

- (D)** Einbauanleitung / nur Händlereinbau
- (GB)** Installation instructions / Dealer installation only
- (F)** Consignes de montage / Montage uniquement par le concessionnaire
- (NL)** Montagehandleiding / Montage alleen door dealers
- (DK)** Montagevejledning / Montage kun hos forhandleren
- (N)** Monteringsinstruksjon / Montasje kun hos forhandleren
- (S)** Installationsanvisning / Får endast monteras av återförsäljaren
- (FIN)** Asennusohje / Asennus vain myyntiliikkeen toimesta
- (I)** Istruzioni per il montaggio / Installazione solo presso la concessionaria
- (E)** Instrucciones de montaje / Instalación exclusiva por el distribuidor
- (P)** Instruções de montagem / Montagem só no concessionário
- (GR)** Οδηγίες εγκατάστασης / Συναρμολόγηση μόνο από εμπόρους
- (CZ)** Návod k montáži / Montáž pouze prodejcem
- (PL)** Instrukcja montażu / Montaż tylko u dealera
- (TR)** Montaj talimatı / Sadece satıcı tarafında monte edilir
- (H)** Beépítési útmutató / Csak a kereskedő építési be
- (HR)** Upute o ugradnji / Ugradnja samo od strane trgovca
- (BUL)** Инструкция за монтаж / Монтажът може да се извърши само от търговеца
- (RO)** Instrucțiuni de montaj / Se va monta numai de către dealer
- (RUS)** Инструкция по монтажу и установке / Устанавливать только у дилера
- (LT)** Montavimo informacija / Montuoja tik prekybininkas
- (LV)** Iemontēšanas pamācība / Tikai pārdevēja iebūve
- (EST)** Paigaldusjuhend / Paigaldab ainult müüja
- (SLO)** Navodilo za vgradnjo / Vgradnja le od trgovca
- (SK)** Montážny návod / Montáž iba obchodníkom
- (J)** 取り付け説明書 / 販売業者取り付けのみ
- (ROK)** 장치 지시사항 / 오직 전문상인이 장치
- (THA)** คู่มือการติดตั้ง / ติดตั้งโดยตัวแทนจำหน่ายเท่านั้น
- (VR)** 安装说明书 / 仅供销售商安装用
- (VR)** 安裝說明書 / 僅供銷售商安裝用

Wasser Heater

Thermo Top Evo Parking Heater


00 0258



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Installation Documentation Opel Zafira

Validity

Manufacturer	Model	Type	EG-BE-No. / ABE
Opel	Zafira	P-J	e4 * 2007 / 46 * 0204 *...
Opel	Zafira	P-J	e4 * 2007 / 46 * 0308 *...

Motorisation	Fuel	Transmission type	Output in kW	Displacement in cm ³	Engine code
1.6D	Diesel	6-speed MT	100	1598	B16DTH (LVL)
1.6D	Diesel	6-speed MT	88	1598	B16DTJ (LVL)

MT = Manual transmission

From Model Year 2014
Left-hand drive vehicle

Verified equipment variants: Manual / 2-zones automatic air-conditioning system
 Front fog light
 Daytime running lights
 LED- daytime running lights
 Adaptive forward lighting (Bi-Xenon)
 Headlight washer system
 Solar- Protect windscreen
 Start-Stop
 Alarm system with passenger compartment monitoring

Opel Zafira

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Necessary Components

- Specific delivery scope of *Thermo Top Evo Diesel*:
GM parts No.: 13 437 785
- Installation kit Opel Zafira 2014 1.6 Diesel
GM parts No.: 13 472 809

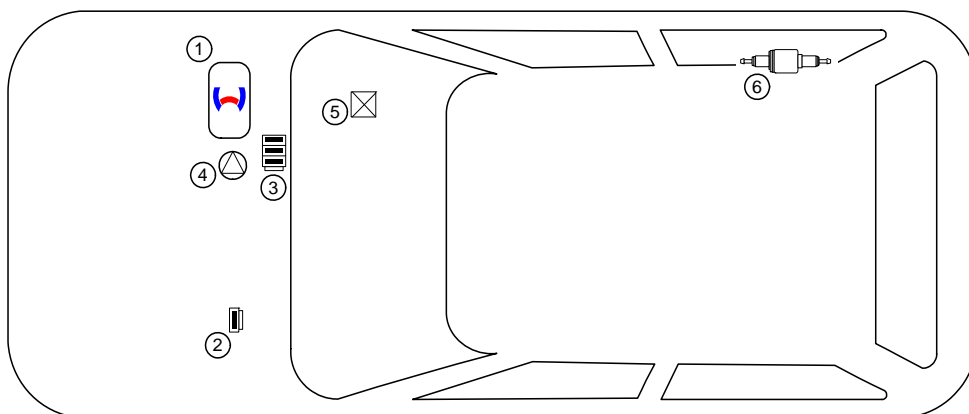
Note:

Heater control, Telestart T100 and push button are included in the installation kit.

Installation Overview

Legend:

1. Heater
2. Fuse F1
3. Fuses F2-4
4. Circulating pump
5. Temperature sensor/ Telestart / push button / SVM-Module
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.

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

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

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

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

2 Statutory regulations governing installation

Guidelines	Thermo Top Evo
Heating Directive ECE R122	E1 00 0258
EMC Directive ECE R10	E1 04 5627

NOTE

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

IMPORTANT

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

NOTE

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

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

Beginning of excerpt.

ANNEX VII

REQUIREMENTS FOR COMBUSTION HEATERS AND THEIR INSTALLATION

1. GENERAL REQUIREMENTS

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

2. VEHICLE INSTALLATION REQUIREMENTS

2.1. Scope

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

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

2.2. Positioning of heater

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

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

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

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

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

2.3. Fuel supply

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

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

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

2.4. Exhaust system

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

2.5. Combustion air inlet

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

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

2.6. Heating air inlet

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

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

2.7. Heating air outlet

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

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

End of excerpt.

In multilingual versions the German language is binding.

Opel Zafira

Notes on Validity

This installation documentation applies to the vehicles Opel Zafira 1.6 Diesel - for validity, see page 1 - from model year 2014 and later, assuming technical modifications to the vehicle do not affect installation, any liability claims excluded. Depending on the vehicle version and equipment, modifications may be necessary during installation with respect to this installation documentation.

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

Technical 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
- Webasto Thermo Test diagnosis with current software

Dimensions

- All dimensions are in mm.

Tightening torque values

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

Special features are highlighted using the following symbols:

Mechanical system



Electrical system



Coolant circuit



Combustion air



Fuel



Exhaust gas



Software



Specific risk of injury or fatal accidents



Specific risk of damage to components



Specific risk of fire and explosion



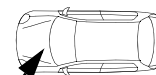
Reference to general installation instructions of the Webasto components or to the manufacturer's vehicle-specific documents



Reference to a special technical feature



The arrow in the vehicle icon indicates the position on the vehicle and the viewing angle



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



Opel Zafira

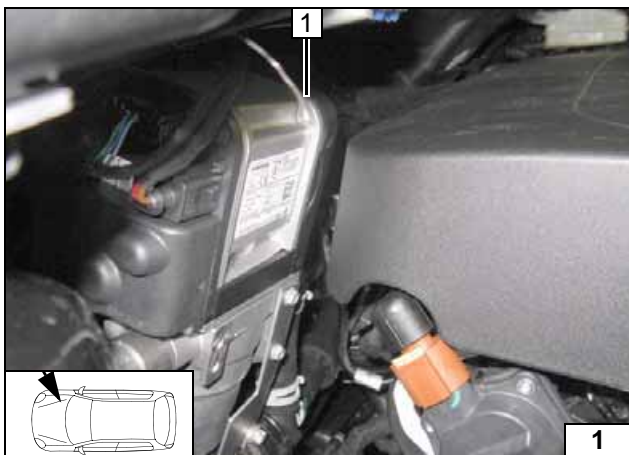
Preliminary Work

Vehicle

- Open the fuel tank cap.
- Ventilate the fuel tank.
- Close the fuel tank cap again.
- Depressurise the cooling system.
- Disconnect the battery.
- Completely remove the air filter.
- Remove the windscreen wiper.
- Remove the coolant reservoir cap.
- Remove the coolant reservoir.
- Remove the windscreen wiper motors (left and right).
- Remove the upper engine cover.
- Remove the insulation mat of the firewall on the right.
- Remove the right wheel.
- Loosen the right wheel-well inner panel.
- Remove the footwell trim on the front passenger's side.
- Remove the lower glove compartment.
- Remove the lateral instrument panel trim of the centre console on the driver's and front passenger's side.
- Remove the A-pillar trim on the front passenger's side.

Heater

- Remove years that do not apply from the type and duplicate label.

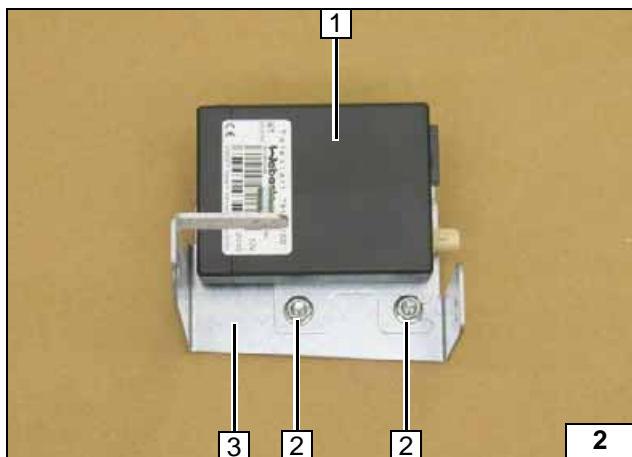


Heater Installation Location

- 1 Heater



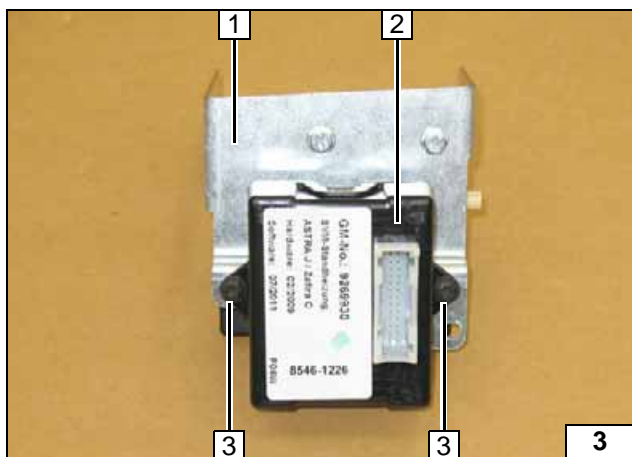
Installation
location



Preparing Electrical System

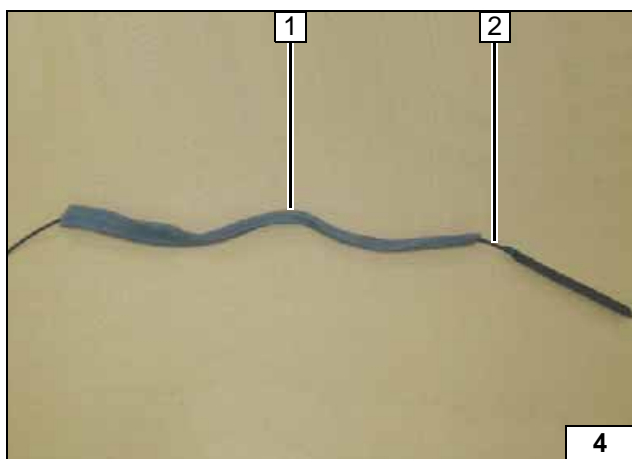
- 1 Receiver
- 2 M5x12 bolt, flanged nut [2x each]
- 3 Bracket of SVM-Module

Mounting receiver



- 1 Bracket of SVM-Module
- 2 SVM-Module
- 3 3,5x13 self-tapping screw [2x]

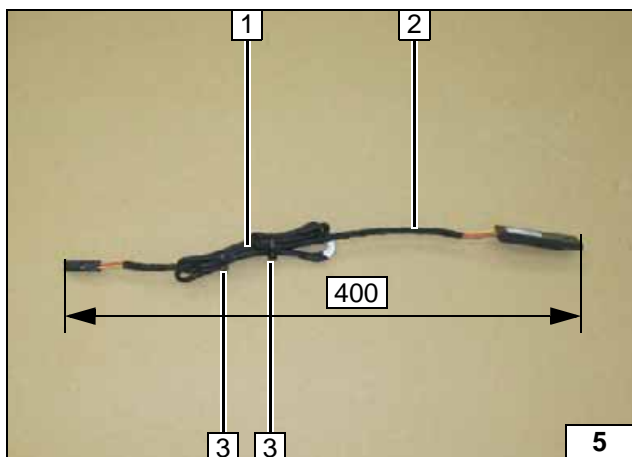
Installing SVM-Module



Glue 400mm of foam 1 around antenna cable 2.



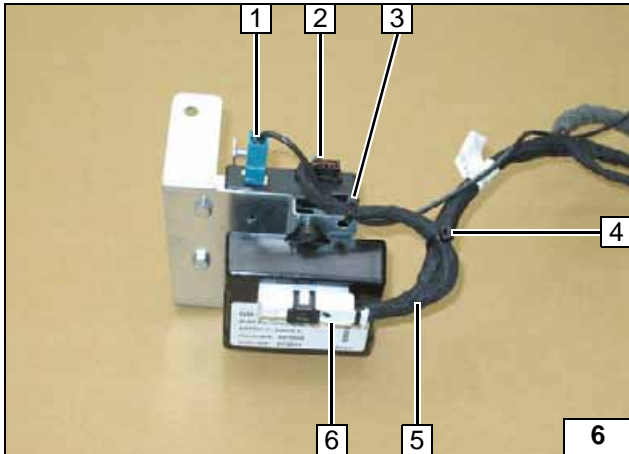
Preparing antenna



Lump together wiring harness of temperature sensor 2 at position 1 and fasten it using cable tie 3 [2x].

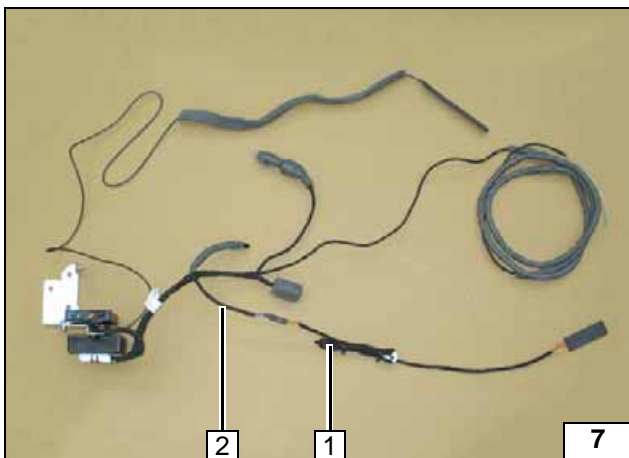


Preparing temperature sensor



- 1 Connector of antenna
- 2 Connector of receiver
- 3 Cable tie through hole of bracket
- 4 Cable tie
- 5 Wiring harness of passenger compartment
- 6 Connector of SVM-Module

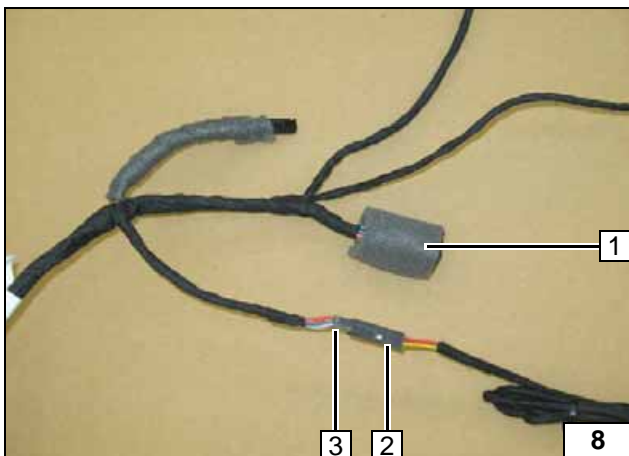
Attaching wiring harness of passenger compartment



Attach temperature sensor 1 to wiring harness of passenger compartment 2 (see following image).



Connecting wiring harness of passenger compartment

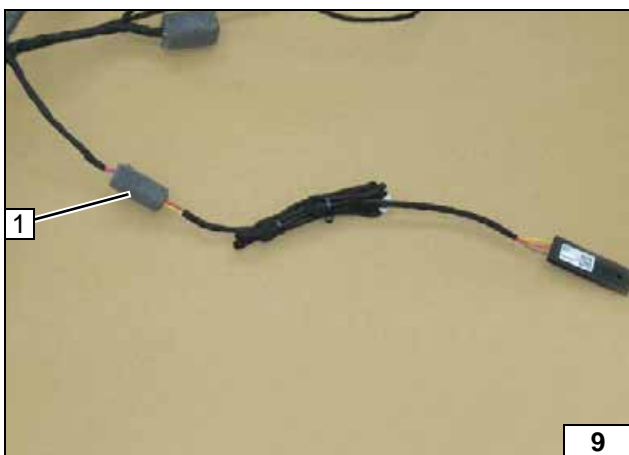


Glue 40mm of foam 1 around connector of passenger compartment wiring harness with engine compartment wiring harness.

- 2 Connector of temperature sensor
- 3 Connector of wiring harness passenger compartment (assigned 3x)



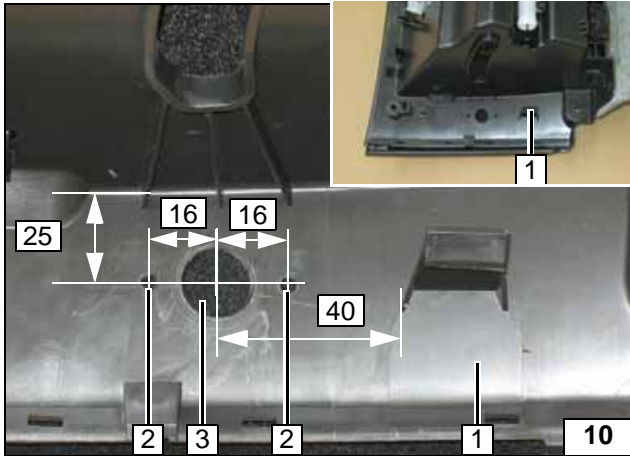
Connecting wiring harness of passenger compartment



Glue 40mm of foam 1 around connector of temperature sensor.

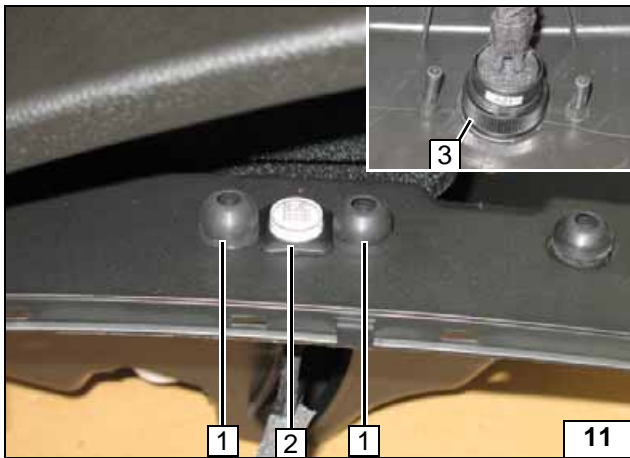


Preparing wiring harness of passenger compartment



- 1 Glove compartment
- 2 4mm dia. hole [2x]
- 3 16mm dia. hole

Preparing glove compartment

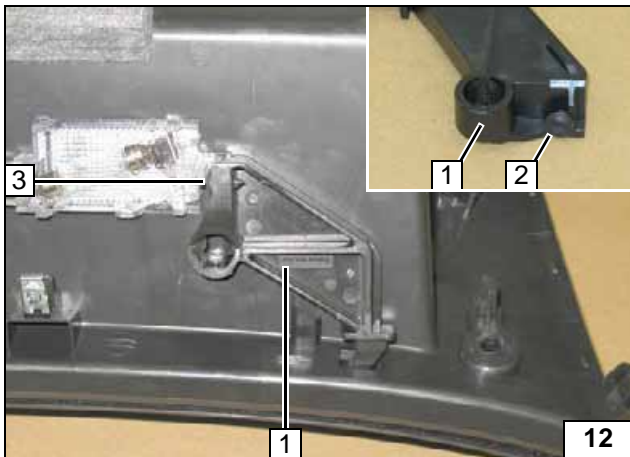


Glue foam around wiring harness of push button.



- 1 Rubber plug [2x]
- 2 Push button
- 3 Nut of push button

Installing push button

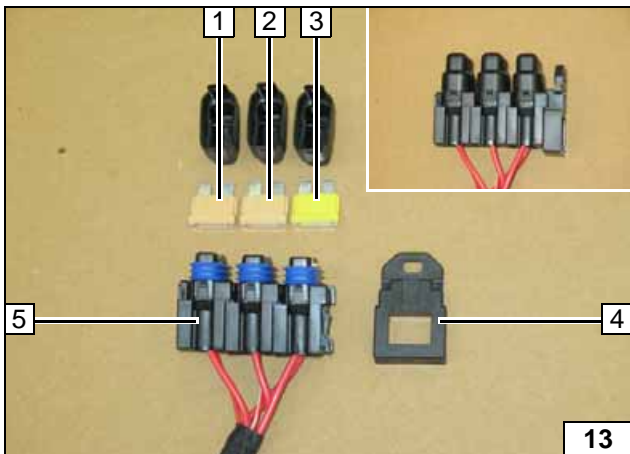


Check position of self-tapping screw 2 with respect to switch of glove compartment lighting at position 3.



- 1 Lever of glove compartment lighting
- 2 3mm dia. hole, 3,5x13 self-tapping screw

Preparing glove compartment

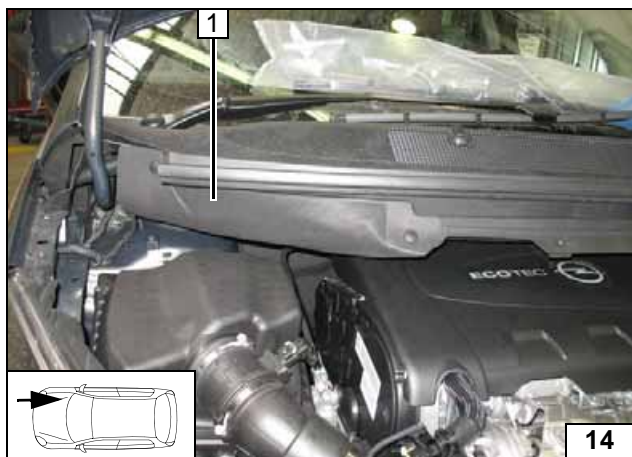


Remove fuses 1, 2, and 3 from fuse holder.



- 1 5A fuse
- 2 5A fuse
- 3 20A fuse
- 4 Retaining plate for fuse holder
- 5 Fuse holder

Preparing wiring harness of heater

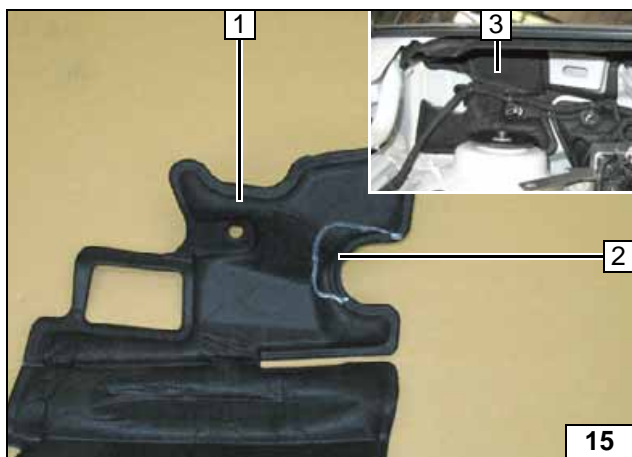


Preparing Installation Location

Remove insulation mat 1 and discard.



Removing insulation mat

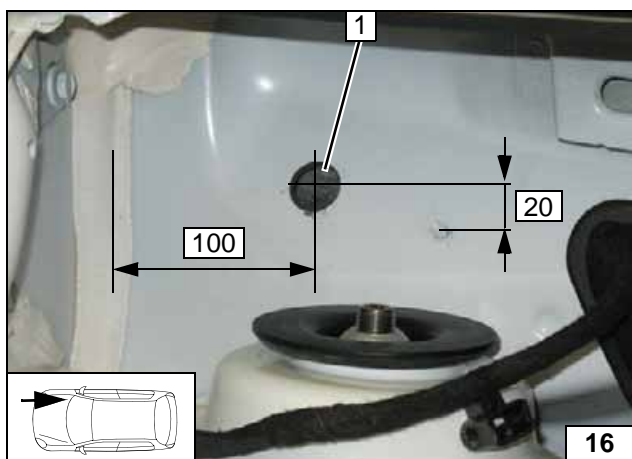


Cut out insulation mat 1 at position 2.

3 Position of insulation mat on the right fire-wall

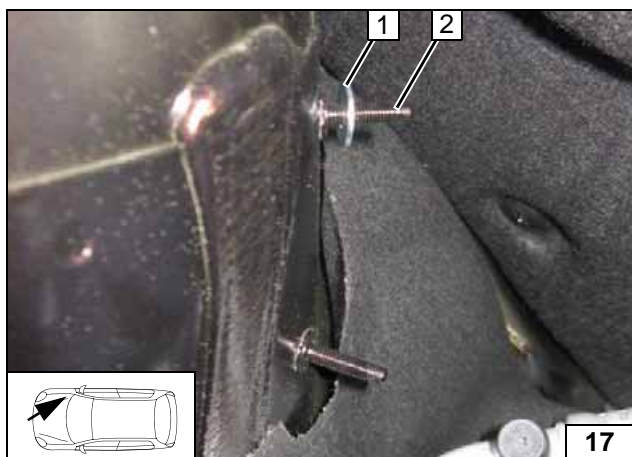


Cutting insulation mat to length



1 20mm dia. hole

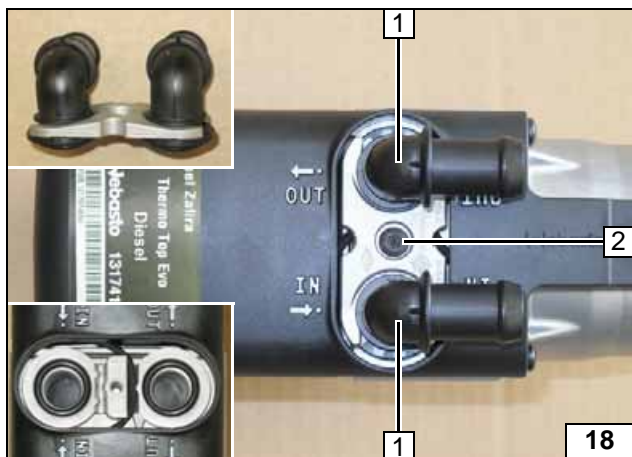
Hole in fire-wall



Installing Large diameter washer 1 of bold original vehicle 2.



Preparing installation location of heater

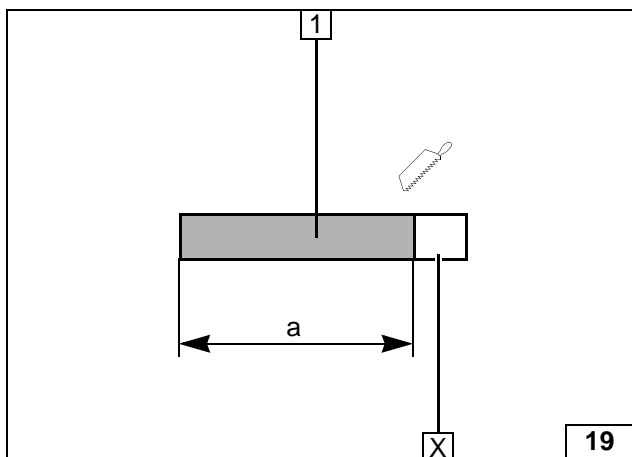


Preparing Heater

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



Installing water connection pieces

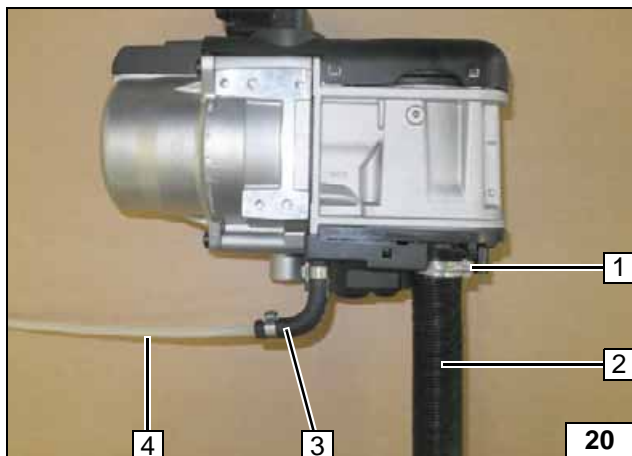


Discard section X.

- 1 Combustion air pipe
a = 280

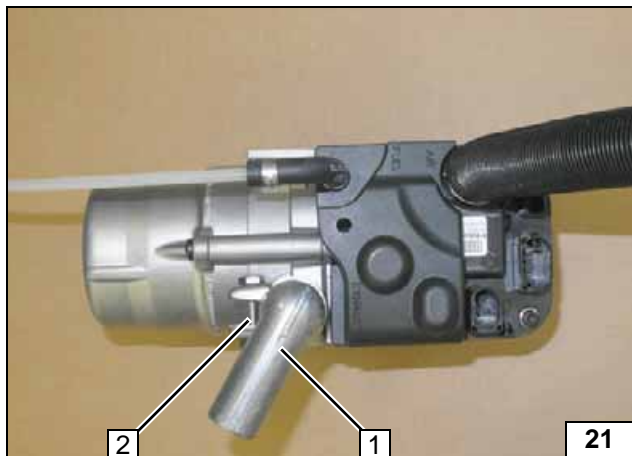


Cutting combustion air pipe to length



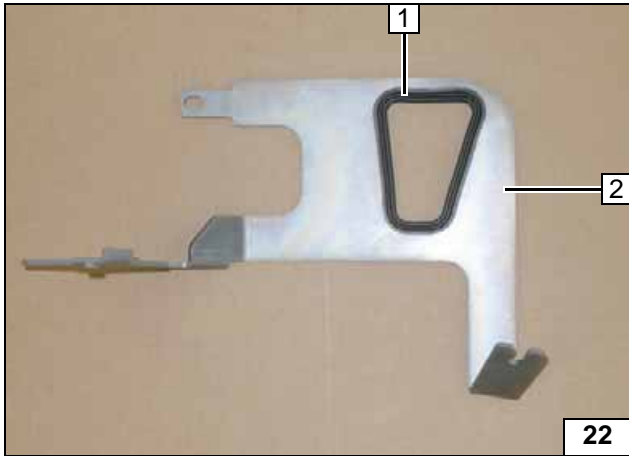
- 1 25mm dia. Caillau clamp
- 2 Combustion air pipe
- 3 4,5mm dia moulded hose 90°, clamp [2x]
- 4 Fuel line

Premounting heater



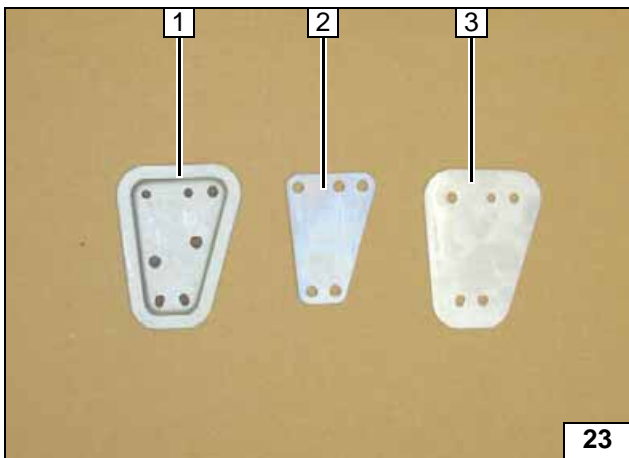
- 1 Exhaust manifold
- 2 Hose clamp

Premounting exhaust elbow



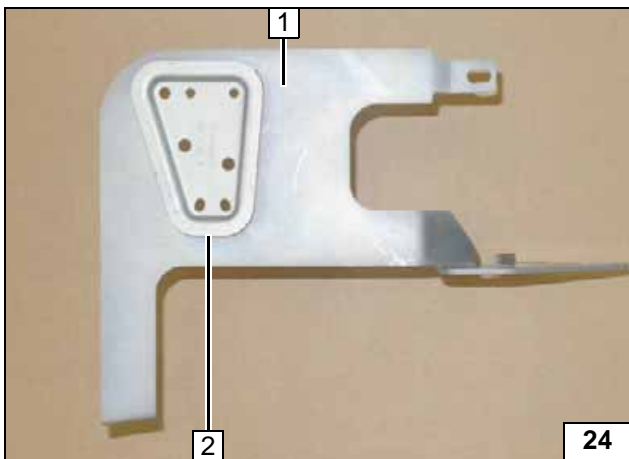
- 1 Bracket
- 2 Insert decoupling rubber

Preparing bracket



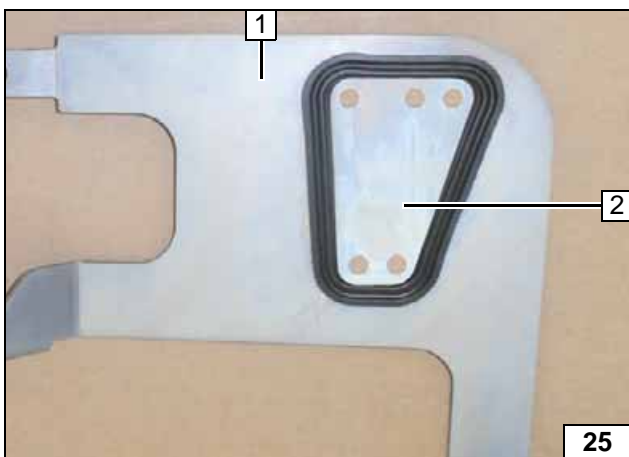
- 1 Clamping plate part 1
- 2 Intermediate plate
- 3 Clamping plate part 2

Preparing bracket



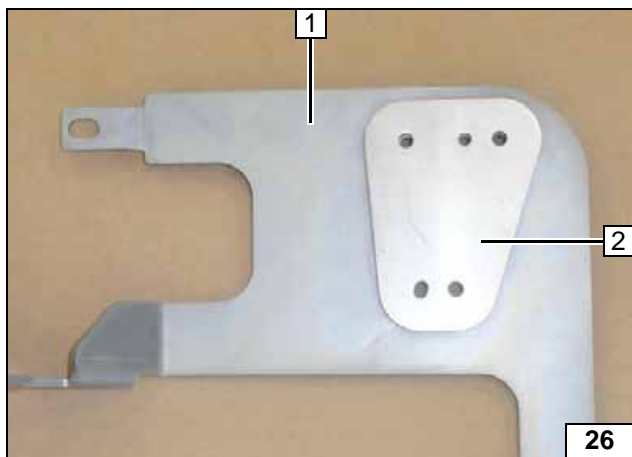
- 1 Bracket
- 2 Clamping plate part 1

Preparing bracket



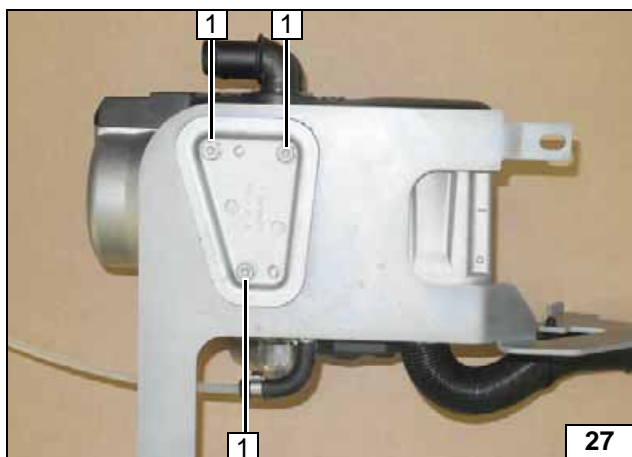
- 1 Bracket
- 2 Intermediate plate

Preparing bracket



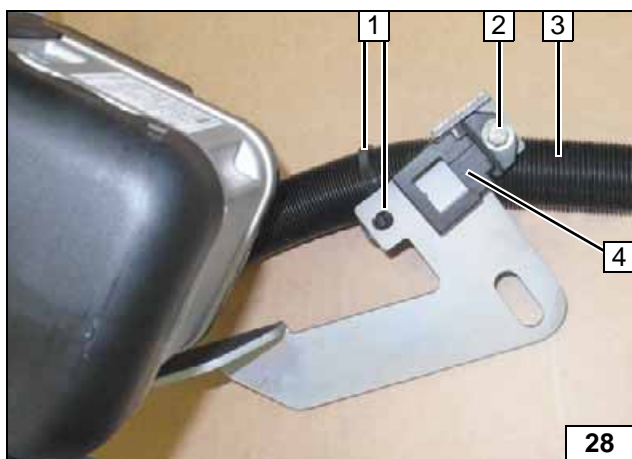
- 1 Bracket
- 2 Clamping plate part 2

Preparing bracket



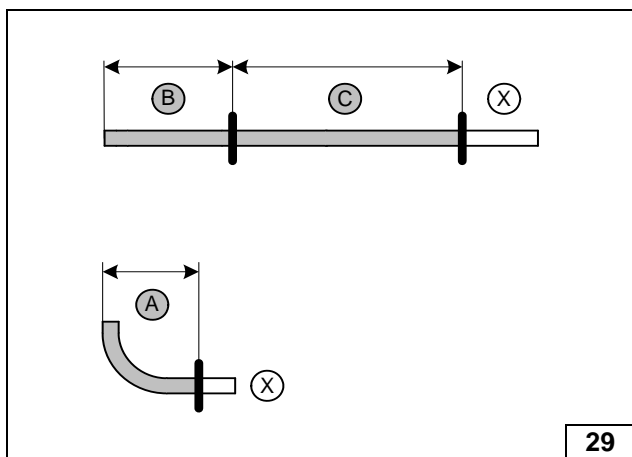
- 1 5x13 self-tapping bolt [3x]

Installing bracket



- 1 Clip cable tie for fixation combustion air pipe
- 2 M4x12 bolt, large diameter washer, nut
- 3 Combustion air pipe
- 4 Retaining plate for fuse holder

Installing retaining plate of fuse holder

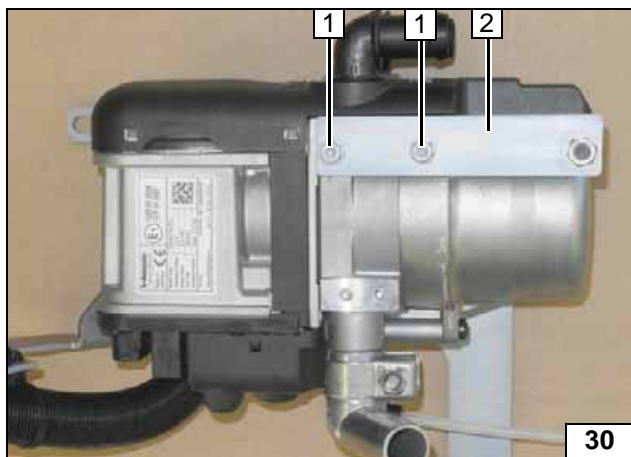


Discard section X.

- A = 210
- B = 95
- C = 500

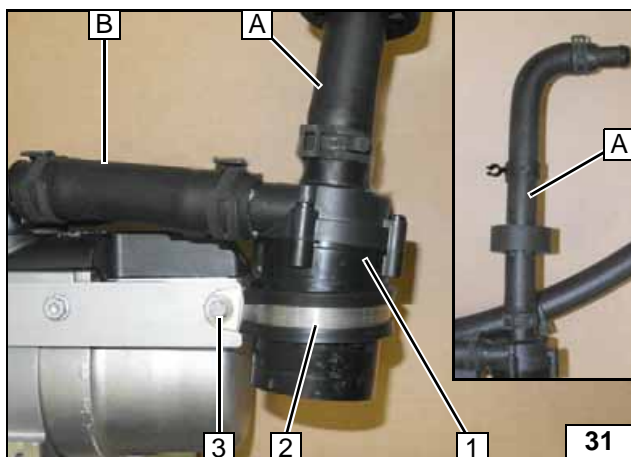


Cutting hoses to length



- 1 5x13 self-tapping bolt [2x]
- 2 Bracket of circulating pump

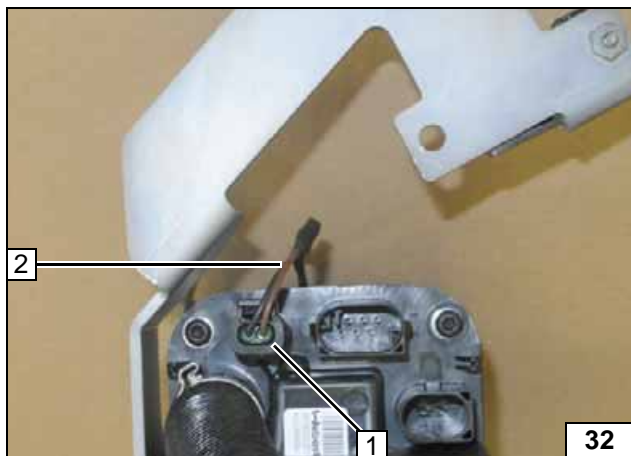
Installing bracket of circulating pump



All spring clips = 27mm dia.

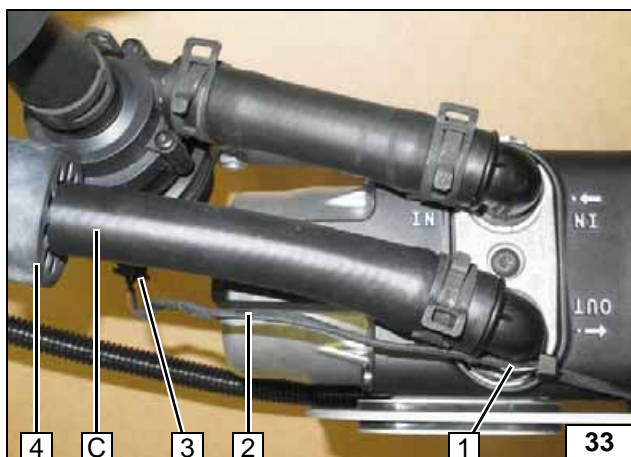
- 1 Circulating pump
- 2 48mm dia. Clamp
- 3 M6x14 bolt

Installing circulating pump and hoses



- 1 Connector on heater
- 2 Wiring harness of circulating pump

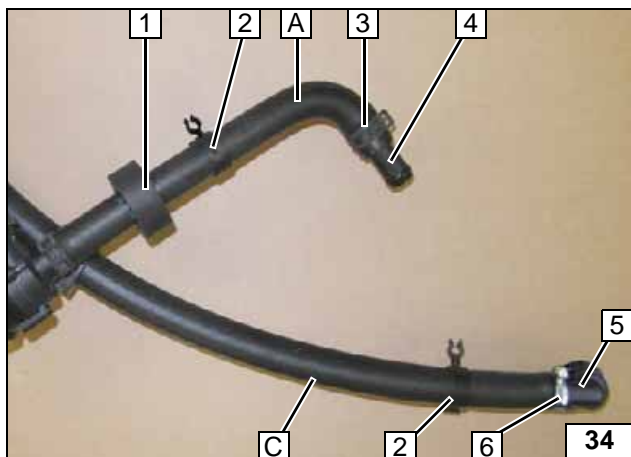
Mounting wiring harness of circulating pump



All spring clips = 27mm dia.

- 1 Cable tie (water connection piece and wiring harness of circulating pump)
- 2 Wiring harness of circulating pump
- 3 Connector on circulating pump
- 4 Rubber ring black

Mounting hose and wiring harness of circulating pump

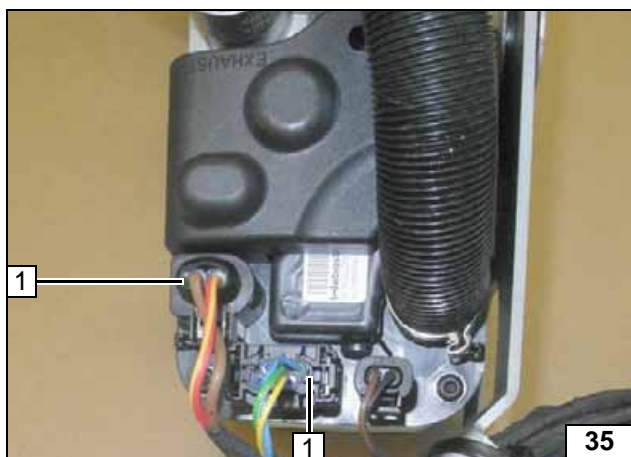


All spring clips = 27mm dia.

- 1 Rubber ring black
- 2 8-27mm dia. hose bracket [2x]
- 3 Spring clips
- 4 20x18mm dia. connecting pipe
- 5 90° coupling heat exchanger
- 6 28-35 mm dia. clamp

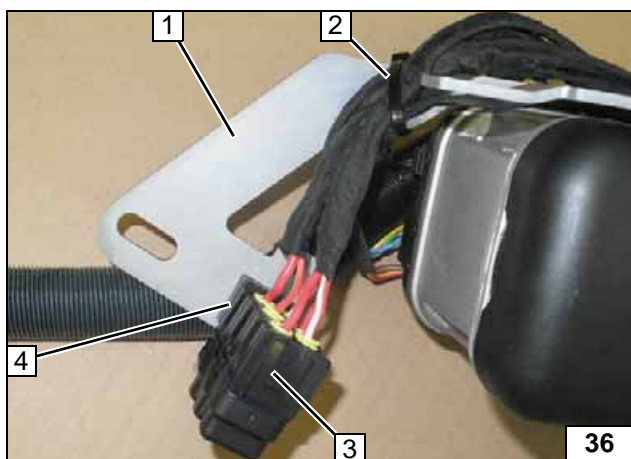


Installing hoses



- 1 Mount wiring harness of heater [2x]

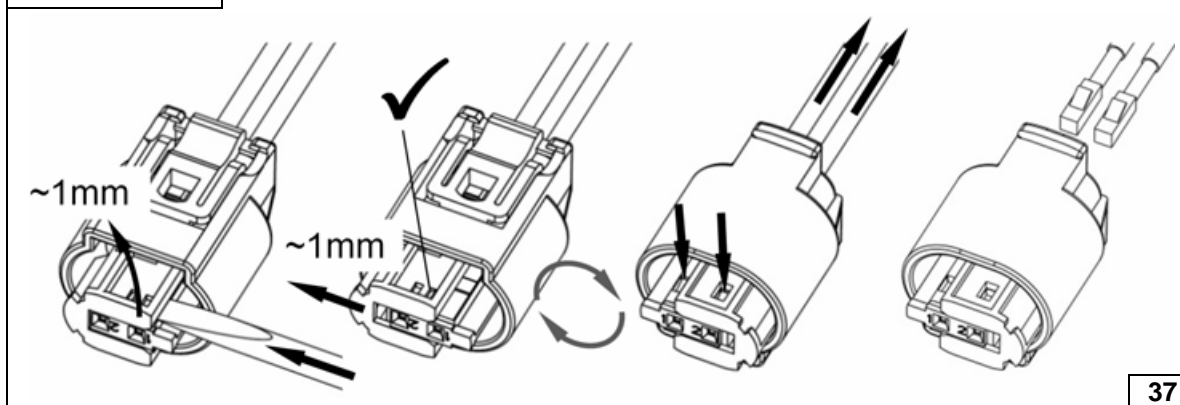
Installing wiring harness



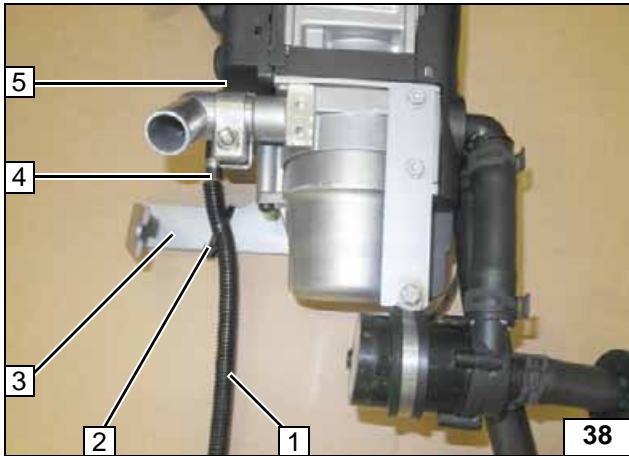
- 1 Bracket
- 2 Cable tie (wiring harness of heater and circulating pump)
- 3 Mount fuse holder
- 4 Retaining plate

Installing wiring harness

Connector X7



Dismantle connector metering pump

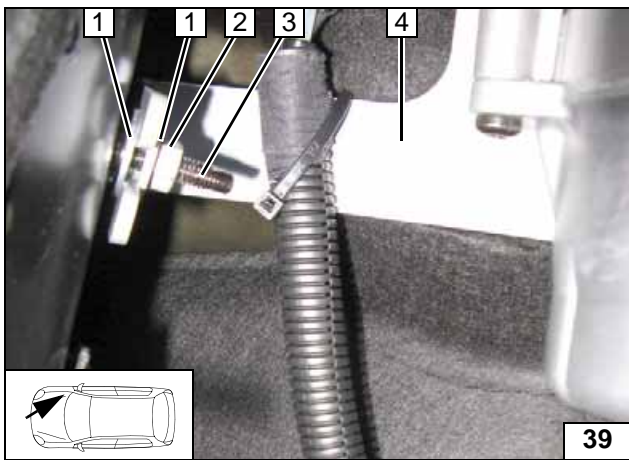


Pull fuel line **4** and wiring harness of metering pump **5** into corrugated tube **1**.



- 2** Cable tie
- 3** Bracket

Preparing heater

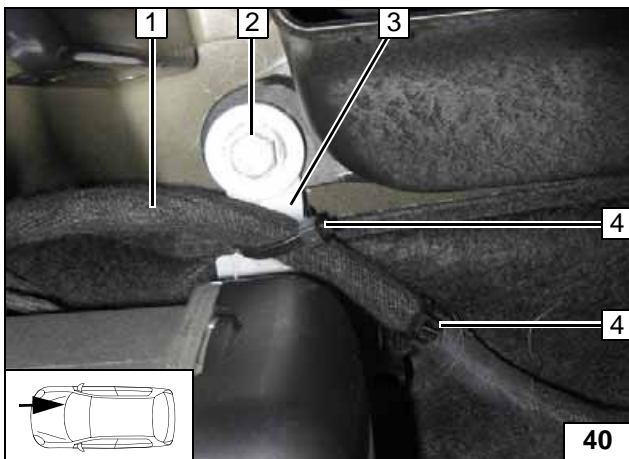


Installing Heater



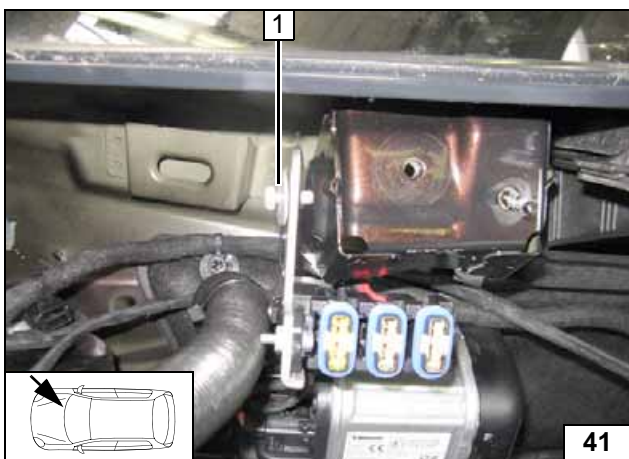
- 1** Large diameter washer [2x]
- 2** M6 nut
- 3** Vehicle stud bolt
- 4** Bracket of heater

Mounting heater



- 1** Heater wiring harness and vehicle wiring harness
- 2** Original bolt, large diameter washer
- 3** Bracket of heater
- 4** Cable tie [2x]

Mounting heater



- 1** M6x16 bolt, large diameter washer, original vehicle threaded hole

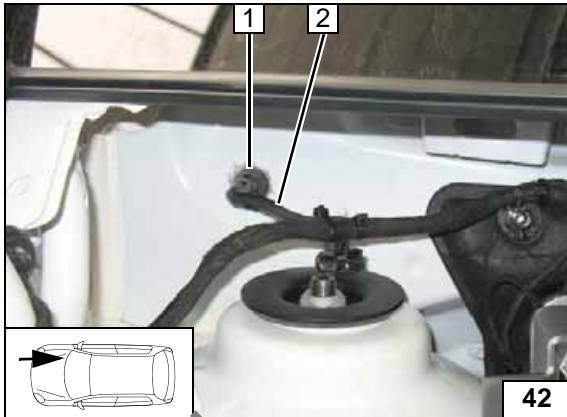
Mounting heater



Electrical System

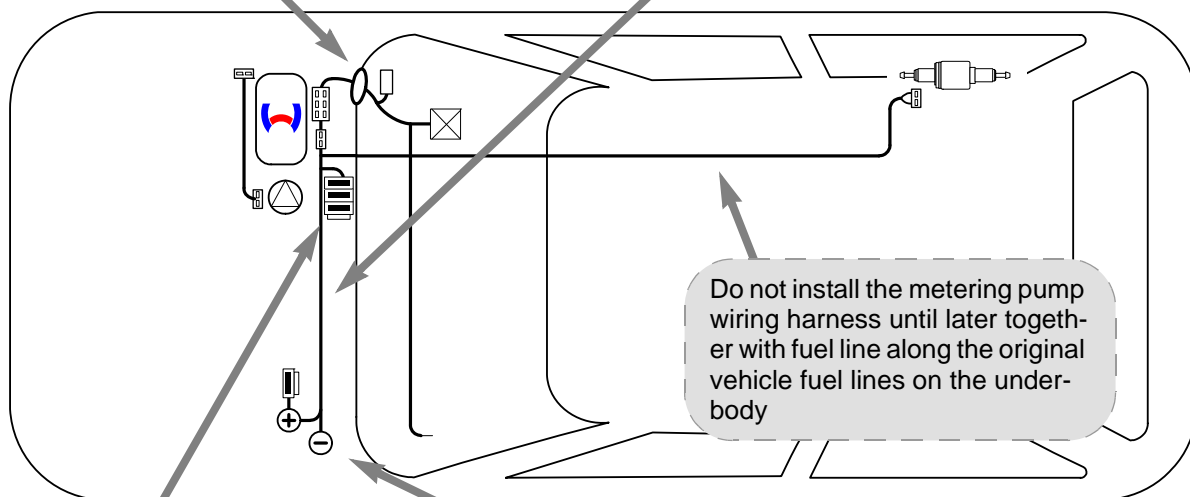
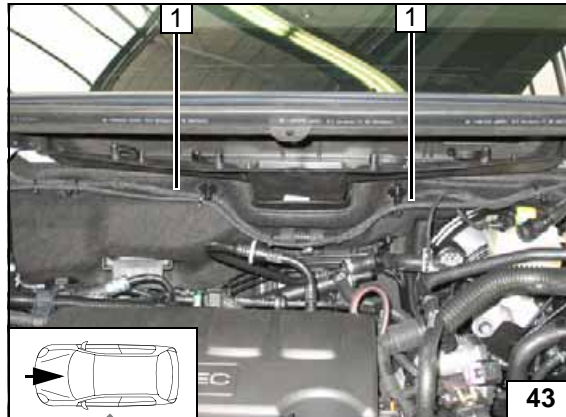
Wiring harness pass through

- 1 Protective rubber plug
- 2 Wiring harnesses of heater, SVM-Module

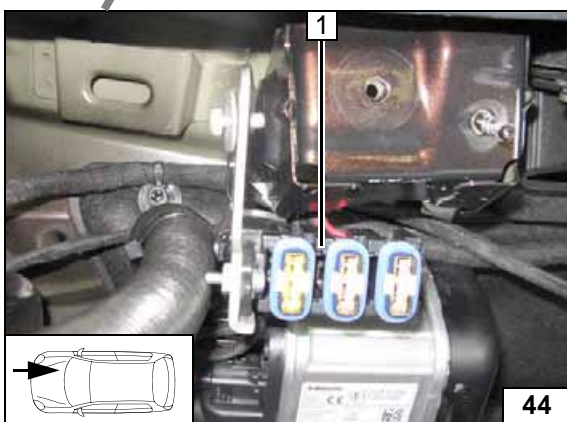


Wiring harness routing

- 1 Fasten wiring harness of heater to original vehicle wiring harness with cable tie

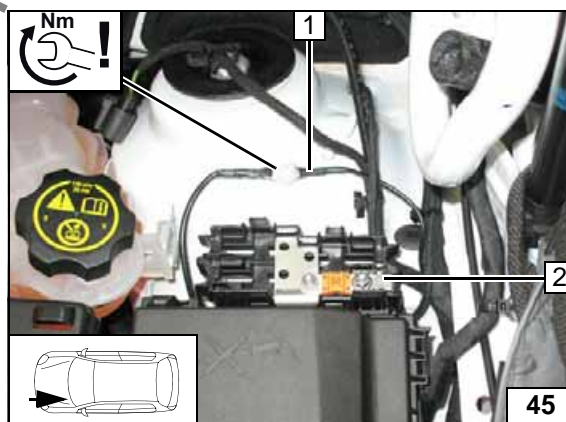


Wiring harness routing diagram



Engine compartment fuse holder

- 1 Fuses F2-4 (will be inserted later)



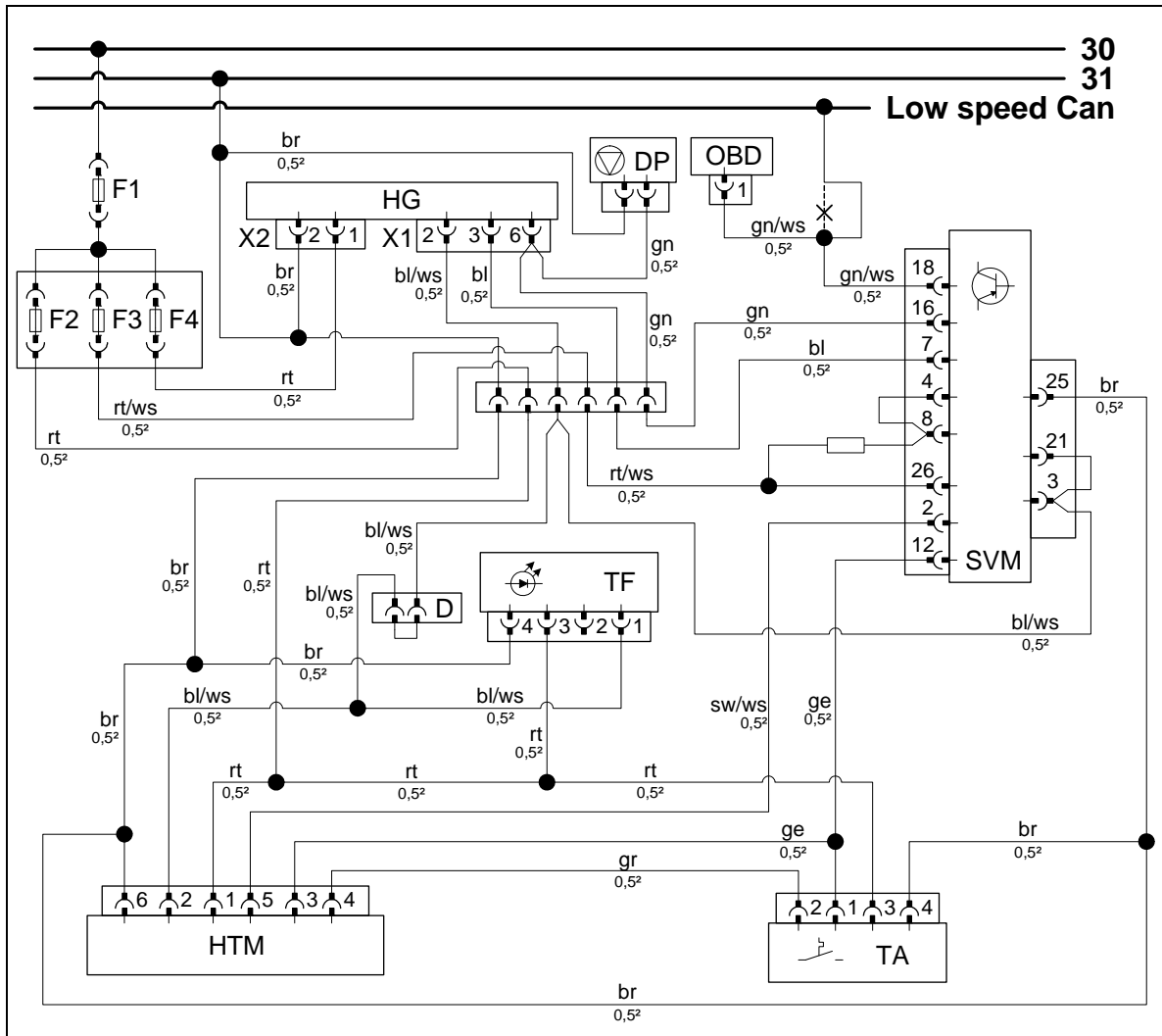
Positive and earth wire

- 1 Earth wire at original vehicle earth support point
- 2 Positive wire on positive support point





Vehicle-Specific Wiring Harness



Wiring diagram

Webasto components		Vehicle components		Colours and symbols	
HG	TT-Evo heater	SVM	Special Vehicle Module	rt	red
X1	6-pin heater connector			sw	black
X2	2-pin heater connector			ge	yellow
HTM	Telestart HTM 100			gn	green
TF	Temperature sensor			gr	grey
TA	Push button			ws	white
D	Diagnosis connector			bl	blue
F1	Fuse 30A			br	brown
F1	Fuse 30A				
F2	Fuse 5A				
F3	Fuse 5A			X	Cutting point
F4	Fuse 20A			Wiring colours may vary.	

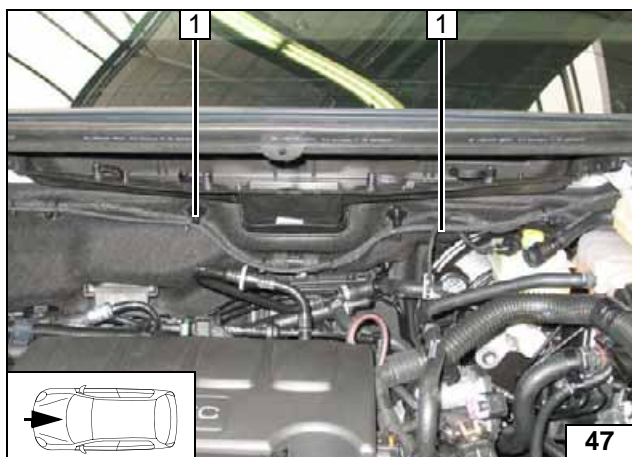
Legend



- 1 Install insulation mat
- 2 Cable tie [3x] on original vehicle wiring harness



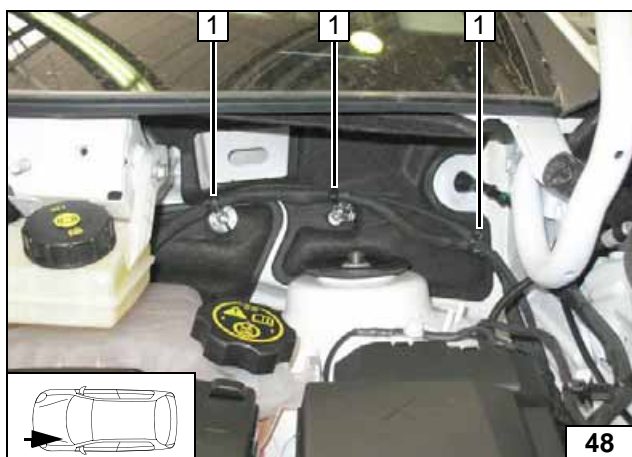
Wiring harness routing



Fasten wiring harness of heater 1 to original vehicle wiring harness with cable tie.



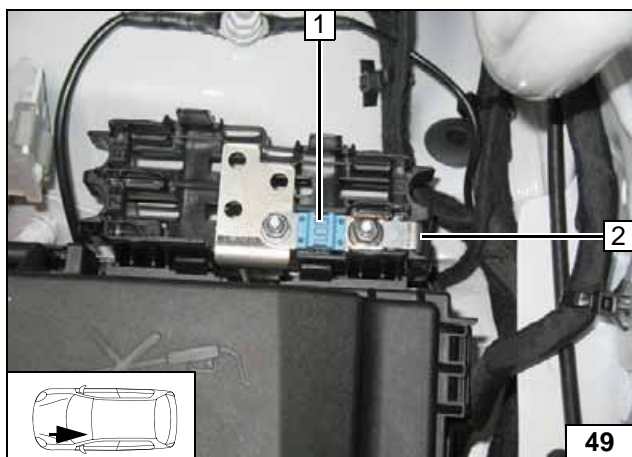
Wiring harness routing



Fasten wiring harness of heater 1 to original vehicle wiring harness with cable tie.



Wiring harness routing

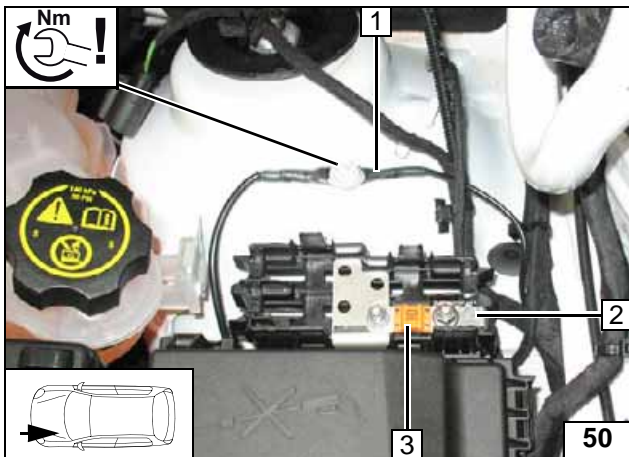


Only in case of vehicles with electrical auxiliary heater

- 1 Remove 100A fuse
- 2 Remove positive wire of electrical auxiliary heater, insulate and tie it back



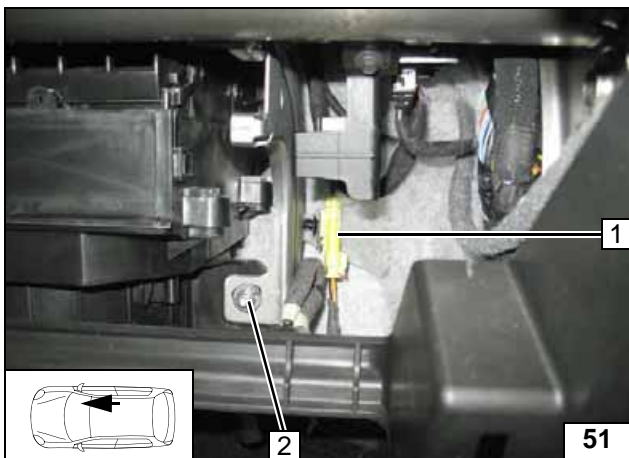
Connection of positive support point



- 1 Earth wire at original vehicle earth support point
- 2 Positive wire on positive support point
- 3 F1 30A fuse



Connection of positive support point

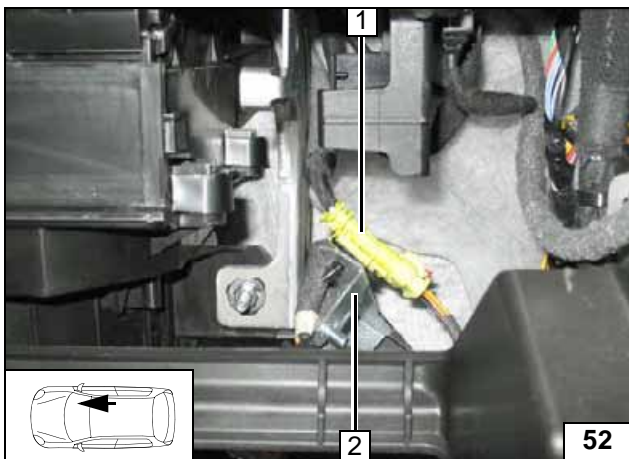


Replace original vehicle bolt at position 2 with M6x25 bolt and large diameter washer.

- 1 Detach connector of airbag from bracket
- 2 M6x25 bolt, large diameter washer



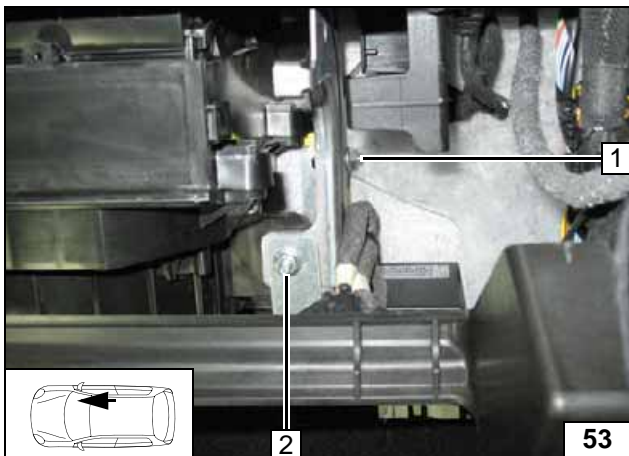
Preparing installation location of SVM-Module



Clip connector of airbag 1 into bracket of SVM-Module 2.



Installing SVM-Module

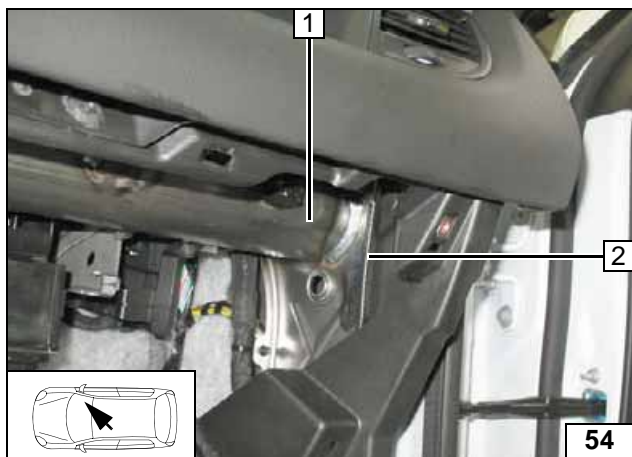


Insert stud bolt of SVM-Module bracket through hole of airbag connector and fasten it using flanged nut 1.

- 2 Flanged nut

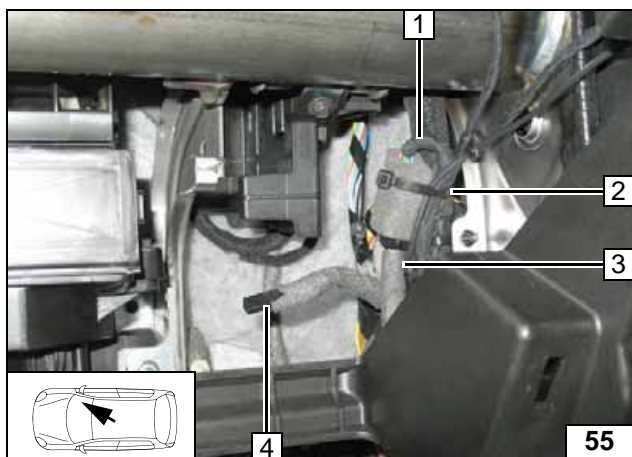


Installing SVM-Module



- 1 Carrier of instrument panel
- 2 Edge protection section

Installing edge protection

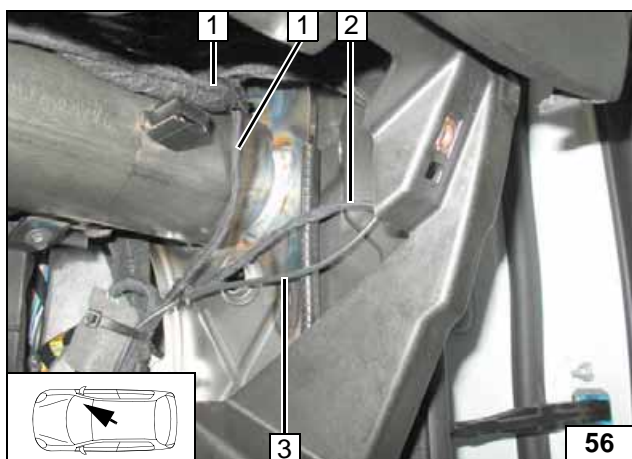


Connect wiring harness of heater 1 to wiring harness of passenger compartment 3 and fasten it to original vehicle wiring harness using cable tie 2.



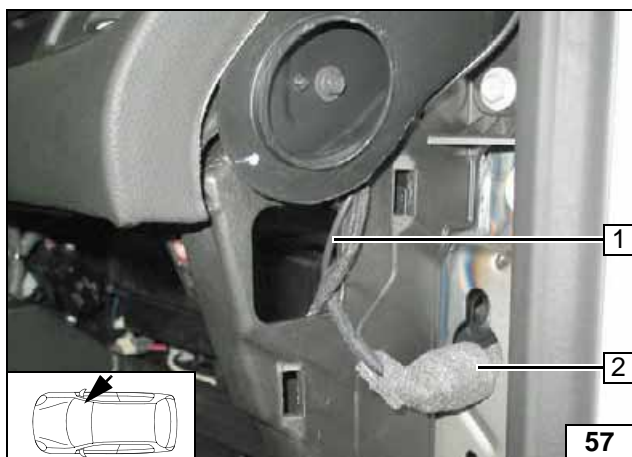
- 4 Connector of push button

Connecting the wiring harnesses



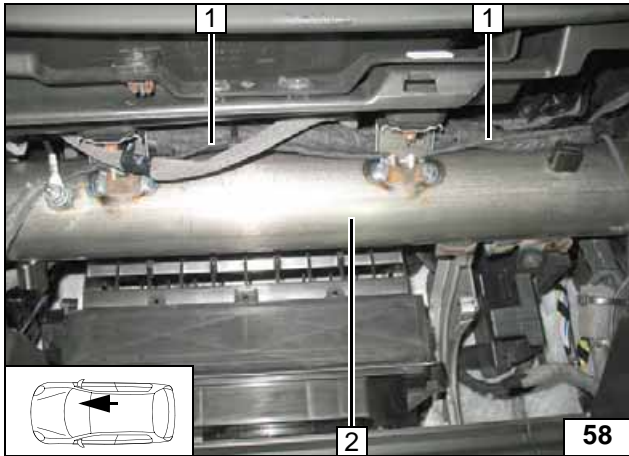
- 1 Green/white (gn/ws) wire of SVM-module/OBD-socket outlet
- 2 Wire of diagnosis
- 3 Wire of antenna

Wiring harness routing



- 1 Wire of antenna
- 2 Diagnosis connector

Wiring harness routing

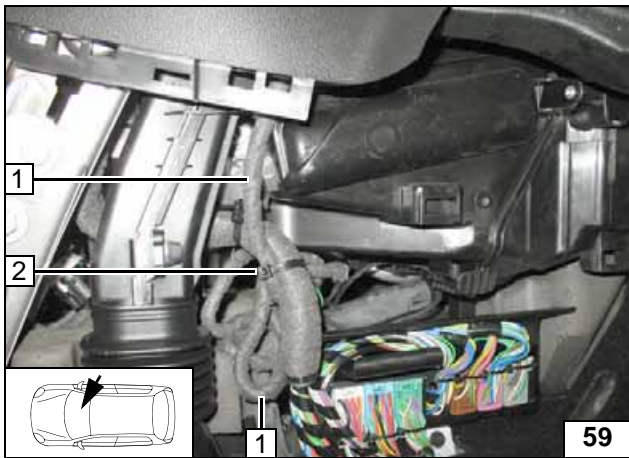


Fasten green/white (gn/ws) wire of SVM-module/OBD-socket outlet 1 to original vehicle wiring harness with cable tie.

2 Carrier of instrument panel



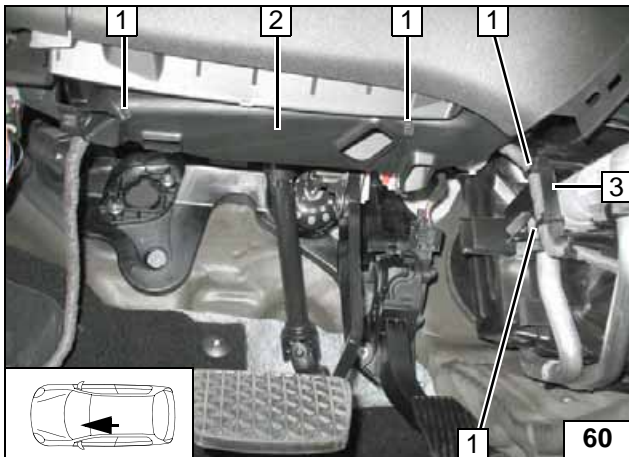
Wiring harness routing



Fasten green/white (gn/ws) wire of SVM-module/OBD-socket outlet 1 to original vehicle wiring harness with cable tie 2 and route it to the left side of the vehicle.



Wiring harness routing

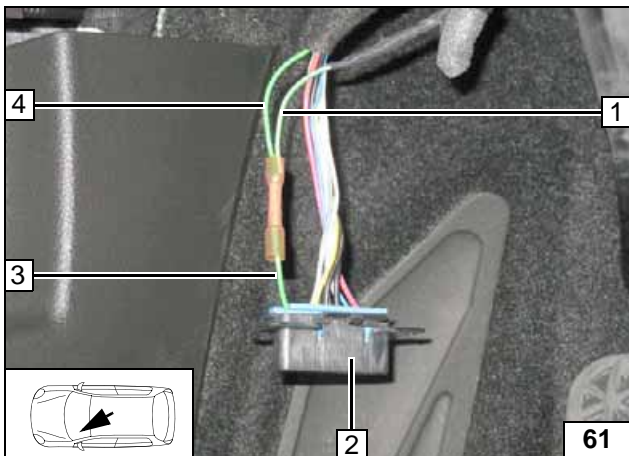


Fasten green/white (gn/ws) wire of SVM-module/OBD-socket outlet 1 [4x] with cable tie.

2 Ventilation duct
3 Strut



Wiring harness routing

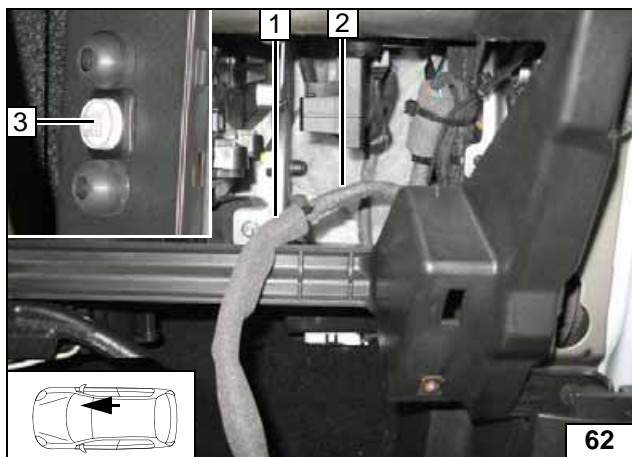


Connection to OBD-socket outlet 2. Produce connections as shown in wiring diagram (crimp and shrink connectors).

1 Green/white (gn/ws) wire of SVM-module
3 Green (gn) wire of OBD-socket outlet, pin 1
4 Green (gn) wire of Low Speed Can



Connection of OBD-socket outlet



Telestart

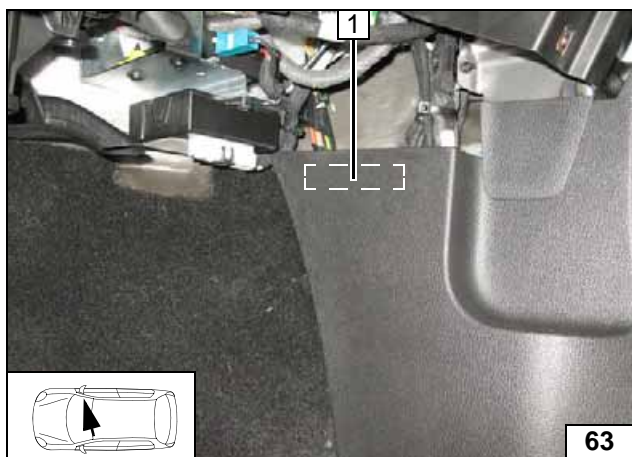
Push button

Connect wiring harness of push button 1 with wiring harness of SVM-module 2.

- 3 Push button



Installing push button

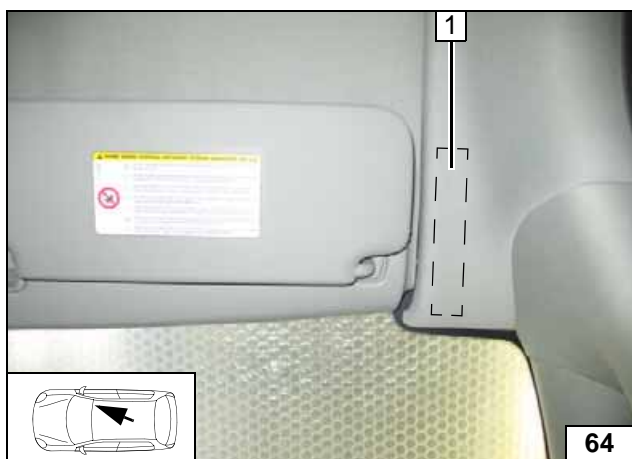


Installing T100 HTM temperature sensor

Fasten temperature sensor 1 (hidden) with adhesive tape.

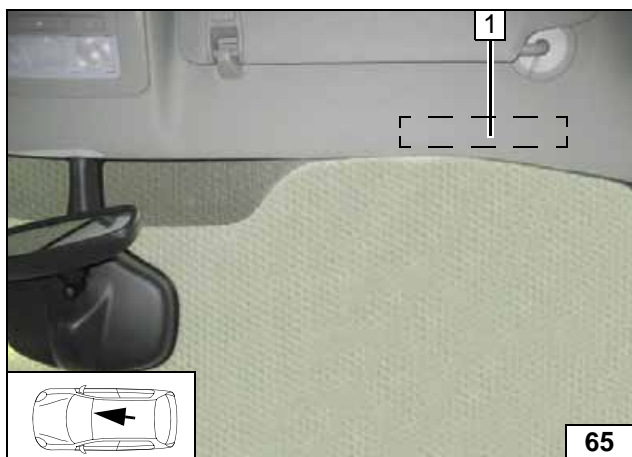


Installing temperature sensor



- 1 Antenna with panorama roof

Mounting antenna



- 1 Antenna without panorama roof

Mounting antenna



Fuel

CAUTION!

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

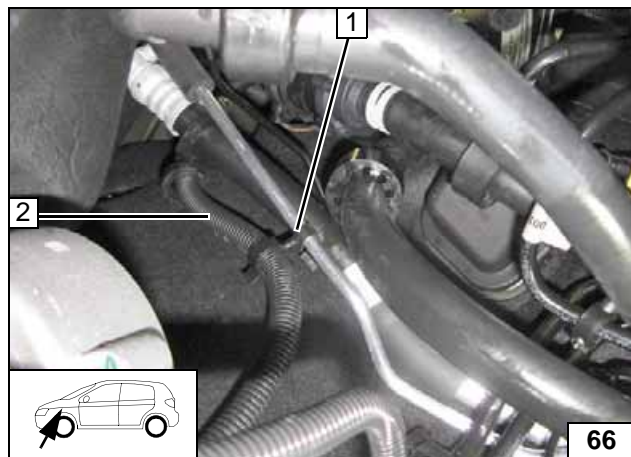
Catch any fuel running off with an appropriate container.

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.

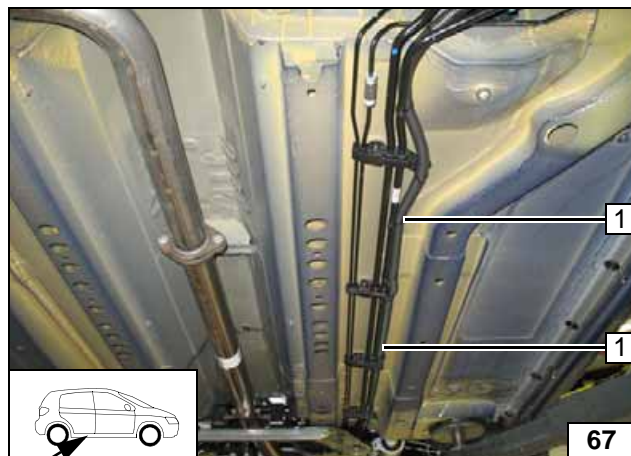
WARNING!

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



- 1 8x14mm dia Hose braeket at AC line
- 2 Fuel line, wiring harness of metering pump in corrugated tube

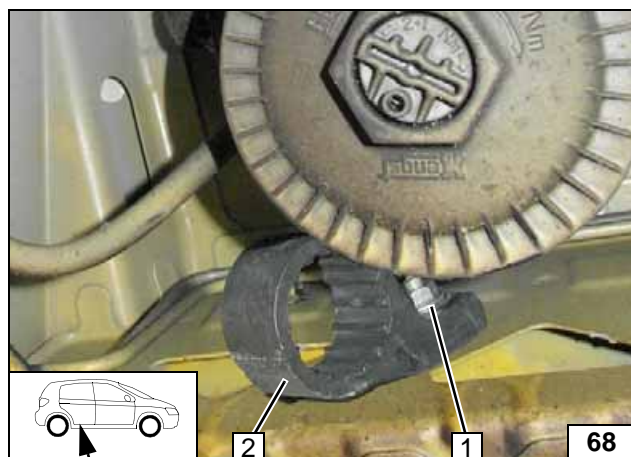
Routing lines



Fasten fuel line and wiring harness of metering pump in corrugated tube 1 to the original vehicle fuel lines with cable tie.



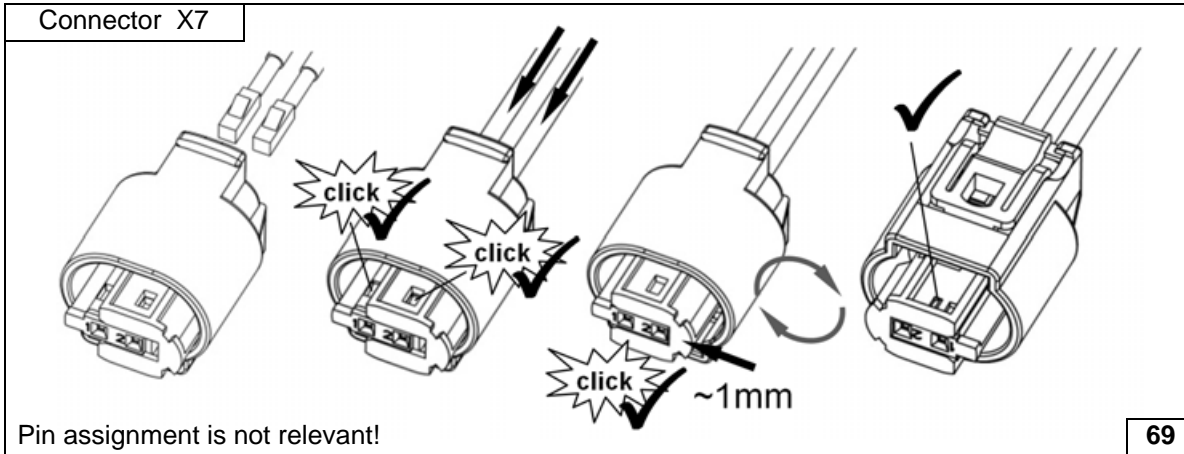
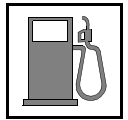
Routing lines



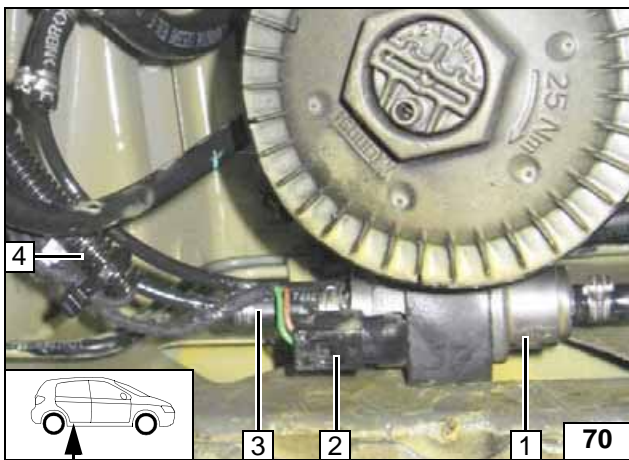
- 1 M6x25 bolt, support angle, flanged nut, existing hole
- 2 Mounting of metering pump



Installing metering pump mounting

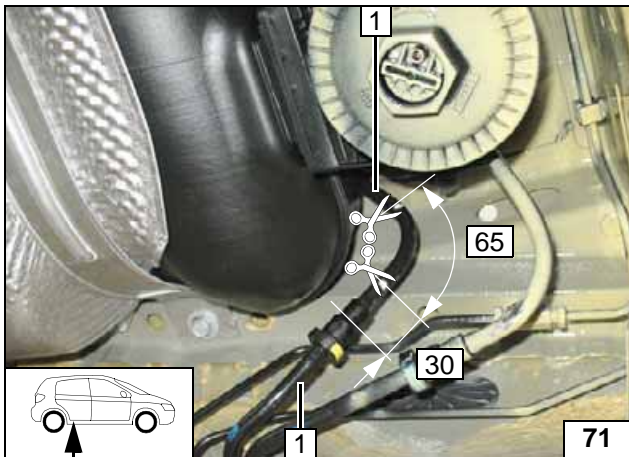


Mounting connector metering pump



- 1 Metering pump
- 2 Wiring harness of metering pump, connector mounted
- 3 Hose section, 10 mm dia. clamp [2x]
- 4 Fuel line and wiring harness of metering pump in corrugated tube

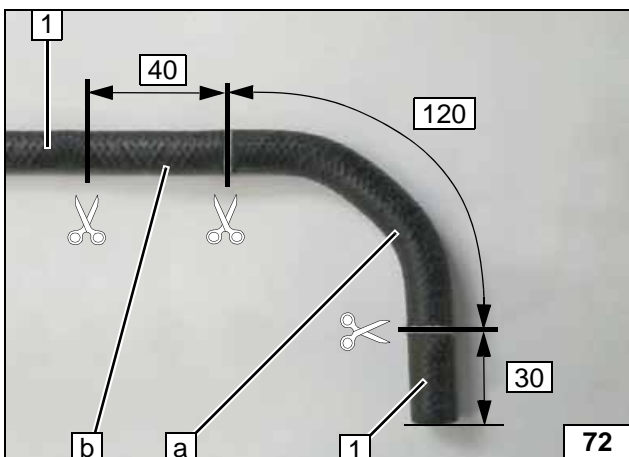
Mounting metering pump



Separate fuel return line 1 at the markings [2x]. Discard section. Insert 8mm dia. support sleeve [2x] into both wire ends.

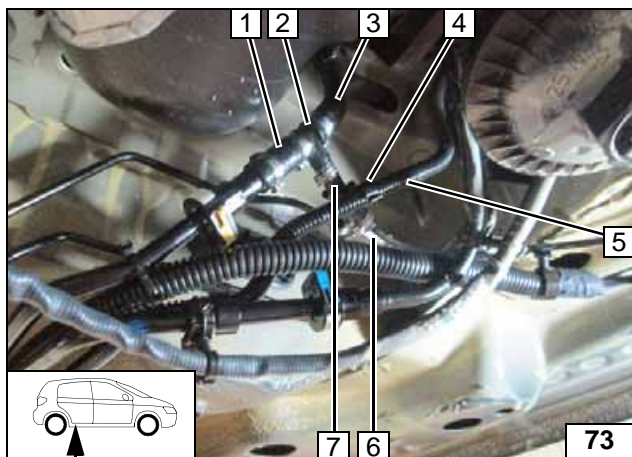


Removing fuel



- 1 Discard hose section [2x]
 - a Section 9,5mm dia moulded hose 90° 120mm
 - b Section 9,5mm dia moulded hose 40mm

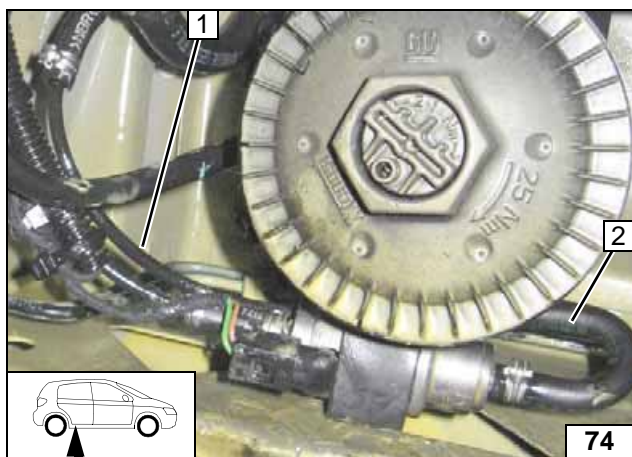
Cutting moulded hose to length



- 1 Section moulded hose **a**, support sleeve, 15,5mm dia. clamp [2x]
- 2 10x5x10mm dia. fuel standpipe
- 3 Section moulded hose **b**, support sleeve, 15,5mm dia. clamp [2x]
- 4 12x15mm dia. hose bracket
- 5 Original vehicle AD blue line
- 6 Fuel line to metering pump
- 7 Hose section, 10 mm dia. clamp [2x]



**Mounting
fuel stand-
pipe**

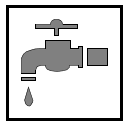


Check the position of the components, adjust if necessary. Check that they have freedom of movement.

- 1 Fuel line
- 2 Moulded hose 180°, 10 mm dia. clamp [2x]



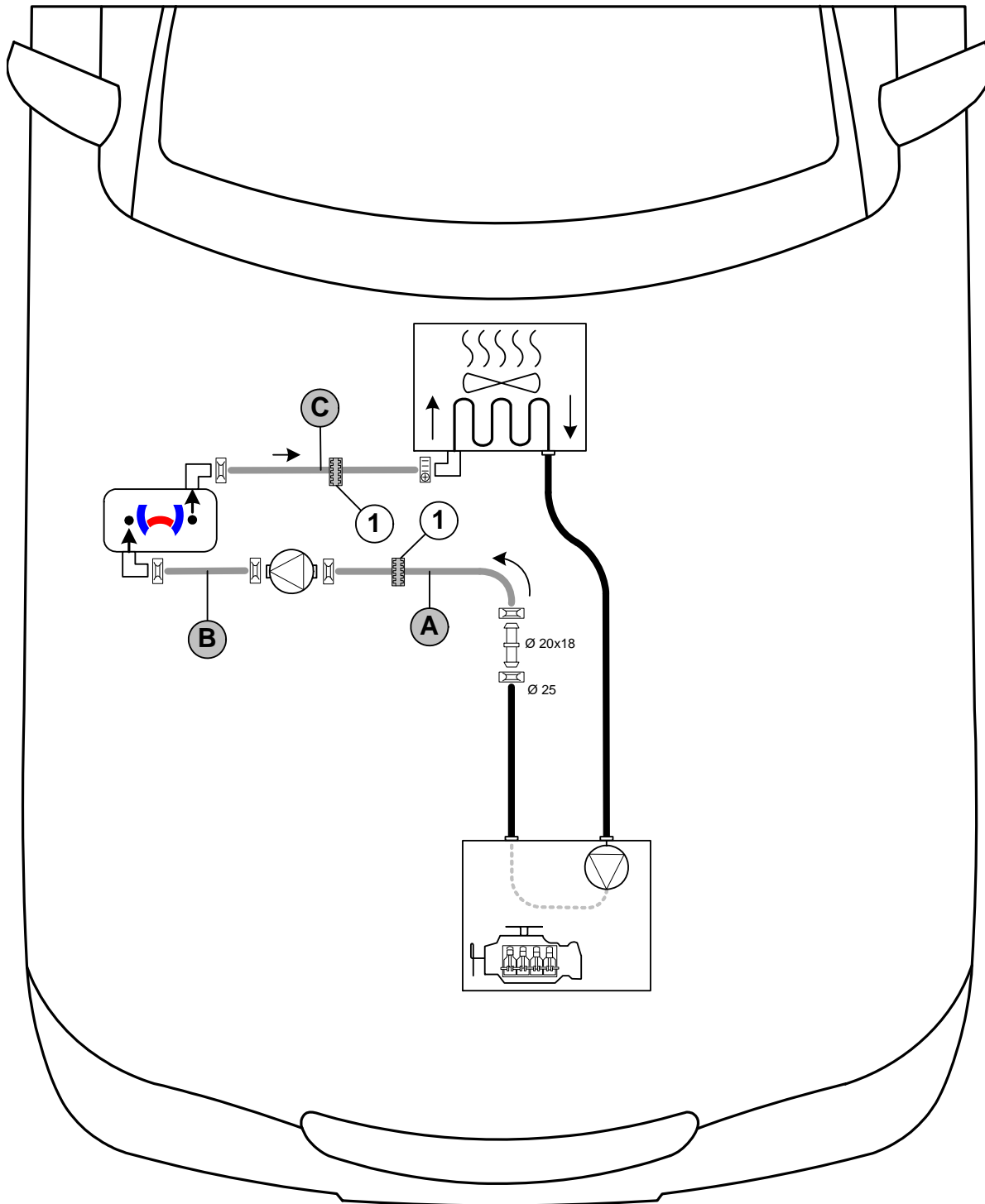
**Connect-
ing meter-
ing pump**






Coolant Circuit

WARNING!

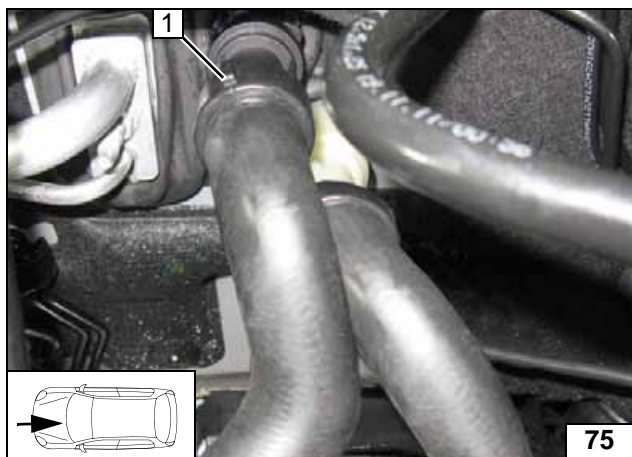
Any coolant running off should be collected using an appropriate container. Route coolant hoses kink-free. Unless specified otherwise, always fasten using cable ties. Position clamps so that other hose cannot be damaged. The heater must be filled with coolant when installing the hoses. The connection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



Hose installation diagram

All spring clips without a specific designation  = 27mm dia.
 Hose clamp  = 28x35mm dia.! 1 = rubber ring  black!





Remove coupling **1** from heat exchanger inlet.



Remove heat exchanger inlet

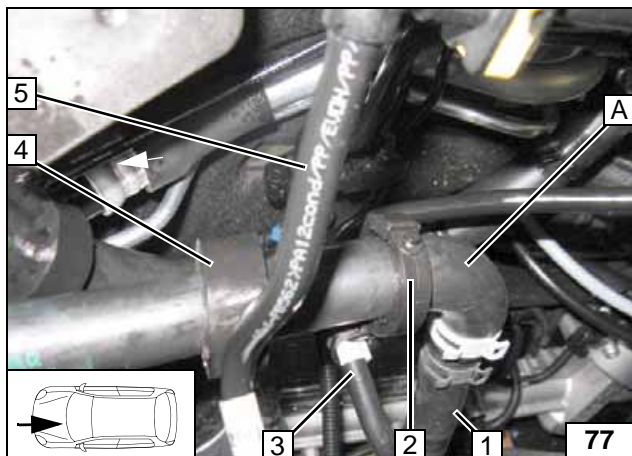


Cut the engine outlet hose / heat exchanger inlet at the marking. Discard hose section of heat exchanger inlet **1**.



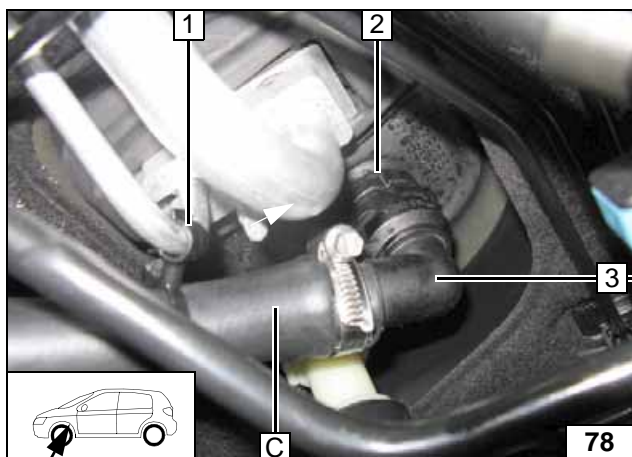
2 Engine outlet hose section

Cutting point



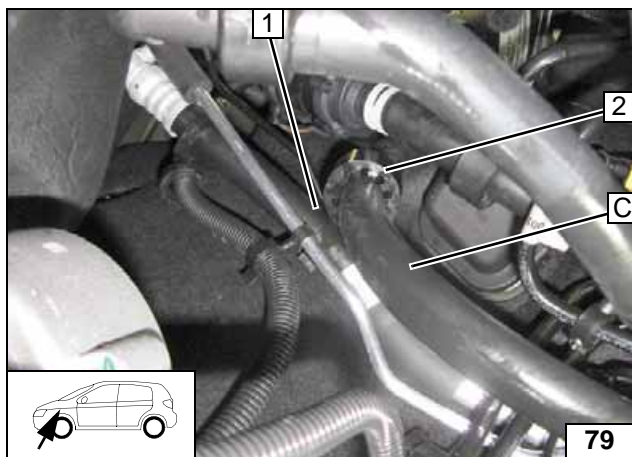
- 1** Engine outlet hose section
- 2** 8x27mm dia. hose bracket at hose **A** on vehicle hose
- 3** Vehicle hose
- 4** Rubber ring black on vehicle fuel line
- 5** Vehicle fuel line

Connect-
ing engine
outlet



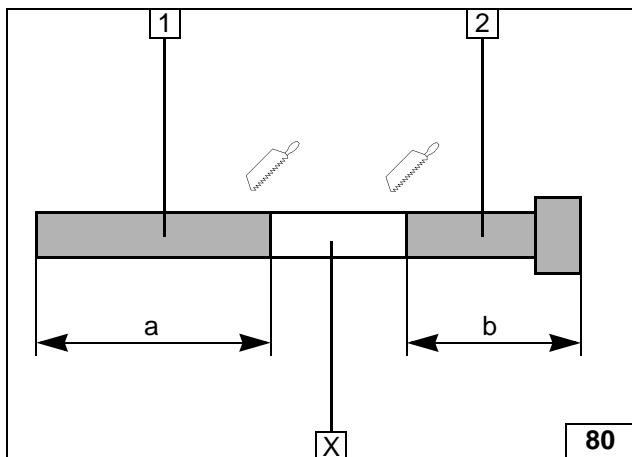
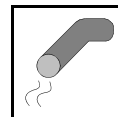
- 1** 8x27mm dia. hose bracket at hose **C** on A/C line.
- 2** Heat exchanger inlet
- 3** Coupling

Connect-
ing heat ex-
changer
inlet



Ensure position of rubber ring 2 on AC hose 1; correct if necessary!

Routing lines



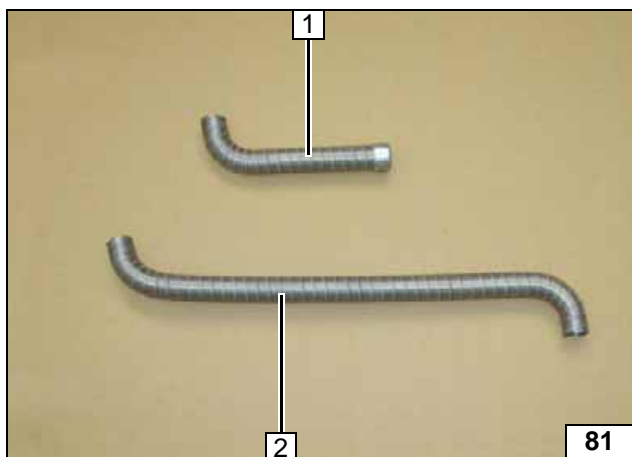
Exhaust Gas

Discard section X.

- 1 Exhaust pipe
a = 630
- 2 Exhaust end section
b = 160

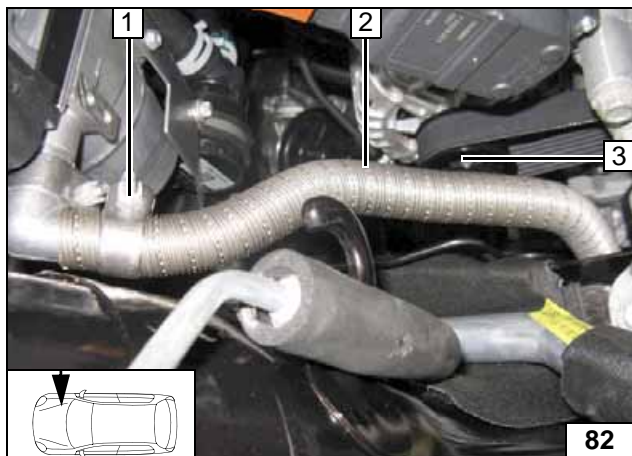


Preparing exhaust pipe



- 1 Exhaust end section
- 2 Exhaust pipe

Shaping exhaust pipe and end section

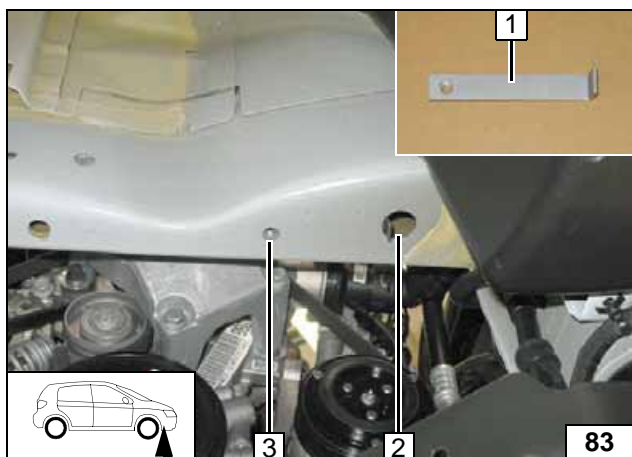


Ensure freedom of movement (at least 20mm) between exhaust pipe 2 and belt drive 3; correct if necessary!

- 1 Hose clamp



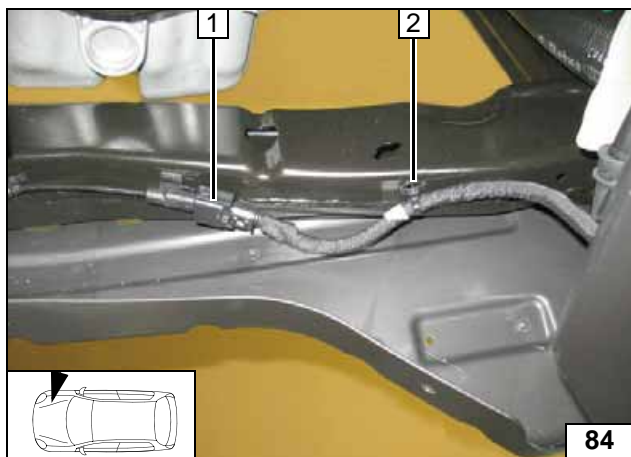
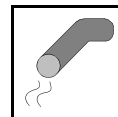
Mounting exhaust pipe



Insert bracket 1 into hole 2 and align with threaded hole at position 3.

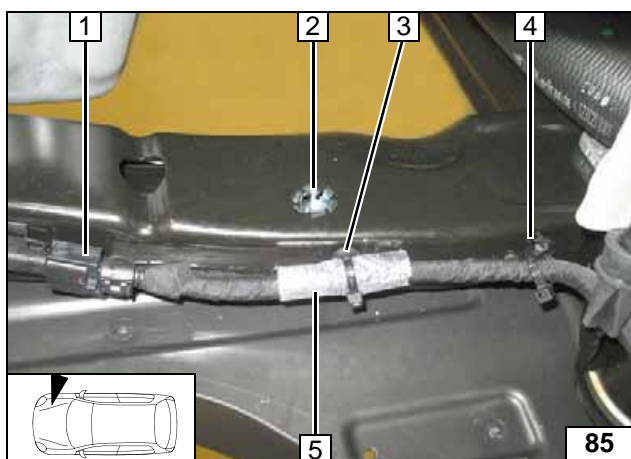


Mounting exhaust end section



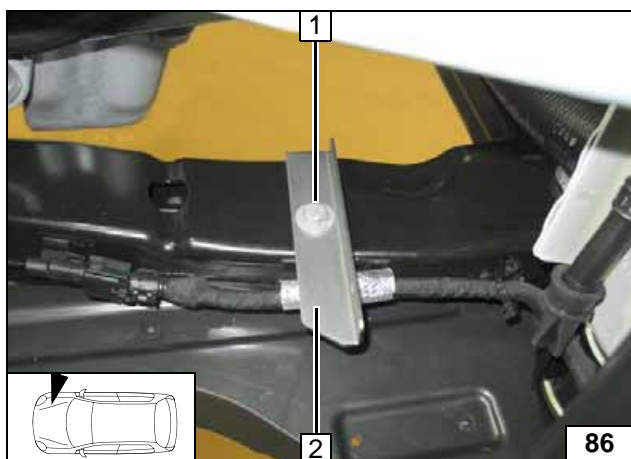
- 1 Separate ABS connector
- 2 Remove hole cable tie

**Preparing
ABS wire**



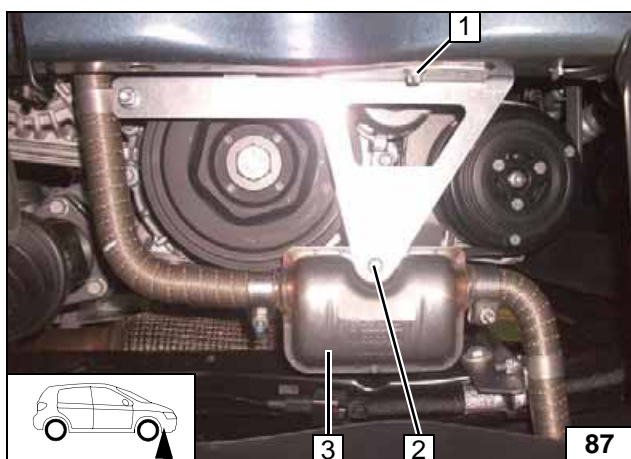
- 1 Connecting ABS connector
- 2 Cage nut, existing hole
- 3 Cable tie with hole
- 4 Only tighten hole cable tie slightly (serves as ducting)
- 5 Insulation on ABS wire

**Insulating
ABS wire**



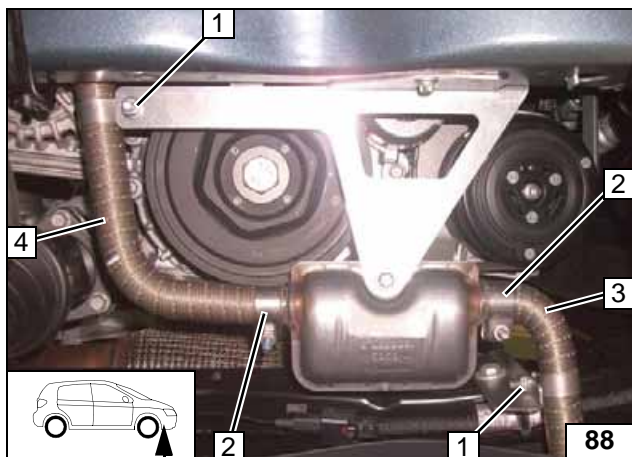
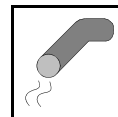
- 1 M8x20 bolt, spring lockwasher, washer in cage nut
- 2 Bracket of exhaust end section

**Installing
bracket of
exhaust
end section**



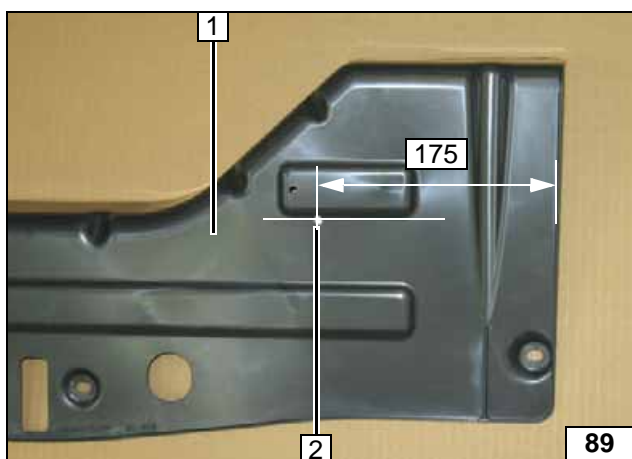
- 1 M6x25 bolt in threaded hole of bracket
- 2 M6x16 bolt, flanged nut
- 3 Silencer

**Installing
silencer**



- 1 M6x16 bolt, pipe clamp, flanged nut [2x each]
- 2 Hose clamp [2x]
- 3 Exhaust end section
- 4 Exhaust pipe

Mounting exhaust pipe and end section



- 1 Underride protection
- 2 60mm dia. hole

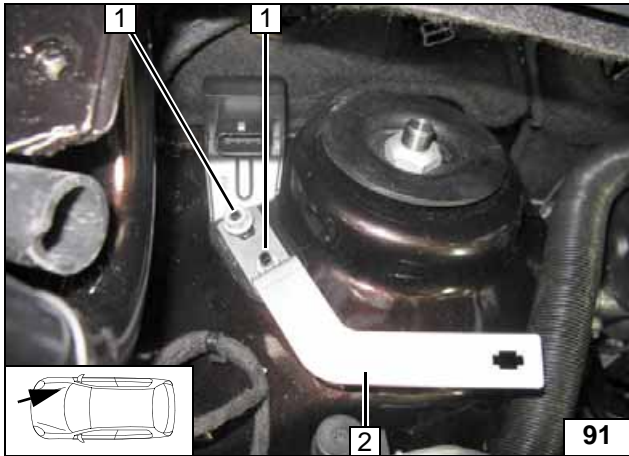
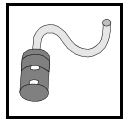
Hole in under-ride protection



Align exhaust end section 1 in the middle of the hole and flush on under-ride protection 2.



Aligning exhaust end section



Combustion Air

- 1 Original vehicle insert stud bolt [2x], M6 flanged nut [2x]
- 2 Bracket of combustion air

Installing bracket of combustion air

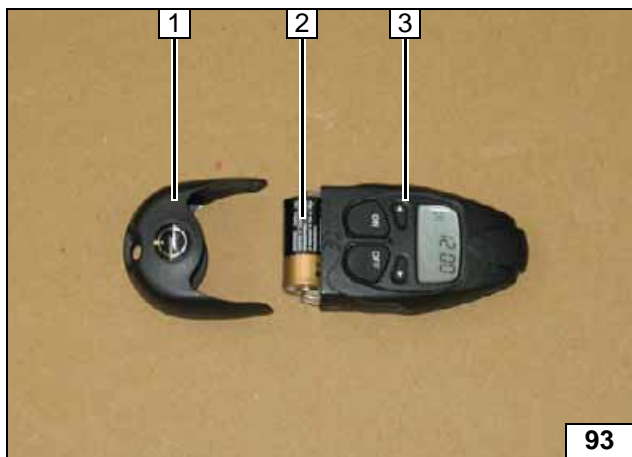


Ensure freedom of movement between combustion air pipe **2** and wiper components; correct if necessary!

- 1 Windscreen wiper motor
- 3 25mm dia. Caillau clamp
- 4 Silencer
- 5 Retaining clip of silencer in hole of bracket



Installing silencer



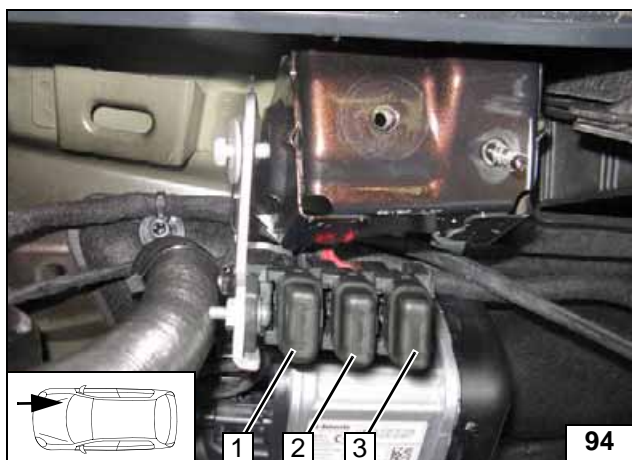
Final Work

When inserting battery 2, ensure correct polarity!

- 1 Cover of battery compartment
- 2 Battery
- 3 Transmitter



Preparing transmitter

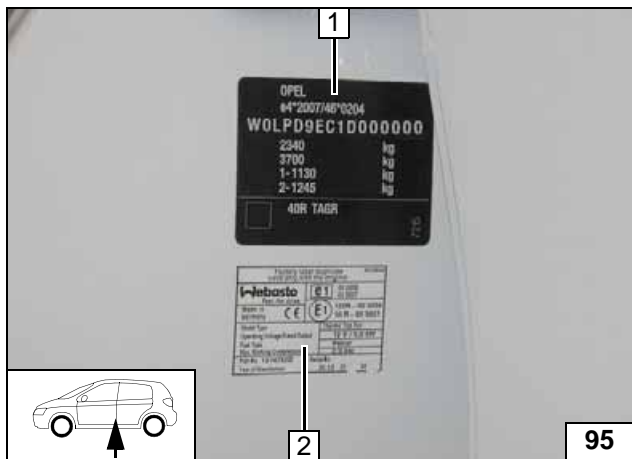


Transmitter and push button are to be taught prior to insertion of fuse F2 3.

- 1 Fuse F4 - 20A
- 2 Fuse F3 - 5A
- 3 Fuse F2 - 5A

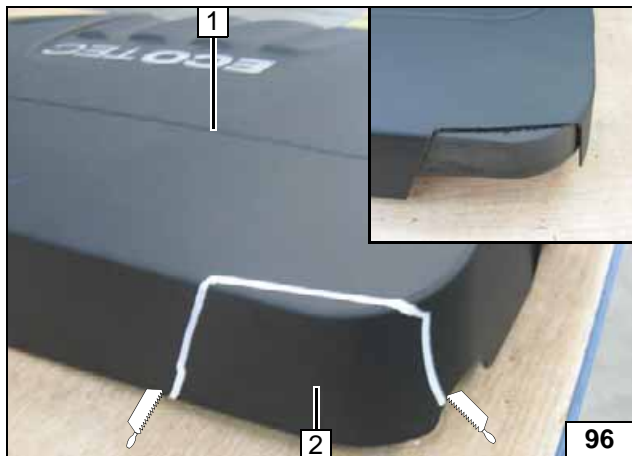


Inserting fuses



- 1 Type label of vehicle
- 2 Duplicate label (type label) of heater

Gluing on duplicate label



Cut engine cover 1 as marked. Discard section 2.

Modify engine cover



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.**
- **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.**

- D** Änderungen bezüglich Konstruktion, Ausstattung, Farbe sowie Irrtum vorbehalten. Angaben und Abbildungen unverbindlich.
- GB** Subject to change in terms of construction, equipment and colour, and may contain errors. The information and illustrations are non-binding.
- F** Sous réserve de modifications de la construction, de équipement, de la couleur et sous réserve d'erreurs. Les indications et les illustrations sont sans engagement.
- NL** Wijzigingen met betrekking tot constructie, uitvoering en kleur evenals vergissingen voorbehouden. Gegevens en afbeeldingen niet bindend.
- DK** Ændringer med hensyn til konstruktion, udstyr, farver samt fejl forbeholdes. Oplysninger og illustrationer er uforpligtende.
- N** Endringer angående konstruksjon, utstyr, farge og feiltagelse forbeholdes. Opplysninger og illustrasjoner uforbindtlig.
- S** Med reservation för ändringar vad det gäller konstruktion, utrustning, färg samt för misstag. Uppgifterna och bilderna är inte bindande.
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- I** Con riserva di modifiche relative a progettazione, dotazione, colore ed errori. Le indicazioni e figure sono fornite senza impegno.
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- BUL** Запазени права по отношение на конструкцията, обзавеждането, цвeта и грешки. Данните и изображенията не са обвързвани.
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- LV** Tiek paturētas tiesības uz konstrukcijas, iekārtu, krāsu izmaiņām, kā arī kļūdīšanās. Dati un attēli bez saistībām.
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- SLO** Zadržana pravica do sprememb glede konstrukcije, opreme, barve ter pomote. Podatki in slike so neobvezne.
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- VR** 保留设计、配置、颜色以及错误的修改权。给出的资料 and 插图均没有法律约束力。
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