EN

K

Installation documentation

for Thermo Top Evo water heater

'Island' coolant circuit without engine preheating

Jeep Grand Cherokee

Left-hand drive vehicle

Manufacturer	Model	Type	Model year	EG-BE-No. / ABE
Jeep	Grand Cherokee SRT	WK	from 2019	e4* 2007/46* 0186*…

Motorisation	Fuel	Emission standard	Transmission type	Output [kW]	Displace-ment [cm³]	Engine code
6.4P	Petrol	Euro 6d Temp	8-speed AG	344	6417	ESG

Validity	Equipment variants	Model
		Grand Cherokee
Verified equipment variants	2 zone automatic air-conditioning	x
	Xenon main headlights	x
	Halogen front fog lights	x
	Keyless Go	x
	Alarm system	x

Total installation time	Note
7.9 hours	

Contents

1 List of abbreviations

AAC	Automatic air-conditioning
AG	Automatic transmission
ASH	Spacer bracket
DP	Fuel pump
EFIX	Exhaust end fastener
FF	FuelFix (tank extracting device)
Fig.	Figure
HG	Heater
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 for Thermo Top Evo (see 'Installation recommendations')	In accordance with price list
Installation kit for Jeep Grand Cherokee SRT MY 2019	1327563A
Additional 'Webasto Comfort' A/C control kit for Jeep	1325260_
2 plastic rivets	Jeep ID: K06500911
2 metal rivets	Jeep ID: K06512761AA
In case of MultiControl CAR installation - MultiControl installation frame	9030077_
In case of MultiControl CAR installation - timer cable extension	1319724_
In case of Telestart, control element, as well as 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 5. 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	K
Vehicle-specific installation documentation of the cold start kit	M
Webasto Comfort A/C control	H
Webasto Standard A/C control	G
Tank extracting device (e.g. FuelFix)	F
Exhaust end fastener (EFIX)	E
Combustion air intake silencer	L
Spacer bracket (ASH)	S

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.

Note on a special technical feature

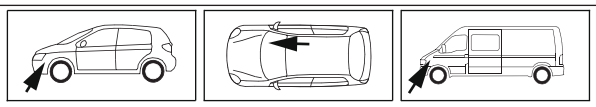
3.4.3 Work step identification marks

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	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
✓	Action
▶	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 wiring harnesses and coolant hose sections

4 Technical Information

Dimension specifications
– All dimensions specified in mm
– Perforated brackets and mounting angles are shown to scale
– Observe data regarding scale on the templates

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

Temperature specification for heat shrink plastic tubings
– Fabric heat shrink tubing: shrink temperature max. 230°C
– Standard heat shrink plastic tubing: shrink temperature max. 300°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 mm²
– Crimping pliers for cable lugs 0.5 – 10 mm²
– Crimping pliers for male connector 0.14 – 6 mm²
– Crimping pliers for connector 0.25 – 6 mm²
– Torque wrench for 2.0 - 10 Nm
– Deep-hole marker
– Metric thread-setter kit
– Nibbler for sheet steel Knipex 90 55 280 EAN
– Webasto Thermo Test Diagnosis with current software

5 Preparations

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	▶ Disconnect the battery (under the front passenger's seat) ▶ Drain off the coolant ▶ Air filter box, incl. air ducting ▶ Engine design cover ▶ Underbody underride protection on the driver's side ▶ Engine underride protection	
Passenger compartment	▶ Footwell trim under the glove box ▶ Air outlet nozzle in the footwell on the front passenger's side ▶ Trim of the entrance strip on the front passenger's side (only in case of Telestart) ▶ Lower A-pillar trim on the front passenger's side ▶ A/C control panel (see dismantling instructions and only in case of vehicles with vehicle identification numbers (VINs) containing a model year-code letter up to letter 'J', e.g.: 1C4RJFCM8**J**C. . . . .) ▶ A/C control unit (see dismantling instructions and only in case of vehicles with vehicle identification numbers (VINs) containing a model year-code letter starting from letter 'K', e.g.: 1C4RJFCM8**K**C. . . . .) ▶ Rear bench seat on the front passenger's side (see dismantling instructions) ▶ Rear bench seat on the driver's side (see dismantling instructions) ▶ Door sill trim at the back on the driver's side ▶ Fold the carpet at the back on the driver's side towards the front passenger'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

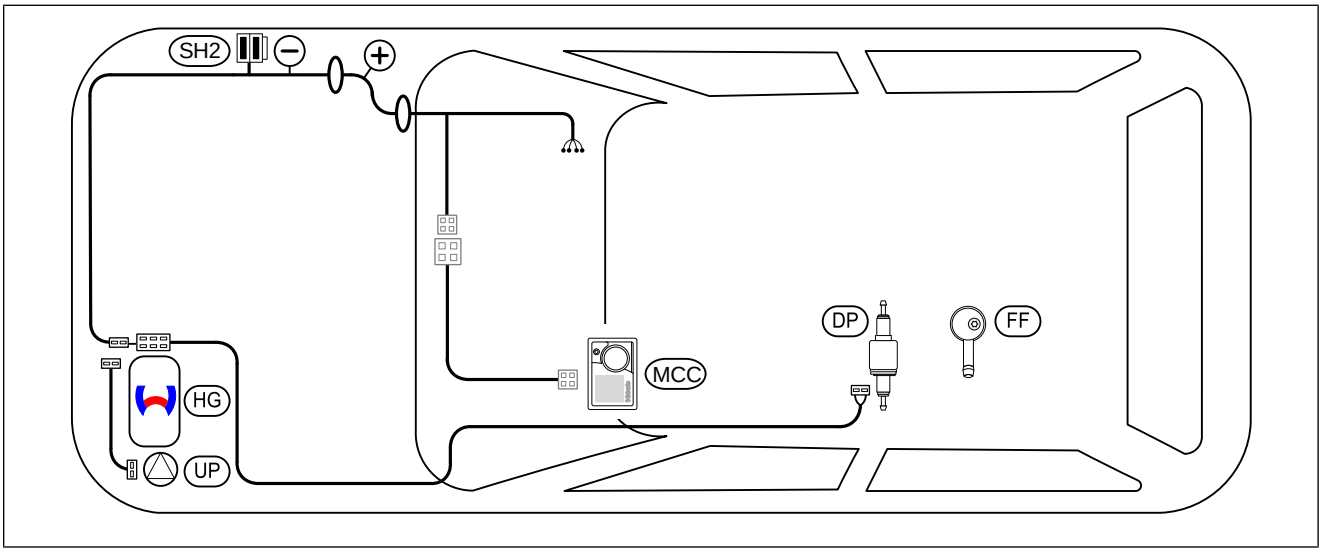


Fig. 1

Legend to installation overview

Abbreviation	Component
DP	Fuel pump
FF	FuelFix
HG	Heater
MCC	MultiControl CAR
SH2	Engine compartment fuse holder for F1/F2
UP	Coolant pump

Heater installation location

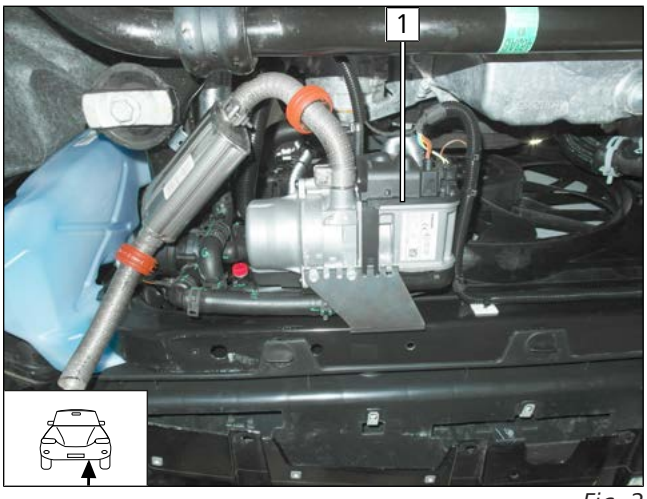


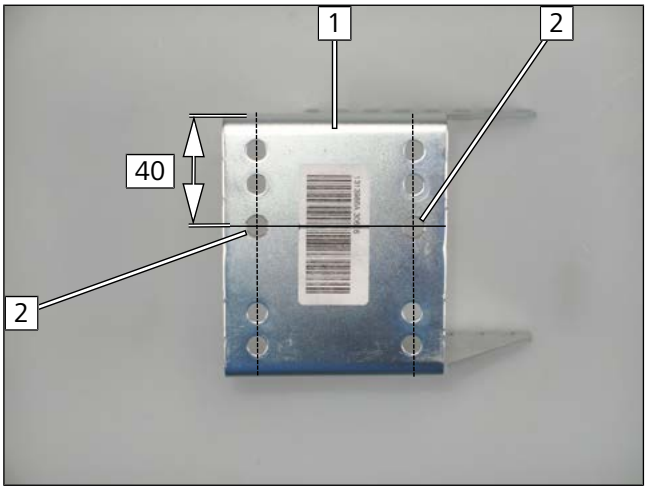
Fig. 2

1 Heater

7 Mechanical system

7.1 Preparing bracket

Drilling holes

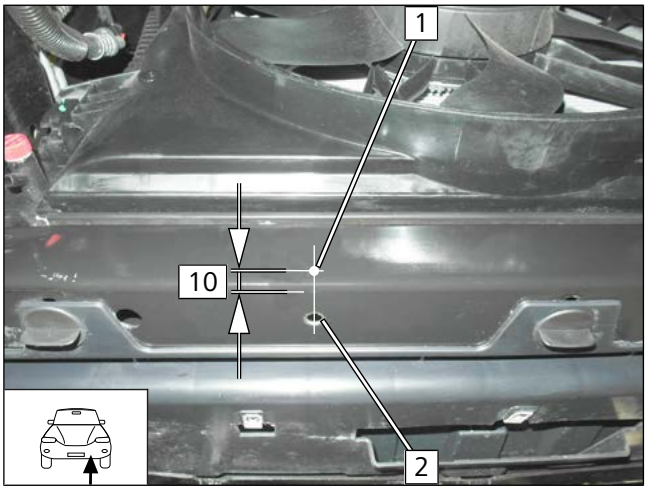


1 Bracket
2 Ø7 hole

Fig. 3

7.2 Preparing installation location

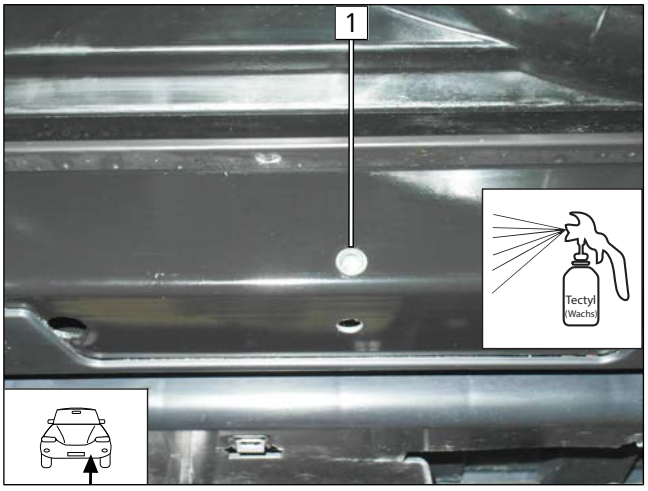
Copying hole pattern



1 Hole pattern
2 Original vehicle hole

Fig. 4

Inserting rivet nut



1 Ø9 hole, rivet nut

Fig. 5

Mounting bracket/copying hole pattern

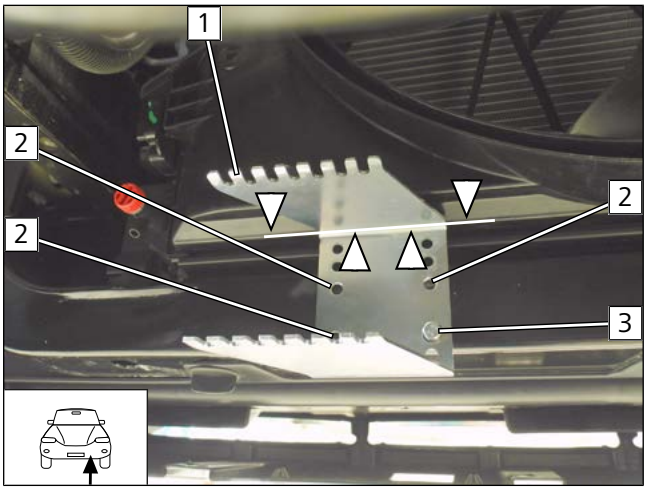


Fig. 6

▶ Align bracket 1 parallel to vehicle as shown in Fig.

2 Hole pattern

3 M6x20 bolt, bracket 1, rivet nut

▶ Remove bracket 1.

Inserting and tightening rivet nuts

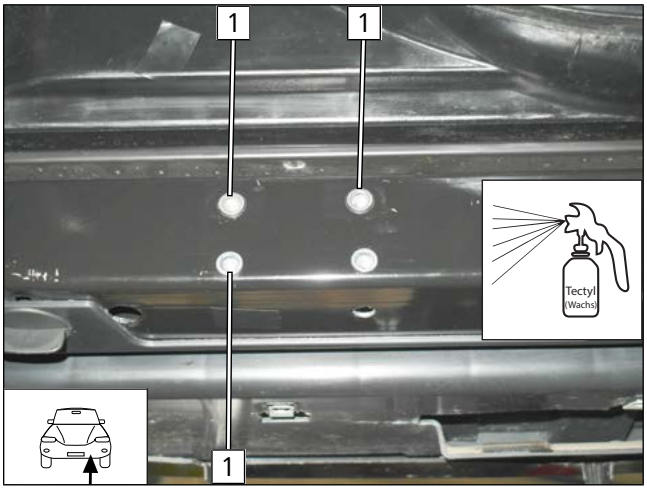


Fig. 7

1 Ø9 hole, rivet nut

Mounting bracket

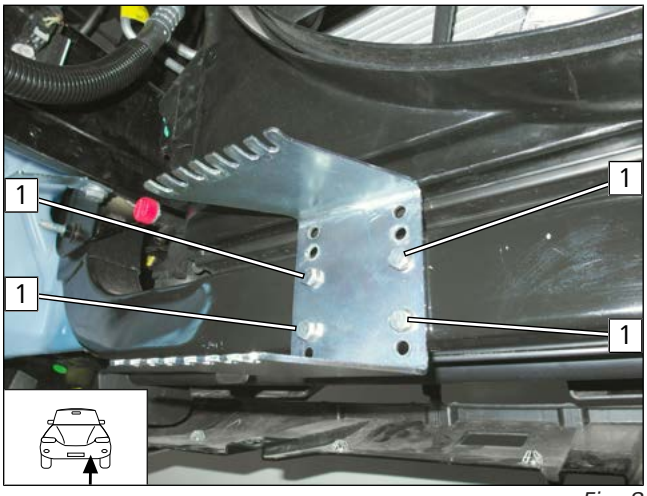


Fig. 8

1 M6x20 bolt, spring lock washer, bracket, rivet nut

Mounting eyelet cable tie

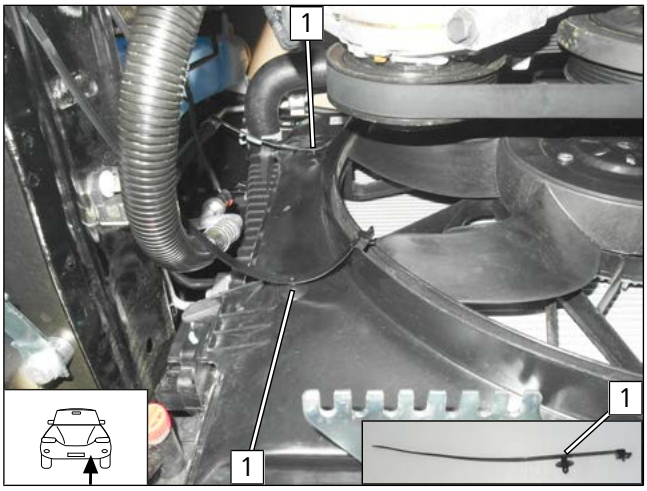


Fig. 9

1 Eyelet cable tie, available hole

Preparing perforated bracket

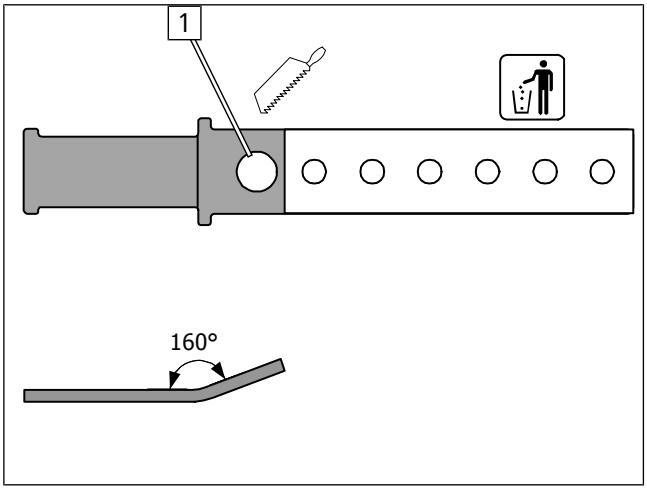


Fig. 10

▶ Enlarge hole to Ø10.5.

Installing perforated bracket

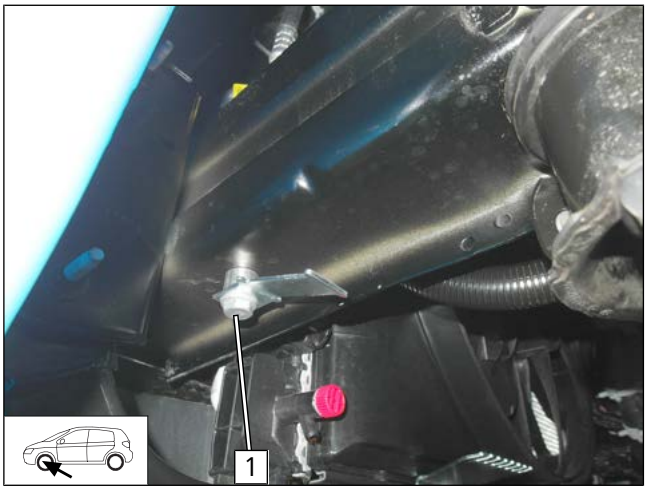


Fig. 11

▶ Enlarge inner diameter of hole in provided spacer to d_i = 10.5.

1 M10x30 bolt, perforated bracket, spacer (15), original vehicle thread

7.3 Premounting heater

Mounting water connection piece

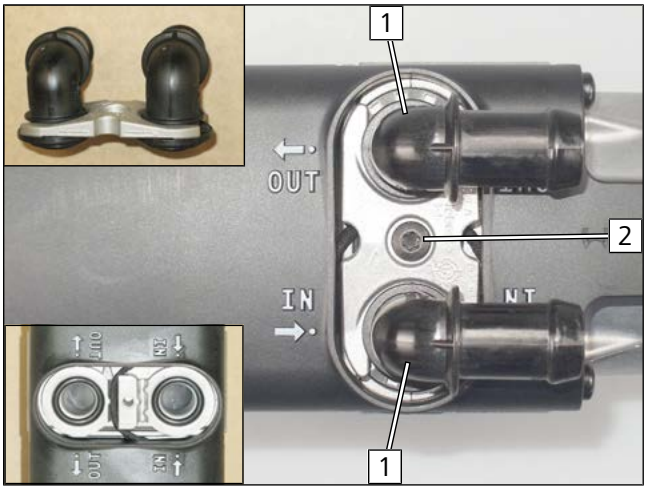


Fig. 12

Observe the general installation instructions of the heater.

1 90° water connection piece, seal

2 5x15 self-tapping bolt, water connection piece retaining plate

Premounting bolts loosely

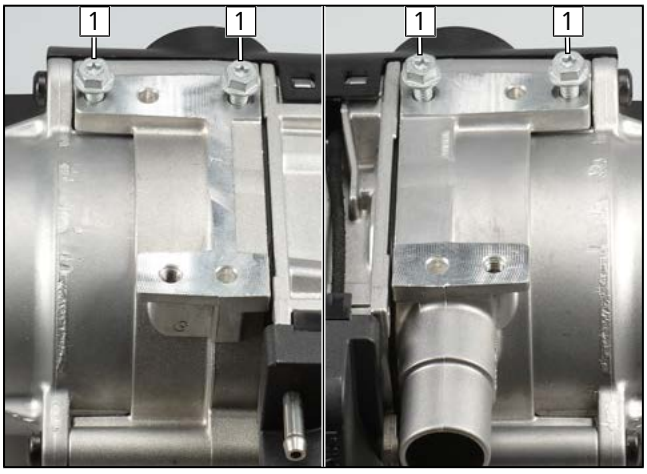


Fig. 13

▶ Screw 5x13 self-tapping bolts 1 into existing holes by a maximum of 3 thread turns.

Mounting hose section

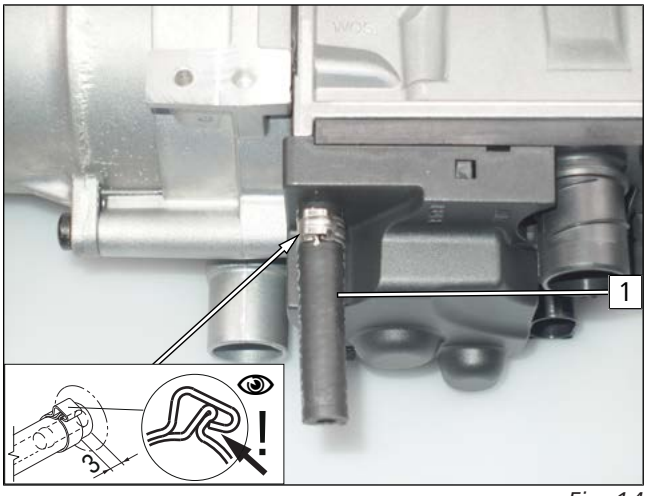


Fig. 14

1 Hose section, Ø10 clamp

Preparing hoses

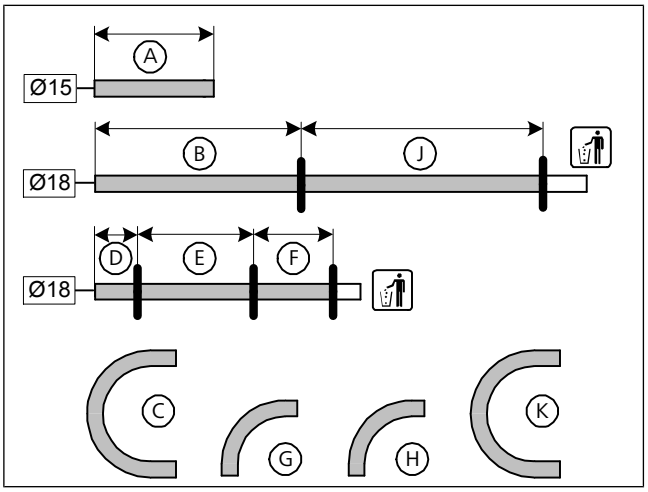


Fig. 15

Ⓐ	120	Ⓕ	120
Ⓑ	920	Ⓖ	90° moulded hose
Ⓒ	180° moulded hose	Ⓗ	90° moulded hose
Ⓓ	60	Ⓙ	1180
Ⓔ	160	Ⓚ	180° moulded hose

Premounting coolant pump

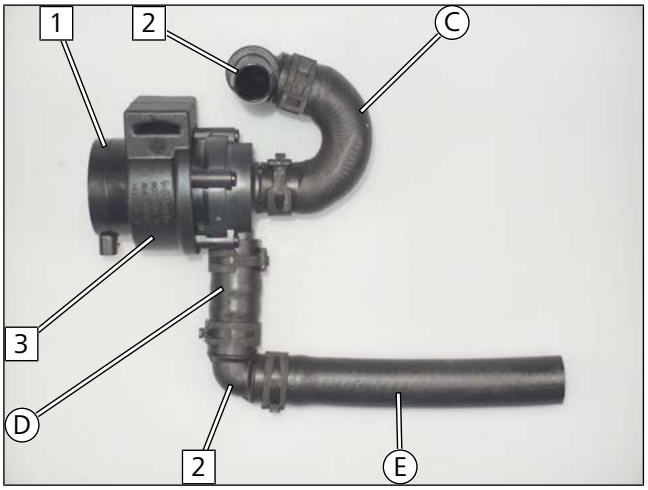


Fig. 16

All spring clips Ø25

1 Coolant pump
2 90°, 18x18 connecting pipe
3 Coolant pump mount

Mounting hoses Ⓕ and Ⓖ

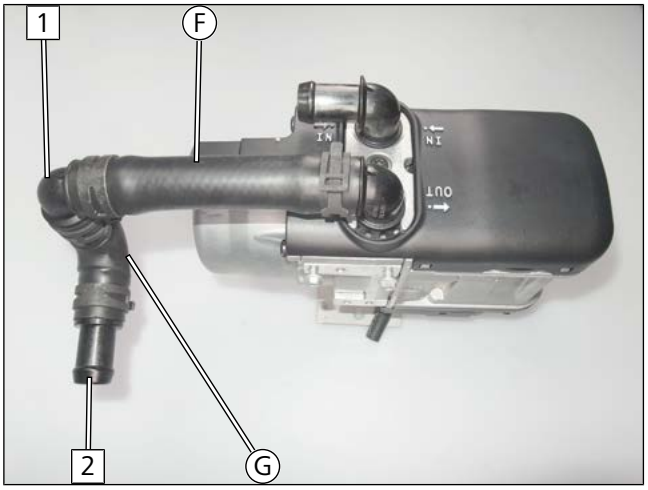


Fig. 17

All spring clips Ø25

1 90°, 18x18 connecting pipe
2 18x18 connecting pipe

Mounting coolant pump

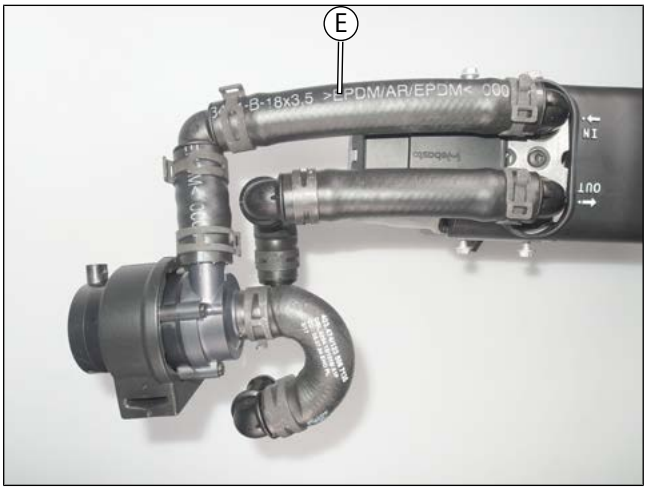


Fig. 18

All spring clips Ø25

Mounting coolant pump wiring harness

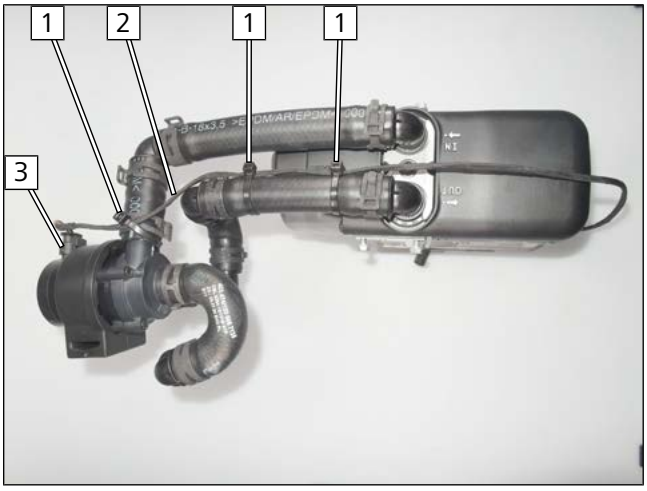


Fig. 19

1 Cable tie
2 Coolant pump wiring harness
3 Coolant pump wiring harness connector

Cutting combustion air intake pipe to length

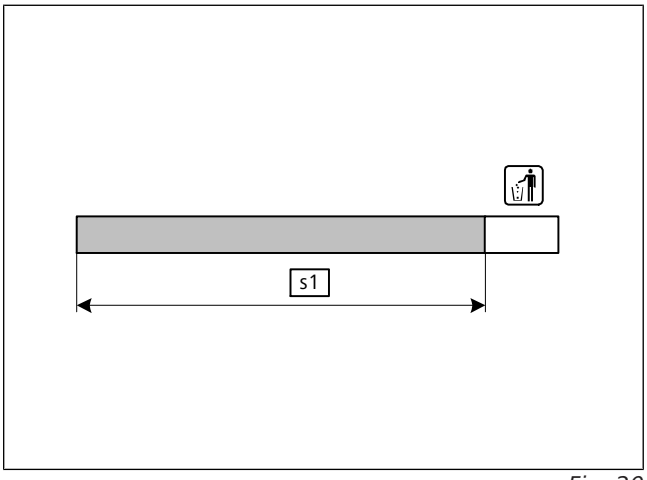


Fig. 20

s1 900

Mounting combustion air intake pipe **s1**

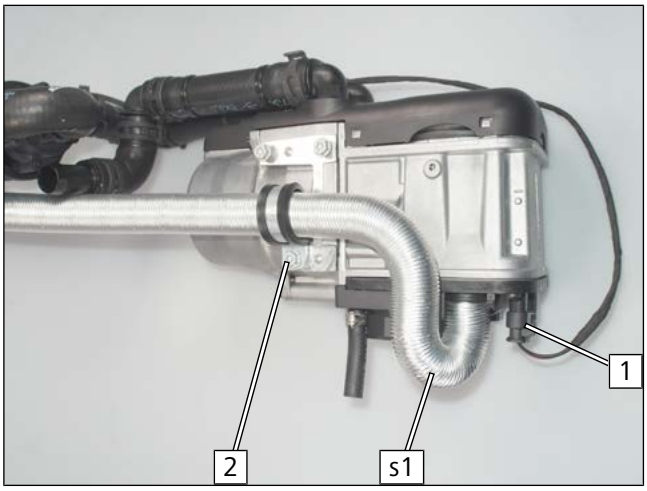


Fig. 21

▶ Mount coolant pump wiring harness connector **1**.

2 5x13 self-tapping bolt, Ø25 rubber-coated p-clamp, heater

7.4 Heater mounting

Mounting heater

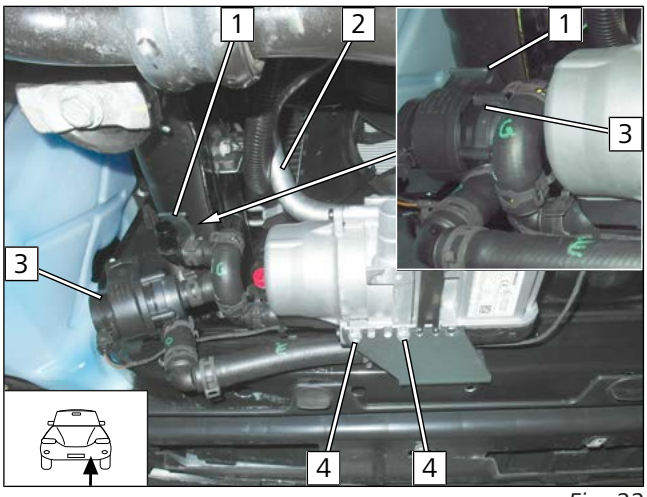


Fig. 22

▶ Route combustion air intake pipe **2** upwards.

▶ Tighten 5x13 self-tapping bolts **4**.

▶ Mount premounted coolant pump **3** onto perforated bracket **1**.

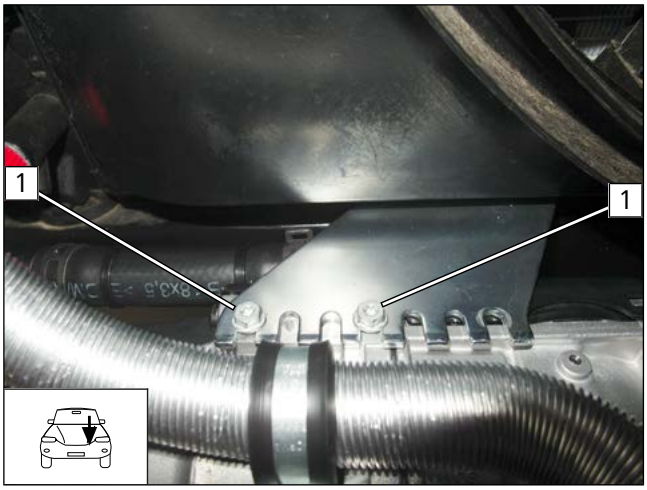


Fig. 23

▶ Tighten 5x13 self-tapping bolts **1**.

8 Electrical system of engine compartment

Assigning / cutting to length corrugated tube

Preparing wiring harness

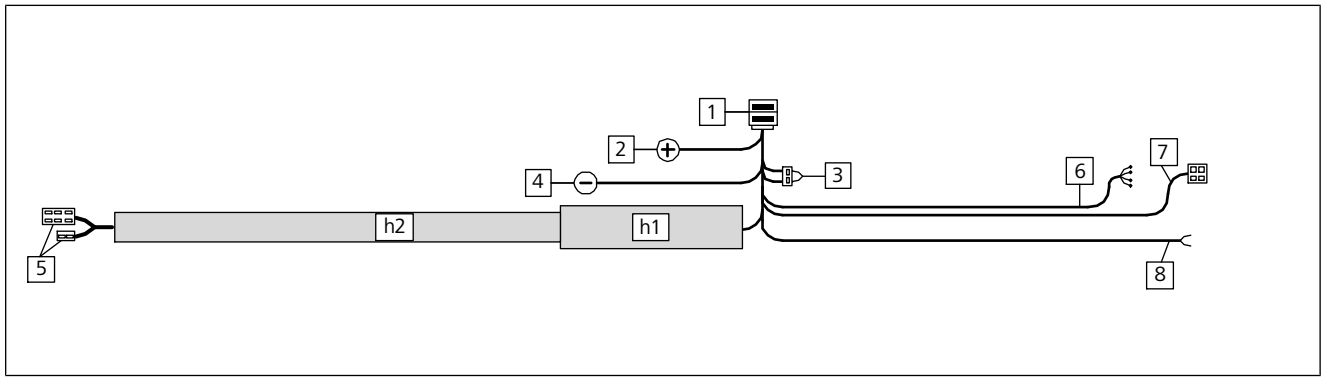


Fig. 24

- ▶ Cut corrugated tube **h2** lengthwise and fit it around the heater wiring harness. Wrap corrugated tubes **h1** and **h2** at regular intervals with insulating tape.
- ▶ Wrap the corrugated tubes at the joints and ends with insulating tape.

1 SH2
2 Positive wire
3 Diagnostic connector
4 Earth wire
5 Heater wiring harness connector
6 Passenger compartment wiring harness
7 Control element wiring harness
8 Fuel pump wiring harness

Premounting retaining plate of SH2

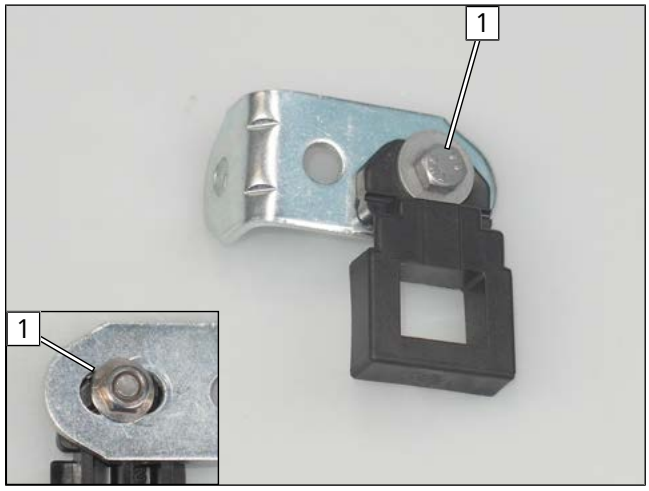


Fig. 25

1 M5x12 bolt, large diameter washer, SH2 retaining plate, angle bracket, flanged nut

Mounting SH2 and earth wire

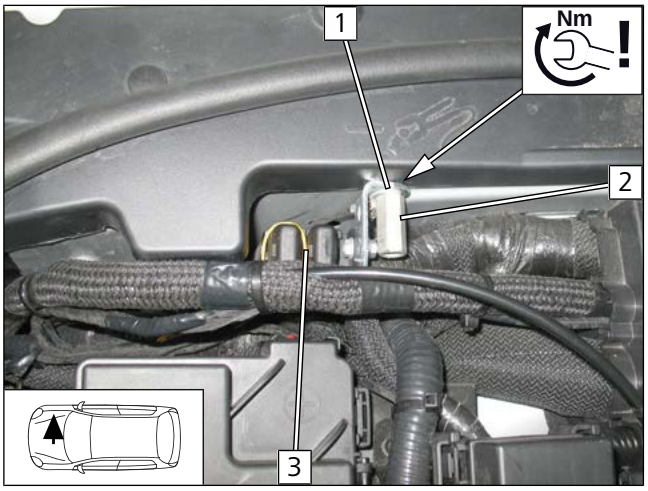


Fig. 26

DANGER

Fire hazard due to insufficient tightening torque

▶ Observe tightening torque

▶ Mount premounted angle bracket and earth wire **1** on original vehicle earth support point **2**.

▶ Route control element wiring harness and passenger compartment wiring harness to the passenger compartment pass through.

▶ Route heater wiring harness to the left side of the vehicle.

3 SH2 with F1/F2 fuses

Routing passenger compartment wiring harness, control element wiring harness and positive wire

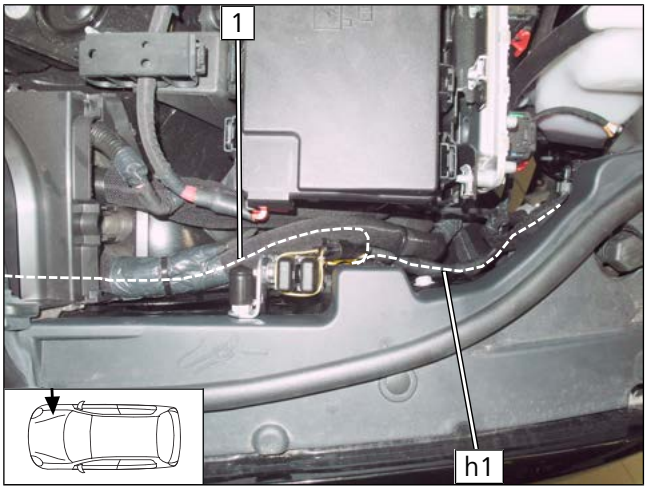


Fig. 27

▶ Route passenger compartment and, control element wiring harnesses as well as positive wire **1** along original vehicle lines to the water drain chamber and fasten using cable ties.

Mounting positive wire

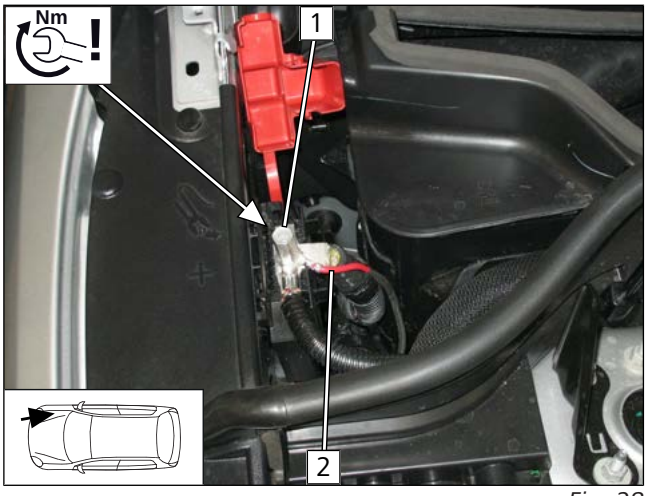


Fig. 28

DANGER

Fire hazard due to insufficient tightening torque

▶ Observe tightening torque

▶ Mount positive wire **2** on original vehicle positive support point **1**.

Passenger compartment wiring harness pass through

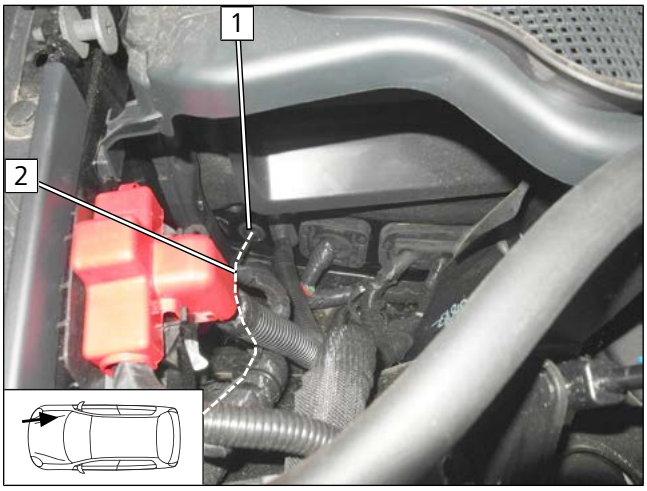


Fig. 29

1 Protective rubber plug

2 Passenger compartment and control element wiring harnesses

Routing heater wiring harness

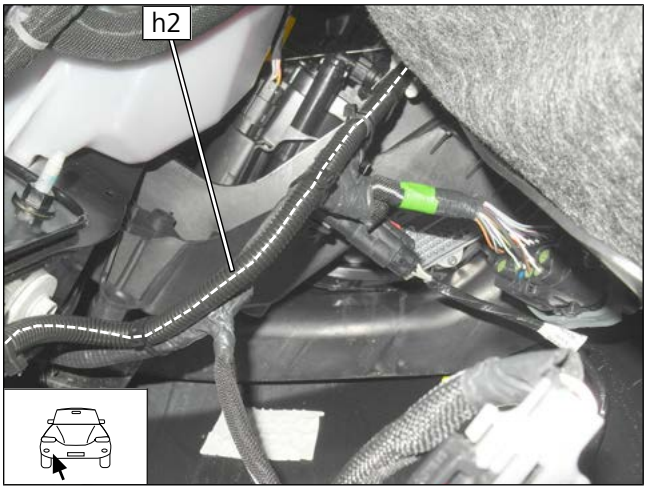


Fig. 30

▶ Route corrugated tube **h2** with heater wiring harness along original vehicle lines to the lower engine compartment and fasten using cable ties.

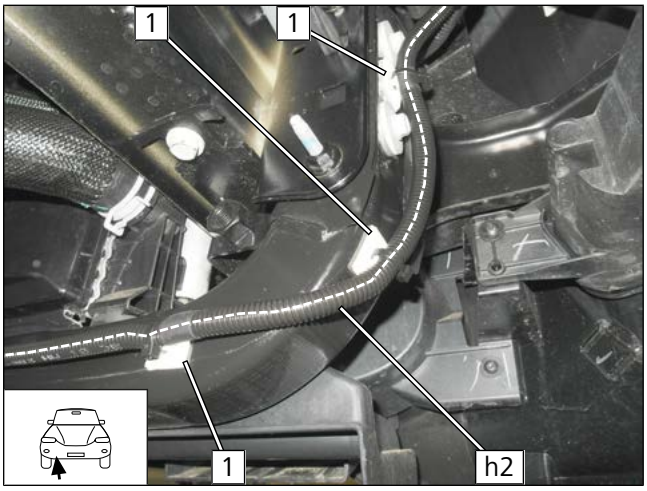


Fig. 31

Degrease the bonding surfaces before the installation.

▶ Route corrugated tube **h2** with heater wiring harness to the lower engine compartment as shown and fasten using adhesive bases and cable ties **1**.

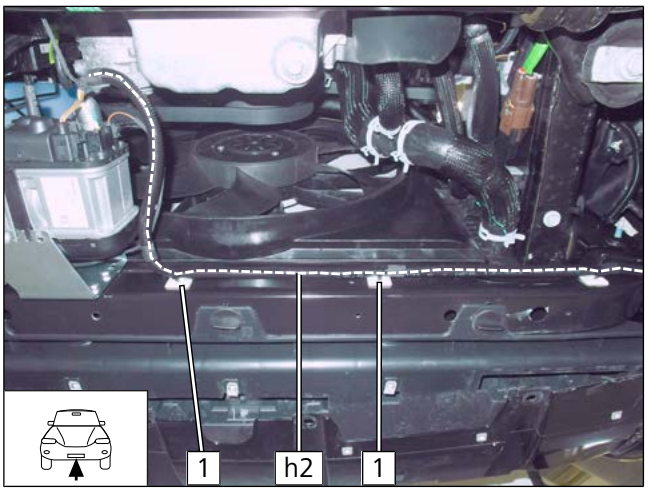


Fig. 32

Degrease the bonding surfaces before the installation.

▶ Route corrugated tube **h2** with heater wiring harness to the heater as shown and fasten with adhesive bases and cable ties **1**.

Connecting heater

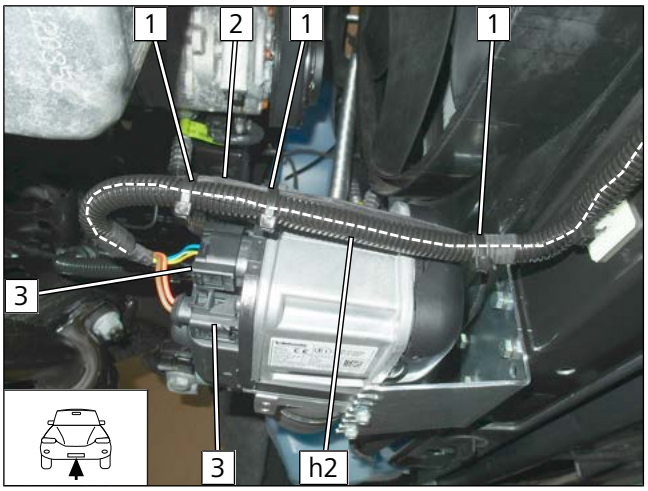


Fig. 33

▶ Attach coolant pump wiring harness **2** to corrugated tube **h2** using cable ties **1**.

3 Heater 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

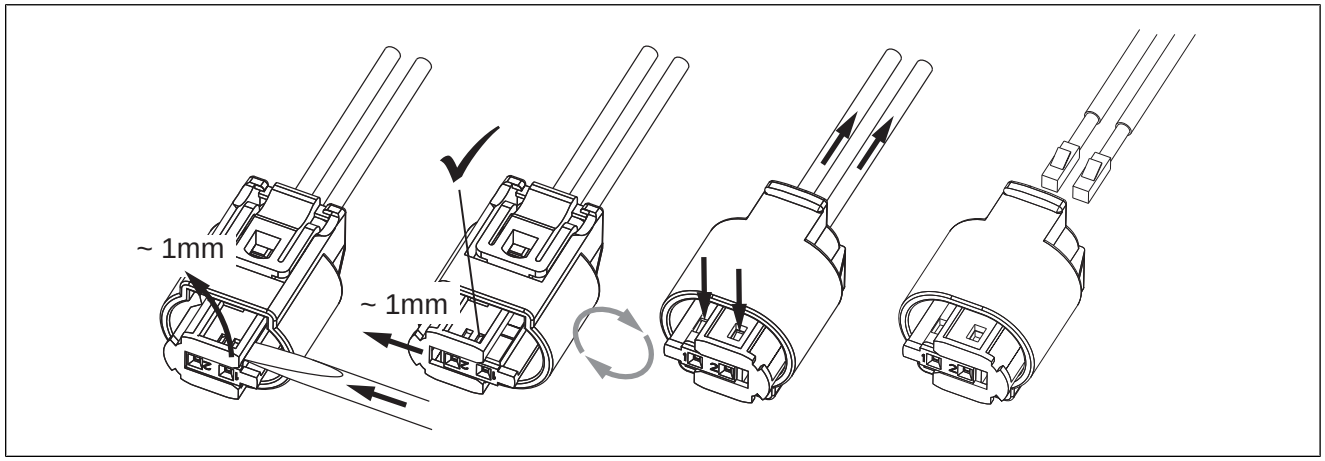


Fig. 34

9.1 Rear bench seat dismantling instructions

Dismantling front passenger's side rear bench seat

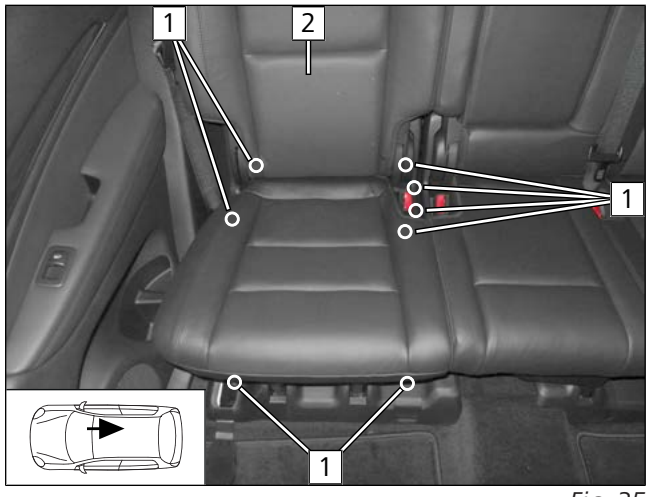


Fig. 35

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

1 Fastening point position [8x]

2 Front passenger's side rear bench seat

Removing driver's side rear bench seat

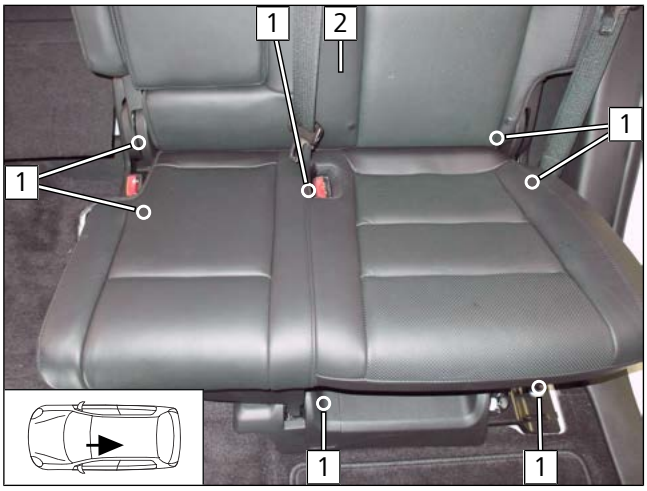


Fig. 36

1 Fastening point position [7x]
2 Driver's side rear bench seat

9.2 Routing fuel line

Connecting heater

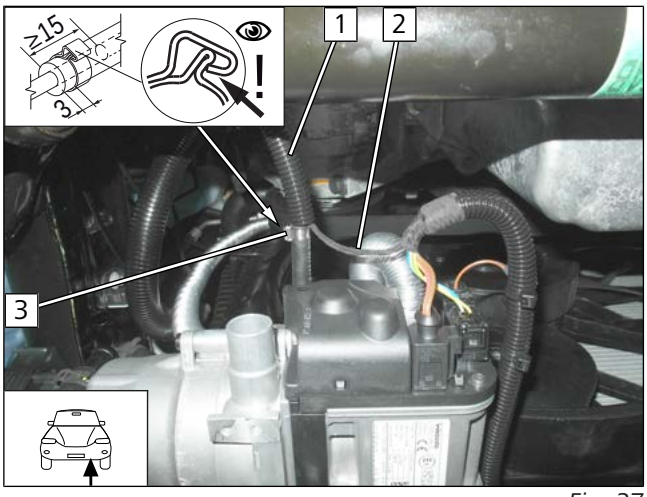


Fig. 37

▶ Draw fuel pump wiring harness 2 and fuel line into Ø10 corrugated tube 1.

3 Ø10 clamp

Inserting rivet nut

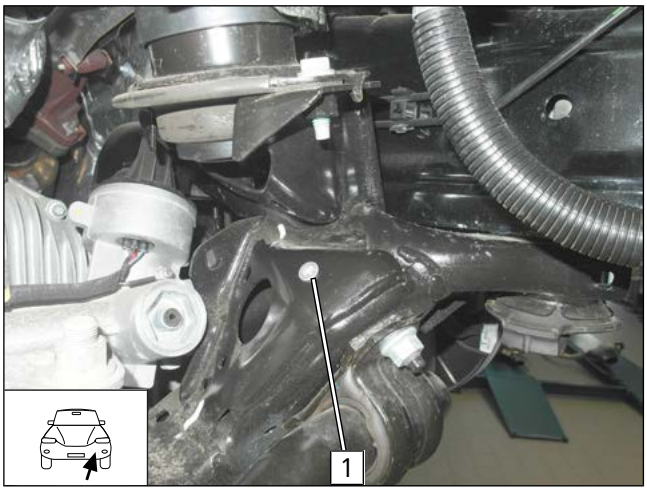


Fig. 38

1 Original vehicle hole, aluminium rivet nut

Edge clip cable tie

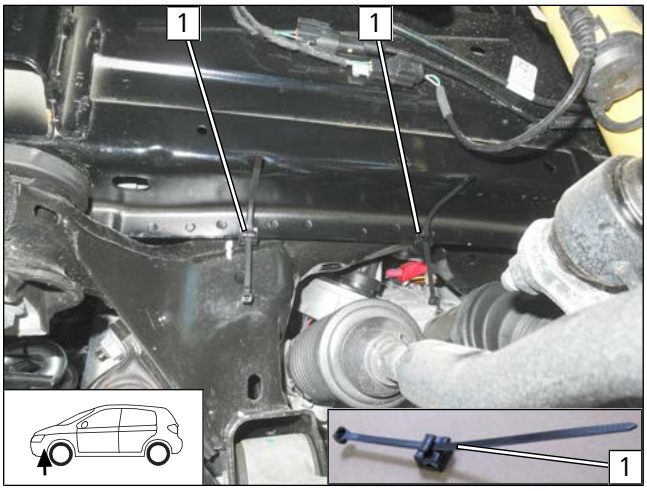


Fig. 39

1 Edge clip cable tie

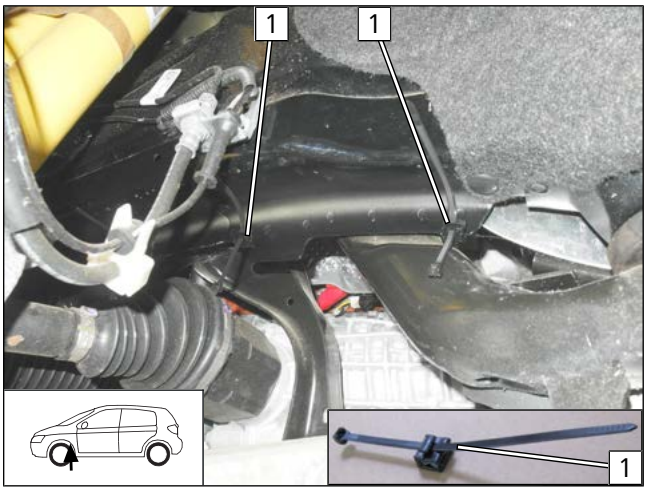


Fig. 40

1 Edge clip cable tie

Routing to wheel well

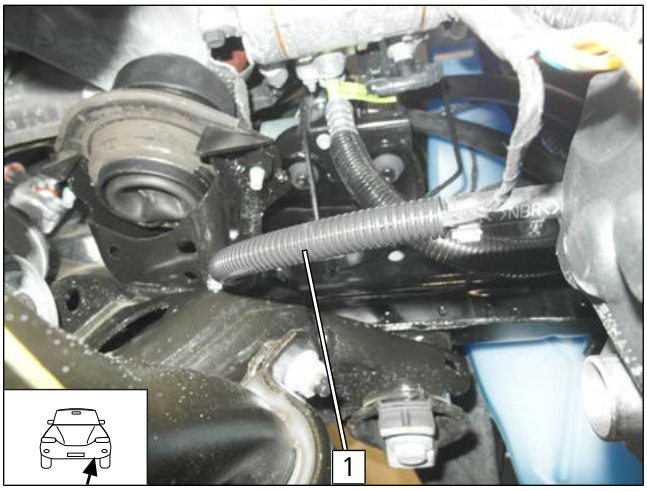


Fig. 41

▶ Route corrugated tube with fuel line and fuel pump wiring harness 1 into the wheel well as shown.

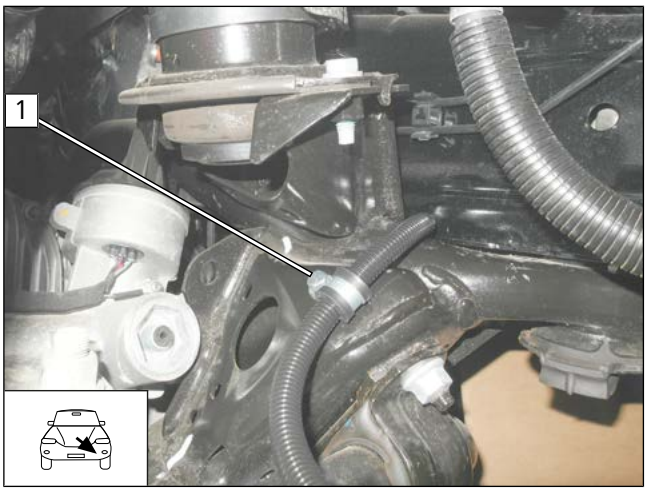


Fig. 42

1 M6x20 bolt, spring lock washer, Ø15 premounted rubber-coated p-clamp, aluminium rivet nut

Routing in wheel well

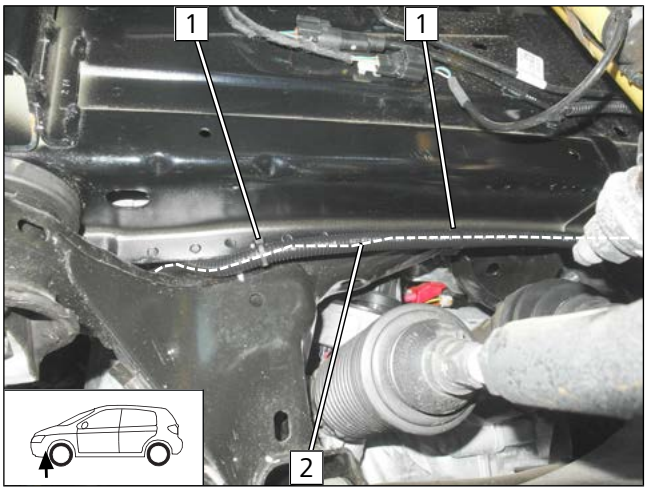


Fig. 43

1 Closing edge clip cable tie

2 Corrugated tube with fuel line and fuel pump wiring harness

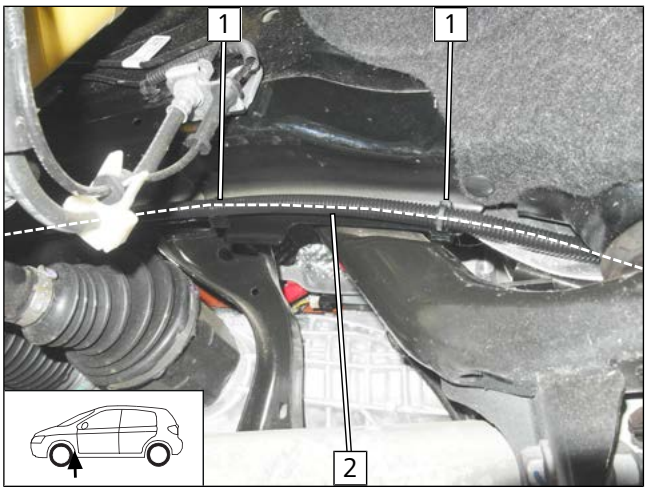


Fig. 44

1 Closing edge clip cable tie

2 Corrugated tube with fuel line and fuel pump wiring harness

Routing on underbody

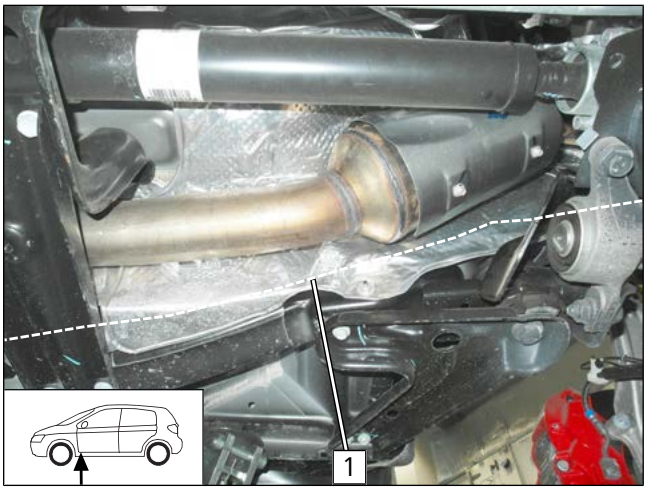


Fig. 45

1 Corrugated tube with fuel line and fuel pump wiring harness

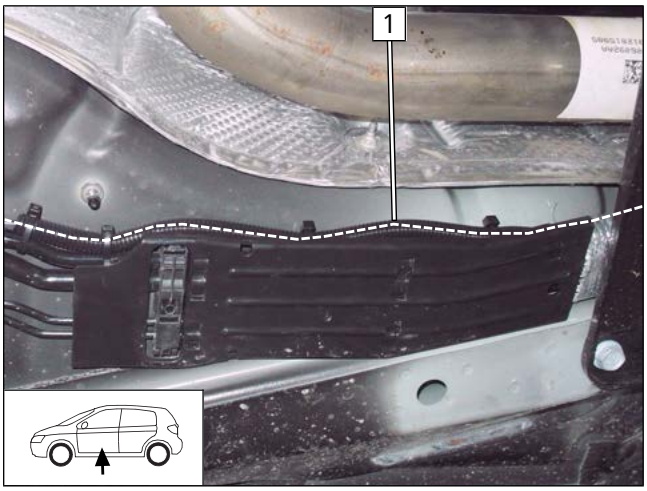


Fig. 46

▶ Route corrugated tube with fuel line and fuel pump wiring harness 1 along original vehicle fuel lines to the fuel pump installation location.

Inserting rivet nut

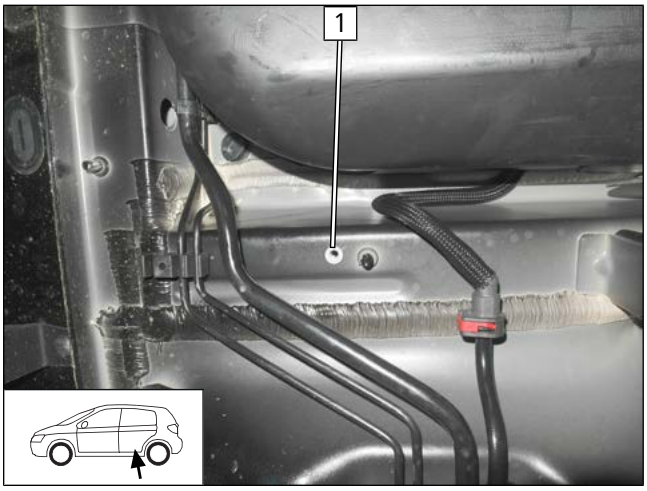


Fig. 47

▶ Remove original vehicle plug at position 1.

1 Steel rivet nut

Premounting fuel pump

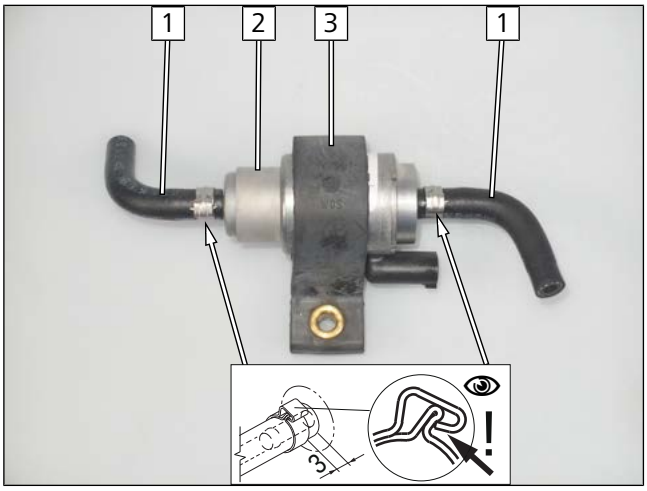


Fig. 48

1 90° moulded hose, Ø10 clamp
2 Fuel pump
3 Fuel pump mount

Mounting fuel pump

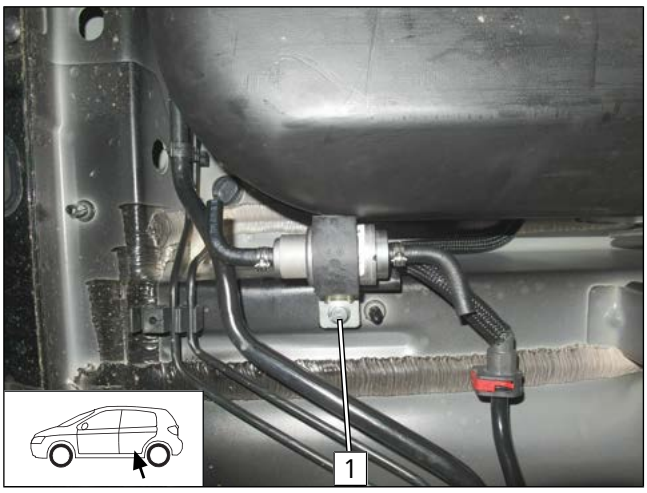


Fig. 49

1 M6x25 bolt, support angle bracket, premounted fuel pump, steel rivet nut

Assembling fuel pump connector X7

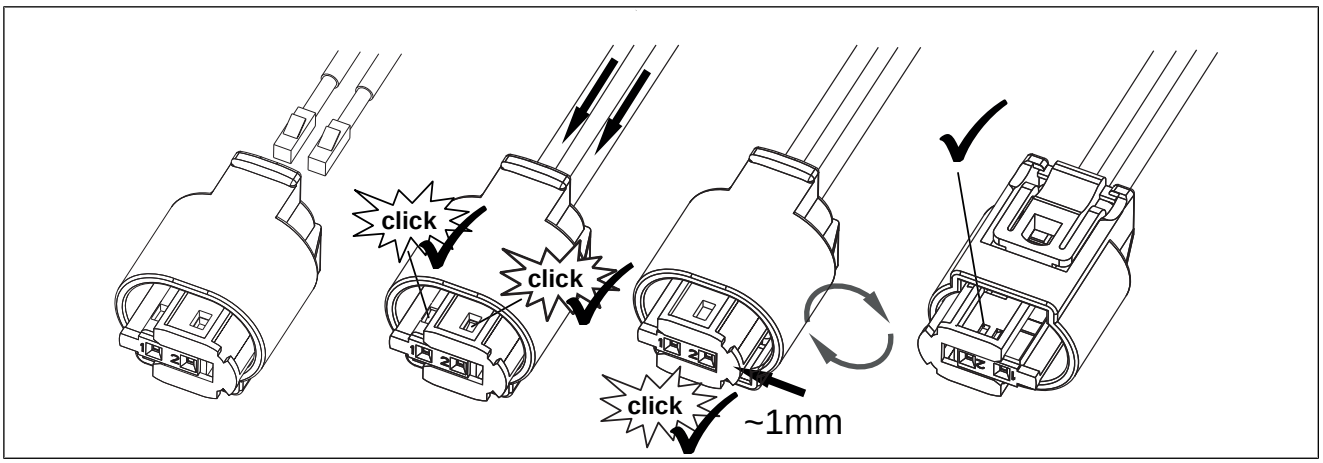


Fig. 50

Connecting fuel pump

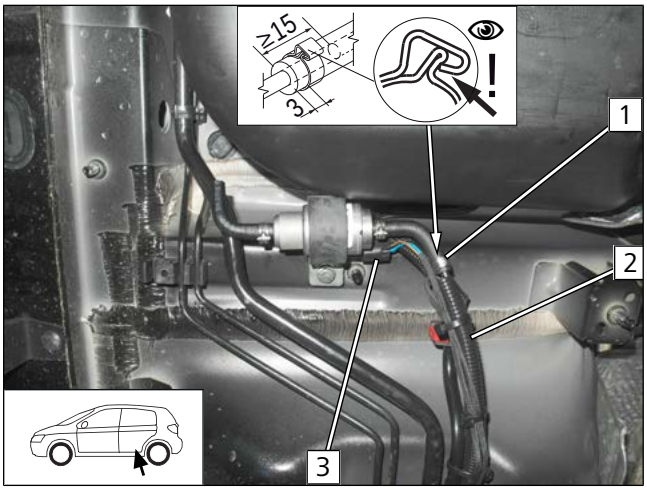


Fig. 51

1 Ø10 clamp
2 Corrugated tube with heater fuel line
3 Fuel pump wiring harness, connector X7 mounted

Fastening rest of fuel pump wiring harness

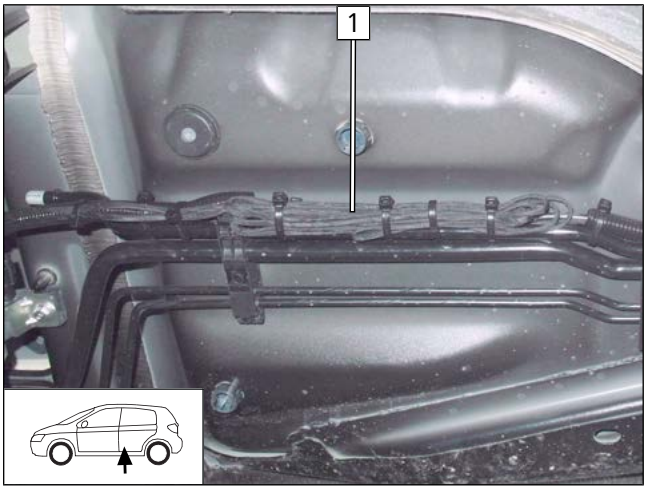


Fig. 52

▶ Fasten the rest of fuel pump wiring harness 1 with cable ties as shown.

9.3 Creating an opening for FuelFix

Removing insulation

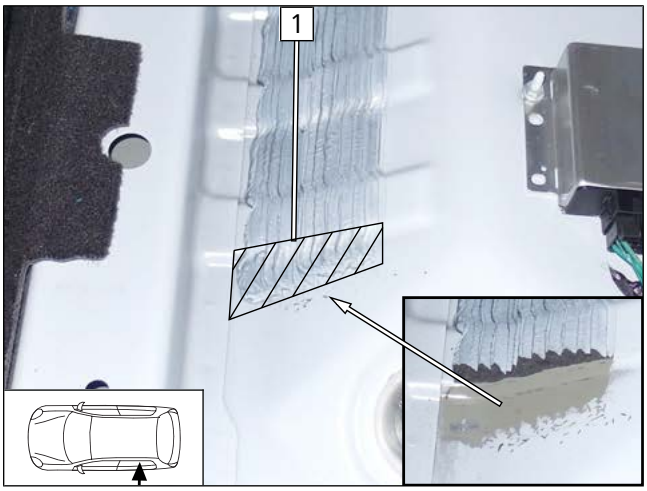


Fig. 53

▶ Remove insulation at position 1 as shown.

Drawing markings for opening

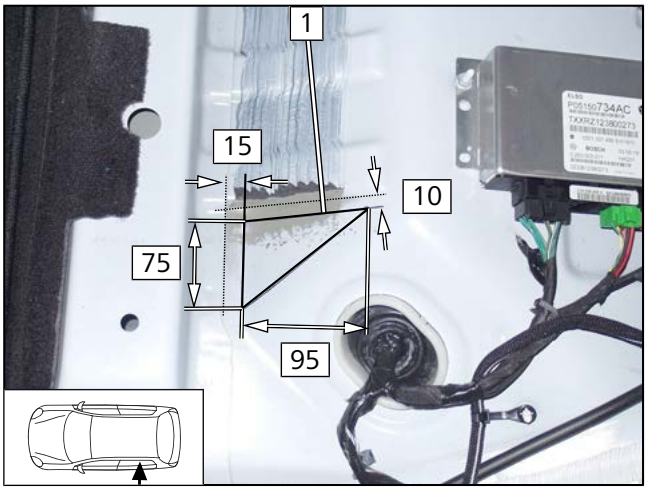


Fig. 54

▶ Copy dimension lines [1] as shown.

Drilling holes

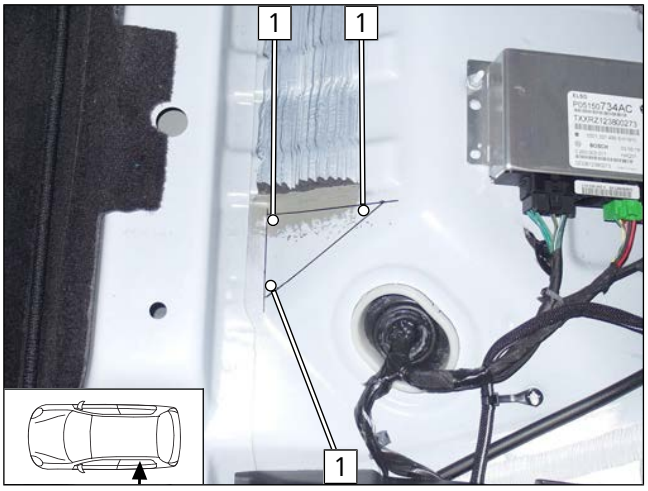
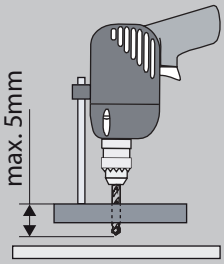


Fig. 55

Danger of damage to components



[1] Ø10 hole

Creating an opening

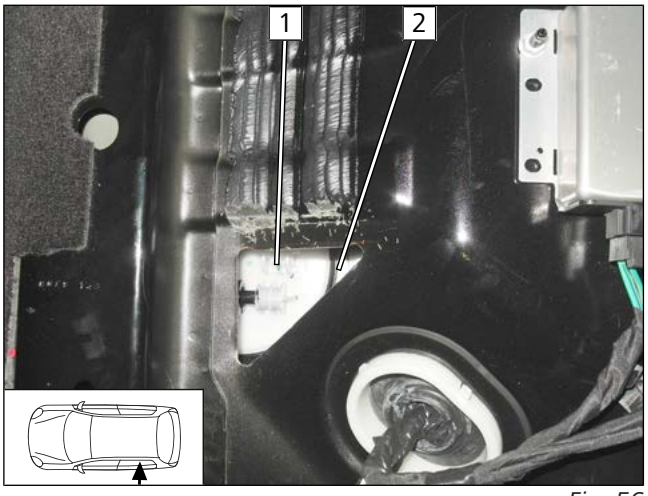


Fig. 56

▶ Cut out opening [2] with special tools (nibbler for sheet steel) as shown and discard section.

Fire hazard due to tank fitting leaks

▶ Vacuum / remove resulting metal shavings in the area of tank fitting [1] using a vacuum cleaner and magnetic rod.

9.4 Installing FuelFix

Preparing drilling template

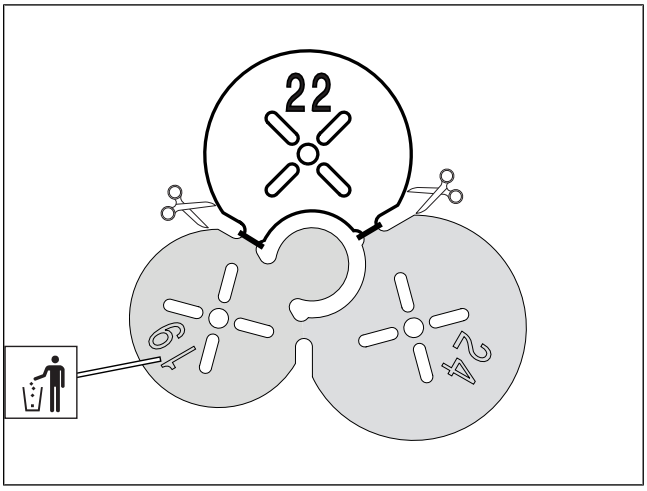


Fig. 57

Work steps F1, F2

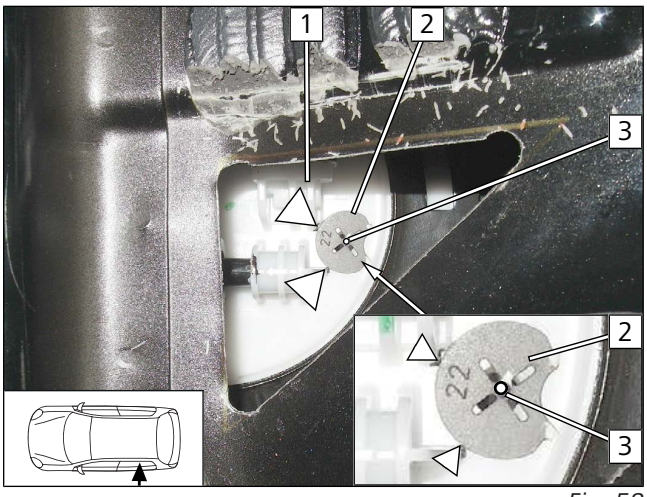


Fig. 58

Observe the installation instructions of the tank extracting device.

1 Tank fitting

2 Position Ø22 template against the raised parts as shown

3 Copy hole pattern

Work step F3

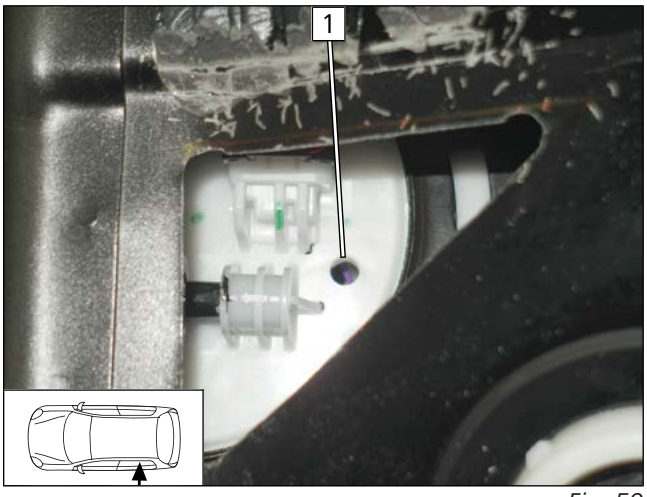


Fig. 59

DANGER

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

1 Hole made with provided drill

Work steps F4, F5

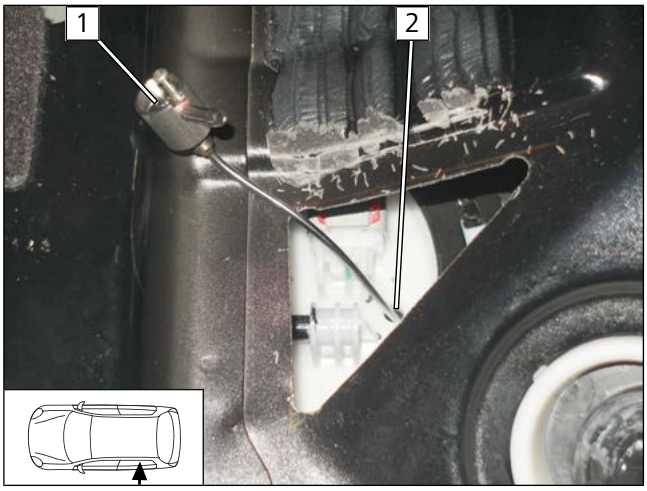


Fig. 60

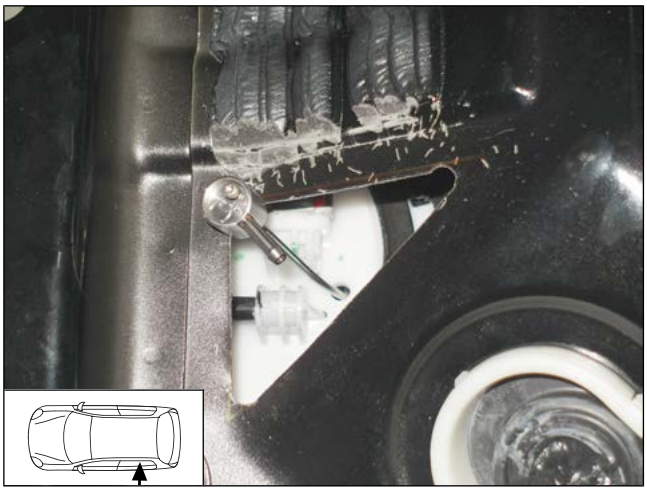


Fig. 61

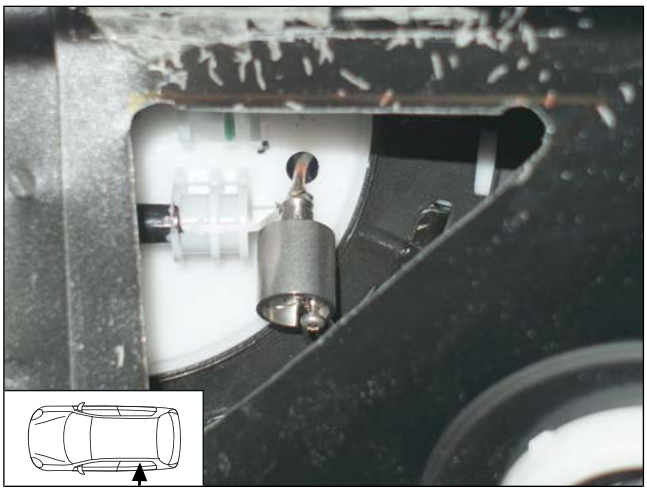


Fig. 62

▶ Bend FuelFix [1] according to template and cut to length. Insert in hole [2].

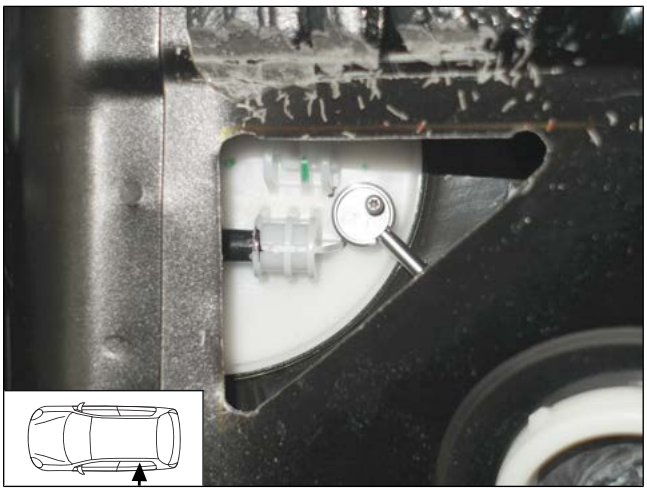


Fig. 63

Work step F5.4

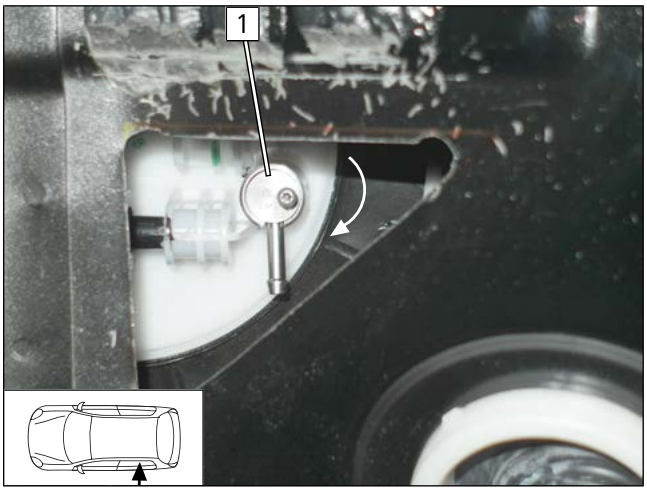


Fig. 64

▶ Align FuelFix **1** as shown

Preparing fuel line

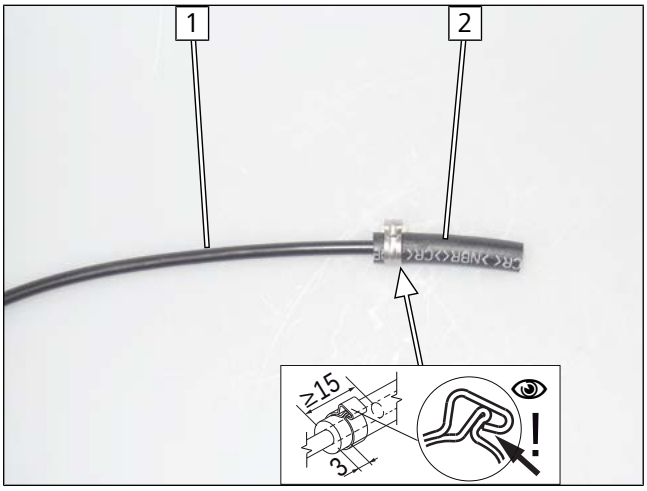


Fig. 65

1 Fuel line
2 Hose section, Ø10 clamp

Inserting fuel line

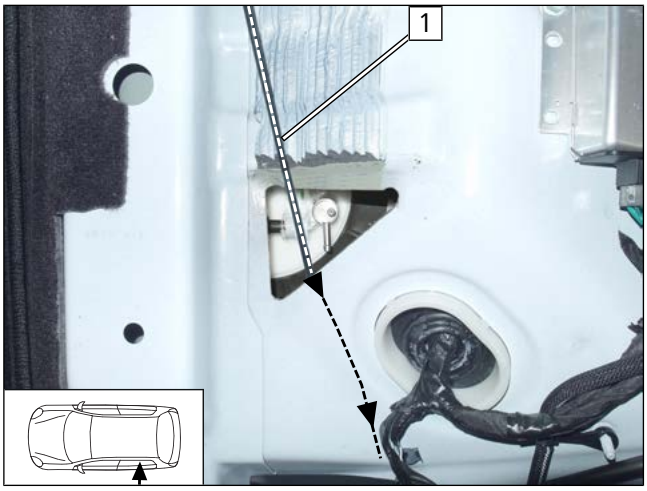


Fig. 66

▶ Insert premounted fuel line **1** as shown.

Work step F6

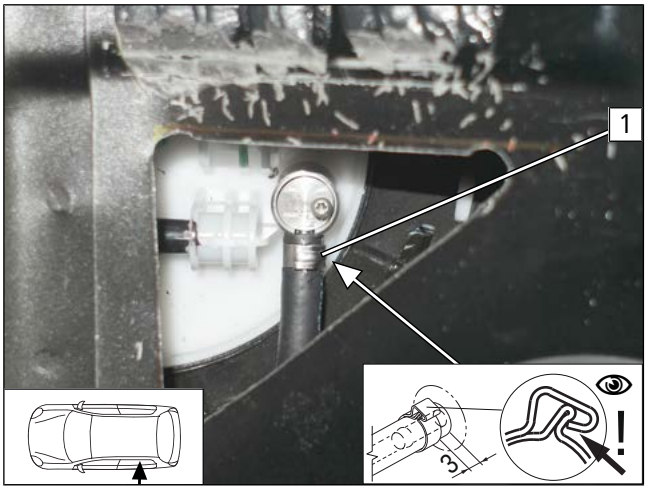


Fig. 67

1 Ø10 clamp

Work step F7

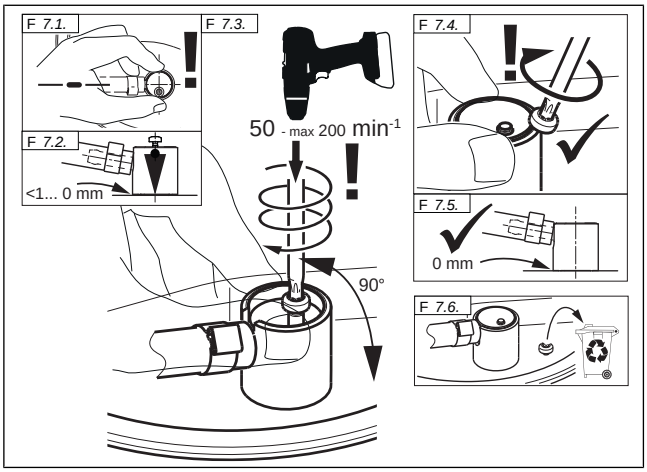


Fig. 68

DANGER

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

Work step F8

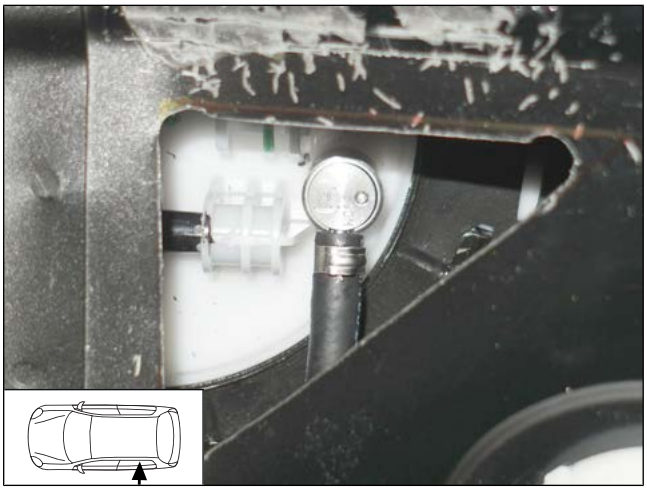


Fig. 69

Securing fuel line

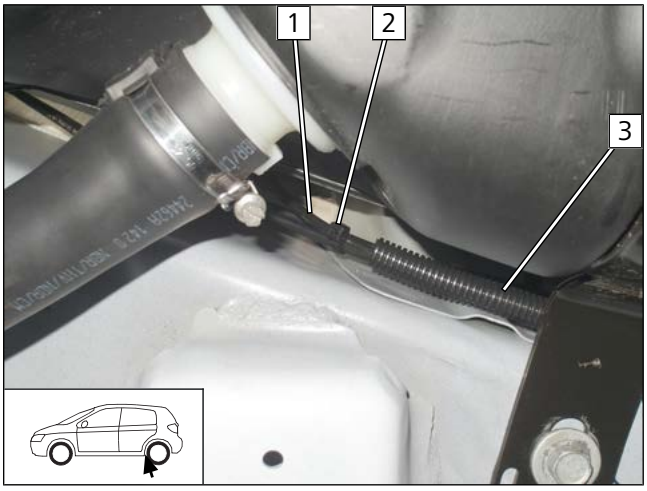


Fig. 70

▶ Slide corrugated tube [3] onto fuel line of FuelFix [1].

[2] Cable tie for tension relief

Routing fuel line

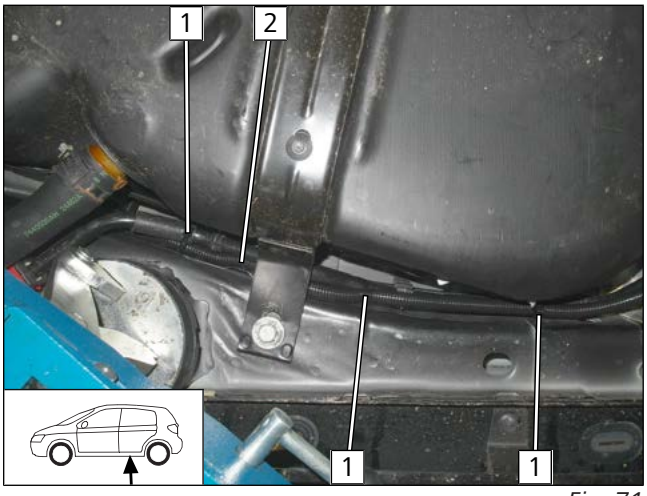


Fig. 71

▶ Route corrugated tube with fuel line of FuelFix [2] to fuel pump and fasten with cable tie [1].

Connecting fuel pump

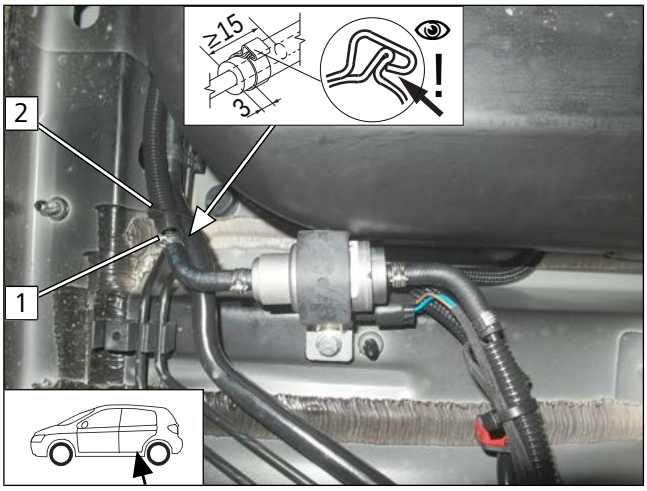


Fig. 72

1 Ø10 clamp
2 Corrugated tube with fuel line of FuelFix

9.5 Sealing opening for FuelFix

Adapting cover plate

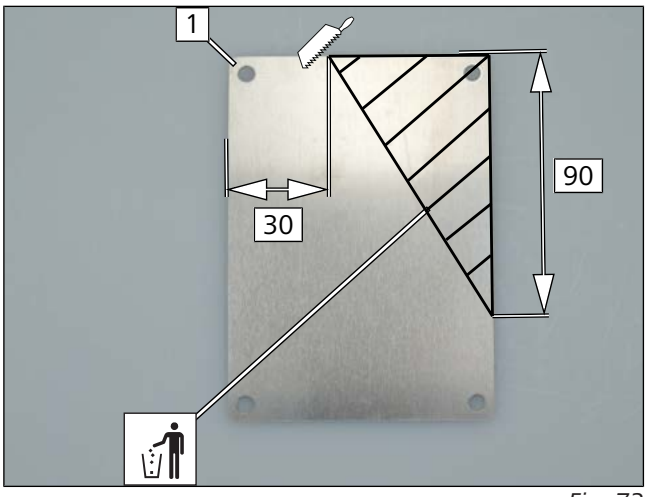


Fig. 73

▶ Adapt cover plate 1 as shown.

Copying hole pattern

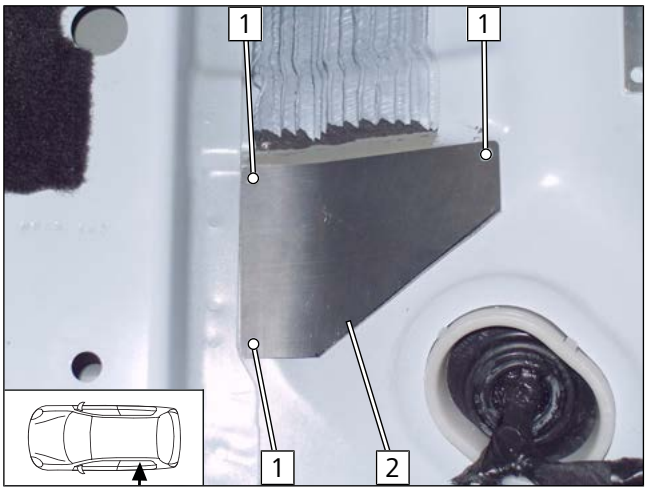


Fig. 74

▶ Adapt cover plate 2 to the contours of the vehicle and copy hole pattern 1.

Drilling holes

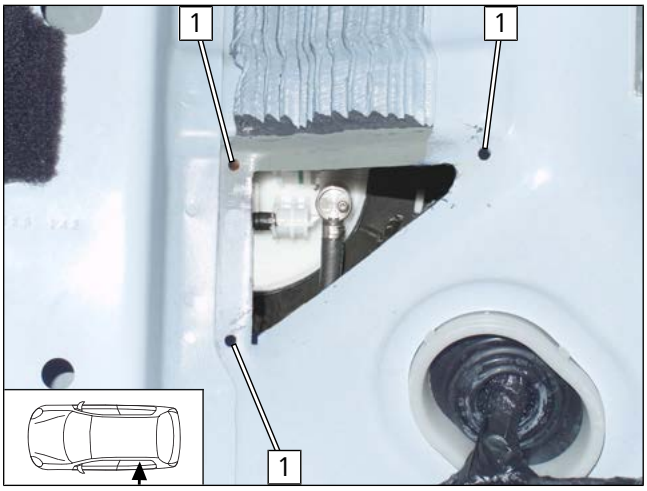
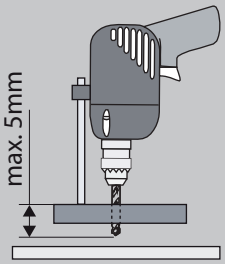


Fig. 75

Danger of damage to components



1 Ø5.5 hole

Applying sealing compound

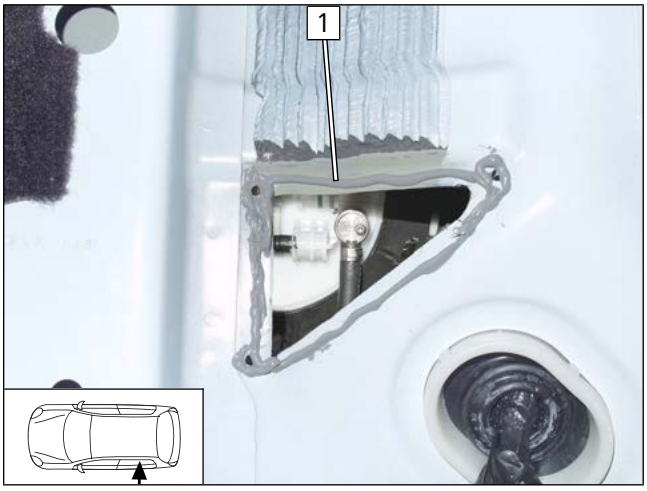
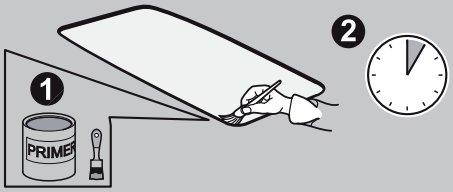


Fig. 76

Danger of damage to components

▶ Protect cutting edges / holes against corrosion by suitable means.



Use sealing and adhesive compound according to the specifications of the vehicle manufacturer.

▶ Apply sealing compound 1 as shown.

Mounting cover plate

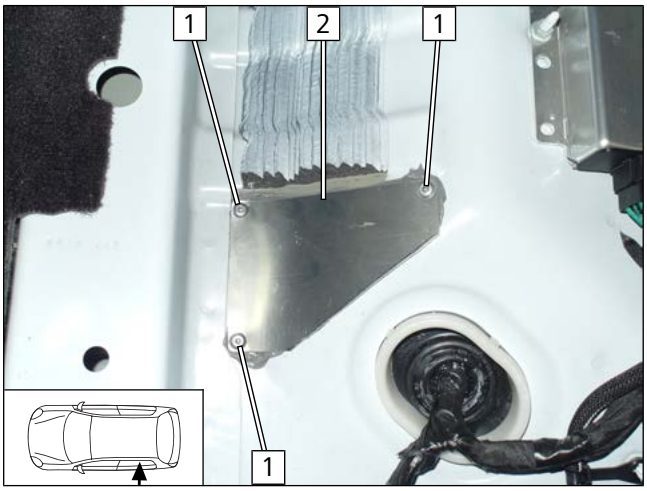


Fig. 77

1 Body-bound rivet
2 Cover plate

Sealing edges of cover plate

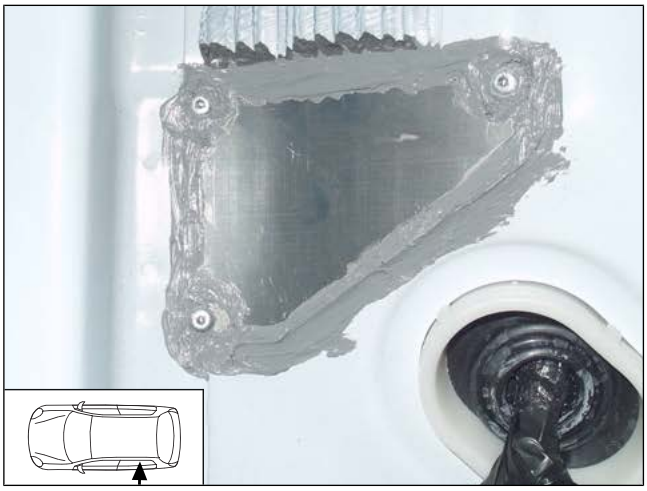


Fig. 78

▶ Seal the edges of the cover plate with sealing compound as shown.

10 Coolant

10.1 Hose routing diagram

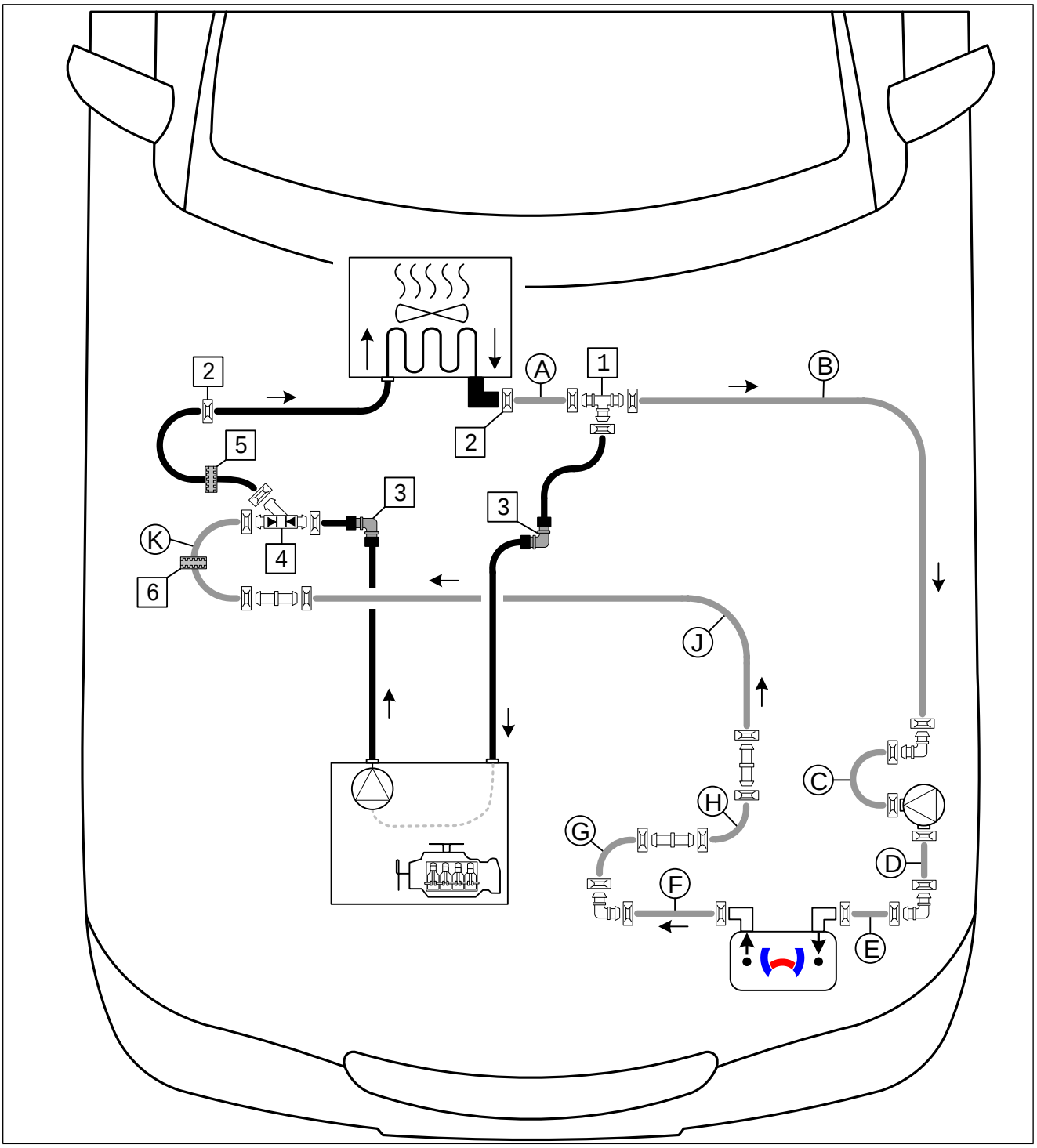


Fig. 79

All spring clips without a specific designation = Ø25

All connecting pipes = Ø18x18 or = Ø18x18/90°

1 T-piece, 2 original vehicle spring clip, 3 Original vehicle 90° coupling piece, 4 Double non-return valve, 5 Black (sw) rubber isolator with inner Ø D_i = 22, 6 Black (sw) rubber isolator with inner Ø D_i = 25

10.2 Coolant circuit installation

Preparing hoses

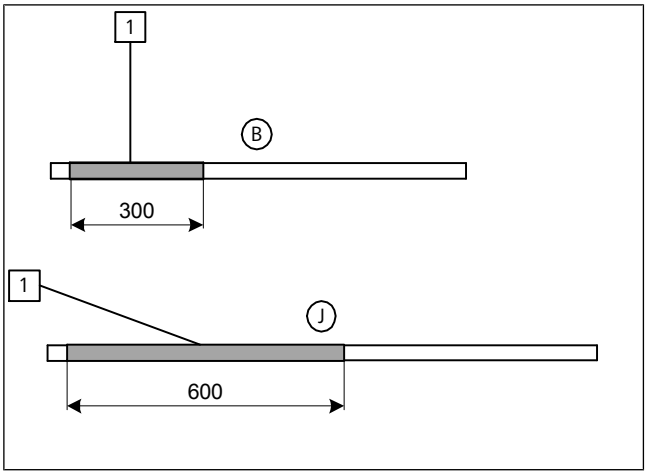


Fig. 80

Mount fabric heat shrink tubing **1**.

- ▶ 1. Slide on and cut to length
- ▶ 2. Shrink, use at most 230 °C

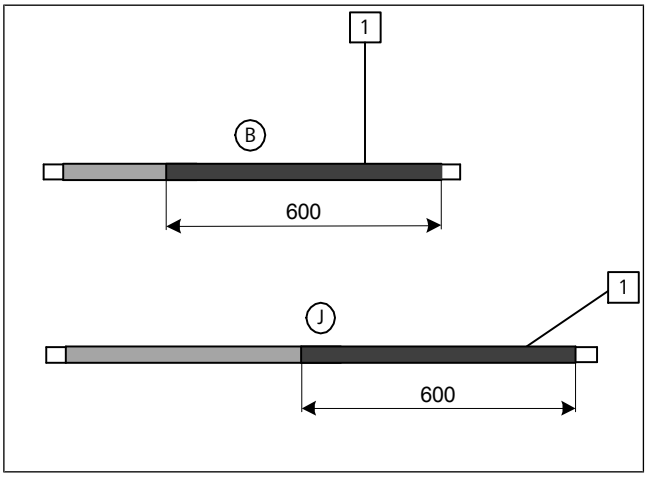


Fig. 81

- ▶ Slide heat protection hose **1** onto hoses **B** and **J** as shown.

Cutting point

Cutting hose of engine outlet / heat exchanger inlet

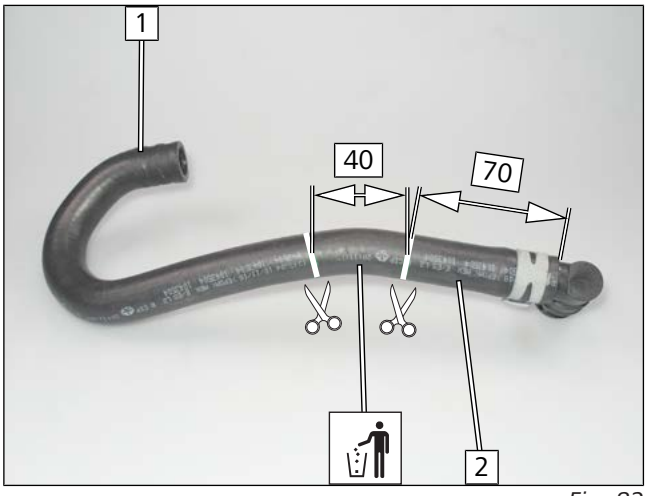


Fig. 82

1 Heat exchanger inlet hose section
2 Engine outlet hose section

Premounting double non-return valve

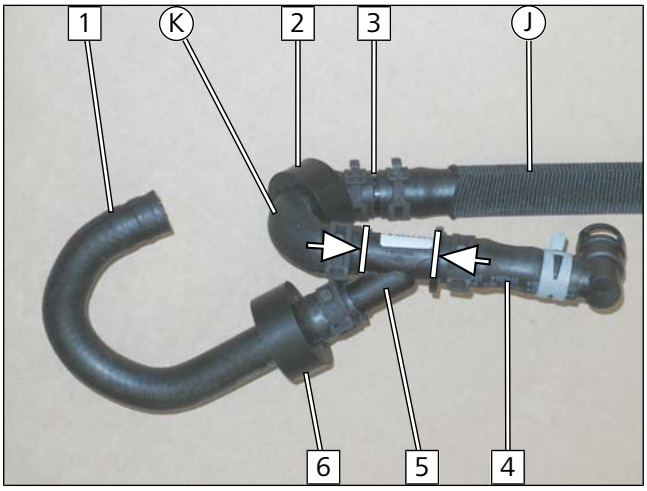


Fig. 83

1 Heat exchanger inlet hose section
2 Black (sw) rubber isolator with inner Ø D_i = 25
3 18x18 connecting pipe
4 Engine outlet hose section
5 Double non-return valve
6 Black (sw) rubber isolator with inner Ø D_i = 22

Connecting hoses (H) and (J)

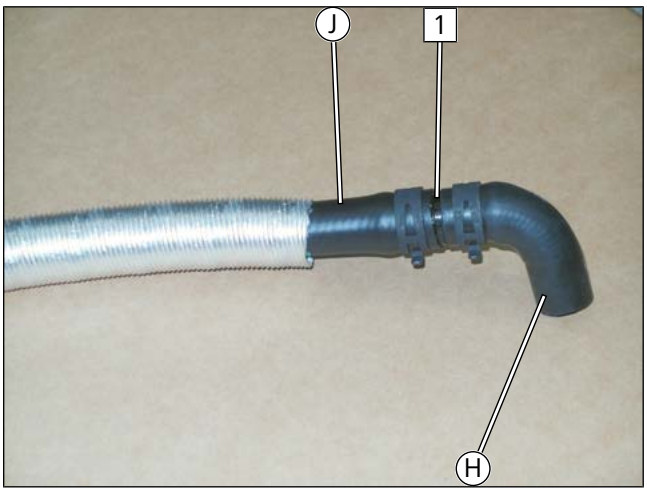


Fig. 84

1 18x18 connecting pipe

Inserting hoses (H) and (J)

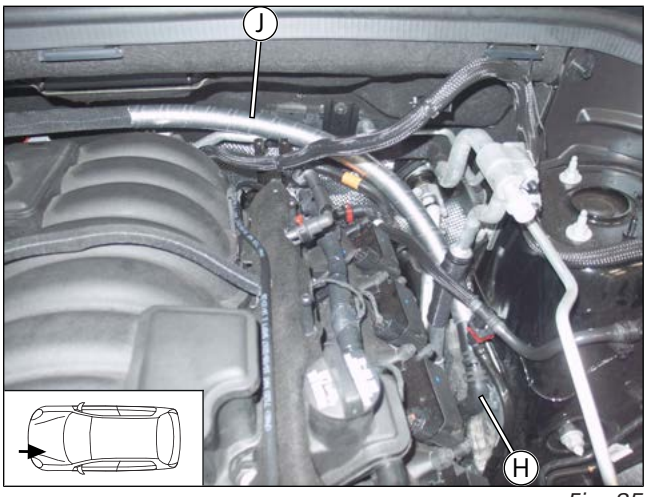


Fig. 85

▶ Route hoses (H) and (J) to the heater as shown.

Positioning double non-return valve

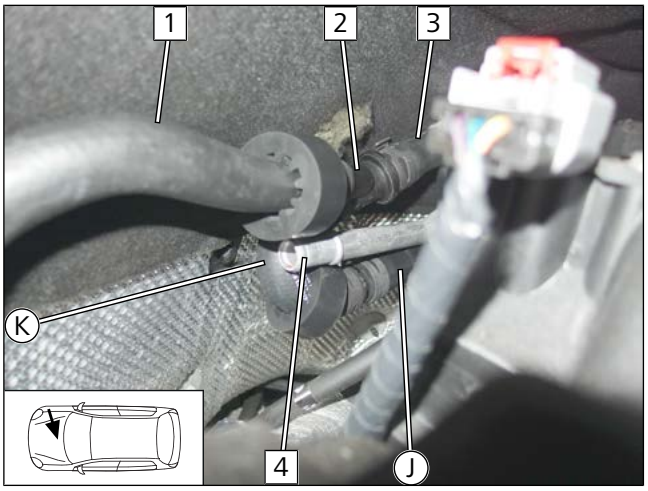


Fig. 86

1. Heat exchanger inlet hose section
2. Double non-return valve
3. Engine outlet hose section
4. Original vehicle heat exchanger inlet line

Connecting heat exchanger inlet

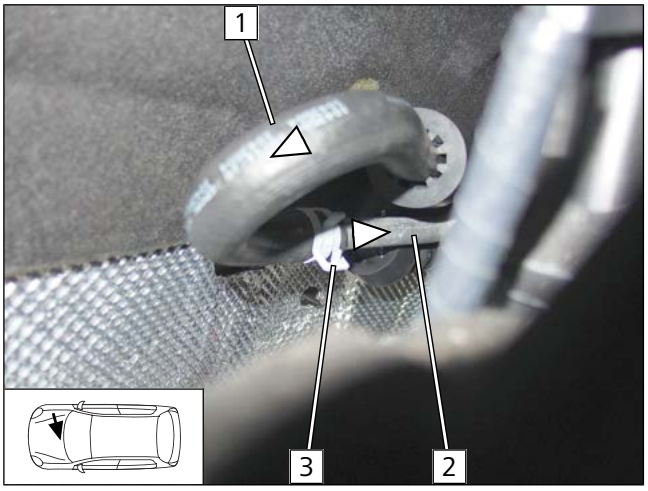


Fig. 87

1. Heat exchanger inlet hose section
2. Original vehicle heat exchanger inlet line
3. Original vehicle spring clip

Connecting engine outlet

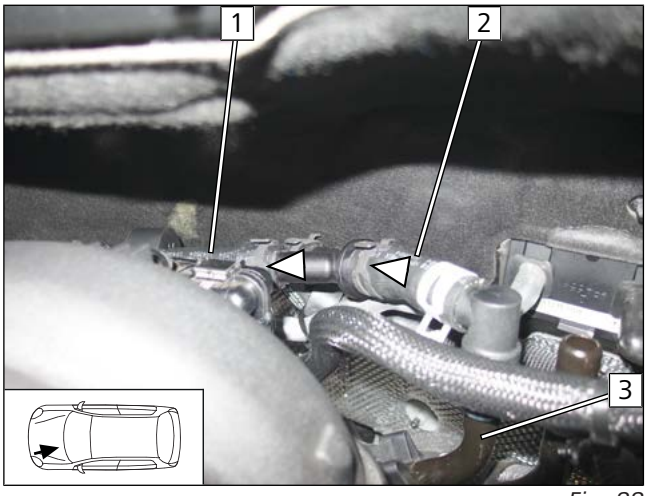


Fig. 88

1. Heat exchanger inlet hose section
2. Engine outlet hose section
3. Original vehicle engine outlet line

Aligning rubber isolator

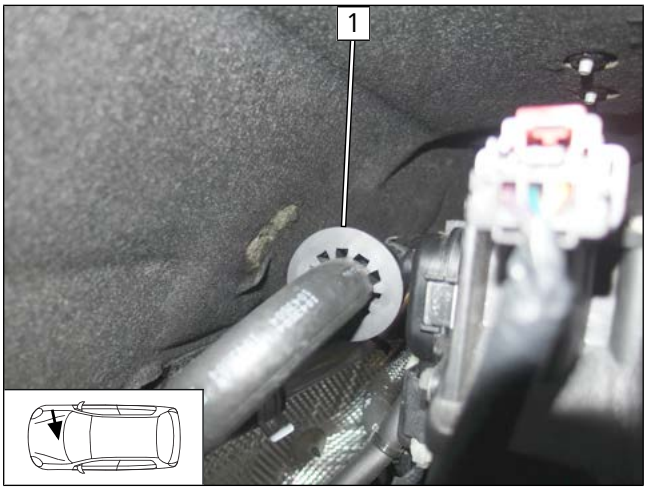


Fig. 89

1 Black (sw) rubber isolator with inner Ø D_i = 22

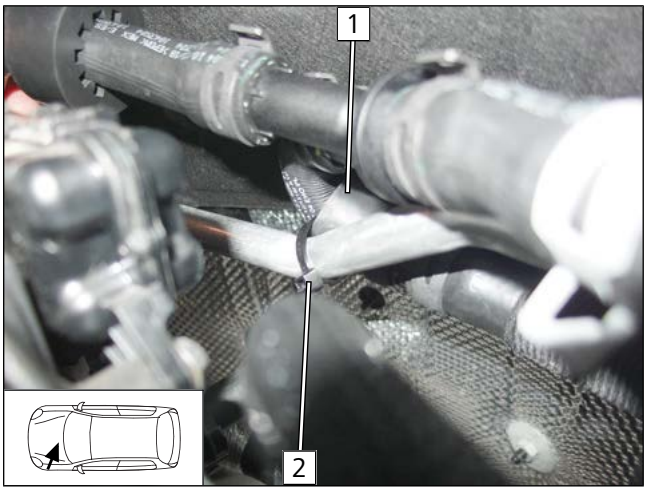


Fig. 90

1 Black (sw) rubber isolator with inner Ø D_i = 25

2 Cable tie

Preparing heat exchanger outlet / engine inlet hose

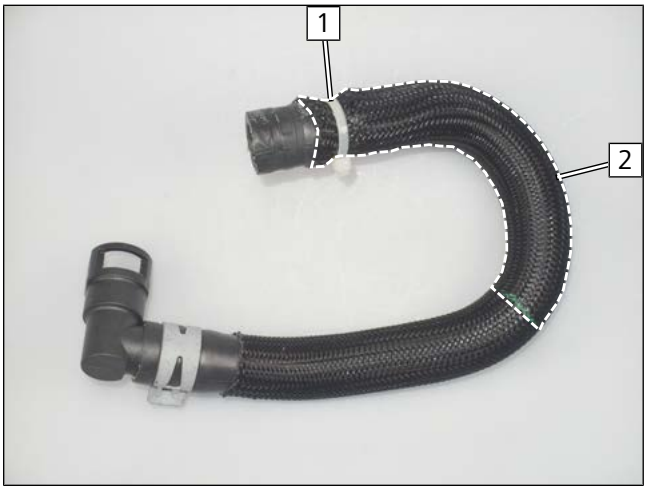


Fig. 91

▶ Remove and discard cable tie 1 and braided protection hose 2 as shown.

Cutting heat exchanger outlet / engine inlet hose

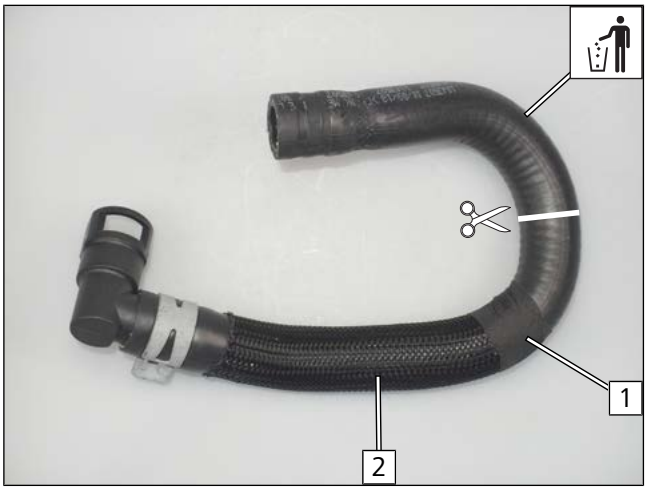


Fig. 92

▶ Wrap end of braided protection hose with insulating tape **1**.

2 Engine inlet hose section

Premounting T-piece

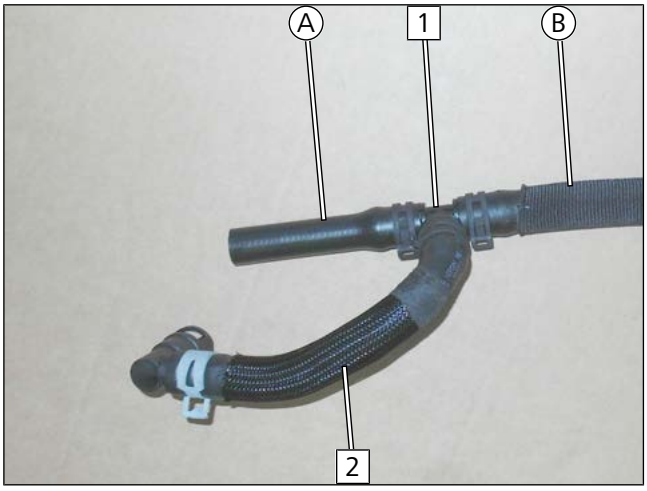


Fig. 93

1 T-piece

2 Engine inlet hose section

Connecting heat exchanger outlet / engine inlet

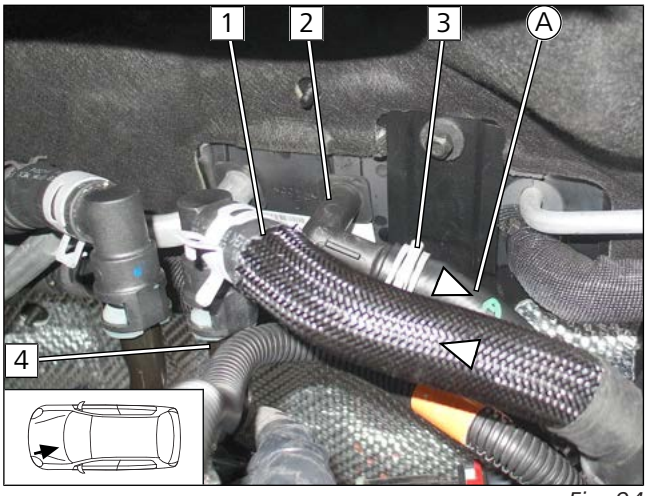


Fig. 94

1 Engine inlet hose section

2 heat exchanger outlet connection piece

3 Original vehicle spring clip

4 Original vehicle engine inlet line

Routing hose (B)

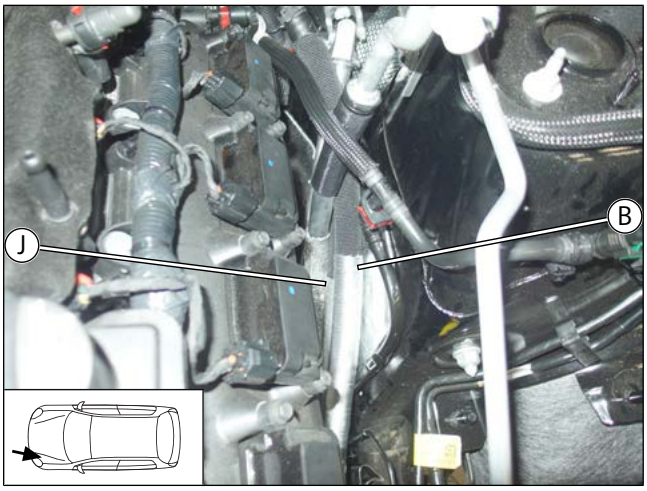


Fig. 95

▶ Route hose (B) over hose (J) to the heater installation location.

Fastening hoses

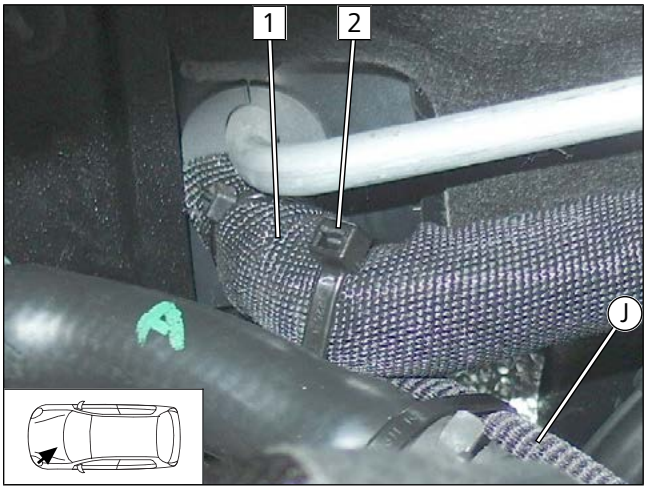


Fig. 96

Danger of damage to components

▶ Ensure sufficient distance from neighbouring components, correct if necessary.

1 Original vehicle A/C line

2 Cable tie around original vehicle A/C line and hose (J)

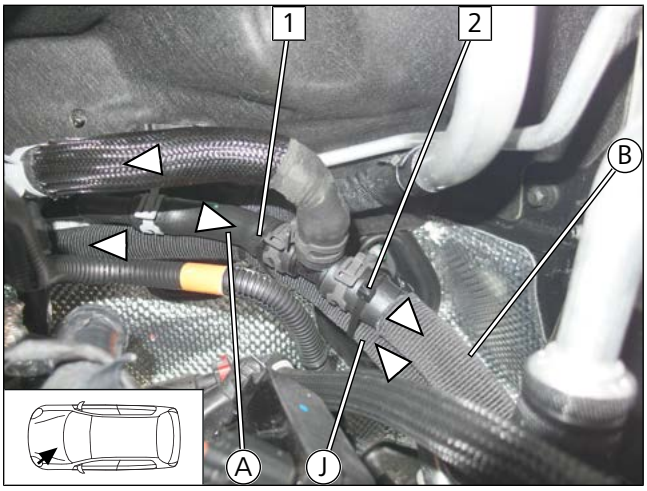


Fig. 97

Danger of damage to components

▶ Ensure sufficient distance from neighbouring components, correct if necessary.

1 Cable tie around hose (A) and hose (J)

2 Cable tie around hose (B) and hose (J)

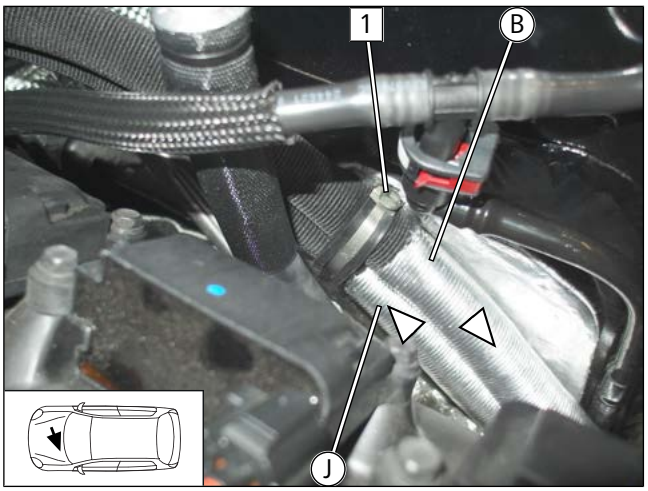


Fig. 98

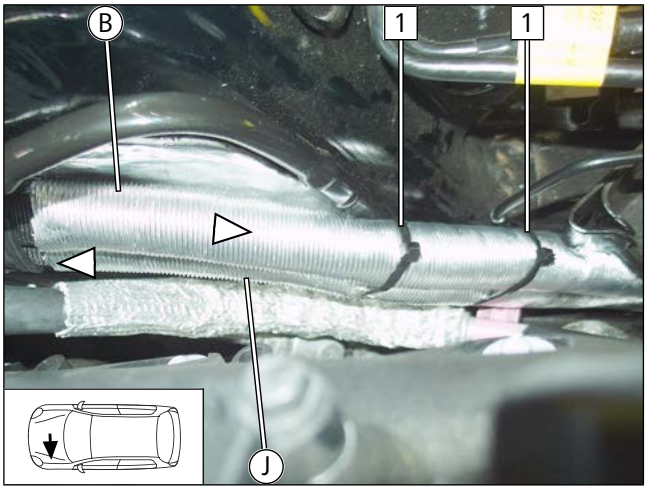


Fig. 99

Connecting hoses Ⓑ and Ⓒ

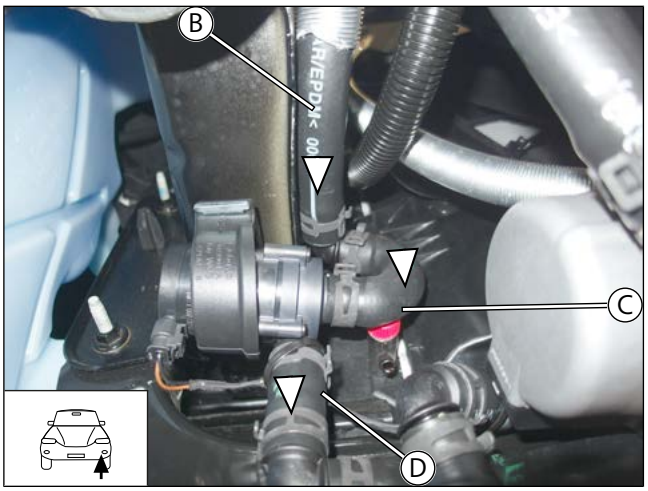


Fig. 100

Danger of damage to components

▶ Ensure sufficient distance from neighbouring components, correct if necessary.

▶ Remove and discard original vehicle bolt at position 1.

1 M6x30 bolt, spring lock washer, Ø38 rubber-coated p-clamp, original vehicle thread

1 Cable tie around hoses Ⓑ and Ⓙ

Connecting hoses Ⓖ and Ⓗ

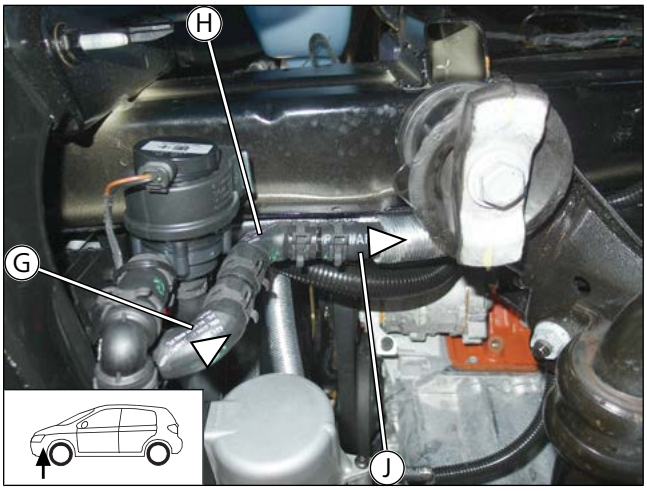


Fig. 101

Fastening hoses

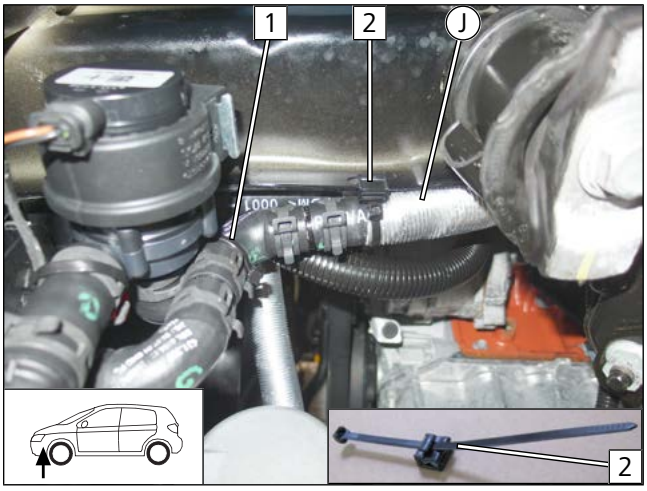


Fig. 102

Danger of damage to components

▶ Ensure sufficient distance from neighbouring components, correct if necessary.

1 Cable tie around hoses Ⓒ and Ⓗ

2 Edge clip cable tie around hoses Ⓑ and Ⓙ

11 Exhaust

Cutting exhaust pipe to length

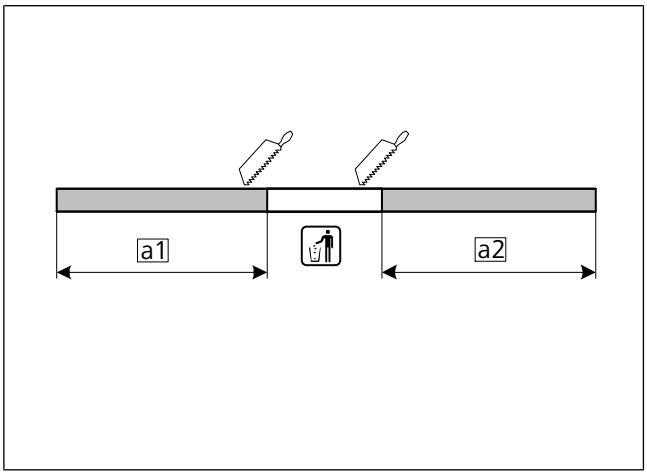


Fig. 103

a1 220
a2 200

Preparing angle bracket

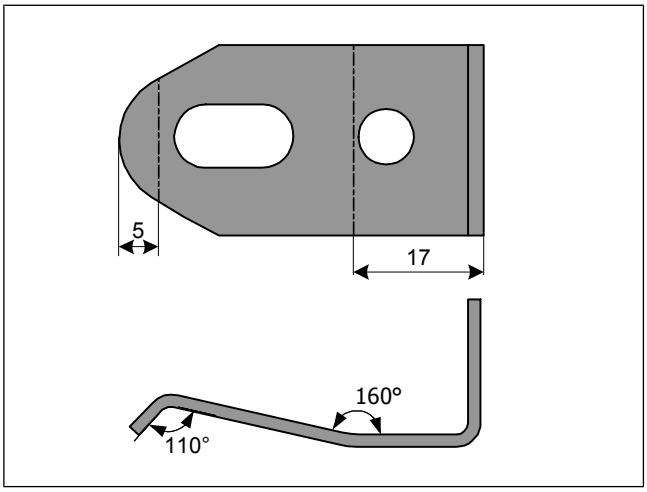


Fig. 104

Premounting exhaust silencer

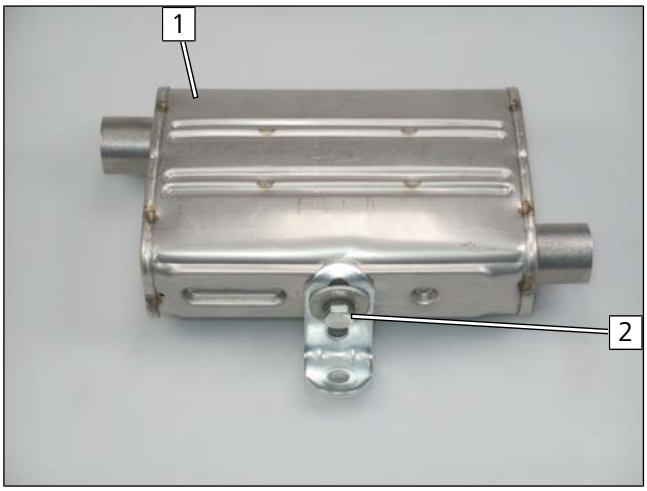


Fig. 105

1 Exhaust silencer
2 M6x16 bolt, spring lockwasher, large diameter washer, angle bracket

Mounting exhaust silencer

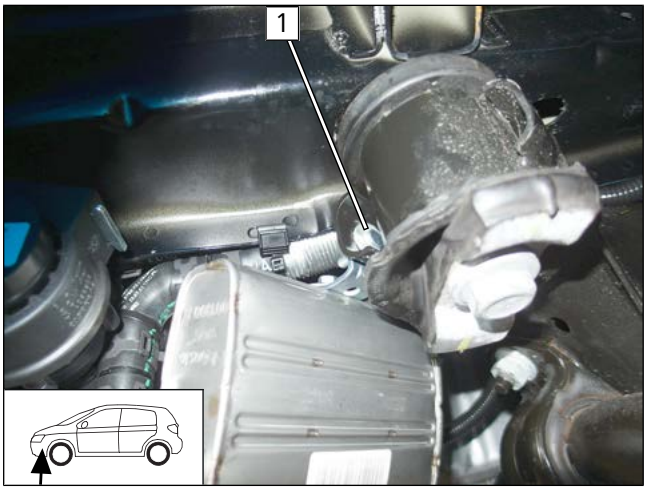


Fig. 106

[1] M6x20 bolt, large diameter washer, original vehicle hole, angle bracket, flanged nut

Mounting exhaust pipe **a1**

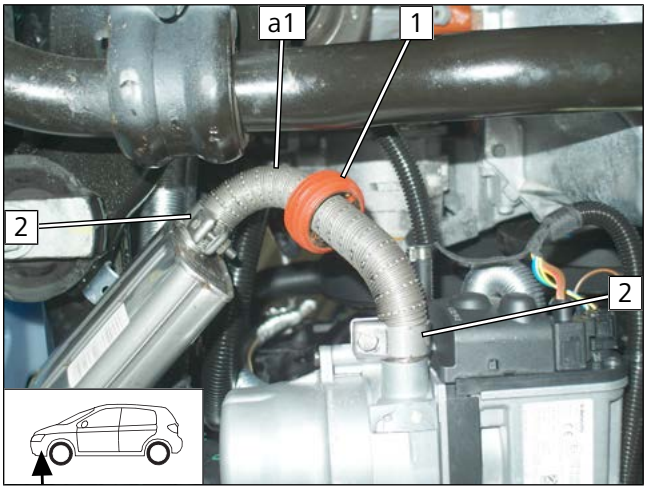


Fig. 107

[1] ASH
[2] Hose clamp

Mounting exhaust pipe **a2**

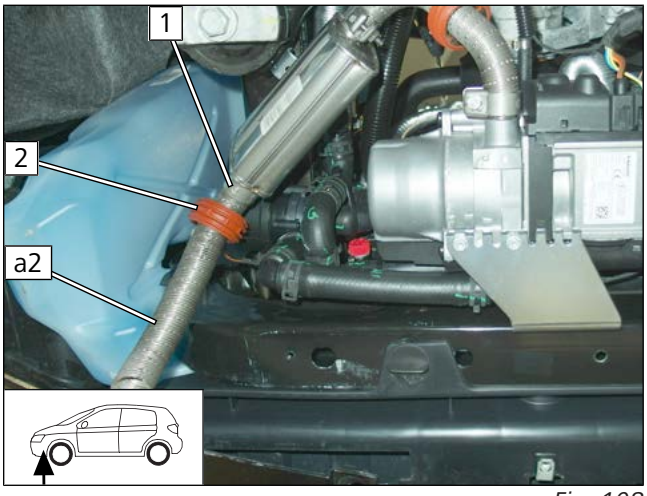


Fig. 108

[1] Hose clamp
[2] ASH

11.1 Mounting exhaust end fastener

Work step E1

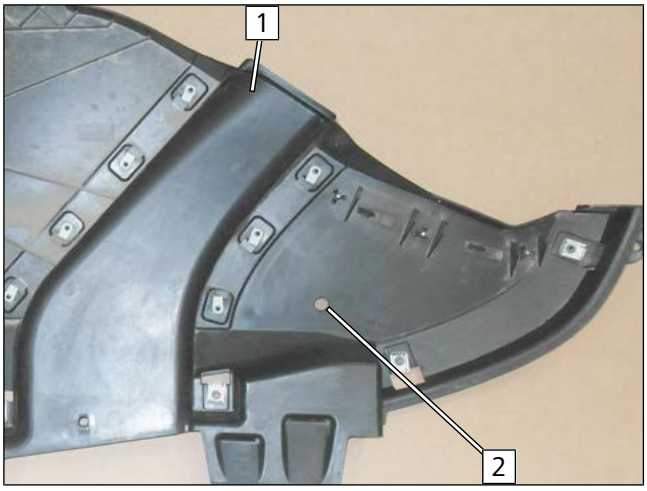


Fig. 109

Observe the EFIX installation instructions.

▶ Enlarge original vehicle hole 2.

1 Wheel well trim

Work step E3

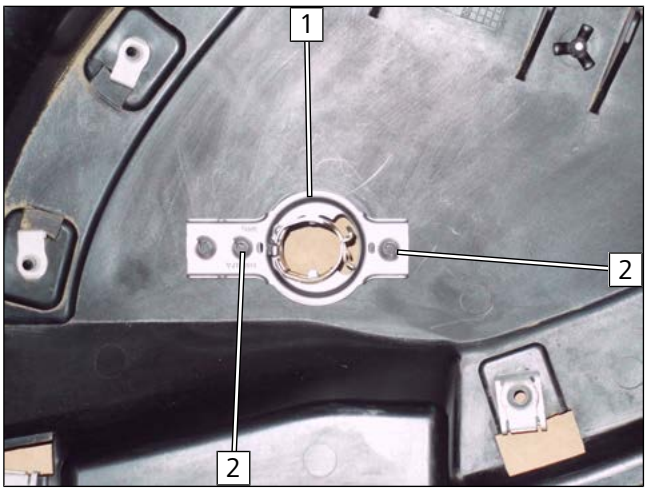


Fig. 110

1 EFIX
2 Copy hole pattern

Work step E4

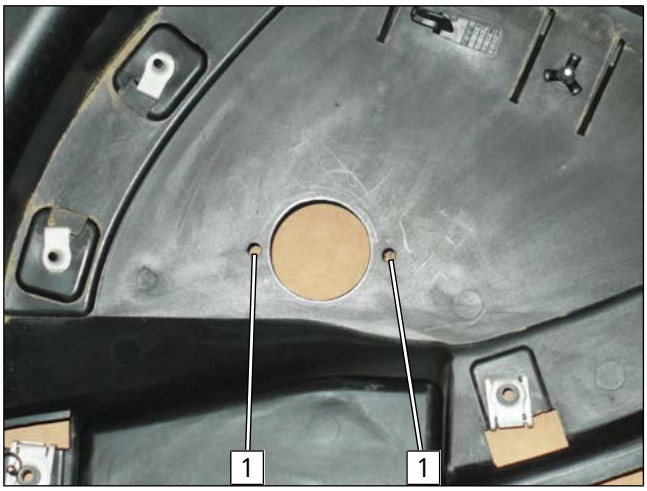


Fig. 111

1 Hole

Work step E5

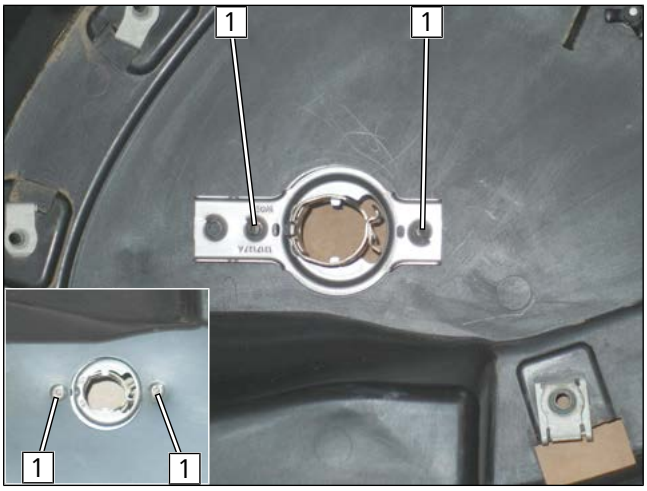


Fig. 112

[1] 5x13 self-tapping screw

▶ Install wheel well trim.

Work steps E6-E8

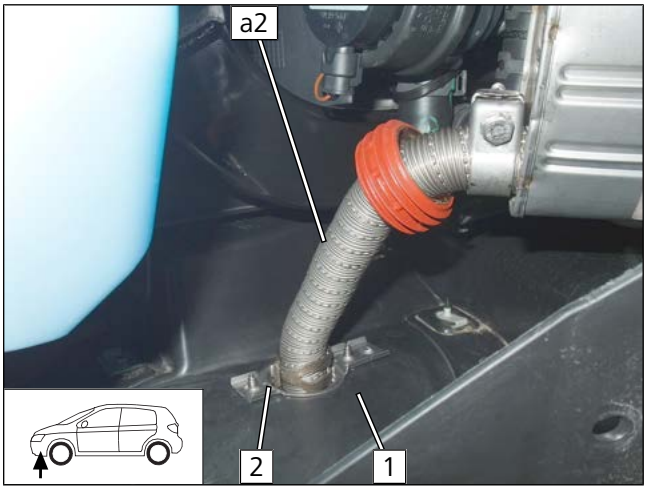


Fig. 113

[1] Wheel well trim

[2] EFIX

▶ Mount underride protection.

Checking distance

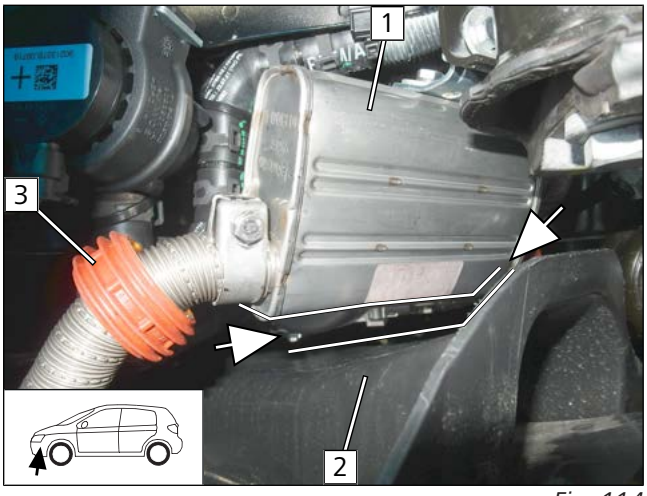


Fig. 114

Danger of damage to components

▶ Ensure sufficient distance between exhaust silencer [1] and underride protection [2], correct if necessary.

▶ Align spacer bracket [3].

Aligning exhaust pipe **a2**

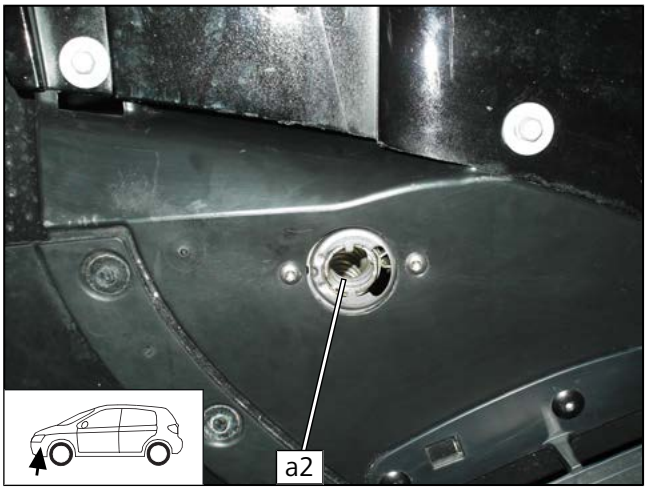


Fig. 115

Danger of damage to components

- Ensure sufficient distance from neighbouring components, correct if necessary.

12 Combustion air

Cutting perforated bracket to length

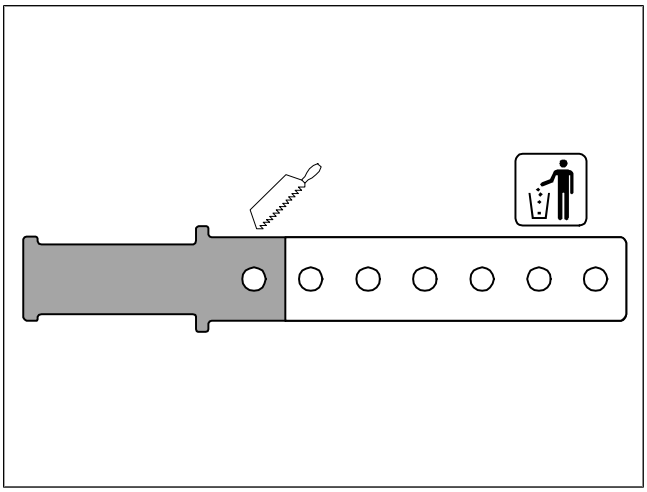


Fig. 116

Premounting combustion air intake silencer

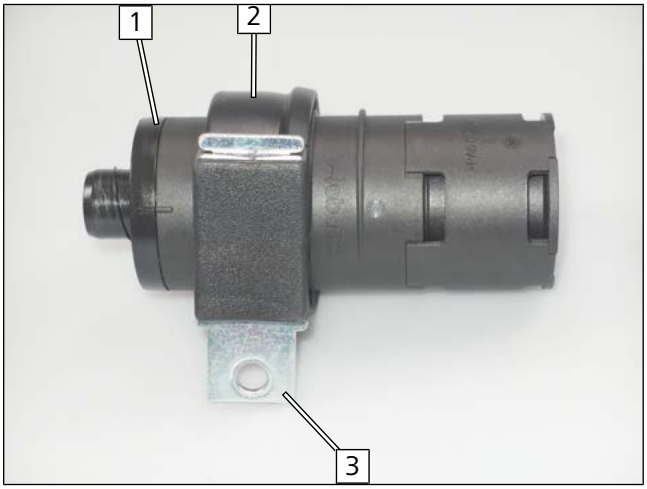


Fig. 117

Observe the installation instructions of the combustion air intake silencer.

[1] Combustion air intake silencer
[2] Combustion air intake silencer mount
[3] Prepared perforated bracket

Mounting combustion air intake silencer

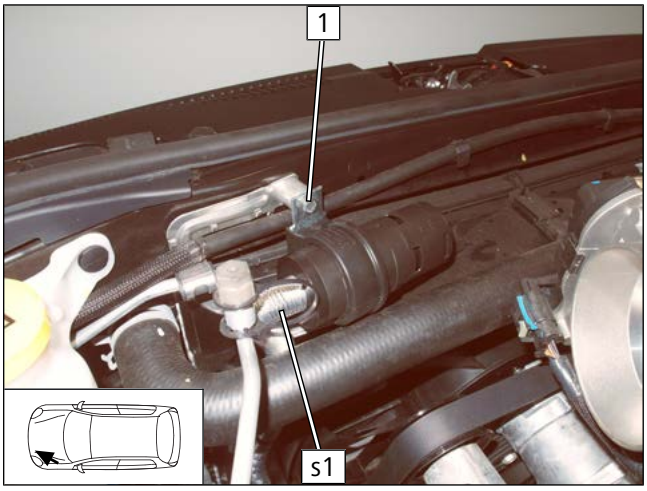


Fig. 118

▶ Remove and discard original vehicle bolt at position [1].

[1] M6x35 bolt, spring lock washer, premounted combustion air intake silencer, distance washer (20), original vehicle bracket, original vehicle thread

Fixing combustion air intake pipe **s1**

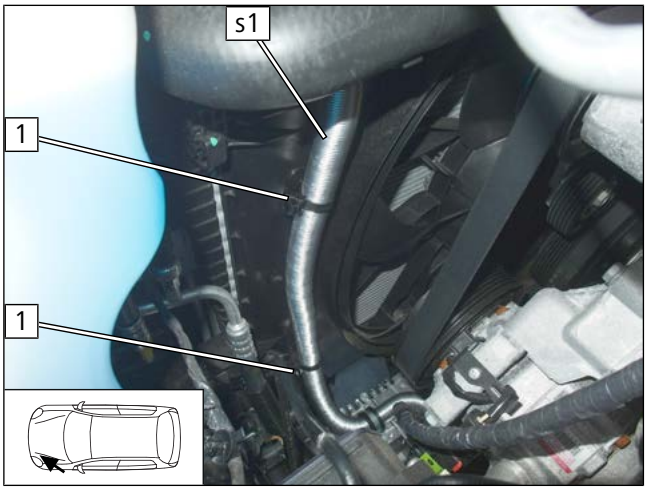


Fig. 119

▶ Close eyelet cable tie **1**.

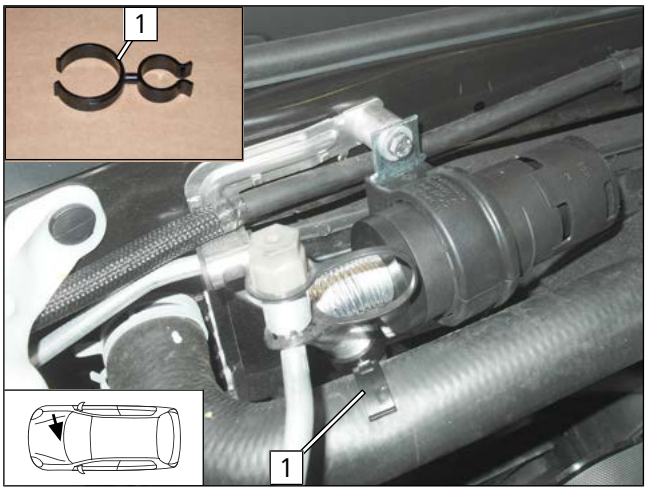


Fig. 120

1 25x37 hose bracket between **s1** and original vehicle water hose

13 Electrical system of passenger compartment

13.1 Air-conditioning control

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

'**Webasto Comfort**' A/C control installation documentation for Jeep with AAC

14 Electrical system of control elements

14.1 MCC option

Mounting MCC

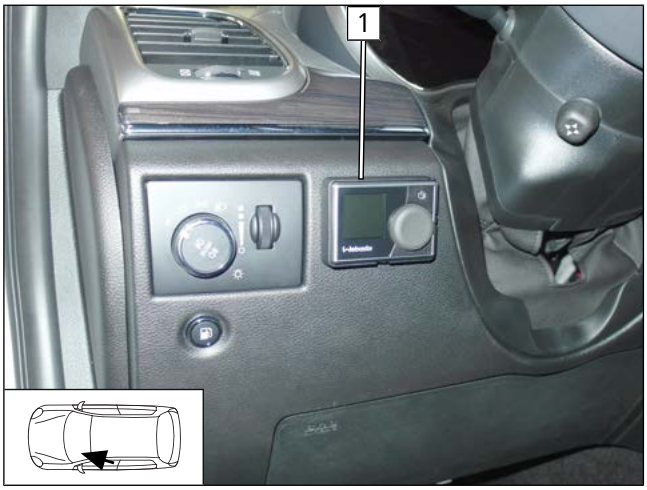


Fig. 121

Observe the MultiControl CAR installation documentation.

1 Installation frame

14.2 Remote option (Telestart)

Mounting receiver

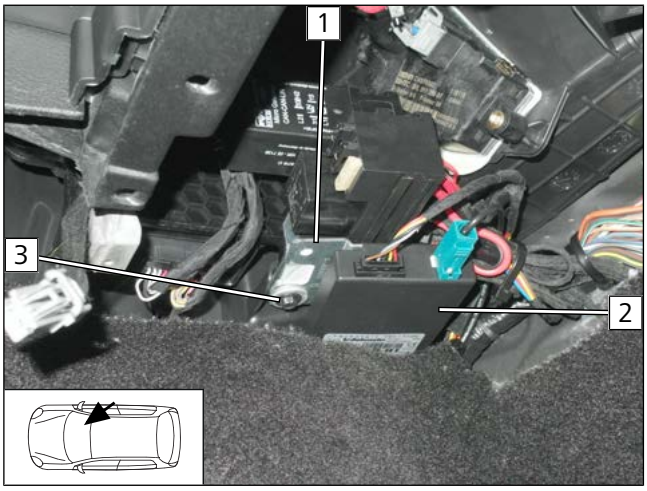


Fig. 122

Observe the Telestart installation documentation.

▶ Position receiver bracket 1 under the large diameter washer at position 3.

2 Receiver

3 Original vehicle bolt

Mounting aerial

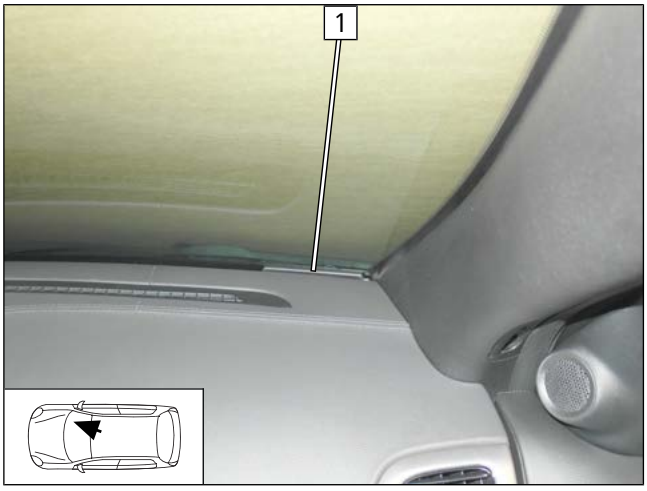


Fig. 123

1 Aerial

Mounting temperature sensor, only in case of T100 HTM

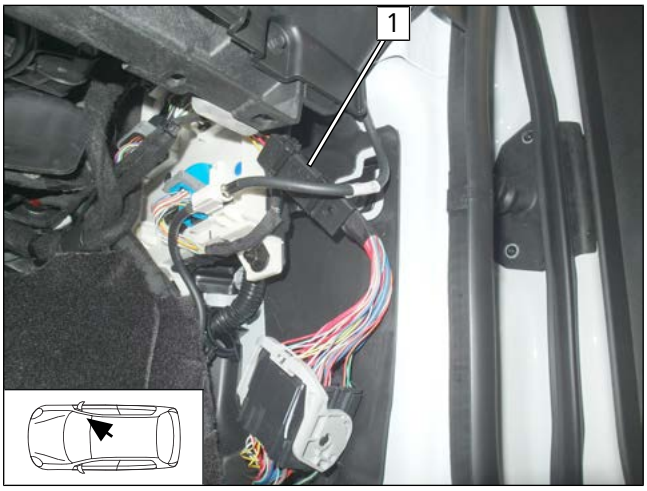


Fig. 124

▶ Attach temperature sensor [1] to original vehicle line with cable ties.

14.3 ThermoCall Option

Mounting receiver

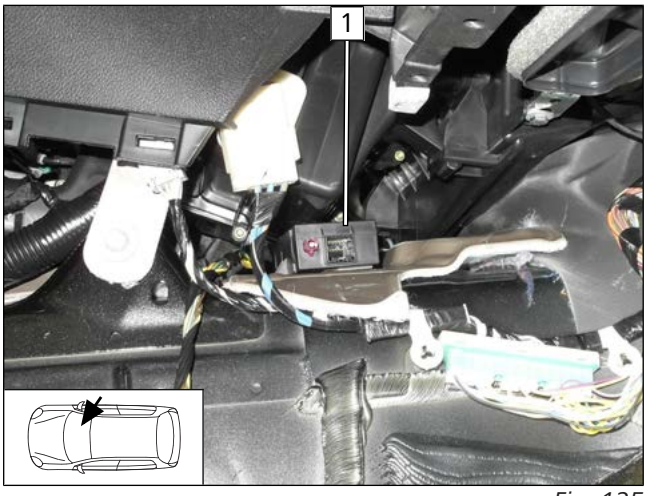


Fig. 125

Observe the ThermoCall installation documentation.

▶ Fasten receiver [1] with double-sided adhesive tape as shown.

Mounting aerial (optional)

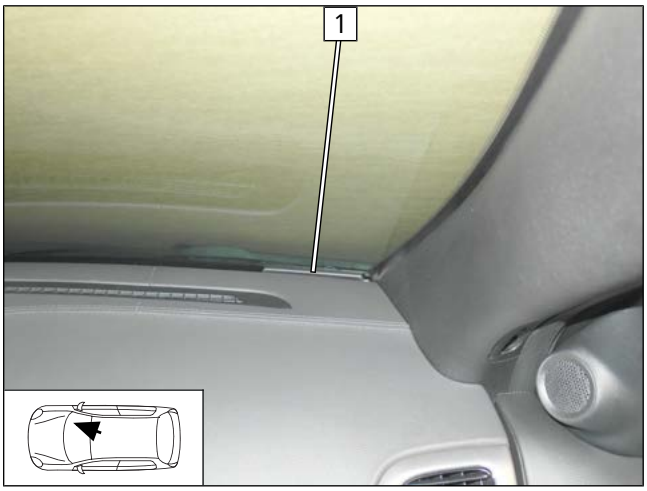


Fig. 126

[1] Aerial

15 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'

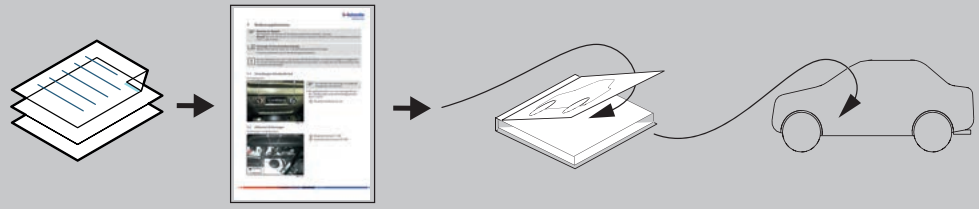
▶ Initial start-up and function check

▶ Affix 'Switch off parking heater before refueling' caution label in area of filler neck

Vehicle event log after parking heating mode

✓ Components of the original vehicle air conditioning system are activated during parking heating mode. Other vehicle components remain inactive, which in some circumstances may be interpreted as an error and can be filed as such in the event log. An increased power consumption (quiescent current) may also be registered for some vehicles.

▶ If an incorrect installation can be excluded, these entries are exclusively related to the parking heating mode situation and have no effect on the vehicle functions in driving mode.



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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Webasto Thermo & Comfort SE
Postfach 1410
82199 Gilching
Germany

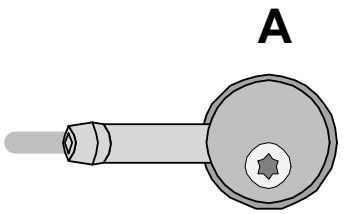
Company address:
Friedrichshafener Str. 9
82205 Gilching
Germany

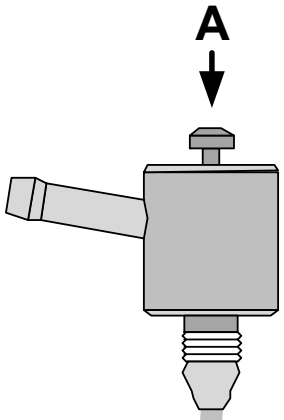
Technical Extranet: https://dealers.webasto.com

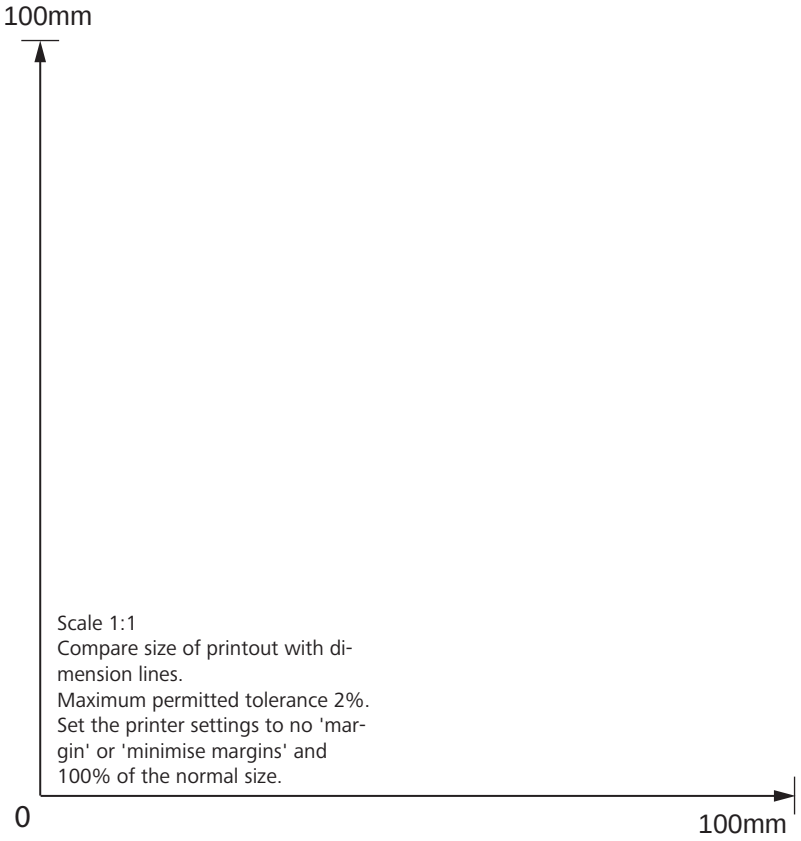
CE

WWW.WEBASTO.COM

16 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.