EN

K

Installation documentation

for water heater Thermo Top Evo

'Inline' coolant circuit with engine preheating

Toyota C-HR

Left-hand drive vehicle

Manufacturer	Model	Type	Model year	EG-BE-No. / ABE
Toyota	C-HR	AX1T (EU,M)	from 2020	e6* 2007/46* 0338*…

Motorisation	Fuel	Emission standard	Transmission type	Output [kW]	Displace-ment [cm³]	Engine code
2.0P Hybrid	Petrol	Euro 6;WLTP;AP…	E-CVT	112	1987	M20A

Validity	Equipment variants	Model
		C-HR
Verified equipment variants	2 zone automatic air-conditioning	x
	LED daytime running lights	x
	LED main headlights	x
	Halogen front fog lights	x
	Start button with keycard	x
	Automatic Start-Stop system	x
Unverified equipment variants	Passenger compartment monitoring	x

Total installation time	Note
10.5 hours	

Contents

1 List of abbreviations

AAC	Automatic air-conditioning
AC	Manual air-conditioning
DP	Fuel pump
E-CVT	Electronically-controlled continuously variable automatic transmission
EFIX	Exhaust end fastener
Fig.	Figure
HG	Heater
SH2	Engine compartment fuse holder for F1/F2
UP	Coolant pump
Veh.	Vehicle
X10	Female plug for control element

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 C-HR 2.0 Hybrid model year 2020	1327899A
Additional 'Webasto Standard' A/C control kit for Toyota	1324414_
In case of Telestart, control element, as well as indicator lamp in consultation with end customer	In accordance with price list
The following must also be ordered via TDG: tank fitting gasket, Toyota order no.	77169-F4050

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	K
Vehicle-specific installation documentation of the cold start kit	M
Webasto Comfort A/C control	H
Webasto Standard A/C control	G
Tank extracting device (e.g. FuelFix)	F
Exhaust end fastener (EFIX)	E
Combustion air intake silencer	L
Spacer bracket (ASH)	S

3.4.2 Use of symbols

DANGER

Type and source of the risk

Consequences: Failure to follow the instructions can result in death

▶ Actions to protect yourself against risks.

WARNING

Type and source of the risk

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

▶ Actions to protect yourself against risks.

CAUTION

Type and source of the risk

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

▶ Actions to protect yourself against risks.

Type and source of the risk

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

▶ Actions to protect yourself against risks.

Reference to the vehicle manufacturer's specific documents.

Note on a special technical feature

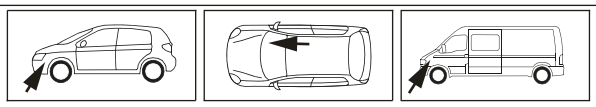
3.4.3 Work step identification marks

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

Mechanical system	Electrical system	High-voltage	Coolant

Combustion air	Fuel	Exhaust	Software

3.4.4 Orientation aid



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

3.4.5 Use of highlighting

Highlight	Explanation
✓	Action
▶	Necessary action
⇨	Result of an action
1 / 12 / a1	Position numbers for the image descriptions
① / ⑫ / Ⓐ	Position numbers for the image descriptions for electrical wires and 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	▶ Open the fuel tank cap ▶ Ventilate the fuel tank ▶ Close the fuel tank cap again ▶ Depressurise the cooling system	K
Engine compartment and body	▶ Disconnect the battery (in the boot) ▶ Air filter box ▶ Windscreen wiper and windscreen wiper motor ▶ Water drain chamber and water drain chamber cover ▶ Front wheel on the driver's side ▶ Rear wheel on the driver's side ▶ Bumper trim ▶ Front and rear motor protection ▶ Front and rear underride protection on the driver's side	K
Passenger compartment	▶ Side and lower instrument panel trim on the driver's side ▶ Upper A-pillar trim on the driver's side (in case of Telestart) ▶ Rear bench seat ▶ Tank fitting service lid	K G

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	▶ Remove the tank fitting ▶ Remove the tank filling hose group	K

5.2 Heater preparation

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

6 Installation overview

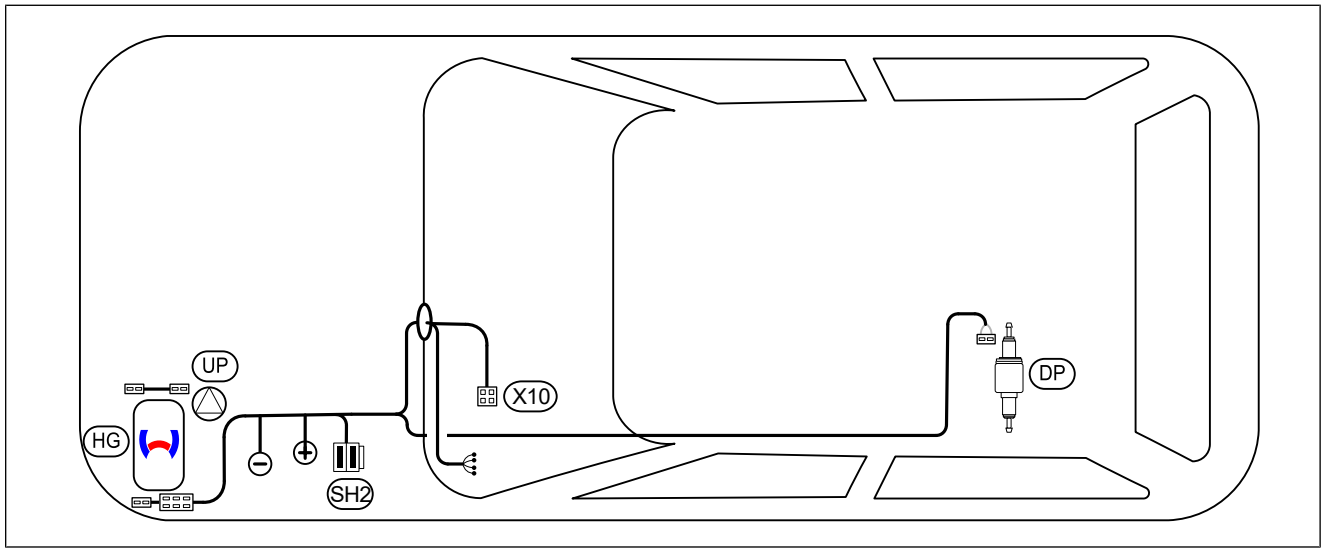


Fig. 1

Legend to installation overview

Abbreviation	Component
DP	Fuel pump
HG	Heater
SH2	Engine compartment fuse holder for F1/F2
UP	Coolant pump
X10	Female plug for control element

Heater installation location

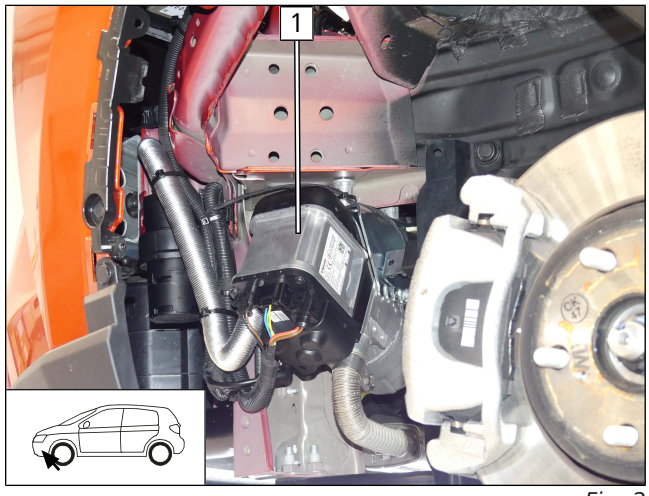
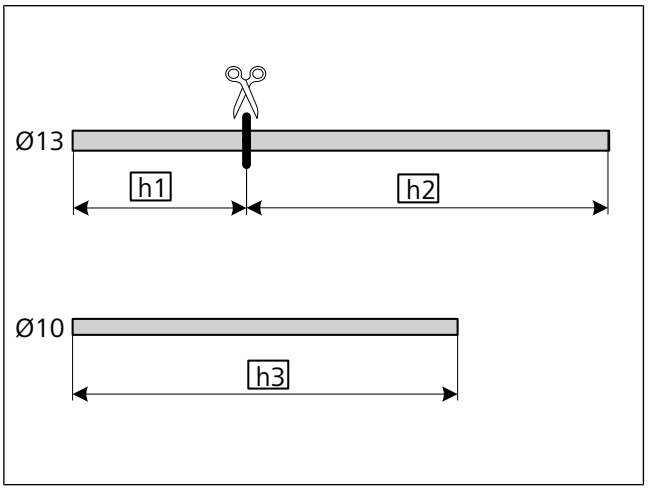


Fig. 2

1 Heater

7 Electrical system of engine compartment

Cutting to length and assigning corrugated tubes



h1 550
h2 1450
h3 1130

Fig. 3

Dismantling fuel pump connector X7

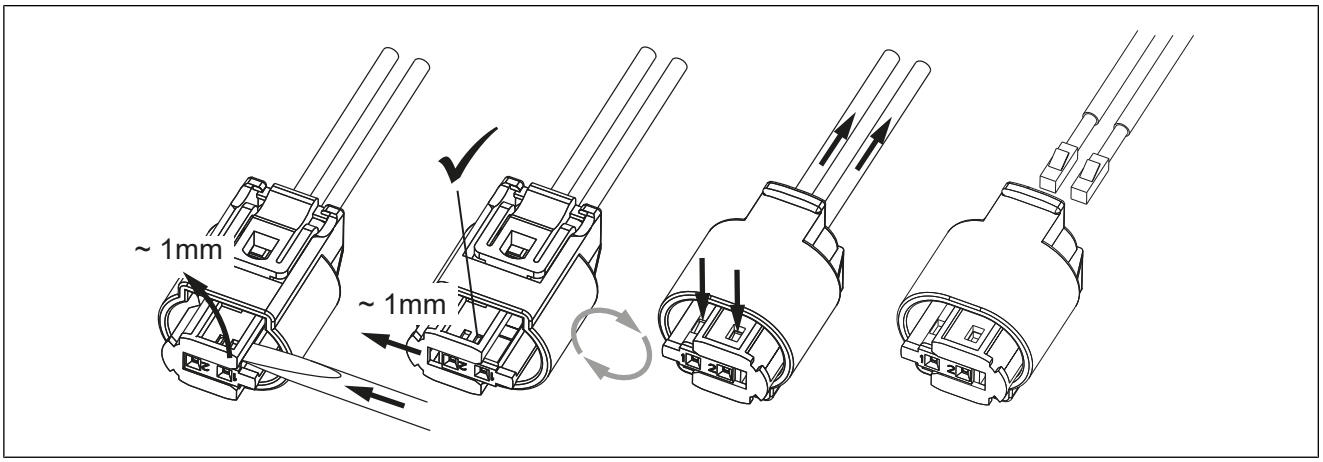


Fig. 4

Premounting wiring harness and fuel line

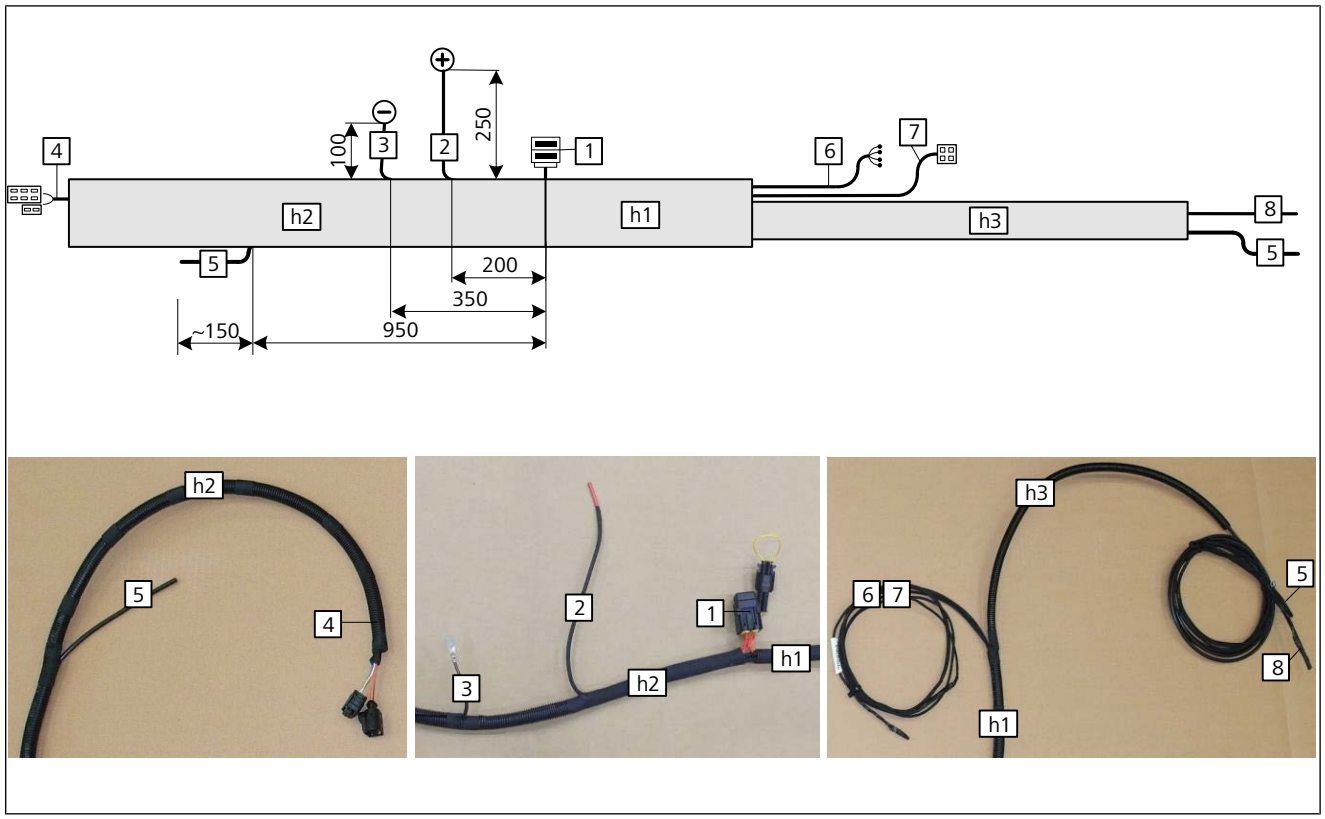


Fig. 5

▶ Wrap corrugated tubes **h1** and **h2** at regular intervals with insulating tape.

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

Shortening and bending perforated bracket

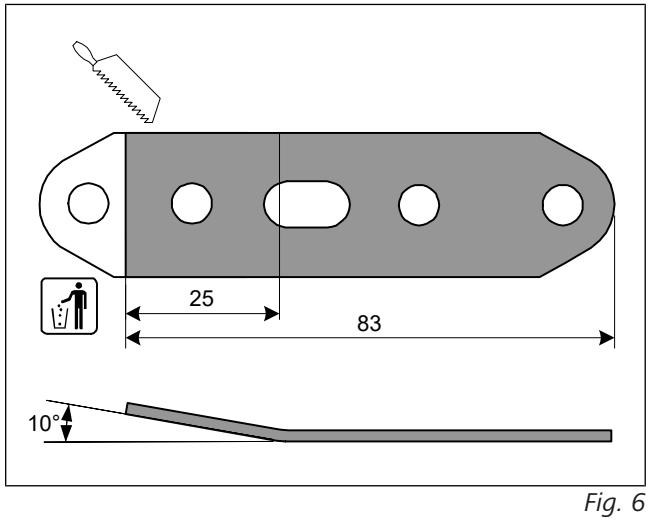


Fig. 6

Premounting SH2

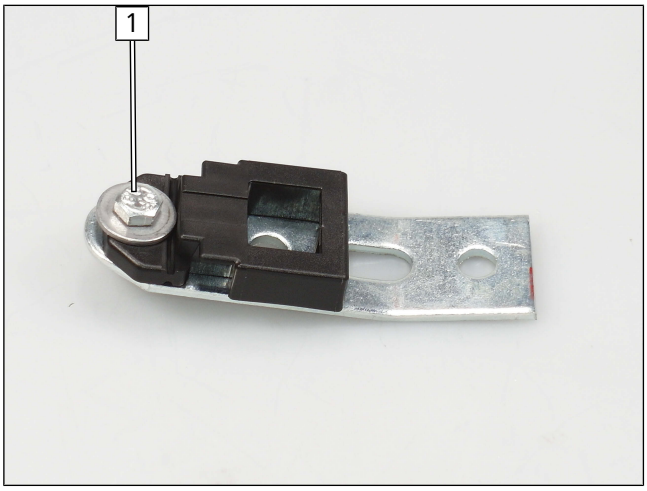


Fig. 7

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

Installing SH2

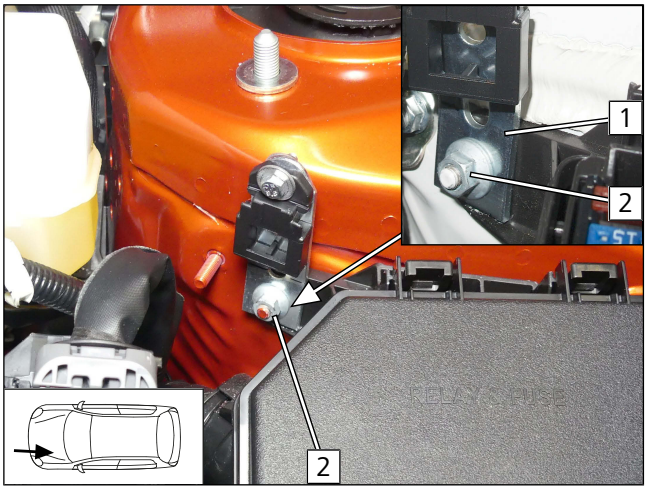


Fig. 8

▶ Remove original vehicle nut [2] and use it to install perforated bracket [1].

[2] Original vehicle stud bolt, housing of engine compartment central electrical box, perforated bracket, original vehicle nut

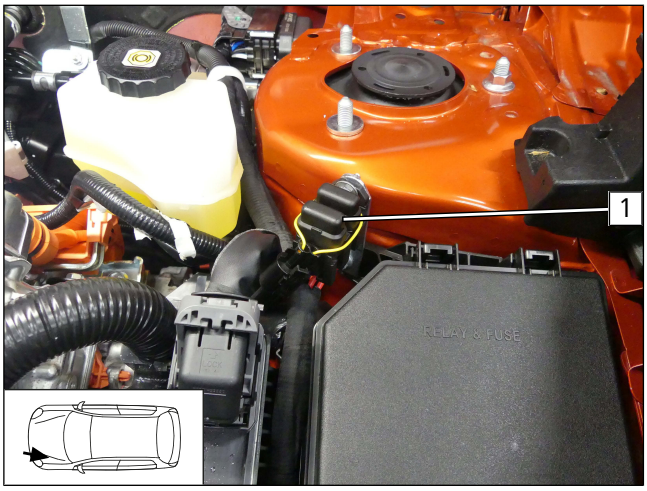


Fig. 9

For a better assembly of the SH2, turn, if necessary, the mounted perforated bracket slightly with a suitable tool.

[1] SH2 with fuse F1 and F2

Mounting earth wire

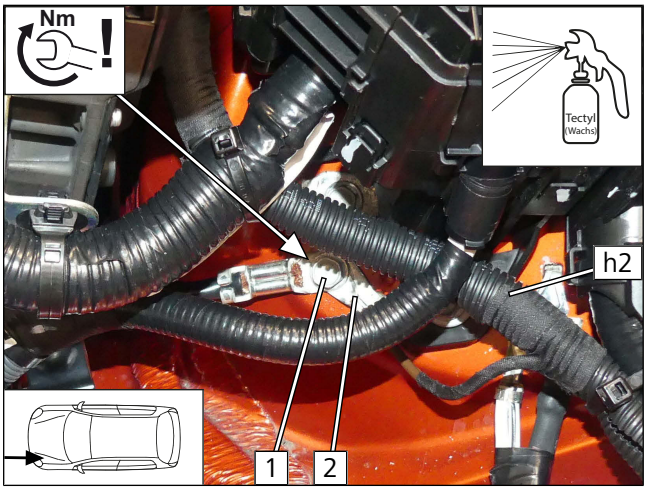


Fig. 10

DANGER

Observe tightening torque

1 Original vehicle earth support point

2 Earth wire

Mounting positive wire

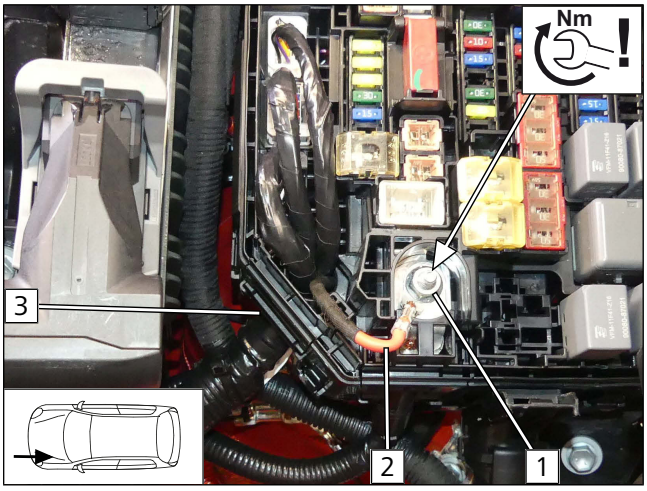


Fig. 11

DANGER

Observe tightening torque

▶ Route positive wire 2 through protective rubber plug 3 into relay box.

1 Original vehicle positive support point

Routing heater wiring harness

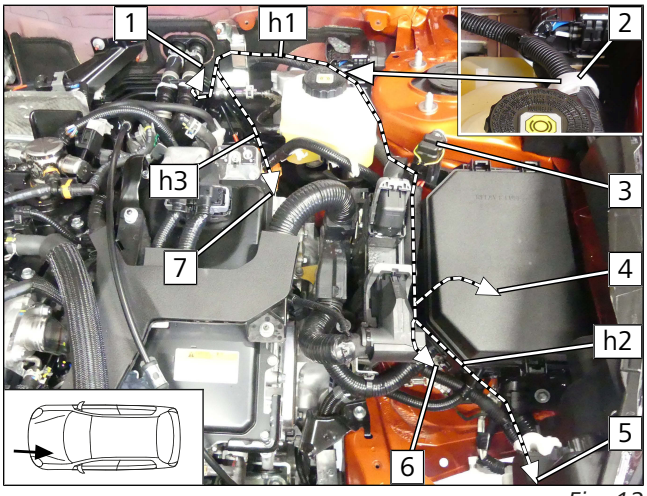


Fig. 12

▶ Draw corrugated tube h1 through original vehicle clamp 2.

1 Passenger compartment and control element wiring harnesses to the passenger compartment pass through

3 SH2

4 Positive wire

5 HG wiring harness to the HG installation location

6 Earth wire

7 Fuel pump wiring harness and fuel line to the underbody

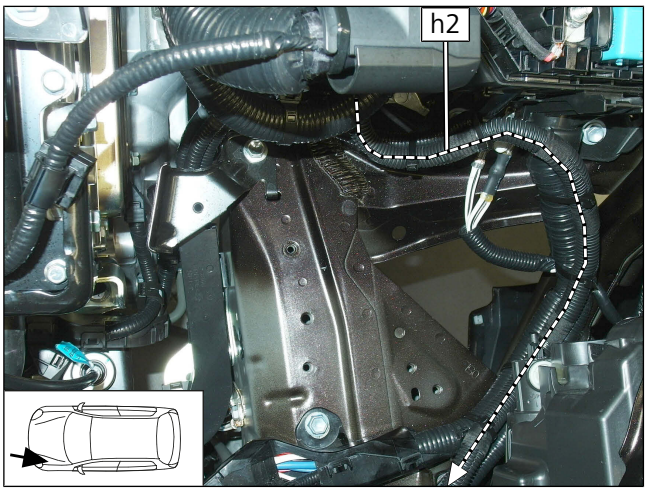


Fig. 13

▶ Route corrugated tube **h2** to the heater installation location.

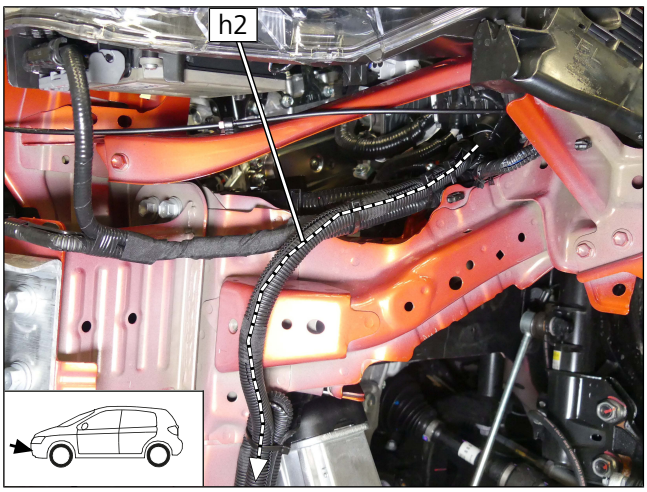


Fig. 14

▶ Route corrugated tube **h2** to the heater installation location and fasten to original vehicle lines with cable ties.

Passenger compartment wiring harness pass through

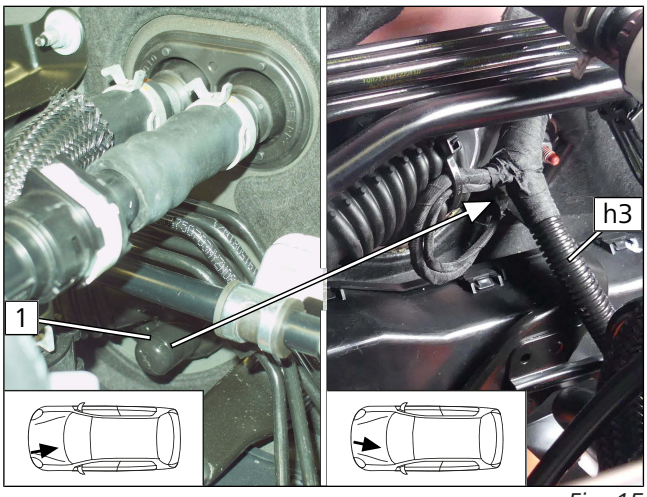


Fig. 15

▶ Open the pass through in the passenger compartment **1**, route the passenger compartment and control element wiring harnesses into the passenger compartment.

8 Mechanical system

8.1 Preparing installation location

Adapting HG bracket

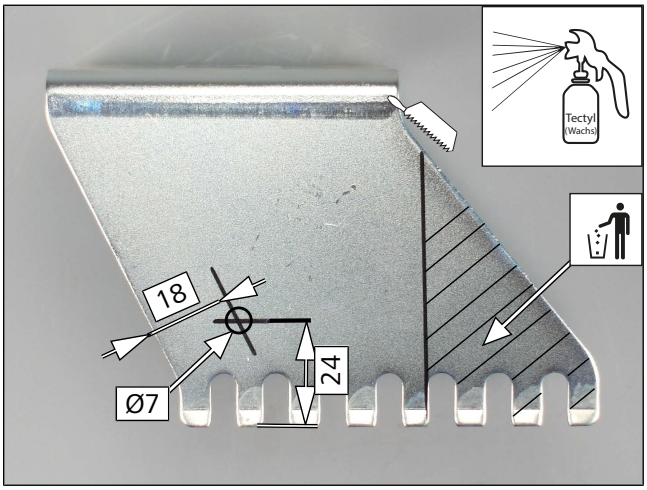


Fig. 16

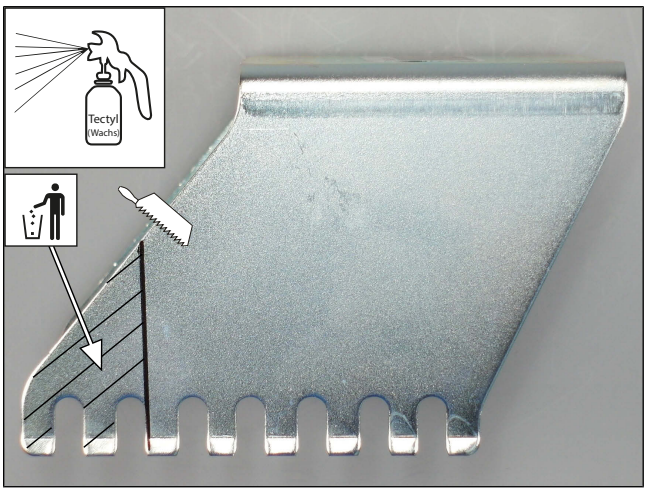


Fig. 17

Enlarging hole, inserting rivet nut

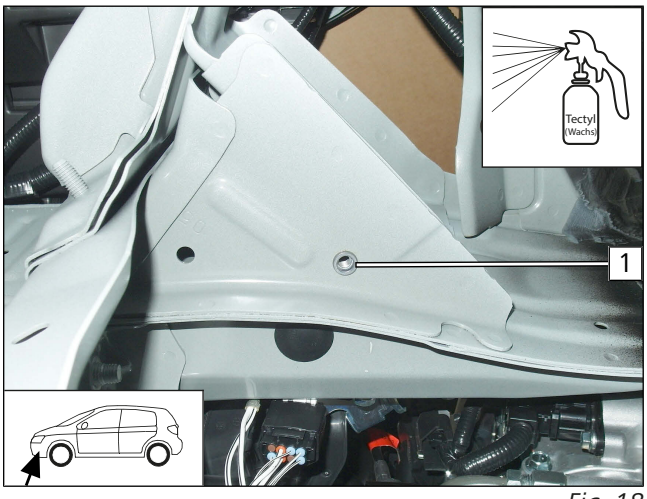


Fig. 18

▶ Enlarge original vehicle hole **1** to Ø9, insert rivet nut.

Copying hole pattern

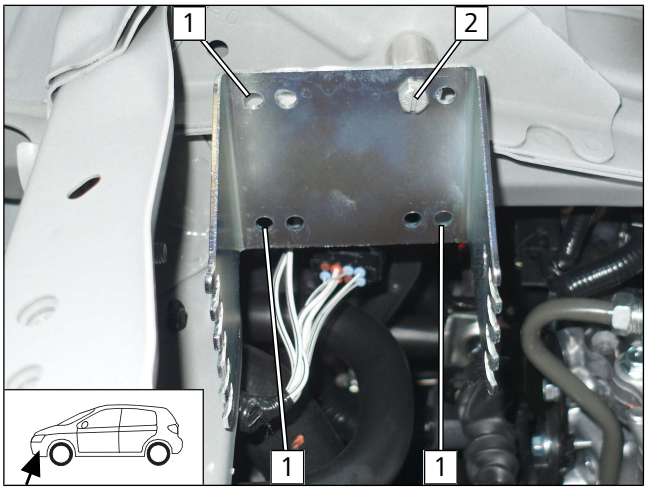


Fig. 19

▶ Mount bracket loosely and align as shown.

1 Hole pattern

2 M6x50 bolt, HG bracket, spacer (5), spacer (20), rivet nut

Drilling hole, inserting rivet nut

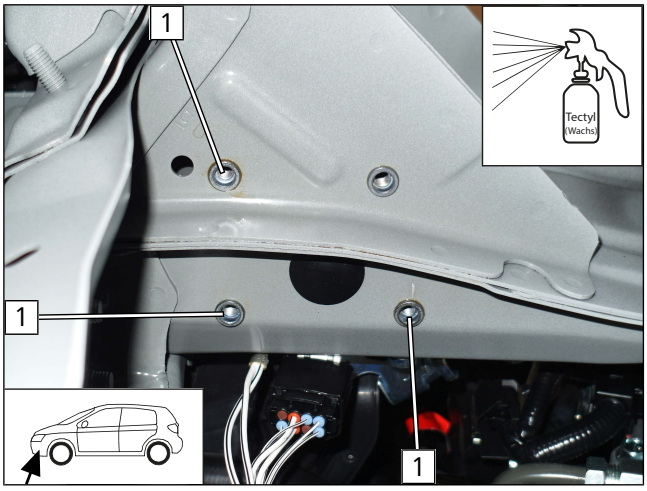


Fig. 20

▶ Remove bracket.

1 Ø9 hole, rivet nut

Mounting heater bracket

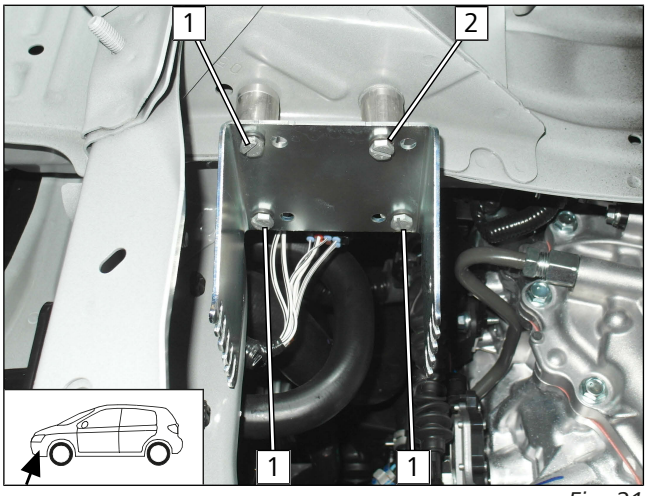


Fig. 21

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

8.2 Premounting heater

Mounting water connection piece

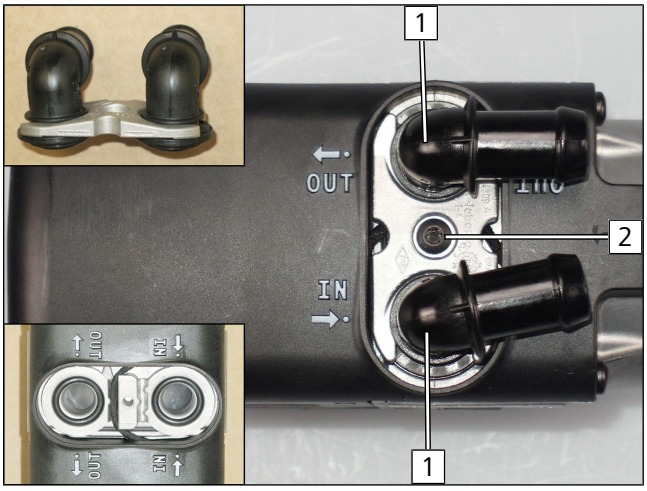


Fig. 22

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

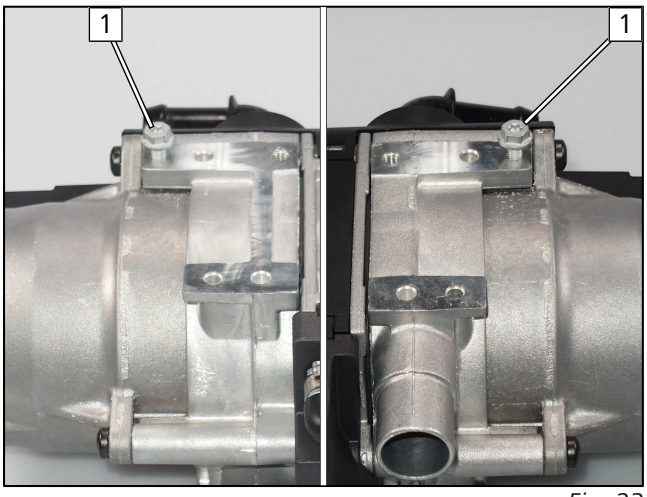


Fig. 23

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

Mounting fuel hose

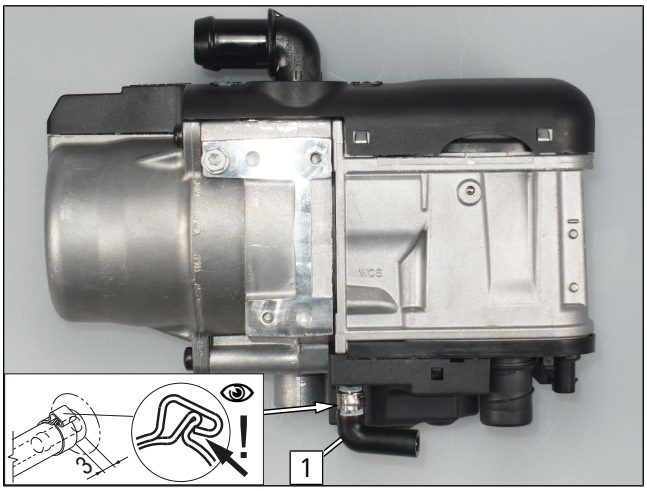


Fig. 24

1 Short, 90°, 4.5x4.5 moulded hose with short side on HG, Ø10 clamp

Cutting hoses to length

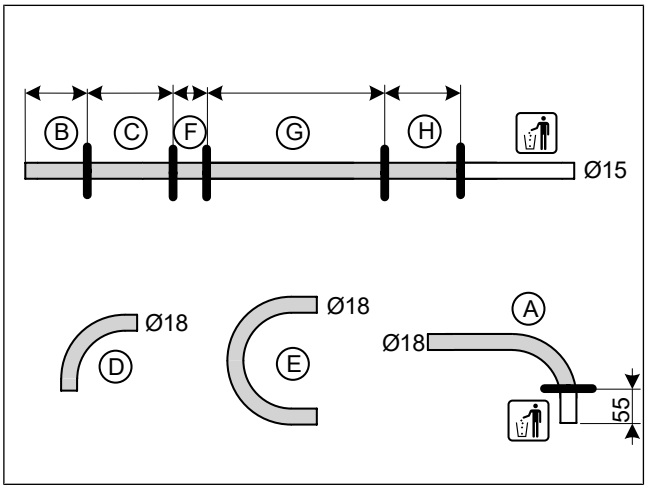


Fig. 25

A	90° moulded hose
B	240
C	460
D	90° moulded hose
E	180° moulded hose
F	65
G	670
H	420

Mounting fabric heat shrink tubing

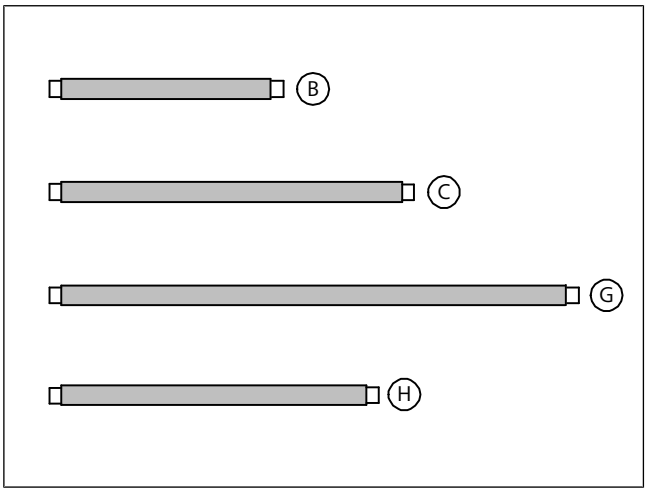


Fig. 26

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

Mounting hoses

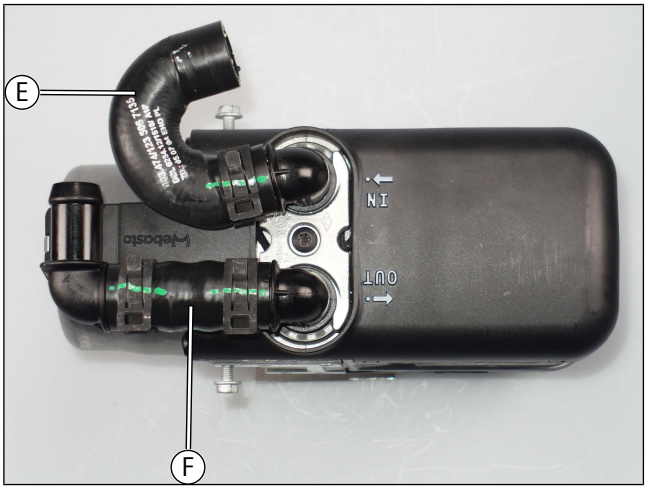


Fig. 27

All spring clips Ø25, Ø18x18/90° connecting pipe

8.3 Heater mounting

Mounting heater

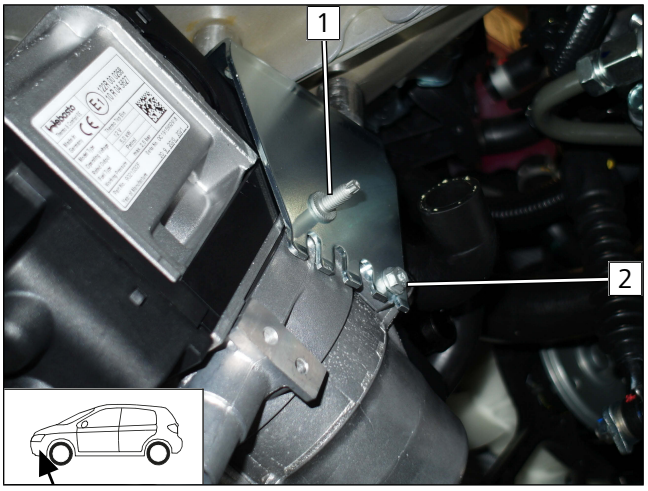


Fig. 28

1 Mount M5/M6x15.5 self-tapping stud bolt
2 Tighten premounted bolt

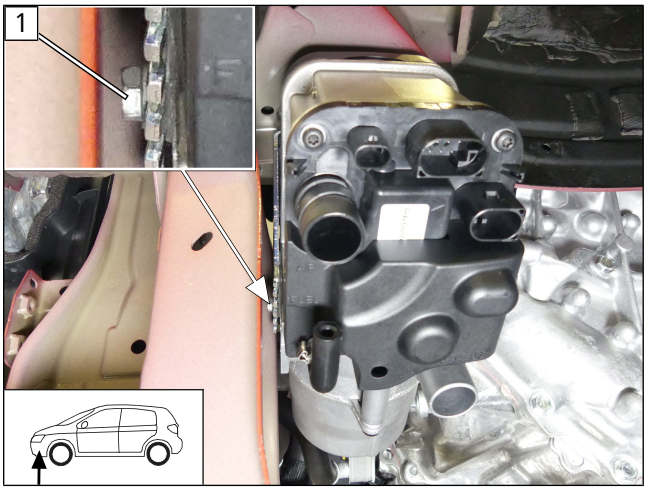


Fig. 29

1 Tighten premounted bolt

Fitting edge protection

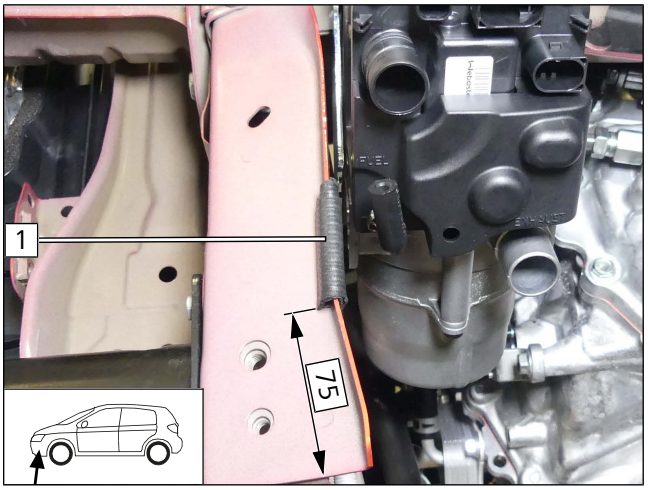


Fig. 30

1 50 lg. edge protection

Mounting heater wiring harness

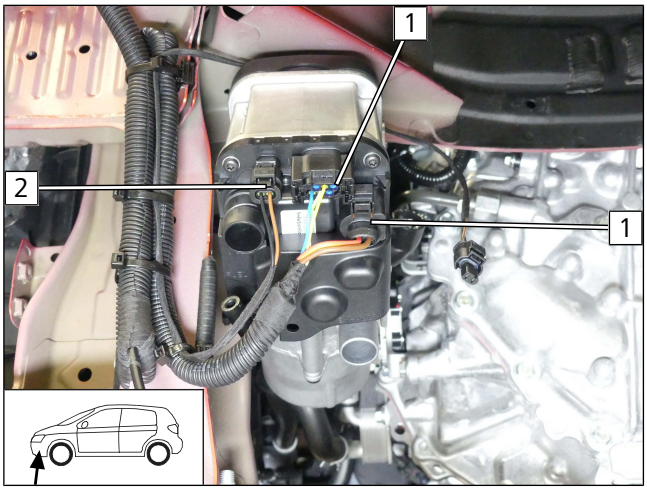


Fig. 31

1 Heater wiring harness connector
2 Coolant pump wiring harness connector

Fastening heater wiring harness

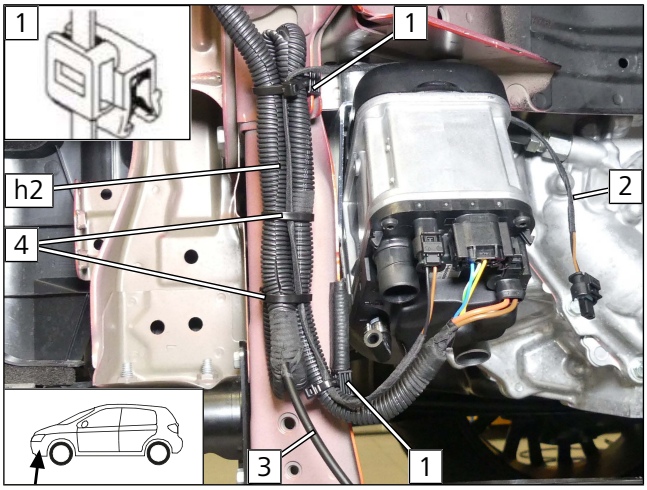


Fig. 32

- Loop corrugated tube **h2** and fasten with edge clip cable tie **1** and cable tie **4**.
- Route coolant pump wiring harness **2** to coolant pump installation location.

3 Fuel line

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

Connection to heater

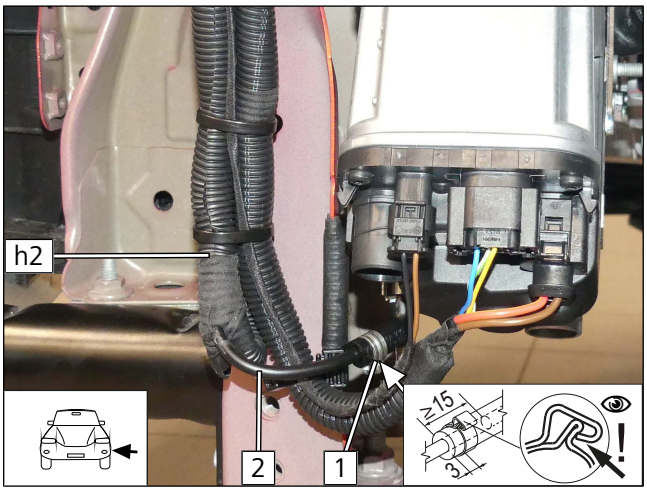


Fig. 33

- ▶ Shorten fuel line [2] in prepared corrugated tube [h2] accordingly and connect to heater.

  [1] Ø10 clamp

Routing line

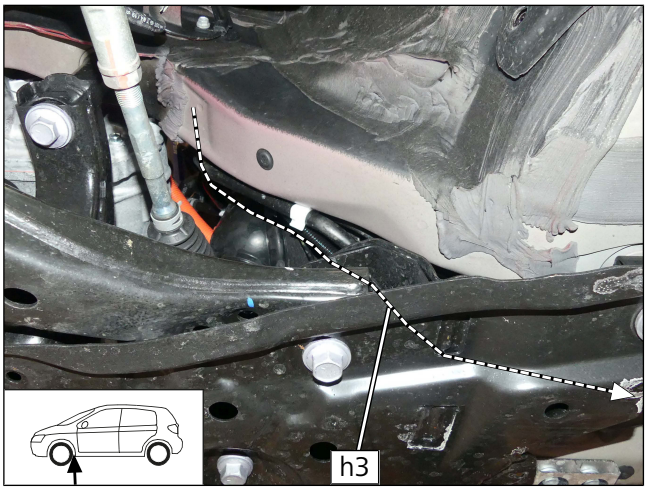


Fig. 34

▶ Route corrugated tube **h3** along the frame side member and the original vehicle lines on the bulkhead to the underbody and fasten with cable ties.

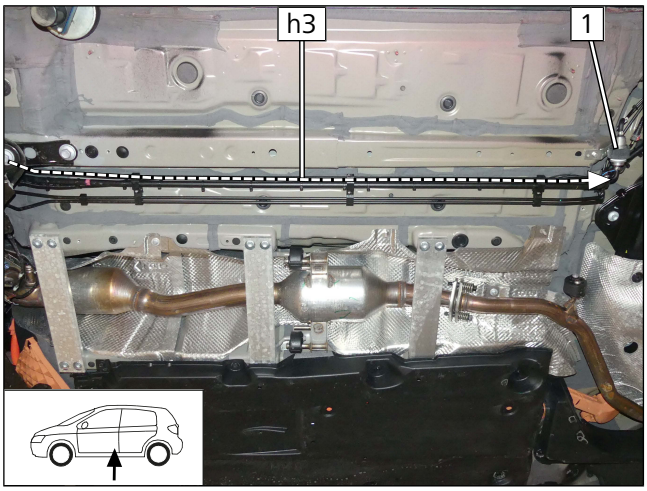


Fig. 35

▶ Route corrugated tube **h3** along underbody on original vehicle lines to fuel pump installation location **1**.

Enlarging original vehicle hole, inserting rivet nut

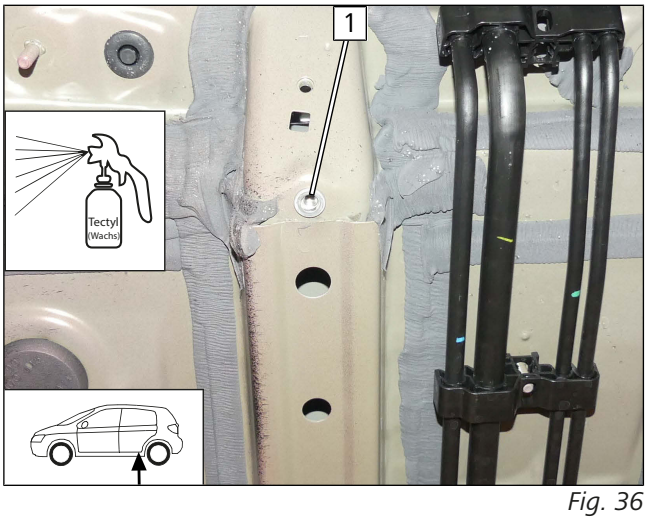


Fig. 36

1 Enlarge original vehicle hole to Ø9, M6 rivet nut

Bending perforated bracket

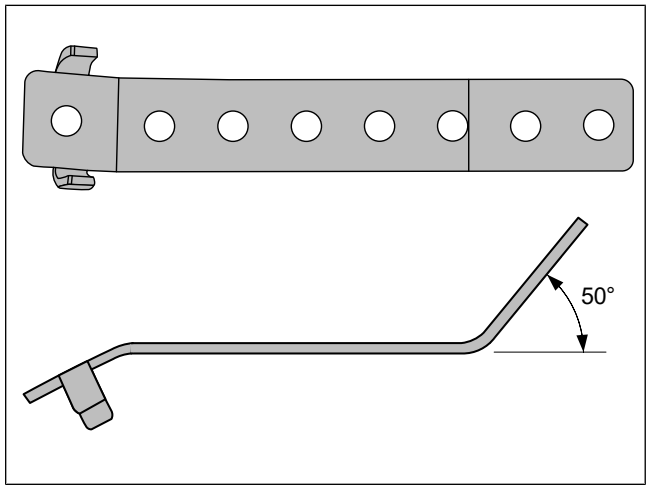


Fig. 37

Premounting fuel pump

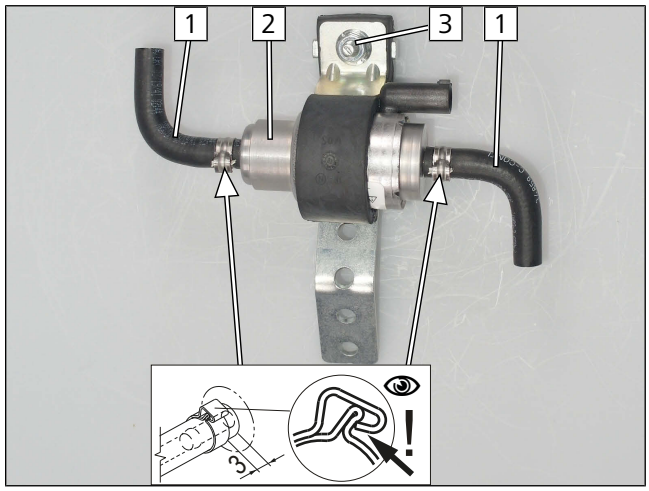


Fig. 38

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

Mounting fuel pump

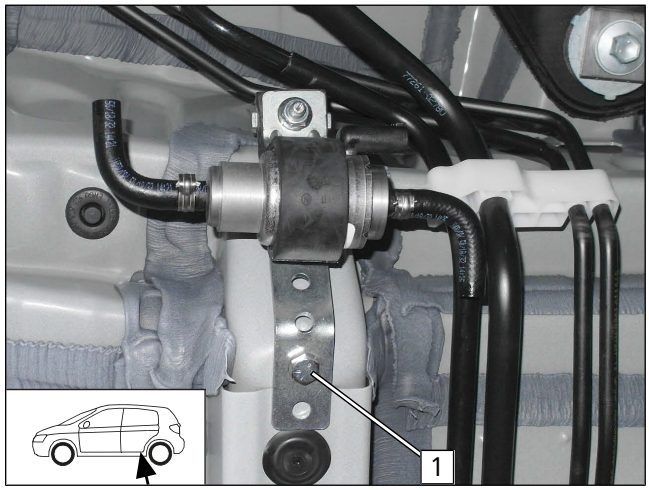


Fig. 39

1. M6x20 bolt, spring lockwasher, perforated bracket, rivet nut

Assembling fuel pump connector X7

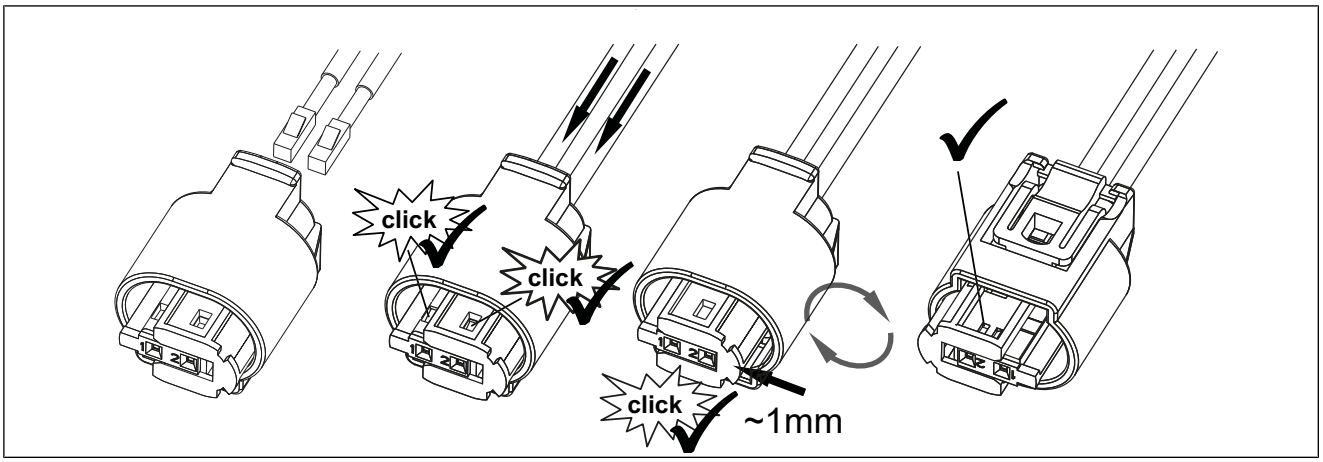


Fig. 40

Connecting fuel pump

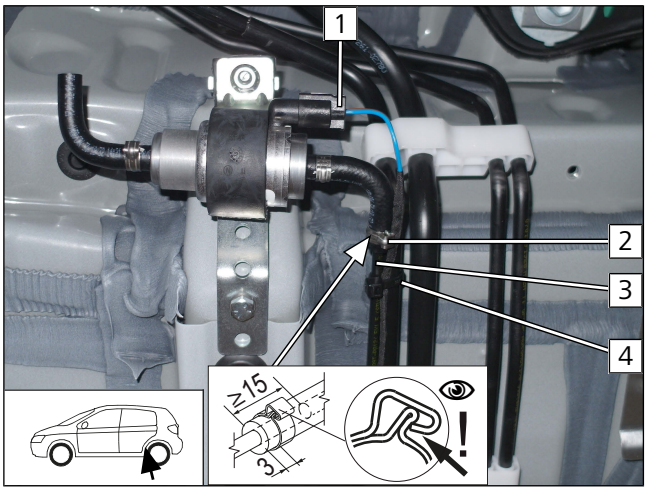


Fig. 41

[1] Fuel pump wiring harness, connector X7 mounted
[2] Ø10 clamp
[3] Heater fuel line
[4] Cable tie around fuel line and fuel pump wiring harness

9.2 Mounting fuel extractor

Removing tank fitting

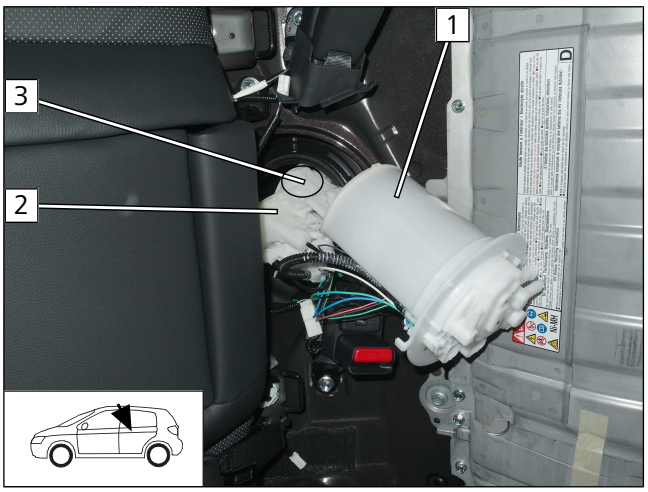


Fig. 42

DANGER

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

▶ Separate part [1] and part [2] of the tank fitting at pos. [3] (attached with clips).

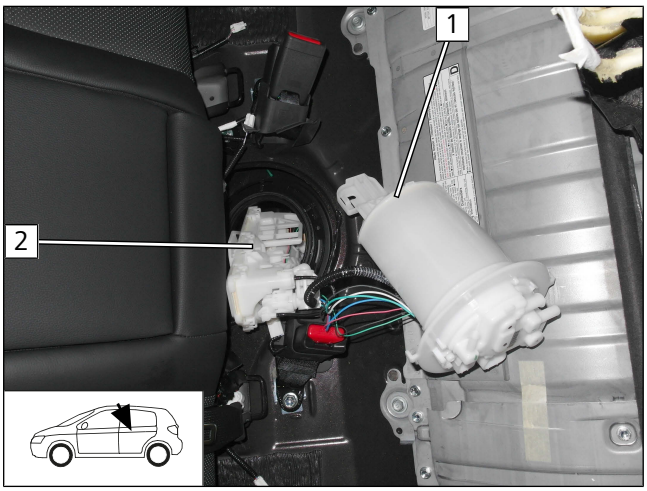


Fig. 43

▶ Remove part 1 and part 2 of the tank fitting.

Removing tank filling hose group

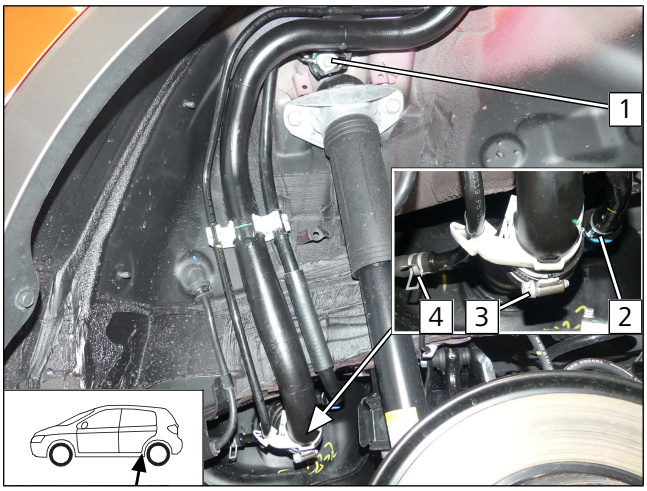


Fig. 44

▶ Disconnect connectors 2, 3 and 4.

1 Loosen screw

Preparing fuel extractor

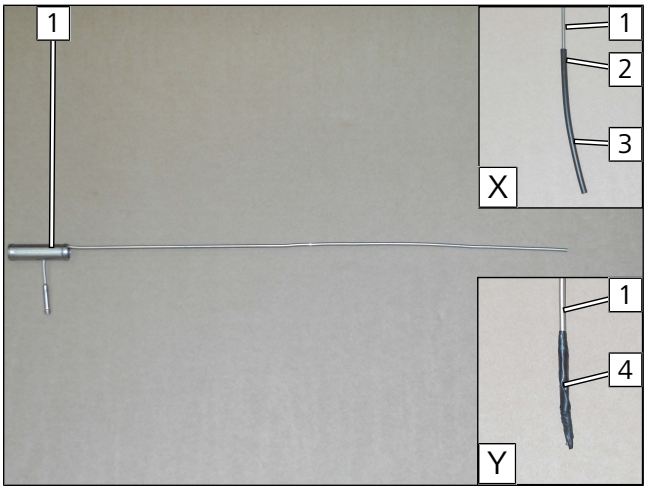


Fig. 45

Threading aid variant 1 X

Mount 100 long fuel line 3 on fuel extractor 1. Enlarge beforehand the fuel line at position 2 to Ø3, by approx. 20mm.

Threading aid variant 2 Y

Wrap fuel extractor 1 with insulating tape 4 as shown.

Cutting point

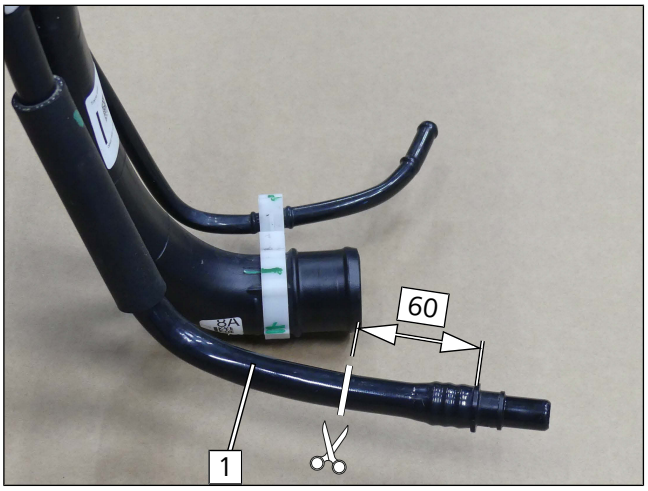


Fig. 46

▶ Cut original vehicle ventilation line of tank filling hose group [1] as shown in Fig.

Premounting fuel extractor

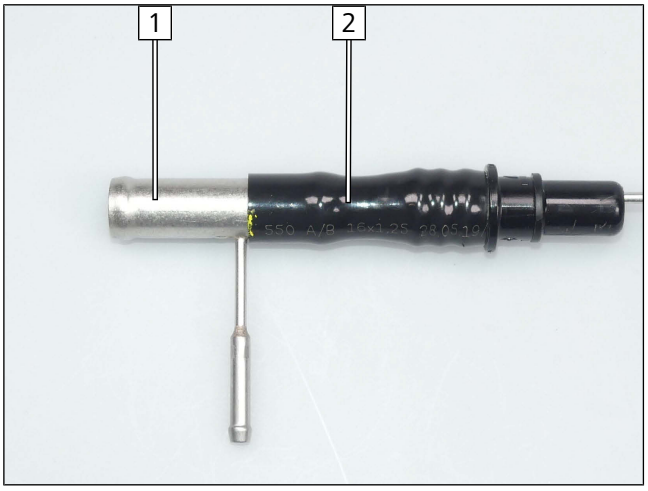


Fig. 47

▶ Heat up cut off tube section [2] to 50°C and slide it over fuel extractor [1].

Mounting fuel extractor

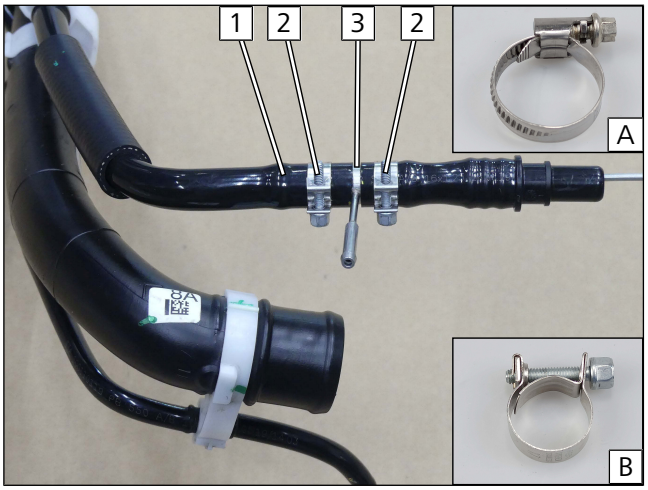


Fig. 48

▶ Heat up original vehicle ventilation line of the tank filling hose group at position [1] to 50°C and slide it over fuel extractor [3].

Variant A: Ø16-27 clamp

Variant B: Ø17 clamp

▶ Fig. shows variant B.

[2] Clamp

Mounting tank filling hose group

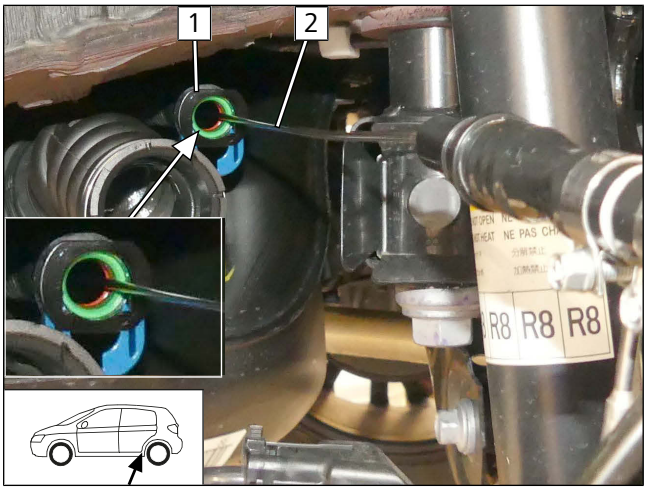


Fig. 49

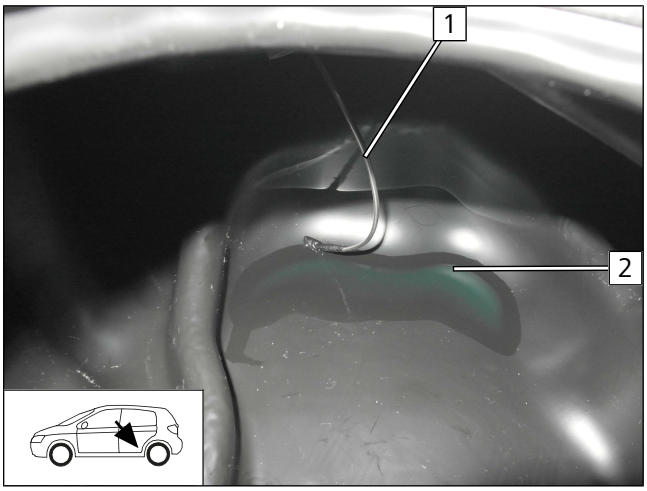


Fig. 50

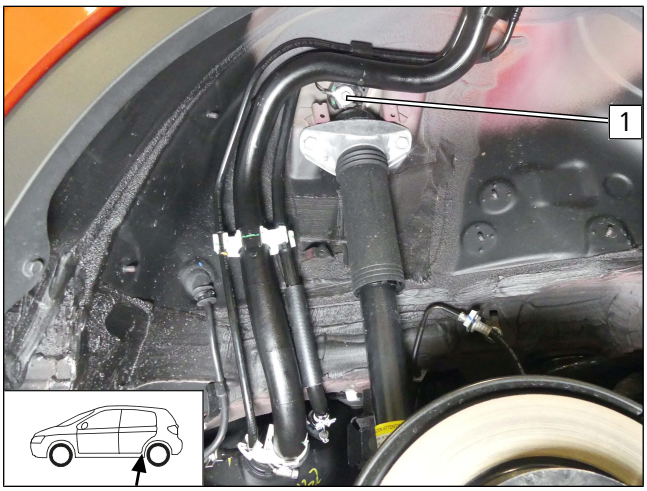


Fig. 51

See also next Fig.

▶ Insert extraction pipe of fuel extractor [2] carefully through the ventilation line in the tank [1].

[1] Fuel extractor
[2] Tank bottom

▶ Mount bolt [1].

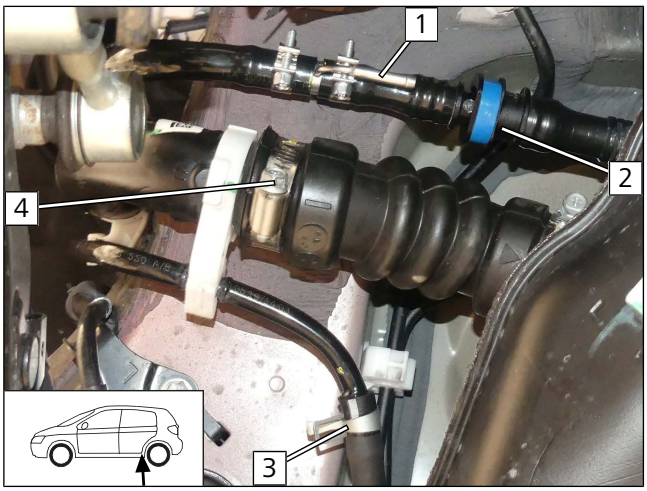


Fig. 52

▶ Bend fuel extractor connection piece 1 by 90°.

▶ Connect connectors 2, 3 and 4.

Premounting fuel line

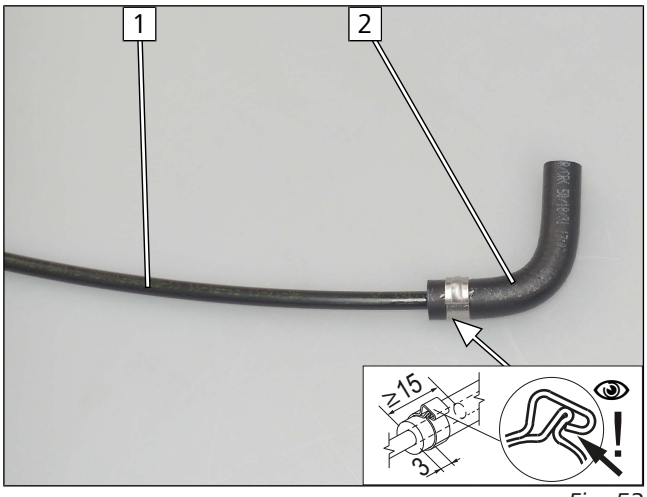


Fig. 53

1 Fuel line of fuel extractor

2 90° moulded hose, Ø10 clamp

Connecting fuel line

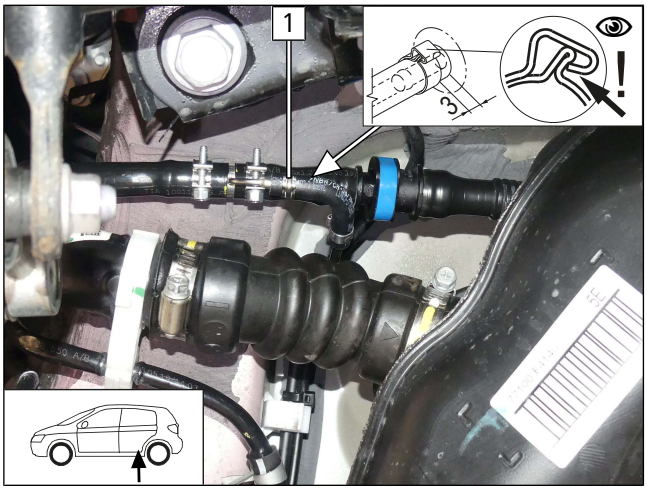


Fig. 54

1 Ø10 clamp

Routing fuel line to fuel pump

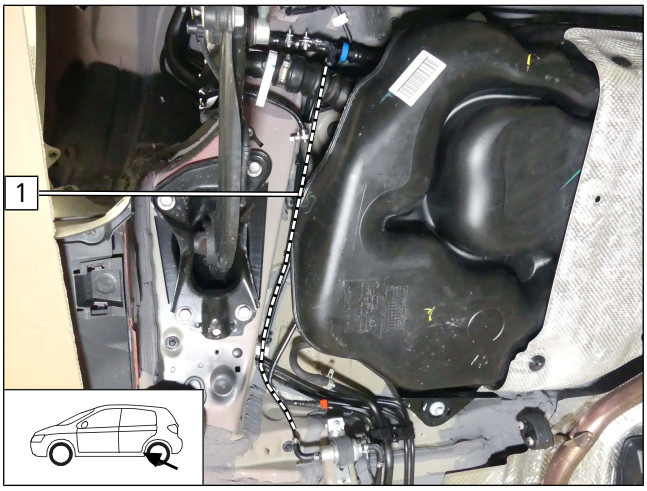


Fig. 55

1 Fuel line

Connection to fuel pump

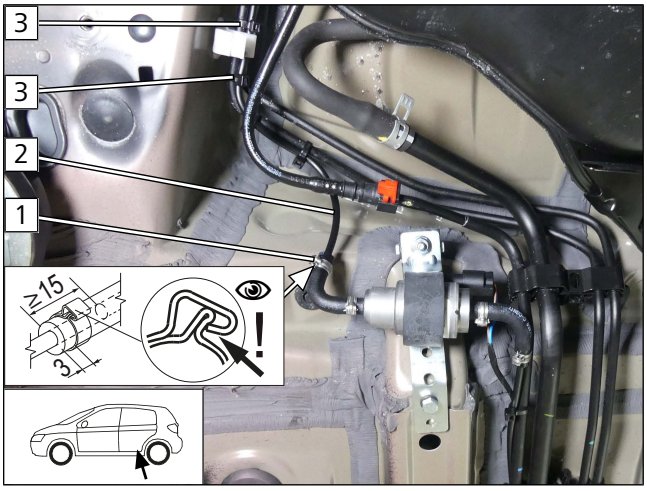


Fig. 56

1 Ø10 clamp
2 Fuel line of fuel extractor
3 Cable tie on original vehicle lines

Aligning fuel extractor in tank

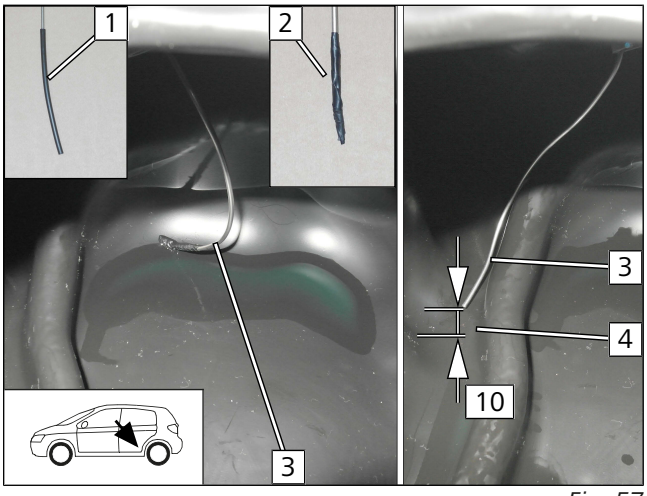


Fig. 57

Remove threading aid variant 1 or variant 2.

▶ Align fuel extractor 3 at position 4 10mm above the tank bottom as shown.

Mounting tank fitting

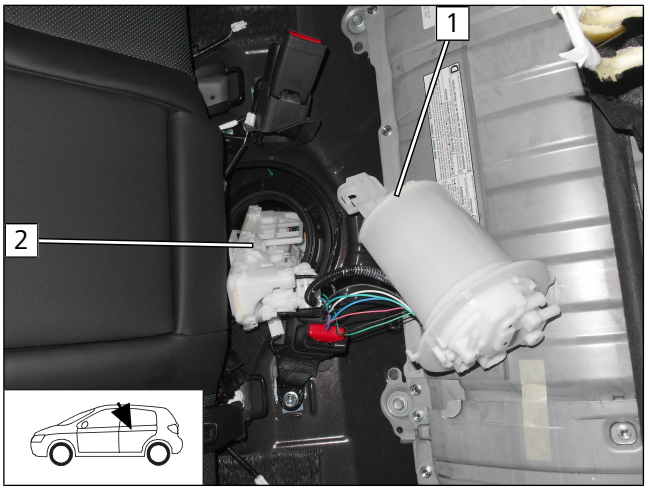


Fig. 58

▶ Insert part 1 and part 2 of the tank fitting.

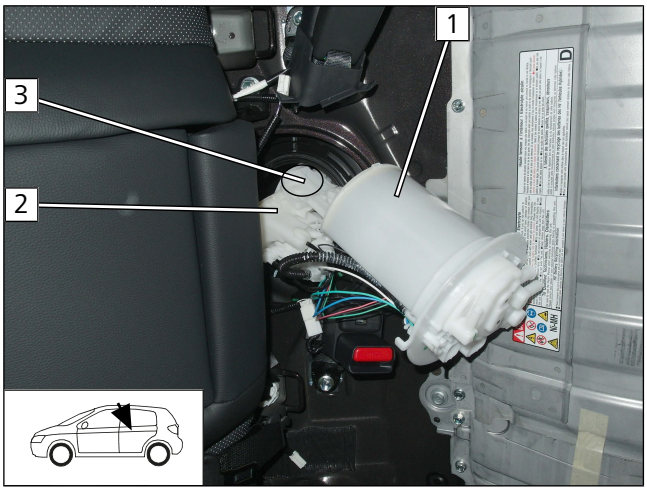


Fig. 59

▶ Assemble part 1 and part 2 of the tank fitting at pos. 3 (attached with clips) and install in the tank.

10 Coolant

10.1 Hose routing diagram

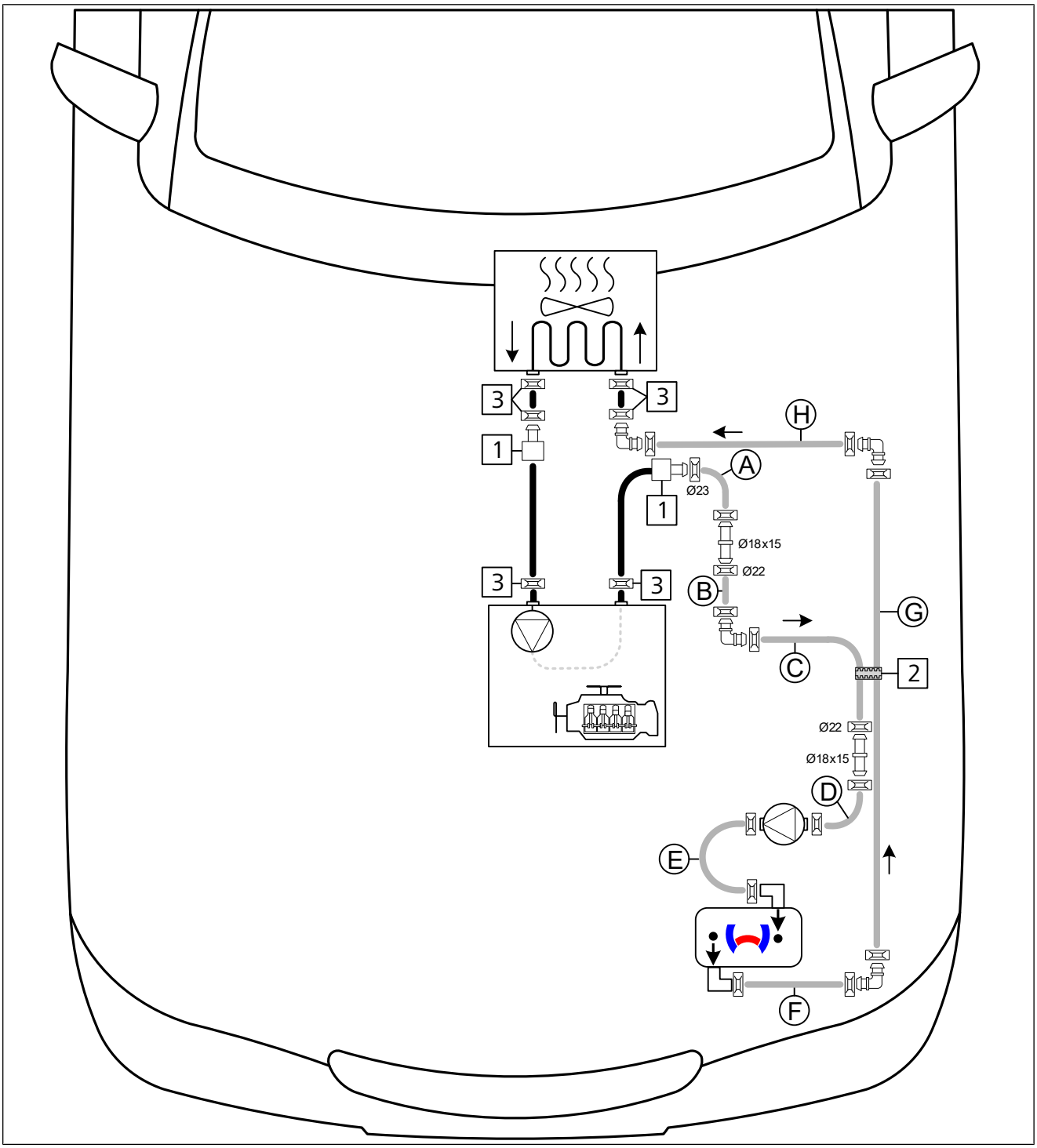


Fig. 60

All spring clips without a specific designation = Ø25

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

1 Original vehicle quick-release coupling

2 Black (sw) rubber isolator

3 Original vehicle spring clips

10.2 Coolant circuit preparation

Preparing perforated bracket

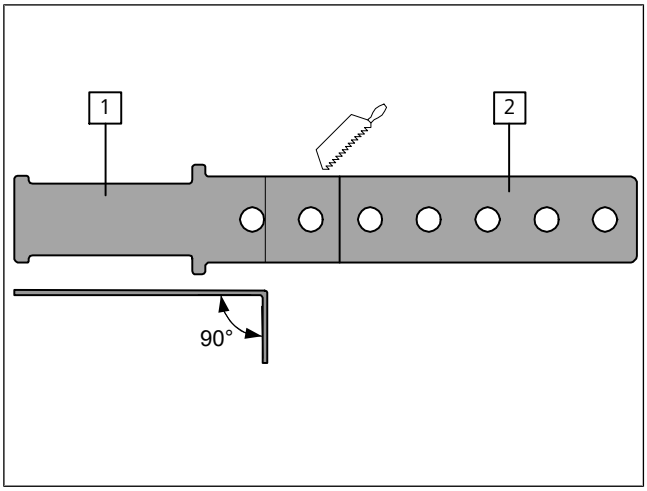


Fig. 61

1 Perforated bracket 1 for fastening the coolant pump

2 Perforated bracket 2 for fastening the coolant hoses

Premounting coolant pump

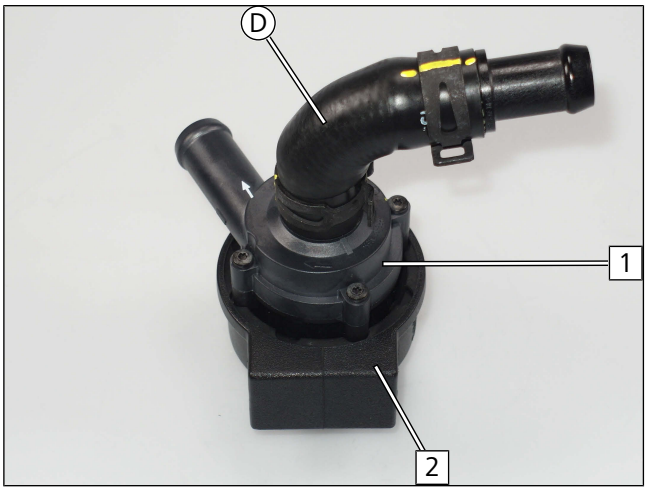


Fig. 62

1 Coolant pump

2 Coolant pump mount

Mounting perforated bracket 1

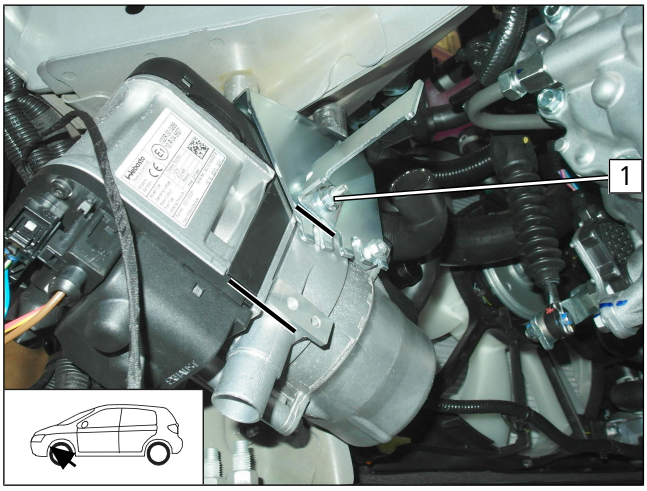


Fig. 63

▶ Align perforated bracket 1 parallel to heater as shown.

1 Stud bolt, perforated bracket 1, flanged nut

Mounting coolant pump, connecting hose (E)

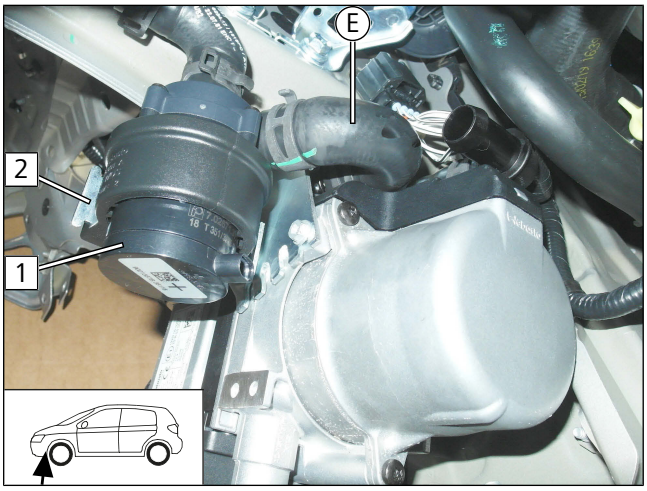


Fig. 64

▶ Position premounted coolant pump [1] onto perforated bracket 1 [2], connect hose (E).

Mounting connector

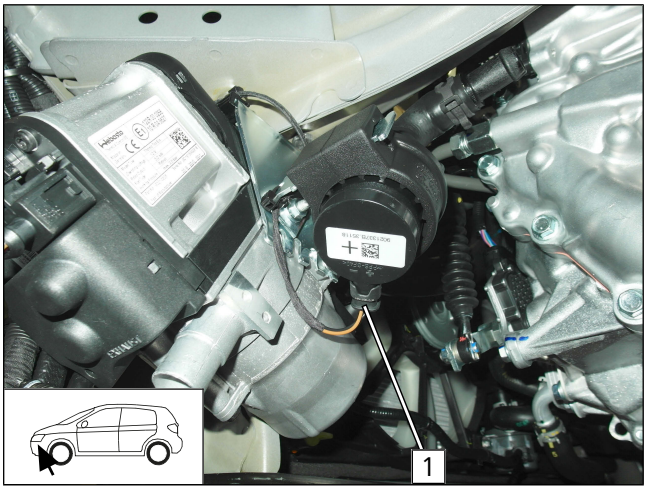


Fig. 65

[1] Coolant pump wiring harness connector

Drilling hole

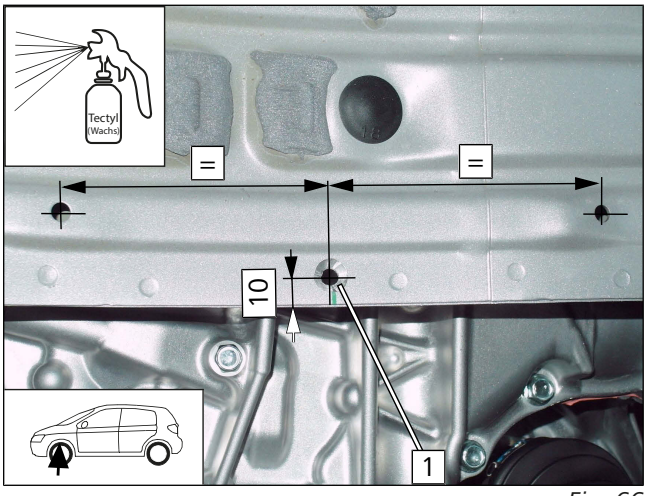


Fig. 66

[1] Ø7 hole, countersunk hole for M6x25 countersunk head screw

10.3 Coolant circuit installation

Dismantling hoses

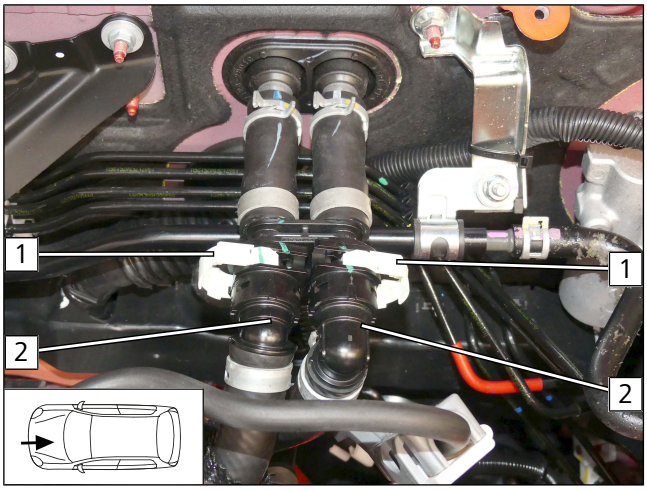


Fig. 67

▶ Open quick-release coupling 1 and pull off 2. Quick-release couplings will be reused.

Moving spring clips

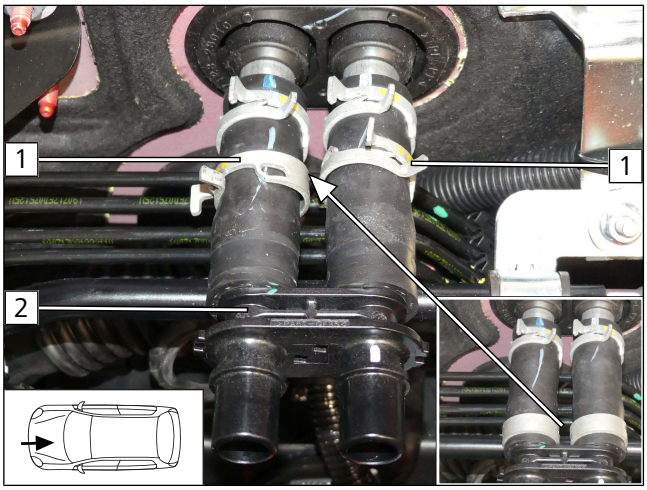


Fig. 68

▶ Move original vehicle spring clips 1 as shown in Fig.

▶ Remove connecting pipe 2.

Cutting connecting pipe

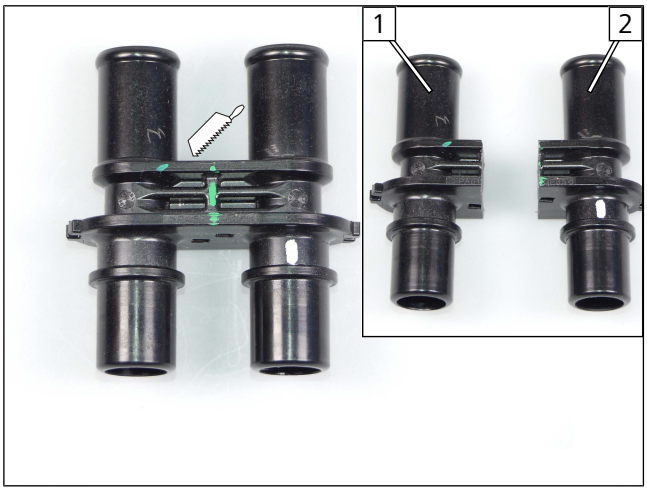


Fig. 69

1 Connecting pipe for connection to heat exchanger outlet

2 Connecting pipe for connection to engine outlet

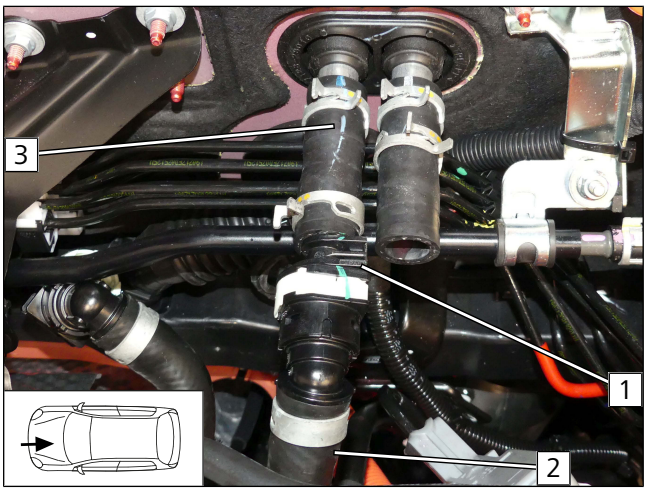


Fig. 70

▶ Mount engine inlet hose [2] with quick-release coupling and connecting pipe [1] onto heat exchanger outlet hose section [3].

Turning the hose coupling

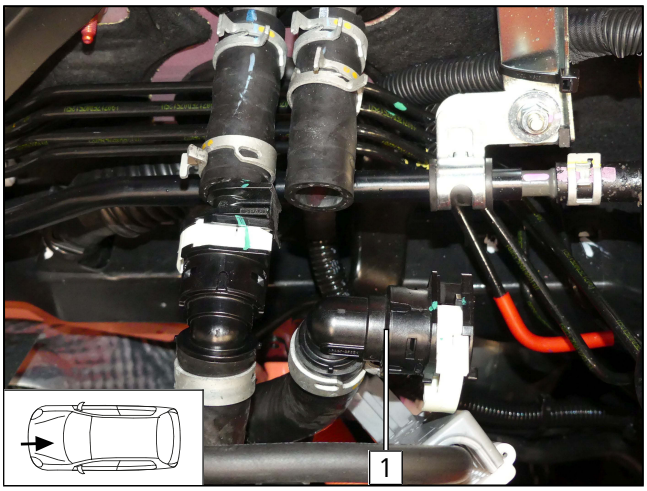


Fig. 71

▶ Turn engine outlet hose coupling [1] to the right by 90° as shown.

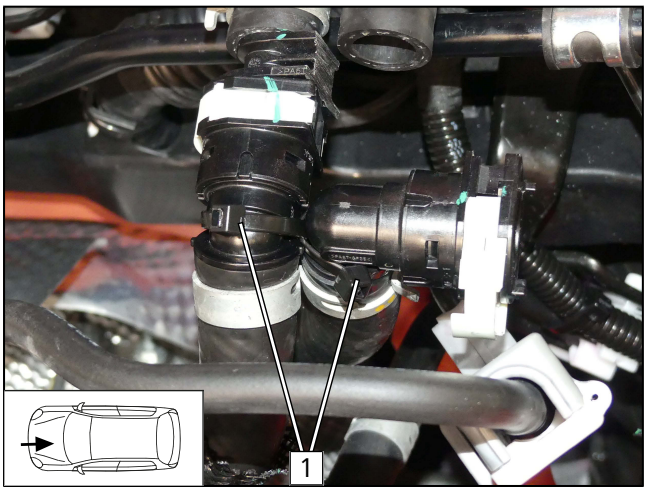


Fig. 72

▶ Interlace two cable ties [1] and fasten hoses of engine inlet and engine outlet together.

Preparing hoses

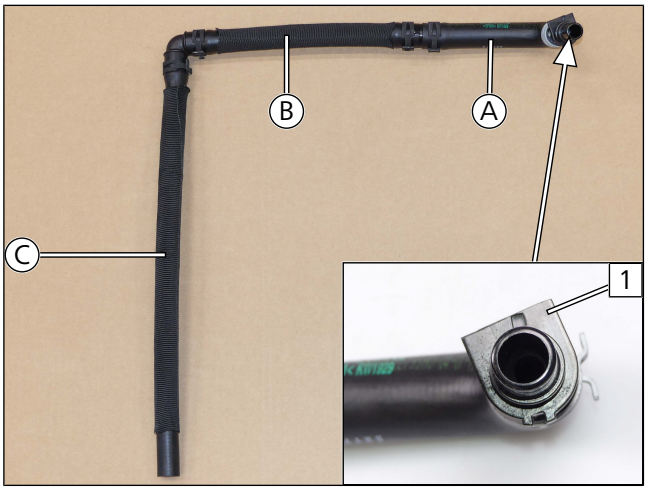


Fig. 73

▶ Mount hose (A) onto connecting pipe of engine outlet hose coupling [1].

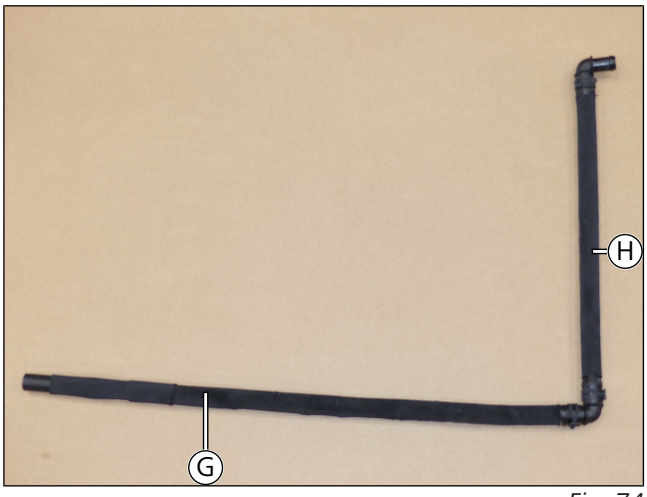


Fig. 74

Completing hose group

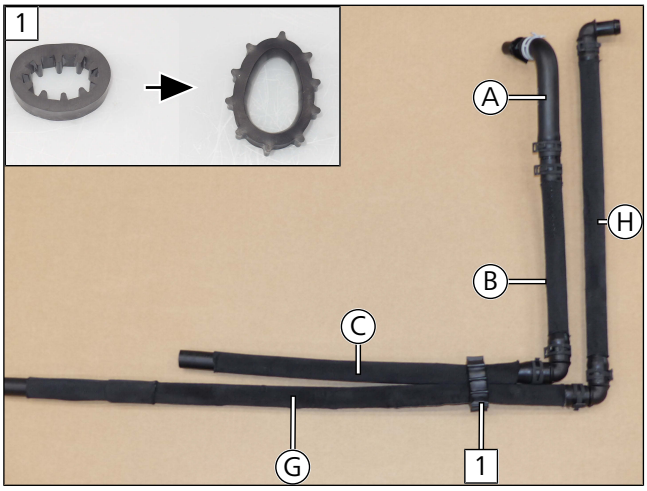


Fig. 75

[1] Black (sw) rubber isolator, turned

Installing hose group in engine compartment

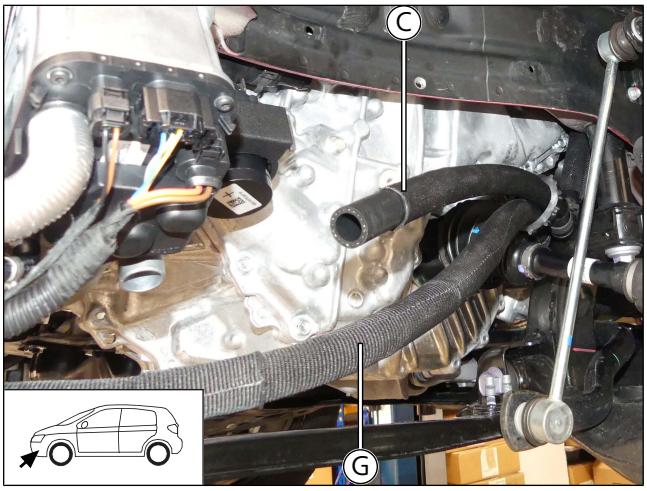


Fig. 76

▶ Install hose group in the engine compartment as shown.

Connecting and fastening hose Ⓗ

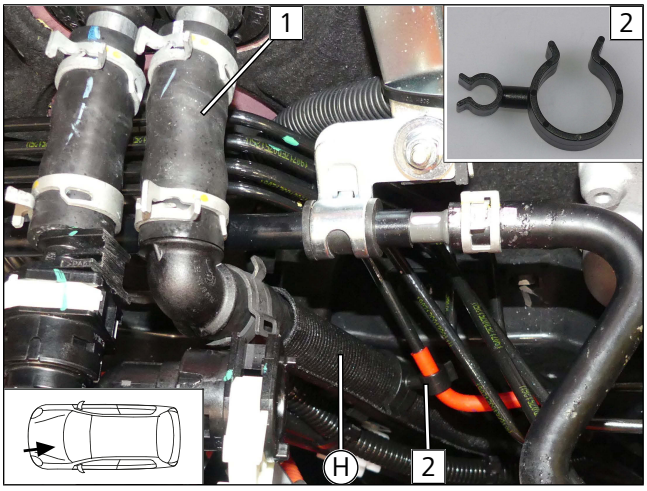


Fig. 77

▶ Connect hose Ⓗ to heat exchanger inlet hose section 1 and route between the original vehicle fuel lines and the firewall.

2 Hose bracket on hose Ⓗ and original vehicle brake line

Connecting hose Ⓐ

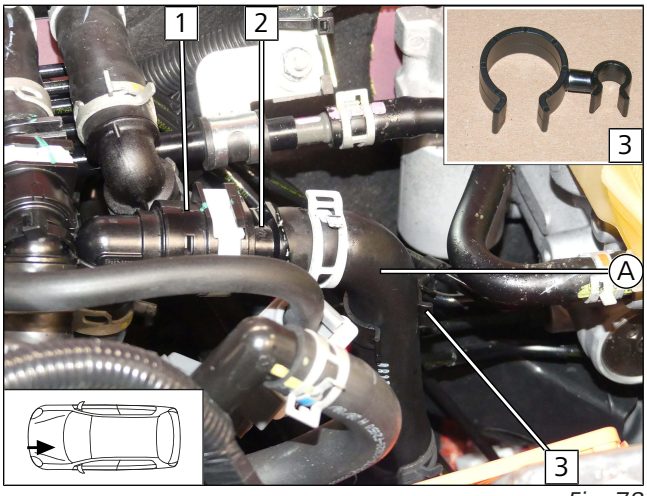


Fig. 78

▶ Mount hose Ⓐ with connecting pipe 2 on engine outlet quick-release coupling 1.

3 Hose bracket on hose Ⓐ and original vehicle brake line

Connecting hose Ⓒ to hose Ⓓ

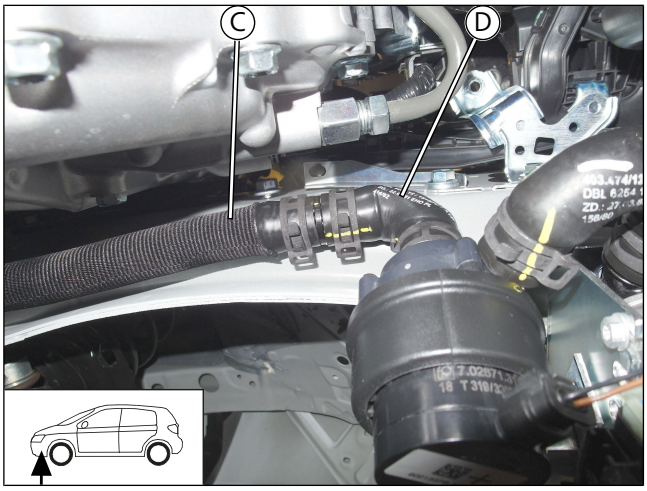


Fig. 79

Connecting hose Ⓖ to hose Ⓕ

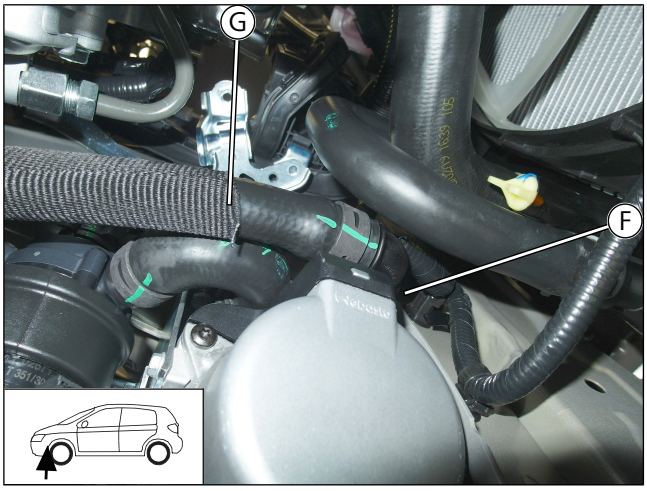


Fig. 80

Mounting perforated bracket 2, fastening hoses Ⓒ and Ⓖ

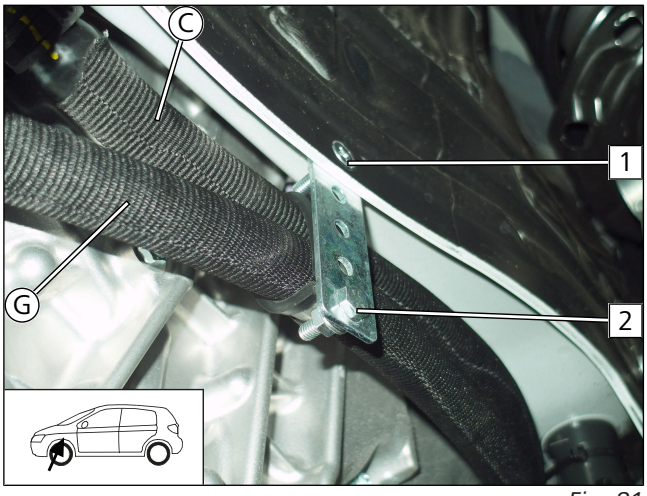


Fig. 81

1 M6x25 countersunk head screw, hole, perforated bracket 2, flanged nut

2 M6x20 bolt, Ø38 rubber-coated p-clamp, flanged nut

Fastening rubber isolator, checking distance

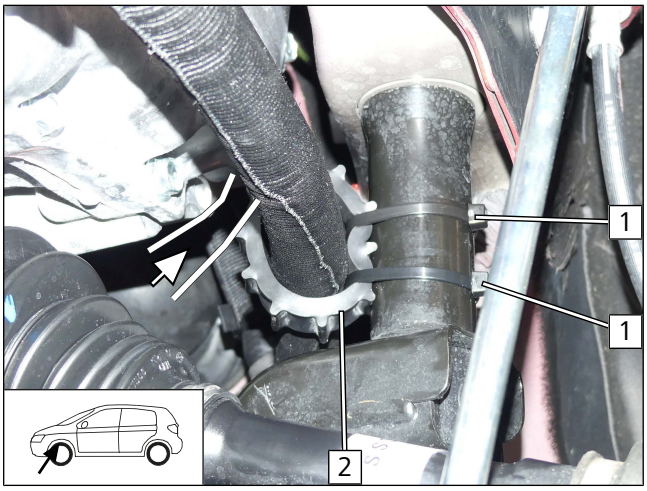


Fig. 82

Ensure sufficient distance from neighbouring components, correct if necessary.

>20

1 Cable tie through rubber isolator 2

Fastening hoses

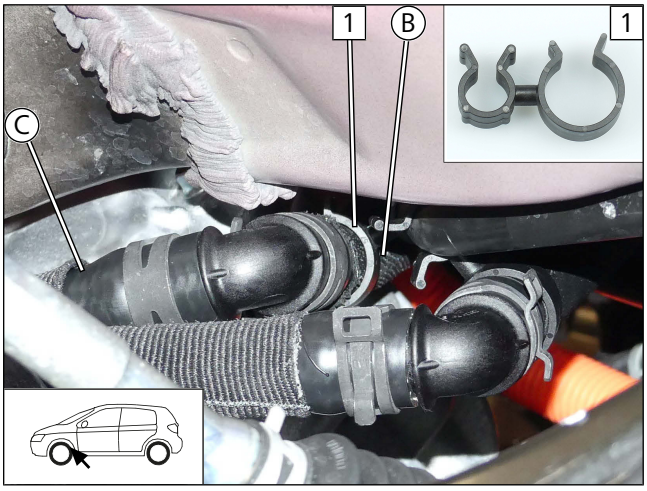


Fig. 83

1 Hose bracket on hose (B) and original vehicle fuel line

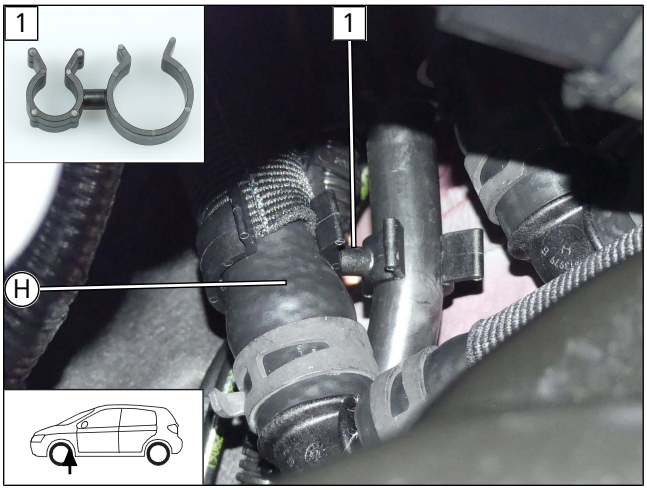


Fig. 84

1 Hose bracket on hose (H) and original vehicle fuel line

11 Combustion air

Premounting combustion air intake silencer

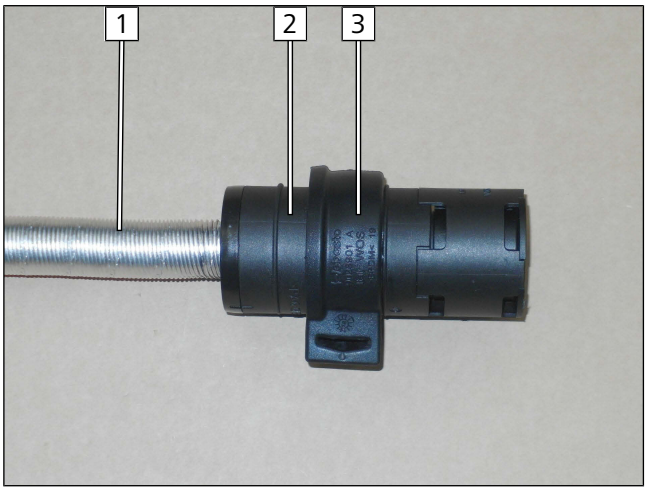


Fig. 85

Observe the installation instructions of the combustion air intake silencer.

1 Combustion air intake line
2 Combustion air intake silencer
3 Combustion air intake silencer mount

Enlarging perforated bracket hole, shortening and bending perforated bracket

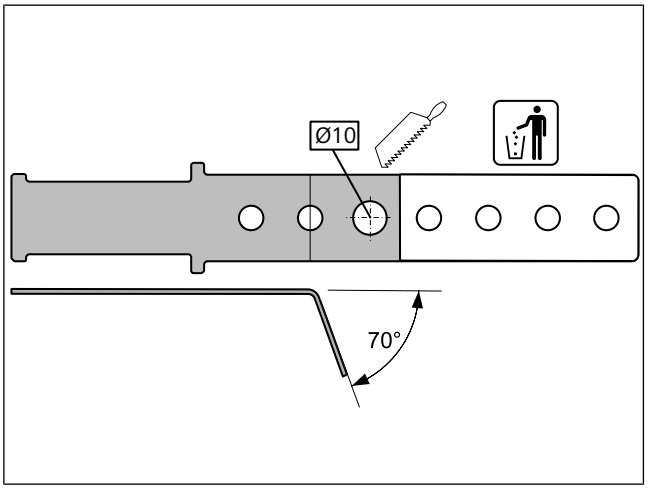


Fig. 86

Removing original vehicle bolt

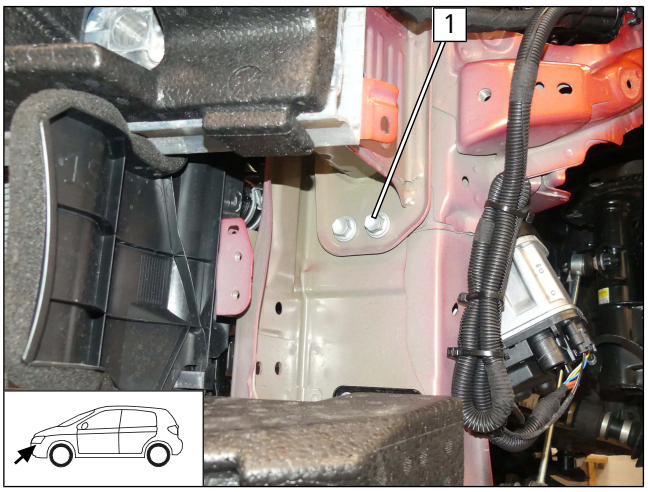


Fig. 87

▶ Remove original vehicle bolt 1, it will be reused.

Installing perforated bracket

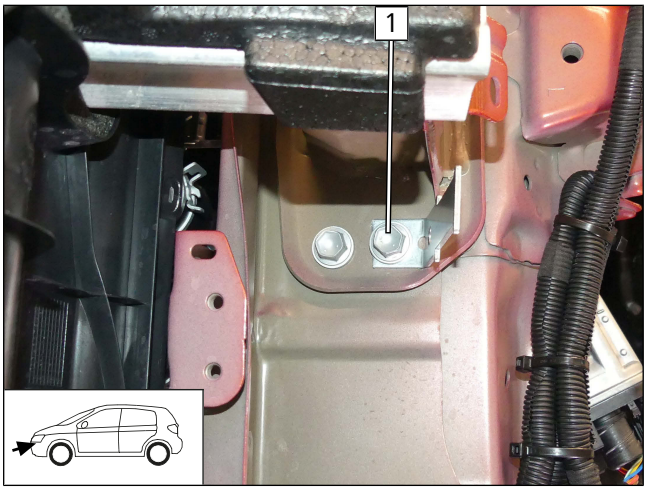


Fig. 88

[1] Original vehicle bolt, perforated bracket, original vehicle threaded hole

Mounting combustion air intake pipe

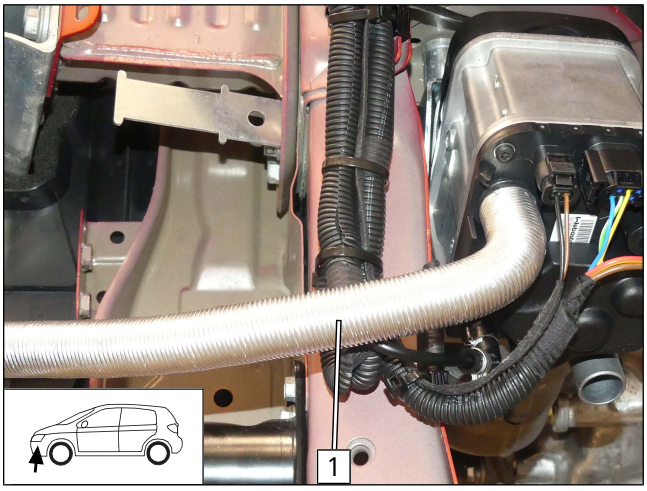


Fig. 89

▶ Mount combustion air intake pipe [1] on HG.

Mounting combustion air intake silencer

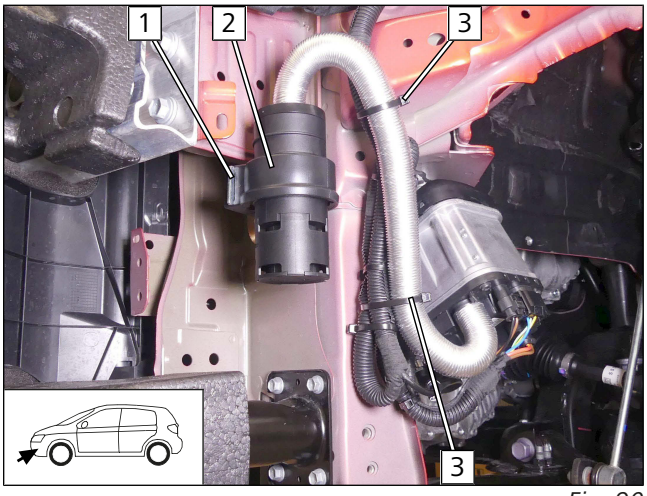


Fig. 90

[1] Perforated bracket
[2] Combustion air intake silencer mount
[3] Cable tie around combustion air intake pipe and corrugated tube **h2**

12 Exhaust

12.1 Mounting exhaust silencer

Copying hole pattern, drilling hole

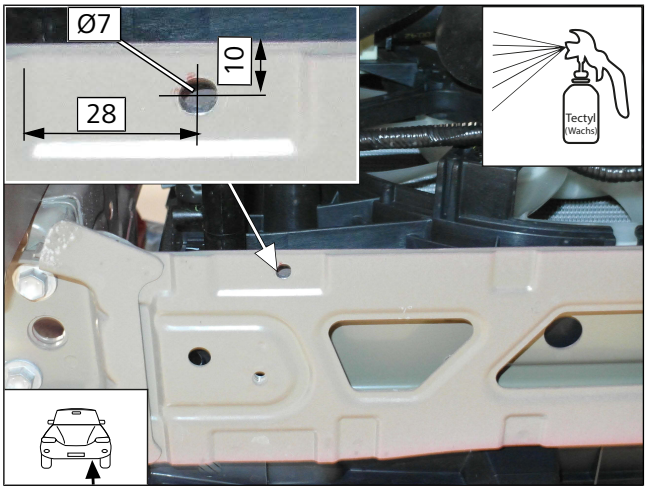


Fig. 91

Premounting exhaust silencer

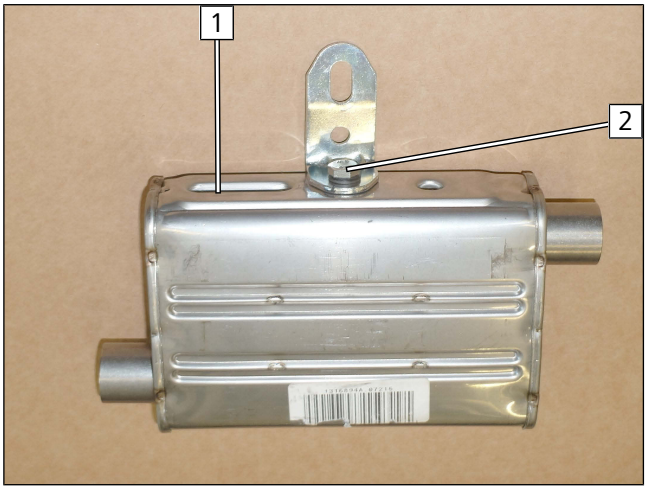


Fig. 92

1 Exhaust silencer

2 M6x16 bolt, spring lockwasher, angle bracket, exhaust silencer

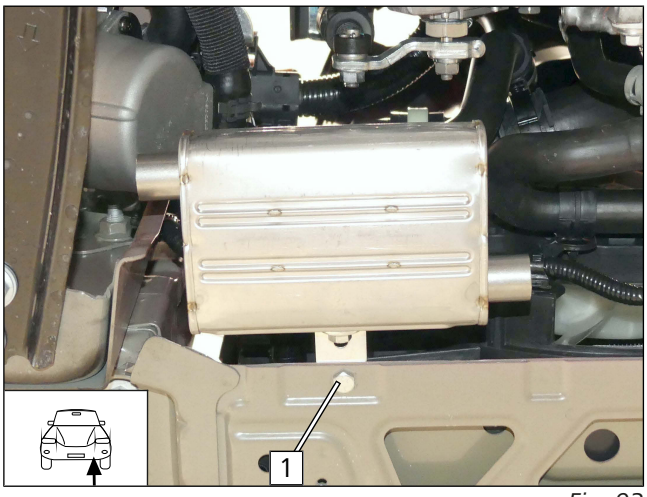


Fig. 93

1 M6x20 bolt, drilled hole, premounted angle bracket, large diameter washer, flanged nut

Cutting exhaust pipe to length

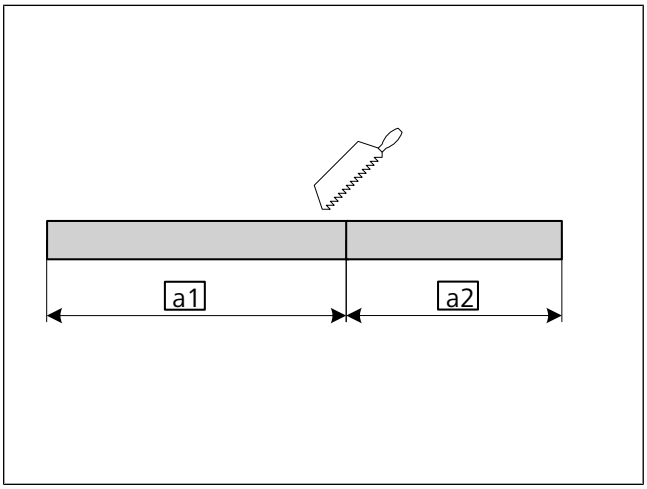


Fig. 94

a1 200
a2 150

Mounting exhaust pipe **a1**

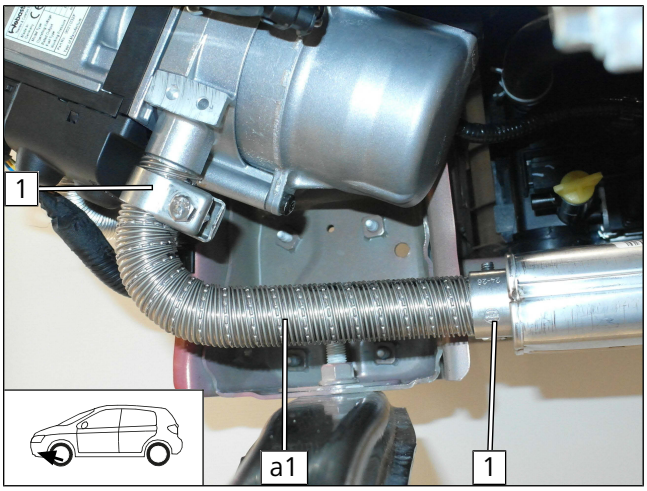


Fig. 95

1 Hose clamp

Mounting exhaust pipe **a2**

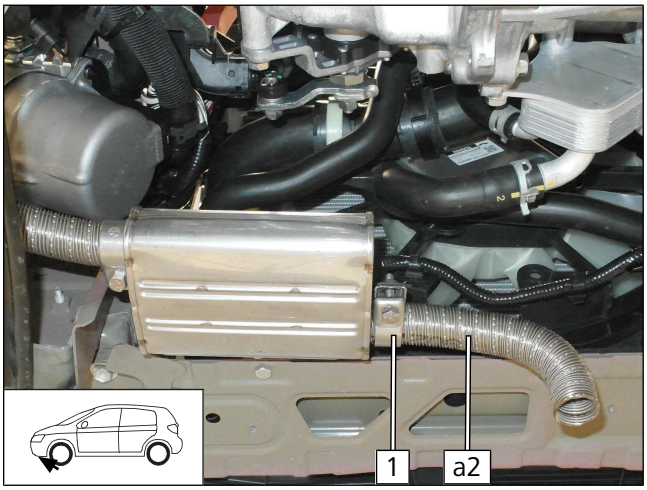


Fig. 96

1 Hose clamp

12.2 Mounting exhaust end fastener

Adapting insulation mat

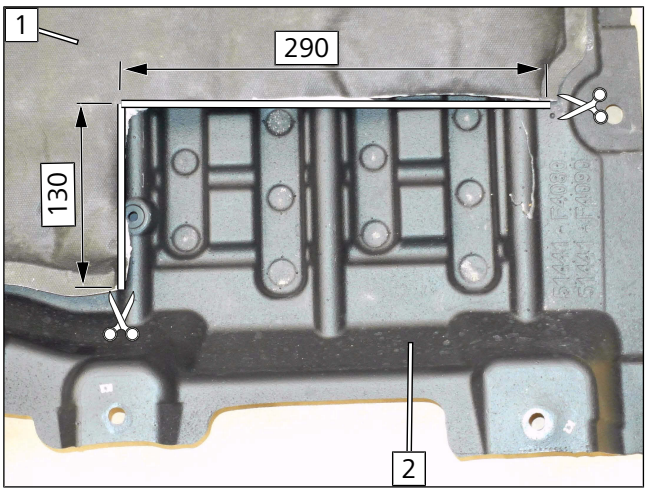


Fig. 97

- Cut insulation mat **1** on underride protection **2** as shown.

Sticking on heat protection film

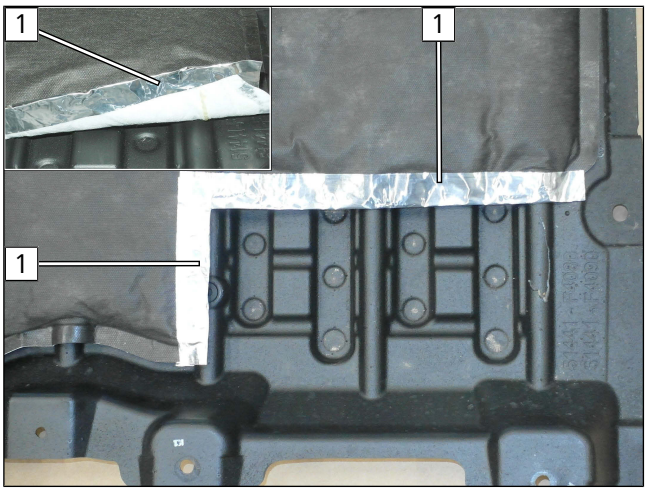


Fig. 98

- Glue heat protection film **1** on both sides over the whole cutting edge of the insulation mat as shown.

Fastening insulation mat

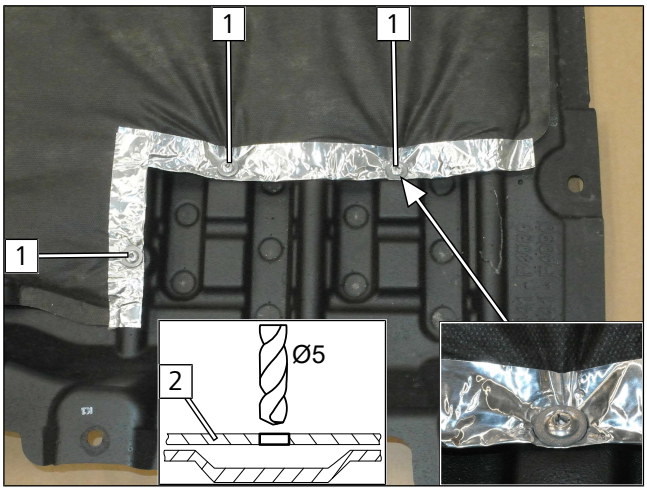


Fig. 99

- Copy hole pattern at pos. **1** on the insulation mat and the upper layer of double-walled underride protection **2**.
- Fold back the insulation mat and drill a Ø5 hole only through the upper layer of the underride protection.
- Pierce through the insulation mat (do not drill).
- Fasten insulation mat using a rivet and large diameter washer.

Work steps E1/E2

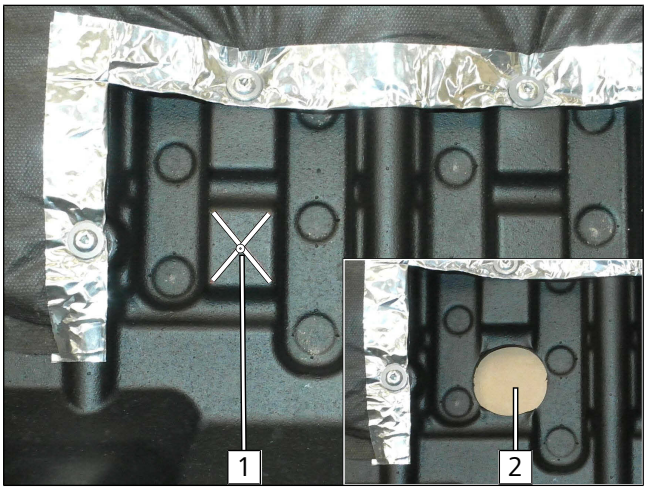


Fig. 100

Observe the EFIX installation instructions.

1 Copy hole pattern
2 Hole

Preparing underride protection

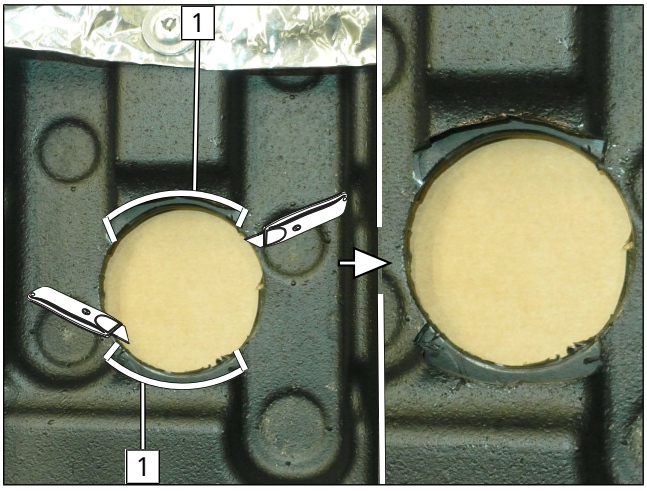


Fig. 101

▶ Cut upper layer of double-walled underride protection along marking 1 at approx. 4mm as shown.

Work steps E3/E4

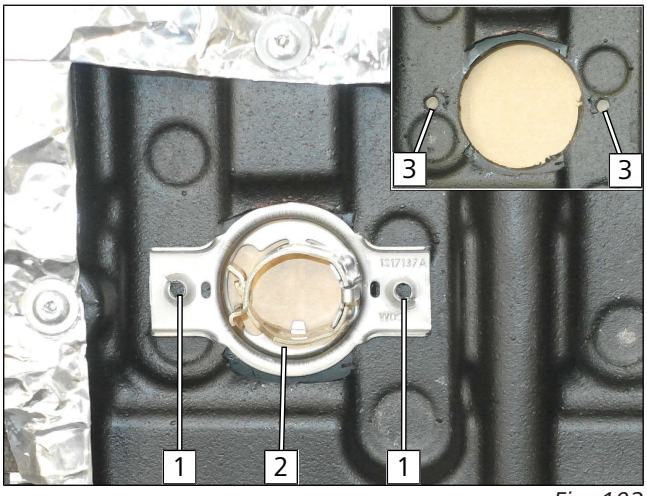


Fig. 102

1 Hole pattern
2 EFIX
3 Hole

Work step E5

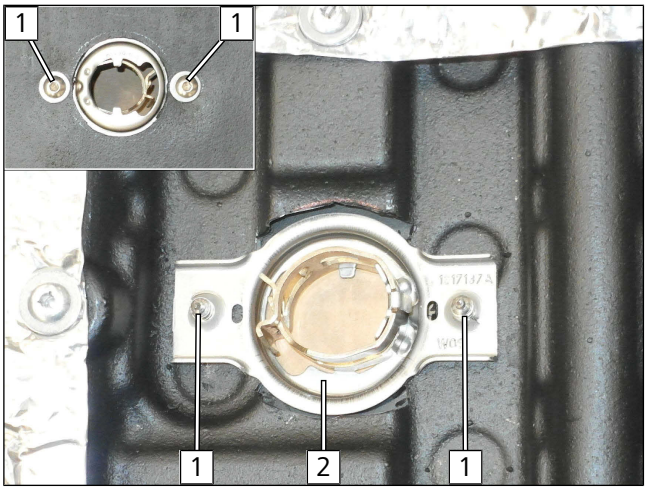


Fig. 103

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

13 Final work in engine compartment

Adapting transmission trim

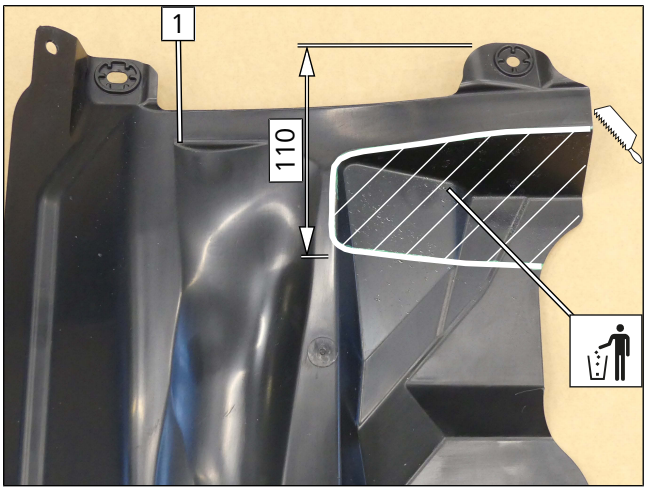


Fig. 104

▶ Adapt transmission trim 1 as shown.

Fitting edge protection

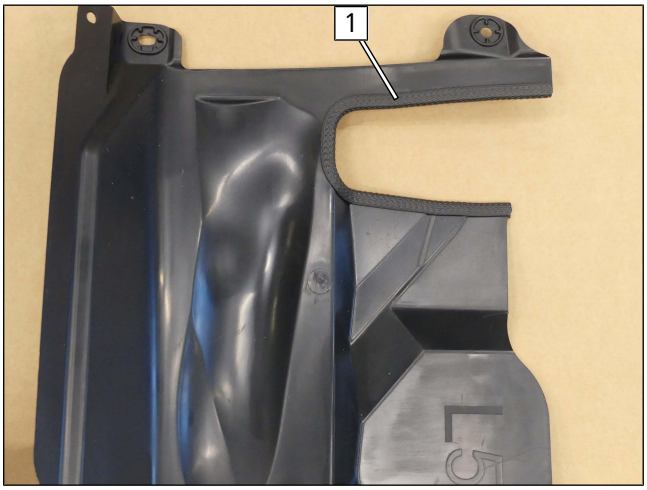


Fig. 105

1 Install edge protection (300) and cut to length

Mounting transmission trim

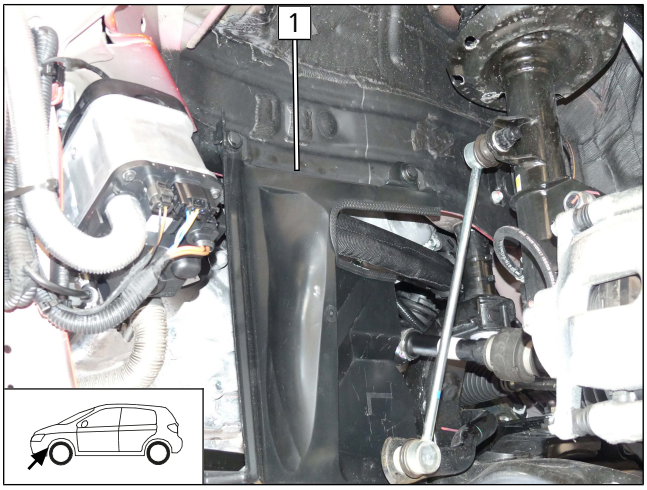


Fig. 106

1 Transmission trim

Checking distance

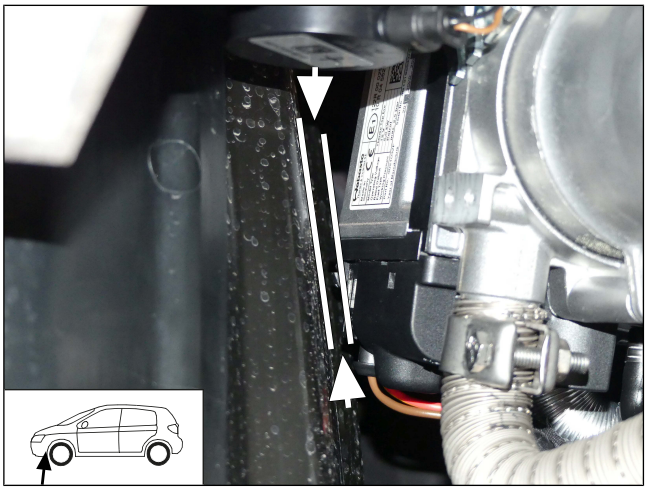


Fig. 107

Danger of damage to components

▶ Ensure sufficient distance between wheel-well inner panel and heater, correct if necessary.

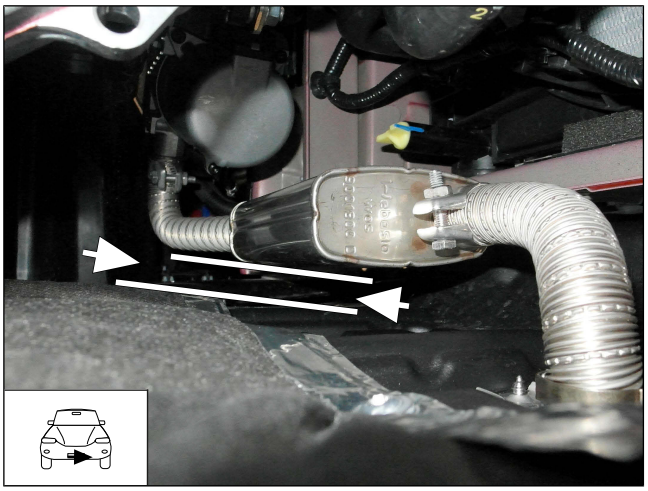


Fig. 108

▶ Mount underride protection.

Ensure sufficient distance between underride protection and exhaust silencer, correct if necessary.

>20

Work steps E6-E8

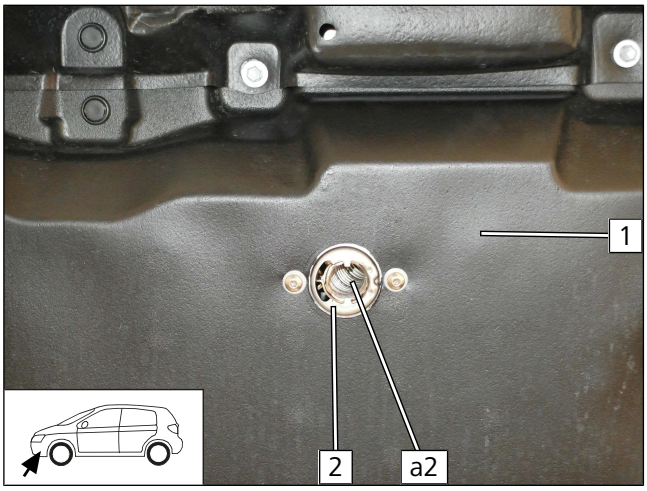


Fig. 109

Observe the EFIX installation instructions.

1 Underride protection
2 EFIX

14 Electrical system of passenger compartment

14.1 Air-conditioning control

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

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

15 Electrical system of control elements

15.1 Remote option (Telestart)

Mounting receiver

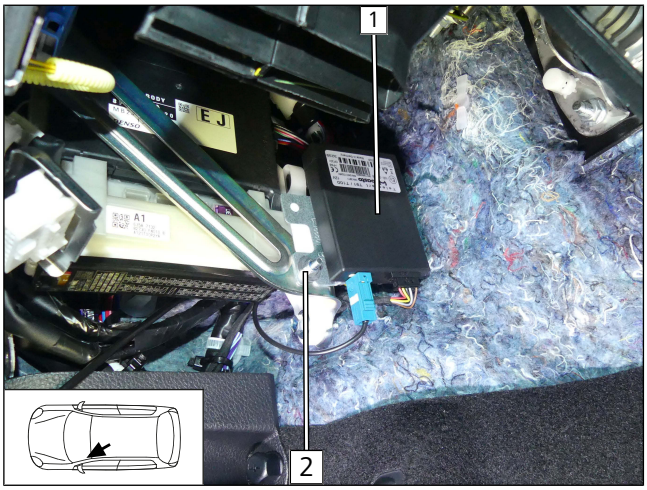


Fig. 110

Observe the Telestart installation documentation.

1 Receiver

2 M5x16 bolt, large diameter washer, original vehicle hole, Telestart bracket, large diameter washer nut

Mounting aerial

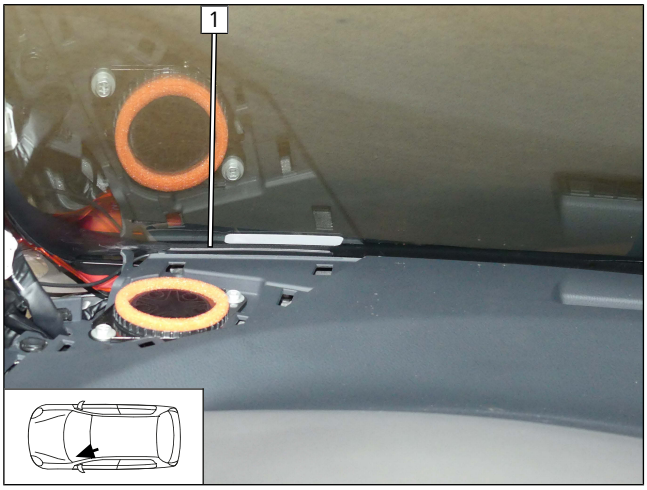


Fig. 111

1 Aerial

Mounting temperature sensor, only in case of T100 HTM

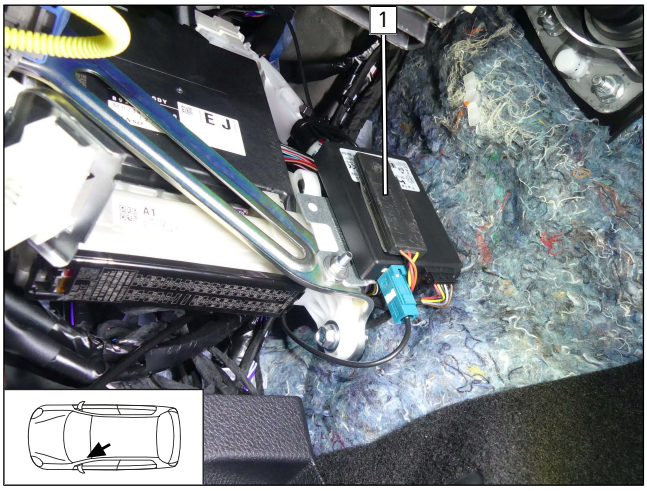


Fig. 112

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

15.2 ThermoCall option

Mounting receiver

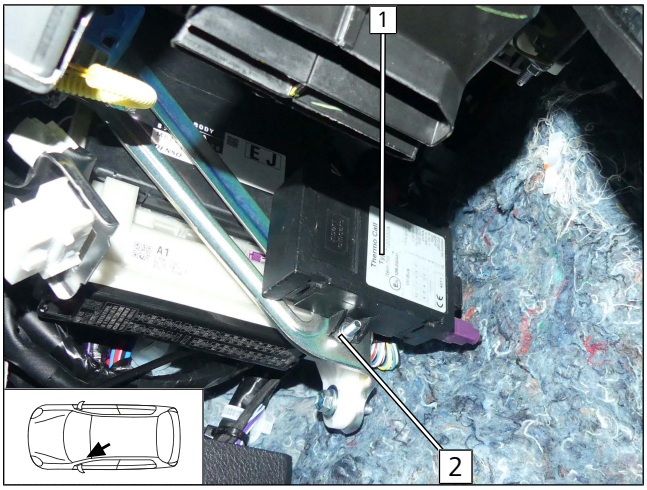


Fig. 113

Observe the ThermoCall installation documentation.

1 Receiver

2 M5x16 bolt, large diameter washer, original vehicle hole, ThermoCall, nut

Mounting aerial (optional)

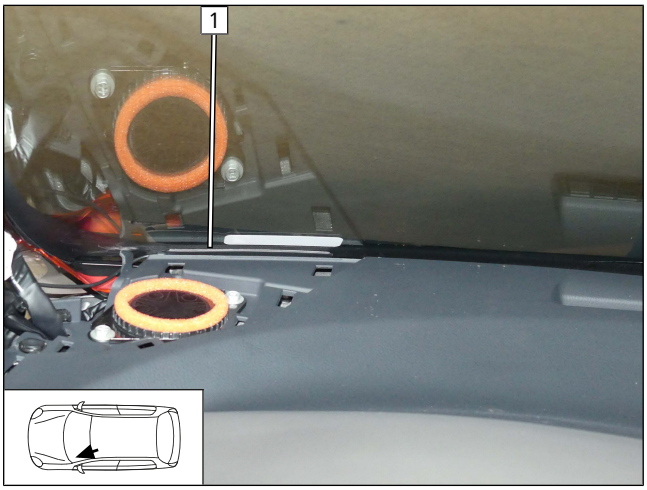


Fig. 114

1 Aerial

16 Final work

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

▶ Mount removed parts in reverse order.

▶ Check all hoses, clamps and all electrical connections for firm seating

▶ Insulate and tie back loose lines

▶ Spray heater and electrical components with anti-corrosion wax (Tectyl 100K)

Activation of the hybrid system as per 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, teach Telestart transmitter

▶ If the fan function or A/C control panel settings need to be checked, see the installation documentation in the additional 'Webasto Standard' A/C control or 'Webasto Comfort' kit, section Final work

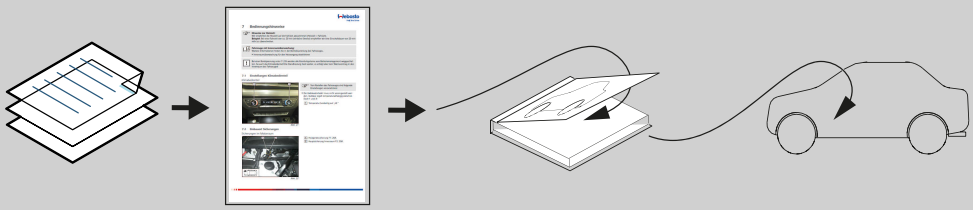
▶ Initial start-up and function check

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

Vehicle event log after parking heating mode

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

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



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

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