Water Heater

Webasto
Feel the Drive

***Thermo Top Evo* Parking Heater**

E1
00 0258

Installation Documentation
Chevrolet Captiva / Opel Antara

Validity

Chevrolet

Manufacturer	Model	Type	EG-BE No. / ABE
Chevrolet	Captiva	KLAC	e4 * 2001 / 116 * 0113 * ...

Motorisation	Fuel	Transmission type	Output in kW	Displacement in cm³	Engine code
2.2 D	Diesel	6-gear SG	120	2231	Z22D1
2.2 D	Diesel	6-speed AG	120	2231	Z22D1
2.2 D	Diesel	6-gear SG	135	2231	Z22D1
2.2 D	Diesel	6-speed AG	135	2231	Z22D1

Opel

Manufacturer	Model	Type	EG-BE No. / ABE
Opel	Antara	L-A	e4 * 2001 / 116 * 0118 * ...

Motorisation	Fuel	Transmission type	Output in kW	Displacement in cm³	Engine code
2.2 D	Diesel	6-gear SG	120	2231	A22DM
2.2 D	Diesel	6-speed AG	120	2231	A22DM
2.2 D	Diesel	6-gear SG	135	2231	A22DMH
2.2 D	Diesel	6-speed AG	135	2231	A22DMH

SG = Manual Transmission
AG = Automatic Transmission

Starting with model year 2011
Left-hand drive vehicle

Verified equipment variants: Automatic air-conditioning
Front fog lights
Front fog lightsHeadlight washer system
Xenon for the Opel Antara
Daytime running lights
Front fog lights2 WD / 4 WD
Start - Stop

Not verified: Manual air-conditioning
Passenger compartment monitoring

Total installation time: approx. 9 hours

Chevrolet Captiva / Opel Antara

Table of Contents

Validity	1	Preparing Heater	14
Necessary Components	2	Preparing Bracket	16
Installation Overview	2	Preparing Installation Location	17
Notes on Total Installation Time	2	Installing Heater	19
Notes on Operating and Installation Instructions	3	Fuel	20
Notes on Validity	4	Coolant Circuit	24
Technical Instructions	4	Exhaust Gas	31
Explanatory Notes on Document	4	Final Work	35
Preliminary Work	5	Fuel Standpipe Template	36
Heater Installation Location	5	Template of Bracket	37
Preparing Electrical System	6	Operating Instructions for Chevrolet Captiva	38
Electrical System	8	Operating Instructions for Opel Antara	40
Fan Controller	9		
Digital Timer	12		
Remote Option (Telestart)	12		
Remote Option (Thermo Call TC3)	13		

Necessary Components

- Basic delivery scope for *Thermo Top Evo* based on price list
- Installation kit for Chevrolet Captiva / Opel Antara 2011 Diesel: **1318921B**
- Heater control in accordance with price list and upon consultation with end customer
- In case of Telestart, indicator lamp in accordance with price list and in consultation with end customer

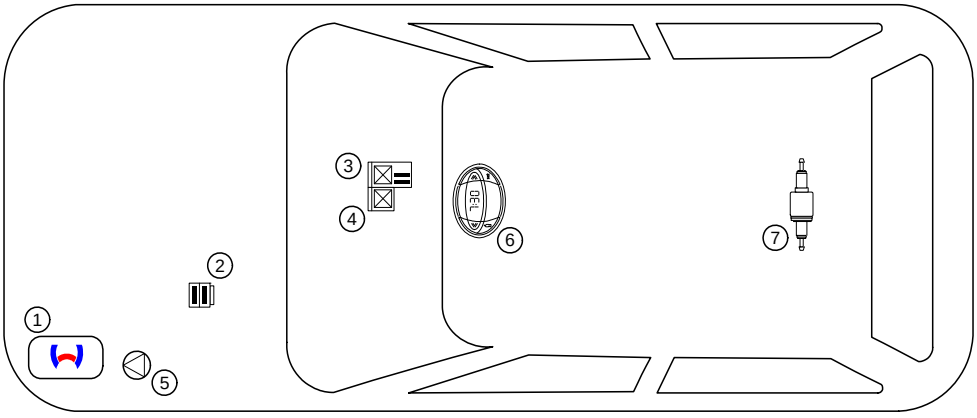
Installation instructions:

- Arrange for the vehicle to be delivered with the tank only about ¼ full!
- The installation location of the push button in the case of Telestart or Thermo Call should be confirmed with the end customer.
- Depending on the available space and manufacturer's instructions, we recommend the use of a vehicle battery with more electrical capacity.

Installation Overview

Legend:

1. Heater
2. Fuse holder of engine compartment
3. Relay and fuse holder of passenger compartment
4. IPCU
5. Circulating pump
6. Digital timer
7. 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.

Notes 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 have to audibly click into place during installation.

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 04 5627

Note

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

Important

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

Note

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

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

Beginning of excerpt.

ANNEX VII

REQUIREMENTS FOR COMBUSTION HEATERS AND THEIR INSTALLATION

1. GENERAL REQUIREMENTS

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

2. VEHICLE INSTALLATION REQUIREMENTS

2.1. Scope

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

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

2.2. Positioning of the 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.

Chevrolet Captiva / Opel Antara

Notes on Validity

This installation documentation applies to the Chevrolet Captiva / Opel Antara Diesel vehicles - see page 1 for validity - starting with model year 2011 and later, if technical changes to the vehicle do not influence the installation, excluding any liability claims. Depending on the vehicle version and equipment, modifications may be necessary during installation with respect to these "installation instructions".

Vehicle and motor types, equipment variants and other specifications that were 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

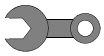
Dimensions
- All dimensions are in mm.

Tightening torque values
- Tightening torque values of 5x13 heater bolts and heater stud bolts = 8Nm.
- Tightening torque value 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

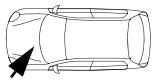
Specific risk of damage to components

Specific risk of fire or 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



Chevrolet Captiva / Opel Antara

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 and remove it completely, including the carrier.
- Remove the engine compartment fuse and relay box.
- Remove the engine control unit.
- Detach the coolant expansion tank and set it aside.
- Remove the upper bumper trim (retaining rail of the radiator grill).
- Remove the left-hand headlight.
- Remove horn.
- Remove the front underride protection.
- Remove the glove compartment (only with Telestart).
- Detach the passenger compartment fuse and relay carrier and set it aside.
- Fold up the rear bench seat.
- Open the tank-fitting service lid.

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

Figure shows Chevrolet Captiva.

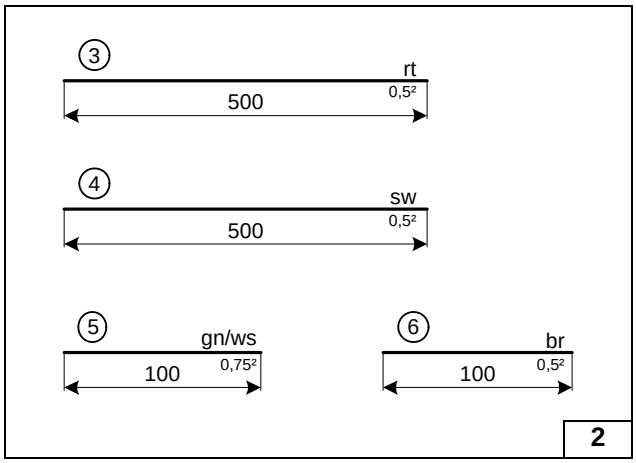
1 Heater

Installation location

Preparing Electrical System

Wire sections retain their numbering throughout the entire document.

Preparing wires



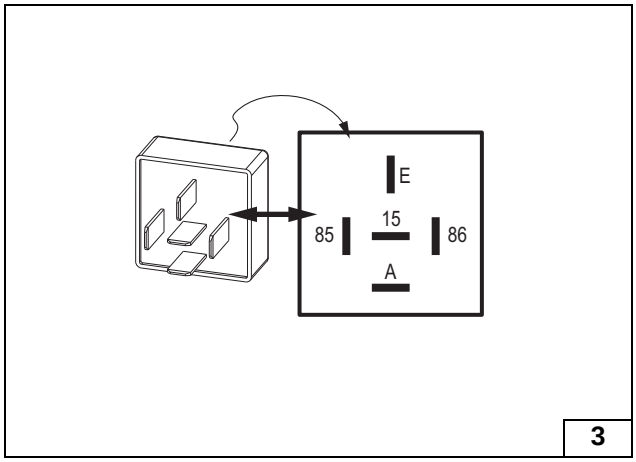
2

The settings of the IPCU must be checked during the heater start-up and adjusted if necessary.

IPCU settings:

Duty Cycle: 100% (DC)
Frequency: not relevant
Voltage: 3.6V
Function: High Side

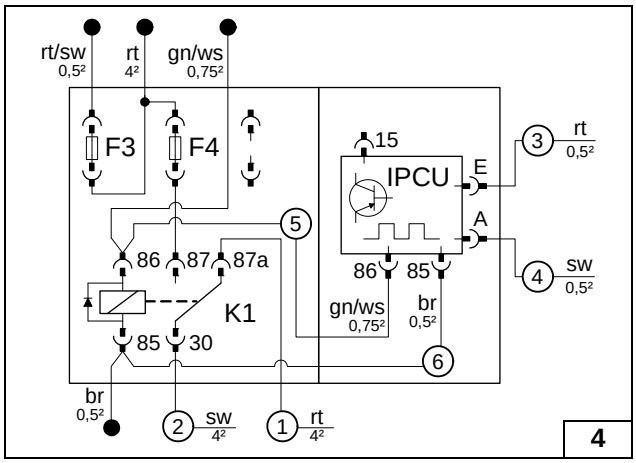
Preparing IPCU



3

Connect wires of K1 relay socket and IPCU. Cut provided protective sleeving appropriately to length. Pull wire sections **3** and **4** into a protective sleeving.

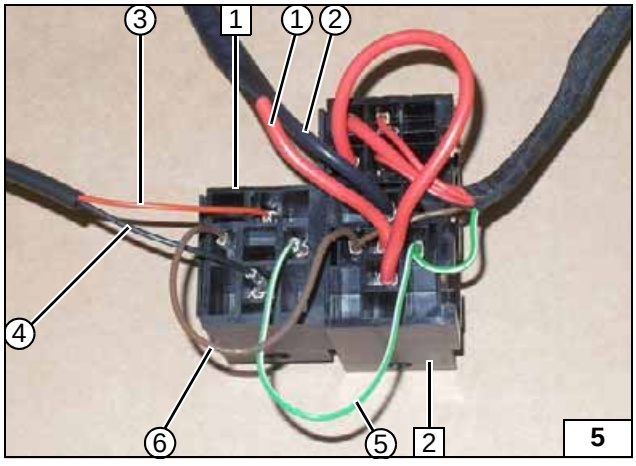
Preparing K1 relay and IPCU, inserting F4



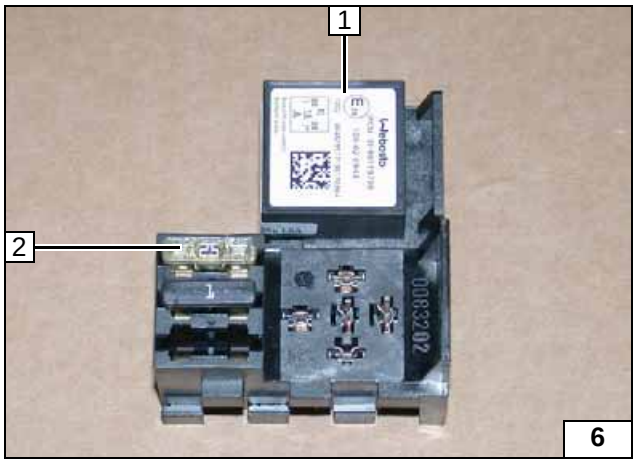
4

Interlock IPCU socket **1** with passenger compartment relay and fuse holder **2**.

Preparing relay and fuse holder of passenger compartment



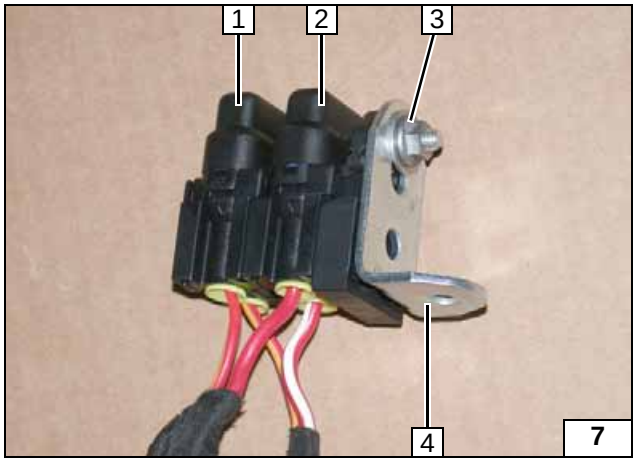
5



K1 relay will only be inserted after installing the relay and fuse holder.

1 IPCU mounted
2 25A fuse F4 inserted

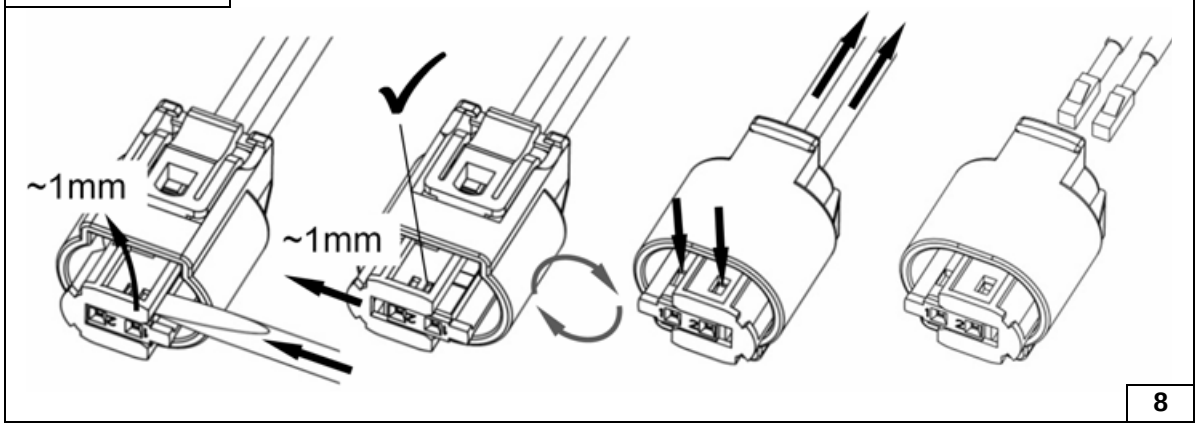
Preparing relay and fuse holder of passenger compartment



1 20A heater fuse F1
2 30A main fuse F2 of passenger compartment
3 M5x16 bolt, washer [2x], fuse holder retaining plate, nut
4 Angle bracket

Premounting fuse holder of engine compartment

Connector X7

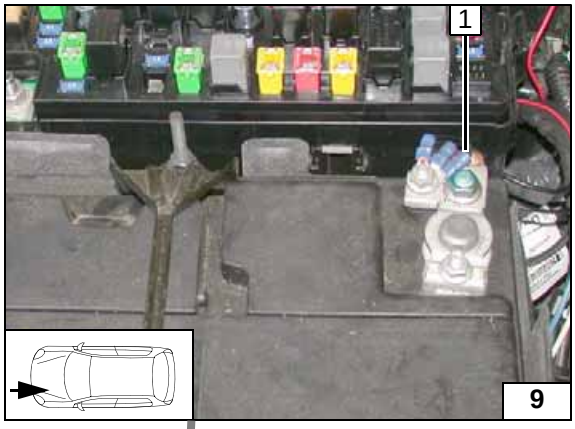


Dismantling connector of metering pump

Electrical System

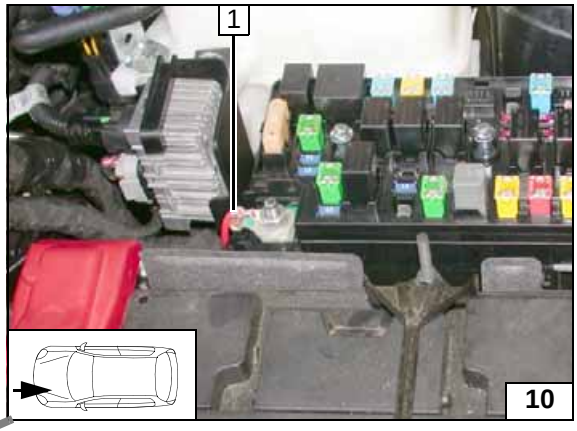
Earth wire

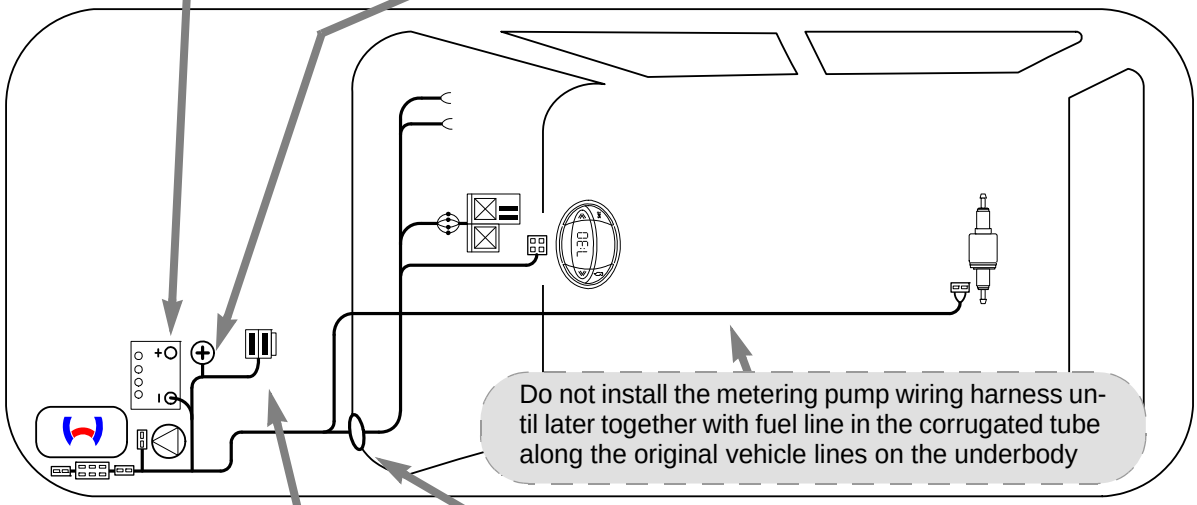
1 Earth wire on negative terminal of battery



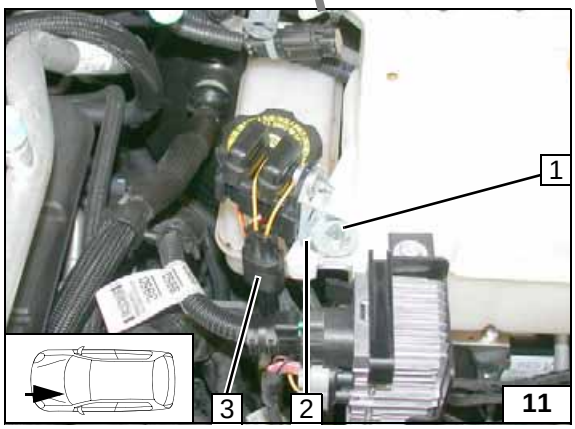
Positive wire

1 Positive wire on positive distributor



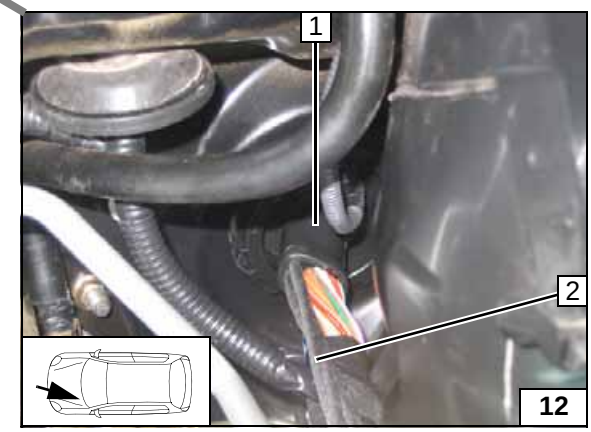


Wiring harness routing diagram



Fuse holder of engine compartment

1 M6x20 bolt, large diameter washer, existing threaded hole
2 Angle bracket
3 Diagnosis connector

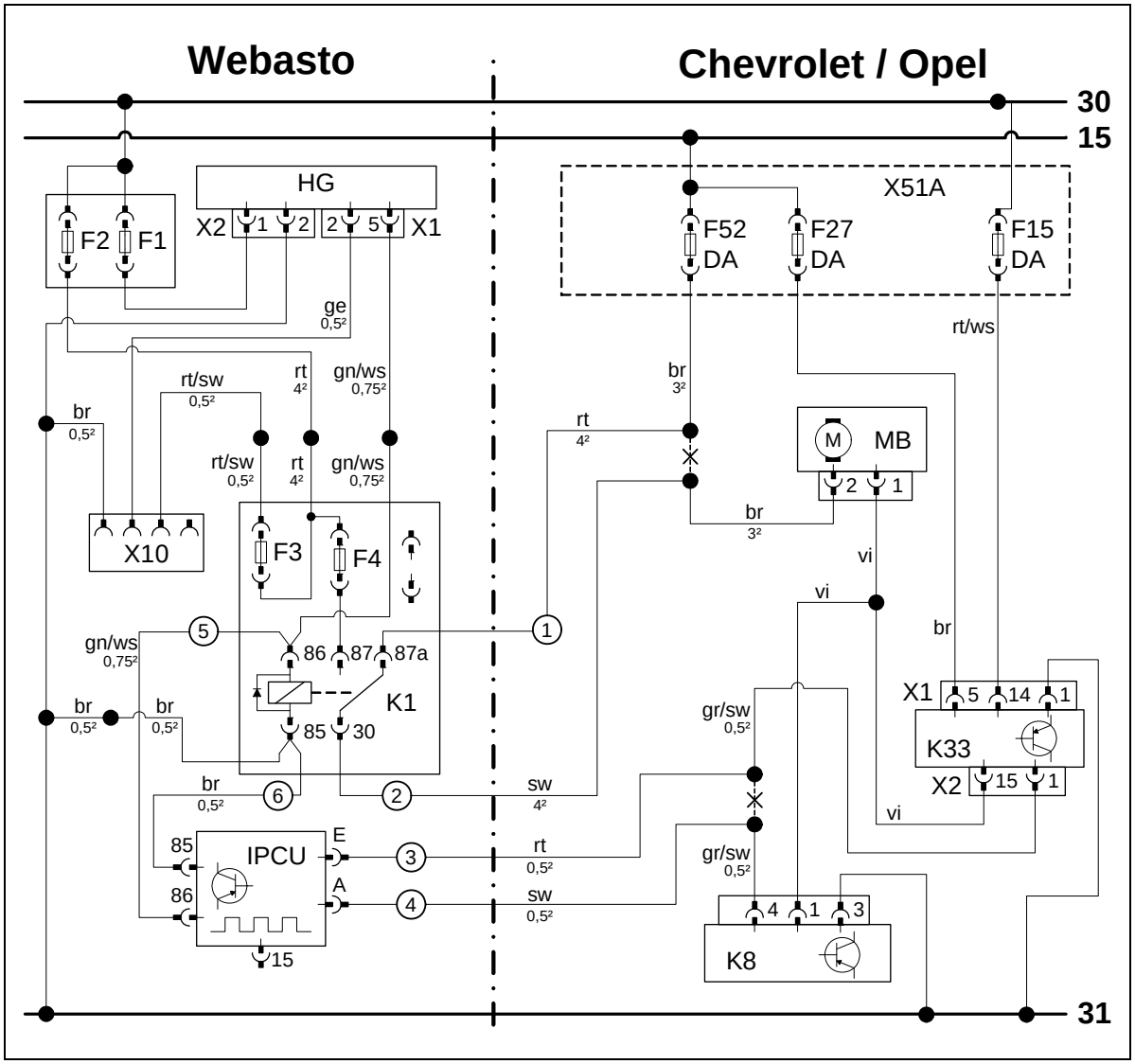


Wiring harness pass through

1 Protective rubber plug
2 Heater wiring harnesses, heater control

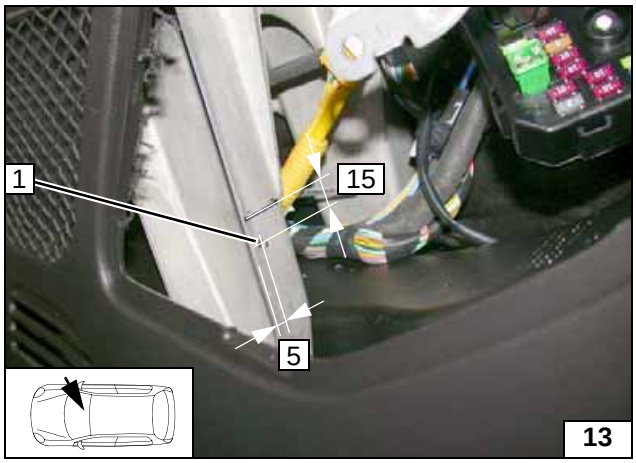
Fan Controller

Wiring diagram



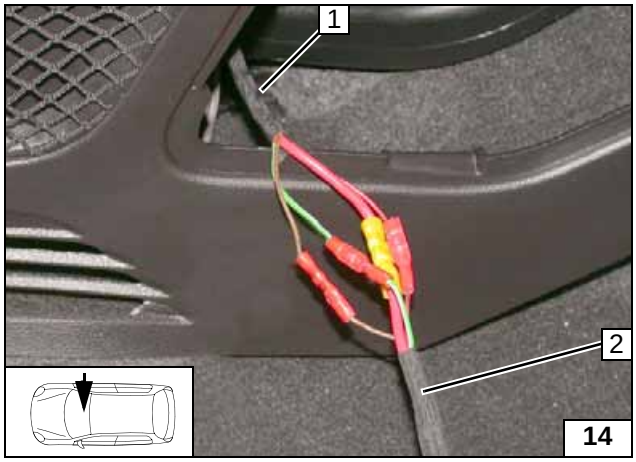
Webasto components		Vehicle components		Colours and symbols	
HG	Heater TT-Evo	X51A	Fuse box of instrument panel	rt	red
X1	6-pin heater connector			sw	black
X2	2-pin heater connector	F52DA	40A fuse	ge	yellow
X10	4-pin connector of heater control	F27DA	10 A fuse	gn	green
		F15DA	15A fuse	vi	violet
K1	Fan relay	MB	Fan motor	ws	white
F1	20A fuse	X1	K33 connector	br	brown
F2	30A fuse	K33	A/C control unit	gr	grey
F3	1A fuse	X2	K33 connector		
F4	25A fuse	K8	Fan controller		
IPCU	Pulse width modulator				
IPCU settings:					
Duty Cycle: 100% (DC)					
Frequency: not relevant					
Voltage: 3.6V				**X**	Cutting point
Function: High side				Wiring colours may vary.	

Legend



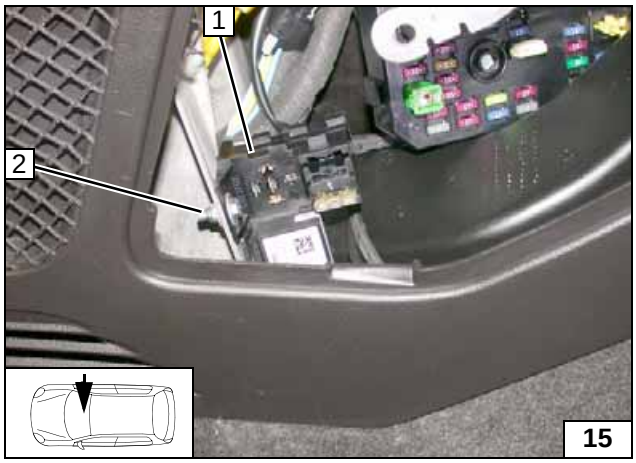
1 5.5mm dia. hole

Hole in centre console



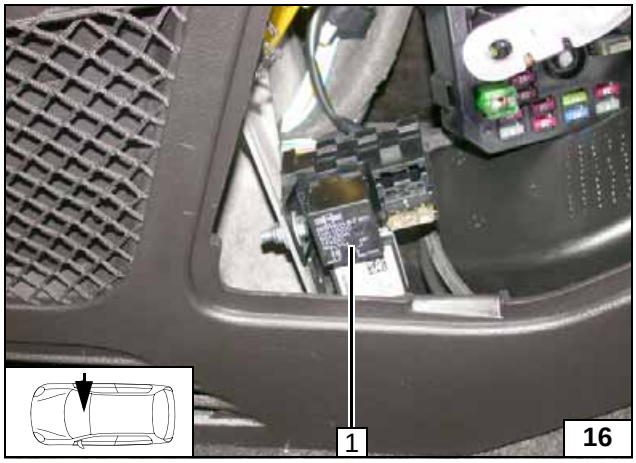
Connect wiring harness of passenger compartment relay and fuse holder **2** with wiring harness of heater **1** according to the wiring diagram using same-colour wires.

Connecting wiring harnesses



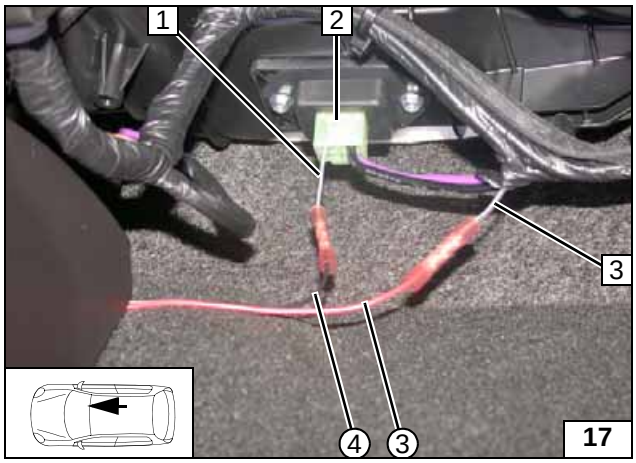
1 Relay and fuse holder of passenger compartment
2 M5x16 bolt, large diameter washer [2x], nut

Mounting relay and fuse holder of passenger compartment



1 K1-relay

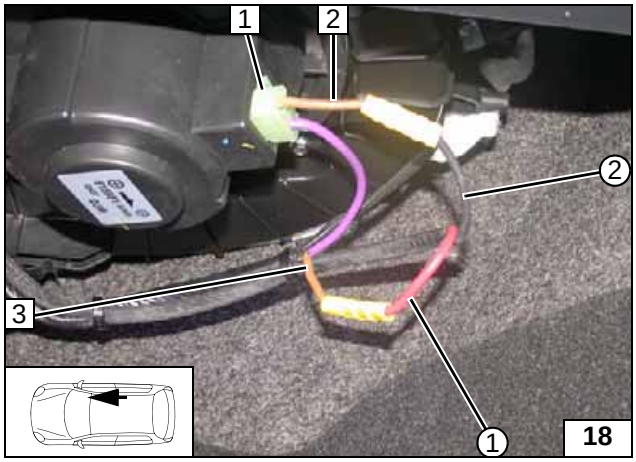
Inserting K1 relay



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

1 Grey/black (gr/sw) wire of 4-pin connector, Pin 4
3 Grey/black (gr/sw) wire of A/C control panel K33 X2/1
③ Red (rt) wire from IPCU/E
④ Black (sw) wire from IPCU/A

Connection of fan controller K8



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

2 Brown (br) wire of 2-pin connector, Pin 2
3 Brown (br) wire of fuse F52DA
① Red (rt) wire from K1/87a
② Black (sw) wire of K1/30

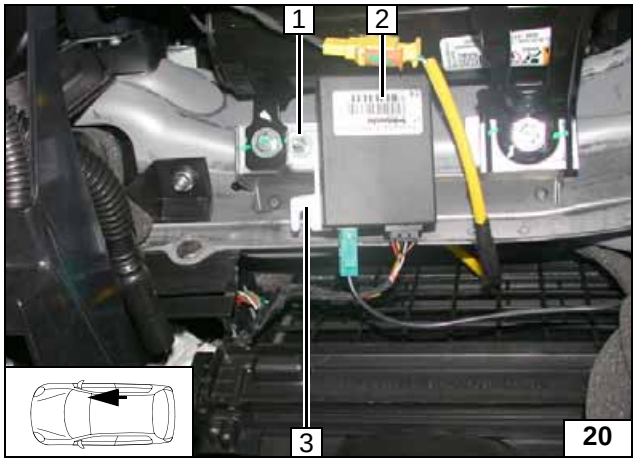
Connection of fan motor MB

Digital Timer

Figure shows model year 2011.

1 Digital timer

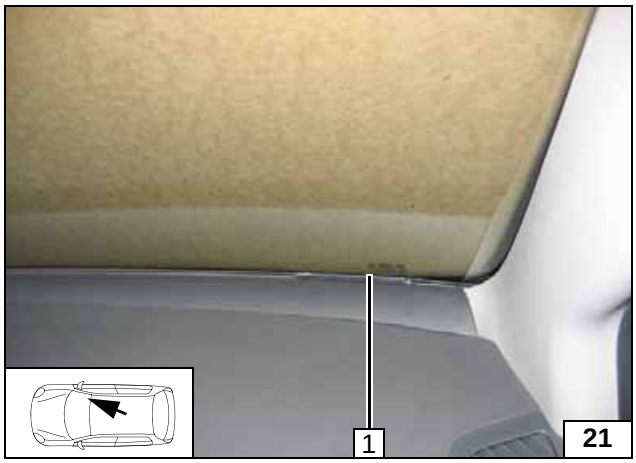
Mounting digital timer



Remote Option (Telestart)

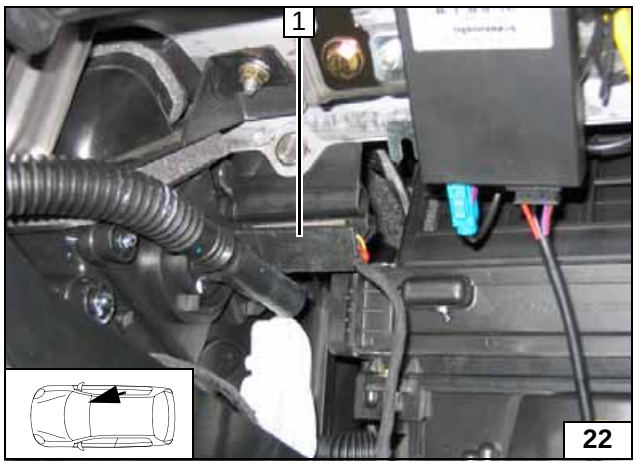
1 M5x20 bolt, washer, flanged nut, existing hole
2 Receiver
3 Bracket

Installing receiver



1 Antenna

Installing antenna



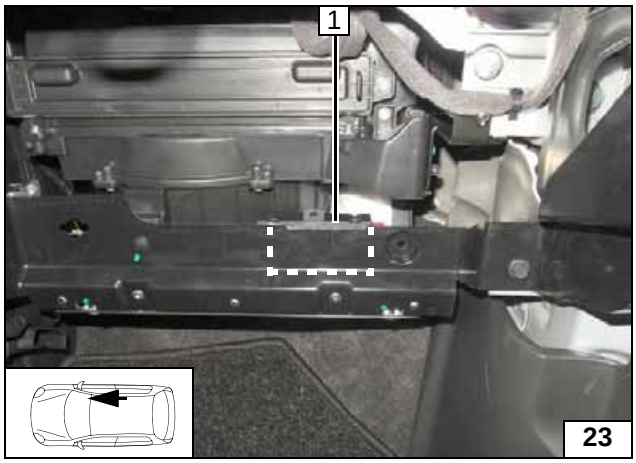
Temperature sensor T100 HTM

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

Installing temperature sensor

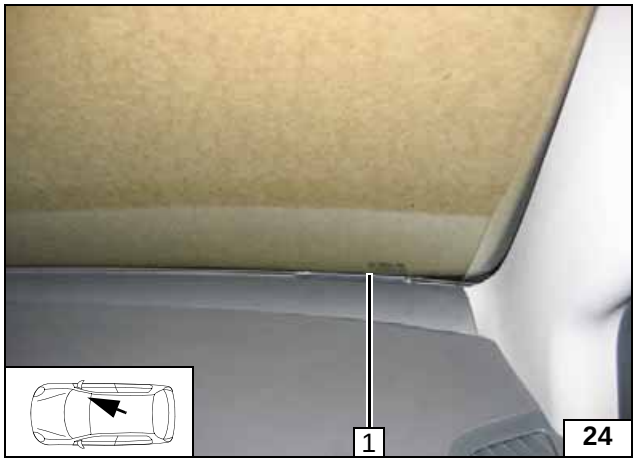
Remote Option (Thermo Call TC3)

Installing receiver



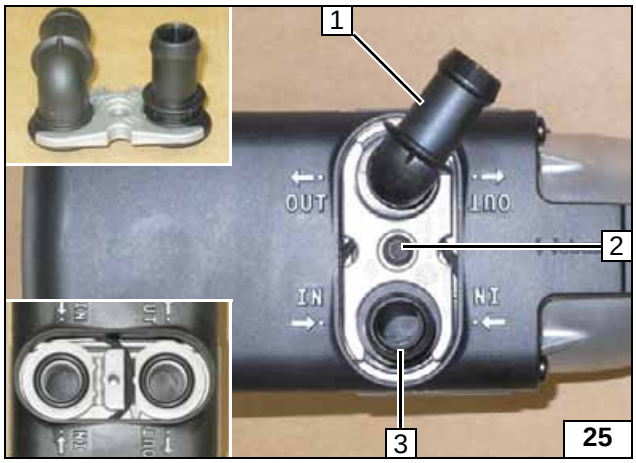
Fasten receiver **1** with double-sided adhesive tape.

Installing antenna



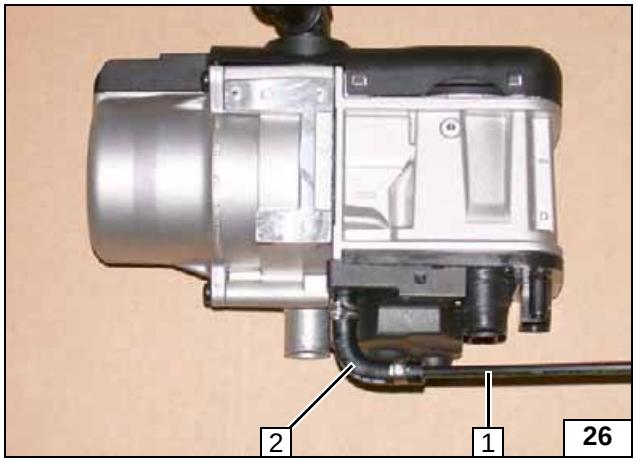
1 Antenna

Preparing Heater



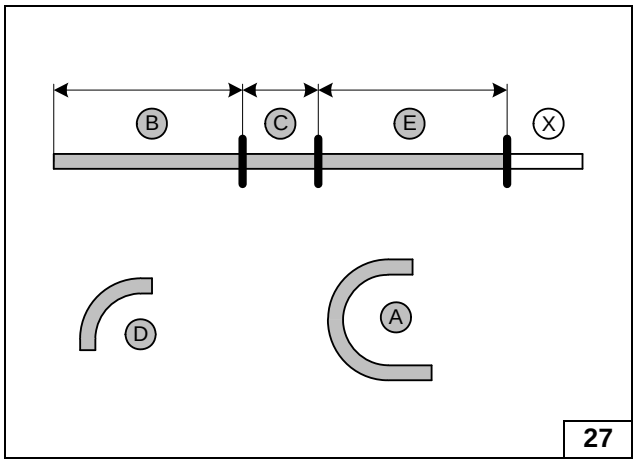
1 90° water connection piece, sealing ring
2 5x15 self-tapping bolt, retaining plate of water connection piece
3 Axial water connection piece, sealing ring

Installing water connection pieces



1 Fuel line
2 90° moulded hose, 10 mm dia. clamp [2x]

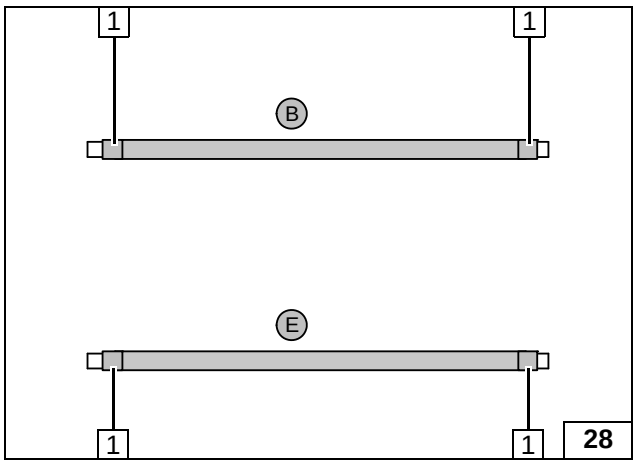
Mounting fuel line



Discard section **X**.
Hose **A** = 180°, 20mm dia. moulded hose
Hose **D** = 90°, 18mm dia. moulded hose

	SG	AG
B =	600	600
C =	120	120
E =	540	610

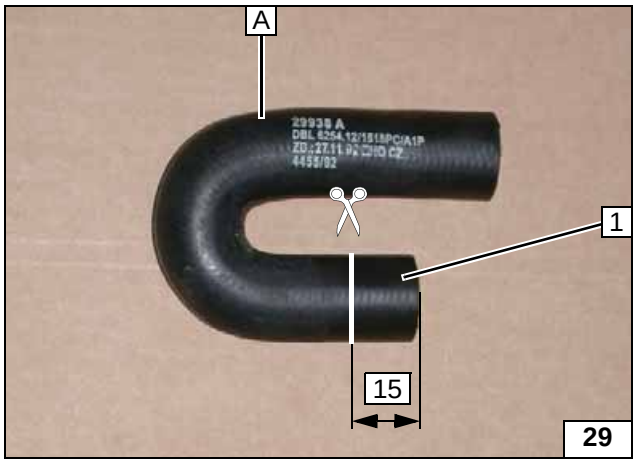
Cutting hoses to length



Slide braided protection hoses onto hoses **B** and **E** and cut to length.
Cut heat shrink plastic tubing to length.

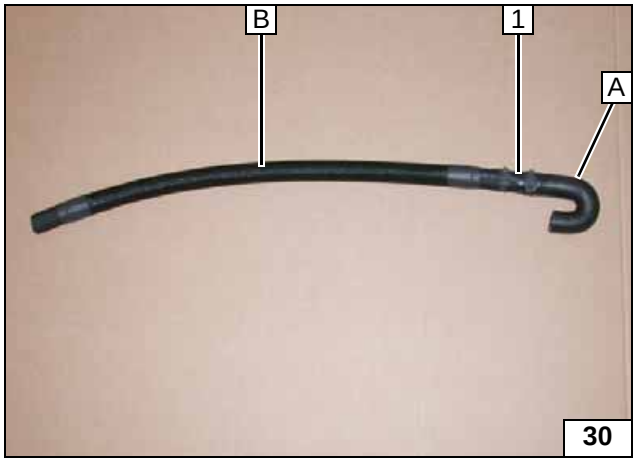
1 50 mm long heat shrink plastic tubing [4x]

Preparing hoses



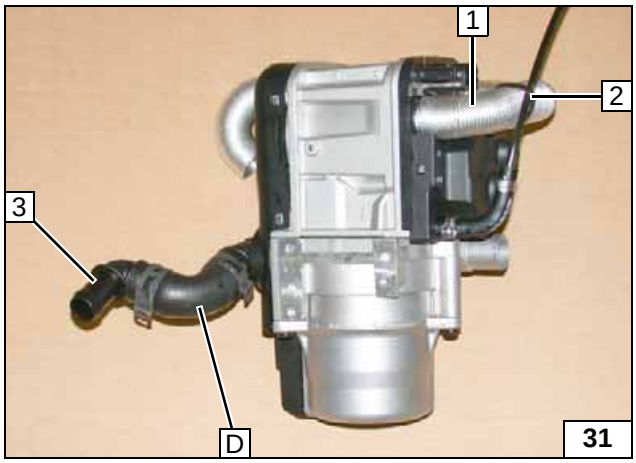
1 Discard section.

Shortening hose A



1 18x20mm dia. connecting pipe, 25mm dia. spring clip, 27mm dia. spring clip

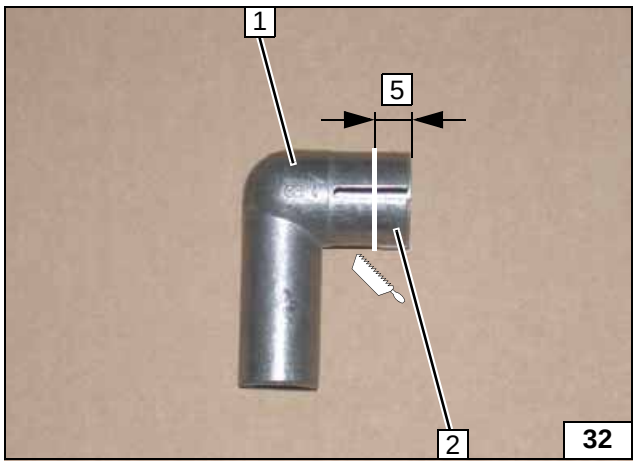
Connecting hoses A and B



All spring clips = 25mm dia.

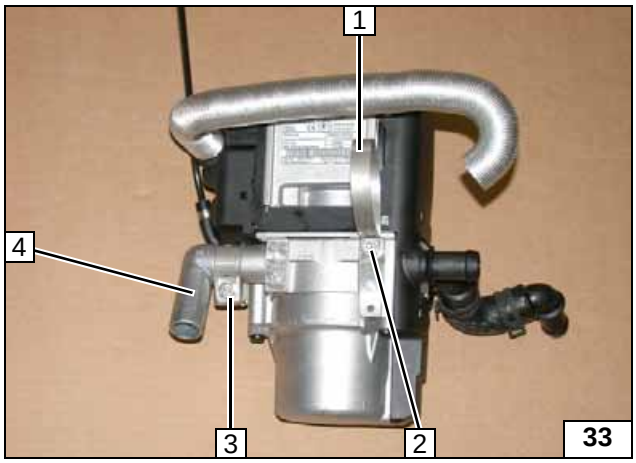
1 Combustion air pipe
2 Cable tie
3 90° connecting pipe°, 18x18mm dia.

Premounting heater



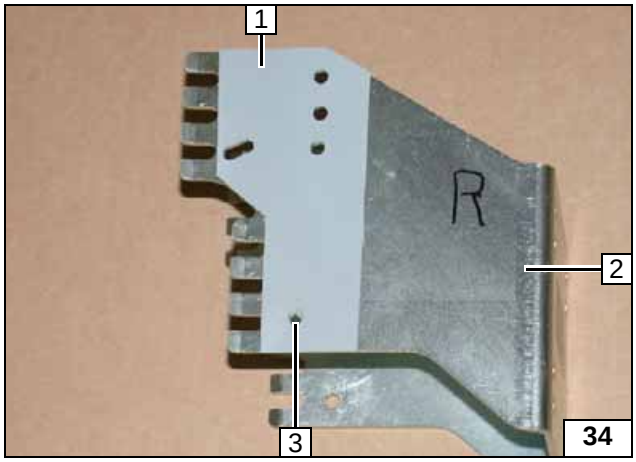
1 Exhaust elbow
2 Discard section.

Cutting exhaust elbow to length



1 51mm dia. clamp
2 Mount 5x13 self-tapping bolt loosely
3 Hose clamp
4 Exhaust elbow

Premounting heater

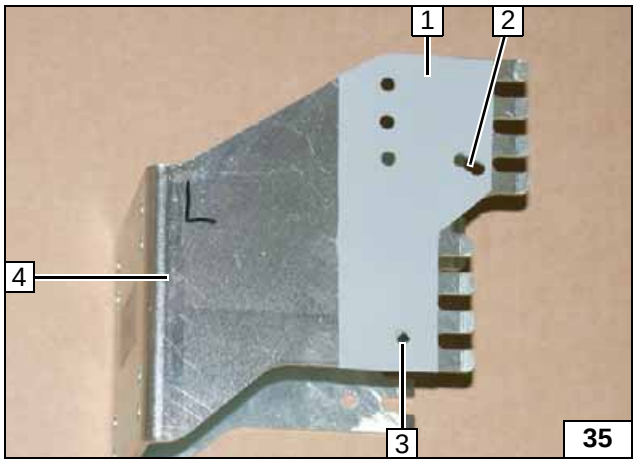


Preparing Bracket

Cut out template **1** and place on bracket **2** (right side) as shown.

3 Copy hole pattern, 5.5mm dia. hole

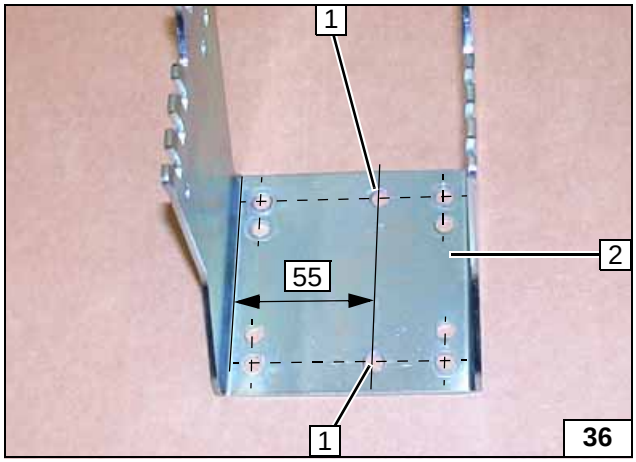
Hole in bracket



Place template **1** on bracket **4** (left side) as shown.

2 Copy oblong hole pattern, 5.5x11mm dia. hole
3 Copy hole pattern, 5.5mm dia. hole

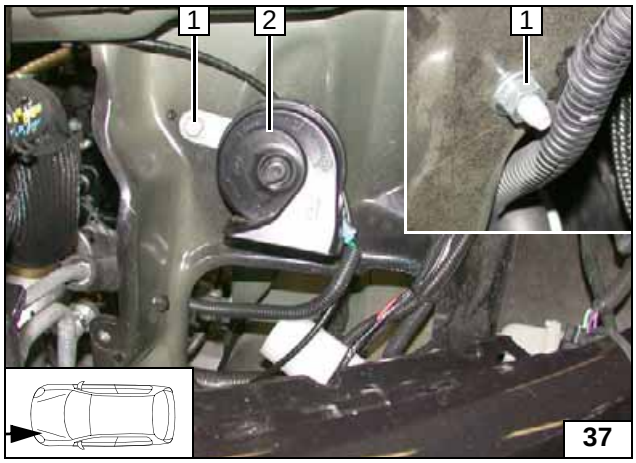
Hole in bracket



1 7 mm dia. hole [2x]
2 Bracket

Hole in bracket

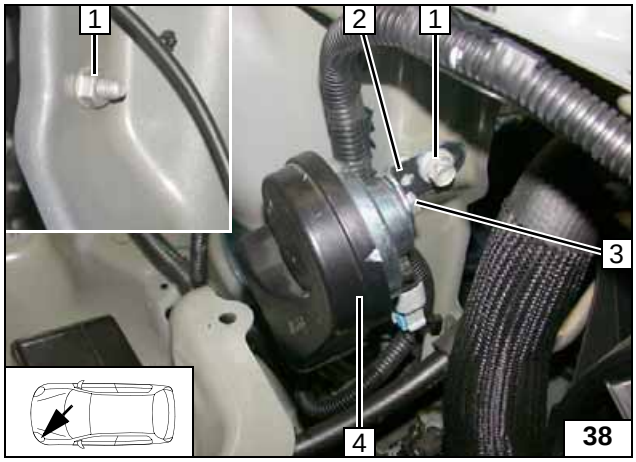
Preparing Installation Location



Chevrolet Captiva

1 Original vehicle bolt, horn bracket, existing hole, flanged nut
2 Horn

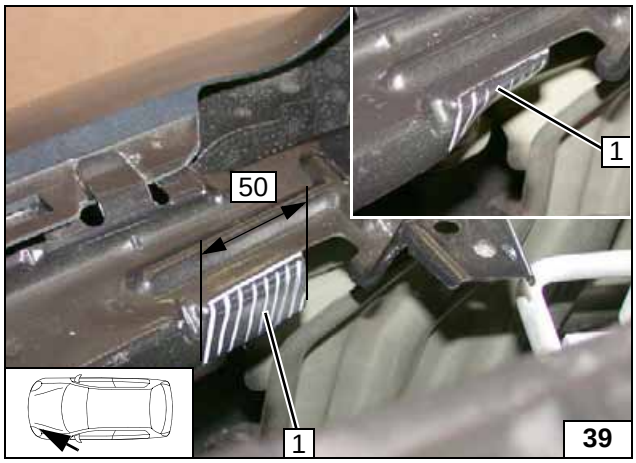
Moving horn



Opel Antara

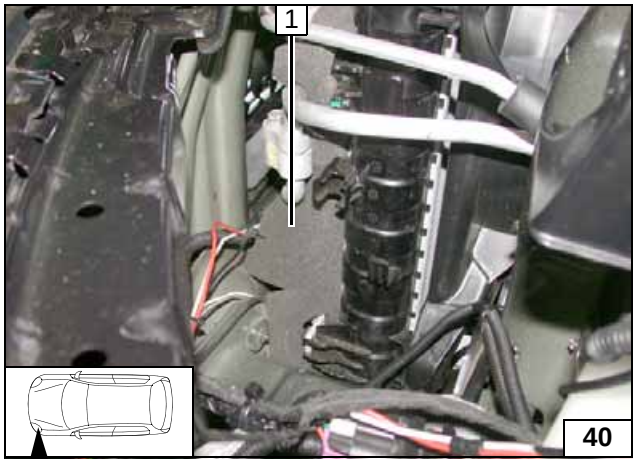
1 Original vehicle bolt, existing hole, flanged nut
2 Angle bracket
3 Original vehicle bolt
4 Horn

Moving horn



Align sheet edge **1** as shown.

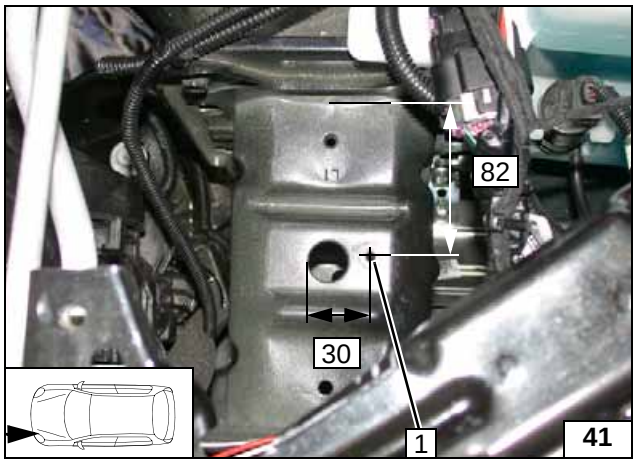
Aligning edge



All vehicles

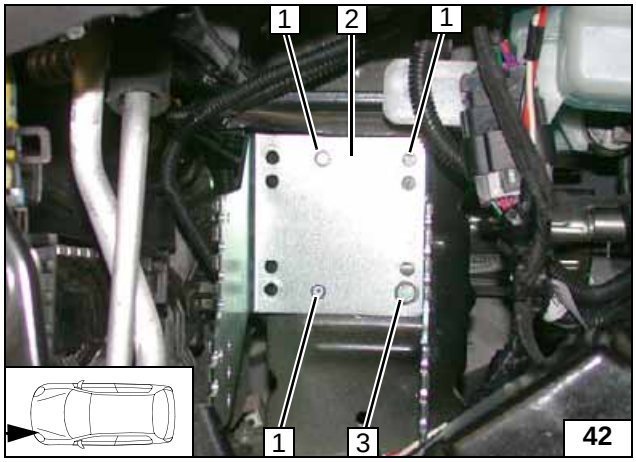
Cut foam **1** and fold towards the centre

Preparing installation location



1 9.1mm dia. hole; rivet nut

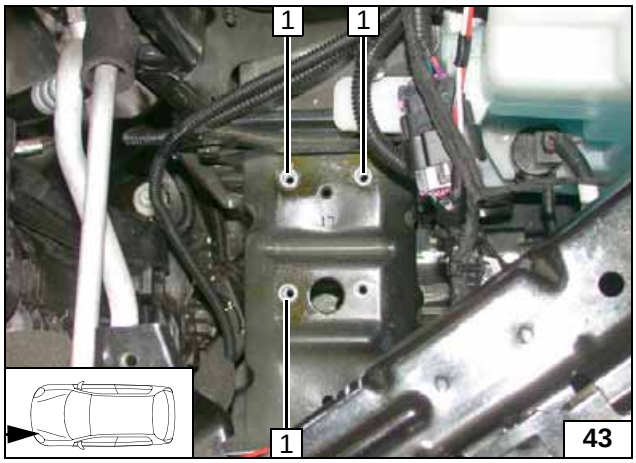
Installing rivet nut



Mount bracket **2** loosely and align.

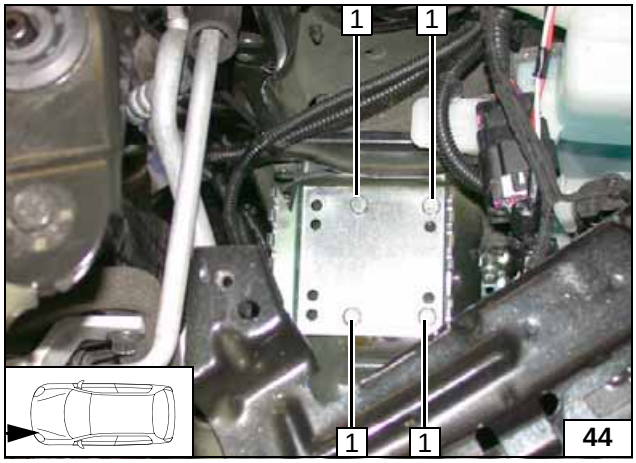
1 Copy hole pattern [3x]
3 M6x20 bolt

Copying hole pattern



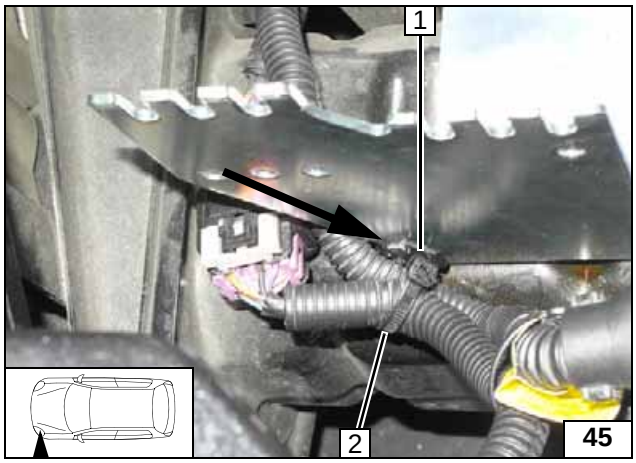
1 9.1mm dia. hole; rivet nut [3x each]

Installing rivet nut



1 M6x20 bolt, spring lockwasher [4x each]

Installing bracket

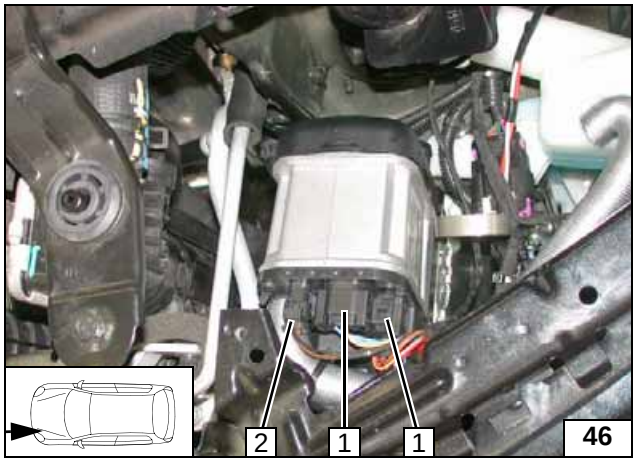


Attach retaining clip **1** on bracket. Secure original vehicle wiring harness using cable tie **2**. Ensure sufficient distance from neighbouring components, correct if necessary.

Aligning wiring harness

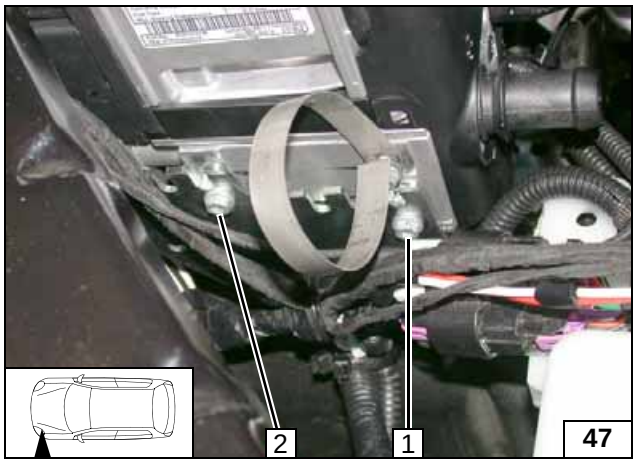
Installing Heater

Install heater in bracket as shown in the following figures.



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

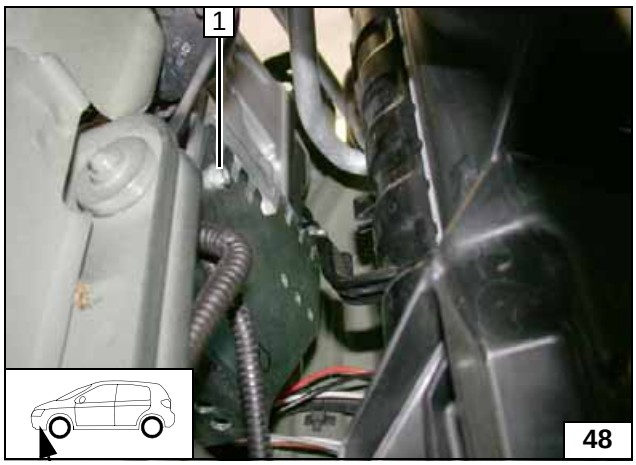
Installing wiring harness



Align heater. Ensure sufficient distance from neighbouring components, correct if necessary.

1 5x13 self-tapping bolt; pre-drilled hole (left side of bracket)
2 5x13 self-tapping bolt; pre-drilled oblong hole (left side of bracket)

Installing heater



1 5x13 self-tapping bolt

Installing heater

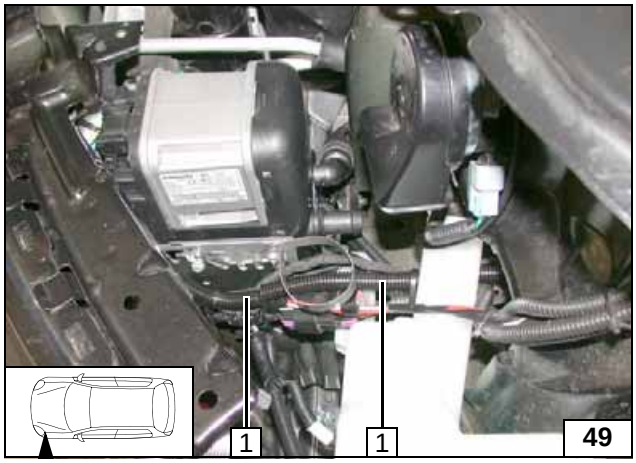
Fuel

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.

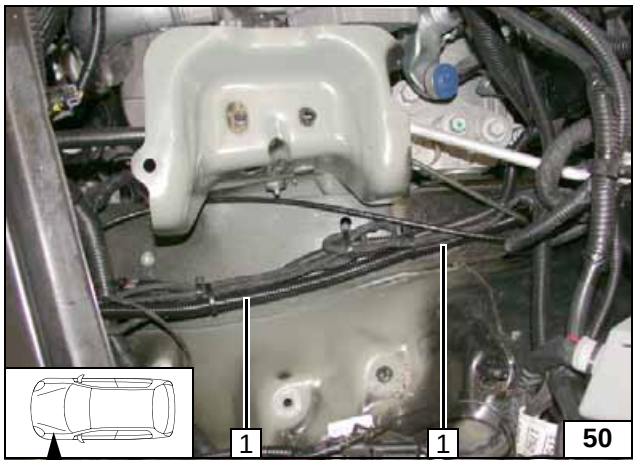
Install fuel line and metering pump wiring harness so that they are protected against stone impact. Unless specified otherwise, always fasten using cable ties.
Provide rub protection for fuel line and wiring harness in areas where there are sharp edges.

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



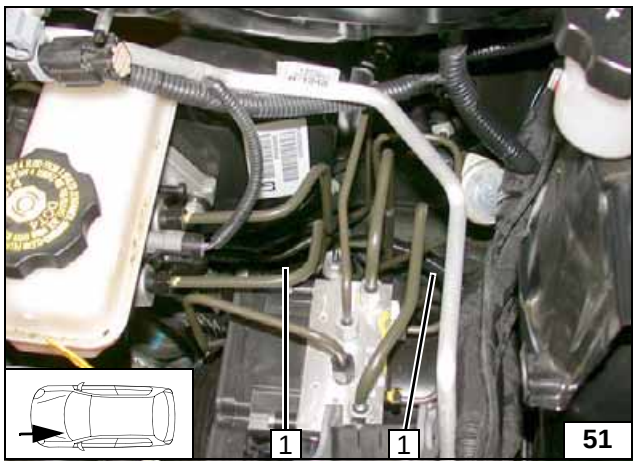
Route fuel line and wiring harness of metering pump in 10mm dia. corrugated tube **1** to firewall.

Installing lines



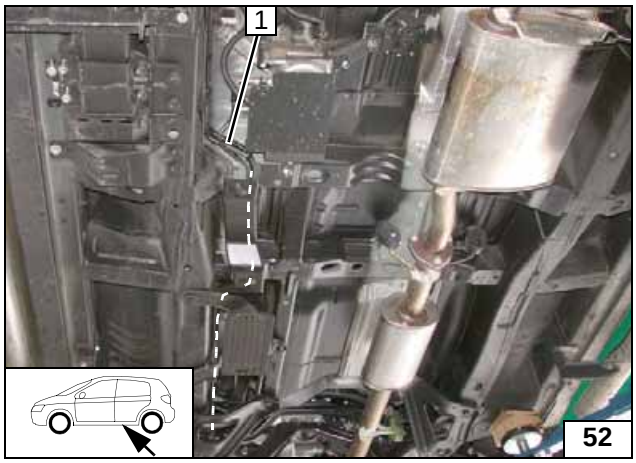
Route fuel line and wiring harness of metering pump in 10mm dia. corrugated tube **1** to firewall.

Installing lines



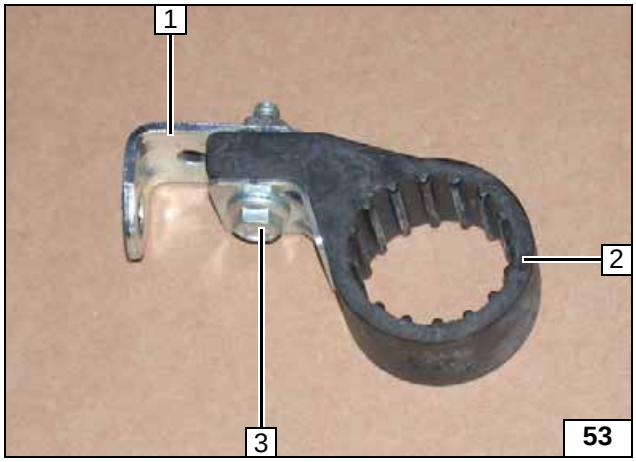
Route fuel line and wiring harness of metering pump in 10mm dia. corrugated tube **1** along original vehicle lines to underbody.

Installing lines



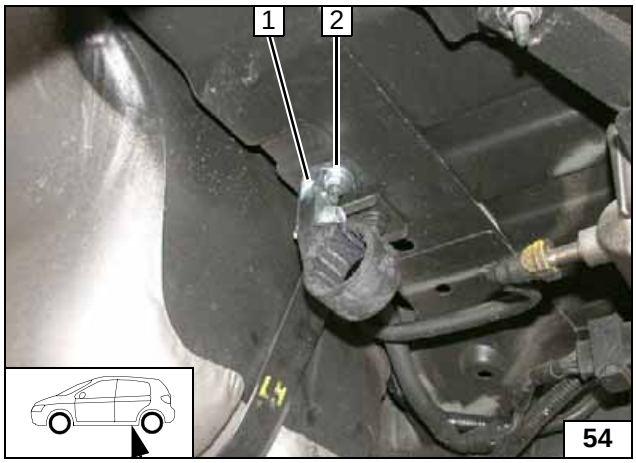
Route fuel line and wiring harness of metering pump in 10mm dia. corrugated tube **1** along original vehicle lines to installation location of metering pump.

Installing lines



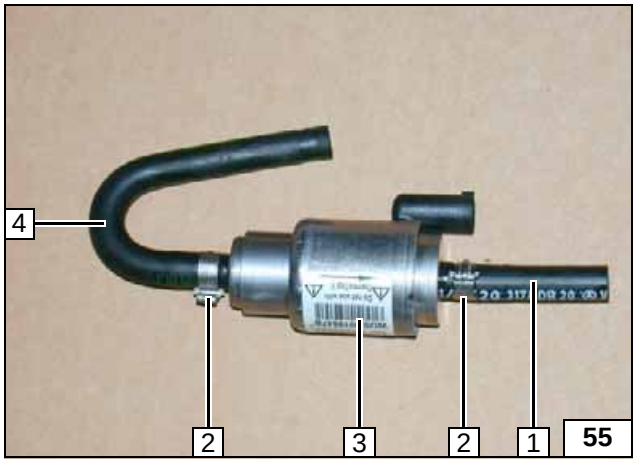
1 Angle bracket
2 Mounting of metering pump
3 M6x25 bolt, support angle bracket, flanged nut

Preinstalling mounting of metering pump



1 Angle bracket
2 Original vehicle stud bolt, M6 flanged nut

Installing mounting of metering pump

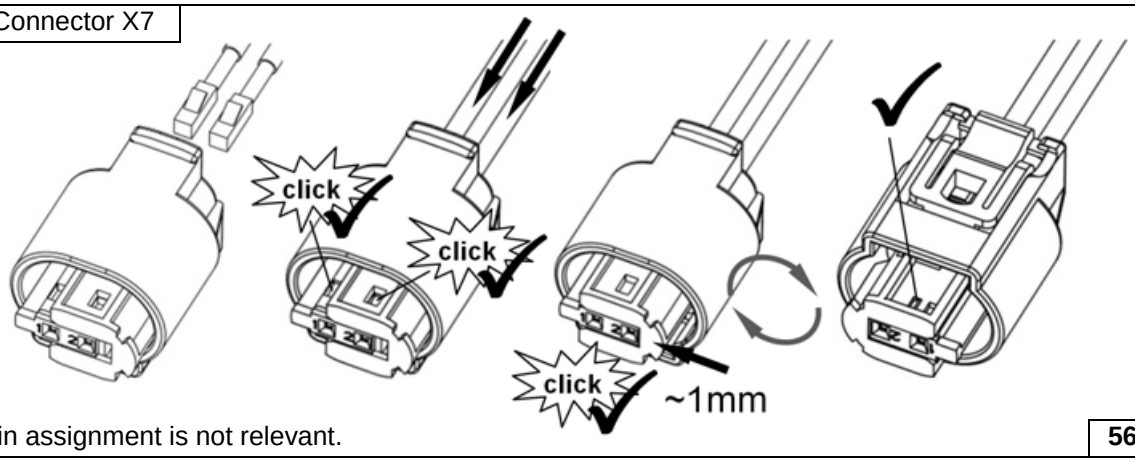


1 Hose section
2 10mm dia. clamp [2x]
3 Metering pump
4 180° moulded hose

Premounting metering pump

Completing metering pump connector

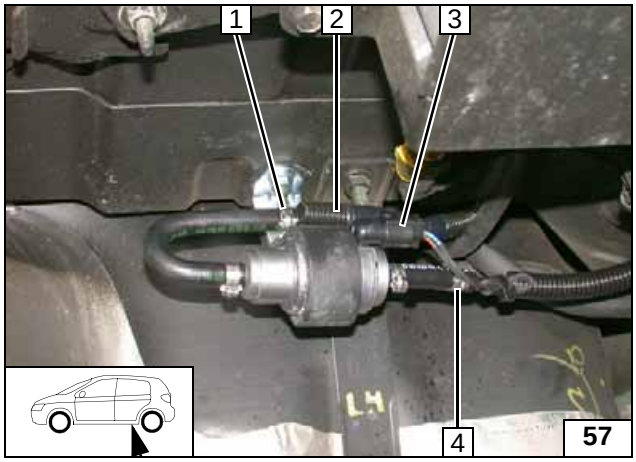
Connector X7



Pin assignment is not relevant.

56

Mounting and connecting metering pump

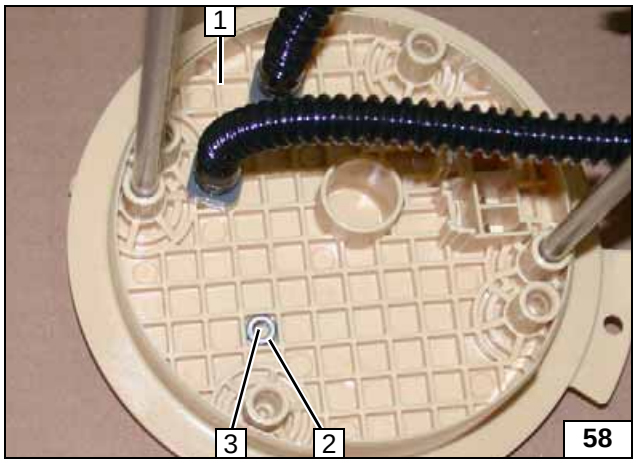


57

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

1 10mm dia. clamp
2 Fuel line of fuel standpipe in 10mm dia., 400mm long corrugated tube
3 Wiring harness of metering pump, connector X7 mounted
4 Fuel line of heater, 10mm dia. clamp

Fuel extraction

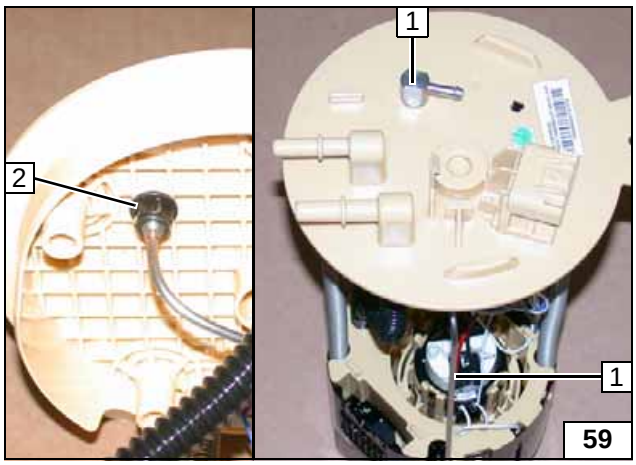


58

Remove and dismount fuel-tank sending unit **1** according to manufacturer's instructions.

2 M5 nut
3 Copy hole pattern, 6mm dia. hole

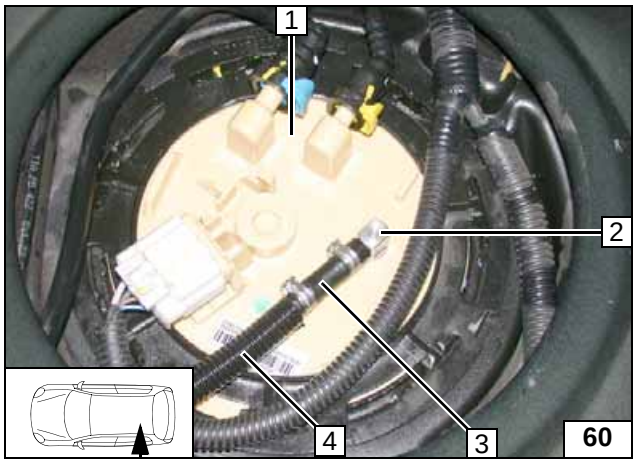
Installing fuel standpipe



59

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

2 Flanged nut of fuel standpipe



Install fuel-tank sending unit **1** according to manufacturer's instructions. Check the position of the components; adjust if necessary. Check that they have freedom of movement.

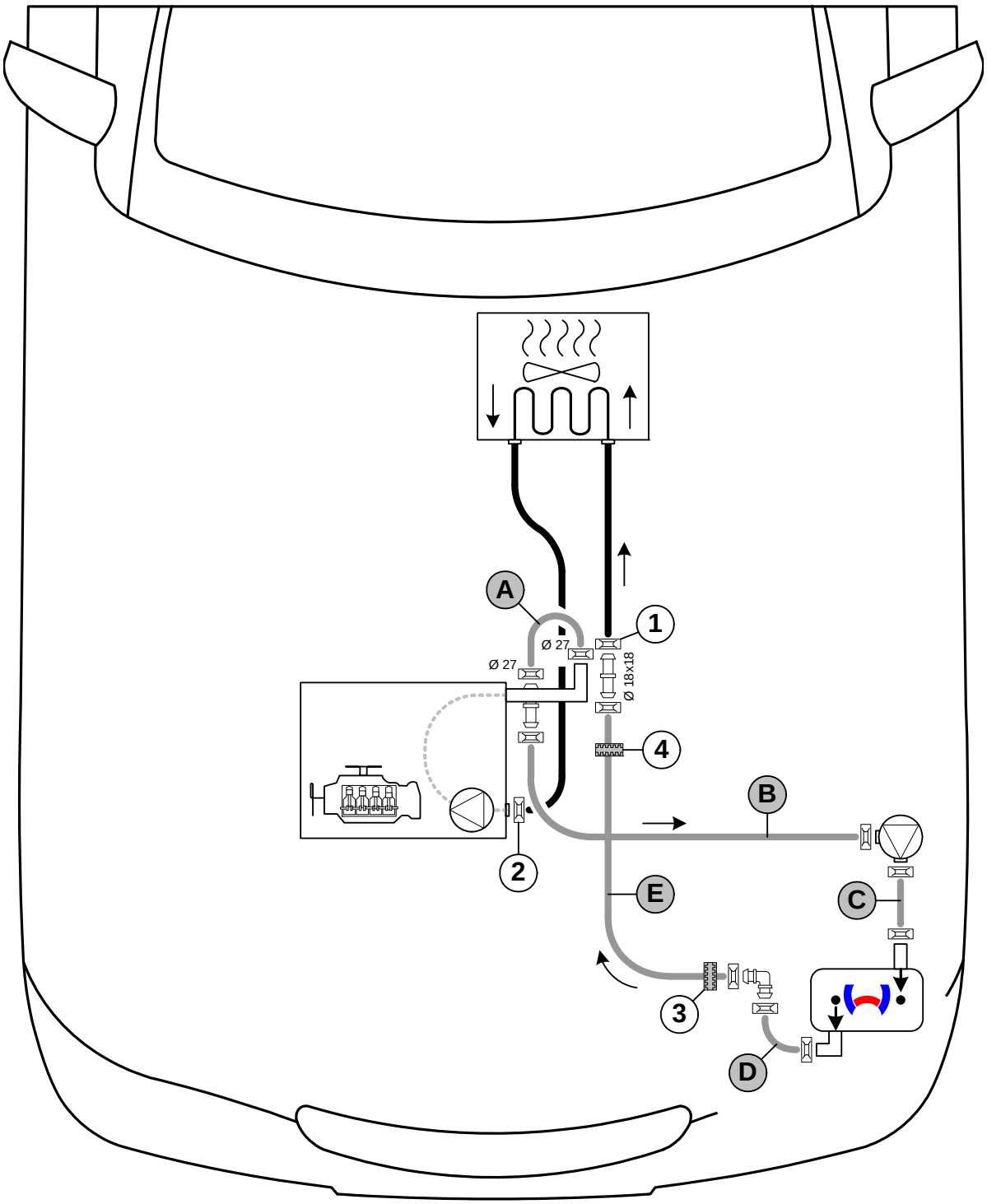
2 Fuel standpipe
3 Hose section, 10mm dia.clamp [2x]
4 Fuel line in 10mm dia. corrugated tube

Connecting fuel line

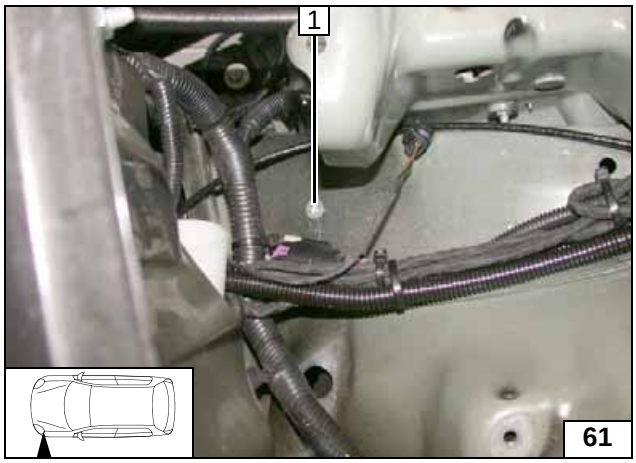
Coolant Circuit

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



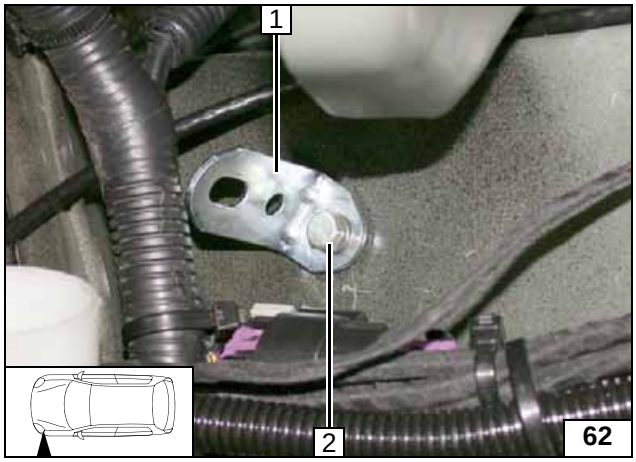
All non-designated spring clips = 25mm dia. **1** = Original vehicle spring clip.
2 = Spring clip = 27mm dia. (only for manual transmission). **3** = Black (sw) rubber isolator.
4 = Black (sw) rubber isolator (only for manual transmission).
Connecting pipe = 18x18mm dia. Not designated connecting pipe = 18x20mm dia.



All vehicles

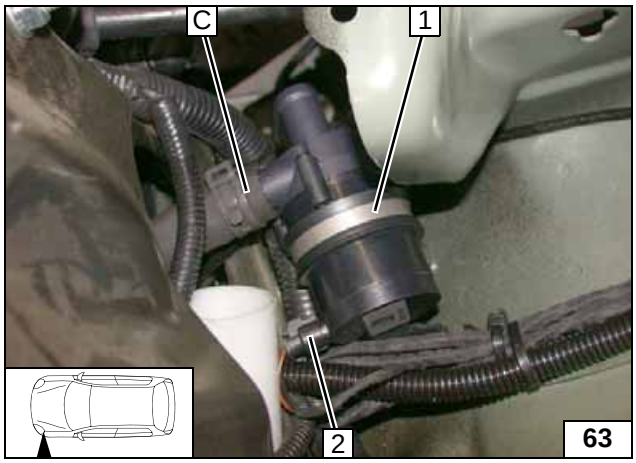
1 Drill out 9.1 mm dia. hole; rivet nut

Installing rivet nut



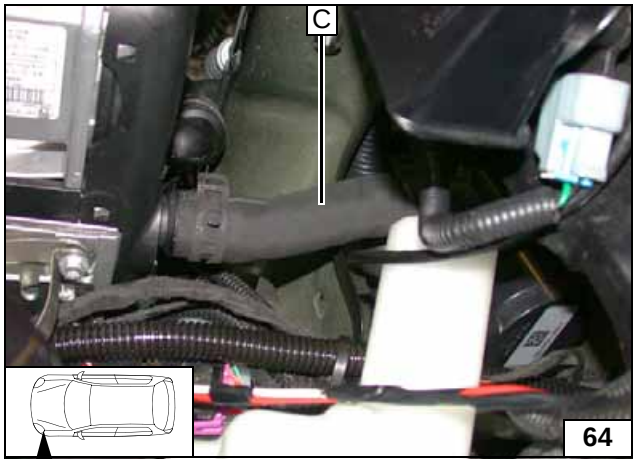
1 Angle bracket
2 M6x20 bolt, spring lockwasher

Installing angle bracket

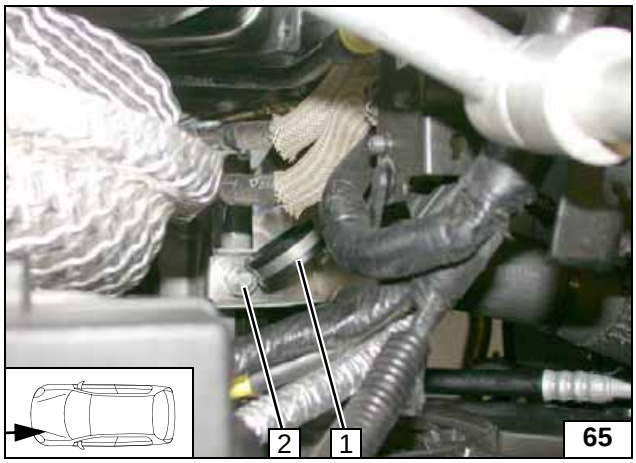


1 48mm dia. rubber-coated p-clamp, M6x20 bolt, flanged nut on angle bracket
2 Wiring harness of circulating pump mounted

Installing circulating pump



Connecting heater inlet



Remove and discard bolt at position **2**.

1 Rubber-coated p-clamp 38mm dia.
2 Mount M6x35 bolt, 20mm shim loosely

Premounting rubber-coated p-clamp

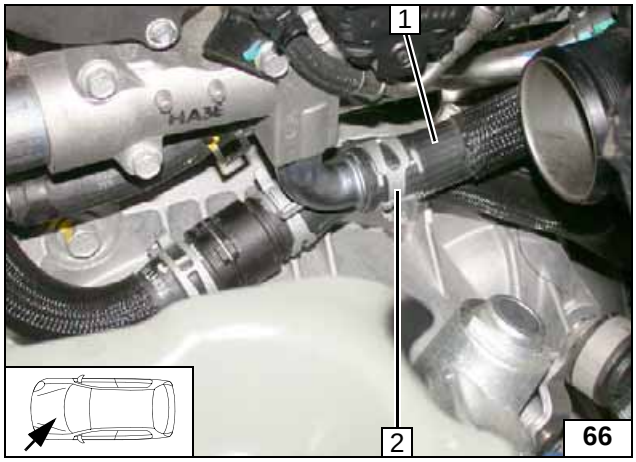
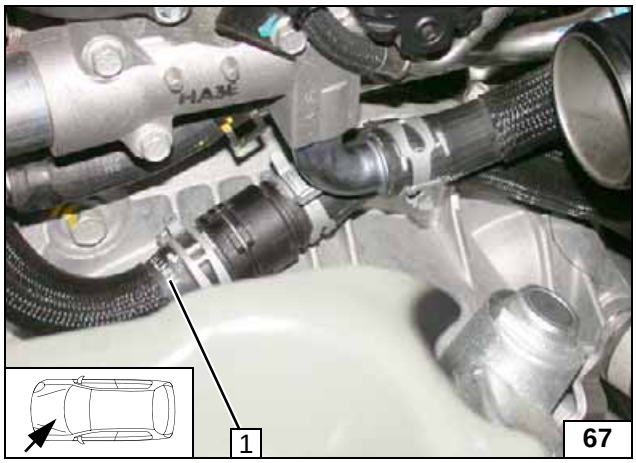


Figure shows manual transmission.
Pull hose of engine outlet / heat exchanger inlet **1** off connection piece of engine outlet.
Spring clip **2** will be reinserted.

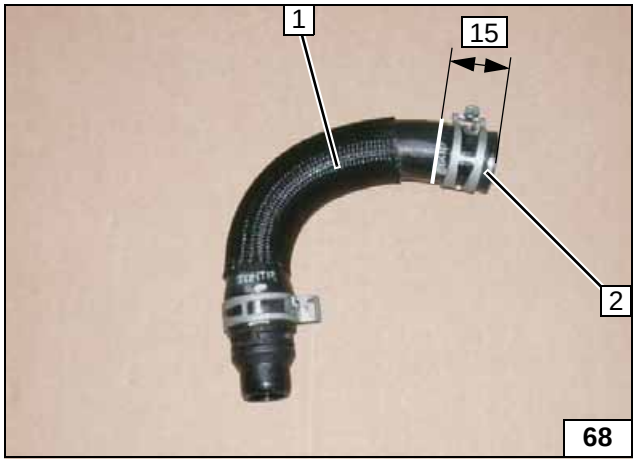
Cutting point



Manual transmission

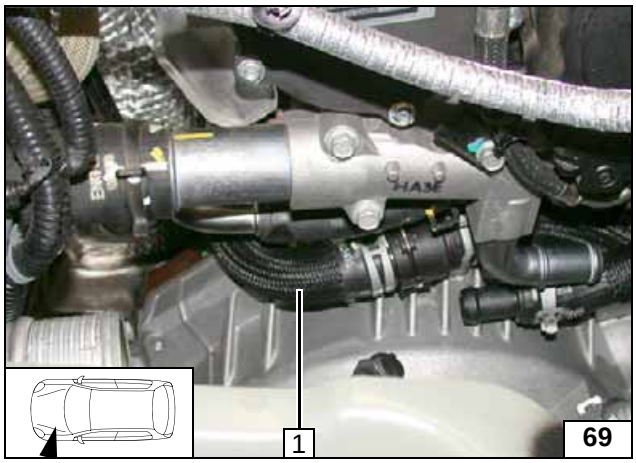
Remove hose of heat exchanger outlet/engine inlet **1**.

Cutting point



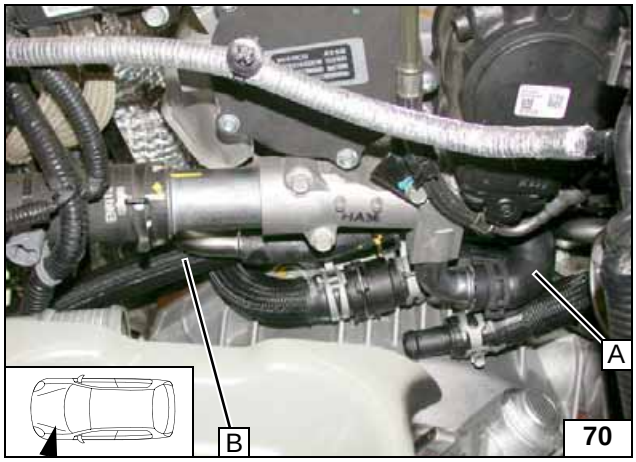
1 Hose of heat exchanger outlet/engine inlet
2 Discard section with spring clip (pasted)

Shortening hose

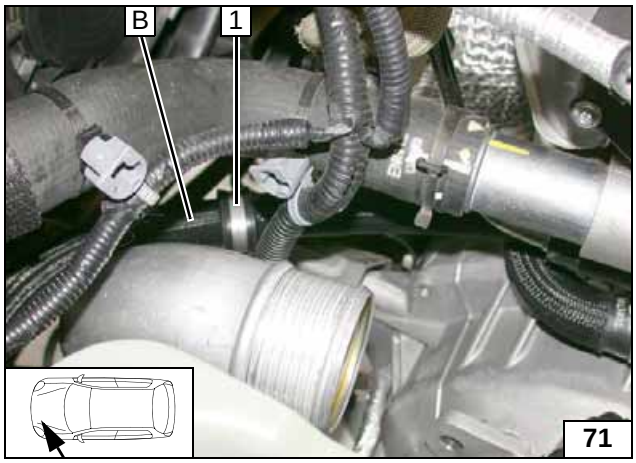


Hose of heat exchanger outlet/engine inlet **1** remounted. Use 27mm dia. spring clip on connection piece of engine inlet.

Mounting hose

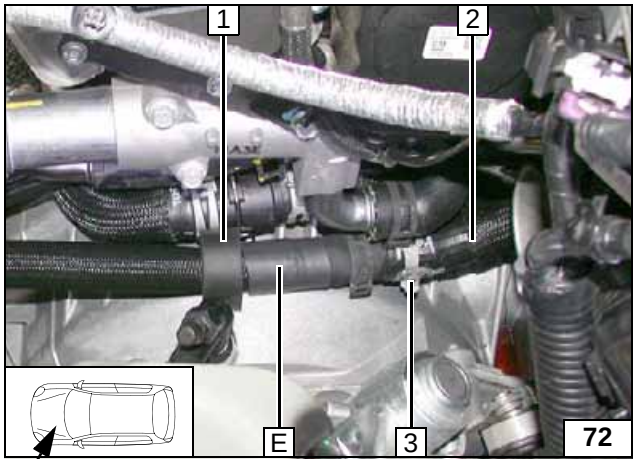


Connecting engine outlet



Route hose **B** through 38mm dia. rubber-coated p-clamp **1**.

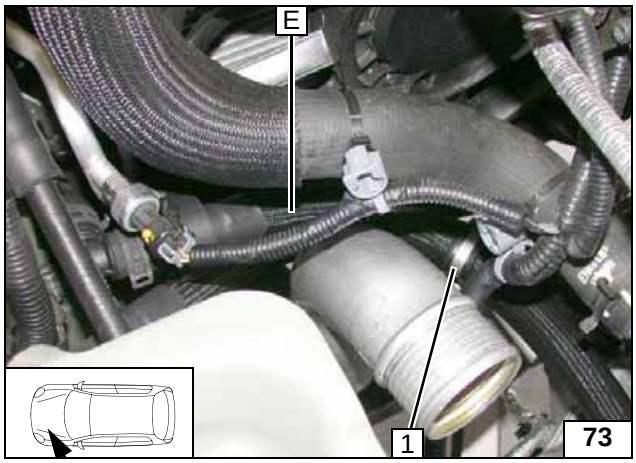
Routing in engine compartment



Slide black (sw) rubber isolator **1** on hose **E** and align as shown.

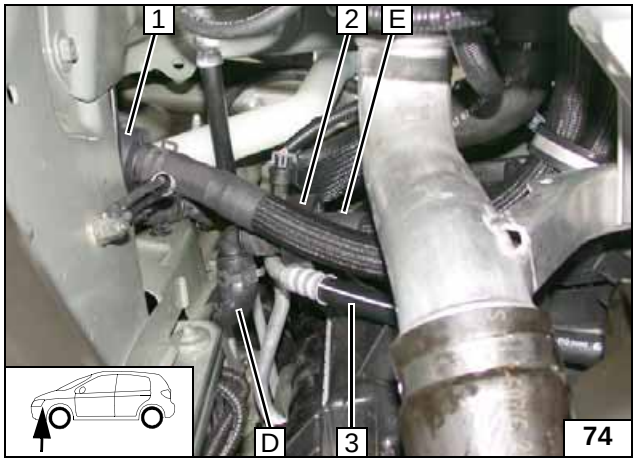
2 Hose on heat exchanger inlet
3 Original vehicle spring clip

Connecting heat exchanger inlet



Route hose **E** through 38mm dia. rubber-coated p-clamp **1**.

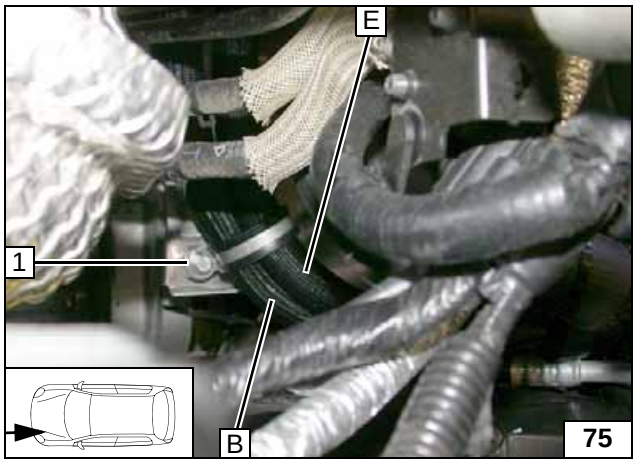
Routing in engine compartment



Slide black (sw) rubber isolator **2** on hose **E** and align with A/C line **3.**

1 Circulating pump

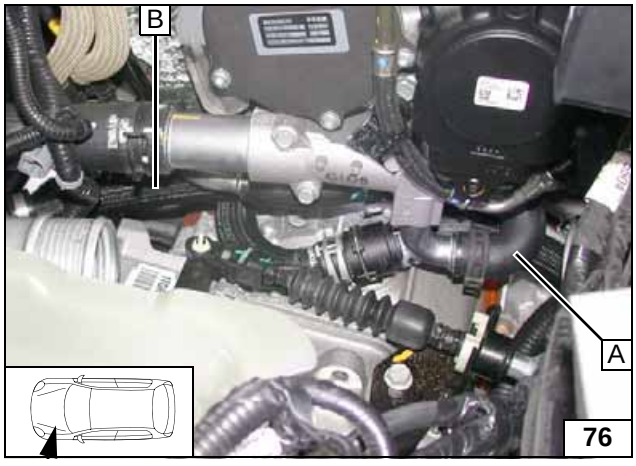
Connecting heater



Ensure sufficient distance from neighbouring components, correct if necessary.

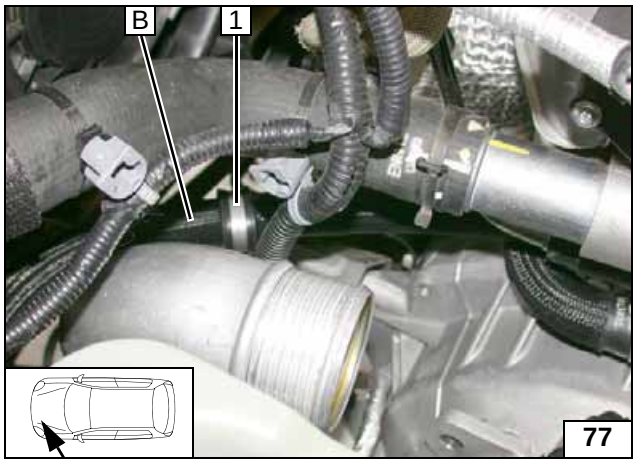
1 Tighten M6x35 bolt

Aligning hoses



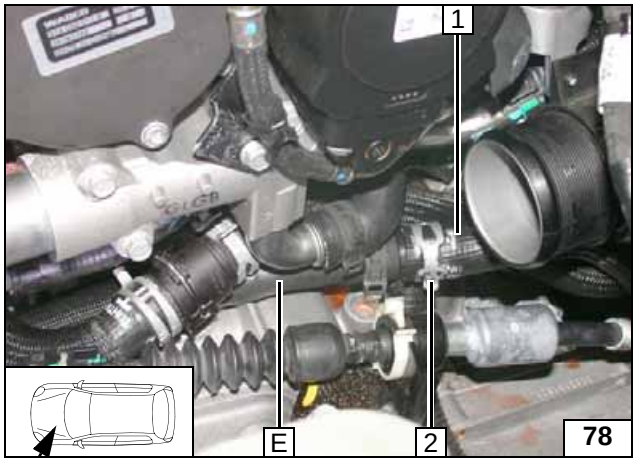
Automatic transmission

Connecting engine outlet



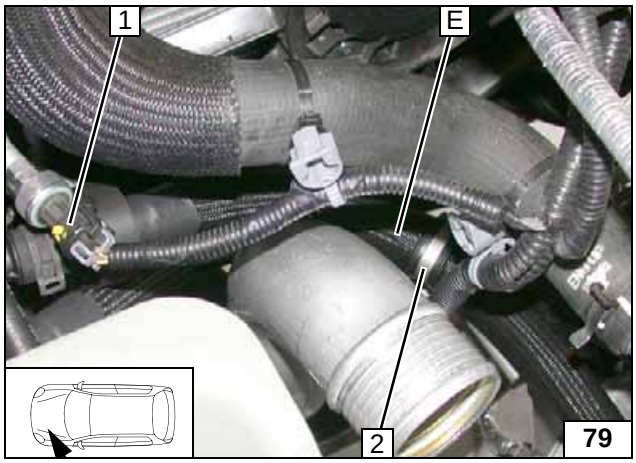
Route hose **B** through 38mm dia. rubber-coated p-clamp **1**.

Routing in engine compartment



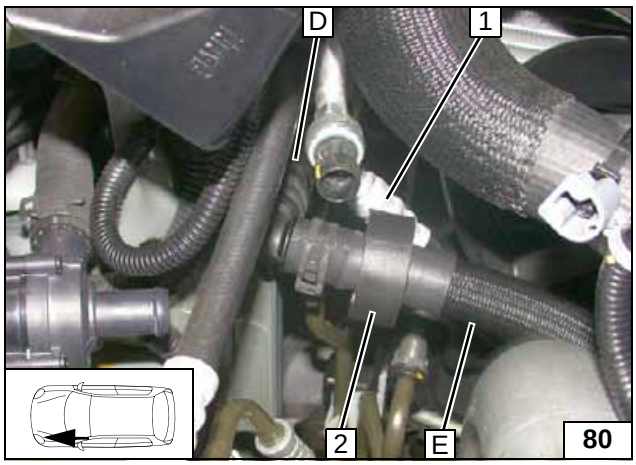
1 Hose on heat exchanger inlet
2 Original vehicle spring clip

Connecting heat exchanger inlet



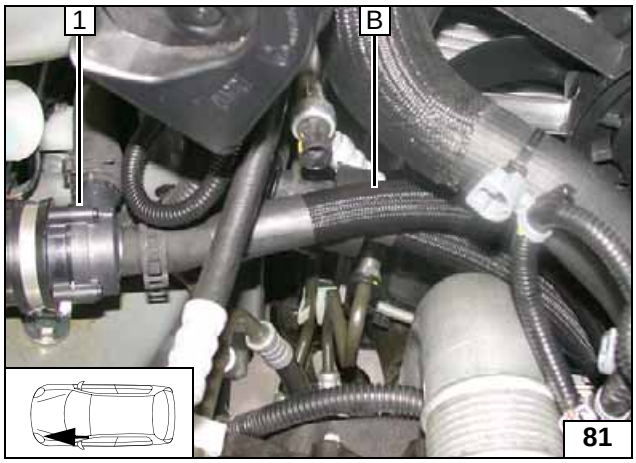
Route hose **E** through 38mm dia. rubber-coated p-clamp **2**. Remove original vehicle connector **1** to facilitate mounting.

Routing in engine compartment



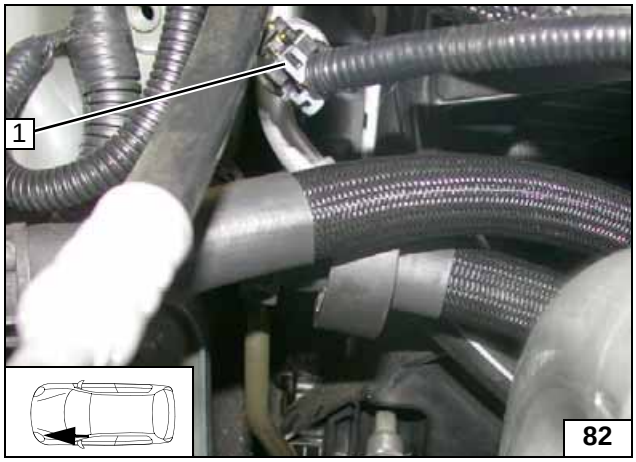
Slide black (sw) rubber isolator **2** onto hose **E** and align with hydraulic line **1**.

Connecting heater



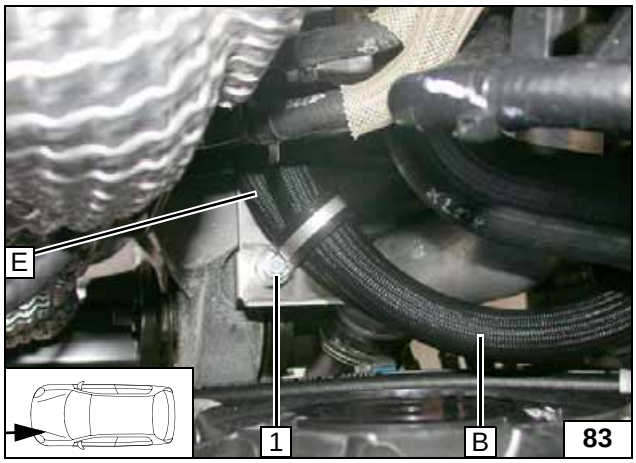
1 Circulating pump

Connecting circulating pump



1 Original vehicle connector

Inserting connector



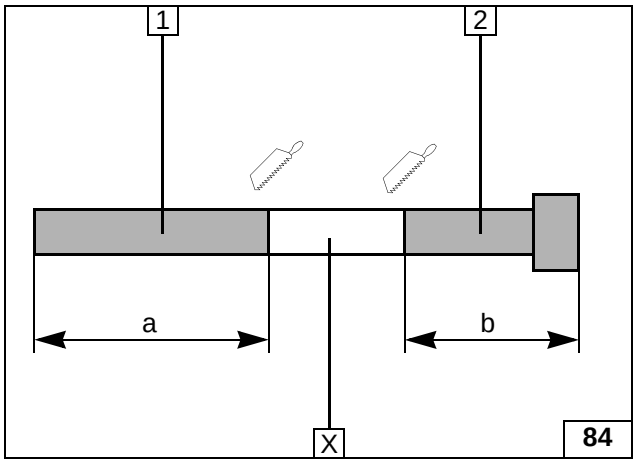
Ensure sufficient distance from neighbouring components, correct if necessary.

1 Tighten bolt

Aligning hoses

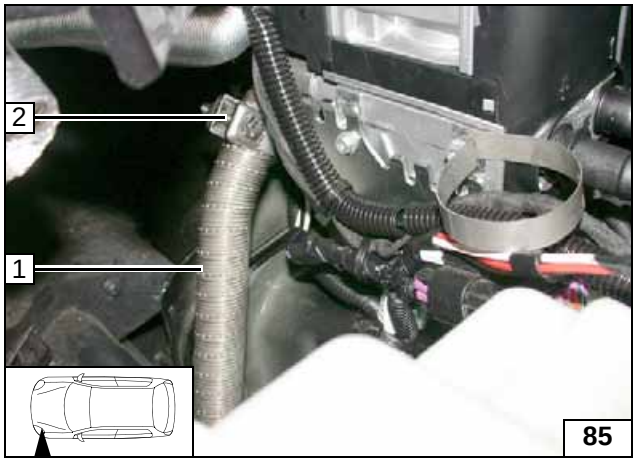
Exhaust Gas

Discard section **X**.



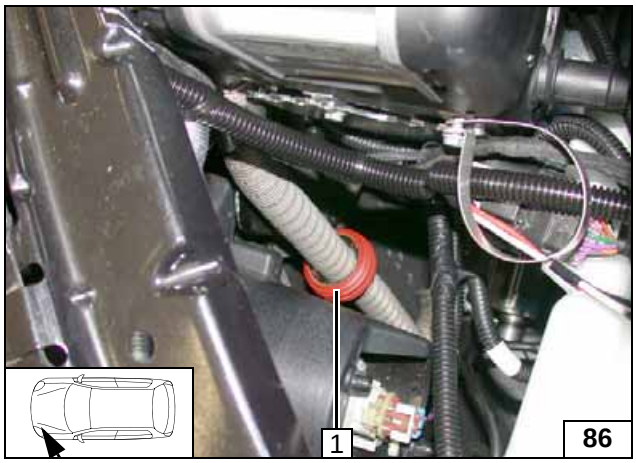
1 Combustion air pipe
a = 400
2 Exhaust end section
b = 220

Preparing exhaust pipe



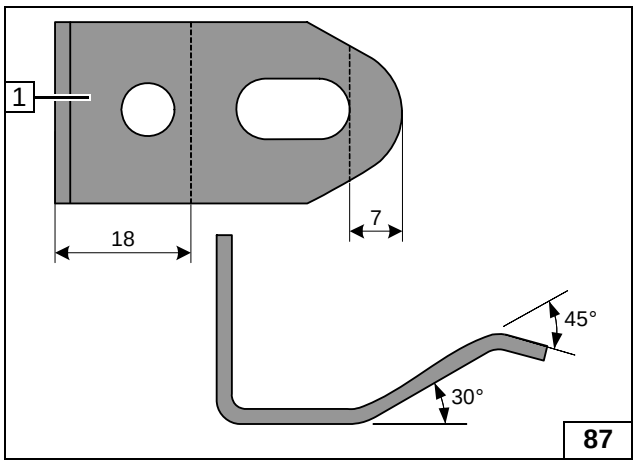
1 Exhaust pipe on exhaust elbow
2 Hose clamp

Installing exhaust pipe



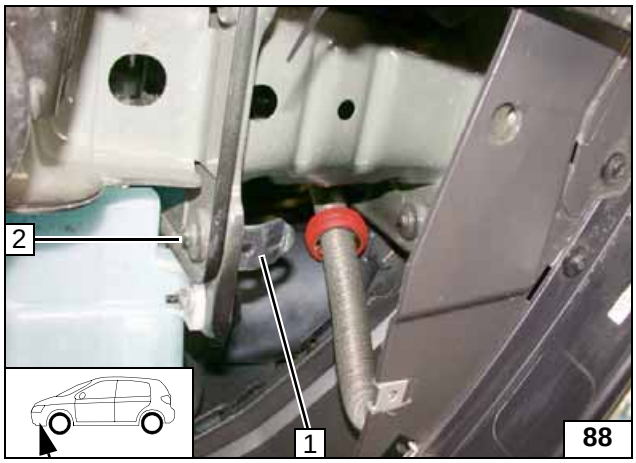
1 Slide on spacer bracket

Routing exhaust pipe



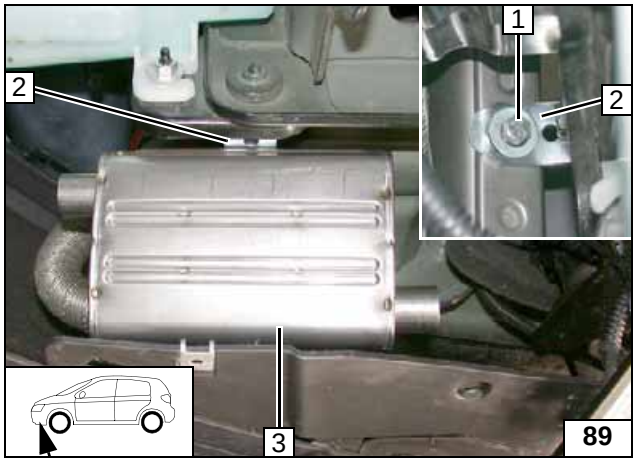
Drill out hole of angle bracket **1** in the short leg to 8.5mm dia.

Preparing angle bracket



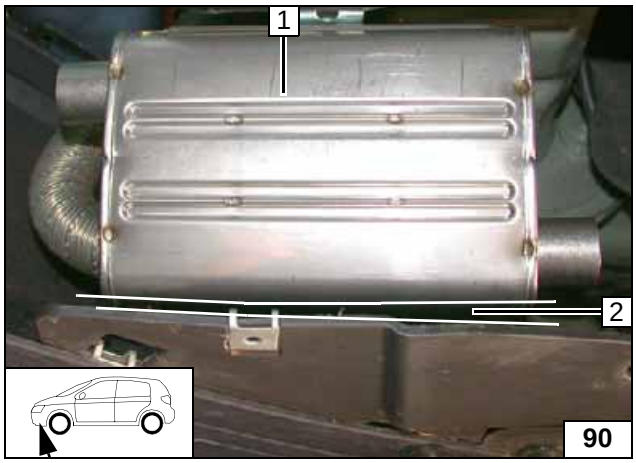
1 Angle bracket
2 Original vehicle bolt

Installing angle bracket



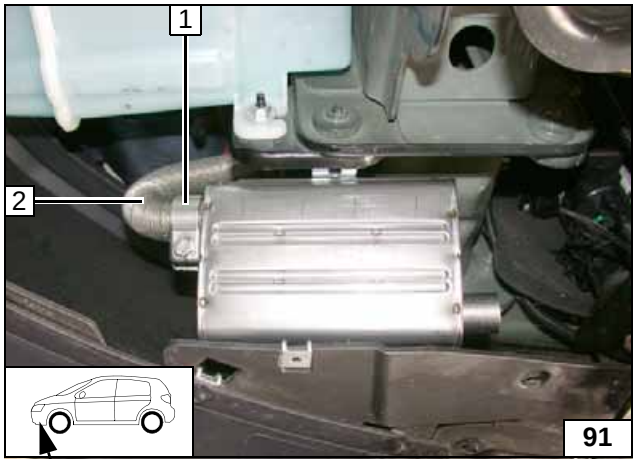
1 M6x16 bolt, spring lockwasher, large diameter washer
2 Angle bracket
3 Silencer

Installing silencer



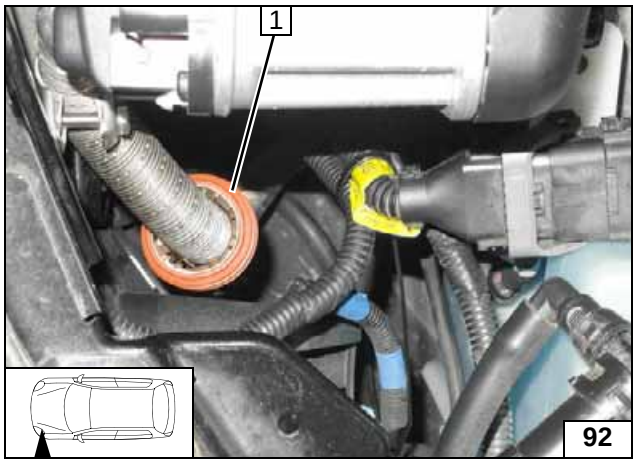
Ensure sufficient distance (at least 20mm) between silencer **1** and underride protection at position **2**, correct if necessary.

Aligning silencer



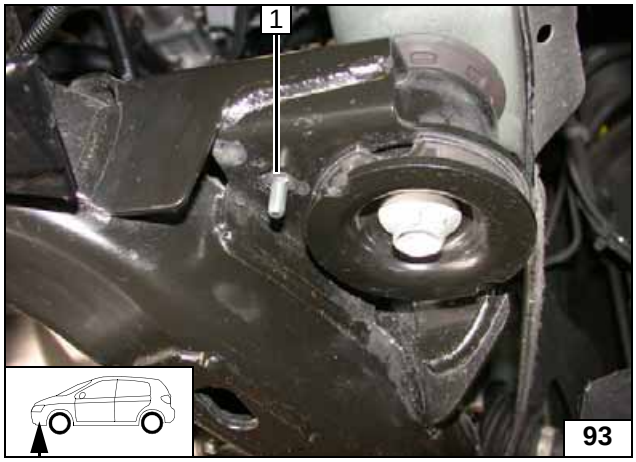
1 Hose clamp
2 Exhaust pipe

Installing exhaust pipe



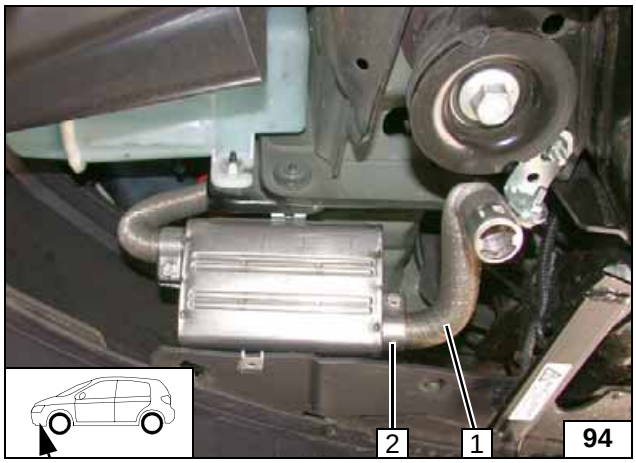
Align spacer bracket **2** as shown. Ensure sufficient distance (at least 20mm) between exhaust pipe and adjacent components, correct if necessary.

Aligning spacer bracket



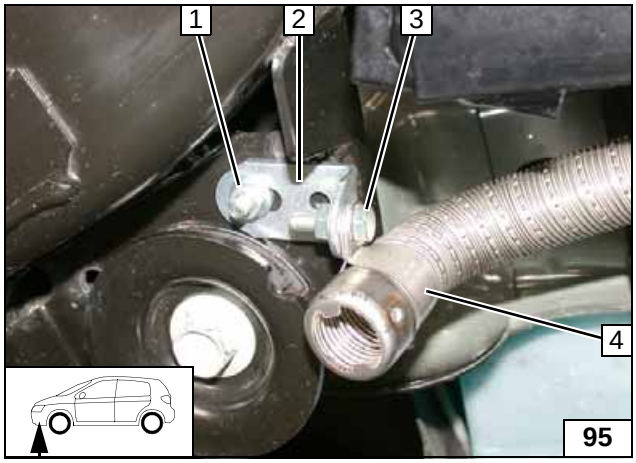
1 M6x20 bolt, large diameter washer, pin lock, existing hole

Inserting bolt



1 Exhaust end section
2 Hose clamp

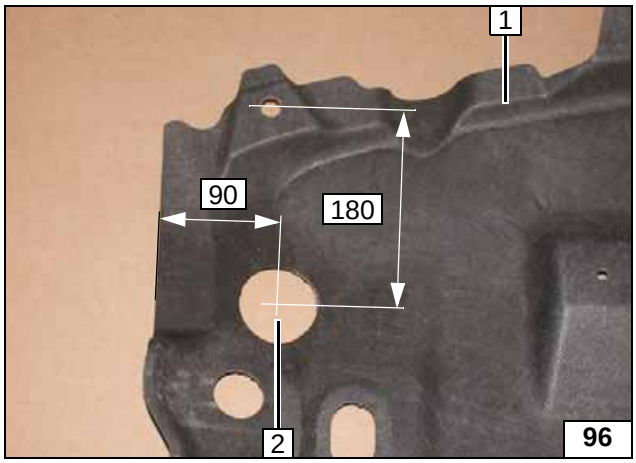
Mounting exhaust end section



Ensure sufficient distance from neighbouring components, correct if necessary.

1 M6 flanged nut
2 Angle bracket
3 M6x20 bolt, flanged nut
4 P-clamp

Fastening exhaust end section



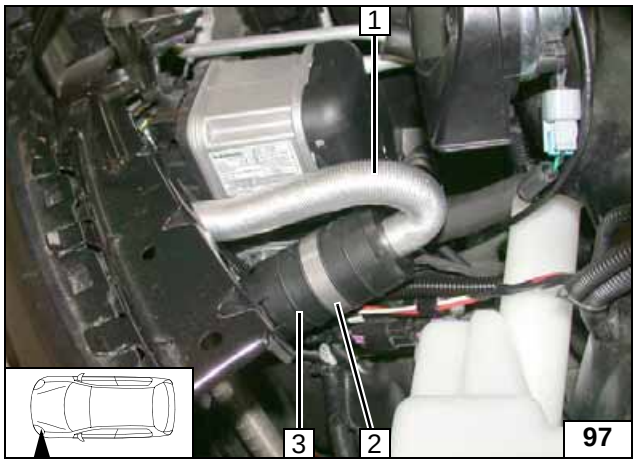
1 Underride protection
2 60mm dia. hole

Cutting underride protection

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 lines.
Only use manufacturer-approved coolant. Spray the heater components with anti-corrosion wax (Tectyl 100K, Order No. 111329).

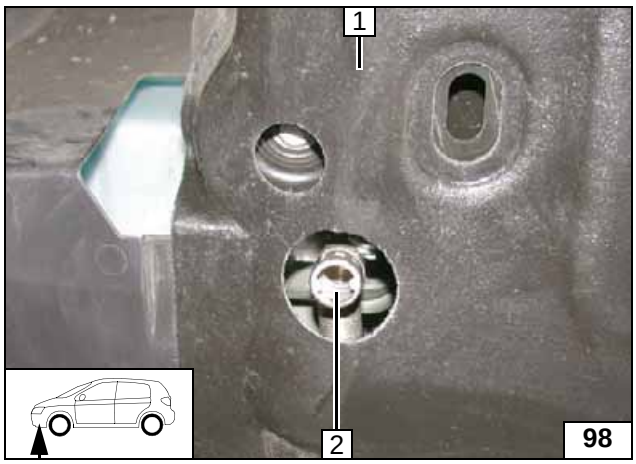
- **Connect the battery.**
- **Fill and bleed the coolant circuit according to the vehicle manufacturer's specifications.**
- **Adjust digital timer, teach Telestart transmitter.**
- **Make settings on A/C control panel according to the "Operating Instructions for End Customer".**
- **Place caution label "Switch off parking heater before refuelling" in the area of the filler neck**
- **For initial startup and function check, see installation instructions**
- **Check power consumption of IPCU at fuse F4 in parking heating mode. The power consumption should lie between 3A and 4.5A, adjust voltage of IPCU if necessary.**



Fasten bolt of 51mm clamp **2**.

1 Combustion air pipe
3 Silencer

Installing silencer



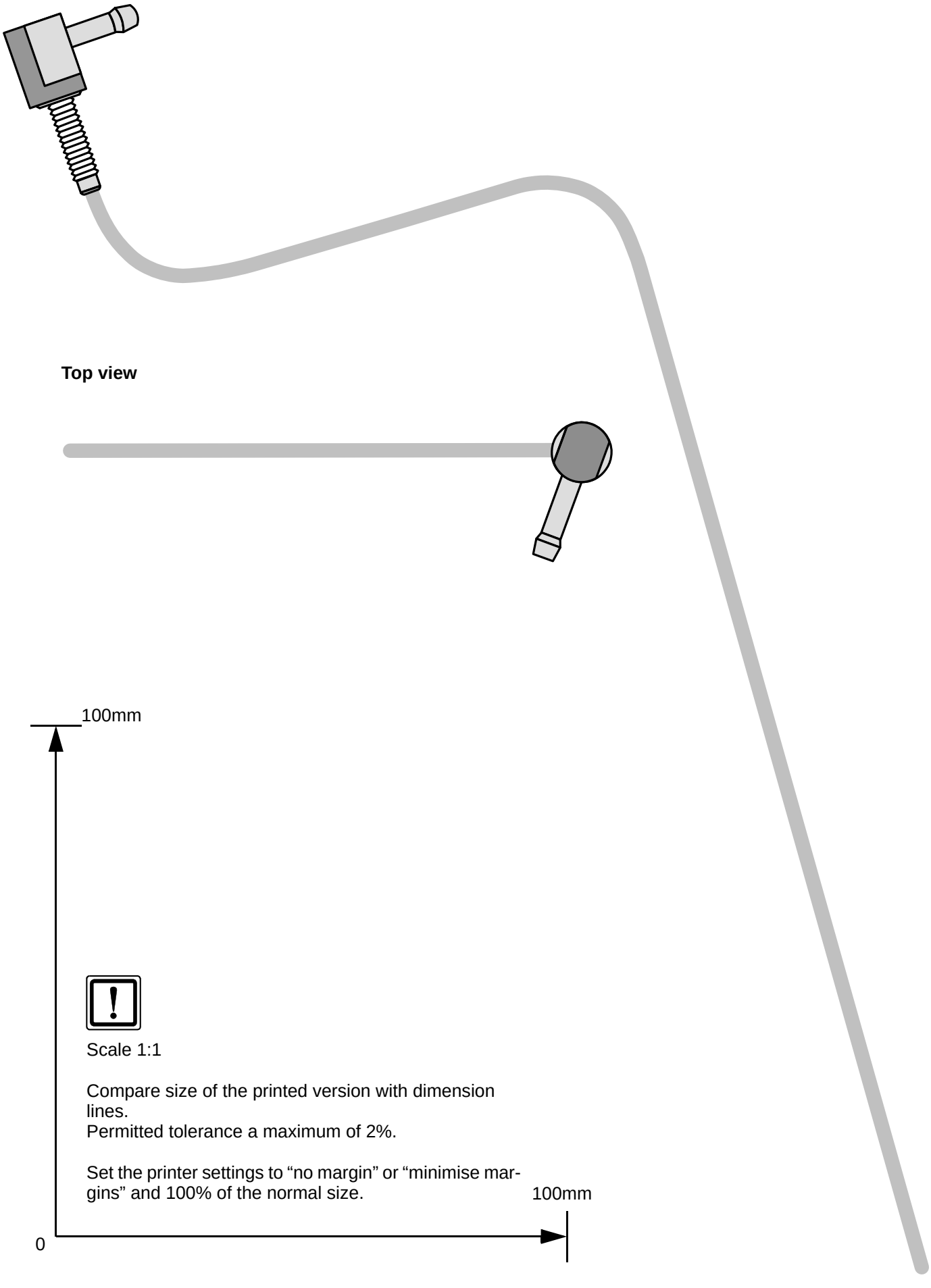
Align exhaust end section **2** with centre of hole.

1 Underride protection mounted

Fastening exhaust end section

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

Fuel Standpipe Template



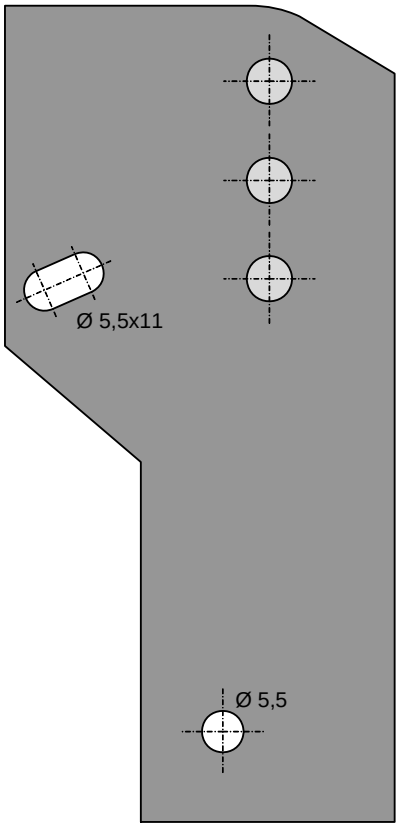
Scale 1:1

Compare 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.

Template of Bracket

for right and left side



100mm

Scale 1:1

Compare 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 Chevrolet Captiva

Please remove page and add to the vehicle operating instructions.

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

Passenger compartment monitoring, if installed, must be deactivated in addition to vehicle settings for the heating operation .
Instructions for the deactivation can be taken from the operating instructions of the vehicle.

Before parking the vehicle, make the following settings:

Up to MY 2012

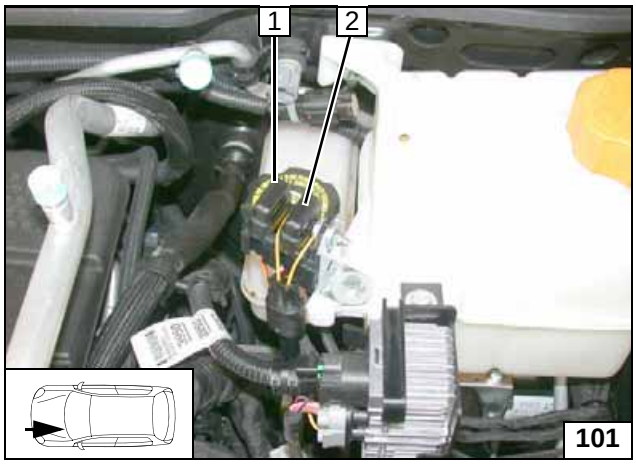
1 Air outlet to windscreen
2 Set temperature to "HI"

Air-conditioning control panel

From MY 2013

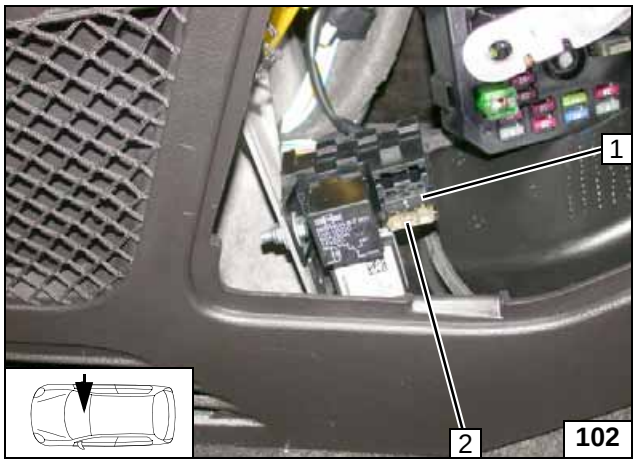
1 Air outlet to windscreen
2 Set temperature to "HI" on both sides

Air-conditioning control panel



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

Engine compartment fuses



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

Passenger compart-ment fuses

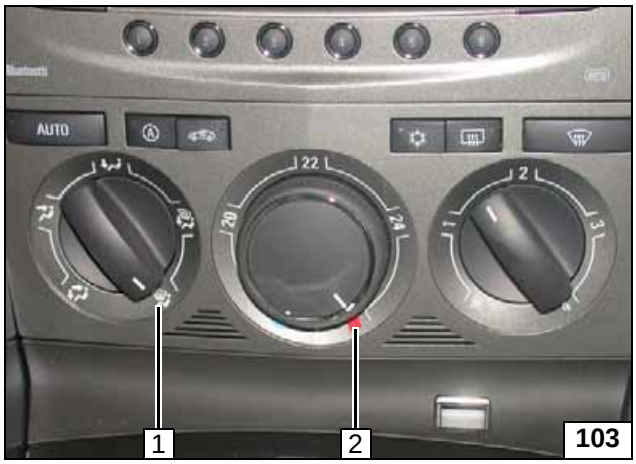
Operating Instructions for Opel Antara

Please remove page and add to the vehicle operating instructions.

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

Passenger compartment monitoring, if installed, must be deactivated in addition to vehicle settings for the heating operation .
Instructions for the deactivation can be taken from the operating instructions of the vehicle.

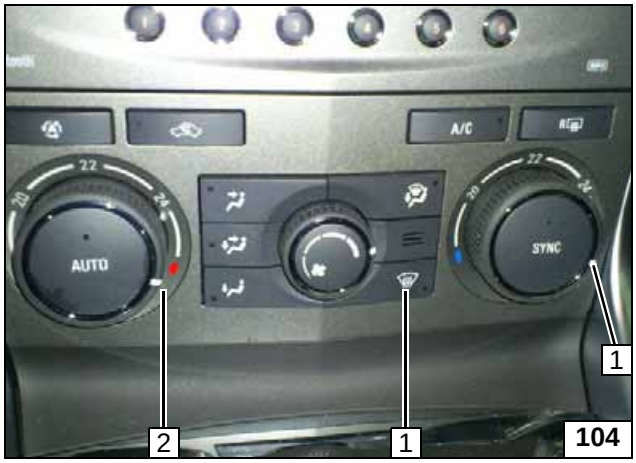
Before parking the vehicle, make the following settings:



Up to MY 2012

1 Air outlet to windscreen
2 Set temperature to "HI"

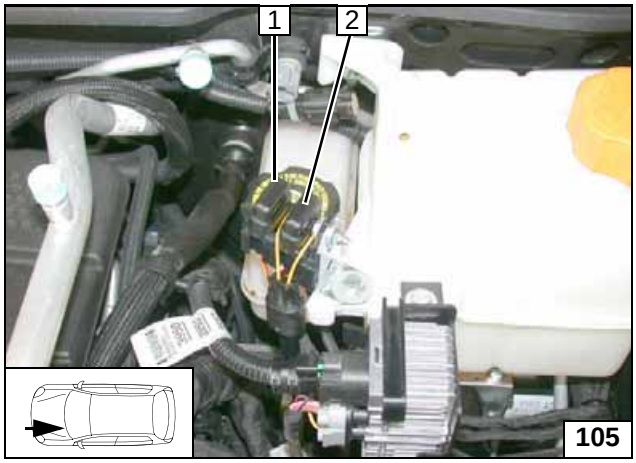
Air-conditioning control panel



From MY 2013

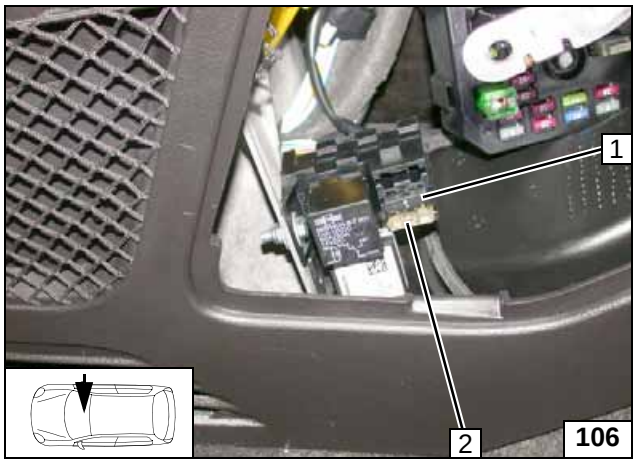
1 Air outlet to windscreen
2 Set temperature to "HI" on both sides

Air-conditioning control panel



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

Engine compartment fuses



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

Passenger compart-ment fuses