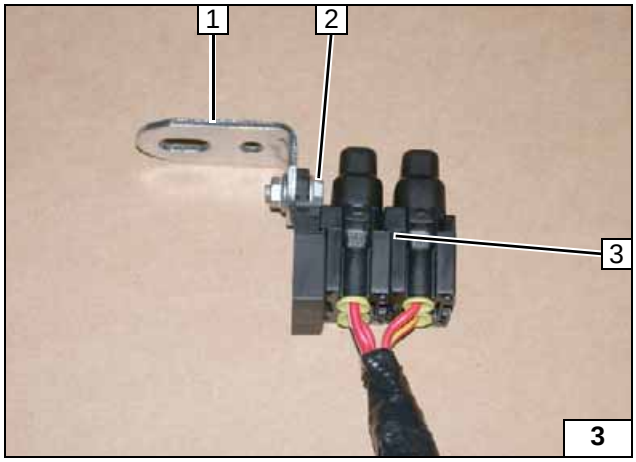
① Red (rt) wire of K1/87a, fan wiring harness
② Black (sw) wire of K1/30, fan wiring harness



2

Preparing engine compartment fuse holder

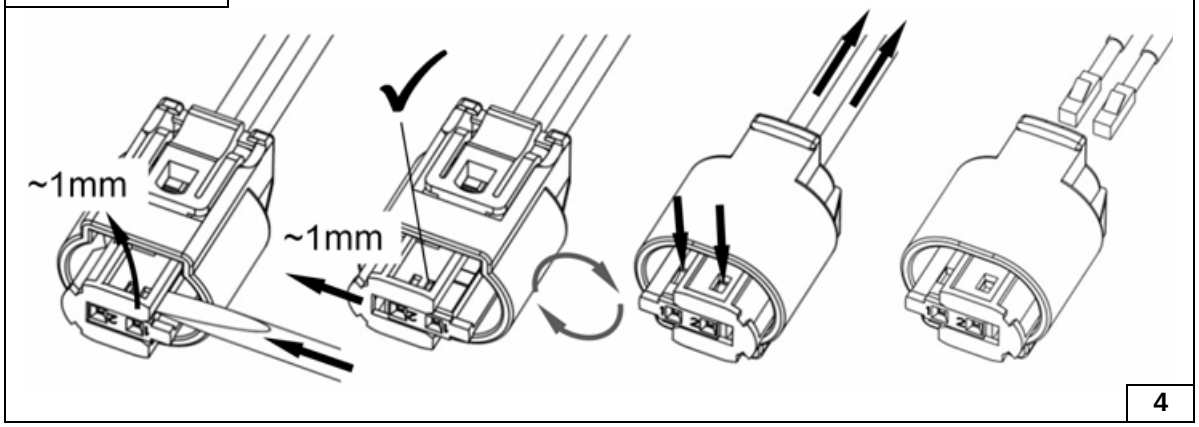
1 Angle bracket
2 M5x16 bolt, washer, retaining plate of fuse holder, washer, nut
3 Fuses F1-2 connected



3

Removing metering pump connector

Connector X7

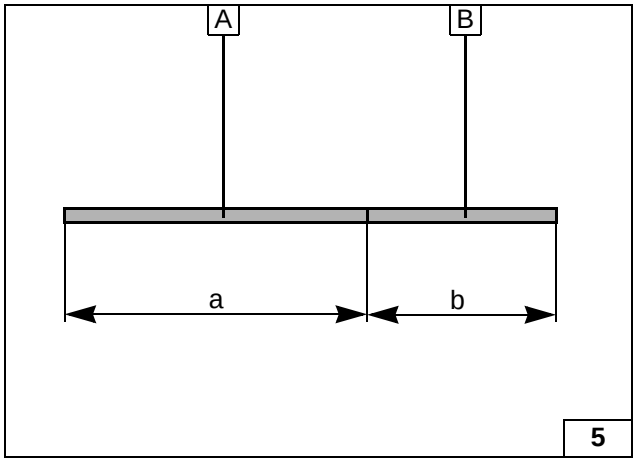


4

Cutting protective sleeving to length

Automatic air-conditioning!

a = 600
b = 400



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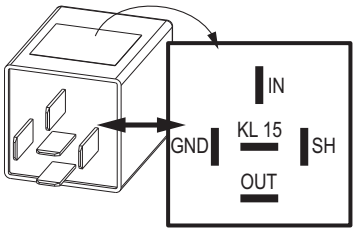


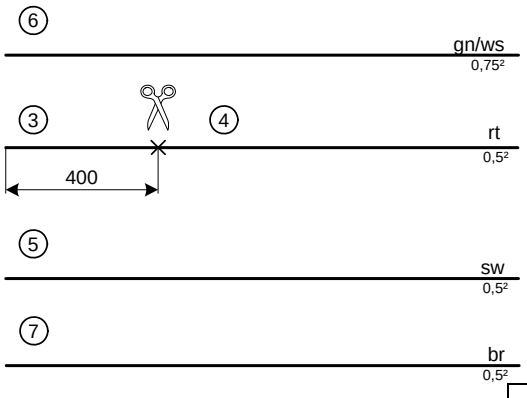
6

Check the settings for the PWM gateway during commissioning of the heater and adjust if necessary.

Settings:

Duty-Cycle: 100% (DC)
Frequency: not relevant
Voltage: 2.7V
Function: High side

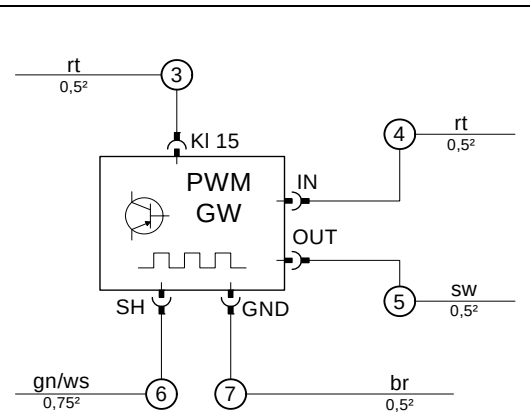
Preparing PWM GW



7

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

Preparing wires

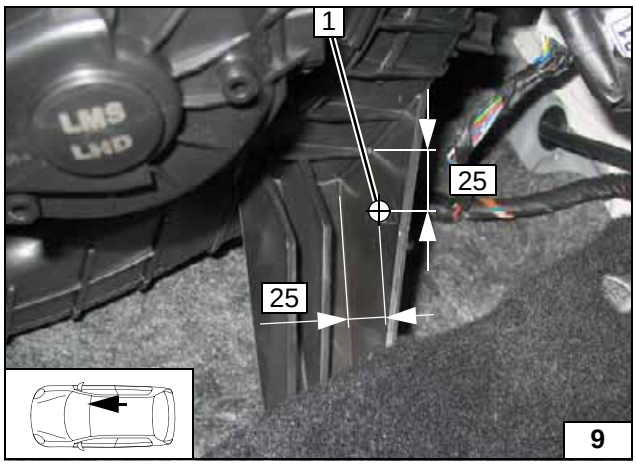


8

Connect wires to PWM-GW socket.

③ Red (rt) wire of socket for PWM-GW/KL 15
④ Red (rt) wire of socket for PWM-GW/IN
⑤ Black (sw) wire of socket for PWM-GW/OUT
⑥ Green/white (gn/ws) wire of socket for PWM-GW/SH
⑦ Brown (br) wire of socket for PWM-GW/GND

Preparing PWM GW



9

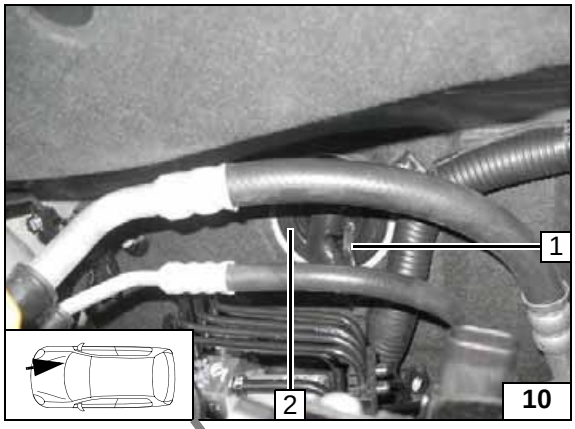
1 5.5 mm dia. hole (short drill)

Hole for passenger compartment relay and fuse holder

Electrical System

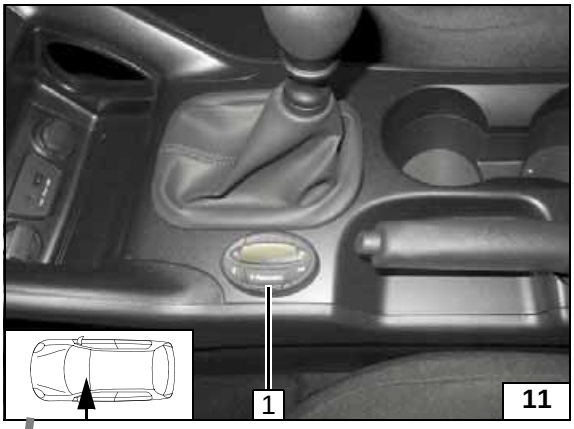
Wiring harness pass through

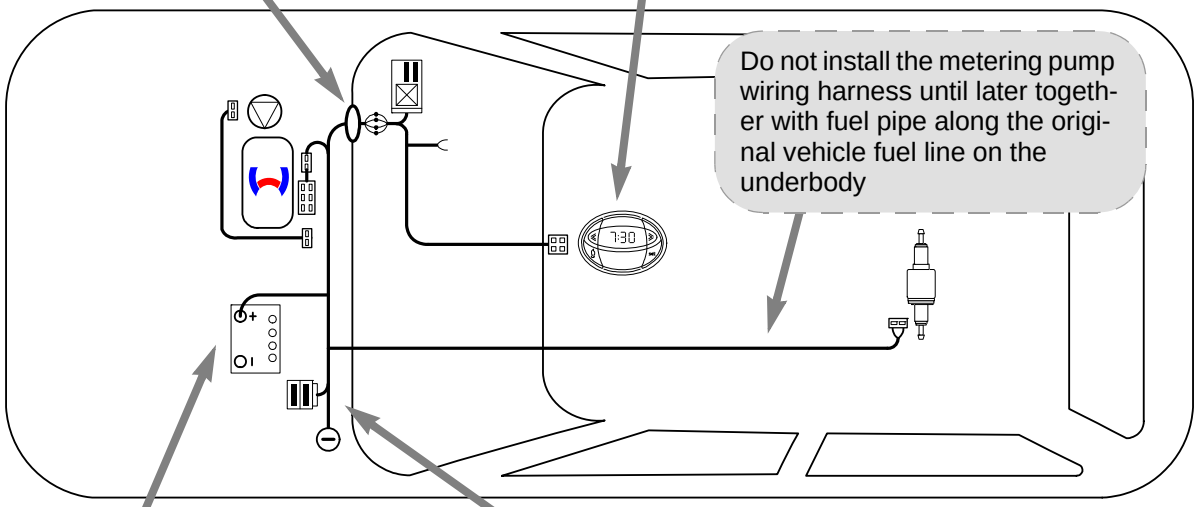
1 Wiring harnesses of heater, heater control
2 Protective rubber plug



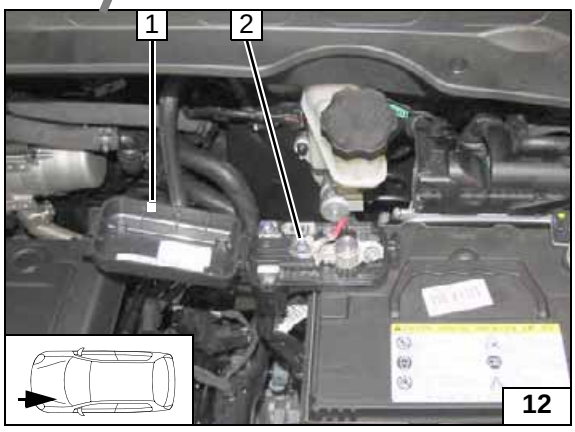
Digital timer

1 Digital timer



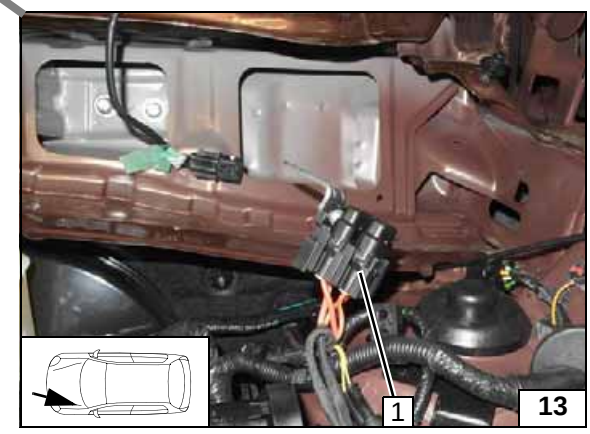


Wiring harness routing diagram



Positive wire

1 Make groove in positive terminal cover
2 Positive wire, original vehicle bolt

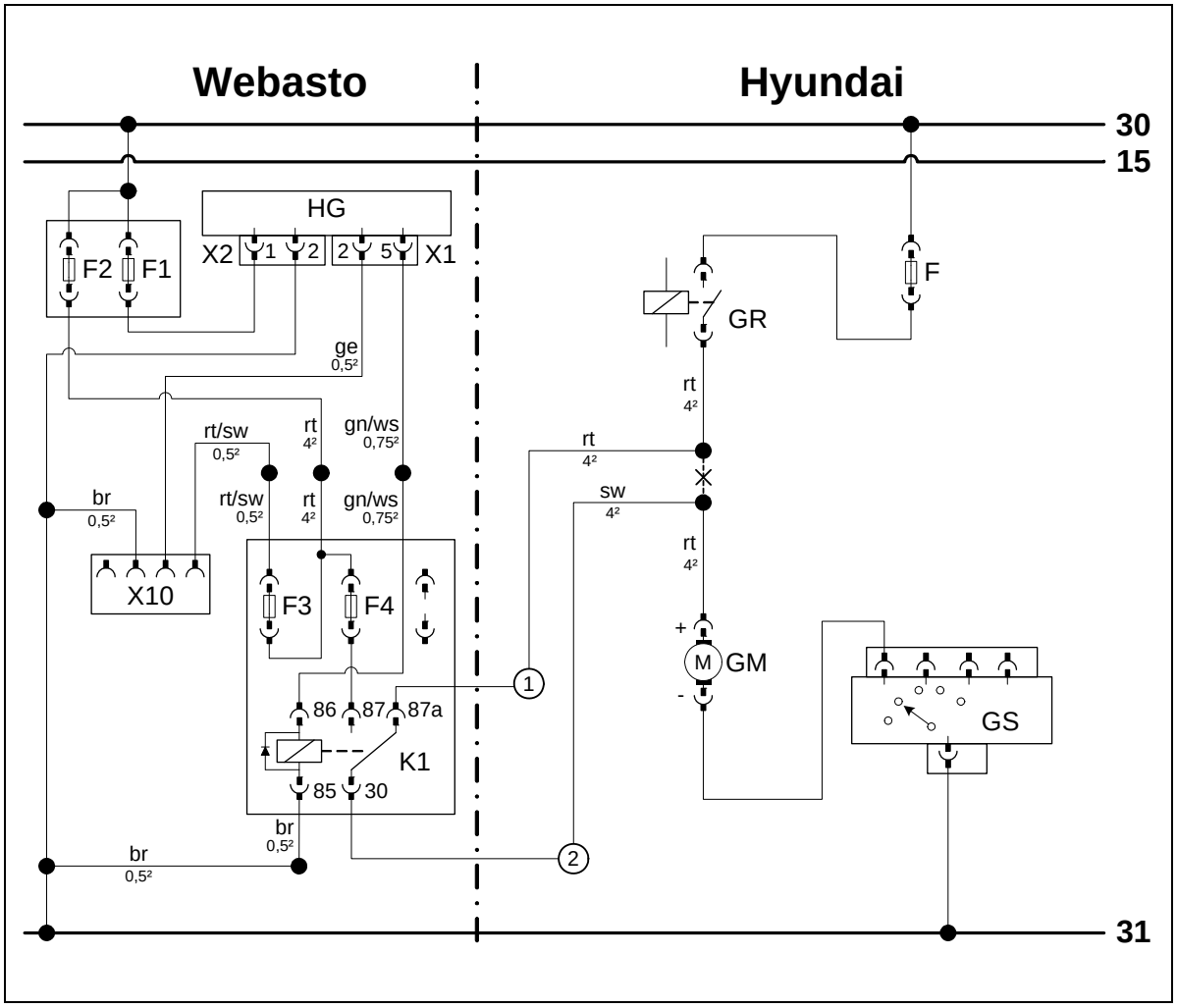


Fuse holder for engine compartment

Position engine compartment fuse holder **1** at the installation location. The assembly is only carried out after the installation of the cover during the "Final Work" stage.

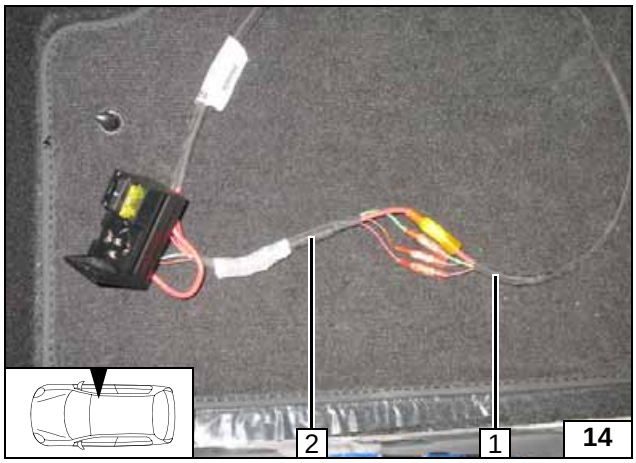
Fan Controller for Manual Air-Conditioning

Wiring diagram



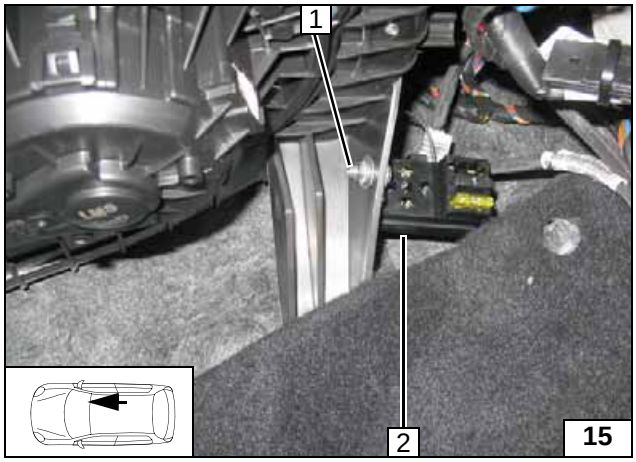
Legend

Webasto components		Vehicle components		Colours and symbols	
HG	TT-Evo heater	F	40A 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.	



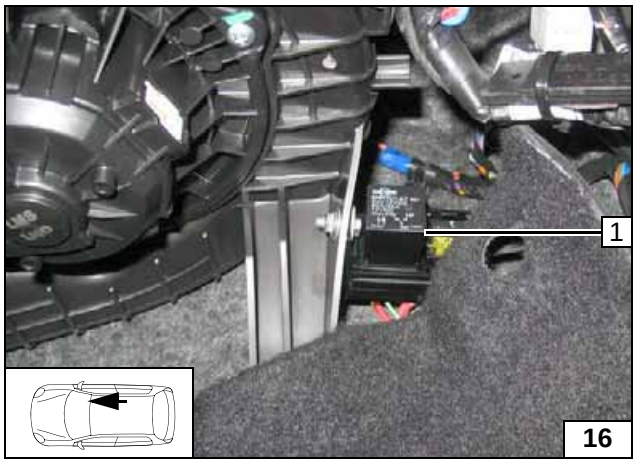
Connect wiring harness of passenger compartment relay and fuse holder **2** to wiring harness of engine compartment fuse holder **1** according to wiring diagram, in such a way that wires of the same colour are connected to each other.

Connecting wiring harnesses



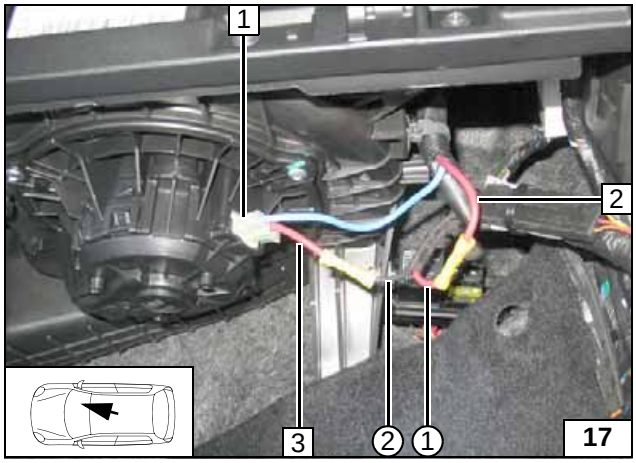
1 M5x16 bolt, large diameter washer [2x], nut
2 Passenger compartment relay and fuse holder

Installing passenger compartment relay and fuse holder



1 K1 relay

Installing K1 relay



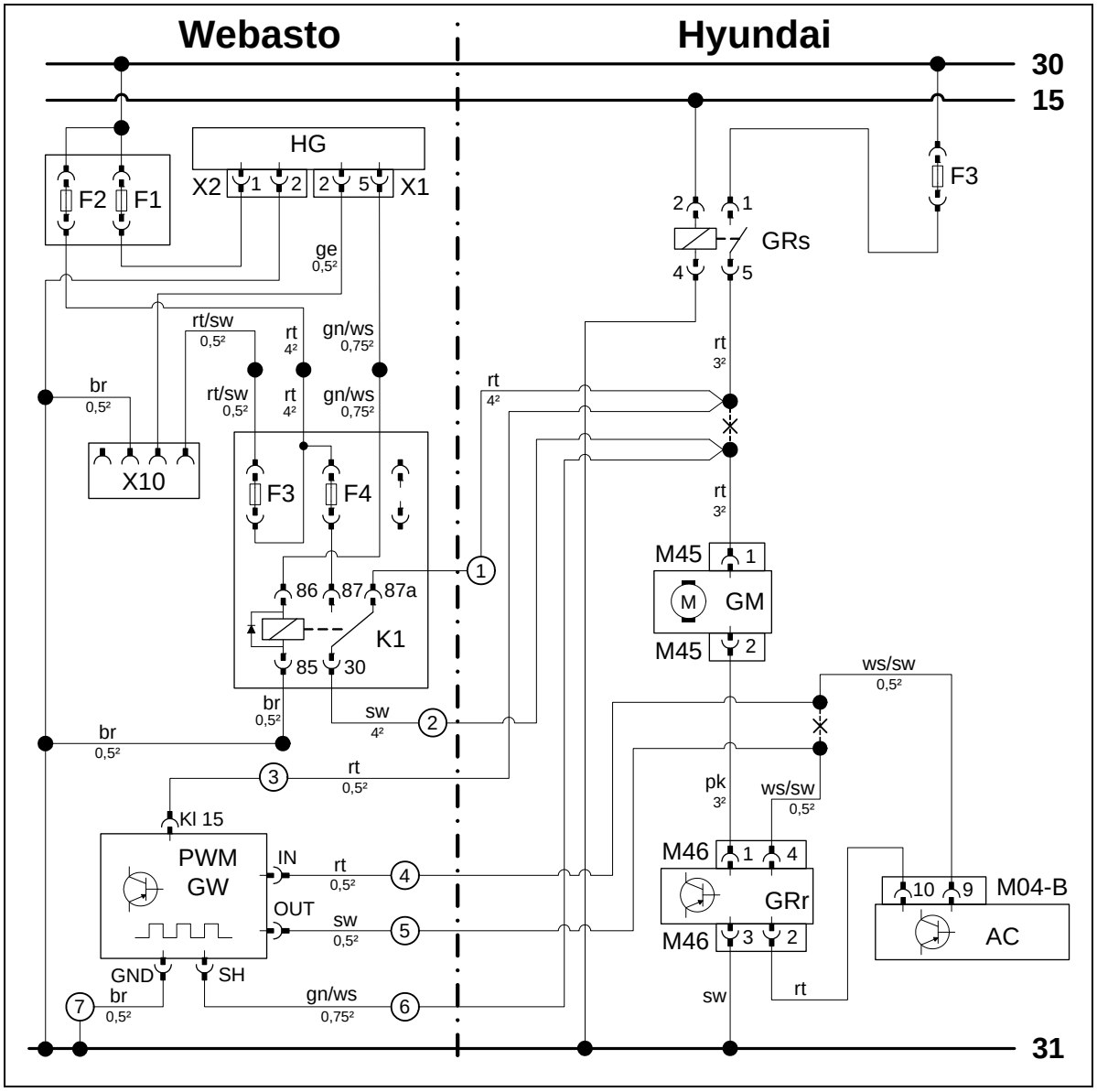
Connection to 2-pin connector **1** from the fan motor.
Produce connections as shown in wiring diagram.

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

Connection of fan motor

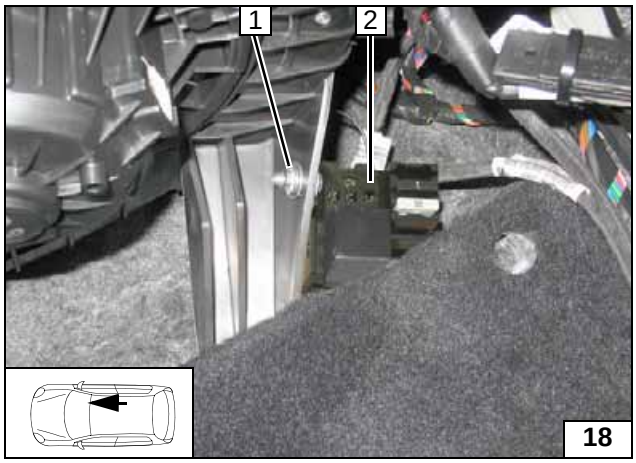
Fan Controller for Automatic Air-Conditioning

Wiring diagram



Webasto components		Vehicle components		Colours and symbols	
HG	TT-Evo heater	F3	40A fuse	rt	red
X1	6-pin heater connector	GRs	Fan relay	sw	black
X2	2-pin heater connector	M45	2-pin GM connector	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	pk	pink
F2	30A fuse	AC	A/C control unit		
F3	1A fuse				
F4	25A fuse				
PWM-GW	Pulse width modulator gateway				
PWM-GW settings					
Duty-Cycle:	100% (DC)				
Frequency:	not relevant				
Voltage:	2.7V			**X**	Cutting point
Function:	High side			Wiring colours may vary.	

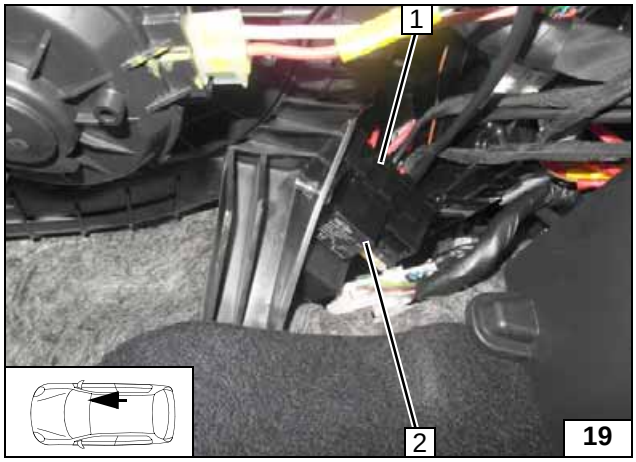
Legend



Latch the passenger compartment relay and fuse holder onto the PWM-GW socket.

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

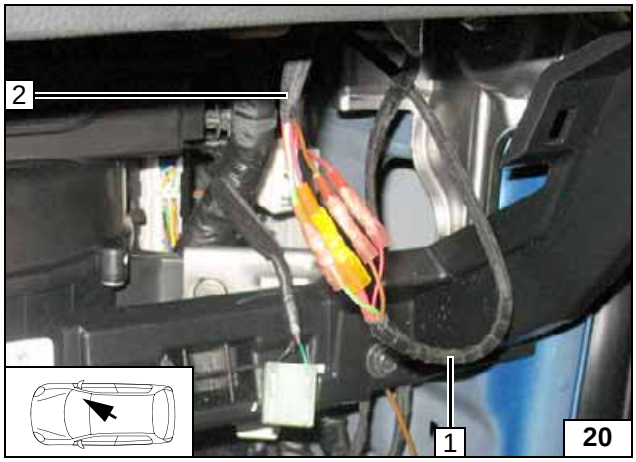
Installing passenger compartment relay and fuse holder



Align the passenger compartment relay and fuse holder **1** as shown in the diagram.

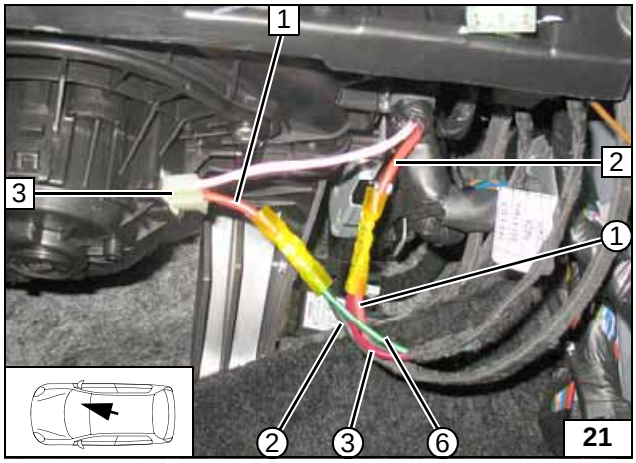
2 K1 relay

Installing K1 relay



1 Wiring harness of heater
2 Passenger compartment relay and fuse holder wiring harness

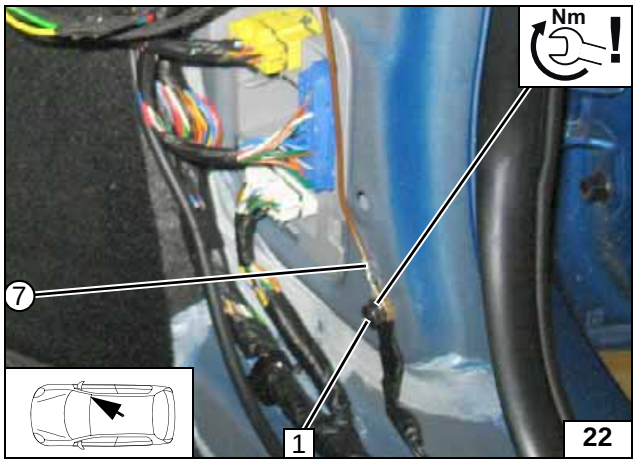
Connecting same colour wires of wiring harnesses



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

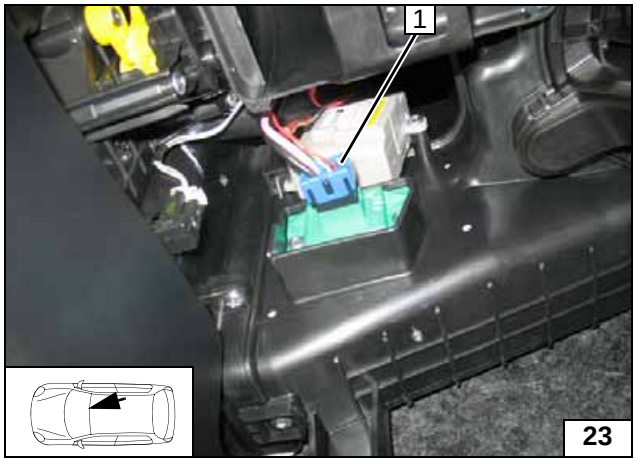
1 Red (rt) wire of M45 connector
2 Red (rt) wire of fan relay
① Red (rt) wire of K1/87a
② Black (sw) wire of K1/30
③ Red (rt) wire for PWM-GW/KL 15
⑥ Green/white (gn/ws) wire for PWM-GW/SH

Connection of fan motor



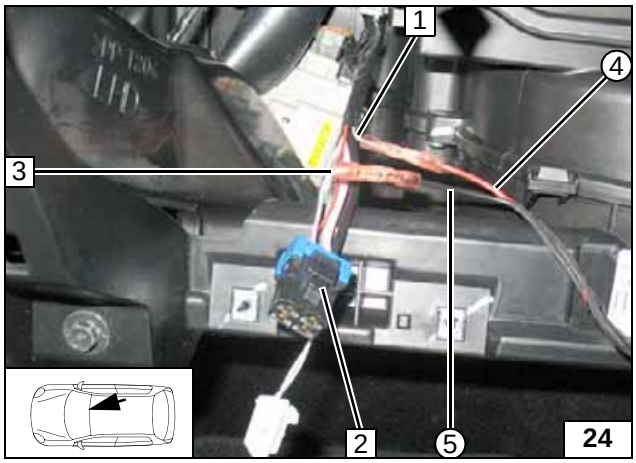
1 Original vehicle bolt
⑦ Brown (br) wire of PWM-GW/GND

Earth connection for PWM-GW



1 Socket for connector M46

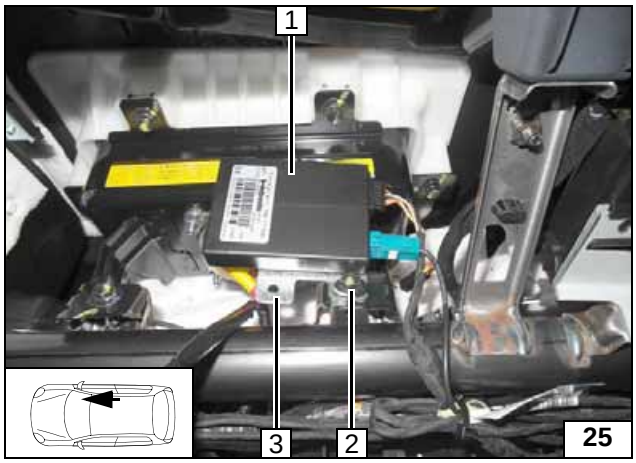
Connector M46



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

1 White/black (ws/sw) wire of A/C control unit pin 9
2 Red (rt) wire of K1/87a
3 White/black (ws/sw) wire of connector M46 pin 4
④ Red (rt) wire of PWM-GW/IN
⑤ Black (sw) wire of PWM-GW/OUT

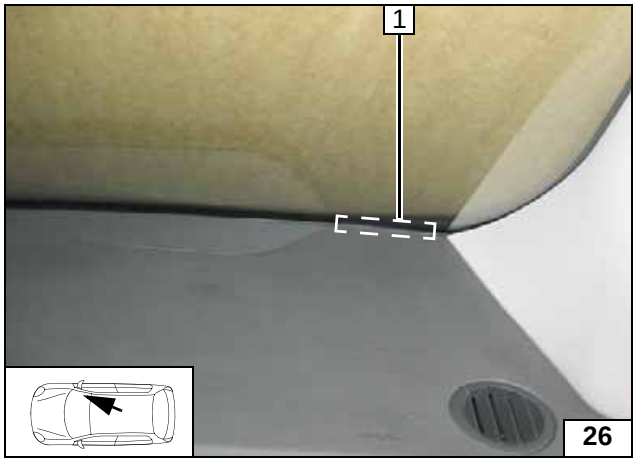
Connecting fan controller



Remote Option (Telestart)

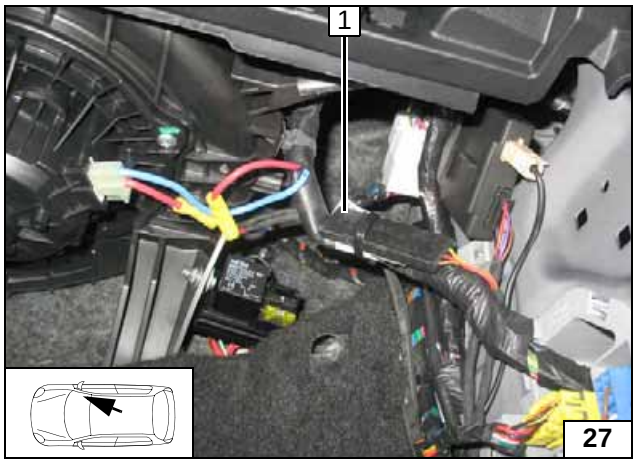
1 Receiver
2 Original vehicle bolt
3 Bracket

Installing receiver



Stick antenna **1** above the wiper heating element.

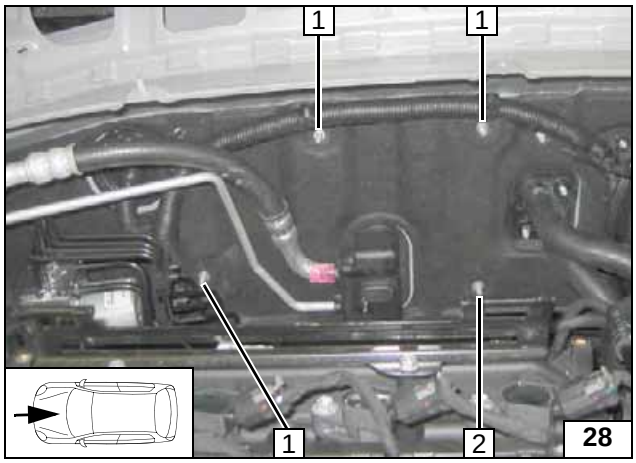
Installing antenna



Only for Telestart T100 HTM

1 Temperature sensor

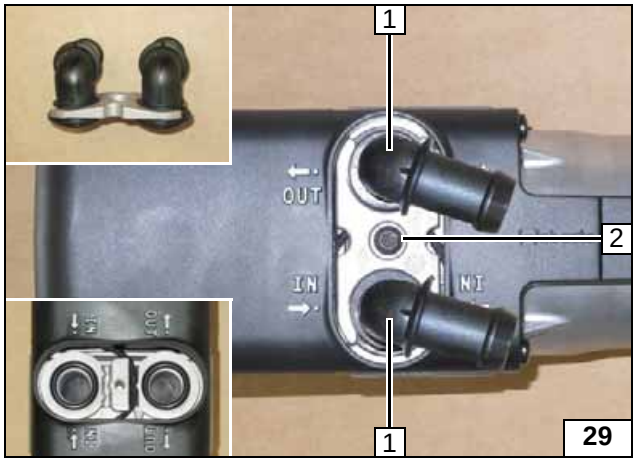
Installing temperature sensor



Preparing Installation Location

Unclip the original vehicle wiring harness at position **1**. Attach one washer each on stud bolt **1** [3x] and **2** (washers for compensation of insulation mat and bracket). If necessary, cut insulation mat to size.

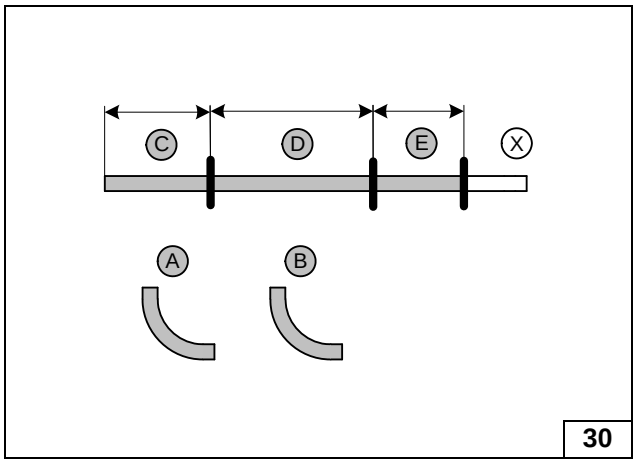
Disconnecting wiring harness



Preparing Heater

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

Mounting water connection piece

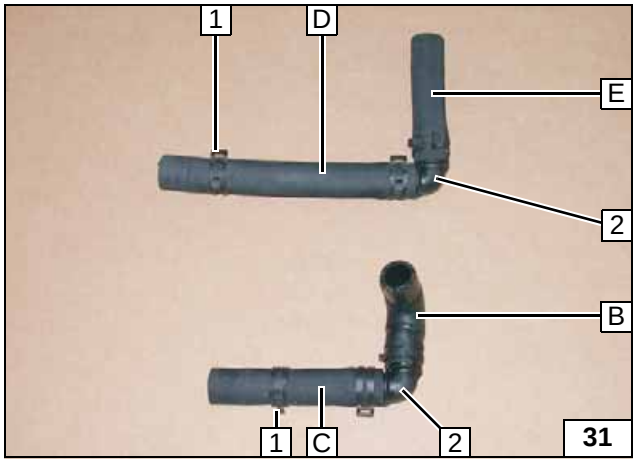


1.6 P

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

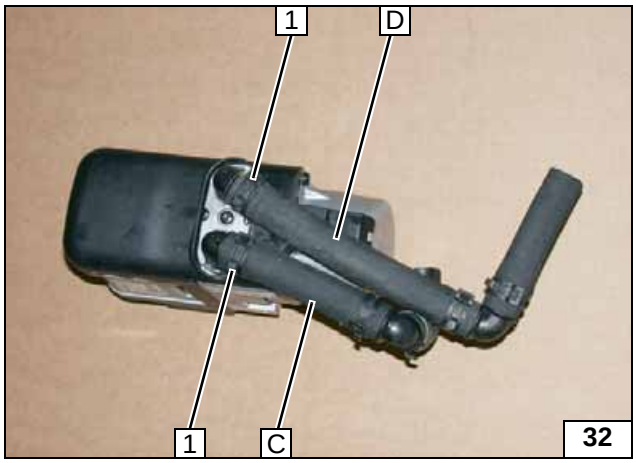
C = 130
D = 190
E = 100

Cutting hoses to length



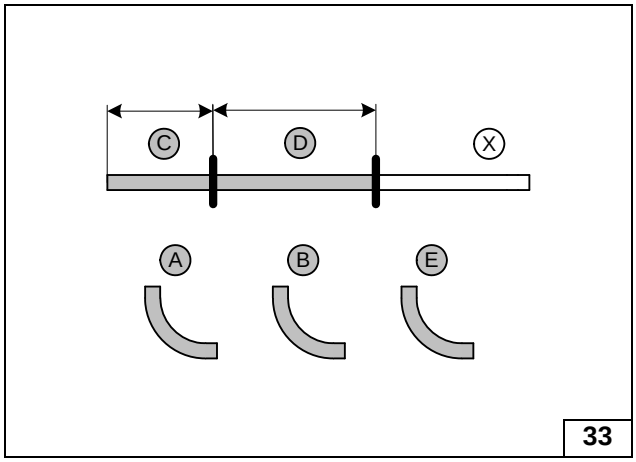
1 Slide on 25mm dia. spring clip [2x]
2 90°, 18x18 connecting pipe [2x], 25mm dia. spring clip [4x]

Premounting water hoses



1 Spring clip 25 mm dia. [2x]

Assembling water hoses

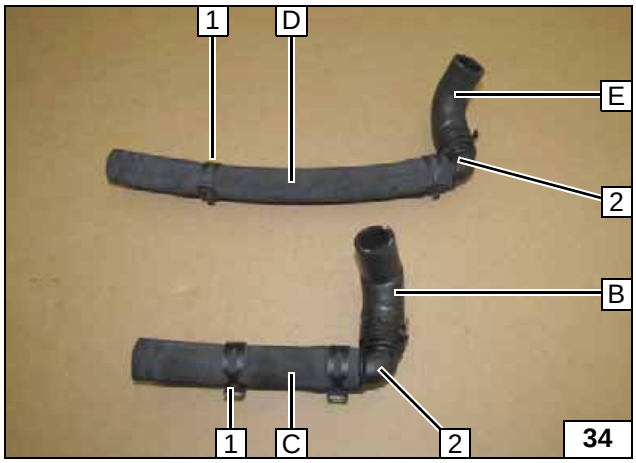


2.0 P

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

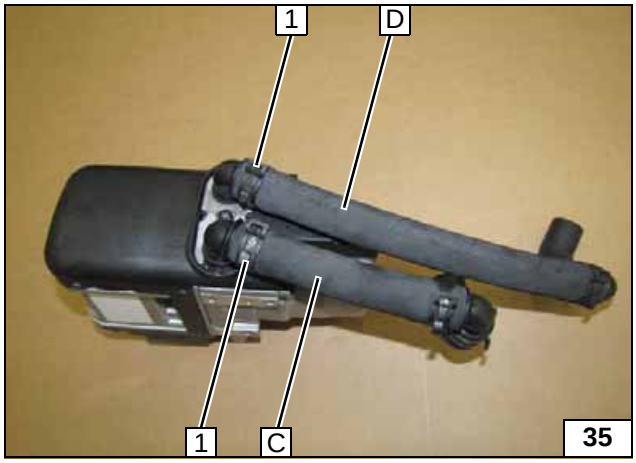
C = 130
D = 240

Cutting water hoses to length



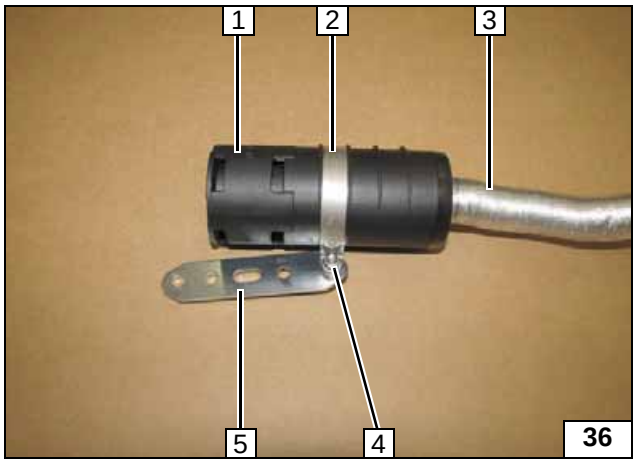
1 Slide on 25mm dia. spring clip [2x]
2 90°, 18x18 connecting pipe [2x], 25mm dia. spring clip [4x]

Premounting water hoses



1 Spring clip 25 mm dia. [2x]

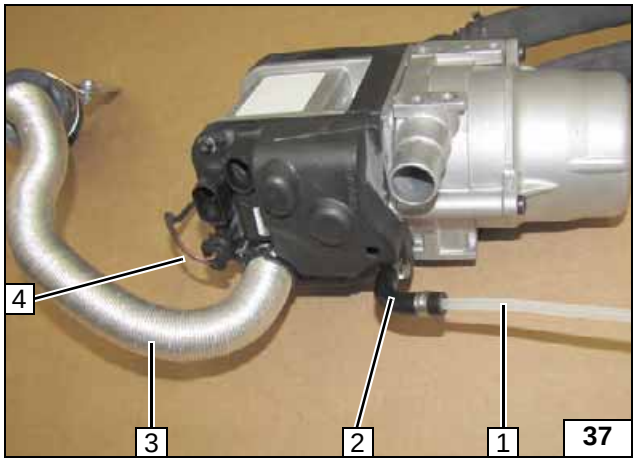
Assembling water hoses



All vehicles

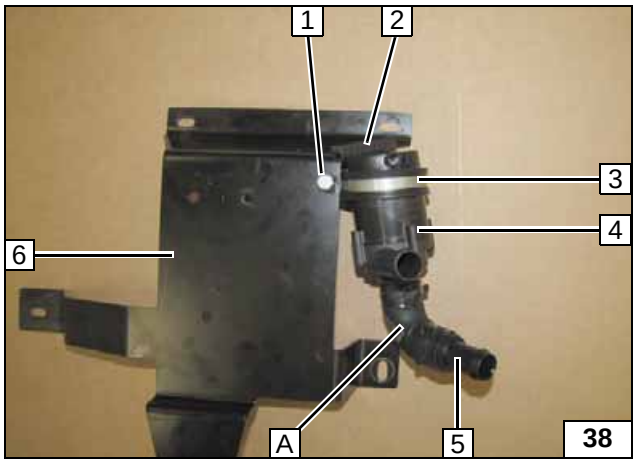
1 Combustion air silencer
2 51 mm dia. clamp
3 Combustion air pipe
4 M5x13 Torx bolt, M5 flanged nut
5 Perforated bracket

Premounting combustion air silencer



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

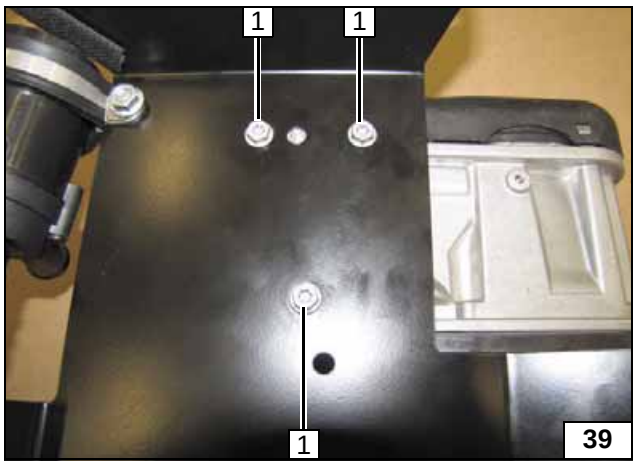
Premounting heater



All spring clips = 25 mm dia.

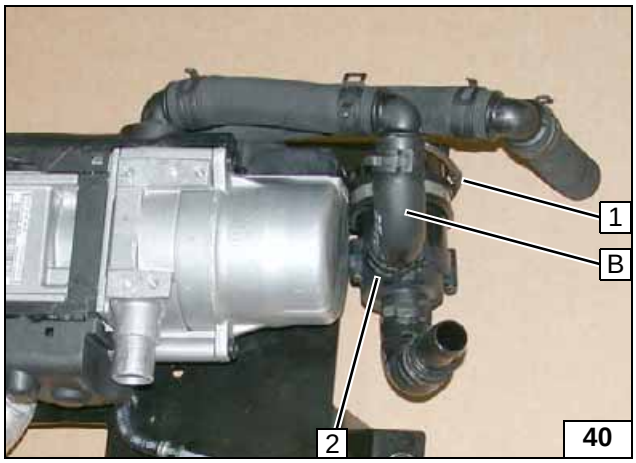
1 M6x20 bolt, flanged nut
2 50 mm edge protection
3 48 mm dia. rubber-coated p-clamp
4 Circulating pump
5 18x18 connecting pipe
6 Bracket

Premounting bracket



1 Self-tapping bolt 5x13 [3x]

Mounting Bracket

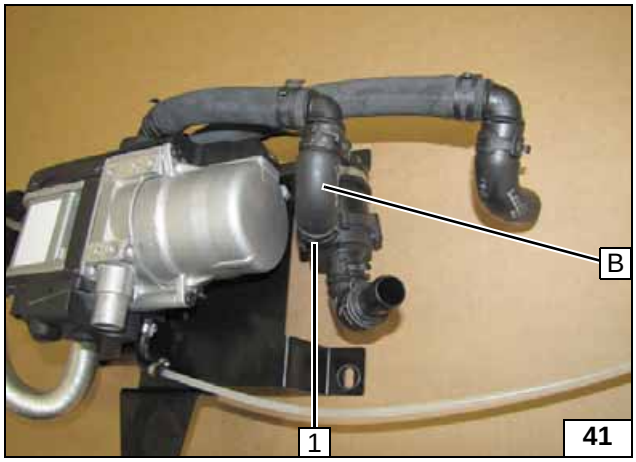


1.6 P

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

2 25 mm dia. spring clip

Installing hose B

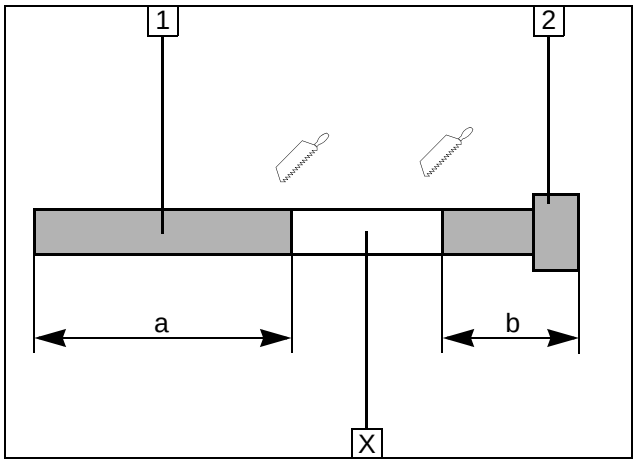


2.0 P

Install wiring harness of circulating pump on heater.

1 25 mm dia. spring clip

Installing hose B

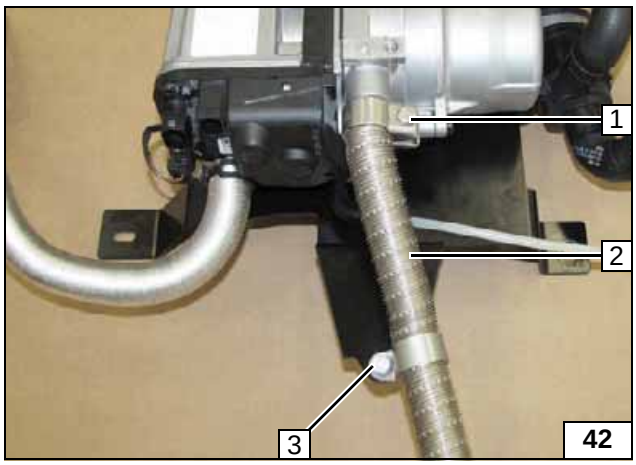


All vehicles

Discard section X.

1 Exhaust pipe
a =660
2 Exhaust end section
b =120

Preparing exhaust pipe



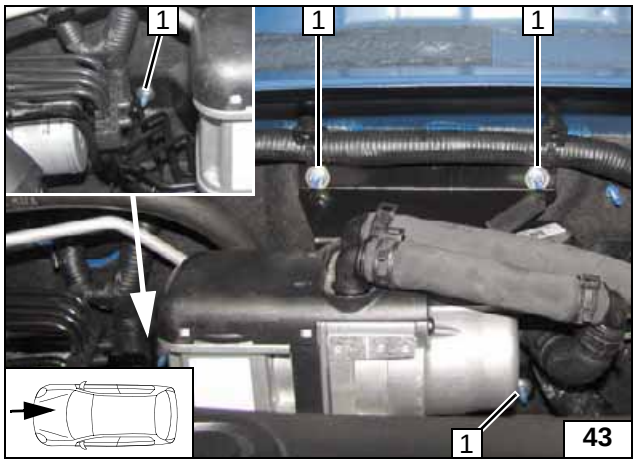
1 Hose clamp
2 Exhaust pipe
3 M6x20 bolt, p-clamp, flanged nut

Mounting exhaust pipe

Installing Heater

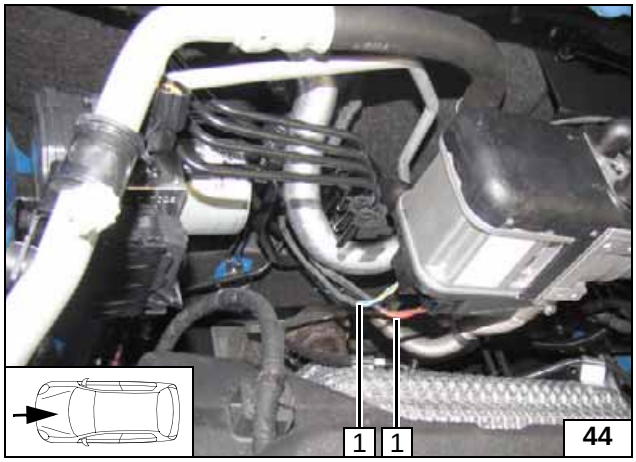
1 Large diameter washer, flanged nut [4x each]

Mounting heater



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

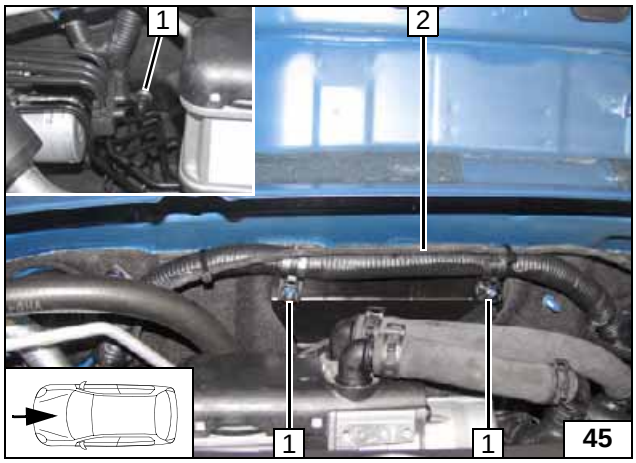
Routing wiring harness



Re-attach original vehicle wiring harness on stud bolt **1** [3x].

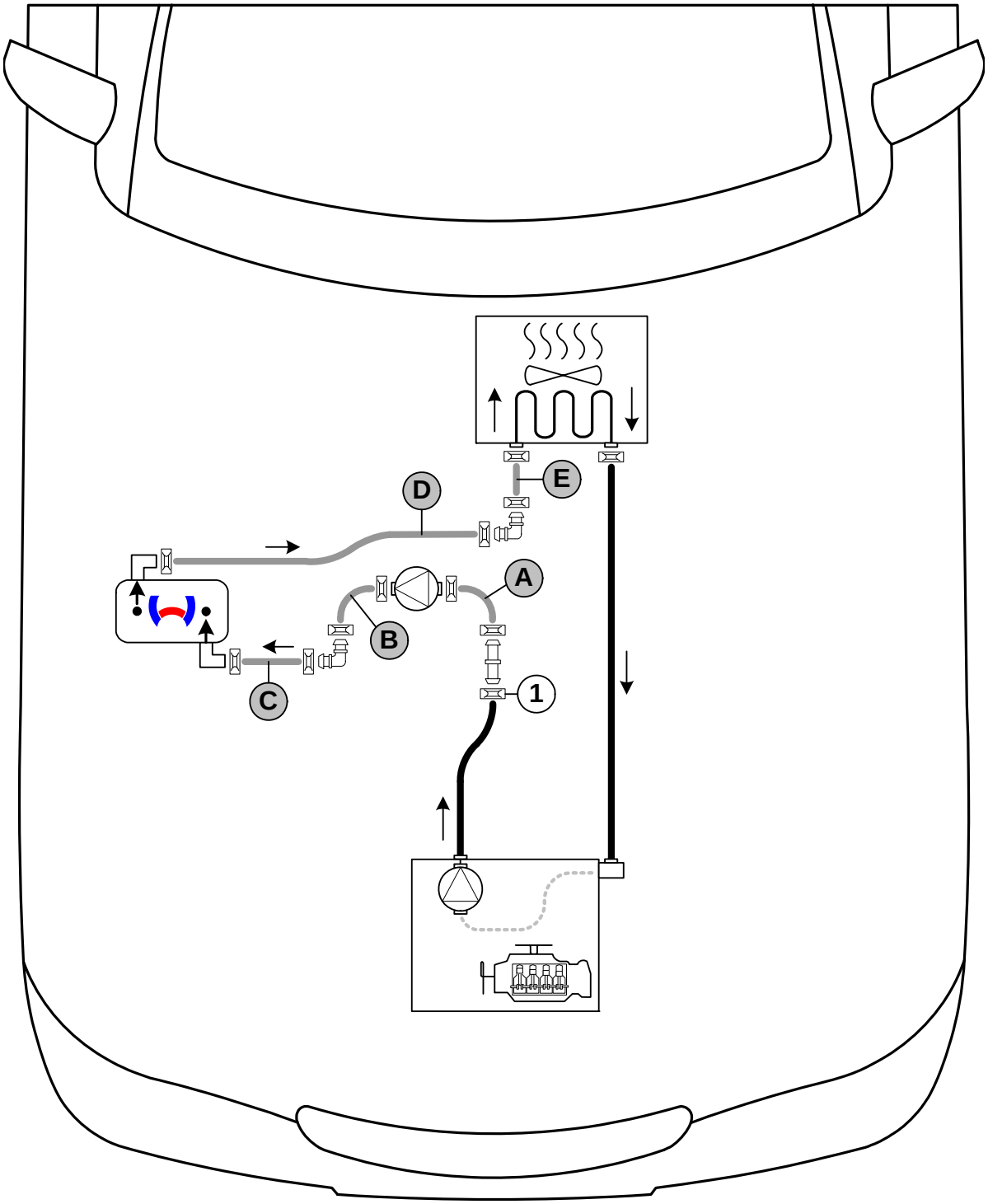
2 Wiring harnesses of heater control and heater

Attaching wiring harness



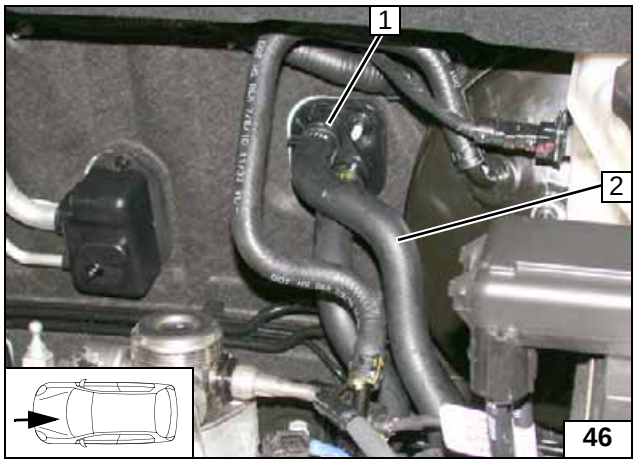
Coolant Circuit of 1.6 Petrol

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



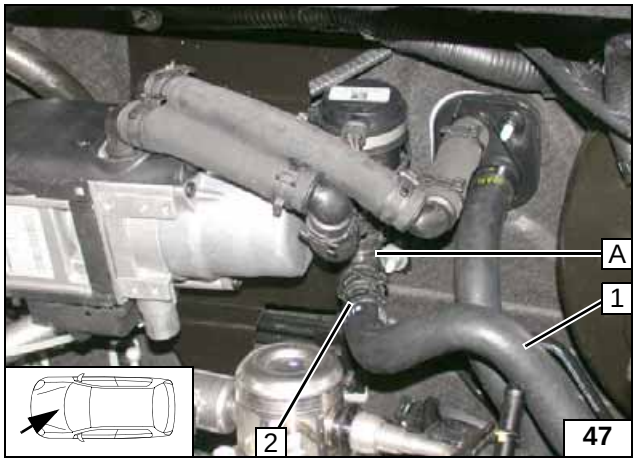
Hose installation diagram

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



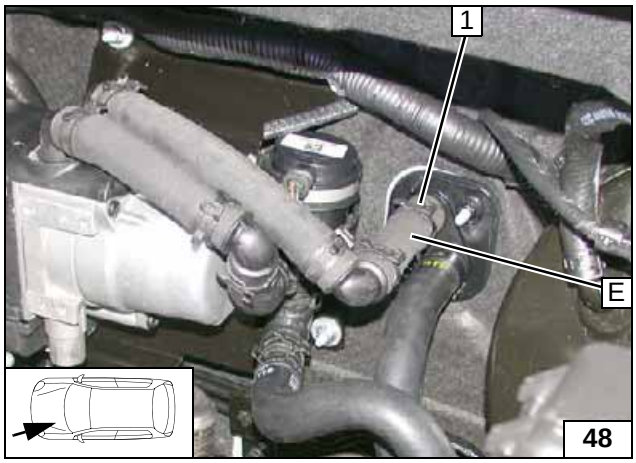
The heater was disassembled for a better illustration.
Detach hose on engine outlet **2** from connection piece of heat exchanger inlet. Spring clip **1** will be reused.

Cutting point



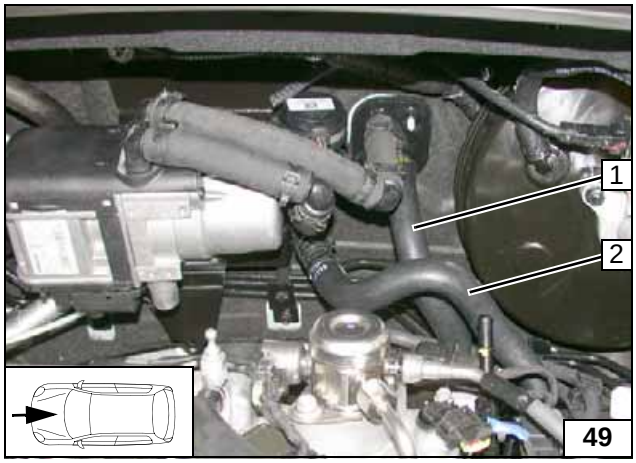
1 Hose of engine outlet
2 Original vehicle spring clip

Connecting engine outlet



1 Original vehicle spring clip

Connecting heat exchanger inlet



Align hoses. Ensure sufficient distance from neighbouring components.

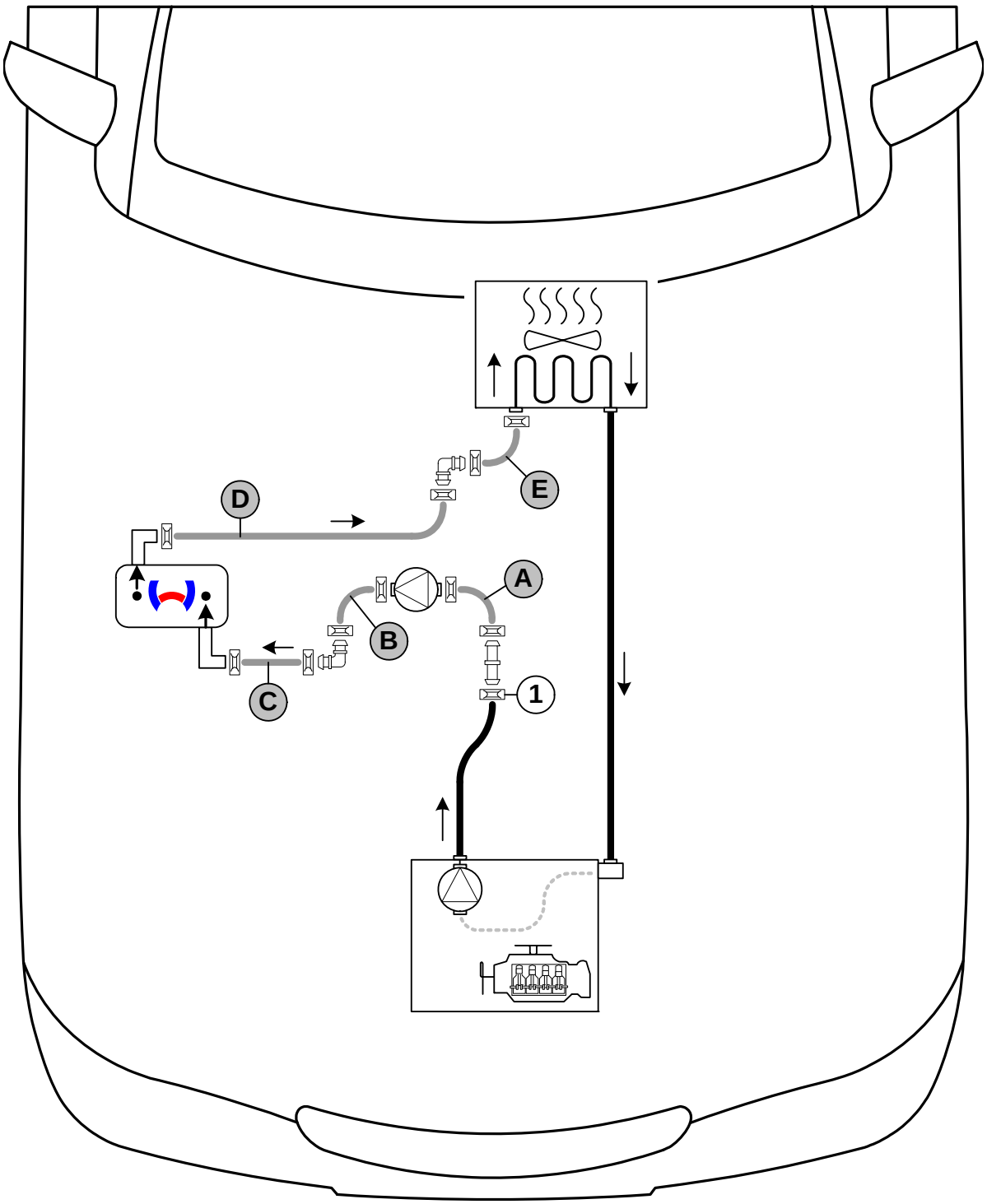
1 Hose of heat exchanger outlet
2 Hose of engine outlet

Routing

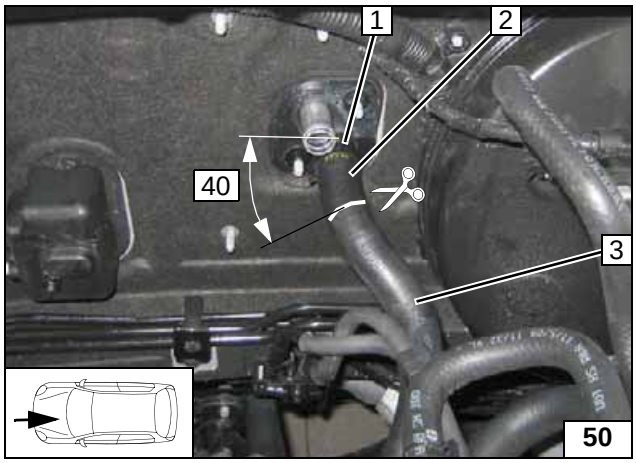
Coolant Circuit of 2.0 Petrol

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

Hose installation diagram



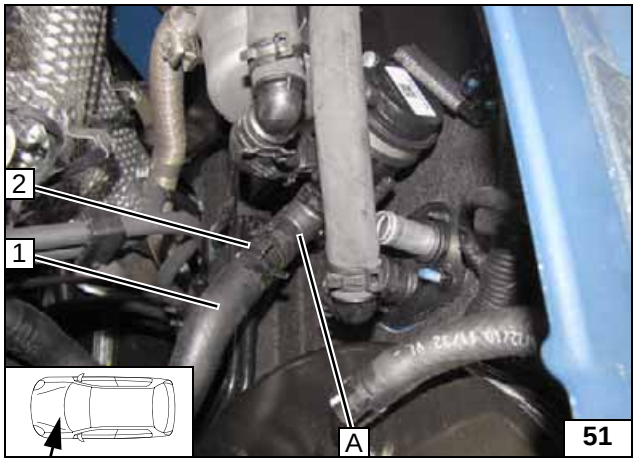
All spring clips without a specific designation = 25mm dia. **1** = Original vehicle spring clip .
All connecting pipes and = dia. 18x18 mm



The heater and heat exchanger outlet hose have been dismantled for better illustration. Detach hose from heat exchanger inlet connection piece and shorten it. Spring clip **1** will be reused.

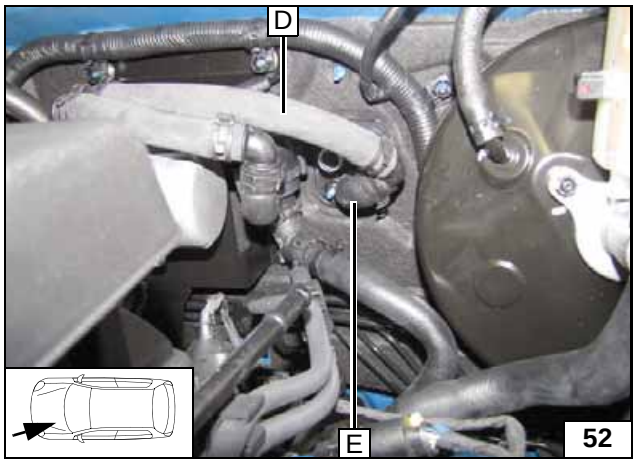
2 Discard section
3 Hose of engine outlet

Cutting point



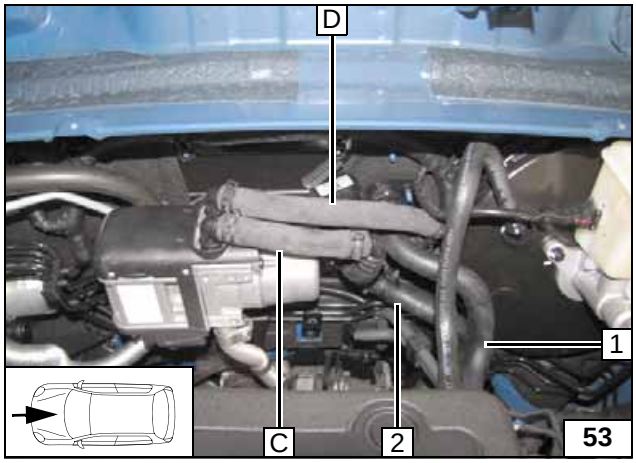
1 Hose of engine outlet
2 Original vehicle spring clip

Connecting engine outlet



Hose **E** on heat exchanger inlet!

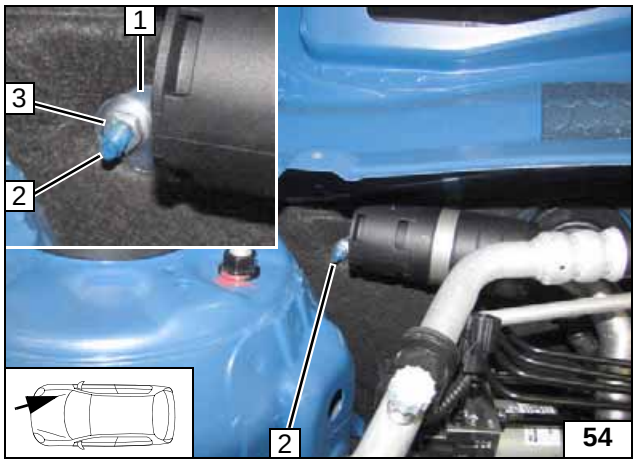
Connecting heat exchanger inlet



Align hoses. Ensure sufficient distance from neighbouring components.

1 Hose of heat exchanger outlet
2 Hose of engine outlet

Routing



Combustion Air

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

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

Mounting silencer

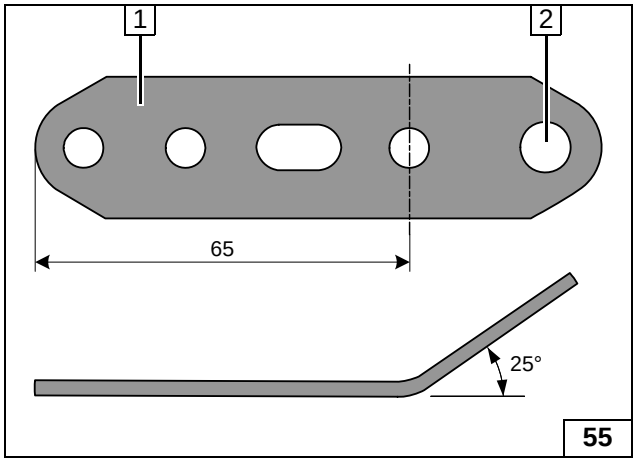
Fuel

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.

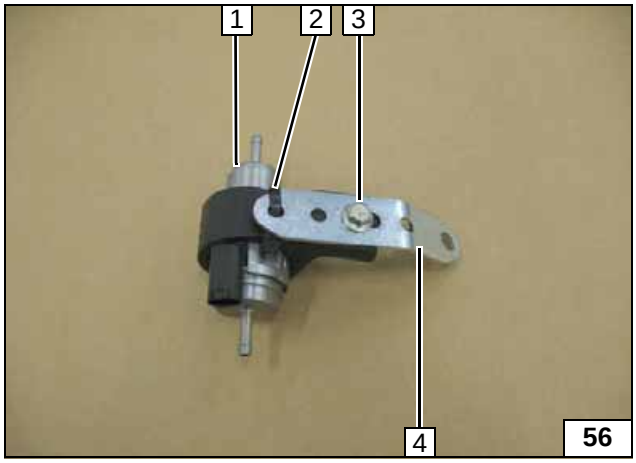
Install fuel line and metering pump wiring harness so that they are protected against stone impact. Unless specified otherwise, always fasten using cable ties.
Provide rub protection for fuel line and wiring harness in areas where there are sharp edges.

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



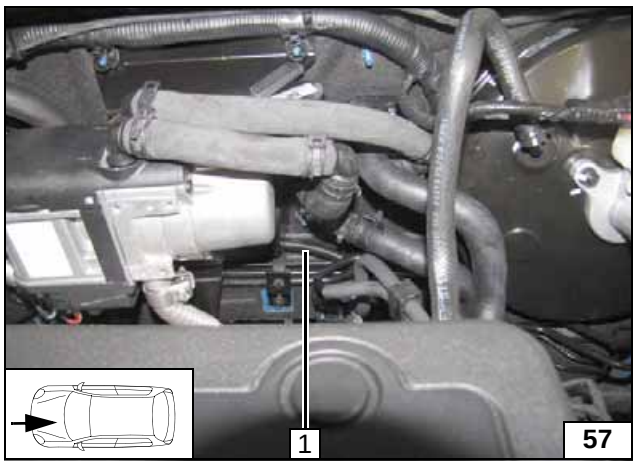
1 Perforated bracket
2 Drill out 8.5 mm dia. hole

Preparing perforated bracket



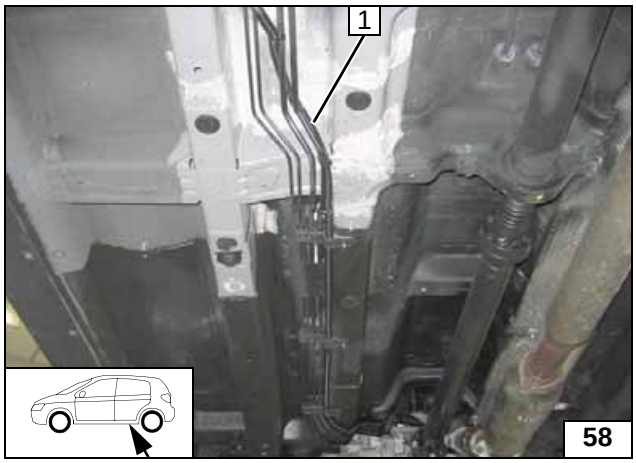
1 Metering pump
2 Cable tie
3 M6x25 bolt, support angle bracket, flanged nut
4 Perforated bracket

Premounting metering pump



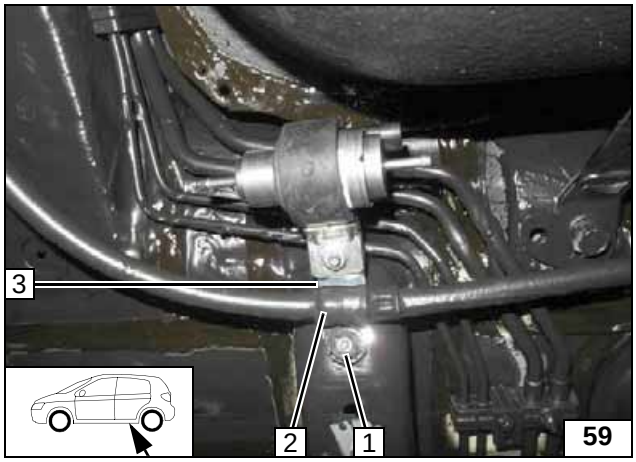
Insert fuel line and wiring harness of metering pump in 2100 mm corrugated tube **1** and route original vehicle fuel lines towards the underbody.

Routing lines



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

Routing lines

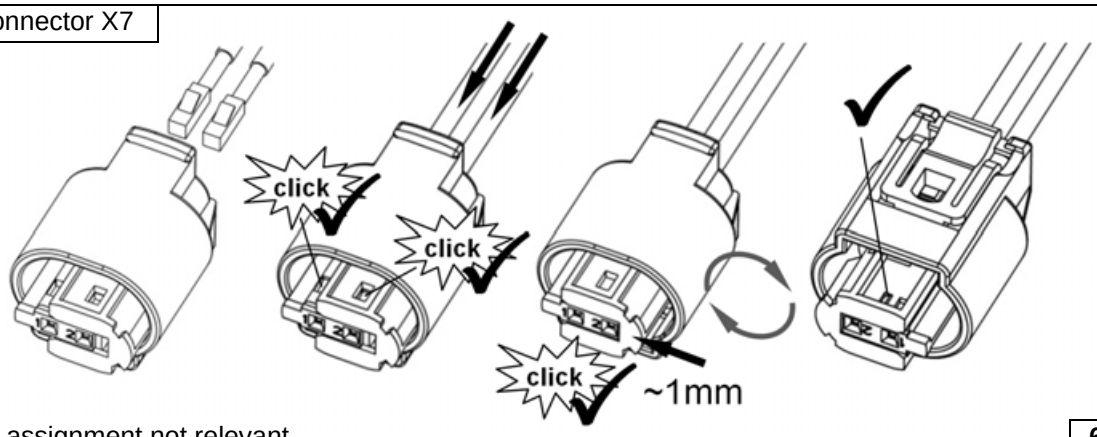


Secure premounted metering pump between handbrake cable clamp **2** and body using original vehicle bolt **1**.

3 Perforated bracket

Mounting metering pump

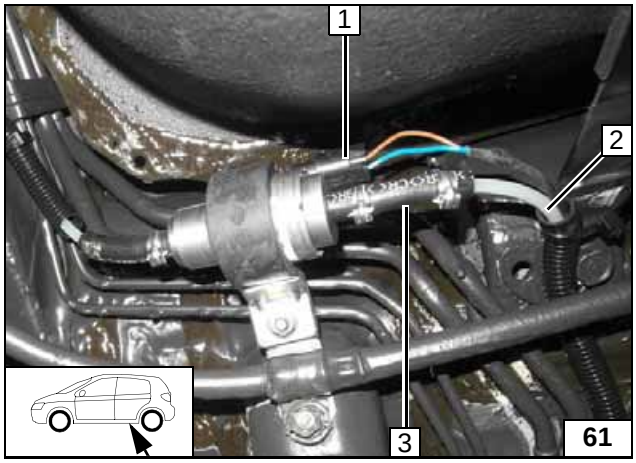
Connector X7



Pin assignment not relevant.

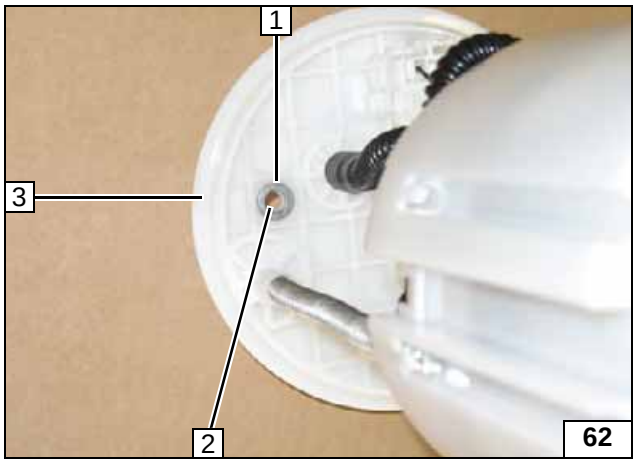
60

Completing metering pump connector



1 Wiring harness of metering pump, connector X7 mounted
2 Fuel line of heater
3 Hose section, 10 mm dia. clamp [2x]

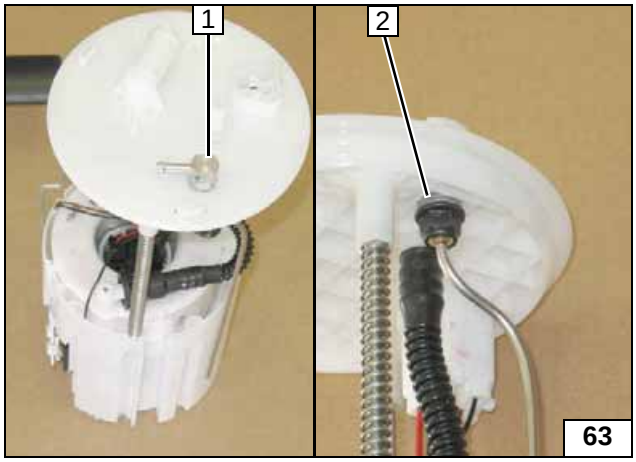
Connecting metering pump



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

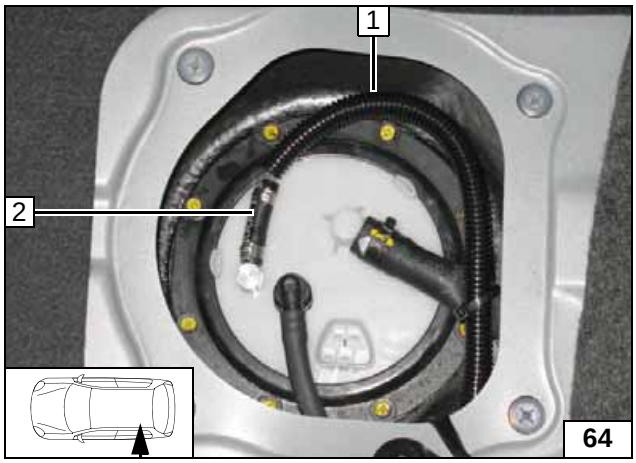
2 Copy hole pattern, 6 mm dia. hole

Fuel extraction



Shape fuel standpipe **1** according to template and cut to length. Insert five washers with outer dia. d_a = 12mm as height compensation at position **2**.

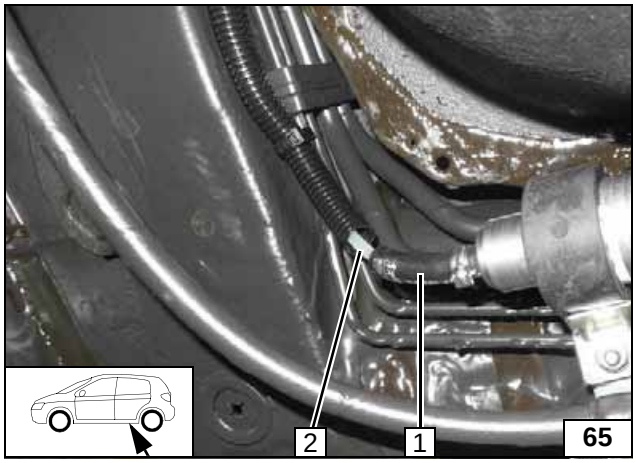
Mounting fuel standpipe



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

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

Connecting fuel line

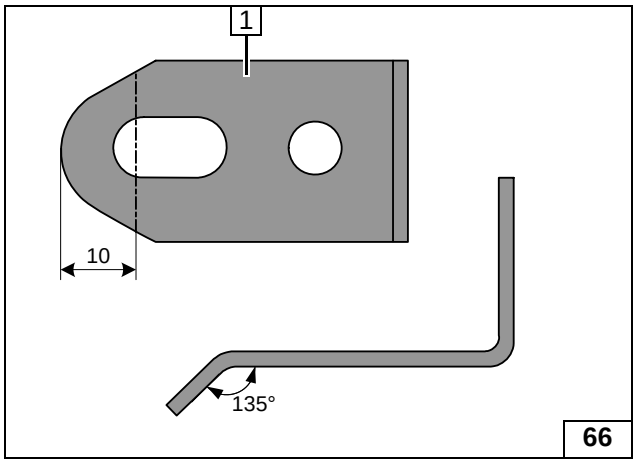


Check the position of the components; adjust if necessary. Check that they have freedom of movement.

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

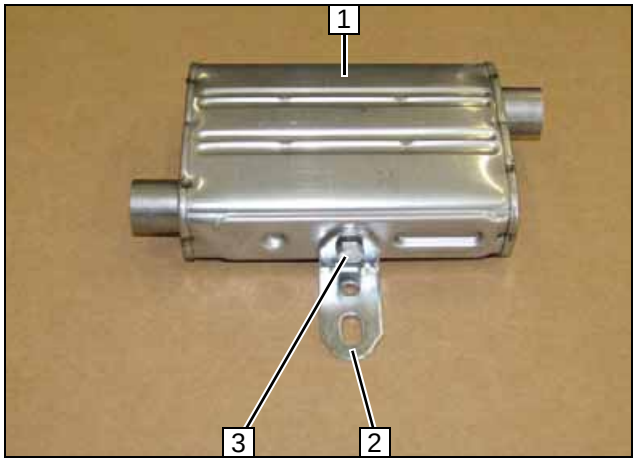
Connecting metering pump

Exhaust Gas



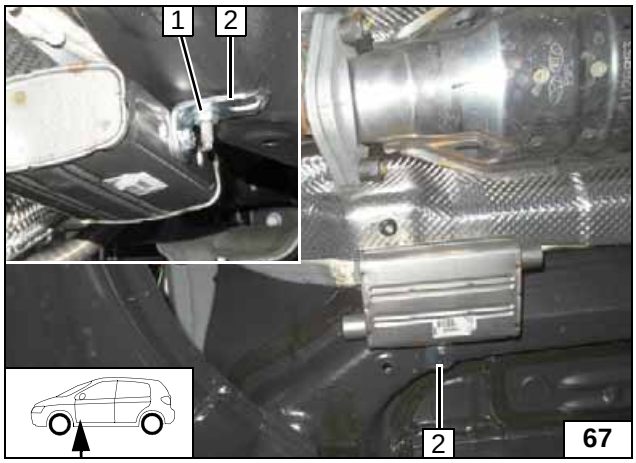
1 Angle bracket

Preparing angle bracket



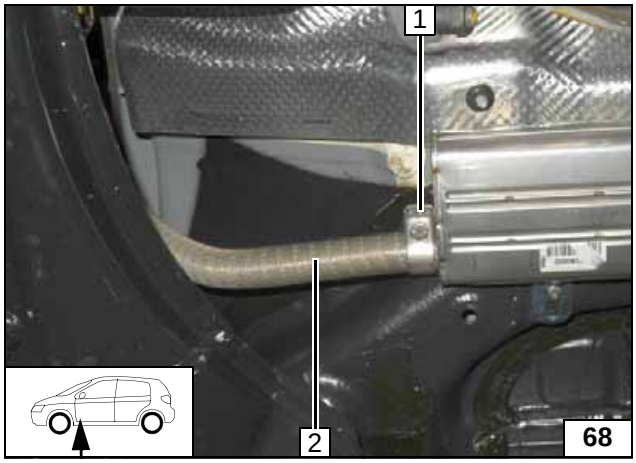
1 Silencer
2 Angle bracket
3 M6x16 bolt, spring lockwasher

Premounting silencer



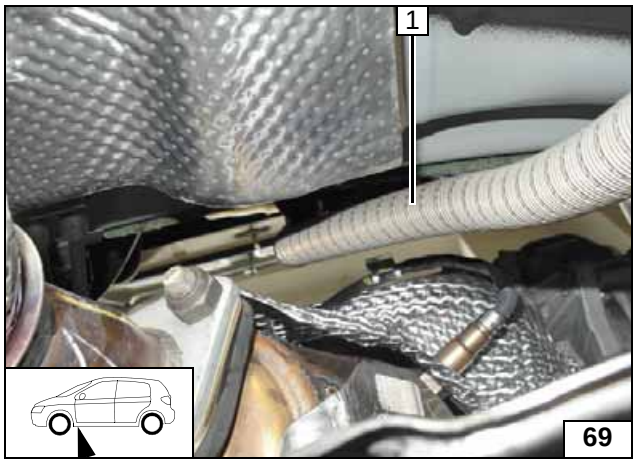
1 Original vehicle stud bolt, original vehicle flanged nut
2 Perforated bracket

Mounting silencer



1 Hose clamp
2 Exhaust pipe

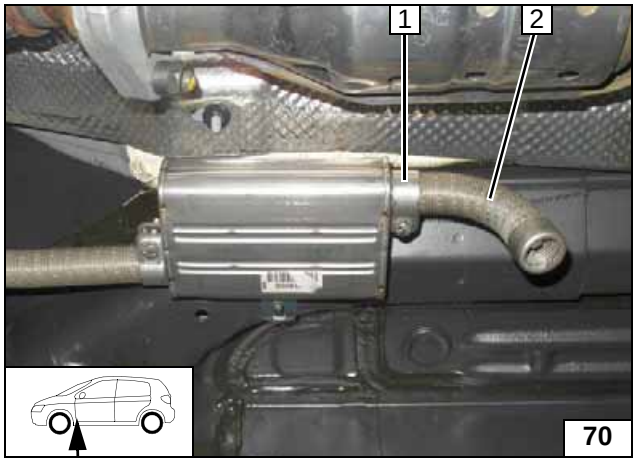
Fastening exhaust pipe



Ensure sufficient distance from neighbouring components, adjust if necessary.

1 Exhaust pipe

Aligning exhaust pipe



Ensure sufficient distance from neighbouring components, adjust if necessary.

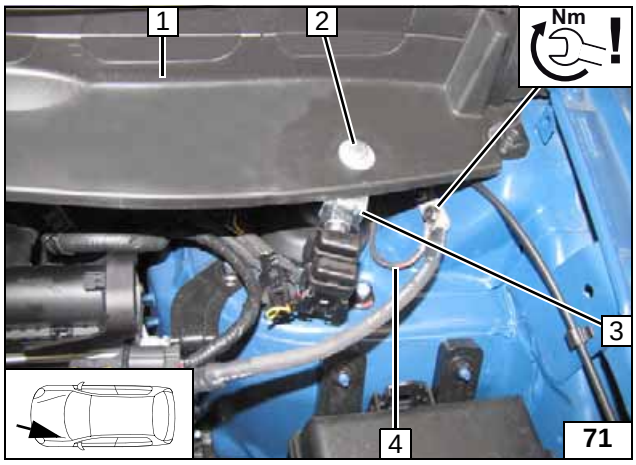
1 Hose clamp
2 Exhaust end section

Mounting exhaust end section

Final Work

WARNING!
Reassemble the components in reverse order. Check all hoses, clamps and all electrical connections for firm seating. Insulate and tie back all loose lines.
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 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 refueling" caution label near the filler neck**
- **See installation instructions for initial start-up and function check**



1 Install coolant reservoir with cover
2 Use bolt instead of clip, M6x20 bolt, large diameter washer, flanged nut
3 Angle bracket
4 Earth wire on original vehicle earth point

Installing engine compartment fuse holder

Webasto Thermo & Comfort SE
Postfach 1410
82199 Gilching
Germany
Internet: www.webasto.com
Technical Extranet:
http://dealers.webasto.com

Template for Fuel Standpipe

100mm

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.

100mm

0

Operating Instructions for Manual Air-Conditioning

Please remove page and add to the vehicle operating instructions.

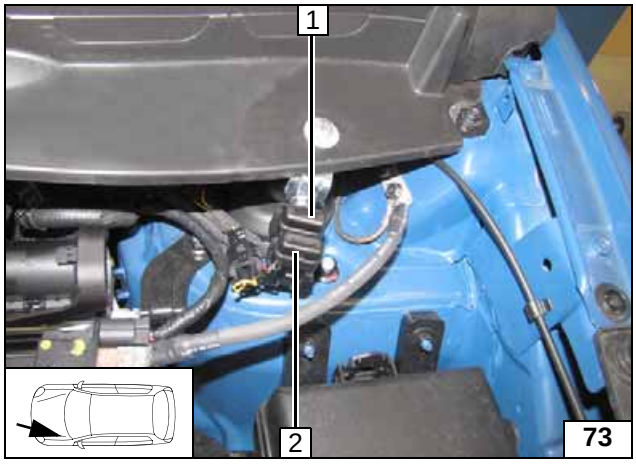
Note:
We recommend matching the heating time to the driving time.
Heating time = driving time
Example:
For a driving time of approx. 20 min. (in one direction), we recommend not exceeding a switch-on time of 20 min.

If the vehicle has passenger compartment monitoring this 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:

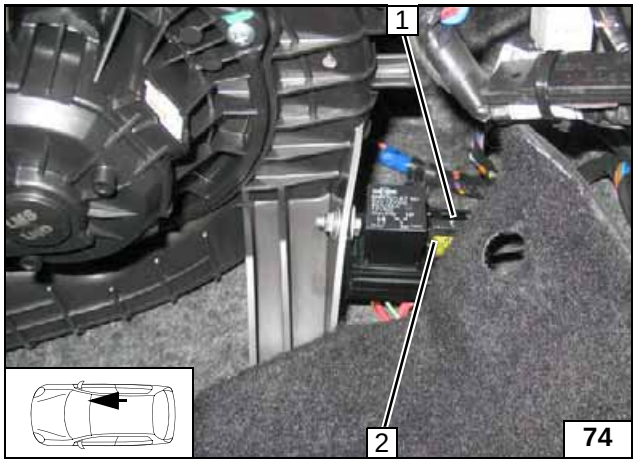
1 Set fan to level "1", max. "2"
2 Air outlet to windscreen
3 Set temperature to "max."

A/C control panel



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

Engine compartment fuses



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

Passenger compartment fuses

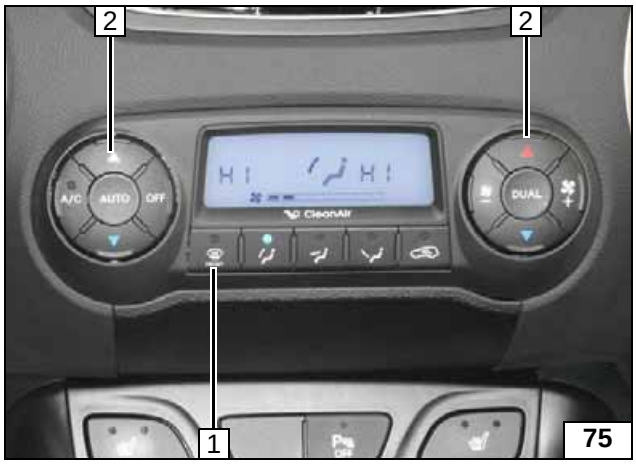
Operating Instructions for Automatic Air-Conditioning

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.

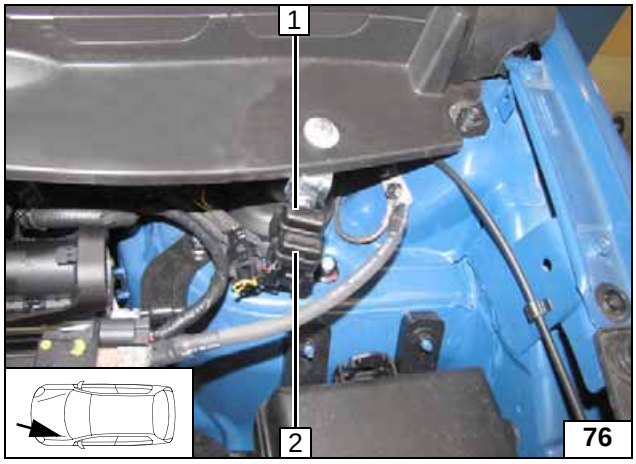
If the vehicle has passenger compartment monitoring this must be deactivated in addition to the vehicle settings for the heating operation.
Instructions for de-activation may be obtained from the operating instructions of the vehicle.

Before parking the vehicle, make the following settings:



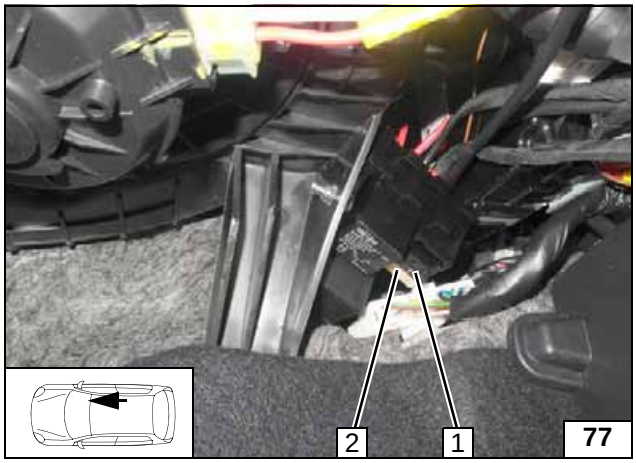
1 Air outlet to windscreen
2 Set temperature on both sides to "HI"

A/C control panel



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

Engine compartment fuses



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

Passenger compartment fuses