Water Heater

Webasto
Feel the Drive

Thermo Top Evo Parking Heater

E1
00 0258

Installation Documentation
Opel Corsa

Validity

Manufacturer	Model	Type	EG-BE-No. / ABE
Opel	Corsa	S-D	e1 * 2001 / 116 * 0379 * ...

Motorisation	Fuel	Transmission type	Output in kW	Displacement in cm³	Engine code
1.2	Petrol	5-speed SG	51	1229	A12XER
1.4	Petrol	5-speed SG	64	1398	A14XER
1.4	Petrol	5-speed SG	74	1398	A14XER

SG = Manual transmission

From Model Year 2010
Left-hand drive vehicle

Verified equipment variants:	Manual / automatic air-conditioning system
	Front fog light
Not verified:	Passenger compartment monitoring Quick Heat Heating System
Total installation time:	approx. 8.5 hours

Opel Corsa

Table of Contents

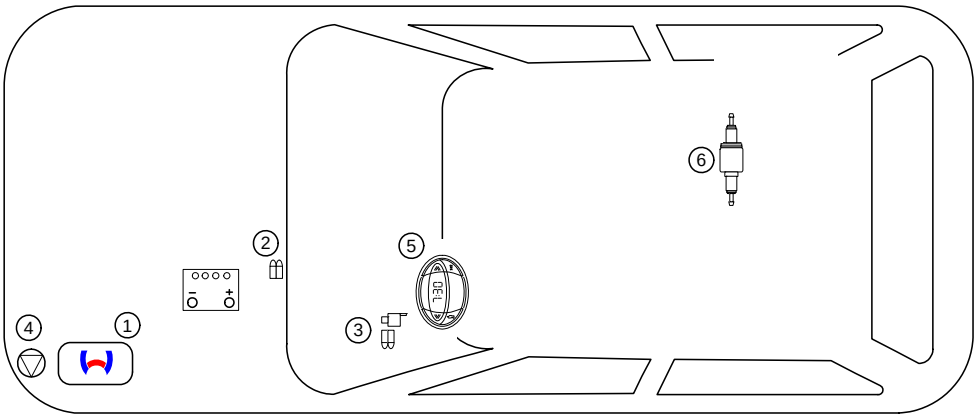
Necessary Components

- Basic delivery scope *Thermo Top Evo* based on price list
- Installation kit for Opel Corsa 2010 Petrol: **1316242A**
- 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 upon consultation with end customer

Installation Overview

Legend:

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



Notes on Total Installation Time

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

Information on Operating and Installation Instructions

1 Important Information (not complete)

1.1 Installation and Repair

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

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

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

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

1.2 Operation

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

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

Always switch off the heater before refuelling.

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

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

1.3 Please note

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

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

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

Important

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

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

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

Installation should be carried out according to the general, standard rules of technology. Unless specified otherwise, fasten hoses, lines and wiring harnesses to original vehicle lines and wiring harnesses using cable ties. Insulate loose wire ends and tie back. Connectors on electronic components must audibly snap into place during assembly.

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

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

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

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

2 Statutory regulations governing installation

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

Note

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

Important

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

Note

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

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

Beginning of excerpt.

ANNEX VII

REQUIREMENTS FOR COMBUSTION HEATERS AND THEIR INSTALLATION

1. GENERAL REQUIREMENTS

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

2. VEHICLE INSTALLATION REQUIREMENTS

2.1. Scope

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

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

2.2. Positioning of heater

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

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

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

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

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

2.3. Fuel supply

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

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

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

2.4. Exhaust system

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

2.5. Combustion air inlet

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

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

2.6. Heating air inlet

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

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

2.7. Heating air outlet

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

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

End of excerpt.

In multilingual versions the German language is binding.

Opel Corsa

Notes on Validity

This installation documentation applies to the Opel Corsa 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 Instructions

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

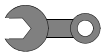
Dimensions
- All dimensions are in mm

Tightening torque values
- Tightening torque values of 5x13 heater bolts and 5x11 heater stud bolts = 8Nm.
- Tightening torque of 5x15 bolt of water connection piece retaining plate = 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

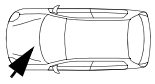
Specific risk of damage to components

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



Opel Corsa

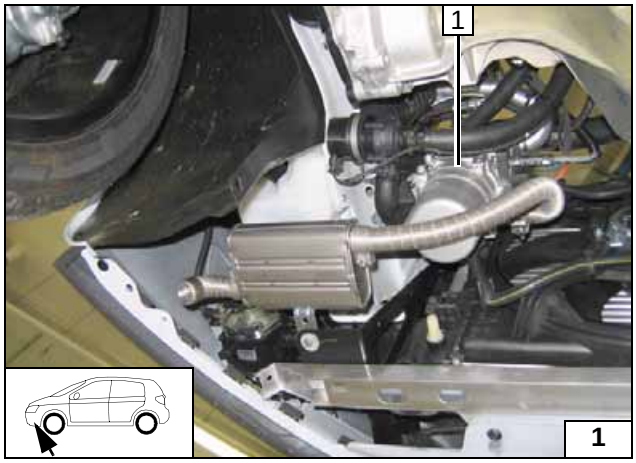
Preliminary Work

Vehicle

- Open the fuel tank cap.
- Ventilate the fuel tank.
- Close the fuel tank cap again.
- Depressurise the cooling system.
- Disconnect the battery.
- Remove the engine control unit.
- Disconnect the coolant expansion tank and lay it aside.
- Remove the rear bench seat.
- Open the right-hand tank-fitting service lid.
- Remove the fuel-tank sending unit in accordance with the manufacturer's instructions.
- Remove the cover of the light switch.

Heater

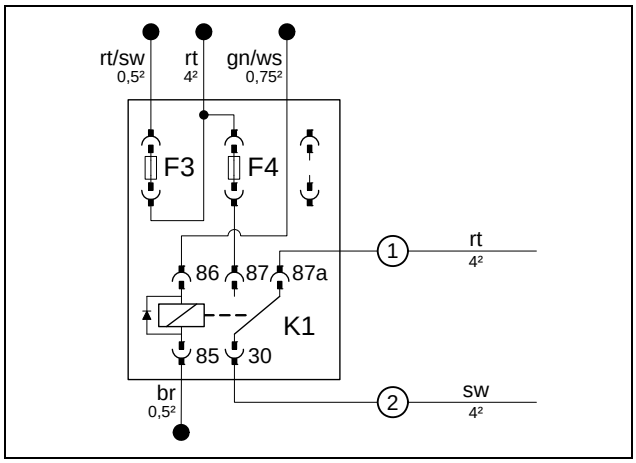
- Remove years that do not apply from the type and duplicate label.
- Attach the duplicate label (type label) in the appropriate place inside the engine compartment.



Heater Installation Location

1 Heater

Installation location

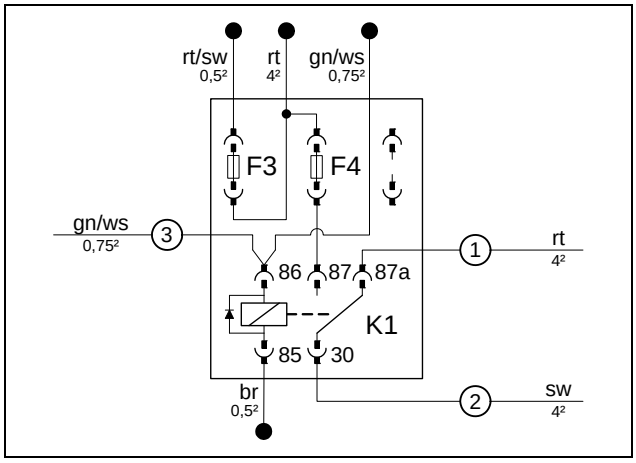


Preparing Electrical System

Wire sections retain their numbering in the entire document.

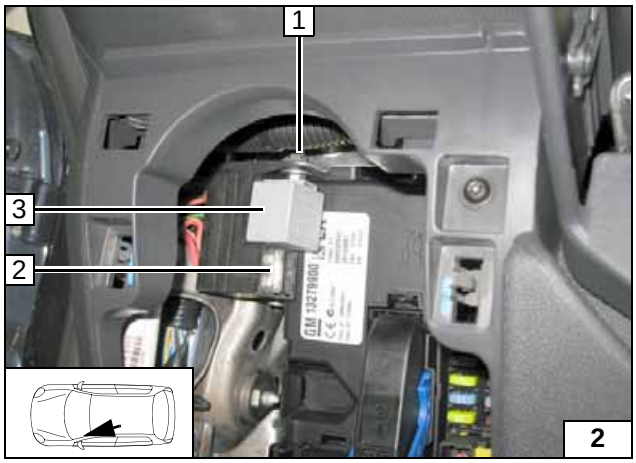
Manual air-conditioning
Produce connections as shown in wiring diagram.
F4 25A and K1 relays are installed after assembling the fuse carrier. Wiring harness with red (rt) wire ① and black (sw) wire ② will be routed later in the footwell on the front passenger's side to the fan motor.

Preparing fuse carrier of the passenger compartment



Automatic air-conditioning
Produce connections as shown in wiring diagram.
F4 25A and K1 relays are installed after assembling the fuse carrier. Wiring harness with red (rt) wire ① and black (sw) wire ② will be routed to the fuse and relay box inside the engine compartment later. Pull green/white (gn/ws) wire ③ into protective sleeving, will be routed to the A/C control panel later.

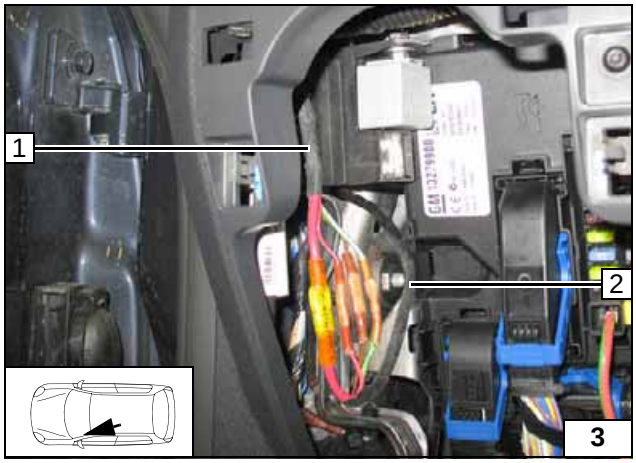
Preparing fuse carrier of the passenger compartment



All vehicles

1. Mount M5x16 bolt, large diameter washer, flanged nut, existing hole
2. F4 25A fuse mounted
3. K1 relay mounted

Installing passenger compartment fuse holder



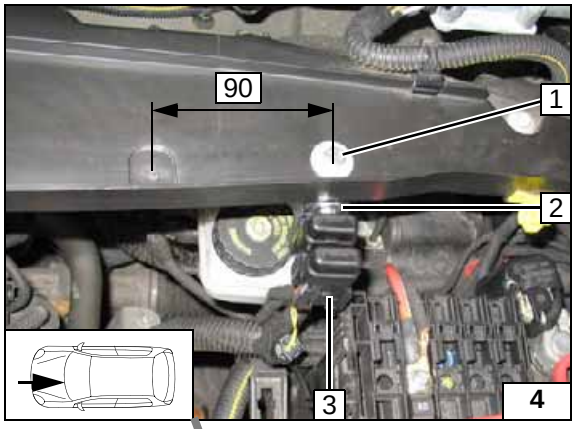
Connect wiring harness of fuse holder in passenger compartment **1** to wiring harness of fuse holder in engine compartment **2** according to the wiring diagram, so that the wires of the same colour are connected!

Connecting the wiring harnesses

Electrical System

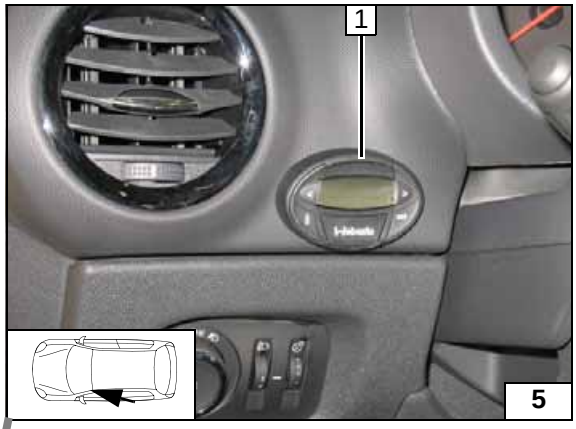
Engine compartment fuse holder

1 7 mm dia. hole, M6x20 bolt, large diameter washer, angle bracket, flanged nut
2 M5x16 bolt, large diameter washer, retaining plate of fuse holder, angle bracket, flanged nut
3 F1-2 fuses mounted



Digital timer

1 Digital timer



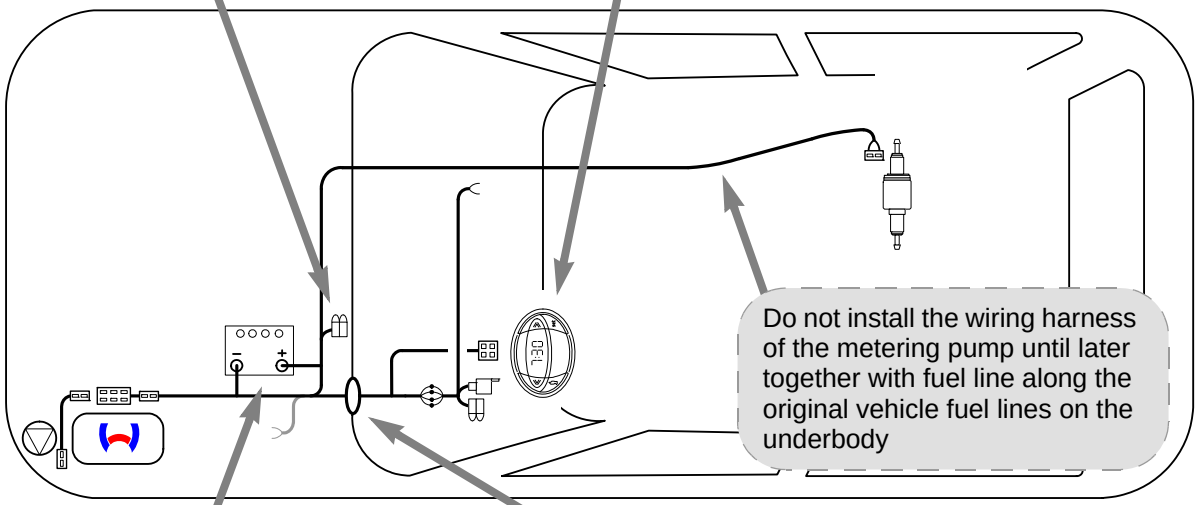
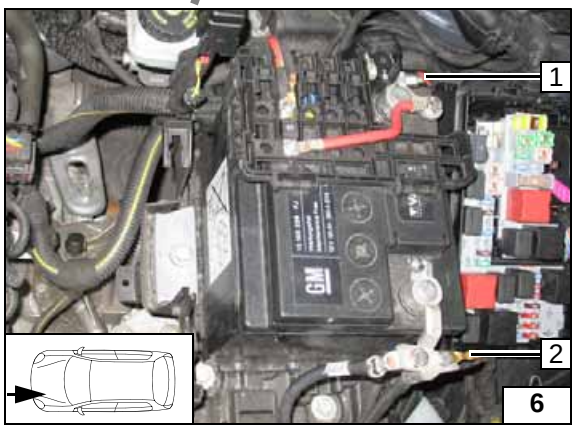
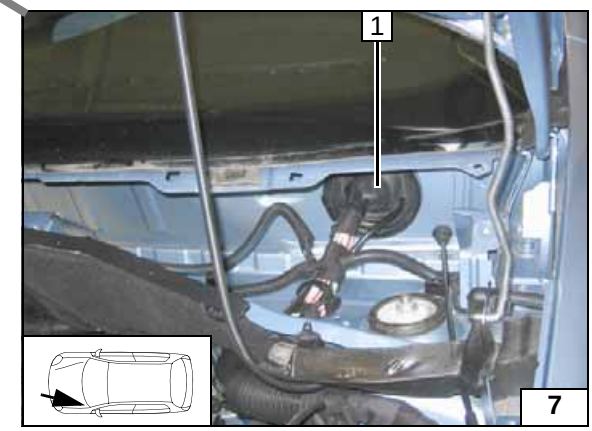


Diagram of wiring harness routing



Positive and earth wire

1 Positive wire on positive battery terminal
2 Earth wire on negative battery terminal

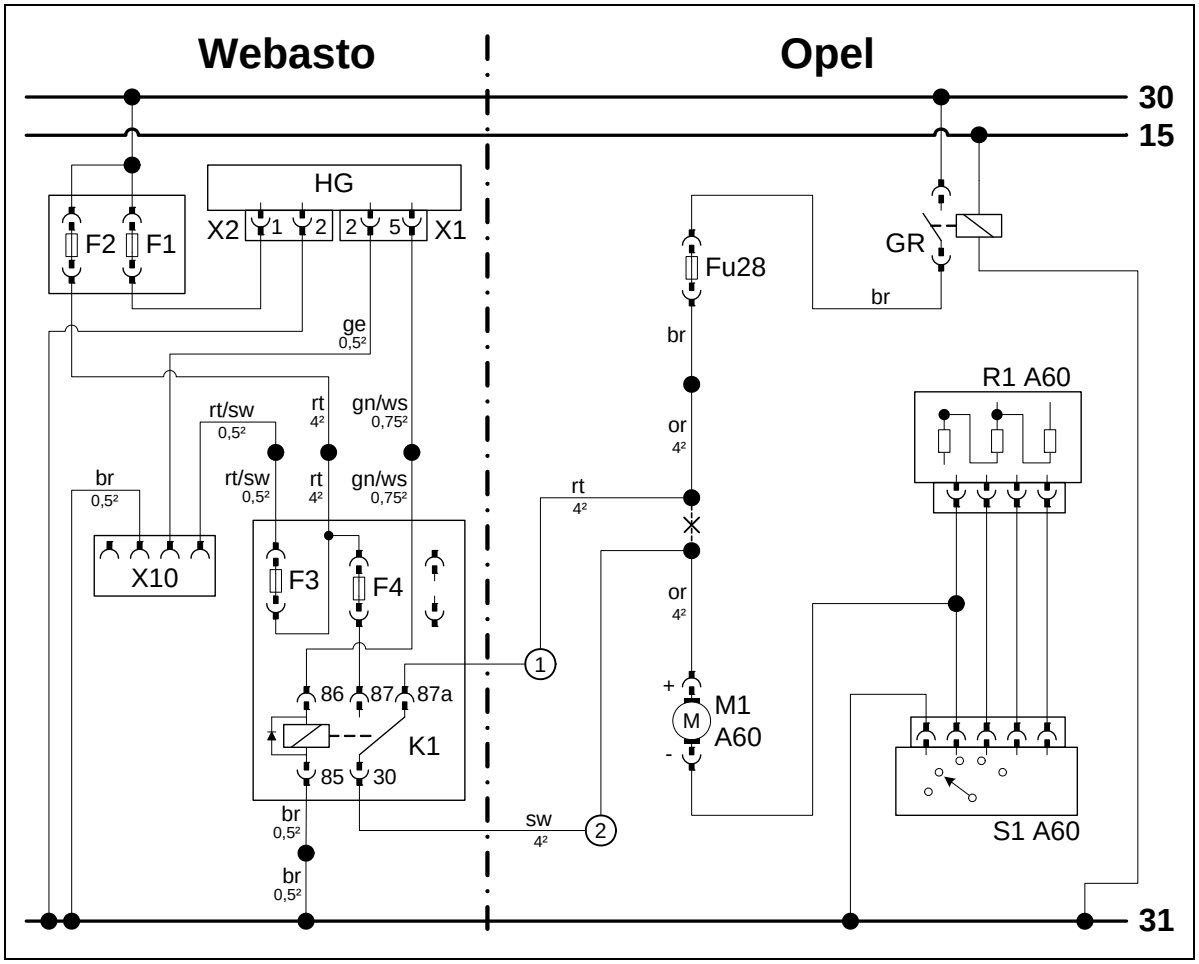


Wiring harness pass through

1 Protective rubber plug

Manual Air-Conditioning Fan Controller

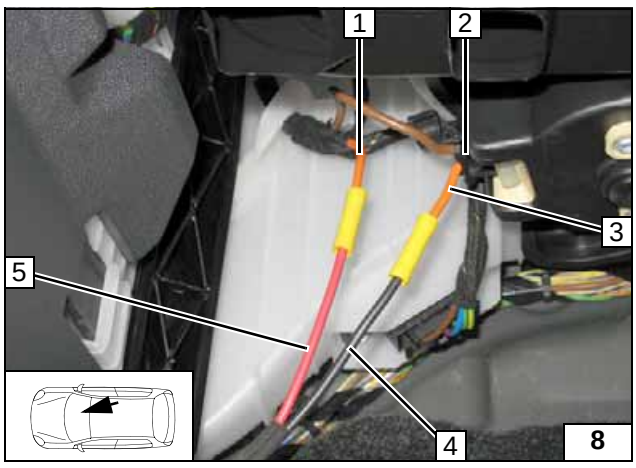
Wiring diagram



Legend

Webasto components		Vehicle components		Colours and symbols	
HG	TT-Evo heater	Fu28	Fuse	rt	red
X1	6-pin heater connector	GR	Fan relay	ws	white
X2	2-pin heater connector	R1 A60	Resistor group	sw	black
X10	4-pin connector of Heater control	M1 A60	Fan motor	br	brown
		S1 A60	Fan switch	gn	green
K1	Fan relay			ge	yellow
F1	Fuse 20A			or	orange
F2	Fuse 30A				
F3	Fuse 1A			**X**	Cutting point
F4	Fuse 25A			Wiring colours may vary.	

Connecting fan motor

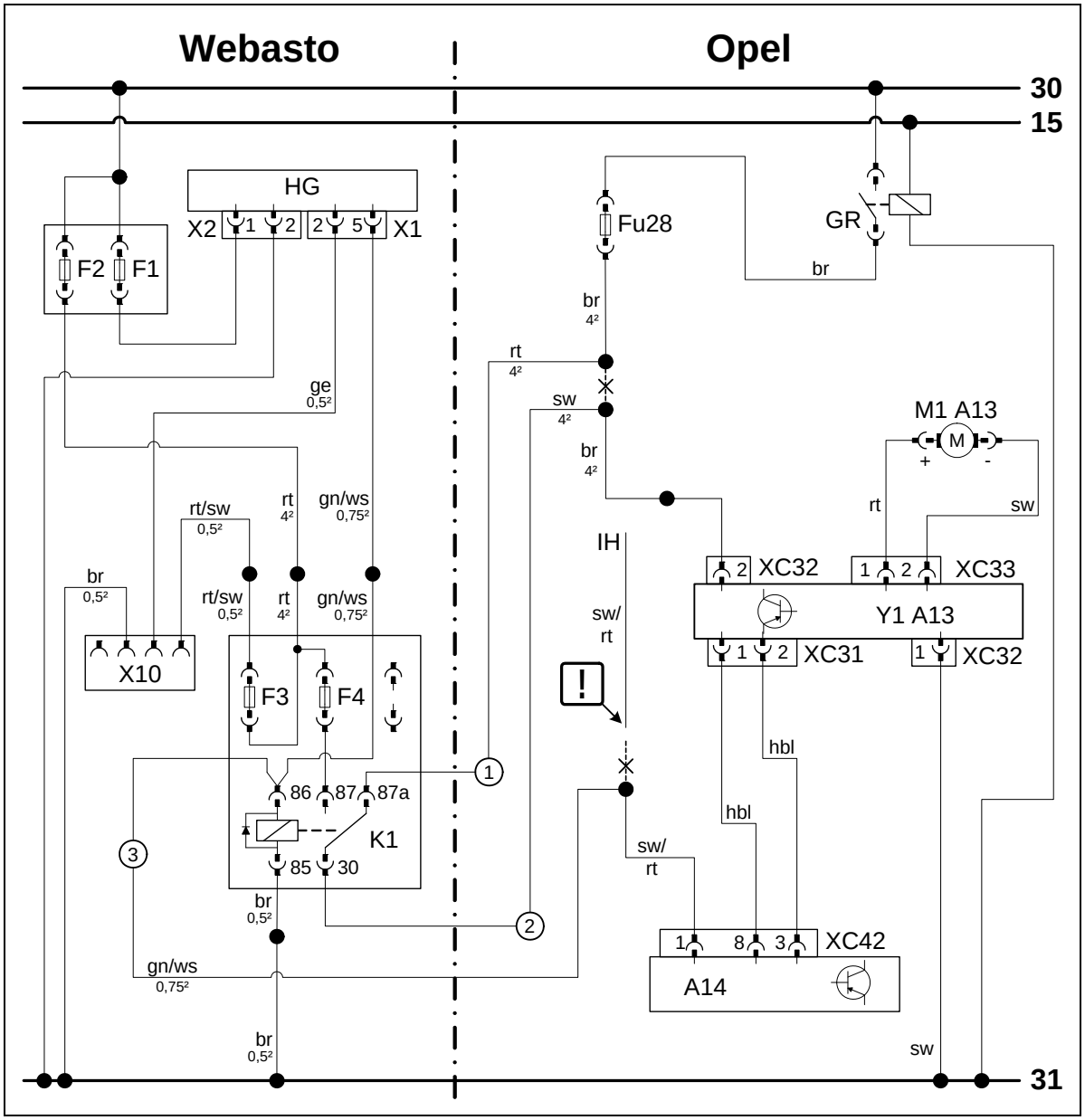


Connection to 2-pin connector **2** from fan motor.
Produce connections as shown in wiring diagram.

1 Orange (or) wire of Fu28 fuse
3 Orange (or) wire of 2-pin connector GM
4 Black (sw) wire ② of K1/30
5 Red (rt) wire ① of K1/87a

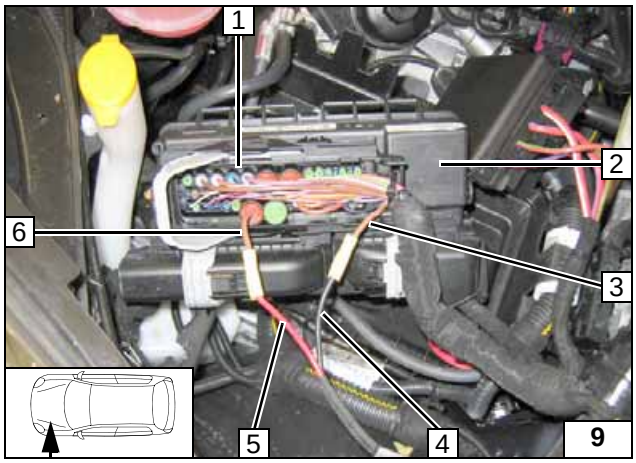
Automatic Air-Conditioning Fan Controller

Wiring diagram



Legend

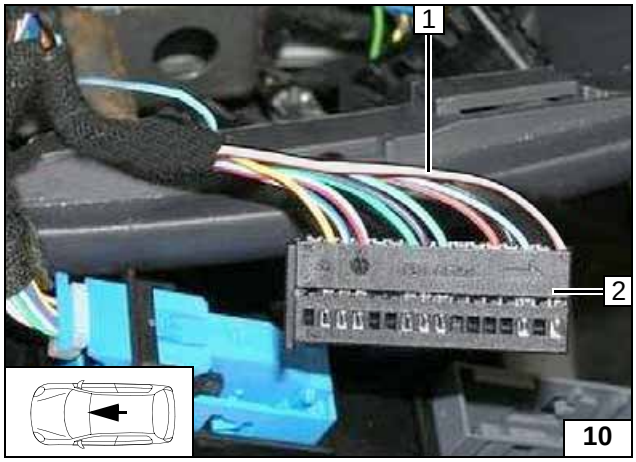
Webasto components		Vehicle components		Colours and symbols	
HG	TT-Evo heater	FU28	Fuse 40A	rt	red
X1	6-pin heater connector	GR	Fan relay	ws	white
X2	2-pin heater connector	M1 A13	Fan motor	sw	black
X10	4-pin connector of Heater control	XC.....	Connector designations	br	brown
				gn	green
K1	Fan relay	IH	Independent heater	hbl	light blue
F1	Fuse 20A			or	orange
F2	Fuse 30A	Y1 A13	Fan controller	!	Insulate wire end and tie back
F3	Fuse 1A	A14	A/C control panel		
F4	Fuse 25A			X	Cutting point
				Wiring colours may vary.	



Connection to connector **1** of fuse and relay box **2** in engine compartment
Produce connections as shown in wiring diagram.

3 Brown (br) wire to fan controller
4 Black (sw) wire ② of K1/30
5 Red (rt) wire ① of K1/87a
6 Orange (or) wire of Fu28 fuse

Connecting fan motor



Connection to grey 32-pin, XC42 connector **2** from the air-conditioning control panel.
Disconnect black/red (ws/rt) wire **1** and produce connection as shown in wiring diagram.

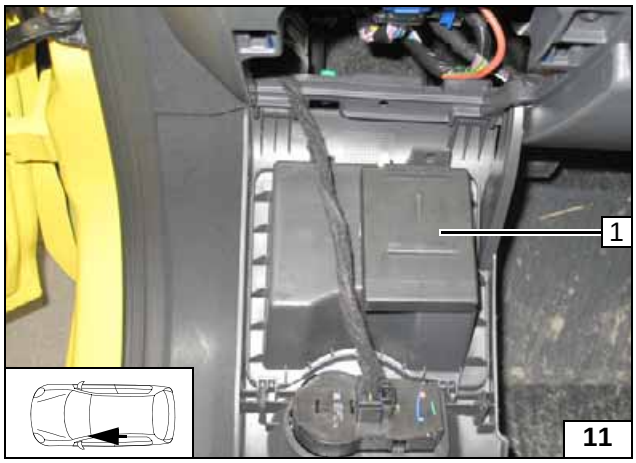
Warning!
If no black/red (sw/rt) wire is available on Pin 1, the green/white (gn/ws) wire ③ from K1/86 is connected there with the attached microtimer.

Connecting A/C control panel

Remote Option (Telestart)

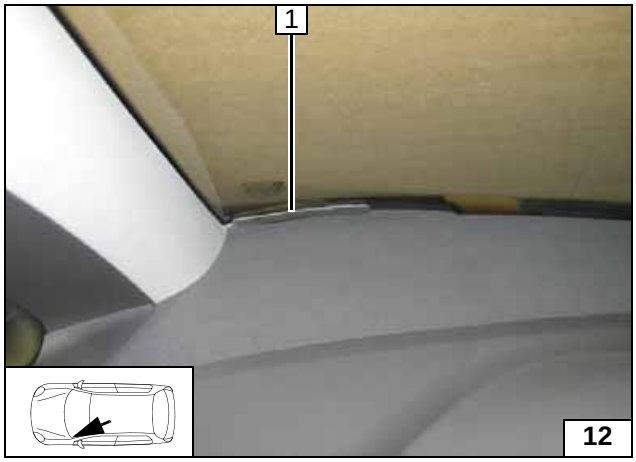
Mounting receiver

Fasten receiver **1** with adhesive tape.



1 Antenna

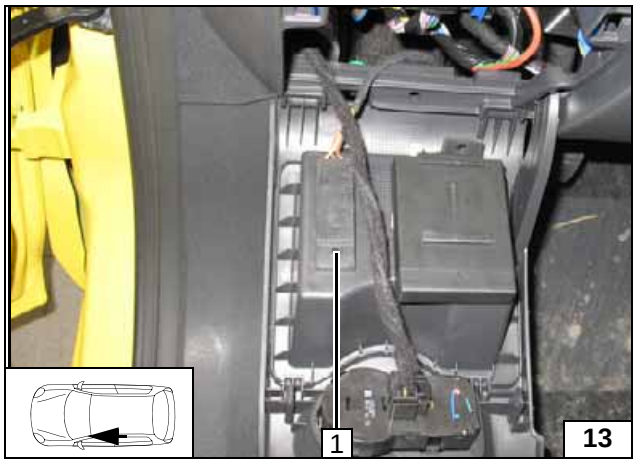
Mounting antenna

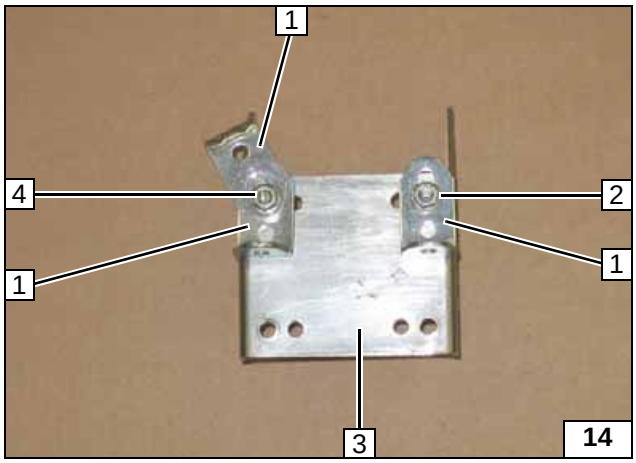


Installing T100 HTM temperature sensor

Installing temperature sensor

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

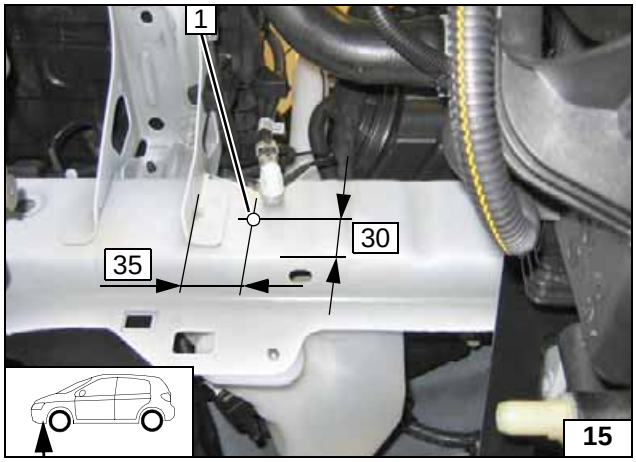




Preparing Bracket

1 Angle bracket [3x]
2 M6x12 bolt, flanged nut
3 Bracket
4 M6x16 bolt, flanged nut

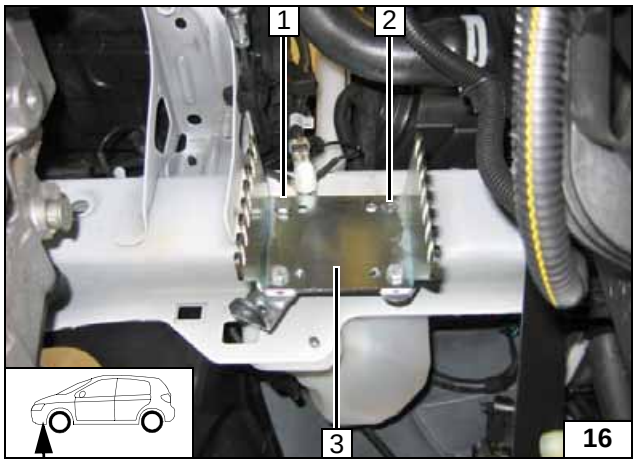
Preparing bracket



Preparing Installation Location

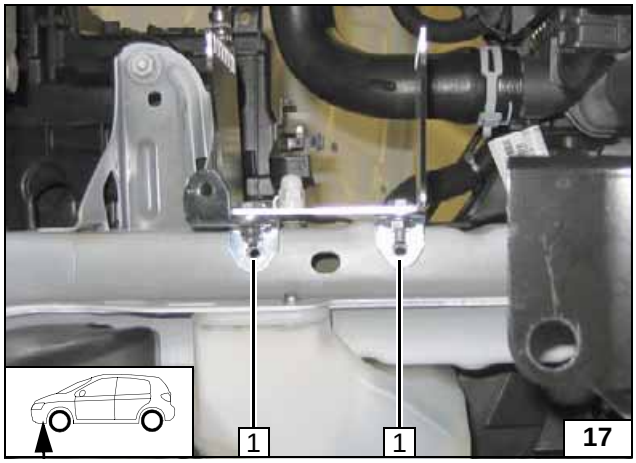
1 9.1 mm dia. hole; rivet nut

Installing rivet nut



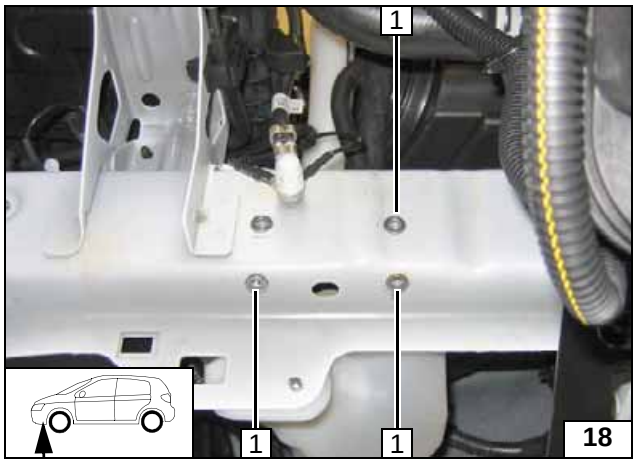
1 M6x25 bolt
2 Copy hole pattern
3 Loosely mount bracket

Installing bracket loosely



1 Copy hole pattern [2x]

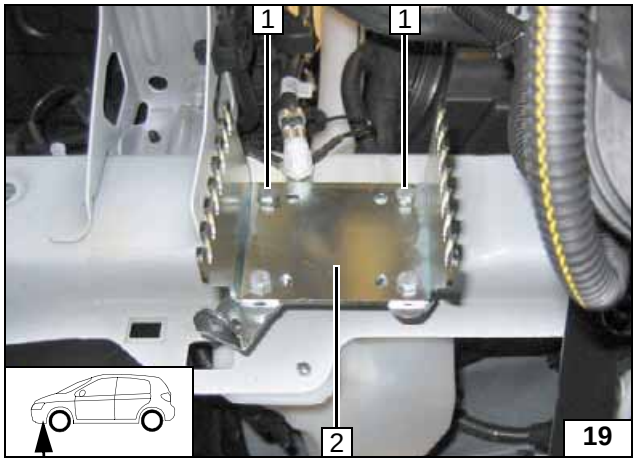
Copying hole pattern



Remove bracket.

1 9.1 mm dia. hole; rivet nut [3x each]

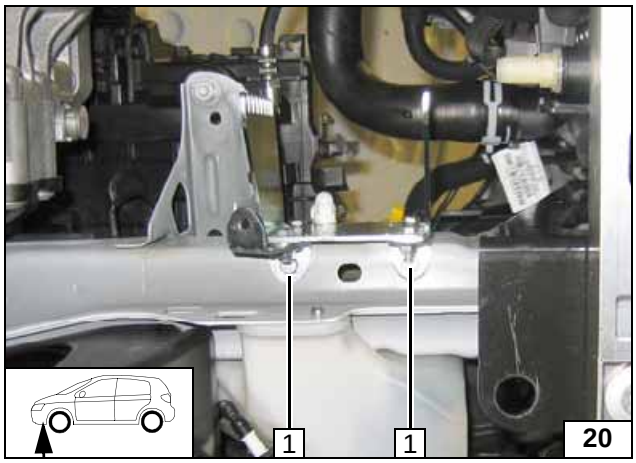
Installing rivet nuts



Insert one 5 mm shim each between bracket **2** and frame side member.

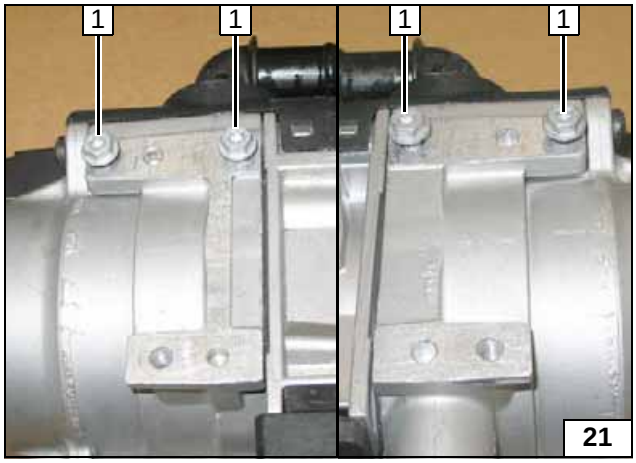
1 M6x25 bolt, spring lockwasher, 5mm shim [2x each]

Mounting bracket



1 M6x20 bolt, spring lockwasher [2x]

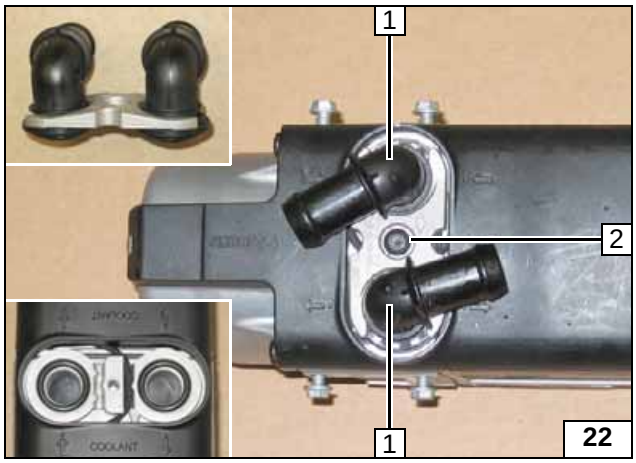
Mounting bracket



Preparing Heater

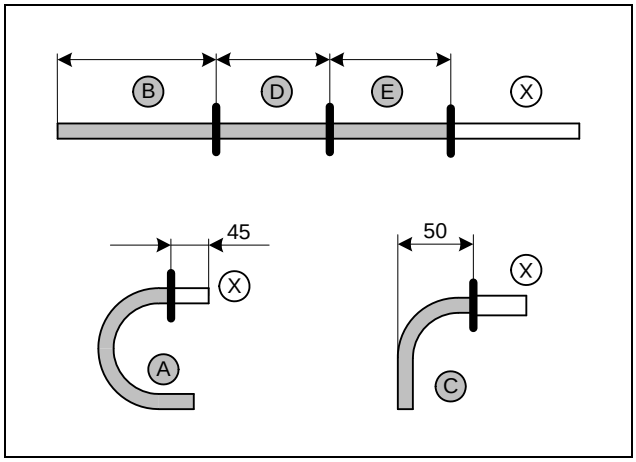
Precut threads with 5x13 self-tapping bolt **1** [4x] and install loosely (turn max. 3 threads)!

Premounting bolts loosely



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

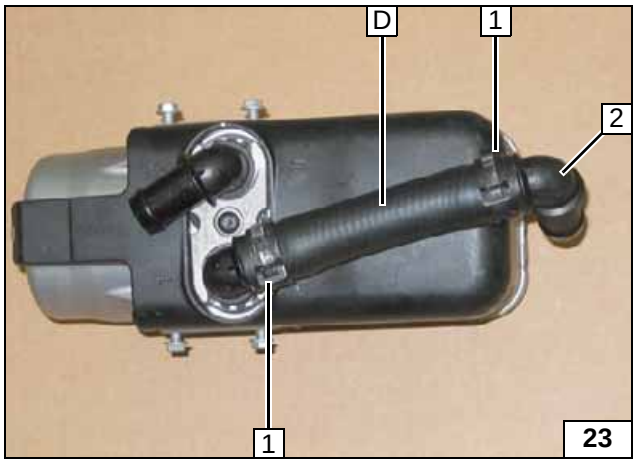
Installing water connection pieces



Discard section **X**.
Shorten hose **A** = 180°, 20x20 moulded hose.
Shorten hose **C** = 90°, 18x20 moulded hose.

B = 340
D = 120
E = 320

Cutting coolant hoses to length

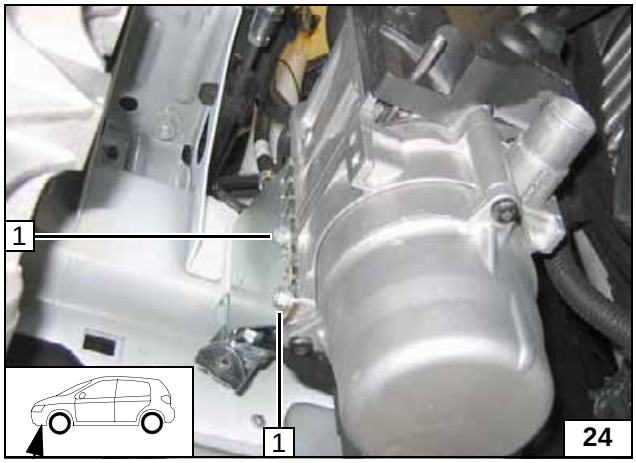


1 25 mm dia. spring clip [2x]
2 90°, 18x18 connecting pipe

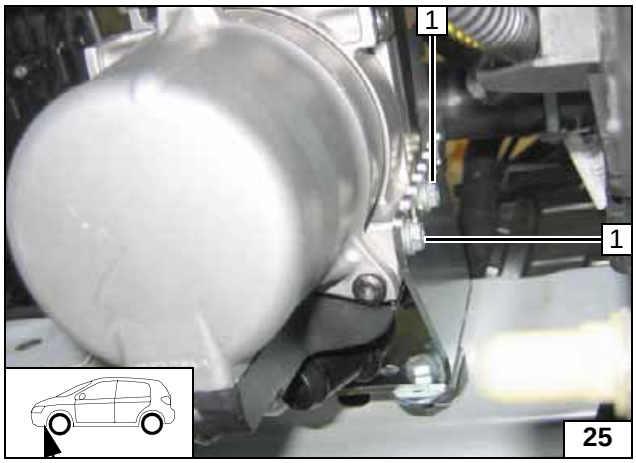
Premounting hose D

Installing Heater

Tighten the 5x13 bolts **1** [2x] on the heater.

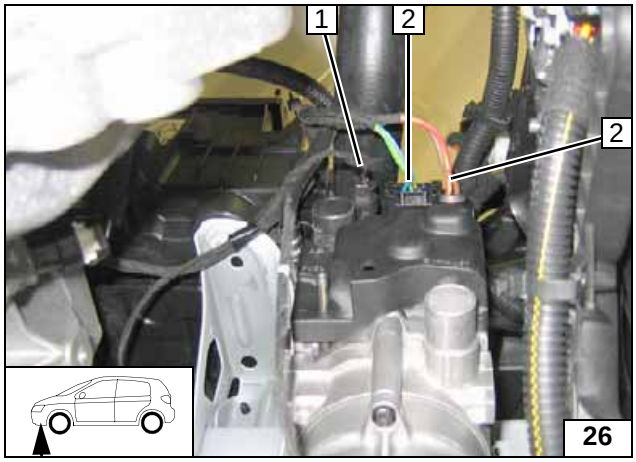


Mounting heater



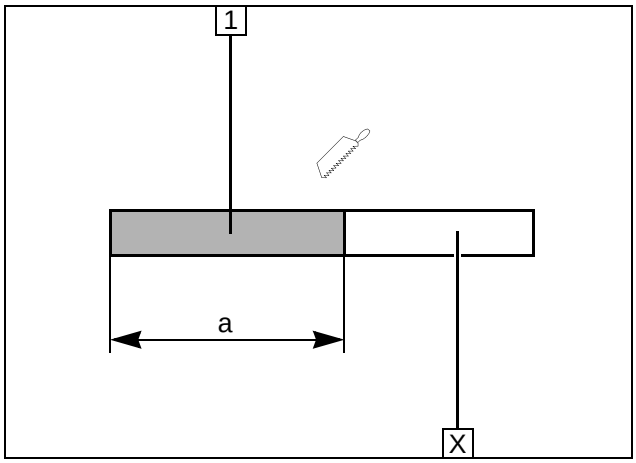
Tighten the 5x13 bolts **1** [2x] on the heater.

Mounting heater



1 Wiring harness of circulating pump
2 Wiring harness of heater [2x]

Installing wiring harnesses

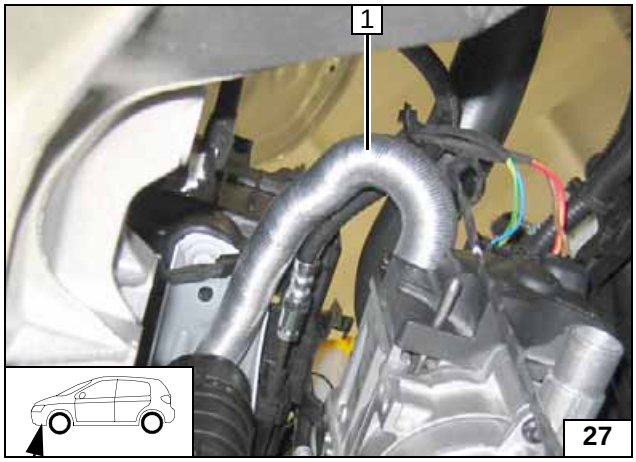


Combustion Air

Discard section **X**.

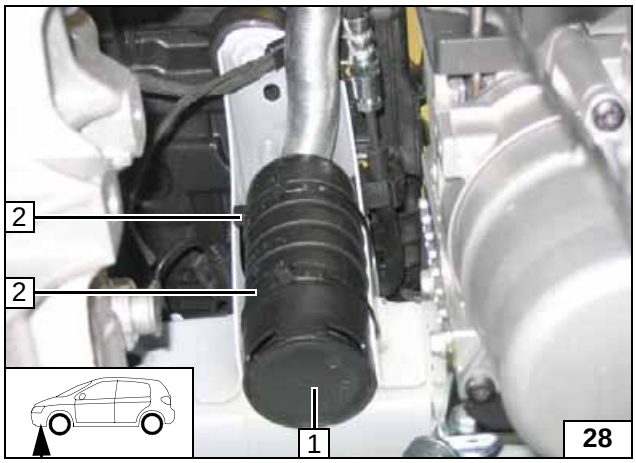
1 Combustion air pipe
a = 300

Cutting combustion air pipe to length



1 Combustion air pipe

Mounting combustion air pipe



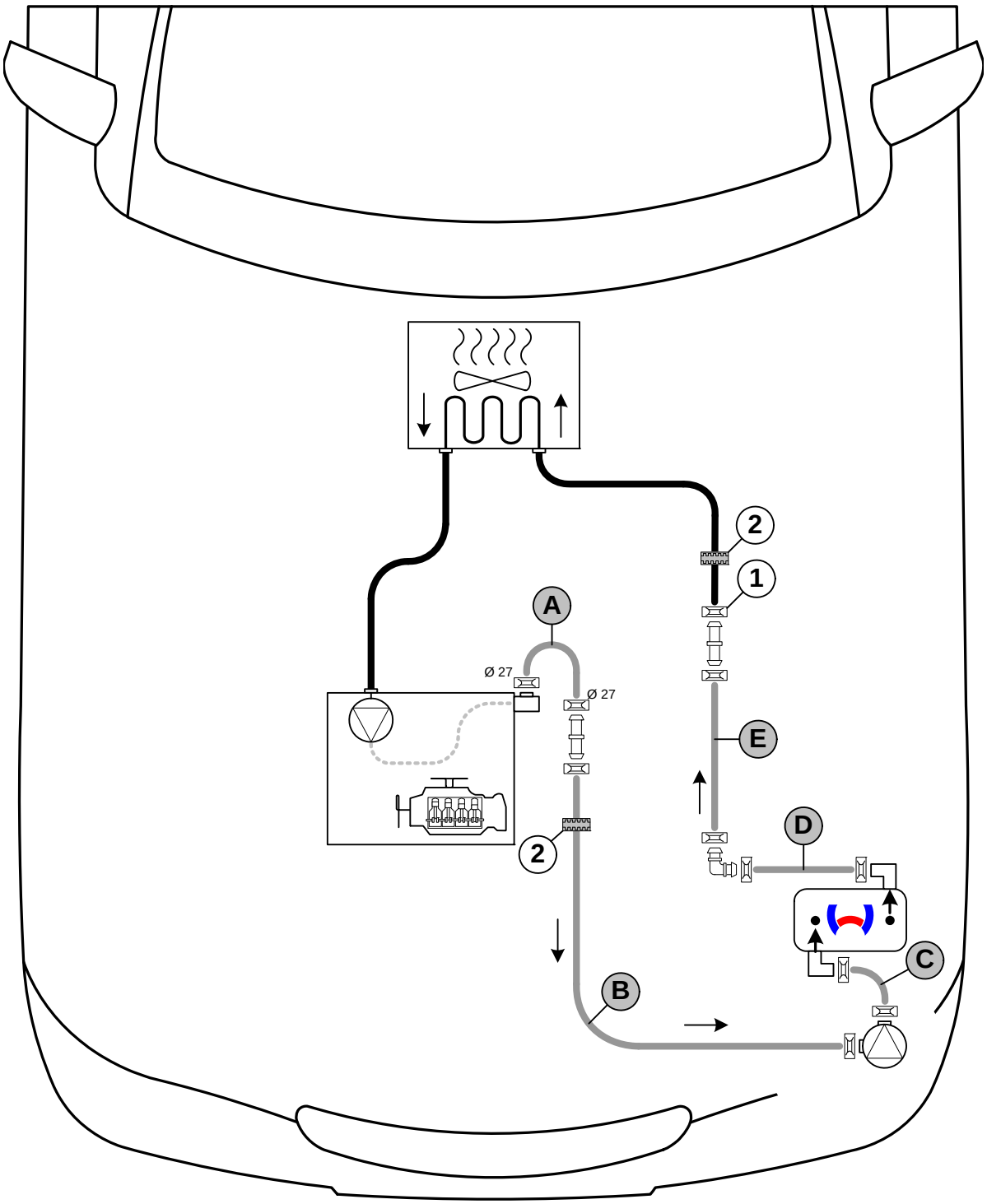
1 Silencer
2 Cable tie [2x]

Installing silencer

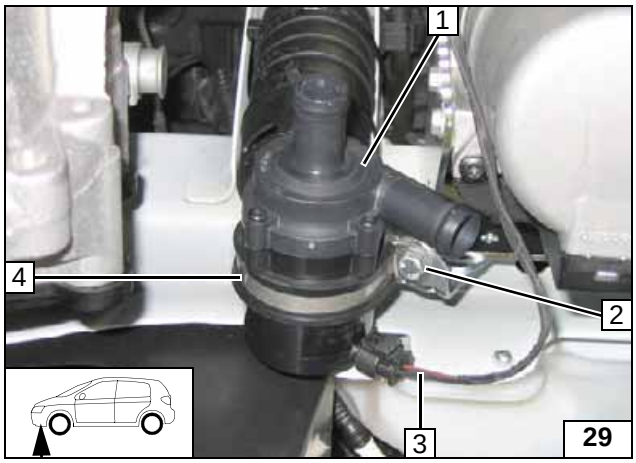
Coolant Circuit

WARNING!
Any coolant running off should be collected using an appropriate container. Route coolant hoses kink-free. Unless specified otherwise, always fasten using cable ties. Position clamps so that other hose 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

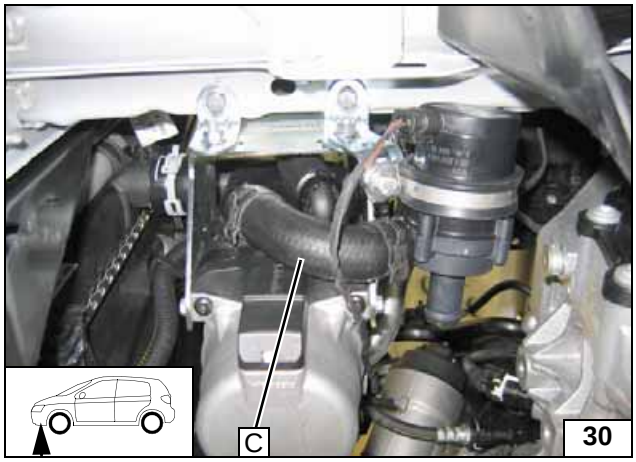


All spring clips without a specific designation = 25 mm dia. Connecting pipe = Ø 18x18!
All connecting pipes = Ø 18x20!
1 = Original vehicle spring clip ! **2** = Black (sw) rubber isolator .



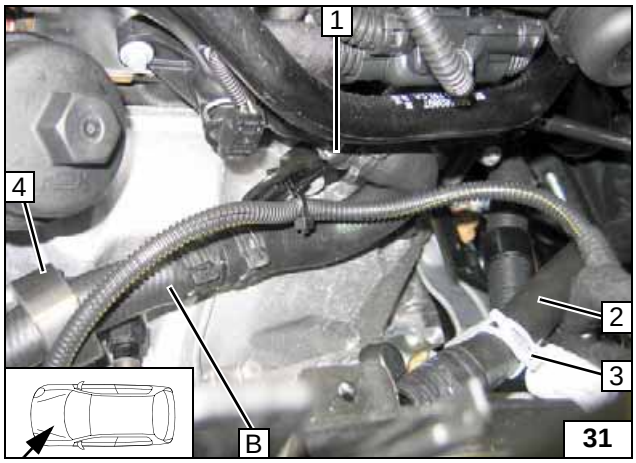
1 Circulating pump
2 M6x25 bolt, flanged nut
3 Mount wiring harness of circulating pump
4 Rubber-coated pipe clamp, 48 mm dia.

Installing circulating pump



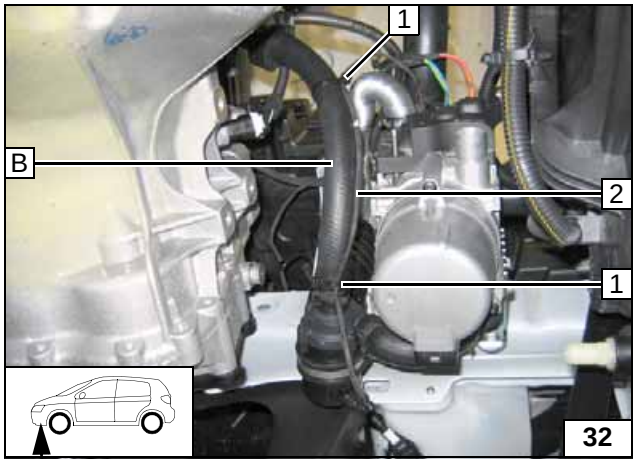
Connect hose **C** with short leg to circulating pump.

Connecting circulating pump



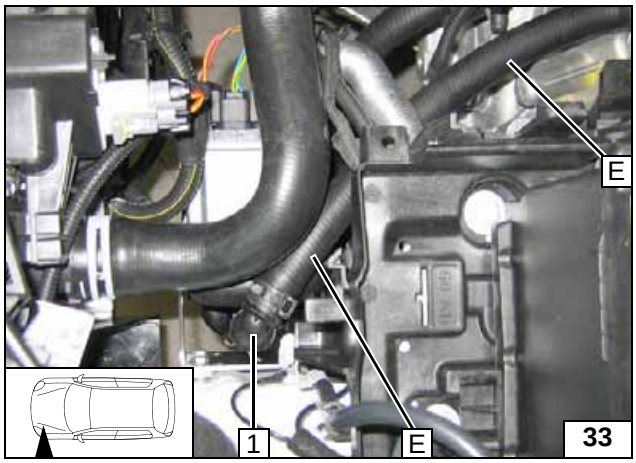
Slide black (sw) rubber isolator **4** onto hose **B**. Disconnect hose of heat exchanger inlet **2** at connection piece of engine outlet **1** . Original vehicle spring clip **3** will be reused. Connect hose **A** with short leg to connection piece on engine outlet.

Connecting engine outlet



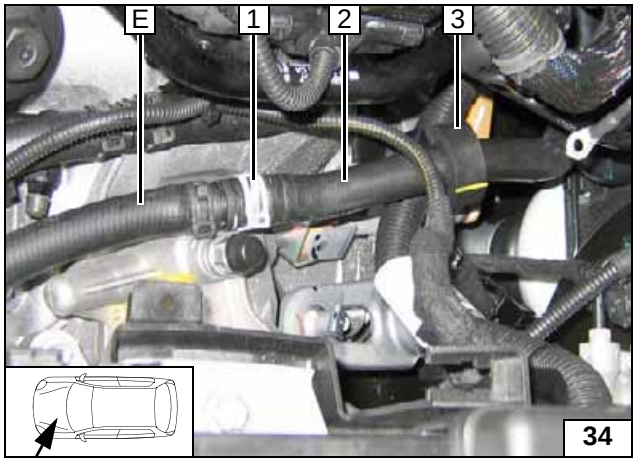
1 Cable tie
2 Wiring harness of circulating pump

Connecting circulating pump



1 90° connecting pipe of hose **D**

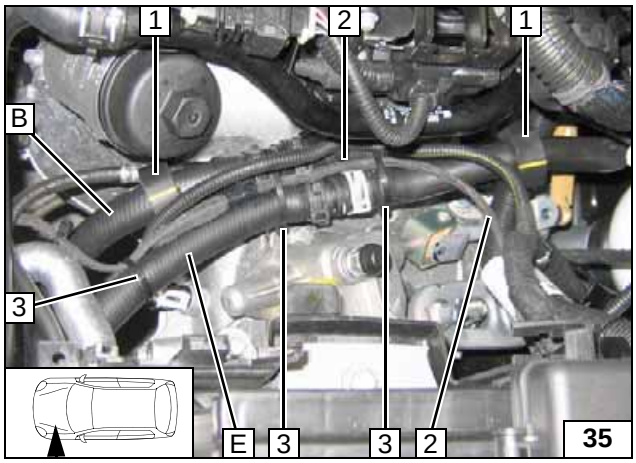
Connecting heater outlet



Slide black (sw) rubber isolator **3** onto hose of heat exchanger inlet **2**.
Ensure sufficient distance to neighbouring components.

1 Original vehicle spring clip

Connecting heat exchanger inlet



Align black (sw) rubber isolator **1** [2x] to original vehicle lines.
Ensure sufficient distance to neighbouring components.

2 Wiring harness of heater
3 Cable tie

Aligning hoses

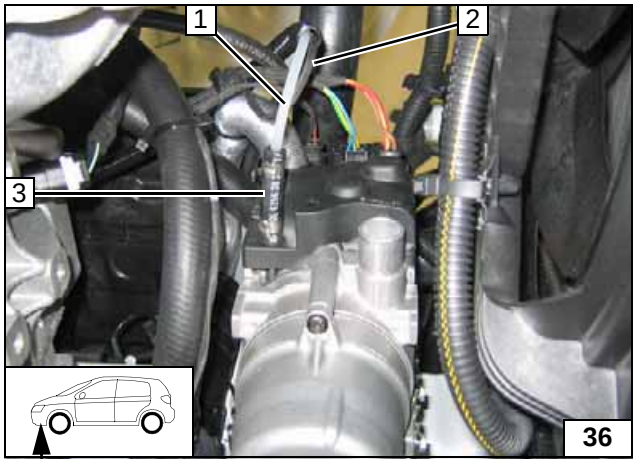
Fuel

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

Catch any fuel running off with an appropriate container.

Install fuel line and metering pump 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.

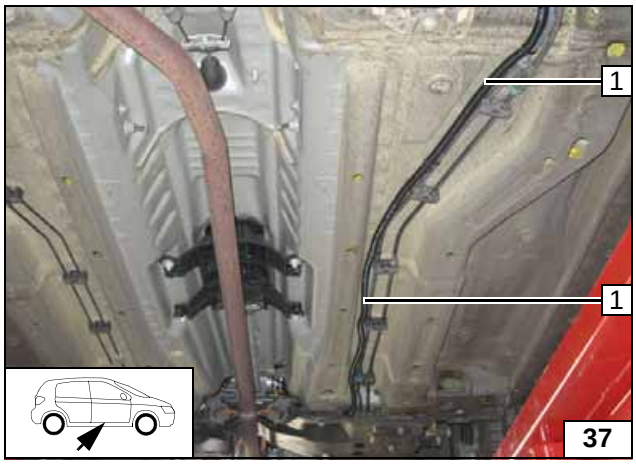
WARNING!
The fuel line and wiring harness are routed to the metering pump as shown in the wiring harness routing diagram.



Draw fuel line **1** and wiring harness of metering pump **2** into corrugated tube 2100, route to firewall and further to right side of vehicle!

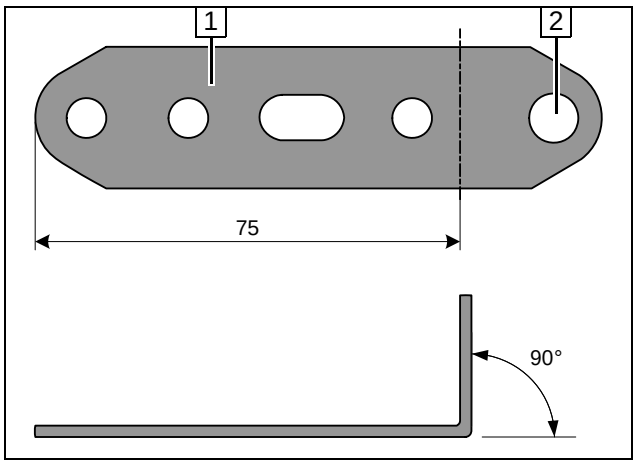
2 Hose section, 10 mm dia. clamp [2x]

Connecting heater



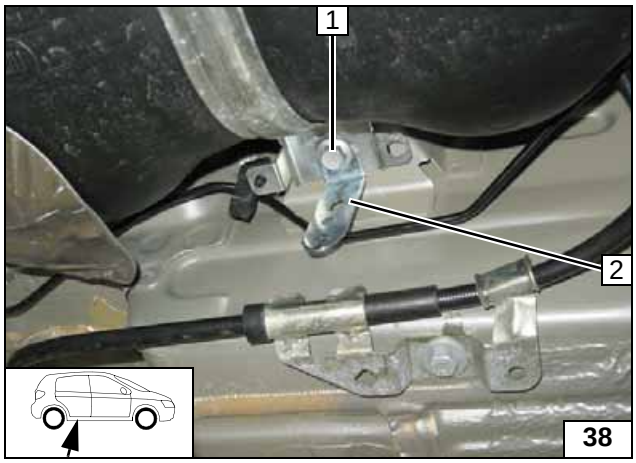
Route wiring harness of metering pump and fuel line in corrugated tube **1** along original vehicle lines to installation location of metering pump!

Routing lines



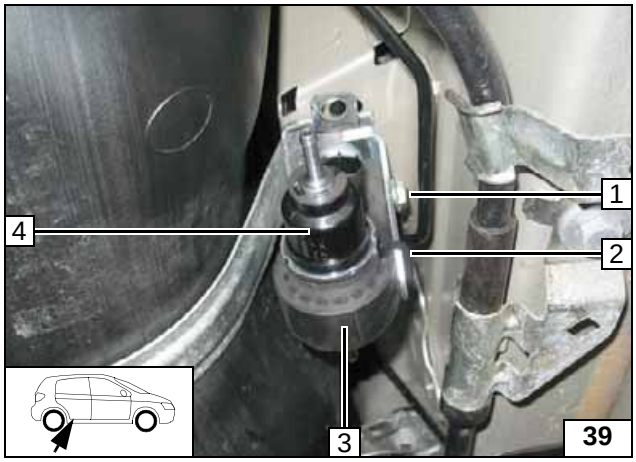
1 Angle down perforated bracket
2 Drill 8.5 mm dia. hole

Preparing perforated bracket



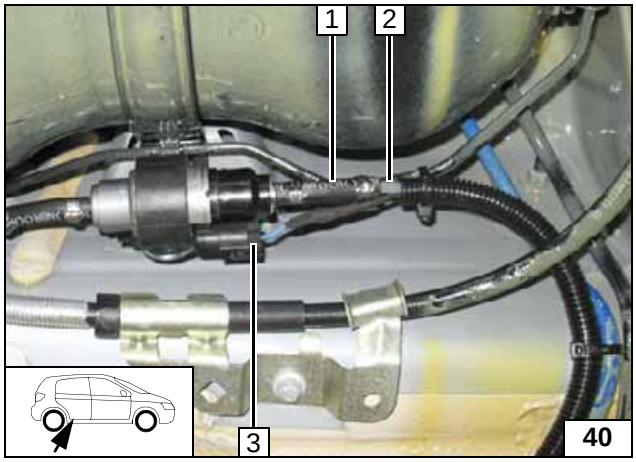
1 Original vehicle bolt for fuel tank fastening
2 Perforated bracket

Mounting perforated bracket



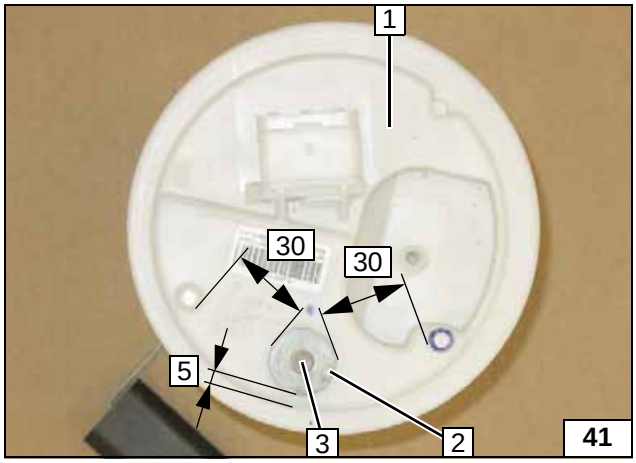
1 M6x25 bolt, flanged nut
2 Cable tie
3 Mounting of metering pump
4 Metering pump

Mounting metering pump



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

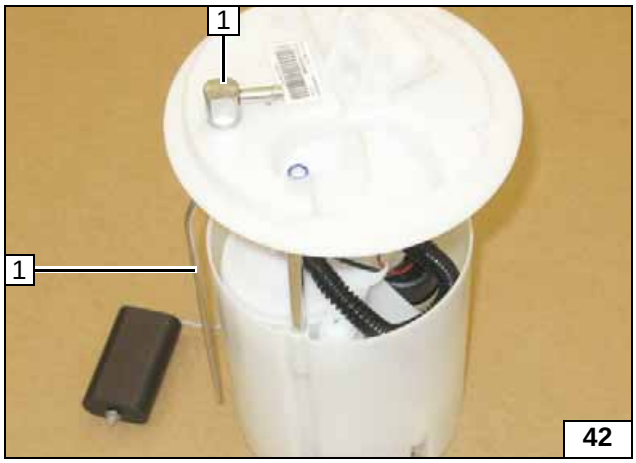
Connecting metering pump



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

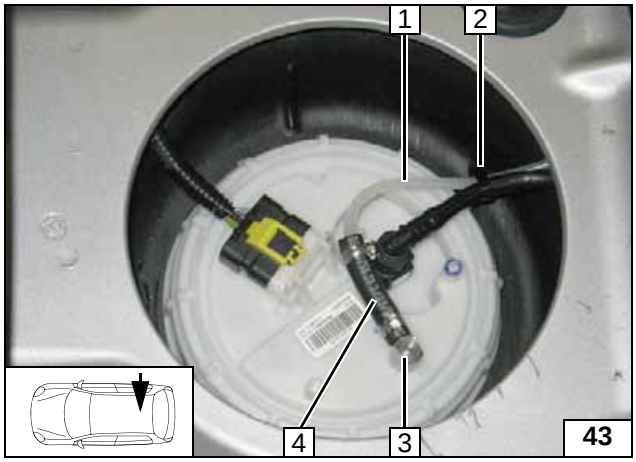
2 Large diameter washer outer dia. d_a = 21.6mm
3 Copy hole pattern, 6 mm dia. hole

Fuel extraction



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

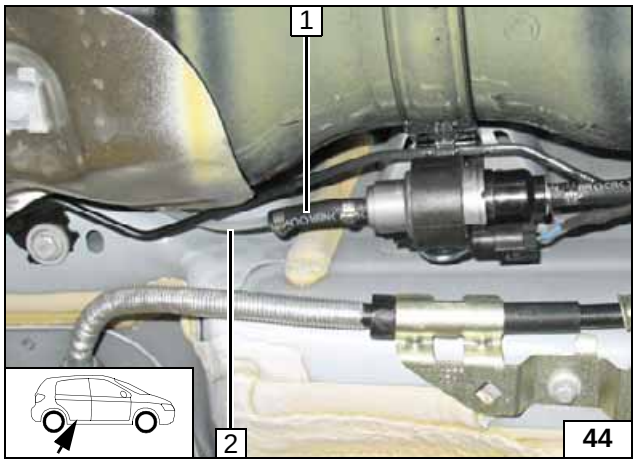
Installing fuel standpipe



Install fuel-tank sending unit according to manufacturer's instructions.

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

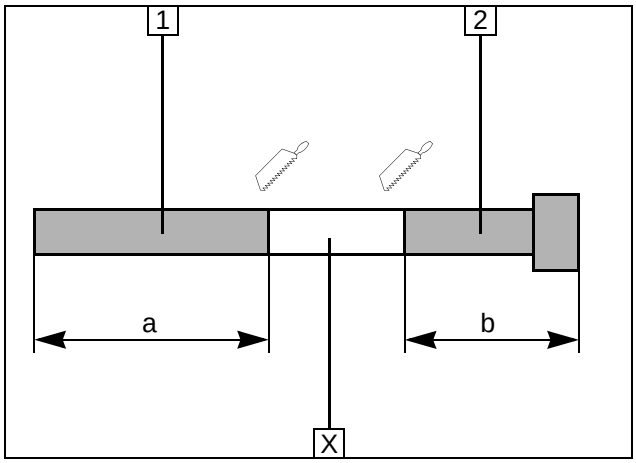
Connecting fuel line



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

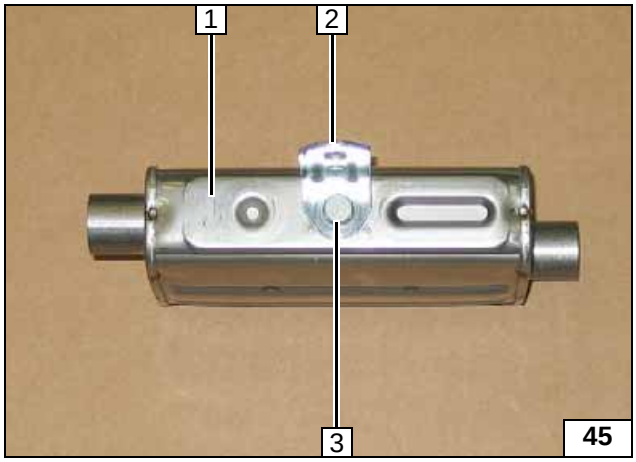


Exhaust Gas

Discard section **X**.

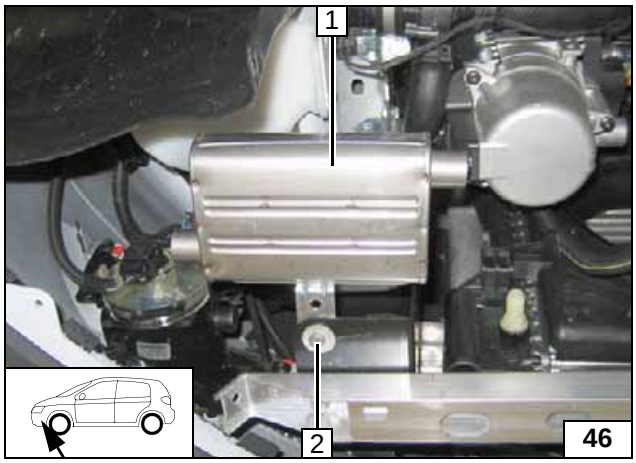
1 Exhaust pipe
a = 340
2 Exhaust end section
b = 90

Preparing exhaust pipe



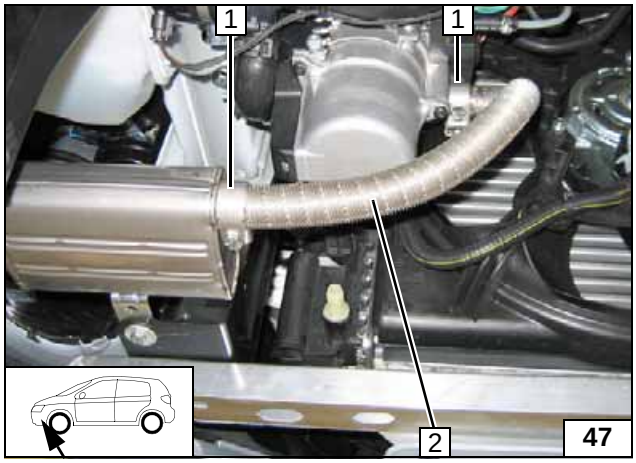
1 Silencer
2 Angle bracket
3 M6x16 bolt, spring lockwasher

Preparing silencer



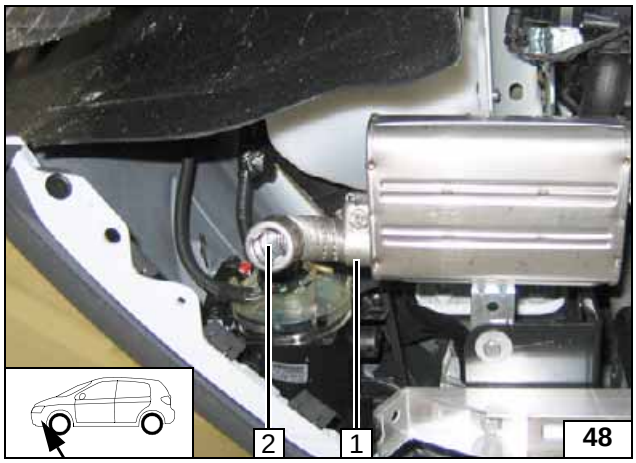
1 Silencer
2 Mount M6x20 bolt, large diameter washer [2x], flanged nut, existing hole

Installing silencer



1 Hose clamp [2x]
2 Exhaust pipe

Mounting exhaust pipe



1 Hose clamp
2 Exhaust end section

Mounting exhaust end section

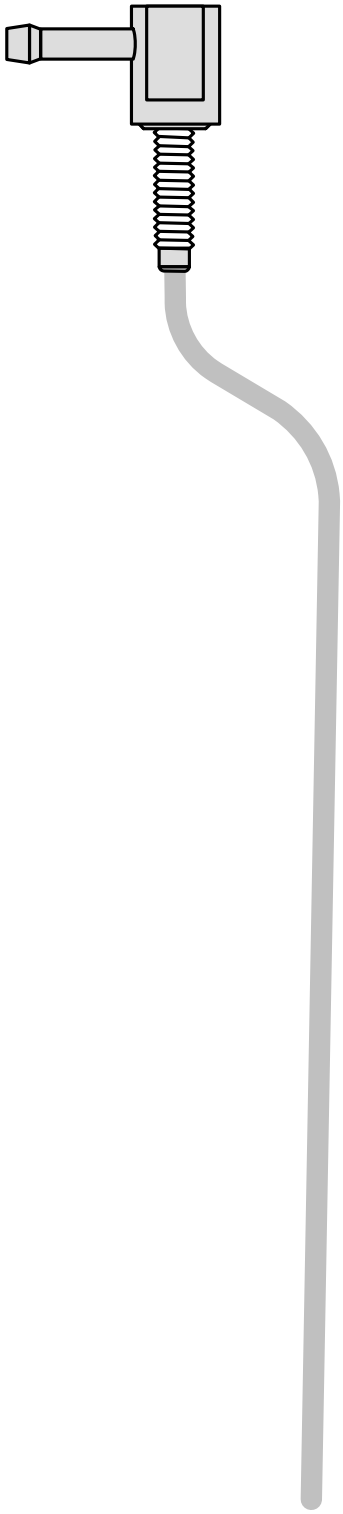
Final Work

WARNING!
Mount removed parts in reverse order. Check all hoses, clamps and all electrical connections for firm seating. Insulate and tie back all loose wires.
Only use manufacturer-approved coolant. Spray 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 instructions.**
- **Set the digital timer, teach Telestart transmitter**
- **Make settings on A/C control panel according to the "Operating Instructions for End Customer".**
- **Place the "Switch off parking heater before refuelling" signboard in the area of the filler neck**
- **For initial start-up and function check, 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

Operating Instructions for Manual Air-Conditioning

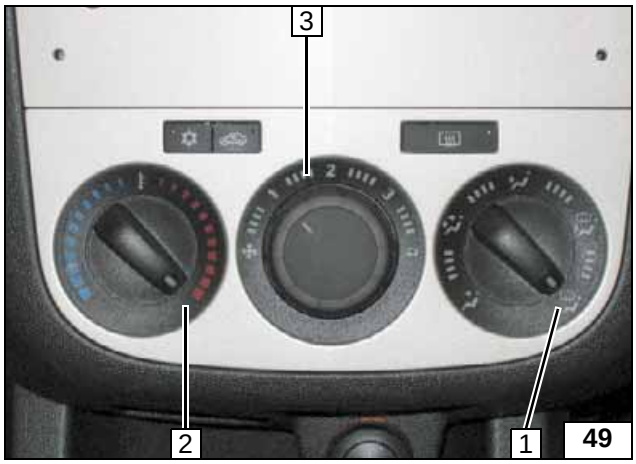
Please remove page in case of manual air-conditioning and add it to the vehicle operating instructions.

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 information on deactivation, please see the vehicle owner's manual.

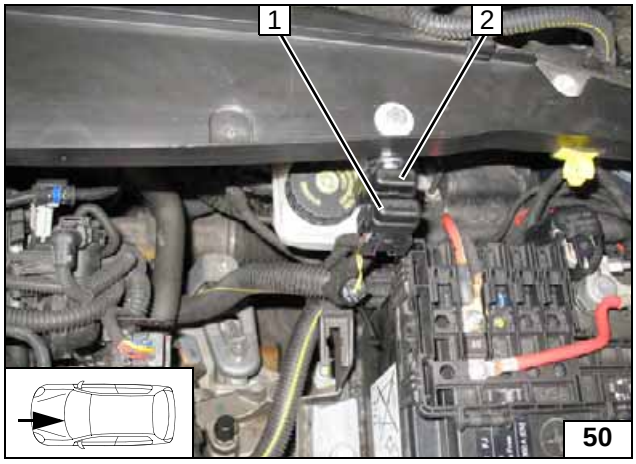
Before parking the vehicle, make the following settings:

A/C control panel



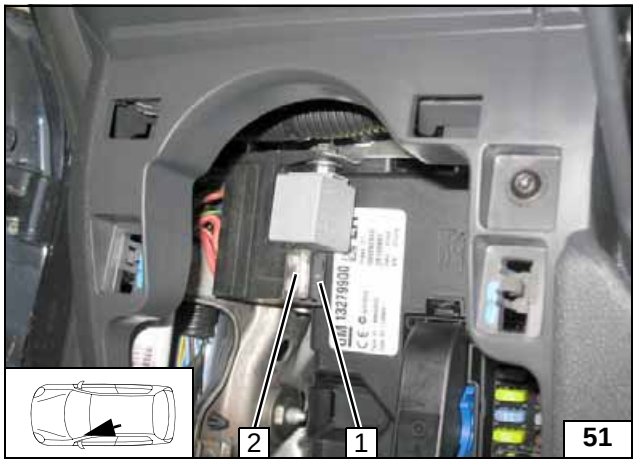
1 Air outlet to windscreen
2 Set temperature to "max."
3 Set fan to level "1", or max. "2"

Fuses of engine compartment



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

Fuses of passenger compartment



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

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.

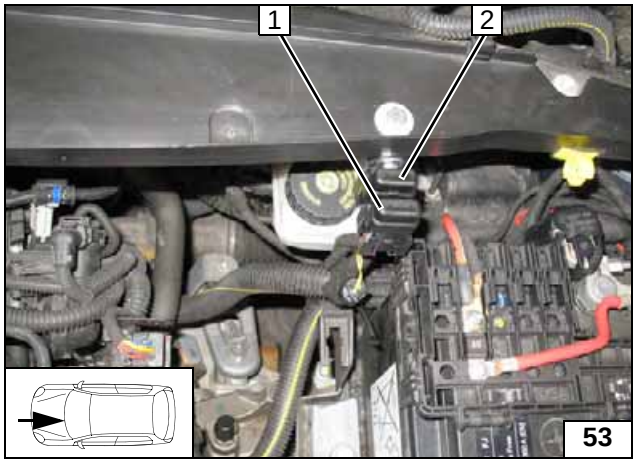
Passenger compartment monitoring, if installed, must be deactivated in addition to the vehicle settings for the heating operation.
For information on deactivation, please see the vehicle owner's manual.

Before parking the vehicle, make the following settings:

A/C control panel

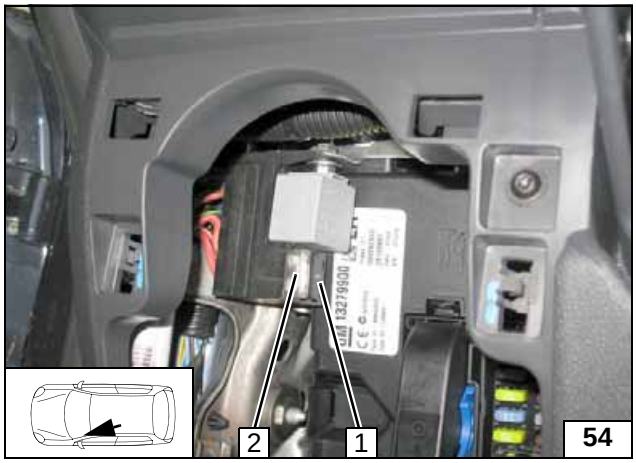
1 Set temperature to "max."
2 Air outlet to windscreen

Fuses of engine compartment



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

Fuses of passenger compartment



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