

K Installation Documentation

for water heater Thermo Top Evo

'Inline' coolant circuit with engine preheating

Lexus UX 250h

Left-hand drive vehicle

Manufacturer	Model	Type	Model year	EG-BE-No. / ABE
Lexus	UX 250h	ZA1 (EU,M)	2019	e6* 2007/46* 0263*...

Motorisation	Fuel	Emission standard	Transmission type	Output [kW]	Displacement [cm ³]	Engine code
2.0P Hybrid	Petrol	EURO6;WLTP;AG...	E-CVT	112	1987	M20A-FXS

Validity	Equipment variants	Model
		UX 250h
Verified equipment variants	2 zone automatic air-conditioning	x
	LED main headlights	x
	Matrix LED main headlights	x
	LED daytime running lights	x
	LED front fog lights	x
	Headlight washer system	x
	Start button with keycard	x
	Passenger compartment monitoring	x
	Alarm system	x
	2WD/4WD	x
	Bumper of F-Sport	x

Total installation time	Note
11 hours	

Contents

1	List of abbreviations	3		
2	Installation notes	4	16	Electrical system of control elements 48
2.1	Information on Validity	4	16.1	Remote option (Telestart) 48
2.2	Note for hybrid vehicles	4	16.2	ThermoCall option 49
2.3	Components used	4	17	Final work 51
2.4	Notes on installation, in coordination with the end customer	4		
2.5	Information on Total Installation Time	4		
3	About this document	5		
3.1	Purpose of the document	5		
3.2	Warranty and liability	5		
3.3	Safety	5		
3.4	Using this document	6		
4	Technical Information	7		
5	Preparations	8		
5.1	Vehicle preparation	8		
5.2	Heater preparation	8		
6	Installation overview	9		
7	Electrical system of engine compartment	10		
8	Mechanical system	15		
8.1	Preliminary Work	15		
8.2	Preparing installation location	16		
8.3	Premounting heater	18		
8.4	Heater mounting	20		
9	Fuel	22		
9.1	Routing fuel line	22		
9.2	Installing fuel extractor	25		
9.3	Fuel pump connection	29		
10	Exhaust part 1	31		
11	Combustion air	32		
12	Coolant	34		
12.1	Preliminary Work	34		
12.2	Hose routing diagram	38		
12.3	Coolant circuit installation	39		
13	Exhaust part 2	43		
13.1	Mounting exhaust end fastener	43		
14	Final work in engine compartment	45		
15	Electrical system of passenger compartment	47		

1 List of abbreviations

2 WD	Front wheel drive
4 WD	All-wheel drive
AAC	Automatic air-conditioning
ASH	Spacer bracket
CVT	Continuously variable automatic transmission
DP	Fuel pump
EFIX	Exhaust end fastener
HG	Heater
SH2	Engine compartment fuse holder for F1/F2
UP	Coolant pump
Veh.	Vehicle

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 Note for hybrid vehicles



Only experts in high-voltage systems for vehicles should be authorised to carry out independent work on hybrid vehicles. High-voltage systems must be taken out of operation, secured and reactivated according to the manufacturer's instructions.

2.3 Components used

Designation	Order number
Basic delivery scope of Thermo Top Evo	In accordance with price list
Installation kit for Lexus UX250h petrol Hybrid 2019	1327617A
Additional 'Webasto Standard' automatic air-conditioning control kit for Toyota / Lexus	1324414_
The following must also be ordered: tank fitting gasket, Lexus order no.	77169 47030
In case of Telestart, control element, as well as indicator lamp in consultation with end customer	In accordance with price list

2.4 Notes on installation, in coordination with the end customer

- ▶ Arrange for the vehicle to be delivered with the tank only about ¼ full.
- ▶ The installation location of the following elements should be chosen in coordination with the end customer:
 - the push button in case of the Telestart and/or ThermoCall and/or ThermoConnect options
 - the MultiControl CAR option

2.5 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.

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.



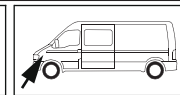
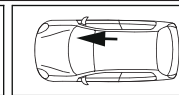
Note on a special technical feature

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 components as well as 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
- 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.



DANGER

Take the high-voltage system out of operation as per the procedure described in the manufacturer's instructions and secure it.

Vehicle area	Components to be removed	Other applicable documents
General	<ul style="list-style-type: none"> ▶ Open the fuel tank cap ▶ Ventilate the fuel tank ▶ Close the fuel tank cap again ▶ Depressurise the cooling system 	
Engine compartment and body	<ul style="list-style-type: none"> ▶ Disconnect the battery ▶ Complete air filter box ▶ Front wheel on the driver's side ▶ Wheel-well inner panel on the driver's side ▶ Side wheel well trim on the driver's side ▶ Engine underride protection ▶ Underbody trim on the front passenger's side ▶ Underbody trim on the driver's side 	
Passenger compartment	<ul style="list-style-type: none"> ▶ Lower A-pillar trim on the driver's side ▶ Upper A-pillar trim on the driver's side ▶ Footwell trim on the driver's side ▶ Lower instrument panel trim on the driver's side 	



DANGER

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



Carry out the following work only during the corresponding installation sequence:

Vehicle body	▶ Tank and tank fitting	
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5.2 Heater preparation

Engine compartment	<ul style="list-style-type: none"> ▶ 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 	
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6 Installation overview

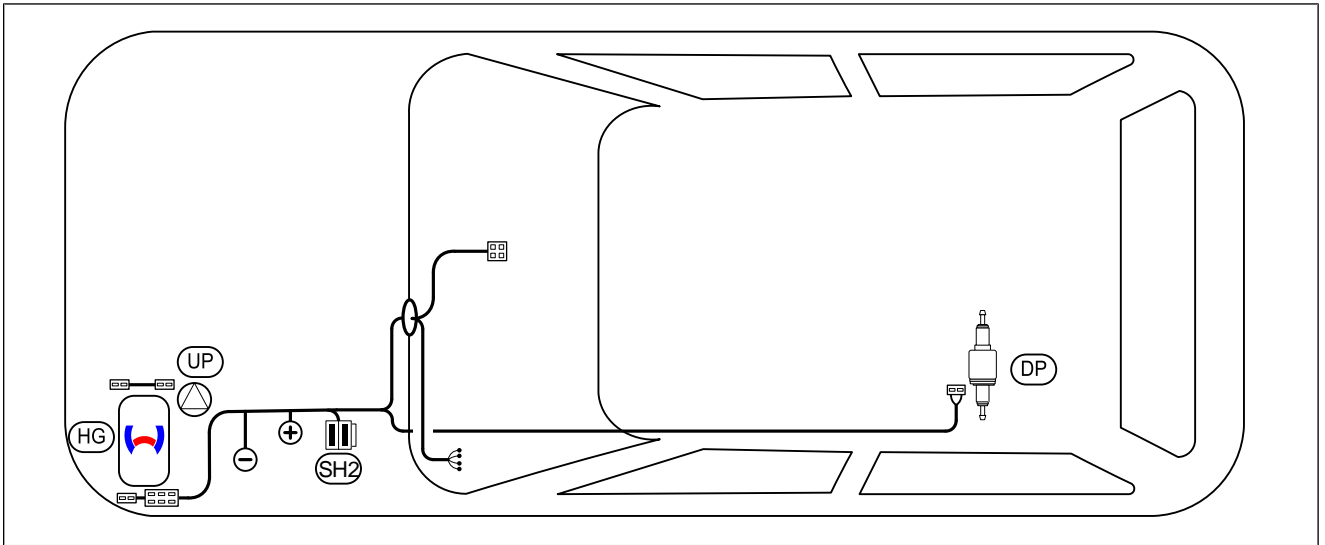
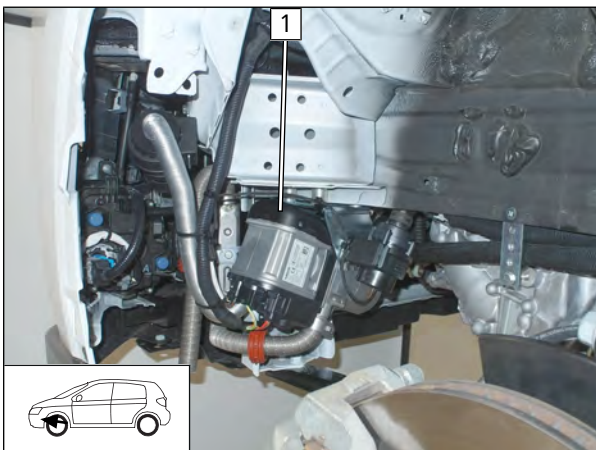


Fig. 1

Legend to installation overview

Abbreviation	Component
DP	Fuel pump
HG	Heater
SH2	Engine compartment fuse holder for F1/F2
UP	Coolant pump

Heater installation location



1 Heater

Fig. 2



7 Electrical system of engine compartment

Cutting corrugated tube to length

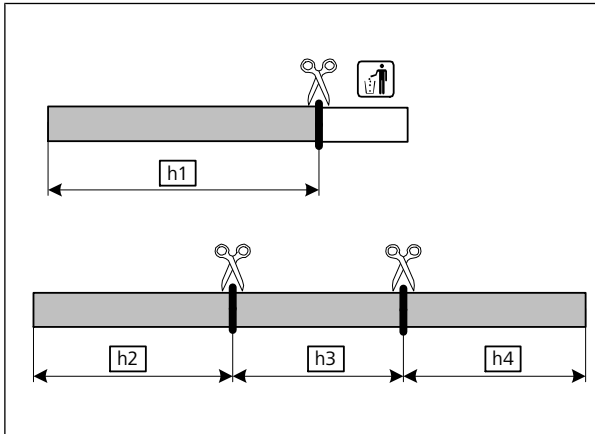


Fig. 3

- h1** 400, Ø17 unslit corrugated tube
- h2** 480, Ø13 slit corrugated tube
- h3** 400, Ø13 slit corrugated tube
- h4** 350, Ø13 slit corrugated tube

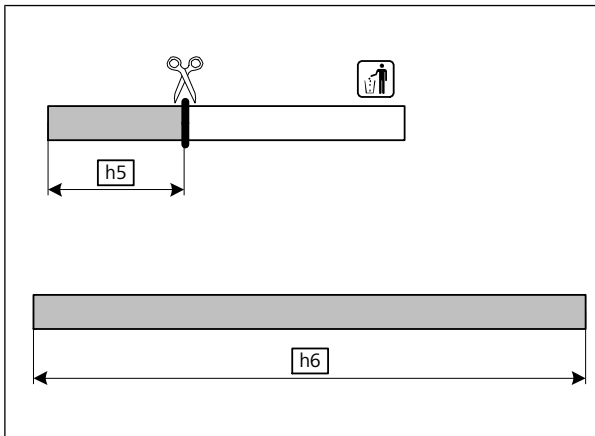


Fig. 4

- h5** 300, Ø10 unslit corrugated tube
- h6** 2100, Ø10 unslit corrugated tube

Dismantling fuel pump connector X7

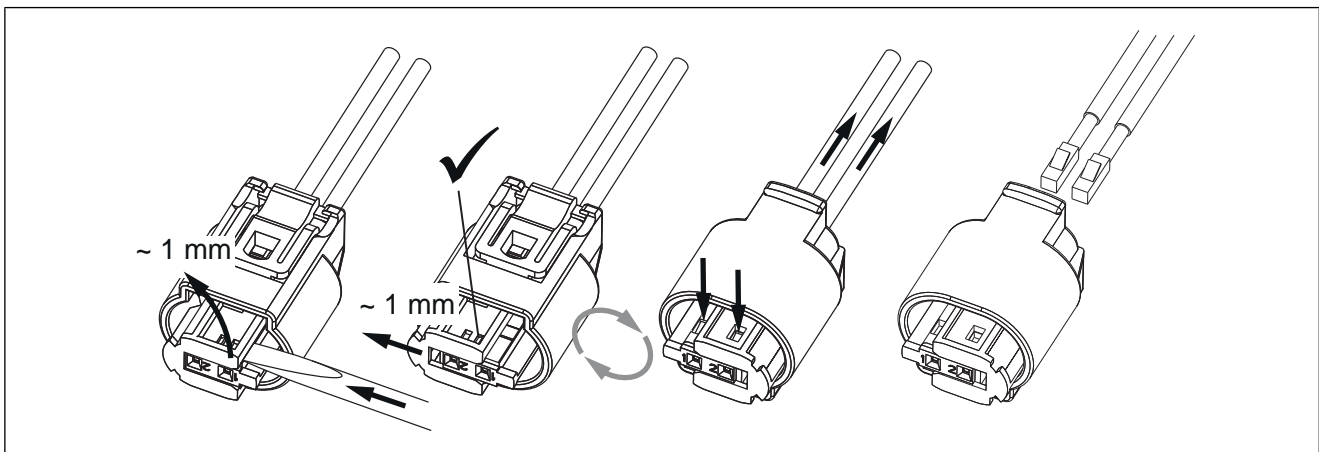


Fig. 5



Preparing wiring harness and fuel line

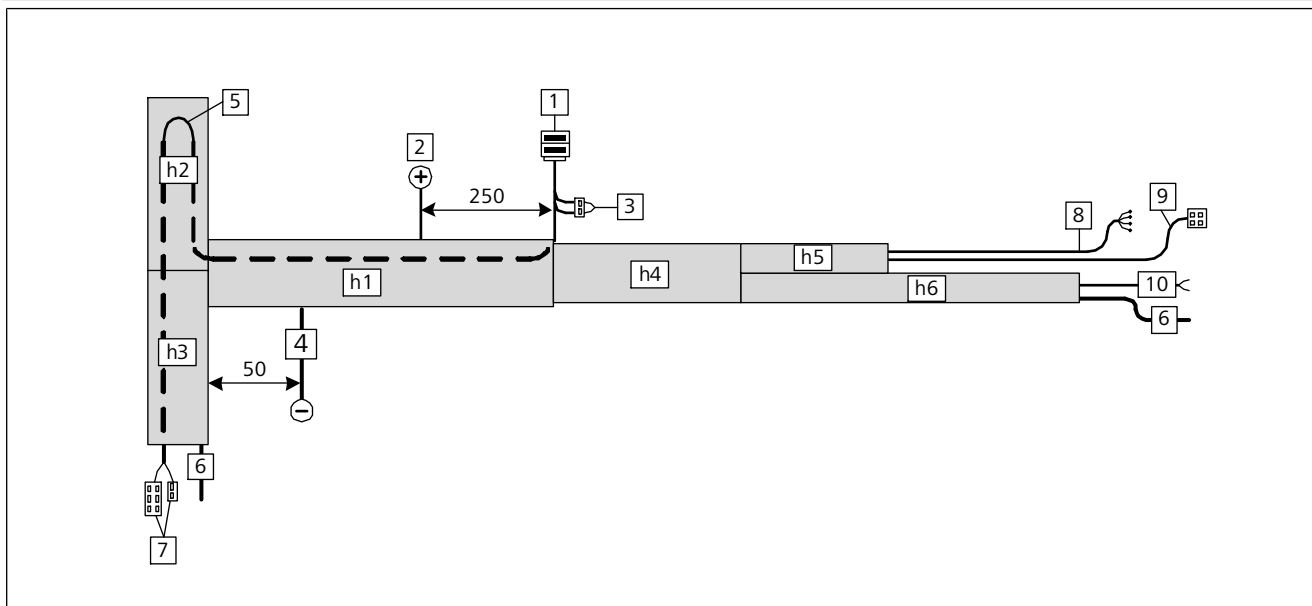


Fig. 6

- ▶ Slit open corrugated tube **h1** lengthwise before the installation.
- ▶ Wrap corrugated tubes, at the ends and joints and at regular intervals with insulating tape.

- 1** SH2
- 2** Positive wire
- 3** Diagnostic connector
- 4** Earth wire
- 5** Excess heater wiring harness
- 6** Fuel line
- 7** Heater wiring harness connector
- 8** Passenger compartment wiring harness
- 9** Control element wiring harness
- 10** Fuel pump wiring harness

Shortening perforated bracket

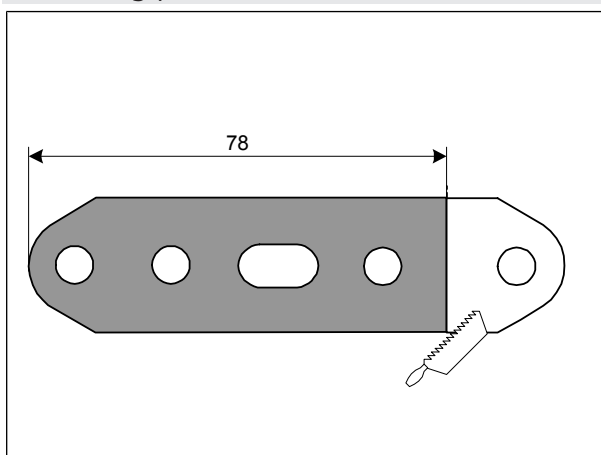


Fig. 7



Premounting retaining plate of SH2

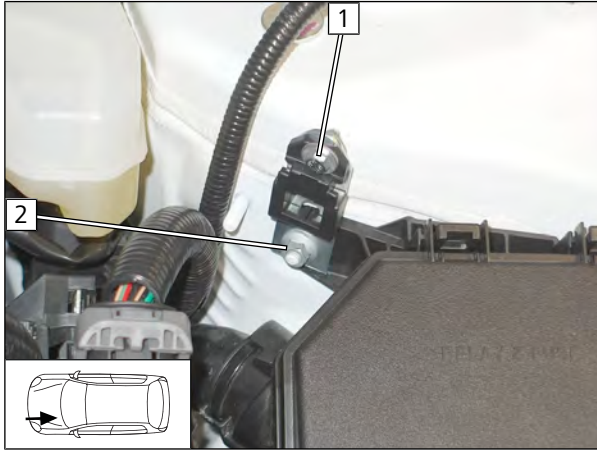


Fig. 8

- 1 M5x16 bolt, large diameter washer, SH2 retaining plate, large diameter washer, nut
- 2 Original vehicle stud bolt, perforated bracket, original vehicle nut

Installing SH2

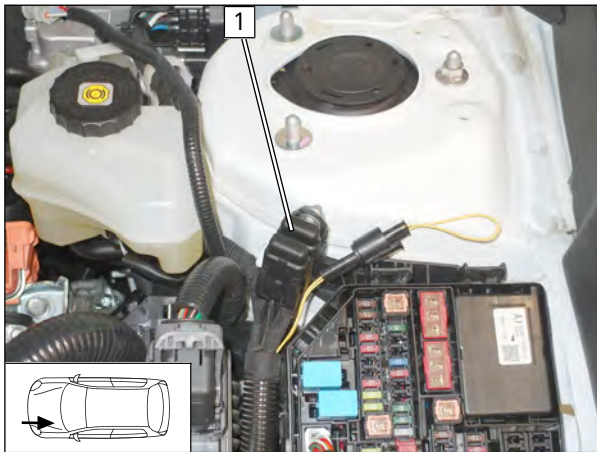


Fig. 9

- 1 SH2 with fuse F1 and F2

Routing corrugated tubes

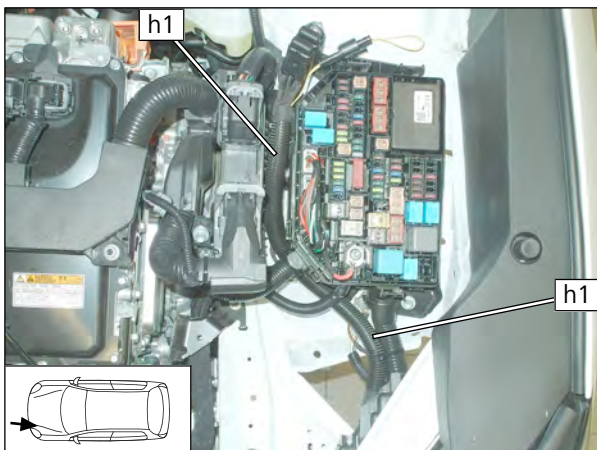


Fig. 10

- Route corrugated tube **h1** along original vehicle lines to the heater installation location and fasten with cable ties.

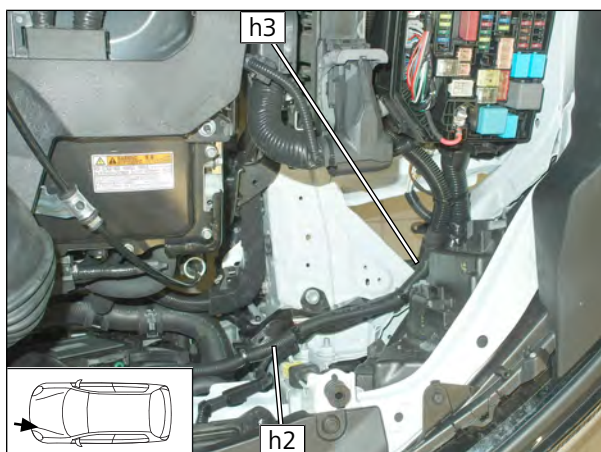


Fig. 11

- ▶ Route corrugated tube **h3** to heater installation location and route corrugated tube **h2** along original vehicle lines as shown and fasten with cable ties.

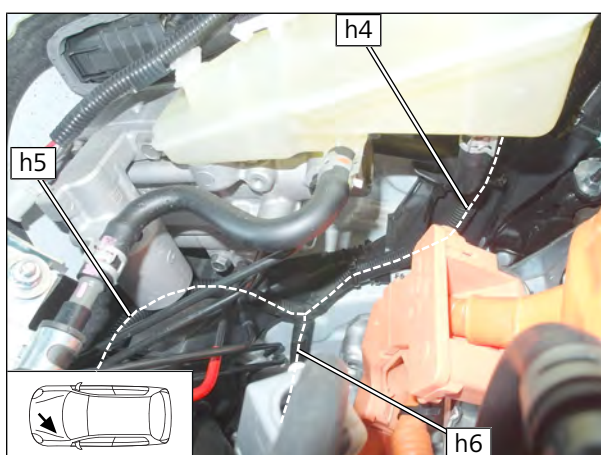


Fig. 12

- ▶ Route corrugated tube **h4** to firewall, corrugated tube **h5** to passenger compartment pass through and corrugated tube **h6** to underbody and attach with cable ties to original vehicle lines.

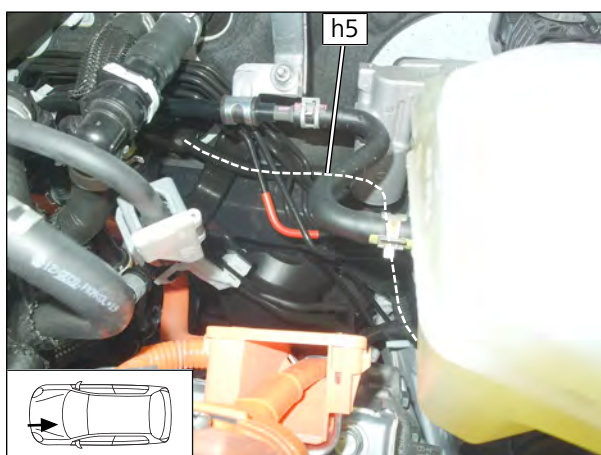


Fig. 13

- ▶ Route corrugated tube **h5** to passenger compartment pass through and attach with cable ties to original vehicle lines.



Passenger compartment wiring harness pass through

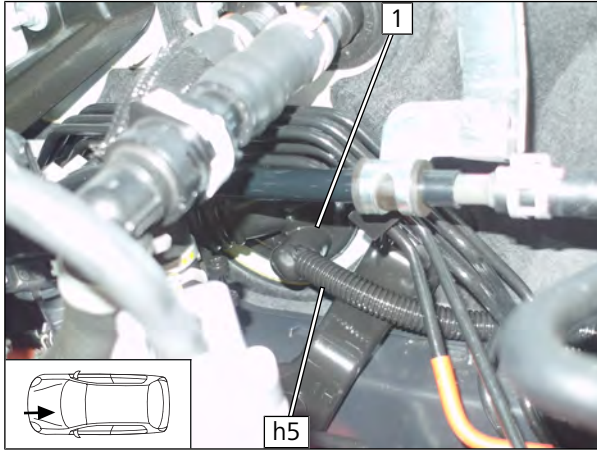


Fig. 14

- 1 Passenger compartment wiring harness pass through

Connecting positive and earth wire

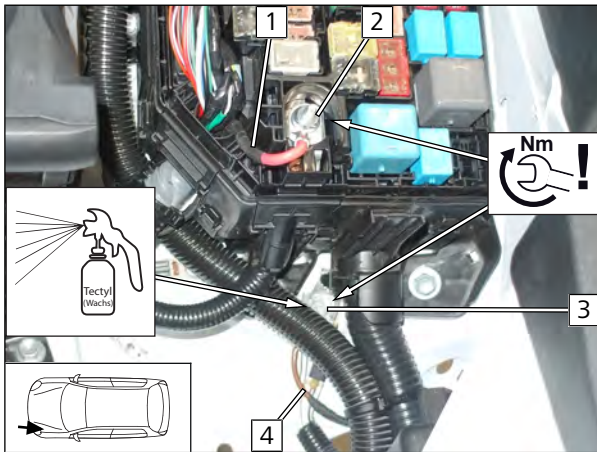


Fig. 15



DANGER

Observe tightening torque



The Fig. shows already the installation situation. The connection to the battery is carried out according to the 'Final work' chapter.

- 1 Positive wire of original vehicle positive terminal
- 2 Original vehicle positive support point
- 3 Earth support point
- 4 Earth wire



8 Mechanical system

8.1 Preliminary Work

Drilling hole/shortening bracket

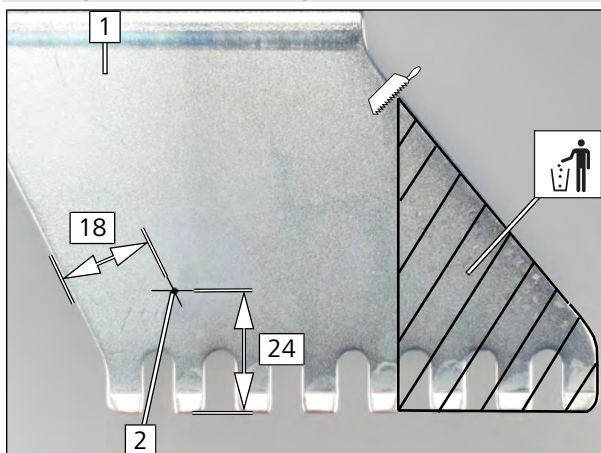


Fig. 16

- 1 Heater bracket
- 2 Copy hole pattern, $\varnothing 6$ hole

Shortening bracket

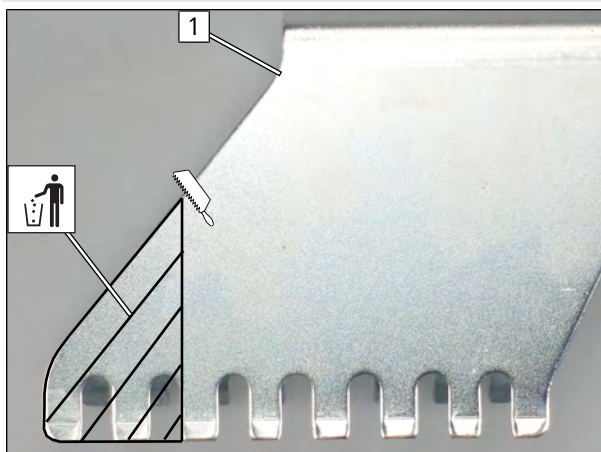


Fig. 17

- 1 Heater bracket

Preparing perforated bracket of exhaust silencer

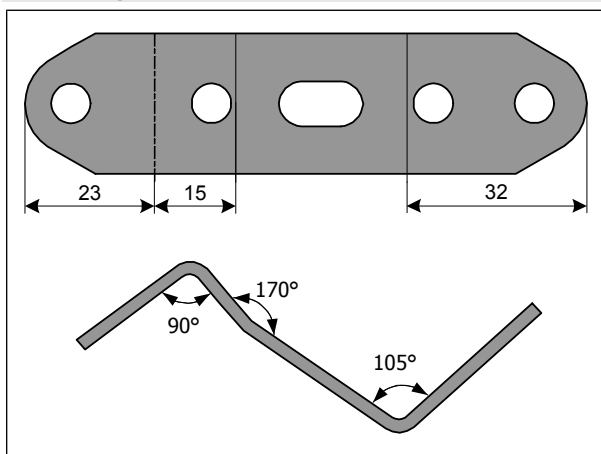


Fig. 18



Premounting exhaust silencer

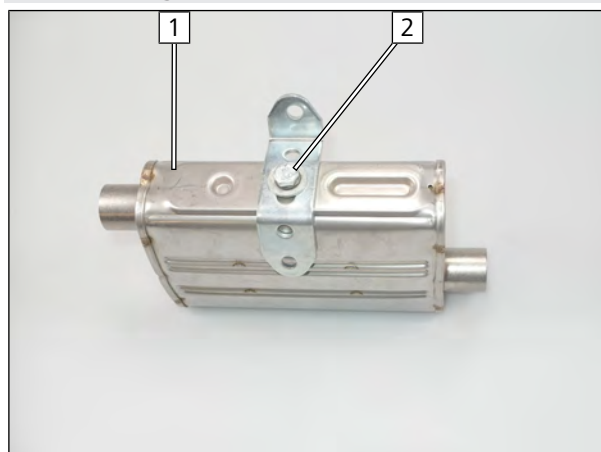


Fig. 19

- 1 Exhaust silencer
- 2 M6x16 bolt, spring lock washer, large diameter washer, perforated bracket, exhaust silencer

8.2 Preparing installation location

Routing original vehicle wiring harness

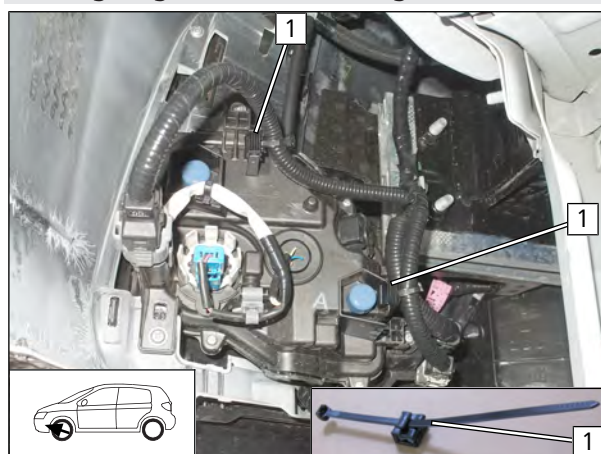


Fig. 20

- Fasten original vehicle wiring harness with edge clip cable tie **1** as shown.

Inserting rivet nut

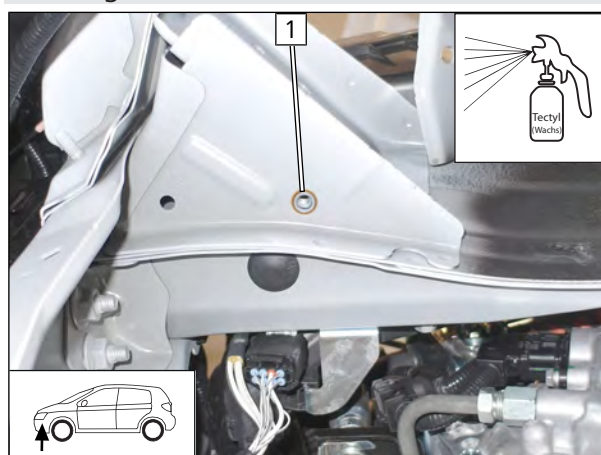
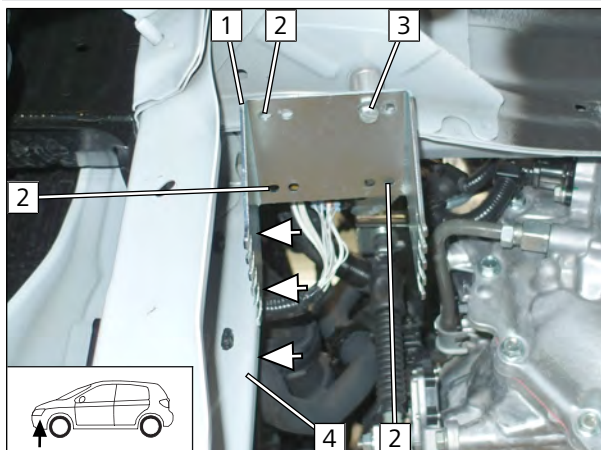


Fig. 21

- 1 Enlarge original vehicle hole to $\varnothing 9$, rivet nut



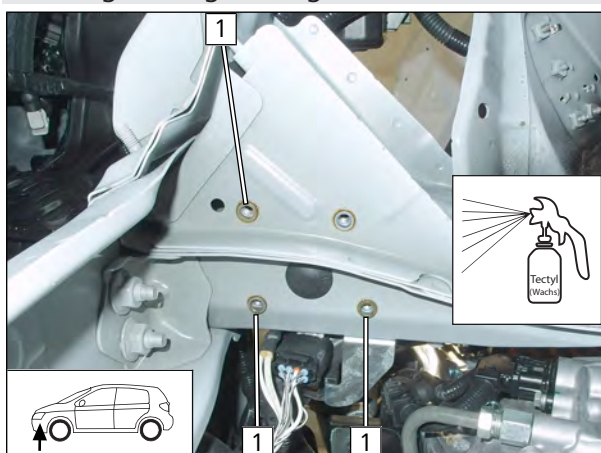
Copying hole pattern of bracket



► Align bracket **1** parallel with original vehicle cross member **4**.

- 2** Hole pattern
- 3** M6x50 bolt, bracket, spacer (20), spacer (5), large diameter washer, rivet nut

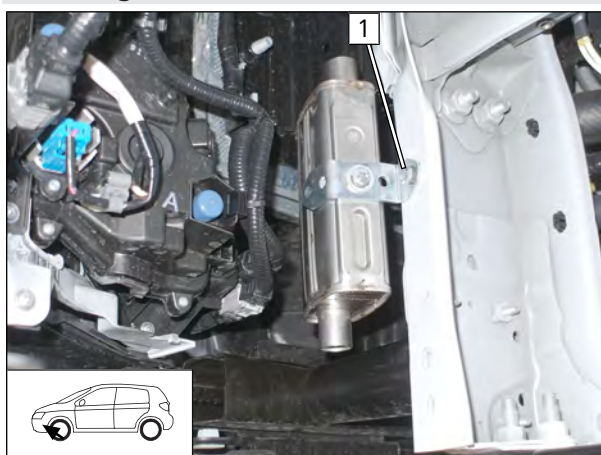
Inserting and tightening rivet nuts



- 1** Ø9 hole, rivet nut

Fig. 22

Mounting exhaust silencer



- 1** M6x20 bolt, premounted perforated bracket, original vehicle hole, flanged nut, mount loosely

Fig. 23



Aligning exhaust silencer

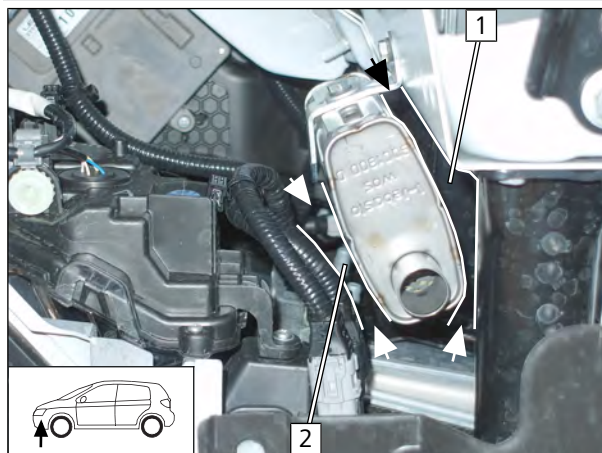


Fig. 24



Danger of damage to components

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



Tighten loose screw connections.



Mounting bracket

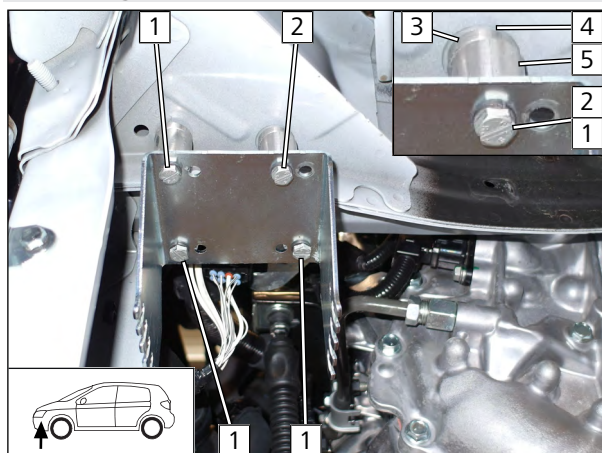


Fig. 25

- Insert a spacer (20) [5] and a spacer (5) [3] between bracket and vehicle at each position [1] and [2].

- Insert also at position [2] a large diameter washer [4].

[1] M6x50 bolt, spring lock washer, bracket, spacer (20), spacer (5), rivet nut

[2] M6x50 bolt, spring lock washer, bracket, spacer (20), spacer (5), large diameter washer, rivet nut

8.3 Premounting heater

Mounting water connection piece

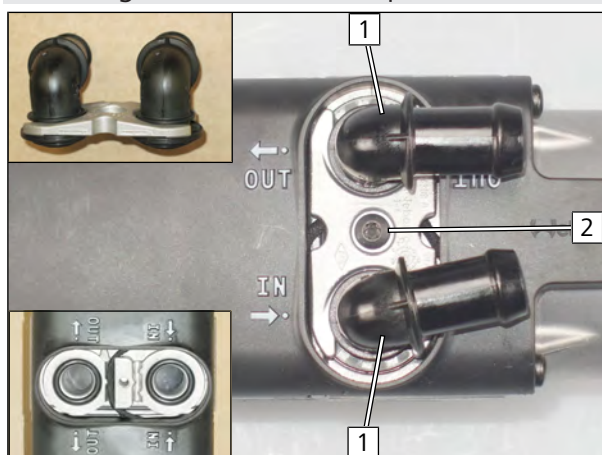


Fig. 26



Observe the general installation instructions of the heater.

[1] Water connection piece, seal

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



Premounting bolts

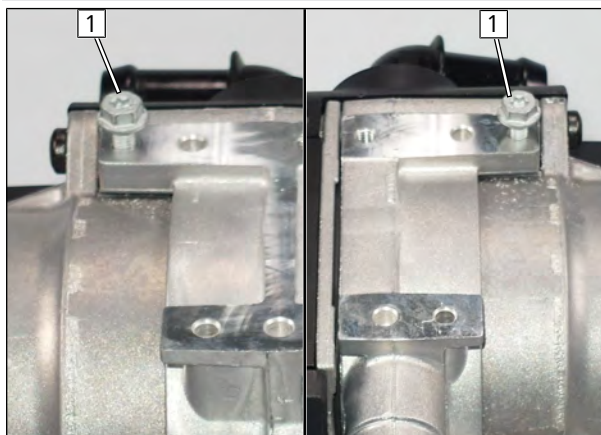


Fig. 27

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

Mounting moulded hose

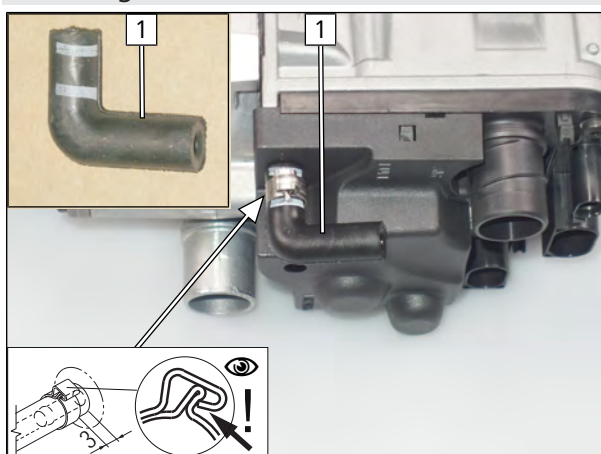


Fig. 28

1 90° moulded hose, Ø10 clamp

Preparing hoses

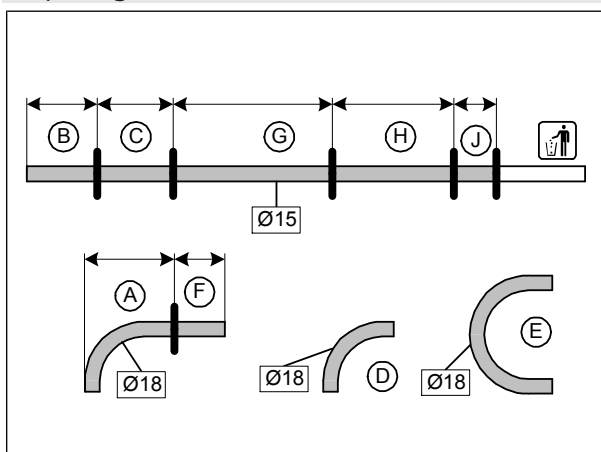


Fig. 29

(A)	90°, 70 moulded hose
(B)	300
(C)	460
(D)	90° moulded hose
(E)	180° moulded hose
(F)	65
(G)	670
(H)	420
(J)	80



Mounting hoses **E** and **F**

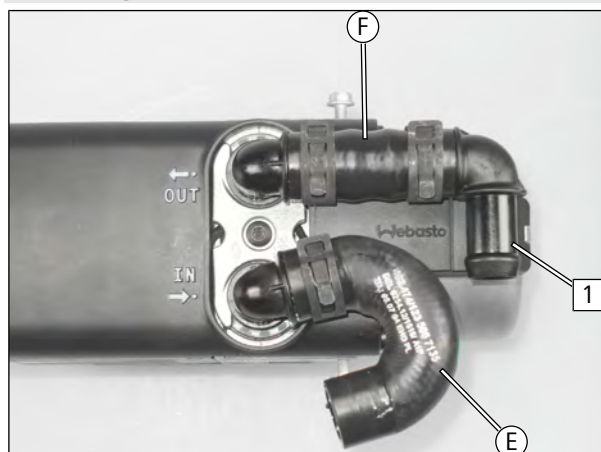


Fig. 30

All spring clips Ø25

- 1 90°, 18x18 connecting pipe

8.4 Heater mounting

Mounting heater

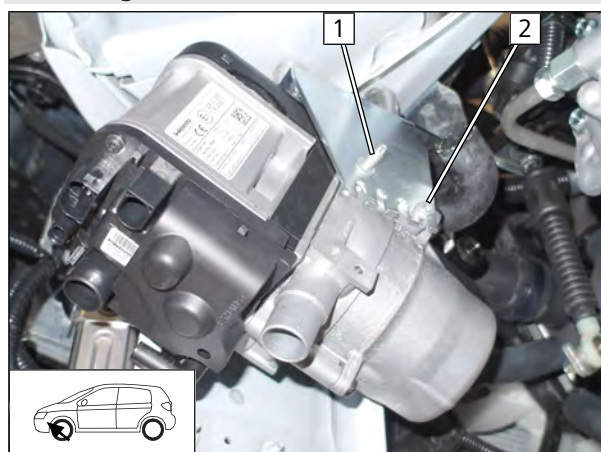


Fig. 31

- 1 M5/M6x15 self-tapping stud bolt, drilled hole in bracket, heater
- 2 Tighten 5x13 self-tapping bolt

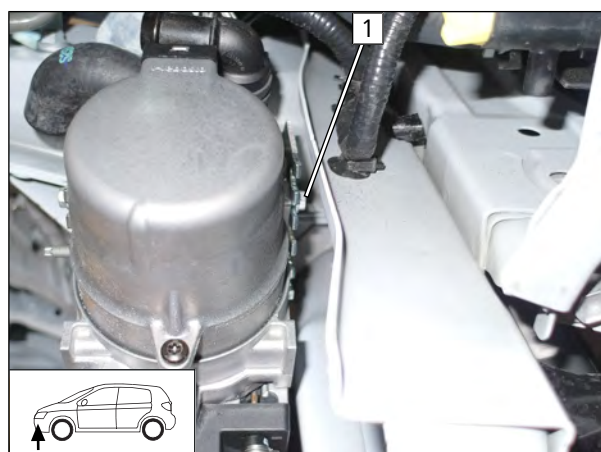
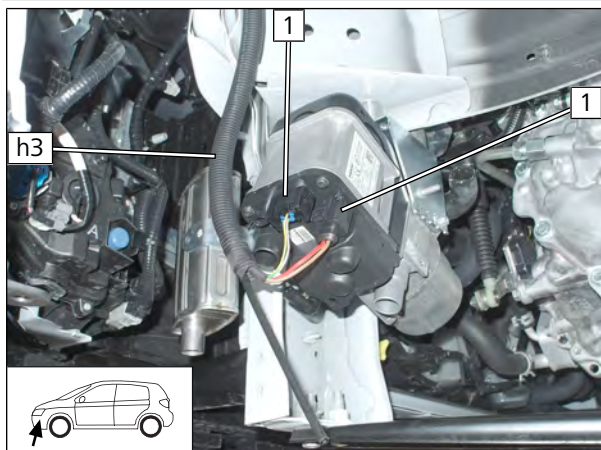


Fig. 32

- 1 Tighten 5x13 self-tapping bolt



Installing wiring harness



- 1 Heater wiring harness connector

Fig. 33



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.

9.1 Routing fuel line

Connecting heater

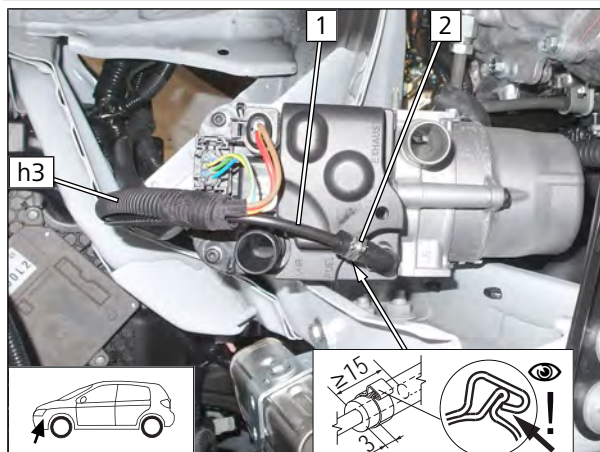


Fig. 34

- 1 Fuel line
- 2 Ø10 clamp

Routing fuel line

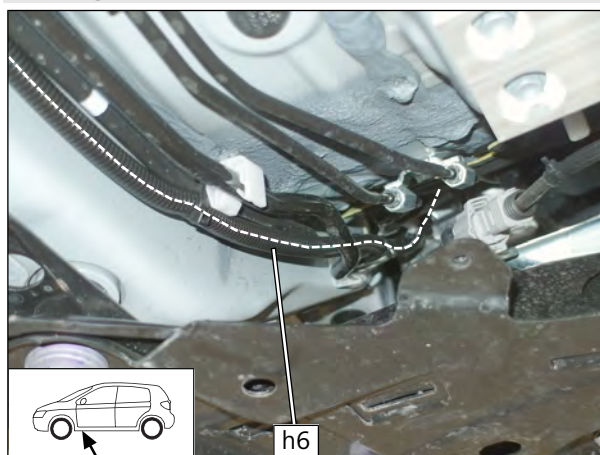
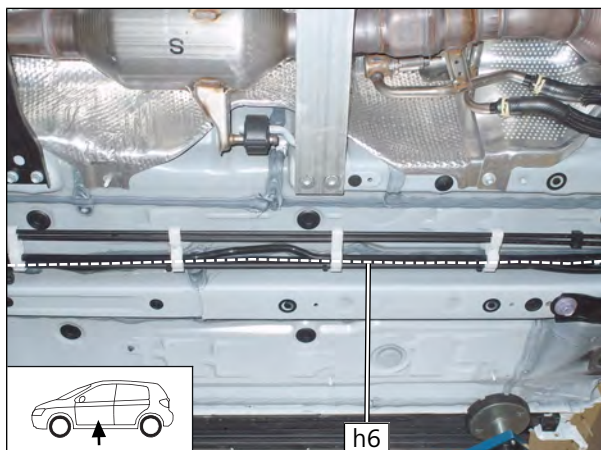


Fig. 35

- ▶ Route corrugated tube **h6** with fuel line and fuel pump wiring harness along original vehicle lines on underbody and fasten using cable ties.



► Route corrugated tube **h6** with fuel line and fuel pump wiring harness along original vehicle lines to the installation location of the fuel pump and fasten with cable ties.

Fig. 36

Preparing fuel pump perforated bracket

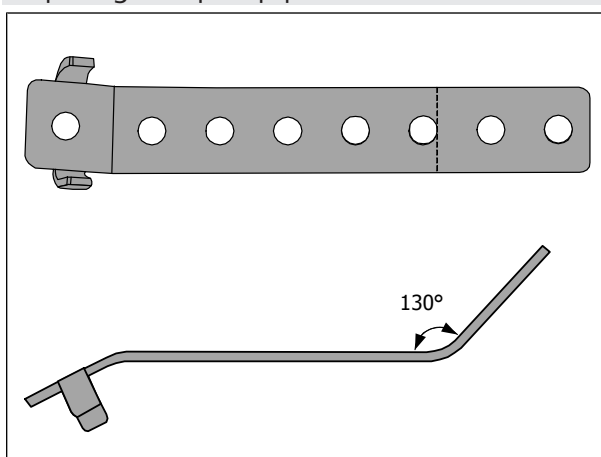
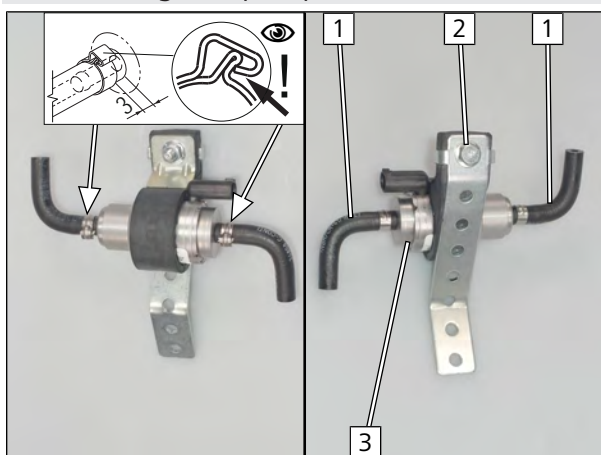


Fig. 37

Premounting fuel pump



- 1 90° moulded hose, Ø10 clamp
- 2 M6x25 bolt, prepared perforated bracket, fuel pump mount, support angle bracket, flanged nut
- 3 Fuel pump

Fig. 38



Preparing fuel pump installation location

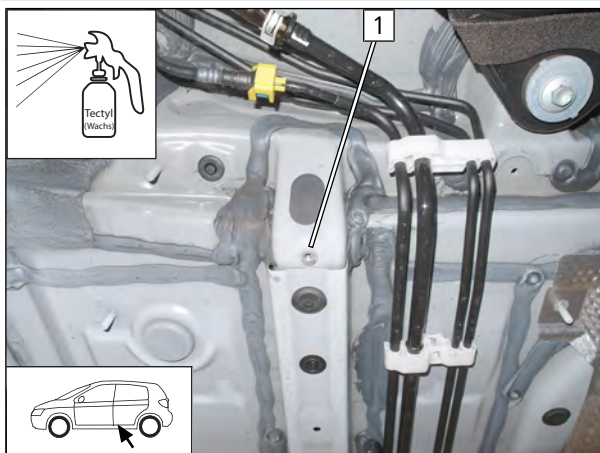


Fig. 39

- 1 Enlarge existing hole to $\varnothing 9$, insert a rivet nut

Mounting fuel pump

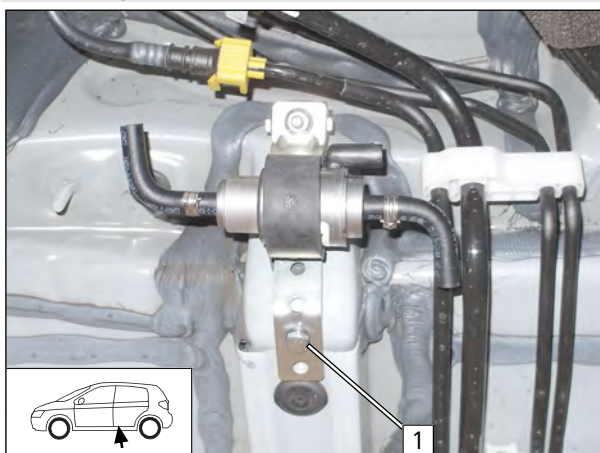


Fig. 40

- 1 M6x20 bolt, spring lock washer, premounted fuel pump, rivet nut

Assembling fuel pump connector X7

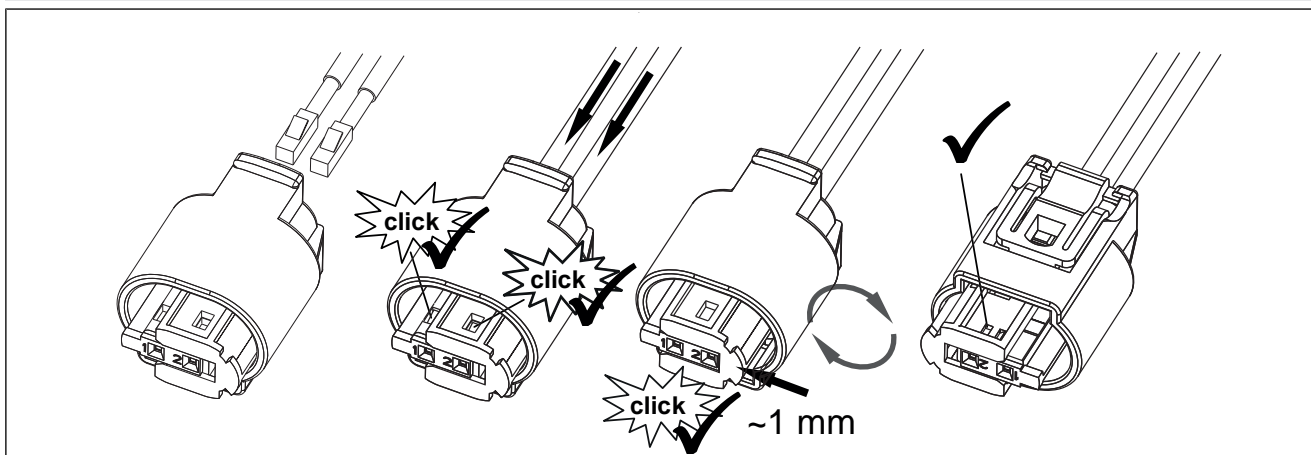


Fig. 41



Fuel pump connection

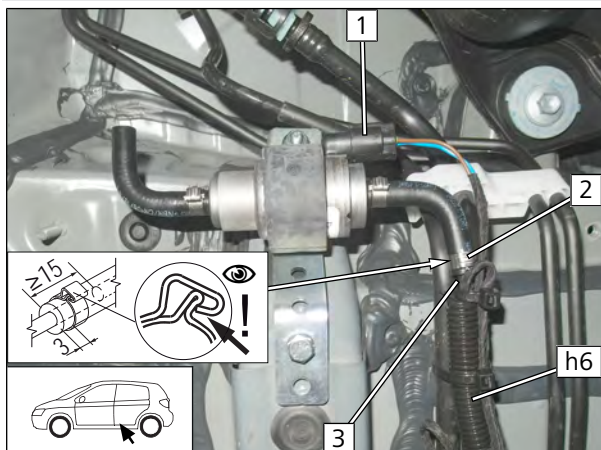


Fig. 42

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

9.2 Installing fuel extractor

Preparing spacer sleeve

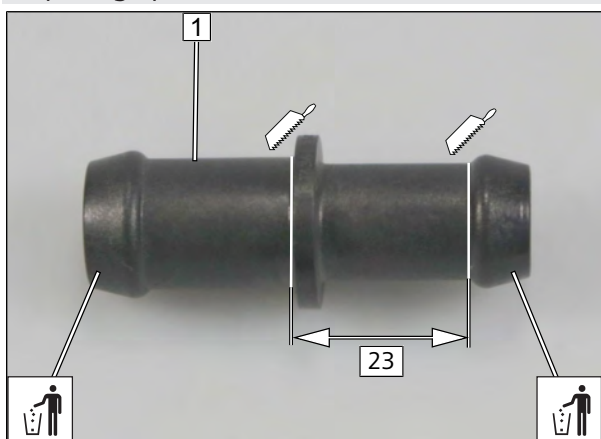


Fig. 43

- Cut 18x16 connecting pipe 1 as shown.

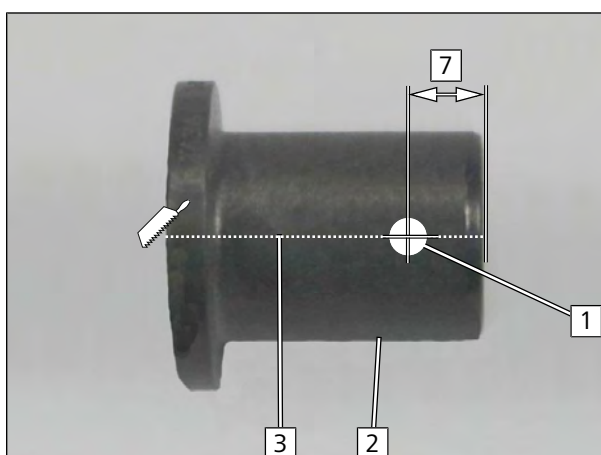


Fig. 44

- Drill Ø5 hole 1 and cut spacer sleeve 2 in half at the cutting line 3.



View of spacer sleeve

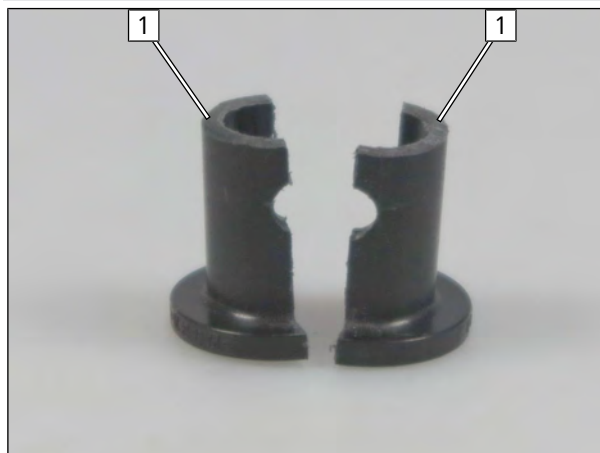


Fig. 45

1 Spacer sleeve

Preparing fuel extractor

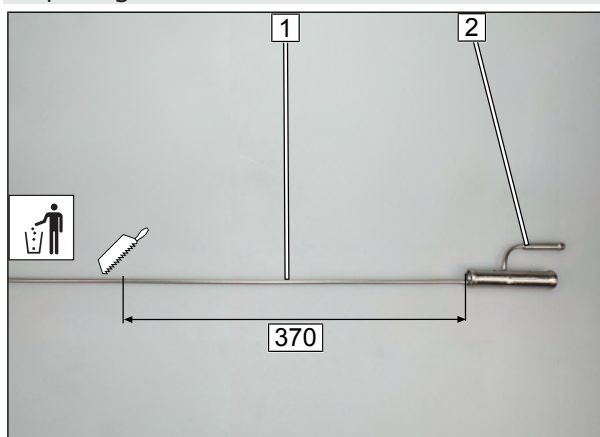


Fig. 46

► Cut fuel extractor 1 to length and bend extraction pipe 2 as shown.

Mounting fuel extractor threading aid

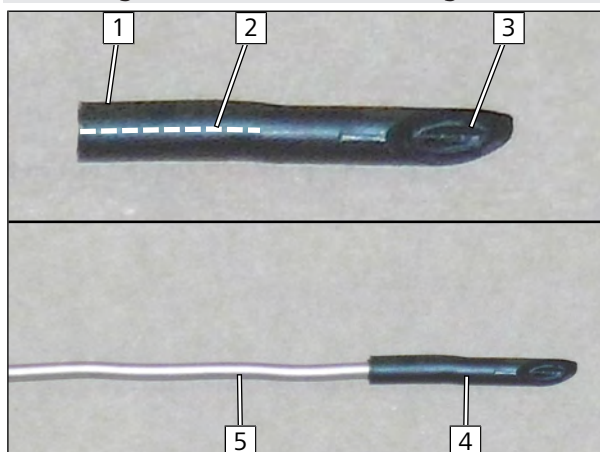


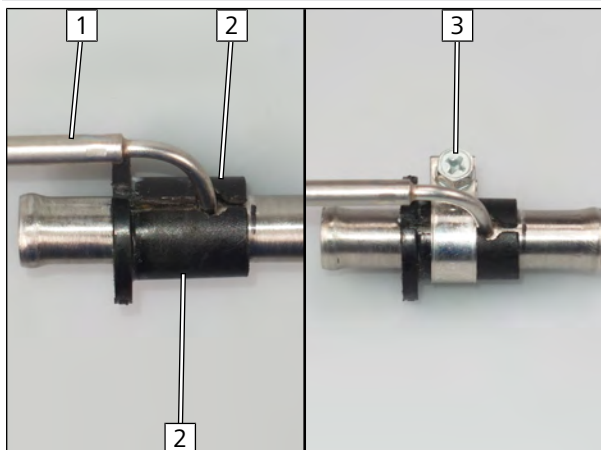
Fig. 47



Enlarge 100 long fuel line 1 at position 2 to $\text{Ø}3$ for approx. 30mm and bevel it at position 3.
Mount fuel extractor 5 and fuel line 4 as shown.



Mounting spacer sleeve



- 1 Fuel extractor
- 2 Spacer sleeve
- 3 Ø15 clamp

Fig. 48

Mounting fuel extractor

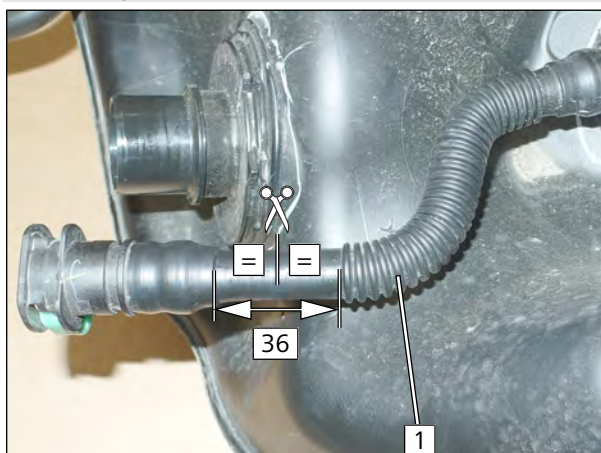


Fig. 49

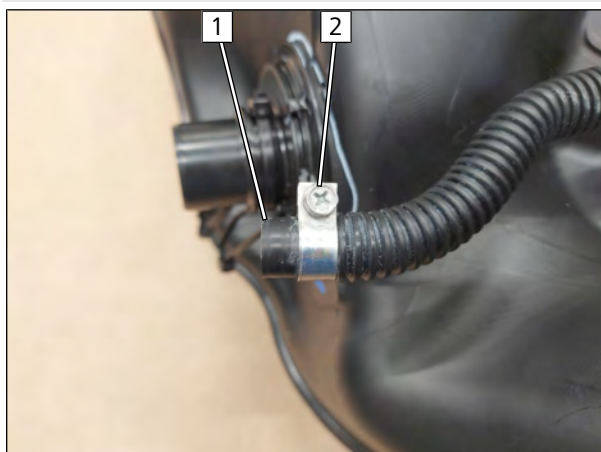


DANGER

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

- Cut fuel tank vent line 1 as shown.

Positioning clamp



- 1 Fuel tank ventilation line
- 2 Ø15 clamp

Fig. 50



Mounting fuel extractor

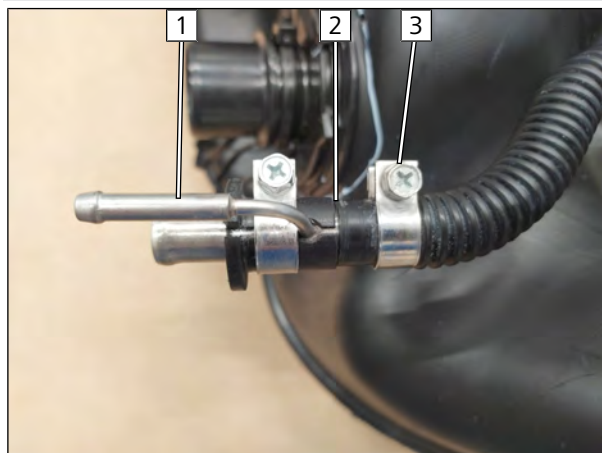


Fig. 51



- ▶ Heat up exterior of tank ventilation hose at position **2** with hot water to approx. 50°C, before the installation of fuel extractor **1**.
- ▶ Do **not** introduce water in line and tank.
- ▶ Do **not** use an electric heat source or flame!



- ▶ Fit prepared fuel extractor **1** carefully in the fuel tank vent line as far as possible up to the spacer bracket at position **2**.

3 Ø15 clamp

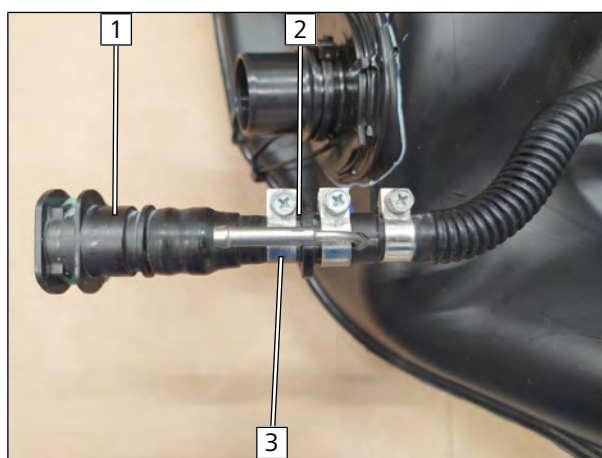


Fig. 52



- ▶ Heat up exterior of tank ventilation hose at position **2** with hot water to approx. 50°C, before the installation of fuel extractor.
- ▶ Do **not** introduce water in line and tank.
- ▶ Do **not** use an electric heat source or flame!



- ▶ Slide coupling piece with rest of fuel tank vent line **1** carefully onto prepared fuel extractor as far as possible up to the spacer bracket at position **2**.

3 Ø15 clamp

Tightening clamps

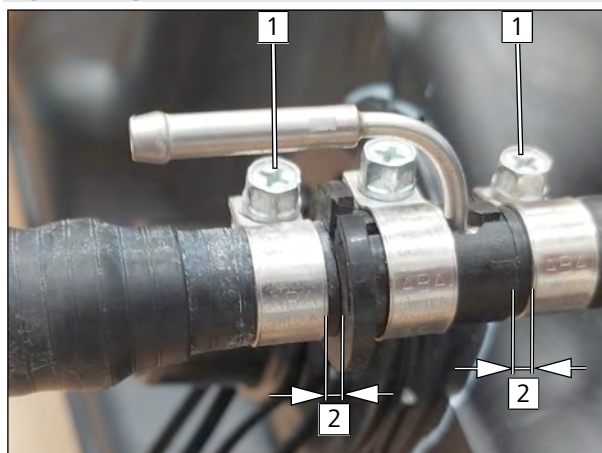


Fig. 53



- ▶ Position clamps **1** at a distance from the space sleeve as shown before tightening them.



Connecting fuel extractor

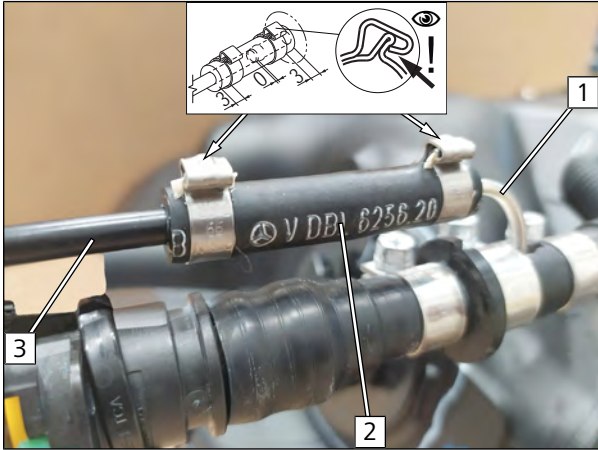


Fig. 54

- 1 Fuel extractor
- 2 Hose section, Ø10 clamp [2x]
- 3 Fuel line

Aligning fuel extractor

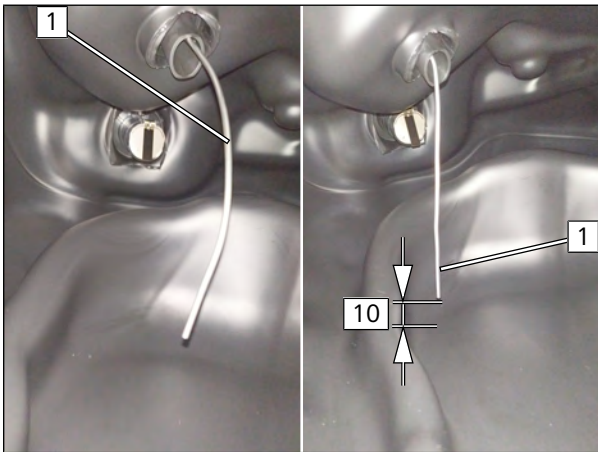


Fig. 55



Remove the threading aid.

- ▶ Align fuel extractor 1 10mm above the tank bottom as shown.



Mount tank fitting and tank in accordance with manufacturer's instructions.

9.3 Fuel pump connection

Routing fuel line

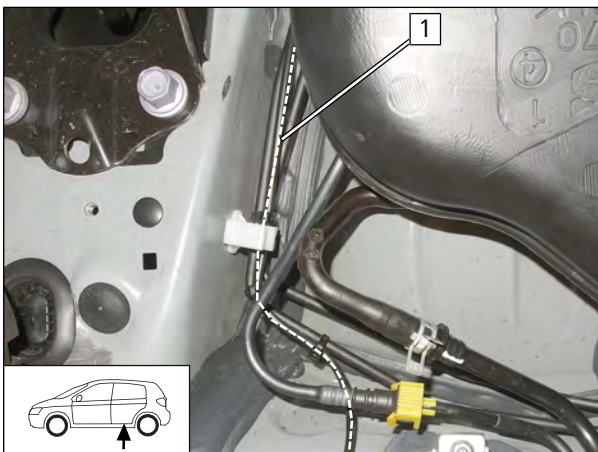
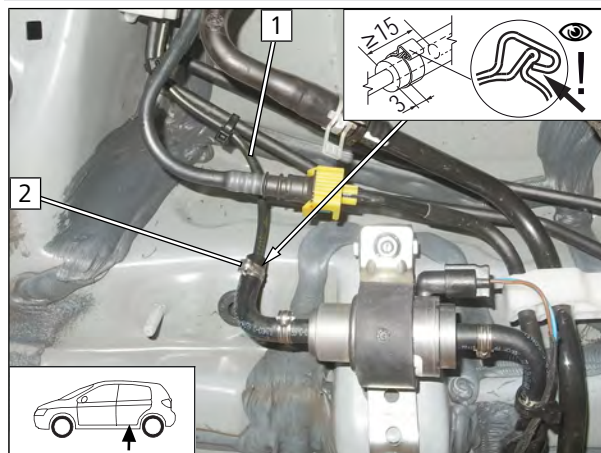


Fig. 56

- ▶ Route fuel extractor fuel line 1 to fuel pump along original vehicle lines and fasten with cable ties.



Connecting fuel extractor fuel line



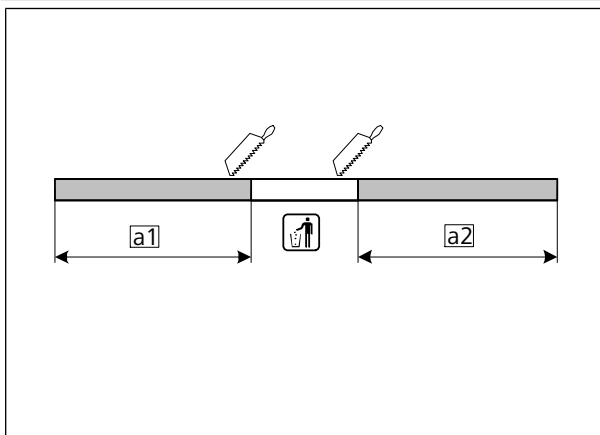
- 1 Fuel line of fuel extractor
- 2 Ø10 clamp

Fig. 57



10 Exhaust part 1

Cutting exhaust pipe to length

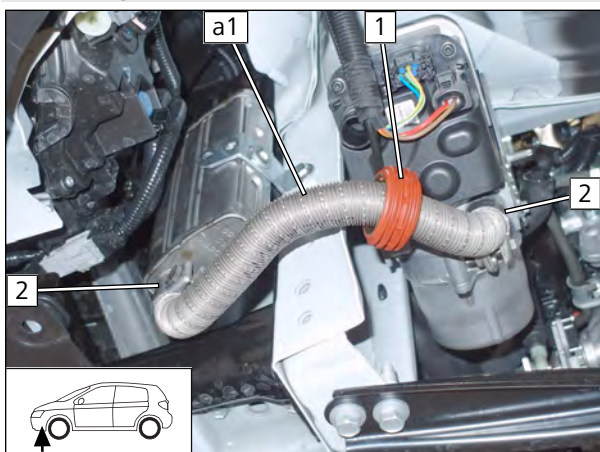


a1 340

a2 340

Fig. 58

Mounting exhaust pipe **a1**

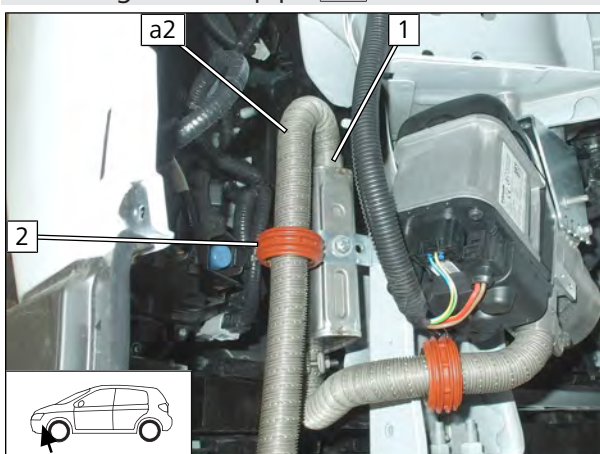


1 ASH

2 Hose clamp

Fig. 59

Mounting exhaust pipe **a2**



1 Hose clamp

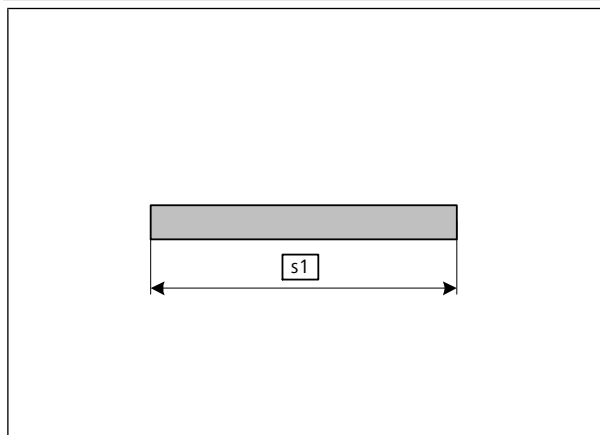
2 ASH

Fig. 60



11 Combustion air

Assigning combustion air intake line



s1 400

Fig. 61

Preparing perforated bracket

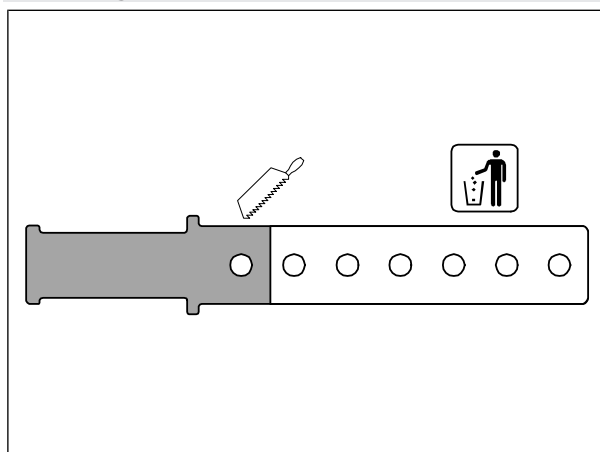


Fig. 62

Premounting combustion air intake silencer

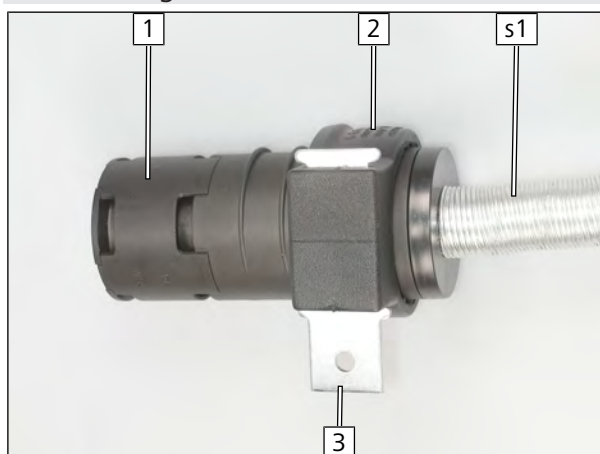


Fig. 63



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 pipe **s1**

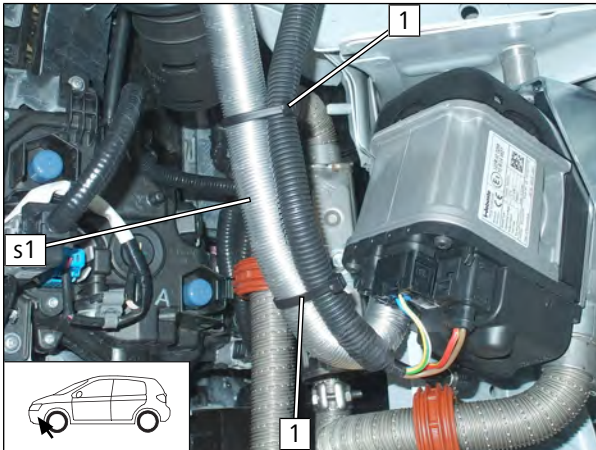


Fig. 64

- 1** Cable tie

Mounting combustion air intake silencer

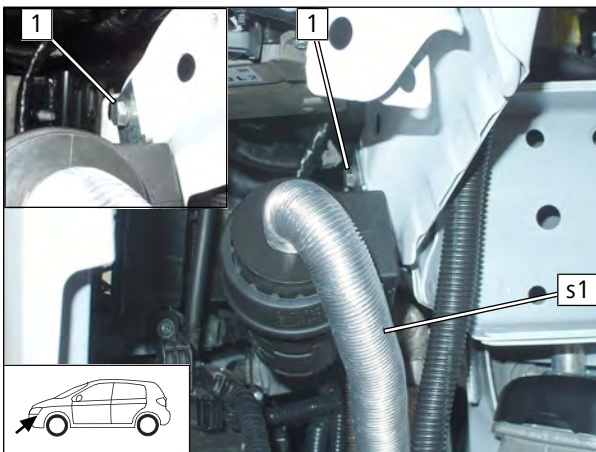


Fig. 65

- 1** M6x20 bolt, spring lock washer, premounted combustion air intake silencer, original vehicle thread



12 Coolant

12.1 Preliminary Work

Mounting fabric heat shrink tubing

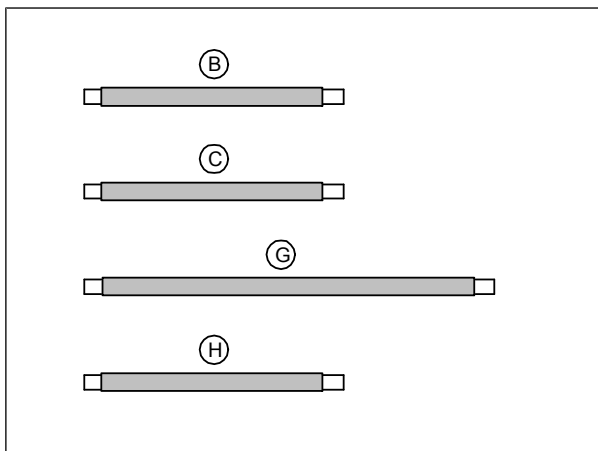


Fig. 66



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

Premounting coolant pump

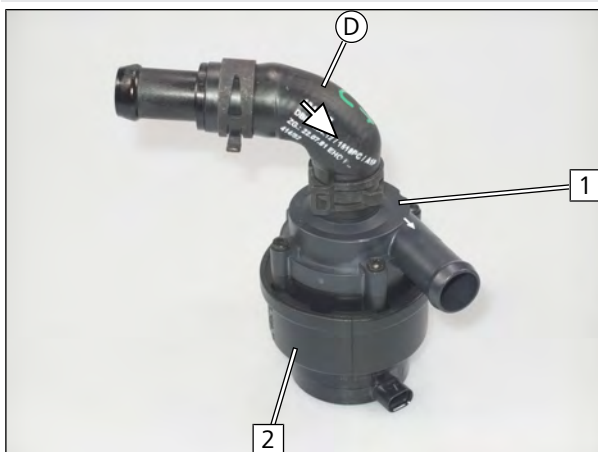


Fig. 67



All spring clips Ø25

- 1 Coolant pump
- 2 Coolant pump mount

Preparing perforated bracket

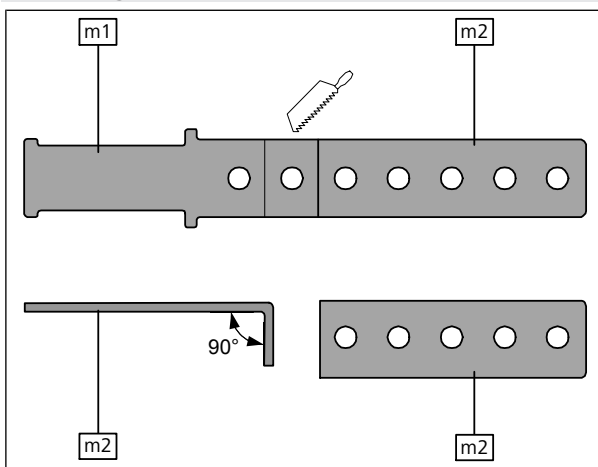


Fig. 68

- m1 Perforated bracket for coolant pump, bent
- m2 Perforated bracket for hose routing



Mounting perforated bracket **m1**

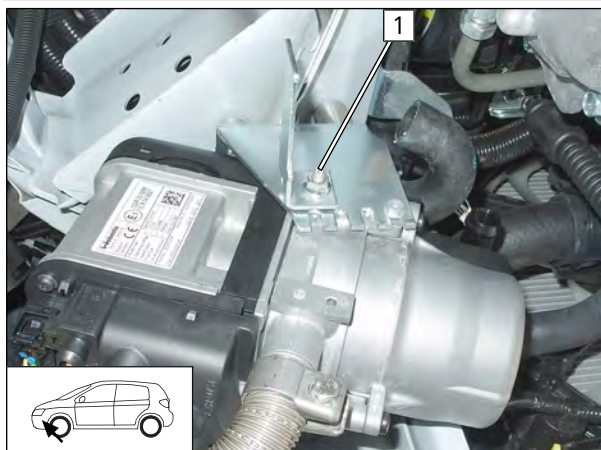


Fig. 69

- 1 M5/M6x15 self-tapping stud bolt, perforated bracket **m1**, flanged nut

Mounting coolant pump

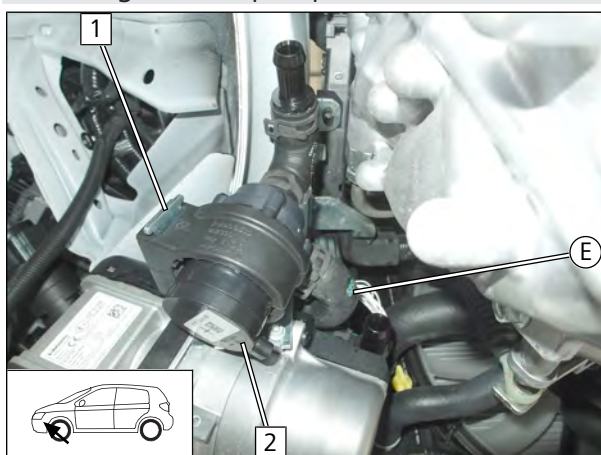



Fig. 70

 All spring clips Ø25

► Mount coolant pump **2** and hose **E** at the same time.

- 1 Perforated bracket **m1**

Mounting coolant pump wiring harness

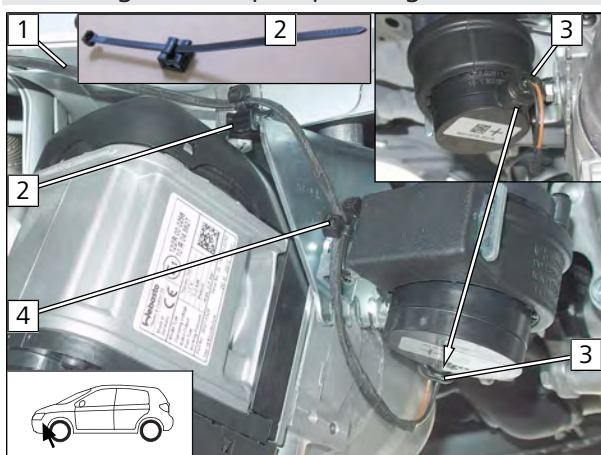
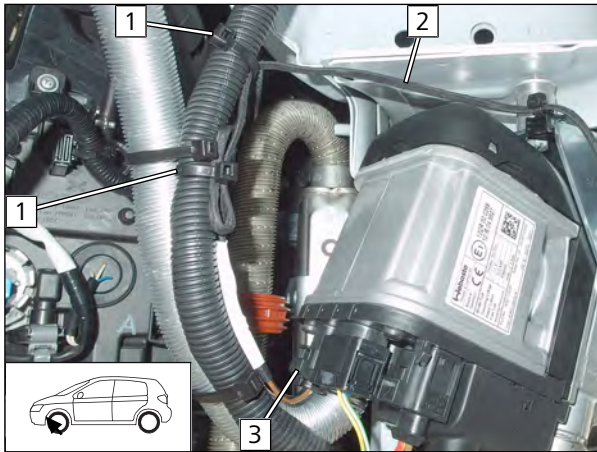


Fig. 71

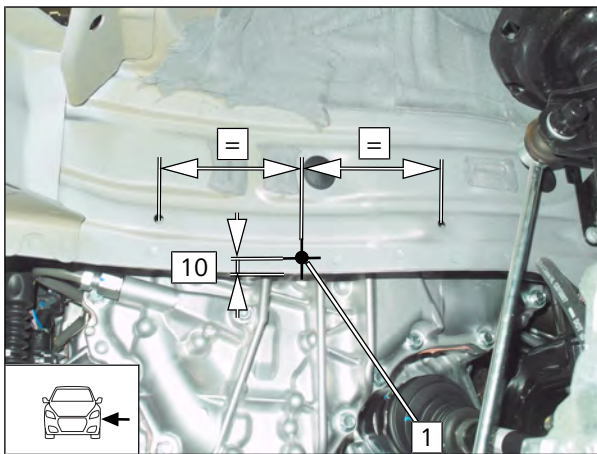
- 1 Coolant pump wiring harness
- 2 Edge clip cable tie
- 3 Coolant pump wiring harness connector
- 4 Cable tie



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

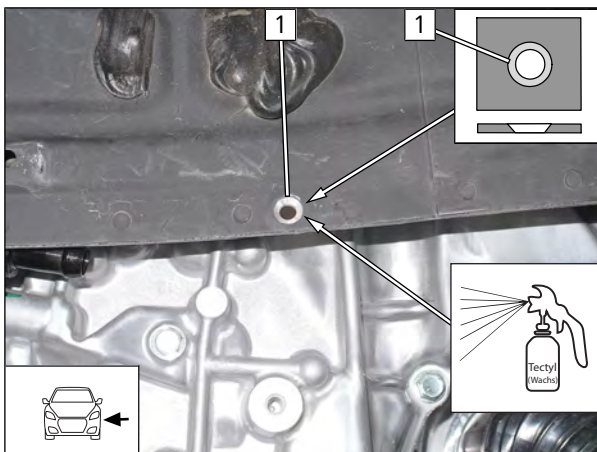
Fig. 72

Drilling hole



- 1 Ø7 hole

Fig. 73

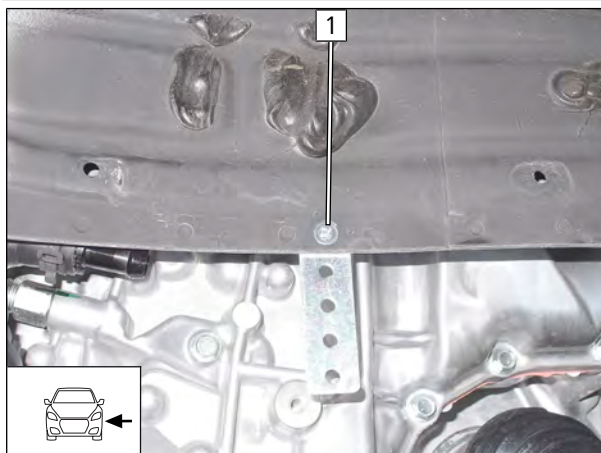


► Drill counterbore 1 as shown.

Fig. 74



Installing perforated bracket



- 1 M6x25 countersunk head screw, drilled hole, perforated bracket **m2**, flanged nut

Fig. 75



12.2 Hose routing diagram

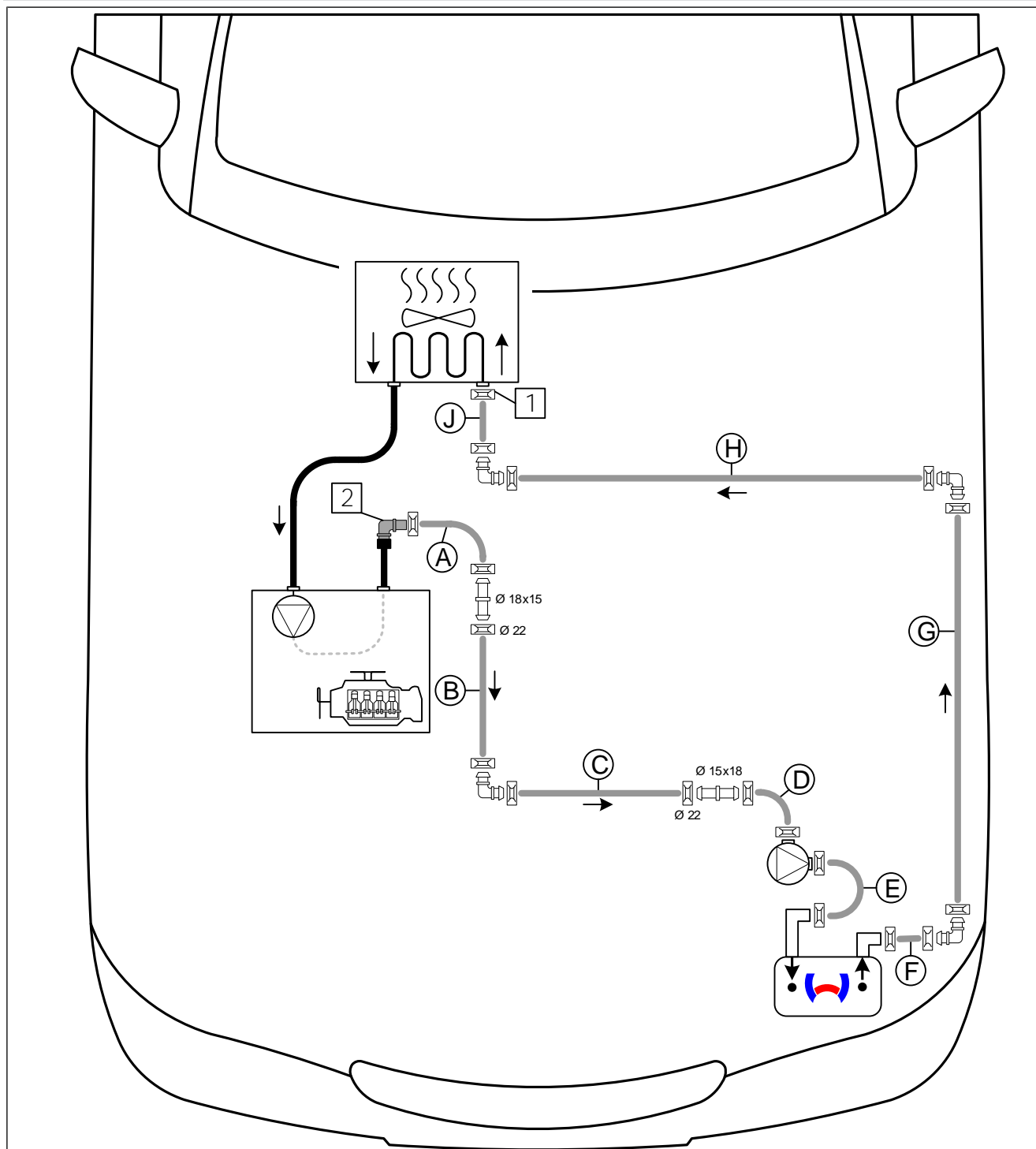


Fig. 76

All spring clips without a specific designation  = Ø25;

All connecting pipes without a specific designation  = Ø18x18/90°

1 Original vehicle spring clip, **2** Original vehicle 90° coupling piece



12.3 Coolant circuit installation

Cutting point

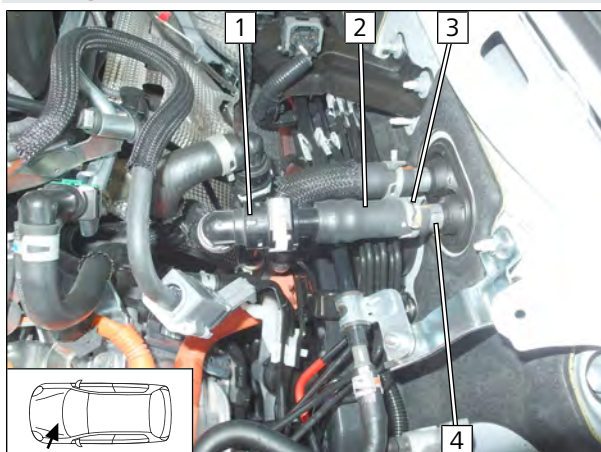


Fig. 77

- ▶ Disconnect engine outlet / heat exchanger inlet hose **2**.
- ▶ Original vehicle spring clip **3** will be needed later.
 - 1** Original vehicle 90° coupling piece
 - 4** Heat exchanger inlet connection piece

Preparing hose section of engine outlet

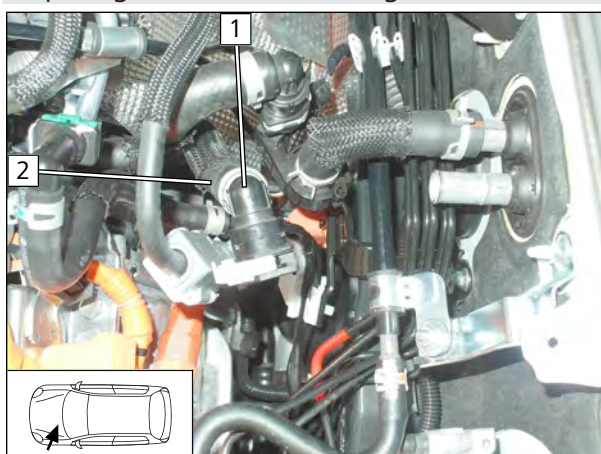


Fig. 78

- ▶ Turn half of 90° original vehicle coupling **1** as shown.
 - 2** Engine outlet hose section

Removing heat exchanger inlet hose section

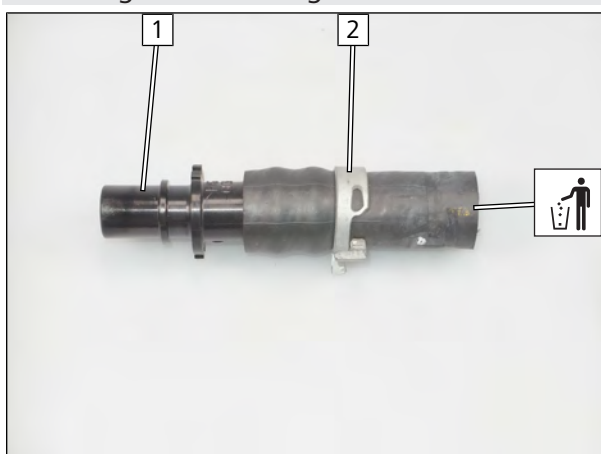


Fig. 79

- 1** Half of original vehicle coupling, straight
- 2** Original vehicle spring clip



Premounting hose **A**

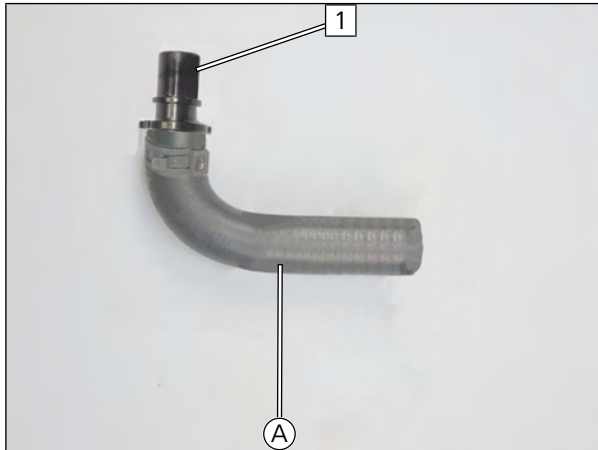


Fig. 80

1 Half of original vehicle coupling, straight

Premounting hoses

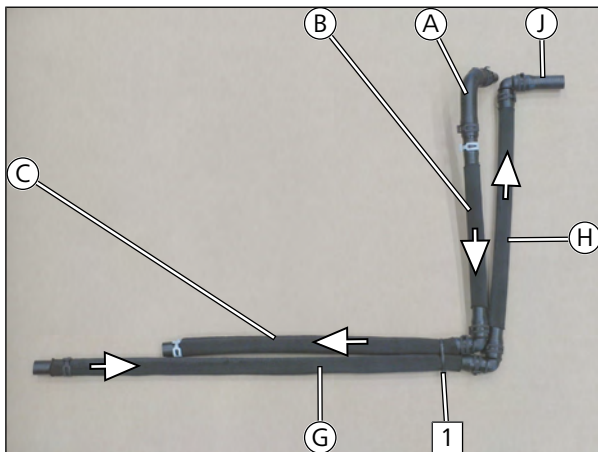


Fig. 81

1 Cable tie

Connecting engine outlet and heat exchanger inlet

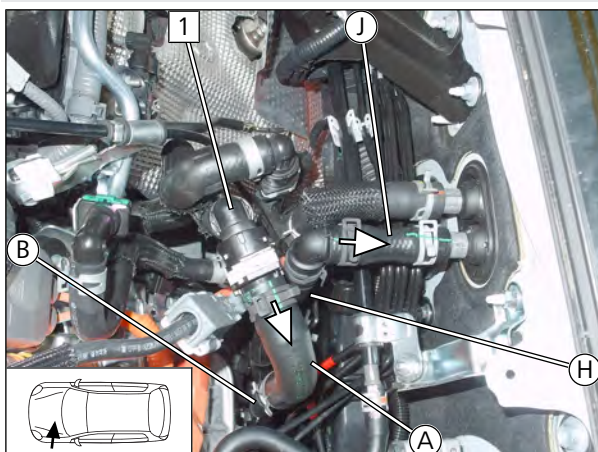


Fig. 82

- ▶ Reassemble original vehicle coupling piece **1**.
- ▶ Route hoses **B**, **C**, **H** and **J** into the wheel well.



Fastening hoses

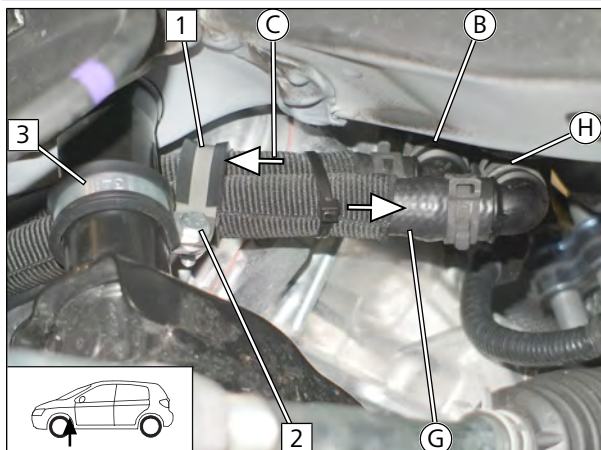


Fig. 83

- 1 Ø38 rubber-coated p-clamp
- 2 Mount M6x20 bolt, Ø34 rubber-coated p-clamp, Ø38 rubber-coated p-clamp, flanged nut loosely
- 3 Ø34 rubber-coated p-clamp

Connecting hoses C and D

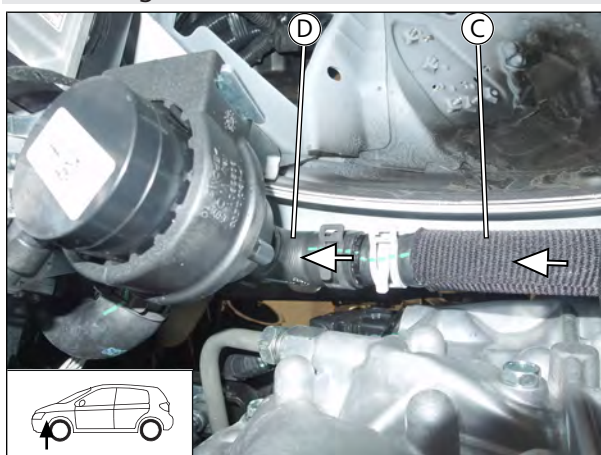


Fig. 84

Connecting hoses F and G

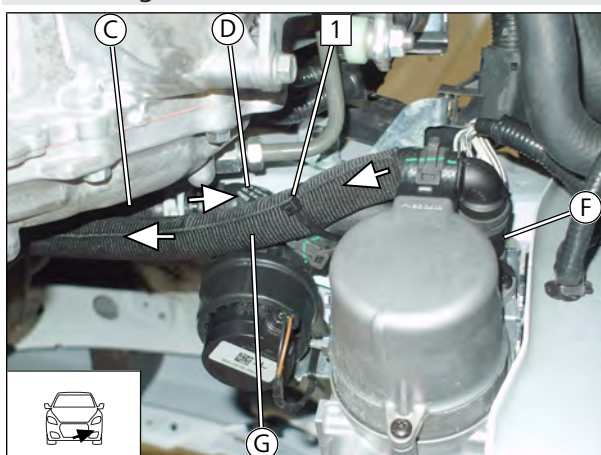


Fig. 85

- 1 Cable tie



Fastening hoses **C** and **G**

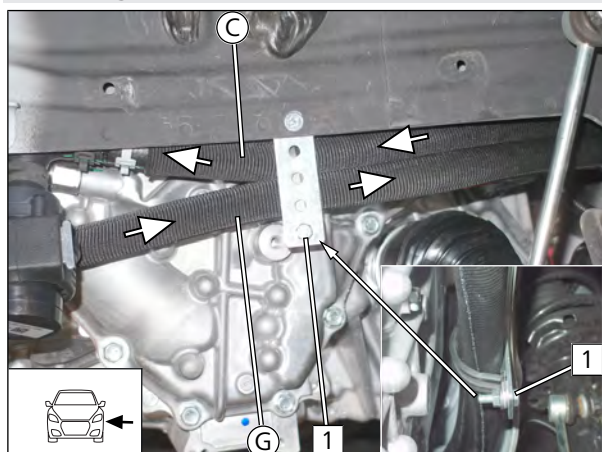


Fig. 86

- 1 M6x20 bolt, perforated bracket **m2**, Ø38 rubber-coated p-clamp, flanged nut

Checking distance

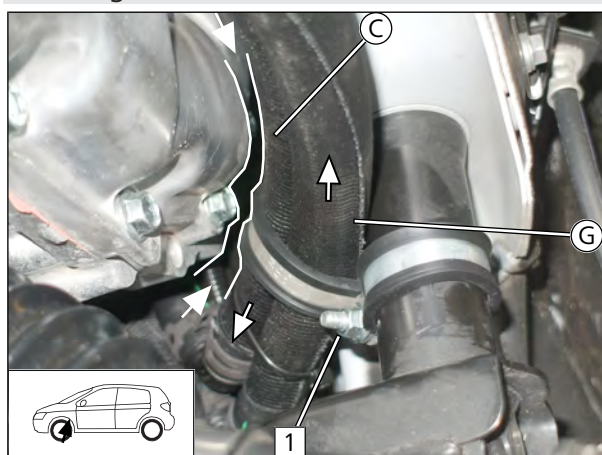
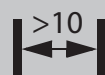


Fig. 87



Ensure sufficient distance from neighbouring components, correct if necessary.



- Tighten screw connection at position **1**.

Fastening hoses **B** and **H**

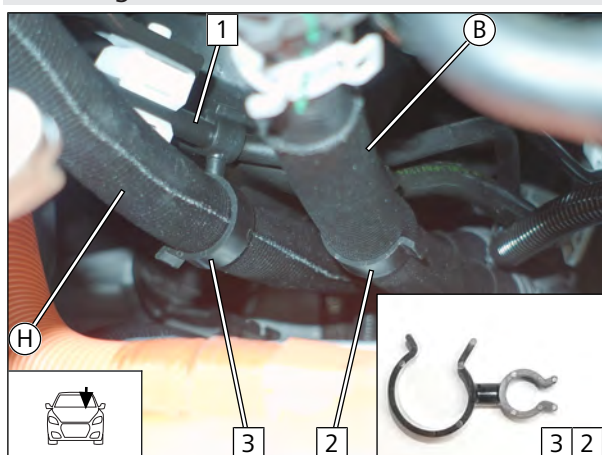


Fig. 88

- 1 Original vehicle fuel line
- 2 9x19 hose bracket between original vehicle fuel line and hose **B**
- 3 9x19 hose bracket between original vehicle fuel line and hose **H**



13 Exhaust part 2

13.1 Mounting exhaust end fastener

Work step E1

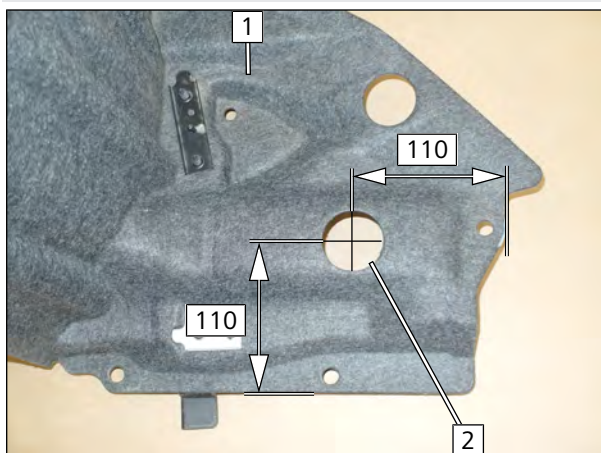


Fig. 89



Observe the EFIX installation instructions.

- 1 Wheel well trim
- 2 Hole

Work step E3

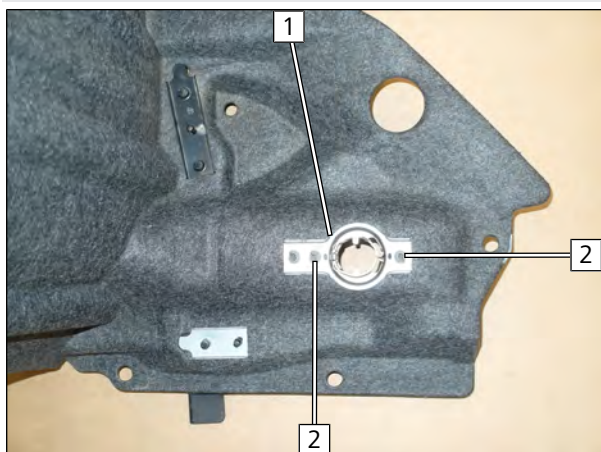


Fig. 90

- 1 EFIX
- 2 Copy hole pattern

Work step E4

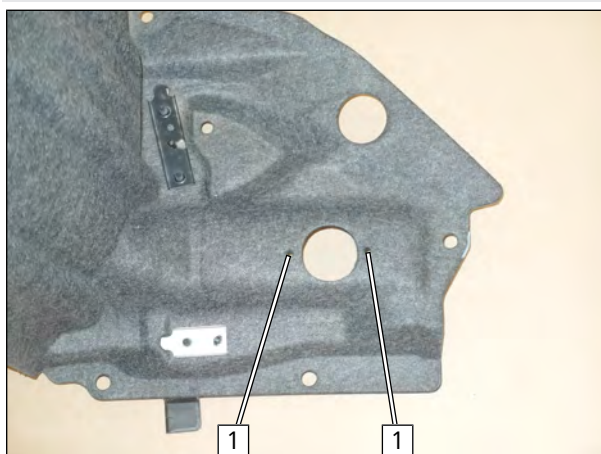


Fig. 91

- 1 Hole



Work step E5

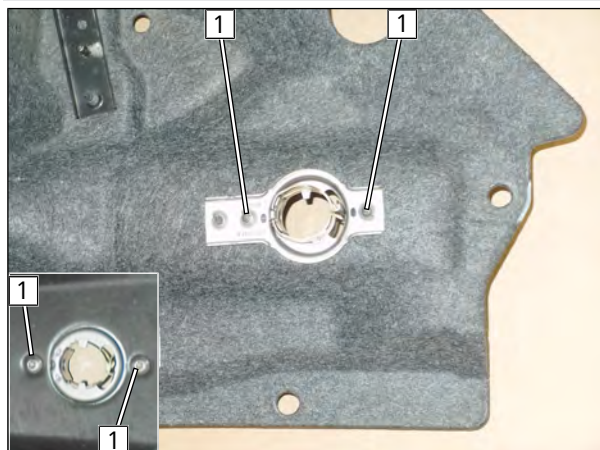


Fig. 92

1 5x13 self-tapping screw, large diameter washer

► Install wheel well trim.

Work steps E6-E8

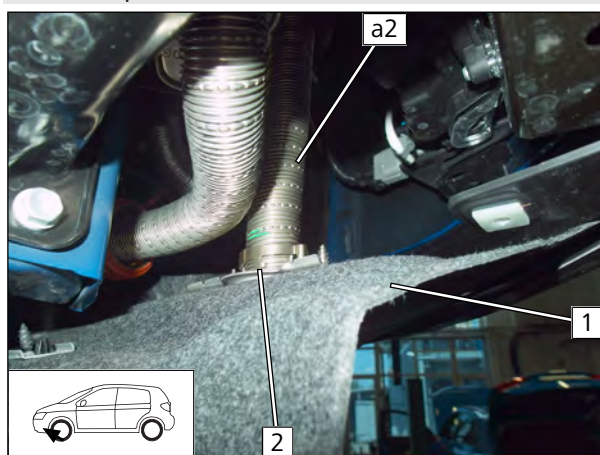


Fig. 93

1 Wheel well trim

2 EFIX

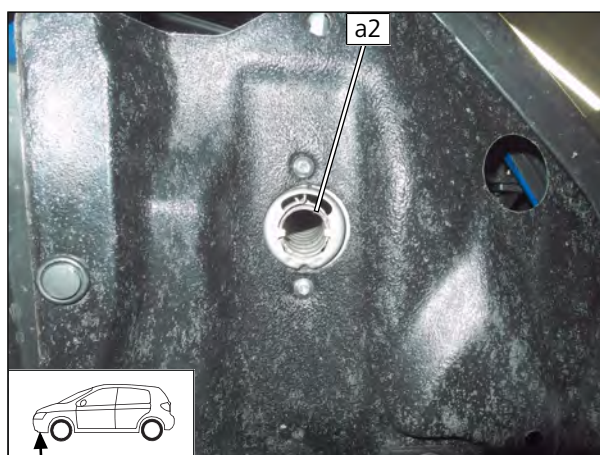


Fig. 94



14 Final work in engine compartment

Adapting side wheel well trim

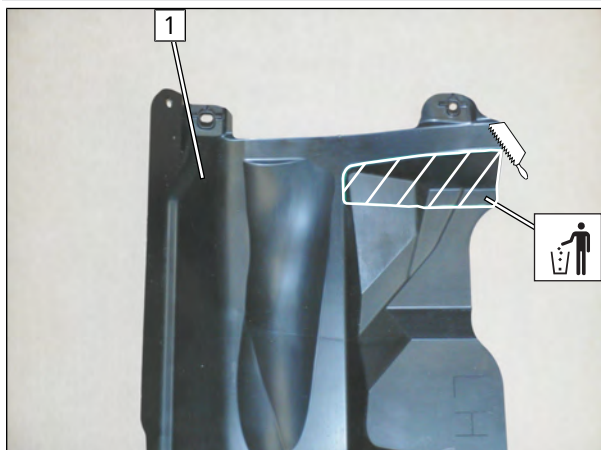


Fig. 95

► Cut side wheel well trim **1** as shown.

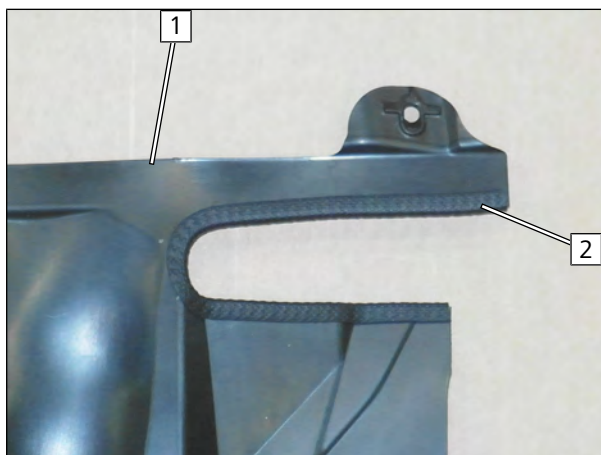


Fig. 96

► Mount edge protection **2** on side wheel well trim **1** as shown.

Mounting side wheel well trim

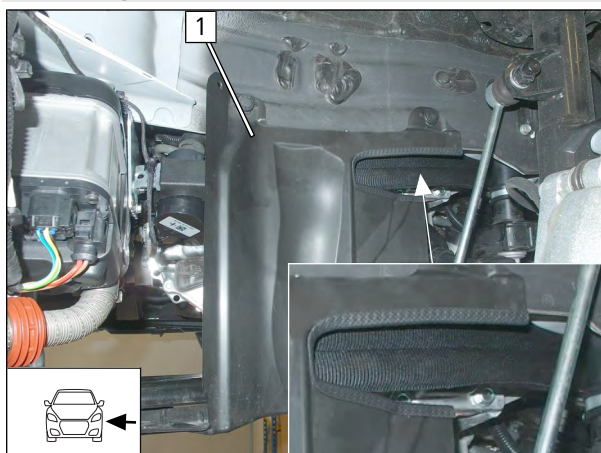


Fig. 97

► Mount side wheel well trim **1** as shown.



Checking distance



Ensure sufficient distance from neighbouring components, correct if necessary.

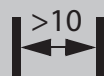


Fig. 98



15 Electrical system of passenger compartment

15.1 Air-conditioning control

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



'Webasto Standard' A/C control installation documentation for Toyota and Lexus with AAC



16 Electrical system of control elements

16.1 Remote option (Telestart)

Preparing receiver bracket

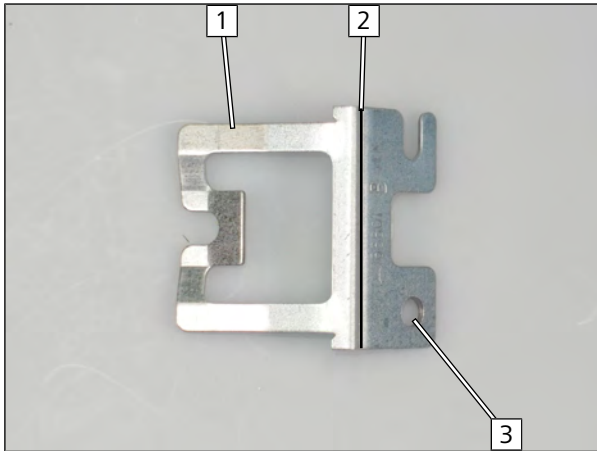


Fig. 99



Observe the Telestart installation documentation.

► Bend Telestart bracket **1** at bending line **2** by 45° as shown.

3 Drill out hole to Ø7

Premounting receiver

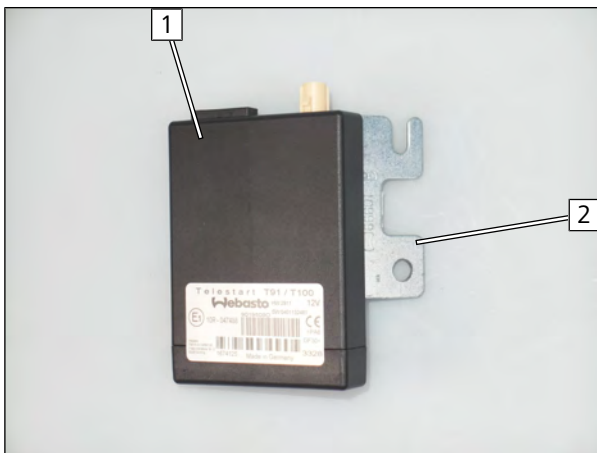


Fig. 100



Observe the Telestart installation documentation.

1 Receiver

2 Receiver bracket

Mounting receiver

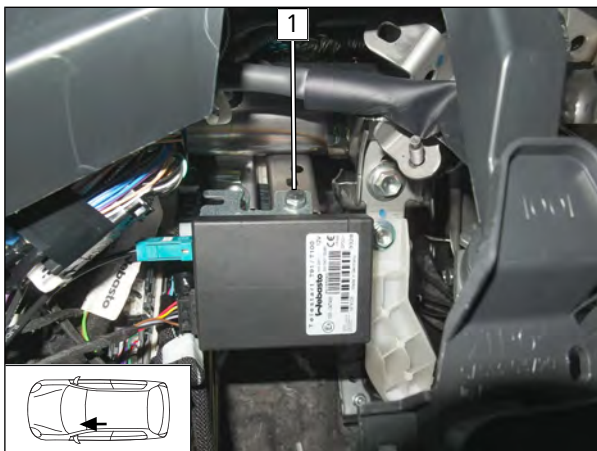
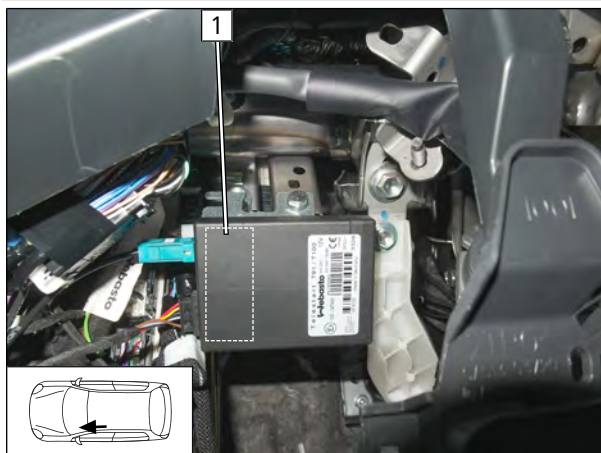


Fig. 101

1 M6x20 bolt, spring lock washer, premounted receiver, original vehicle thread



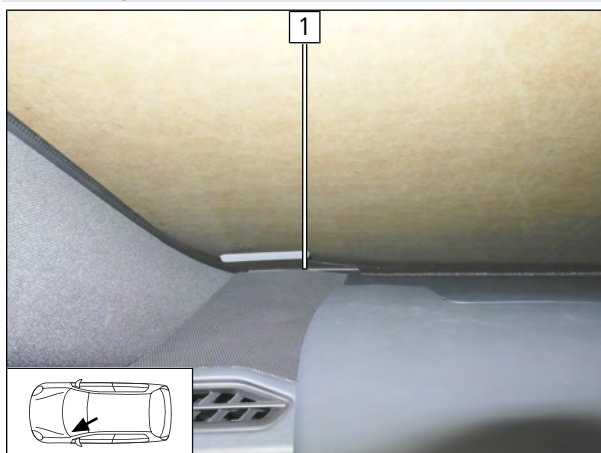
Mounting temperature sensor, only in case of T100 HTM



- ▶ Fasten temperature sensor **1** (covered) using double-sided adhesive tape.

Fig. 102

Mounting aerial



- 1** Aerial

Fig. 103

16.2 ThermoCall option

Preparing perforated bracket

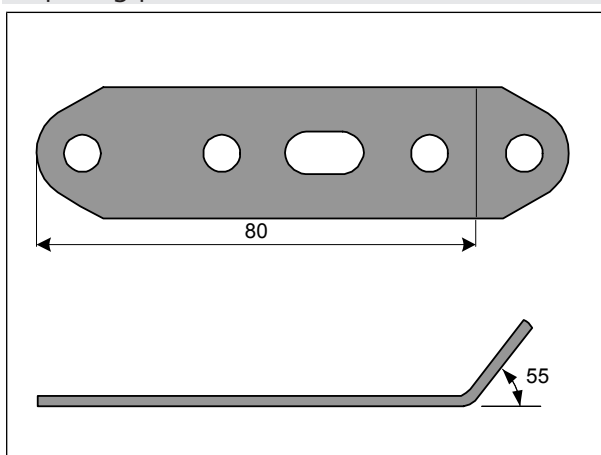


Fig. 104



Premounting ThermoCall

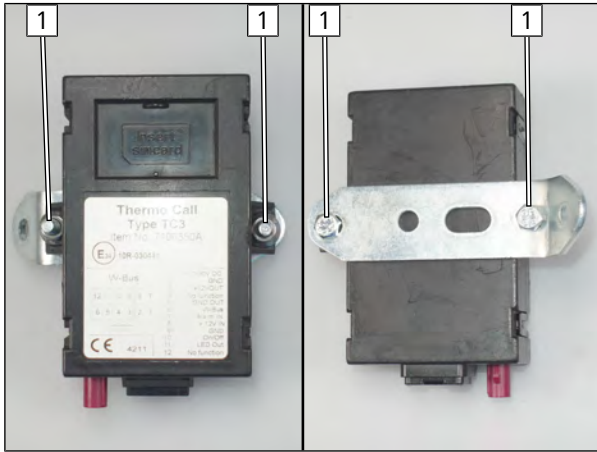


Fig. 105

- 1 M5x16 bolt, perforated bracket, ThermoCall receiver, nut

Mounting receiver

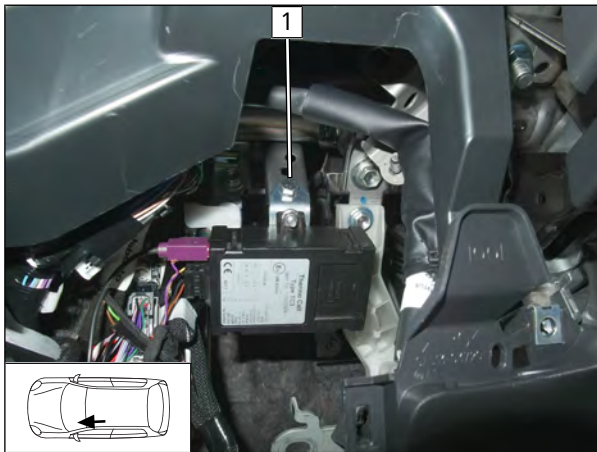


Fig. 106



Observe the ThermoCall installation documentation.

- 1 M6x20 bolt, spring lockwasher, perforated bracket, original vehicle thread

Mounting aerial (optional)

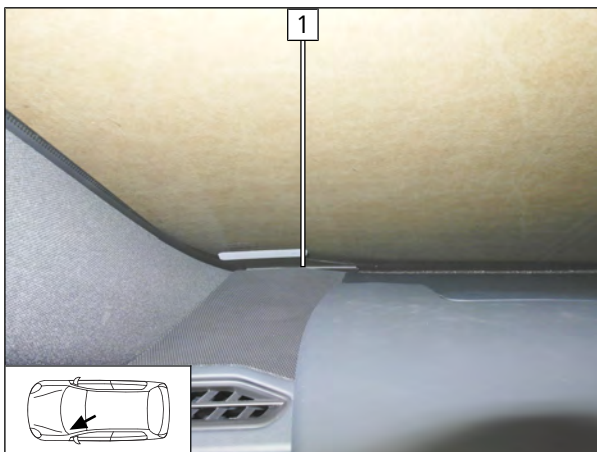


Fig. 107

- 1 Aerial



17 Final work



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

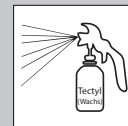
- ▶ Reassemble the components in reverse order.



▶ 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).



Activation of the hybrid system according to the manufacturer's instructions

Reactivate the hybrid system before connecting the 12V vehicle battery:

1. Activate the hybrid system.
2. Connect the battery (12V)



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, pair Telestart transmitter.

▶ See general heater installation instructions for notes to perform an initial start-up and function check.

▶ Make settings on A/C control panel according to the 'operating instructions'.

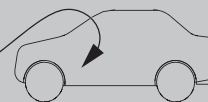
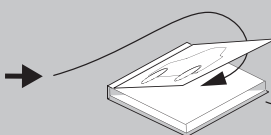
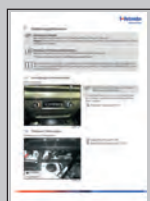
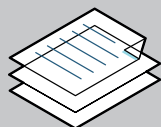
▶ Affix 'Switch off parking heater before refueling' caution label in area of filler neck.



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.



This is a translation from the original German installation instructions.
To request this Installation Documentation in another language, please locate and contact your local Webasto dealer.
You can find your nearest dealer at: <https://dealerlocator.webasto.com/en-int>.

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