EN

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Installation documentation

for Thermo Top Evo water heater

BMW X3 / X4

Left-hand drive vehicle

Manufacturer	Model	Type	Model year	EG-BE-No. / ABE
BMW	X3	G01	from 2018	e1* 2007/46* 1797*…
BMW	X4	G01	from 2018	e1* 2007/46* 1881*…

Motorisation	Fuel	Emission standard	Transmission type	Out-put[kW]	Displace-ment [cm³]	Engine code
20d	Diesel	Euro 6d Temp	ASG	140	1995	B57D20
25d	Diesel	Euro 6d Temp	ASG	170	1995	B57D20
30d	Diesel	Euro 6d Temp	ASG	195	2993	B57D30

Validity	Equipment variants	Model	
		X3	X4
Verified equipment variants	3 zone automatic air-conditioning	x	x
	LED main headlights	x	x
	LED front fog lights	x	x
	Automatic Start-Stop system	x	x
Unverified equipment variants	2 zone automatic air-conditioning	x	x
	Headlight washer system	x	x
	Hot climate version	x	x
	Tow hitch installed ex-works	x	x
	Intended tow hitch installation ex-works	x	x

Total installation time	Note
10.1 hours	

Contents

1 List of abbreviations

AAC	Automatic air-conditioning
ASG	Semi-automatic transmission
DP	Fuel pump
EFIX	Exhaust end fastener
FF	FuelFix (tank extracting device)
Fig.	Figure
HG	Heater
MCC	MultiControl (control element)
SH2	Engine compartment fuse holder for F1/F2
UP	Coolant pump

2 Installation notes

2.1 Information on Validity

This installation documentation applies to vehicles listed on page 1, 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.

2.2 Components used

Designation	Order number
Basic delivery scope of Thermo Top Evo	In accordance with price list
Installation kit for BMW X3 / X4 diesel	1326600B
Additional 'Webasto Comfort' A/C control kit for BMW X3 / X4 / 5 Series	1326680_
In case of control element as well as Telestart indicator lamp in consultation with end customer	In accordance with price list

2.3 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.

2.4 Installation Recommendations

Arrange for the vehicle to be delivered with the tank only about ¼ full.
For the MultiControl CAR option, the recommended installation locations for the Telestart or ThermoCall push button 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.

We recommend installing a Thermo Top Evo 4. The heater is integrated into the coolant circuit as an ‘island’ and heats up the vehicle passenger compartment. There is no engine pre-heating.

3 About this document

3.1 Purpose of the document

This installation documentation is part of the product and contains all the information required to ensure professional vehicle specific installation of the:

Thermo Top Evo heater

3.2 Warranty and liability

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 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.

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.

3.2.1 Statutory regulations governing installation

The Thermo Top Evo heater has been type-tested and approved in accordance with ECE-R 10 (EMC) and ECE-R 122 (heater). 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.

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

3.3 Safety

Qualifications of installation personnel

The installation personnel must have the following qualifications:

- Successful completion of Webasto training
- Corresponding qualification for working on technical systems

Regulations and legal requirements

The regulations from the heater's general installation and operating instructions must be observed.

3.3.1 Safety information on installation

Danger posed by live parts

- ▶ Prior to installation, disconnect the vehicle from the voltage supply.
- ▶ Make sure the electrical system is earthed correctly.
- ▶ Always comply with legal requirements.
- ▶ Observe data on type label.

Danger of fire and leaking toxic gases due to improper installation

- ▶ Vehicle parts in the vicinity of the heater must be protected against excessive heating by the following measures:
  - ⇨ Maintain minimum safety distances.
  - ⇨ Ensure adequate ventilation.
  - ⇨ Use fire-resistant materials or heat shields.

Danger due to sharp edges

- Lacerations
- Short circuit due to electrical wire damage

- ▶ Fit protectors on sharp edges.

3.4 Using this document

Before installing and operating the heater, read this installation documentation, the installation instructions of the heater, the operating instructions and supplementary sheets provided.

3.4.1 Explanatory Notes on the Document

There is an identification mark near the respective work step to allow you to quickly allocate the other applicable documents to the Webasto components to be installed:

Generally valid Webasto documentation	
Vehicle-specific installation documentation	
Vehicle-specific installation documentation of the cold start kit	
Webasto Comfort A/C control	
Webasto Standard A/C control	
Tank extracting device (e.g. FuelFix)	
Exhaust end fastener (EFIX)	
Combustion air intake silencer	
Spacer bracket (ASH)	

3.4.2 Use of symbols

DANGER

Type and source of the risk

Consequences: Failure to follow the instructions can result in death

▶ Actions to protect yourself against risks.

WARNING

Type and source of the risk

Consequences: Failure to follow the instructions can lead to serious or even fatal injuries

▶ Actions to protect yourself against risks.

CAUTION

Type and source of the risk

Consequences: Failure to follow the instructions can lead to minor injuries

▶ Actions to protect yourself against risks.

Type and source of the risk

Consequences: Failure to follow the instructions can lead to material damage

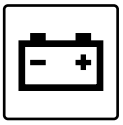
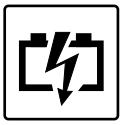
▶ Actions to protect yourself against risks.

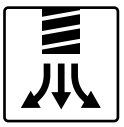
Reference to the vehicle manufacturer's specific documents.

a note on a special technical feature

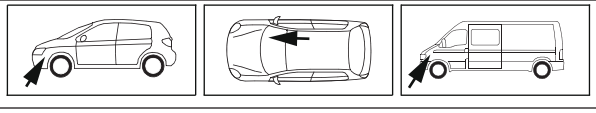
3.4.3 Work step identification marks

The ongoing work step is indicated on the outside top corner of the page:

Mechanical system	Electrical System	High-voltage	Coolant
			

Combustion air	Fuel	Exhaust gas	Software
			

3.4.4 Orientation aid



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

3.4.5 Use of highlighting

Highlight	Explanation
▶	Necessary action
⇨	Result of an action
1 / 12 / a1	Position numbers for the image descriptions
① / ⑫ / Ⓐ	Position numbers for the image descriptions for electrical wires and coolant hose sections

4 Technical Information

Dimension specifications
– All dimensions specified in mm

Tightening torque specifications
– Tightening torque values of 5x13 heater bolts and 5x11 heater stud bolts = 8Nm
– Tightening torque values of 5x15 retaining plate of water connection piece bolts = 7Nm
– 5x12 bolt tightening torque of 2-part heater bracket = 6Nm
– Tighten other bolt connections in accordance with manufacturer's instructions or in accordance with state-of-the-art-technology

Specified temperature for fabric heat shrink tubing
– Shrink temperature max. 230°C

Necessary special tools
– Hose clamp pliers for auto-tightening hose clamps
– Hose clamp pliers for Clic hose clamps of type W
– Hose clamping pliers
– Hose cutter
– Automatic wire stripper 0.2 - 6 mm^2
– Crimping pliers for cable lugs 0.5 – 10 mm^2
– Crimping pliers for male connector 0.14 – 6 mm^2
– Crimping pliers for connector 0.25 – 6 mm^2
– Torque wrench for 2.0 - 10 Nm
– Deep-hole marker
– Metric thread-setter kit
– Webasto Thermo Test Diagnosis with current software

5 Preparing measures

5.1 Vehicle preparation

Further information can be found in the vehicle manufacturer's technical documentation.

Vehicle area	Components to be removed	Other applicable documents
General	▶ Open the fuel tank cap ▶ Ventilate the fuel tank ▶ Close the fuel tank cap again ▶ Depressurise the cooling system	
Engine compartment and body	▶ Battery ▶ Engine cover ▶ Coolant reservoir cap on the front passenger's side ▶ Top wing trim on the front passenger's side ▶ Headlight trim ▶ Fuse and relay box ▶ Front wheel on the driver's side ▶ Wheel well trim on the driver's side ▶ Lower engine cover ▶ Underbody trim on the driver's side ▶ Complete underride protection on the driver's side ▶ Drain and store the engine coolant	
Passenger compartment	▶ Side instrument panel trim on the front passenger's side ▶ Lower instrument panel trim on the front passenger's side ▶ Lower footwell trim on the front passenger's side ▶ Glove box (only in case of X3) ▶ Air-conditioning control unit ▶ Rear bench seat ▶ Tank fitting service lid on the driver's side	

5.2 Heater preparation

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

6 Installation overview

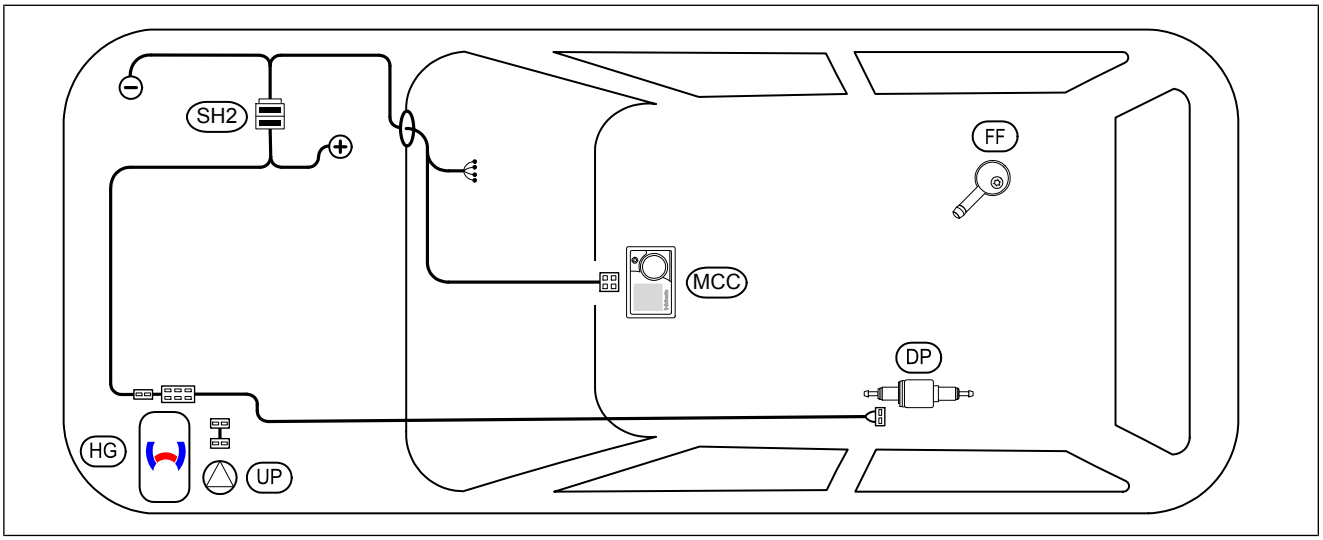


Fig. 1

Legend to installation overview

Abbreviation	Component
DP	Fuel pump
FF	FuelFix
HG	Heater
MCC	MultiControl CAR
SH2	Fuse holder of engine compartment
UP	Coolant pump

Heater installation location

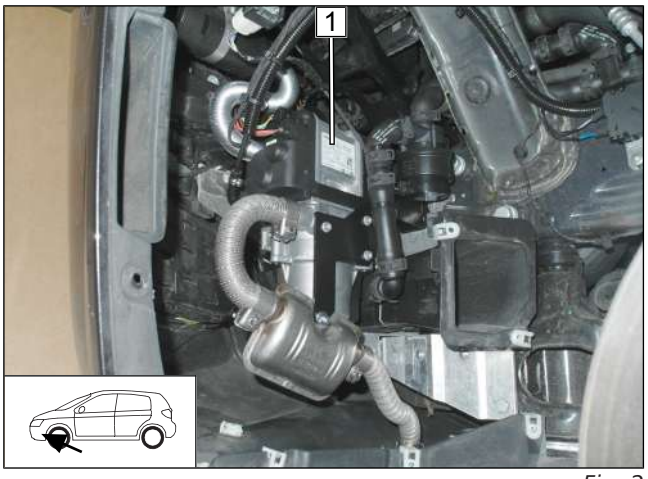


Fig. 2

1 Heater

7 Electrical system of engine compartment

Replacing fuse F2

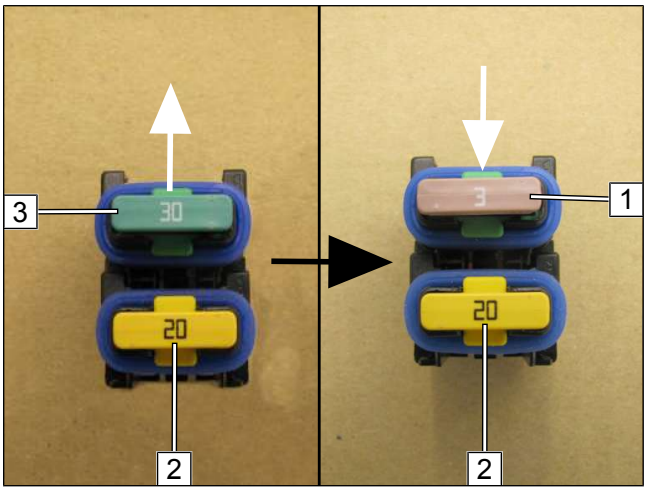


Fig. 3

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

[2] Fuse F1: 20A

Adapting angle bracket

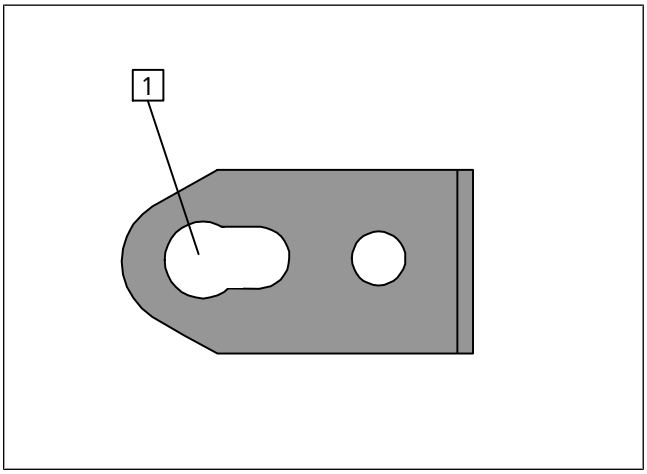


Fig. 4

[1] Drill out oblong hole to Ø10.5

Premounting retaining plate SH2

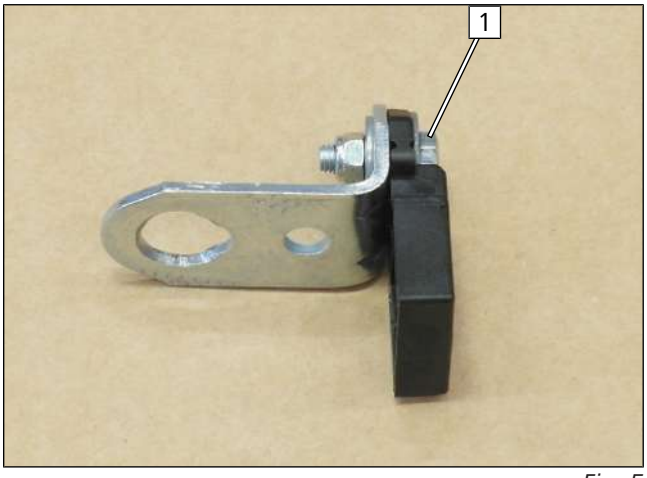


Fig. 5

[1] M5x16 bolt, large diameter washer, retaining plate of SH2, angle bracket, large diameter washer, nut

Mounting SH2

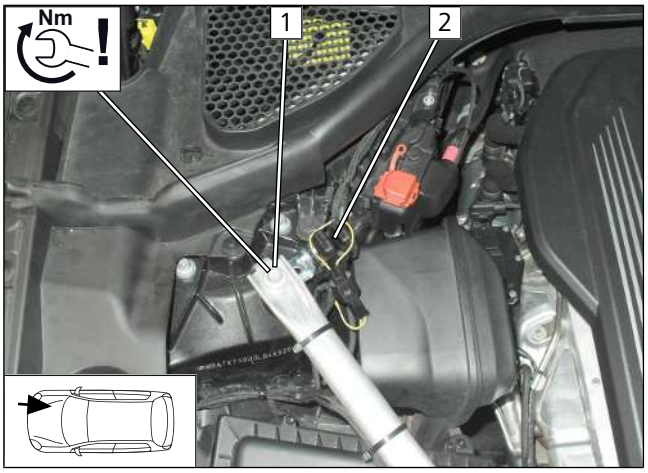


Fig. 6

▶ Position premounted angle bracket at position 1 between strut and strut brace.

1 Original vehicle bolt

2 Fuse F1 and F2

Connecting positive wire

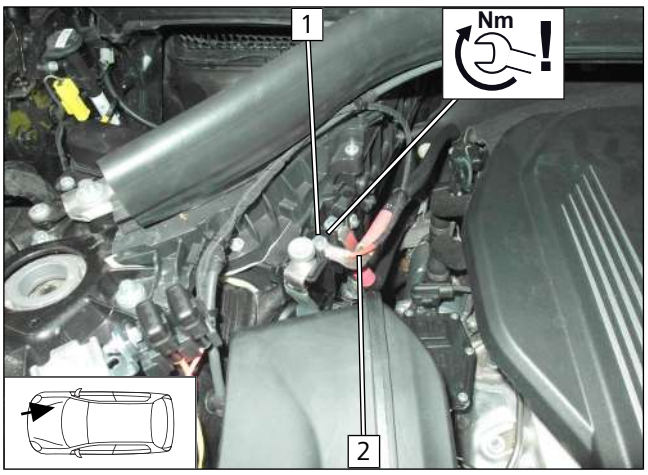


Fig. 7

DANGER

Fire hazard due to insufficient tightening torque

▶ Observe tightening torque

1 Original vehicle positive support point

2 Positive wire

Connecting earth wire

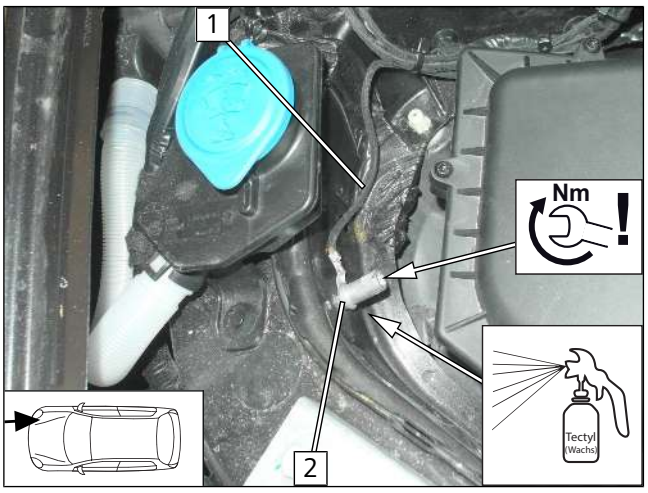


Fig. 8

DANGER

Fire hazard due to insufficient tightening torque

▶ Observe tightening torque

1 Earth wire

2 Original vehicle earth support point

Routing wiring harness

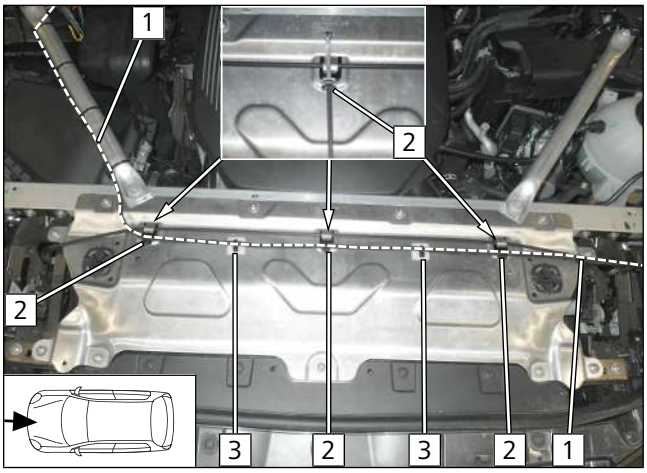


Fig. 9

▶ Route heater wiring harness [1] to heater installation location.

[2] Edge clip cable tie

[3] Self-adhesive socket with cable tie

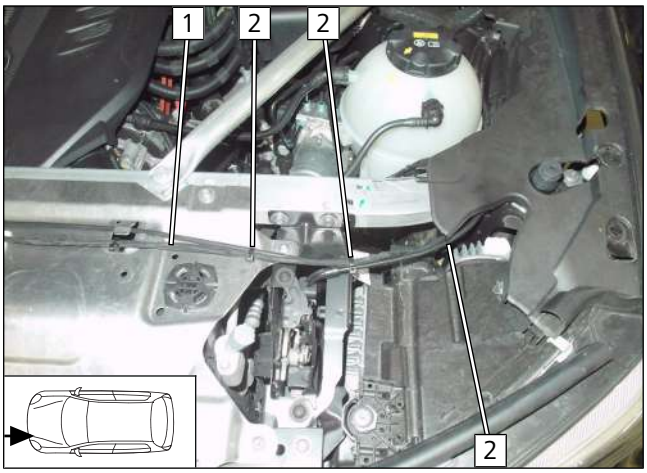


Fig. 10

▶ Route heater wiring harness [1] to heater installation location.

[2] Cable tie

Preparing pass through in passenger compartment

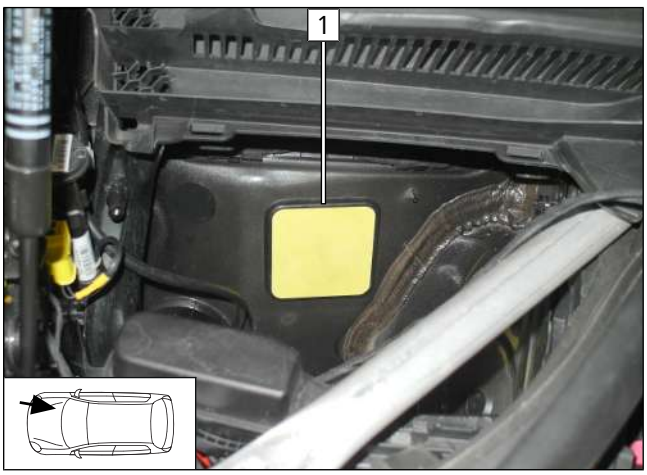


Fig. 11

▶ Remove cover [1].

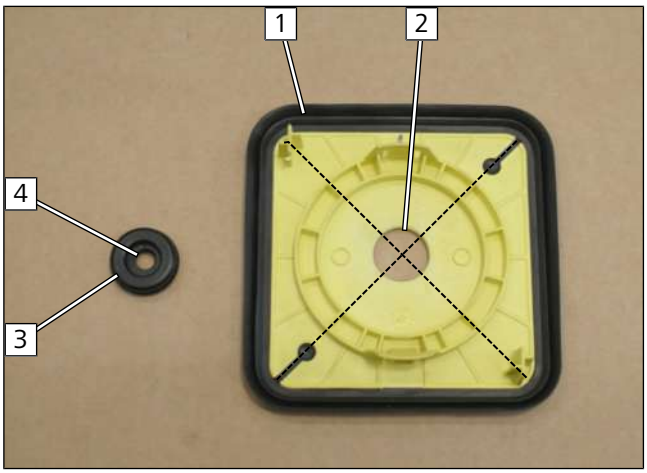


Fig. 12

1 Cover
2 Ø18 hole
3 Protective rubber plug
4 Ø4 hole

Routing wiring harnesses in passenger compartment

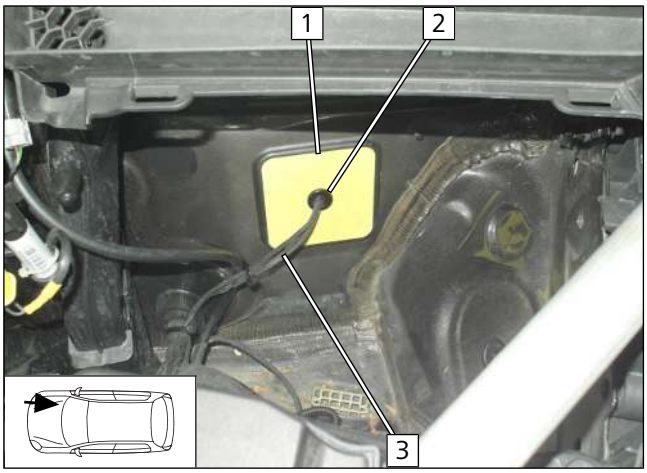


Fig. 13

▶ Mount cover 1 and protective rubber plug 2.

3 Passenger compartment and control element wiring harnesses

8 Mechanical system

8.1 Preparing installation location

Detaching wiring harness

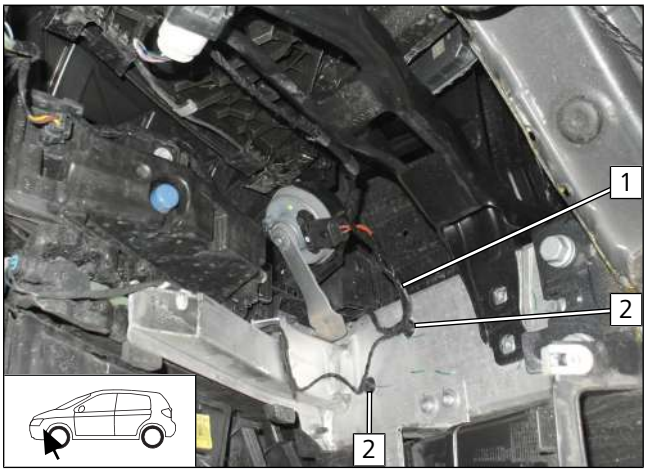


Fig. 14

▶ Remove and discard original vehicle eyelet cable tie [2].

[1] Original vehicle horn wiring harness

Fastening original vehicle horn wiring harness / turning horn

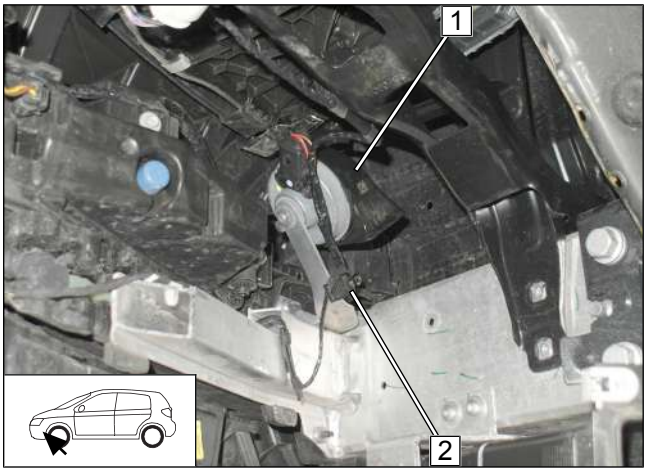


Fig. 15

▶ Loosen horn [1], turn as shown and tighten again.

▶ Fasten original vehicle horn wiring harness with edge clip cable tie [2].

Removing original vehicle bolts

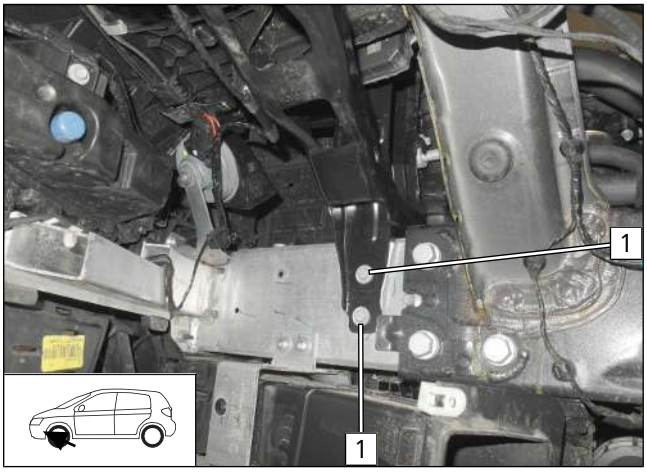


Fig. 16

▶ Remove and discard original vehicle bolts [1].

Preparing heater bracket

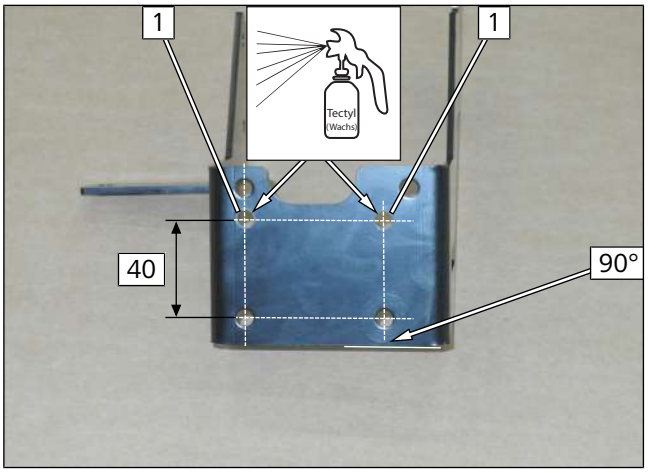


Fig. 17

The following 2 work steps are only necessary if holes **1** are not present.

▶ Drill a Ø7 hole.

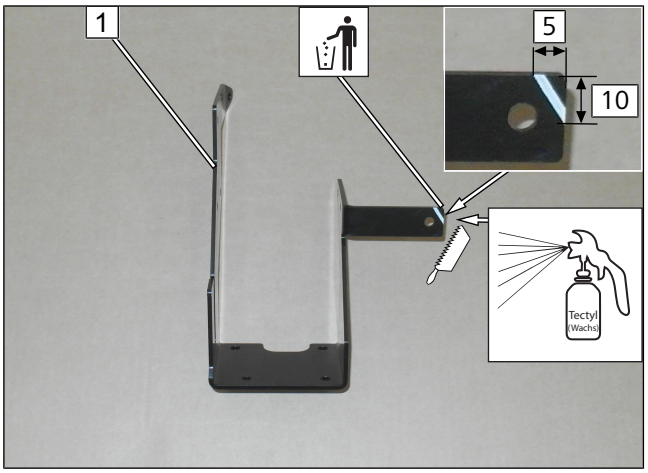


Fig. 18

▶ Shorten heater bracket **1** as shown in figure.

Shortening perforated bracket

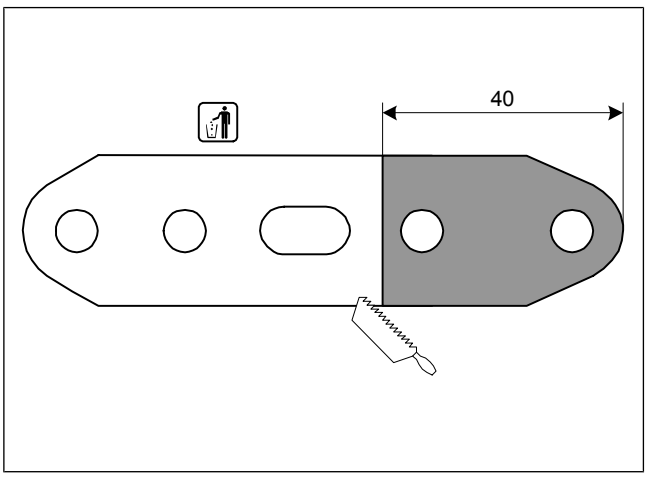


Fig. 19

Premounting heater bracket

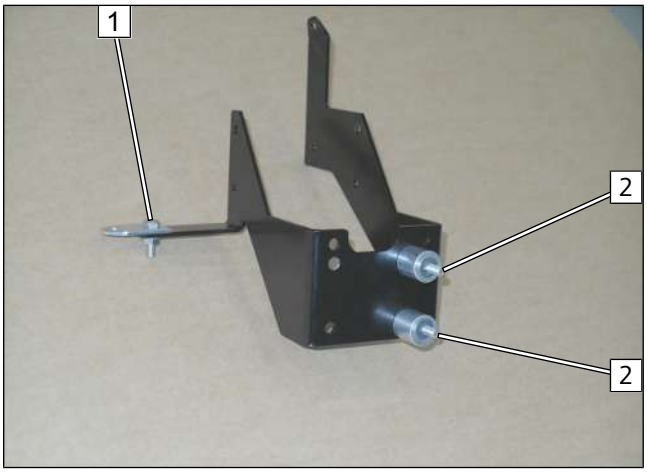


Fig. 20

1 M6x20 bolt, prepared perforated bracket, heater bracket, flanged nut

2 M6x40 bolt, spring lockwasher, large diameter washer, heater bracket, 20mm spacer, lock washer

Copying hole pattern

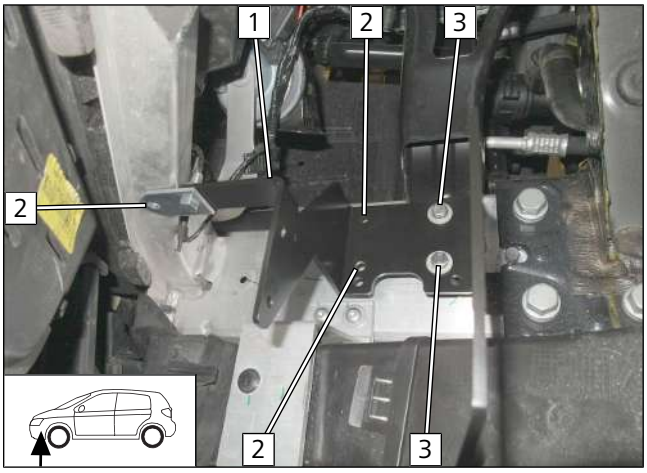


Fig. 21

▶ Align heater bracket **1** as shown.

2 Hole pattern

3 Premounted M6x40 bolt

Drilling hole, inserting rivet nuts

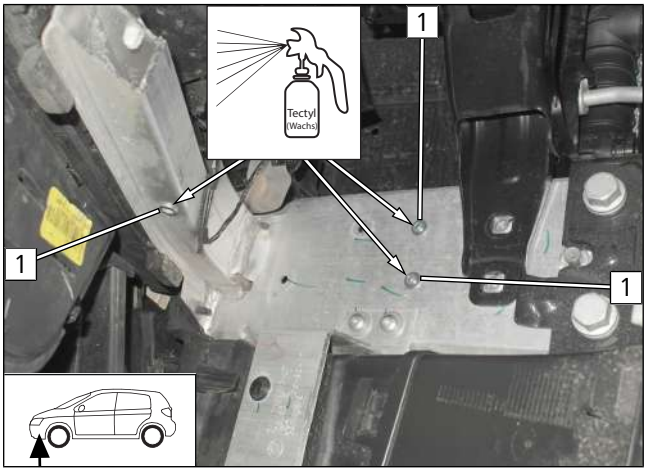


Fig. 22

1 Ø9 hole, rivet nut

Premounting heater bracket

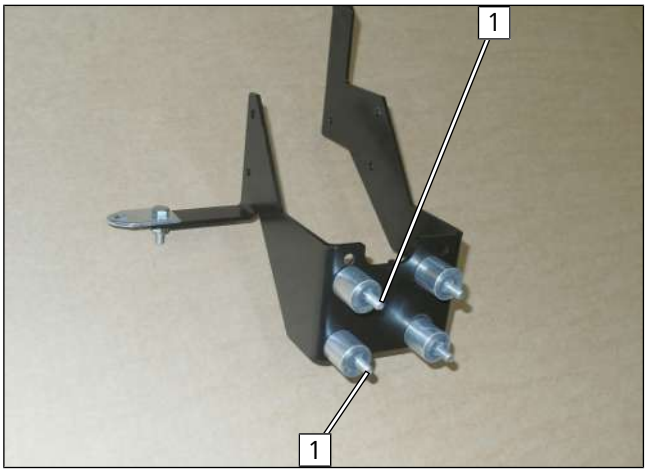


Fig. 23

1 M6x40 bolt, spring lockwasher, large diameter washer, heater bracket, 20mm spacer, lock washer

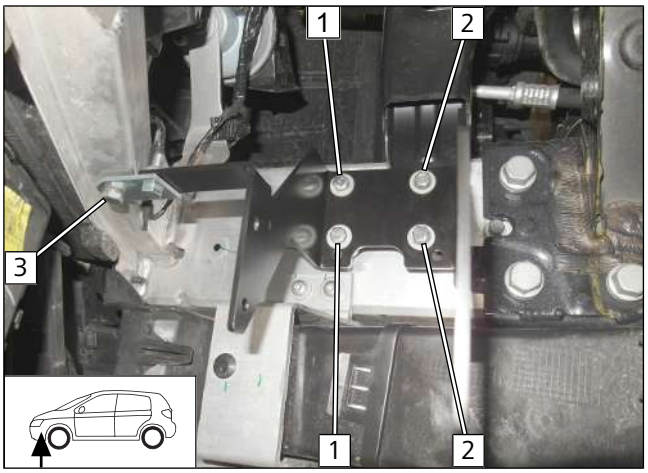


Fig. 24

1 Premounted M6x40 bolt, rivet nut
2 Premounted M6x40 bolt, original vehicle thread
3 M6x20 bolt, spring lockwasher, rivet nut

8.2 Premounting heater

Mounting water connection piece

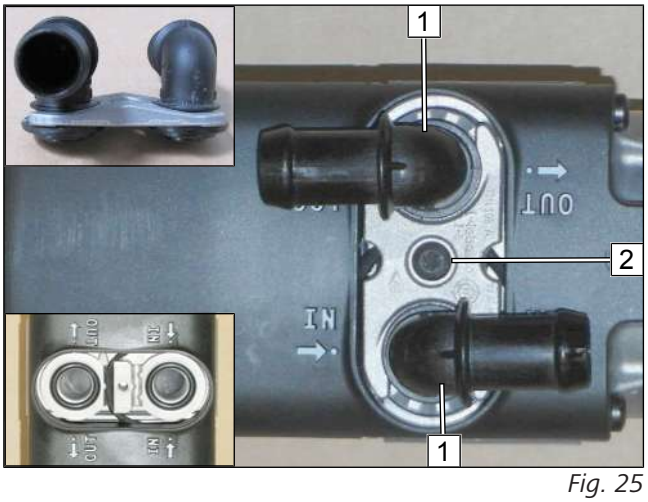


Fig. 25

Observe the general installation instructions of the heater.

1 90° water connection piece, seal
2 5x15 self-tapping bolt, water connection piece retaining plate

Precutting thread

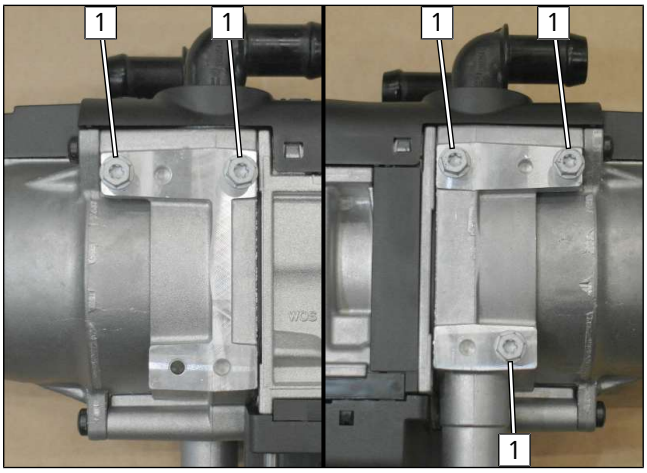


Fig. 26

▶ Screw 5x13 self-tapping bolt [1] inwards by approx. 3 threads and remove again.

Preparing hoses

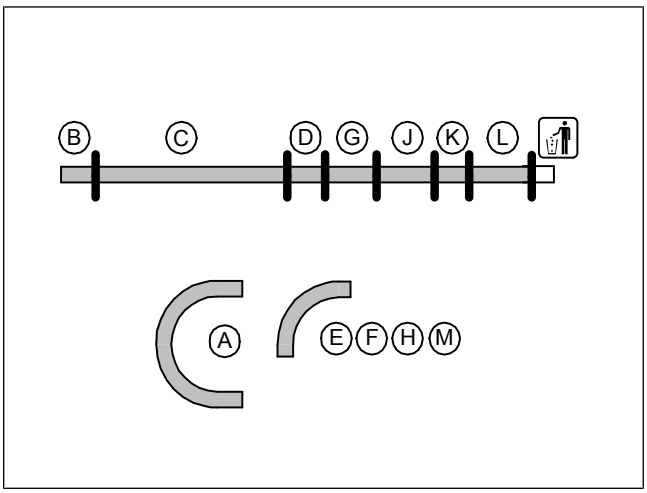


Fig. 27

20d / 25d

Ⓐ	180°
Ⓑ	60
Ⓒ	870
Ⓓ	60
Ⓔ / Ⓕ / Ⓗ / Ⓜ	90°
Ⓖ	110
Ⓙ	160
Ⓚ	60
Ⓛ	240°

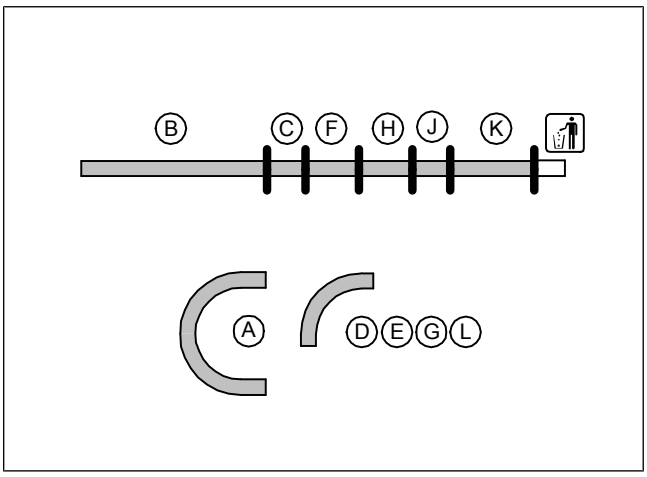


Fig. 28

30d

Ⓐ	180°
Ⓑ	500
Ⓒ	60
Ⓓ / Ⓔ / Ⓖ / Ⓛ	90°
Ⓕ	110
Ⓗ	160
Ⓙ	60
Ⓚ	240

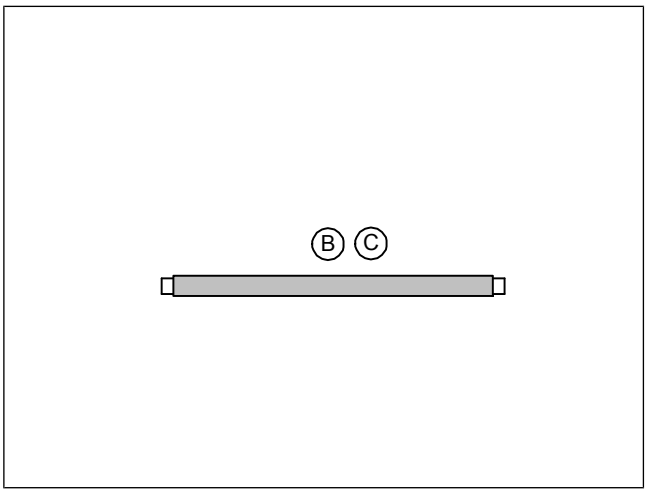


Fig. 29

▶ Slide fabric heat shrink tubing onto hoses Ⓑ and Ⓒ, cut to length and shrink.

Ⓑ for 3.0 D
Ⓒ for 2.0 D

Mounting hoses on heater

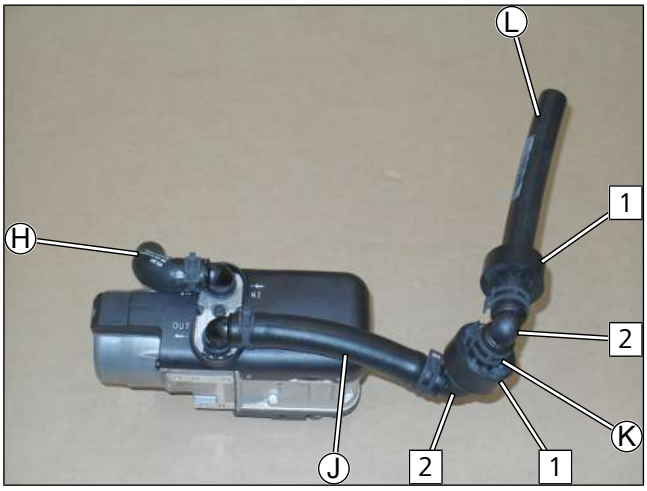


Fig. 30

20d / 25d

All spring clips Ø25

1 Black (sw) rubber isolator
2 90°, 18x18mm connecting pipe

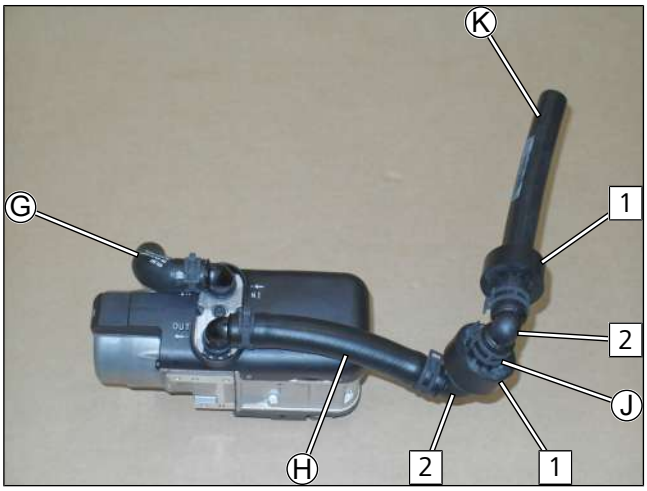


Fig. 31

30d

All spring clips Ø25

1 Black (sw) rubber isolator
2 90°, 18x18mm connecting pipe

8.3 Mounting heater

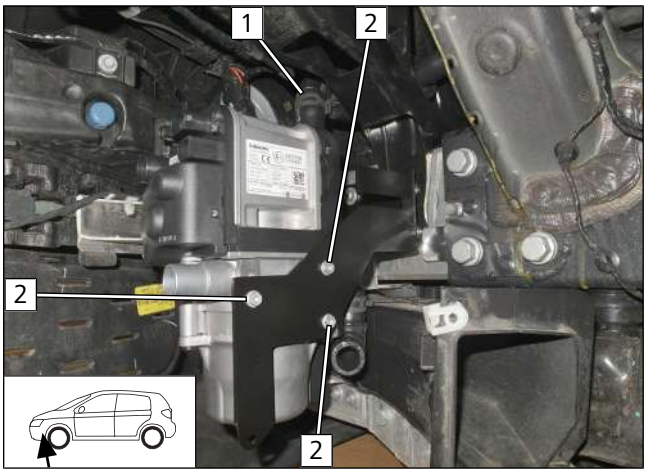


Fig. 32

20d / 25d

▶ Route premounted hoses (K) and (L) [1] in the engine compartment.

30d

▶ Route premounted hoses (J) and (K) [1] in the engine compartment.

[2] 5x13 self-tapping bolt

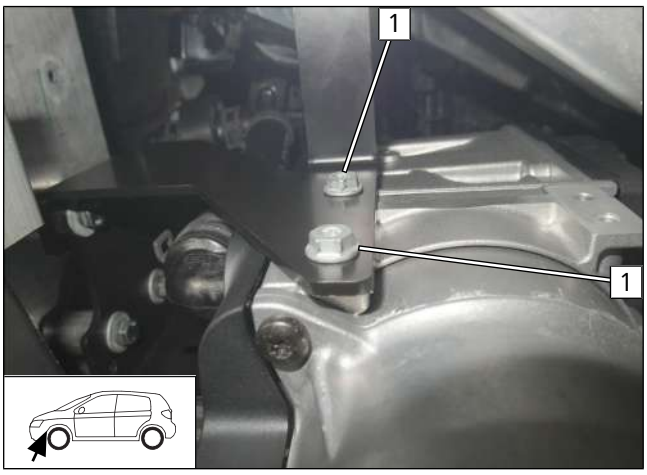


Fig. 33

[1] 5x13 self-tapping bolt

Mounting wiring harnesses

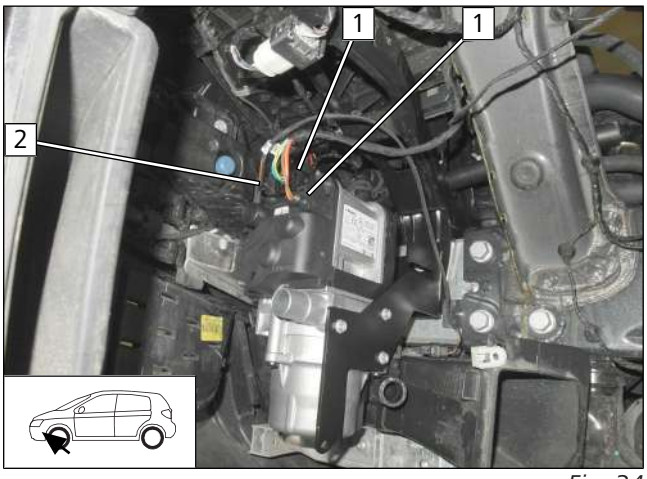


Fig. 34

[1] Heater wiring harness connector

[2] Coolant pump wiring harness connector

9 Fuel

DANGER

Risk of fire and explosion due to leaking fuel and escaping fuel vapours.

The Incorrect installation of the fuel extractor can cause damage and fire.

- ▶ Avoid electrostatic discharges and open fire.
- ▶ When working on the fuel system, ensure sufficient ventilation and bleeding.
- ▶ Open the fuel tank cap of the vehicle.
- ▶ Ventilate the fuel tank
- ▶ Re-close the tank lock.
- ▶ Catch any fuel running off with an appropriate container.

Danger of damage to components

- ▶ Install fuel line and fuel pump wiring harness so that they are protected against stone impact.
- ▶ Provide rub protection for fuel line and wiring harness in areas where there are sharp edges.

Dismantling fuel pump connector X7

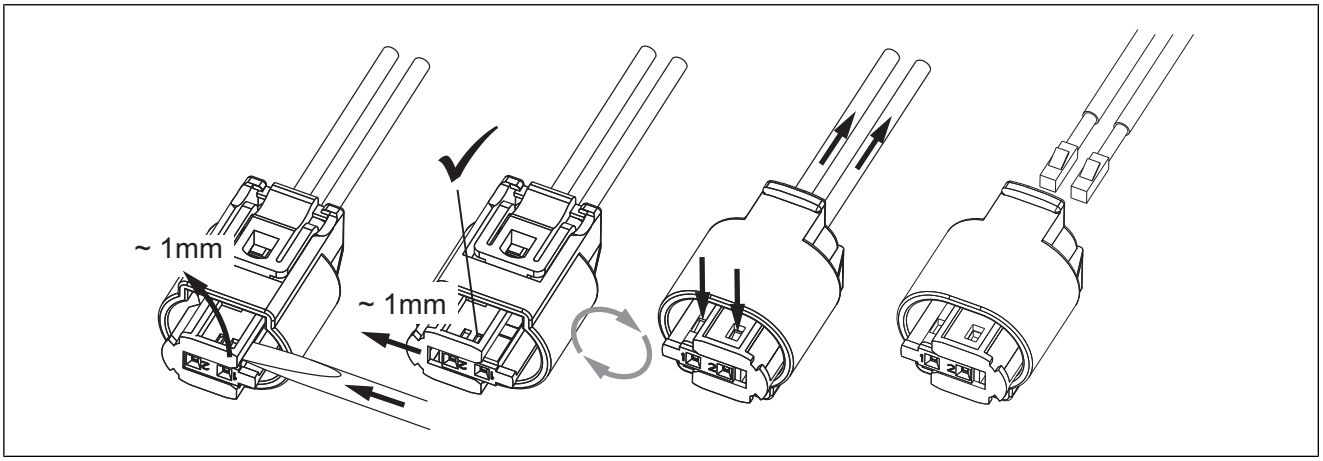


Fig. 35

9.1 Routing fuel line

Connecting heater

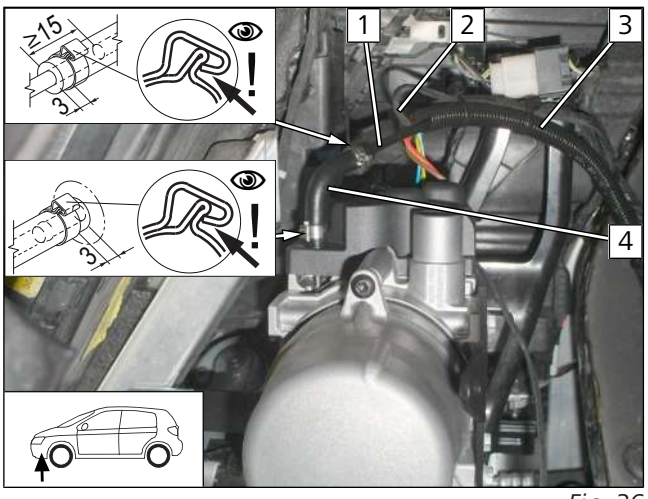


Fig. 36

1. Fuel line
2. Fuel pump wiring harness
3. Fuel line and fuel pump wiring harness in corrugated tube
4. 90° moulded hose, Ø10 clamp [2x]

Routing corrugated tube

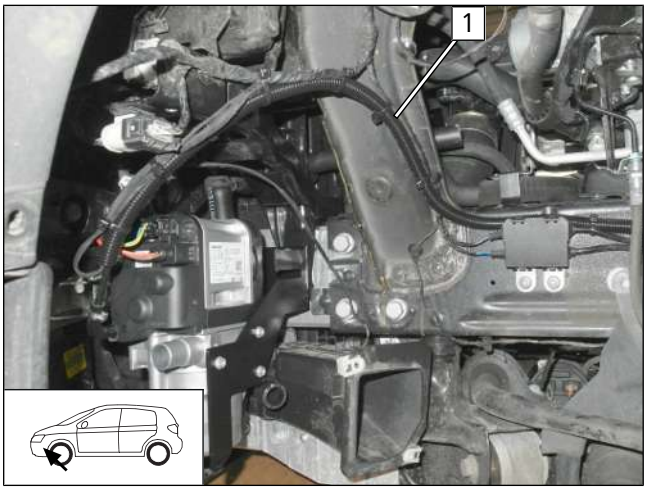


Fig. 37

▶ Route fuel line and fuel pump wiring harness in corrugated tube [1] along the original vehicle line and fasten with cable ties.

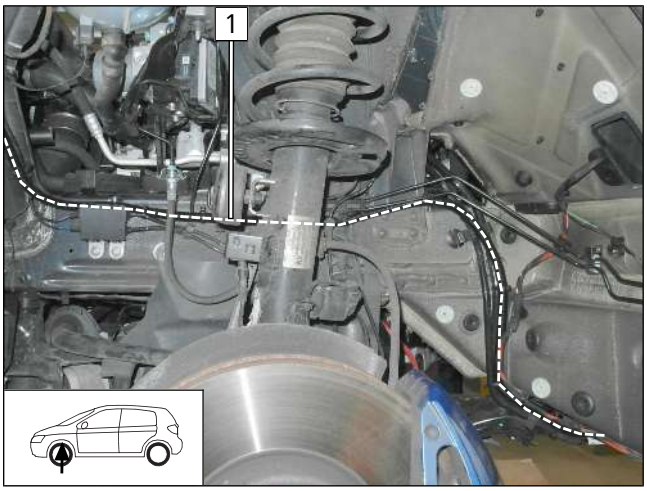


Fig. 38

▶ Route corrugated tube [1] with fuel line and fuel pump wiring harness along the original vehicle line to the underbody.

Fig. 39

▶ Route fuel line and fuel pump wiring harness [1] along the original vehicle line to the installation location of the fuel pump.

Preparing perforated bracket

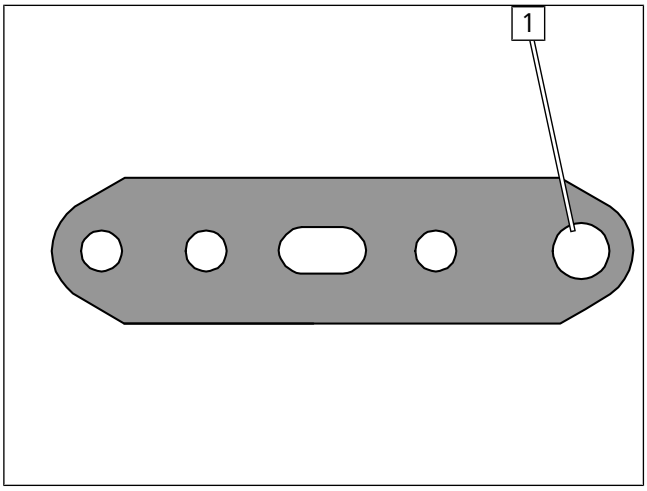


Fig. 40

▶ Drill out perforated bracket at position **1** to Ø8.5

Premounting fuel pump

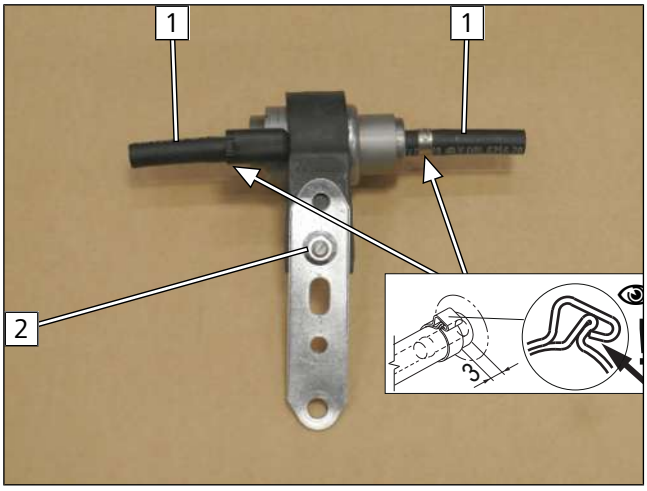


Fig. 41

1 Hose section, Ø10 clamp

2 M6x25 bolt, support angle bracket, fuel pump mount, perforated bracket, flanged nut

Mounting fuel pump

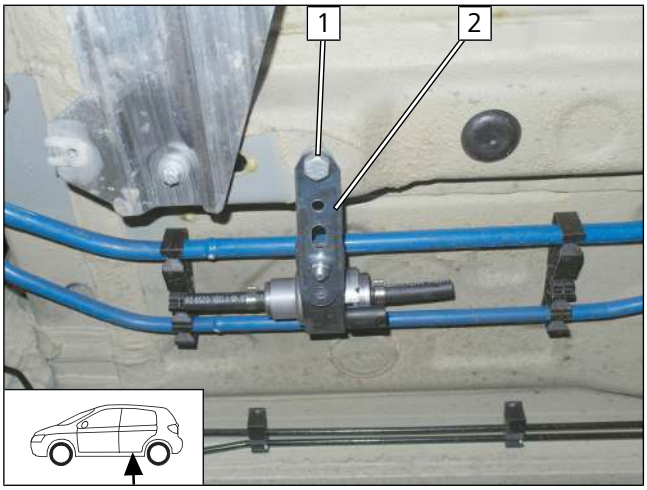


Fig. 42

1 M8x20 bolt, spring lockwasher, perforated bracket, original vehicle thread

2 Premounted fuel pump

Mounting fuel pump connector

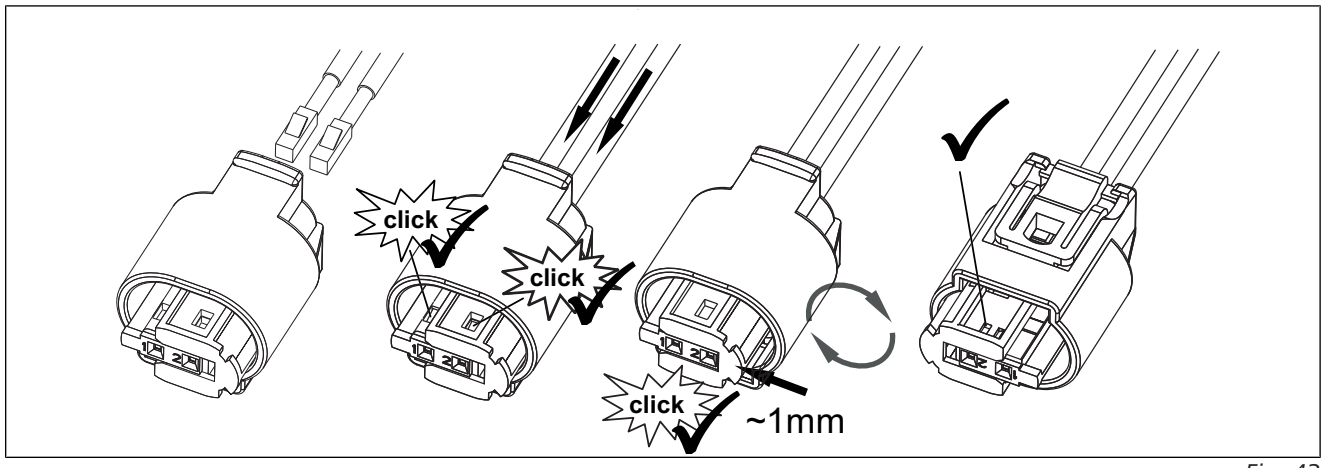


Fig. 43

Connecting fuel pump

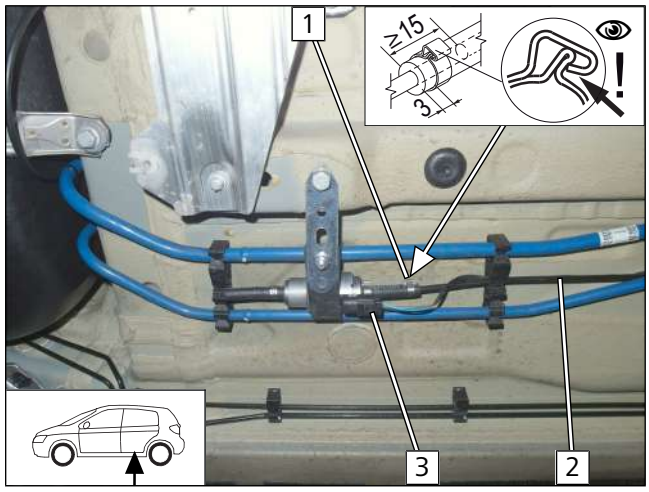


Fig. 44

1 Ø10 clamp
2 Fuel line
3 Fuel pump wiring harness, connector X7 mounted

9.2 Installing FuelFix

Assigning drilling template

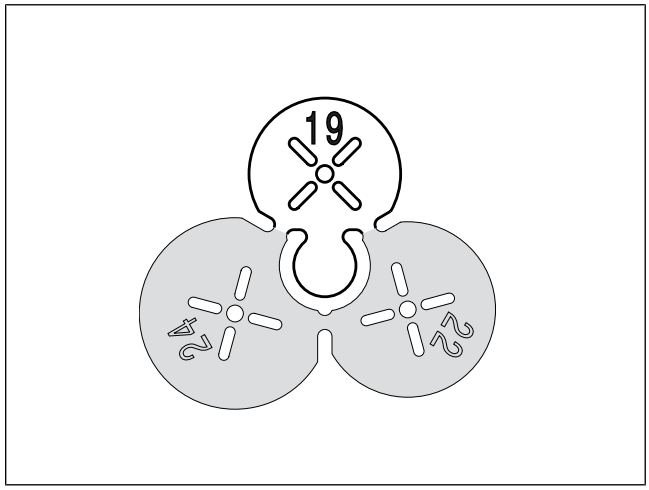


Fig. 45

View of tank fitting

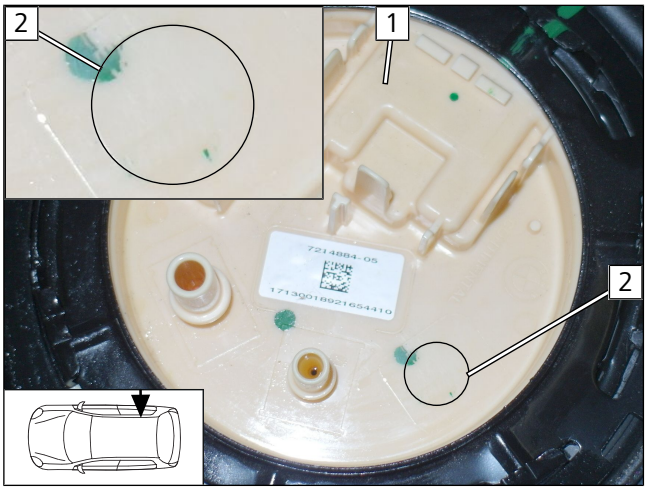


Fig. 46

1 Tank fitting
2 Embossed area on tank fitting

Copying hole pattern

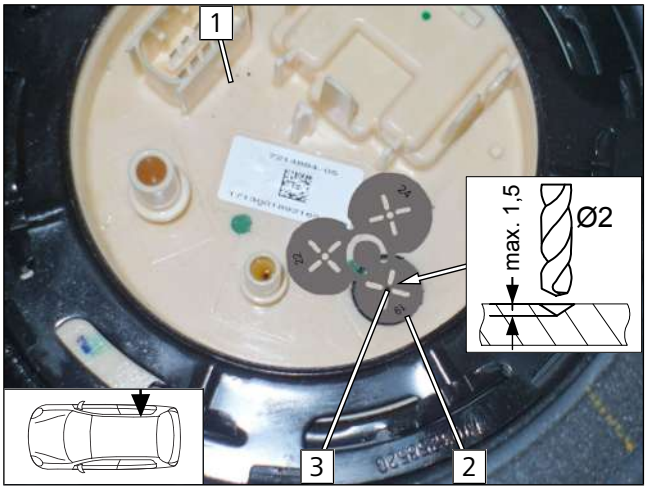


Fig. 47

Observe the installation instructions of the tank extracting device.

▶ Work steps F1, F2

1 Tank fitting
2 Position Ø19 drilling template as shown in Fig. on the embossed area
3 Ø2 centring hole

Hole for FuelFix

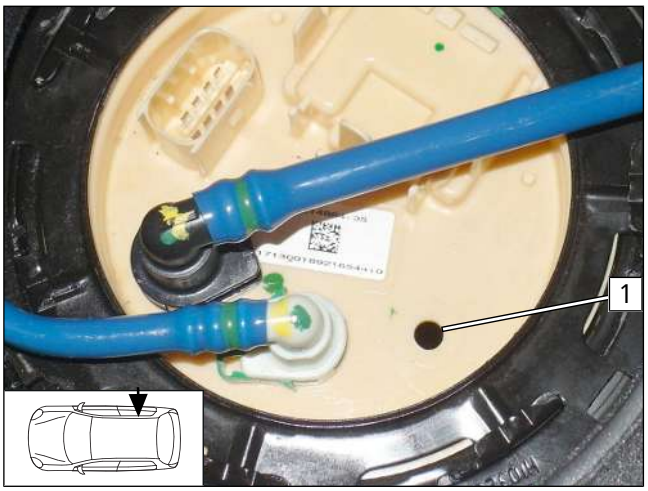


Fig. 48

DANGER

Risk of fire and explosion due to leaking fuel and escaping fuel vapours.

▶ Work step F3

1 Hole made with provided drill

Inserting FuelFix

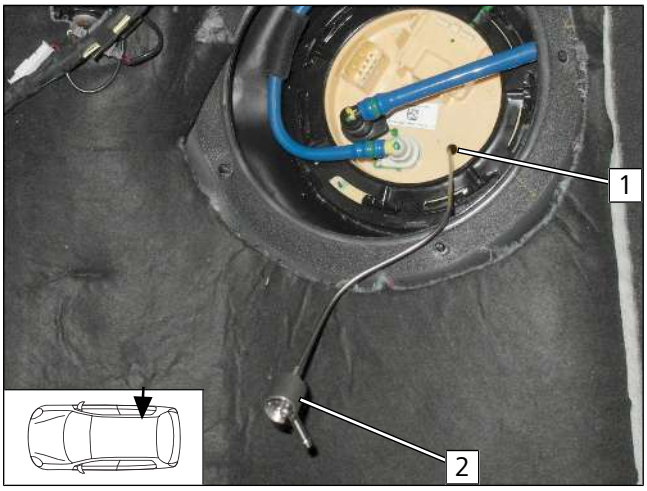


Fig. 49

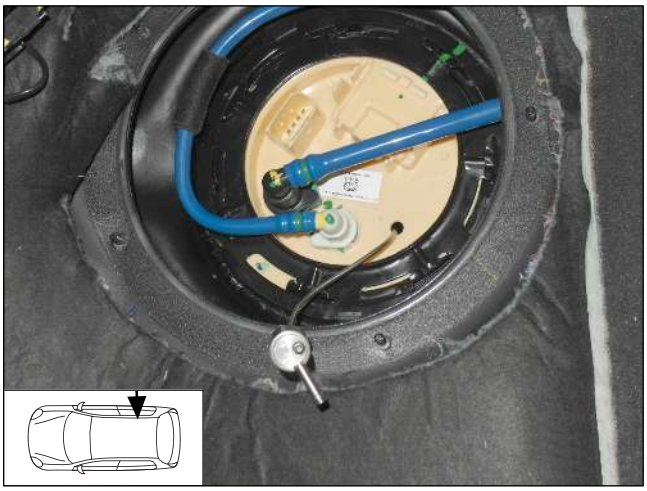


Fig. 50

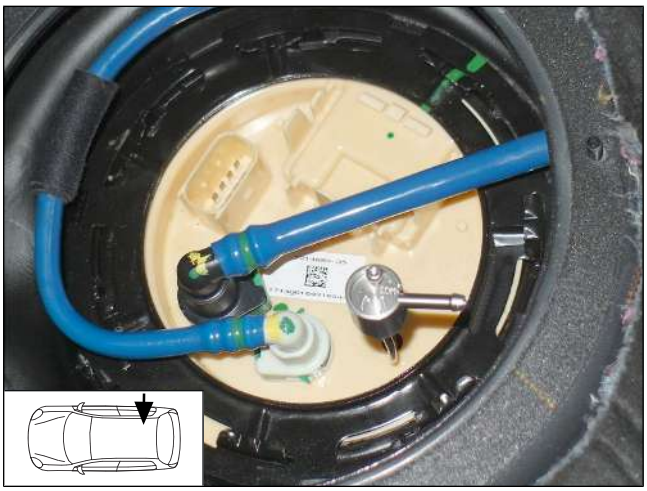


Fig. 51

- ▶ Work steps F4, F5
- ▶ Bend FuelFix [2] as shown in template and cut to length. Insert in hole [1].

Aligning FuelFix

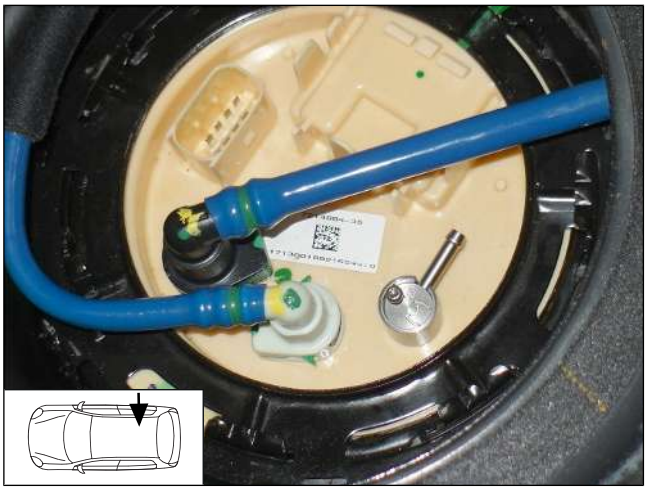


Fig. 52

▶ Work steps F5.3, F5.4

▶ Align FuelFix as shown.

Connecting fuel line

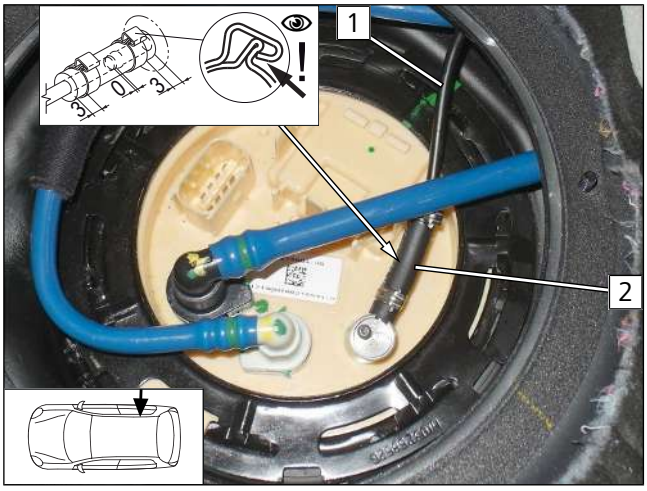


Fig. 53

▶ Work step F6.2

1 Fuel line

2 Hose section, Ø10 clamp [2x]

Mounting FuelFix

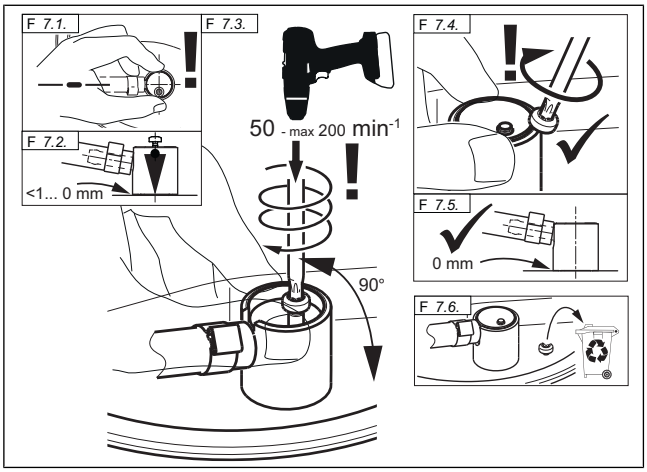


Fig. 54

DANGER

Risk of fire and explosion due to leaking fuel and escaping fuel vapours

▶ Work step F7

Checking firm seating of FuelFix

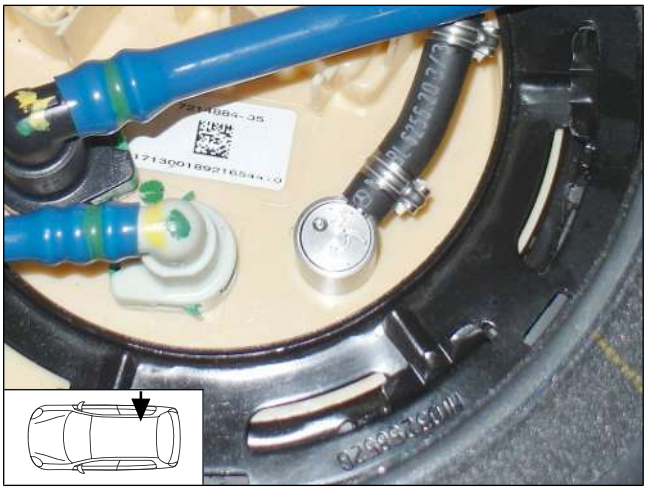


Fig. 55

▶ Work step F8

Securing fuel line

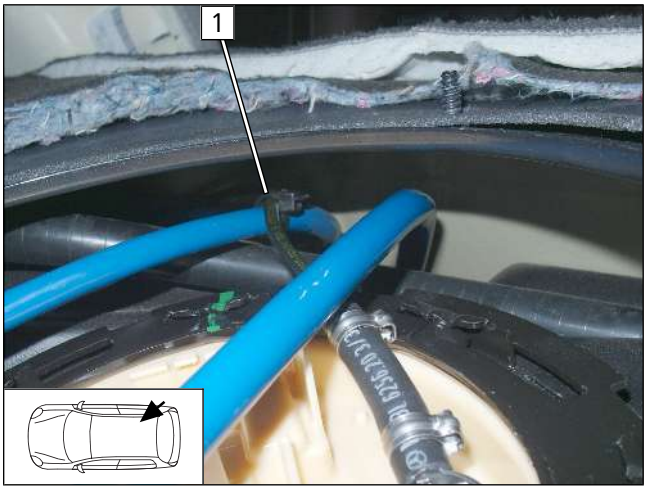


Fig. 56

1 Cable tie for tension relief

9.3 Fuel pump connection

Connecting fuel pump

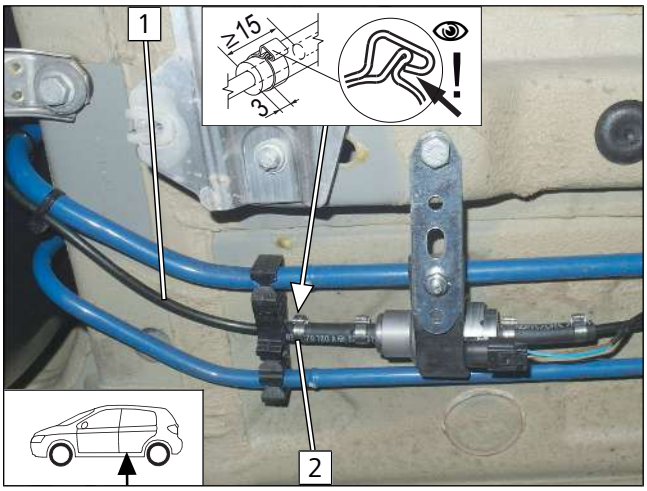


Fig. 57

▶ Route FuelFix fuel line 1 along original vehicle line to installation location of fuel pump and fasten with cable ties.

2 Ø10 clamp

10 Combustion air

Preparing combustion air intake silencer installation location

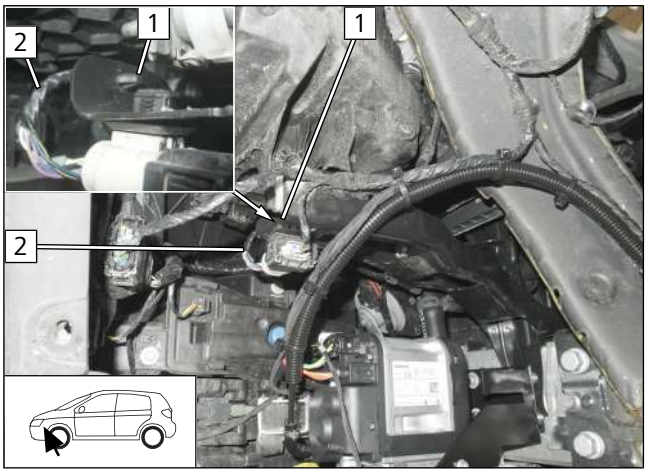


Fig. 58

▶ Remove original vehicle eyelet cable tie **1** of original vehicle wiring harness **2** out of the bracket.

Preparing combustion air intake pipe

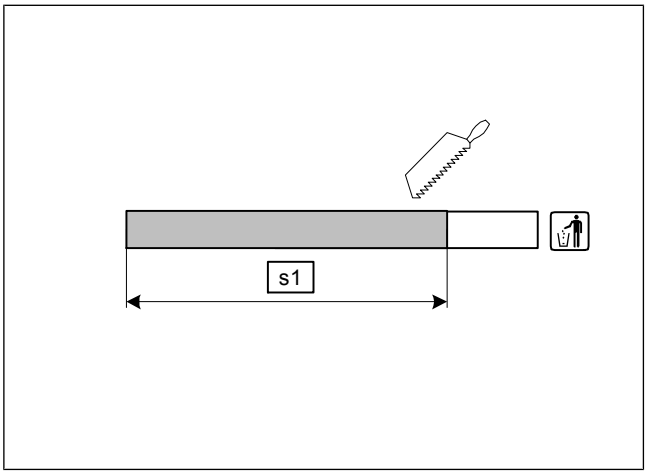


Fig. 59

s1 300mm

Premounting combustion air intake silencer

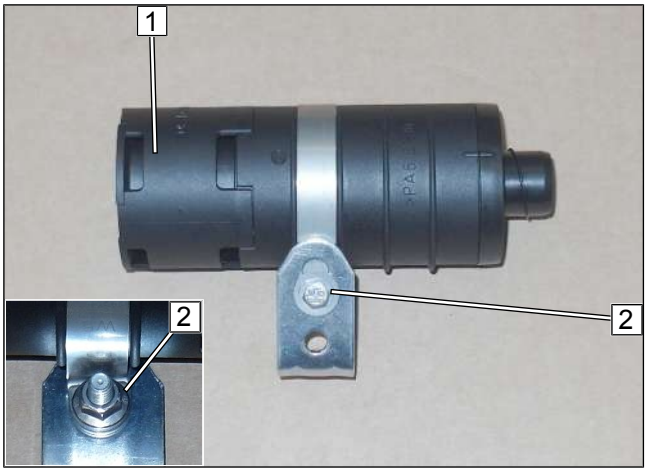


Fig. 60

1 Combustion air intake silencer

2 M5x16 bolt, large diameter washer, angle bracket, Ø51 clamp, flanged nut

Installing combustion air pipe

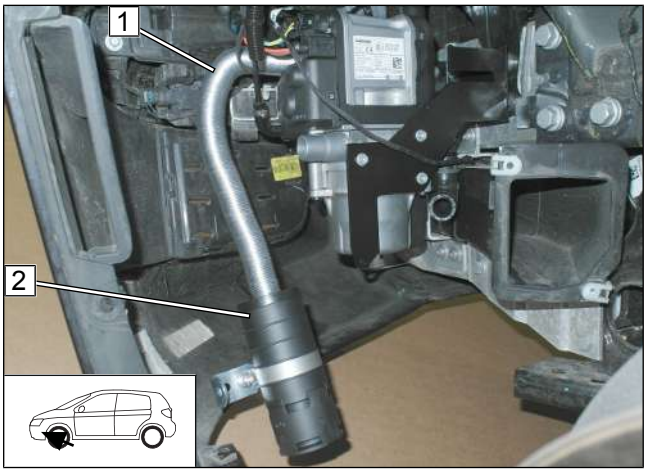


Fig. 61

1 Combustion air pipe
2 Combustion air intake silencer

Mounting combustion air intake silencer

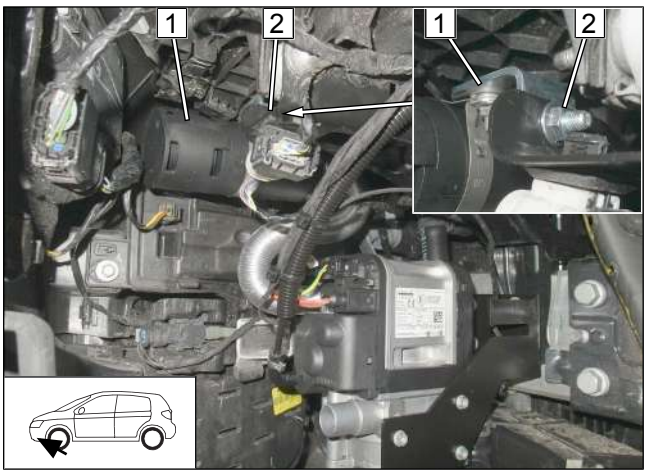


Fig. 62

1 Combustion air intake silencer, premounted
2 M6x20 bolt, angle bracket, original vehicle hole, flanged nut

▶ Snap original vehicle eyelet cable tie in the angle bracket hole.

11 Coolant 20d / 25d

11.1 Hose routing diagram

'Island' coolant circuit

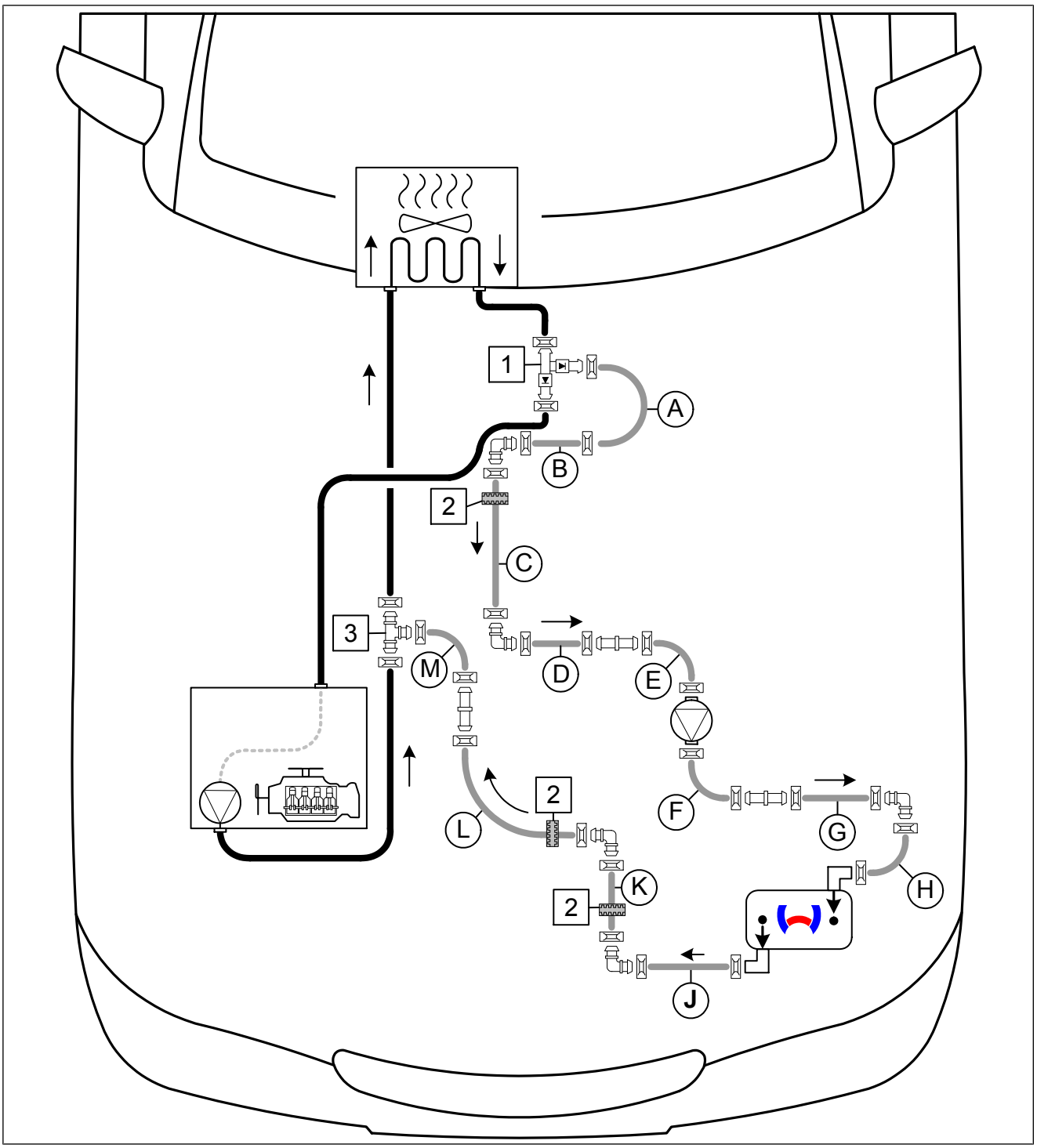


Fig. 63

All spring clips = Ø25; all connecting pipes or = Ø18x18

[1] Non-return valve = Ø18x18x18; [2] Black (sw) rubber isolator; [3] T-piece = Ø18x18x18

11.2 Coolant circuit installation

Premounting coolant pump

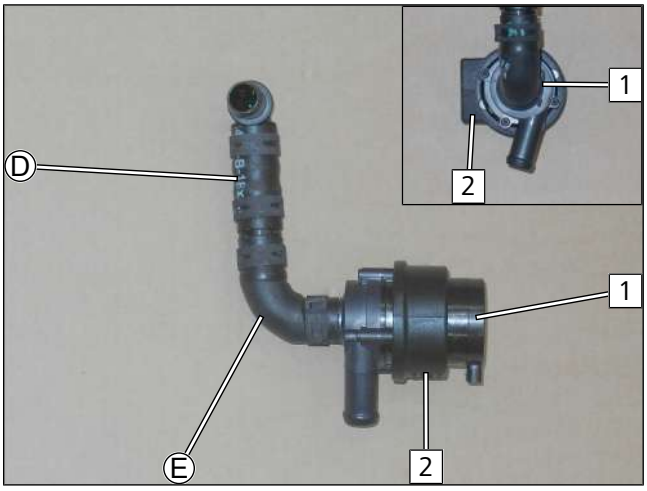


Fig. 64

1 Coolant pump
2 Coolant pump mount

Mounting coolant pump

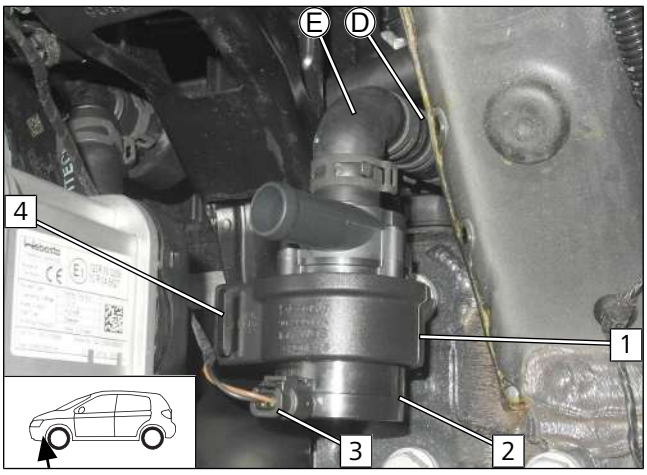


Fig. 65

▶ Route hoses (D) and (E) in the engine compartment.

1 Coolant pump mount
2 Coolant pump
3 Coolant pump wiring harness connector
4 Strut for coolant pump mount

Connecting coolant pump

Fig. 66

Removing clip bracket

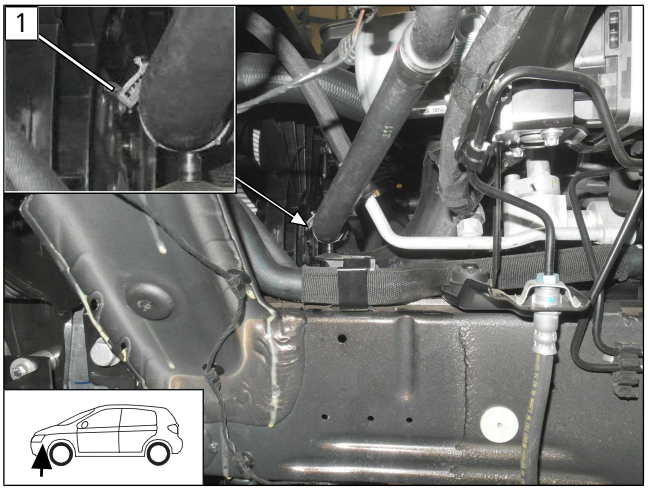


Fig. 67

- Remove and discard original vehicle clip bracket for the expansion tank hose (if available).

Preparing cutting point 1

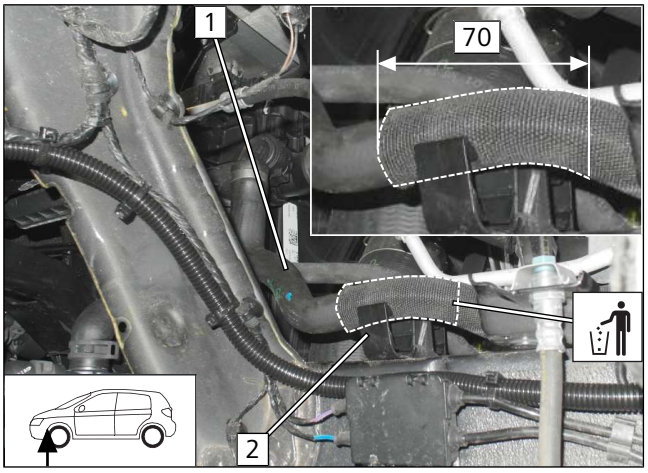


Fig. 68

- Remove engine outlet / heat exchanger inlet hose **1** from clip **2** as shown.
- Remove and discard fabric protective hose as shown.

Cutting point 1

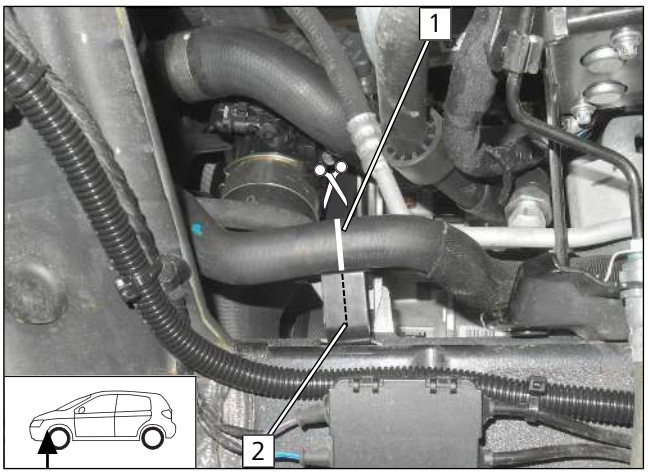


Fig. 69

- Mark cutting point **1** on engine outlet / heat exchanger inlet hose by using the middle of clip **2** as a reference.

Mounting T-piece

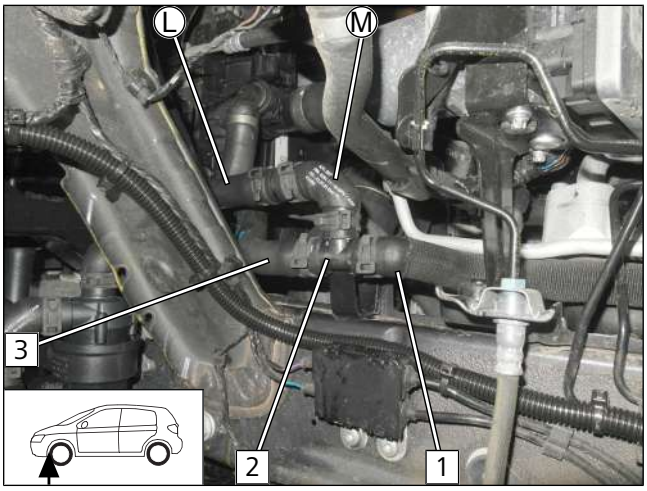


Fig. 70

1 Heat exchanger inlet hose section
2 T piece
3 Engine outlet hose section

Fastening T-piece

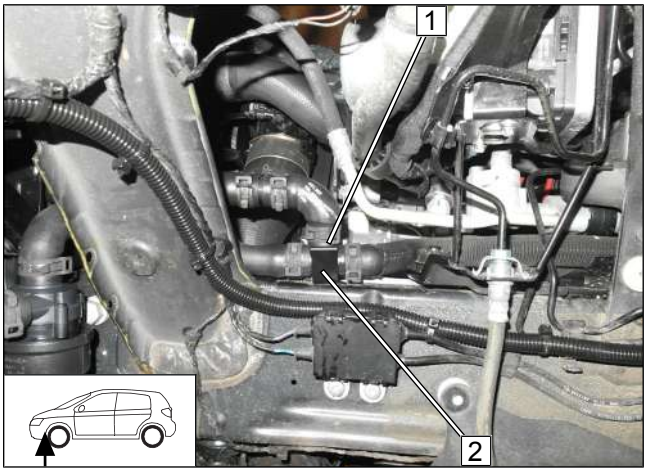


Fig. 71

▶ Insert T-piece 1 into original vehicle clip 2.

Fastening hoses

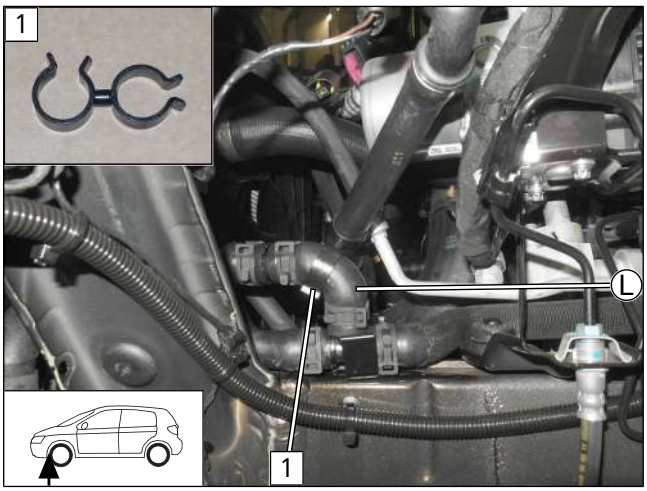


Fig. 72

▶ Fasten hose (L) and expansion tank hose with 20x20mm hose bracket 1 if the original vehicle clip was installed and has been removed.

Preparing cutting point 2

Fig. 73

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

Cutting point 2

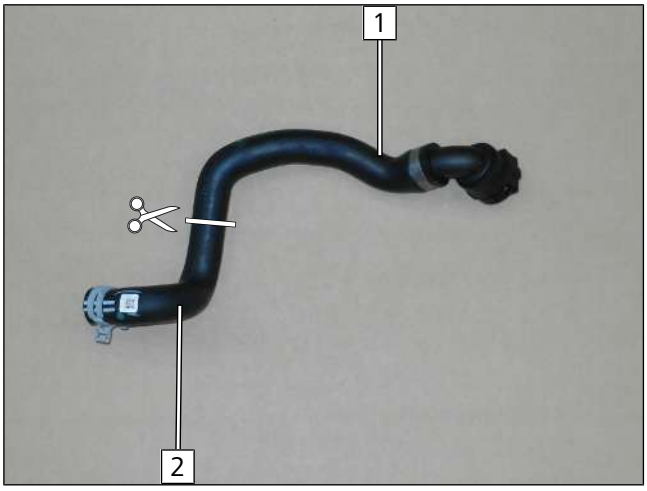


Fig. 74

1 Engine inlet hose section
2 Heat exchanger outlet hose section

Premounting hose group

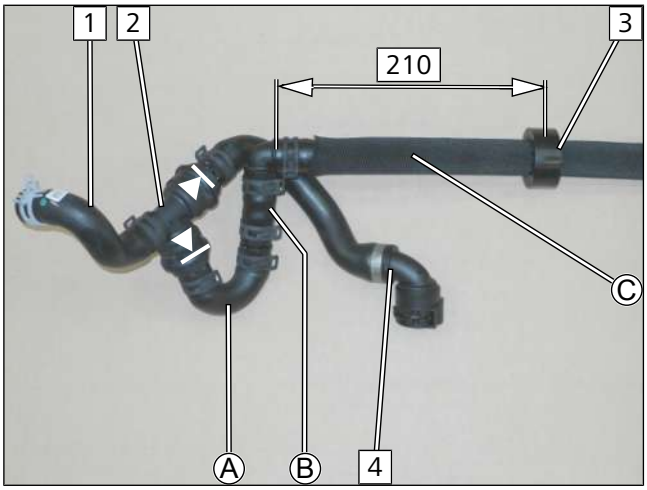


Fig. 75

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

Mounting hose group

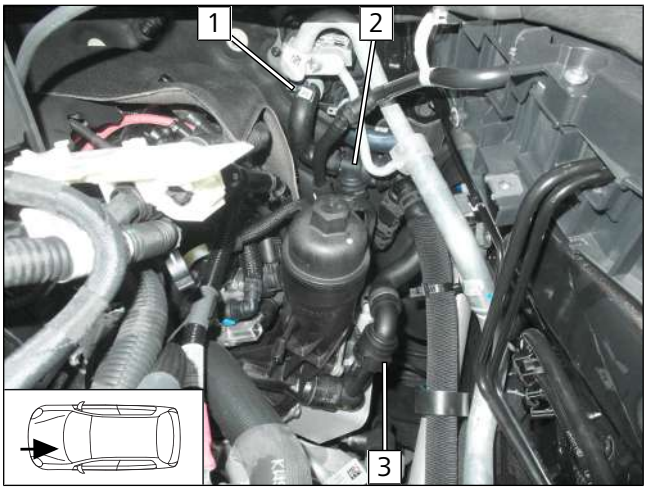


Fig. 76

1 Original vehicle spring clip for heat exchanger outlet
2 Non-return valve
3 Engine inlet coupling

Routing and fastening hoses

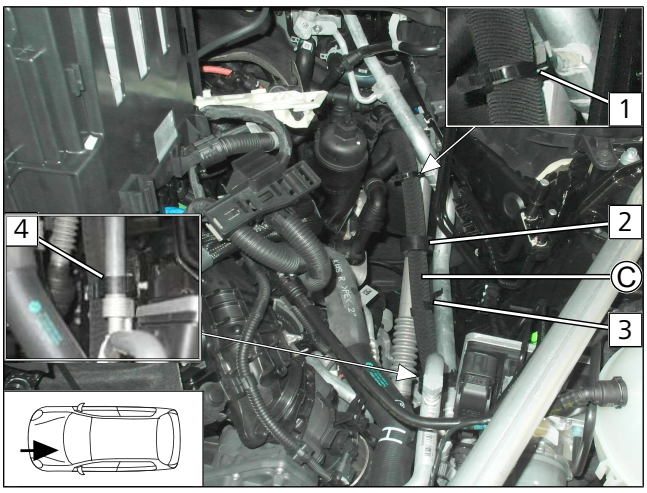


Fig. 77

1 Eyelet cable tie
2 Black (sw) rubber isolator
3 20x20mm hose bracket between hose (C) and A/C line
4 Original vehicle hose bracket between hose (C) and A/C line

Connecting hoses (C) and (D)

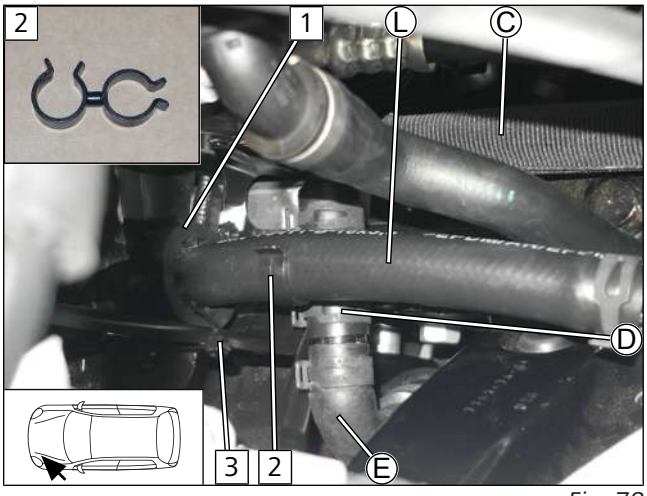


Fig. 78

▶ Fasten black (sw) rubber isolator 1 to the original vehicle strut with cable tie 3.

2 20x20mm hose bracket between hose (D) and hose (L)

Aligning rubber isolator

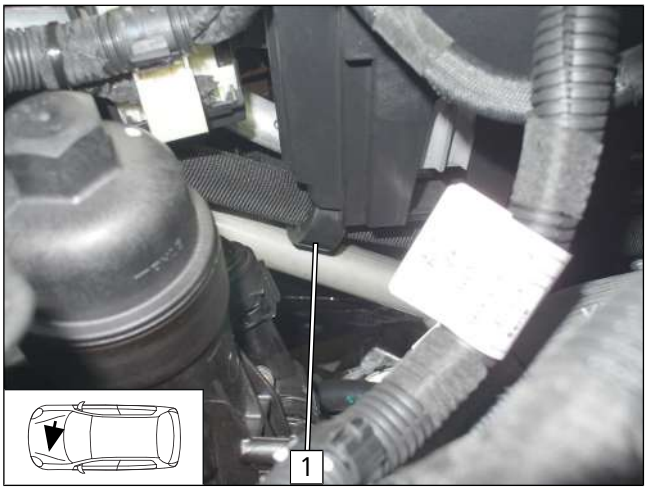


Fig. 79

▶ Align black (sw) rubber isolator 1 with the relay box.

12 Coolant 30d

12.1 Hose routing diagram

'Island' coolant circuit

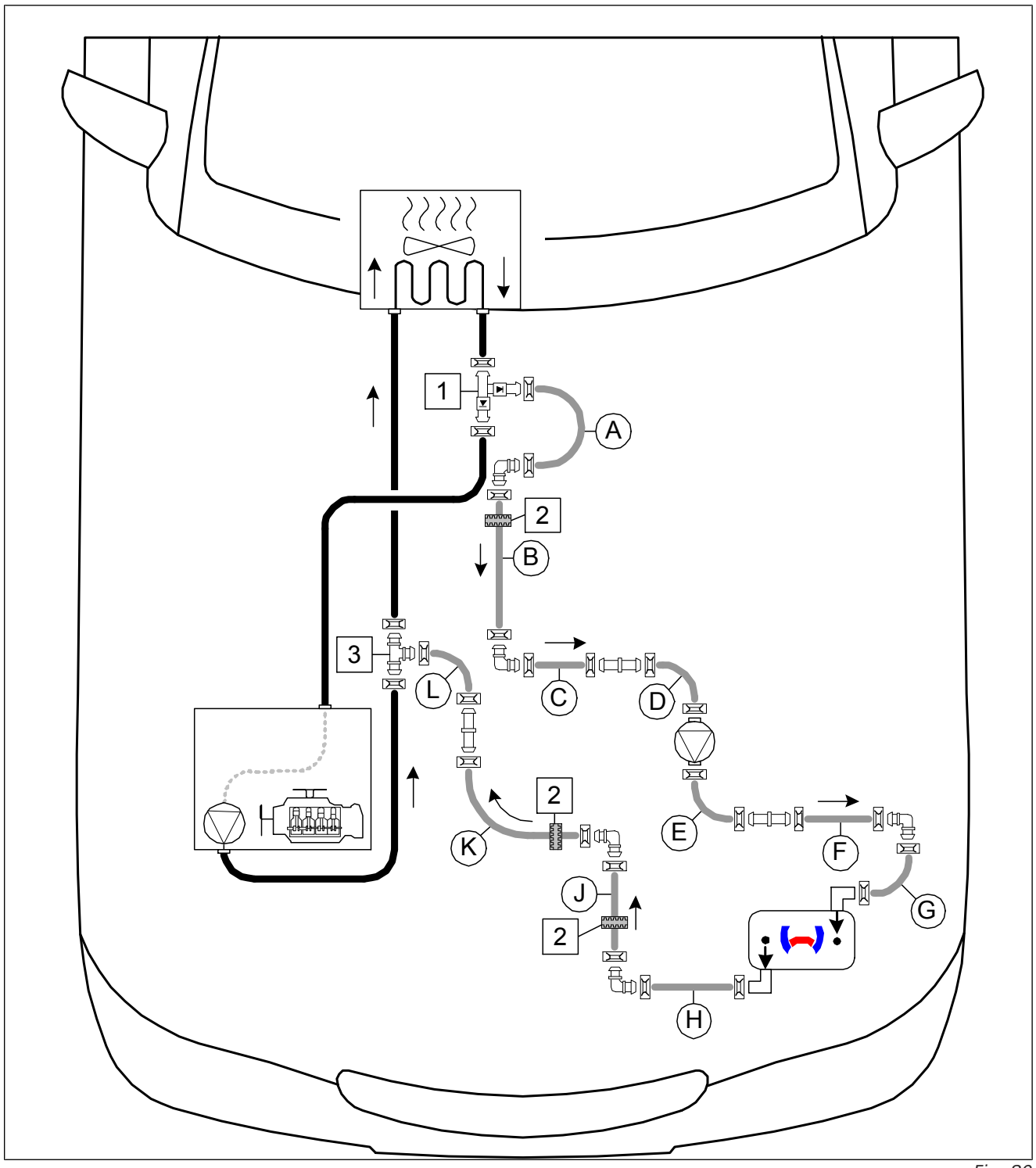


Fig. 80

▶ All spring clips = Ø25; all connecting pipes or = Ø18x18

1 Non-return valve = Ø18x18x18; 2 Black (sw) rubber isolator; 3 T-piece = Ø18x18x18

12.2 Coolant circuit installation

Premounting coolant pump

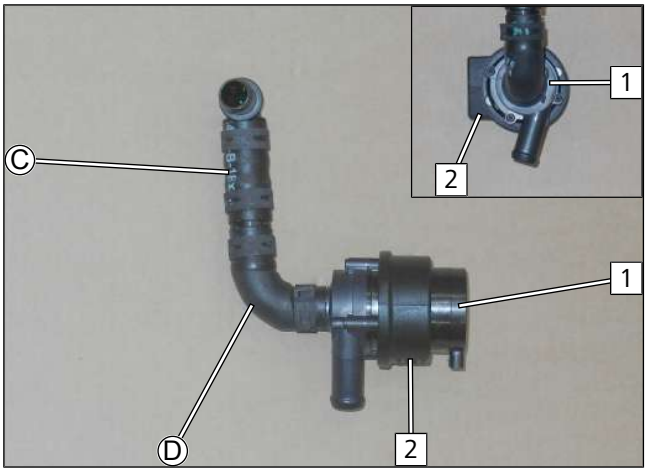


Fig. 81

1 Coolant pump
2 Coolant pump mount

Mounting coolant pump

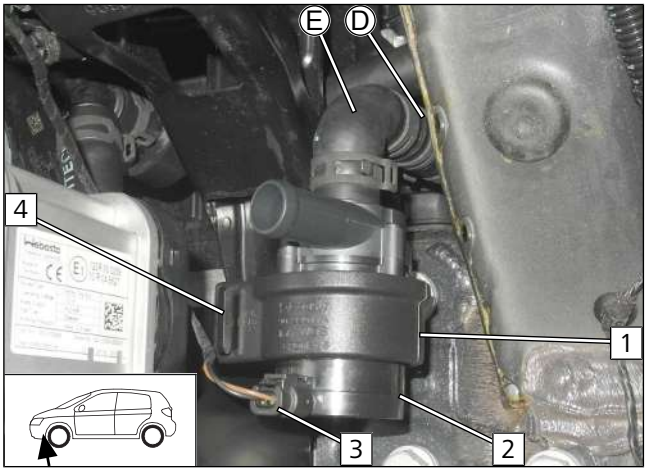


Fig. 82

▶ Route hoses (C) and (D) into the engine.

1 Coolant pump mount
2 Coolant pump
3 Coolant pump wiring harness connector
4 Strut for coolant pump mount

Connecting coolant pump

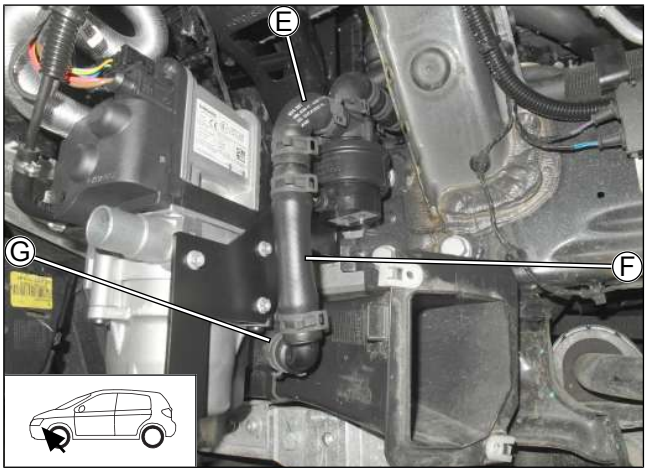


Fig. 83

Preparing cutting point 1

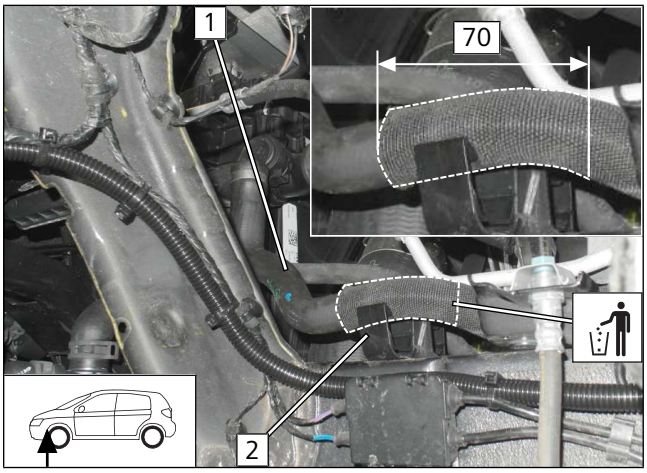


Fig. 84

- ▶ Remove engine outlet / heat exchanger inlet hose **1** from clip **2** as shown.
- ▶ Remove and discard fabric protective hose as shown.

Cutting point 1

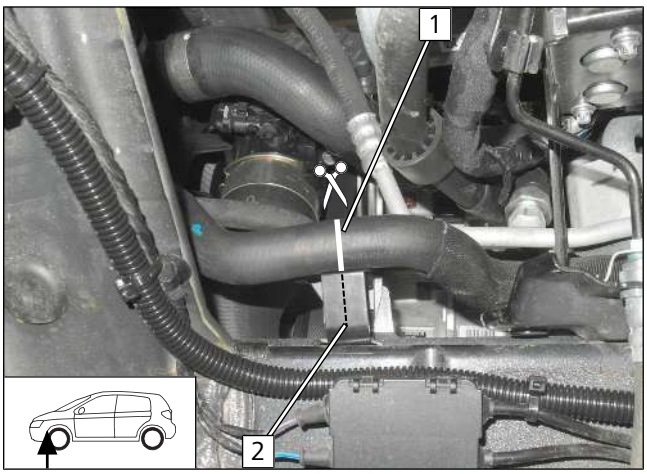


Fig. 85

- ▶ Mark cutting point **1** on engine outlet / heat exchanger inlet hose by using the middle of clip **2** as a reference.

Mounting T-piece

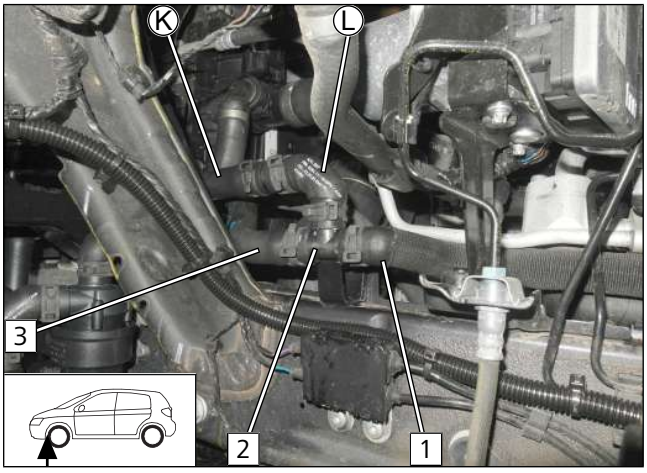


Fig. 86

- **1** Heat exchanger inlet hose section
- **2** T piece
- **3** Engine outlet hose section

Fastening T-piece

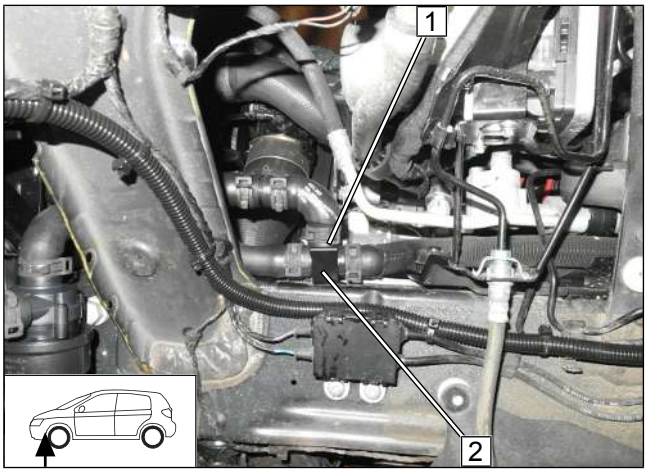


Fig. 87

▶ Insert T-piece [1] into original vehicle clip [2].

Premounting non-return valve

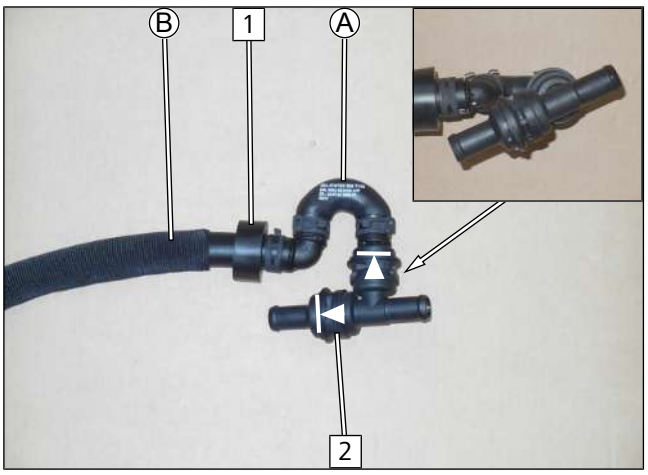


Fig. 88

[1] Black (sw) rubber isolator

[2] Non-return valve

Preparing cutting point 2

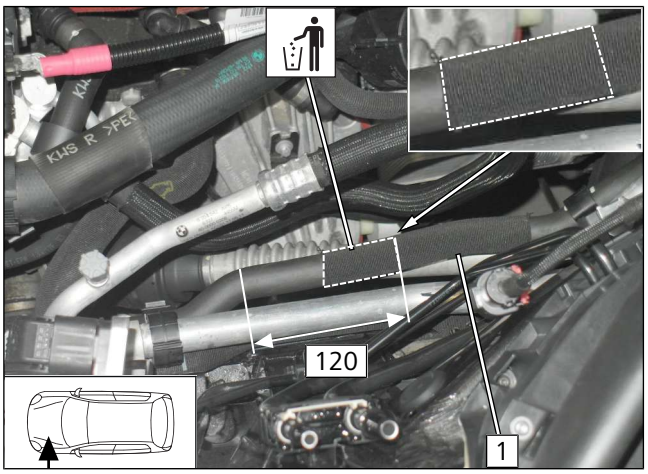


Fig. 89

▶ Cut off fabric protective hose [1] from the heat exchanger outlet / engine inlet hose as shown and discard.

Cutting point 2

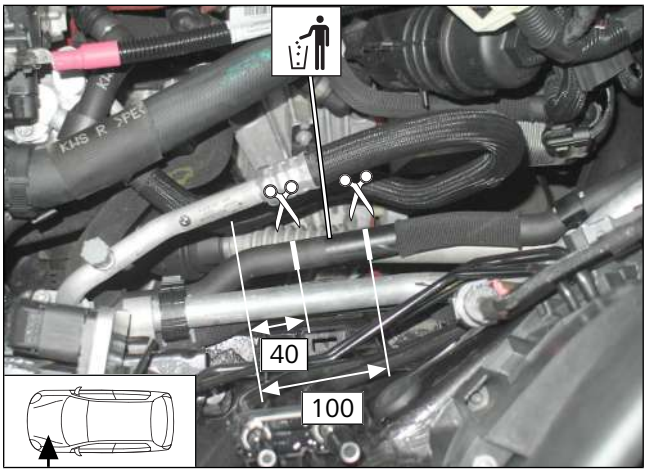


Fig. 90

▶ Cut the heat exchanger outlet / engine inlet hose as shown.

Mounting non-return valve

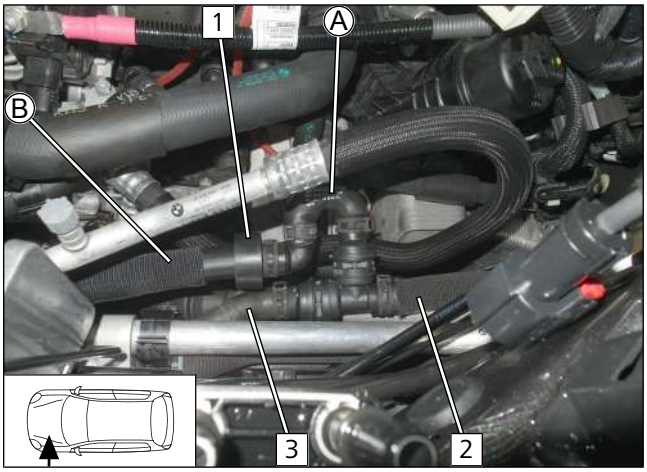


Fig. 91

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

Connecting hoses (B) and (C)

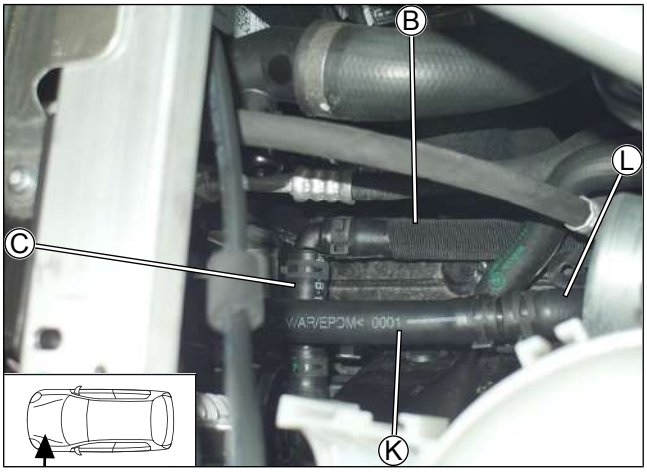


Fig. 92

Fastening hose Ⓑ

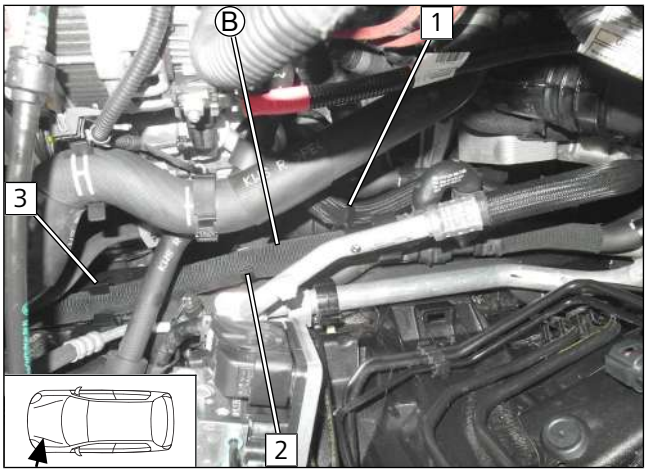


Fig. 93

1 20x20mm hose bracket between hose Ⓑ and original vehicle hose

2 20x20mm hose bracket between hose Ⓑ and original vehicle hose

3 Original vehicle hose bracket

Fastening hoses Ⓒ and Ⓚ

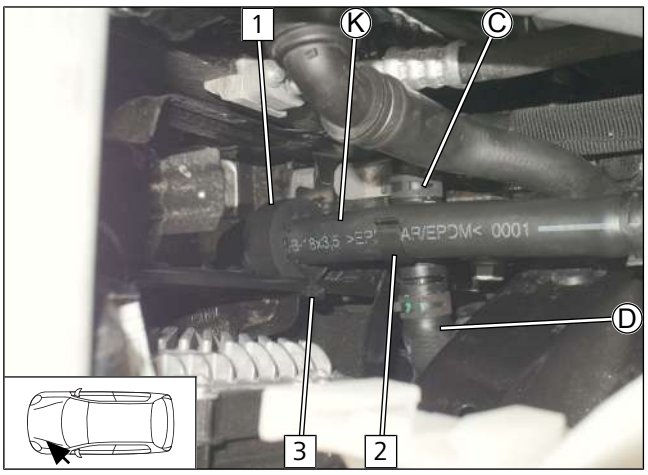


Fig. 94

▶ Fasten black (sw) rubber isolator 1 to the original vehicle strut with cable tie 3.

2 20x20mm hose bracket between hose Ⓒ and hose Ⓚ

13 Exhaust

Cutting exhaust pipe to length

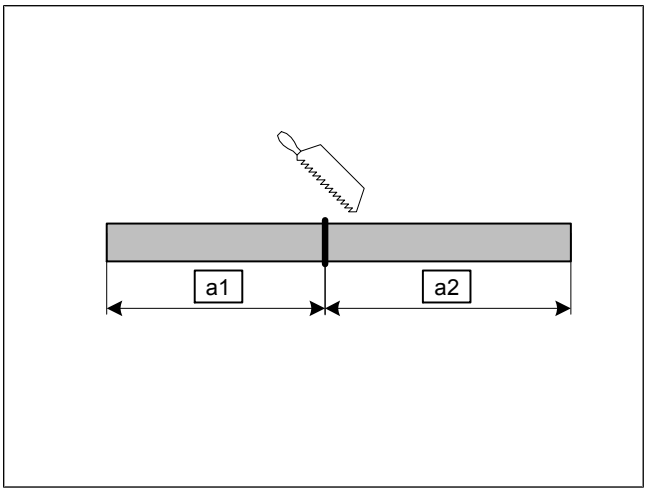


Fig. 95

a1 180mm

a2 220mm

Mounting exhaust silencer

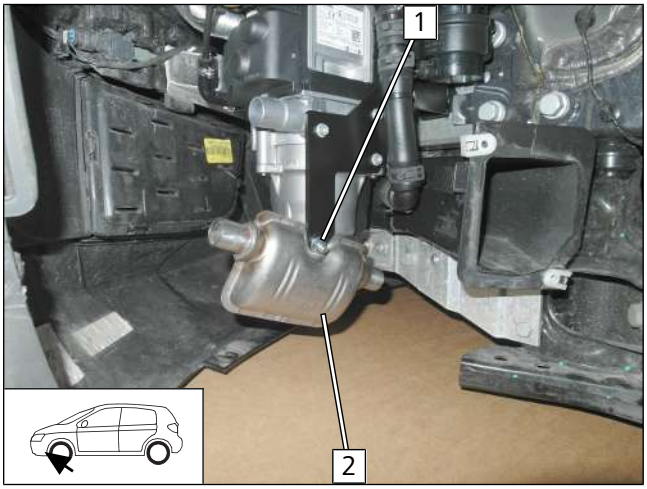


Fig. 96

1 M6x16 bolt, exhaust silencer, heater bracket, flanged nut

2 Exhaust silencer

Mounting exhaust pipe **a1**

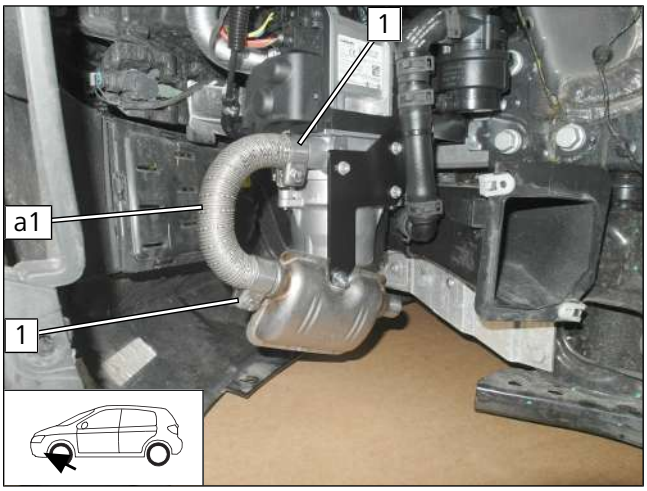


Fig. 97

1 Hose clamp

Cutting out lower wheel-well inner panel

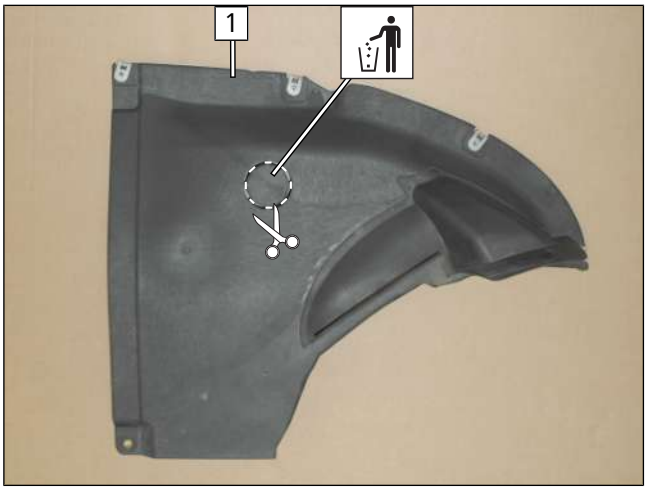


Fig. 98

Observe the EFIX installation instructions.

▶ Cut out the pre-perforated hole of lower wheel-well inner panel 1 as shown.

Copying hole pattern

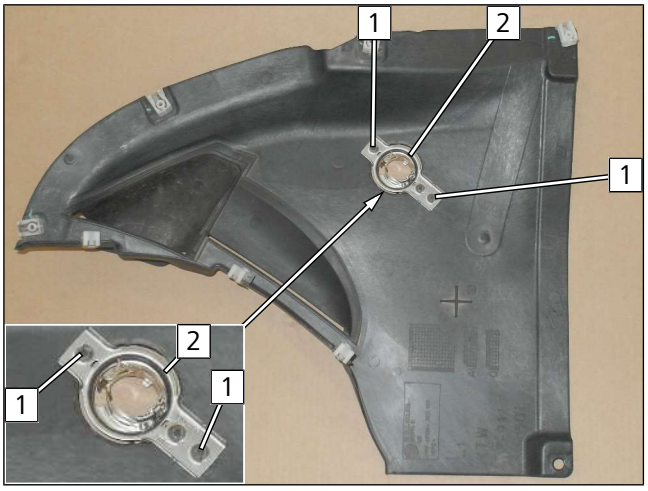


Fig. 99

▶ Work step E3

1 Hole pattern
2 EFIX

Drilling holes

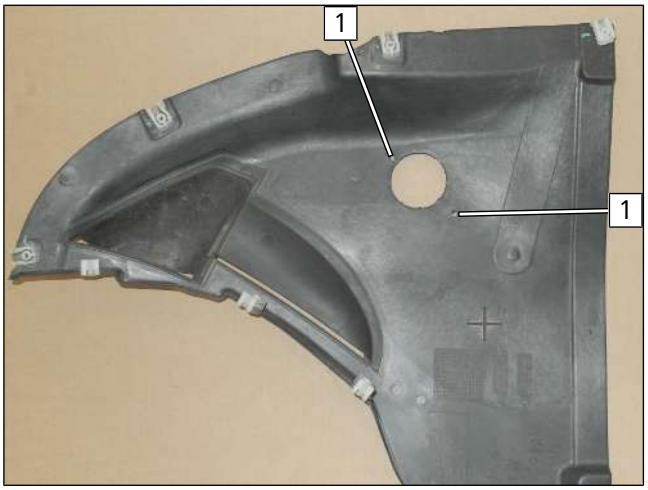


Fig. 100

▶ Work step E4

1 Hole

Mounting EFIX

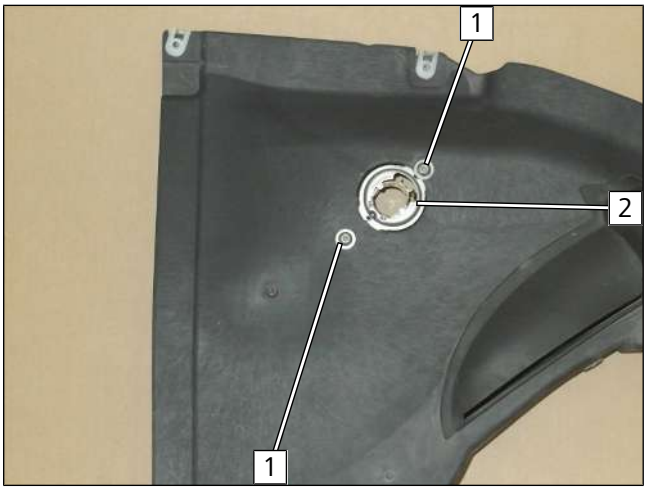


Fig. 101

▶ Work step E5

[1] 5x13 self-tapping screw, large diameter washer
[2] EFIX

Mounting exhaust pipe [a2]

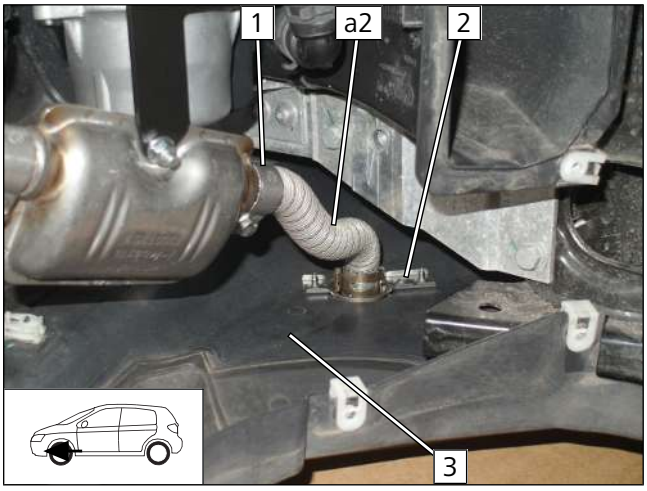


Fig. 102

▶ Install lower wheel well trim [3].

[1] Hose clamp
[2] EFIX

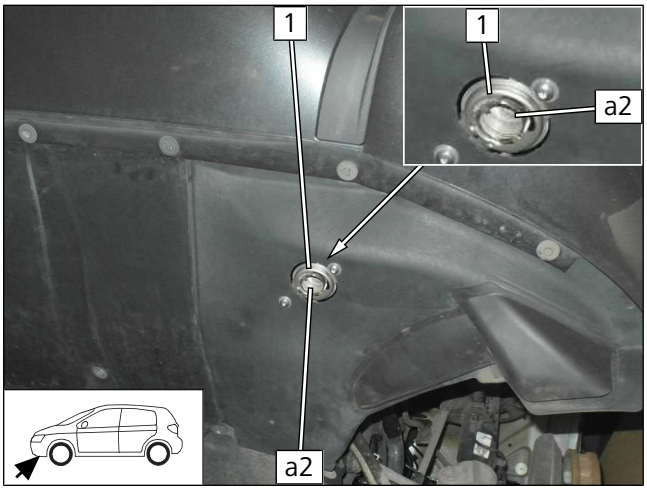


Fig. 103

▶ Work step E8

[1] EFIX

14 Electrical system of passenger compartment

14.1 Air-conditioning control

Integrate the air-conditioning control as per the separate installation documentation:

'**Webasto Comfort**' air-conditioning control installation documentation for AAC of BMW X3 / X4 / 5 Series

15 Electrical system of control element

15.1 MCC option

Mounting MCC

Fig. 104

Observe the MultiControl CAR installation documentation.

1 MCC

15.2 Telestart option

Preparing receiver bracket Telestart

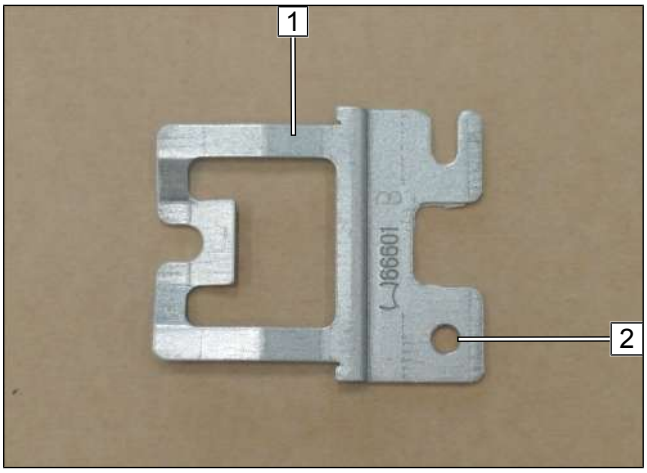


Fig. 105

1 Receiver bracket
2 Drill out hole to Ø6.5

Mounting receiver

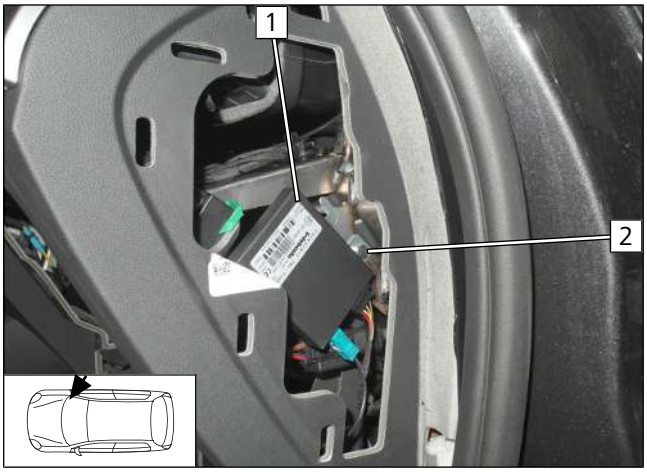


Fig. 106

Observe the Telestart installation documentation.

1 Receiver
2 M6x20 bolt, original vehicle hole, Telestart bracket, flanged nut

Mounting temperature sensor, only in case of T100 HTM

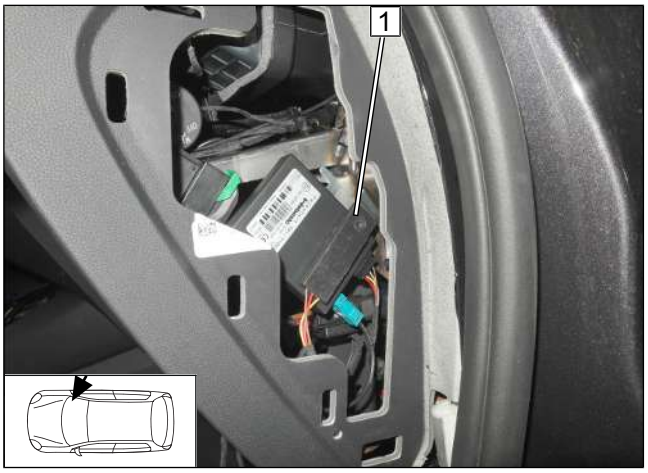


Fig. 107

▶ Fasten temperature sensor 1 using double-sided adhesive tape.

Mounting aerial

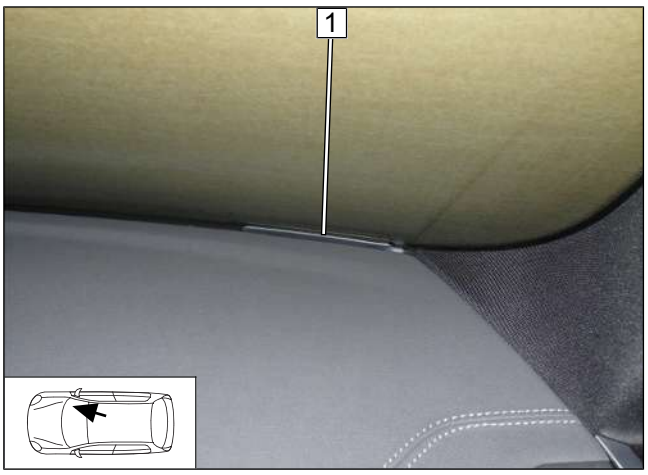


Fig. 108

1 Aerial

15.3 ThermoCall option

Drilling hole

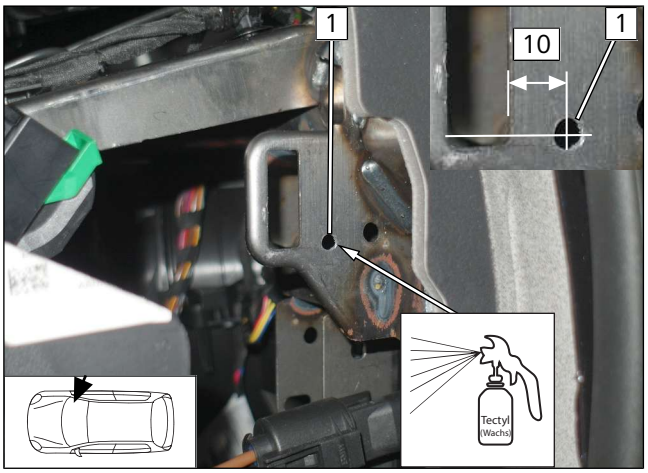


Fig. 109

1 Ø5.5 hole

Mounting receiver

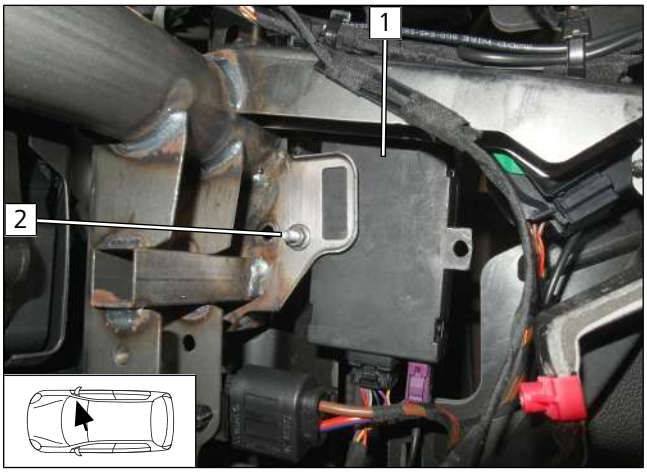


Fig. 110

Observe the ThermoCall installation documentation.

1 Receiver

2 M5x16 bolt, receiver, drilled hole, flanged nut

Mounting aerial (optional)

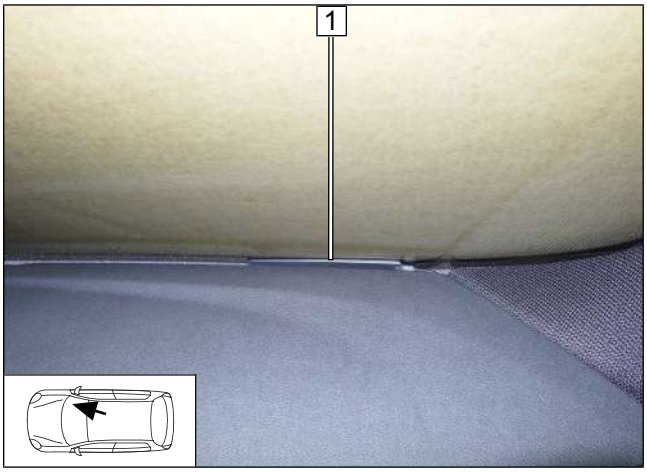


Fig. 111

1 Aerial

16 Final Work

Further information can be found in the vehicle manufacturer's technical documentation.

- ▶ Mount removed parts in reverse order.

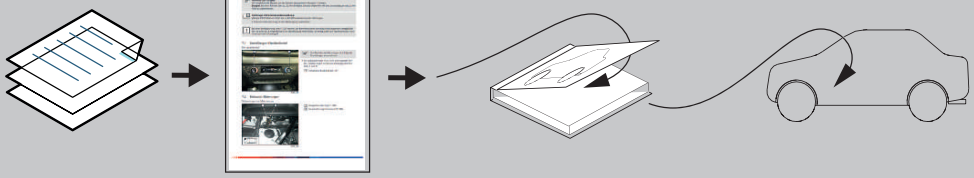
- ▶ Check all hoses, clamps and all electrical connections for firm seating.
- ▶ Insulate and tie back loose lines
- ▶ Spray heater and electrical components with anti-corrosion wax (Tectyl 100K).
- ▶ Connect the battery.

Only use manufacturer-approved coolant.

- ▶ Fill and bleed the coolant circuit according to the vehicle manufacturer's specifications.

Further information can be found in the general installation and operating instructions of the Webasto components.

- ▶ Program MultiControl CAR, teach Telestart transmitter
- ▶ If the fan function or A/C control panel settings need to be checked, see the installation documentation in the additional kit 'Webasto Comfort' A/C control, section 'Final work'
- ▶ Initial start-up and function check
- ▶ Affix 'Switch off parking heater before refueling' caution label in area of filler neck



These are the original instructions. The German language is binding.
You can request your language if it is missing. The telephone number of each country can be found in the Webasto service centre leaflet or the website of the respective Webasto representative of your country.

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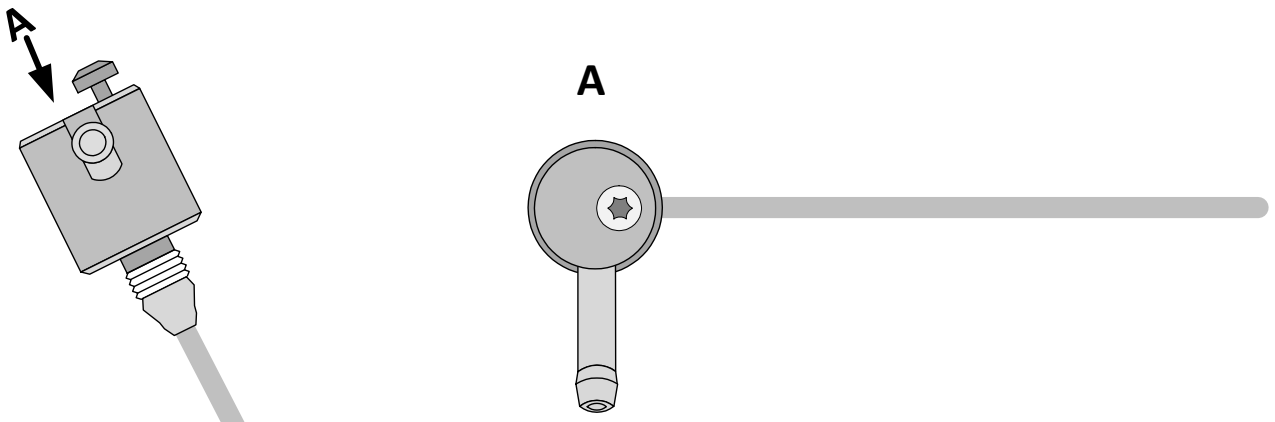
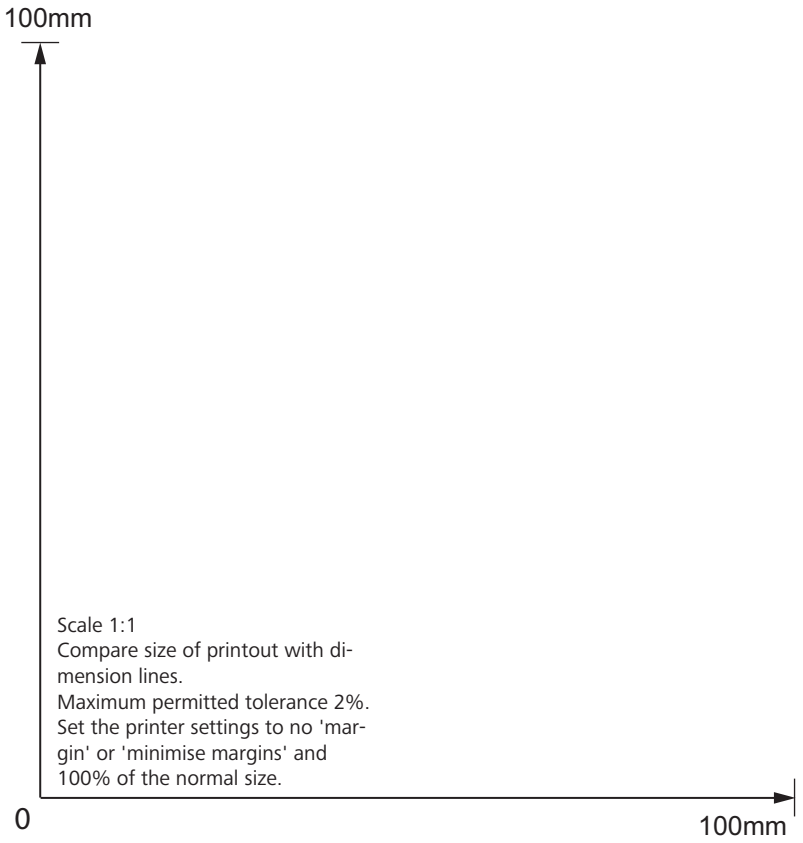
Technical Extranet: https://dealers.webasto.com

CE

WWW.WEBASTO.COM

17 FuelFix template





Scale 1:1
Compare size of printout with dimension lines.
Maximum permitted tolerance 2%.
Set the printer settings to no 'margin' or 'minimise margins' and 100% of the normal size.