Water Heater

Thermo Top Evo Parking Heater
'Island based circuit'

E1
00 0258

Installation Documentation

BMW
1 Series F20, F21 / 3 Series F30, F31

Validity

Manufacturer	Model	Type	EG BE No. / ABE
BMW	1 Series	1K4	e1 * 2007 / 46 * 0283 *...

Motorisation	Fuel	Transmission type	Output in kW	Displacement in cm³	Engine code
116i	Petrol	SG	80	1499	B38B15A
118i	Petrol	ASG / 6-speed SG	100	1499	B38B15
118d	Diesel	6-speed SG	110	1995	B47D20
118d	Diesel	ASG	110	1995	B47D20
120d	Diesel	ASG / 6-speed SG	140	1995	B47D20A

Manufacturer	Model	Type	EG BE No. / ABE
BMW	3 Series	3L	e1 * 2007 / 46 * 0314 *...
BMW	3 Series	3K	e1 * 2007 / 46 * 0315 *...

Motorisation	Fuel	Transmission type	Output in kW	Displacement in cm³	Engine code
318i	Petrol	AG	100	1499	B38B15A
320i	Petrol	ASG	135	1998	B48B20A
318d	Diesel	AG	110	1995	B47D20A
320d	Diesel	AG	140	1995	B47D20A

SG = manual transmission
AG = automatic transmission
ASG = semi-automatic transmission (Steptronic)

From model year 2015
Left-hand drive vehicle

Verified equipment variants:	Multi-zone automatic air-conditioning (2 zones) Start-stop system Start button LED front fog lights Halogen front fog lights 2 WD xDrive M Package
Not verified:	Automatic air-conditioning (1 zone) Headlight washer system Xenon headlights Passenger compartment monitoring
Exclusion: **118i / 318i / 320i**	In case of installed tow hitch In case of provisions for tow hitch installation In case of hot climate version
Total installation time:	approx. 9 hours

Table of Contents

Necessary Components

- Basic delivery scope of Thermo Top Evo based on price list
- Installation kit for BMW 1 Series F20, F21 / 3 Series F30, F31 2015 Petrol and diesel: **1324710C**
- Additional kit ‘Webasto Comfort’ A/C control for BMW 1 Series / 3 Series: **1324388**_
- Heater control in accordance with price list and upon consultation with end customer
- The installation location should be chosen together with the end customer in case of MultiControl CAR.
- In case of Telestart, indicator lamp in accordance with price list and installation location in consultation with end customer

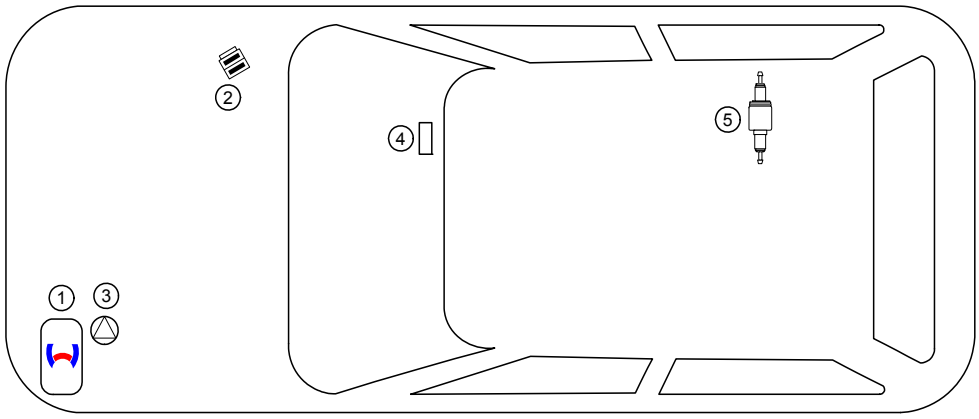
Installation instructions:

- Arrange for the vehicle to be delivered with the tank only about ¼ full.
- The installation location of the push button in case of Telestart or ThermoCall should be confirmed with the end customer.
- Depending on the space required and the vehicle manufacturer's instructions, we recommend the use of a vehicle battery with a higher electrical capacity.
- The heater will be integrated as an ‘island’ in the coolant circuit and is used to heat up the vehicle interior. The engine is **not** preheated!

Installation Overview

Legend:

1. Heater
2. Engine compartment fuse holder
3. Circulating pump
4. Telestart or ThermoCall receiver
5. Metering pump



Information on Total Installation Time

The total installation time includes the time needed for mounting and demounting 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 must audibly snap into place during assembly.

Sharp edges should be fitted with rub protection. Spray unfinished body areas, e.g. drilled holes, with anti-corrosion wax (Tectyl 100K).

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.

Information on Validity

This installation documentation applies to BMW 1 Series F20, F21 / 3 Series F30, F31 Petrol and diesel vehicles - for validity, see page 1 - from model year 2015 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

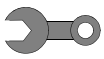
Dimensions
- All dimensions are in mm.

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.

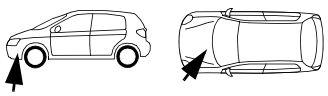
Specific risk of injury or fatal accidents.

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.

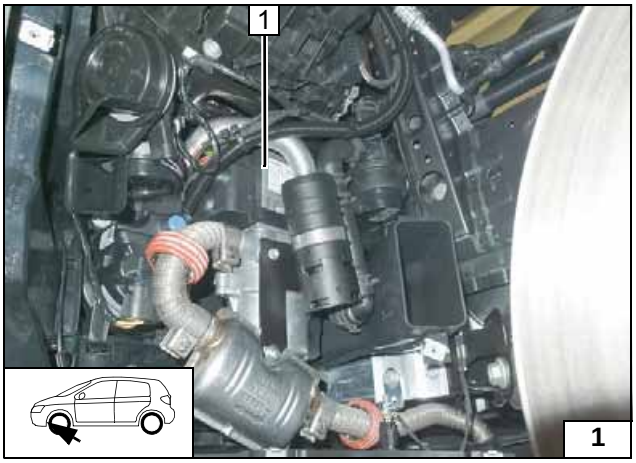
Preliminary Work

Vehicle

- Open the fuel tank cap.
- Ventilate the fuel tank.
- Close the fuel tank cap again.
- Depressurise the cooling system.
- Disconnect the battery.
- Remove the electrical box in case of petrol, loosen it in case of diesel.
- Remove the air filter completely, together with the intake hose.
- Remove the windscreen wipers.
- Remove the coolant reservoir cap.
- Remove the lower engine cover.
- Remove the right and left front wheel.
- Remove the front parts of the wheel well trim on the left and on the right.
- Remove the rear part of the wheel well trim at the front on the right.
- Remove the underride protection on the right.
- Remove the middle underride protection.
- Remove the bumper.
- Remove the lower footwell trim on the front passenger's side.
- Remove the glove box.
- Remove the rear bench seats.
- Open the right-hand tank-fitting service lid.
- Remove the headlight on the left (1 Series with 2 horns)

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

Figure shows 1 Series.

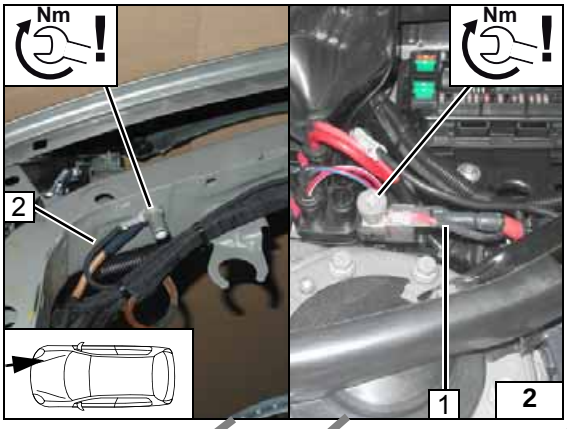
1 Heater

Installation location

Electrical System

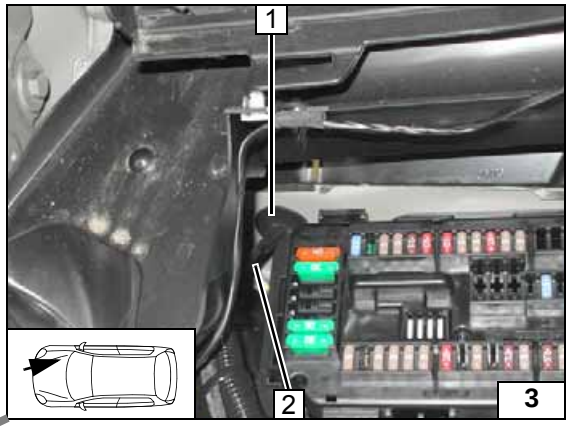
Positive and earth wire

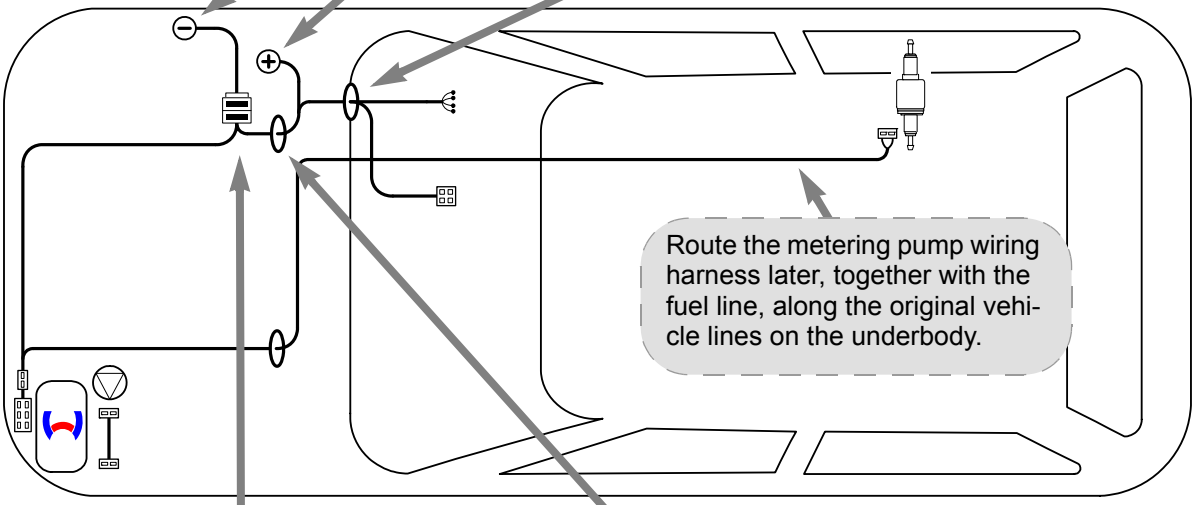
1 Positive wire on original vehicle positive support point
2 Earth wire on original vehicle earth support point



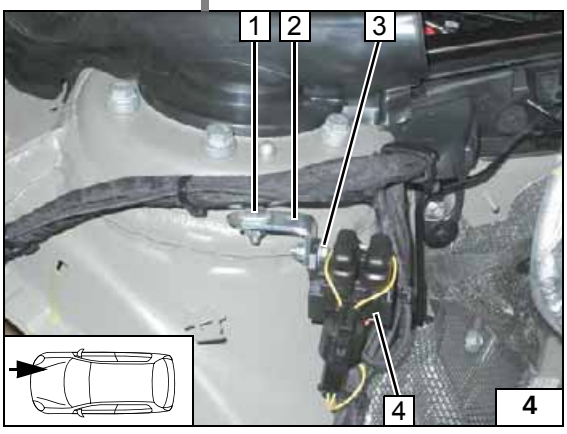
Wiring harness pass through of passenger compartment

1 Protective rubber plug
2 Wiring harnesses of heater, heater control



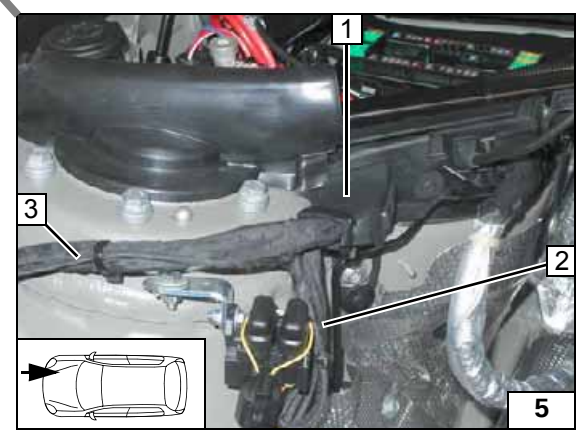


Wiring harness routing diagram



Engine compartment fuse holder

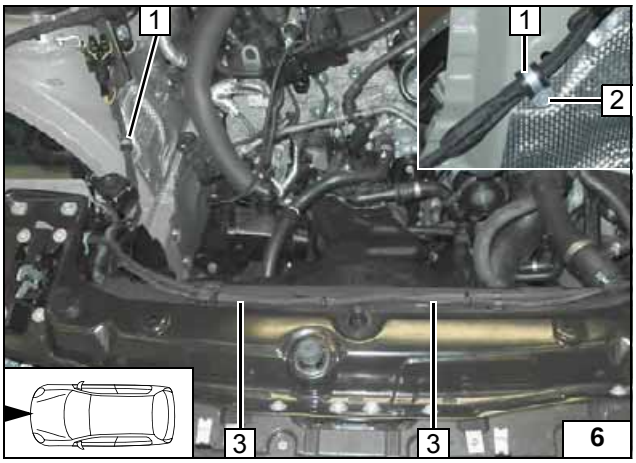
1 M6x20 bolt, large diameter washer, original vehicle hole, flanged nut
2 Angle bracket
3 M5x16 bolt, large diameter washer [2x], retaining plate of fuse holder, nut
4 Fuses F1-2



Coolant reservoir wiring harness pass through

1 Coolant reservoir pass through
2 Route positive wire, fan controller and heater control wiring harness in the coolant reservoir
3 Earth wire

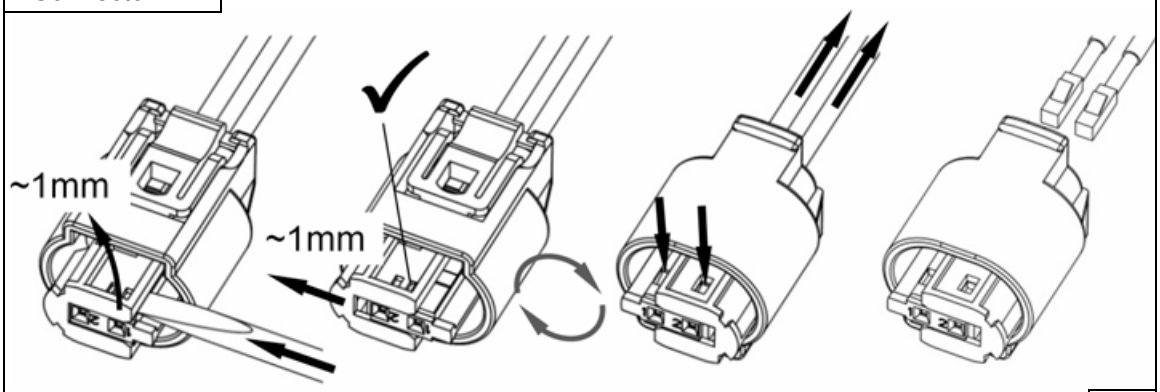
Routing heater wiring harness



1 15mm dia. rubber-coated p-clamp
2 Original vehicle bolt
3 Route wiring harness along original vehicle lines to the right side of the vehicle

Dismantling metering pump connector

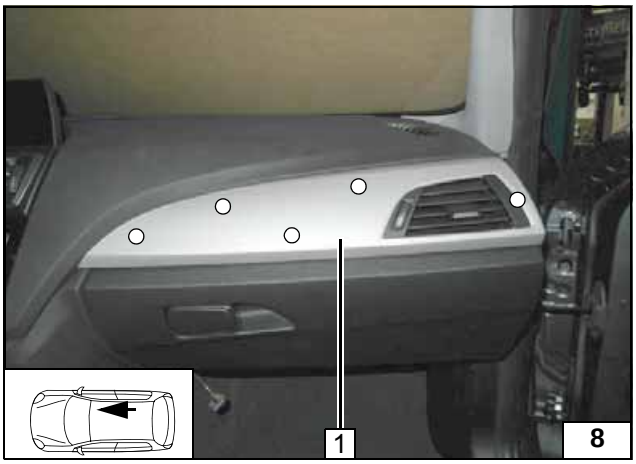
Connector X7



Air-Conditioning Control for All Vehicles

! Connect the A/C control in accordance with the separate installation documentation:

Installation documentation **'Webasto Comfort'** A/C control for BMW 1 Series and 3 Series with AAC

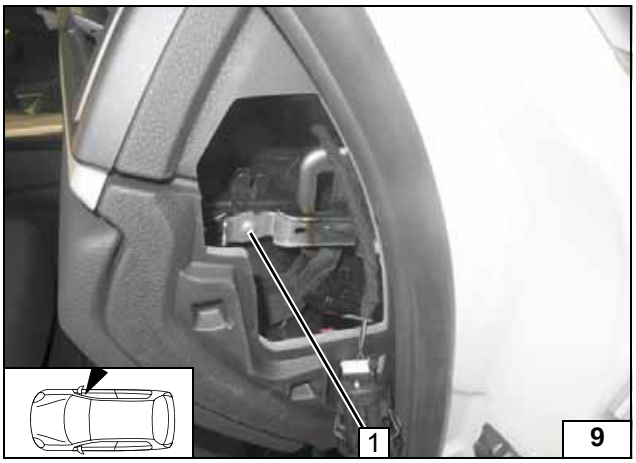


Glove Box Dismantling Instructions

1 Series

1 Remove trim piece by pulling it out
○ Retaining clip [5x]

Removing trim piece

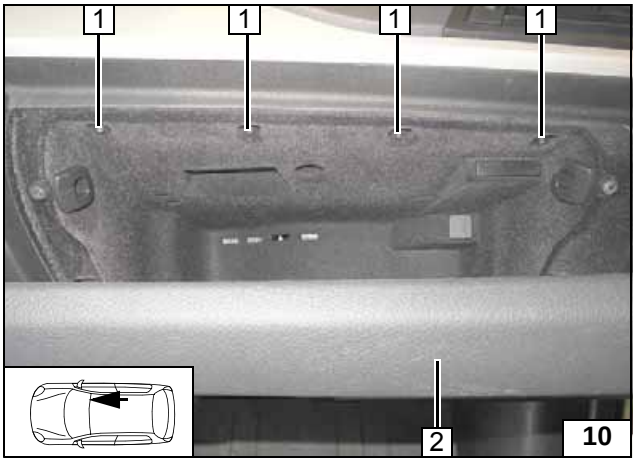


All vehicles

Next pictures show a 3 series vehicle!

1 Bolt

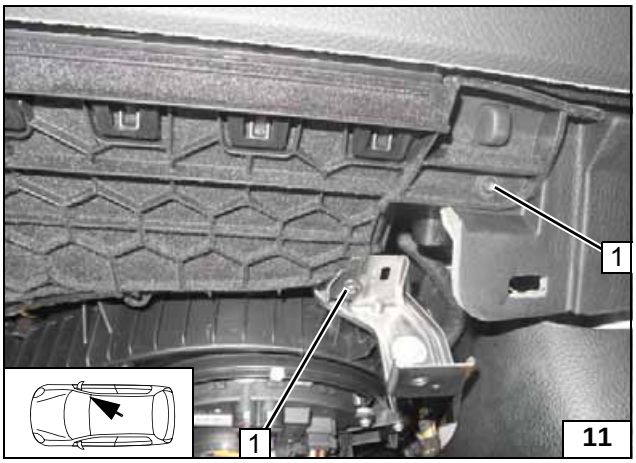
Removing bolt



Open glove box cover **2**.

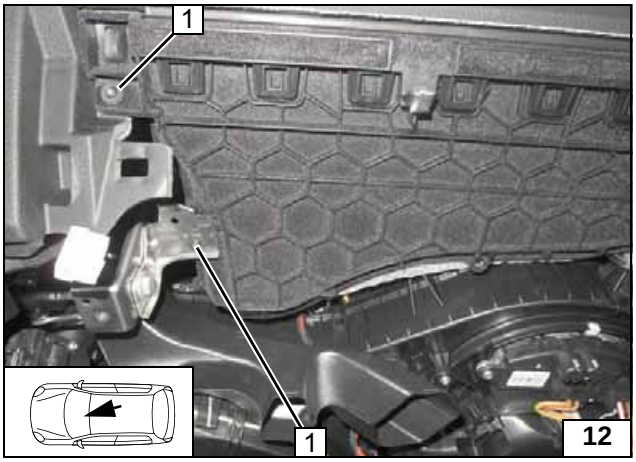
1 Bolts [4x]

Removing bolts



1 Remove original vehicle bolts [2x]

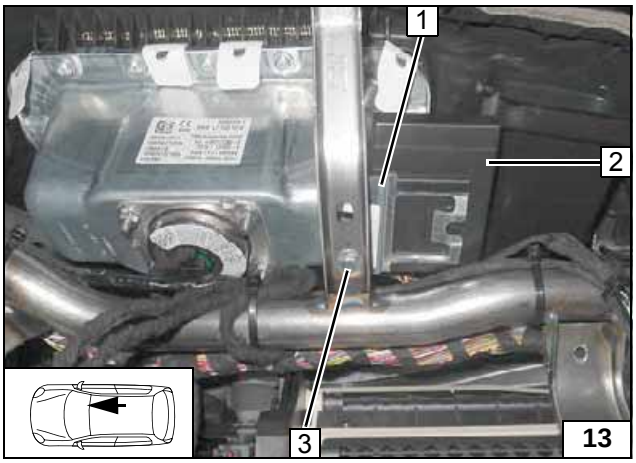
Removing bolts



1 Original vehicle bolts [2x]

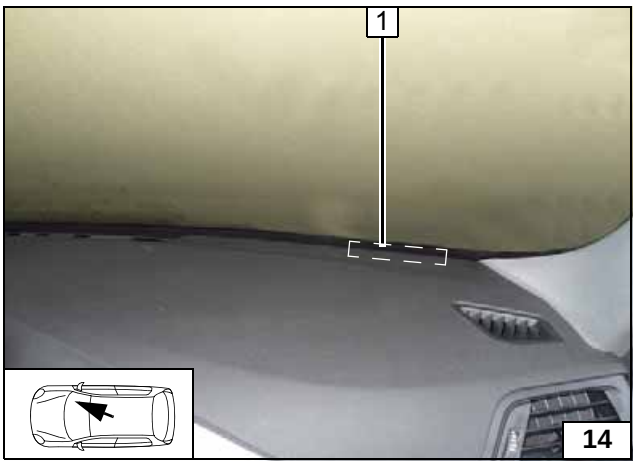
Removing bolts

Remote Option (Telestart)



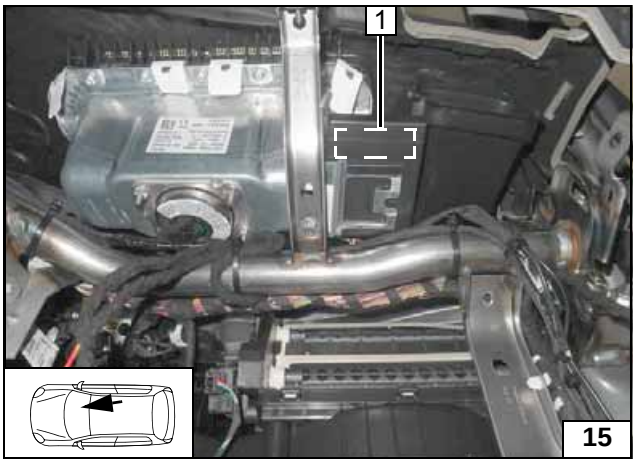
1 Receiver bracket
2 Receiver
3 M5x16 bolt, large diameter washer, original vehicle hole, flanged nut

Installing receiver



1 Aerial

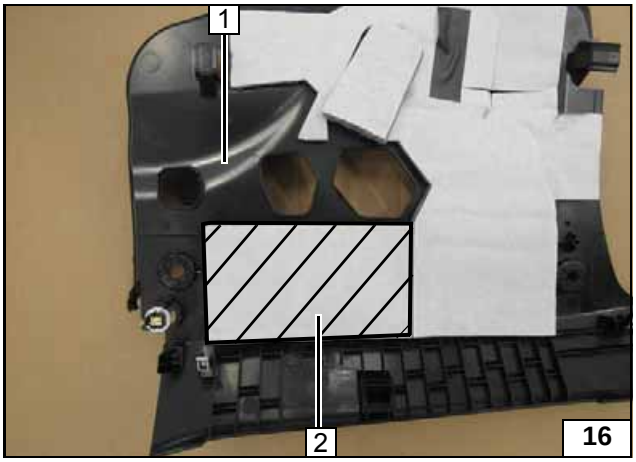
Installing aerial



Temperature sensor T100 HTM

Fasten temperature sensor **1** (hidden) with double-sided adhesive tape.

Installing temperature sensor

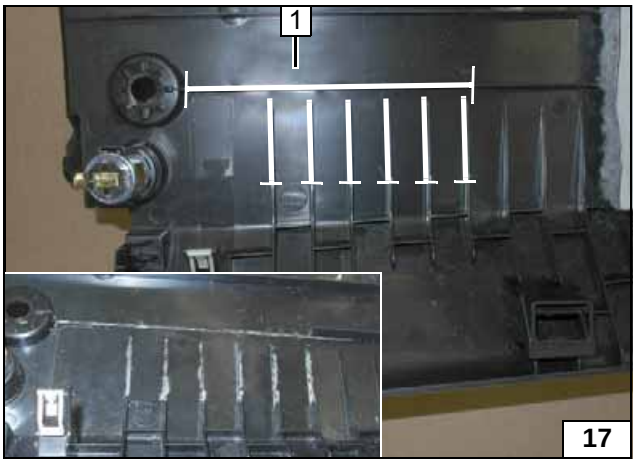


ThermoCall Option

Remove marked section **2** of sound insulation.

1 Lower footwell trim on the front passenger's side

Adapting lower trim



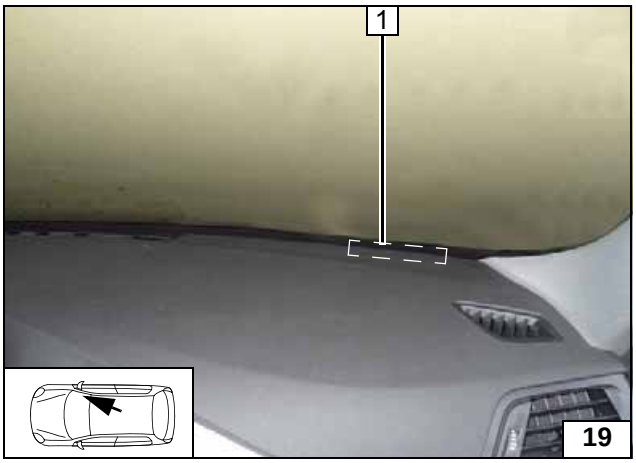
Cut off marked ribs of trim flush with surface.

1 Lower footwell trim on the front passenger's side

Installing receiver

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

Installing receiver



1 Aerial (optional)

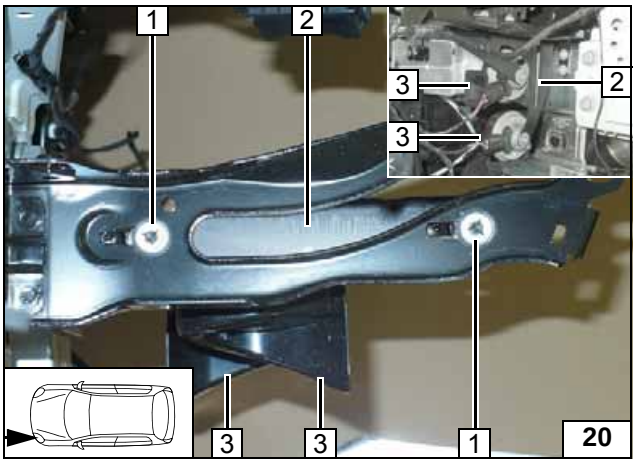
Installing aerial

Preparing Installation Location

1 Series with 2 horns

Dismantle horn **3** from bracket **2**, then drill out **1** rivets [2x]!

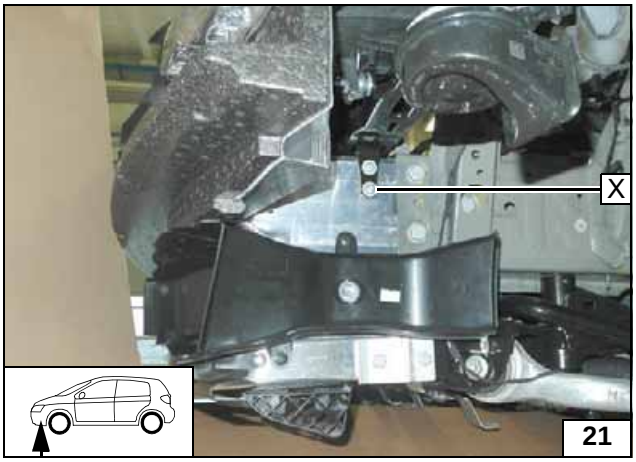
Dismantling horn bracket



All vehicles

X =

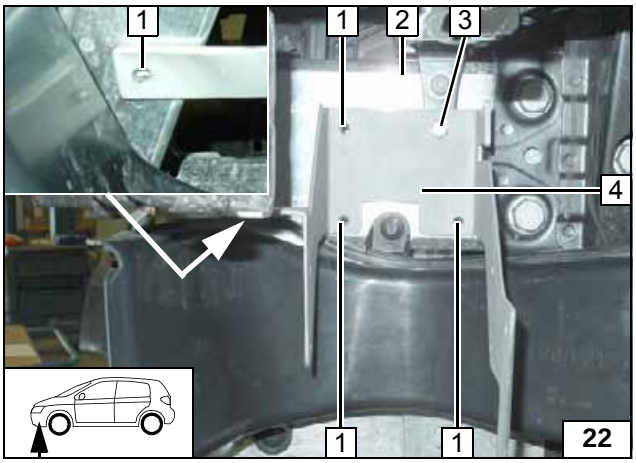
Removing bolt



Following mounts are created for the 1 Series.
Align bracket **4** parallel with frame side member **2**.

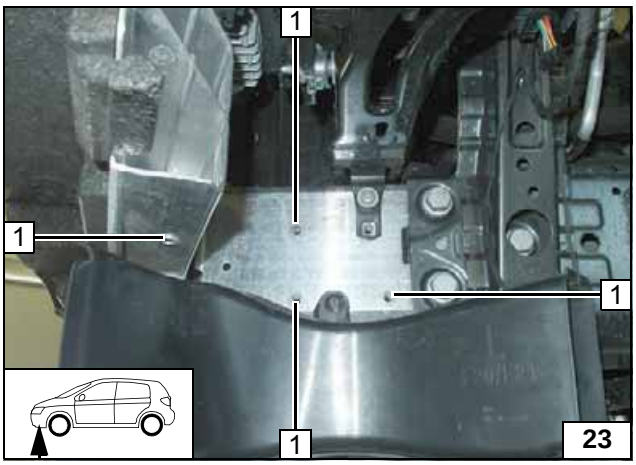
1 Hole pattern [4x]
3 M6x20 bolt

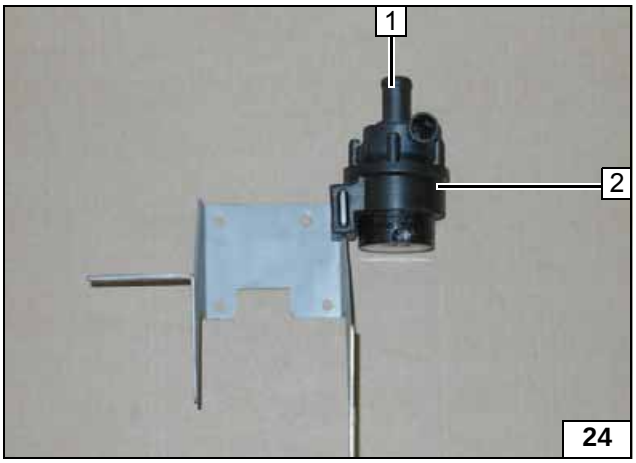
Copying hole pattern



1 9mm dia. hole, rivet nut [4x each]

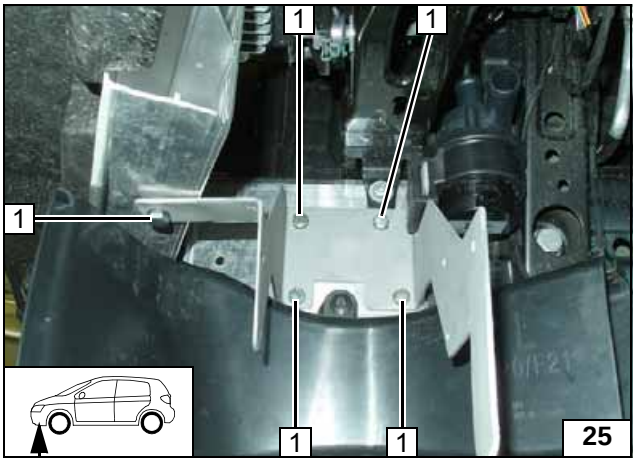
Installing rivet nut





1 Circulating pump
2 Circulating pump mount

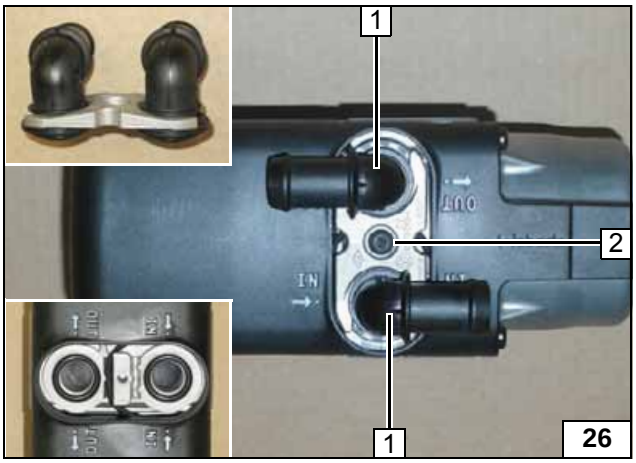
Premounting bracket



1 M6x20 bolt, spring lockwasher [5x each]

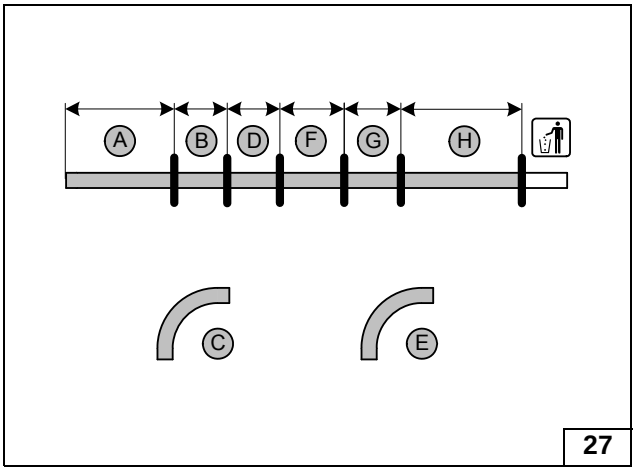
Installing bracket

Preparing Heater



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

Installing water connection piece

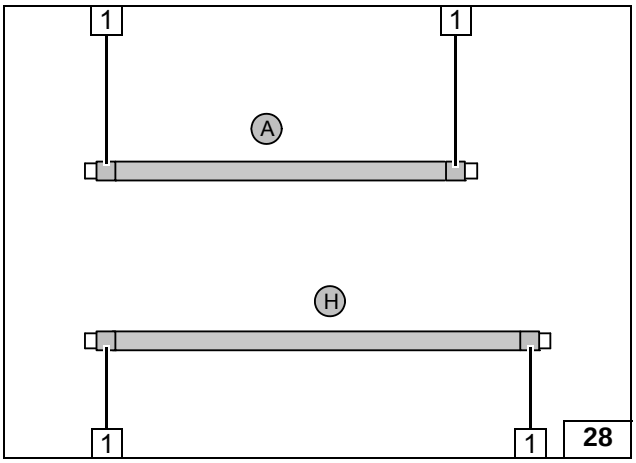


1.5 Petrol

C and **E** = 90°, 18mm dia. moulded hose

	1 Series	3 Series
A	450	500
B	60	60
D	110	110
F	130	130
G	60	60
H	730	730

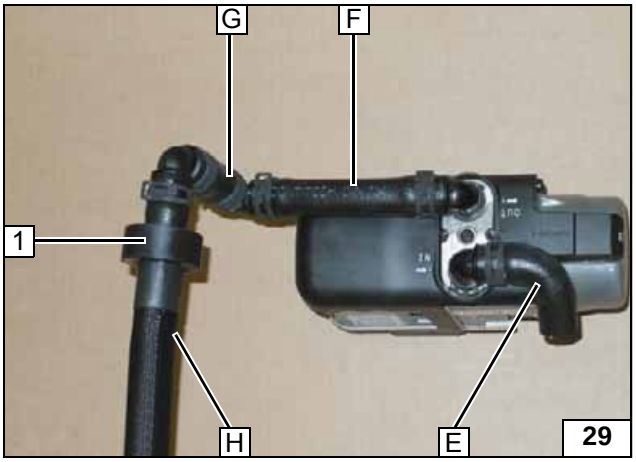
Cutting hoses to length



Slide on braided protection hoses and cut to length.

1 Cut heat shrink plastic tubing to size, 50mm long [4x]

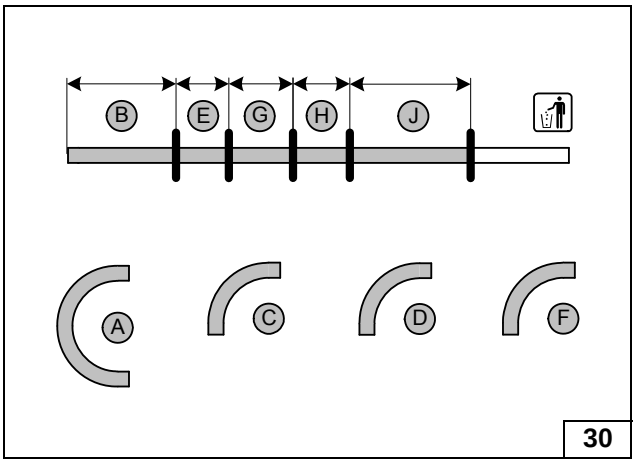
Preparing hoses



All spring clips = 25mm dia.

1 Black (sw) rubber isolator

Installing hoses

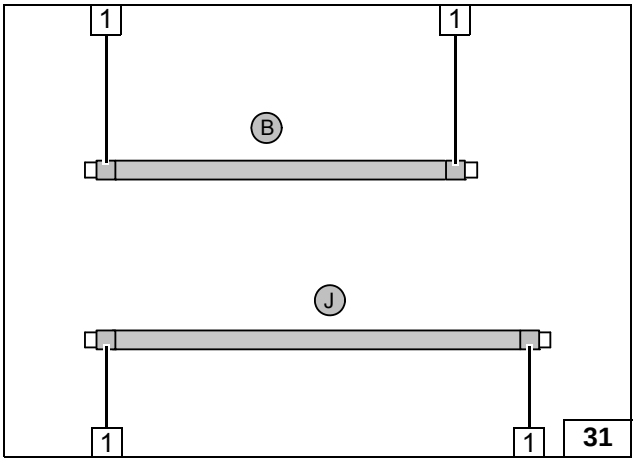


3 Series 2.0 Petrol

A = 180°, 18mm dia. moulded hose
C, D and **F** = 90°, 18mm dia. moulded hose

B = 385
E = 90
G = 130
H = 60
J = 730

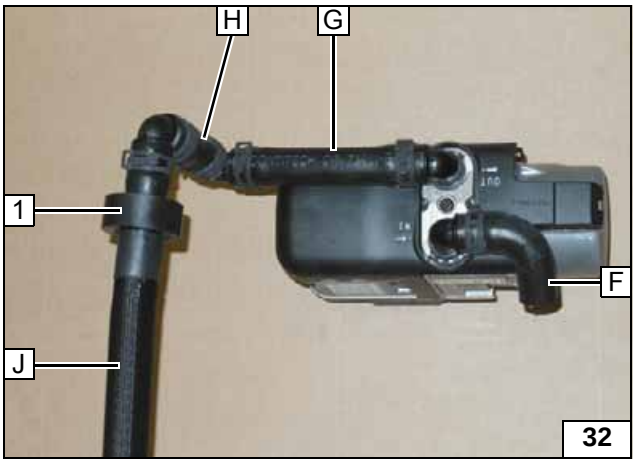
Cutting hoses to length



Slide on braided protection hoses and cut to length.

1 Cut heat shrink plastic tubing to size, 50mm long [4x]

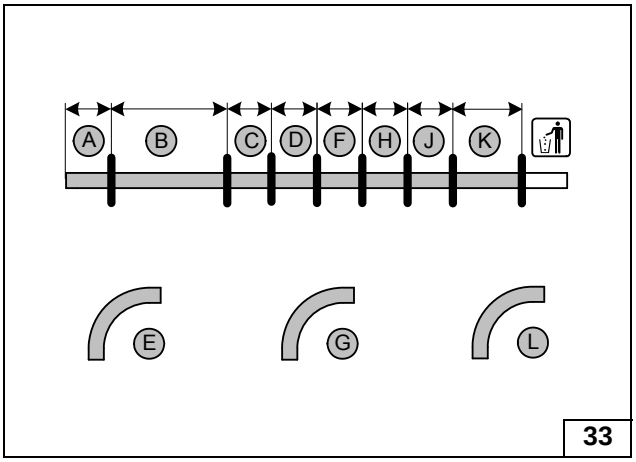
Preparing hoses



All spring clips = 25mm dia.

1 Black (sw) rubber isolator

Installing hoses

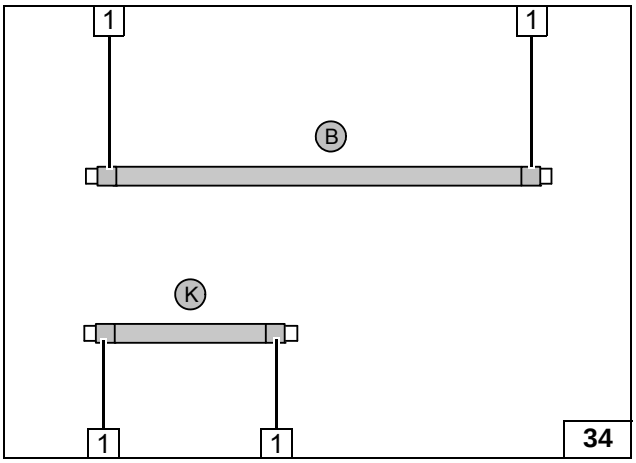


Diesel

E, G and **L** = 90°, 18mm dia. moulded hose

	1 Series	3 Series
A	80	80
B	680	790
C	60	60
D	60	60
F	110	110
H	130	130
J	60	60
K	180	200

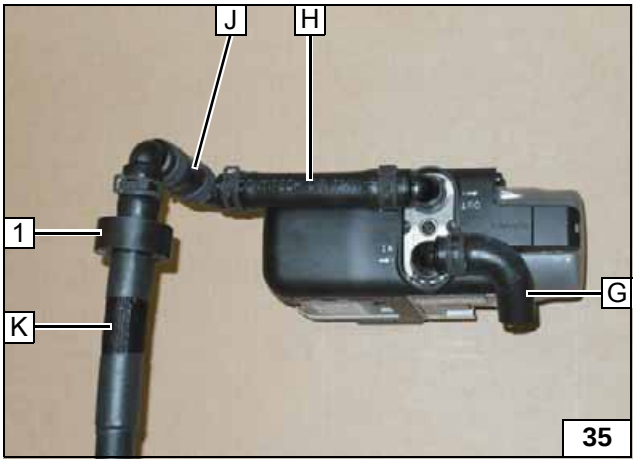
Cutting hoses to length



Slide on braided protection hoses and cut to length.

1 Cut heat shrink plastic tubing to size, 50mm long [4x]

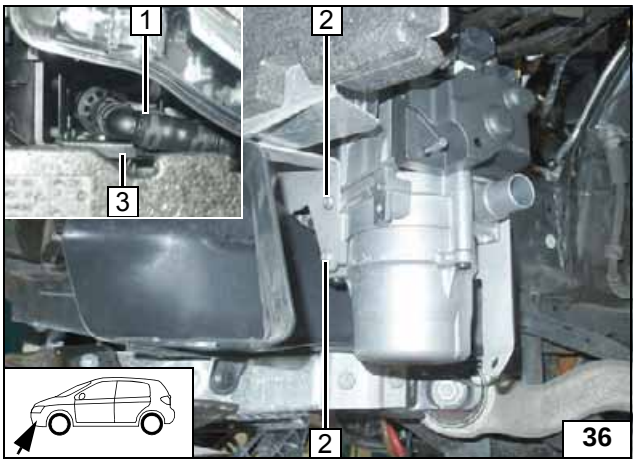
Preparing hoses



All spring clips = 25mm dia.

1 Black (sw) rubber isolator

Installing hoses



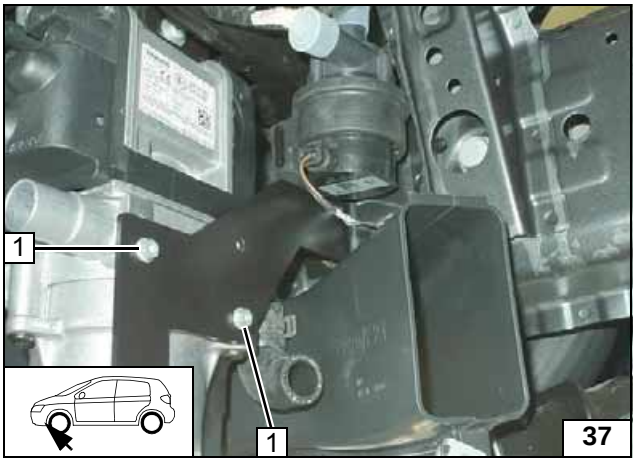
Installing Heater

All vehicles

Route hoses of heater outlet **1** as shown.

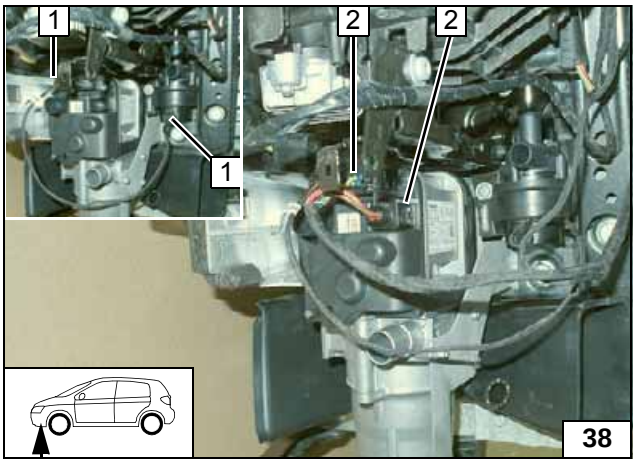
2 5x13 self-tapping bolt [2x]
3 100mm long edge protection

Installing heater



1 5x13 self-tapping bolt [2x]

Installing heater



1 Connector of circulating pump wiring harness [2x]
2 Heater wiring harness connector [2x]

Installing wiring harnesses

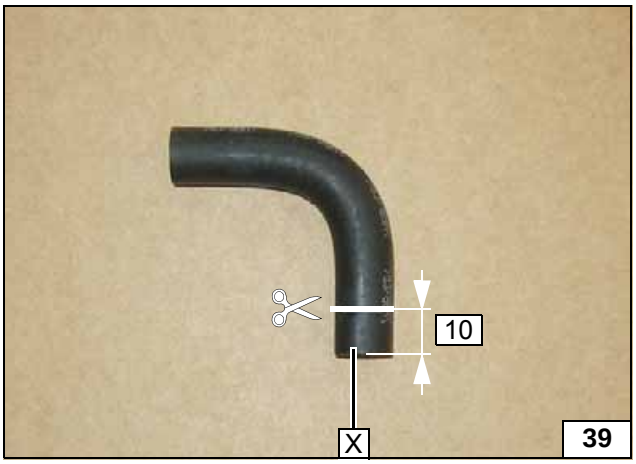
Fuel

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.

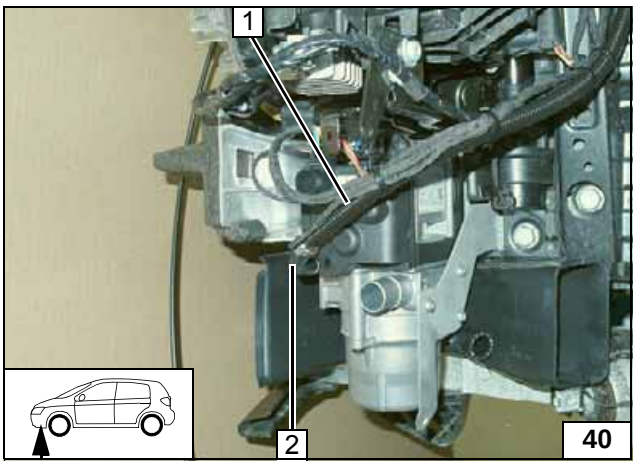
Route fuel line and metering pump wiring harness so that they are protected against stone impact.
Unless specified otherwise, always fasten using cable ties.
Provide rub protection for fuel line and wiring harness in areas where there are sharp edges.

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



X=

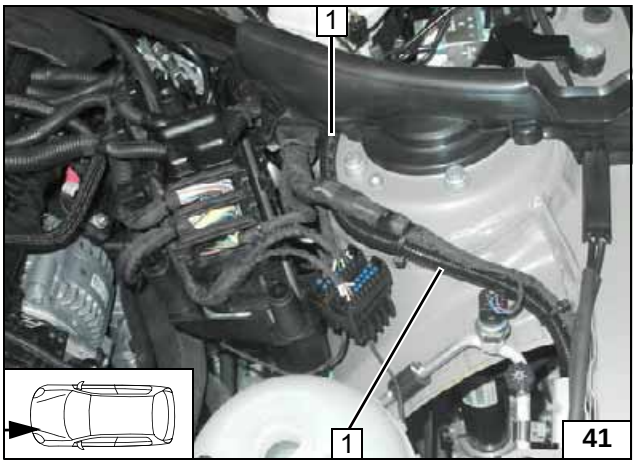
Shortening 90° moulded hose



Pull wiring harness of metering pump and fuel line together into corrugated tube **1** and route in the engine compartment.

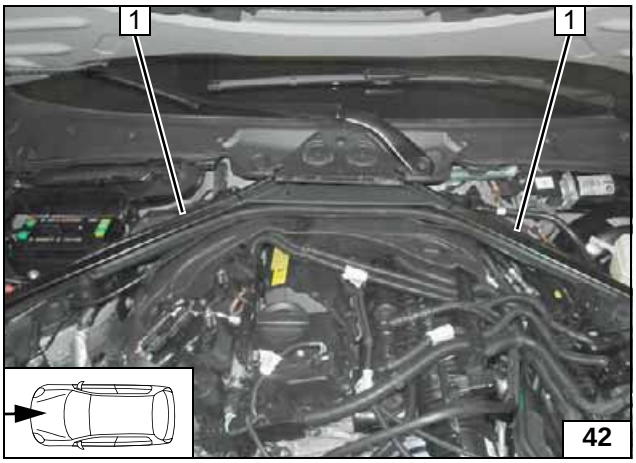
2 90° moulded hose with shortened side on heater, 10mm dia. clamp [2x]

Connecting heater



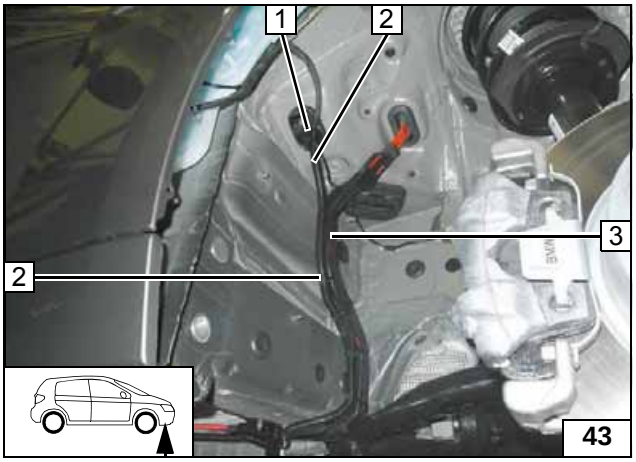
Route corrugated tube **1** with fuel line and wiring harness of metering pump in the coolant reservoir.

Routing lines



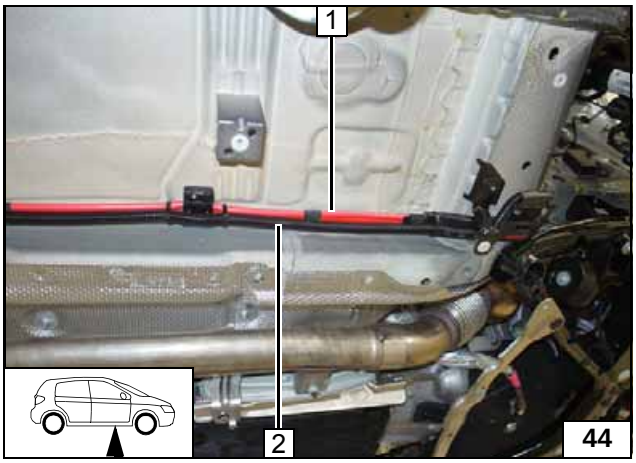
Route corrugated tube **1** with fuel line and wiring harness of metering pump on the strut to the right side of the vehicle, fasten with cable ties.

Routing lines



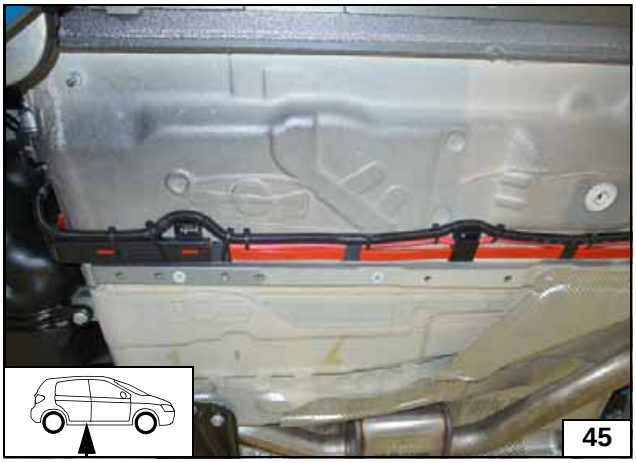
Route corrugated tube **2** with fuel line and wiring harness of metering pump through original vehicle grommet **1** in the wheel well and along original vehicle positive wire **3** to the underbody
.

Routing lines

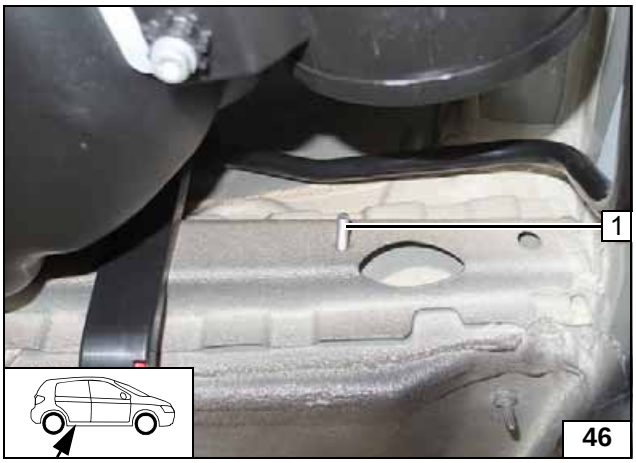


Route corrugated tube **2** with fuel line and wiring harness of metering pump along original vehicle positive wire **1** to the installation location of the metering pump.

Routing lines

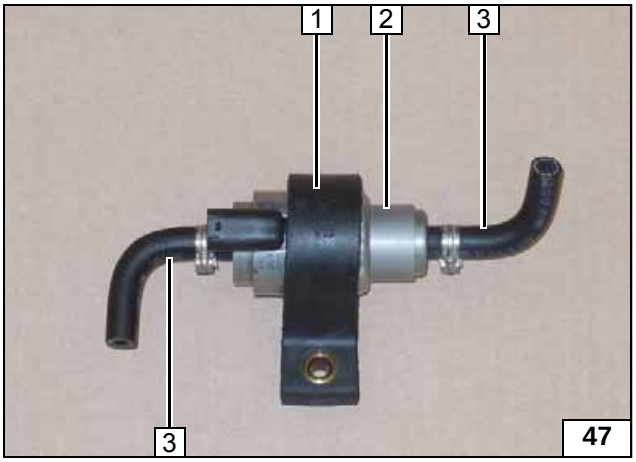


Routing lines



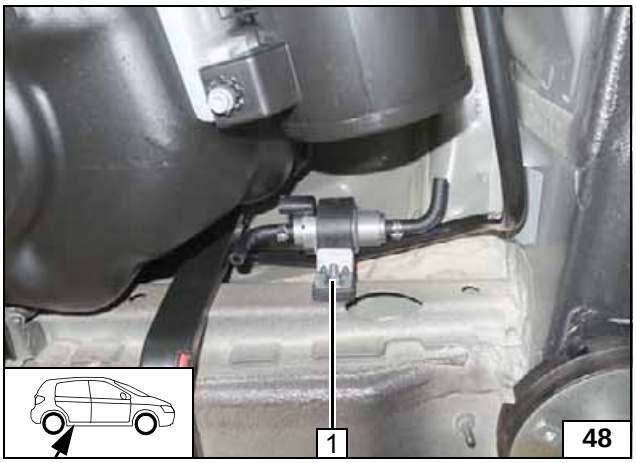
1 Original vehicle hole, M6x25 bolt

Inserting bolt into hole



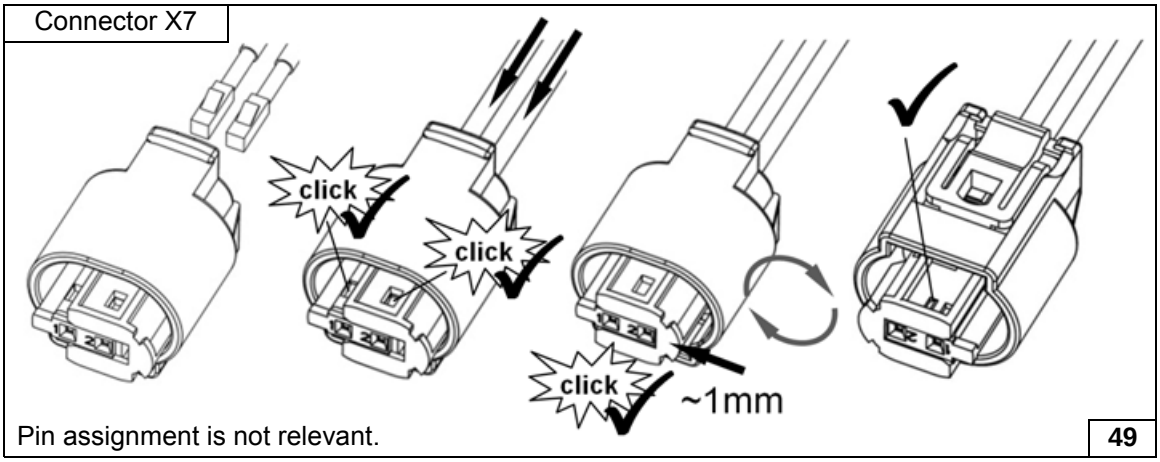
1 Metering pump mount
2 Metering pump
3 90° moulded hose, 10mm dia. clamp [2x each]

Premounting metering pump

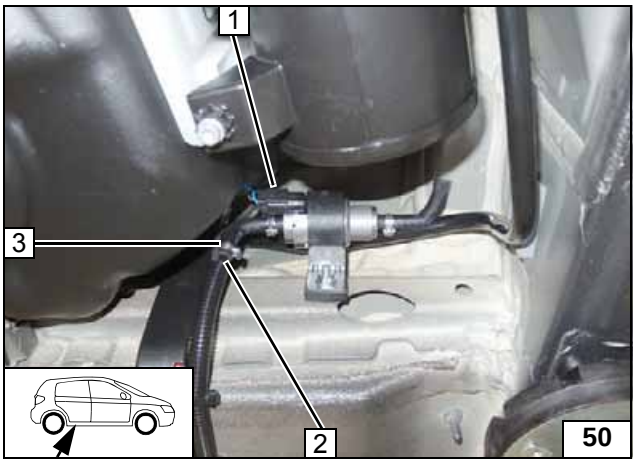


1 Support angle bracket, flanged nut

Installing metering pump



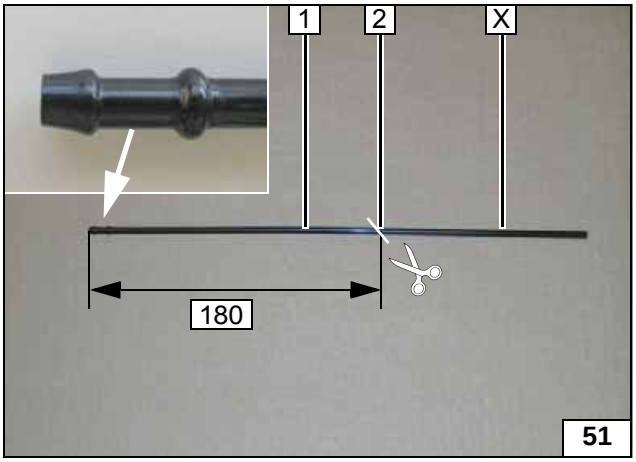
Completing metering pump connector



Ensure sufficient distance from neighbouring components, correct if necessary.

1 Metering pump wiring harness, connector X7 installed
2 Fuel line of heater
3 10 mm dia. clamp

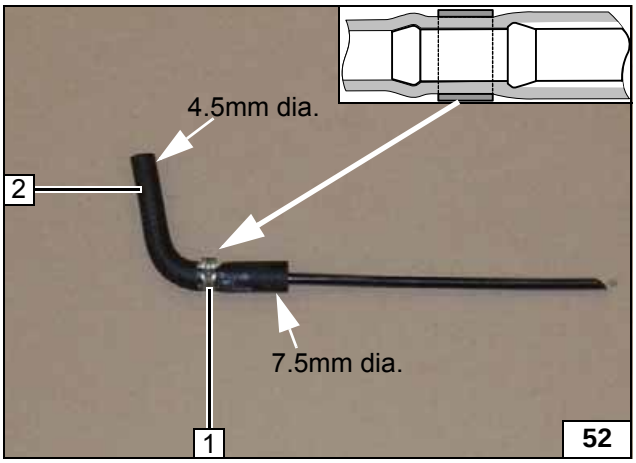
Connecting metering pump



1 Standpipe
2 Cutting point

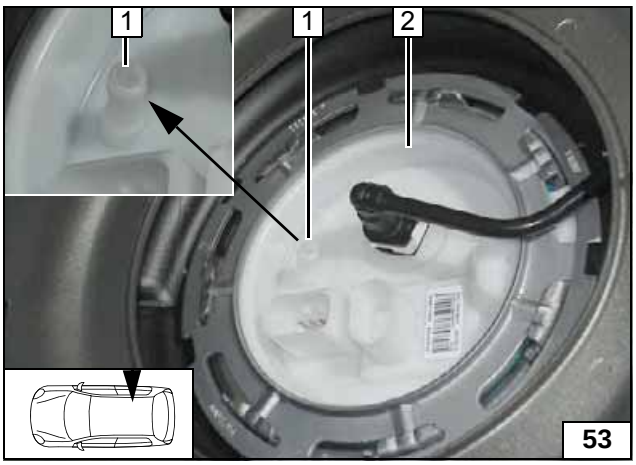
X =

Cutting standpipe to length



1 10 mm dia. clamp
2 90°, 4.5x7.5 moulded hose

Premounting standpipe

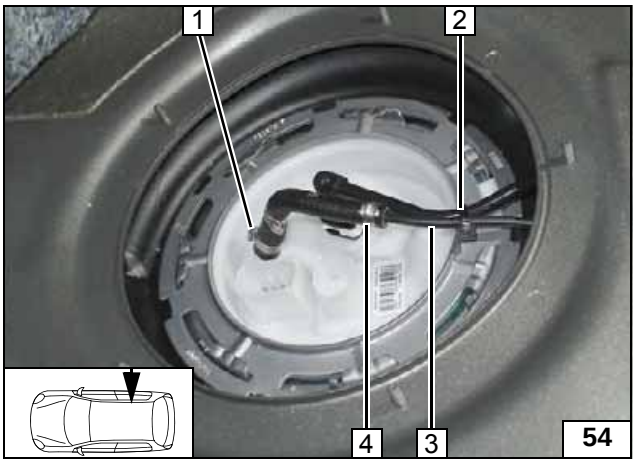


Petrol

Remove end cap from connection piece **1**.

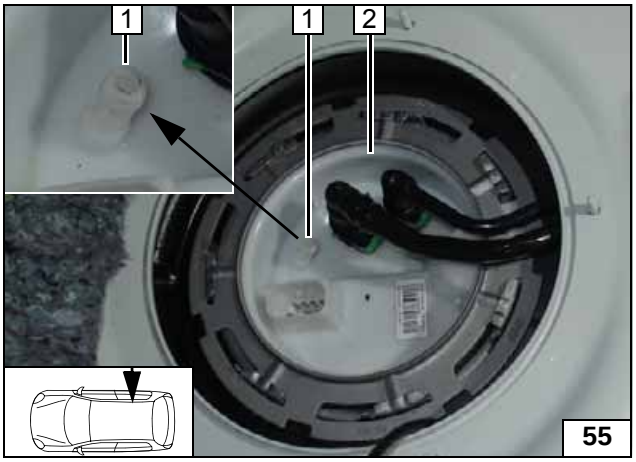
2 Fuel tank sending unit

Preparing fuel tank sending unit



1 13.5mm dia. clamp
2 Cable tie
3 Fuel line
4 10 mm dia. clamp

Installing standpipe

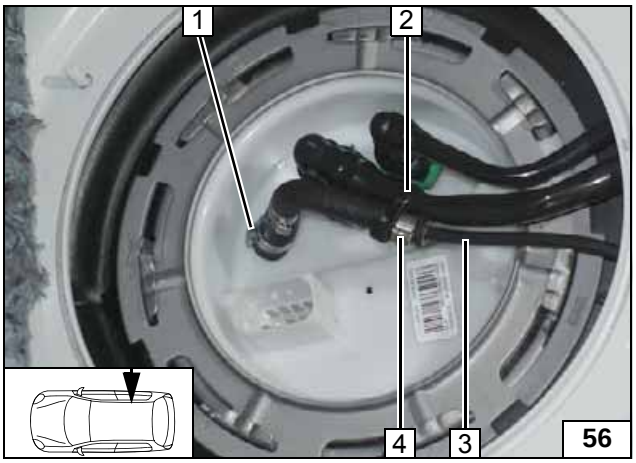


Diesel

Remove end cap from connection piece **1**.

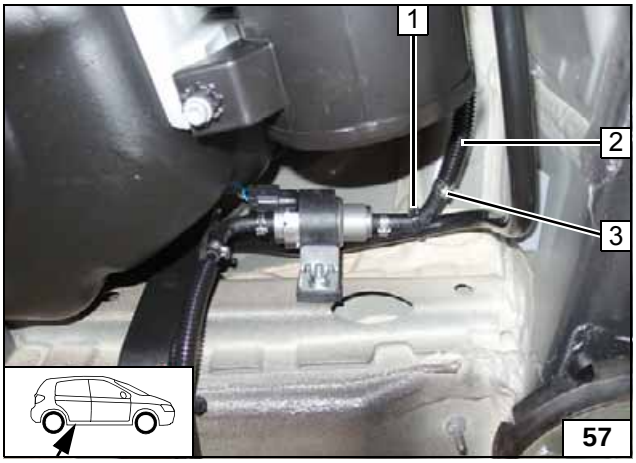
2 Fuel tank sending unit

Preparing fuel tank sending unit



1 13.5mm dia. clamp
2 Cable tie
3 Fuel line
4 10 mm dia. clamp

Installing standpipe



All vehicles

Ensure sufficient distance from neighbouring components, correct if necessary.

1 Cable tie
2 Fuel line in corrugated tube
3 10 mm dia. clamp

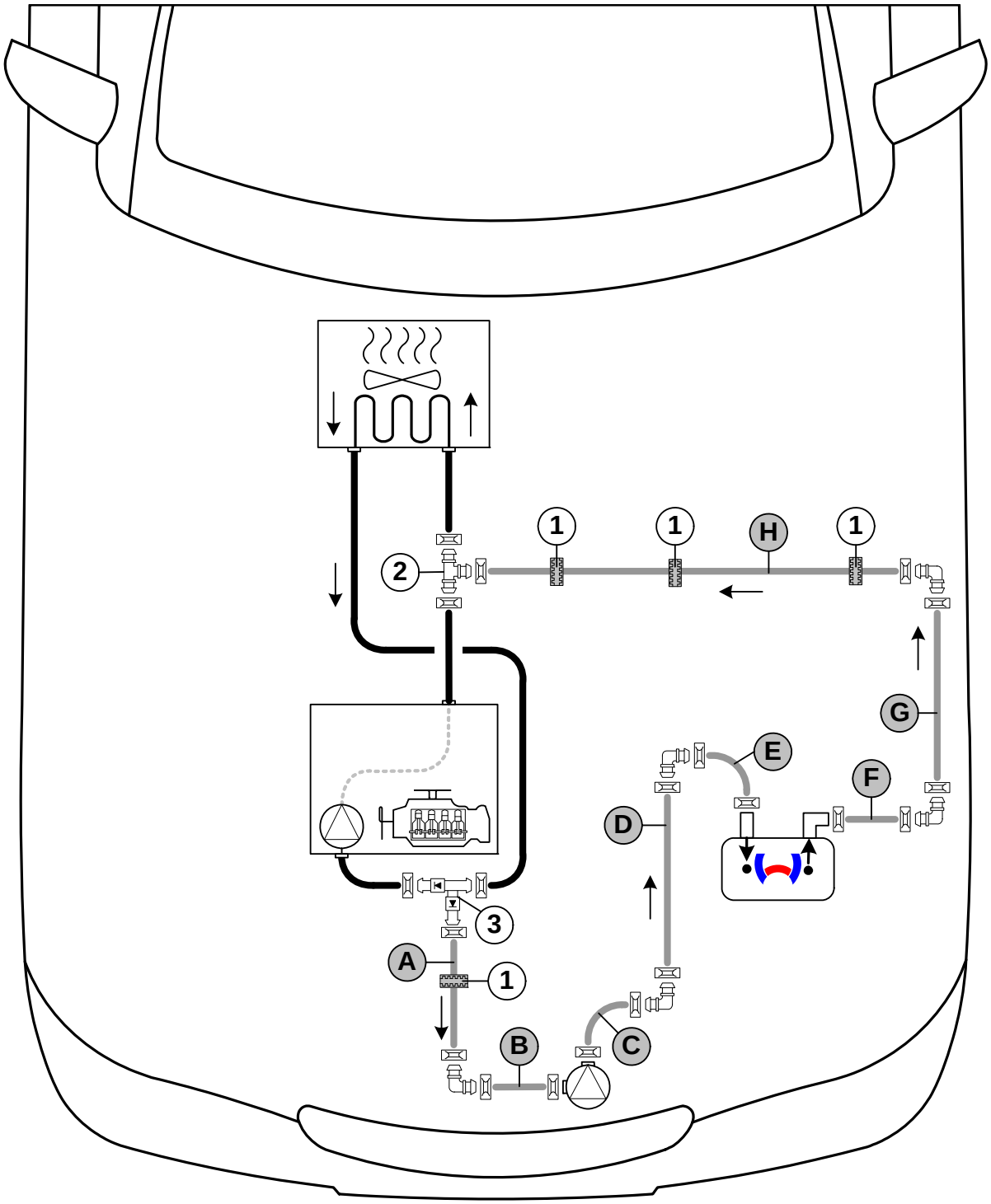
Connecting metering pump

Coolant Circuit for 1.5 Petrol

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.

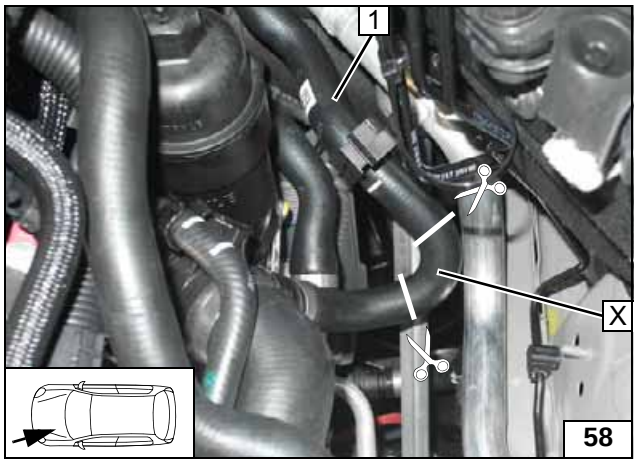
The connection should be modelled on an 'island' circuit and based on the following diagram:

Hose routing diagram



All spring clips without a specific designation = 25 mm dia. All connecting pipes and = 18x18 mm dia.

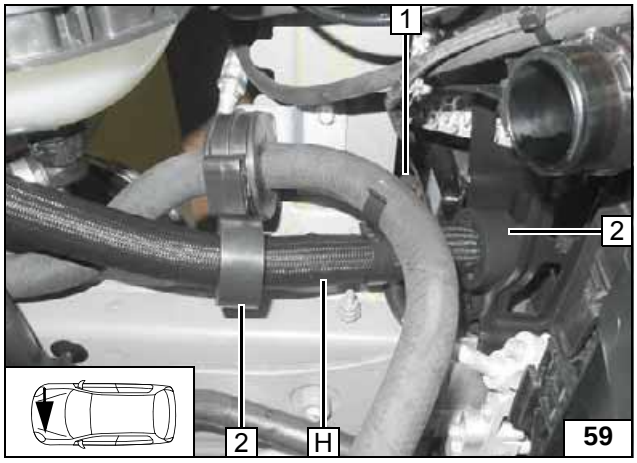
1 = Black (sw) rubber isolator . **2** = T-piece . **3** = Check valve .



Cut hose of engine outlet / heat exchanger inlet **1** at the markings.

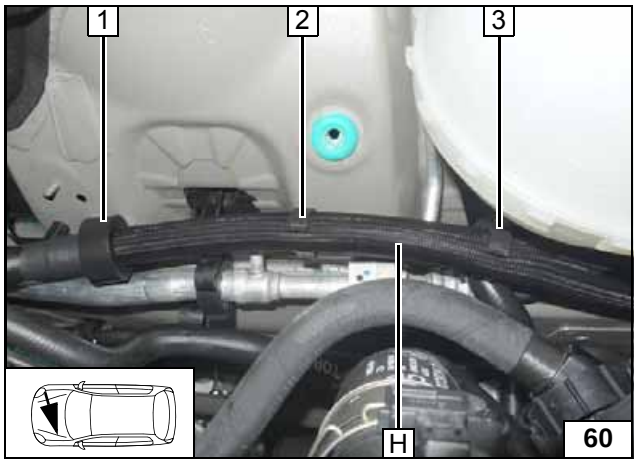
X =

Cutting point 1



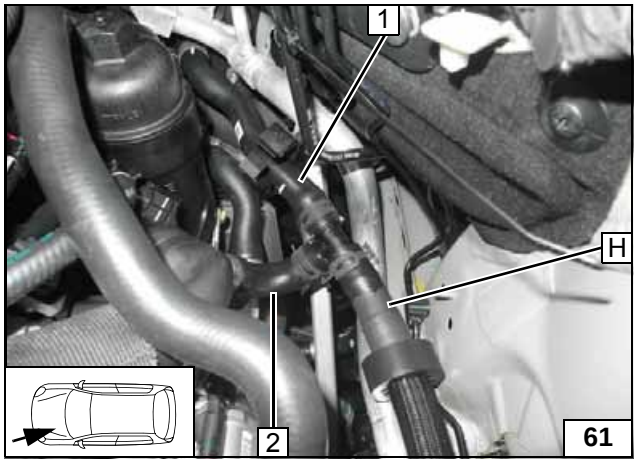
1 20x22 hose bracket
2 Black (sw) rubber isolator [2x]

Routing hose H



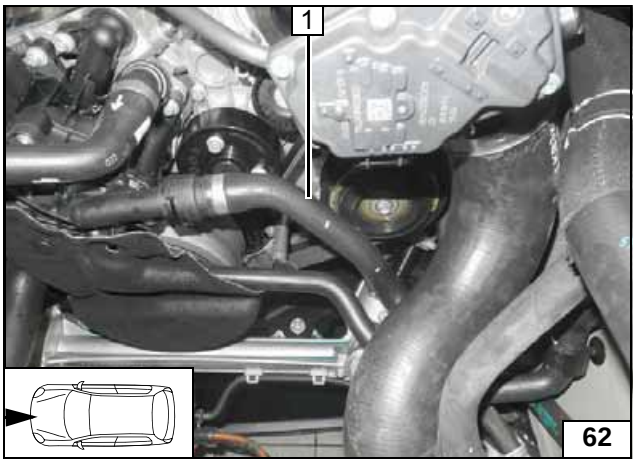
1 Black (sw) rubber isolator
2 9x22 hose bracket
3 20x22 hose bracket

Routing hose H



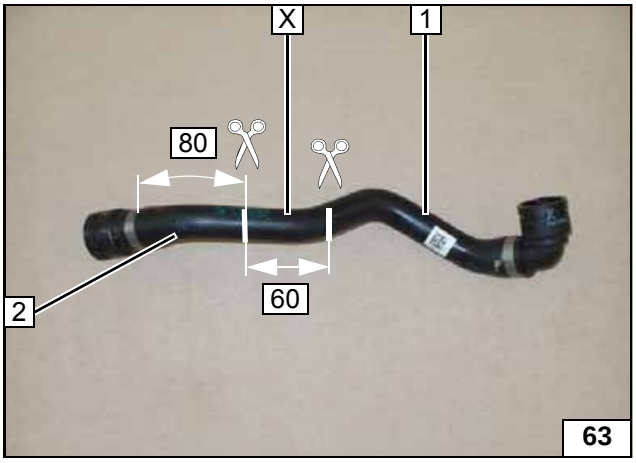
1 Heat exchanger inlet hose section
2 Engine outlet hose section

Connecting heat exchanger inlet



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

Removing original vehicle hose

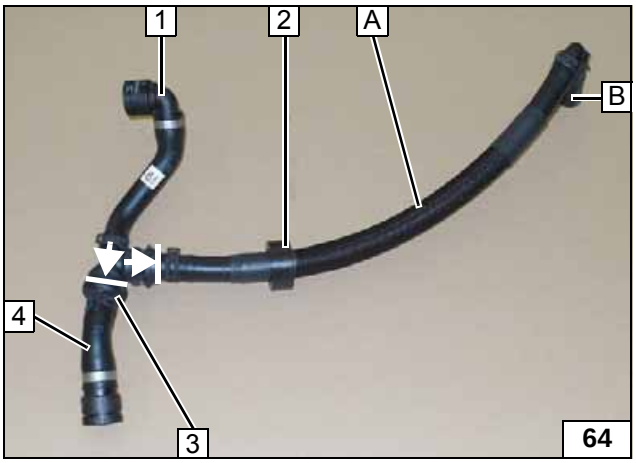


Cut hose of heat exchanger outlet / engine inlet **1** at the markings.

1 Heat exchanger outlet hose section
2 Engine inlet hose section

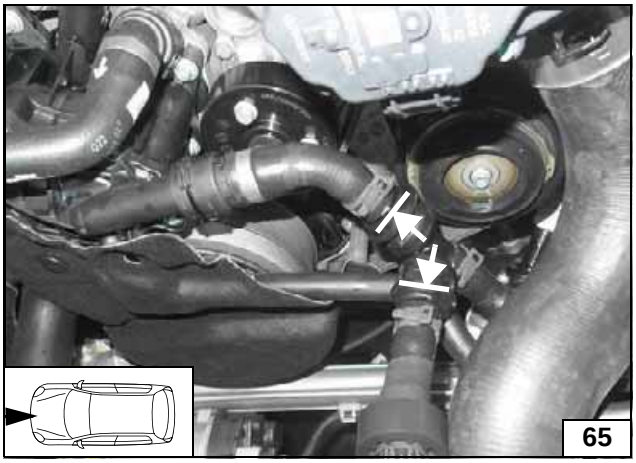
X =

Cutting point 2

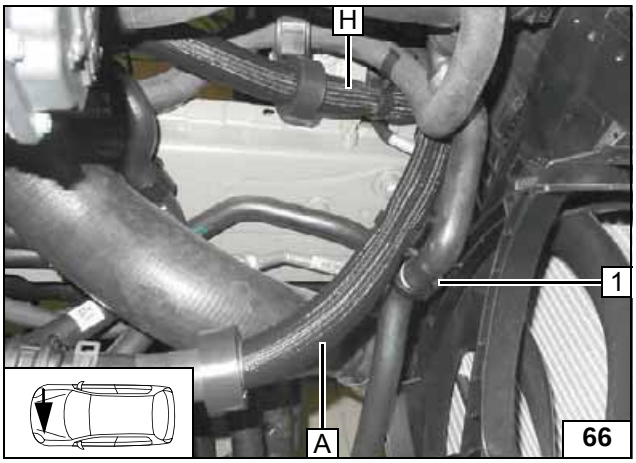


1 Heat exchanger outlet hose section
2 Black (sw) rubber isolator
3 Check valve
4 Engine inlet hose section

Premounting hoses A and B



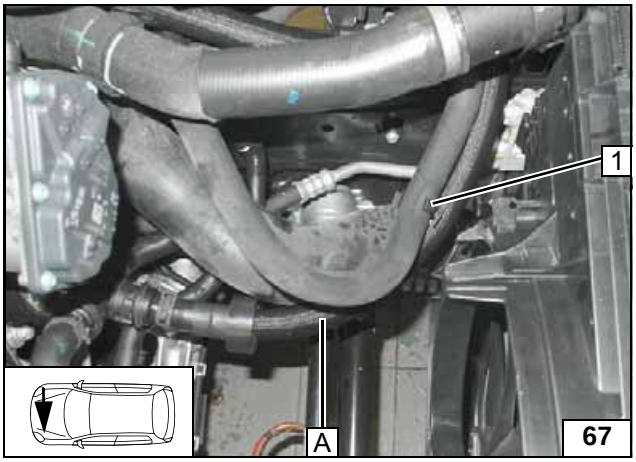
Installing hose group



Version 1

1 20x22 hose bracket

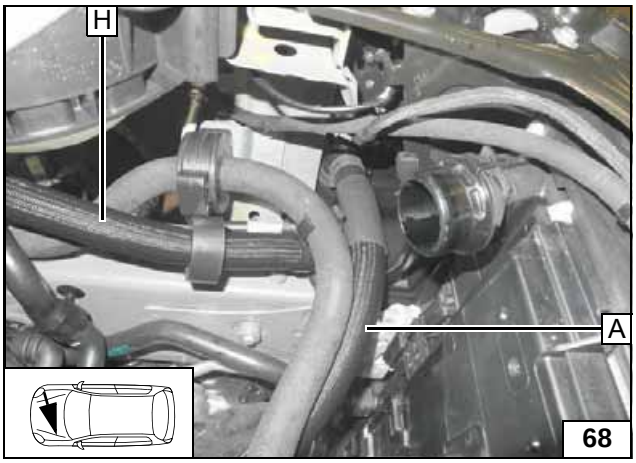
Routing hose A



Version 2

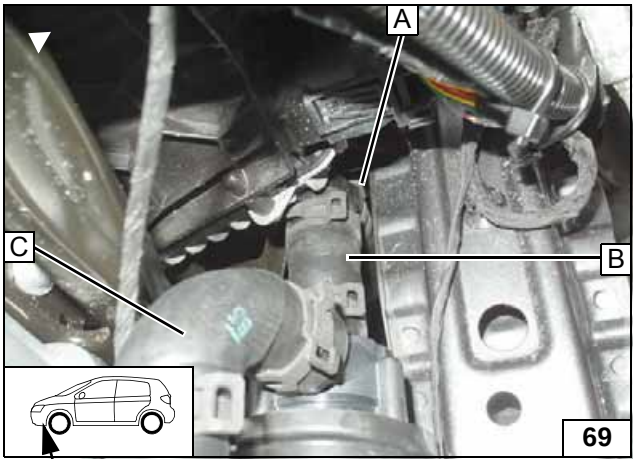
1 20x22 hose bracket

Routing hose A

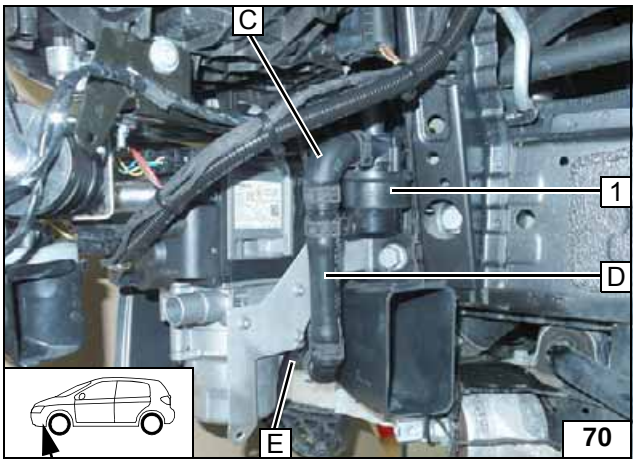


All vehicles

Routing hose A

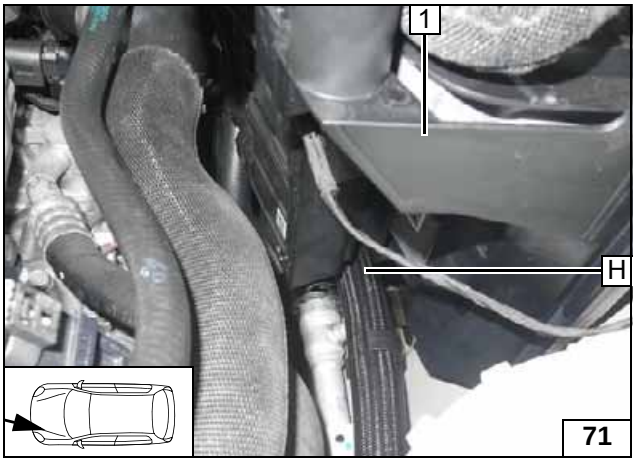


Connecting circulating pump



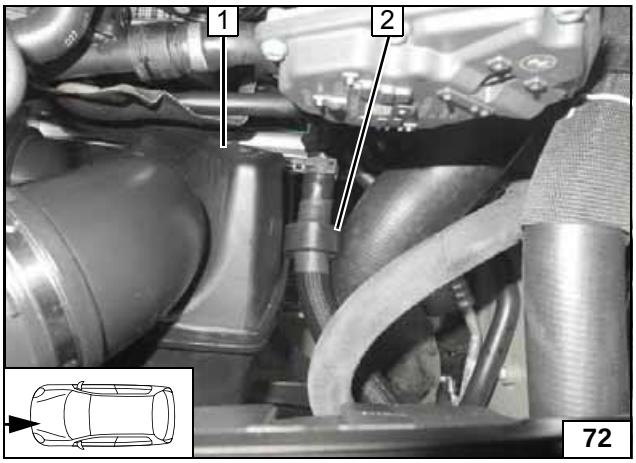
1 Circulating pump

Connecting circulating pump



Install electrical box **1**.
Ensure sufficient distance between hose **H** and electrical box **1**, correct if necessary.

Electrical box distance check



Install air filter box **1**. Position black (sw) rubber isolator **2**.

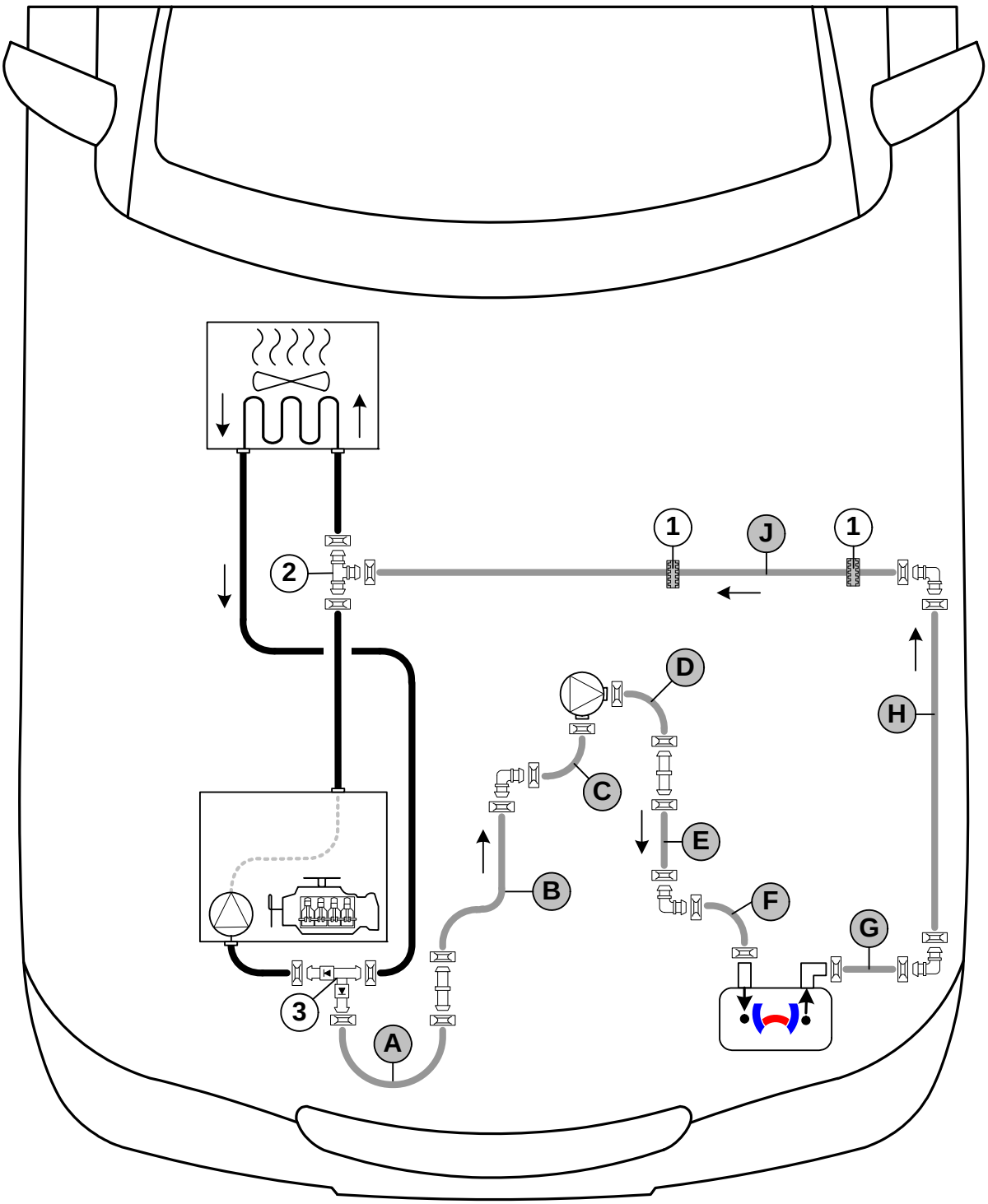
Positioning rubber isolator

Coolant Circuit for 2.0 Petrol

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.

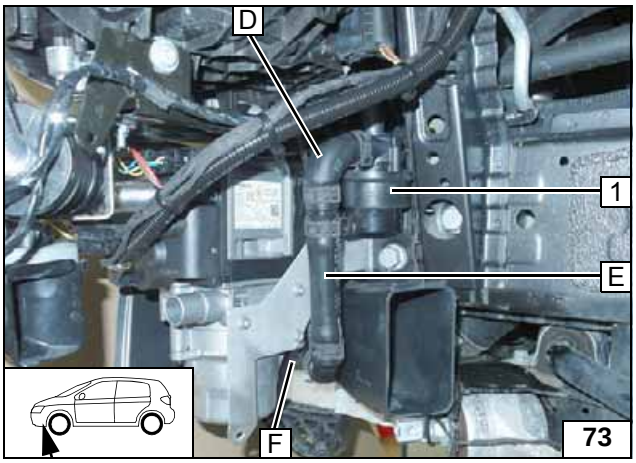
The connection should be modelled on an ‘island’ circuit and based on the following diagram:

Hose routing diagram



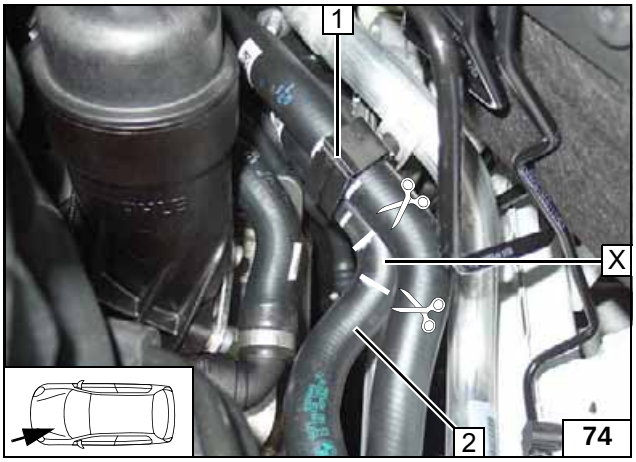
All spring clips without a specific designation = 25 mm dia. All connecting pipes and = 18x18 mm dia.

1 = Black (sw) rubber isolator . **2** = T-piece . **3** = Check valve .



1 Circulating pump

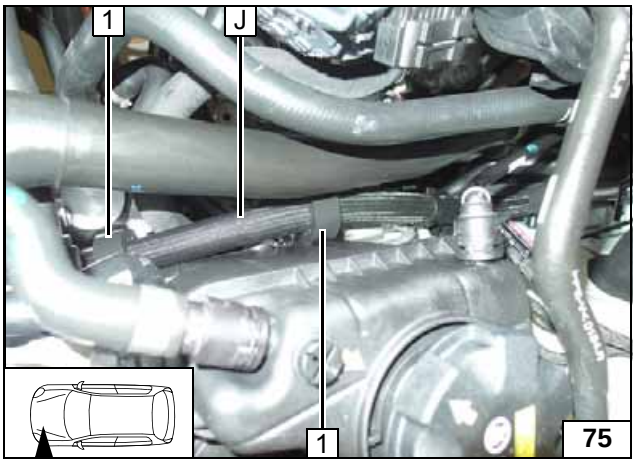
Connecting circulating pump



Open original vehicle hose bracket **1**. Cut hose of engine outlet / heat exchanger inlet **2** at the markings.

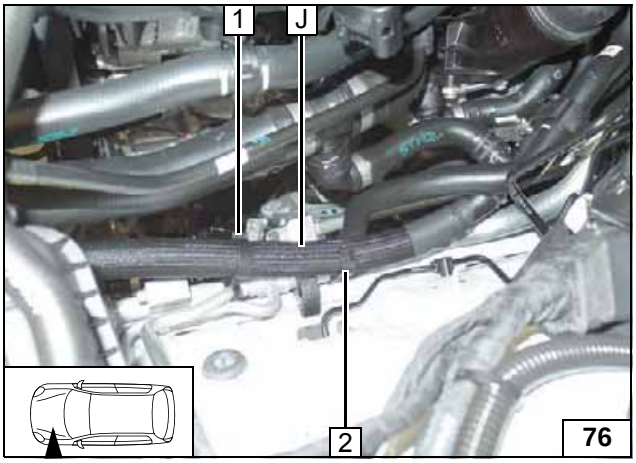
X =

Cutting point 1



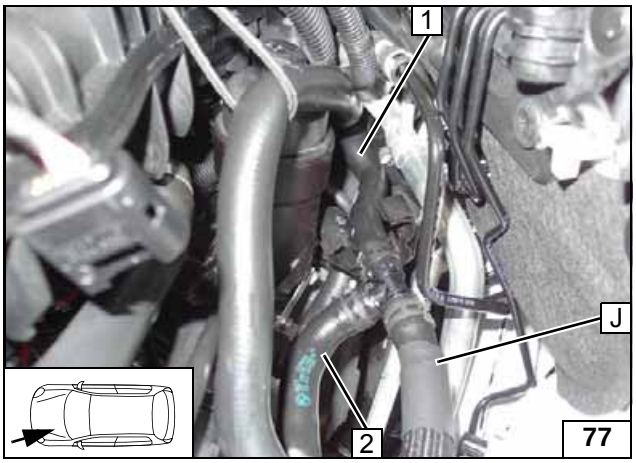
1 Black (sw) rubber isolator [2x]

Routing hose J



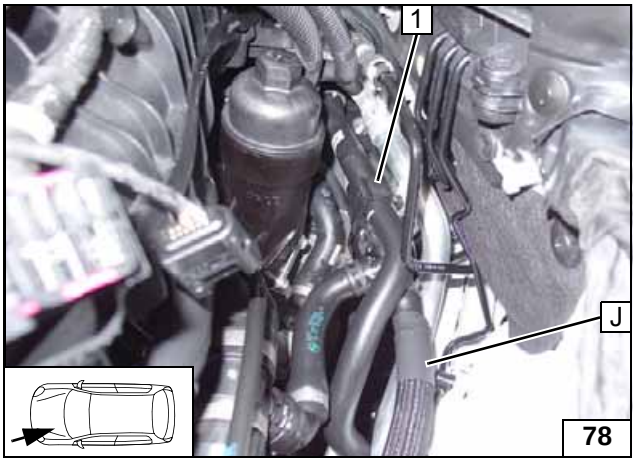
1 9x22 hose bracket
2 20x22 hose bracket

Routing hose J



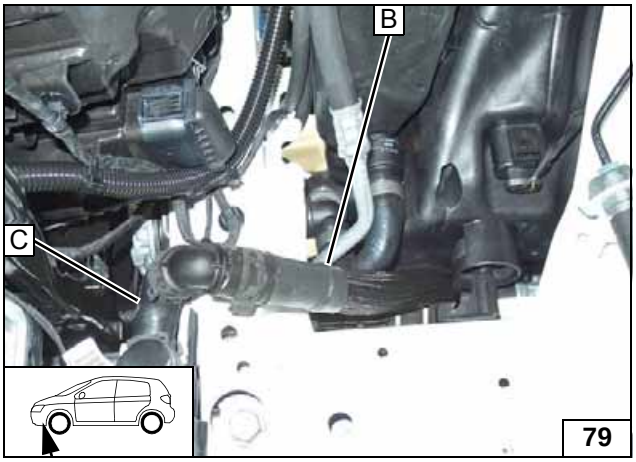
1 Heat exchanger inlet hose section
2 Engine outlet hose section

Connecting heat exchanger inlet

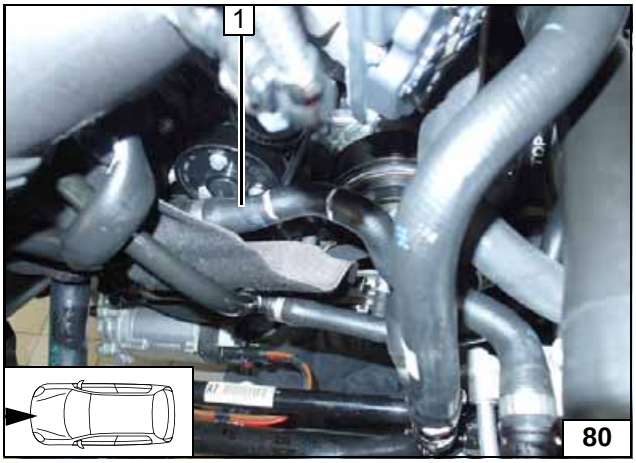


1 Original vehicle hose bracket

Closing original vehicle hose bracket

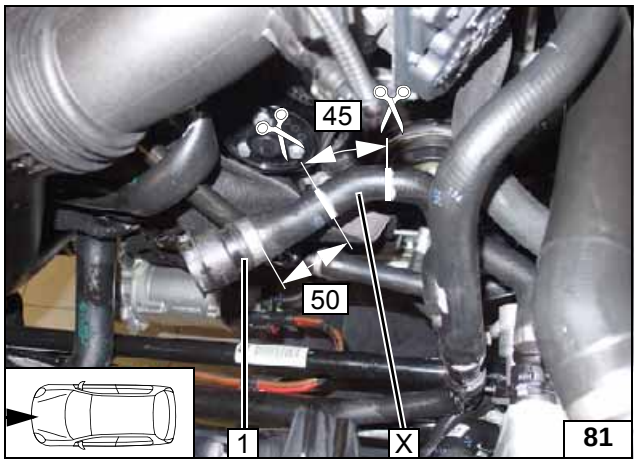


Connecting circulating pump



Detach hose of heat exchanger outlet / engine inlet **1** from engine inlet connection piece.

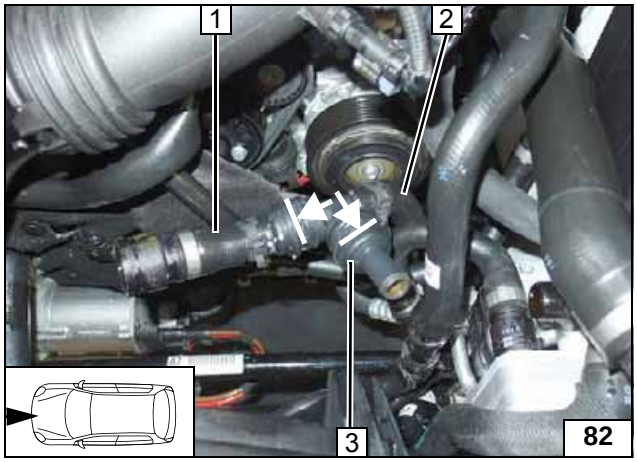
Preparing cutting point 2



Cut hose of heat exchanger outlet/ engine inlet **1** at the markings.

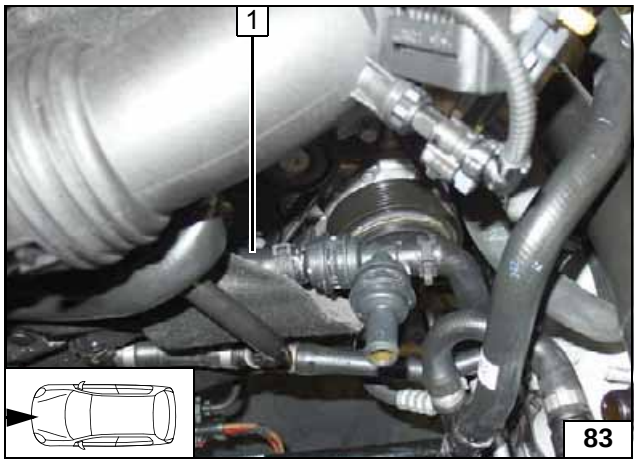
X =

Cutting point 2



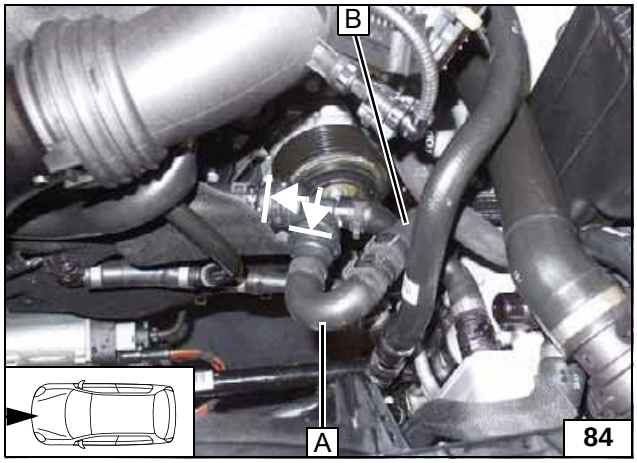
1 Engine inlet hose section
2 Heat exchanger outlet hose section
3 Check valve

Connecting engine inlet

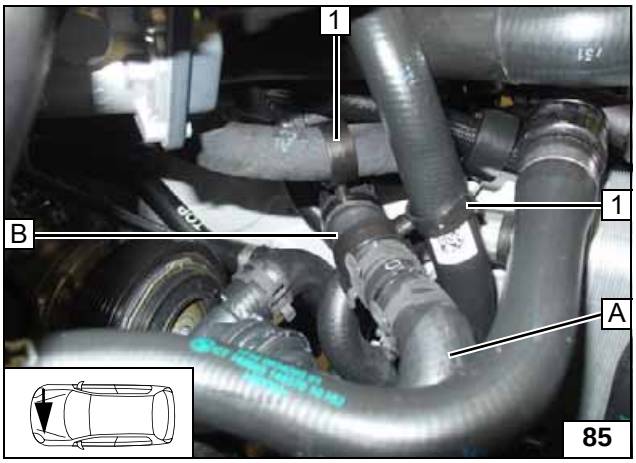


1 Install engine inlet hose section

Connecting engine inlet



Connecting check valve



1 20x22 hose bracket [2x]

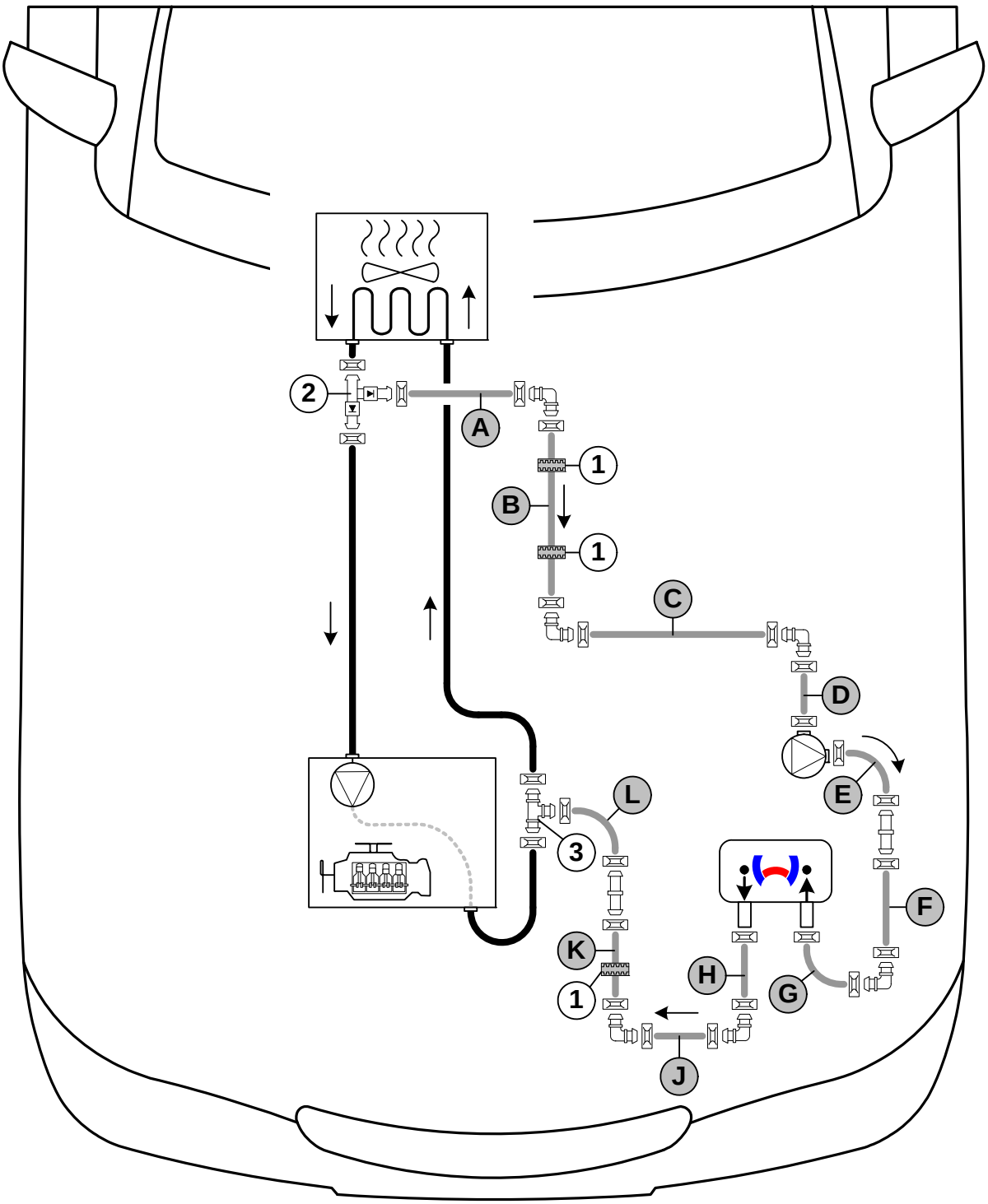
Routing hose A

Coolant Circuit for Diesel Vehicles

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.

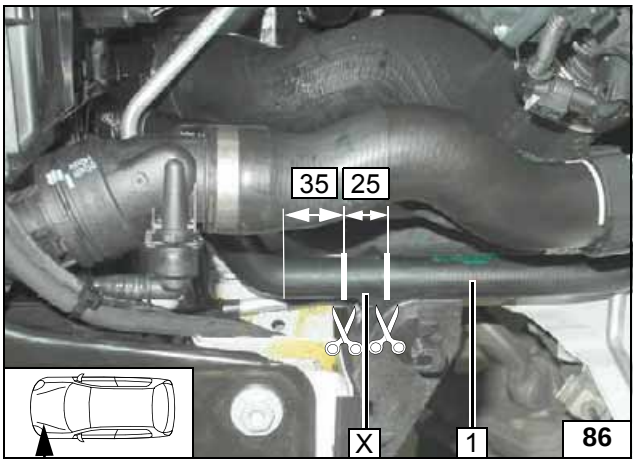
The connection should be modelled on an ‘island’ circuit and based on the following diagram:

Hose routing diagram



All spring clips without a specific designation = 25 mm dia. All connecting pipes and = 18x18 mm dia.

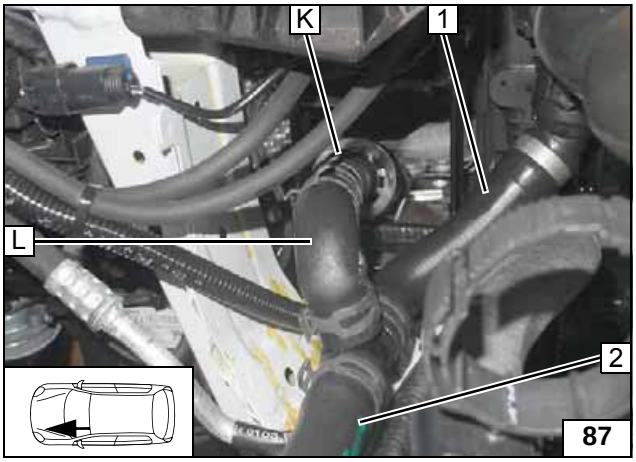
1 = Black (sw) rubber isolator . **2** = Check valve . **3** = T-piece .



Cut hose of engine outlet / heat exchanger inlet **1** at the markings.

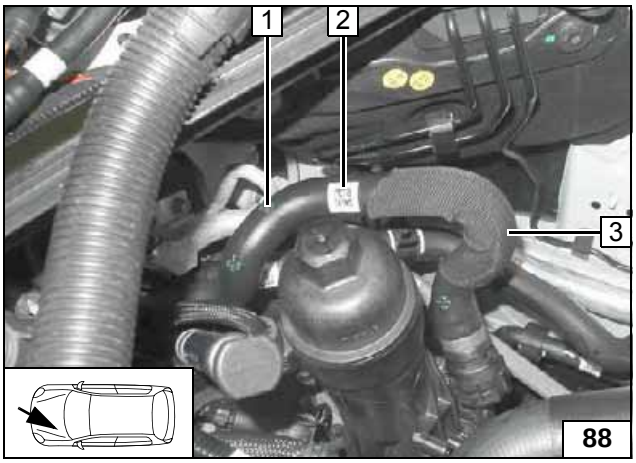
X =

Cutting point 1



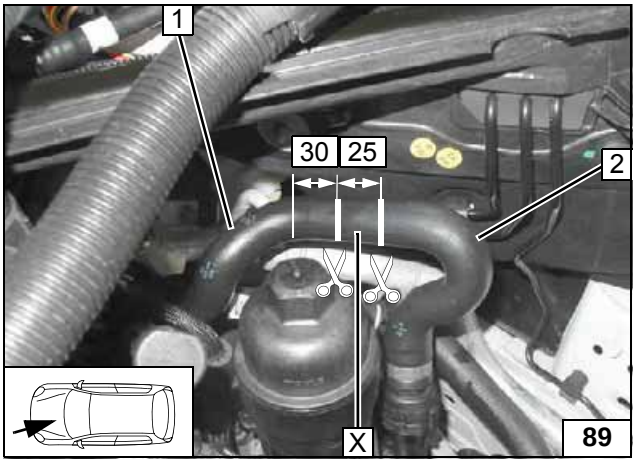
1 Engine outlet hose section
2 Heat exchanger inlet hose section

Connecting heat exchanger inlet



Remove and discard sticker **2** and braided protection **3** from hose of heat exchanger outlet / engine inlet **1**.

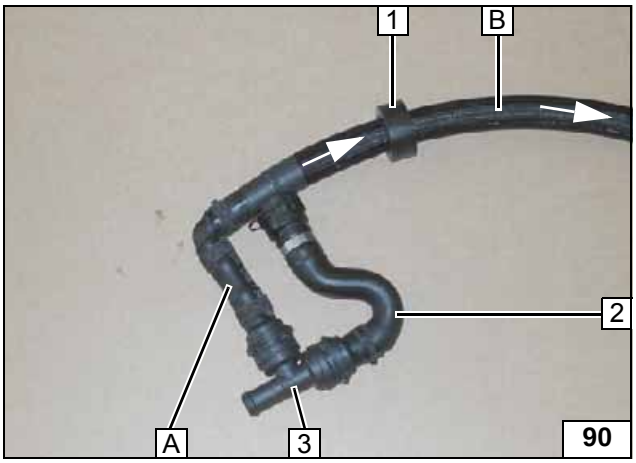
Preparing cutting point 2



1 Heat exchanger outlet hose section
2 Remove engine inlet hose section

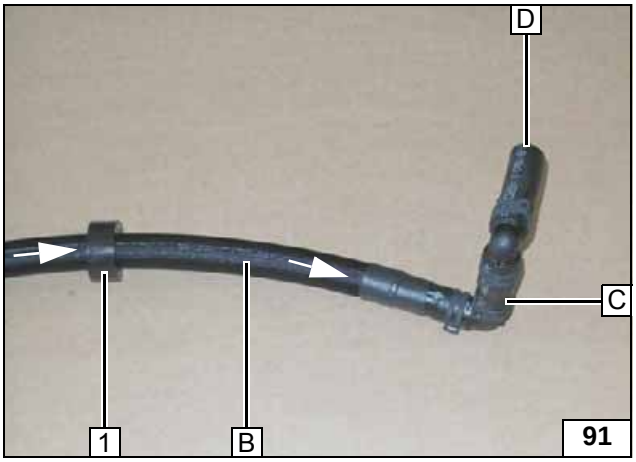
X =

Cutting point 2



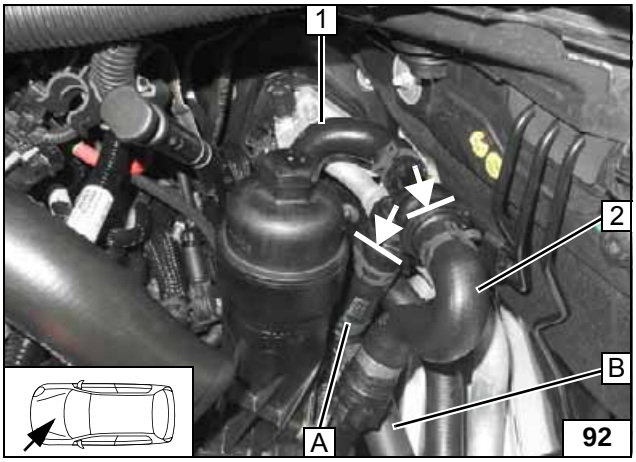
1 Black (sw) rubber isolator
2 Engine inlet hose section
3 Check valve

Premounting hose B



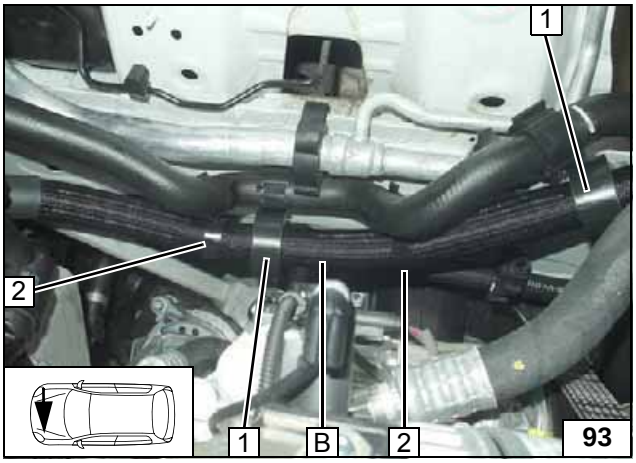
1 Black (sw) rubber isolator

Premounting hose B



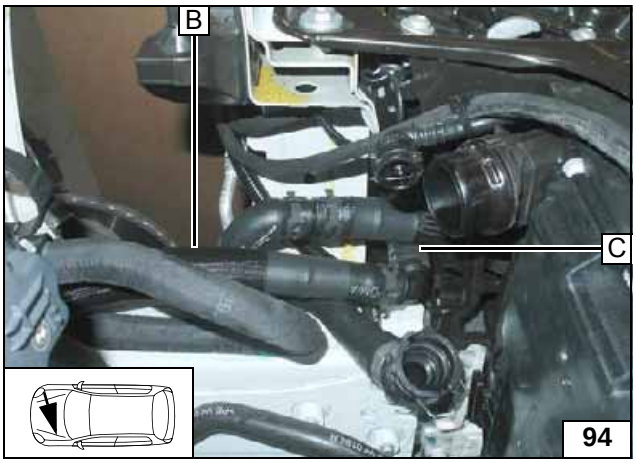
1 Heat exchanger outlet hose section
2 Engine inlet hose section

Connecting engine inlet

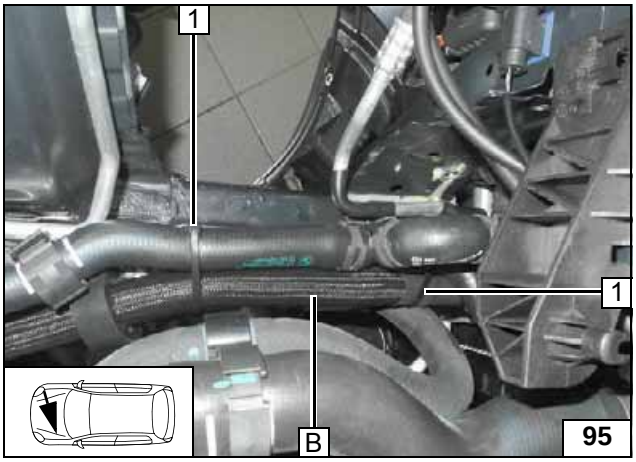


1 Black (sw) rubber isolator [2x]
2 20x22 hose bracket [2x]

Routing hose B

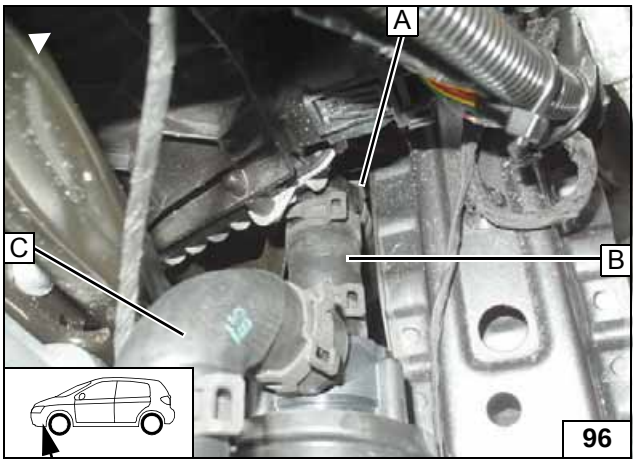


Routing hose B

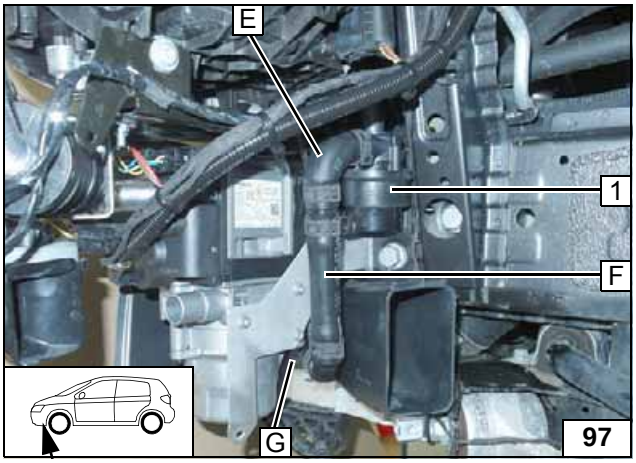


1 Cable tie [2x]

Fixing hose B

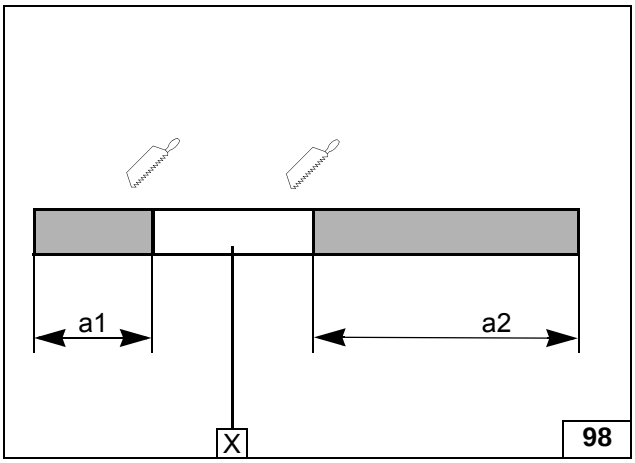


Connecting circulating pump



1 Circulating pump

Connecting circulating pump

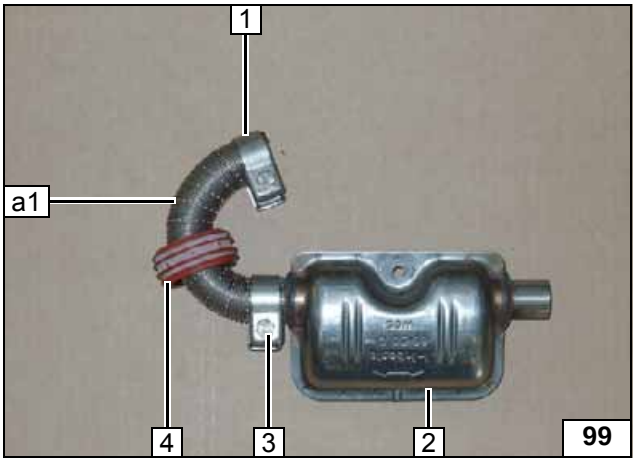


Exhaust Gas for 1 Series

a1 = 150
a2 = 340

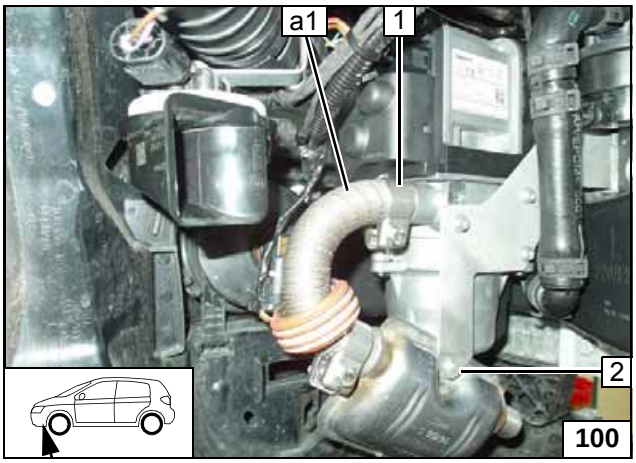
X =

Preparing exhaust pipes



1 Install hose clamp loosely
2 Silencer
3 Hose clamp
4 Spacer bracket

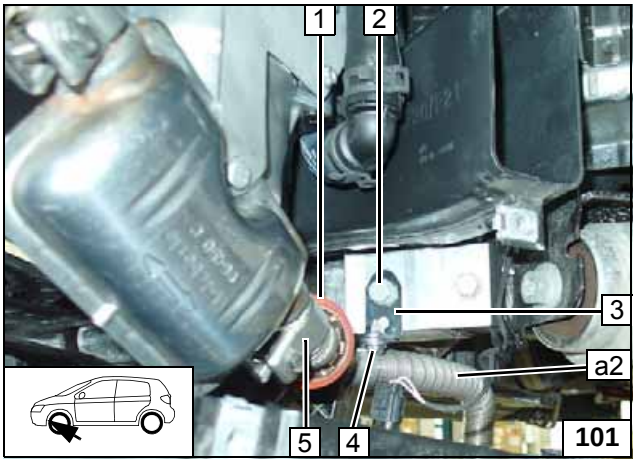
Premounting silencer



Install bumper.

1 Tighten hose clamp
2 M6x16 bolt, flanged nut

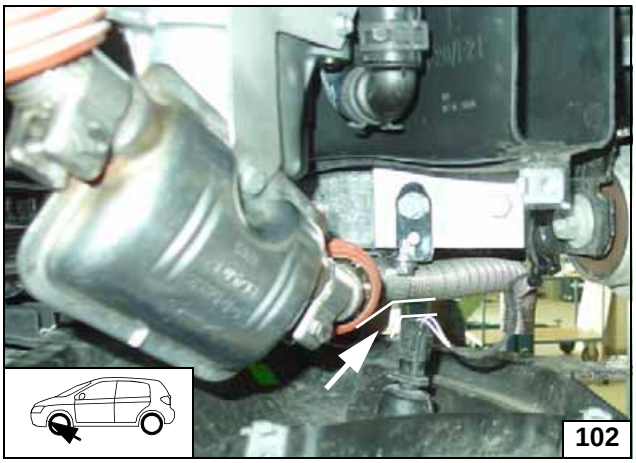
Installing silencer



Ensure sufficient distance from neighbouring components, correct if necessary.

1 Spacer bracket
2 Original vehicle bolt
3 Angle bracket
4 M6x20 bolt, p-clamp, flanged nut
5 Hose clamp

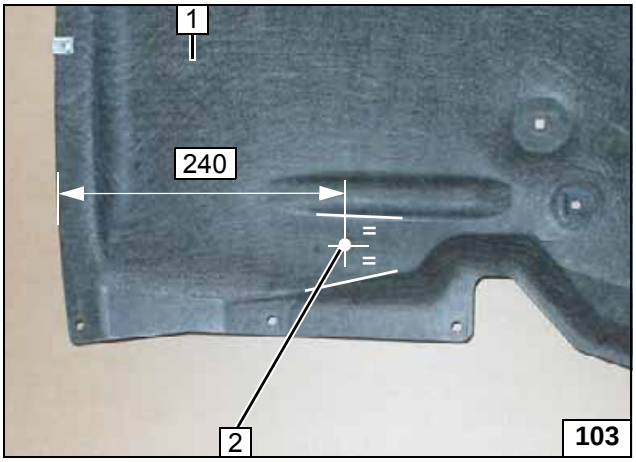
Installing exhaust pipe a2



≥ 20 mm

Checking distance

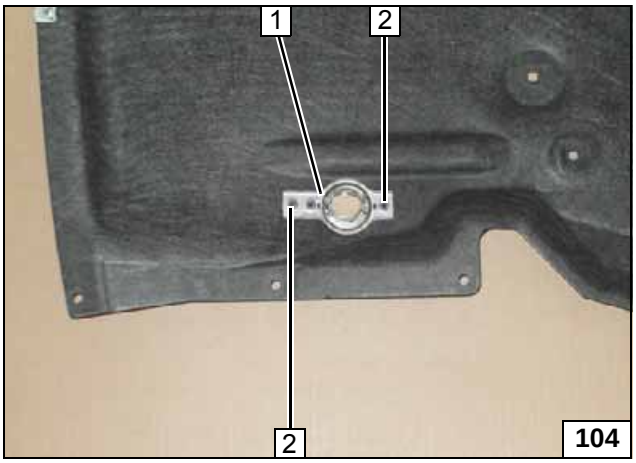
Exhaust End Fastener Installation for 1 Series



Work step E1.

1 Underride protection (inside)
2 Hole

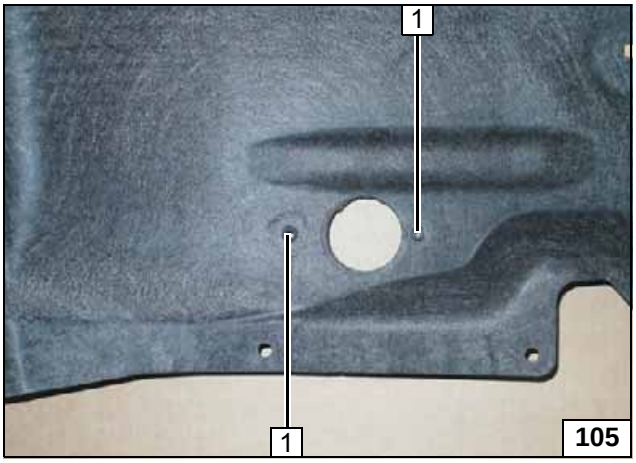
Hole in underride protection



Work step E3.

1 Exhaust end fastener
2 Hole pattern [2x]

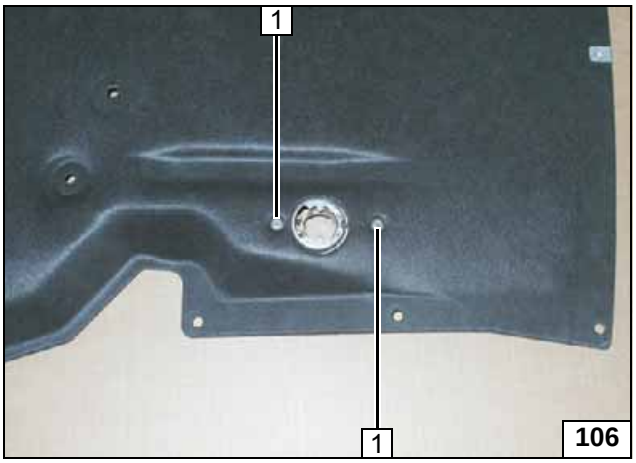
Copying hole pattern



Work step E4.

1 Hole [2x]

Holes in underride protection

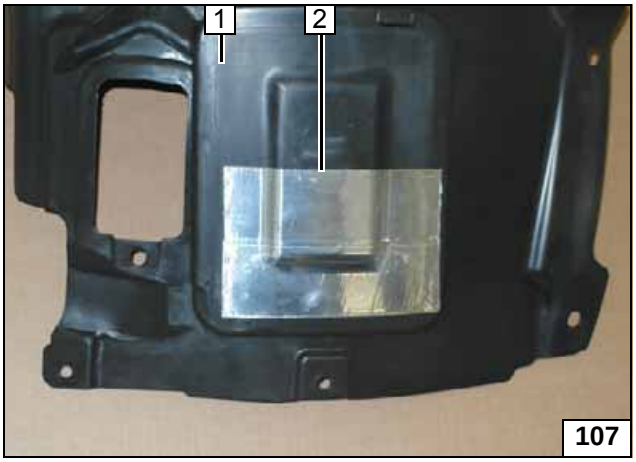


Work step E5.

1 5x13 self-tapping screw [2x]

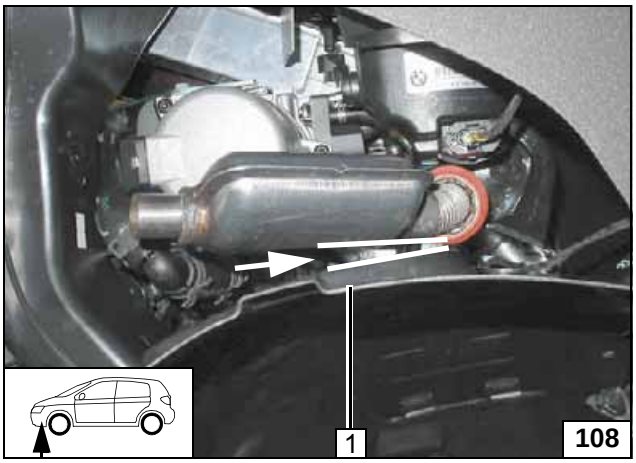
Install underride protection.

Installing exhaust end fastener



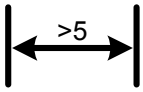
Stick 100x150 self-adhesive heat protection film **2** onto wheel-well inner panel **1** as shown.
Install wheel-well inner panel.

Preparing wheel-well inner panel

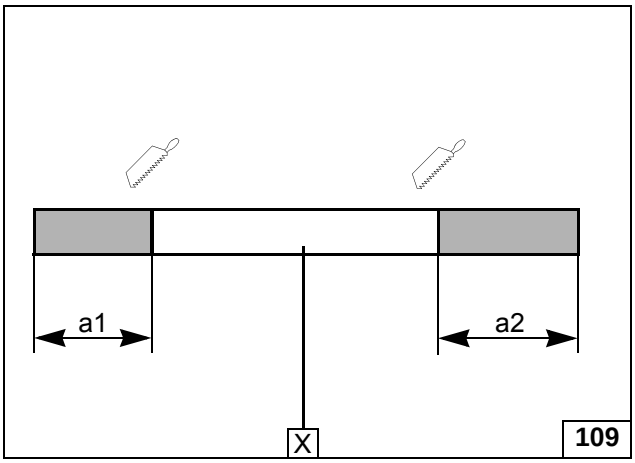


Front wheel well trim was removed for improved view.

1 Wheel-well inner panel



Installing wheel-well inner panel, checking distance

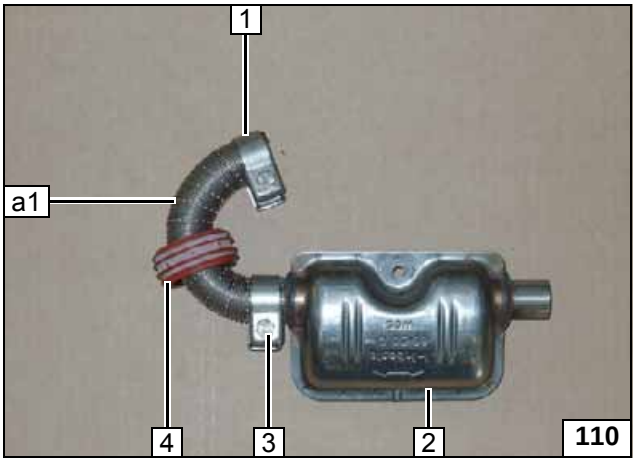


Exhaust Gas for 3 Series

a1 = 150
a2 = 160

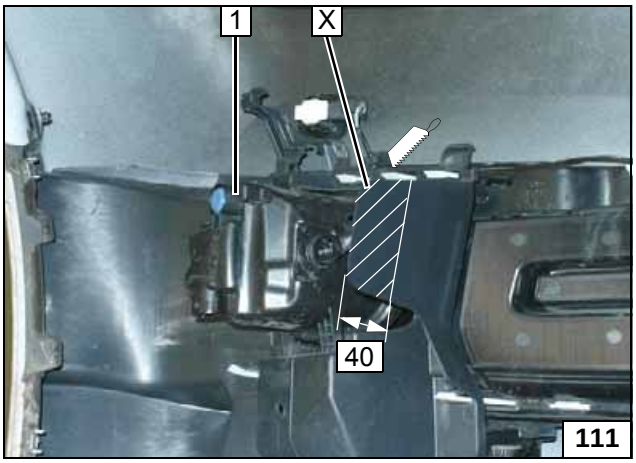
X =

Preparing exhaust pipes



1 Install hose clamp loosely
2 Silencer
3 Hose clamp
4 Spacer bracket

Premounting silencer



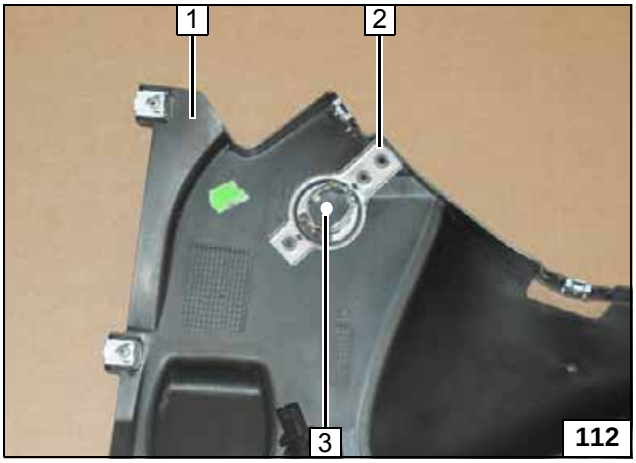
Remove plastic tab as shown.

1 Front fog light on the left

X =

Install bumper.

Preparing bumper

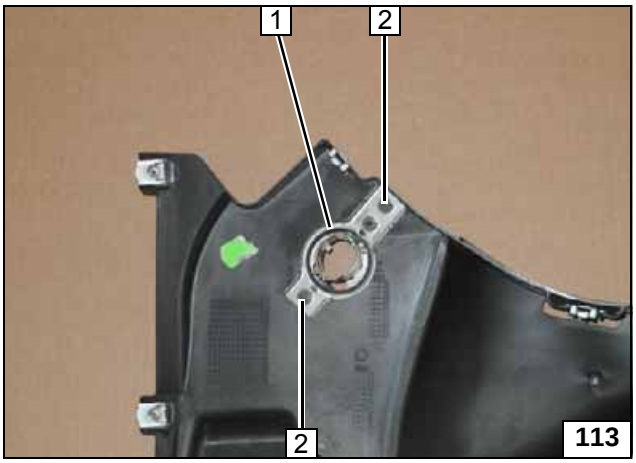


Exhaust End Fastener Installation for 3 Series without M Package

Work step E1.

1 Underride protection
2 Exhaust end fastener
3 Hole

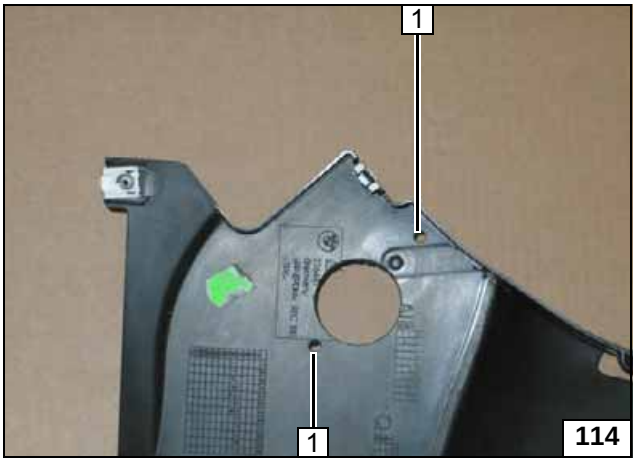
Hole in wheel-well inner panel



Work step E3.

1 Exhaust end fastener
2 Hole pattern [2x]

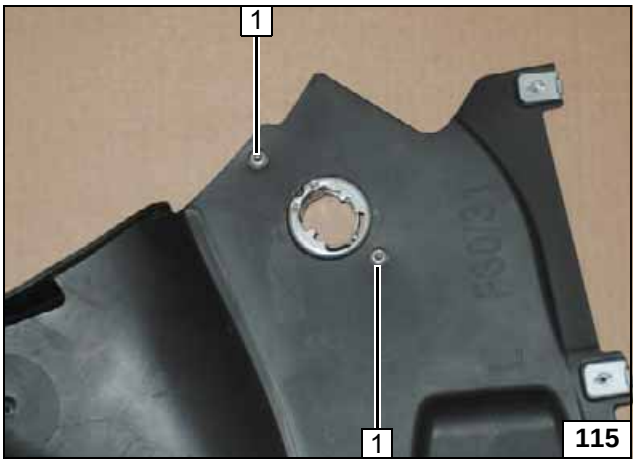
Copying hole pattern



Work step E4.

1 Hole [2x]

Holes in wheel-well inner panel



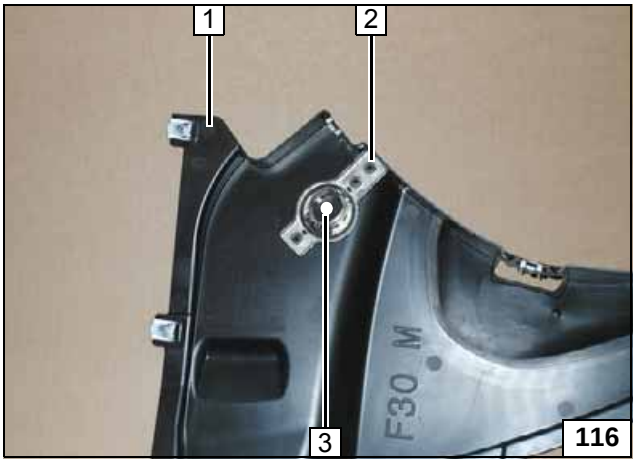
Work step E5.

1 5x13 self-tapping screw [2x]

Install front wheel well trim.

Installing exhaust end fastener

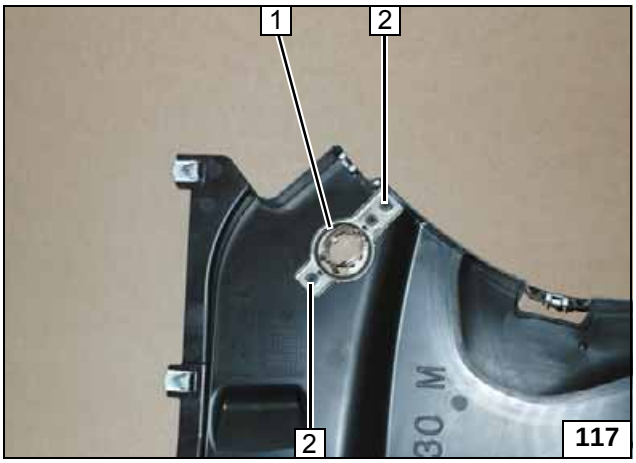
Exhaust End Fastener Installation for 3 Series with M Package



Work step E1.

1 Underride protection
2 Exhaust end fastener
3 Hole

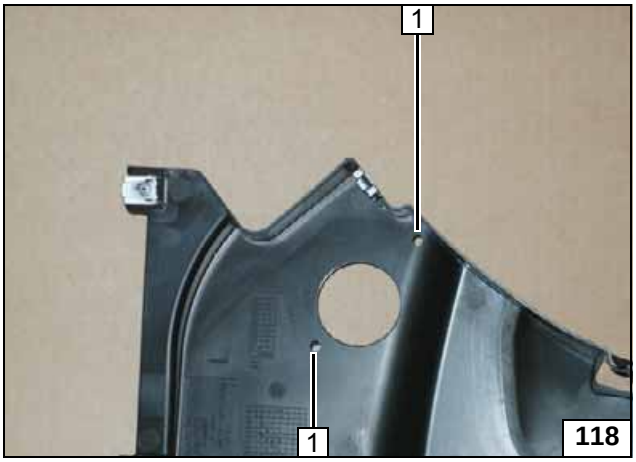
Hole in wheel-well inner panel



Work step E3.

1 Exhaust end fastener
2 Hole pattern [2x]

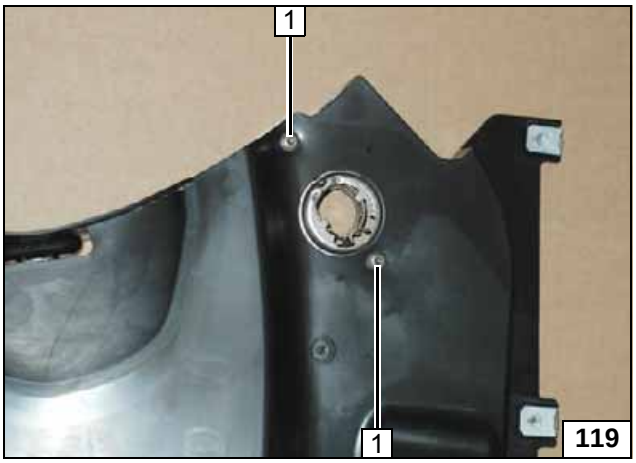
Copying hole pattern



Work step E4.

1 Hole [2x]

Holes in wheel-well inner panel

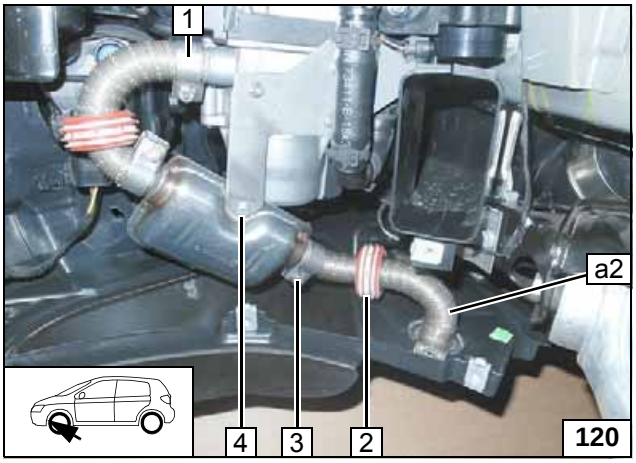


Work step E5.

1 5x13 self-tapping screw [2x]

Install front wheel well trim.

Installing exhaust end fastener

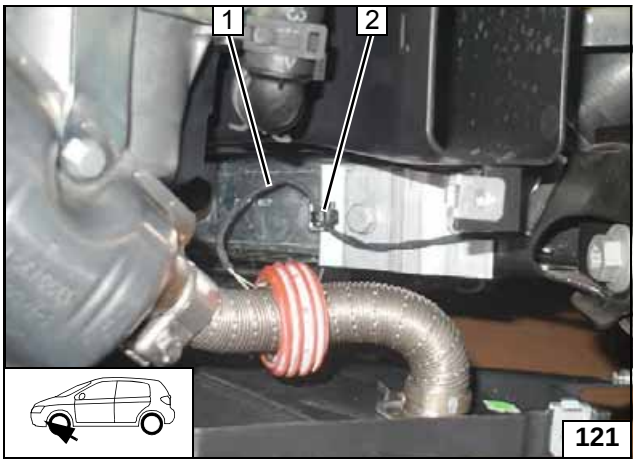


All 3 Series

Ensure sufficient distance between front fog lights and spacer bracket, correct if necessary.

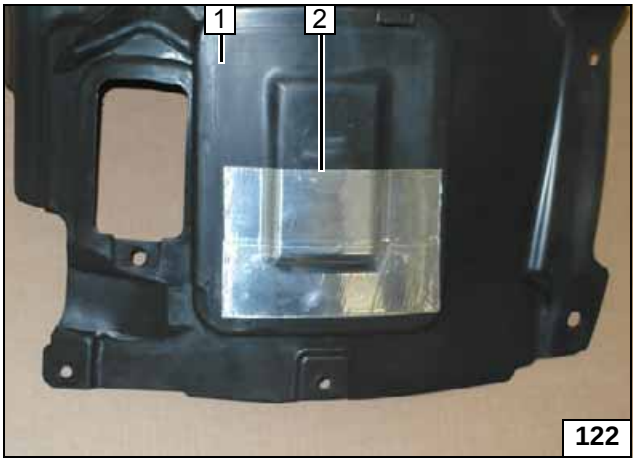
1 Tighten hose clamp
2 Spacer bracket
3 Hose clamp
4 M6x16 bolt, flanged nut

Installing silencer



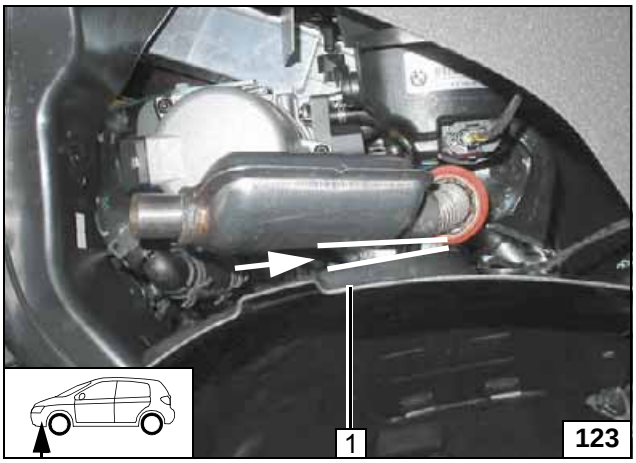
1 Original vehicle temperature sensor wiring harness
2 Edge clip cable tie

Attaching temperature sensor wiring harness



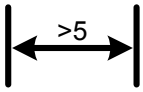
Stick 100x150 self-adhesive heat protection film **2** onto wheel-well inner panel **1** as shown.
Install wheel-well inner panel.

Preparing wheel-well inner panel

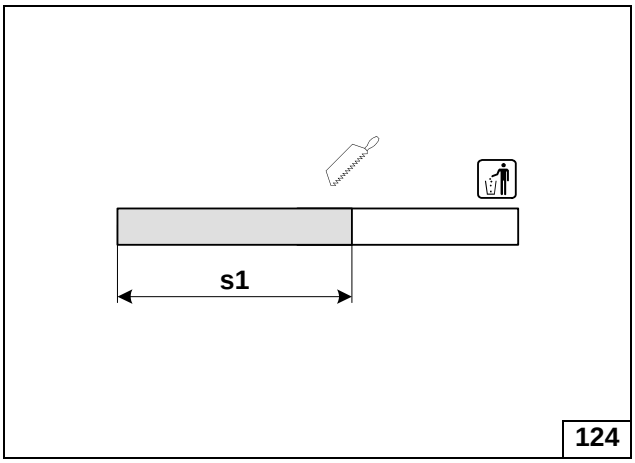


Front wheel well trim was removed for improved view.

1 Wheel-well inner panel



Installing wheel-well inner panel, checking distance

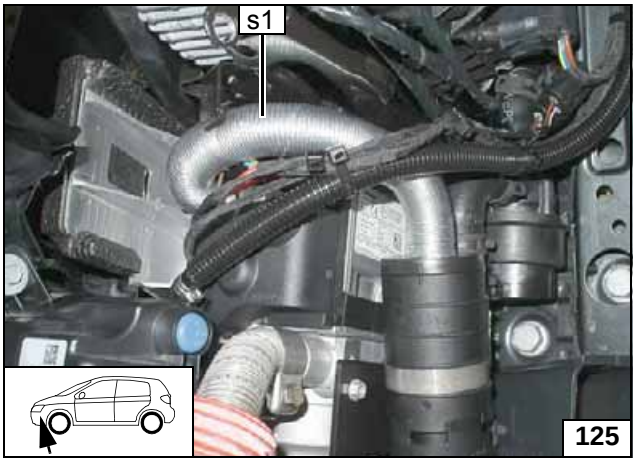


Combustion Air

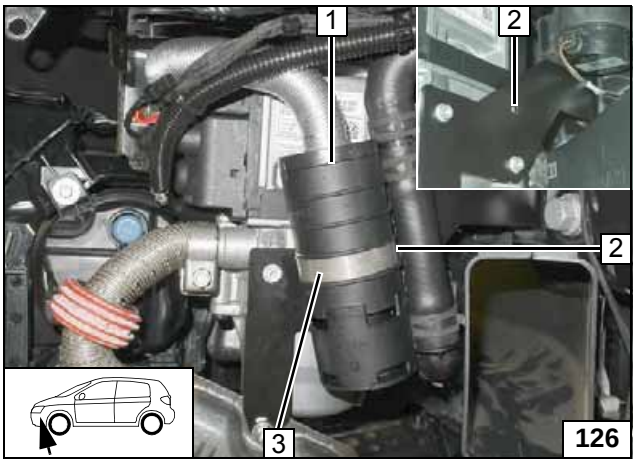
s1 = 250

X =

Cutting combustion air pipe to length



Installing combustion air pipe

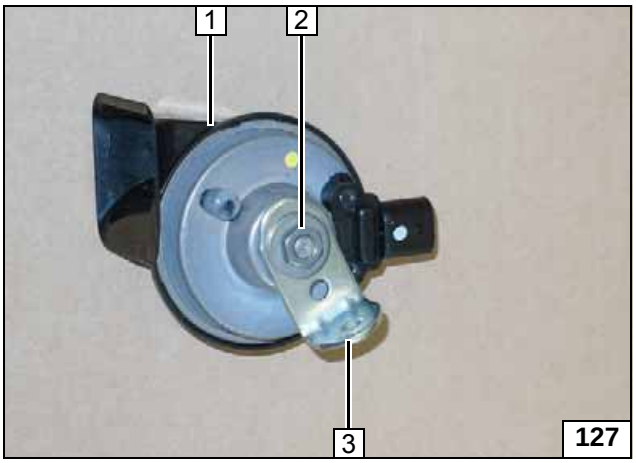


1 Silencer
2 Position of 5x13 self-tapping bolt
3 51 mm dia. clamp

Installing silencer

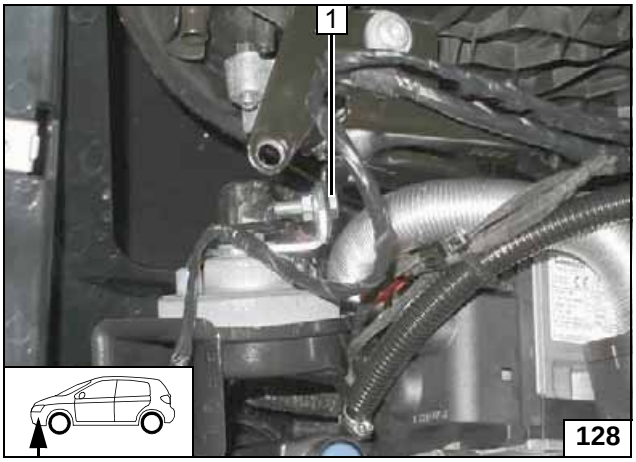
Final Work

1 Series without brake air duct



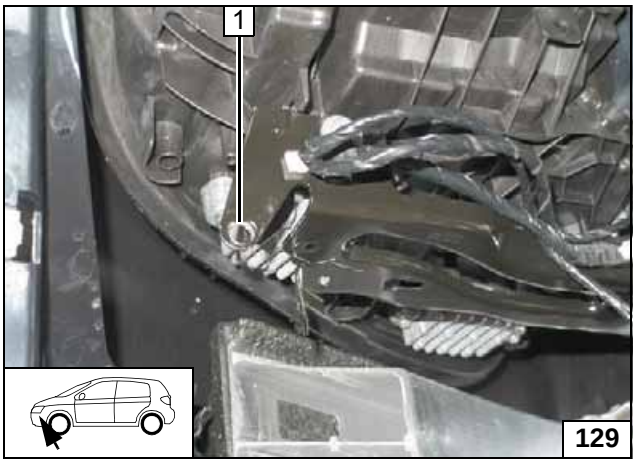
1 Horn 1
2 Original vehicle nut, large diameter washer
3 Angle bracket

Installing angle bracket



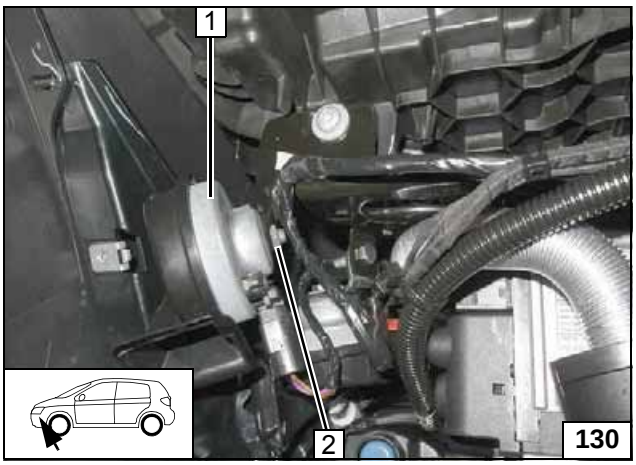
1 M6x20 bolt, original vehicle hole, flanged nut

Installing horn 1



1 Drill out hole to 8.5 mm dia.

Drilling out original vehicle hole



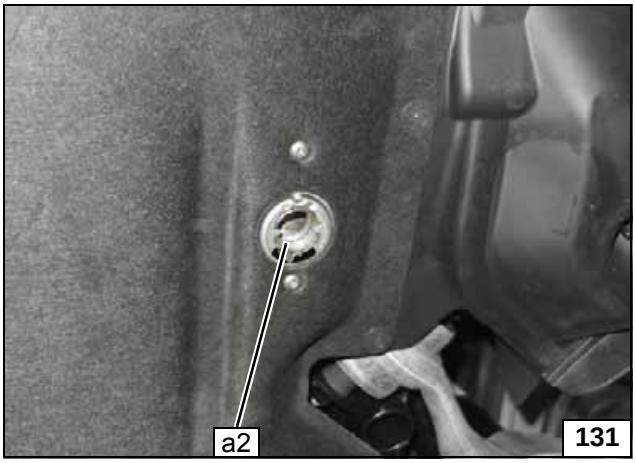
After installing second horn bracket **1**, turn by 90° as shown!

2 Original vehicle nut

Installing horn 2

Reassemble the components in reverse order. Check all hoses, clamps and all electrical connections for firm seating. Insulate and tie back loose lines.
Only use manufacturer-approved coolant. Spray the heater components with anti-corrosion wax (Tectyl 100K).

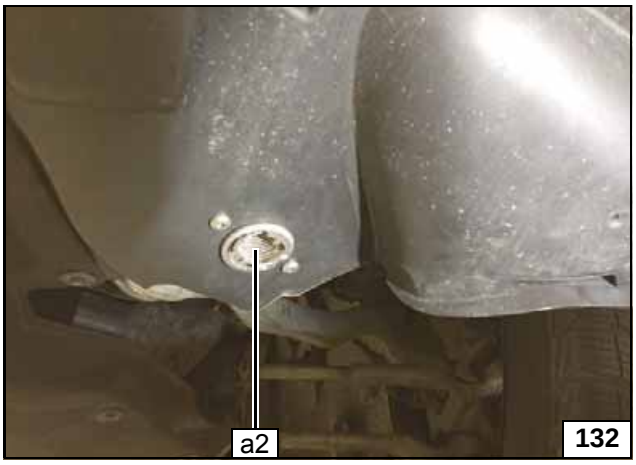
- **Connect the battery.**
- **Fill and bleed the coolant circuit according to the vehicle manufacturer's instructions.**
- **Teach Telestart transmitter.**
- **For initial startup and function check, please see installation instructions.**
- **For the A/C control panel settings, see the installation documentation in the additional kit 'Webasto Comfort' A/C control, section 'Final Work'.**
- **Place the 'Switch off parking heater before refuelling' caution label near the filler neck.**



1 Series

Work steps E6 - E8.

Installing exhaust pipe a2



3 Series

Work steps E6 - E8.

Installing exhaust pipe a2

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