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 εμπο ρους
CZ	Návod k montáži / Montá pouze prodejcem
PL	Instrukcja montażu / Montaż tylko u dealera
TR	Montaj talimatı / Sadece satıcı tarafında monte edilir
H	Beépítési útmutató / Csak a kereskedő építheti 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 / Montá 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

13 476 209 10/15

Water Heater

Thermo Top Evo Parking Heater

E1
00 0258

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Installation Documentation
Opel Astra

Validity

Manufacturer	Model	Type	EG-BE-No. / ABE
Opel	Astra	B-K	e4 * 2007 / 46 * 0996*00

Motorisation	Fuel	Transmission type	Output in kW	Displacement in cm³	Engine code
1.0P	Petrol	MT	77	998	B10XFL (LE1)
1.0P	Petrol	A-SG	77	998	B10XFL (LE1)
1.4 P	Petrol	MT	74	1399	B14XE (LV7)
1.4 P	Petrol	MT	88	1399	B14XFL (LE2)
1.4 P	Petrol	MT	103	1399	B14XFT (LE2)
1.4 P	Petrol	MT	114	1399	B14XFH (LE2)
1.6 P	Petrol	MT	147	1598	B16SHT (LWC)
1.6 D	Diesel	MT	81	1598	B16DTE (LWQ)
1.6 D	Diesel	AT	81	1598	B16DTN (LVL)
1.6 D	Diesel	MT	99	1598	B16DTH (LVL)
1.6 D	Diesel	AT	99	1598	B16DTH (LVL)
1.6 D	Diesel	MT	118	1598	B16DTR (LVK)

MT = 6-gear manual transmission
AT = 6-gear automatic transmission
A-SG = 5-gear Easytronic

From model year 2016
Left-hand drive vehicle

Verified equipment variants: Manual / automatic air-conditioning system
Front fog lights
Matrix headlights
Automatic park assist
Passenger compartment monitoring

Total installation time: approx. 8 hours

Opel Astra

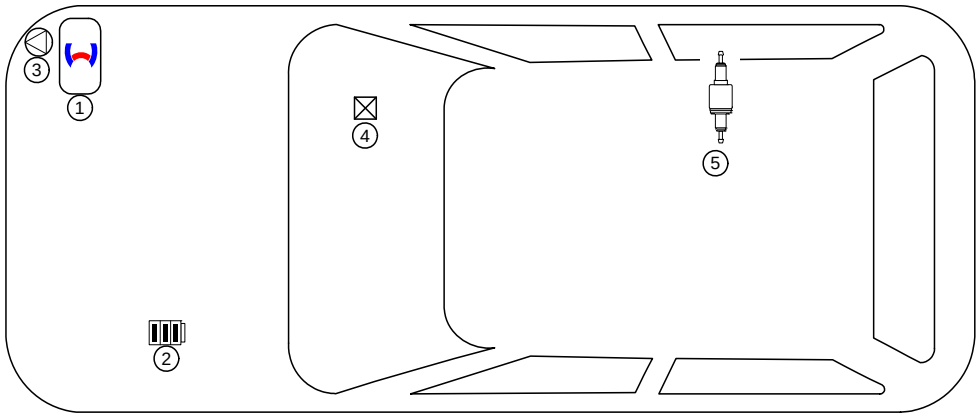
Table of Contents

Necessary Components

- Specific delivery scope of *Thermo Top Evo* petrol or diesel:
  GM parts No. for petrol: 13 437 784
  GM Part No. diesel: 13 437 204
- Installation kit for Opel Astra 2016 Petrol and diesel
  GM Part No.: 13476206

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

Installation Overview



Legend:

1. Heater
2. Engine compartment fuse holder
3. Circulating pump
4. Temperature sensor / Telestart / Push Button / SVM module
5. Metering pump

Information on Total Installation Time

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

Information on Operating and Installation Instructions

1 Important information (not complete)

1.1 Installation and repair

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

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

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

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

1.2 Operation

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

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

Always switch off the heater before refuelling.

The heater may only be used with the prescribed fuel diesel (DIN EN 590) or petrol (DIN EN 228).

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).

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 a programmable control module (e.g. a PWM Gateway), the corresponding settings must be checked or adjusted.

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

The heater is licensed in accordance with paragraph 19, section 3, No. 2b of the StVZO (German Road Traffic Licensing Authority).

2.1 Excerpt from ECE regulation 122 (heating system) paragraph 5 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 Astra

Information on Validity

These installation instructions apply to Opel Astra Petrol and diesel vehicles - for validity, see page 1 - from model year 2016 and later, assuming technical modifications to the vehicle do not affect installation, any liability claims excluded. Depending on the vehicle version and equipment, modifications may be necessary during installation with respect to this ‘installation documentation’.

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

Technical Information

Special Tools
- Hose clamp pliers for auto-tightening 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
- Deep-hole marker
- Webasto Thermo Test Diagnosis with current software

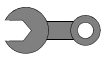
Dimensions
- All dimensions are in mm.

Tightening torque values
- Tightening torque values of 5x13 heater bolts and 5x11 heater stud bolts = 8Nm.
- Tightening torque value of 5x15 water connection piece retaining plate bolt = 7Nm.
- Tighten other bolt connections in accordance with manufacturer's instructions or in accordance with state-of-the-art-technology.

Explanatory Notes on Document

You will find an identification mark on the outside top right corner of the page in question to provide you with a quick overview of the individual working steps.

Mechanical System



Electrical System

Coolant Circuit

Combustion Air

Fuel

Exhaust Gas

Software

Special features are highlighted using the following symbols:

Specific risk of damage to components.

Specific risk due to electrical voltage.

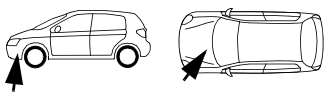
Specific risk of injury or fatal accidents.

Specific risk of fire or explosion.

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

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.

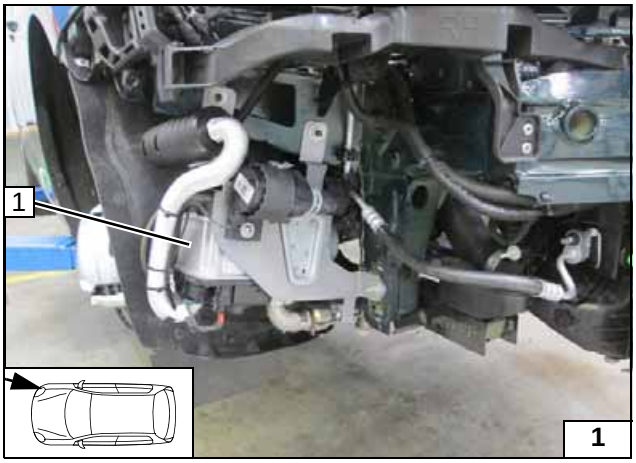
Preliminary Work

Vehicle

- Open the fuel tank cap.
- Ventilate the fuel tank.
- Close the fuel tank cap again.
- Depressurise the cooling system.
- Drain the coolant.
- Unlock and open the doors and the boot lid.
- Move the rear seats back as far as they can go.
- Disconnect the battery in the boot.
- Completely remove the air filter.
- Remove the wiper arms and the underlying linkage.
- Remove the upper and lower coolant reservoir cap.
- Remove the engine cover.
- Remove the right front wheel.
- Remove the right front wheel-well inner panel.
- Remove the bumper.
- Remove the fuel tank.
- Remove the fuel tank sending unit in accordance with the manufacturer's instructions.
- Remove the glove box.
- Remove the left and right lateral trim of the centre console.
- Remove the A-pillar trim on the front passenger's side.

Heater

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

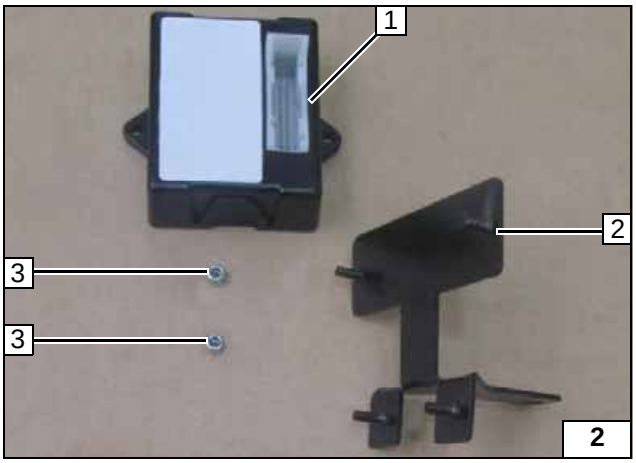


Heater Installation Location

1 Heater

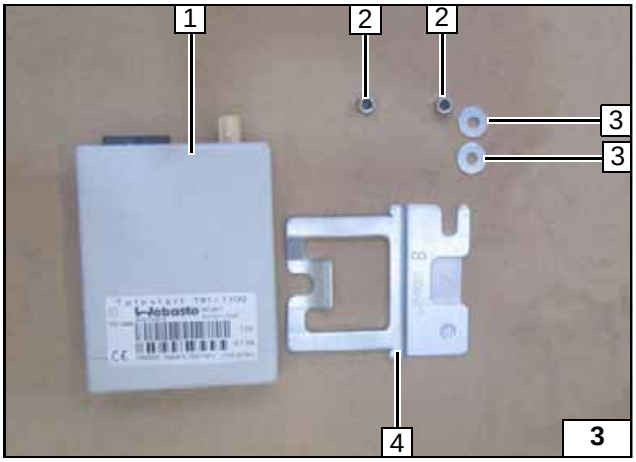
Installation location

Preparing Electrical System



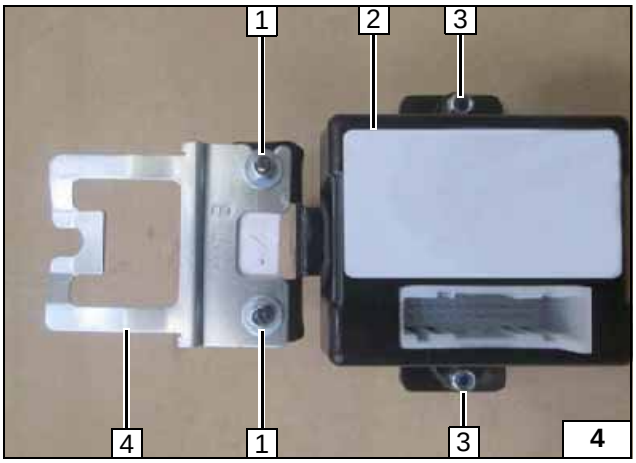
1 SVM module
2 SVM module bracket
3 M4 nut [2x]

Parts overview for SVM module installation



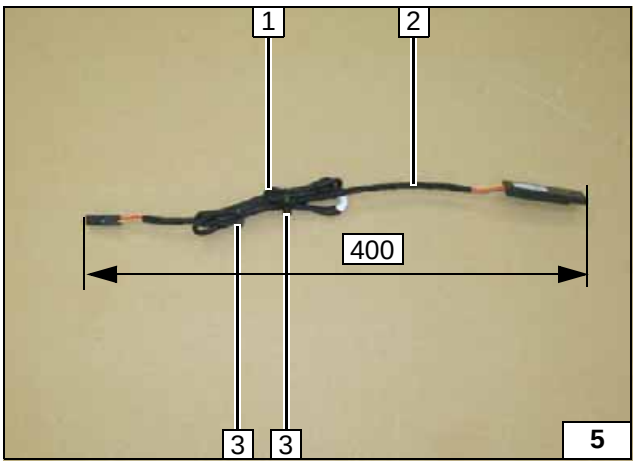
1 Telestart receiver
2 M4 nut [2x]
3 Large diameter washer [2x]
4 Telestart receiver bracket

Parts overview for Telestart receiver installation



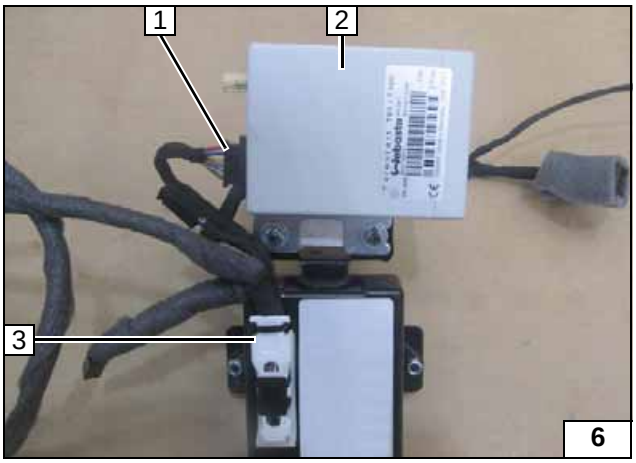
1 M4 nut, large diameter washer [2x each]
2 SVM module
3 M4 nut [2x]
4 Telestart receiver bracket

Installing SVM module and receiver bracket



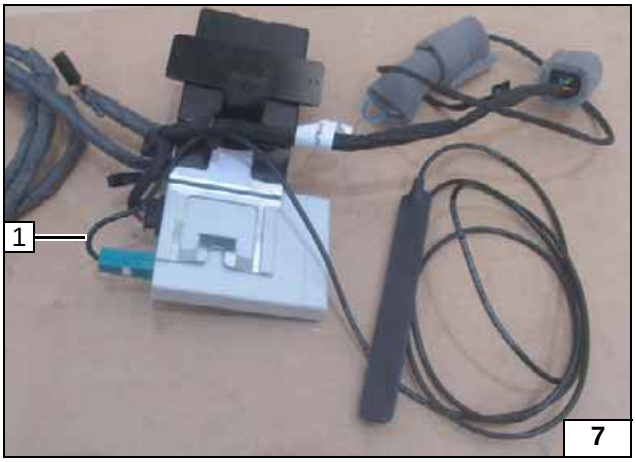
Roll up temperature sensor wiring harness **2** at position **1** and fix with cable ties **3**.

Preparing temperature sensor



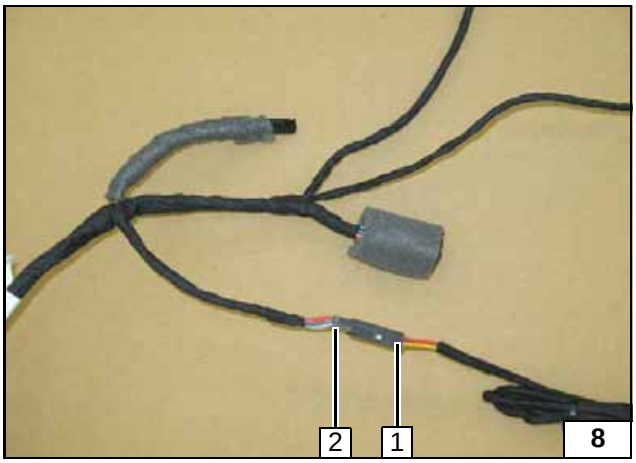
1 Receiver connector
2 Receiver installed
3 SVM module connector

Connecting passenger compartment wiring harness



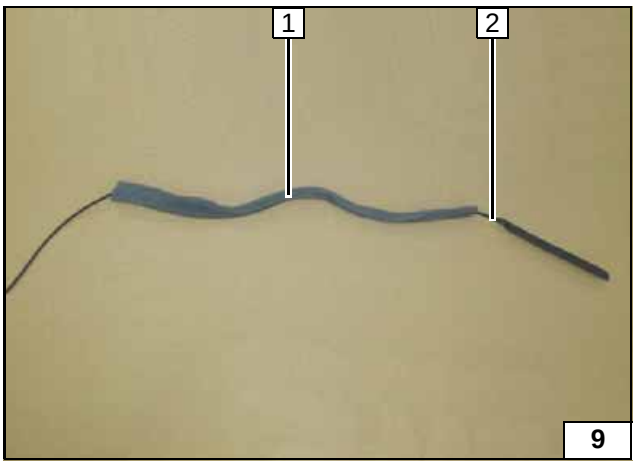
1 Telestart aerial

Installing aerial



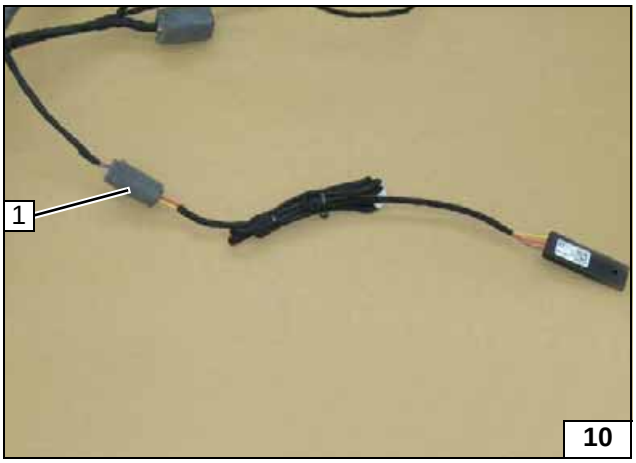
1 Temperature sensor connector
2 Wiring harness connector of passenger compartment (assigned 3x)

Connecting passenger compartment wiring harness



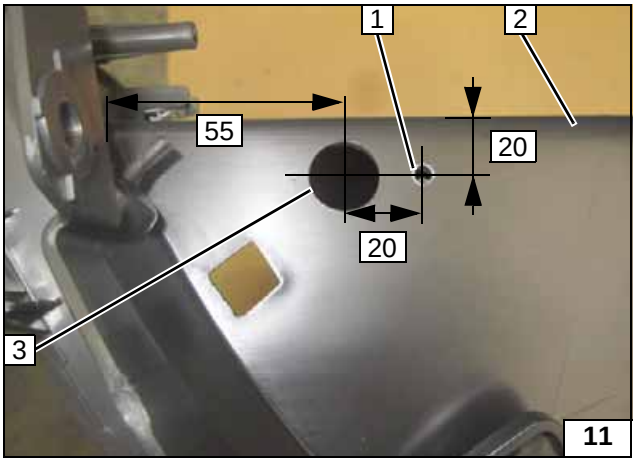
Stick 400mm foam **1** around aerial cable **2**.

Preparing aerial



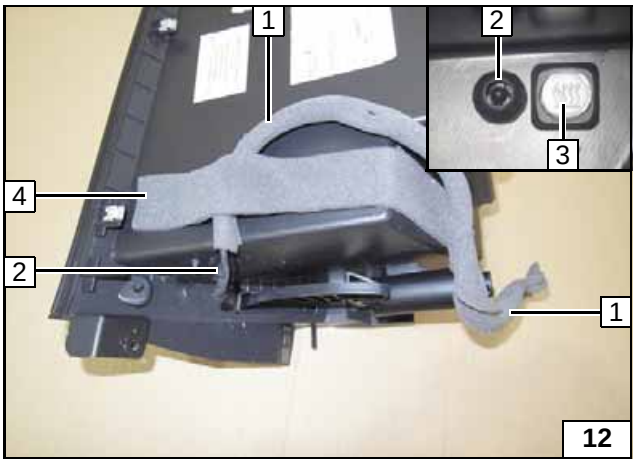
Stick 40mm foam **1** around temperature sensor connector.

Preparing passenger compartment wiring harness



1 4 mm dia. hole
2 Glove box
3 16 mm dia. hole

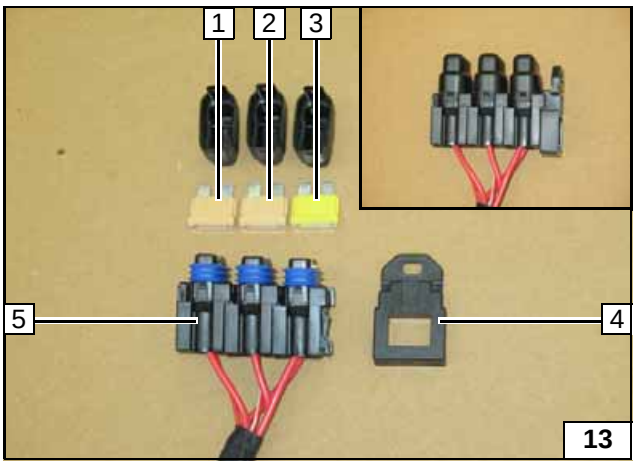
Preparing glove compartment



Wrap push button wiring harness **1** with foam and fix to glove box using foam strip **4**. Install rubber plug **2**.

3 Push button

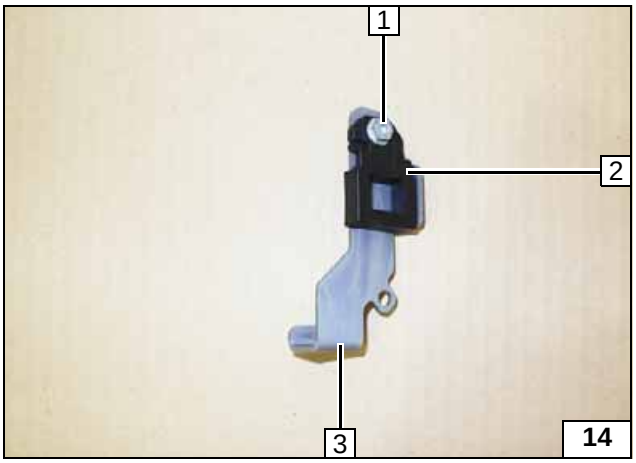
Installing push button



Remove fuses **1**; **2**; **3** from fuse holder.

1 Telestart 5A fuse F1
2 SVM module 5A fuse F2
3 Heater 20A fuse F3
4 Retaining plate for fuse holder
5 Fuse holder

Preparing wiring harness of heater



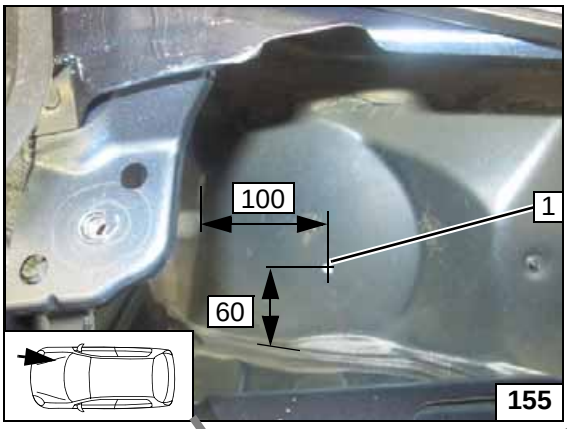
1 M5x12 bolt, large diameter washer
2 Retaining plate
3 Fuse holder bracket

Preparing fuse holder

Electrical System

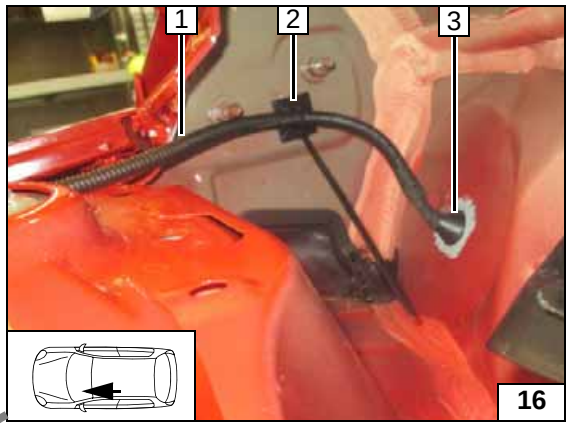
Preparing passenger compartment pass through

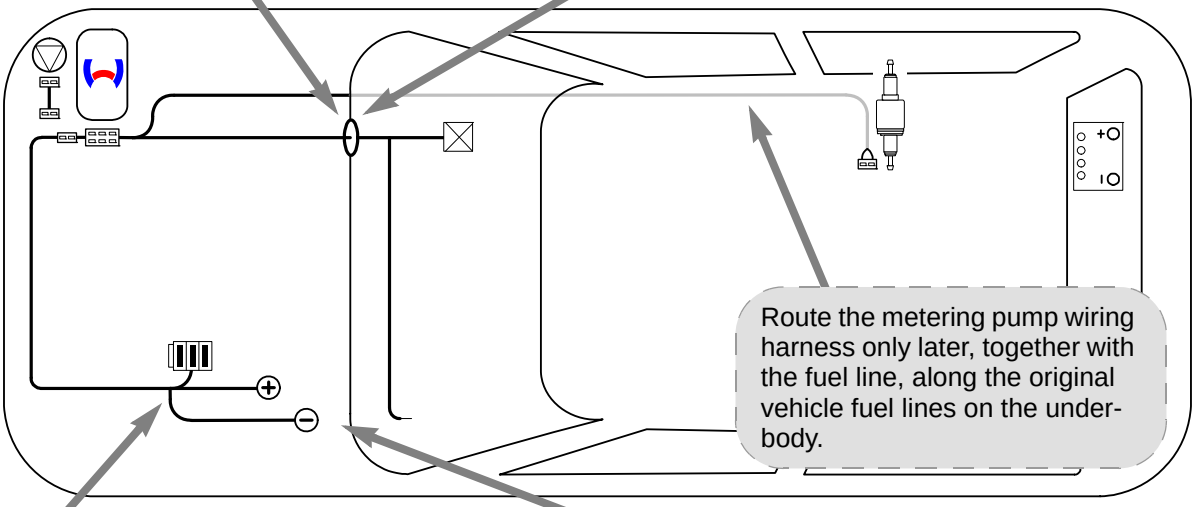
1 Copy hole pattern, 20mm dia. hole, protect hole against corrosion by appropriate means



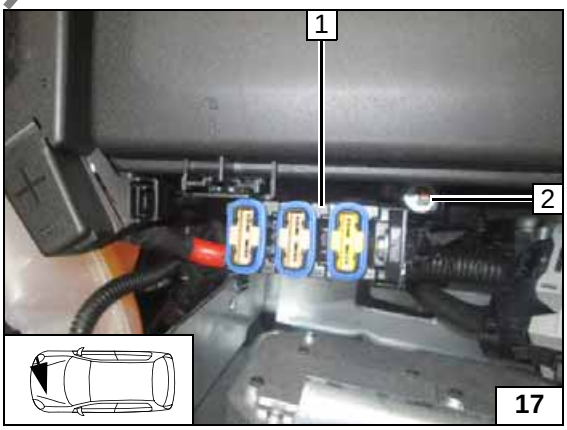
Passenger compartment pass through

1 Passenger compartment wiring harness
2 Adhesive base with cable tie
3 Seal off grommet by using an appropriate sealing compound





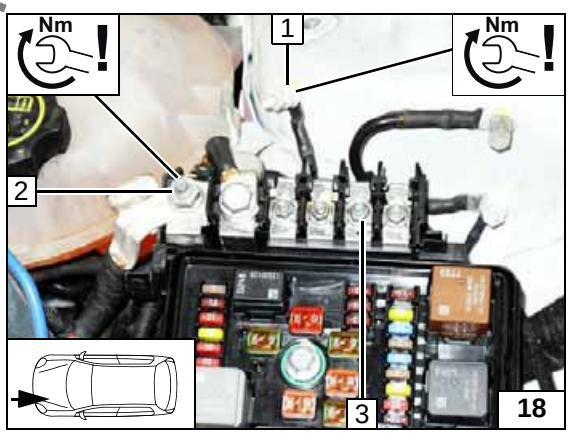
Wiring harness routing diagram



Engine compartment fuse holder

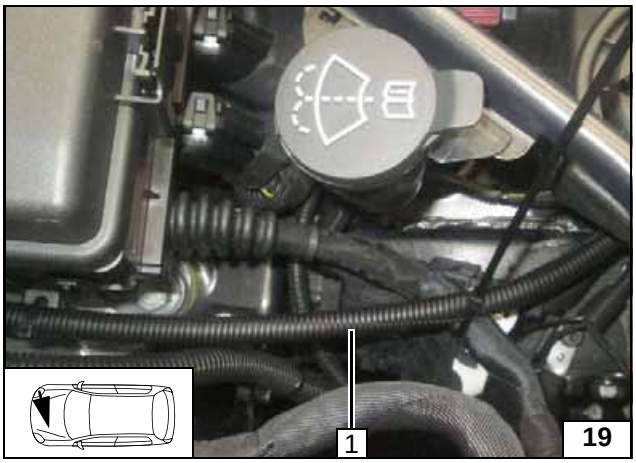
Unclip original vehicle wiring harness at position **2**, attach to original vehicle wiring harness with cable tie.

1 Fuse holder installed
2 Large diameter washer, M5 flanged nut



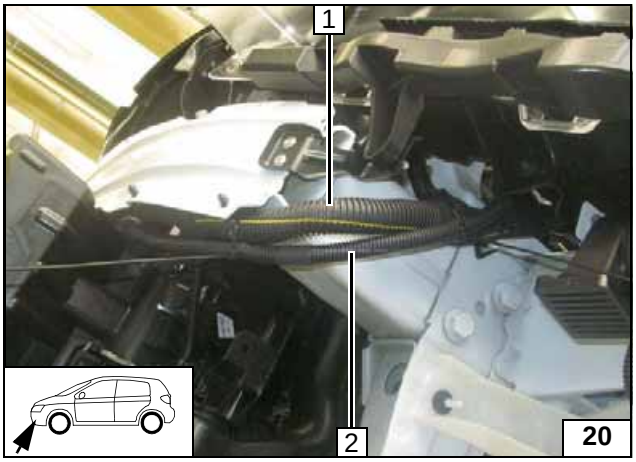
Positive and earth wire

1 Earth wire on original vehicle earth support point
2 Positive wire on original vehicle positive support point
3 Optional if chamber 7 is free, connect positive wire



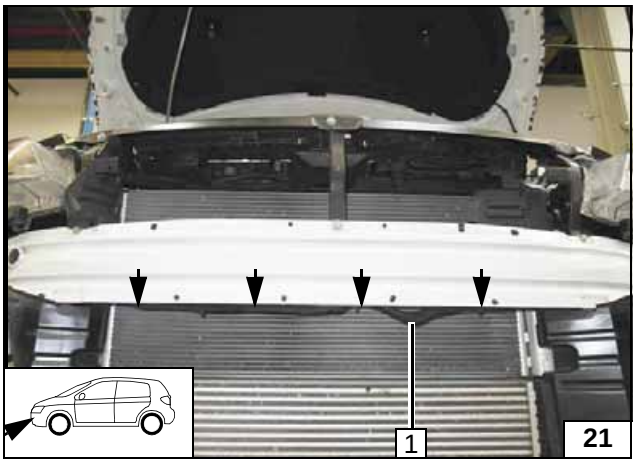
Route wiring harness **1** as explained in the following description and secure using cable ties.

Routing wiring harness



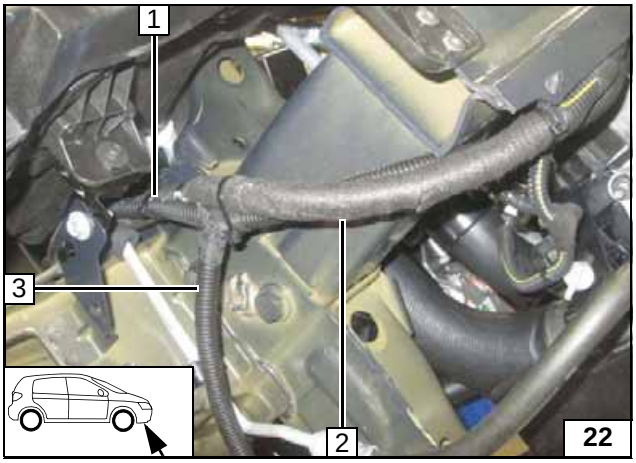
Route wiring harness **2** along original vehicle wiring harness **1**.

Routing wiring harness



Route wiring harness along original vehicle wiring harness **1** to heater installation location.

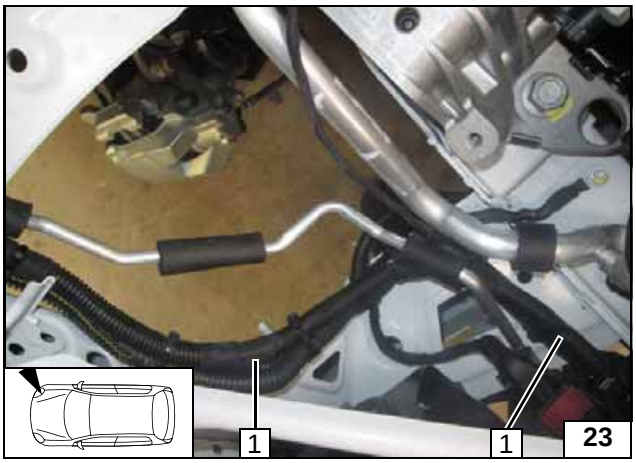
Routing wiring harness



Route passenger compartment wiring harness **1** along original vehicle wiring harness **2** into the engine compartment.

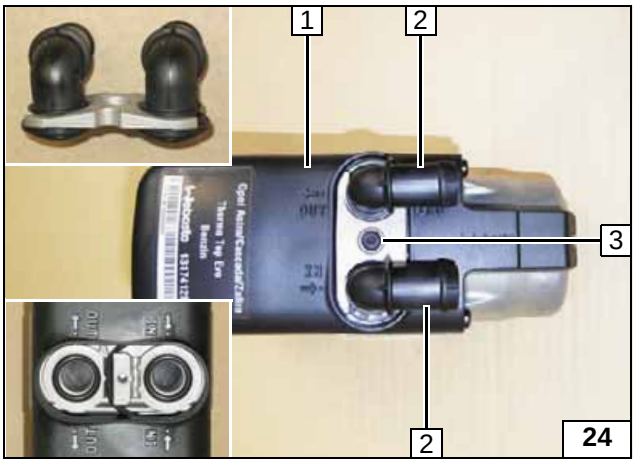
3 Heater wiring harness

Routing wiring harness



Route passenger compartment wiring harness **1** along original vehicle wiring harness to the firewall.

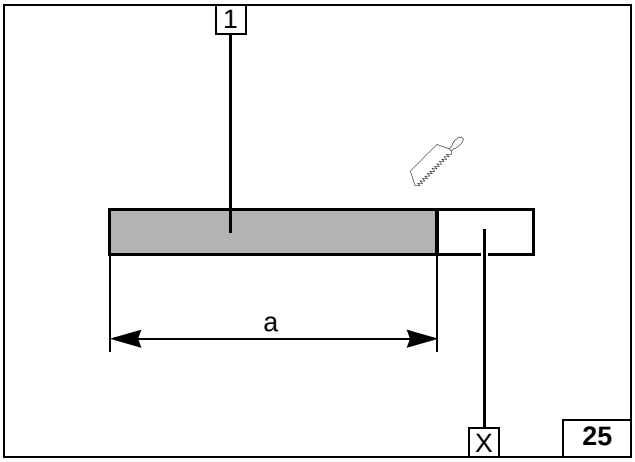
Routing wiring harness



Preparing Heater

1 Heater
2 Water connection piece, sealing ring [2x each]
3 5x15 self-tapping bolt, retaining plate of water connection piece

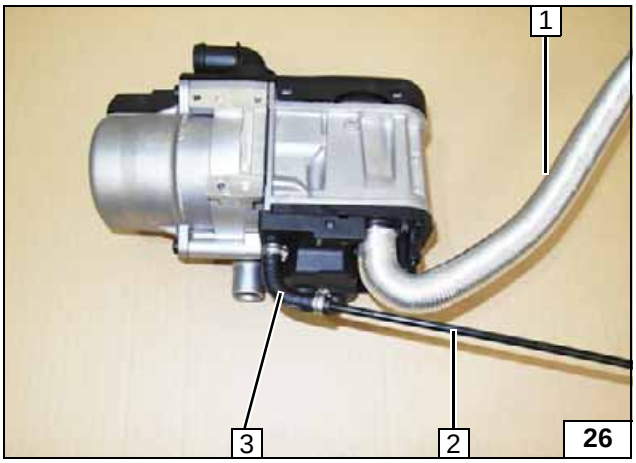
Installing water connection piece



Discard section **X**.

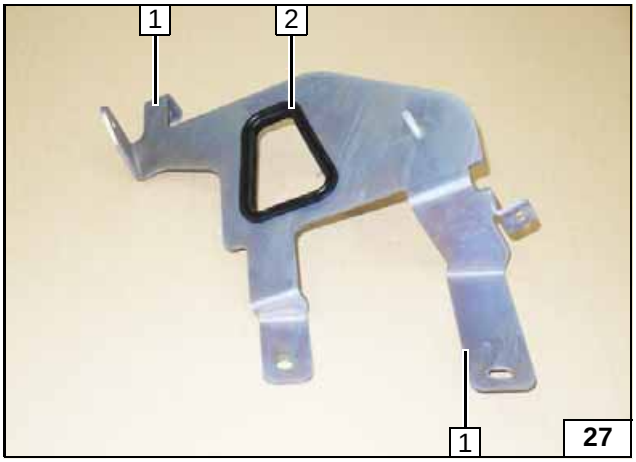
1 Combustion air pipe
a = 420

Cutting combustion air pipe to length



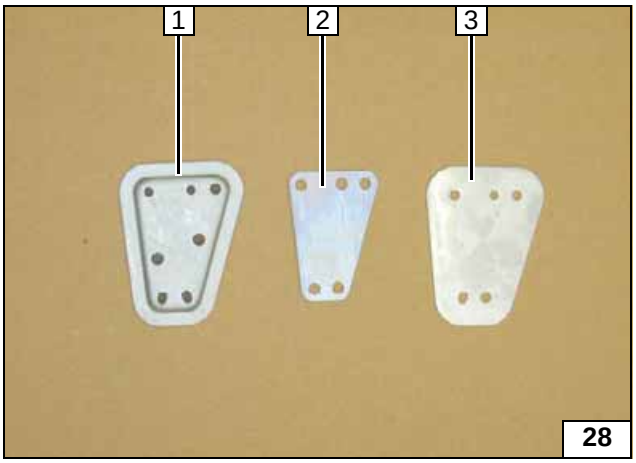
1 Combustion air pipe
2 Fuel line
3 90° moulded hose, 10 mm dia. clamp [2x]

Installing combustion air pipe / fuel line



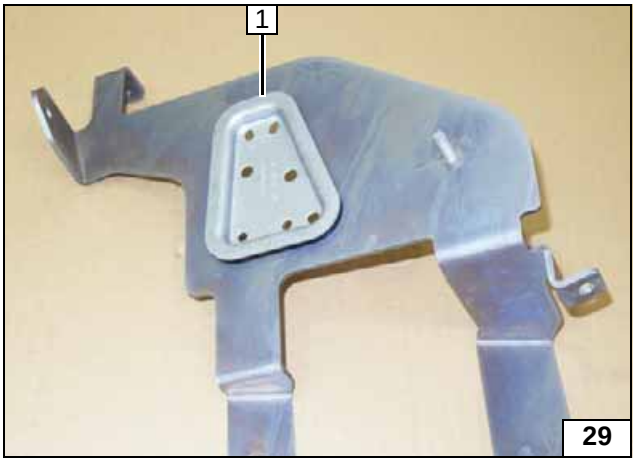
1 Bracket
2 Decoupling rubber

Preparing bracket



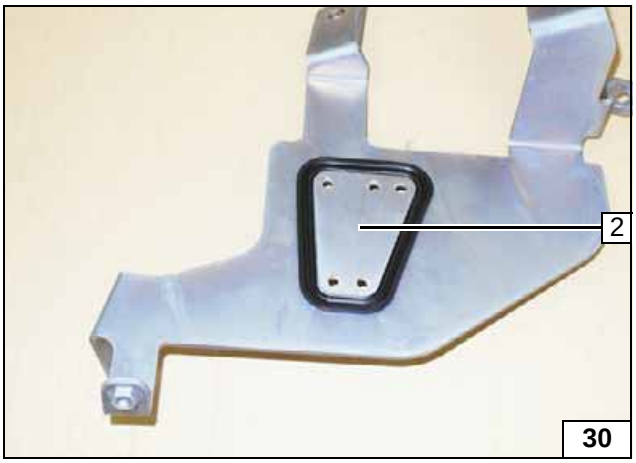
1 Clamping plate, part 1
2 Intermediate plate
3 Clamping plate, part 2

Preparing bracket



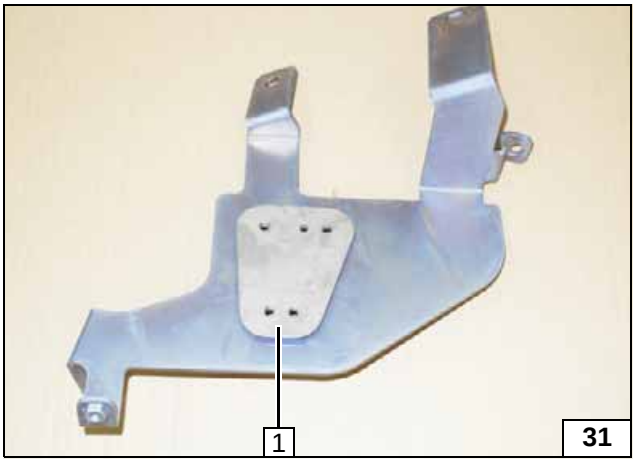
1 Clamping plate, part 1

Preparing bracket



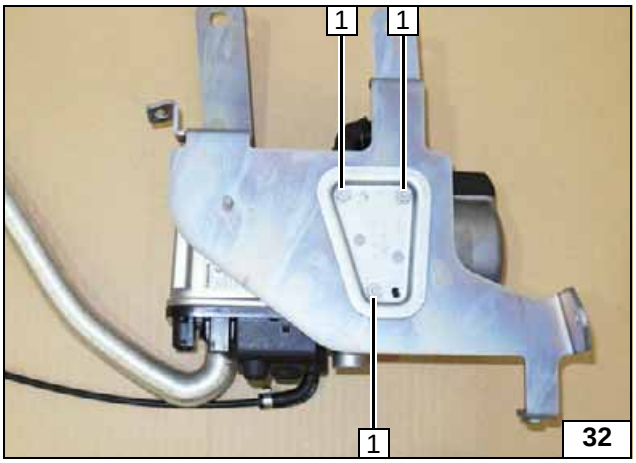
1 Intermediate plate

Preparing bracket



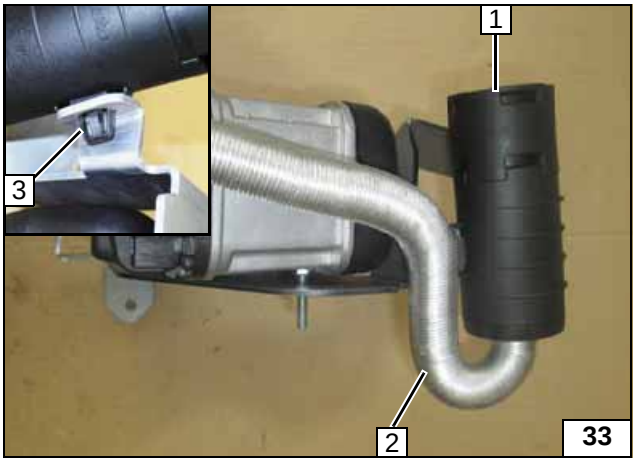
1 Clamping plate, part 2

Preparing bracket



1 5x13 self-tapping bolt [3x]

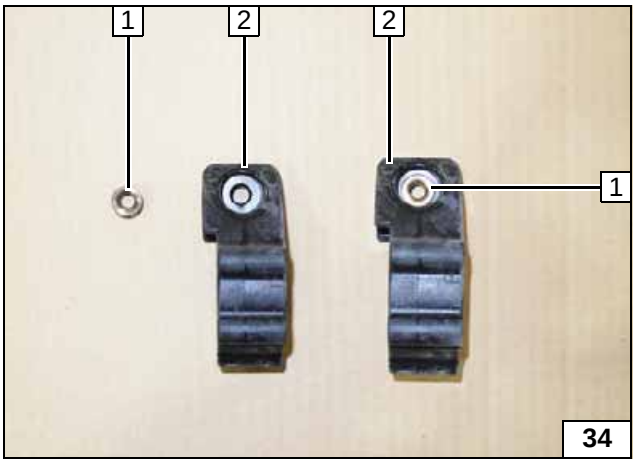
Installing bracket



Ensure proper fastening of **3**.

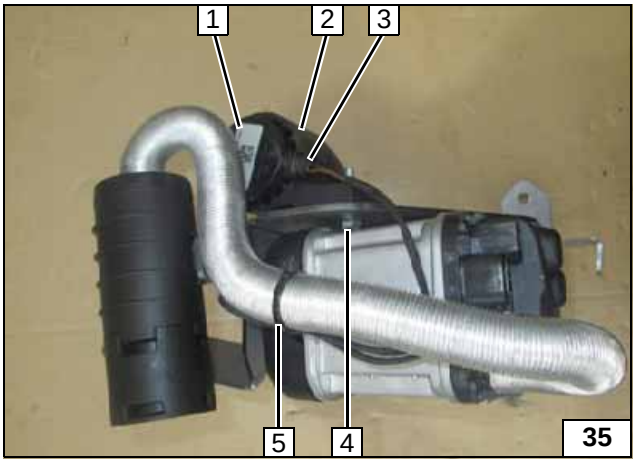
1 Combustion air silencer
2 Combustion air pipe

Installing combustion air silencer



1 Bushing
2 Circulating pump mount

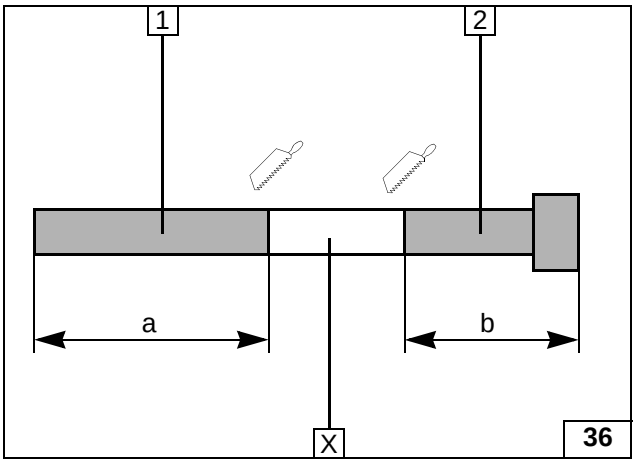
Installing bushing



1 Circulating pump
2 Circulating pump mount
3 Circulating pump wiring harness connector, installed
4 Fasten circulating pump using M6 flanged nut
5 Cable tie

Installing circulating pump

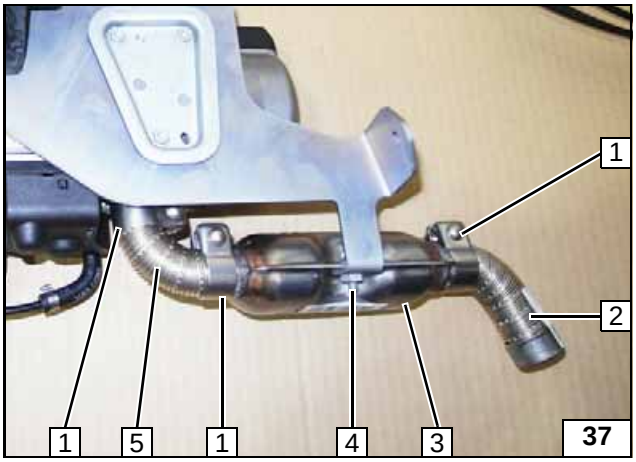
Preparing exhaust pipe



Discard section **X**.

1 Exhaust pipe
a = 80
2 Exhaust end section
b = 90

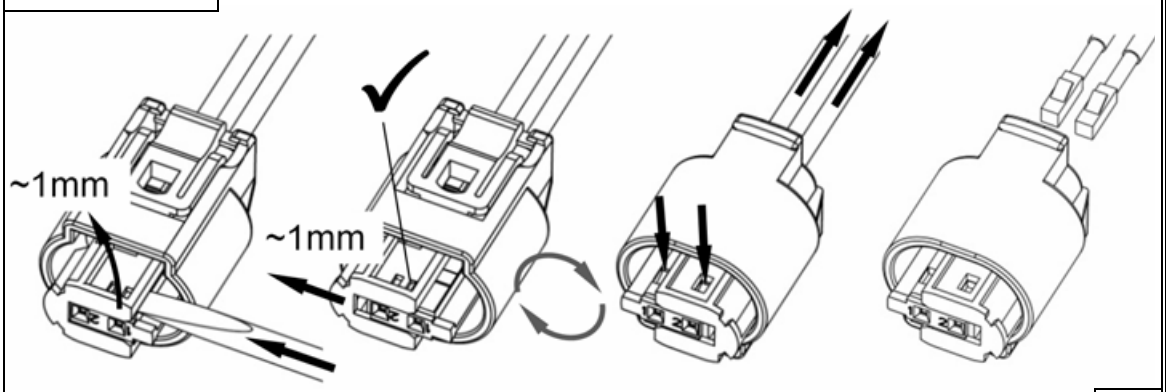
Installing exhaust



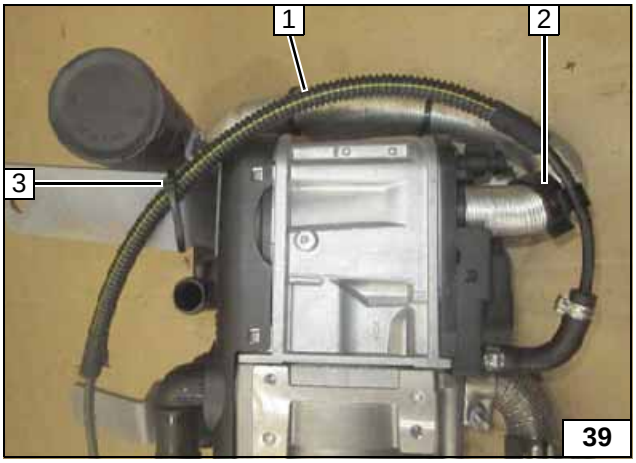
1 Hose clamp [3x]
2 Exhaust end section
3 Silencer
4 M6x16 bolt
5 Exhaust pipe

Dismantling metering pump connector

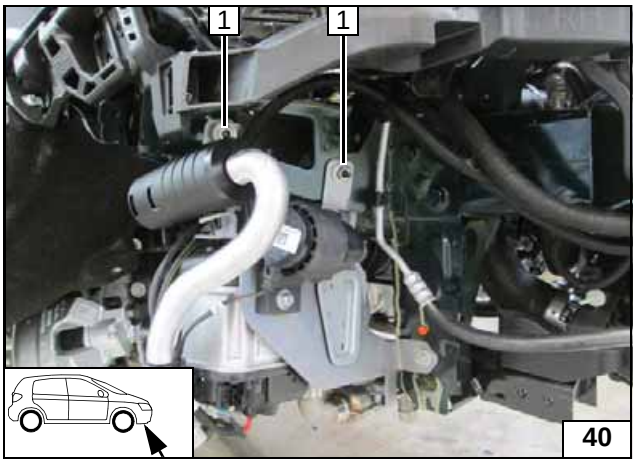
Connector X7



Fastening fuel line



1 10mm dia. 350mm long corrugated tube on fuel line
2 20x5 hose bracket between combustion air pipe and fuel line
3 Cable tie

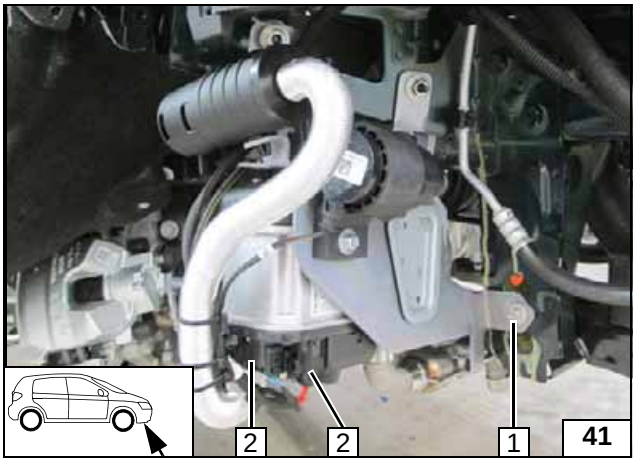


Installing Heater

In case of anti-theft alarm use original vehicle nuts at position **1**.

1 M8 flanged nut [2x]

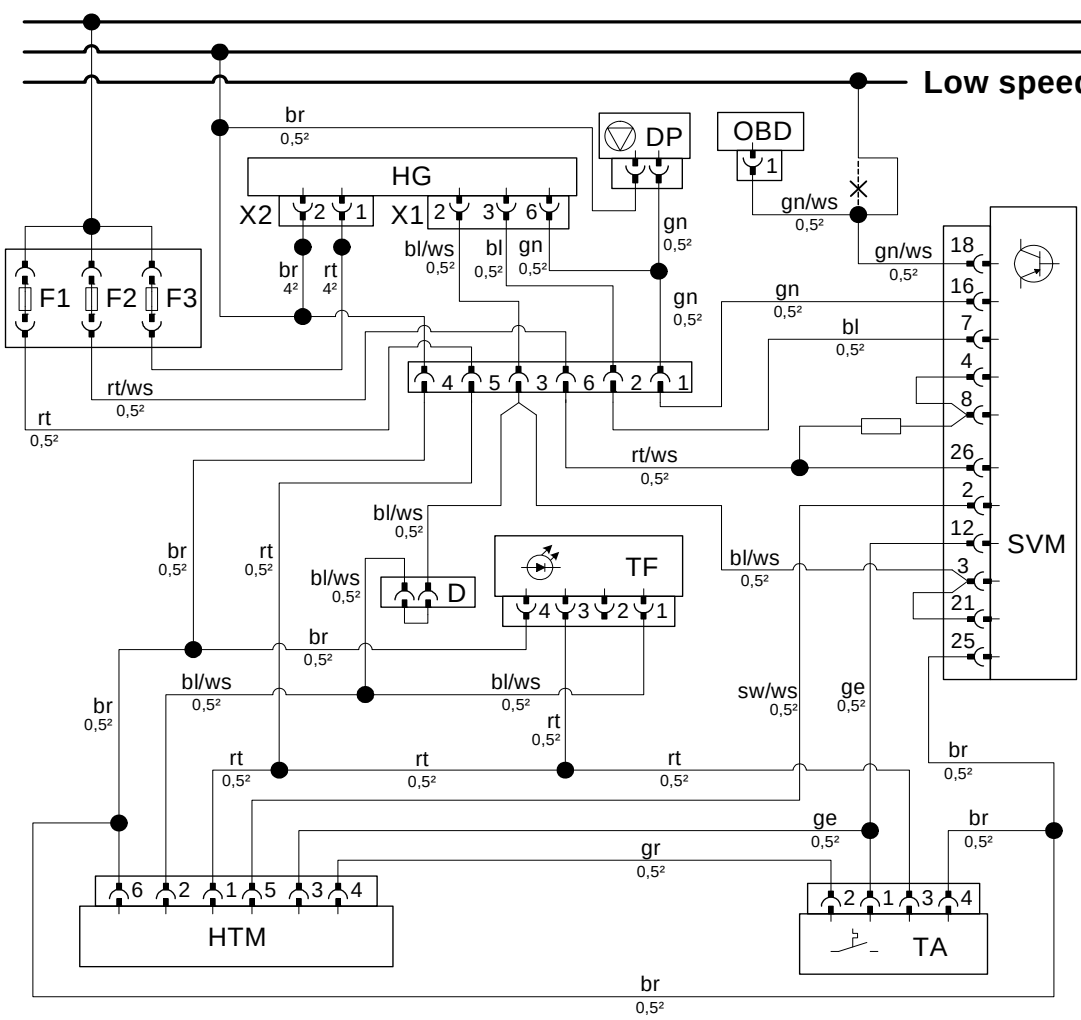
Installing heater



1 M6x16 bolt, large diameter washer, original vehicle hole, flanged nut
2 Wiring harness of heater, installed [2x]

Installing heater

Fan Controller



Wiring diagram

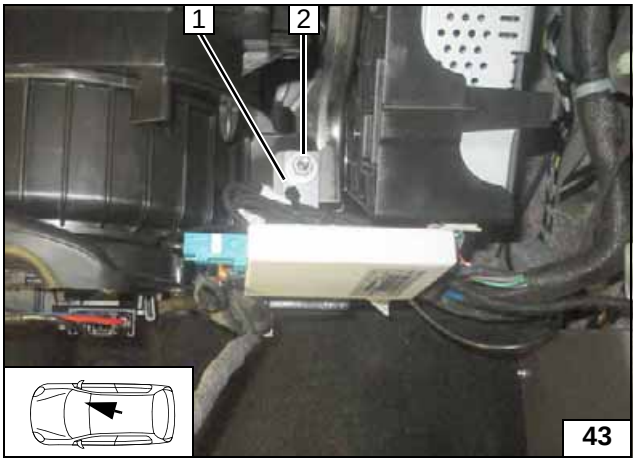
Parking heater components		Vehicle components		Colours and symbols	
HG	TT-Evo heater	OBD	OBD socket outlet	rt	red
X1	6-pin heater connector			sw	black
X2	2-pin heater connector			ge	yellow
HTM	Telestart HTM 100			gn	green
TF	Temperature sensor			gr	grey
TA	Push button			ws	white
D	Diagnosis connector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

Legend

Replace original vehicle bolt at position **1**.

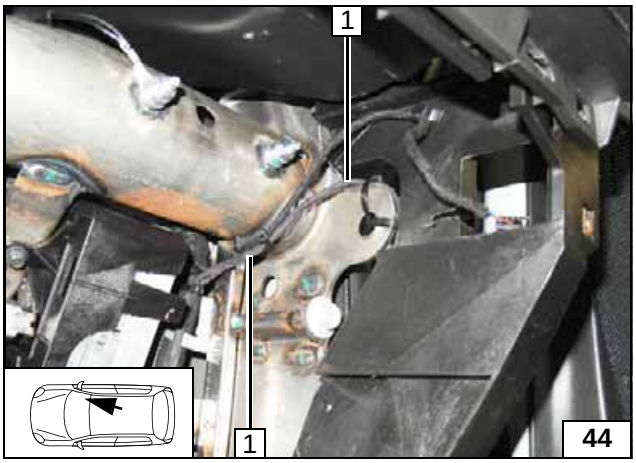
1 M6x25 bolt, large diameter washer

Replacing original vehicle bolt



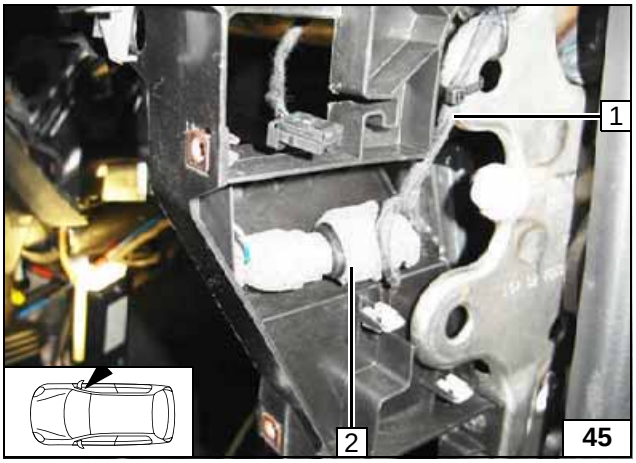
1 SVM module bracket
2 Large diameter washer, flanged nut

Installing SVM module bracket



1 Diagnosis wire

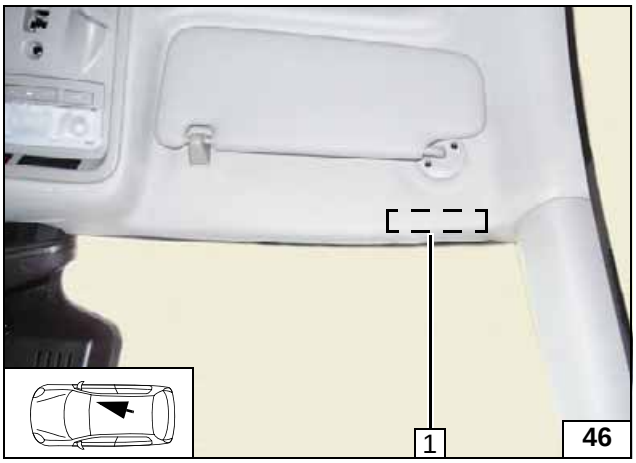
Routing wiring harness



Wrap diagnosis connector **2** with foam.

1 Diagnosis wire

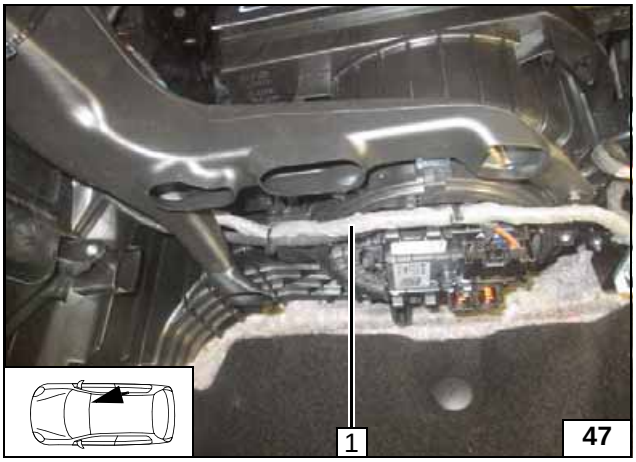
Position diagnosis connector



Route the aerial behind the A-pillar trim up to the upper rim of the windscreen.

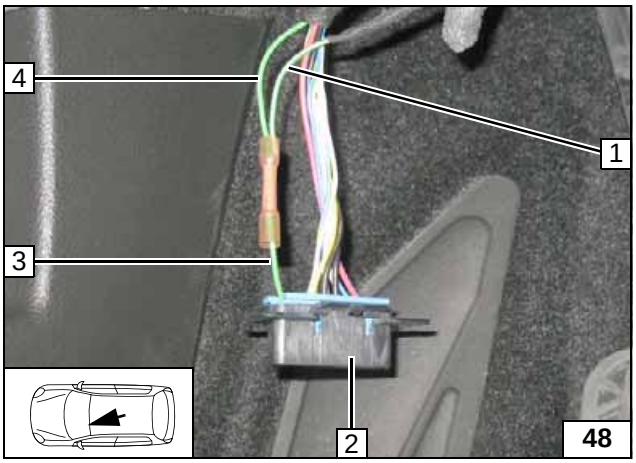
1 Position of aerial is hidden

Installing aerial



Route green/white (gn/ws) wire 0,5² **1** to the left and to the OBD socket outlet

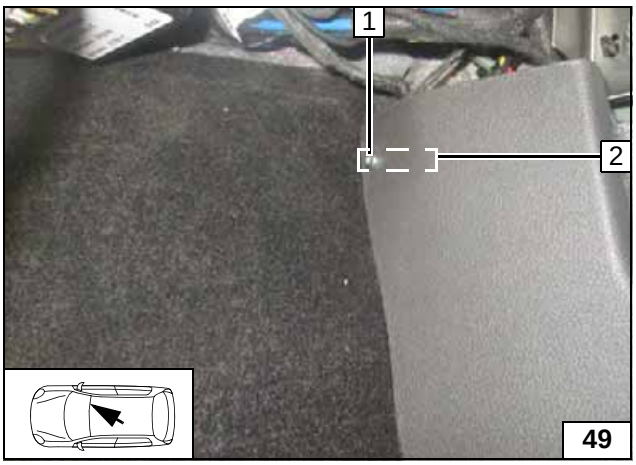
Routing wiring harness



Connection to OBD socket outlet connector **2**. Produce connection as shown in wiring diagram (crimp and shrink connector).

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

Connection of OBD socket outlet



Drill 6 mm dia. hole at position **1**.

1 M5x12 bolt, flanged nut
2 Position of temperature sensor is hidden

Installing temperature sensor

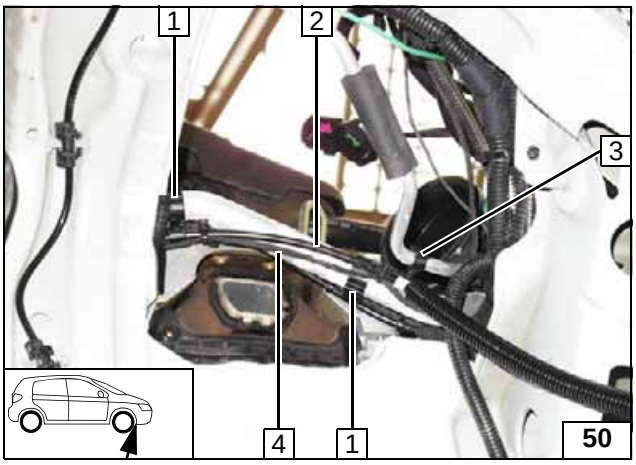
Fuel

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.

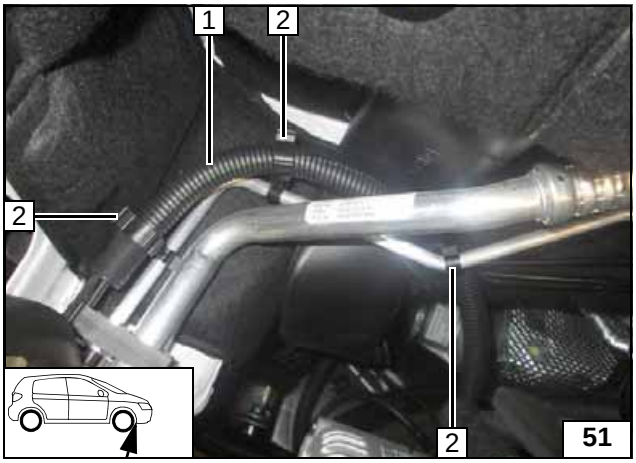
Route fuel line and metering pump wiring harness so that they are protected against stone impact.
Unless specified otherwise, always fasten using cable ties.
Provide rub protection for fuel line and wiring harness in areas where there are sharp edges.

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



1 5x20 hose bracket [2x] between air-conditioning line and fuel line
2 Fuel line
3 5x7 hose bracket between air-conditioning line and fuel line
4 Wiring harness of metering pump

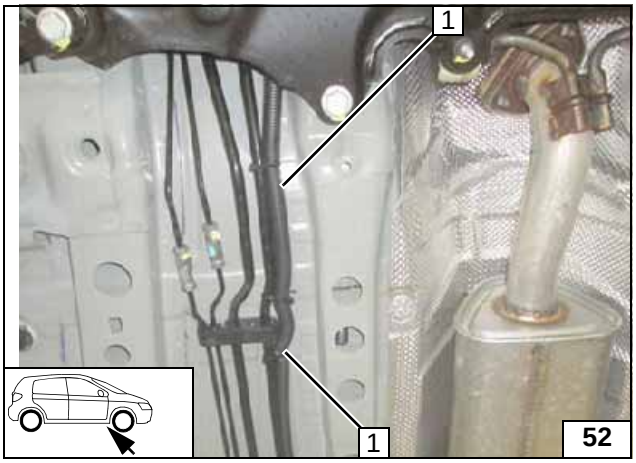
Routing lines



Pull wiring harness of metering pump and fuel line into corrugated tube.

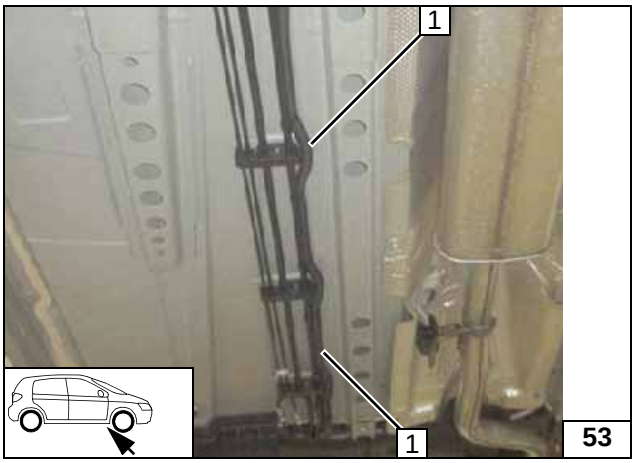
1 Corrugated tube with fuel line and wiring harness of metering pump
2 9x13 hose bracket [3x] between air-conditioning line and fuel line

Routing lines



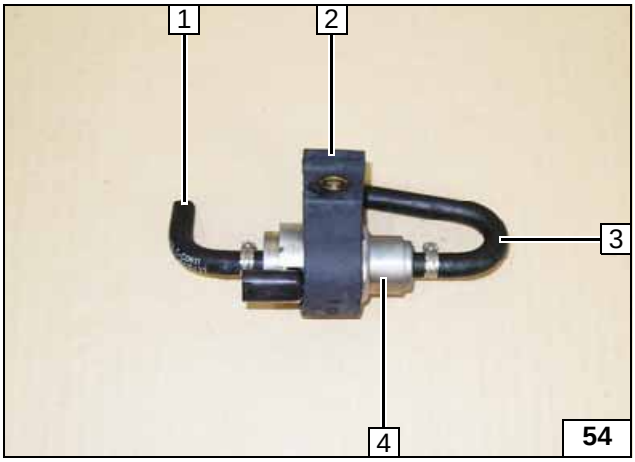
1 Wiring harness of metering pump and fuel line in corrugated tube attached to original vehicle fuel lines with cable ties

Routing lines



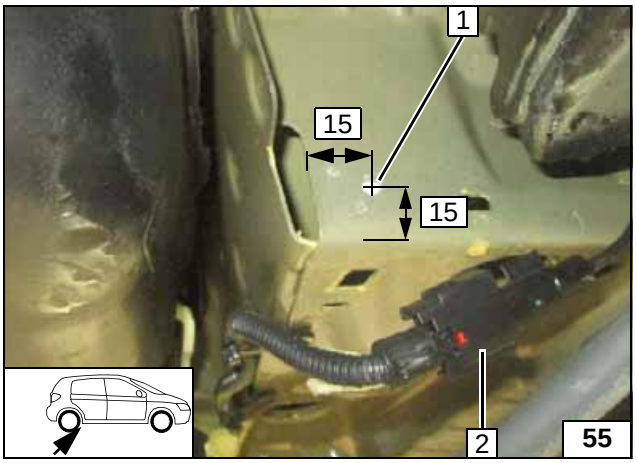
1 Wiring harness of metering pump and fuel line in corrugated tube attached to original vehicle fuel lines with cable ties

Routing lines



1 90° moulded hose, 10mm dia. clamp
2 Metering pump mount
3 Hose section, 10 mm dia. clamp
4 Metering pump

Premounting metering pump

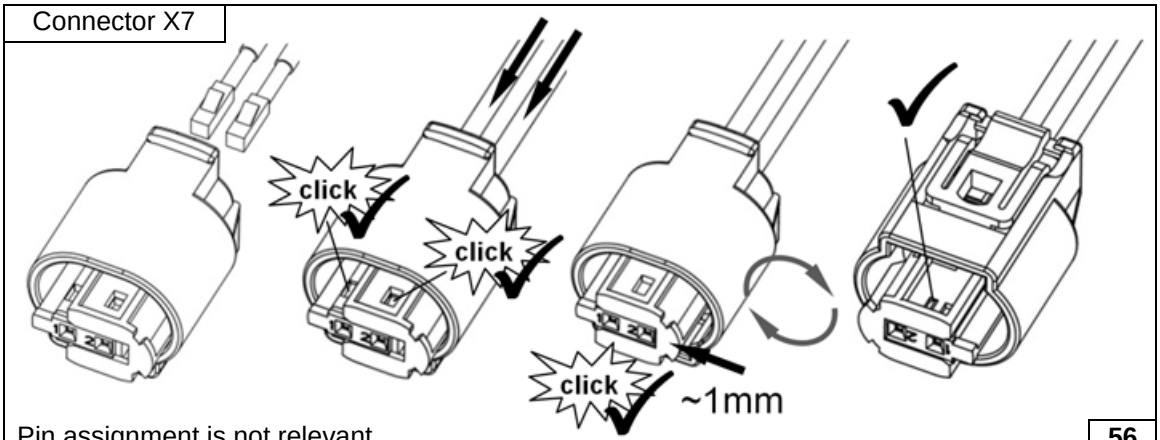


Unclip ABS connector **2**.

1 Copy hole pattern, drill 6.5 mm dia. hole

Preparing installation location of metering pump

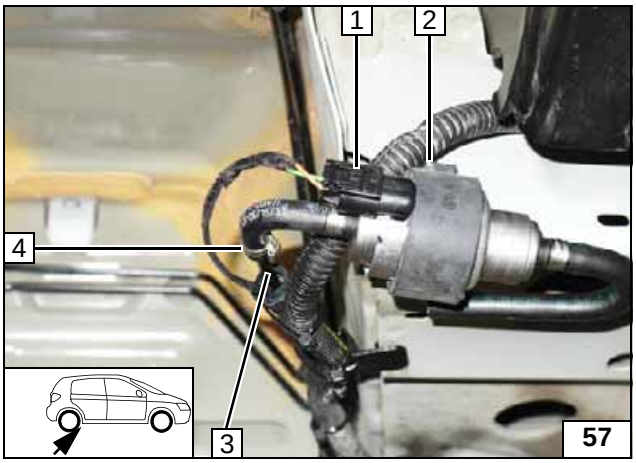
Connector X7



Pin assignment is not relevant.

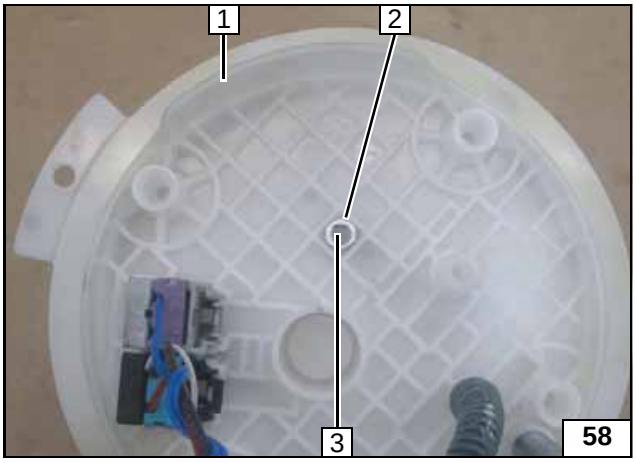
56

Completing metering pump connector



1 Wiring harness of metering pump, connector X7 mounted
2 M6x25 bolt, support angle bracket, flanged nut
3 Fuel line
4 10 mm dia. clamp

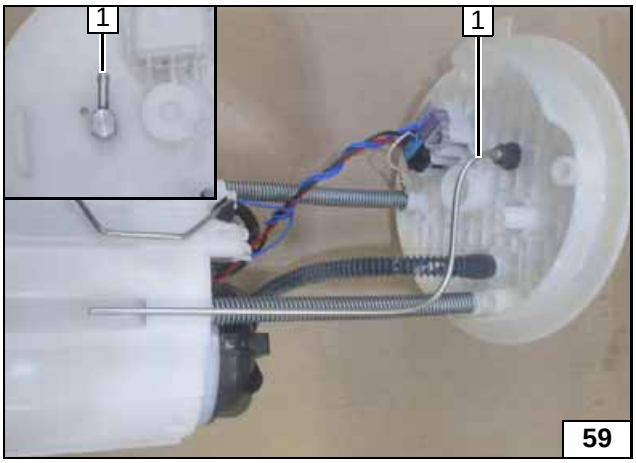
Installing metering pump



Remove and detach the fuel tank sending unit **1** in accordance with the manufacturer's instructions.
Figure shows petrol fuel tank sending unit

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

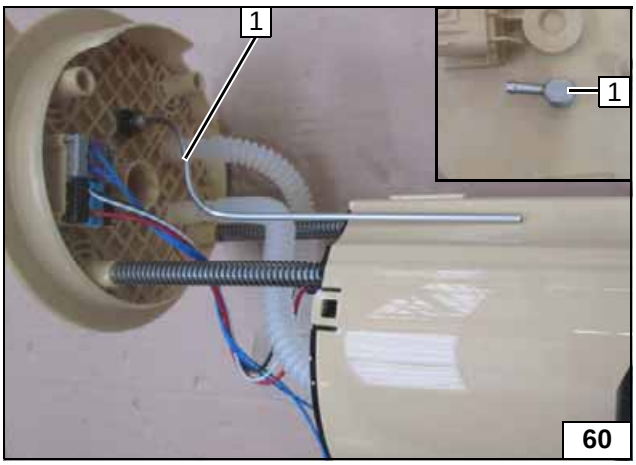
Fuel extraction



Petrol vehicles with engine codes: LE1 / LE2 / LV7 / LWC

Bend fuel standpipe **1** according to template and cut to length.

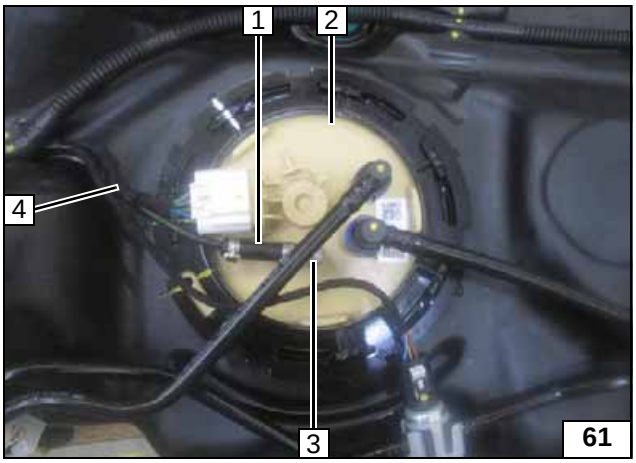
Installing fuel standpipe



Diesel vehicles with engine codes: LVK / LVL / LWQ

Bend fuel standpipe **1** according to template and cut to length.

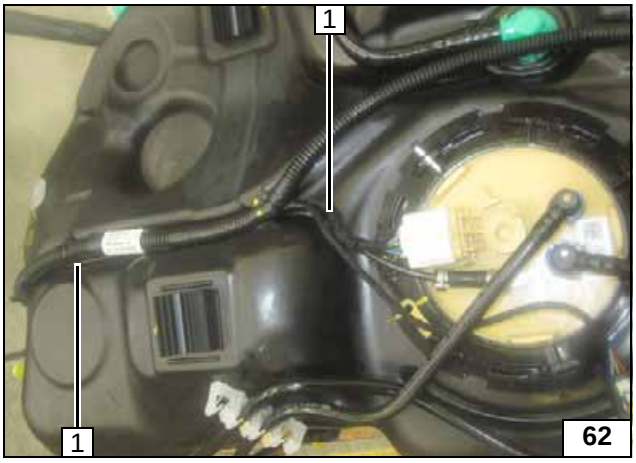
Installing fuel standpipe



Install fuel tank sending unit **2** according to manufacturer's instructions.

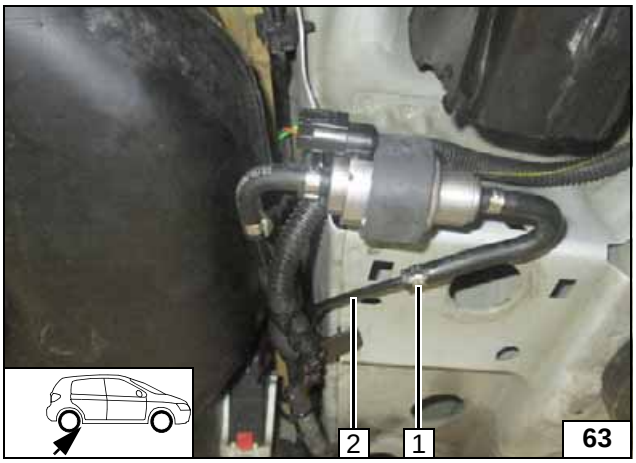
1 Hose section, 10 mm dia. clamp [2x]
3 Fuel standpipe
4 Fuel line

Connecting fuel line



1 Route fuel line along original vehicle wiring harness, fasten using cable ties

Routing lines



Install fuel tank in accordance with manufacturer's instructions. Ensure sufficient distance from neighbouring components, correct if necessary.

1 10 mm dia. clamp
2 Fuel line of fuel standpipe

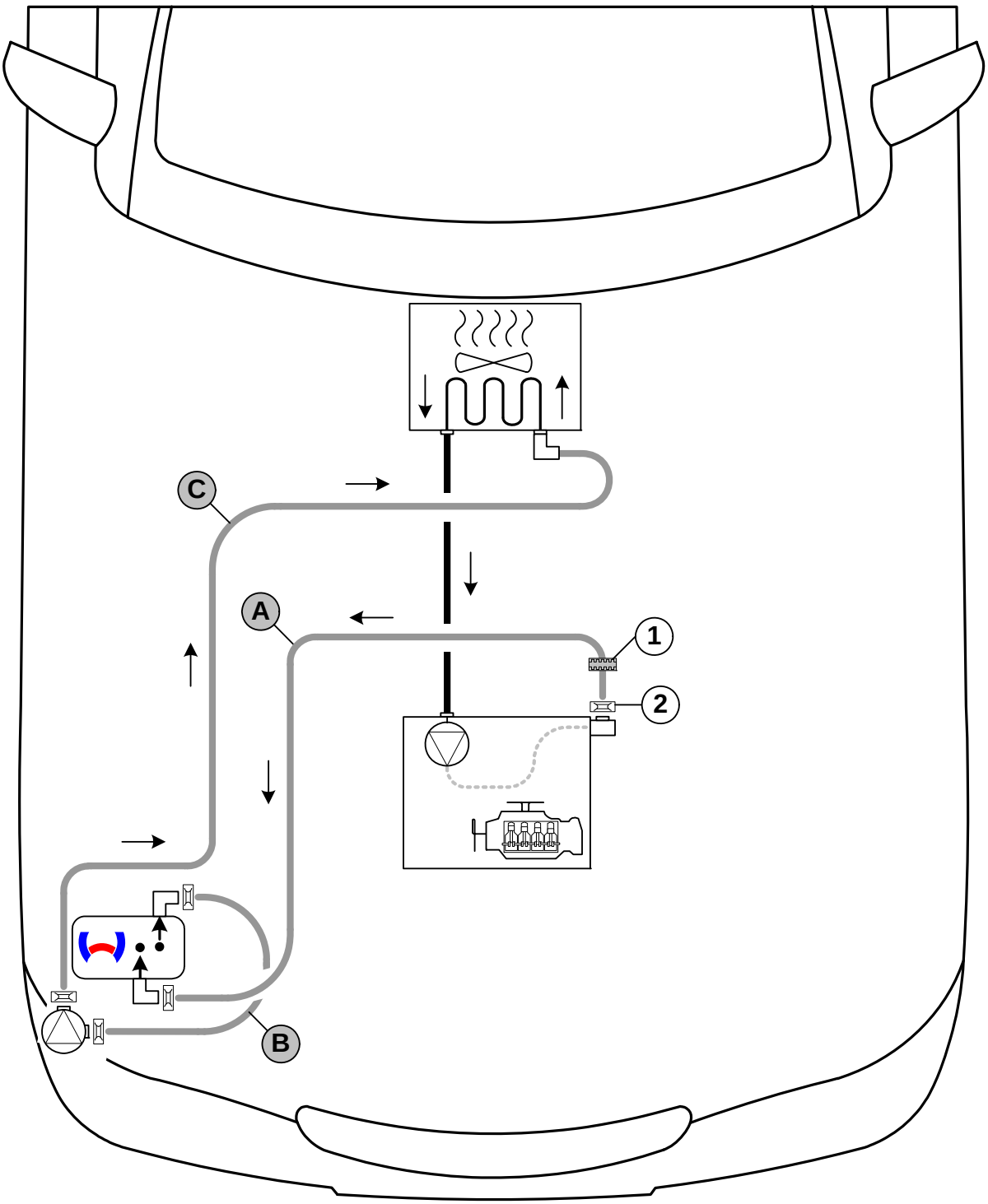
Connecting metering pump

Coolant Circuit/ Petrol/ Engine Codes: LE1/ LE2/ LV7

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

The connection should be modelled on an ‘inline’ circuit and based on the following diagram:

Hose routing diagram



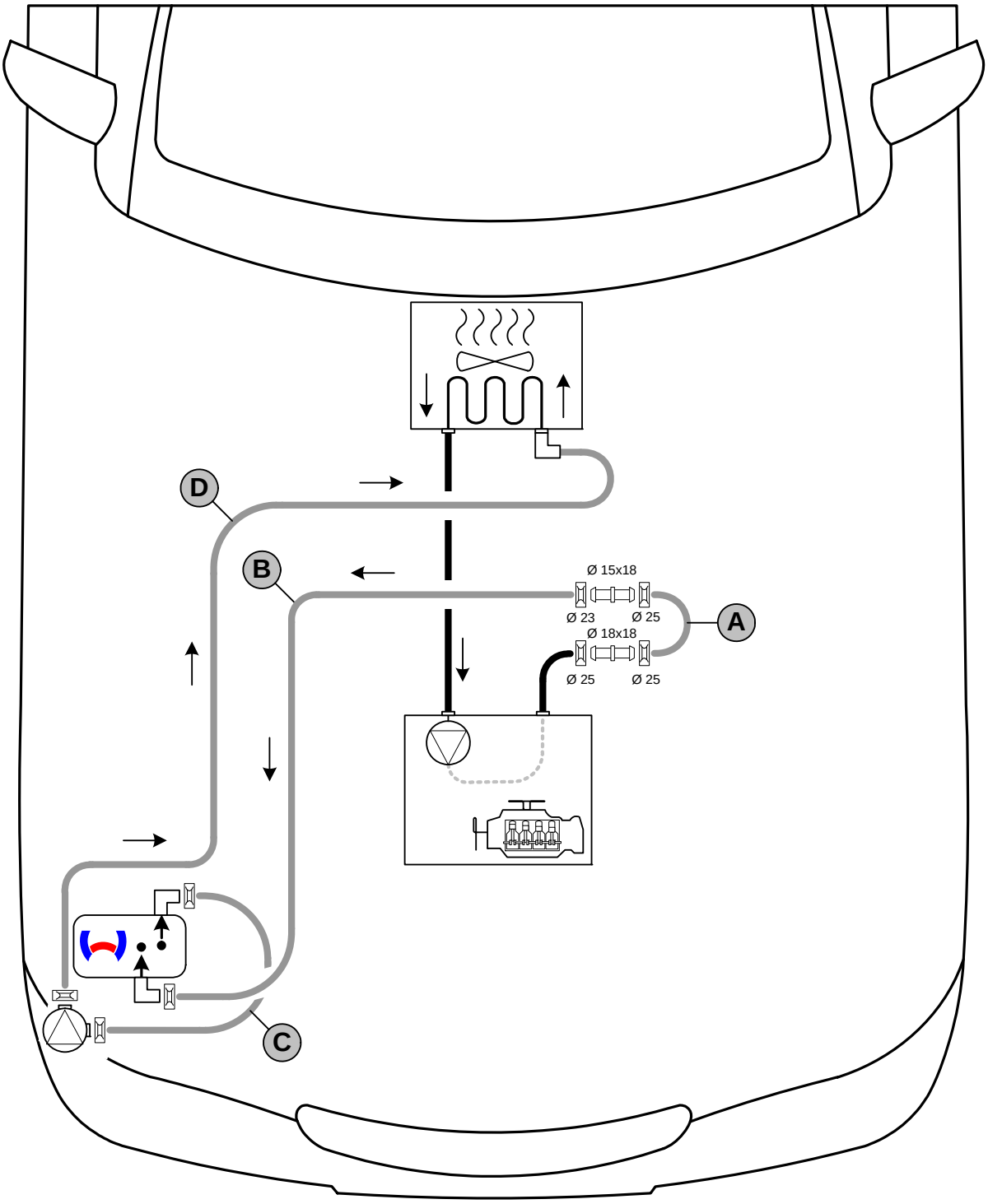
All spring clips without a specific designation = 27 mm dia.
1 = Black (sw) rubber isolator
2 = Original vehicle spring clip.

Coolant Circuit/ Diesel/ Engine Codes: LVK/ LVL/ LWQ

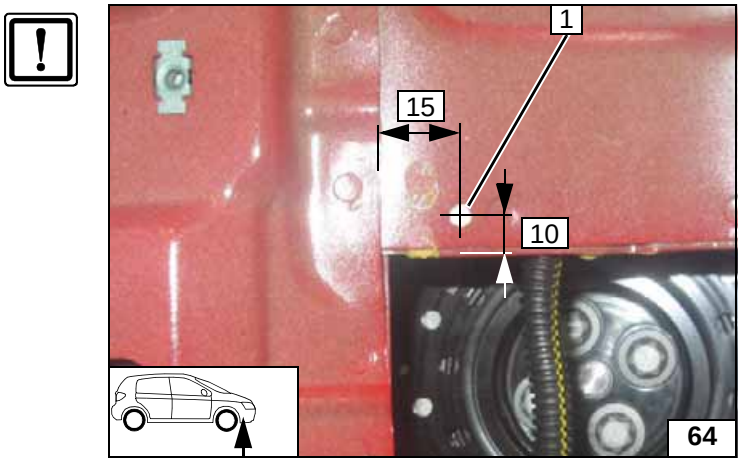
Any coolant running off should be collected in an appropriate container. Route hoses kink-free. Unless specified otherwise, always fasten using cable ties. Position clamps so that other hoses cannot be damaged. The heater must be filled with coolant when installing the hoses.

The connection should be modelled on an ‘inline’ circuit and based on the following diagram:

Hose routing diagram



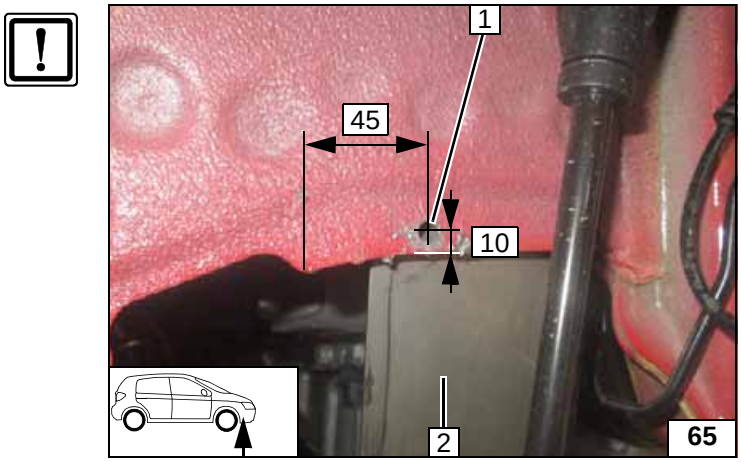
All spring clips without a specific designation = 27 mm dia.



Preliminary Work

1 Copy hole pattern, 6.5 mm dia. hole

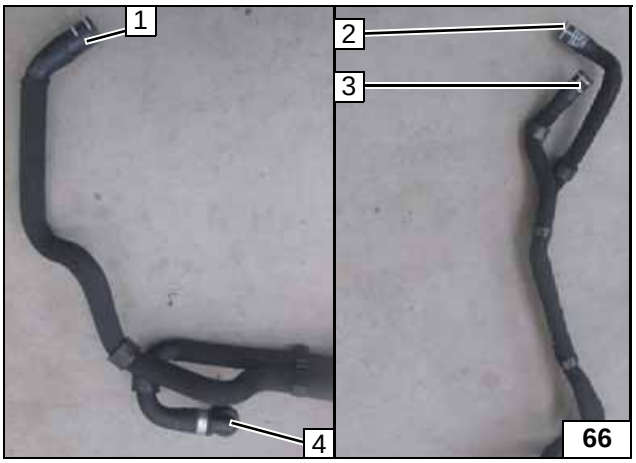
Hole for hose bracket



When drilling, watch out for components located behind. Hold a sheet of metal between the frame side member and the brake lines!

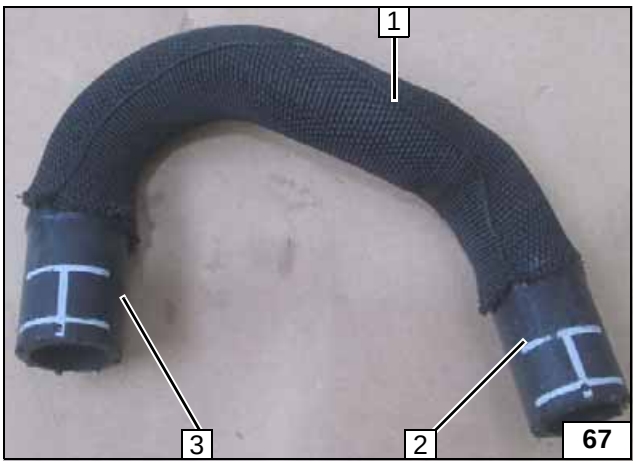
1 Copy hole pattern, 6.5 mm dia. hole

Hole for hose bracket



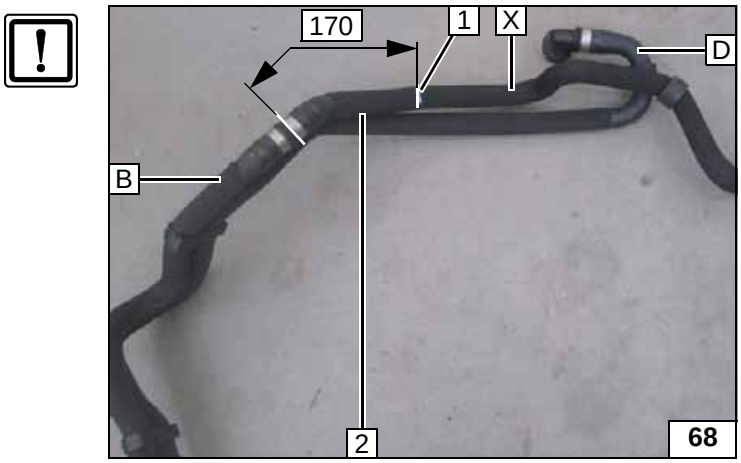
1 Hose A=Petrol, B=Diesel, engine outlet connection
2 Hose C=Petrol, D=Diesel, circulating pump outlet connection
3 Hose A=Petrol, B=Diesel, heater inlet connection
4 Hose C=Petrol, D=Diesel, heat exchanger inlet connection

Hose group



1 180° moulded hose B=Petrol, C=Diesel
2 Circulating pump inlet connection
3 Heater outlet connection

Moulded hose B / C

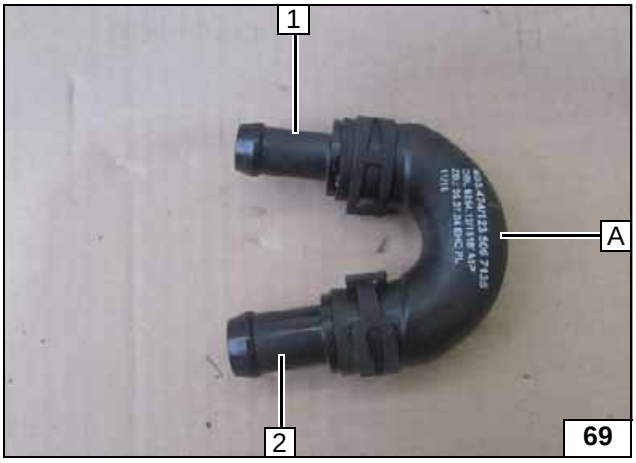


Only Diesel Vehicles with Engine Codes: LVK / LVL / LWQ

Discard section **X**.

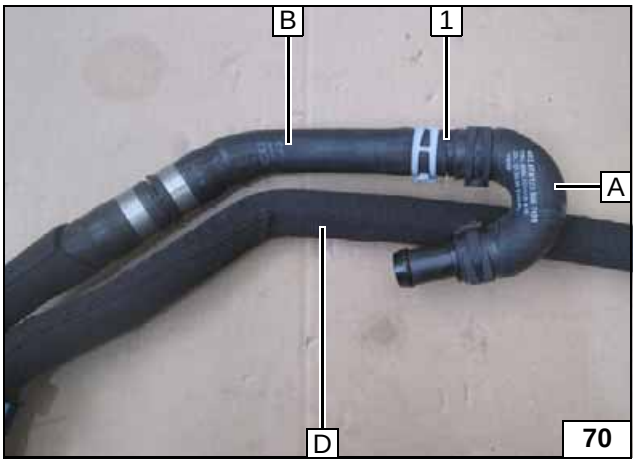
1 Cutting point
2 Remove rub protection

Preparing hose group



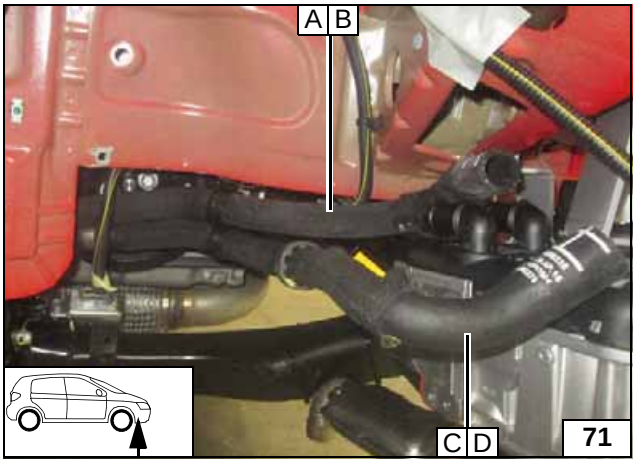
1 15x18 connecting pipe, 18mm dia. connection piece in hose **A**
2 18x18 connecting pipe

Premounting hose A



1 Hose **A** with 15mm dia. connection piece in hose **B**

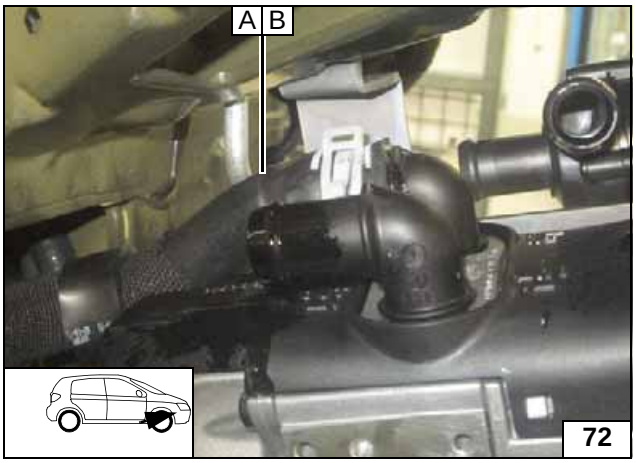
Connecting hoses A and B



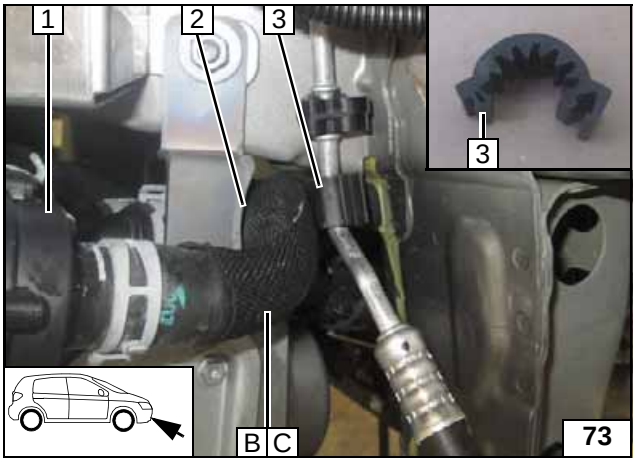
All vehicles

Route hose group along frame side member in the engine compartment

Routing hose group



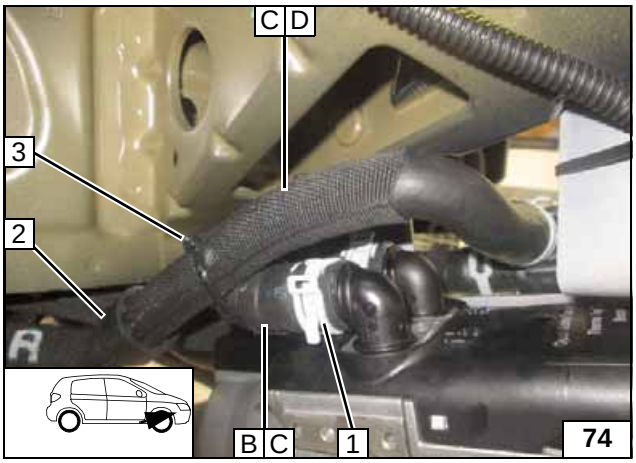
Connecting heater inlet



Install moulded hose B/C with le long side on circulating pump **1** and route around strut of heater bracket **2** to connection piece of heater outlet.

3 Install spacer bracket

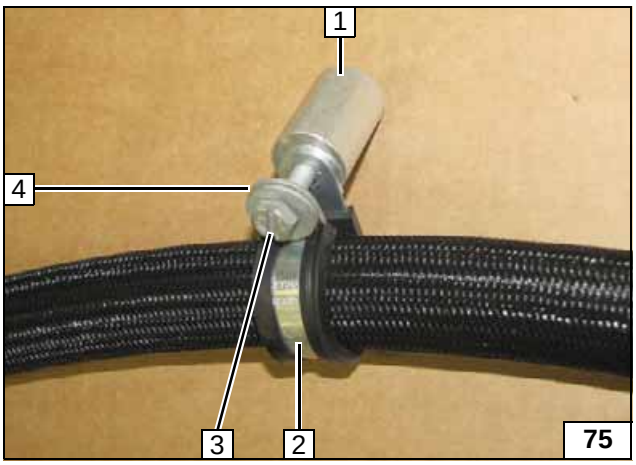
Connecting circulating pump



Install spring clip **1** as shown

2 Position black (sw) rubber isolator at the edge
3 Cable tie

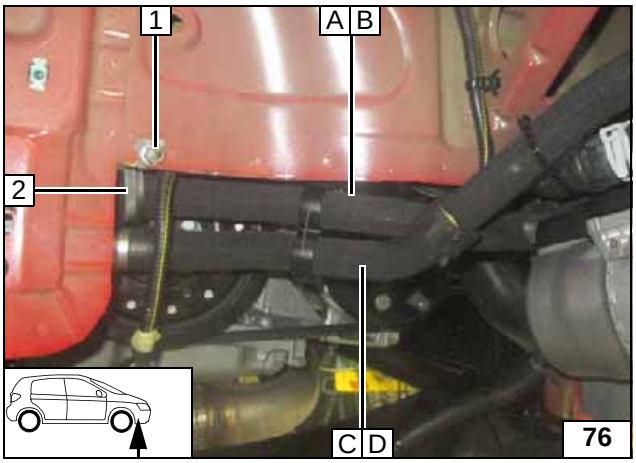
Connecting circulating pump / heater



Installation info for next figure.

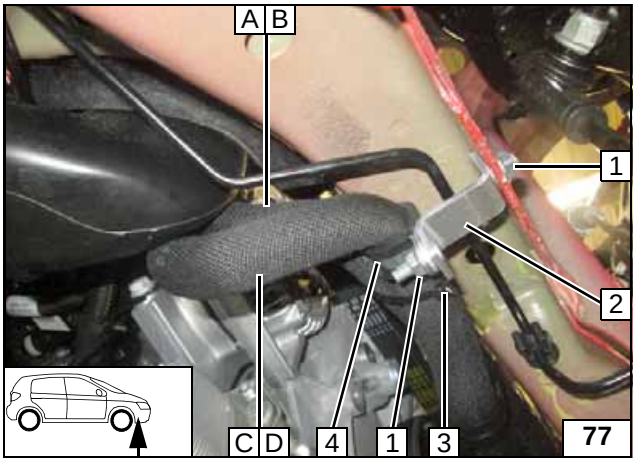
1 30 mm spacer
2 25 mm rubber-coated p-clamp
3 M6x50 bolt
4 Large diameter washer [2x]

Installing rubber-coated pipe clamp



1 Flanged nut
2 25 mm rubber-coated p-clamp (see previous figure)

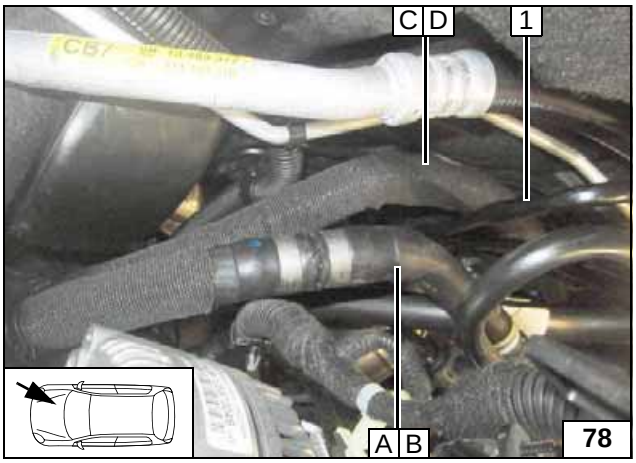
Routing in engine compartment



Route hoses **A/B** and **C/D** between frame side member and engine to firewall.

1 M6 flanged nut [2x]
2 Hose bracket
3 Cable tie
4 25 mm dia. rubber-coated p-clamp

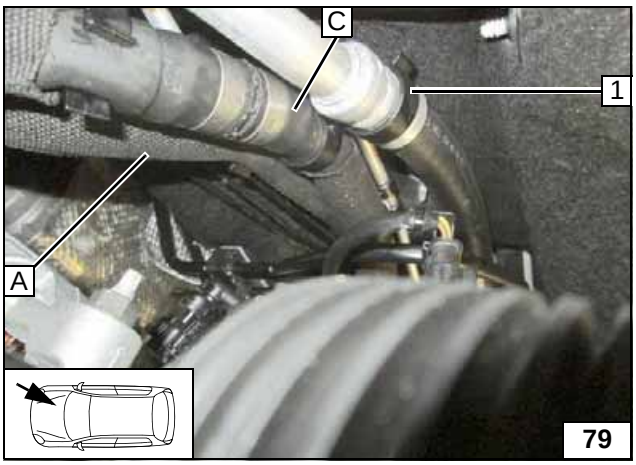
Routing in engine compartment



Engine code: LE1 / LE2 / LVK / LVL / LWQ

Route hose **C/D** under the A/C lines and behind the original vehicle fuel lines **1**. Relocate hose **A/B** in front.

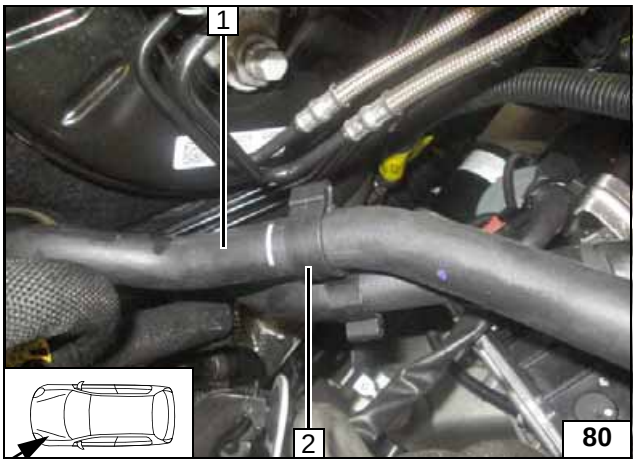
Routing in engine compartment



Engine code: LV7

Route hoses **A** and **C** under the A/C lines and behind the original vehicle fuel lines and secure using hose bracket **1**.

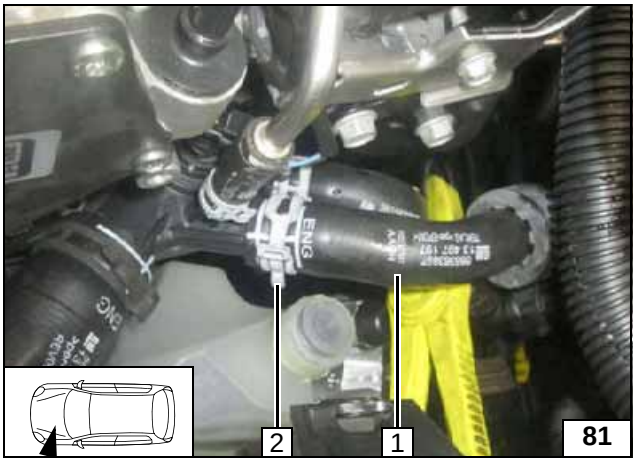
Routing in engine compartment



Petrol vehicles with engine codes: LE1 / LE2 / LV7

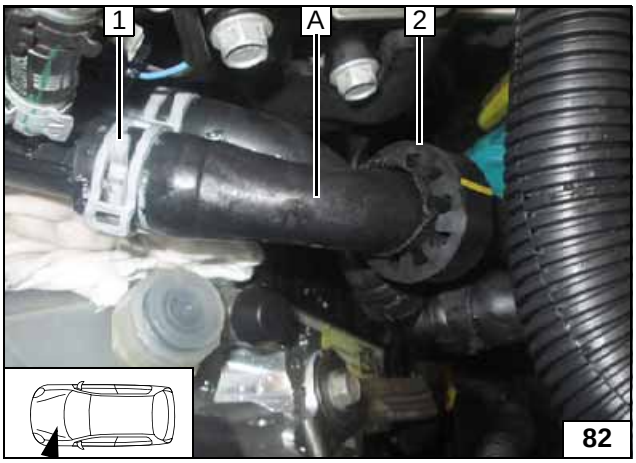
1 Hose of engine outlet / heat exchanger inlet
2 Disassemble hose bracket, will be reinstalled later

Removing hose bracket



Disassemble hose of engine outlet / heat exchanger inlet **1** and discard. Original vehicle spring clip **2** will be reused.

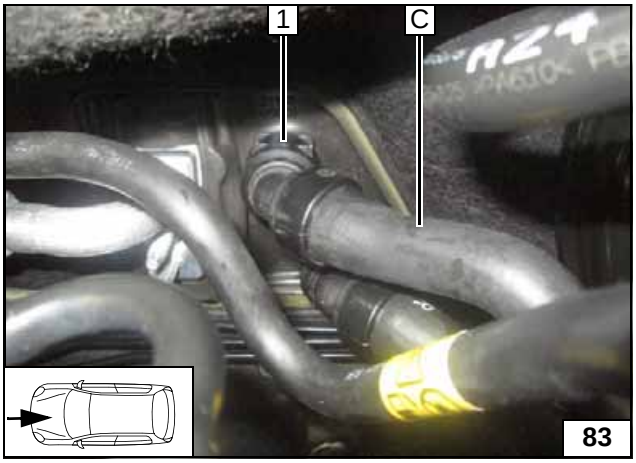
Cutting point



Slide on and position black (sw) rubber isolator **2** before installing hose **A**.

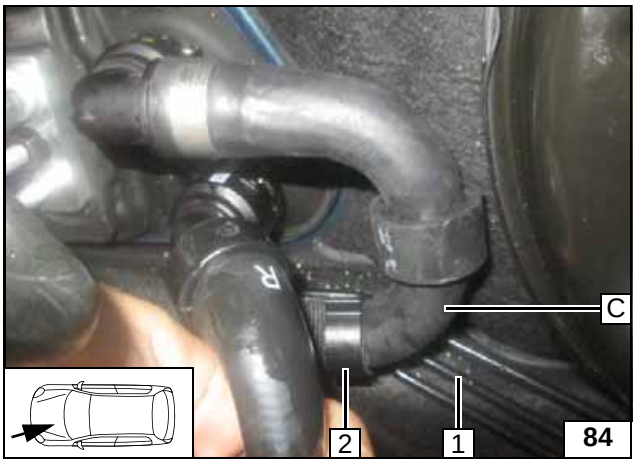
1 Original vehicle spring clip

Connecting engine outlet



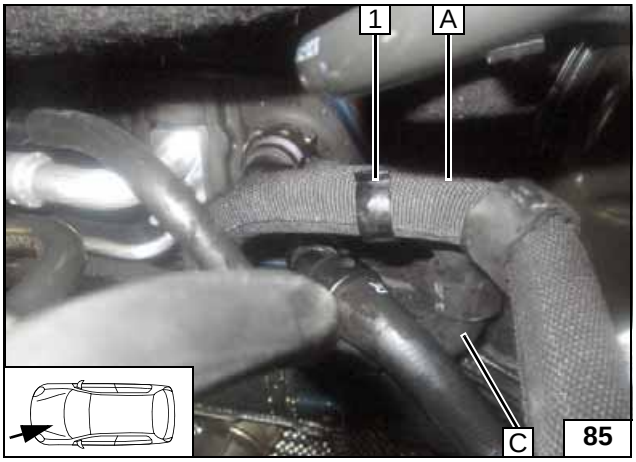
1 Coupling of hose C on heat exchanger inlet

Connecting heat exchanger inlet



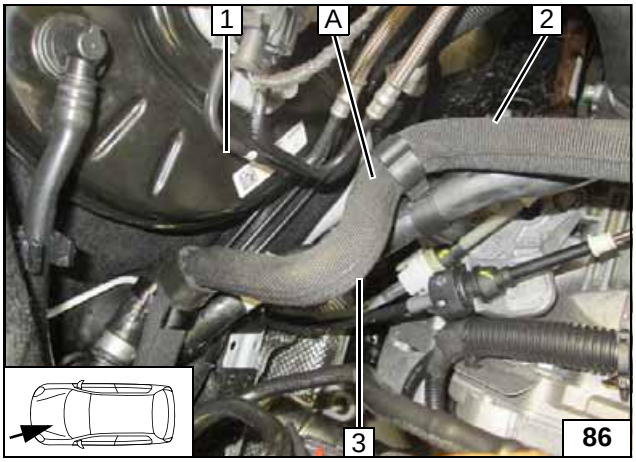
1 Brake line
2 20x5mm dia. hose bracket between hose **C** and brake line

Routing



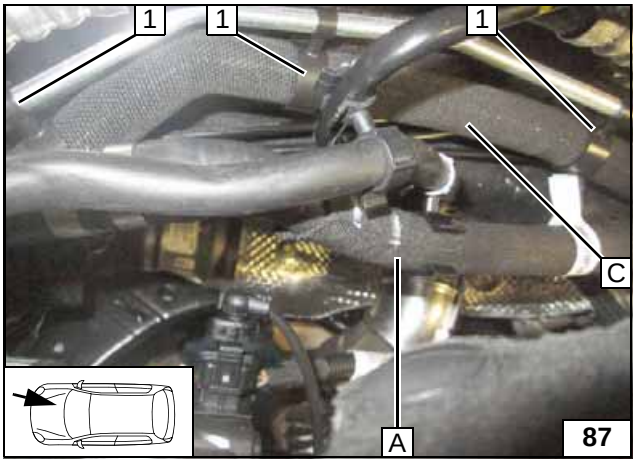
1 25x25mm dia. hose bracket between hose **A** and hose **C**

Routing



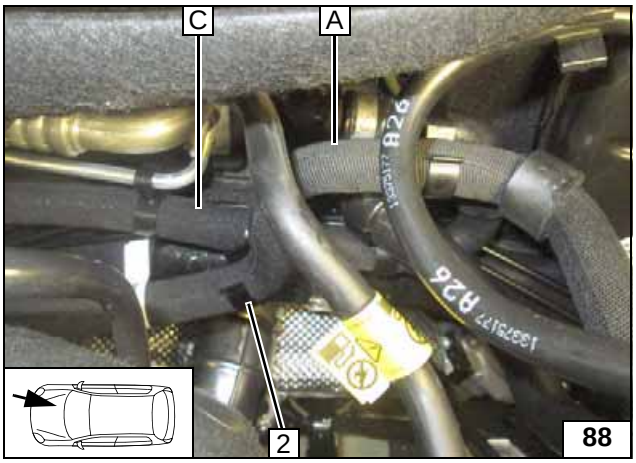
Install original vehicle hose bracket **3** between hose **A** and hose of heat exchanger outlet.
Ensure sufficient distance from brake lines **1** and from filling hose of expansion tank **2** (at least 20mm).

Routing



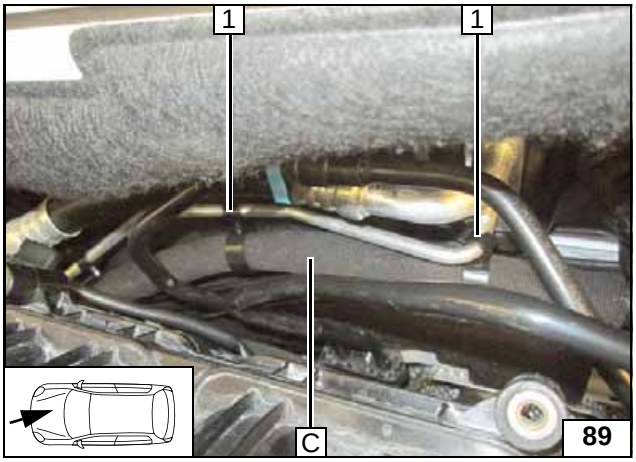
1 8x25mm dia. hose bracket between hose **C** and A/C line [3x]

Routing



1 25x25mm dia. hose bracket between hose **A** and hose **C**

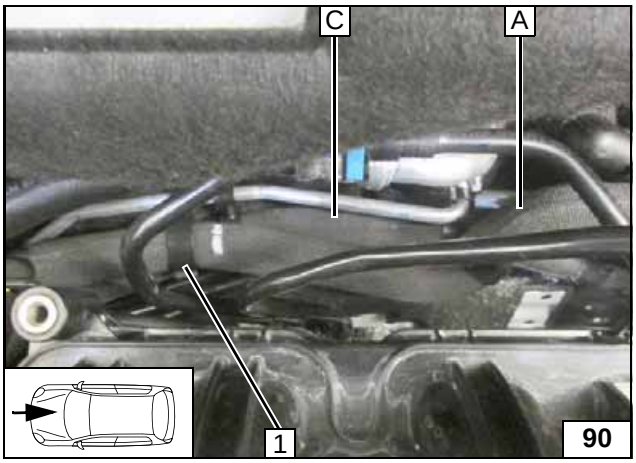
Routing



Engine code: LV7

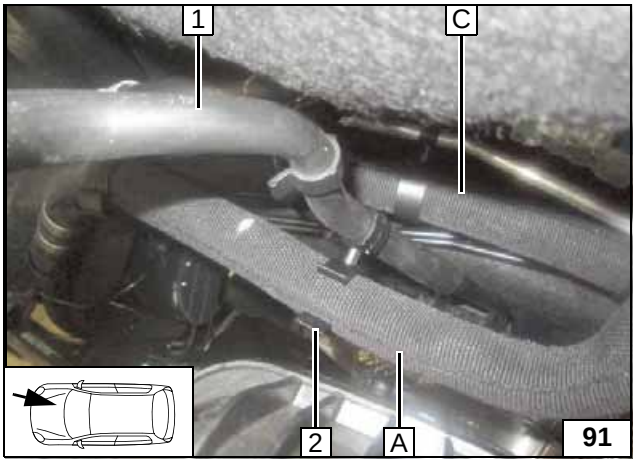
1 8x25mm dia. hose bracket between hose **C** and A/C line [2x]

Routing



1 25x25mm dia. hose bracket between hose **A** and hose **C**

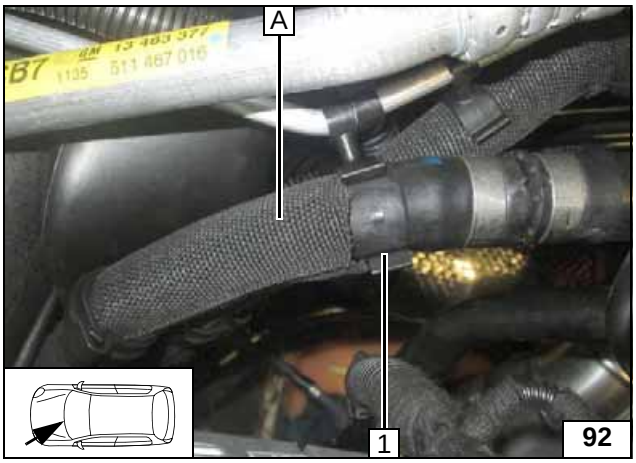
Routing



Engine code: LE1 / LE2 / LV7

1 Fuel line
2 14x25mm dia. hose bracket between hose **A** and fuel line

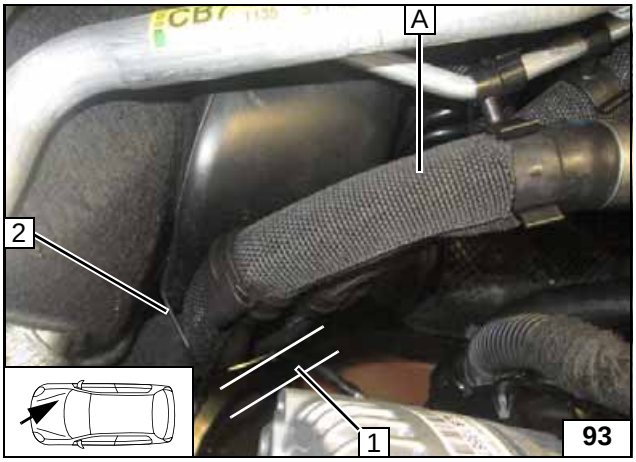
Routing



Engine code: LE1 / LE2

1 8.5x20mm dia. hose bracket between hose **A** and A/C line

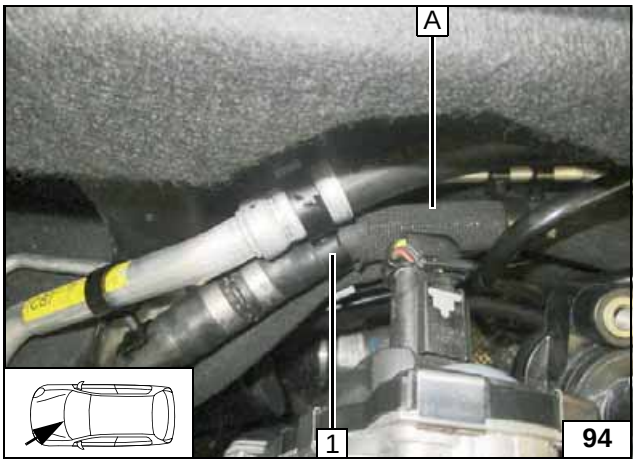
Routing



Ensure a distance of at least 20mm at position **1**.

2 Cable tie around hoses and water drainage channel

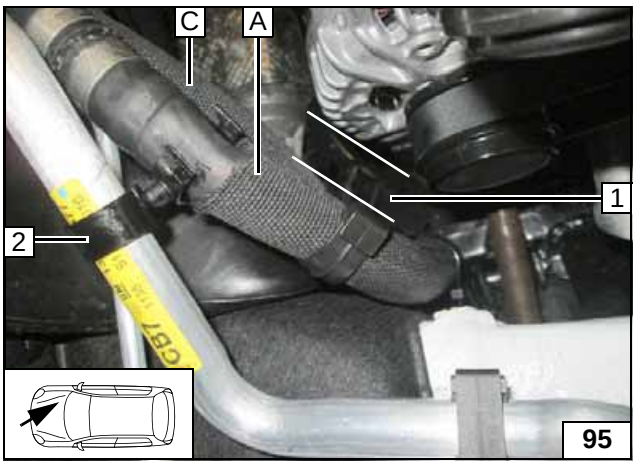
Installing cable tie



Engine code: LV7

1 25x25mm dia. hose bracket between hose **A** and A/C line

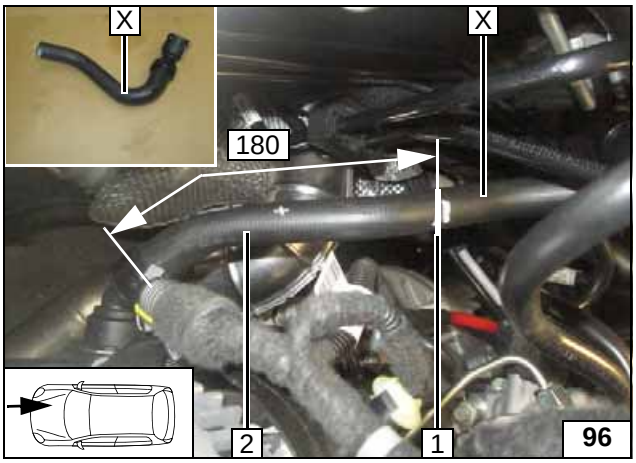
Routing



Ensure a distance of at least 20mm at position **1**.

2 20x25mm dia. hose bracket between hose **A** and A/C line

Installing cable tie

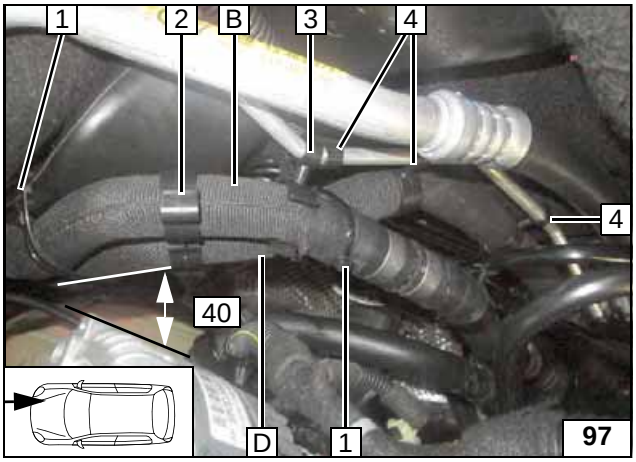


Diesel vehicles with engine codes: LVK / LVL / LWQ

Cut hose of engine outlet/heat exchanger inlet as shown. Detach section **X** on heat exchanger and discard.

1 Cutting point
2 Engine outlet hose section

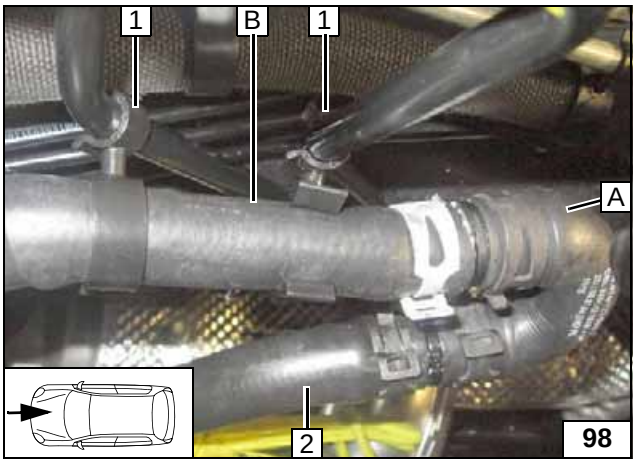
Cutting point



Ensure sufficient distance between alternator and hose group.

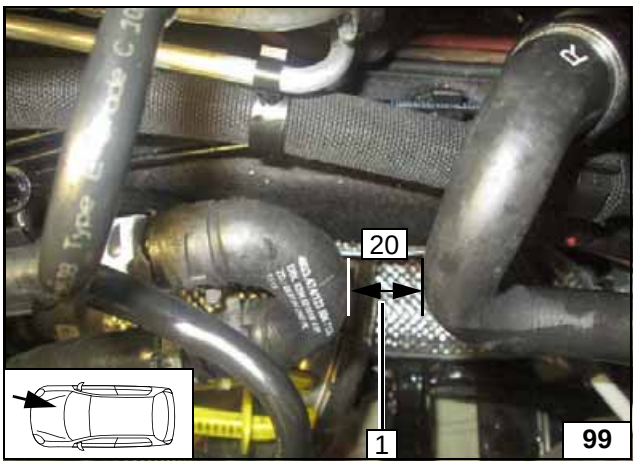
1 Cable tie [2x]
2 Align hose bracket
3 8.5x25mm dia. hose bracket between hose **B** and A/C line
4 8.5x25mm dia. hose bracket [3x] between hose **D** and A/C line

Routing



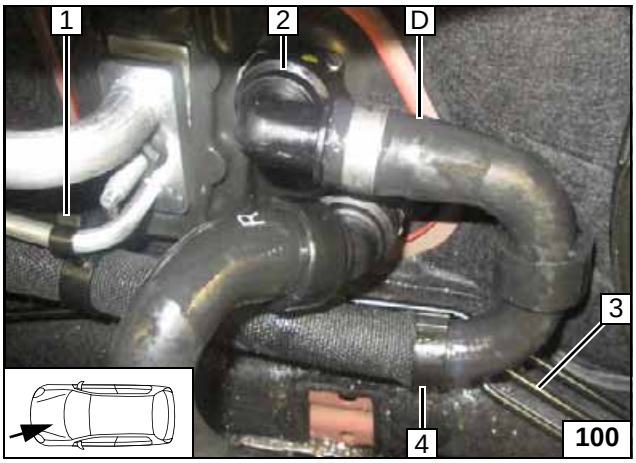
1 8x25mm dia. hose bracket between hose **B** and fuel line [2x]
2 Hose of engine outlet / heat exchanger inlet

Connecting engine outlet



Ensure sufficient distance at position **1**.

Routing



1 8.5x20mm dia. hose bracket between hose **D** and A/C line
2 Coupling of hose D on heat exchanger inlet
3 Brake line
4 5x25mm dia. hose bracket between hose **D** and brake line

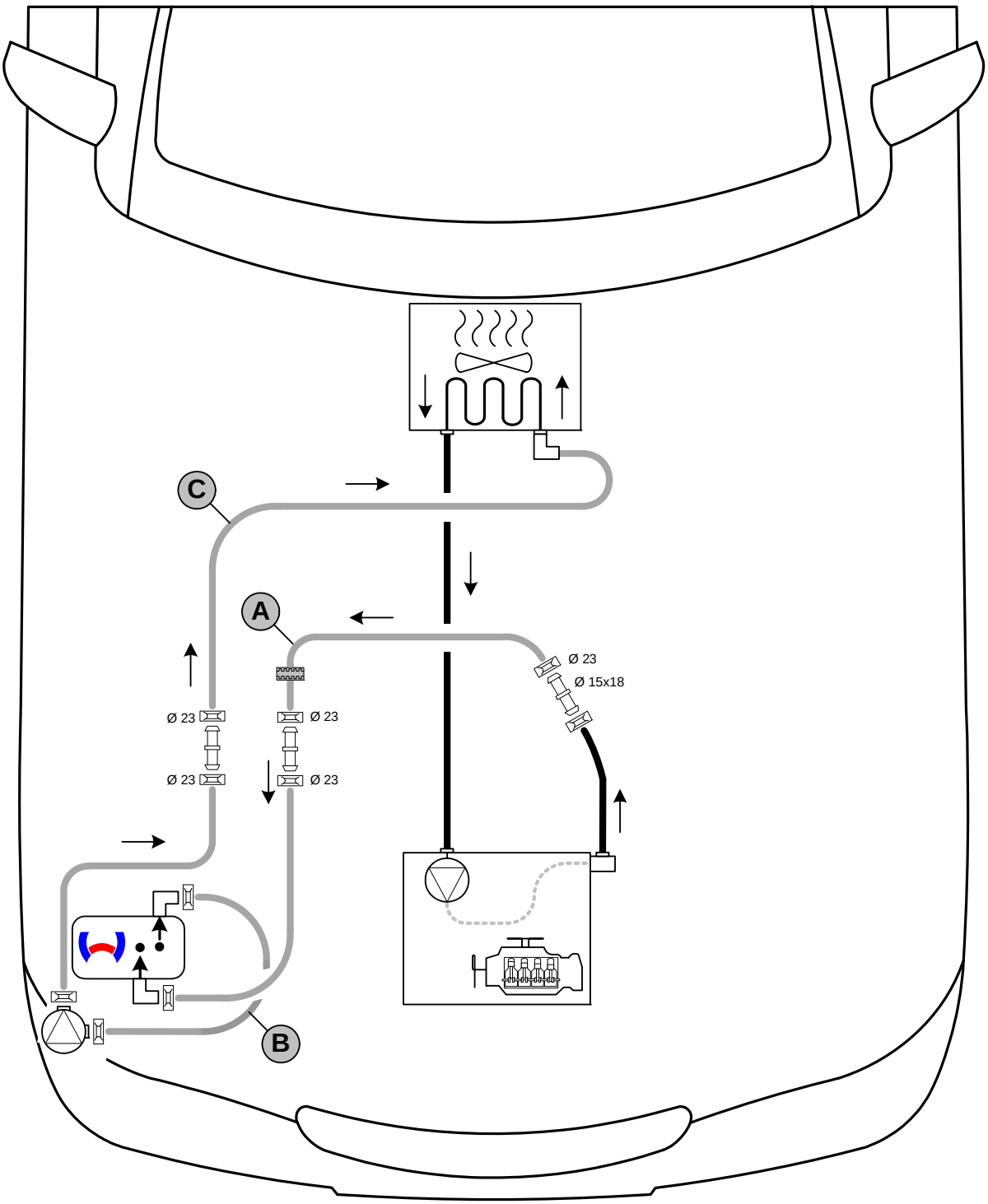
Connecting heat exchanger inlet

Coolant Circuit/ Petrol/ Engine Codes: LWC

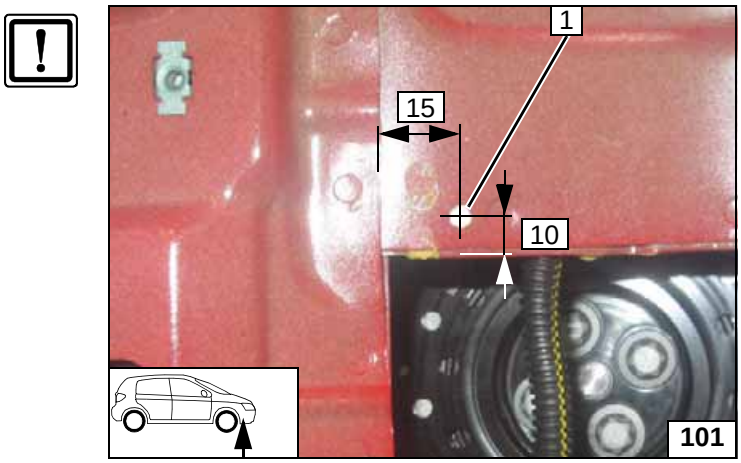
Any coolant running off should be collected in an appropriate container. Route hoses kink-free. Unless specified otherwise, always fasten using cable ties. Position clamps so that other hoses cannot be damaged. The heater must be filled with coolant when installing the hoses.

The connection should be modelled on an ‘inline’ circuit and based on the following diagram:

Hose routing diagram



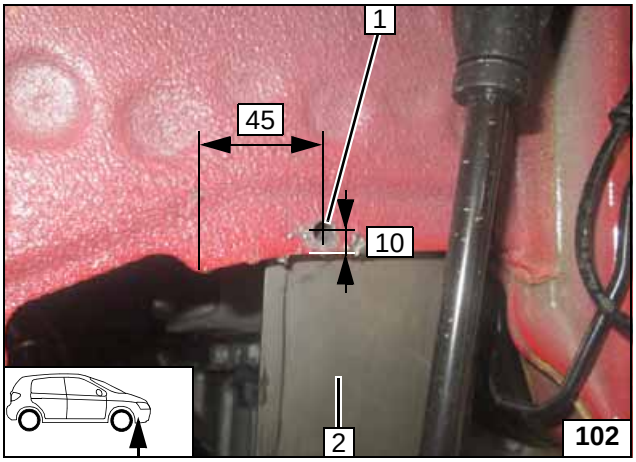
All spring clips without a specific designation = 25 mm dia.
All connecting pipes without a specific designation = 15x15
1 = Black (sw) rubber isolator



Preliminary Work

1 Copy hole pattern, 6.5 mm dia. hole

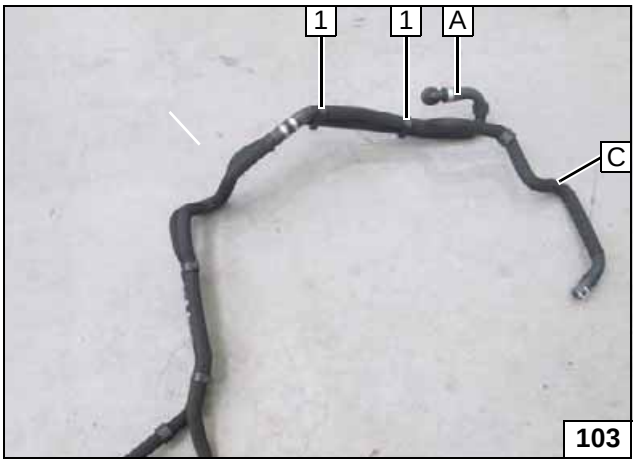
Hole for hose bracket



When drilling, watch out for components located behind. Hold a sheet of metal between the frame side member and the brake lines!

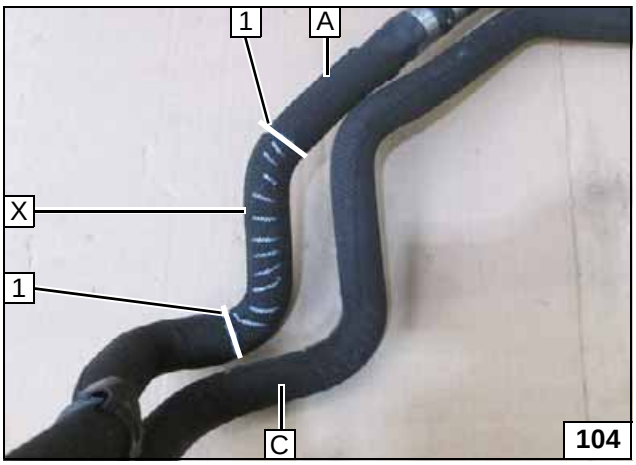
1 Copy hole pattern, 6.5 mm dia. hole

Hole for hose bracket



1 Remove hose bracket [2x]

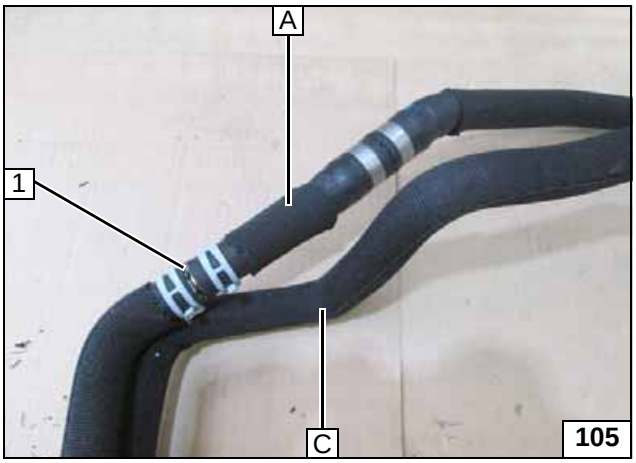
Preparing hose group



Remove an approx. 20mm wide section of braided protection from hose **A** at both cutting points **1**.

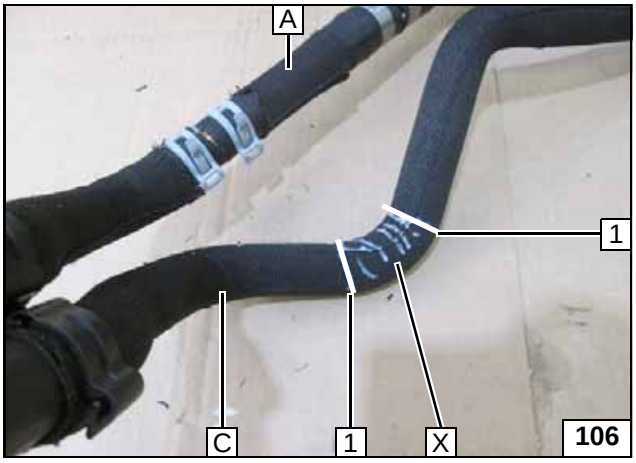
Discard section **X**.

Preparing hose A



1 15x15mm connecting pipe, 23mm spring clip [2x]

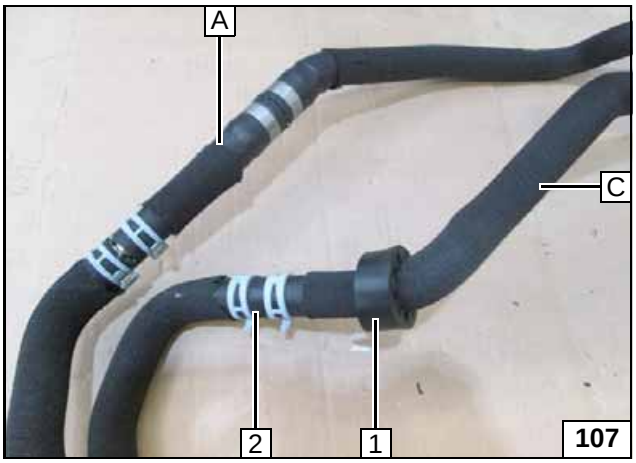
Premounting hose A



Remove an approx. 20mm wide section of braided protection from hose **C** at both cutting points **1**.

Discard section **X**.

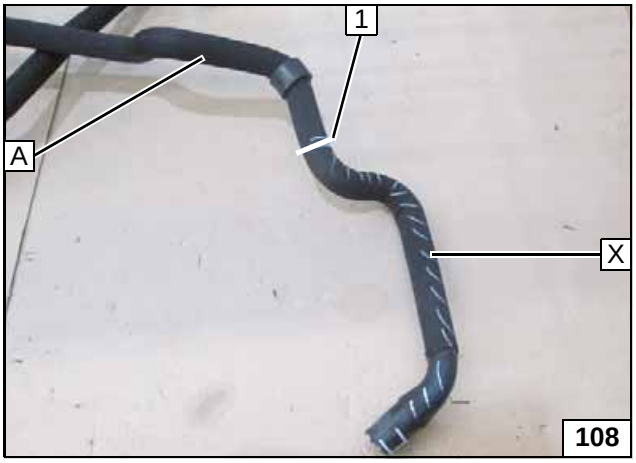
Preparing hose C



Slide on black (sw) rubber isolator **1** before the connection!

2 15x15mm connecting pipe, 23mm spring clip [2x]

Premounting hose C



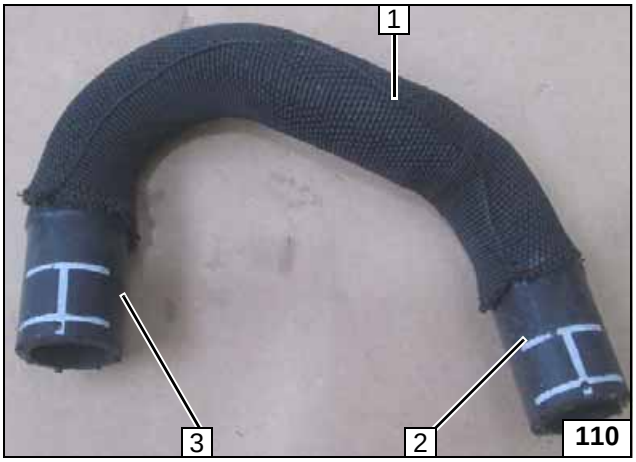
Remove an approx. 20mm wide section of braided protection from hose **A** at cutting point **1**.

Discard section **X**.

Preparing hose A

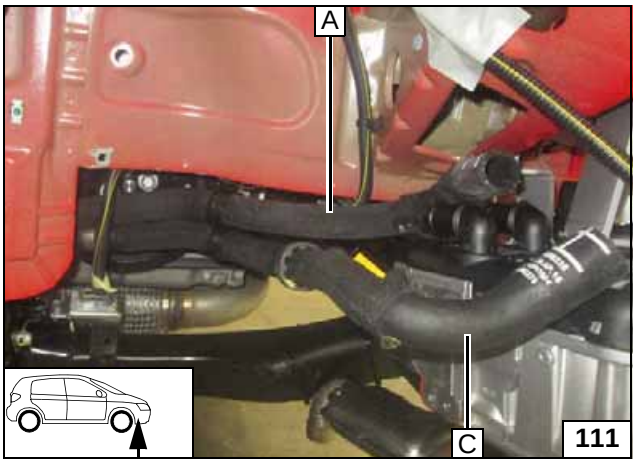
1 23mm spring clip
2 15x18 connecting pipe

Premounting hose A



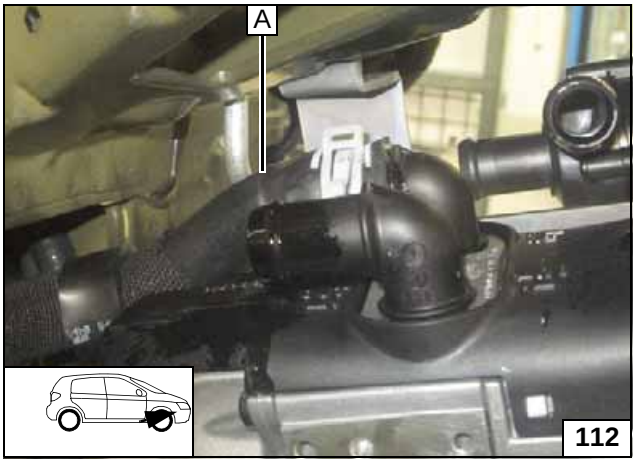
1 180° moulded hose B=Petrol, C=Diesel
2 Circulating pump inlet connection
3 Heater outlet connection

Moulded hose B / C

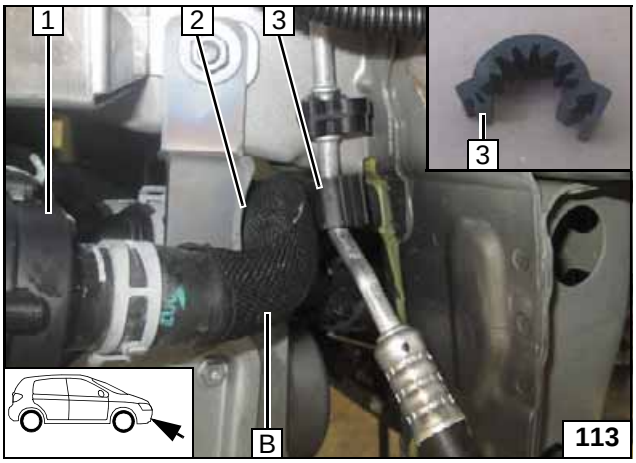


Route hose group along frame side member in the engine compartment

Routing hose group



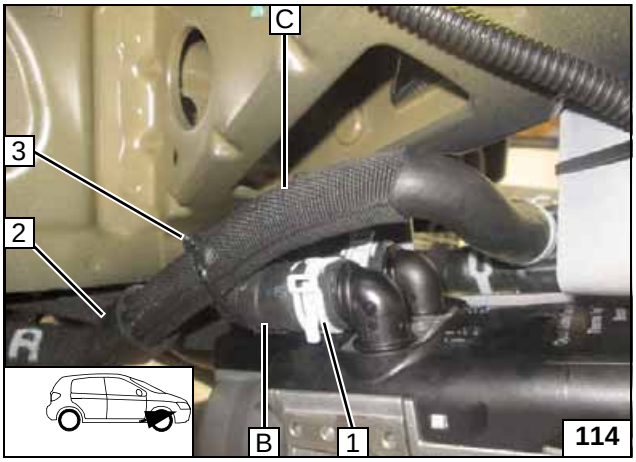
Connecting heater inlet



Install moulded hose B/C with le long side on circulating pump **1** and route around strut of heater bracket **2** to connection piece of heater outlet.

3 Install spacer bracket

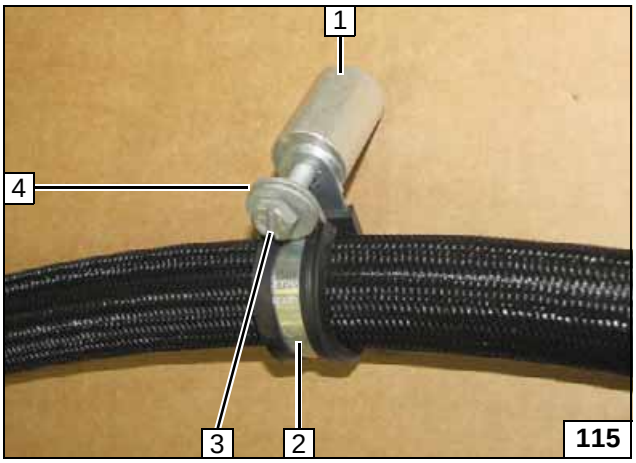
Connecting circulating pump



Install spring clip **1** as shown

2 Position black (sw) rubber isolator at the edge
3 Cable tie

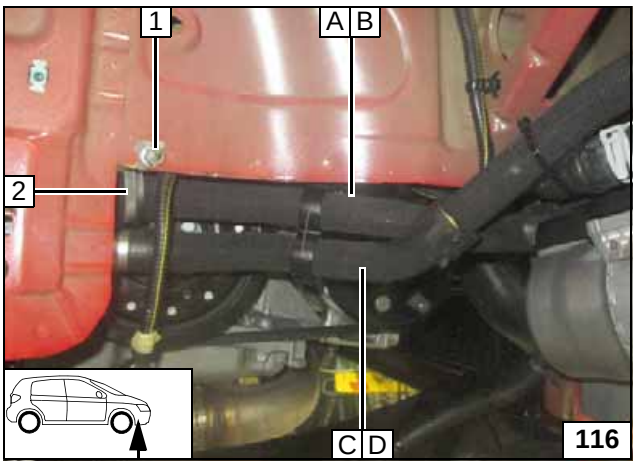
Connecting circulating pump / heater



Installation info for next figure.

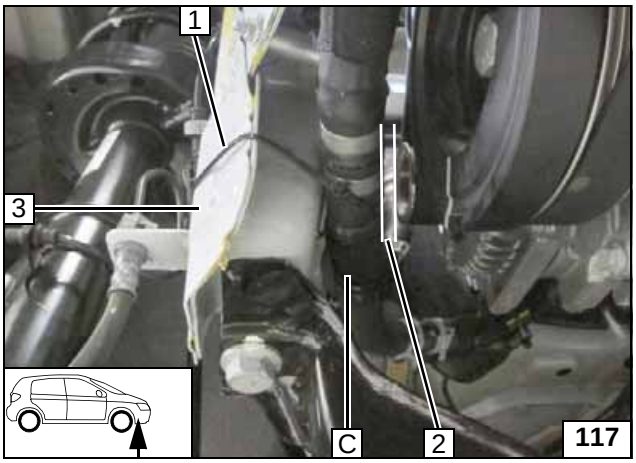
1 30 mm spacer
2 25 mm rubber-coated p-clamp
3 M6x50 bolt
4 Large diameter washer [2x]

Installing rubber-coated pipe clamp



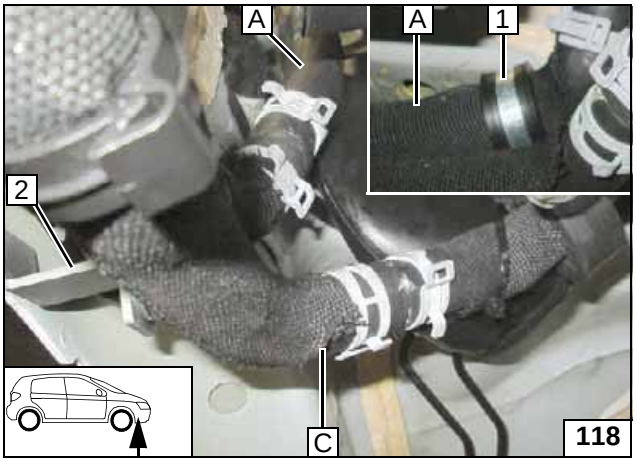
1 Flanged nut
2 25 mm rubber-coated p-clamp (see previous figure)

Routing in engine compartment



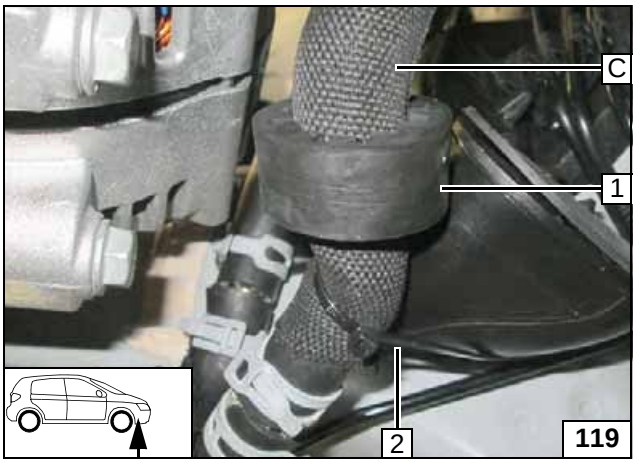
Fasten hose **A** and hose **C** with 2 cable ties **1** to body support **3**. Ensure a distance of at least 20mm at position **2**.

Routing in engine compartment



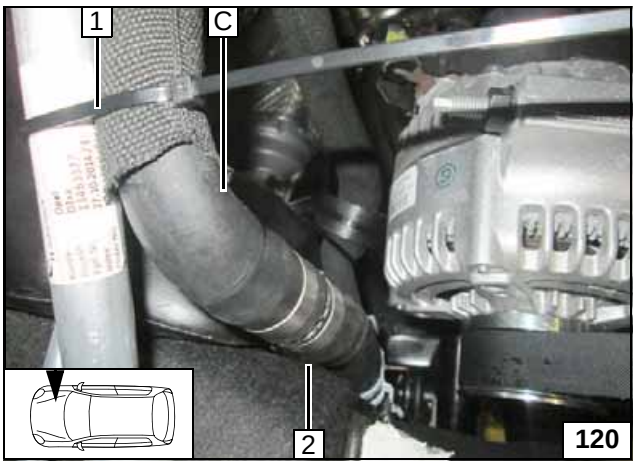
1 25mm dia. rubber-coated p-clamp, flanged nut, on Z bracket
2 Fasten Z bracket

Routing



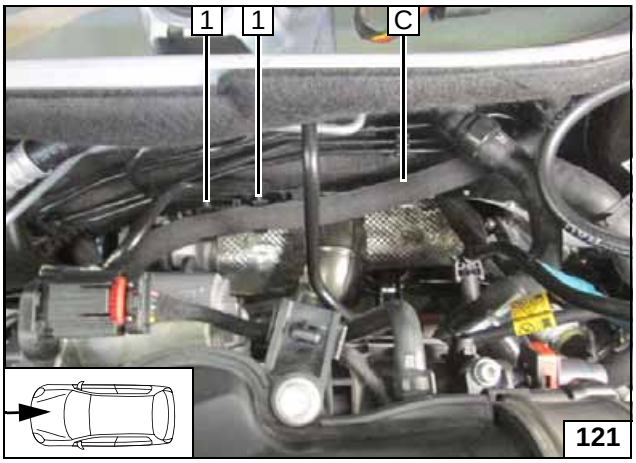
Position black (sw) rubber isolator **1** against the water drain (the cover must open)! Fasten hose **C** with cable tie **2** to coolant reservoir.

Routing in engine compartment



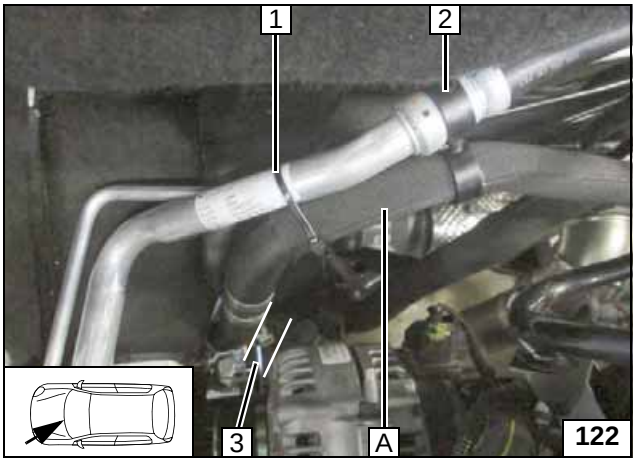
Place hose **C** at position **2** against the body and fasten using cable tie **1**.

Routing in engine compartment



1 8x25mm dia. hose bracket [2x] between hose **C** and fuel line

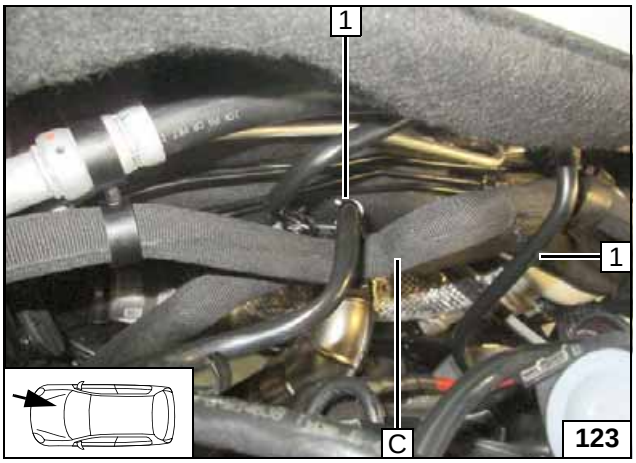
Routing



Ensure sufficient distance at position **3**.

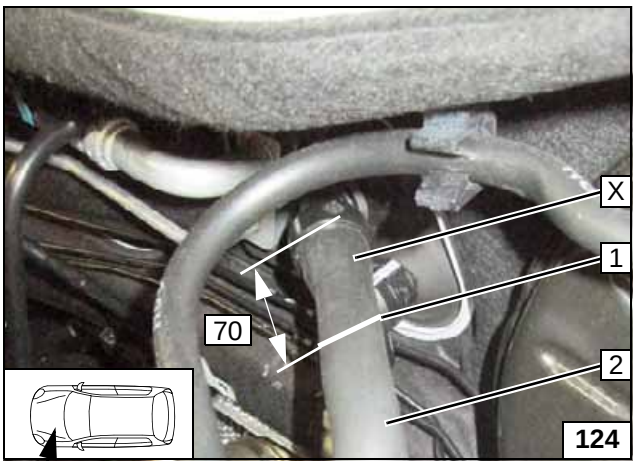
1 Cable tie
2 20x25mm dia. hose bracket between hose **A** and A/C line

Routing



1 8x25mm dia. hose bracket between hose **A** and fuel line [2x]

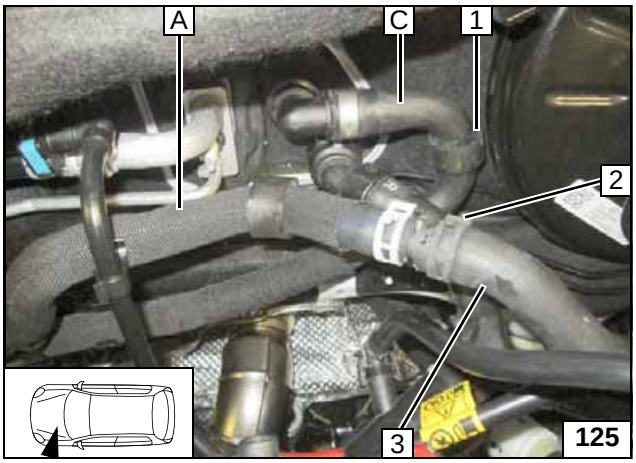
Routing



Remove and discard section **X**.

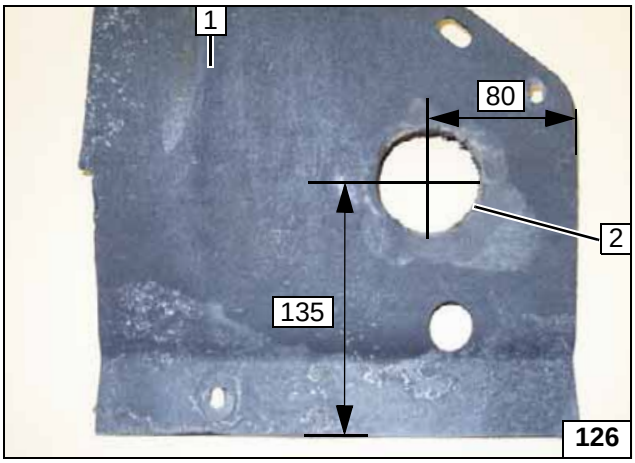
1 Cutting point
2 Hose of engine outlet / heat exchanger inlet

Cutting point



1 Align black (sw) rubber isolator with brake booster
2 25mm dia. spring clip
3 Engine outlet hose section

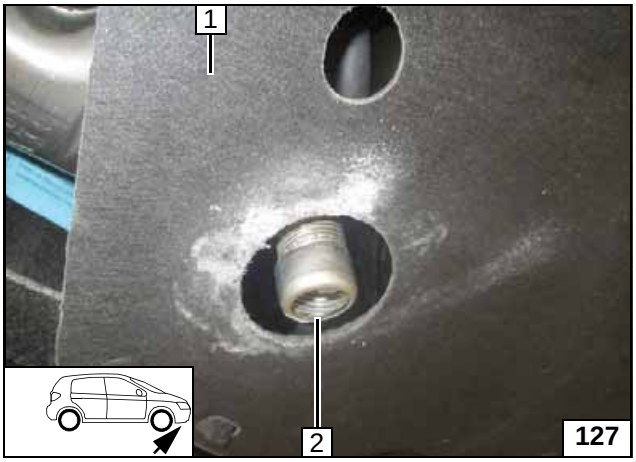
Connecting hoses A and C



Exhaust Gas

1 Underride protection
2 60 mm dia. hole

Cutting out underride protection



Install underride protection **1**. Align exhaust end section **2**.

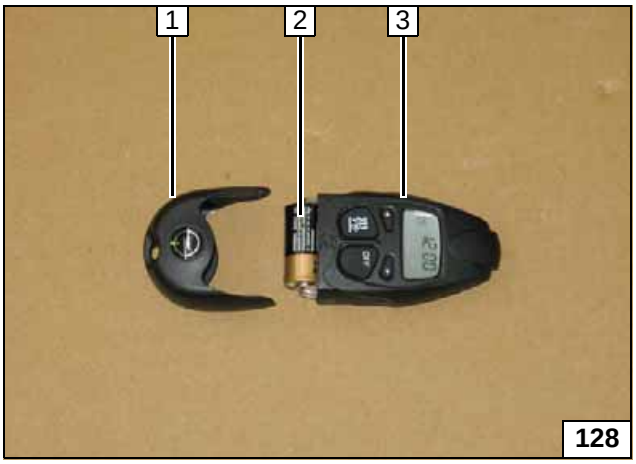
Aligning exhaust end section

Final Work

Reassemble the components in reverse order. Check all hoses, clamps and all electrical connections for firm seating. Insulate and tie back all loose lines.
Only use manufacturer-approved coolant. Spray the heater components with anti-corrosion wax (Tectyl 100K, Order No. 111329).

- **Connect the battery.**
- **Fill and bleed the coolant circuit according to the vehicle manufacturer's specifications.**
- **Teach Telestart transmitter**
- **Place the 'Switch off parking heater before refuelling' caution label near the filler neck.**
- **For initial startup and function check, please see installation instructions.**

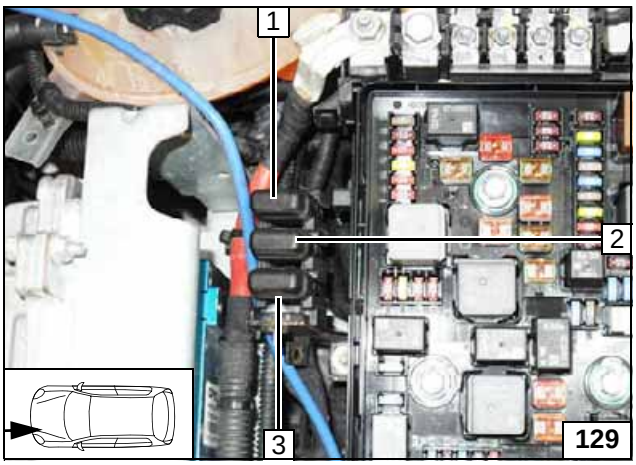
Preparing transmitter



When inserting the battery **2**, ensure correct polarity!

1 Cover of battery compartment
2 Battery
3 Transmitter

Inserting fuses



Transmitter and push button are to be taught prior to insertion of fuse F1 **1**.

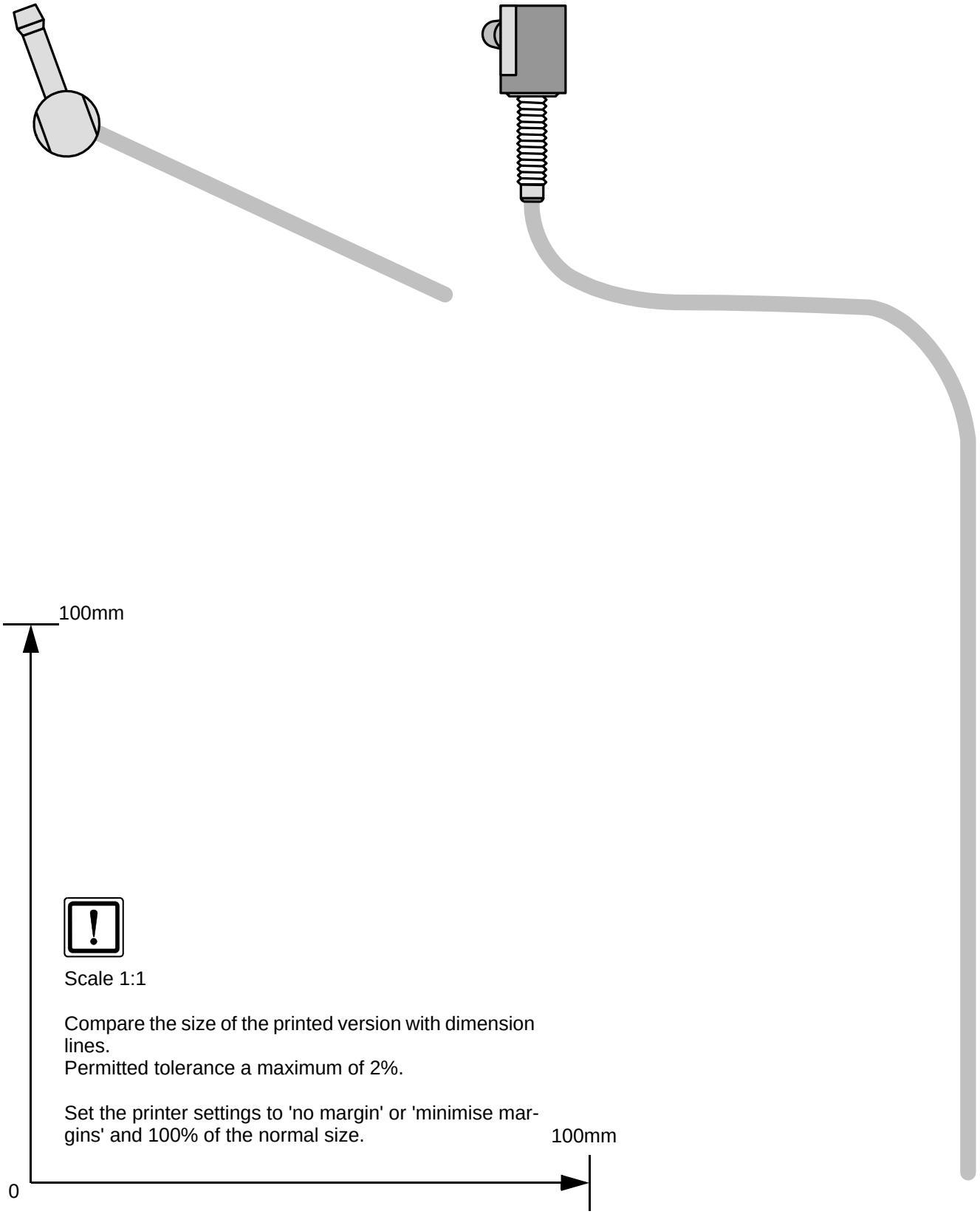
1 Telestart 5A fuse F1
2 SVM module 5A fuse F2
3 Heater 30A fuse F3

Sticking on type label

1 Type label

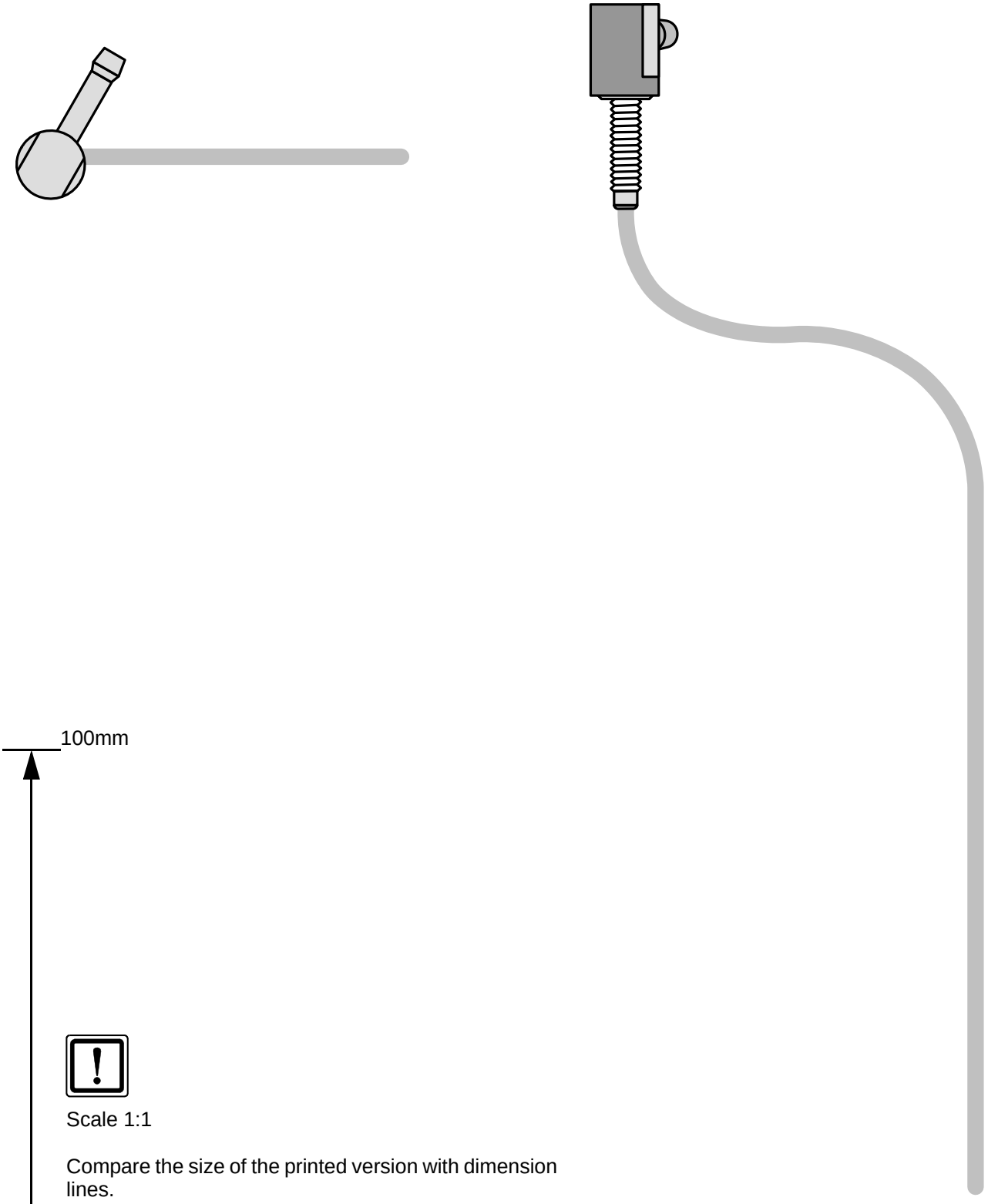
Template for Petrol Fuel Standpipe

Top view



Template for Diesel Fuel Standpipe

Top view



100mm

Scale 1:1

Compare the size of the printed version with dimension lines.
Permitted tolerance a maximum of 2%.

Set the printer settings to 'no margin' or 'minimise margins' and 100% of the normal size.

100mm

0

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Adam Opel AG, D-65423 Rüsselsheim, Germany