

# K Installation documentation

for Thermo Top Evo water heater

"Inline" coolant circuit with engine preheating

Toyota RAV 4

Left-hand drive vehicle

Manufacturer	Model	Type	Model year	EG-BE-No. / ABE
Toyota	RAV 4	XA5 (EU,M)	from 2019	e6* 2007/46* 0289*...

Motorisation	Fuel	Emission standard	Transmission type	Output [kW]	Displacement [cm <sup>3</sup> ]	Engine code
2.5P Hybrid	Petrol	Euro 6d Temp	E-CVT	131	2487	A25A-FXS

Validity	Equipment variants	Model
		RAV 4
Verified equipment variants	Manual air-conditioning	x
	2 zone automatic A/C	x
	LED main headlights	x
	Matrix LED main headlights	x
	LED daytime running lights	x
	Halogen front fog lights	x
	Headlight washer system	x
	Start button with Smart Key	x
	2 WD	x
4 WD	x	

Total installation time	Note
8.5 hours	

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# 1 List of abbreviations

DP	Fuel pump
EFIX	Exhaust end fastener
EPT	Telestart receiver
FF	FuelFix (tank extracting device)
Fig.	Figure
HG	Heater
PWM	Pulse width modulator
RSH	Relay and fuse holder of passenger compartment
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 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 Toyota RAV4 2.5 Hybrid 2019	1327198A
Additional 'Webasto Standard' air-conditioning control kit for Toyota / Lexus	1324414_
In case of Telestart, control element, as well as indicator lamp in consultation with end customer	In accordance with price list

### 2.4 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.

### 2.5 Installation recommendations

Arrange for the vehicle to be delivered with the tank only about  $\frac{1}{4}$  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.

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## 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
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### 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	
Webasto Comfort A/C control	
Webasto Standard A/C control	
Tank extracting device (e.g. FuelFix)	
Exhaust end fastener (EFIX)	
Combustion air intake silencer	
Spacer bracket (ASH)	

#### 3.4.2 Use of symbols



#### DANGER

Type and source of the risk

Consequences: Failure to follow the instructions can result in death

► Actions to protect yourself against risks.



#### WARNING

Type and source of the risk

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

► Actions to protect yourself against risks.



#### CAUTION

Type and source of the risk

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

► Actions to protect yourself against risks.



Type and source of the risk

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

► Actions to protect yourself against risks.



Reference to the vehicle manufacturer's specific documents.



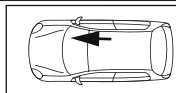
a note on a special technical feature

#### 3.4.3 Work step identification marks

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

Mechanical system	Electrical System	High-voltage	Coolant
Combustion air	Fuel	Exhaust gas	Software

#### 3.4.4 Orientation aid



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

#### 3.4.5 Use of highlighting

Highlight	Explanation
►	Necessary action
⇒	Result of an action
<b>1</b> / <b>12</b> / <b>a1</b> / <b>A</b>	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

### Specified temperature for fabric heat shrink tubing

- Shrink temperature max. 230°C

### Necessary special tools

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

## 5 Preparing measures

### 5.1 Vehicle preparation



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



#### **DANGER**

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

Vehicle area	Components to be removed	Other applicable documents
General	<ul style="list-style-type: none"> <li>▶ Open the fuel tank cap</li> <li>▶ Ventilate the fuel tank</li> <li>▶ Close the fuel tank cap again</li> <li>▶ Depressurise the cooling system</li> </ul>	
Engine compartment and body	<ul style="list-style-type: none"> <li>▶ Disconnect the battery (in the boot)</li> <li>▶ Deactivate the hybrid system</li> <li>▶ Windscreen wiper</li> <li>▶ Water drain chamber cover</li> <li>▶ Windscreen wiper motor</li> <li>▶ Water drain chamber</li> <li>▶ Front underride protection</li> <li>▶ Lower engine cover</li> <li>▶ Underbody trim on the driver's side</li> </ul>	
Passenger compartment	<ul style="list-style-type: none"> <li>▶ Glove box</li> <li>▶ Lower instrument panel trim on the front passenger's side</li> <li>▶ Lower left instrument panel trim on the front passenger's side</li> <li>▶ Footwell trim on the driver's side</li> <li>▶ Accelerator pedal</li> </ul>	



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



#### **DANGER**

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

Vehicle body	<ul style="list-style-type: none"> <li>▶ Remove the fuel tank</li> </ul>	
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### 5.2 Heater preparation

Engine compartment	<ul style="list-style-type: none"> <li>▶ Remove years that do not apply from the type and duplicate label</li> <li>▶ Attach the duplicate label (type label) in the appropriate place in the engine compartment</li> </ul>	
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## 6 Installation overview

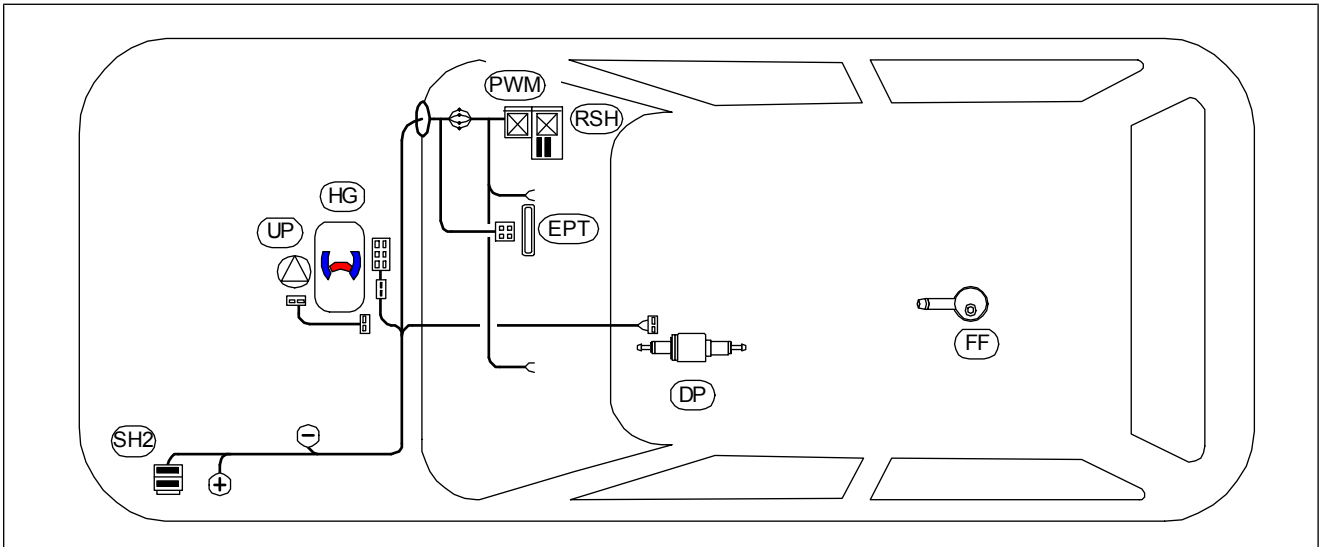
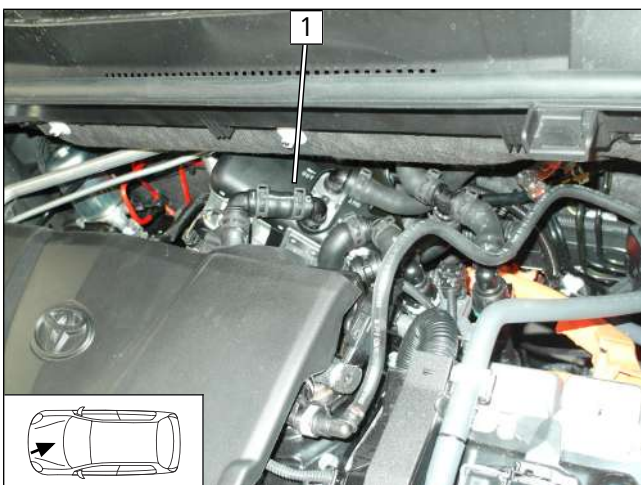


Fig. 1

Legend to installation overview

Abbreviation	Component
DP	Fuel pump
FF	FuelFix
HG	Heater
EPT	Telestart receiver
PWM	Pulse width modulator
RSH	Relay and fuse holder of passenger compartment
SH2	Engine compartment fuse holder
UP	Coolant pump

Heater installation location



1 Heater

Fig. 2



## 7 Electrical system of engine compartment

Preparing wiring harness

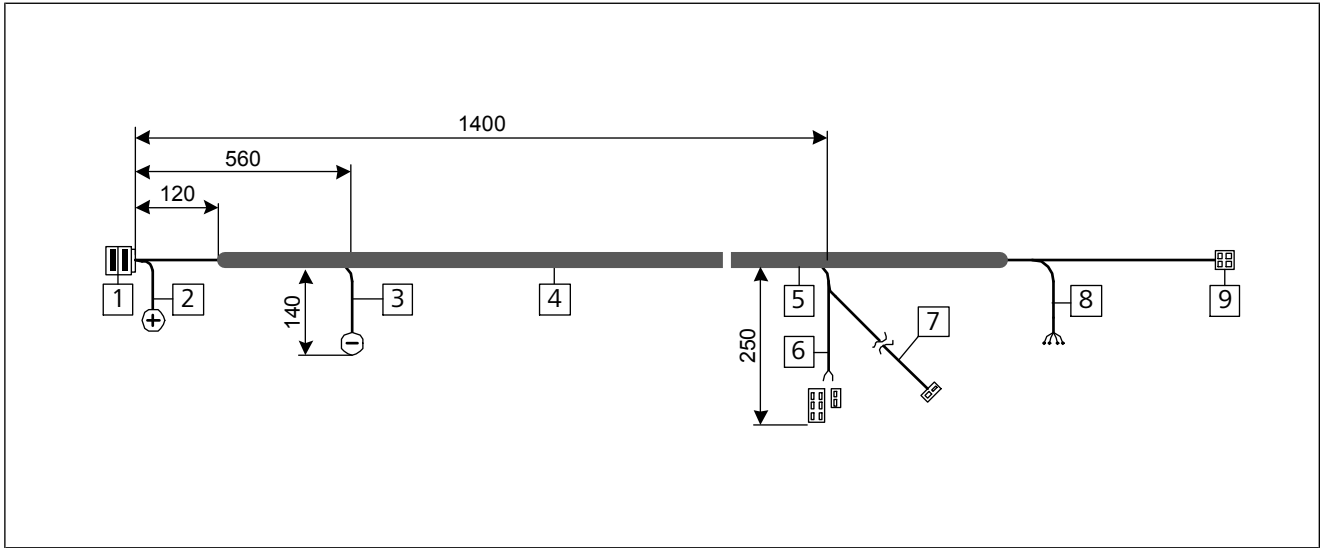


Fig. 3

- 1 SH2
- 2 Positive wire
- 3 Earth wire
- 4 Ø13, 1200 long slit corrugated tube
- 5 Ø13, 500 long slit corrugated tube
- 6 Heater wiring harness
- 7 Fuel pump wiring harness
- 8 Passenger compartment wiring harness
- 9 Control element wiring harness

Bending perforated bracket

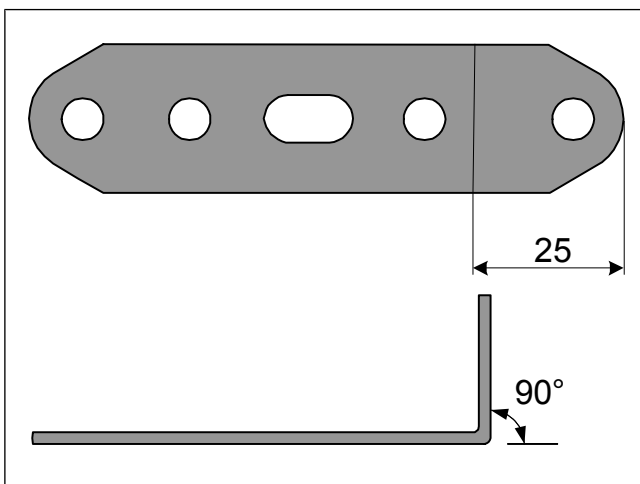


Fig. 4



### Premounting retaining plate of SH2



Fig. 5

- 1 M5x16 bolt, large diameter washer, retaining plate of SH2, perforated bracket, large diameter washer, nut

### Mounting retaining plate of SH2

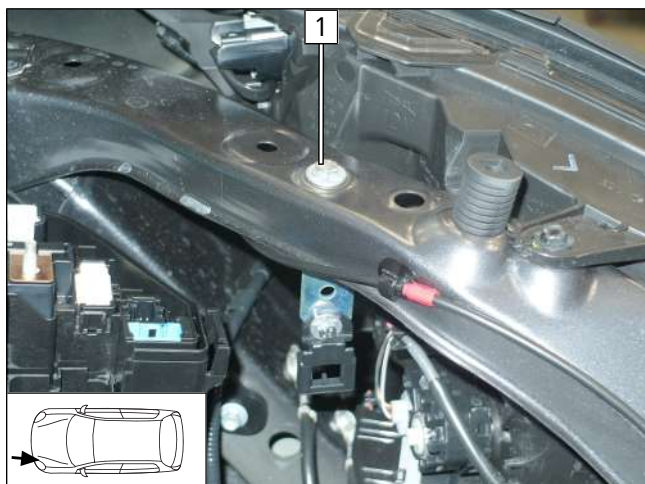


Fig. 6

- 1 M6x20 bolt, large diameter washer, perforated bracket, original vehicle hole, flanged nut

### Detaching original vehicle connector and nut

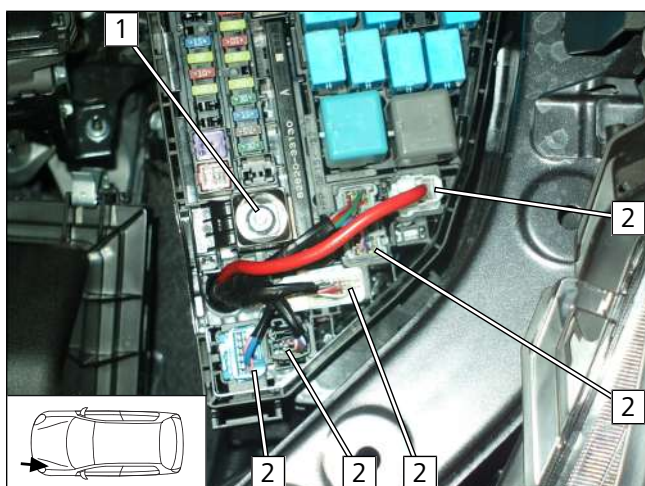


Fig. 7

- 1 Original vehicle nut
- 2 Original vehicle connector



### Removing original vehicle trim

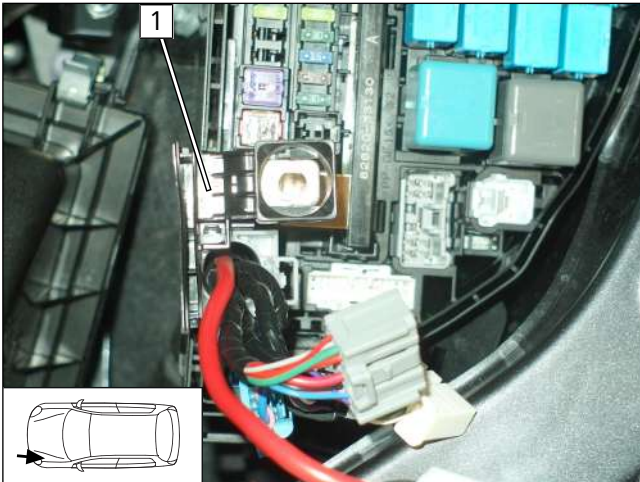


Fig. 8

- 1 Original vehicle trim

### Removing original vehicle positive support point trim

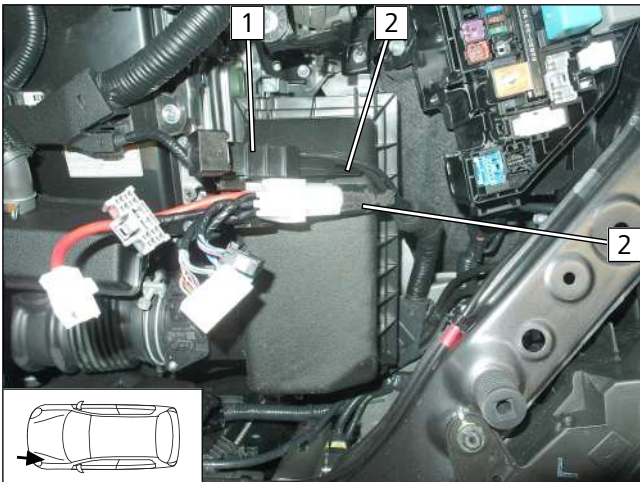


Fig. 9

- ▶ Remove insulating tape at pos. 2.
- 1 Original vehicle positive support point trim

### Creating a recess

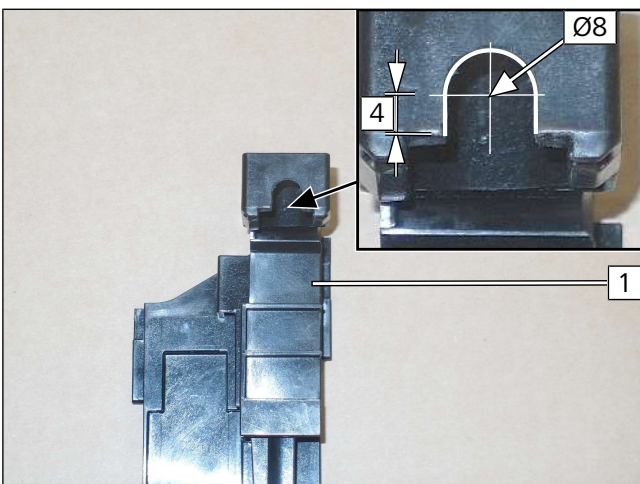


Fig. 10

- 1 Original vehicle positive support point trim



## Mounting SH2, routing positive wire

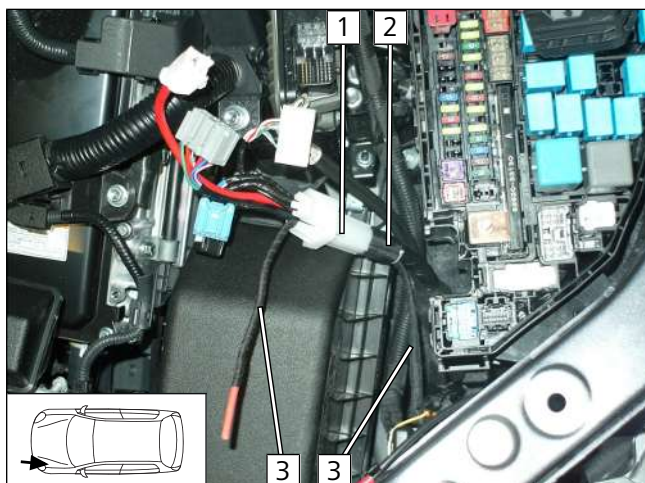


Fig. 11

► Rewrap wiring harness at pos. 2 with insulating tape.

- 1 Original vehicle wiring harness pass through
- 2 Positive wire

## Connecting positive wire

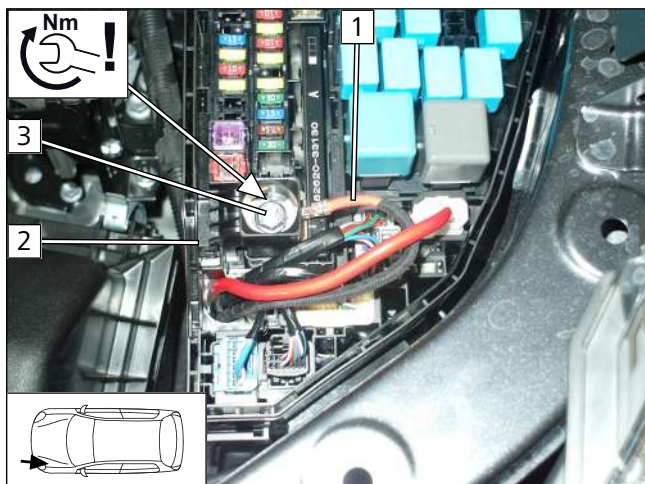


Fig. 12

► Reinstall original vehicle trim 2 and connector.

- 1 Positive wire
- 3 Original vehicle positive support point, original vehicle nut

## Routing heater wiring harness

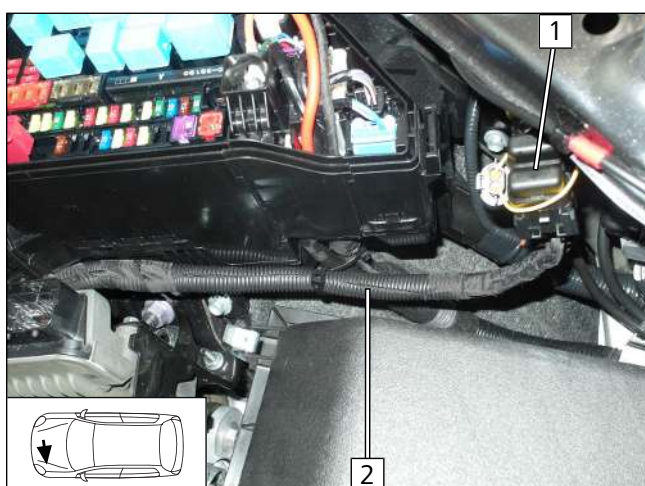


Fig. 13

► Route corrugated tube 2 with heater wiring harness, passenger compartment wires and control element wiring harness to firewall.

- 1 Fuses F1, F2



## Connecting earth wire

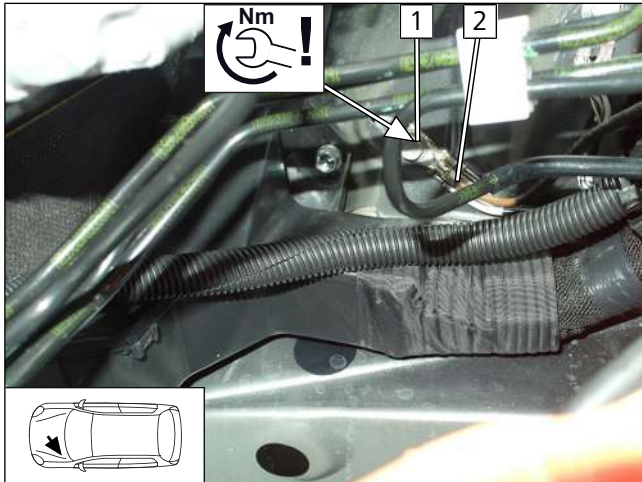


Fig. 14

- 1 Original vehicle earth support point
- 2 Earth wire

## Routing heater wiring harness

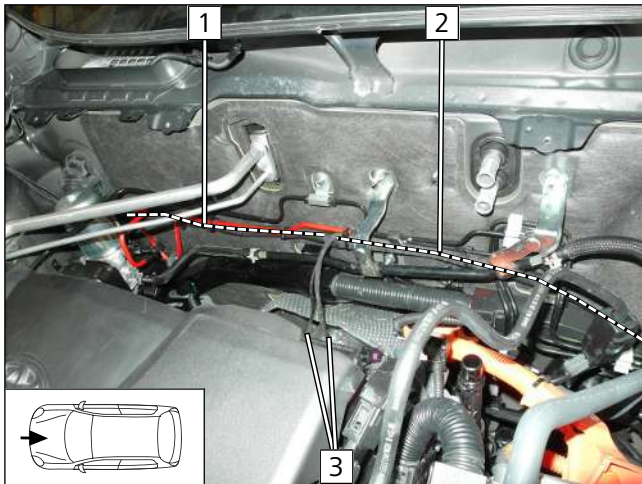


Fig. 15

- ▶ Route corrugated tube 2 with heater, passenger compartment and control element wiring harnesses to heater installation location and fasten with cable ties to original vehicle lines.
  - ▶ Route corrugated tube 1 with passenger compartment and control element wiring harnesses further to passenger compartment pass through.
- 3 Heater wiring harness connector

## Passenger compartment pass through

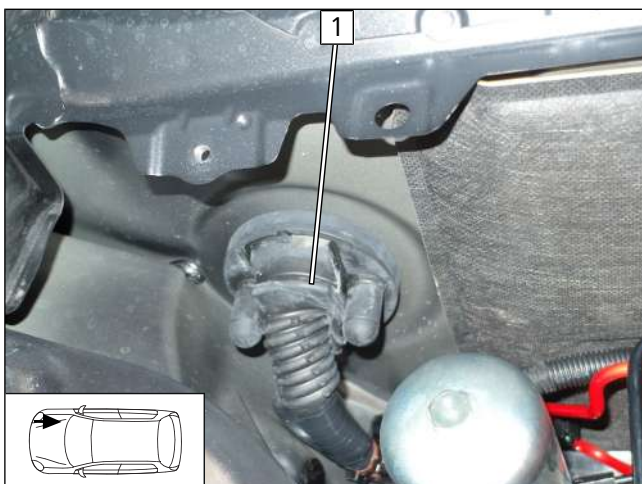


Fig. 16

- 1 Protective rubber plug



## 8 Mechanical system

### 8.1 Preparing installation location

Removing original vehicle components, inserting rivet nut

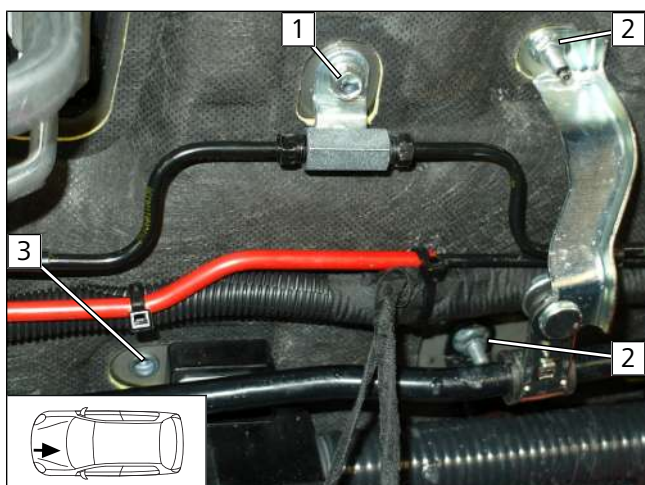


Fig. 17

- ▶ Remove and discard original vehicle bolt **1**.
- ▶ Remove and discard original vehicle nut **2**.
- ▶ Remove original vehicle plug at pos. **3** and then insert rivet nut M6 in original vehicle hole.

Installing spacer nut

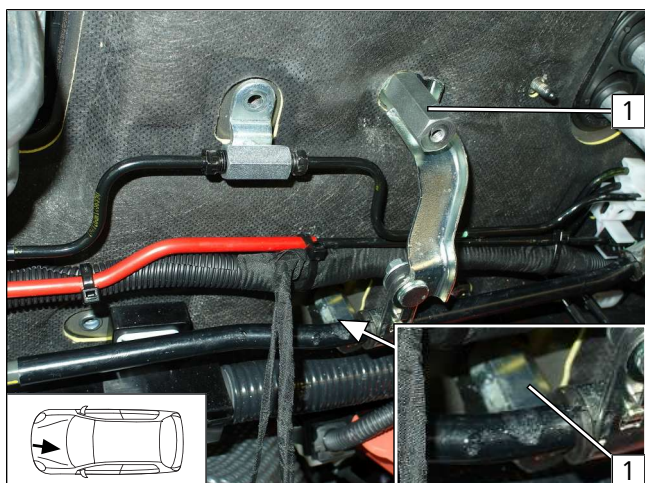


Fig. 18

- 1** M6x40 spacer nut on original vehicle stud bolt

Premounting HG bracket

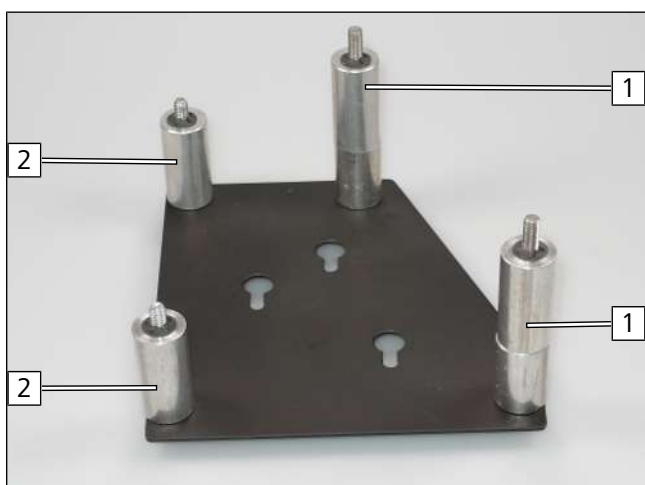


Fig. 19

- 1** M6x90 bolt, spring lock washer, washer, bracket, spacer (30), spacer (40), lock washer
- 2** M6x60 bolt, spring lock washer, washer, bracket, spacer (40), lock washer



## Mounting heater bracket

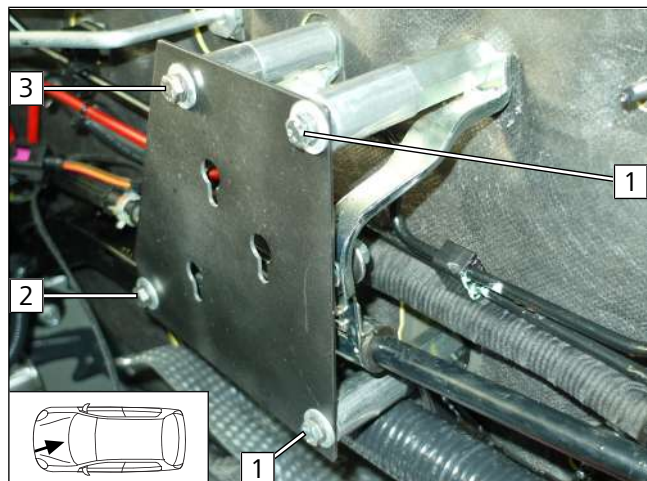


Fig. 20

- 1 Premounted M6x60 bolt at spacer nut
- 2 Premounted M6x90 bolt at rivet nut
- 3 Premounted M6x90 bolt at original vehicle threaded hole

## 8.2 Premounting heater

### Mounting water connection piece

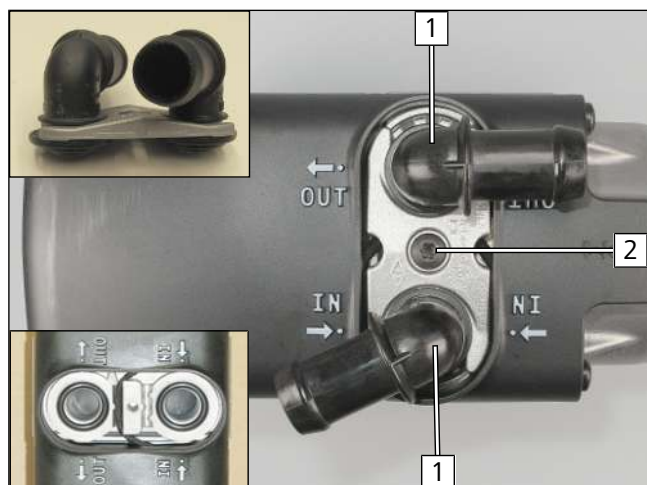


Fig. 21



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 loosely

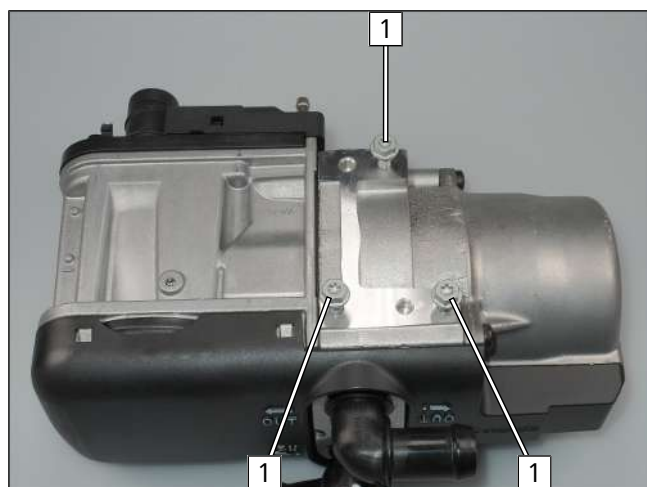


Fig. 22

- 1 5x13 self-tapping bolt, screw inwards by max. 3 threads





## Mounting lines and wiring harness

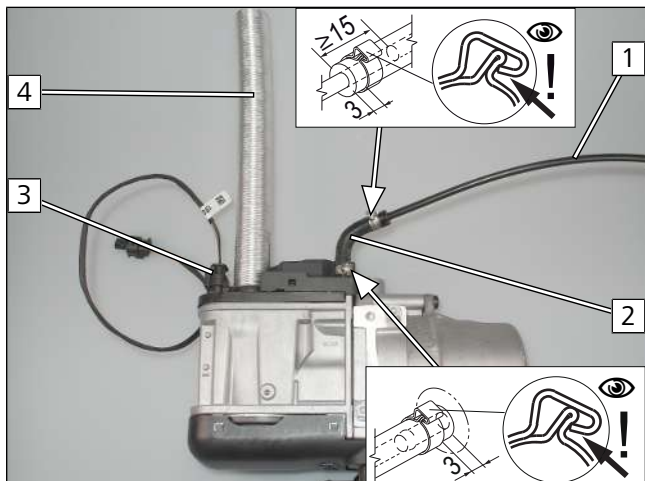


Fig. 23

- 1 Fuel line
- 2 90° moulded hose, Ø10 clamp [2x]
- 3 Coolant pump wiring harness connector
- 4 Combustion air pipe

## Mounting stud bolt



Fig. 24

- 1 M5/M6x15 self-tapping stud bolt

## Bending perforated bracket

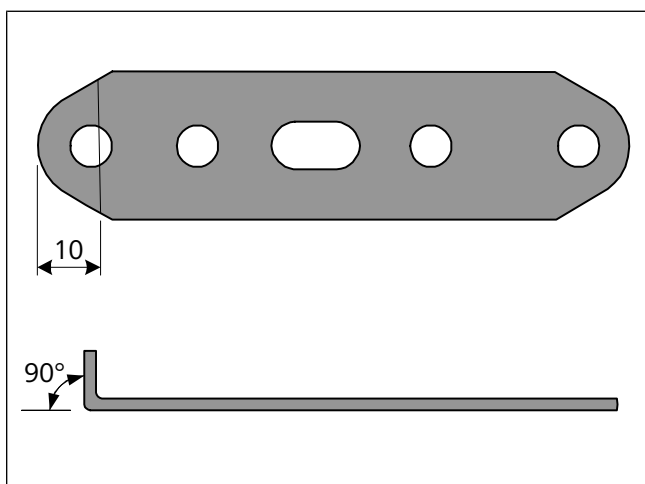


Fig. 25



## Premounting coolant pump

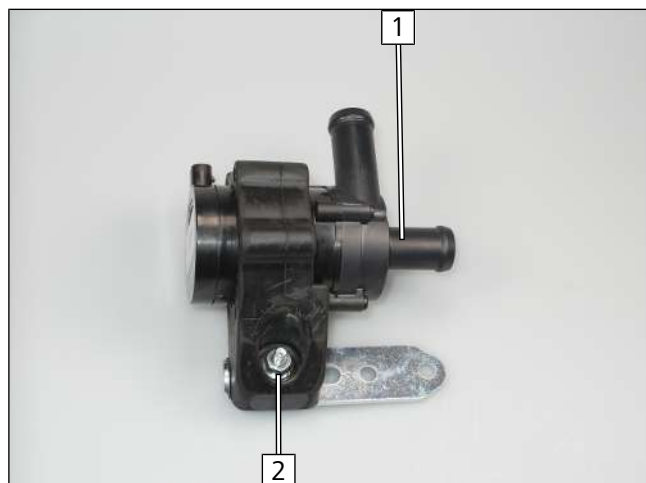


Fig. 26

- 1 Coolant pump
- 2 M6x25 bolt, perforated bracket, coolant pump mount, flanged nut

## Mounting coolant pump

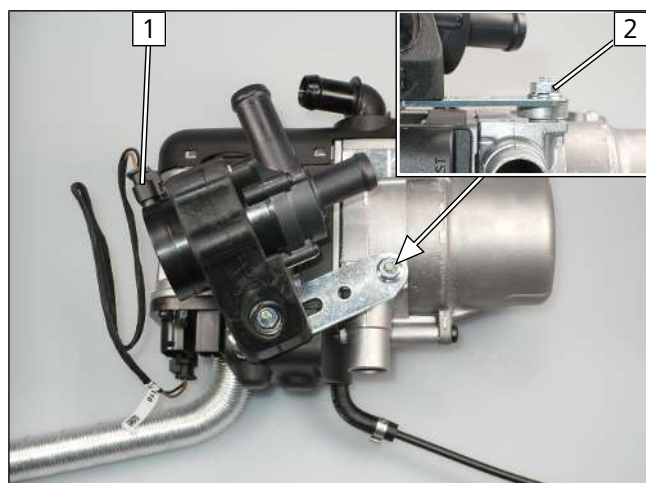


Fig. 27

- 1 Coolant pump wiring harness connector
- 2 Stud bolt, spacer (5), perforated bracket, flanged nut

## Cutting hoses to length

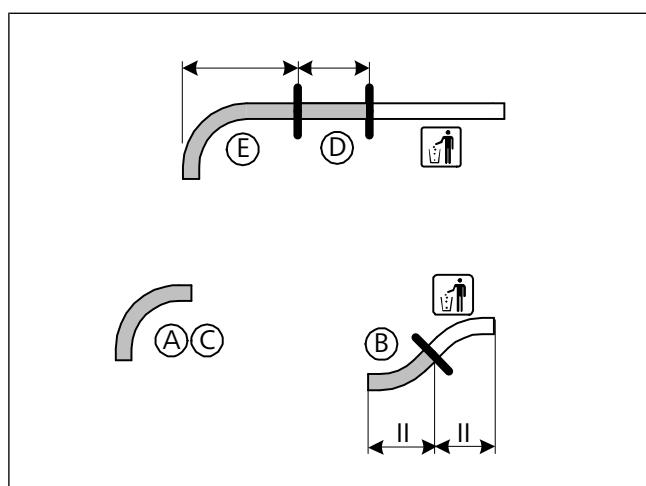


Fig. 28

<b>A / C</b>	90° moulded hose
<b>B</b>	2x45° moulded hose
<b>D</b>	60
<b>E</b>	85



## Dismantling hoses

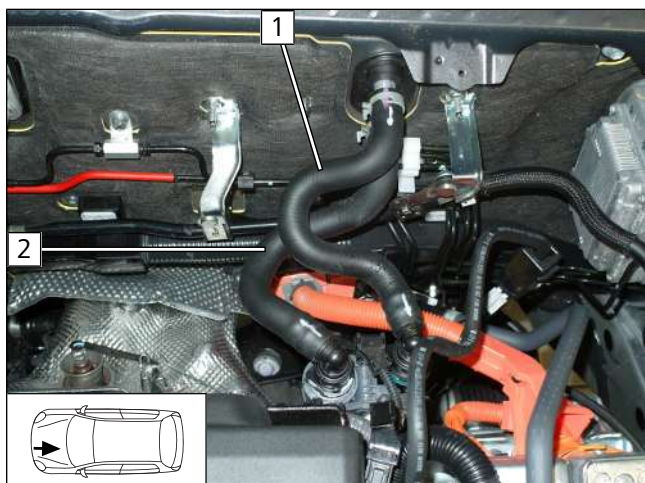


Fig. 29



Original vehicle spring clips will be reused.

- 1 Heat exchanger outlet / engine inlet hose
- 2 Heat exchanger inlet / engine outlet hose

## Preparing hose of engine outlet / heat exchanger inlet

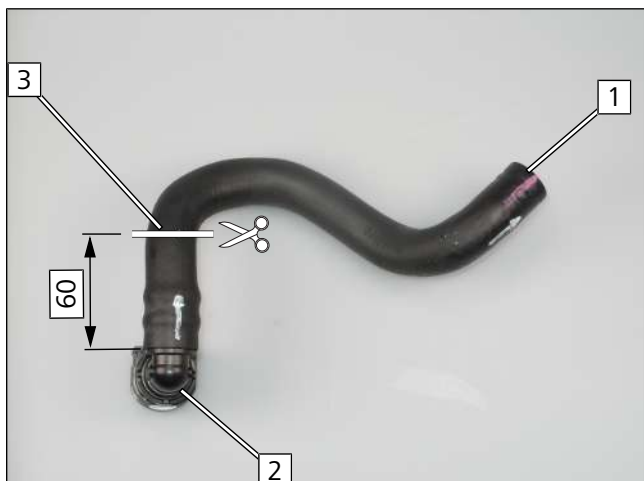


Fig. 30

- 1 Used as heater outlet connection
- 2 Quick-release coupling of engine outlet connection
- 3 Used as heat exchanger inlet connection

## Mounting hoses

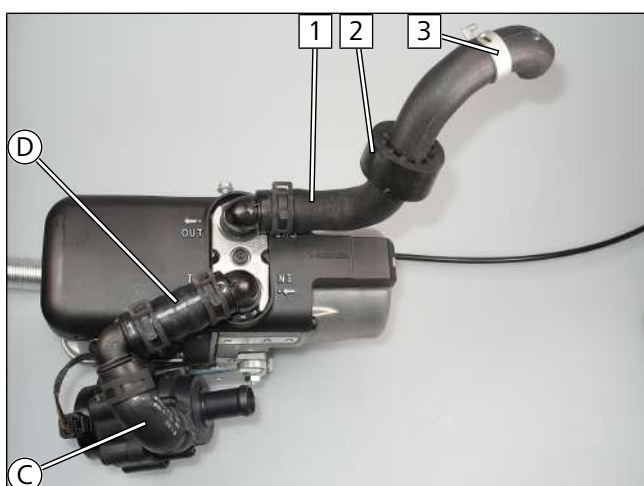


Fig. 31

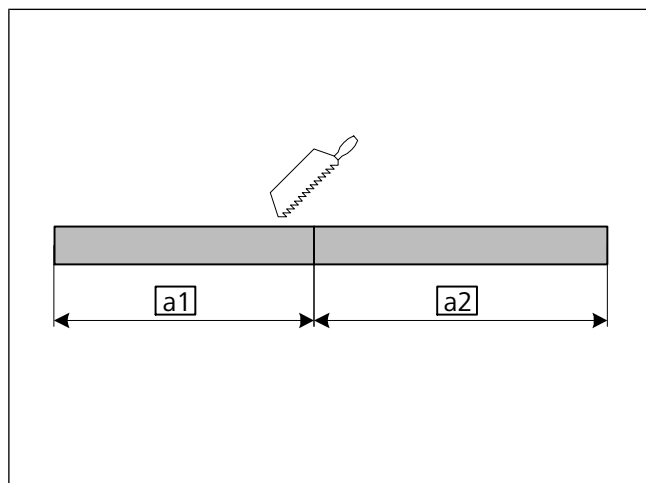


All spring clips without a specific designation  
Ø25,  
Ø18x18/90° connecting pipe

- 1 Heater outlet/heat exchanger inlet hose section
- 2 Black (sw) rubber isolator
- 3 Original vehicle spring clip



## Cutting exhaust pipe to length

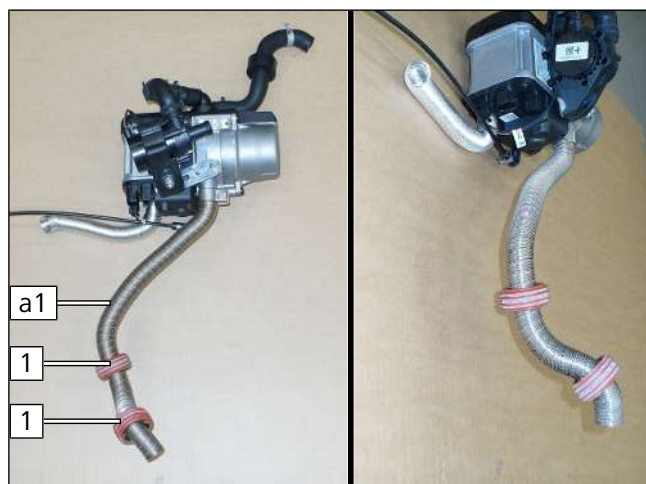


**a1** 430

**a2** 570

Fig. 32

## Mounting exhaust pipe **a1**



► Bend exhaust pipe **a1** as shown.

**1** Spacer bracket

Fig. 33

## 8.3 Mounting heater

### Positioning heater at installation location



**1** Heater bracket

Fig. 34



## Mounting heater

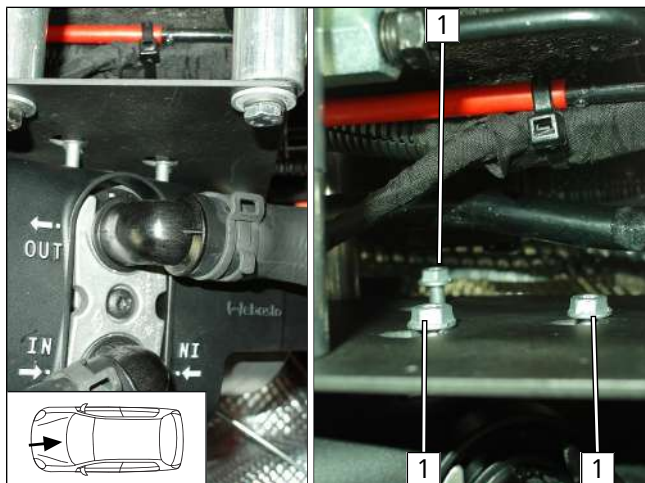


Fig. 35

► Insert premounted heater in bracket and tighten self-tapping bolts **1**.

## Mounting heater wiring harness

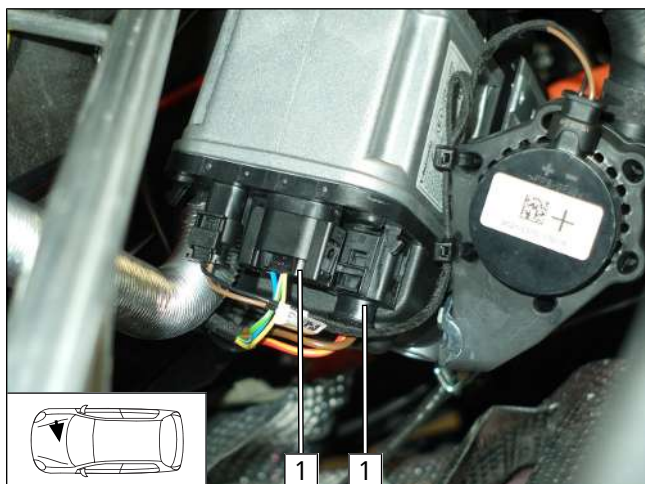


Fig. 36

**1** 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

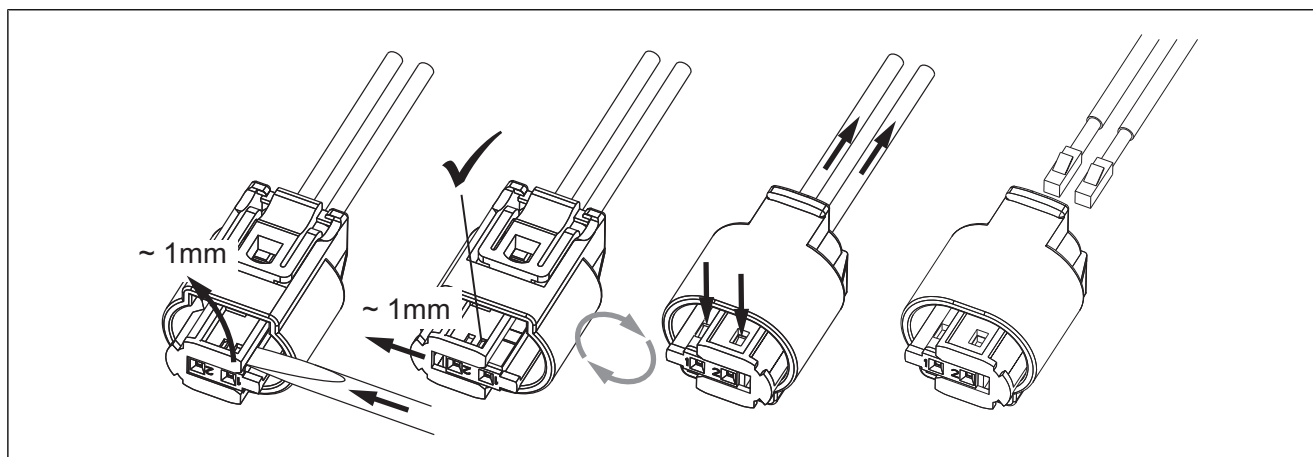


Fig. 37

## 9.1 Routing fuel line

### Routing from heater

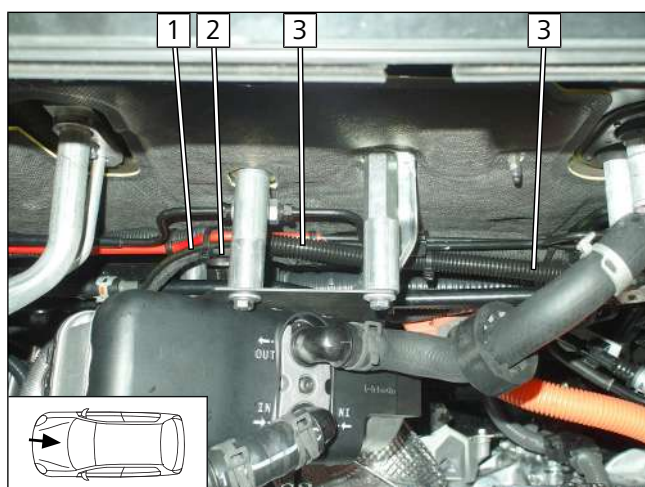


Fig. 38

- ▶ Draw fuel line **1** and fuel pump wiring harness **2** into Ø10 corrugated tube **3**, route to driver's side and fasten.

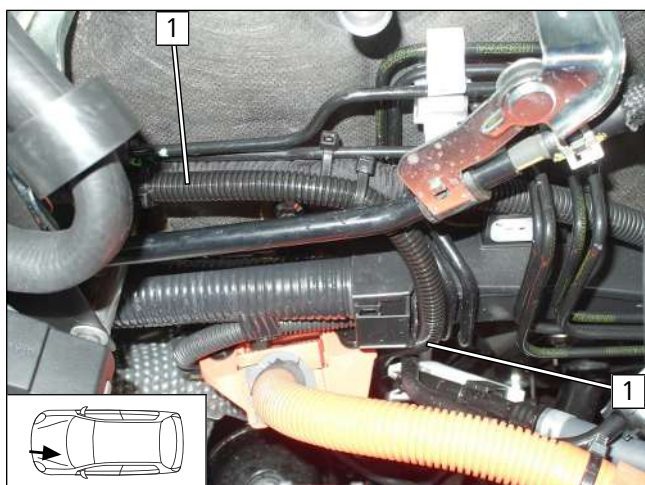


Fig. 39

- Route fuel line and fuel pump wiring harness in corrugated tube **1** on original vehicle lines to underbody and fasten.

### Premounting fuel pump

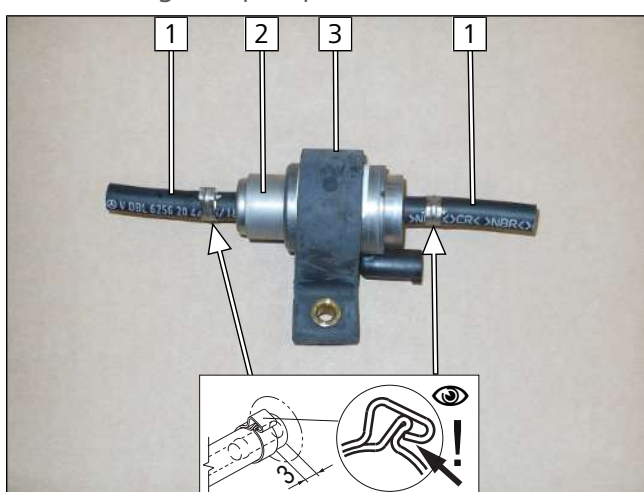


Fig. 40

- 1** Hose section, Ø10 clamp
- 2** Fuel pump
- 3** Fuel pump mount

### Mounting fuel pump

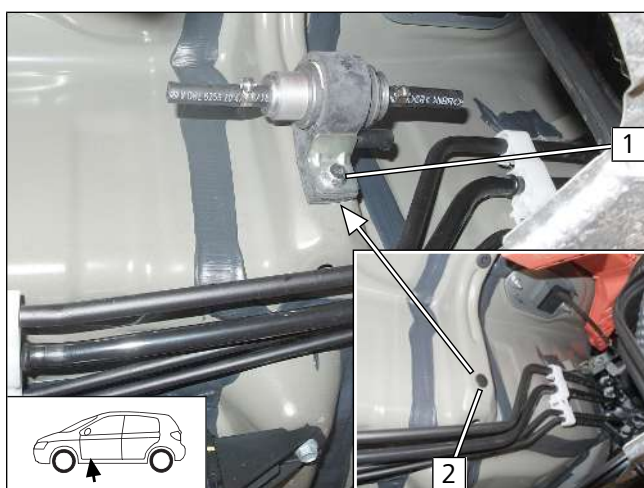


Fig. 41

- Remove original vehicle plastic clip at position **2**.
- 1** M6x25 bolt, support angle bracket, DP mount, original vehicle thread



## Routing on underbody

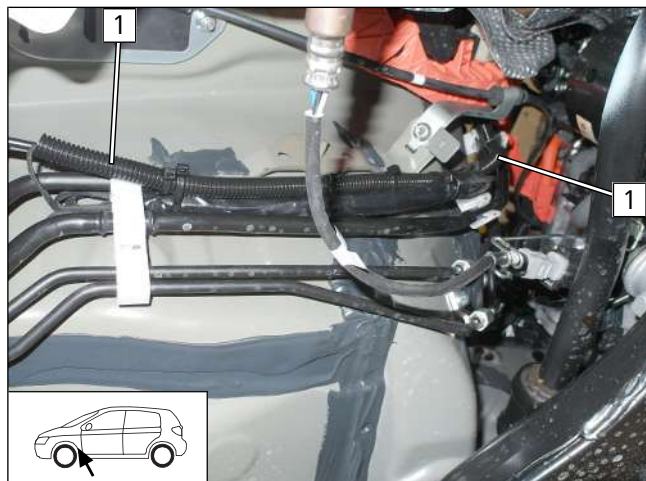


Fig. 42

► Route fuel line and fuel pump wiring harness in corrugated tube **1** to the fuel pump installation location.

## Assembling fuel pump connector X7

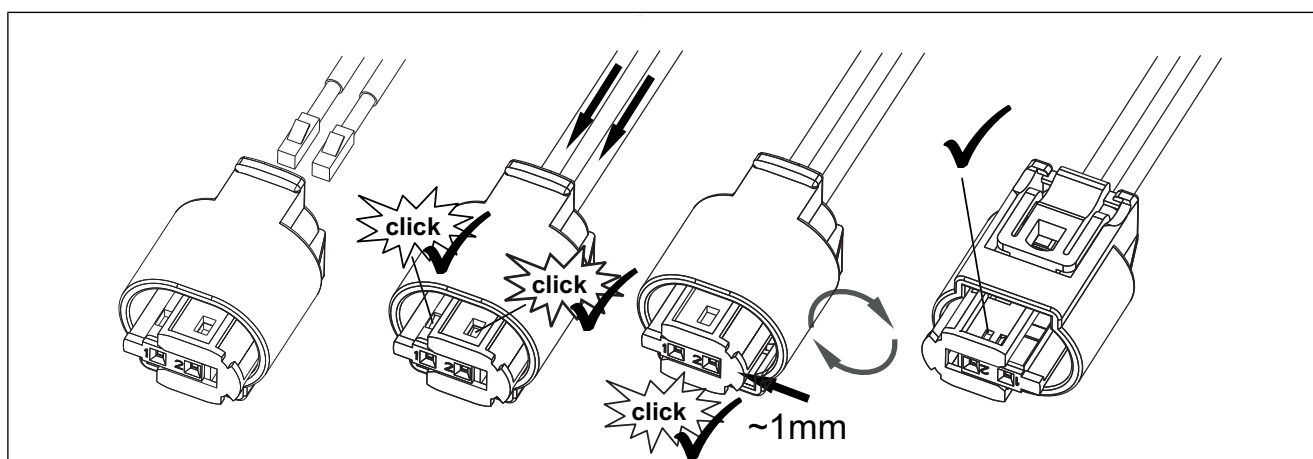


Fig. 43

## Fuel pump connection

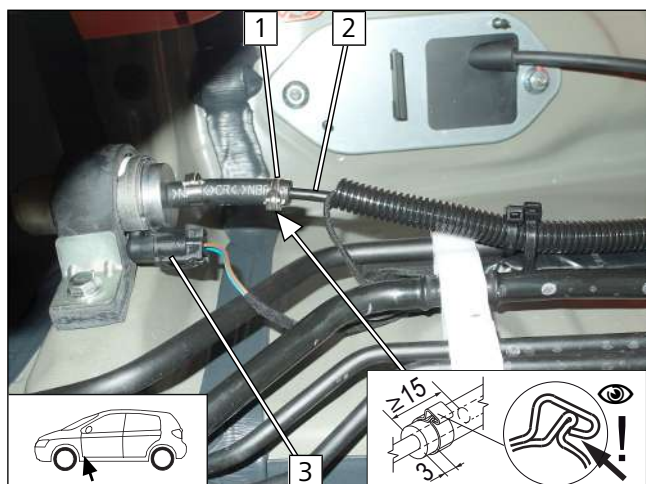


Fig. 44

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





## Fastening wiring harness

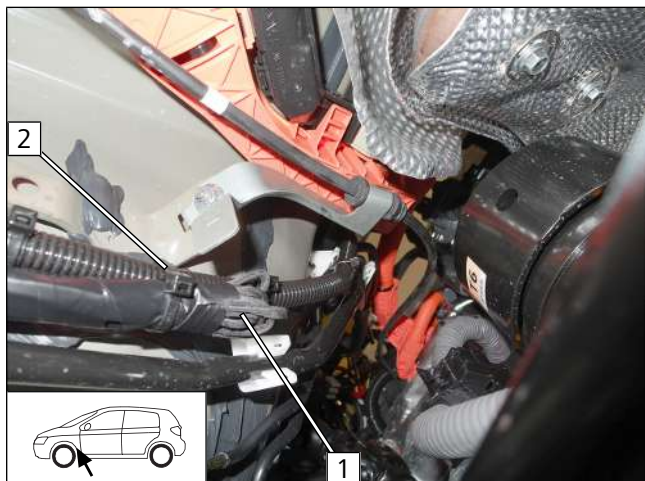


Fig. 45

- ▶ Attach the rest of wiring harness **1** to original vehicle lines with cable ties **2**.

## 9.2 Installing FuelFix

### Repositioning sticker



Fig. 46



Remove fuel-tank in accordance with manufacturer's instructions.

- 1** Sticker

### View of drilling template

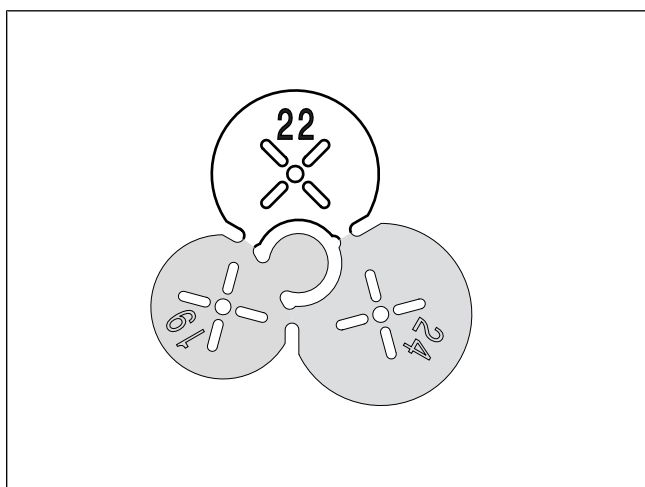


Fig. 47



## Work steps F1, F2

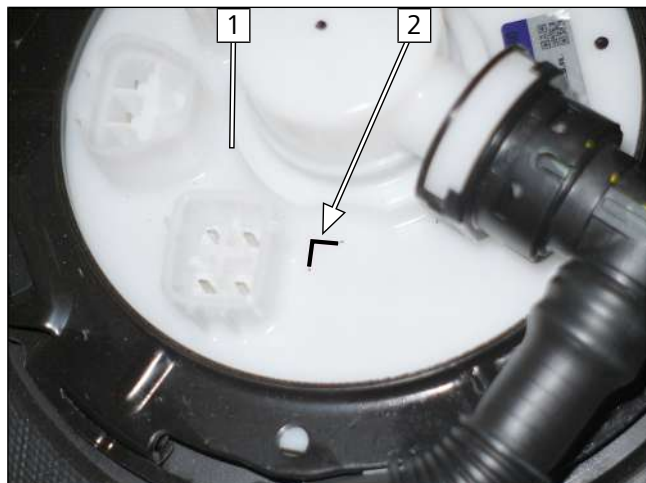


Fig. 48



Observe the installation instructions of the tank extracting device.

► Trace outline **2** on tank fitting **1** as shown.

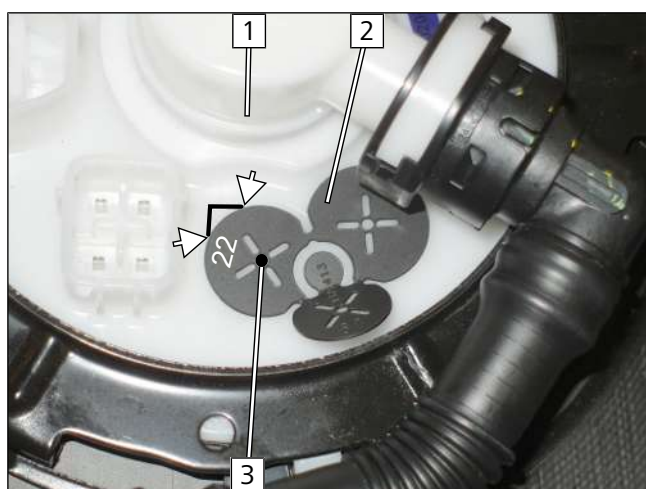


Fig. 49

- 1** Tank fitting
- 2** Position Ø22 drilling template as shown in fig.
- 3** Copying hole pattern

## Work step F3



Fig. 50



### **DANGER**

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

- 1** Hole made with provided drill



Work steps F4, F5

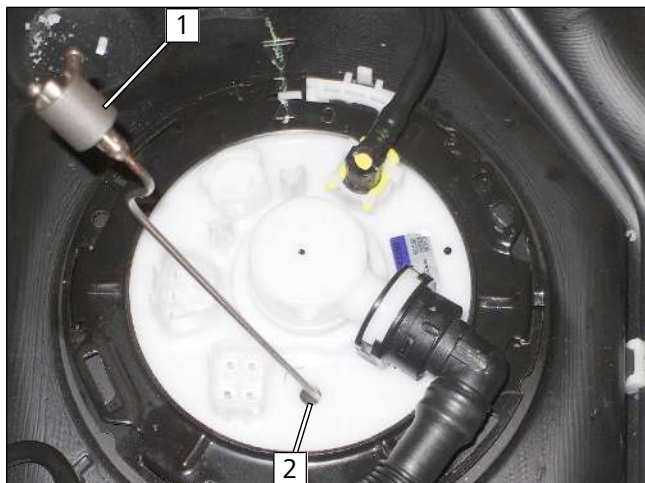


Fig. 51

► Insert FuelFix **1** in hole **2**.



Fig. 52



Fig. 53



Fig. 54



Fig. 55

Work step F5.4

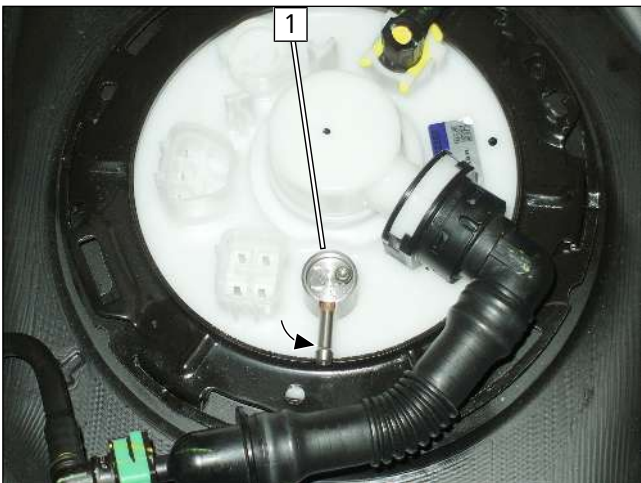
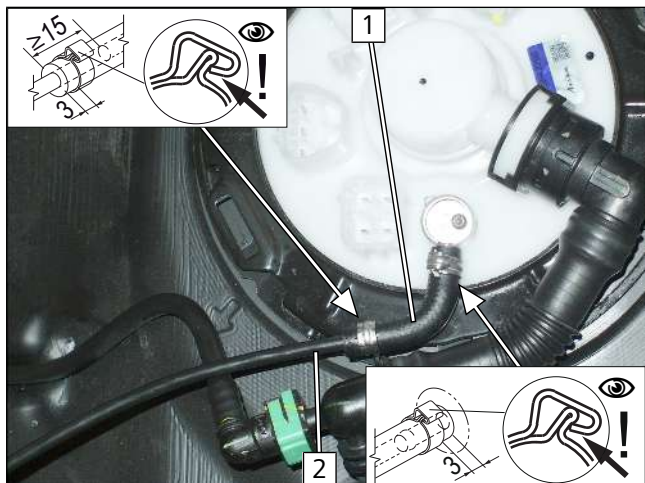


Fig. 56

► Align FuelFix **1** as shown.



### Work step F6



- 1 90° moulded hose, Ø10 clamp [2x]
- 2 Fuel line

Fig. 57

### Work step F7

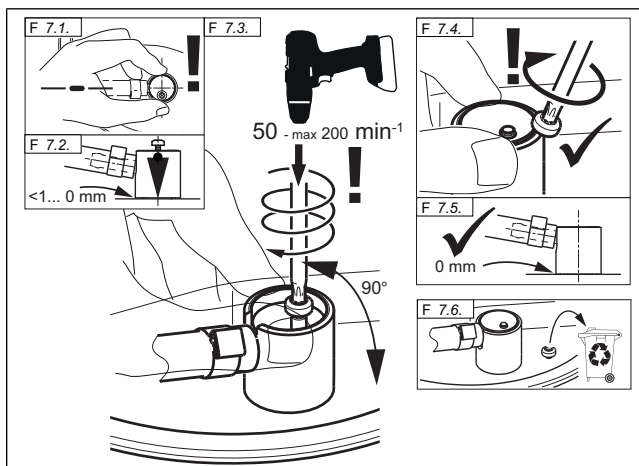


Fig. 58

### Work step F8



Fig. 59



### DANGER

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



## Securing fuel line

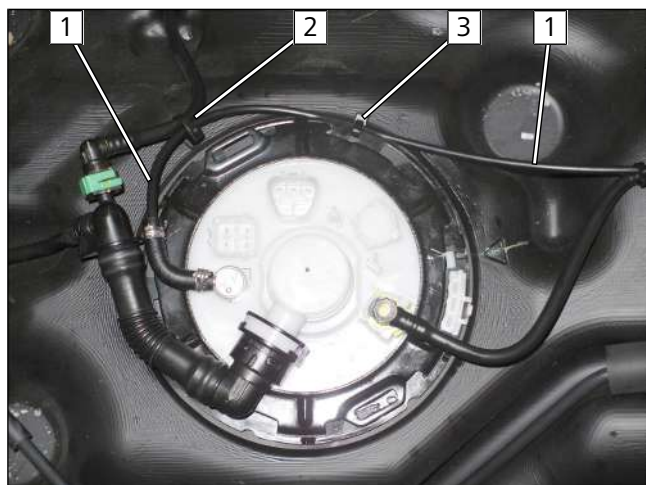


Fig. 60

- 1 Fuel line
- 2 Cable tie on original vehicle line for tension relief
- 3 Cable tie on retaining plate of tank fitting

## Routing fuel line

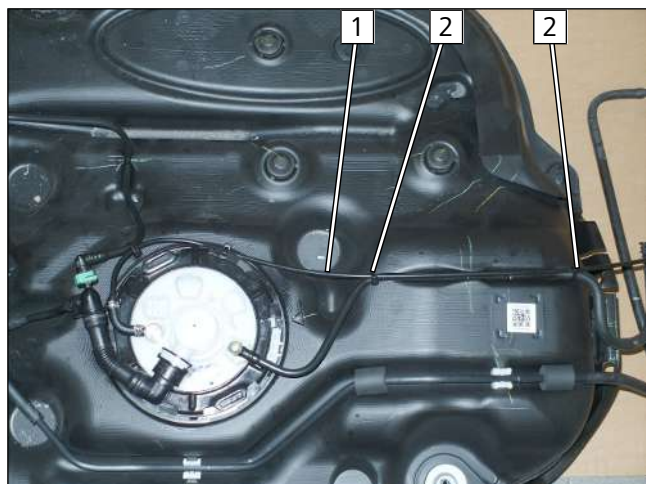


Fig. 61

- ▶ Route fuel line 1 along the tank and attach to original vehicle line with cable ties 2.



Mount the tank as per the manufacturer's instructions.

## 9.3 Fuel pump connection

### Routing fuel line of FuelFix



Fig. 62

- ▶ Route fuel line of FuelFix 1 along the original vehicle lines to the fuel pump.



### Connecting fuel line of FuelFix

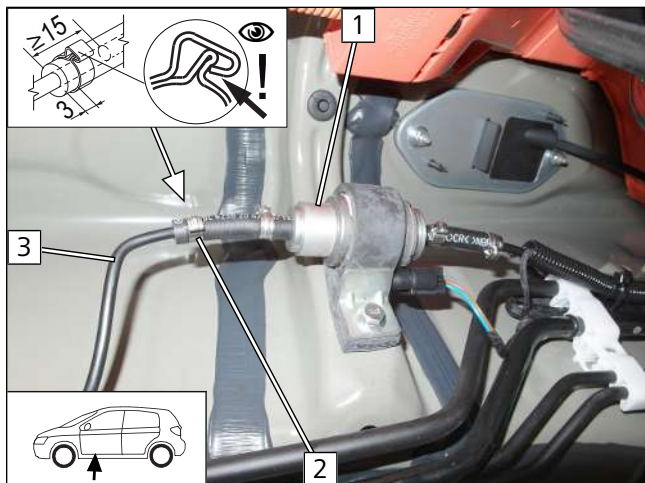


Fig. 63

- 1 Fuel pump
- 2 Ø10 clamp
- 3 Fuel line of FuelFix

### Fastening fuel line of FuelFix

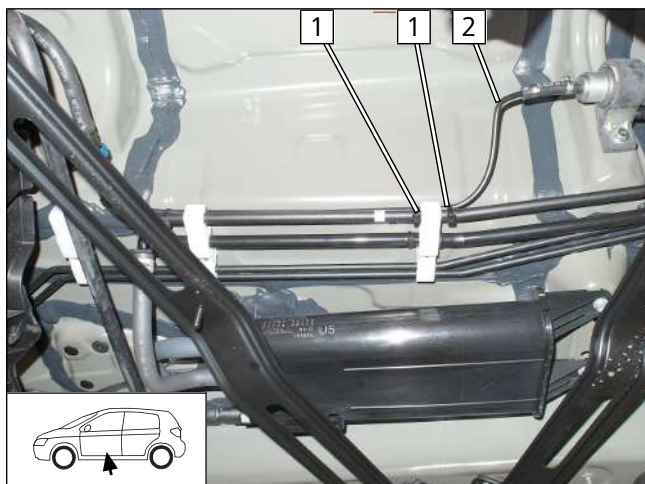


Fig. 64

- Attach fuel line of FuelFix **2** to original vehicle lines with cable ties **1**.



## 10 Coolant

### 10.1 Hose routing diagram

'Inline' coolant circuit

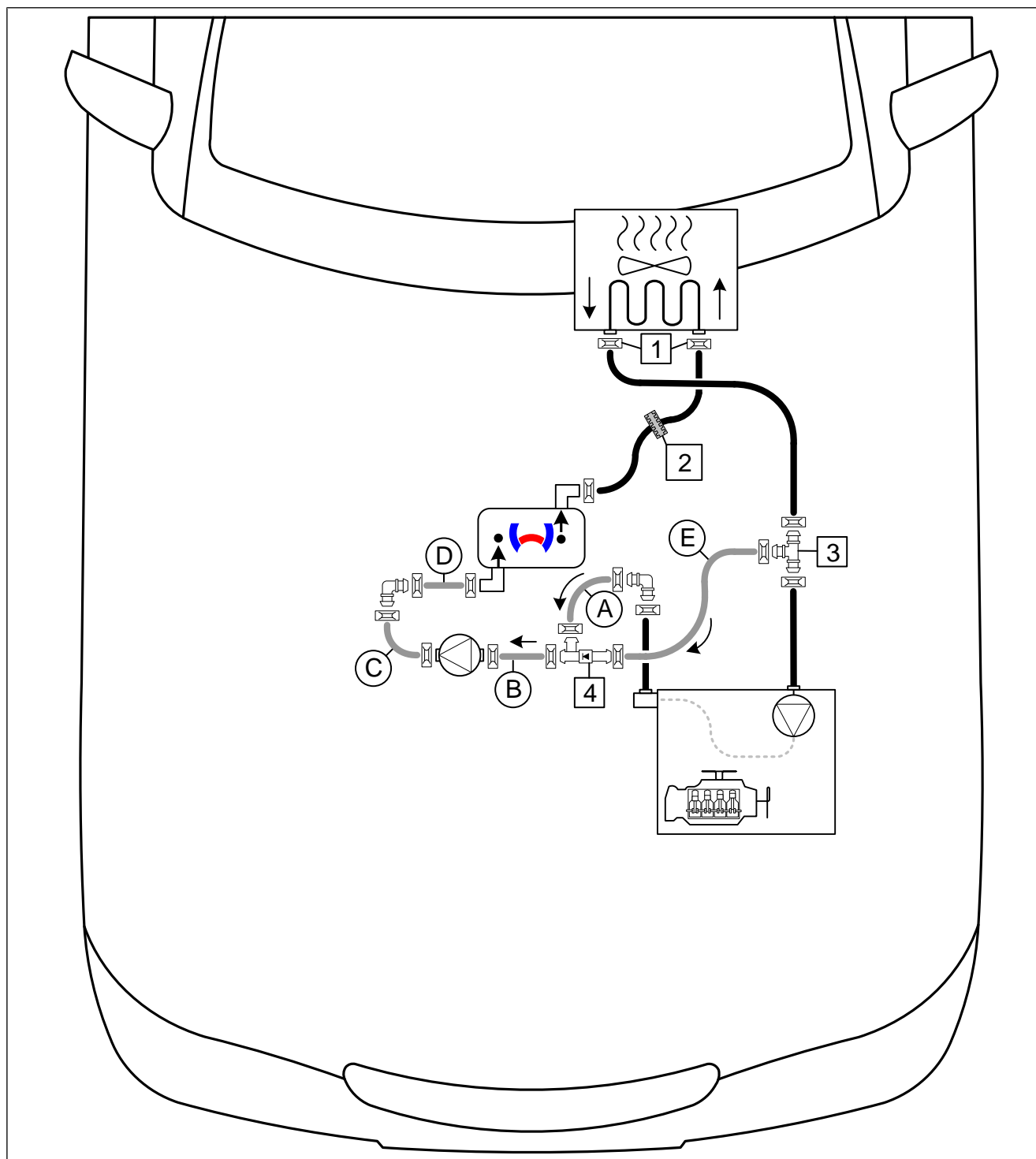


Fig. 65

All spring clips without a specific designation  = Ø25

All connecting pipes  = Ø18x18/90°

**1** Original vehicle spring clip; **2** Black rubber isolator; **3** T-piece; **4** Non-return valve





## 10.2 Coolant circuit installation

### Cutting point



Fig. 66

- 1 Quick-release coupling of engine inlet connection
- 2 Original vehicle heat exchanger outlet hose section

### Premounting T-piece hose group



Fig. 67

- 1 Original vehicle heat exchanger outlet hose section
- 2 Original vehicle spring clip
- 3 T piece
- 4 Quick-release coupling of engine inlet connection

### Premounting non-return valve hose group



Fig. 68

- 1 Mount engine outlet hose section with quick-release coupling
- 2 Non-return valve



## Completing hose groups

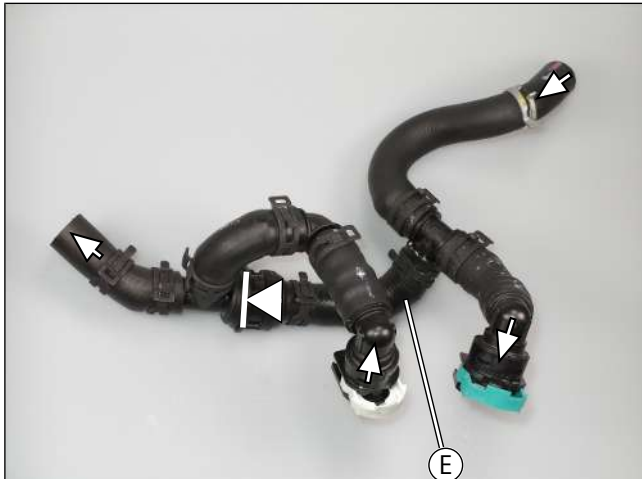


Fig. 69

## Connection to heat exchanger inlet

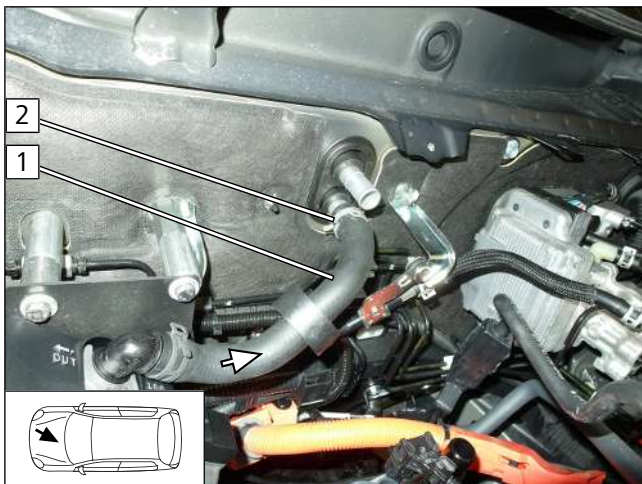


Fig. 70

- 1 Heater outlet/heat exchanger inlet hose section
- 2 Original vehicle spring clip

## Mounting hose group

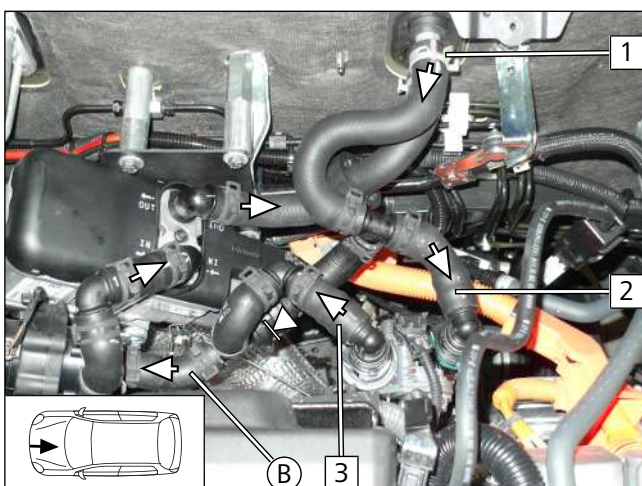


Fig. 71

- ▶ Connect hose **B** to coolant pump inlet.
- 1 Original vehicle spring clip for heat exchanger outlet
- 2 Hose section of engine inlet with quick-release coupling
- 3 Hose section of engine outlet with quick-release coupling



## 11 Combustion air

### Premounting combustion air intake silencer

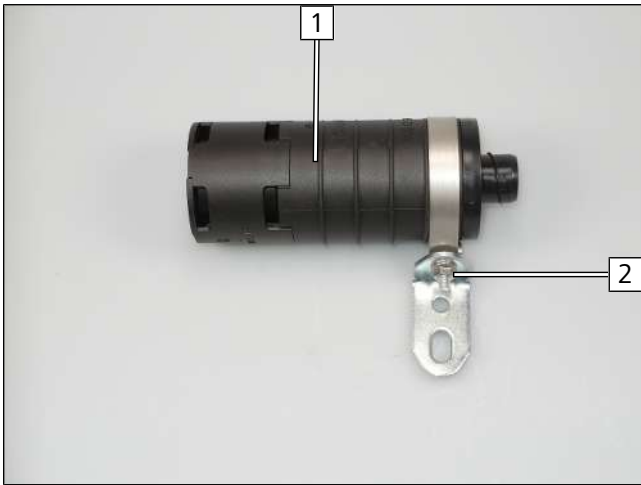


Fig. 72

- 1 Combustion air intake silencer
- 2 M5x16 bolt, 51 mm dia. clamp, angle bracket, flanged nut

### Mounting combustion air intake silencer

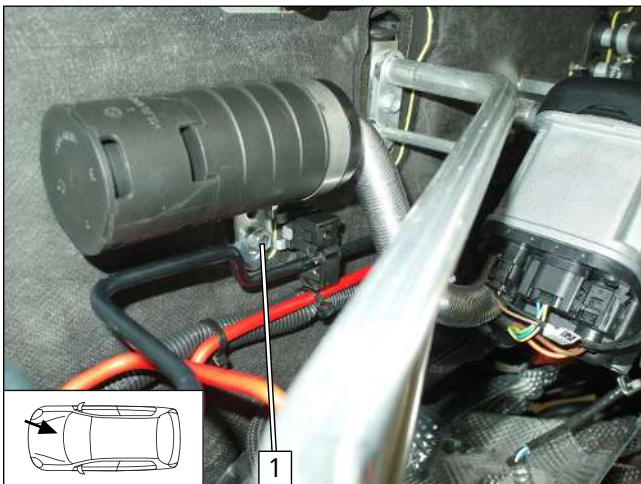


Fig. 73



Observe the installation instructions of the combustion air intake silencer.

- 1 Original vehicle bolt, angle bracket, original vehicle threaded hole



## 12 Exhaust

### 12.1 Mounting exhaust pipe

Bending perforated bracket, enlarging hole

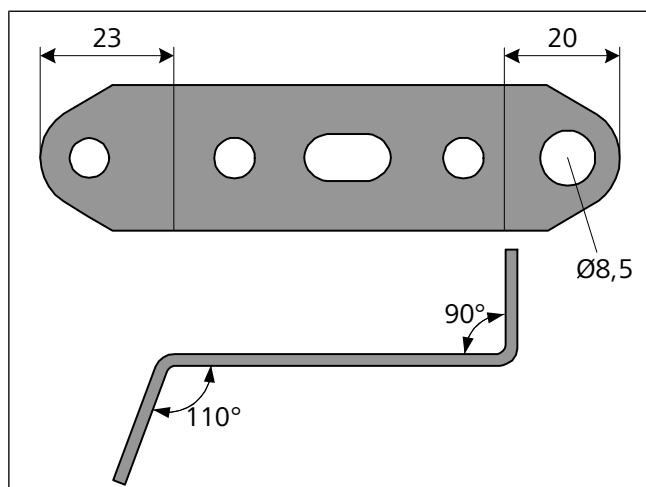


Fig. 74

Premounting exhaust silencer



Fig. 75

- 1 M6x16 bolt, spring lockwasher, perforated bracket, exhaust silencer
- 2 Hose clamp
- 3 Exhaust elbow

Mounting exhaust silencer

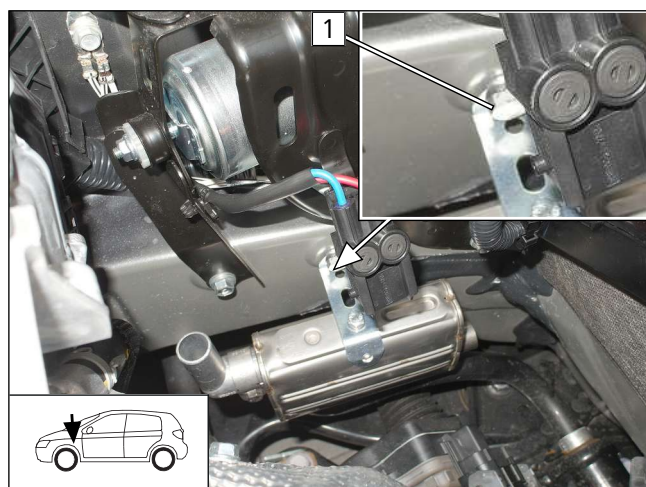


Fig. 76

- 1 M8x20 bolt, spring lock washer, premounted perforated bracket, original vehicle threaded hole



## Mounting exhaust pipe **a1** onto HG

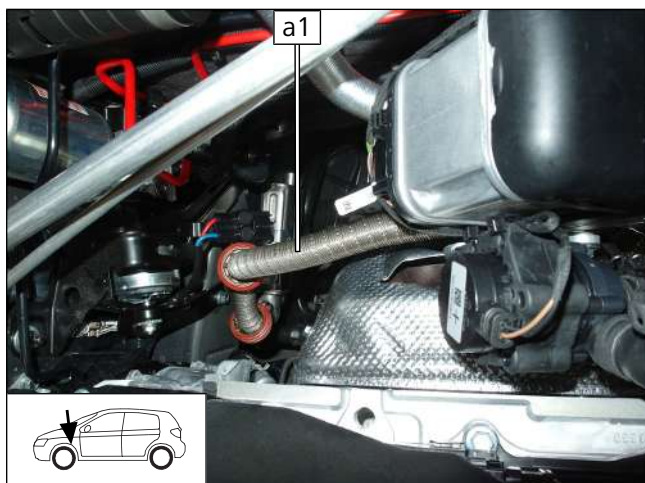


Fig. 77

## Mounting exhaust pipe **a1** on exhaust silencer, checking distance

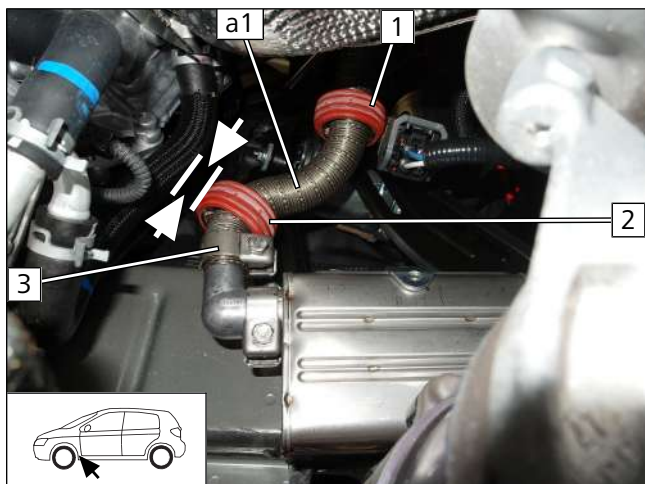


Fig. 78



Ensure sufficient distance between spacer bracket **2** and original vehicle hose, correct if necessary.



- 1** Spacer bracket, align with original vehicle connector
- 3** Hose clamp

## Premounting exhaust pipe **a2**

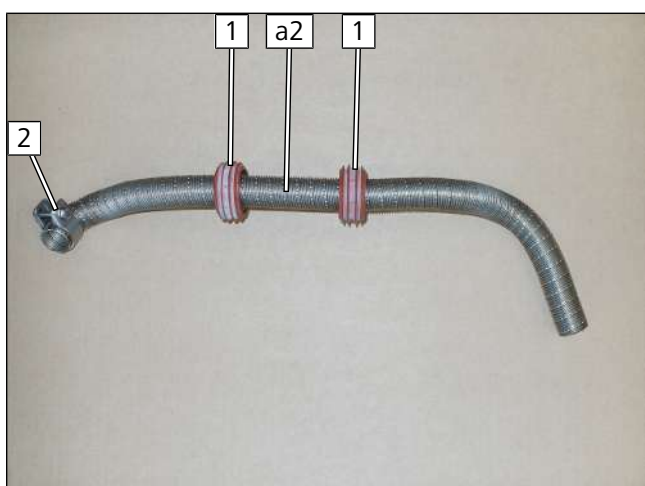


Fig. 79

- 1** Spacer bracket
- 2** Mount hose clamp loosely



## Mounting exhaust pipe **a2**, aligning spacer bracket

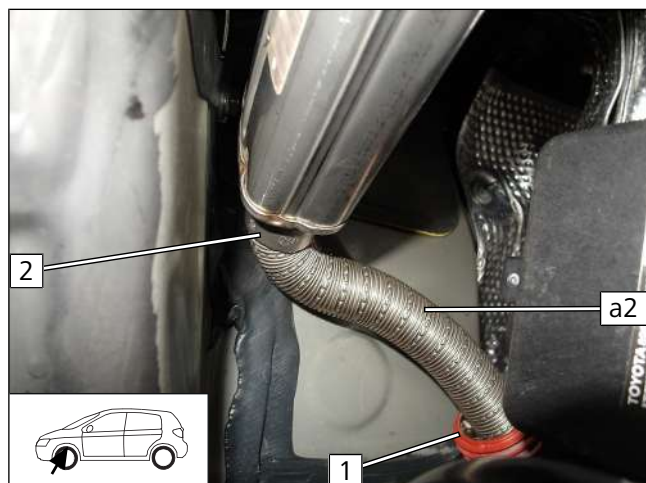


Fig. 80

- 1 Spacer bracket, align with body panel
- 2 Tighten hose clamp

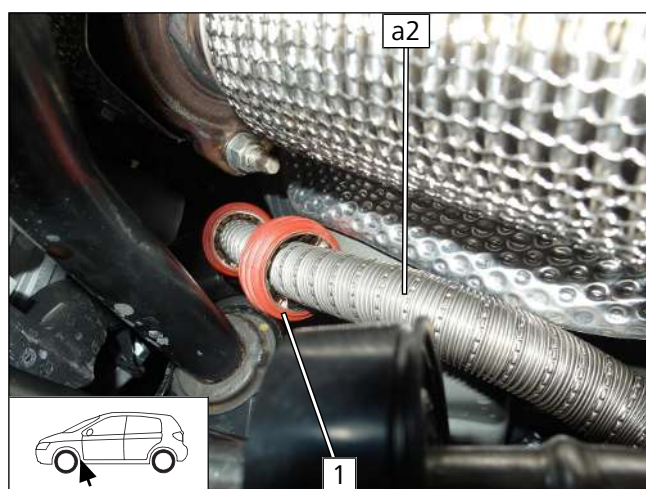


Fig. 81

- 1 Spacer bracket, align with anti-roll bar

## 12.2 Mounting exhaust end fastener

### Bending EFIX

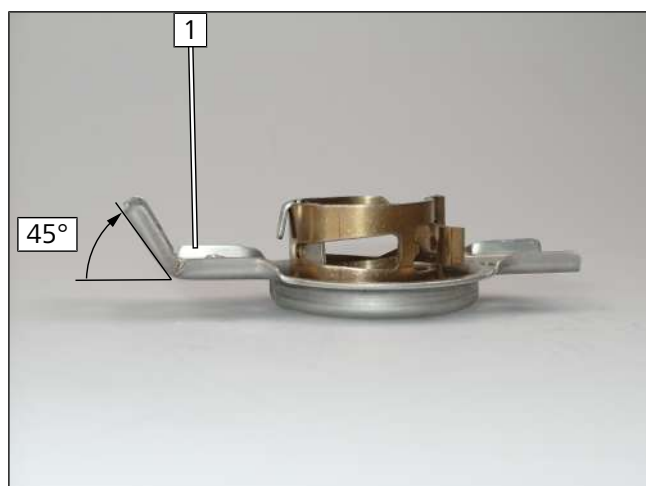


Fig. 82

- 1 EFIX



## Work step E1

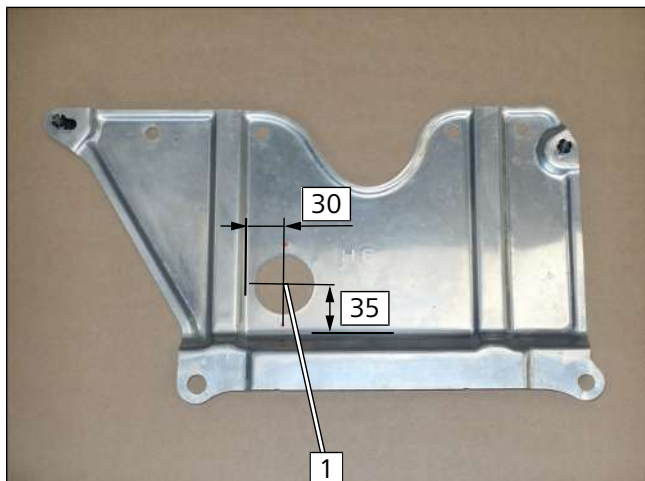


Fig. 83



Observe the EFIX installation instructions.

► Drill hole in under-ride protection.

- 1 Hole

## Work step E3

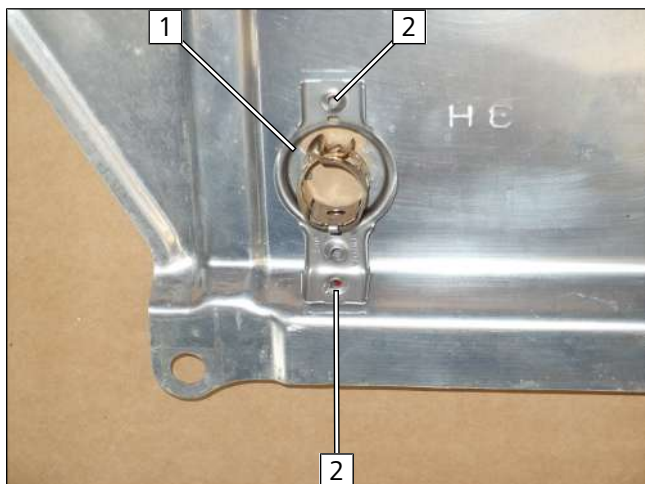


Fig. 84

► Copying hole pattern.

- 1 EFIX
- 2 Hole pattern

## Work step E4



Fig. 85

► Drill holes in under-ride protection.

- 1 Hole



### Work step E5

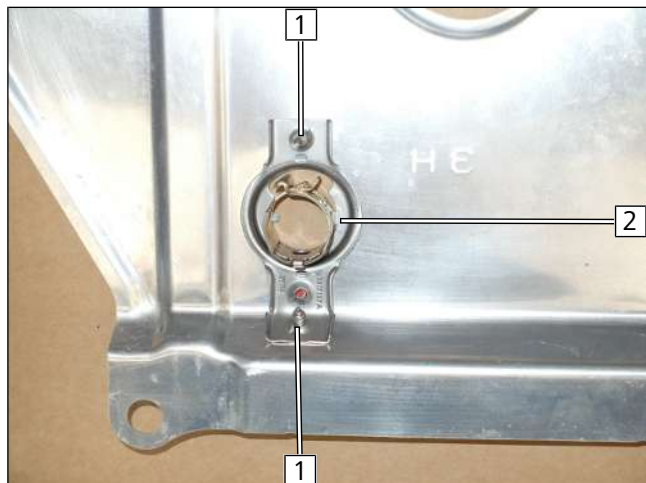


Fig. 86

- ▶ Mount exhaust end fastener.
- 1** 5x13 self-tapping screw
- 2** EFIX

### Work steps E6-E8

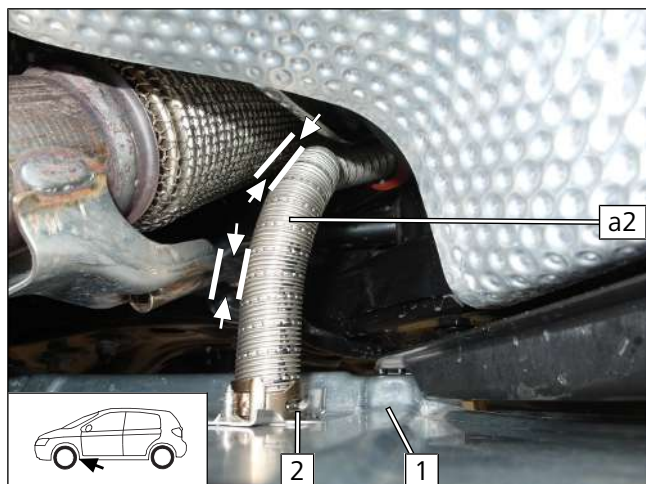


Fig. 87

- ▶ Mount exhaust pipe **a2**.



Danger of damage to components  
Ensure sufficient distance between exhaust pipe **a2** and original vehicle exhaust system, correct if necessary.



- 1** Underride protection
- 2** EFIX





---

## 13 Electrical system of passenger compartment

### 13.1 Air-conditioning control

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



'Webasto Standard' A/C control installation documentation for Toyota



## 14 Electrical system of control element

### 14.1 Telestart option

#### Preparing bracket

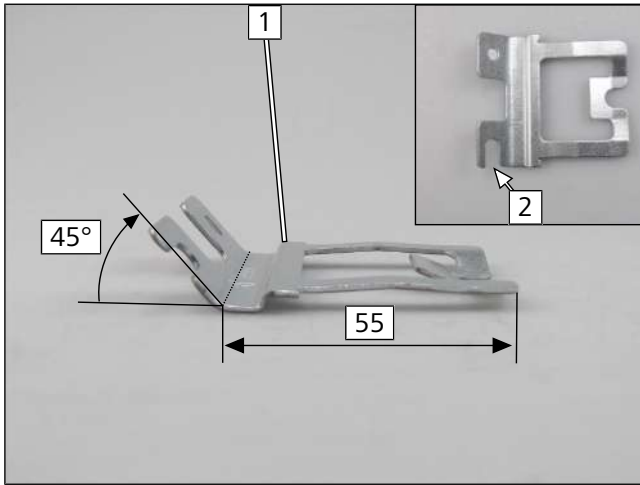


Fig. 88

► Enlarge oblong hole at position **2** to  $\text{Ø}6.5$ .

**1** Telestart bracket

#### Premounting bracket

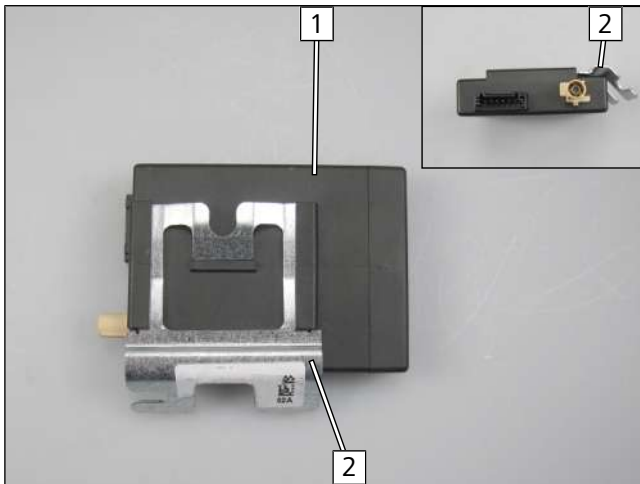


Fig. 89

**1** Telestart receiver

**2** Telestart bracket

#### Mounting receiver

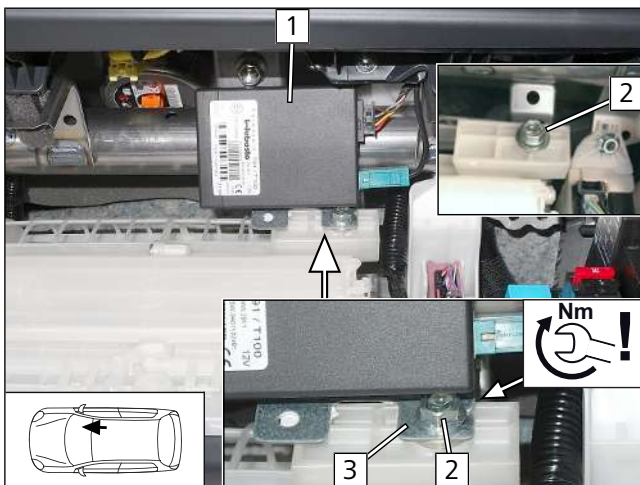



Fig. 90

 Observe the Telestart installation documentation.

► Unscrew original vehicle bolt **2** by 2-3 threads, insert premounted bracket **3** as shown and tighten the bolt again.

**1** Receiver



## Mounting temperature sensor, only in case of T100 HTM

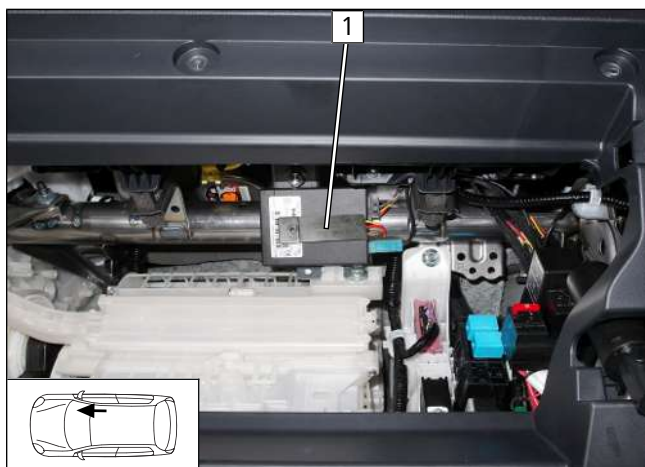


Fig. 91

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

## Mounting aerial

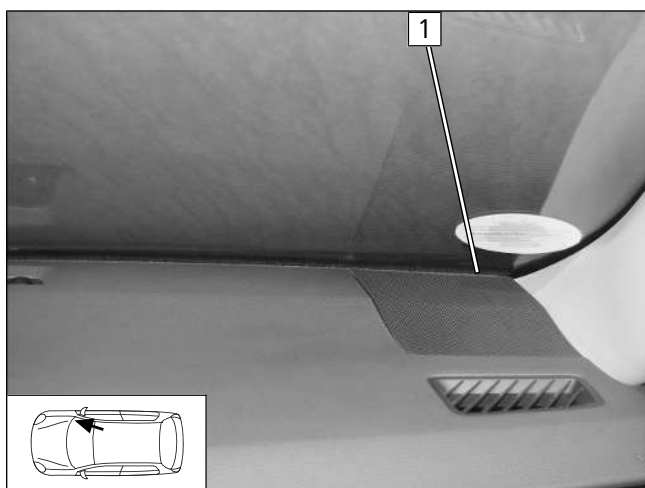


Fig. 92

- 1** Aerial

## 14.2 ThermoCall option

### Mounting receiver

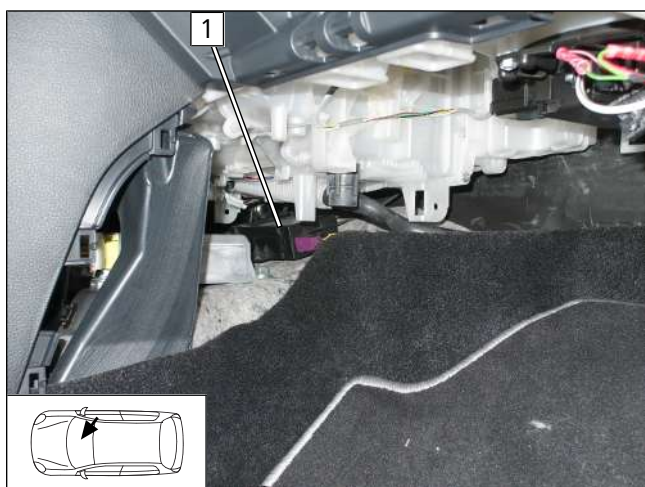


Fig. 93

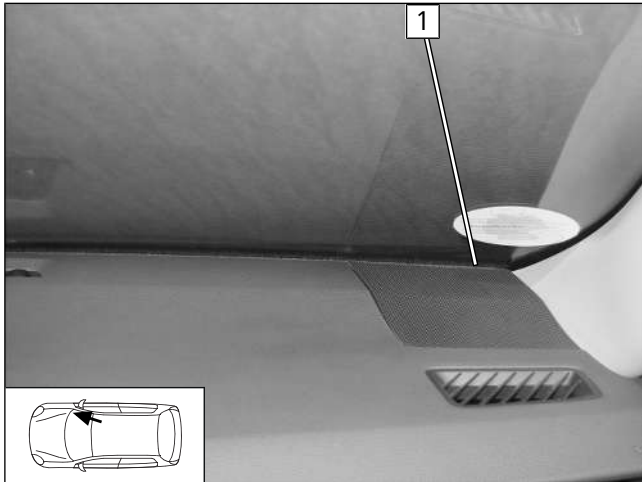


Observe the ThermoCall installation documentation.

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



Mounting aerial (optional)



**1** Aerial

*Fig. 94*



## 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)



### Activation of the hybrid system

Reactivate the hybrid system as per the manufacturer's instructions before connecting the 12V vehicle battery:

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



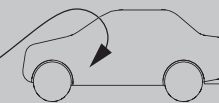
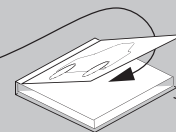
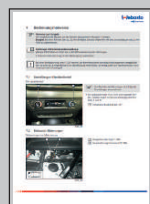
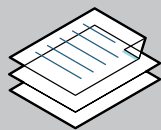
### Only use manufacturer-approved coolant.

- ▶ 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, teach Telestart transmitter
- ▶ See general heater installation instructions for notes on initial start-up and function check
- ▶ Make settings on A/C control panel according to the 'Operating Instructions'
- ▶ Affix 'Switch off parking heater before refuelling' caution label in area of filler point



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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WWW.WEBASTO.COM



## 16 FuelFix template



100mm

0

100mm

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.

