



Water Heater

Thermo Top Evo Parking Heater



Installation Documentation

BMW 2 Series Active Tourer (F45) / Gran Tourer (F46) / X1 (F48) / X2 (F39)

Validity

Manufacturer	Model	Type	Model year	EG BE No. / ABE
BMW	2 Series Active Tourer / Gran Tourer	UKL-L	From model year 2015	e1 * 2007 / 46 * 0371 * ...

Motorisation	Fuel	Emission standard	Transmission type	Output in kW	Displacement in cm ³	Engine code
218d/xDrive	Diesel	Euro 6	SG	110	1995	B47D20
218d/xDrive	Diesel	Euro 6	AG	110	1995	B47D20
220d/xDrive	Diesel	Euro 6	AG	140	1995	B47C20B / B47C2001

Manufacturer	Model	Type	Model year	EG BE No. / ABE
BMW	X1	UKL-L	From model year 2015	e1 * 2007 / 46 * 0371 * ...
BMW	X1	UKL-L	From model year 2017	e1 * 2007 / 46 * 1676 * ...

Motorisation	Fuel	Emission standard	Transmission type	Output in kW	Displacement in cm ³	Engine code
2.0P	Petrol	Euro 6	AG	141	1998	B48M
1.8D	Diesel	Euro 6	SG / AG	110	1995	B47D20
2.0D	Diesel	Euro 6	SG / AG	140	1995	B47C20 / B47C20B / B47C2001

Manufacturer	Model	Type	Model year	EG BE No. / ABE
BMW	X2	UKL-L	From model year 2018	e1 * 2007 / 46 * 1824 * ...

Motorisation	Fuel	Emission standard	Transmission type	Output in kW	Displacement in cm ³	Engine code
xDrive 20d	Diesel	Euro 6	AG	140	1995	B47C20B / B47C2001

SG = manual transmission
AG = automatic transmission

BMW 2 Series Active Tourer (F45) / Gran Tourer (F46) / X1 (F48) / X2 (F39)

Left-hand drive vehicle

Verified equipment variants: Multi-zone automatic A/C
Front fog lights
LED main headlights
LED daytime running lights
2 WD
4 WD

Exclusion: In case of ex-works installed tow hitch
In case of preliminary setup for tow hitch installation
In case of hot climate version

Total installation time: approx. 10 hours

BMW 2 Series Active Tourer (F45) / Gran Tourer (F46) / X1 (F48) / X2 (F39)

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Necessary Components

Description	Order No.:
Basic delivery scope of Thermo Top Evo	In accordance with price list
Installation kit (cold start kit incl.) for BMW 2 Series Active Tourer (F45) / Gran Tourer (F46) / X1 (F48) / X2 (F39) 2015 petrol and diesel	1325209D
Additional 'Webasto Standard' A/C control kit for BMW 2 Series Active Tourer (F45) / Gran Tourer (F46) / X1 (F48) / X2 (F39) or Additional 'Webasto Comfort' A/C control kit for BMW 2 Series Active Tourer (F45) / Gran Tourer (F46) / X1 (F48) / X2 (F39)	1324389_ 1324388_
In case of Telestart: control element, as well as indicator lamp in consultation with end customer	In accordance with price list
Also required for X1	BMW Order No.:
6 plastic rivets for wheel arch trim	07 147 293 278

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.

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 start-up 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.

BMW 2 Series Active Tourer (F45) / Gran Tourer (F46) / X1 (F48) / X2 (F39)

Information on Validity

This installation documentation applies to BMW 2 Series Active Tourer (F45) / Gran Tourer (F46) / X1 (F48) / X2 (F39) diesel and X1 (F48) petrol 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.

Warning:

Vehicle and engine types, equipment variants and other specifications not listed in this installation documentation have not been tested. An installation is not allowed.

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 tab connector, 0.14 - 6mm²
- Crimping pliers for cable lug, 0.5 - 10mm²
- Crimping pliers for connector, 0.25 - 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.

Mechanics



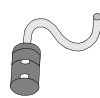
Electrics



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.



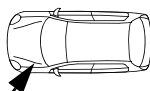
Specific risk of fire or explosion.



Reference to a special technical feature.



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



Reference to the manufacturer's vehicle-specific documents.



Reference to specific installation instructions of Webasto components (demonstrated with the example of the FuelFix).



Reference to general installation instructions of Webasto components.



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



Preliminary Work

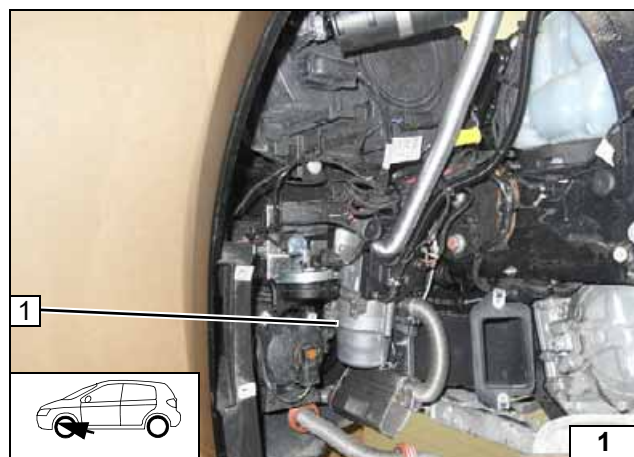
Vehicle



- Open the fuel tank cap.
- Ventilate the fuel tank.
- Close the fuel tank cap again.
- Depressurise the cooling system.
- Disconnect the battery.
- Remove the air filter completely, together with the intake hose.
- Remove the windscreen wipers.
- Remove the coolant reservoir cap.
- Remove the lower engine cover.
- Remove the left front wheel.
- Remove the wheel well trim on the left.
- Remove the underride protection on the right.
- Rear bench seat - Split: remove on the right side,
- Full: remove completely
- Open the right-hand tank fitting service lid.

Heater

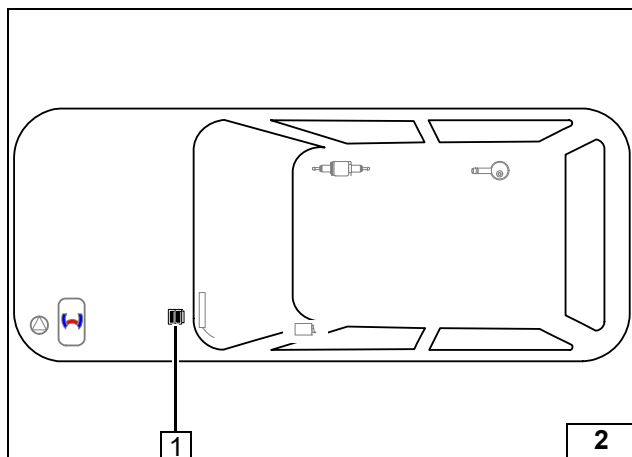
- Remove years that do not apply from the type and duplicate label.
- Attach the duplicate label (type label) visibly in the appropriate place in the engine compartment.



Heater Installation Location

- 1 Heater

Installation location

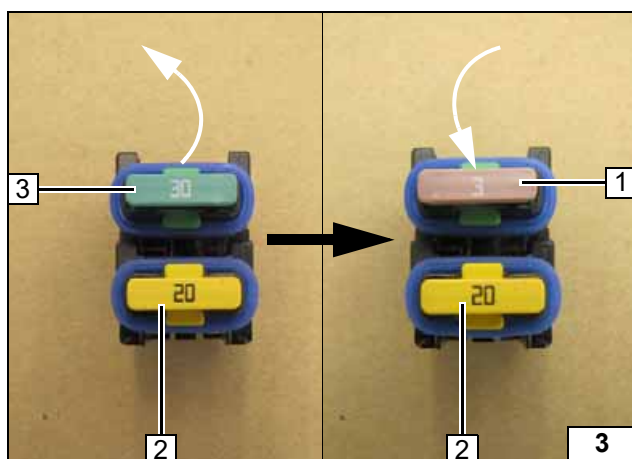


Preparing Electrical System

1 Engine compartment fuse holder



Installation overview



Replace passenger compartment 30A main fuse F2 3 with 3A fuse 1.

2 20A heater fuse F1

Preparing engine compartment fuses

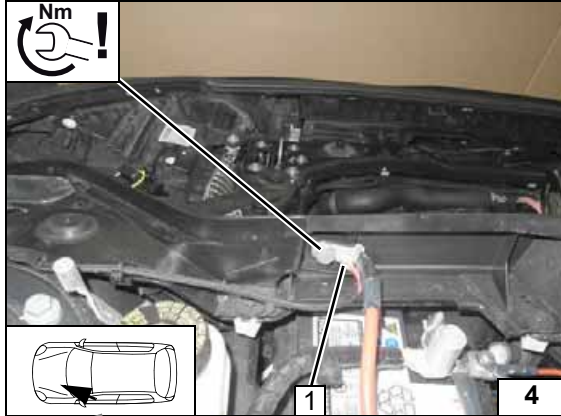


Electrical System of 2 Series Active Tourer / Gran Tourer



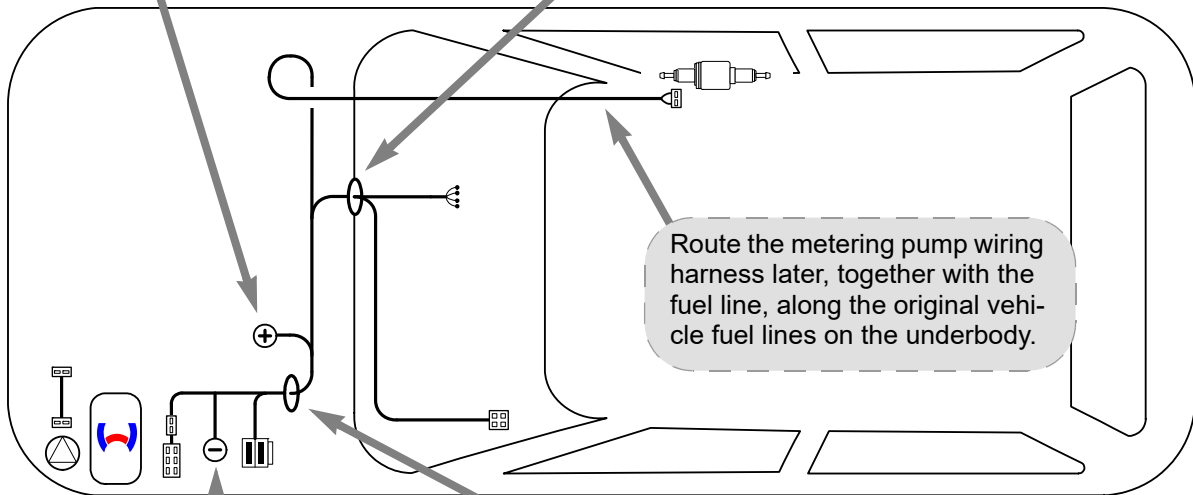
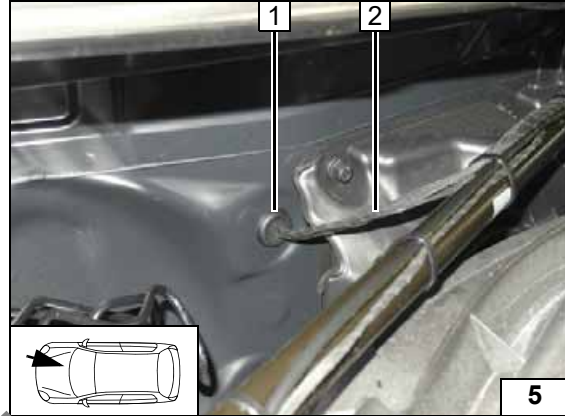
Positive wire

- 1 Positive wire on original vehicle positive support point

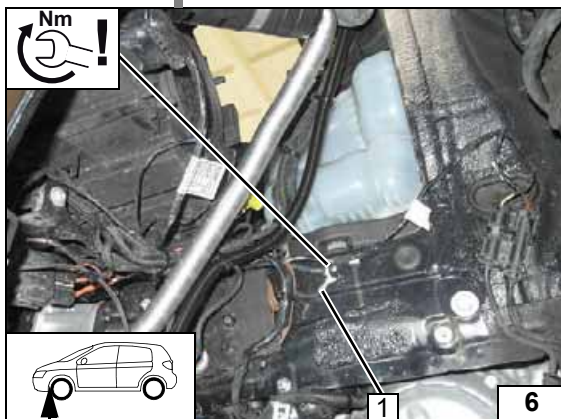


Passenger compartment wiring harness pass through

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

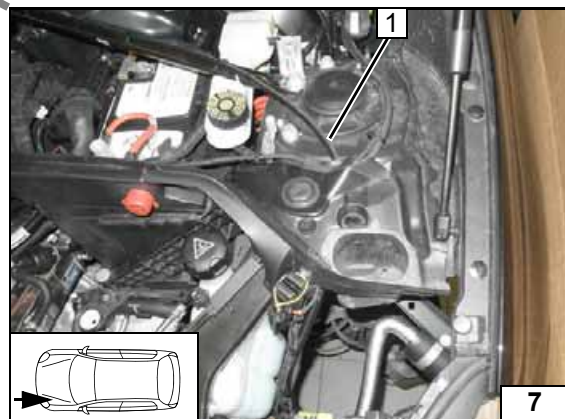


Wiring harness routing diagram



Earth wire

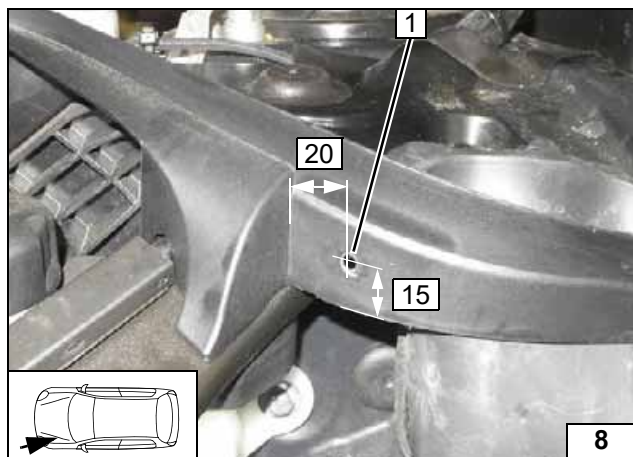
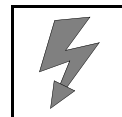
- 1 Earth wire on original vehicle earth support point



Coolant reservoir wiring harness pass through

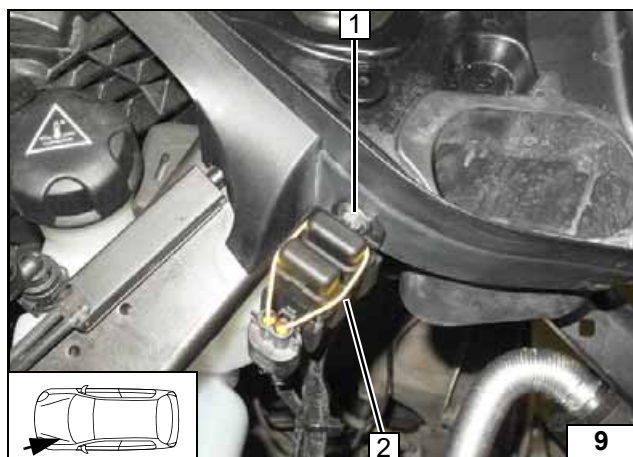
- 1 Route wiring harness of fan controller and control element along original vehicle wiring harness in the coolant reservoir





1 6 mm dia. hole

Hole for engine compartment fuse holder



- 1 M5x16 bolt, large diameter washer [2x], retaining plate of fuse holder, nut
- 2 Fuses F1-2

Installing fuse holder of engine compartment

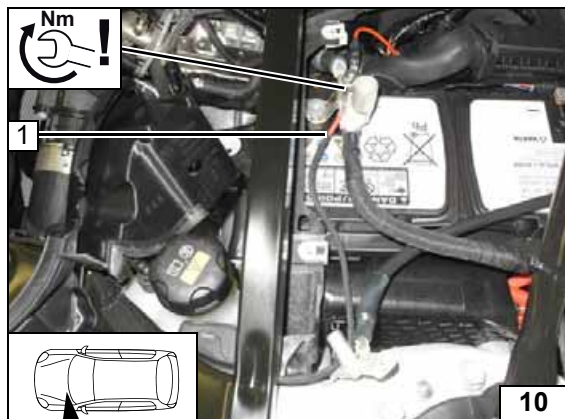


Electrical System of X1 / X2



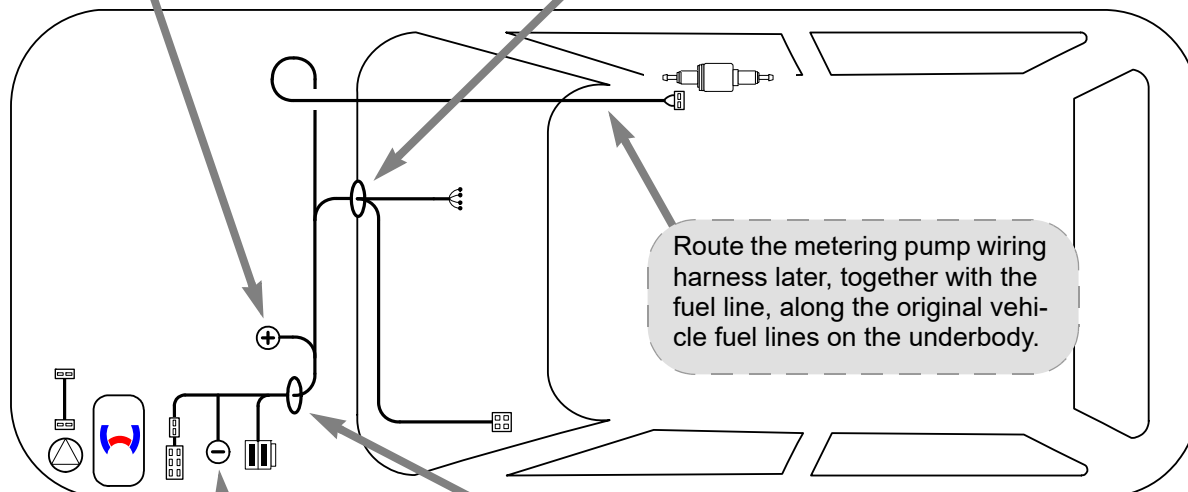
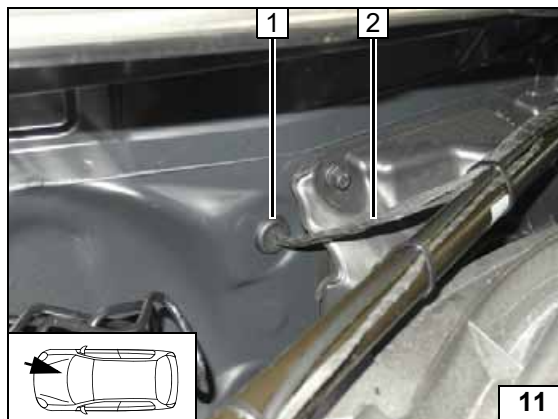
Positive wire

- 1 Positive wire on original vehicle positive support point

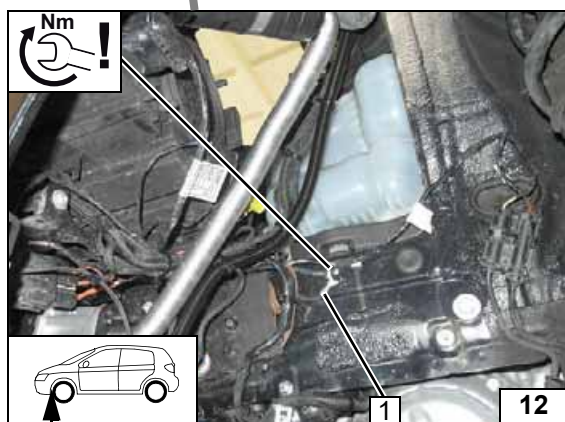


Passenger compartment wiring harness pass through

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



Wiring harness routing diagram



Earth wire

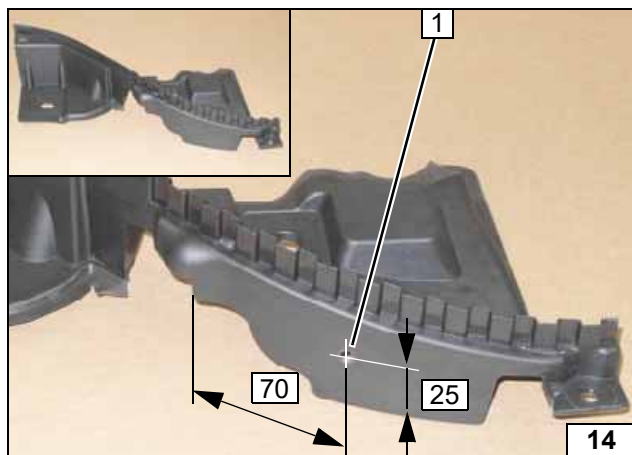
- 1 Earth wire on original vehicle earth support point



Coolant reservoir wiring harness pass through

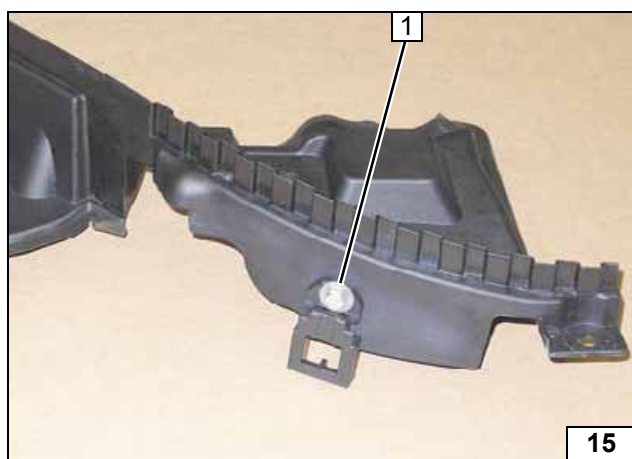
- 1 Route wiring harness of fan controller and control element along original vehicle wiring harness in the coolant reservoir
- 2 Edge clip cable tie





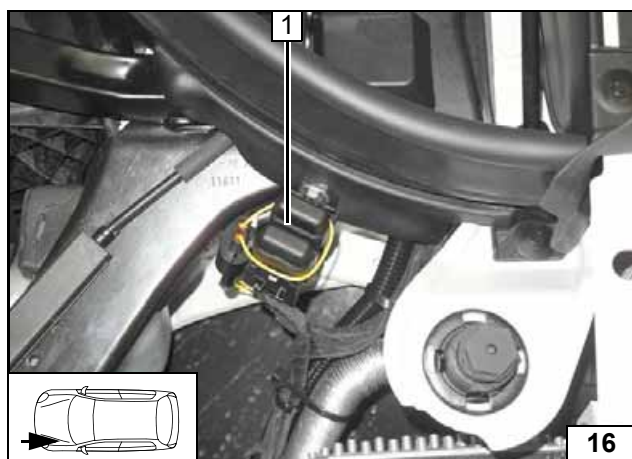
1 6 mm dia. hole

Hole in coolant reservoir cap for engine compartment fuse holder



1 M5x16 bolt, large diameter washer [2x], retaining plate of fuse holder, nut

Installing retaining plate of engine compartment fuse holder



1 Fuses F1, F2 and assembled bracket

Installing fuse holder of engine compartment



Cold Start System Installation for All Vehicles

! Integrate the cold start system as explained in the separate installation documentation:

Cold start system installation documentation for
BMW 2 Series Active Tourer (F45) / Gran Tourer (F46) / X1 (F48) / X2 (F39) diesel

or

Cold start system installation documentation for
BMW X1 (F48) petrol



Air-Conditioning Control for All Vehicles

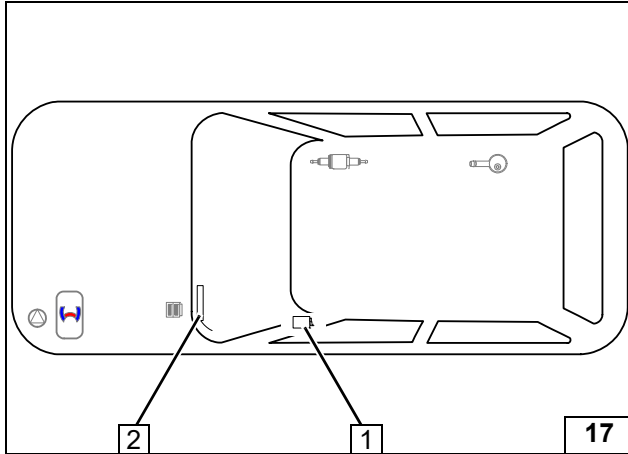
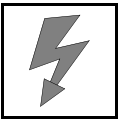
! Connect the A/C control in accordance with the separate installation documentation:

'Webasto Standard' A/C control installation documentation for AAC
BMW 2 Series Active Tourer (F45) / Gran Tourer (F46) / X1 (F48) / X2 (F39)

or

'Webasto Comfort' A/C control installation documentation for AAC
BMW 2 Series Active Tourer (F45) / Gran Tourer (F46) / X1 (F48) / X2 (F39)



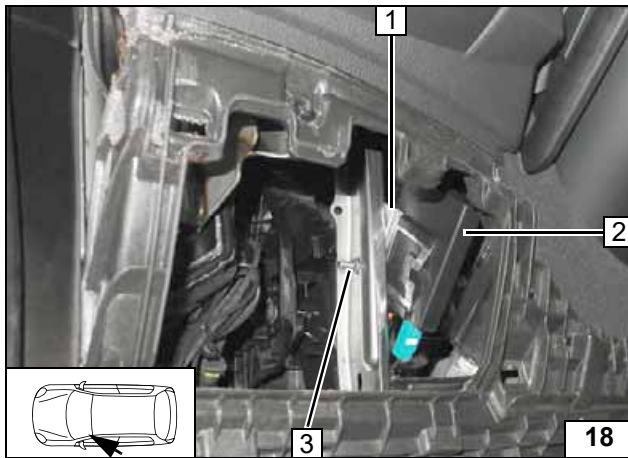


Heater Control Installation

- 1 Telestart / ThermoCall receiver
- 2 Telestart / ThermoCall aerial



Installation overview

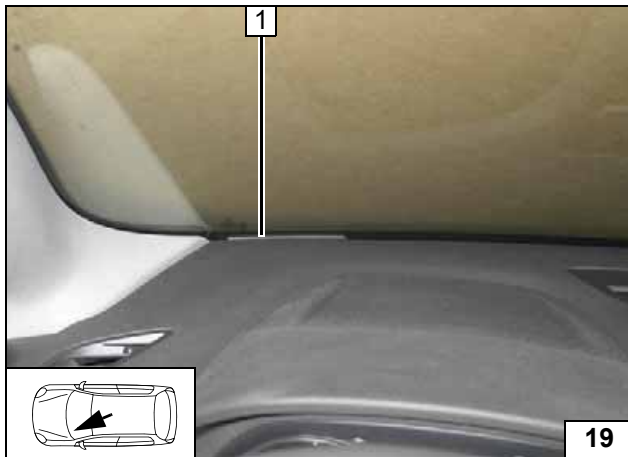


Remote Option (Telestart)

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

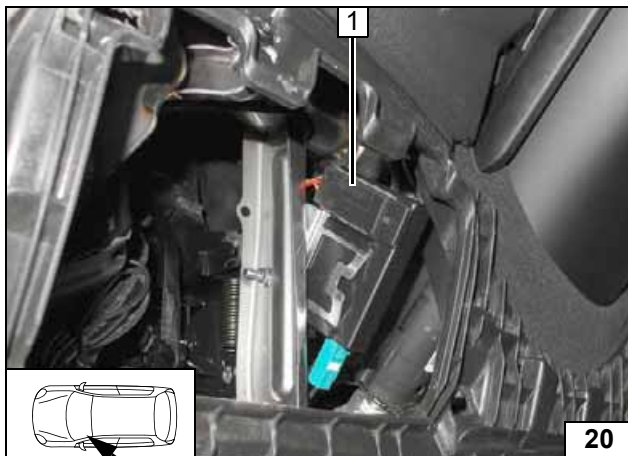


Installing receiver



- 1 Aerial

Installing aerial

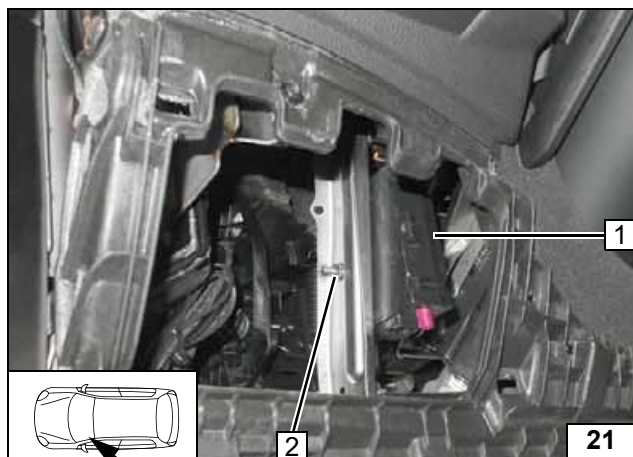


Temperature sensor T100 HTM

Fasten temperature sensor 1 with double-sided adhesive tape.



Installing temperature sensor

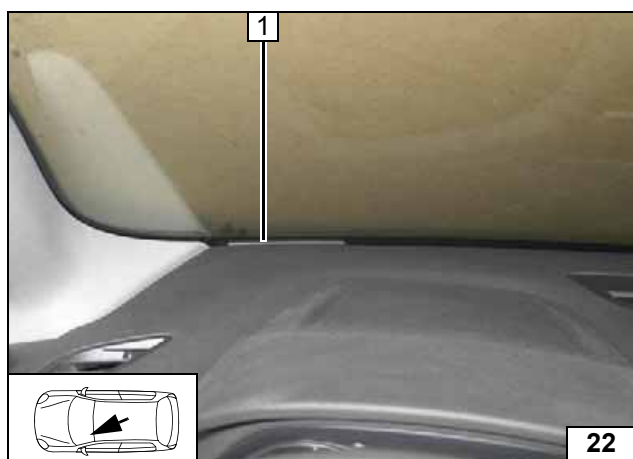


ThermoCall Option

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

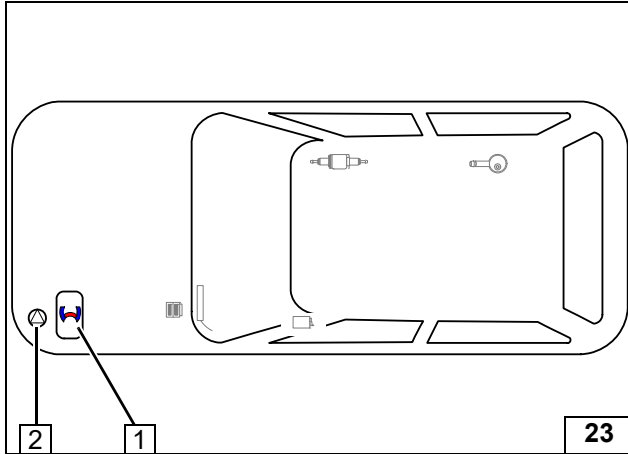
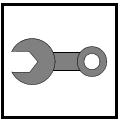


Installing receiver



- 1 Aerial (optional)

Installing aerial

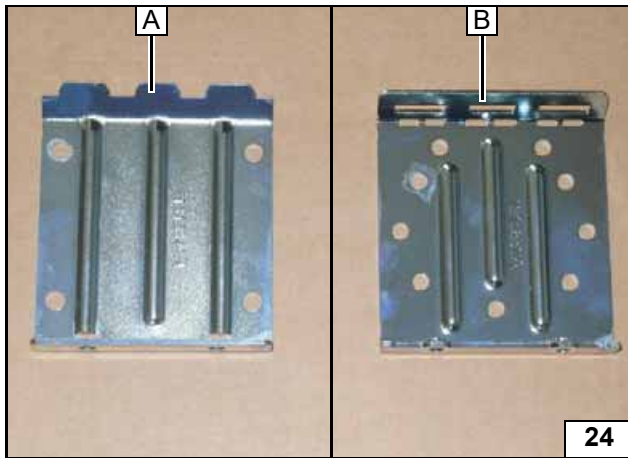


Preparing Bracket

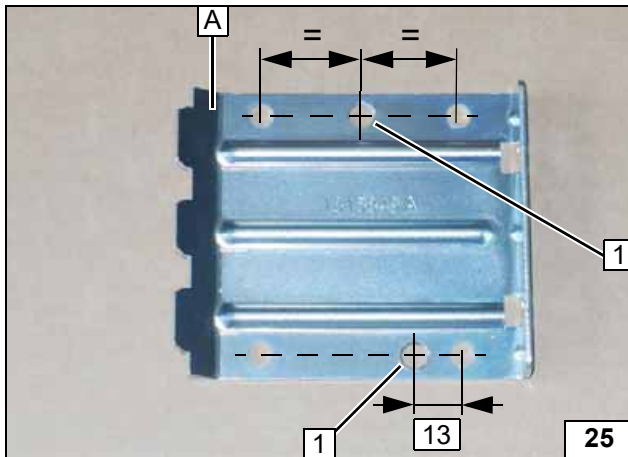
- 1 Heater
- 2 Circulating pump



Installation overview

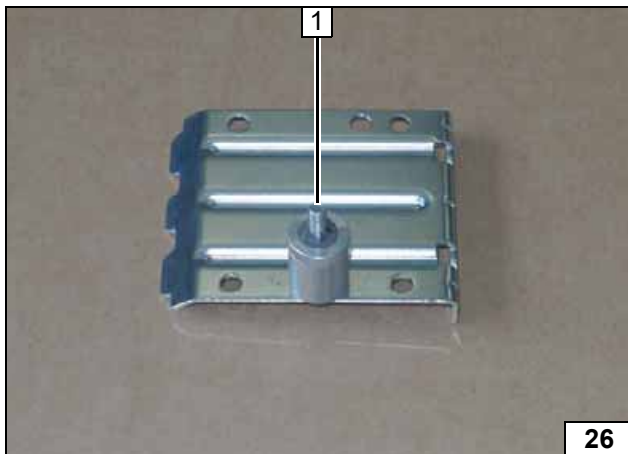


Assignment of two-part bracket



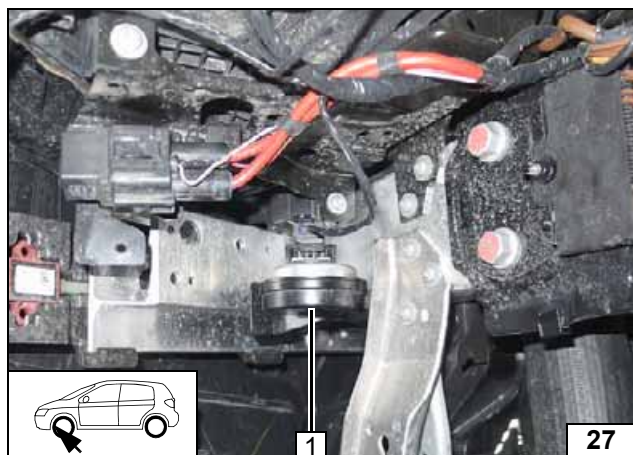
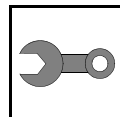
- 1 Copy hole pattern, 7mm dia. hole [2x]

Holes in bracket A



- 1 M6x40 bolt, 20mm shim, 5mm shim, lock washer

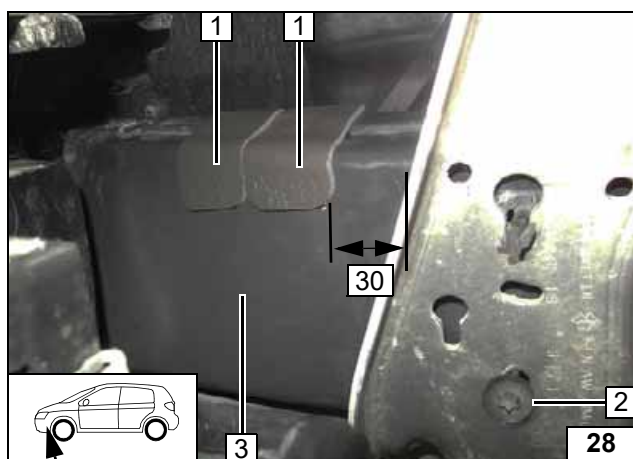
Premounting bracket A



Preparing Installation Location

- 1 Remove horn

Removing horn



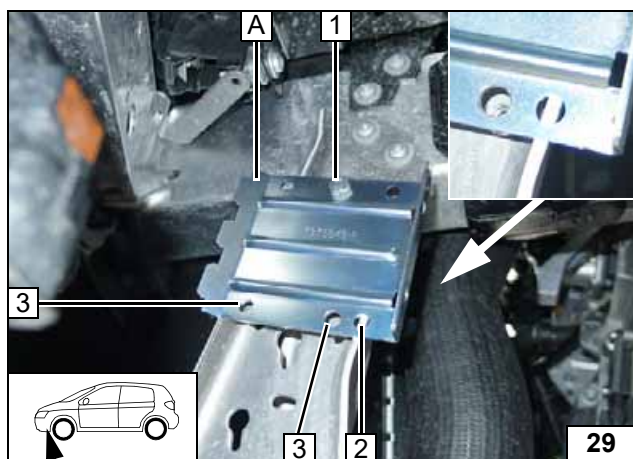
The availability of brake air duct 3 depends on the equipment.

Loosen original vehicle bolt 2.

- 1 Self-adhesive foam [2x]



Affixing foam

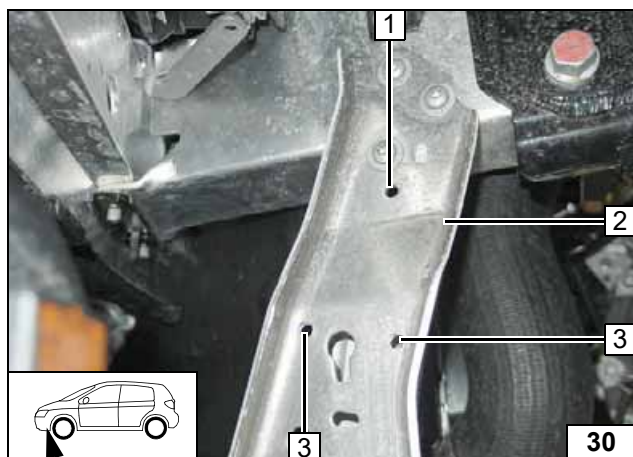


Position bracket A, so that the edge of the original vehicle strut is aligned with the centre of the hole at position 2.

- 1 Premounted M6x40 bolt, existing hole, flanged nut
- 3 Copy hole pattern [2x]

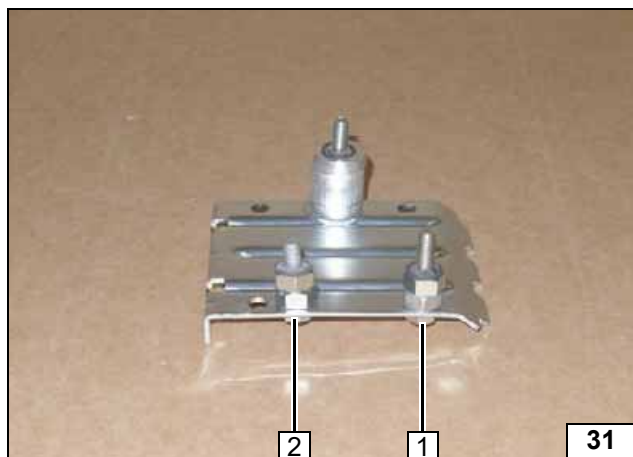
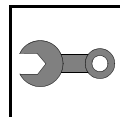


Installing bracket A



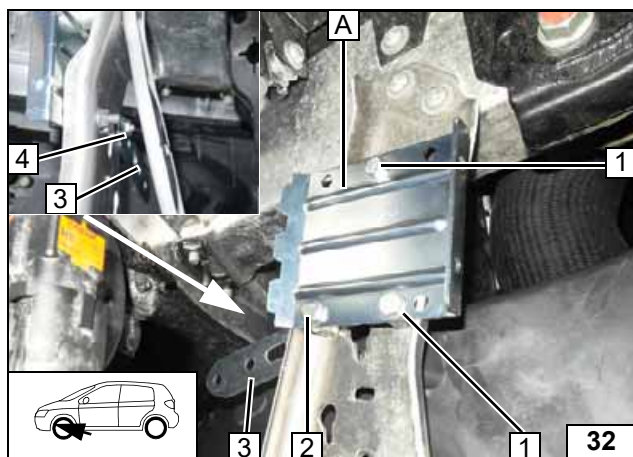
- 1 Original vehicle hole
- 2 Original vehicle strut
- 3 8mm dia. hole [2x]

Drilling hole



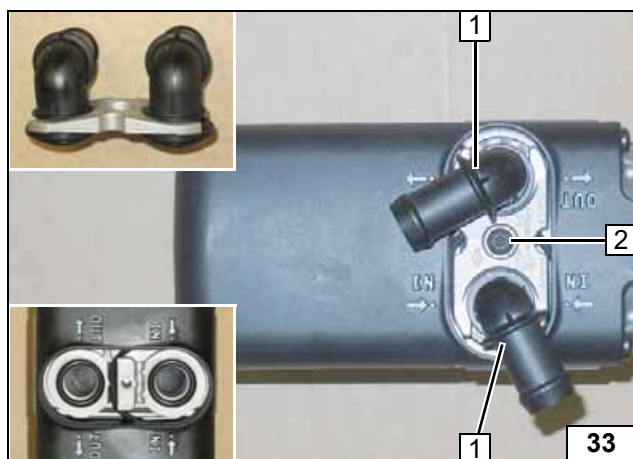
- 1 M6x30 bolt, M8 nut [2x], lock washer
- 2 M6x25 bolt, M8 nut [2x], lock washer

Premounting bracket A



- 1 Premounted bolt, flanged nut [2x each]
- 2 Premounted bolt, perforated bracket 3
- 4 Loosely install flanged nut on bolt 2

Installing bracket A and perforated bracket

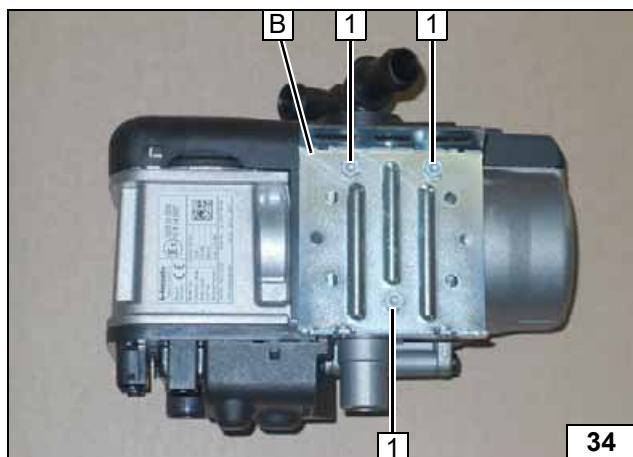


Preparing Heater

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

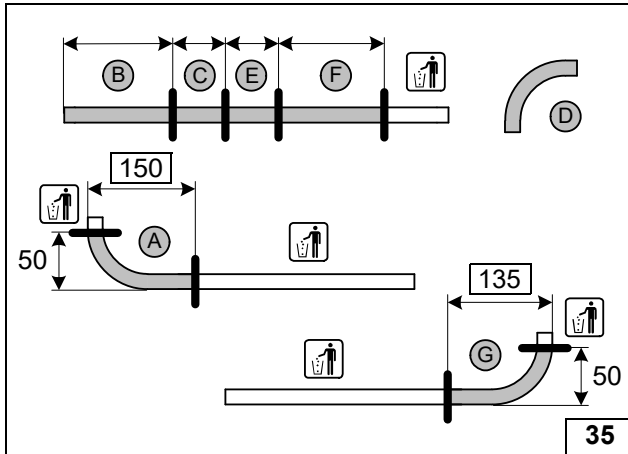
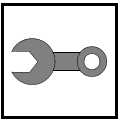


Installing water connection piece



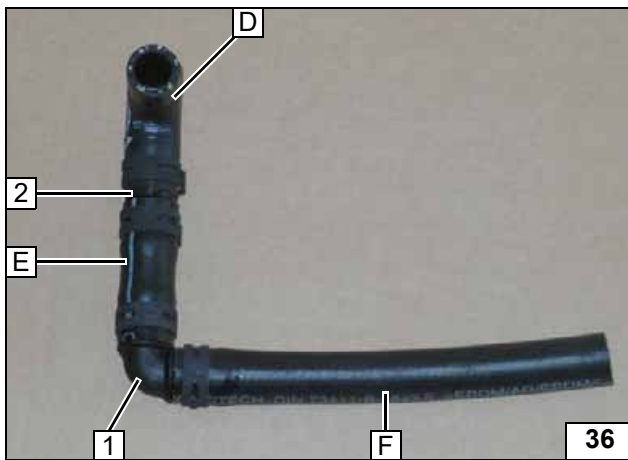
- 1 5x13 self-tapping bolts [3x]

Installing bracket B



	Diesel		Petrol
	SG	AG	AG
A	90°, 15mm dia.	90°, 15mm dia.	90°, 15mm dia.
B	210	180	180
C	60	60	60
D	90°, 18mm dia.	90°, 18mm dia.	90°, 18mm dia.
E	70	70	70
F	260	260	270
G	90°, 15mm dia.	90°, 15mm dia.	90°, 15mm dia.

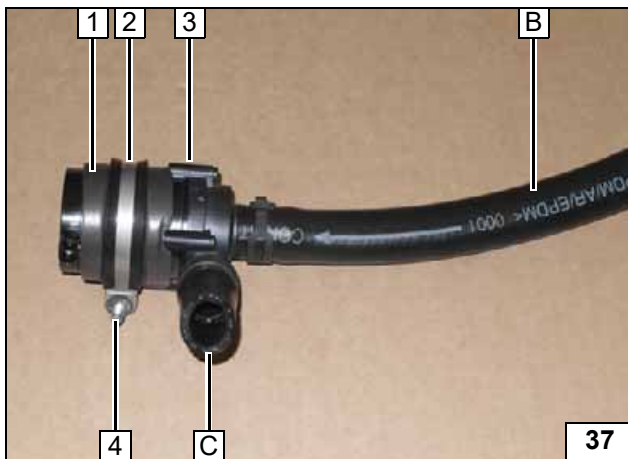
Cutting hoses to length



All spring clips = 25mm dia.

- 1 90°, 18x18mm connecting pipe
- 2 180°, 18x18mm connecting pipe

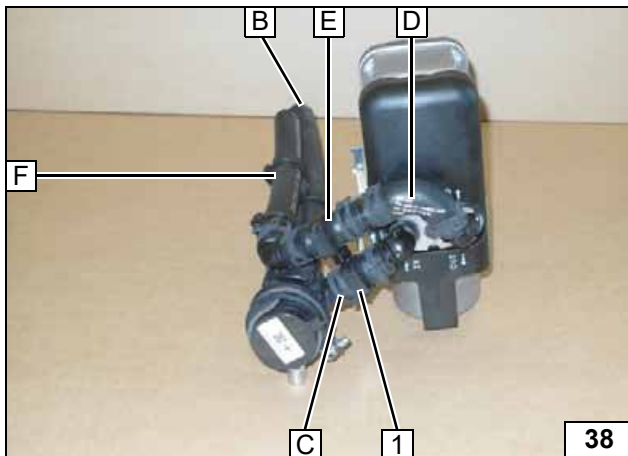
Preparing hoses



All spring clips = 25mm dia.

- 1 Self-adhesive foam
- 2 48 mm dia. rubber-coated p-clamp
- 3 Circulating pump
- 4 M6x20 bolt, lock washer

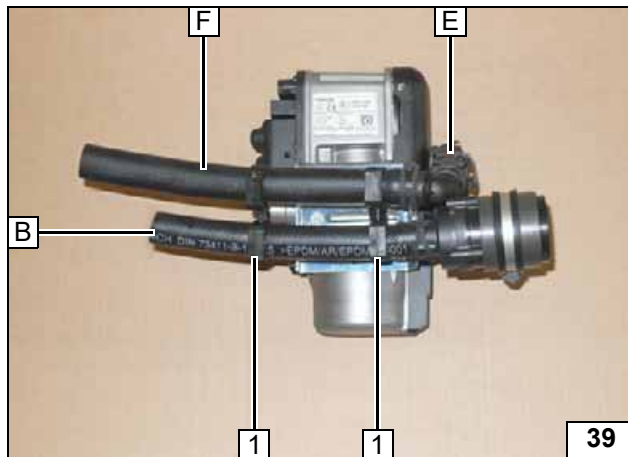
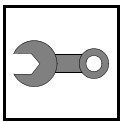
Preparing hoses



All spring clips = 25mm dia.

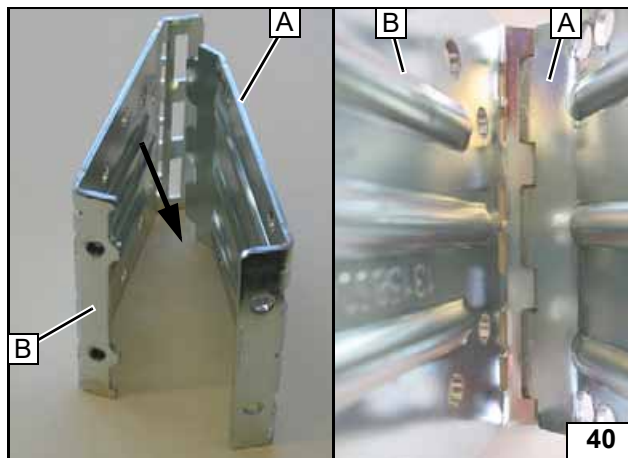
- 1 Hose bracket between hose C and hose E

Installing hoses



- 1 Hose bracket between hose **B** and hose **F** [2x]

Installing hoses

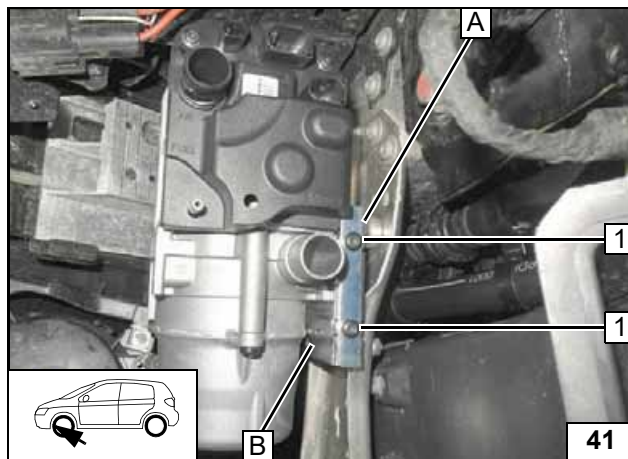


Installing Heater

The recesses of bracket **B** must be guided over the tabs of bracket **A**.



View/ assembly of bracket **A** and **B**

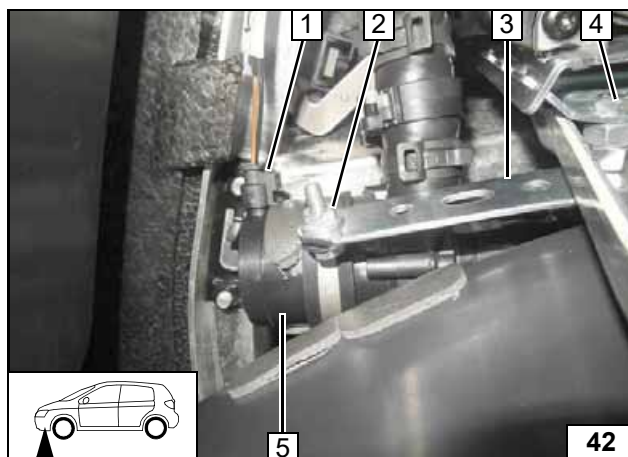


Check the assembly of bracket **B** and bracket **A**, then screw them together. Ensure sufficient distance from neighbouring vehicle components.



Installing heater

- 1 Torx screw M5x12 [2x]

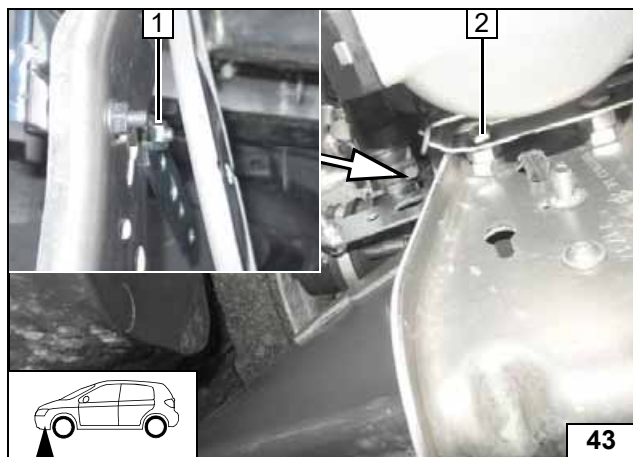


Tighten bolt **4** as shown in next figure.



Fastening circulating pump

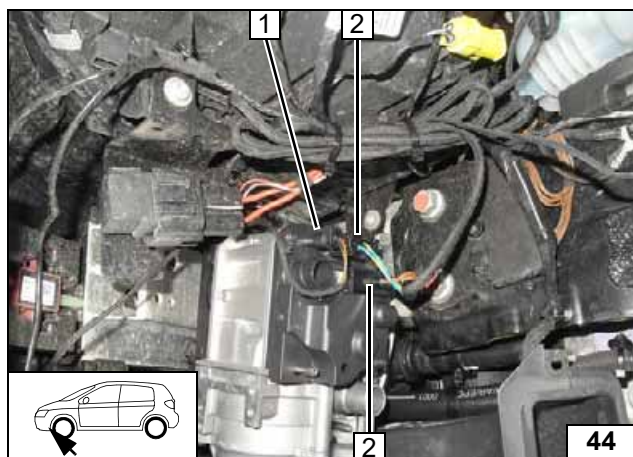
- 1 Connector of circulating pump wiring harness
- 2 Flanged nut
- 3 Perforated bracket (premounted)
- 5 Circulating pump



Tighten flanged nut (covered) 1 on pre-mounted screw connection 2.

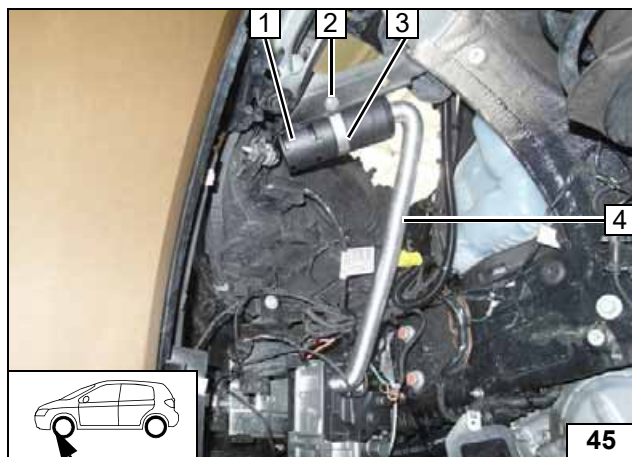
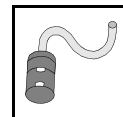


Fastening circulating pump



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

Installing wiring harness



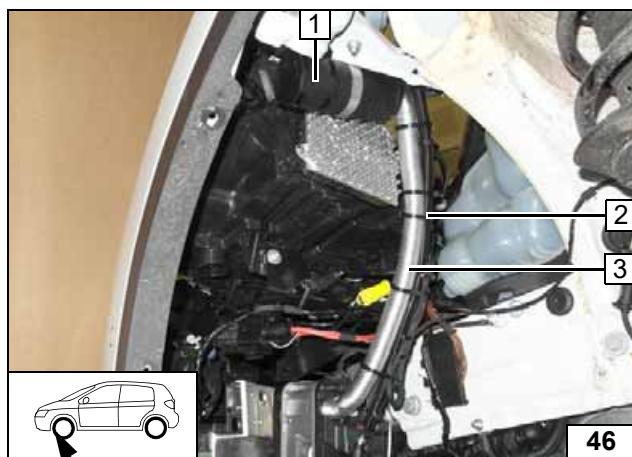
Combustion Air

2 Series Active Tourer / Gran Tourer

- 1 Silencer
- 2 M5x16 bolt, large diameter washer, original vehicle hole, flanged nut
- 3 51 mm dia. clamp
- 4 Combustion air pipe



Installing silencer



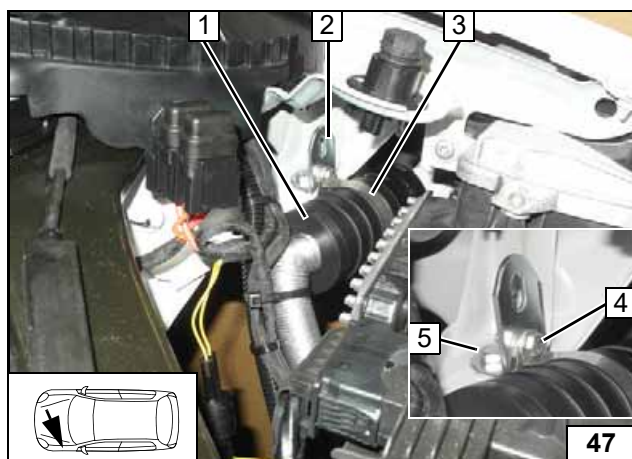
X1

Using cable tie **2** attach combustion air pipe, heater wiring harness and fuel line.

- 1 Silencer
- 3 Combustion air pipe

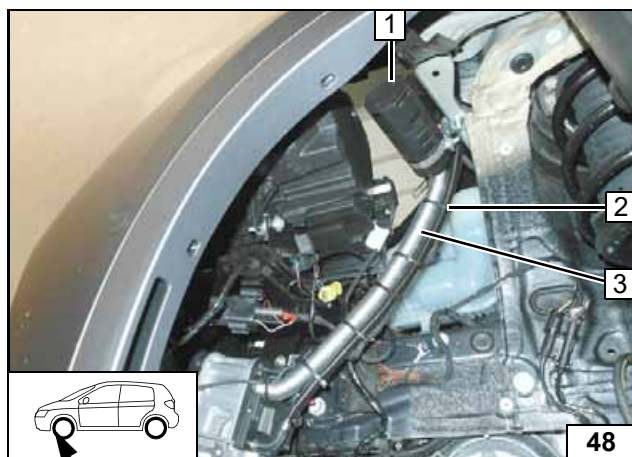


Installing combustion air pipe



- 1 Silencer
- 2 Angle bracket
- 3 51 mm dia. clamp
- 4 M5x16 bolt, flanged nut
- 5 M6x16 bolt, original vehicle hole, flanged nut

Installing silencer



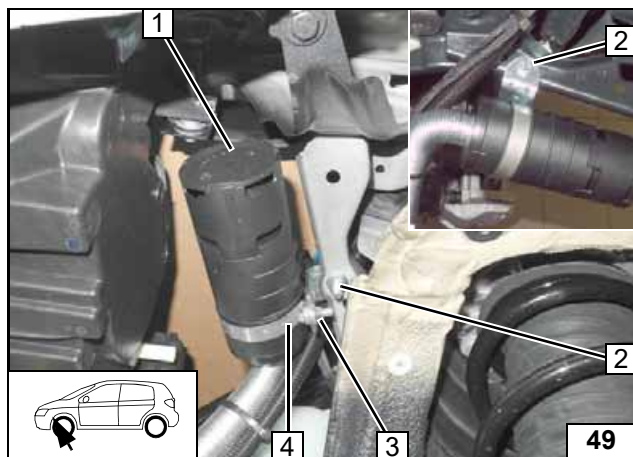
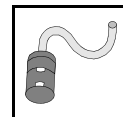
X2

Using cable tie **2** attach combustion air pipe, heater wiring harness and fuel line.

- 1 Silencer
- 3 Combustion air pipe



Installing combustion air pipe



- 1 Silencer
- 2 M6x16 bolt, angle bracket, original vehicle hole, flanged nut
- 3 M5x16 bolt, angle bracket, flanged nut
- 4 51 mm dia. clamp

Installing silencer



Fuel



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

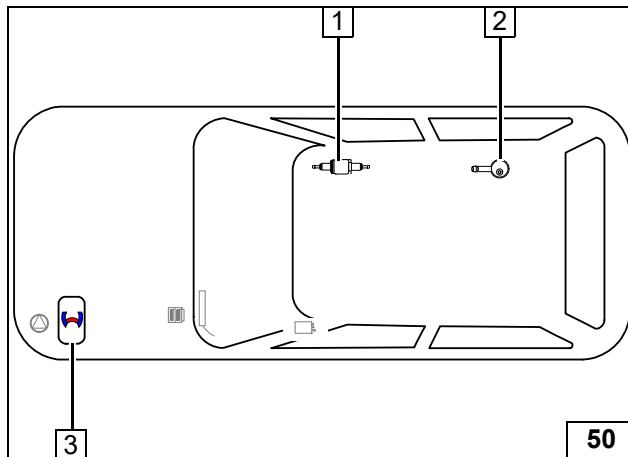
Catch any fuel running off in an appropriate container.

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.

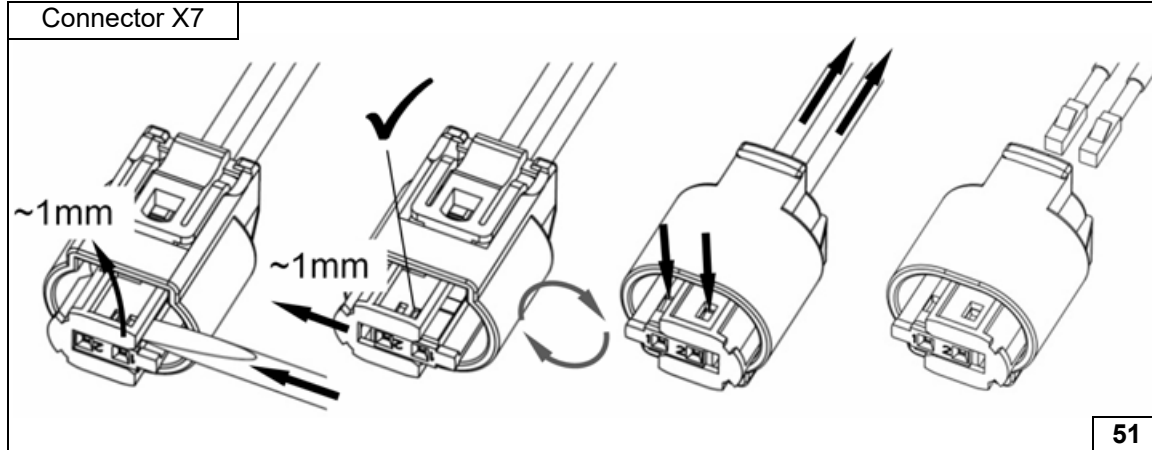
The fuel line and wiring harness are routed to the metering pump as shown in the wiring harness routing diagram.



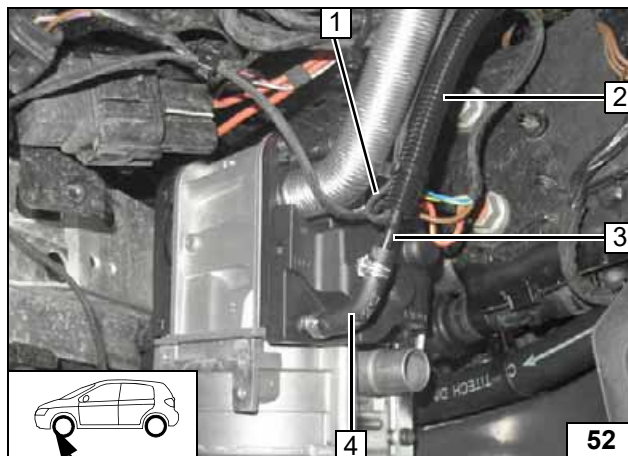
- 1 Metering pump
- 2 FuelFix
- 3 Heater



Installation overview



Dismantling metering pump connector



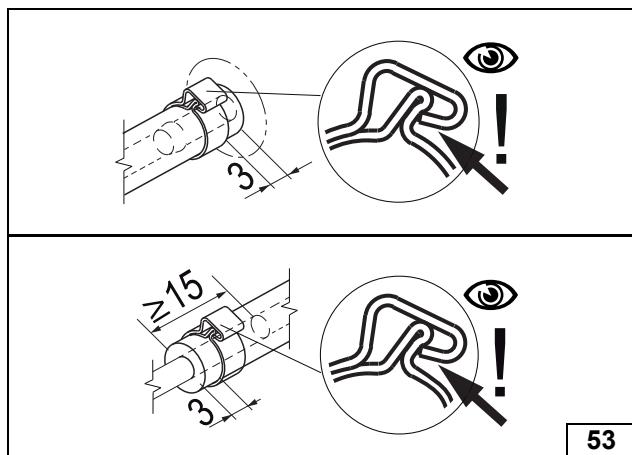
See next figure for the installation of the fuel line and the clamps.

Pull wiring harness of metering pump 1 and fuel line 3 together into 450mm corrugated tube 2 and route in the engine compartment.

- 4 90° moulded hose, 10mm dia. clamp [2x]



Connecting heater



Installation of fuel line and clamps



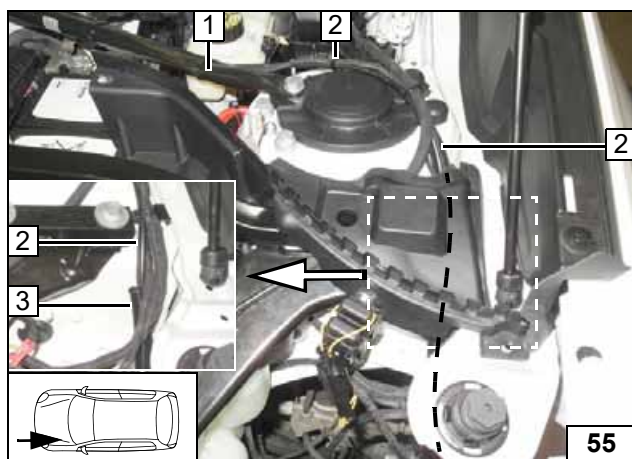
2 Series Active Tourer / Gran Tourer



Route fuel line and metering pump wiring harness 2 on strut brace 1 to the right side of the vehicle.

- 3 450mm corrugated tube

Routing lines



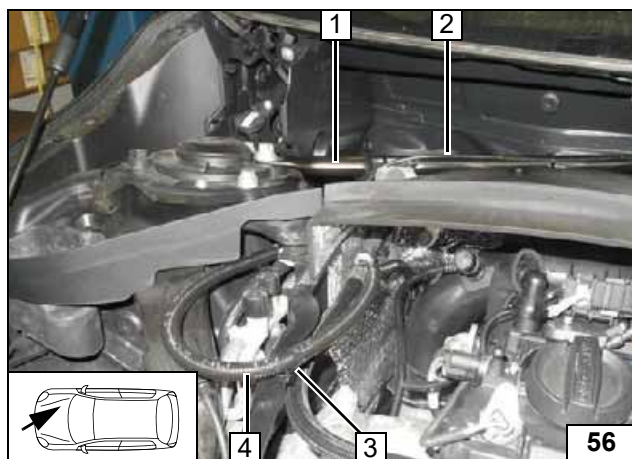
X1 / X2



Route fuel line and metering pump wiring harness 2 on strut brace 1 to the right side of the vehicle.

- 3 450mm corrugated tube

Routing lines



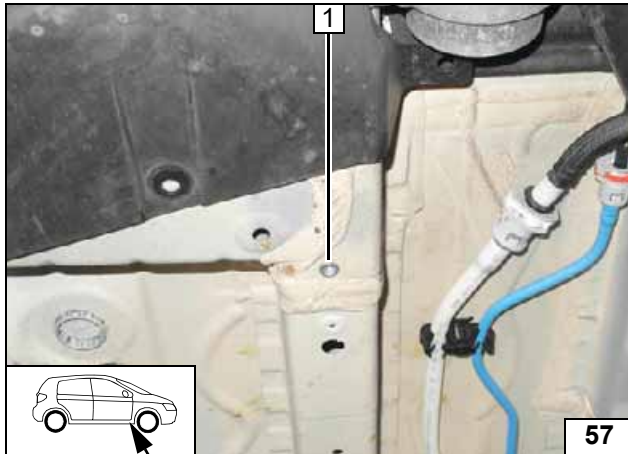
All vehicles



Route fuel line and wiring harness of metering pump 2 from strut brace 1 in the engine compartment, pull into (remaining part of) corrugated tube 4 and route along original vehicle fuel lines to the underbody.

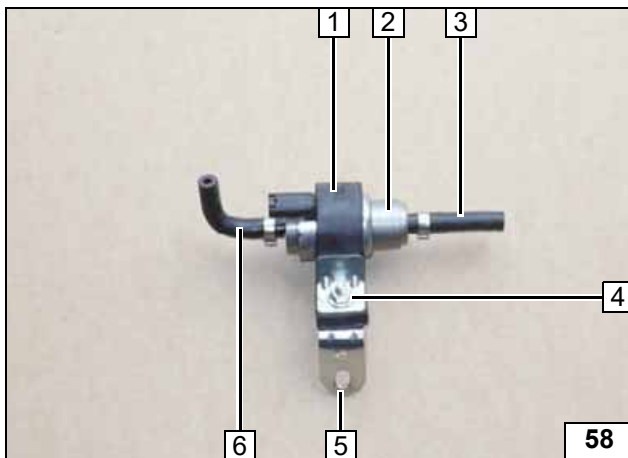
- 3 Edge clip cable tie

Routing lines



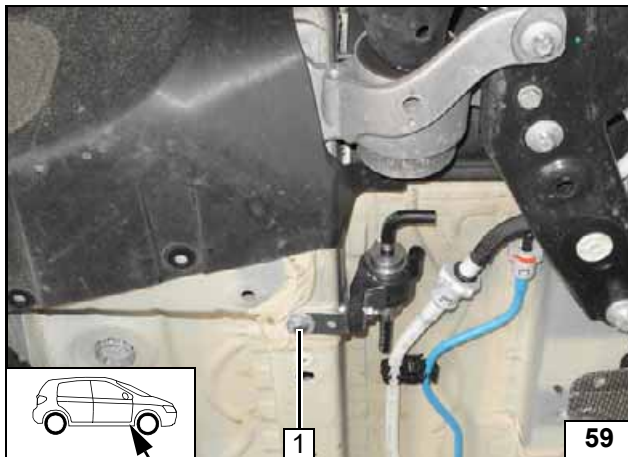
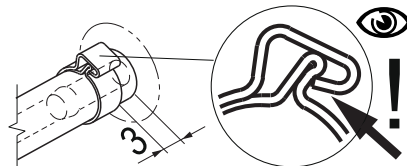
1 Original vehicle hole, rivet nut

Installing rivet nut



1 Metering pump mount
2 Metering pump
3 Hose section, 10 mm dia. clamp
4 M6x25 bolt, support angle bracket, flanged nut
5 Angle bracket
6 90° moulded hose, 10mm dia. clamp

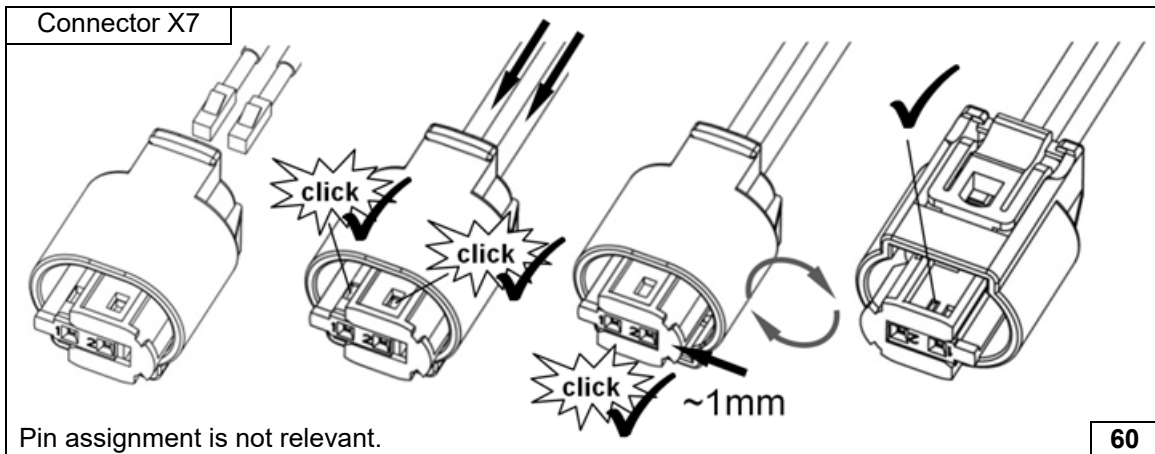
Premounting metering pump



1 M6x20 bolt, spring lockwasher, large diameter washer

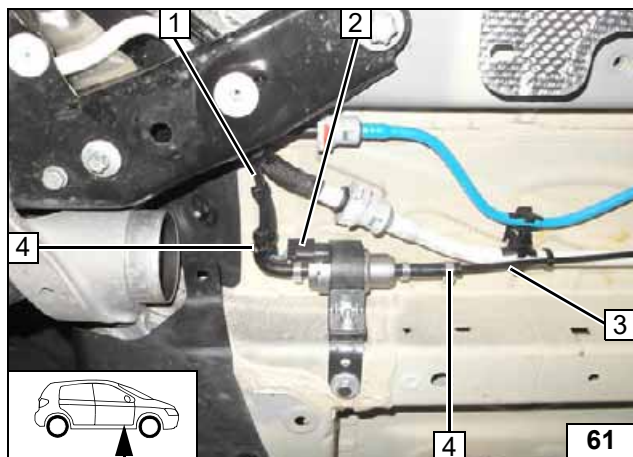


Installing metering pump



Pin assignment is not relevant.

Completing metering pump connector

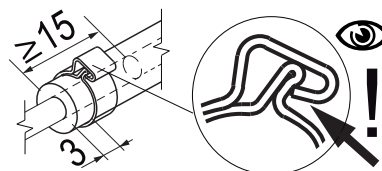


Ensure sufficient distance from neighbouring components, correct if necessary.



- 1 Fuel line of heater
- 2 Metering pump wiring harness, connector X7 installed
- 3 Fuel line of FuelFix
- 4 10 mm dia. clamp [2x]

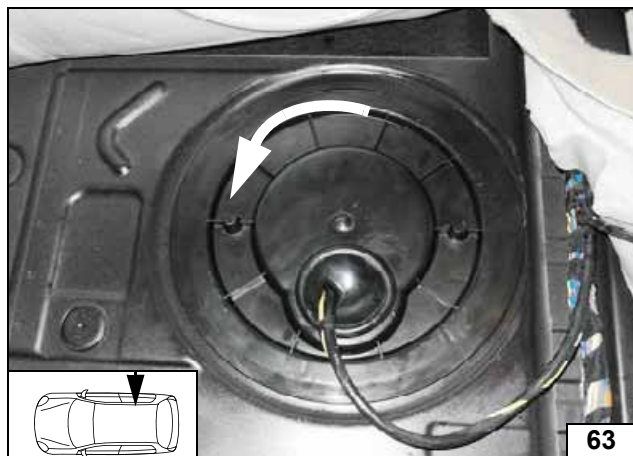
**Connect-
ing meter-
ing pump**



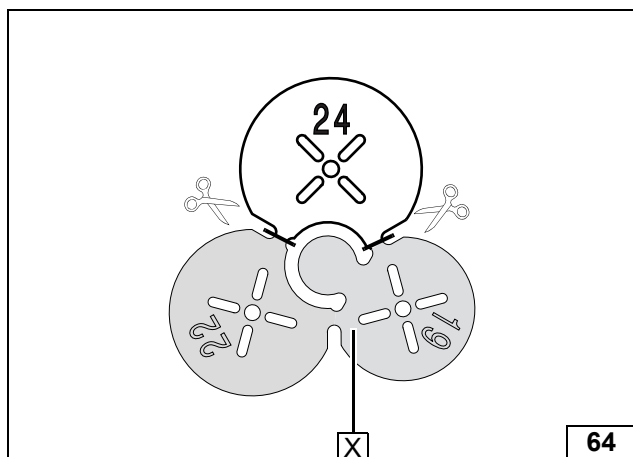
Route FuelFix fuel line 1 along original vehicle fuel lines to the tank fitting.



**Routing
lines**



**Unscrewing
tank fitting
cover**



Installing FuelFix



x =

**Preparing
drilling tem-
plate**

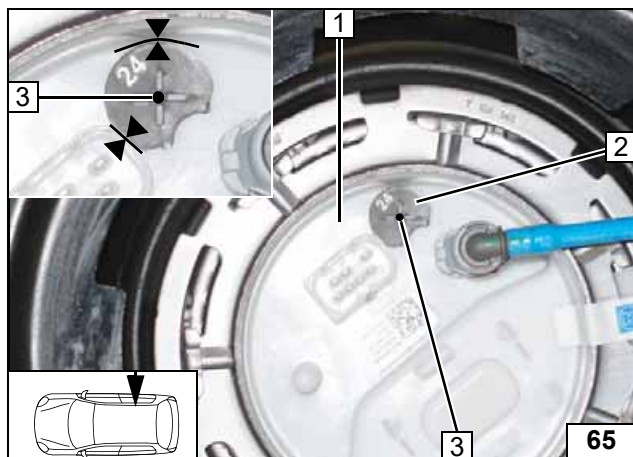


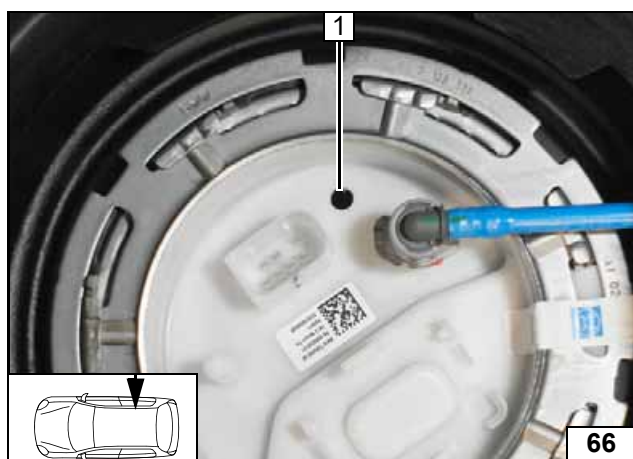
Figure shows version for petrol vehicles but it applies also to diesel vehicles.

Work steps F1 and F2.

- 1 Tank fitting
- 2 Position 24mm dia. drilling template as shown
- 3 Hole pattern



Copying hole pattern

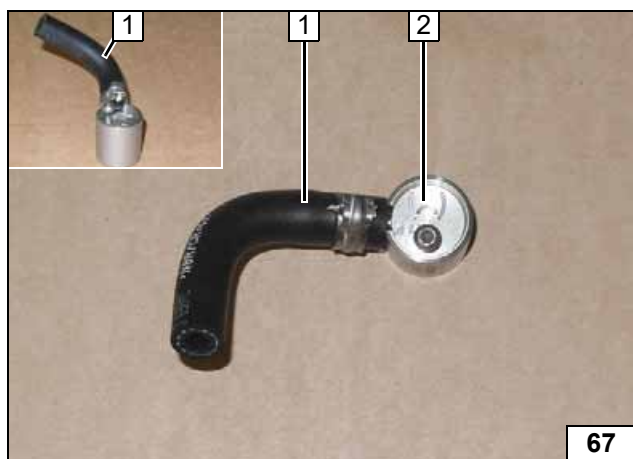


Work step F3.

- 1 Hole made with provided drill



Drilling hole



Work steps F4 and F6.1.

Bend FuelFix 1 according to template and cut to length.

- 1 90° moulded hose, 10mm dia. clamp
- 2 FuelFix



Premounting FuelFix

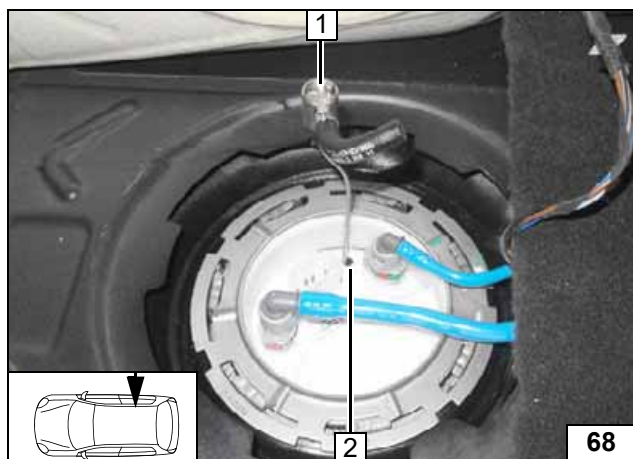
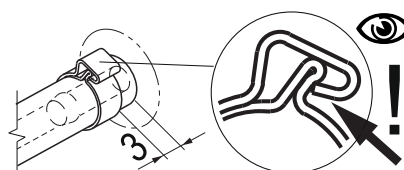


Figure shows diesel vehicle but applies also to petrol vehicles.

Work step F5.

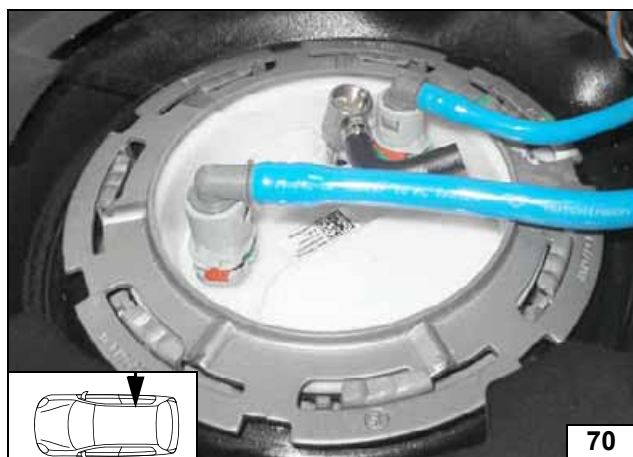
Insert FuelFix 1 in hole 2.



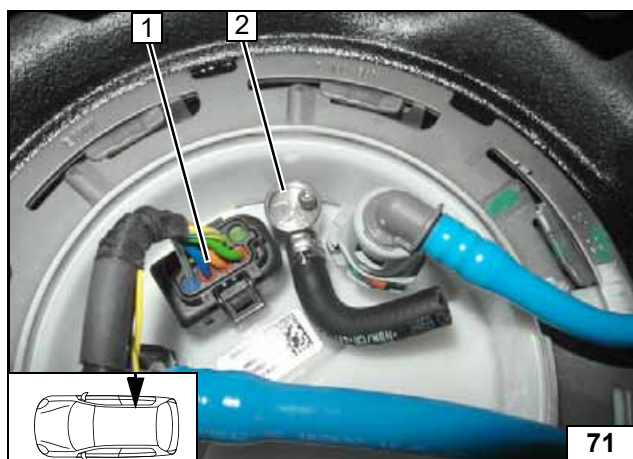
Hole for FuelFix



Inserting FuelFix



Inserting FuelFix

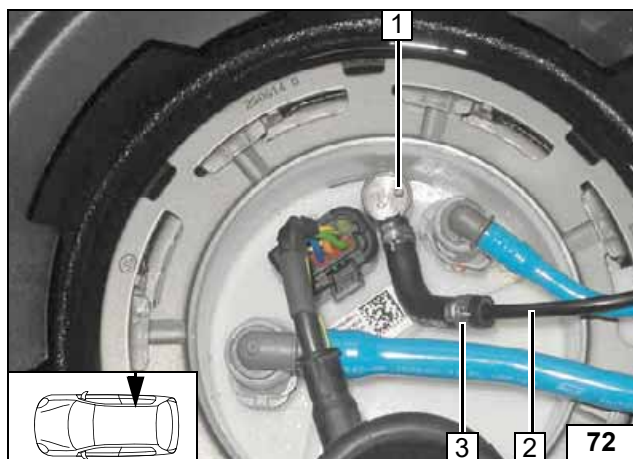


Work steps F5.3 and F5.4.

Install connector 1.
Align FuelFix 2 between connector and original vehicle fuel lines.



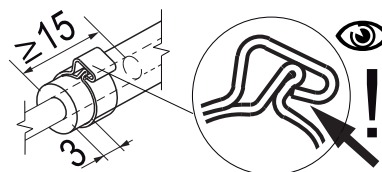
Aligning FuelFix

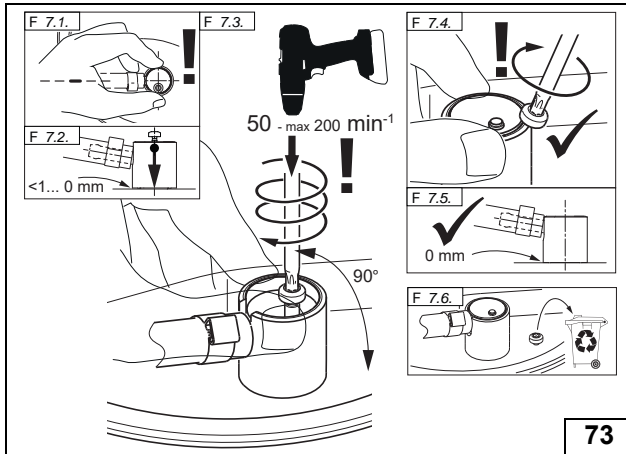


Work step F6.2.

- 1 FuelFix
- 2 Fuel line
- 3 10 mm dia. clamp

Connect-
ing fuel line

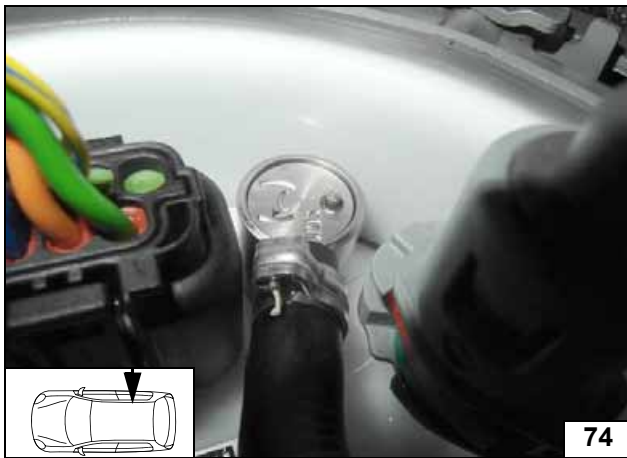




Work step F7.

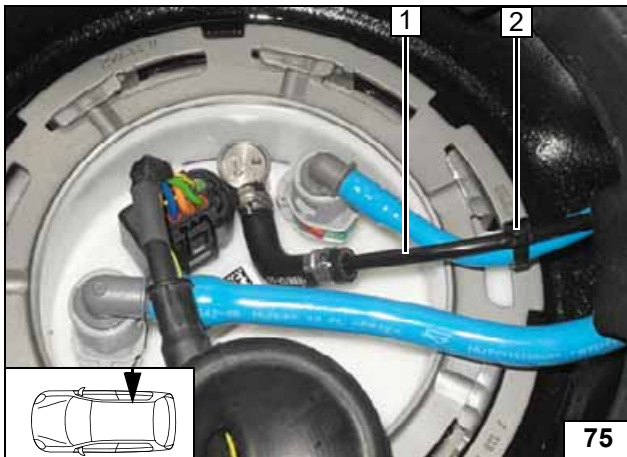


Installing FuelFix



Work step F8.

Checking firm seating of FuelFix



- 1 Fuel line of FuelFix
- 2 Cable tie as tension relief

Securing fuel line

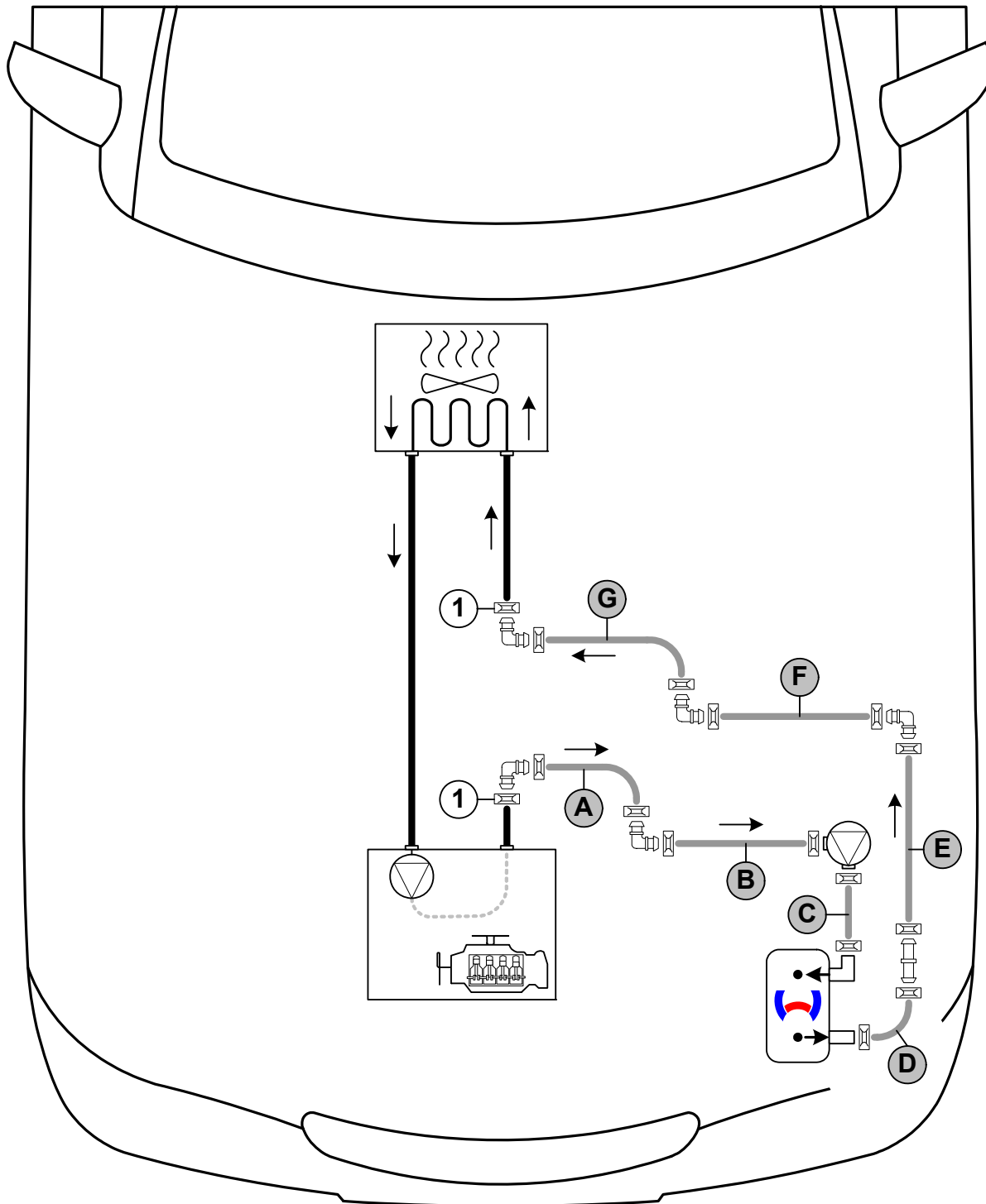


Coolant Circuit






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.

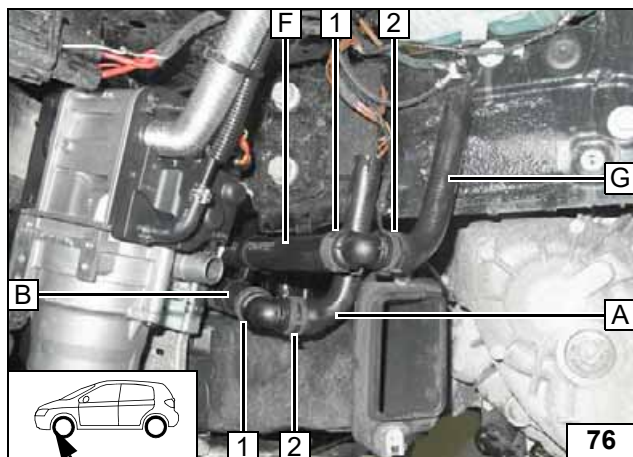
The connection should be modelled on an 'inline' circuit and based on the following diagram:



Hose routing diagram

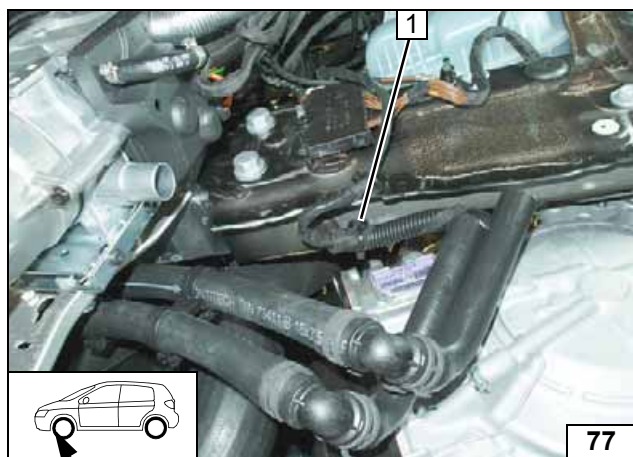
All spring clips without a specific designation  = 25 mm dia. All connecting pipes  and  = 18x18 mm dia.
 1 = X1, depending on the thickness of the hose wall, 25mm dia. or 27mm dia. spring clip





- 1 Spring clip lock in direction of engine compartment [2x]
- 2 Spring clip lock, downwards [2x]

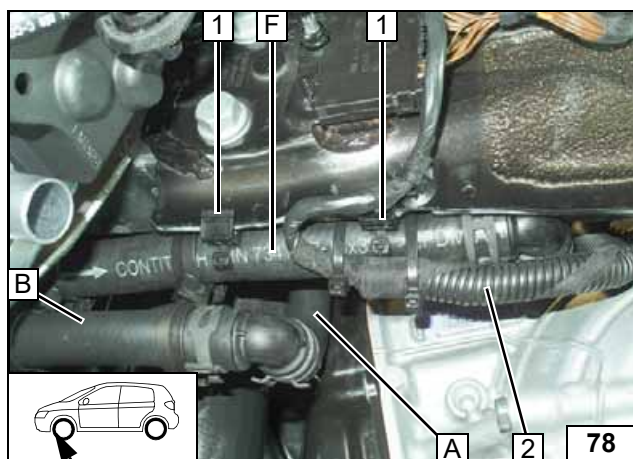
Installing hoses A and G



Remove original vehicle retaining clip 1 (if available), will be reinstalled later!



Detaching original vehicle wiring harness

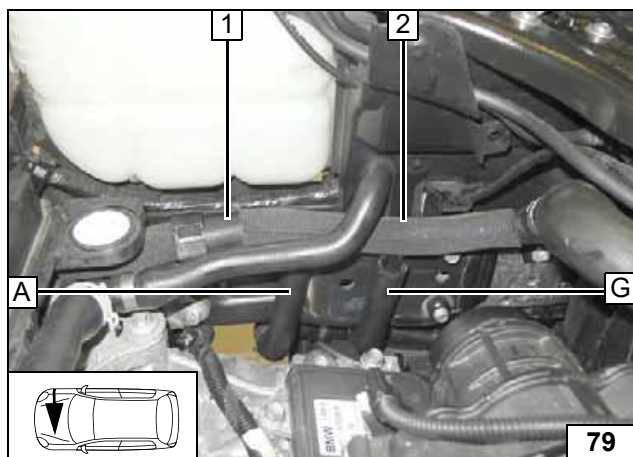


Attach original vehicle wiring harness 2 (if available) to hose F using cable ties.

- 1 Edge clip cable tie on hose F [2x]



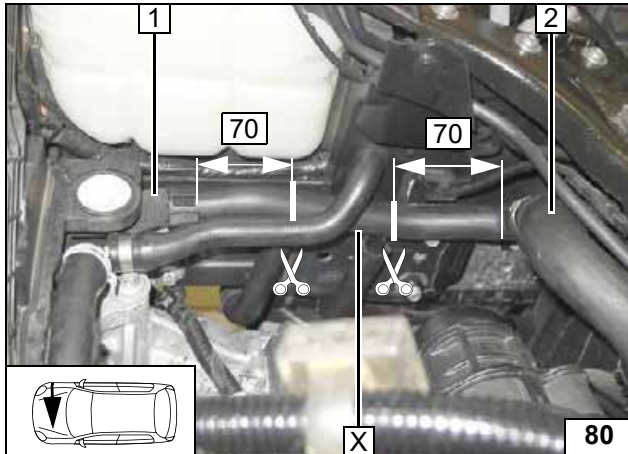
Fastening hoses B and F



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



Preparing cutting point



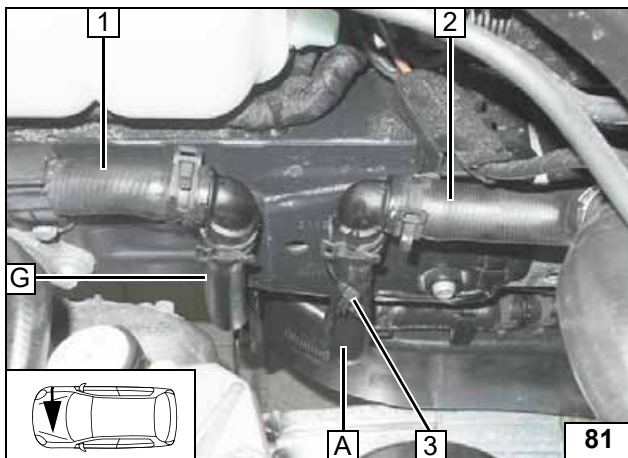
Diesel

- 1 Heat exchanger inlet hose section
- 2 Engine outlet hose section

X =



Cutting point



- 1 Heat exchanger inlet hose section
- 2 Engine outlet hose section
- 3 Clip-type cable tie in original vehicle hole

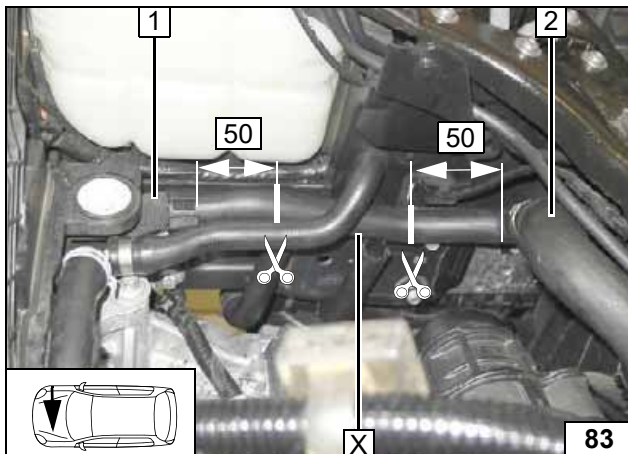
**Connect-
ing engine
outlet / heat
exchanger
inlet**



Ensure sufficient distance from neighbouring components, correct if necessary.



**Checking
distance**

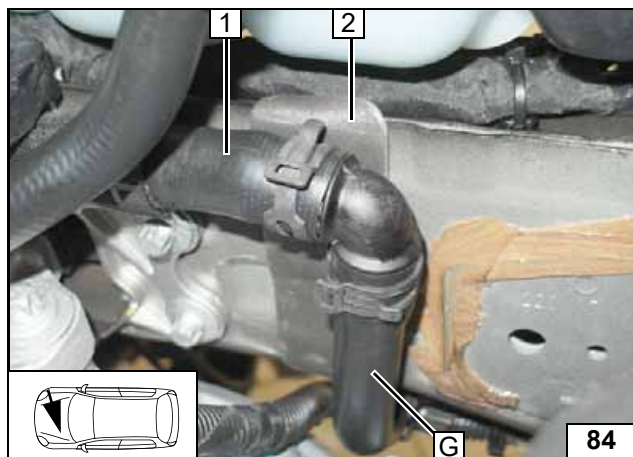


Petrol

- 1 Heat exchanger inlet hose section
- 2 Engine outlet hose section

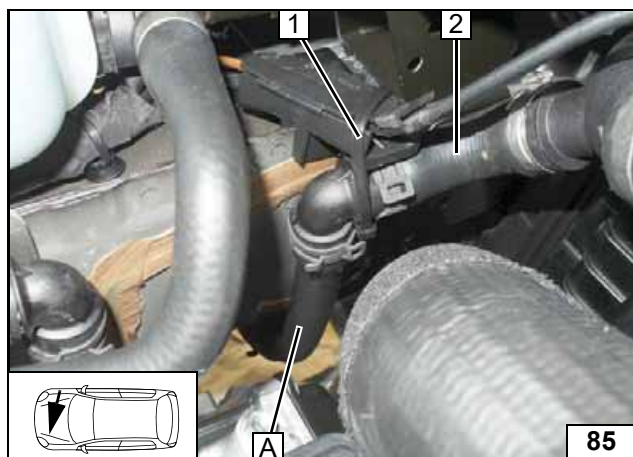
X =

**Cutting
point**



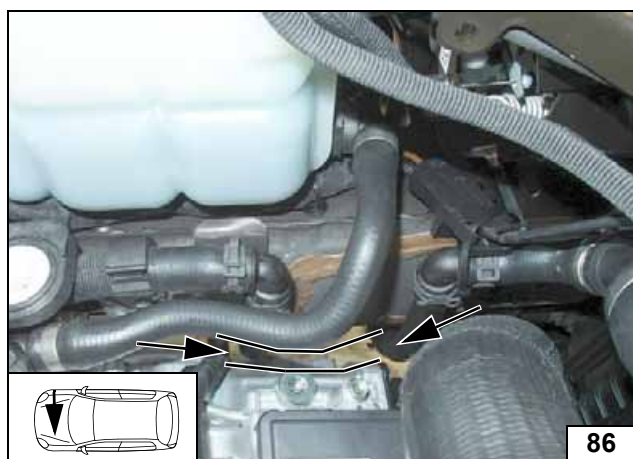
- 1 Heat exchanger inlet hose section
- 2 Self-adhesive foam strip

**Connect-
ing heat ex-
changer
inlet**



- 1 Cable tie around original vehicle bracket
- 2 Engine outlet hose section

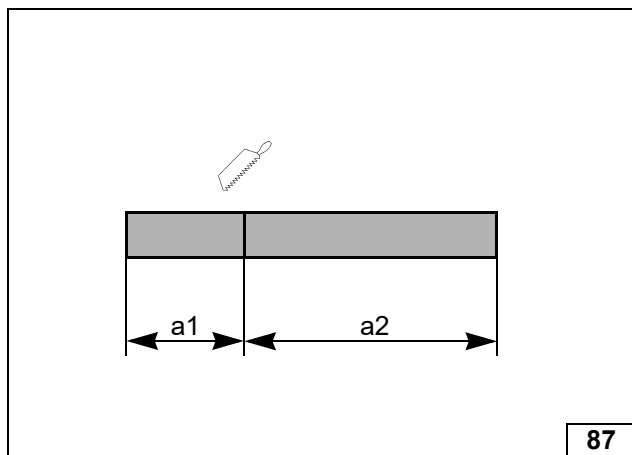
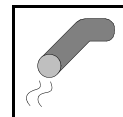
**Connect-
ing engine
outlet**



Ensure sufficient distance from neighbour-
ing components, correct if necessary.



**Checking
distance**

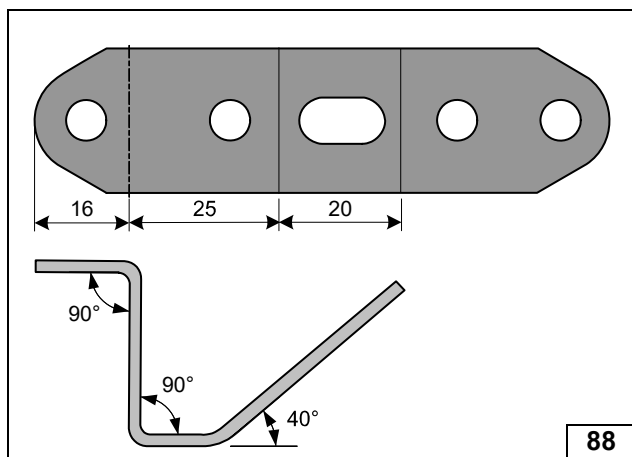


Exhaust Gas

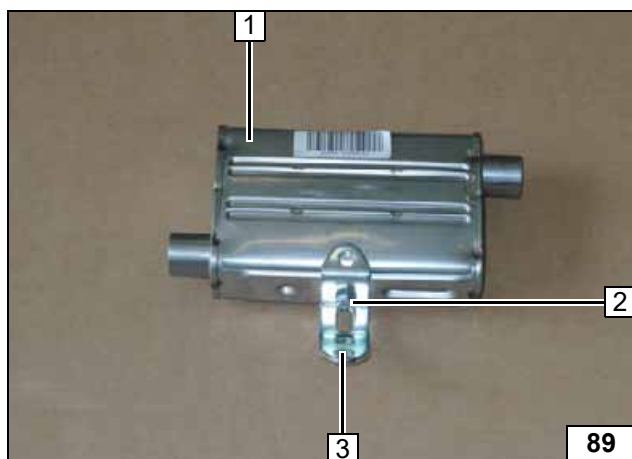
All vehicles

- a1 = 210
- a2 = 440

Preparing exhaust pipes



Bending perforated bracket



- 1 Silencer
- 2 M6x16 bolt, spring lockwasher
- 3 Perforated bracket

Premounting silencer

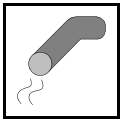


Fasten brake air duct 2 (depends on the equipment) using original vehicle bolt 3.

- 1 M6x20 bolt, large diameter washer, original vehicle hole, lock washer

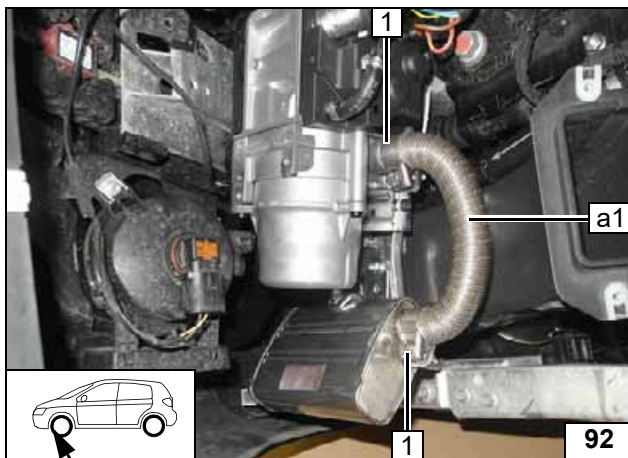
Preparing silencer installation





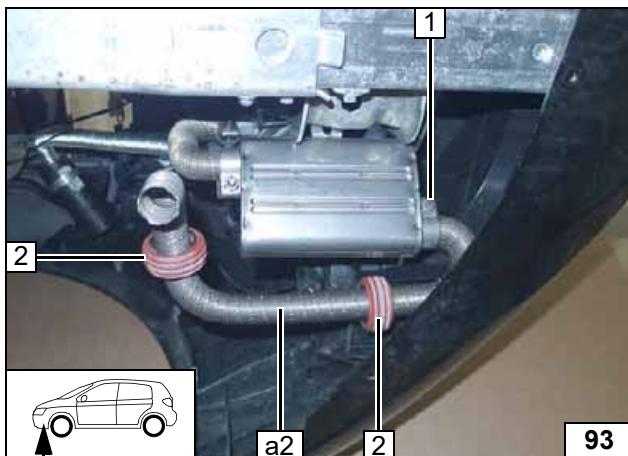
1 Flanged nut

Installing
silencer



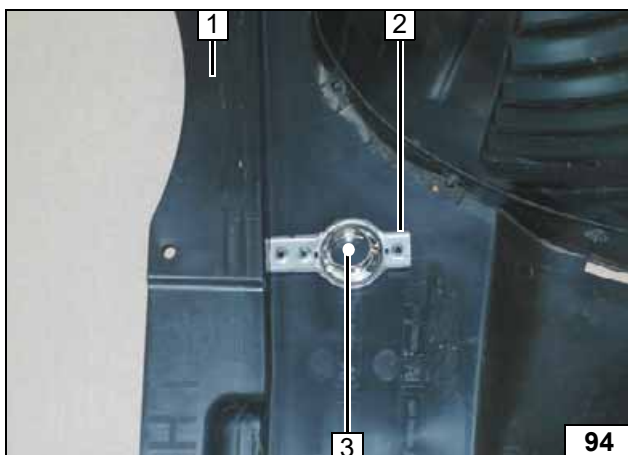
1 Hose clamp [2x]

Installing
exhaust
pipe a1



1 Hose clamp
2 Spacer bracket [2x]

Installing
exhaust
pipe a2



Installing Exhaust End Fastener

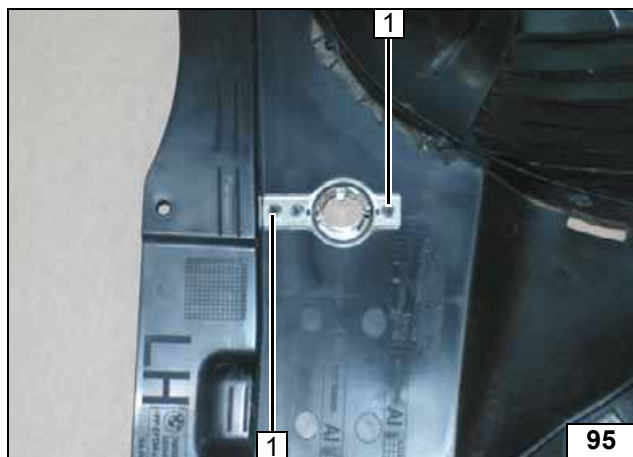
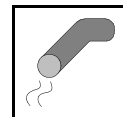
Work step E1.

Align exhaust end fastener 2 with wheel-well inner panel 1 as shown.

3 Copy hole pattern



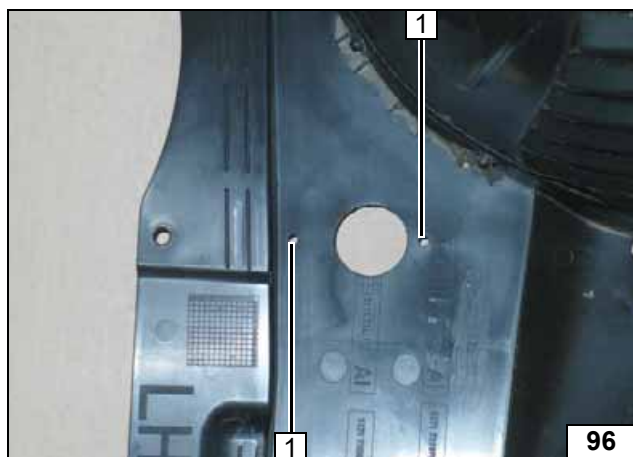
Hole in
wheel-well
inner panel



Work step E3.

- 3 Copy hole pattern

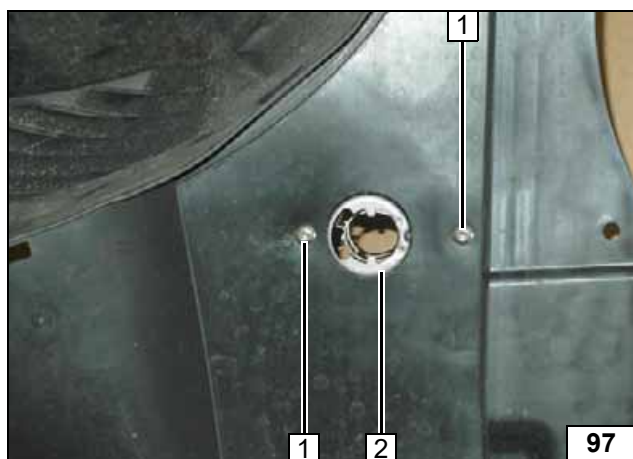
Copying hole pattern



Work step E4.

Hole 1 [2x] as per work step 4 of the installation instructions.

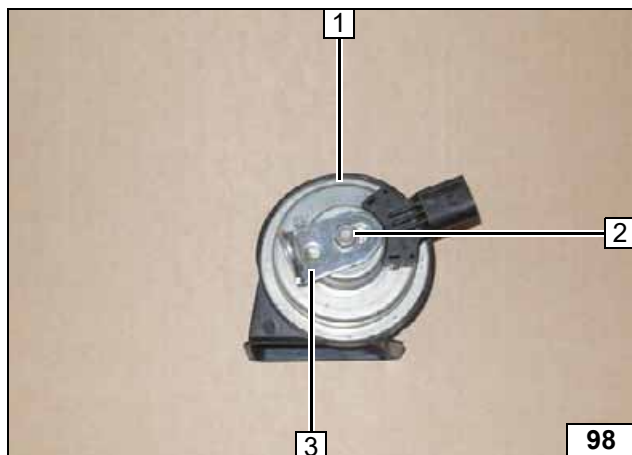
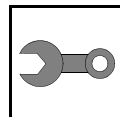
Holes in wheel-well inner panel



Work step E5.

- 1 5x13 self-tapping screw [2x] as per work step 5 of the installation instructions
- 2 Exhaust end fastener

Installing exhaust end fastener

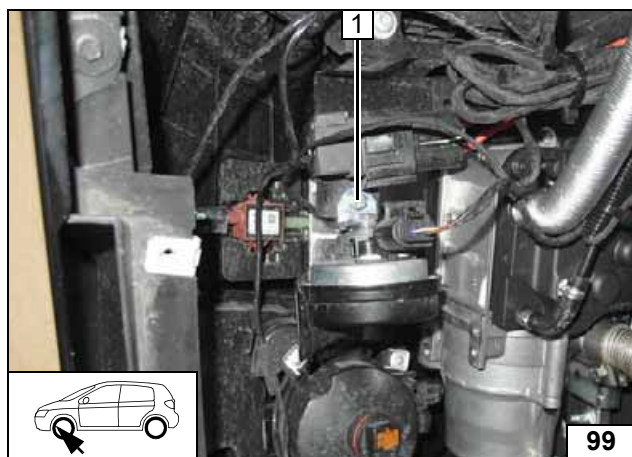


Final Work

Diesel, except for X2

- 1 Horn
- 2 Original vehicle nut
- 3 Angle bracket

Premount-
ing horn

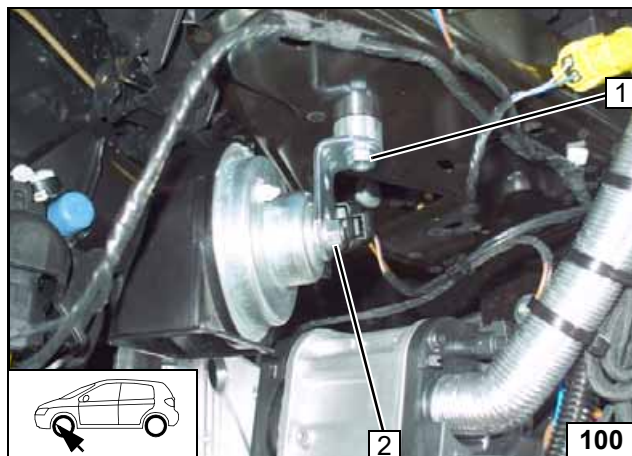


Ensure sufficient distance from neighbouring components, correct if necessary.



- 1 M6x20 bolt, spring lockwasher, pre-mounted angle bracket, original vehicle thread

Installing
horn



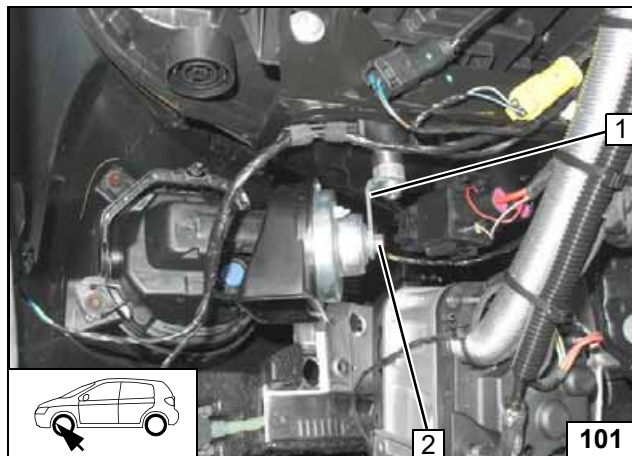
Petrol, except for X2

Ensure sufficient distance from neighbouring components, correct if necessary.



- 1 M6x20 bolt, large diameter washer, original vehicle hole, 10mm dia. shim, premounted angle bracket, flanged nut
- 2 Original vehicle flanged nut

Installing
horn



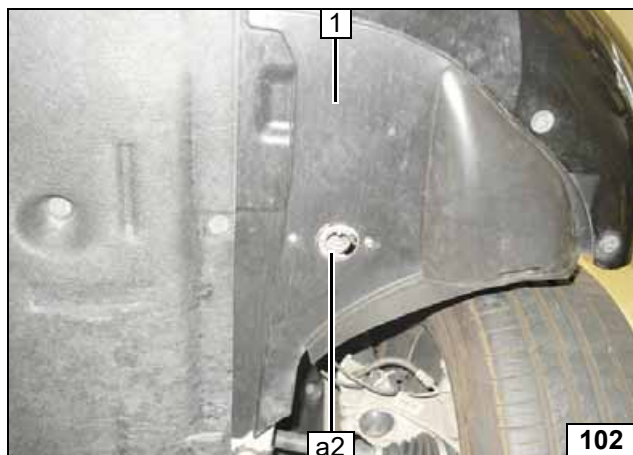
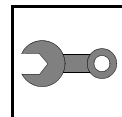
X2

Ensure sufficient distance from neighbouring components, correct if necessary.



- 1 M6x20 bolt, large diameter washer, original vehicle hole, 10mm dia. shim, premounted angle bracket, flanged nut
- 2 Original vehicle flanged nut

Installing
horn



All vehicles

Work steps E6, E7 and E8.

Install wheel-well inner panel **1**.
Install exhaust pipe **a2** as per work steps 6 - 8 of the installation instructions.



Installing exhaust pipe a2



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 or activate ThermoCall.**
- **If the fan function or A/C control panel settings need to be checked, see the installation documentation in the additional 'Webasto Standard' or 'Webasto Comfort' A/C control kit, section 'Final Work'.**
- **Place the 'Switch off parking heater before refuelling' caution label near the filler point.**
- **For initial start-up and function check, please see installation instructions.**



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FuelFix Template

Top view

