Water Heater

Webasto
Feel the Drive

***Thermo Top Evo* Parking Heater**

E1
00 0258

Installation Documentation
Fiat Punto Evo

Validity

Manufacturer	Model	Type	EG-BE No./ ABE
Fiat	Punto Evo	199	e3 * 2001 / 116 * 0217 * ...

Motorisation	Fuel	Transmission type	Output in kW	Displacement in cm³	Engine code
1.4 Multi Air Turbo	Petrol	SG	99	1368	955A2000

SG = manual transmission

From Model Year 2010
Left-hand drive vehicle

Verified equipment variants: Manual / automatic air-conditioning system
Front fog light
Headlight washer system

Not verified: Passenger compartment monitoring

Total installation time: approx. 8 hours

Fiat Punto Evo

Table of Contents

Validity	1	Preparing Installation Location	14
Necessary Components	2	Preparing Heater	15
Installation Overview	2	Installing Heater	16
Information on Total Installation Time	2	Fuel	17
Information on Operating and Installation Instructions	3	Coolant Circuit	21
Information on Validity	4	Combustion Air	28
Technical Information	4	Exhaust Gas	29
Explanatory Notes on Document	4	Final Work	32
Preliminary Work	5	Template for Fuel Standpipe	33
Heater Installation Location	5	Operating Instructions for Manual Air-Conditioning	34
Preparing Electrical System	6	Operating Instructions for Automatic Air-Conditioning	35
Electrical System	7		
Fan Controller for Manual Air-Conditioning	10		
Fan Controller for Automatic Air-Conditioning	11		
Digital Timer	13		
Remote Option (Telestart)	13		

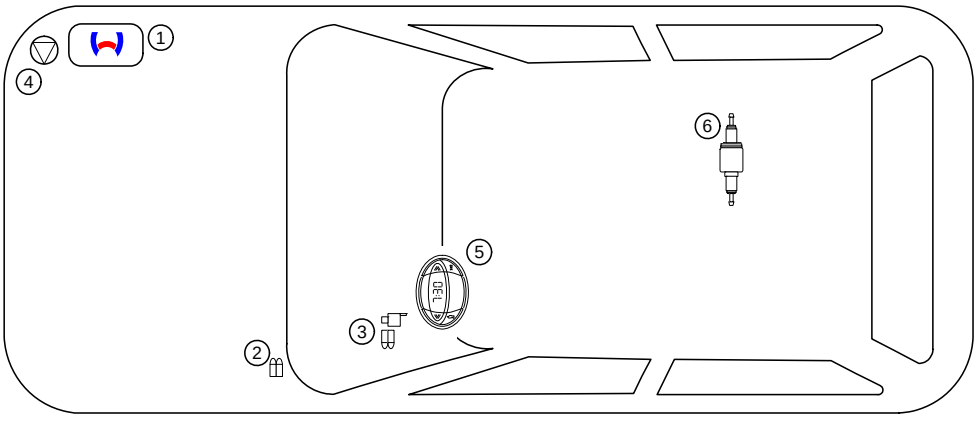
Necessary Components

- Basic delivery scope of *Thermo Top Evo* in accordance with price list
- Installation kit for Fiat Punto Evo 2010 Petrol: **1316249B**
- Additional kit for Fiat Punto Evo Multi Air Turbo: **1318198A**
- 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.

Sharp edges should be fitted with rub protection (split-open fuel hose)! 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.

Fiat Punto Evo

Information on Validity

This installation documentation applies to Fiat Punto Evo 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

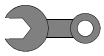
Dimensions
- All dimensions are in mm.

Tightening torque values
- Tightening torque values of 5x13 heater bolts = 8Nm.
- Tightening torque values of 5x15 retaining plate of water connection piece bolts = 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

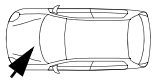
Specific risk of damage to components

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



Fiat Punto Evo

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.
- Loosen wheel well trim in the left and right front area, remove on the right-hand side.
- Remove the lower engine compartment cover.
- Remove the bumper trim.
- Remove the right front headlight.
- Loosen the right underbody trim to the vehicle centre.
- Drain off the coolant.
- Loosen the coolant expansion tank screw fitting.
- Remove the air filter box.
- Remove the battery.
- Remove the battery carrier.
- Remove the windscreen wiper.
- Remove the coolant reservoir cap.
- Fold the rear seat surface.
- Open the tank-fitting service lid.
- Remove the fuel-tank sending unit in accordance with the manufacturer's instructions.
- Remove cover (shelf) of the driver's side instrument panel.

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.

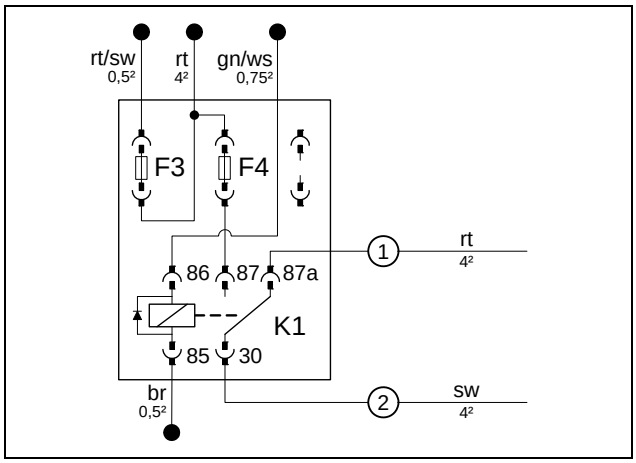
Heater Installation Location

1 Heater

Installation location

Preparing Electrical System

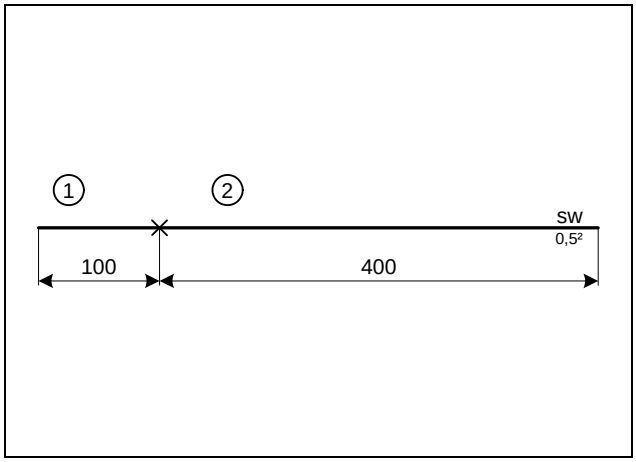
Manual air-conditioning



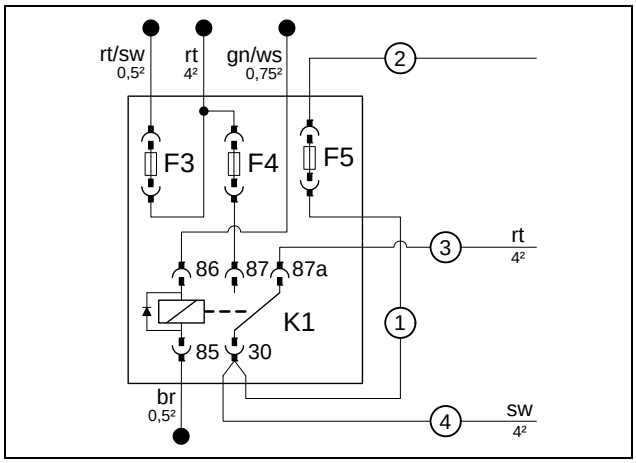
F4 25A and K1 relay are mounted after installing the fuse holder. Insert red (rt) wire ① in relay socket K1/87a and black (sw) wire ② in relay socket K1/30.

Preparing passenger compartment fuse holder

Automatic air-conditioning



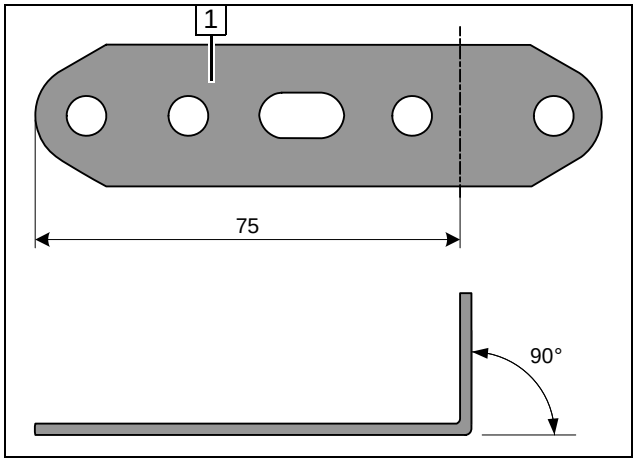
Cutting wire to length



F4 25A, F5 7.5A and K1 relay are mounted after installing the fuse holder.

Preparing passenger compartment fuse holder

All vehicles



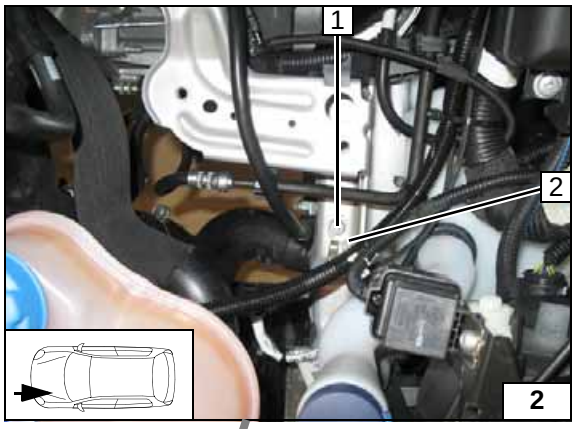
1 Perforated bracket

Angling down perforated bracket

Electrical System

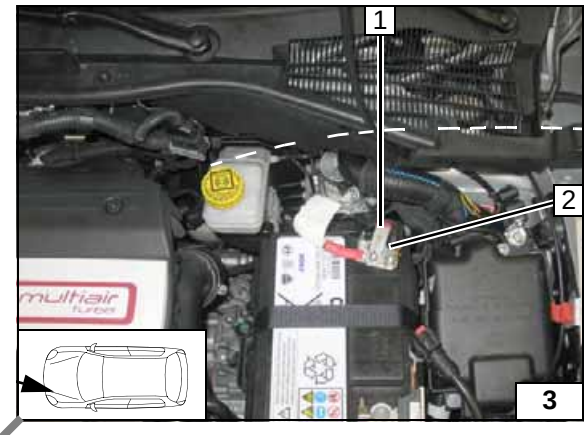
Earth wire

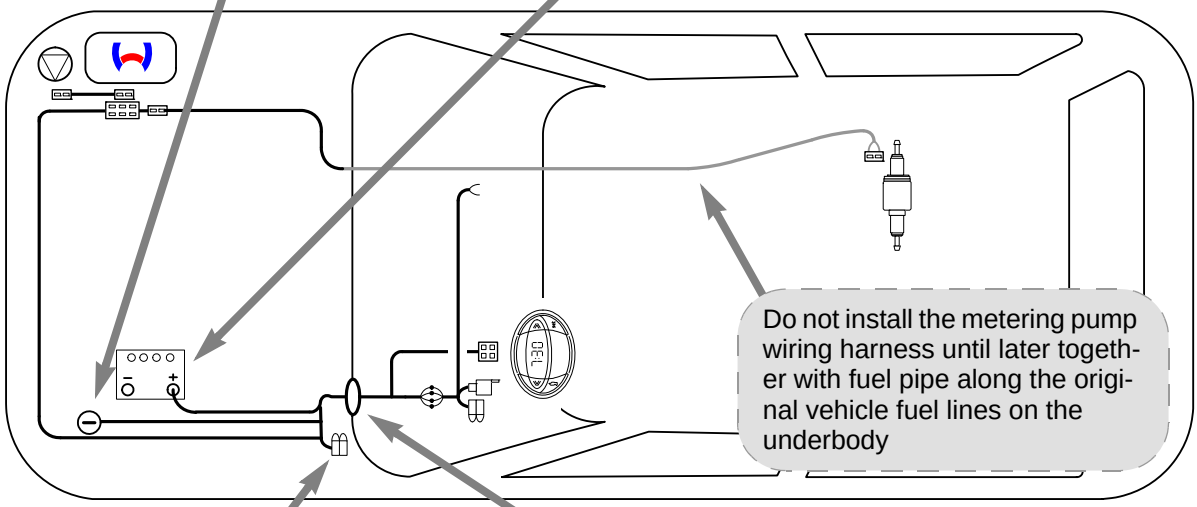
1 Original vehicle earth point
2 Earth cable of heater wiring harness



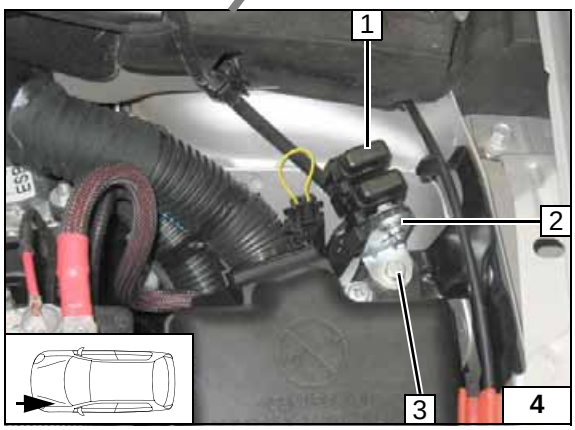
Positive wire

1 Positive terminal
2 Positive wire of heater wiring harness



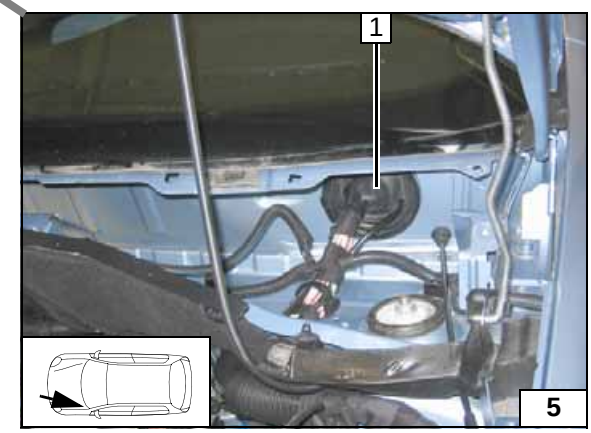


Wiring harness routing diagram



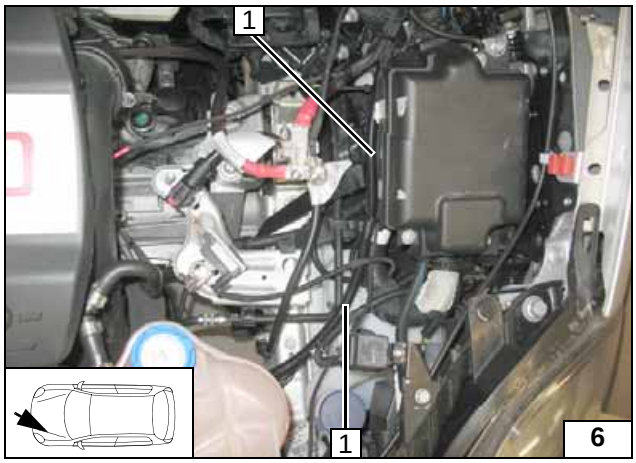
Fuse holder of engine compartment

1 F1-2 fuses inserted
2 M5x16 bolt, large diameter washer [2x], fuse holder retaining plate, nut
3 Angle bracket, original vehicle nut



Wiring harness pass through

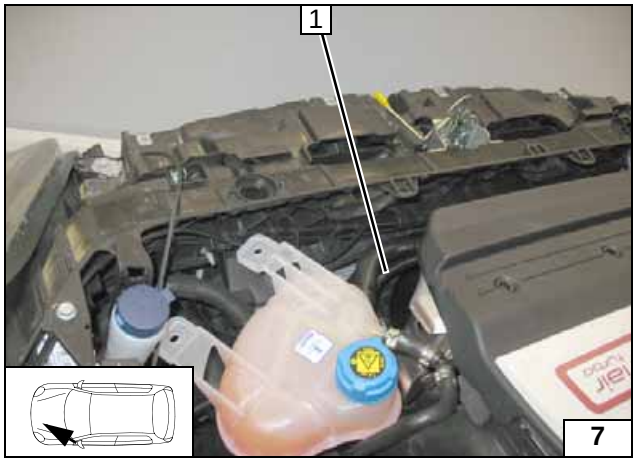
1 Protective rubber plug



Ensure sufficient distance from neighbouring components.

1 Wiring harness of heater in 10mm dia. corrugated tube (cut lengthways)

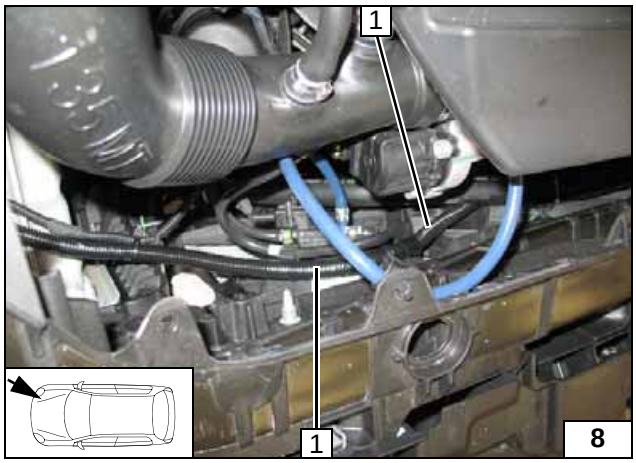
Wiring harness routing in the engine compartment



Ensure sufficient distance from neighbouring components.

1 Wiring harness of heater in 10mm dia. corrugated tube

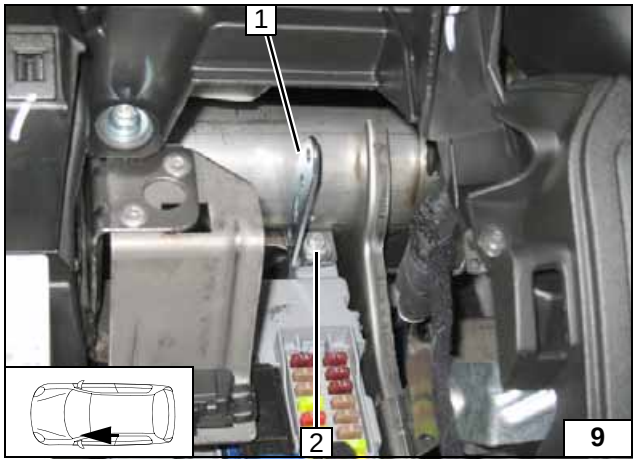
Wiring harness routing in the engine compartment



Ensure sufficient distance from neighbouring components.

1 Wiring harness of heater in 10mm dia. corrugated tube

Wiring harness routing in the engine compartment



1 Perforated bracket
2 Original vehicle bolt

Installing perforated bracket

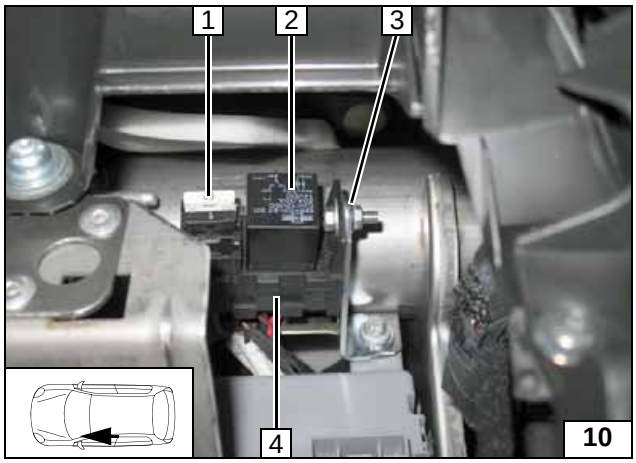
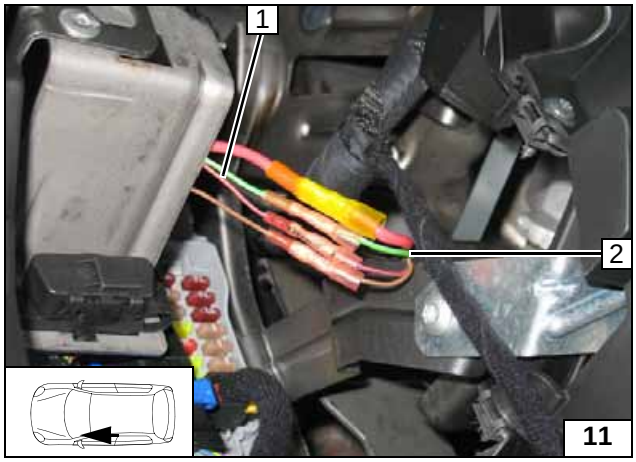


Photo shows vehicle with manual air-conditioning.

1 25A F4 fuse inserted
2 K1 relay inserted
3 M5x16 bolt, large diameter washer, flanged nut
4 Passenger compartment fuse holder

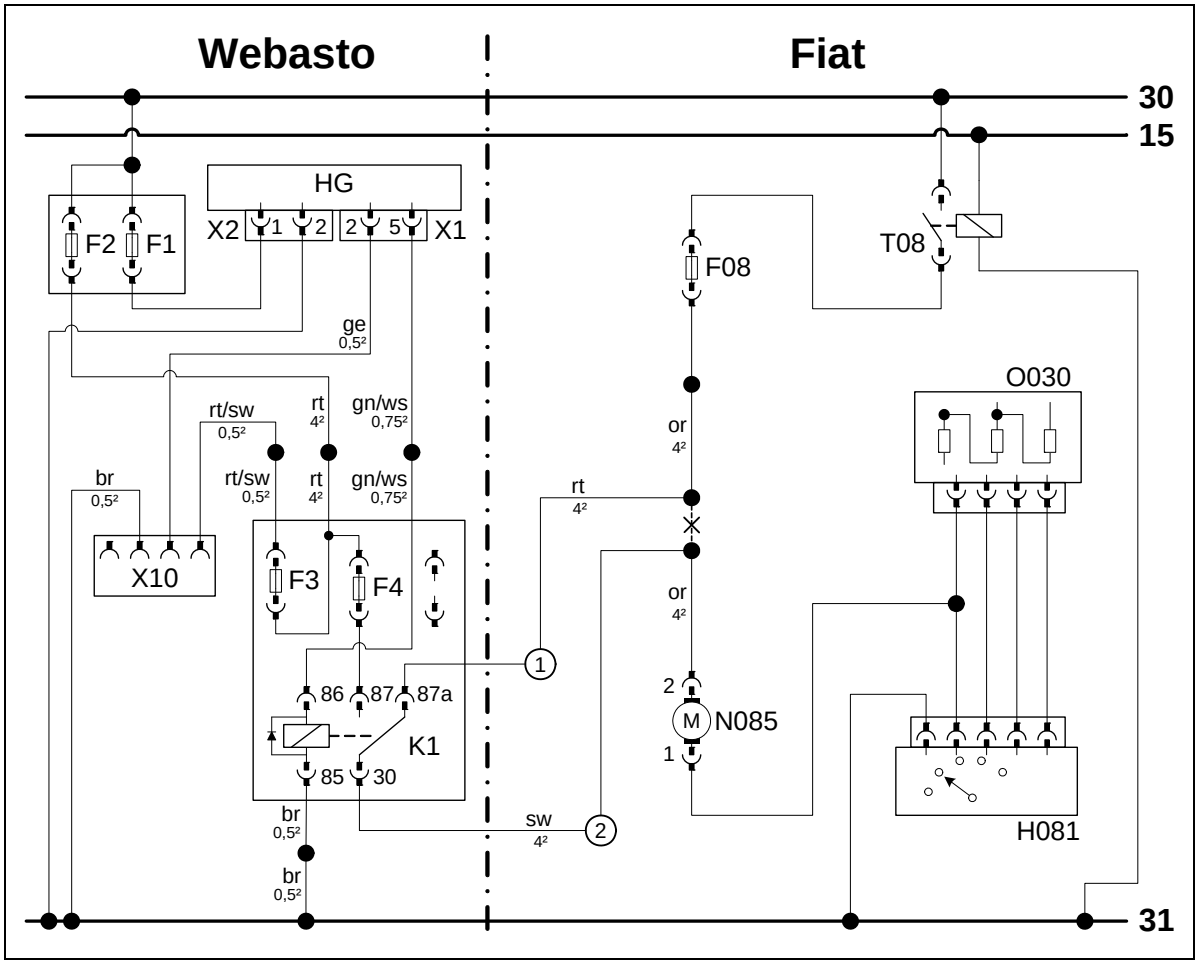
Installing fuse holder of passenger compartment



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

Connecting wiring harnesses

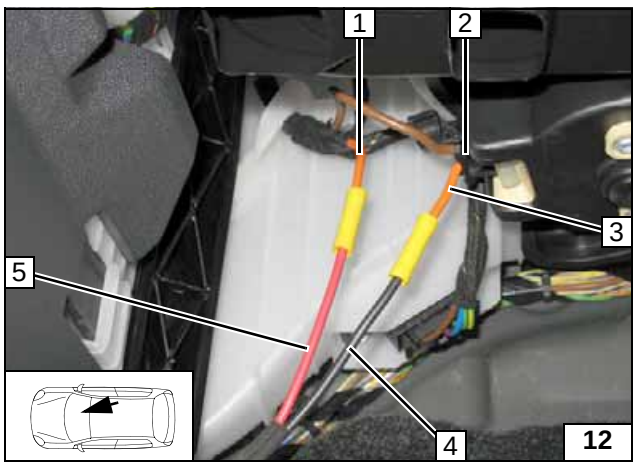
Fan Controller for Manual Air-Conditioning



Wiring diagram

Webasto components		Vehicle components		Colours and symbols	
HG	TT-Evo heater	N085	Fan motor	rt	red
X1	6-pin heater connector	T08	Fan relay	ws	white
X2	2-pin heater connector	O030	Resistor group	sw	black
X10	4-pin connector Heater control	H081	Fan switch	br	brown
		F08	30A fuse	gn	green
K1	Fan relay			ge	yellow
F1	20A fuse			or	orange
F2	30A fuse				
F3	1A fuse			**X**	Cutting point
F4	25A fuse			Wiring colours may vary.	

Legend



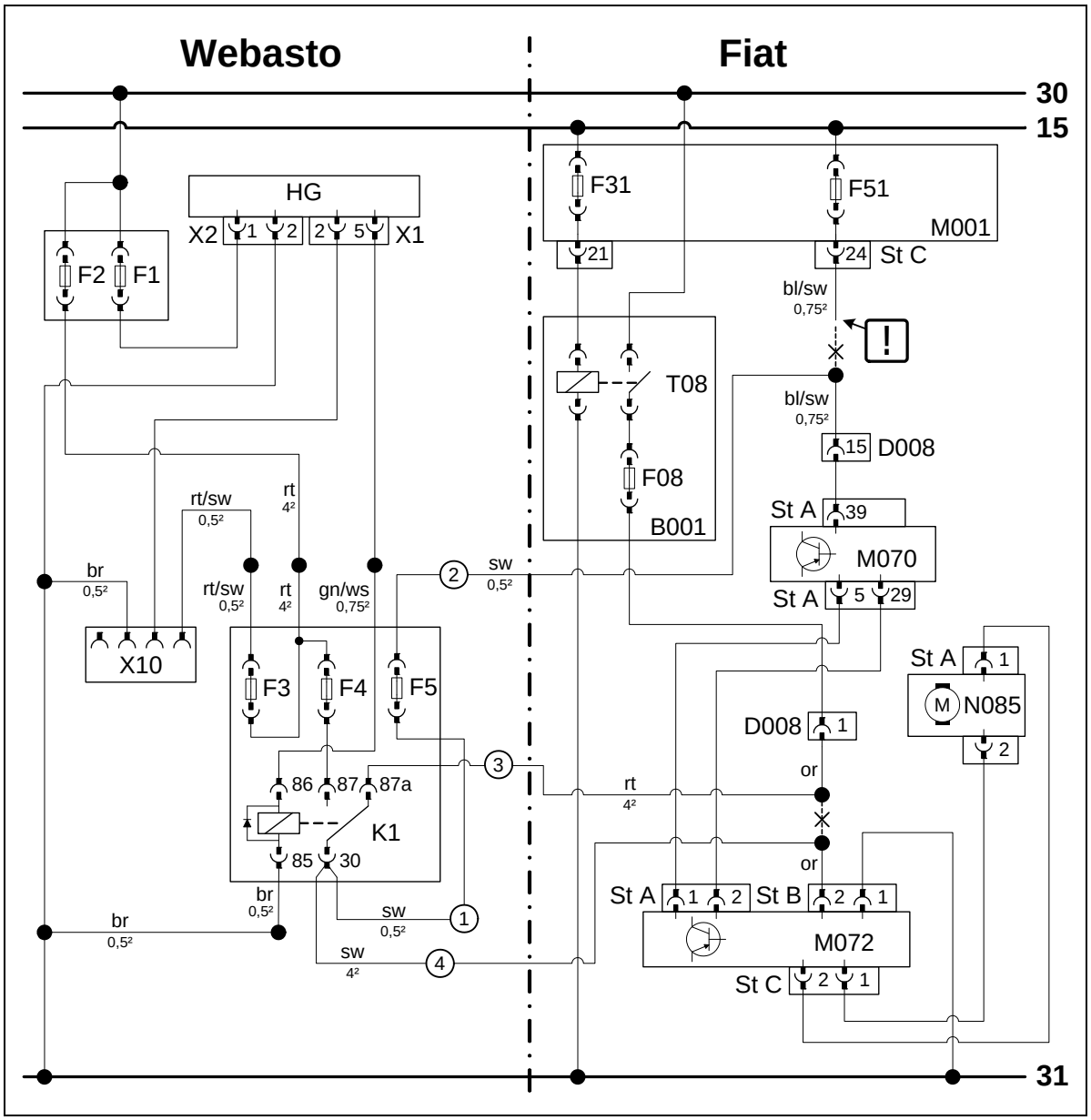
Connection to 2-pin connector **2** from the fan motor.
Produce connections as shown in wiring diagram.

1 Orange (or) wire of fuse F08
3 Orange (or) wire of 2-pin N085 connector
4 Wire black (sw) K1/30
5 Wire red (rt) K1/87a

Connecting fan motor

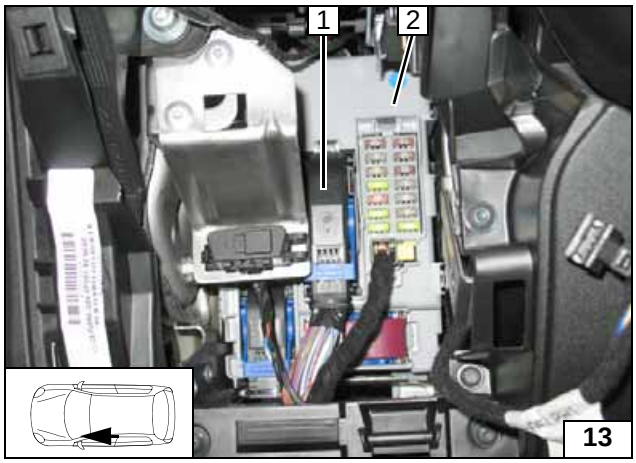
Fan Controller for Automatic Air-Conditioning

Wiring diagram



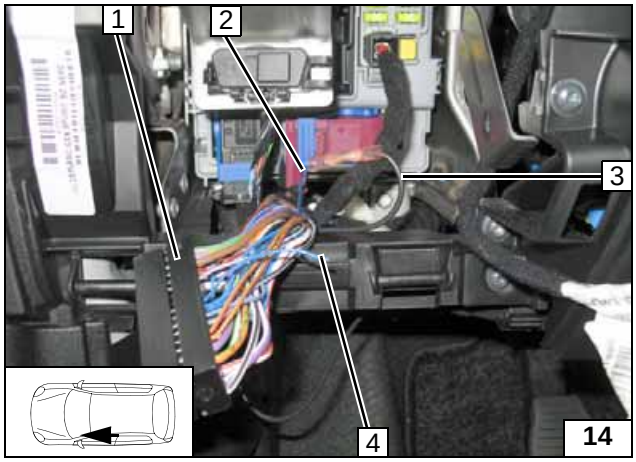
Webasto components		Vehicle components		Colours and symbols	
HG	TT-Evo heater	B001	Distributor of engine compartment	rt	red
X1	6-pin heater connector	M001	Body computer	sw	black
X2	2-pin heater connector	M070	A/C control unit	ge	yellow
X10	4-pin connector Heater control	M072	Fan controller	gn	green
		N085	Fan motor	or	orange
K1	Fan relay	T08	Fan relay	ws	white
F1	20A fuse	D008	Connector	br	brown
F2	30A fuse	F08	30A fuse	bl	blue
F3	1A fuse	F31	7.5A fuse		
F4	25A fuse	F51	5A fuse		
F5	7.5A fuse	St	Connector		
				!	Insulate wire end and tie back
				X	Cutting point
				Wiring colours may vary.	

Legend



1 Connector C
2 Body Computer M001

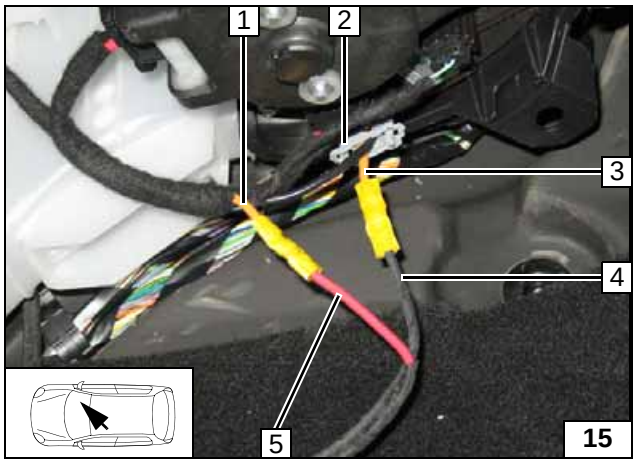
Detaching connector C



Produce connections as shown in wiring diagram.

1 Connector C, pin 24
2 Blue/black (bl/sw) wire to A/C control unit M070
3 Black (sw) wire from F4
4 Blue/black (bl/sw) wire from pin 24, insulate

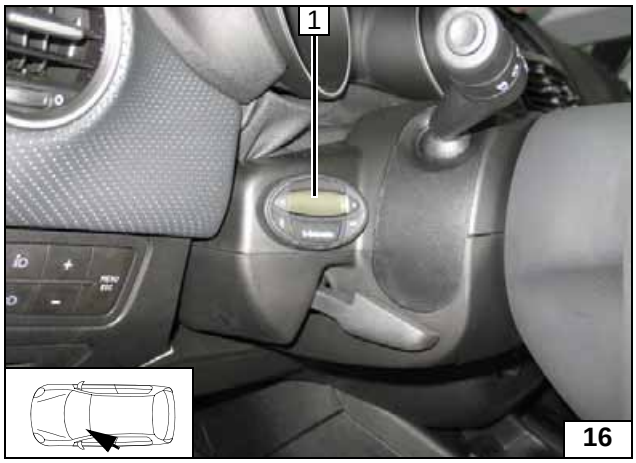
Connecting A/C control unit



Produce connections as shown in wiring diagram.

1 Connector D008, Pin 1
2 Connector B of fan controller M072
3 Orange (or) wire from connector B of fan controller M072
4 Wire black (sw) K1/30
5 Wire red (rt) K1/87a

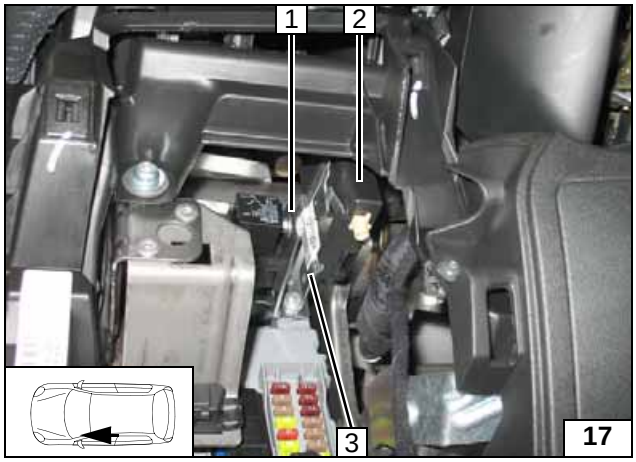
Connecting fan controller



Digital Timer

1 Digital timer

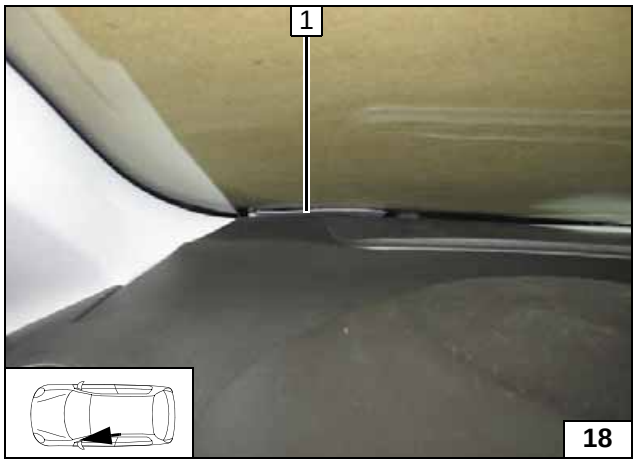
Installing digital timer



Remote Option (Telestart)

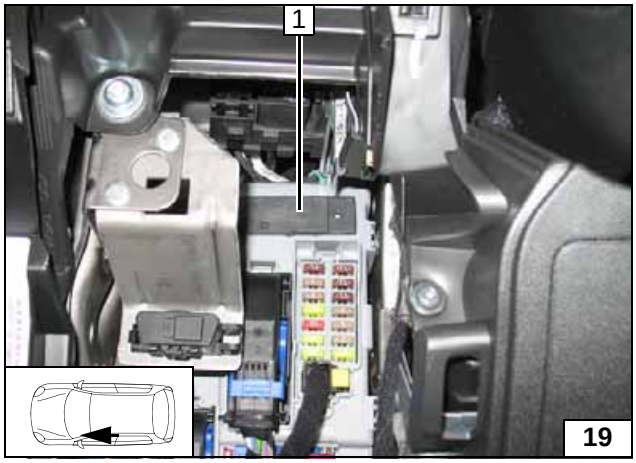
Fasten bracket **3** of receiver **2** with bolt of passenger compartment fuse holder **1**.

Installing receiver



1 Antenna

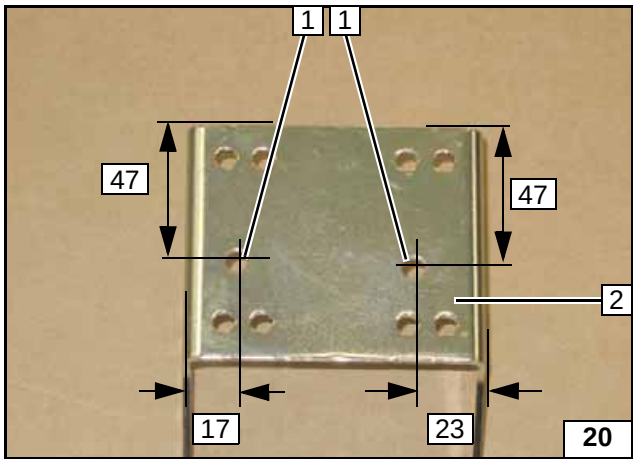
Installing antenna



Temperature sensor T100 HTM

Fasten temperature sensor **1** with adhesive tape.

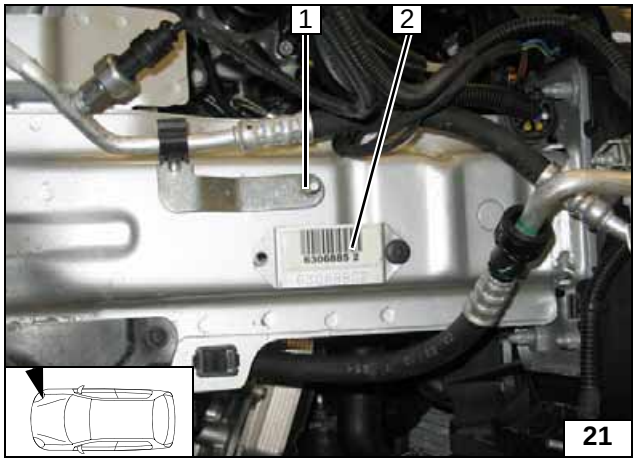
Installing temperature sensor



Preparing Installation Location

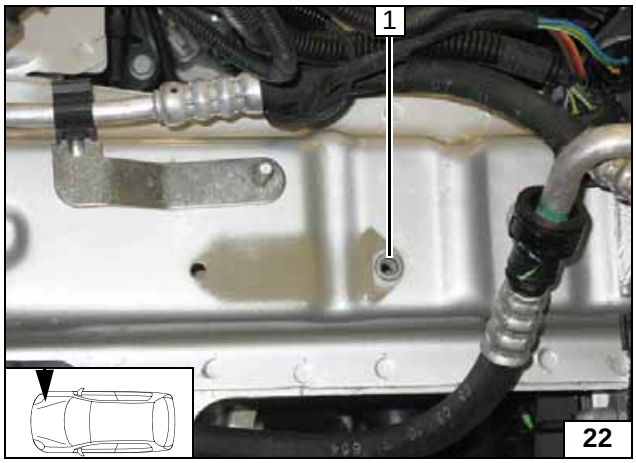
Copy hole pattern **1** [2x] for 7mm dia. hole on bracket **2** and drill.

Preparing bracket



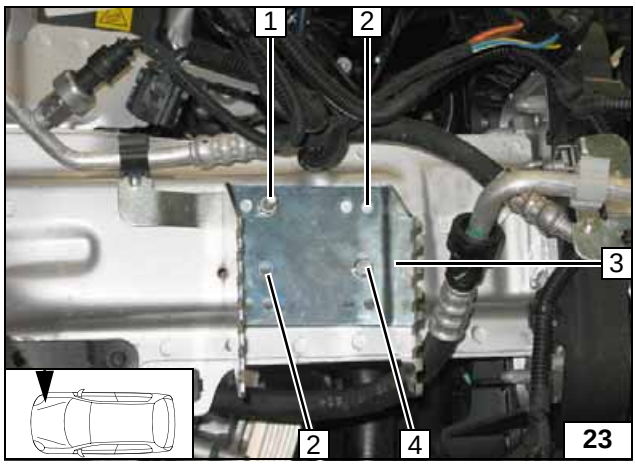
1 Remove flanged nut from stud bolt, will be reused later
2 Remove designation sign, will be re-mounted later

Preparing installation location



Drill out original vehicle hole **1** to 9.1mm dia and insert M6 rivet nut.

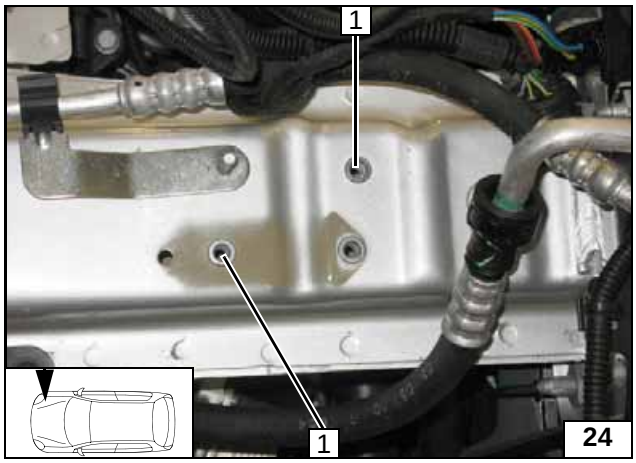
Preparing installation location



Install bracket **3** and copy hole pattern **2** [2x] for 9.1mm dia. hole and drill.

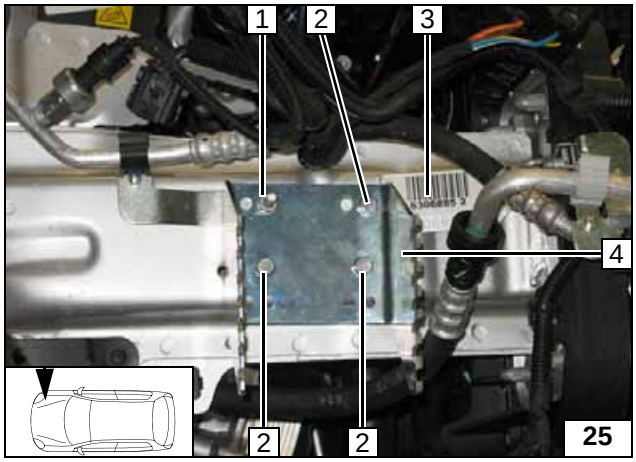
1 Original vehicle stud bolt, flanged nut
4 M6x20 bolt, M6 rivet nut

Copying hole pattern



1 M6 rivet nut

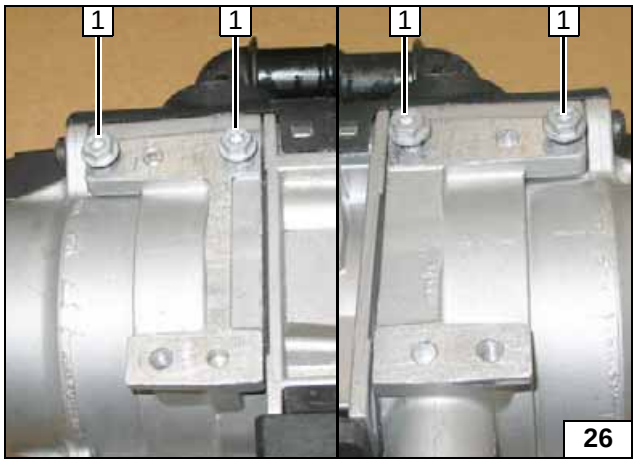
Installing rivet nuts



Mount designation sign **3** as shown.

1 Original vehicle stud bolt, flanged nut
2 M6x20 bolt, spring lockwasher [3x each]
4 Bracket

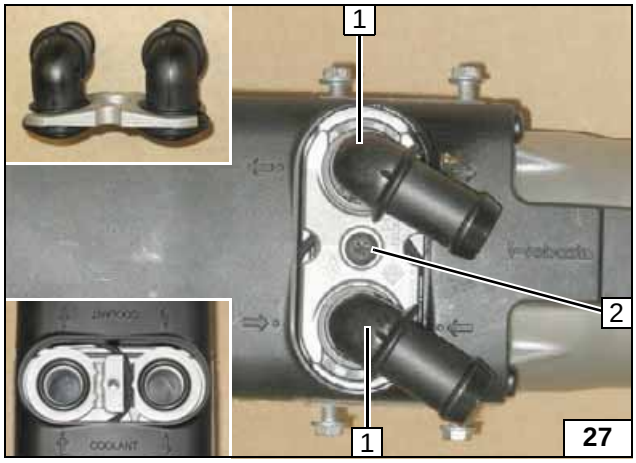
Installing bracket



Preparing Heater

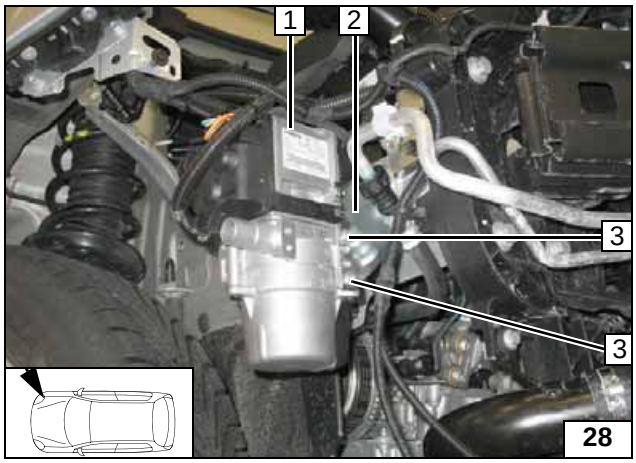
Tap threads with 5x13 self-tapping bolts **1** [4x] and install loosely (turn max. 3 threads).

Premounting bolts loosely



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

Installing water connection pieces

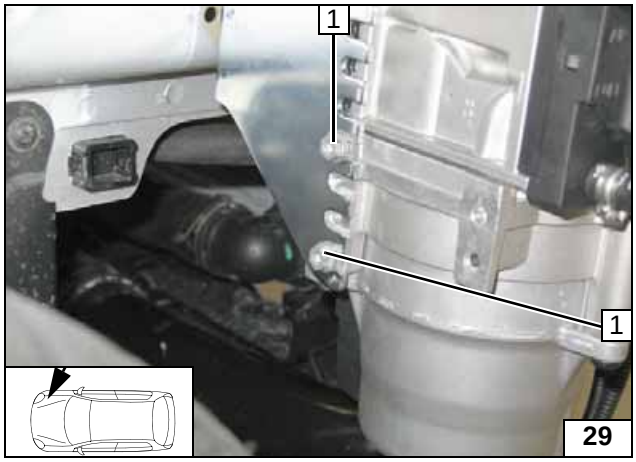


Installing Heater

Insert heater **1** into bracket **2**.

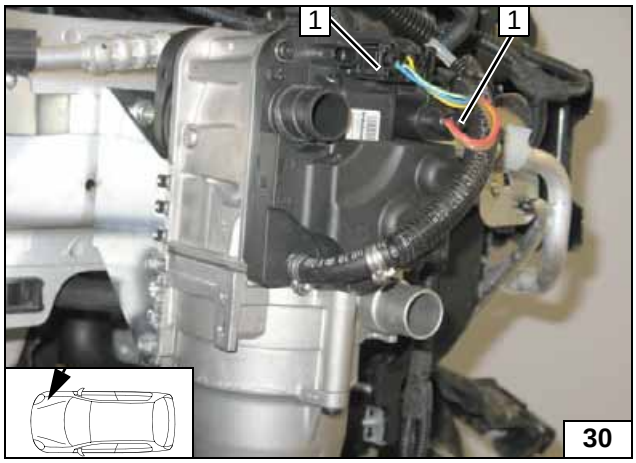
3 Tighten bolts [2x]

Installing heater



1 Tighten bolts [2x]

Installing heater



Attach connector **1** from heater wiring harness to heater.

Installing heater

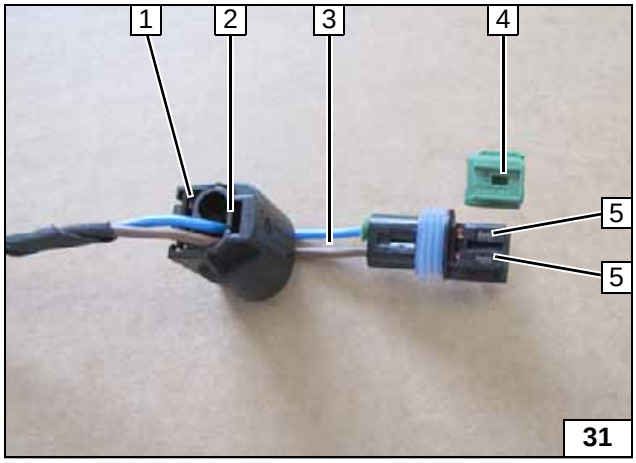
Fuel

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

Catch any fuel running off in an appropriate container.

Install fuel line and metering pump wiring harness so that they are protected against stone impact. Unless specified otherwise, always fasten using cable ties.
Mount the fuel line and wiring harness with rub protection on sharp edges.

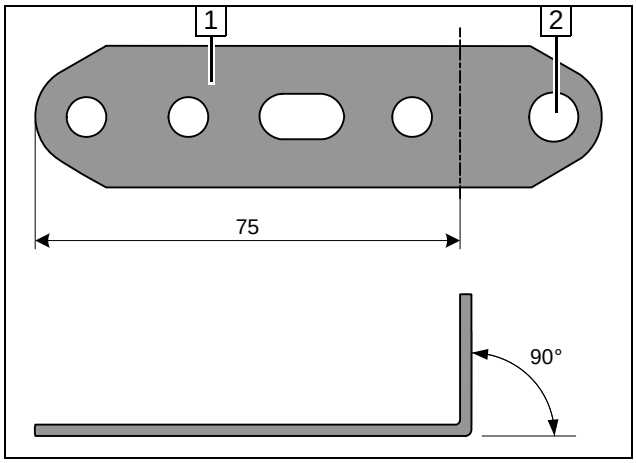
WARNING!
The fuel line and wiring harness are routed to the metering pump as shown in the wiring harness routing diagram.



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

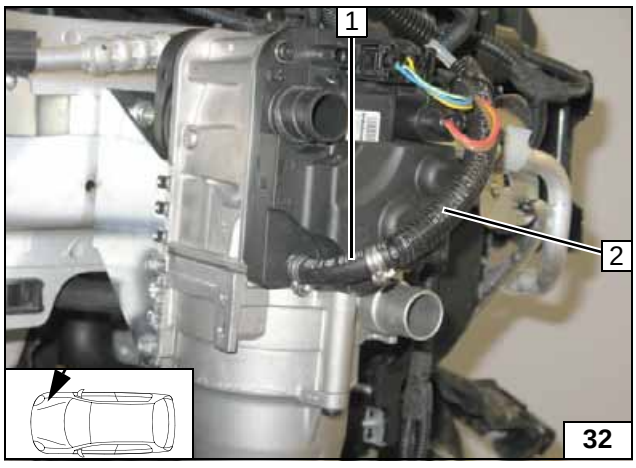
1 Connector housing
2 Lock
3 Blue/brown (bl/br) wires
4 Coding
5 Timer lock

Disassembling connector



1 Angle down perforated bracket
2 Drill 8.5 mm dia. hole

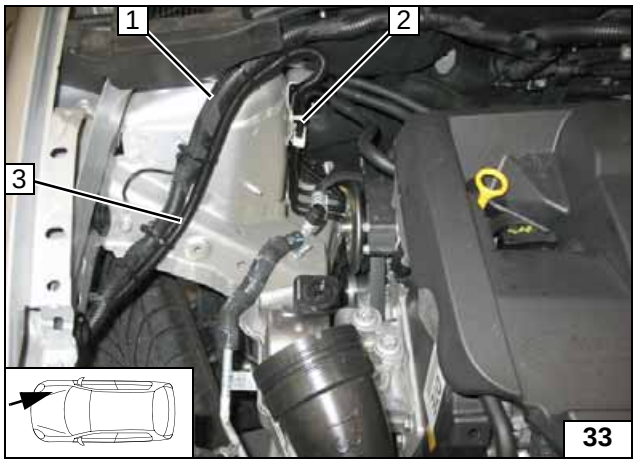
Preparing perforated bracket



Route fuel line and wiring harness of metering pump in 10mm dia. corrugated tube **2** to the firewall.

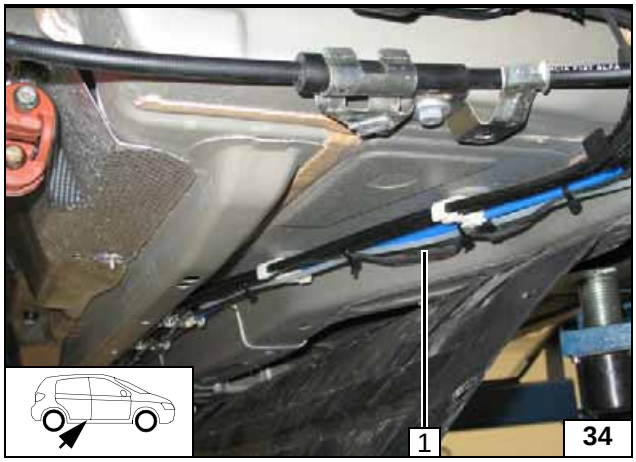
1 Hose section, 10 mm dia. clamp [2x]

Connecting heater



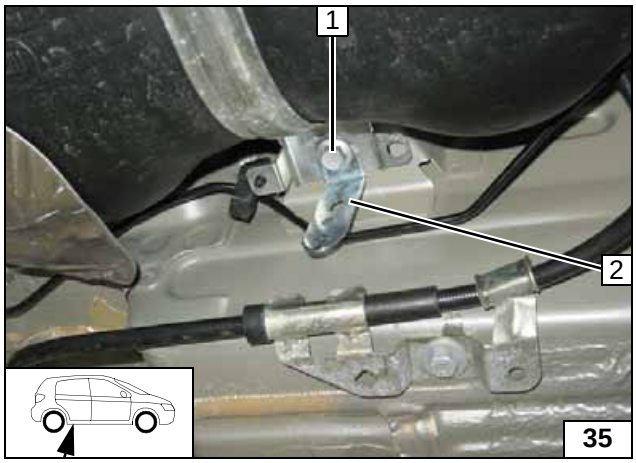
Route fuel line and wiring harness of metering pump in 10mm dia. corrugated tube **3** along original vehicle wiring harness **1** and fuel lines **2** to the vehicle underbody.

Routing in engine compartment



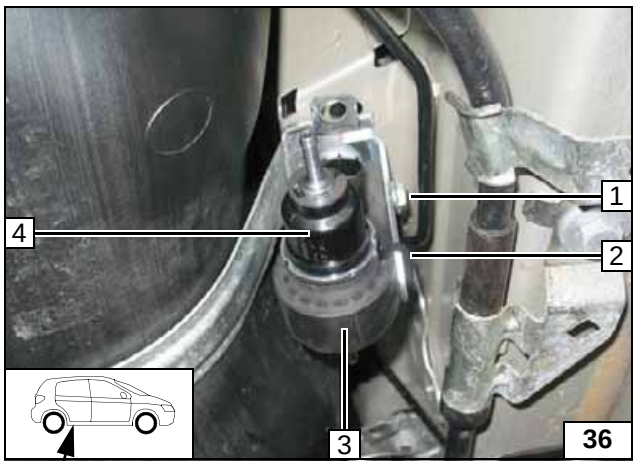
Route wiring harness of metering pump and fuel line **1** along original vehicle fuel lines.

Underbody routing



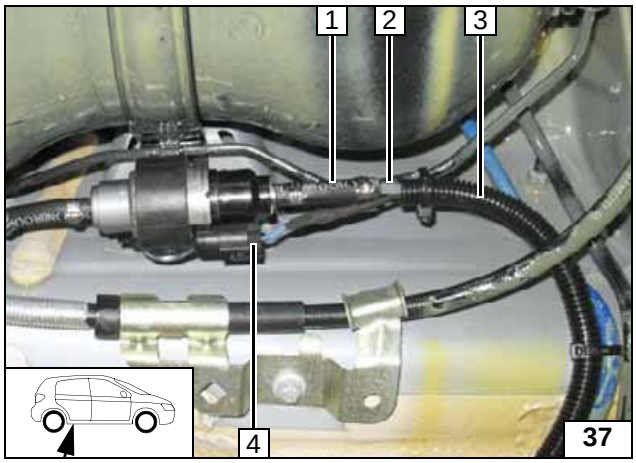
1 Original vehicle bolt of fuel tank mounting
2 Perforated bracket

Installing perforated bracket



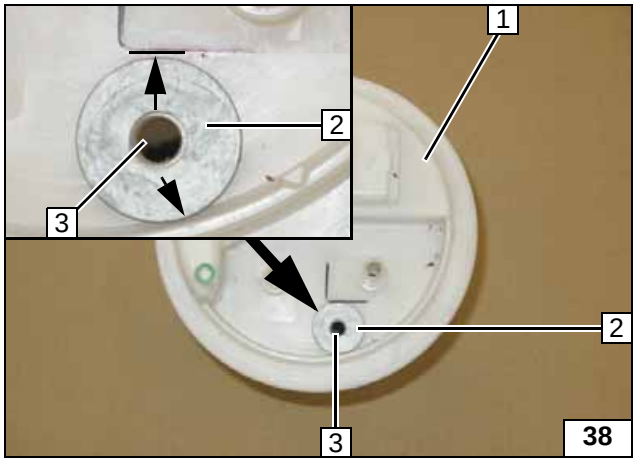
1 M6x25 bolt, flanged nut
2 Cable tie
3 Mounting of metering pump
4 Metering pump

Mounting metering pump



1 Hose section, 10 mm dia. clamp [2x]
2 Fuel line of heater
3 10 mm dia. 300 mm long corrugated tube
4 Wiring harness of metering pump, connector mounted

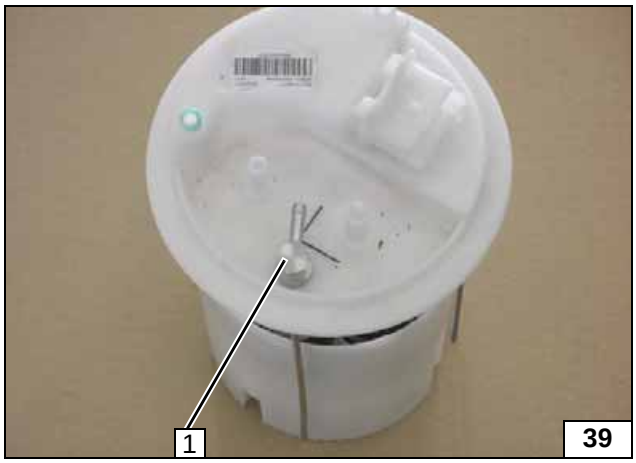
Connecting metering pump



Remove fuel-tank sending unit **1** in accordance with manufacturer's instructions.

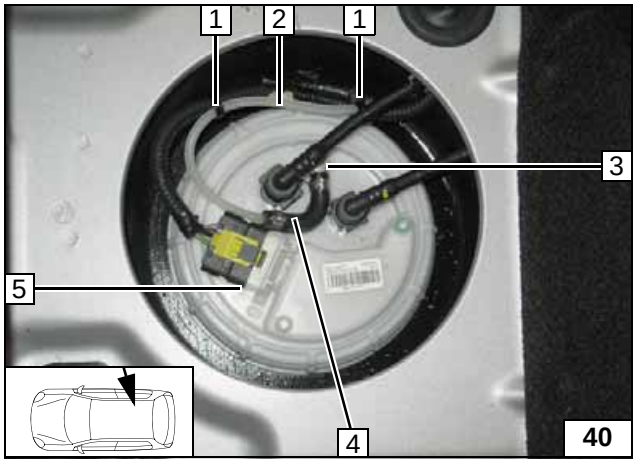
2 Large diameter washer outer dia. = 21.6mm, place as shown
3 Copy hole pattern, 6 mm dia. hole

Fuel extraction



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

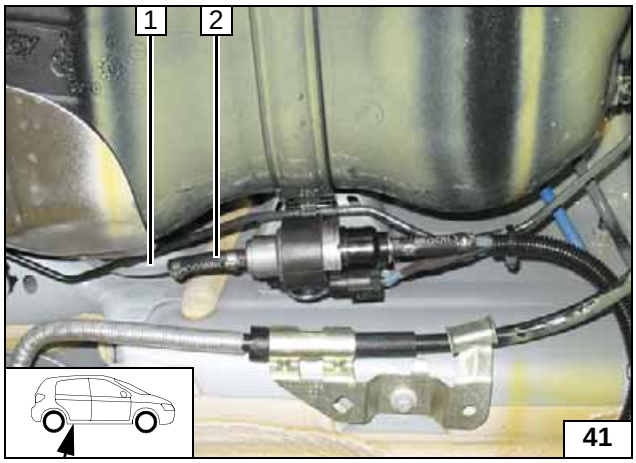
Installation of fuel standpipe



Install fuel-tank sending unit **5** according to manufacturer's specifications.

1 Cable tie [2x]
2 Fuel line
3 Fuel standpipe
4 Moulded hose, 10 mm dia. clamp [2x]

Fuel extraction



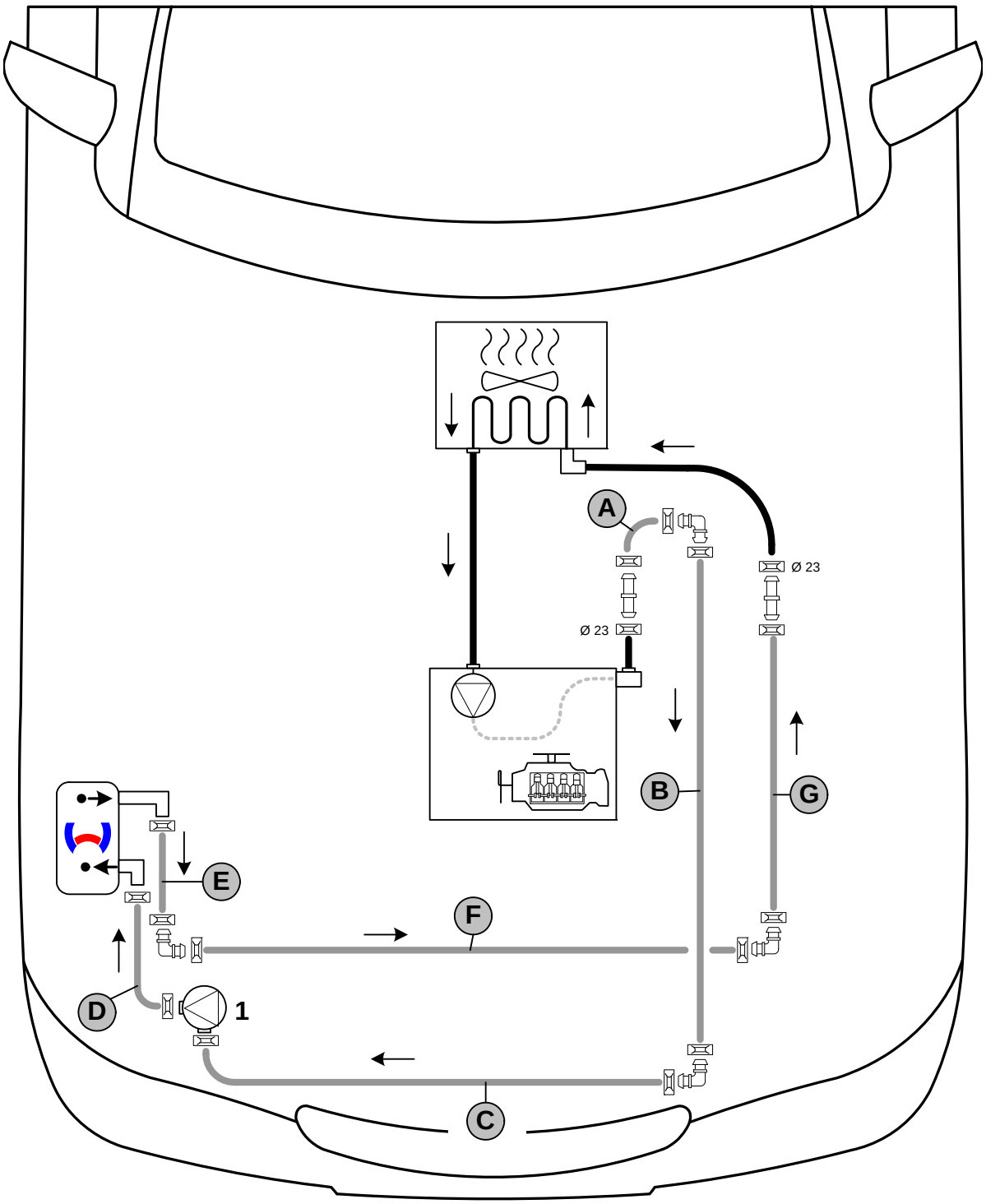
1 Fuel line of fuel standpipe
2 Hose section, 10 mm dia. clamp [2x]

Connecting metering pump

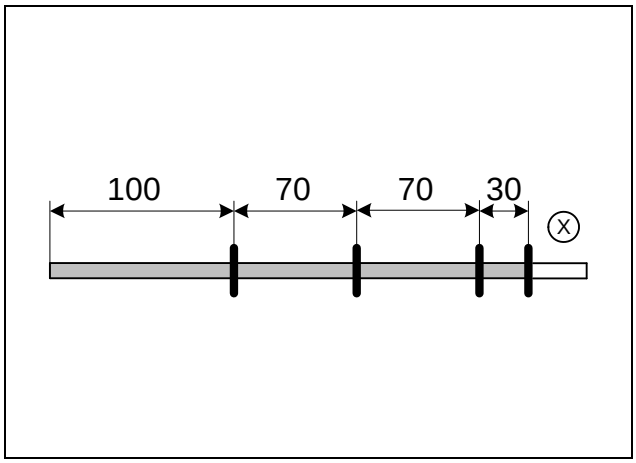
Coolant Circuit

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

Hose routing diagram

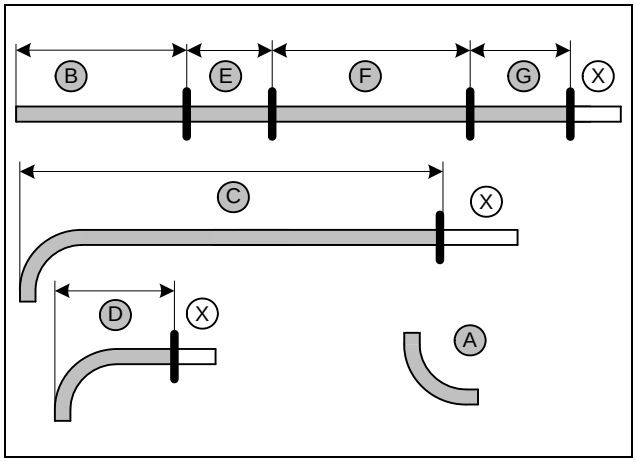


All spring clips without specific designation = 25mm dia.
All connecting pipes = 16x18mm dia.
All connecting pipes = 18x18mm dia.



Discard section **X**.

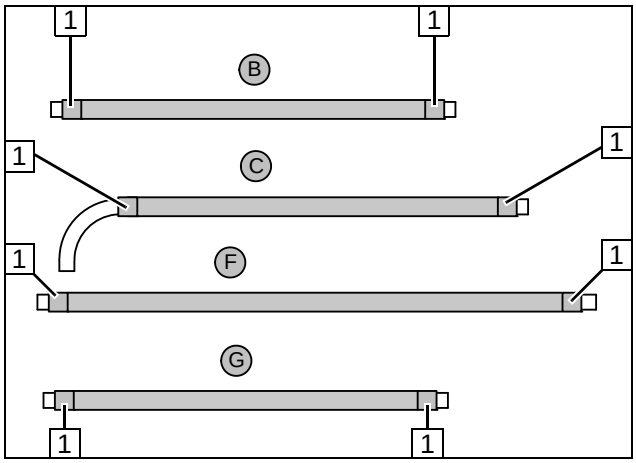
Cutting edge protection section to length



Discard section **X**.
Hose **A** = 18mm dia. 90° moulded hose
Hose **C** = 18mm dia. 90° moulded hose
Hose **D** = 18mm dia. 90° moulded hose

B = 580
C = 610
D = 130
E = 110
F = 710
G = 560

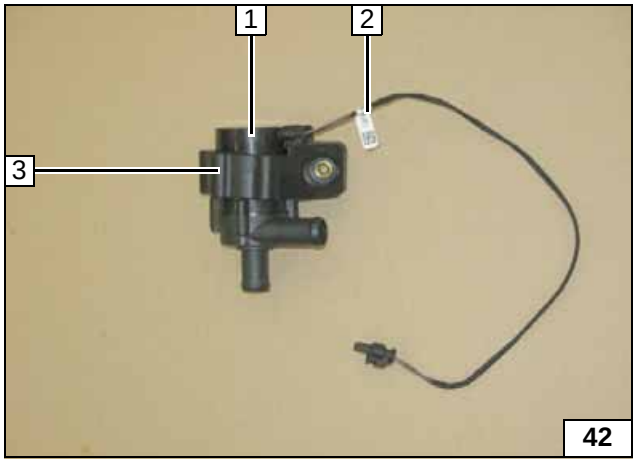
Cutting hoses to length



Push braided protection hoses onto hoses **B**, **C, F** and **G** and cut to length.
Cut heat shrink plastic tubing to length.

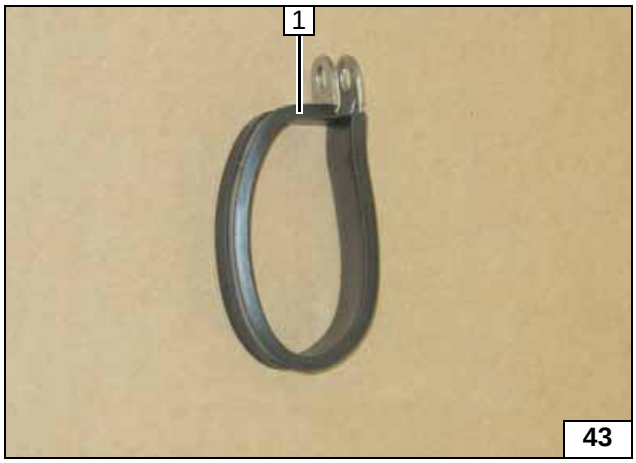
1 50 mm long heat shrink plastic tubing [8x]

Preparing hoses



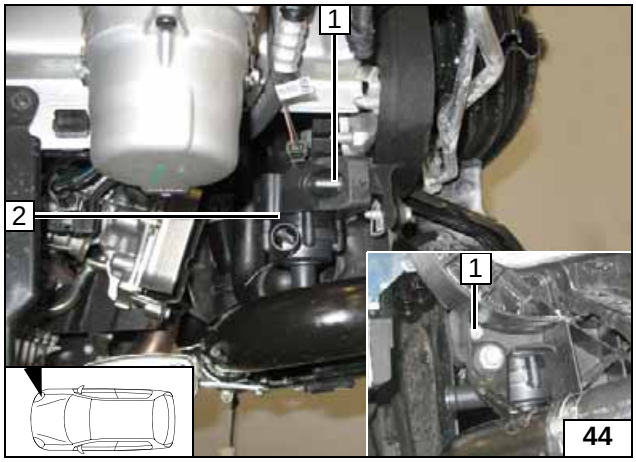
1 Circulating pump
2 Wiring harness of circulating pump
3 Circulating pump mounting

Premounting circulating pump



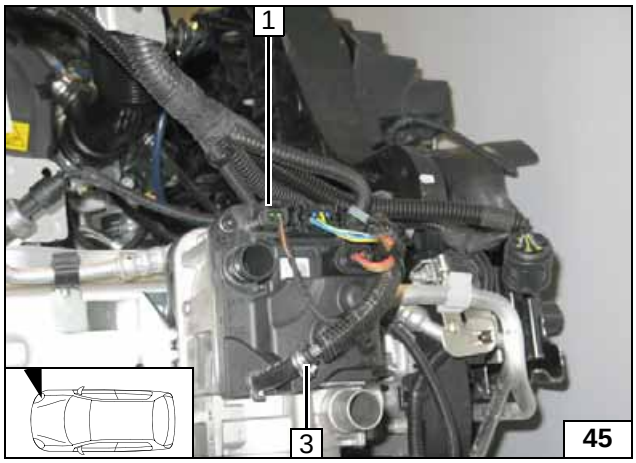
Shape rubber-coated p-clamp 38mm dia. **1** as shown [2x].

Preparing p-clamp



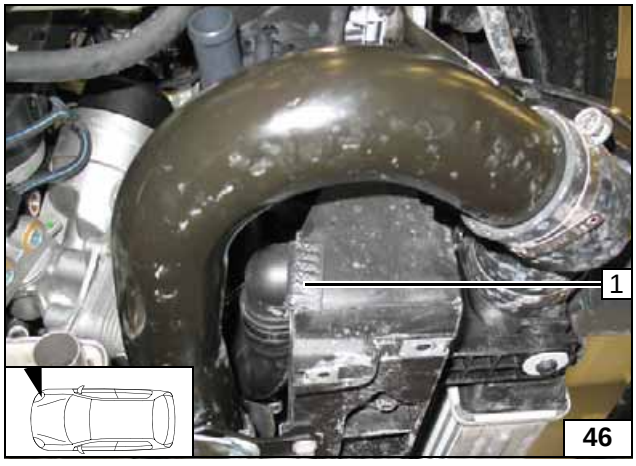
1 M6x30 bolt, original vehicle hole, flanged nut
2 Circulating pump

Installing circulating pump



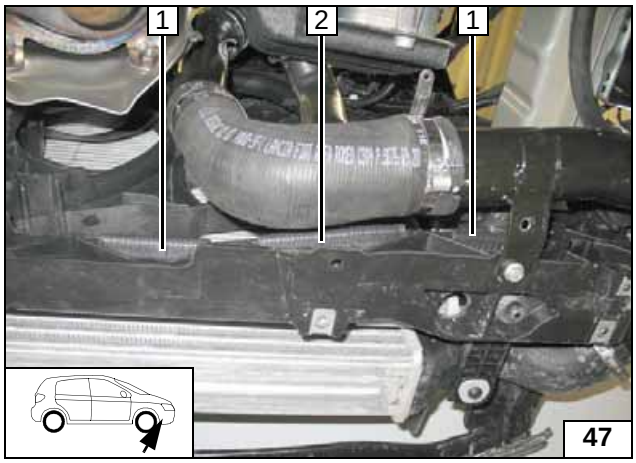
1 Wiring harness of circulating pump

Connecting circulating pump to heater



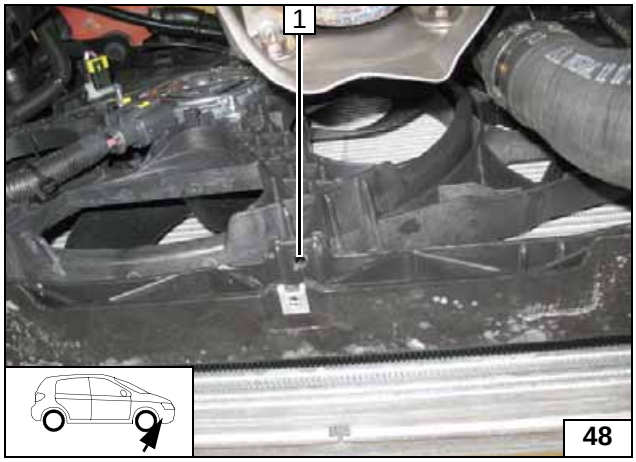
1 30mm edge protection section

Preparing hose routing



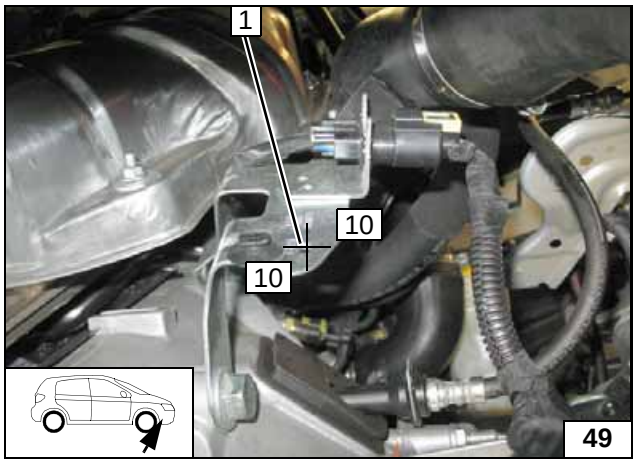
1 70mm edge protection section [2x]
2 100mm edge protection section

Preparing hose routing



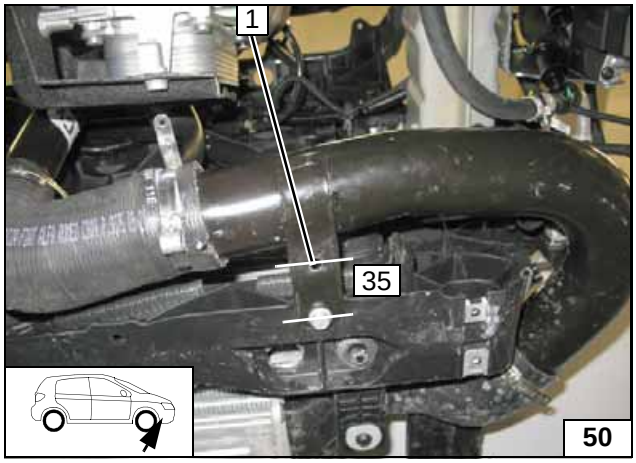
Centrally drill hole **1** to 7mm dia.

Preparing hose routing



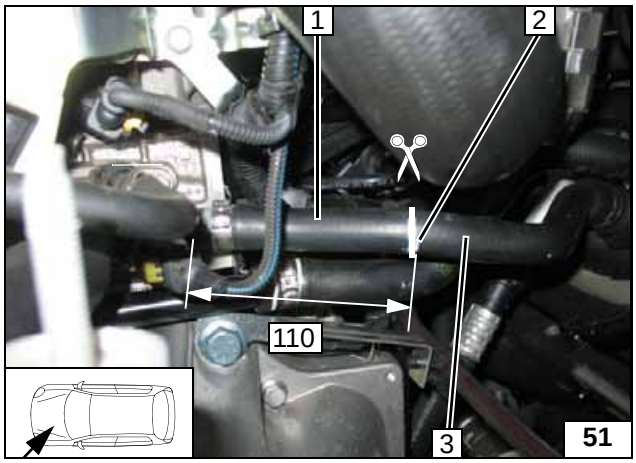
Drill hole **1** to 7mm dia.

Preparing hose routing



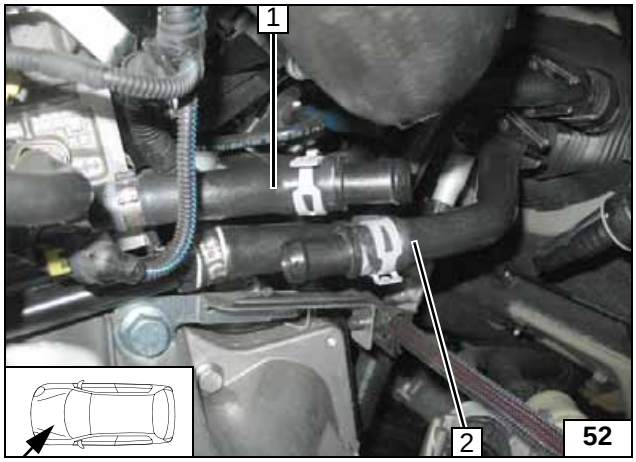
Centrally drill hole **1** to 7mm dia.

Hole for exhaust silencer



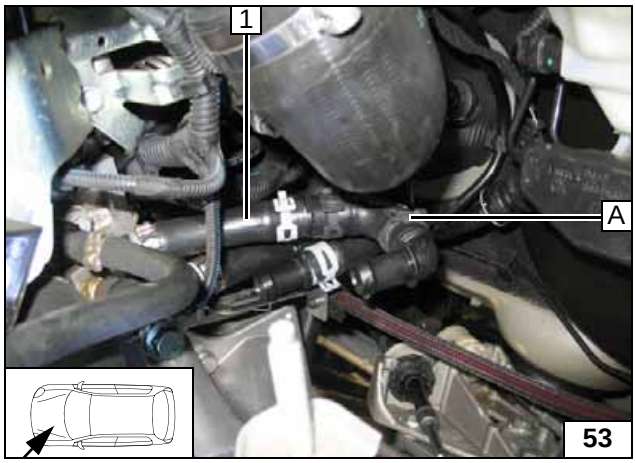
1 Hose of engine outlet
2 Cutting point
3 Hose section of heat exchanger inlet

Cutting point



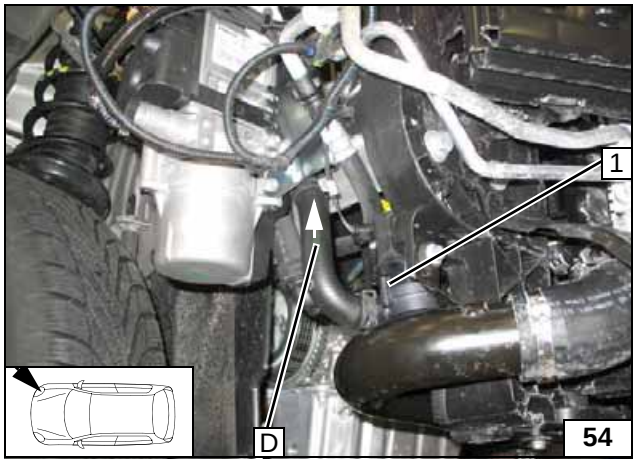
1 Hose section of engine outlet
2 Hose section of heat exchanger inlet

Preparing connection



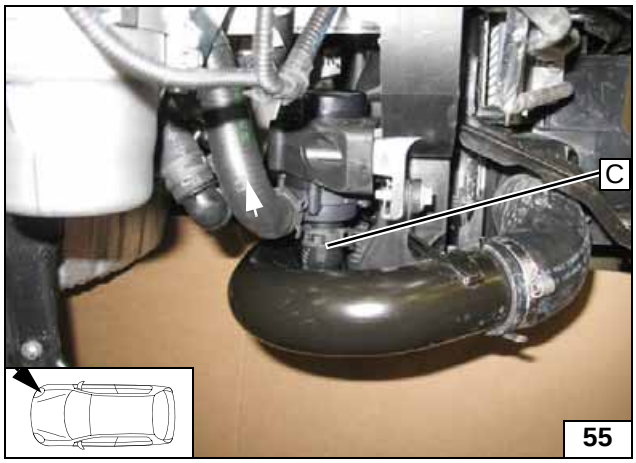
1 Hose section of engine outlet

Preparing connection

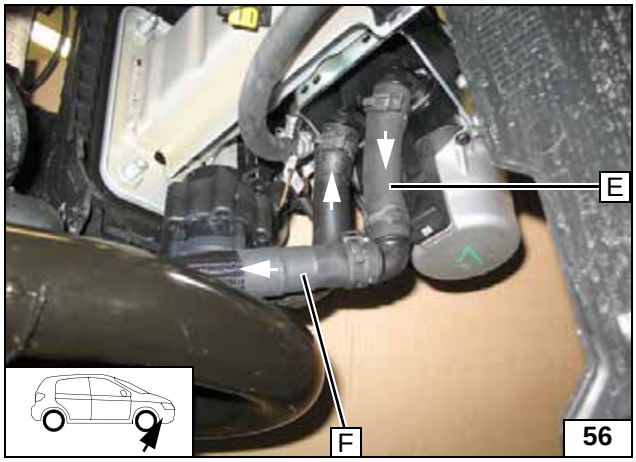


1 Circulating pump

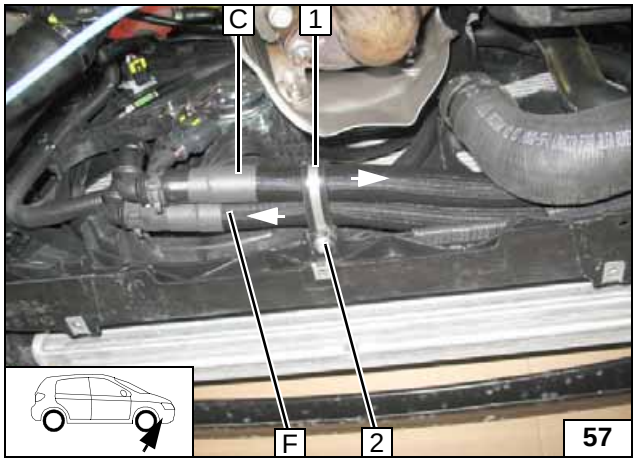
Connecting heater / circulating pump



Connecting circulating pump



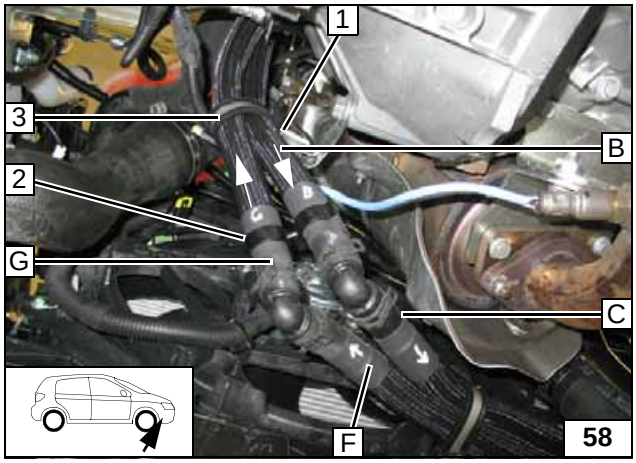
Connecting heater



Ensure sufficient distance from neighbouring components.

1 38 mm dia. rubber-coated p-clamp
2 M6x16 bolt, flanged nut

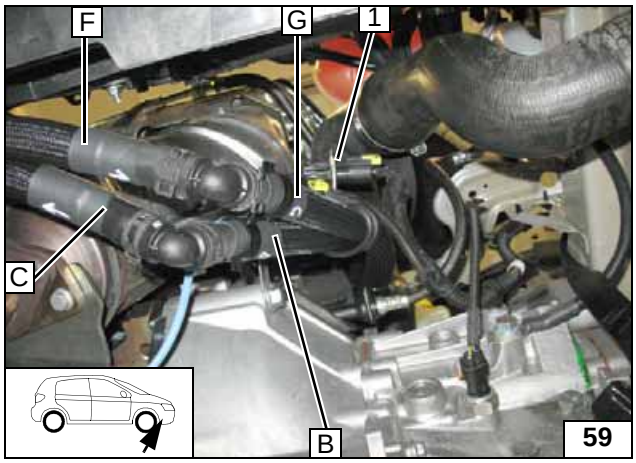
Routing



Ensure sufficient distance from neighbouring components.

1 M6x20 bolt, flanged nut
2 Hose bracket
3 38 mm dia. rubber-coated p-clamp

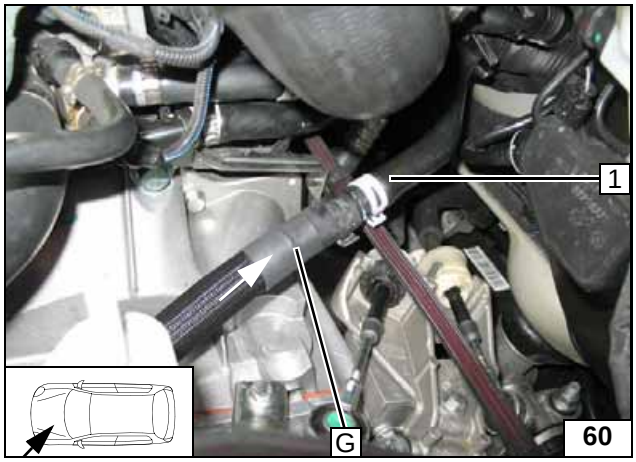
Routing



Ensure sufficient distance from neighbouring components.

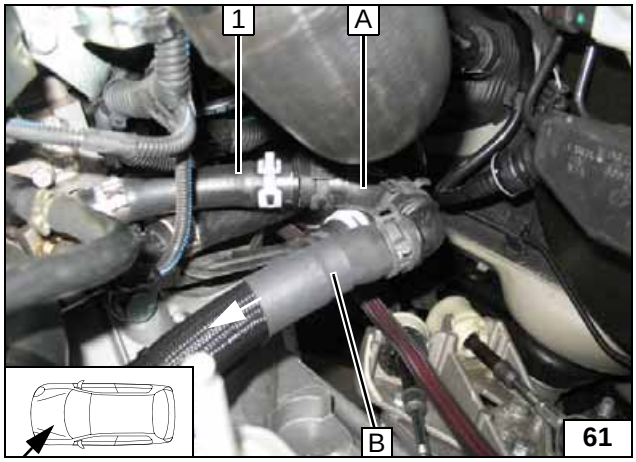
Connector **1** reattached to bracket.

Routing



1 Hose section of heat exchanger inlet

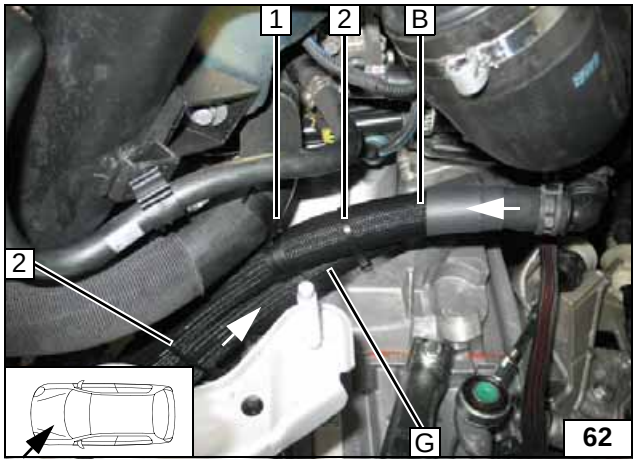
Connecting heat exchanger inlet



Ensure sufficient distance from neighbouring components.

1 Hose section of engine outlet

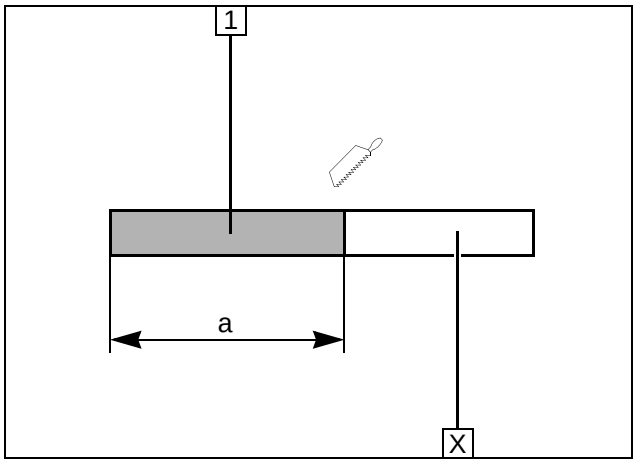
Connecting engine outlet



Ensure sufficient distance from neighbouring components.

1 37x25mm hose bracket
2 Cable tie [2x]

Aligning hoses

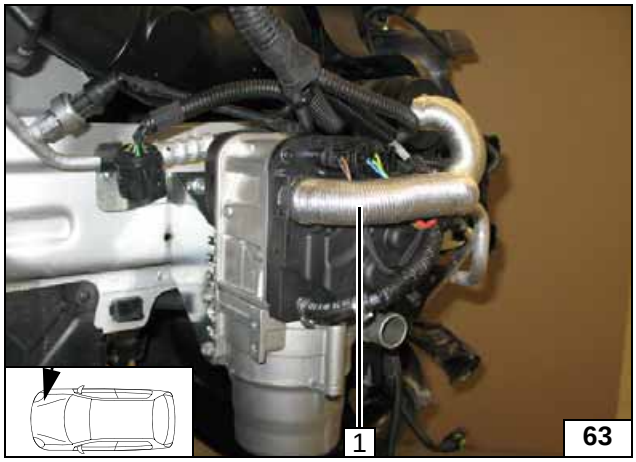


Combustion Air

Discard section **X**.

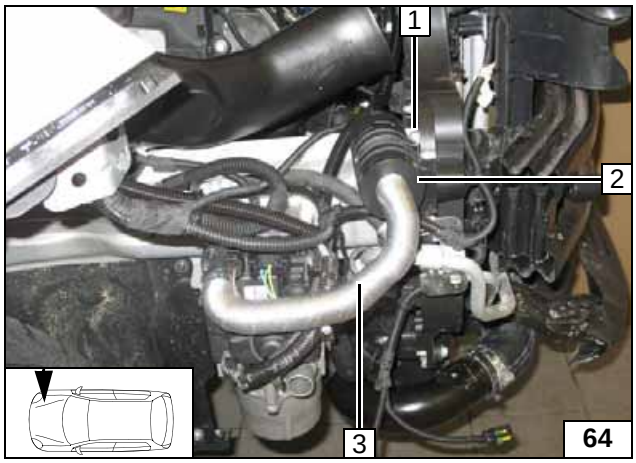
1 Combustion air pipe
a = 330

Cutting combustion air pipe to length



1 Combustion air pipe

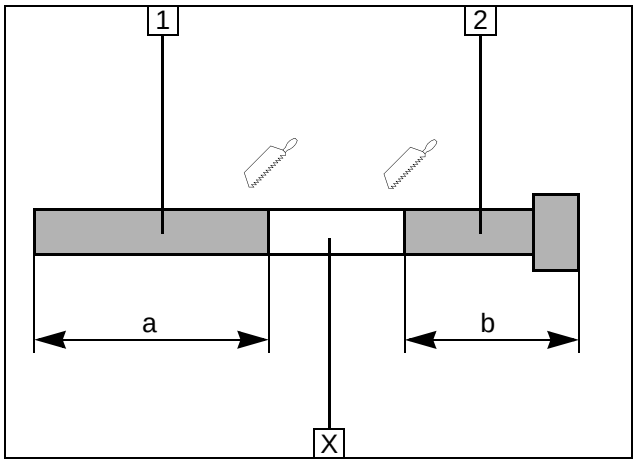
Installing combustion air pipe



Ensure sufficient distance from neighbouring components.

1 M5x16 bolt, 51mm dia. p-clamp, large diameter washer, flanged nut
2 Silencer
3 Combustion air pipe

Installing silencer

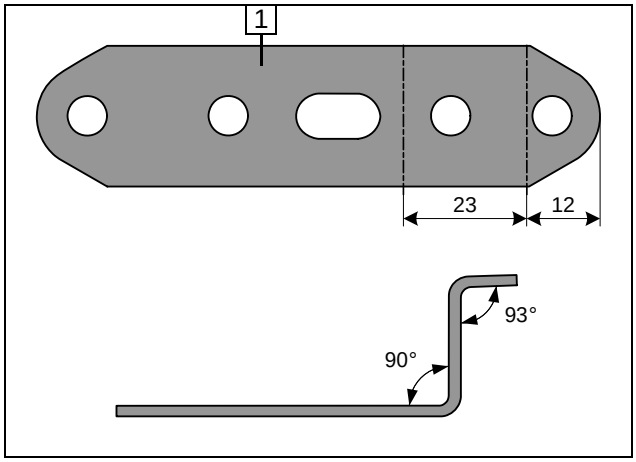


Exhaust Gas

Discard section **X**.

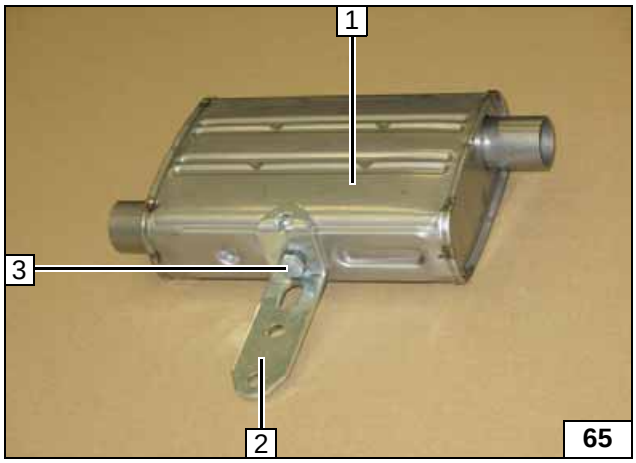
1 Exhaust pipe
a = 490
2 Exhaust end section
b = 130

Preparing exhaust pipe



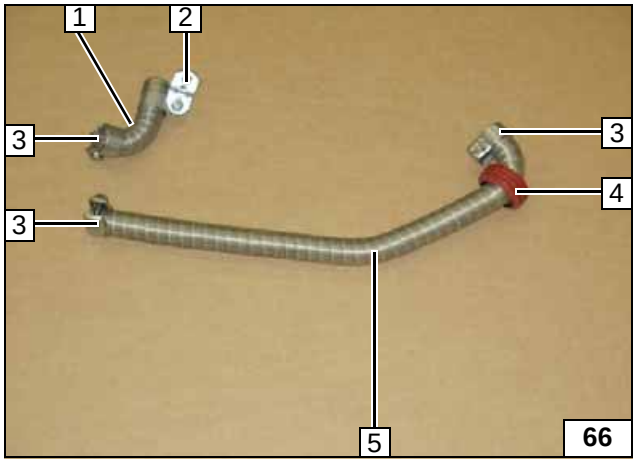
1 Angle down perforated bracket

Preparing perforated bracket



1 Silencer
2 Perforated bracket
3 M6x16 bolt, spring lockwasher

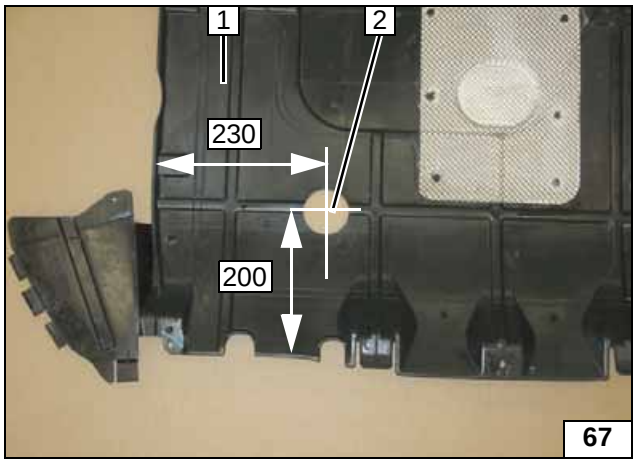
Premounting silencer



Shape exhaust end pipe **1** and exhaust pipe **5** as shown.

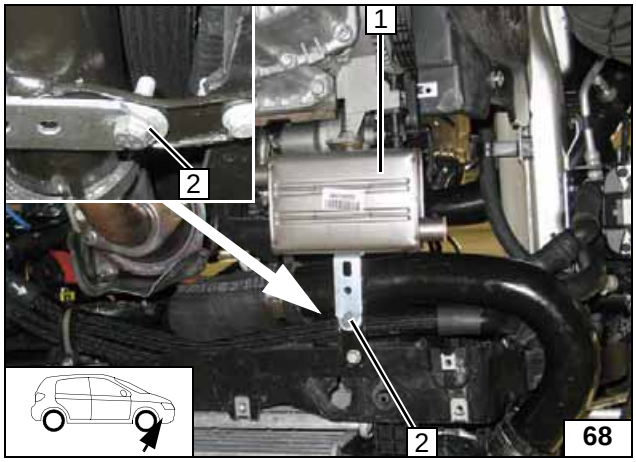
2 Angle bracket, M6x20 bolt, pipe clamp, flanged nut
3 Hose clamp [3x], loosely attached
4 Spacer bracket

Preparing exhaust pipes



1 Underride protection
2 60mm dia. hole

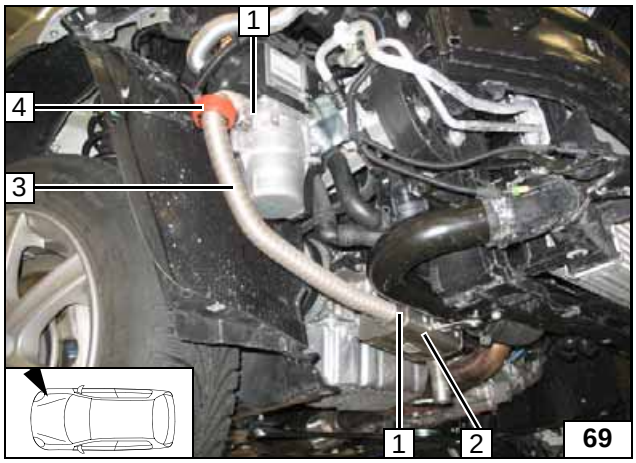
Preparing underride protection



Ensure sufficient distance from neighbouring components.

1 Silencer
2 M6x20 bolt, large diameter washer, flanged nut

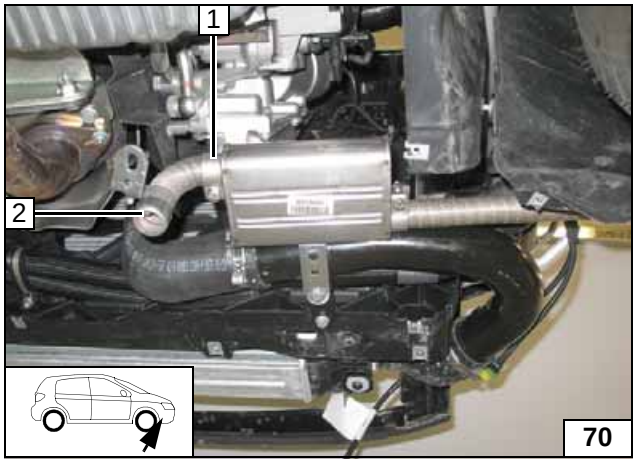
Installing silencer



Ensure sufficient distance from neighbouring components.

1 Tighten hose clamp [2x]
2 Silencer
3 Exhaust pipe
4 Align spacer bracket

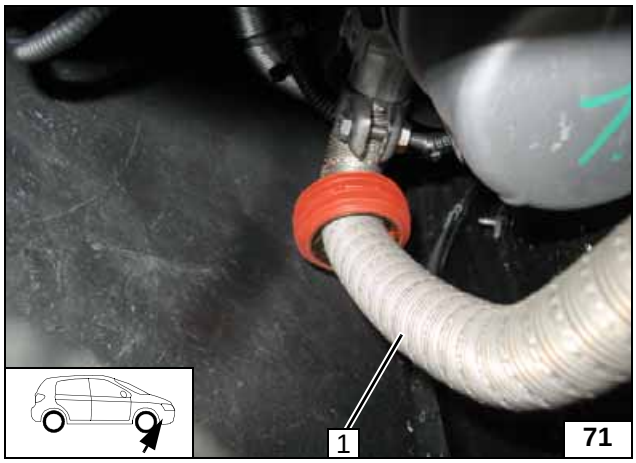
Installing exhaust pipe



Ensure sufficient distance from neighbouring components.

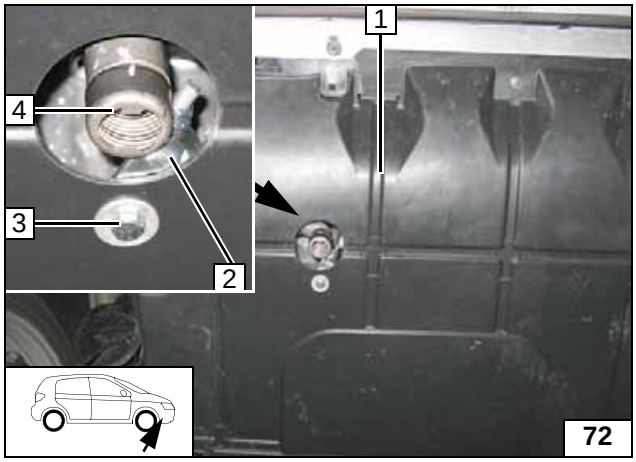
1 Fasten hose clamp
2 Exhaust end section

Installing exhaust end section



Check position of exhaust pipe **1** after installation of bumper trim.

Aligning exhaust pipe



Install underride protection **1**, centrally align exhaust outlet **4**, copy hole pattern of angle bracket **2** and drill.

2 M6x20 bolt, large diameter washer, flanged nut

Mounting underride protection

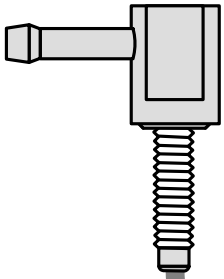
Final Work

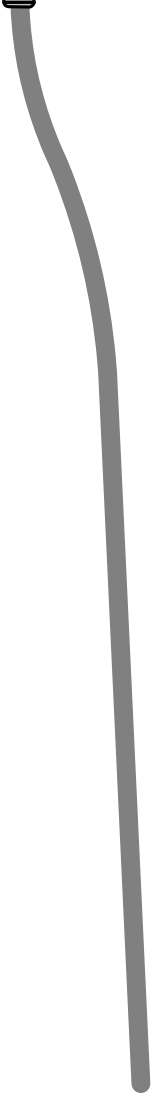
WARNING!
Mount removed parts in reverse order.
Check all hoses, clamps and all electrical connections for firm seating.
Secure all loose wires using cable ties.
Only use manufacturer-approved coolant.
Spray the heater components with anti-corrosion wax (Tectyl 100K, Order No. 111329).

- **Connect the battery.**
- **Fill and bleed the coolant circuit according to the vehicle manufacturer's specifications.**
- **Adjust digital timer, teach Telestart transmitter.**
- **Make settings on A/C control panel according to the "Operating Instructions for the End Customer".**
- **Place the "Switch the parking heater off before refueling" signboard in the area of the filler neck.**
- **For initial startup and function check, please see installation instructions.**

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

Webasto
Feel the Drive

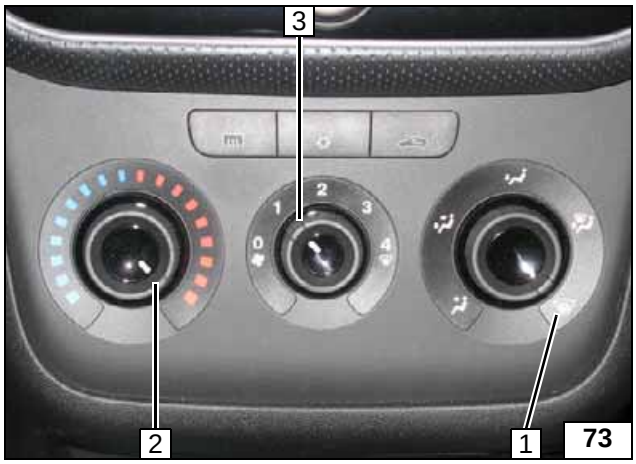
Operating Instructions for Manual Air-Conditioning

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.

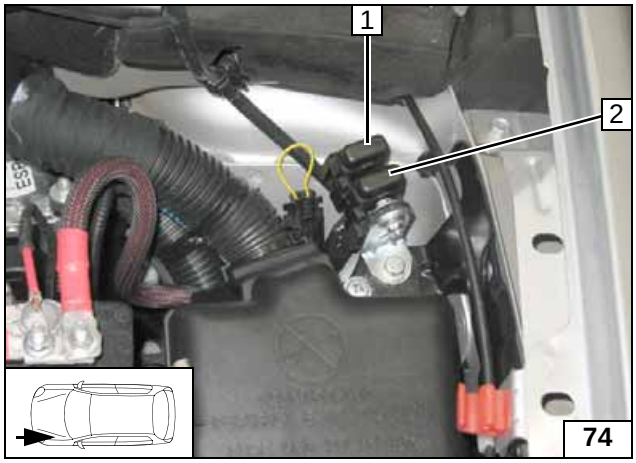
Passenger compartment monitoring, if installed, must be deactivated in addition to the vehicle settings for the heating operation.
For instructions on deactivation, please refer to the operating instructions of the vehicle.

Before parking the vehicle, make the following settings:



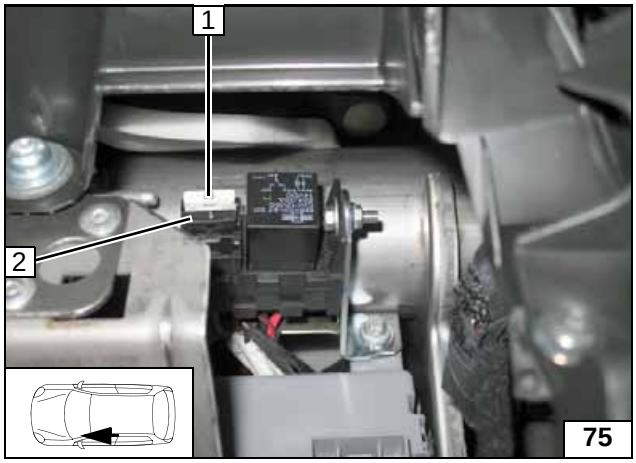
1 Air outlet to windscreen
2 Set temperature to "max."
3 Set fan to level "1", or max. "2"

A/C control panel



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

Fuses of engine compartment



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

Fuses of passenger compartment

Webasto
Feel the Drive

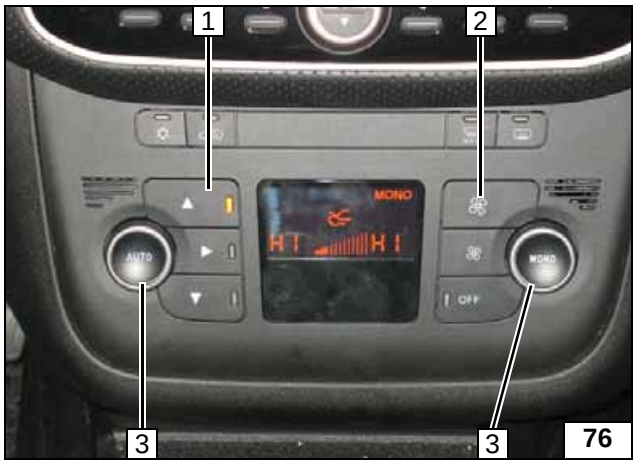
Operating Instructions for Automatic Air-Conditioning

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.

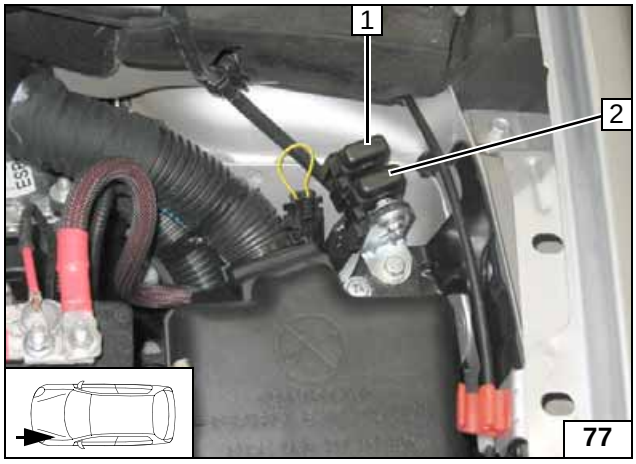
Passenger compartment monitoring, if installed, must be deactivated in addition to the vehicle settings for the heating operation.
For instructions on deactivation, please refer to the operating instructions of the vehicle.

Before parking the vehicle, make the following settings:



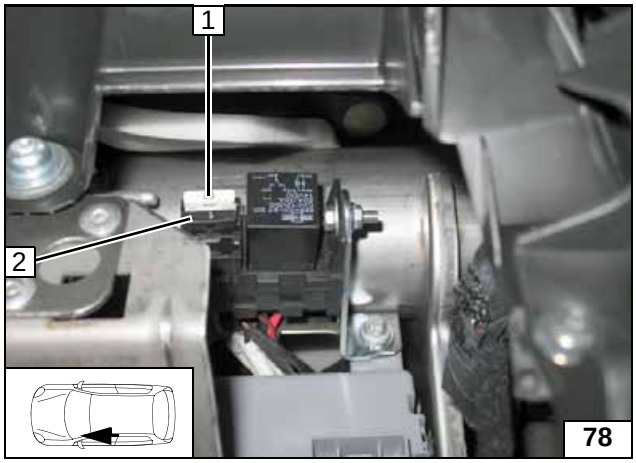
1 Air outlet to windscreen
2 Set fan to level "2", or max. "3"
3 Set temperature to "HI“ on both sides

A/C control panel



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

Fuses of engine compartment



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

Fuses of passenger compartment