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Installation documentation

for Thermo Top Evo water heater

'Island' coolant circuit without engine preheating

Nissan X-Trail

Left-hand drive vehicle

Manufacturer	Model	Type	Model year	EG-BE-No. / ABE
Nissan	X-Trail	T32	from 2019	e13* 2007/46* 1456*…

Motorisation	Fuel	Emission standard	Transmission type	Output [kW]	Displace-ment [cm³]	Engine code
1.3P	Petrol	Euro 6d Temp	7-speed DKG	117	1332	HR 13

Validity	Equipment variants	Model
		X-Trail
Verified equipment variants	Manual air-conditioning	x
	2 zone automatic air-conditioning	x
	LED daytime running lights	x
	LED main headlights	x
	Halogen front fog lights	x
	2 WD	x
	Automatic Start-Stop system	x

Total installation time	Note
10.5 hours	

Contents

1 List of abbreviations

AAC	Automatic air-conditioning
AC	Manual air-conditioning
DKG	Dual clutch transmission
DP	Fuel pump
EFIX	Exhaust end fastener
FF	FuelFix (tank extracting device)
HG	Heater
MCC	MultiControl (control element)
SH2	Engine compartment fuse holder for F1/F2
UP	Coolant pump

2 Installation notes

2.1 Information on Validity

This installation documentation applies to vehicles listed on page 1, assuming technical modifications to the vehicle do not affect installation, any liability claims excluded. Depending on the vehicle version and equipment, modifications may be necessary during installation with respect to this installation documentation. Vehicle and engine types, equipment variants and other specifications not listed in this installation documentation have not been tested. However, installation according to this installation documentation may be possible.

2.2 Components used

Designation	Order number
Basic delivery scope for Thermo Top Evo (see 'Installation recommendations')	In accordance with price list
Installation kit for Nissan X-Trail 2019 petrol	1327640A
Additional 'Webasto Standard' A/C control kit for Nissan X-Trail AC and AAC or Additional 'Webasto Comfort' A/C control kit for Nissan X-Trail AAC	1324070_ 1327655_
MultiControl installation frame, for installation of MultiControl CAR	9030077_
In case of Telestart, control element, as well as indicator lamp in consultation with end customer	In accordance with price list

2.3 Information on Total Installation Time

The total installation time includes the time needed for mounting and demounting the vehicle-specific components, the heater specific installation time and all other times required for the system integration and initial start-up of the heater.
The total installation time may vary for vehicle equipment other than provided.

2.4 Installation Recommendations

Arrange for the vehicle to be delivered with the tank only about ¼ full.
For the MultiControl CAR option, the recommended installation locations for the Telestart or ThermoCall push button should be confirmed with the end customer.
Depending on the space required and the vehicle manufacturer's instructions, we recommend the use of a vehicle battery with a higher electrical capacity.

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

3 About this document

3.1 Purpose of the document

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

Thermo Top Evo heater

3.2 Warranty and liability

Webasto shall assume no liability for defects, damage and injuries resulting from a failure to observe the installation, repair and operating instructions of the information contained in them.

This liability exclusion particularly applies to improper installations and repairs by untrained persons or in the case of a failure to use genuine spare parts.

The liability due to culpable disregard to life, limb or health and due to damage or injuries caused by a wilful or reckless breach of duty remain unaffected, as does the obligatory product liability.

Installation should be carried out according to the general, standard rules of technology. Unless specified otherwise, fasten hoses, lines and wiring harnesses to original vehicle lines and wiring harnesses using cable ties. Insulate loose wire ends and tie back. Connectors on electronic components must audibly snap into place during assembly.

Spray unfinished body areas, e.g. drilled holes, with anti-corrosion wax (Tectyl 100K).

Observe the instructions and guidelines of the respective vehicle manufacturer for demounting and mounting vehicle specific components.

The initial start-up is to be executed with the Webasto Thermo Test Diagnosis.

When installing a programmable control module (e.g. a PWM Gateway), the corresponding settings must be checked or adjusted.

3.2.1 Statutory regulations governing installation

The Thermo Top Evo heater has been type-tested and approved in accordance with ECE-R 10 (EMC) and ECE-R 122 (heater). The regulations of these guidelines are binding in the scope of the Directive 70/156/EEC and/or 2007/46/EC (for new vehicle models from 29/04/2009) and should also be observed in countries in which there are no special regulations.

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

3.3 Safety

Qualifications of installation personnel

The installation personnel must have the following qualifications:

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

Regulations and legal requirements

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

3.3.1 Safety information on installation

Danger posed by live parts

▶ Prior to installation, disconnect the vehicle from the voltage supply.

▶ Make sure the electrical system is earthed correctly.

▶ Always comply with legal requirements.

▶ Observe data on type label.

Danger of fire and leaking toxic gases due to improper installation

▶ Vehicle parts in the vicinity of the heater must be protected against excessive heating by the following measures:

  ⇨ Maintain minimum safety distances.

  ⇨ Ensure adequate ventilation.

  ⇨ Use fire-resistant materials or heat shields.

Danger due to sharp edges

- Lacerations
- Short circuit due to electrical wire damage

▶ Fit protectors on sharp edges.

3.4 Using this document

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

3.4.1 Explanatory Notes on the Document

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

Generally valid Webasto documentation	
Vehicle-specific installation documentation	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

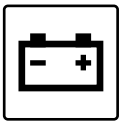
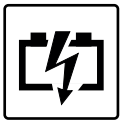
▶ Actions to protect yourself against risks.

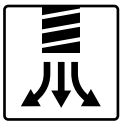
Reference to the vehicle manufacturer's specific documents.

Note on a special technical feature

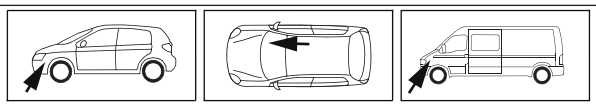
3.4.3 Work step identification marks

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 mm^2
- Crimping pliers for cable lugs 0.5 – 10 mm^2
- Crimping pliers for male connector 0.14 – 6 mm^2
- Crimping pliers for connector 0.25 – 6 mm^2
- Torque wrench for 2.0 - 10 Nm
- Deep-hole marker
- Metric thread-setter kit
- Webasto Thermo Test Diagnosis with current software

5 Preparations

5.1 Vehicle preparation

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

Vehicle area	Components to be removed	Other applicable documents
General	▶ Open the fuel tank cap ▶ Ventilate the fuel tank ▶ Close the fuel tank cap again ▶ Depressurise the cooling system	
Engine compartment and body	▶ Complete battery with battery carrier ▶ Complete air filter with intake hose ▶ Front wheel on the driver's side ▶ Wheel well trim on the driver's side ▶ Remove the wheel well trim on the front passenger's side ▶ Bumper trim	
Passenger compartment	▶ A-pillar trim (only in case of Telestart) ▶ A-pillar trim in the footwell on the driver's side ▶ Side instrument panel trim on the driver's side ▶ Lower instrument panel trim on the driver's side ▶ Front footwell trim on the centre console, left and right side ▶ Carpet on the driver's side, folded back ▶ Seat at the back on the front passenger's side ▶ Tank fitting service lid	

5.2 Heater preparation

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

6 Installation overview

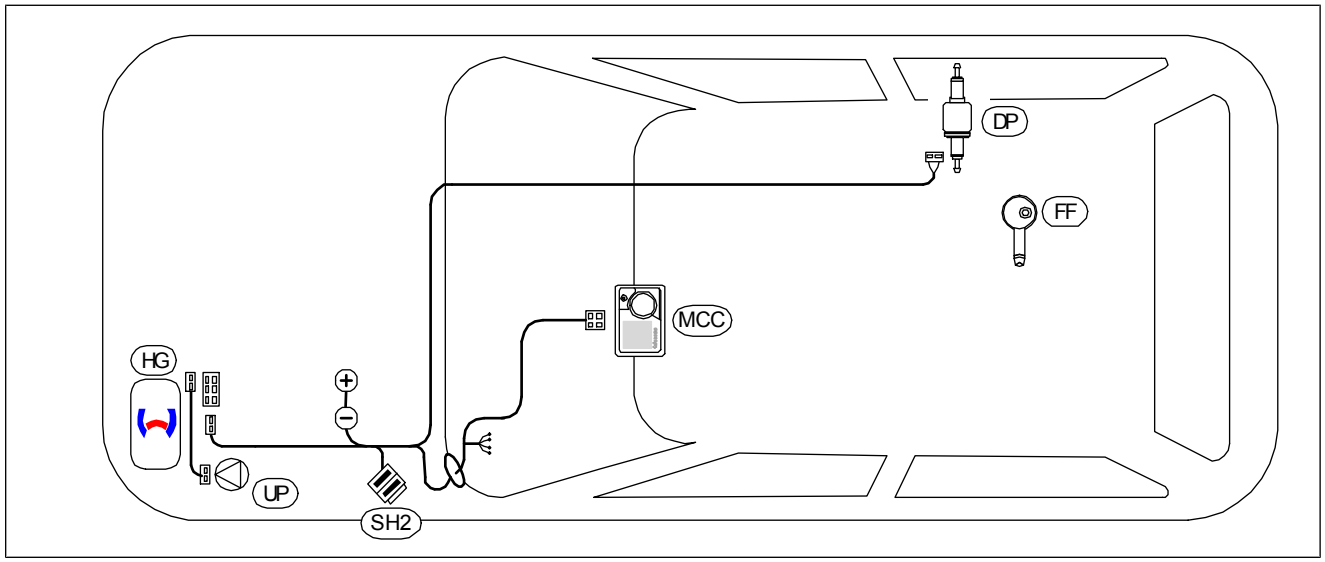


Fig. 1

Legend to installation overview

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

Heater installation location

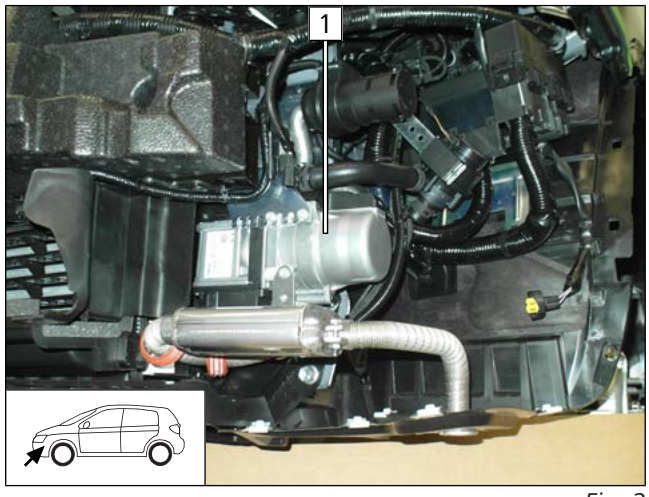


Fig. 2

1 Heater

7 Electrical system of engine compartment

Preparing wiring harness

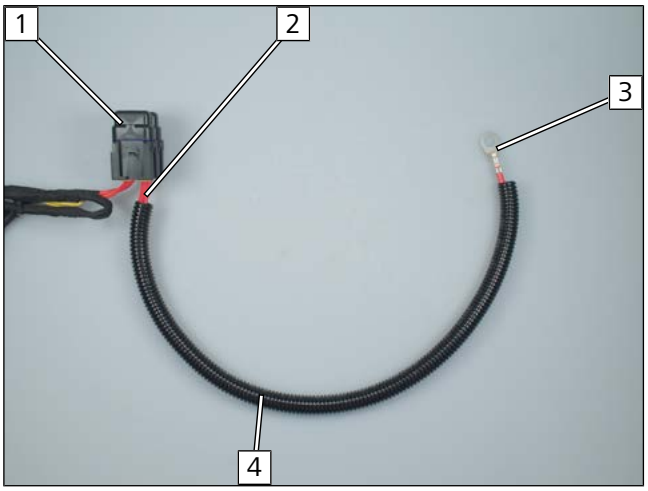


Fig. 3

Determine the cable lug size at the positive support point before crimping.

▶ Slide Ø10, 430 long corrugated tube **4** over positive wire **2**, then crimp on cable lug **3**.

1 SH2

Bending perforated bracket

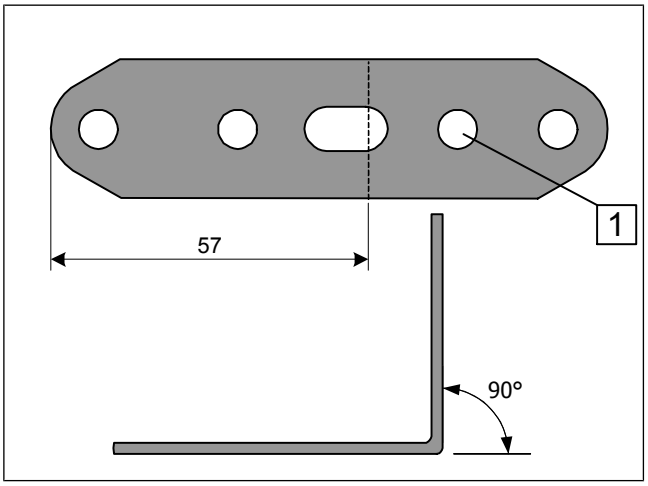


Fig. 4

1 Fastening point of SH2 retaining plate

Premounting SH2

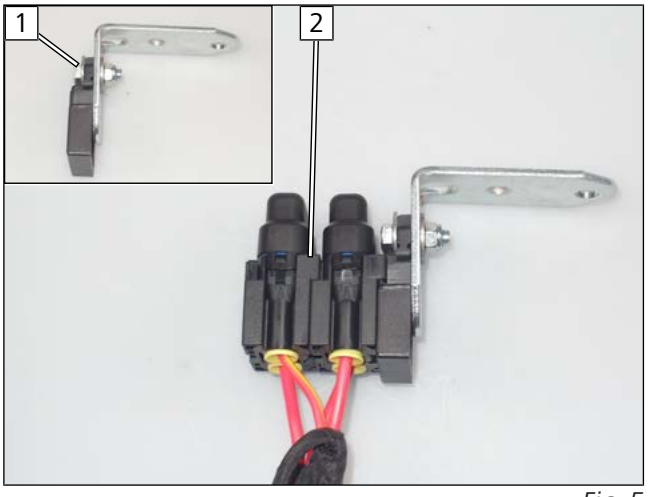


Fig. 5

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

2 SH2 with fuse F1/F2

Installing SH2

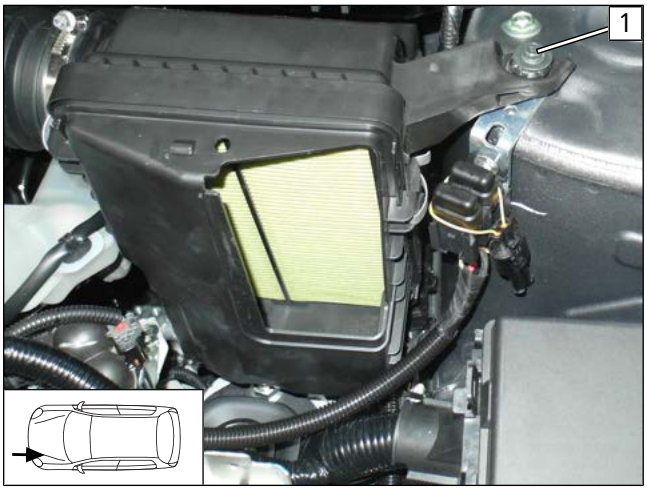


Fig. 6

▶ Unscrew original vehicle bolt 1, position premounted SH2, fit the bolt again.

Connecting positive wire

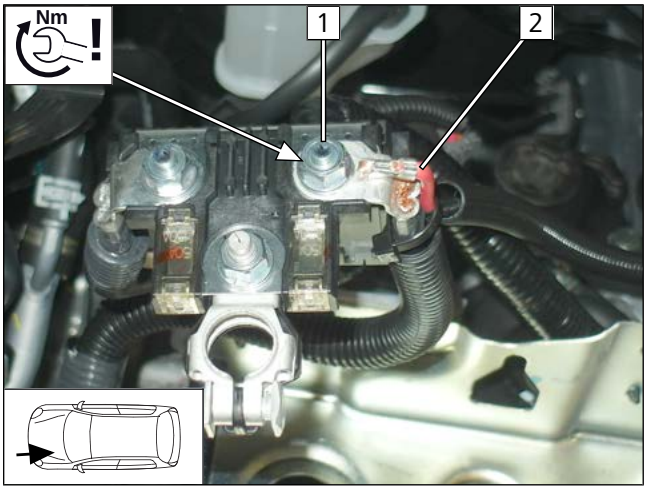


Fig. 7

DANGER

Fire hazard due to insufficient tightening torque

▶ Observe tightening torque

1 Original vehicle positive support point

2 Positive wire

Connecting earth wire

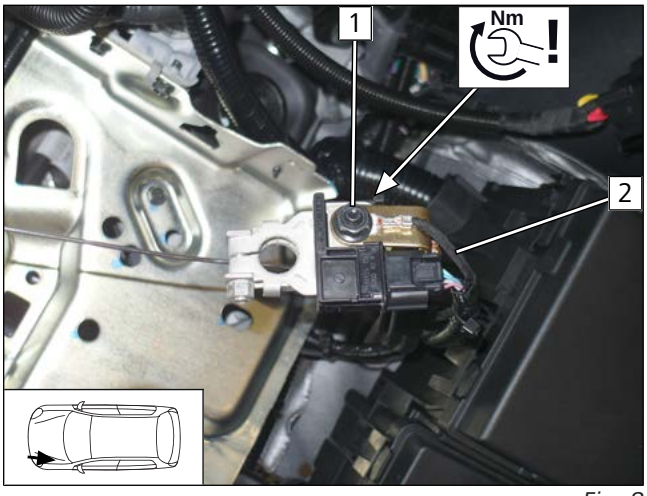


Fig. 8

DANGER

Fire hazard due to insufficient tightening torque

▶ Observe tightening torque

1 Original vehicle earth support point

2 Earth wire

Routing wiring harness

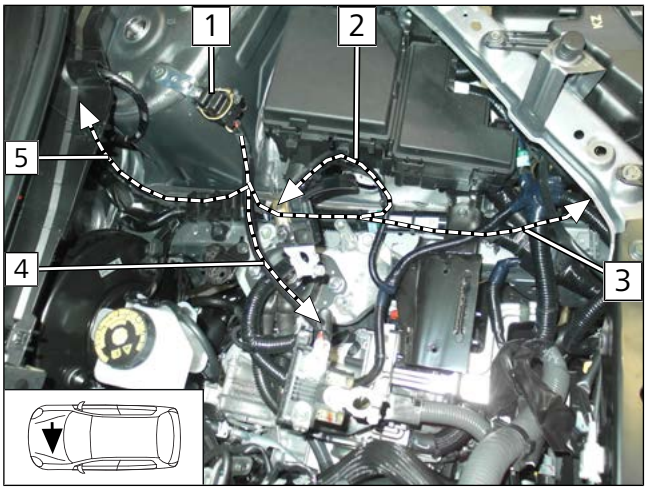


Fig. 9

1. SH2
2. Earth wire
3. HG wiring harness to the HG installation location
4. Positive wire
5. Passenger compartment and control element wiring harnesses to wiring harness pass through in the passenger compartment

Passenger compartment wiring harness pass through

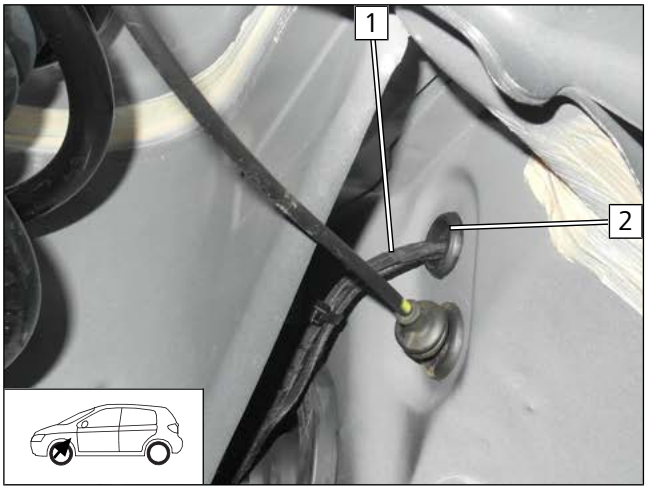


Fig. 10

1. Control element and passenger compartment wiring harnesses
2. Passenger compartment wiring harness pass through

8 Mechanical system

8.1 Preparing installation location

Removing horn

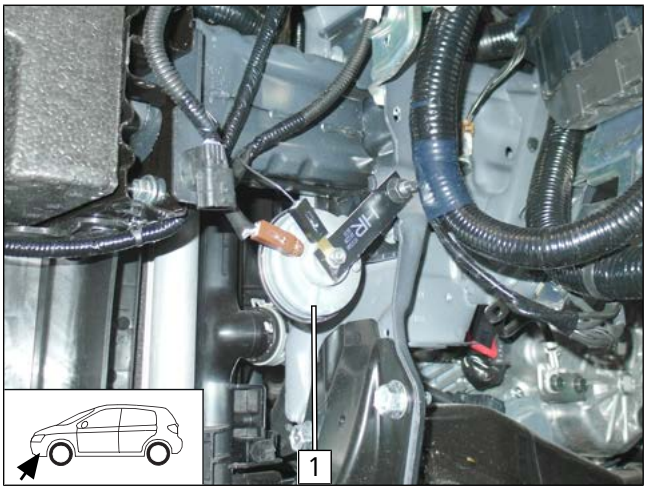


Fig. 11

▶ Remove horn with bracket 1.

Mounting horn

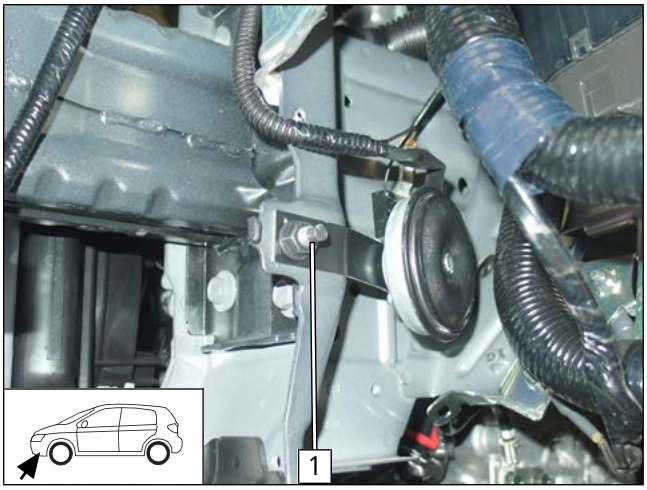


Fig. 12

▶ Align horn bracket.

1 Original vehicle stud bolt, horn bracket, original vehicle flanged nut

Moving original vehicle wiring harness

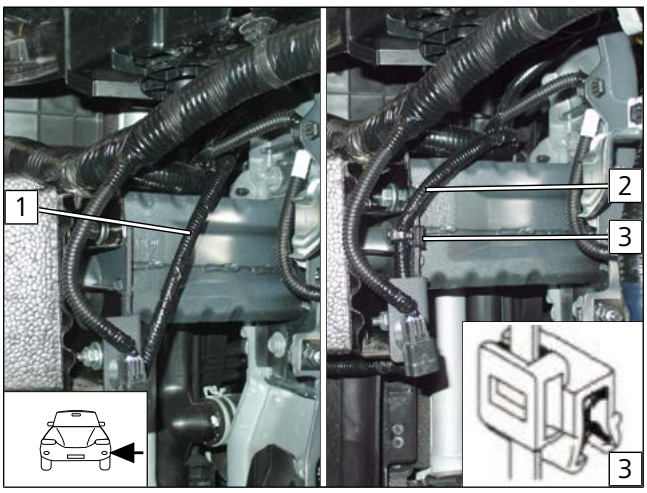


Fig. 13

1 Original pos. of the wiring harness
2 New pos. of the wiring harness
3 Edge clip cable tie

Premounting HG bracket

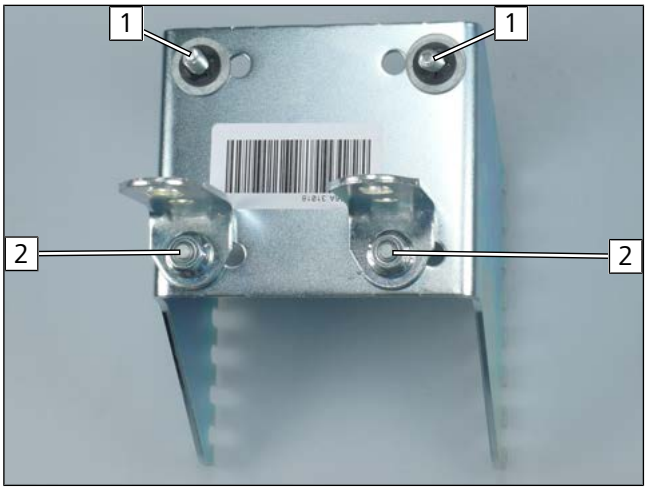


Fig. 14

1 M6x20 bolt, spring lock washer, bracket, large diameter washer, lock washer

2 M6x12 bolt, bracket, angle bracket, flanged nut

Drilling holes, inserting rivet nuts

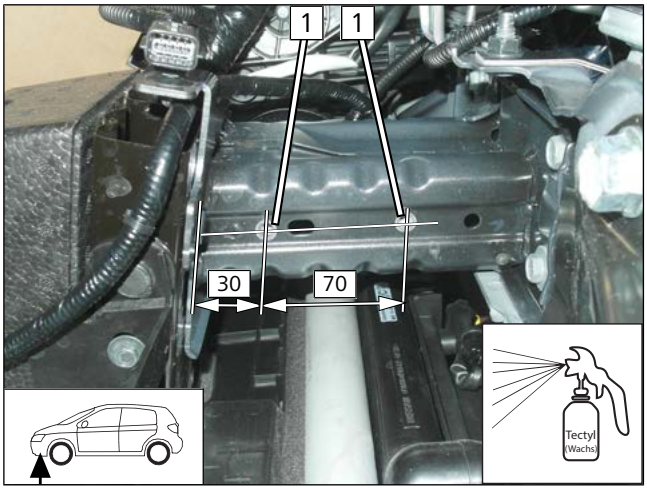


Fig. 15

1 Ø9 hole, rivet nut

Mounting bracket loosely

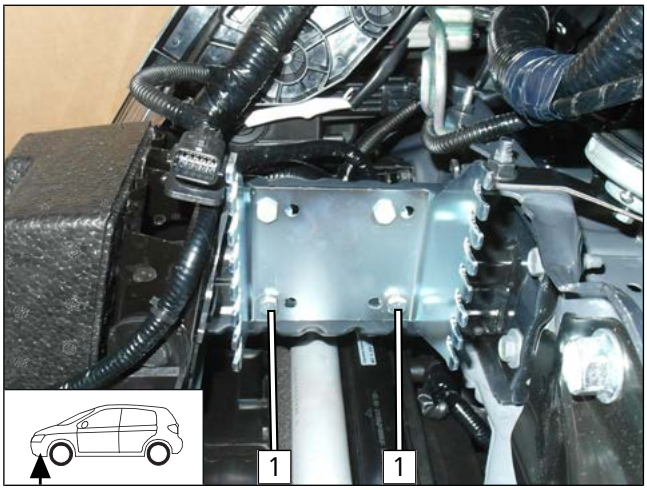


Fig. 16

1 Premounted M6x20 bolt, bracket, rivet nut

Copying hole pattern

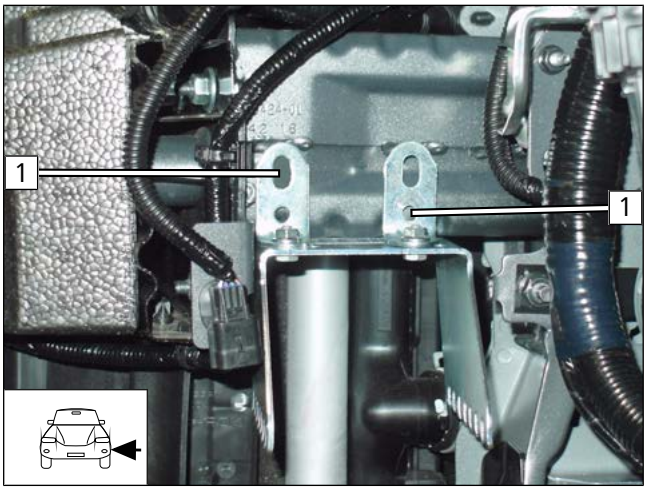


Fig. 17

1 Hole pattern

Drilling holes, inserting rivet nuts

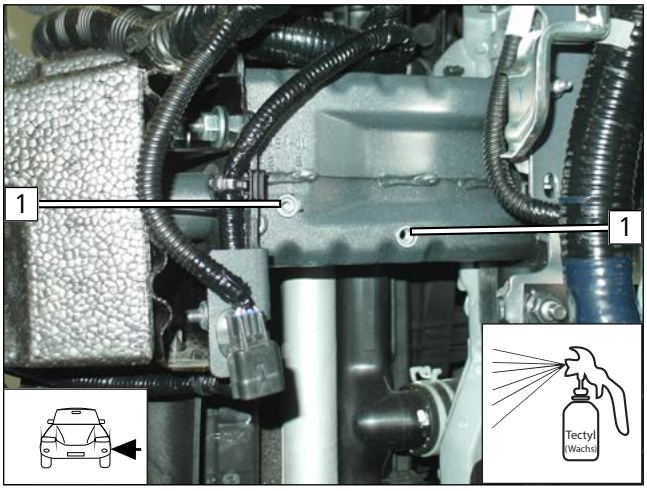


Fig. 18

▶ Remove bracket.

1 Ø9 hole, rivet nut

Mounting bracket

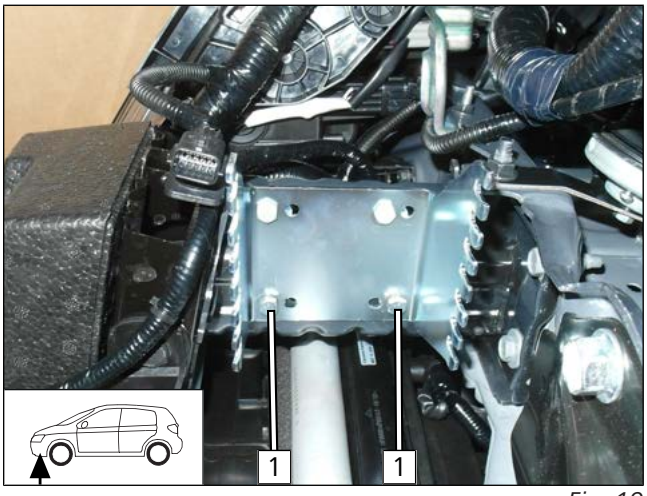


Fig. 19

1 Tighten premounted M6x20 bolt, bracket, rivet nut

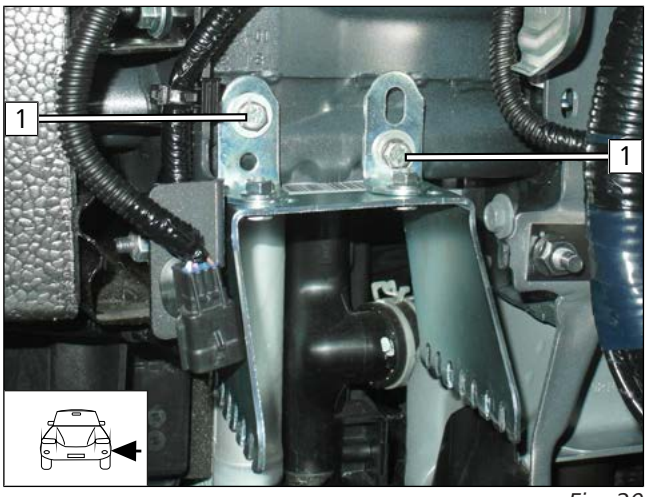


Fig. 20

1 M6x30 bolt, spring lock washer, large diameter washer, angle bracket, spacer (5), rivet nut

8.2 Premounting heater

Mounting water connection piece

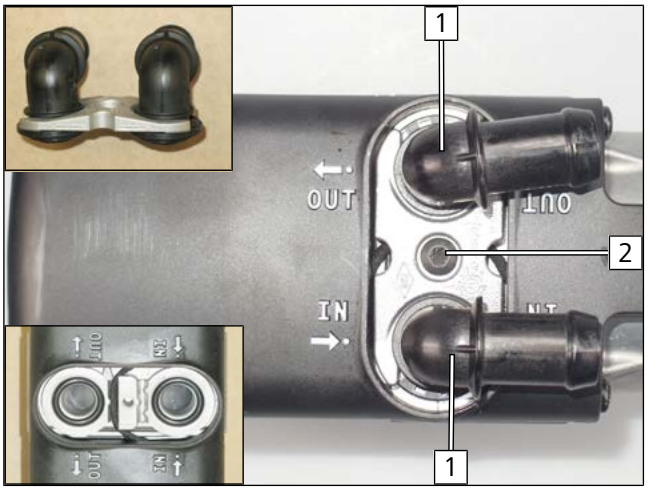


Fig. 21

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

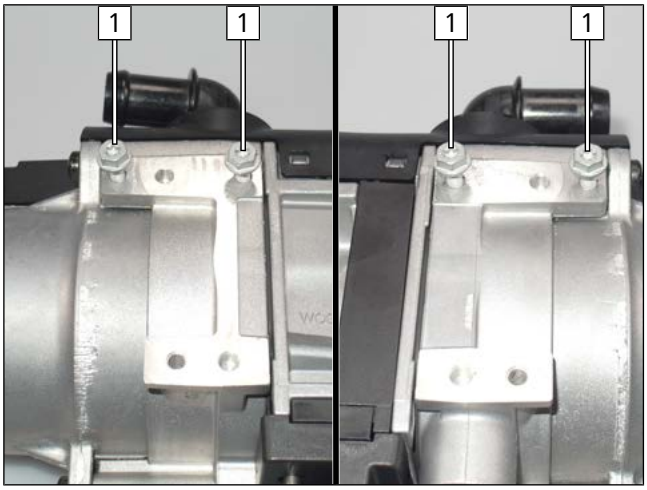


Fig. 22

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

Mounting fuel hose and coolant pump wiring harness

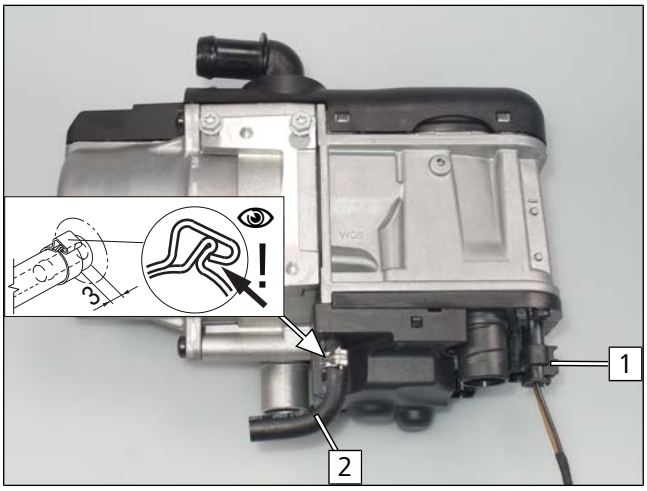


Fig. 23

1 Coolant pump wiring harness connector
2 90° moulded hose, Ø10 clamp

Mounting combustion air intake pipe

Fig. 24

Observe the installation instructions of the combustion air intake silencer.

1 Combustion air intake line

8.3 Heater mounting

Inserting heater

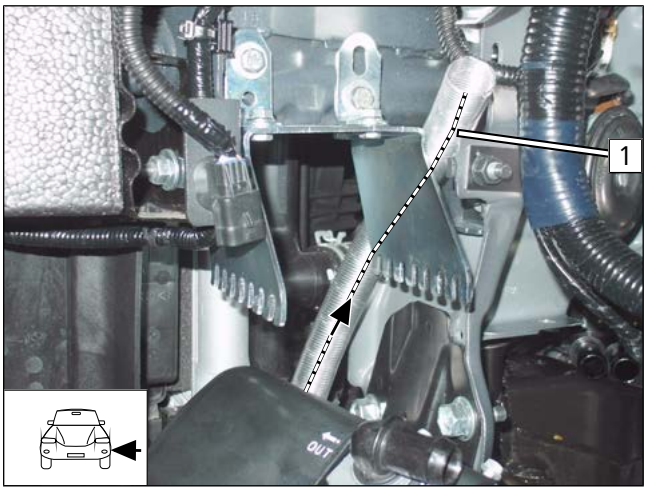


Fig. 25

Observe the general installation instructions of the heater.

▶ Pass combustion air intake pipe 1 behind the HG bracket.

Mounting heater

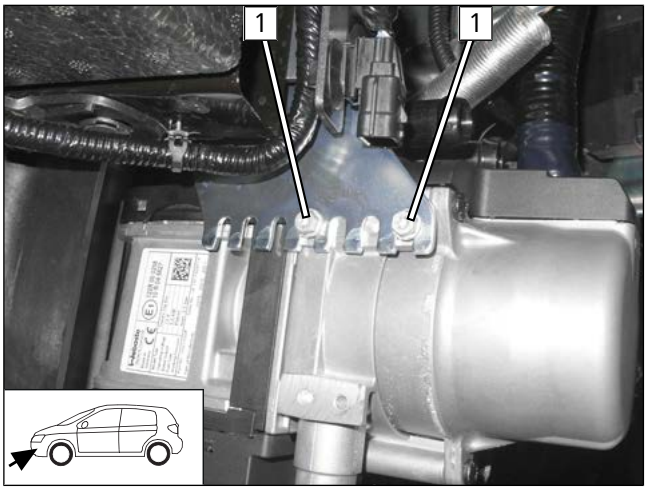


Fig. 26

1 Tighten premounted self-tapping bolts

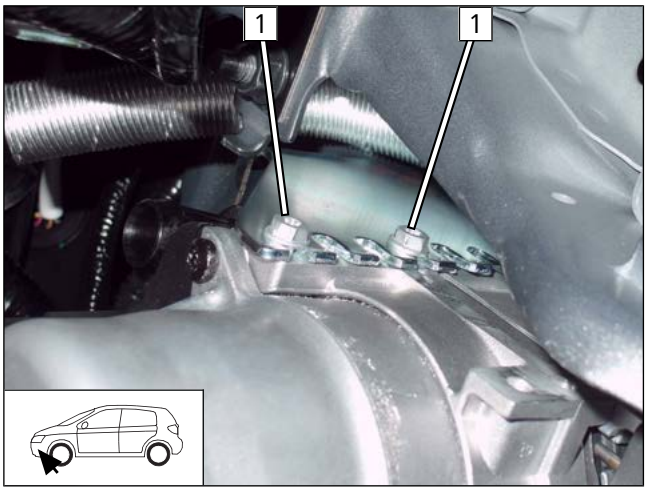


Fig. 27

1 Tighten premounted self-tapping bolts

Mounting heater wiring harness

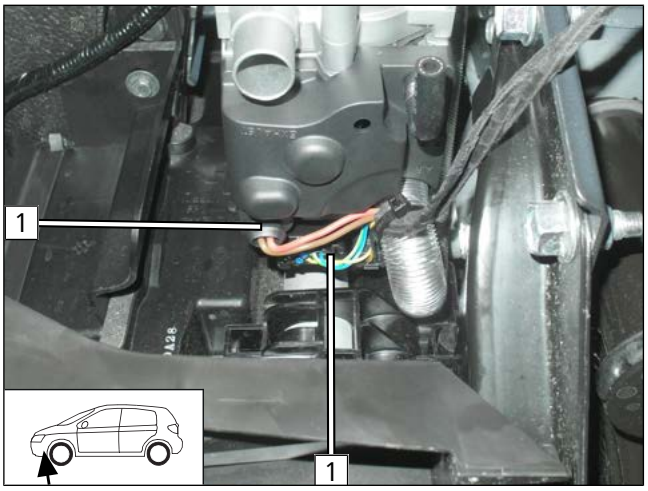


Fig. 28

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

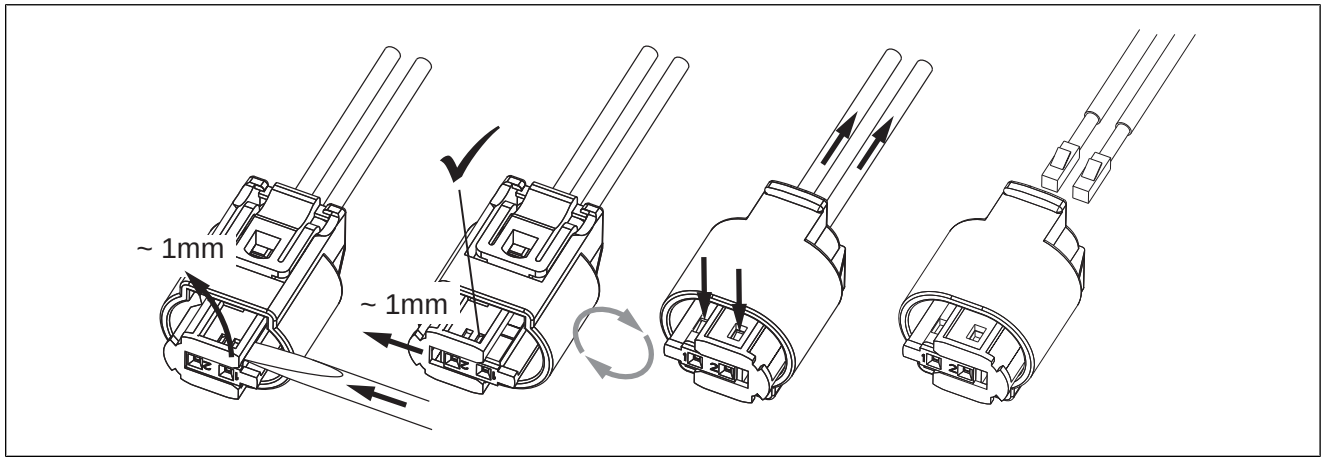


Fig. 29

9.1 Routing fuel line

Assigning / cutting to length corrugated tube

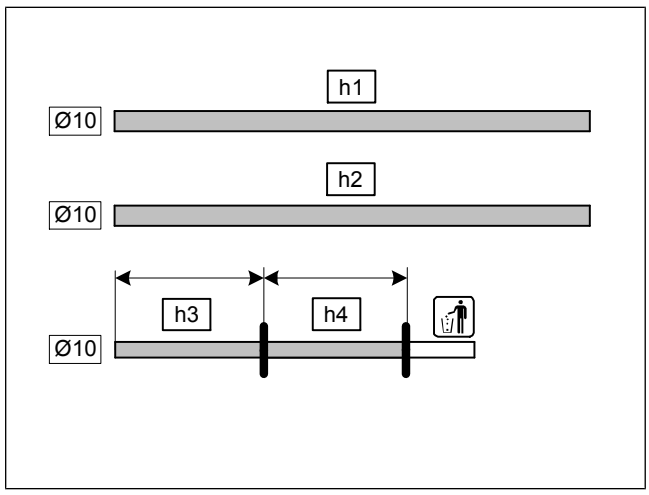


Fig. 30

h1 2100
h2 2100
h3 500
h4 400

Connection to heater

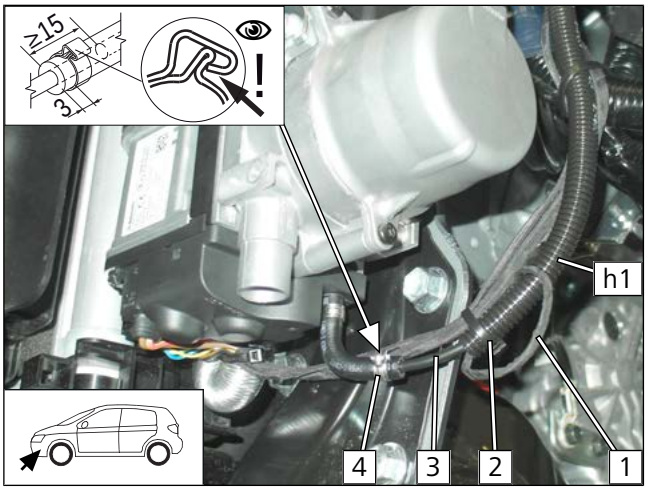


Fig. 31

▶ Draw fuel line [3] and fuel pump wiring harness [1] into corrugated tube [h1].

[2] Cable tie around corrugated tube [h1], HG wiring harness and coolant pump wiring harness

[4] Ø10 clamp

Routing at heater location

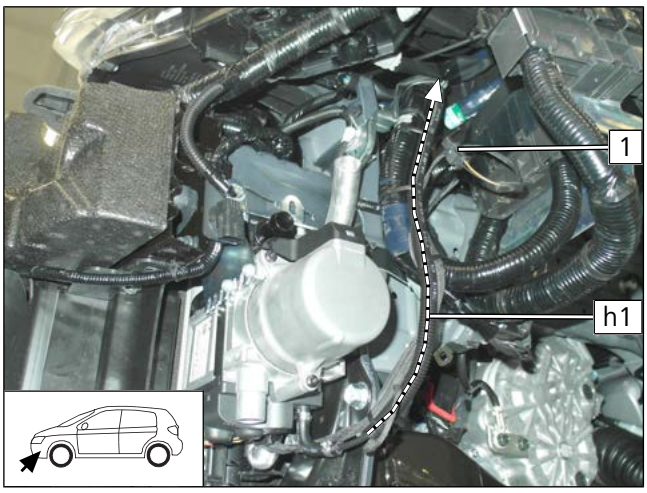


Fig. 32

▶ Route corrugated tube [h1], HG wiring harness and coolant pump wiring harness in the direction of the engine compartment and attach to original vehicle wiring harness with cable ties.

[1] Coolant pump wiring harness connector

Routing in engine compartment

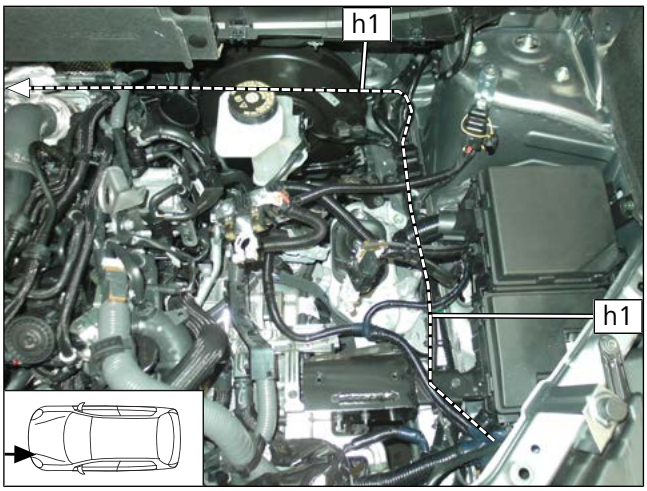


Fig. 33

▶ Route corrugated tube [h1] behind the brake booster, on original vehicle wiring harness, to the front passenger's side.

Routing to the underbody

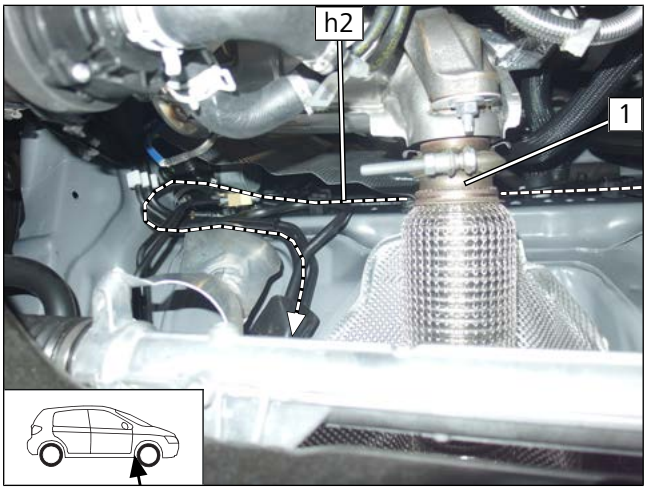


Fig. 34

Danger of damage to components

Ensure sufficient distance between corrugated tube **h2** and original vehicle exhaust system **1**, correct if necessary.

▶ Route corrugated tube **h2** on original vehicle wiring harness above original vehicle exhaust system **1** to the underbody and attach with cable ties.

Routing on underbody

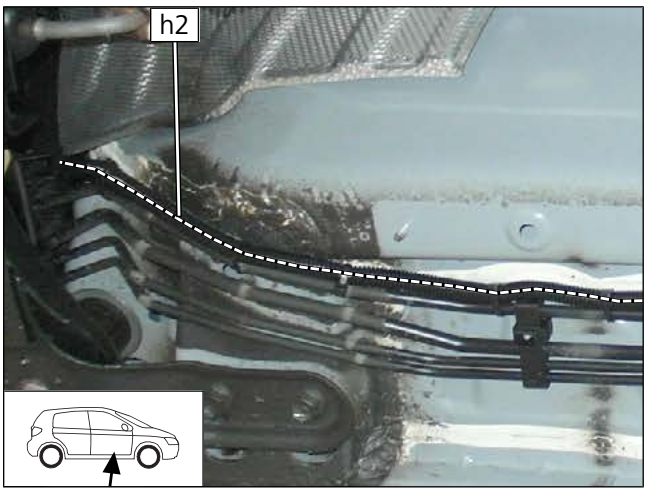


Fig. 35

▶ Fasten corrugated tube **h2** to original vehicle fuel lines with cable ties and route on the underbody.

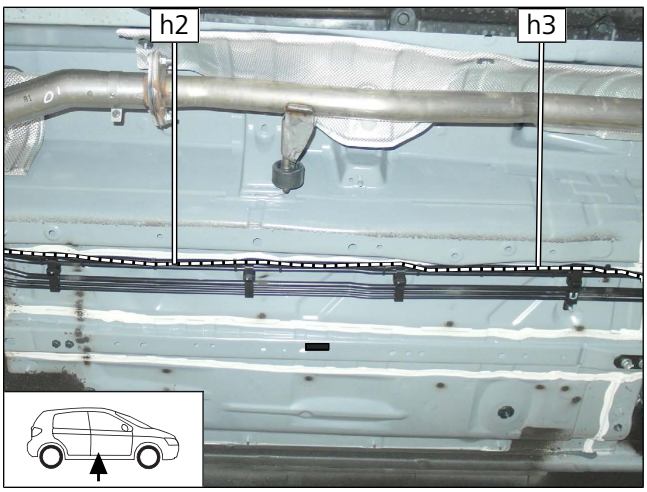


Fig. 36

▶ Route corrugated tubes **h2** and **h3** along original vehicle fuel lines to the fuel pump installation location.

9.2 Mounting and connecting fuel pump

Drilling hole, inserting rivet nut

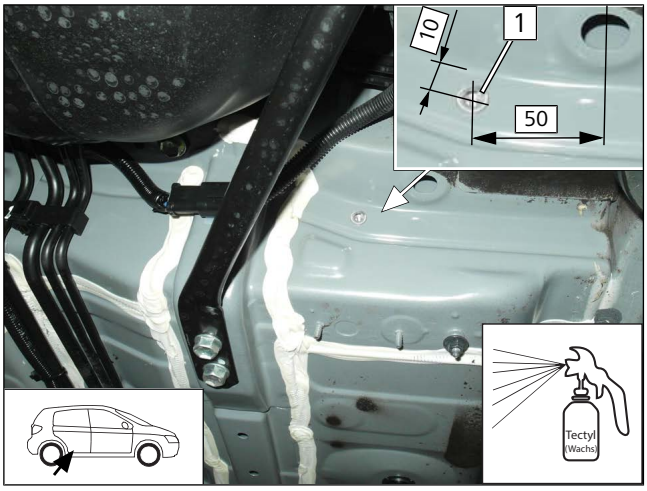


Fig. 37

1 Ø9 hole, rivet nut

Premounting fuel pump

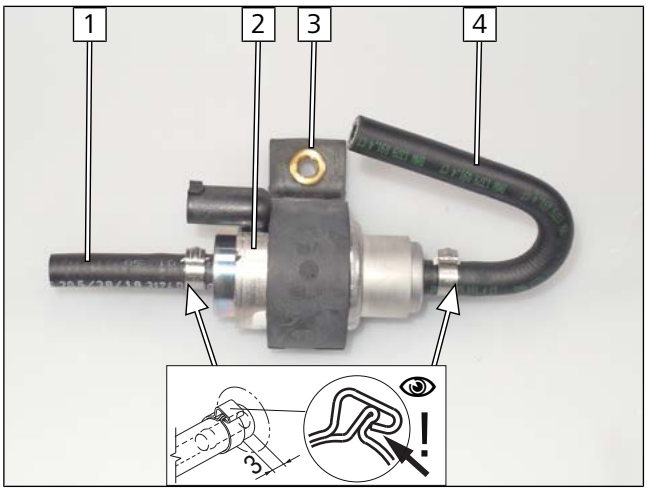


Fig. 38

1 Hose section, Ø10 clamp
2 Fuel pump
3 Fuel pump mount
4 180° moulded hose, Ø10 clamp

Mounting fuel pump

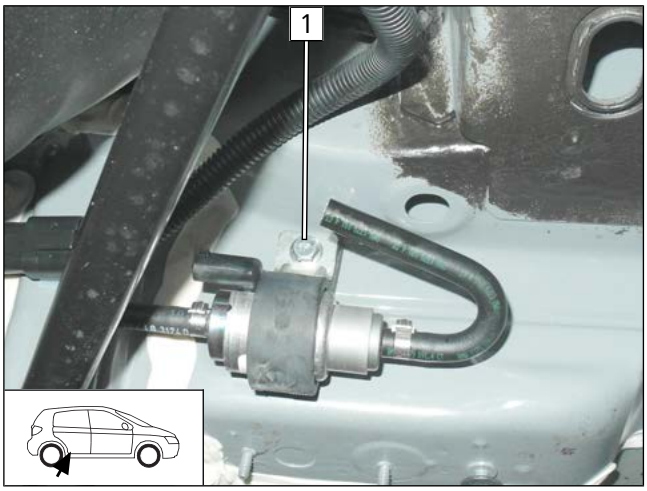


Fig. 39

1 M6x25 bolt, support angle bracket, fuel pump mount, rivet nut

Assembling fuel pump connector X7

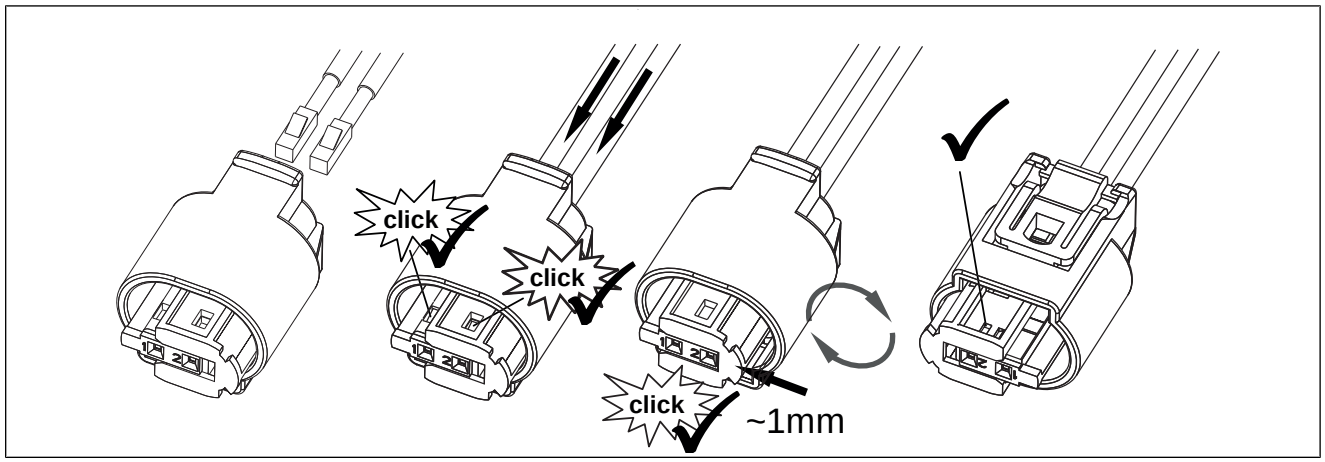


Fig. 40

Connecting fuel pump

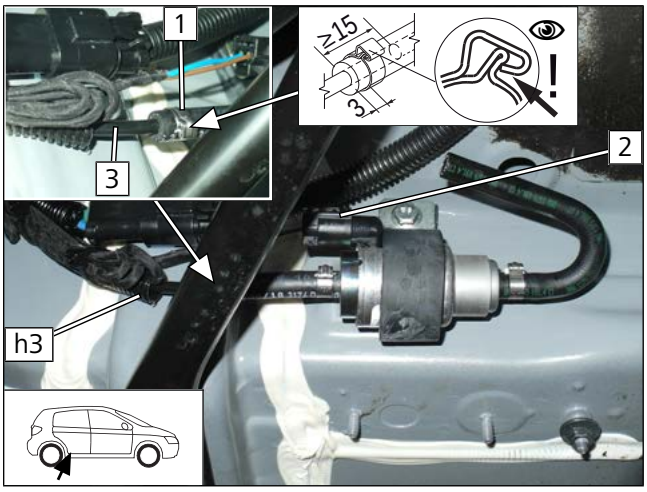


Fig. 41

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

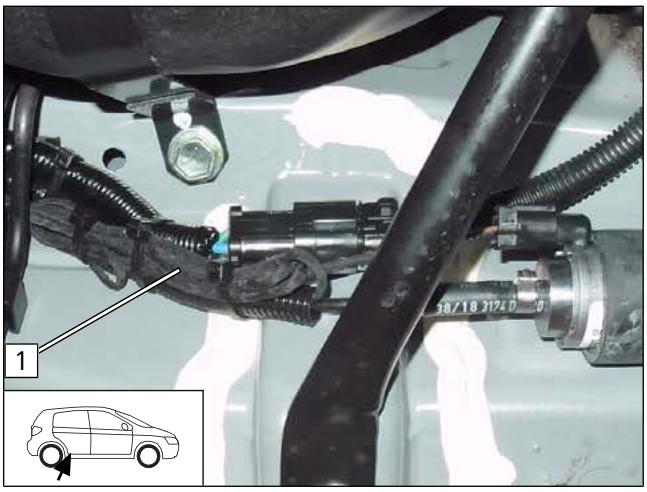


Fig. 42

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

9.3 Dismantling instructions for rear bench seat on the front passenger's side

Removing cover

Fig. 43

1 Cover

Removing bolts

Fig. 44

1 Screws

Removing cover

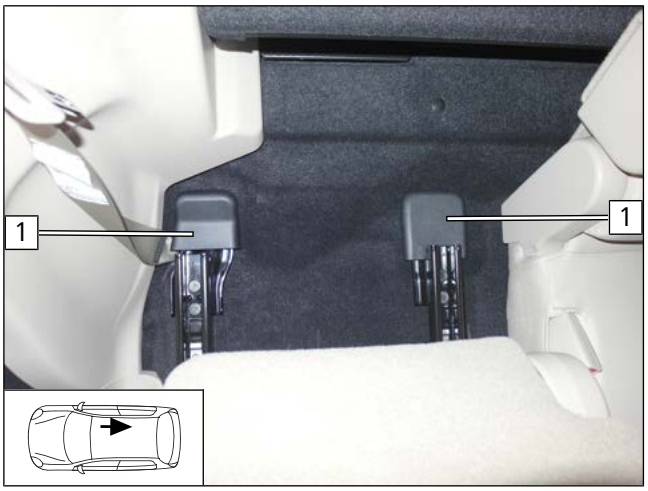


Fig. 45

▶ Slide the rear bench seat forward. Fold the backrest forward.

1 Cover

Removing bolts

Fig. 46

[1] Screws

9.4 Installing FuelFix

Preparing fuel line

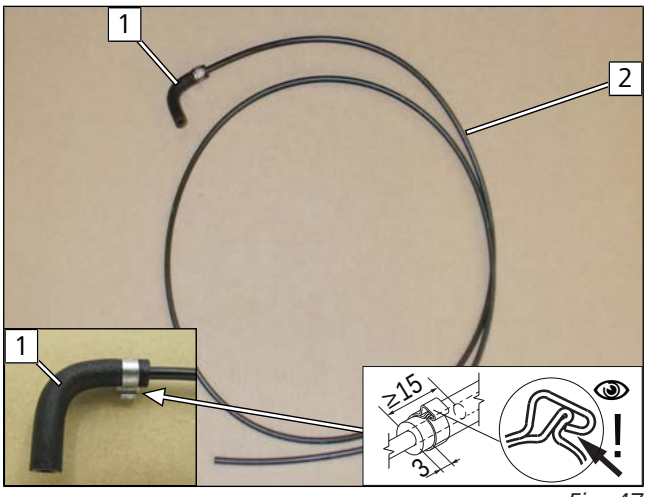


Fig. 47

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

Moving label

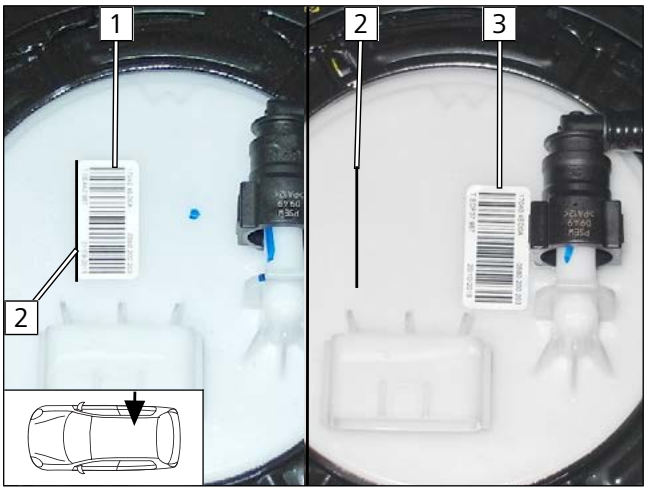


Fig. 48

▶ Draw guide line [2] on existing embossing.

[1] Original position of label
[3] New position of label

View of drilling template

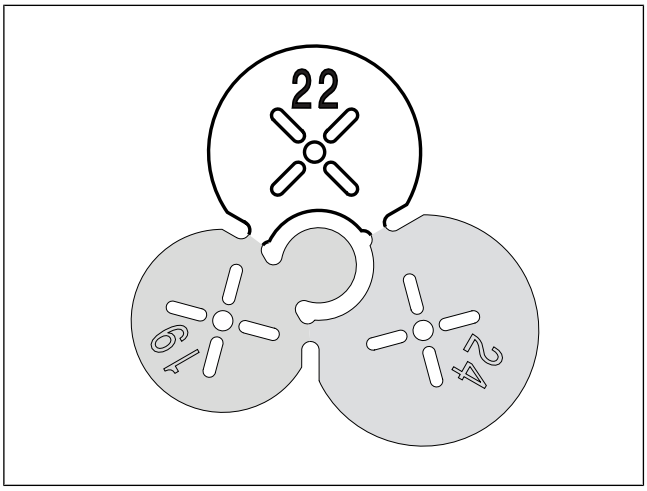


Fig. 49

Work steps F1, F2

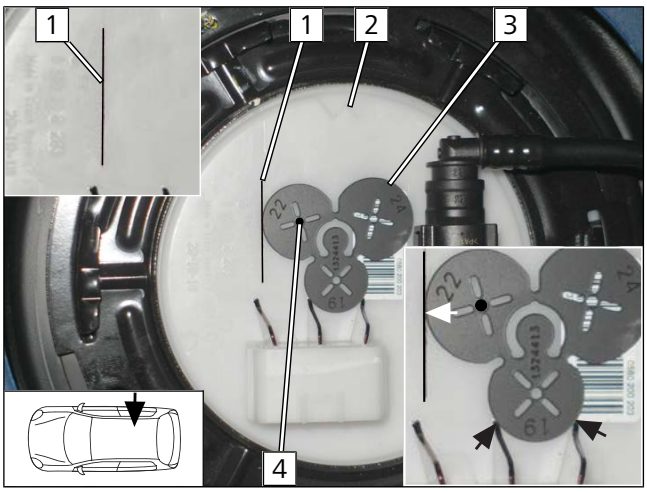


Fig. 50

Observe the installation instructions of the tank extracting device.

▶ Position template [3] tangent to guide line [1] and against the ribs as shown.

[2] Tank fitting

[4] Copy hole pattern

Work step F3

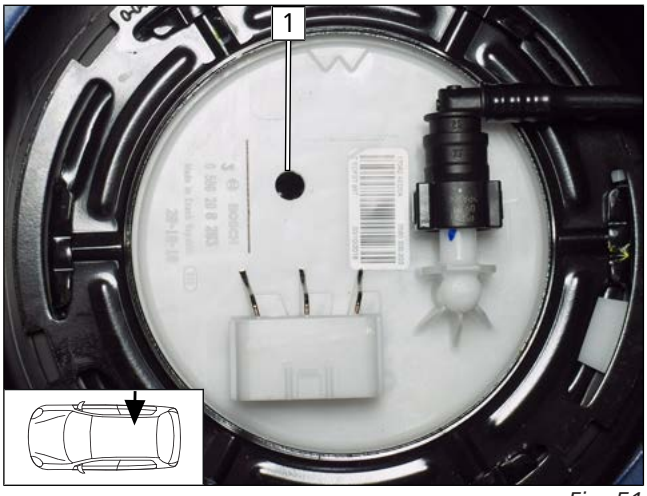


Fig. 51

DANGER

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

[1] Hole made with provided drill

Work steps F4, F5

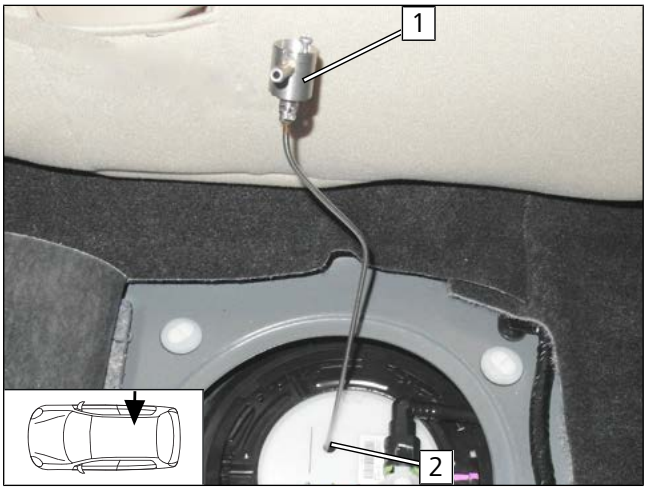


Fig. 52

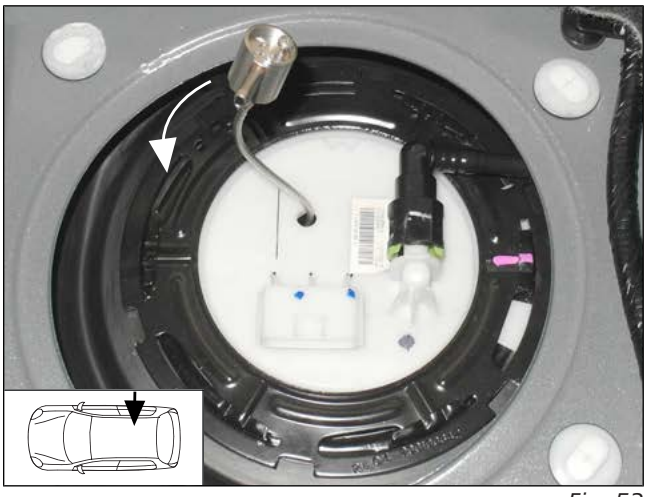


Fig. 53

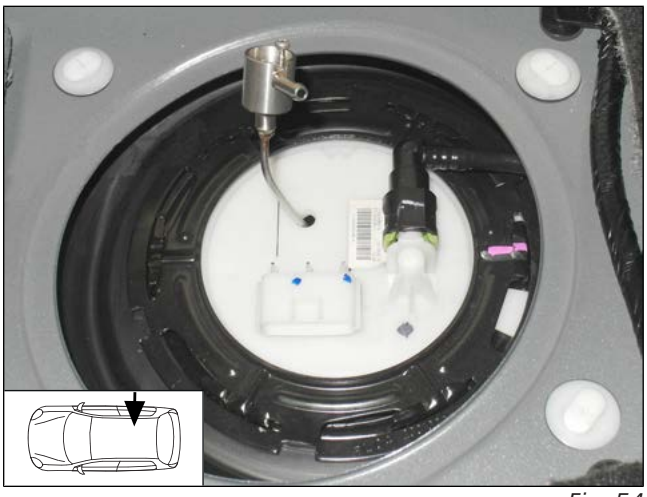


Fig. 54

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

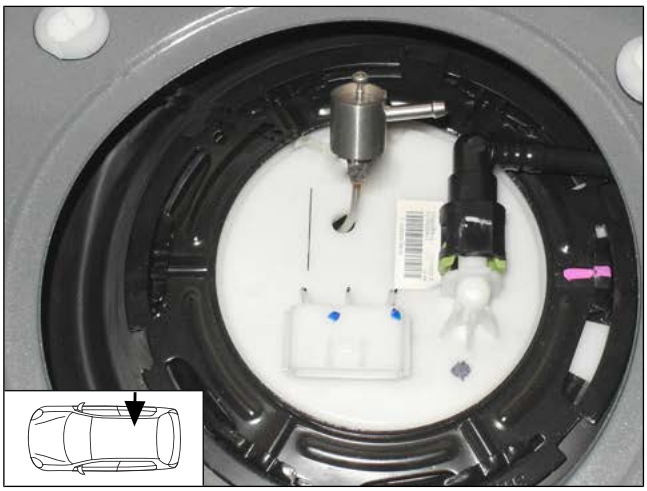


Fig. 55

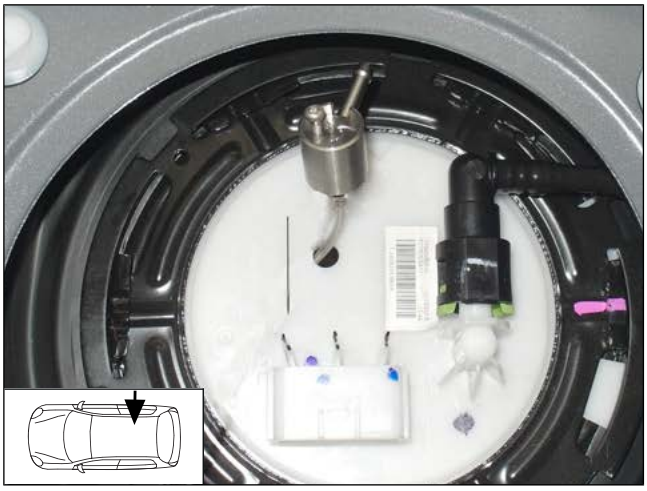


Fig. 56

Work steps F5.3, F5.4

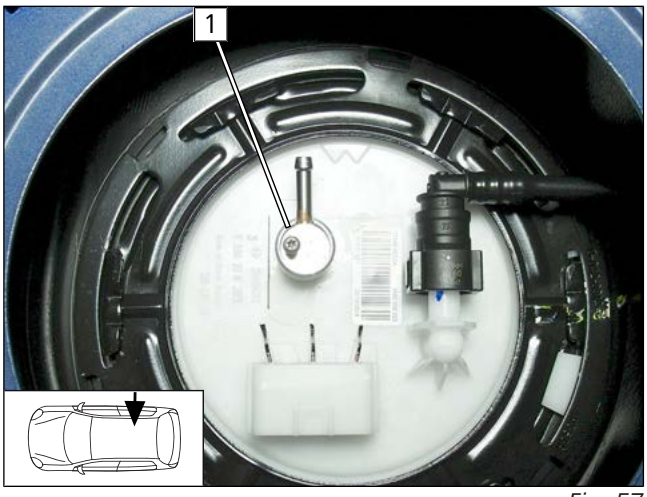


Fig. 57

▶ Align FuelFix 1 as shown.

Work step F6

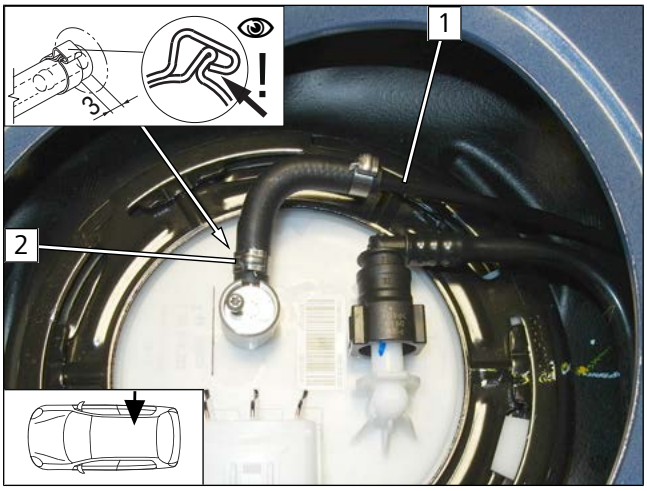


Fig. 58

1 Prepared fuel line
2 Ø10 clamp

Work step F7

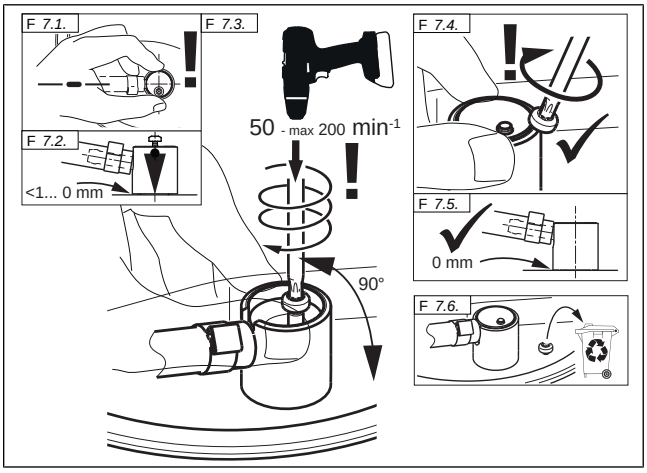


Fig. 59

DANGER

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

Work step F8

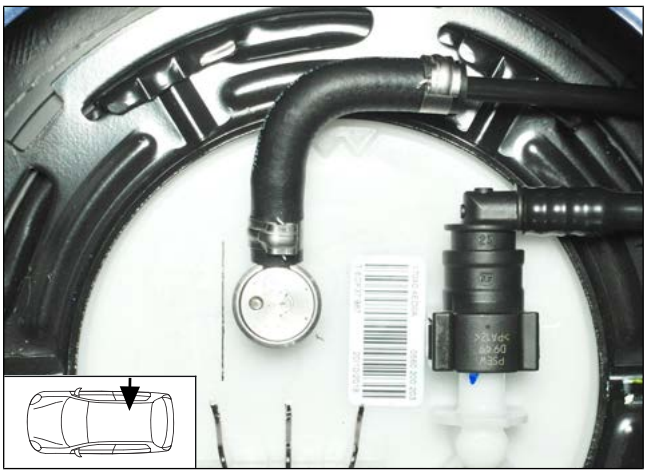


Fig. 60

Securing fuel line

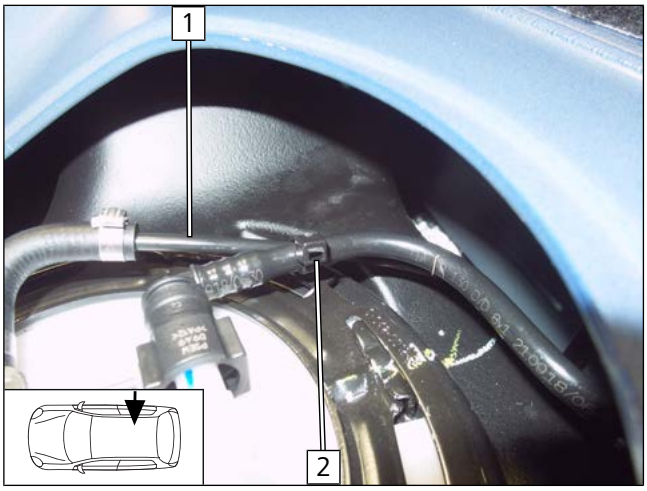


Fig. 61

▶ Secure fuel line 1 using cable tie 2 for tension relief.

Connection to fuel pump

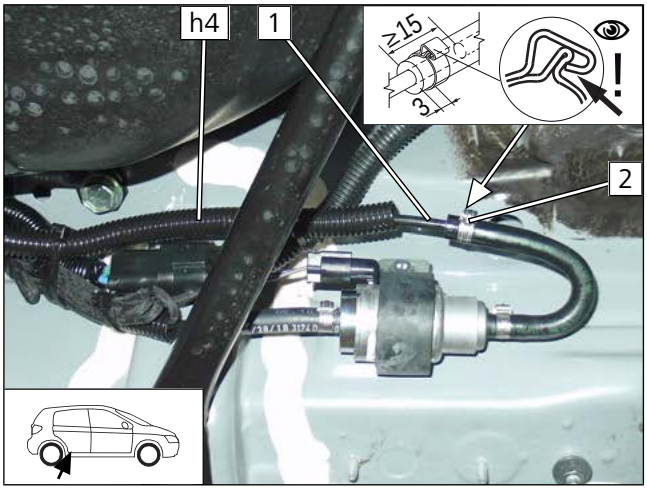


Fig. 62

Danger of damage to components

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

1 Fuel line of FuelFix in corrugated tube **h4**

2 Ø10 clamp

10 Combustion air

Preparing / assigning perforated bracket

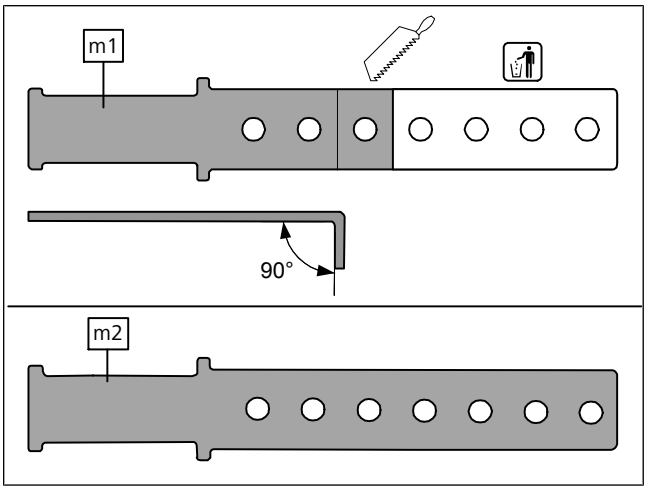


Fig. 63

m1 Perforated bracket for combustion air intake silencer

m2 Perforated bracket for coolant pump

Premounting combustion air intake silencer

Fig. 64

1 Combustion air intake silencer

2 Combustion air intake silencer mount

Loosening original vehicle wiring harness

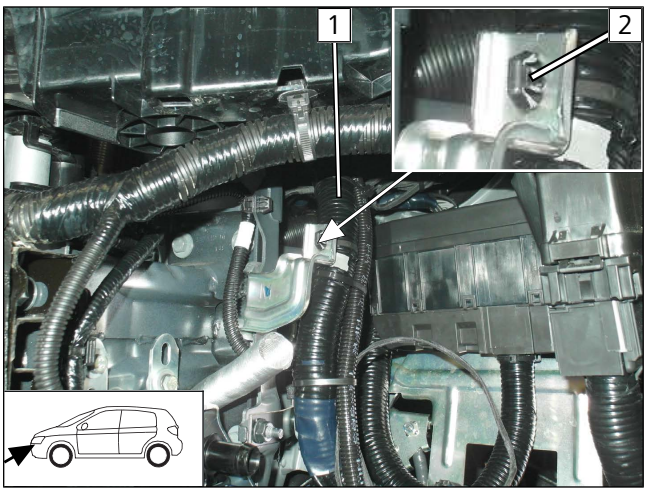


Fig. 65

▶ Remove and discard original vehicle clip-type cable tie **2** on original vehicle wiring harness **1**.

Mounting perforated brackets

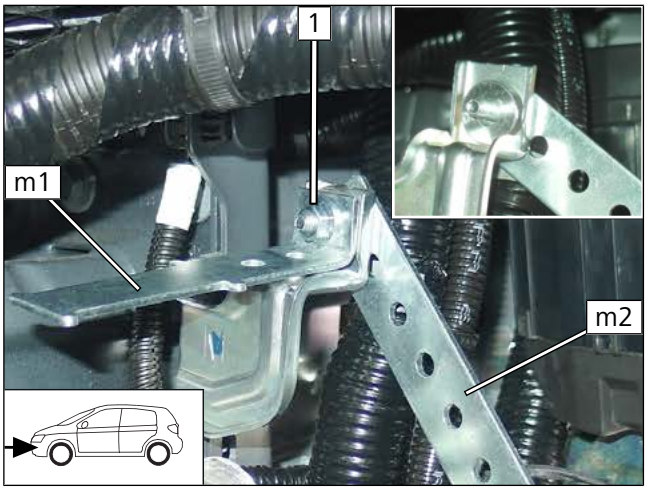


Fig. 66

Observe the installation instructions of the combustion air intake silencer.

[1] M6x20 bolt, perforated bracket [**m2**], original vehicle hole, spacer (5), perforated bracket [**m1**], flanged nut

Fastening original vehicle wiring harness

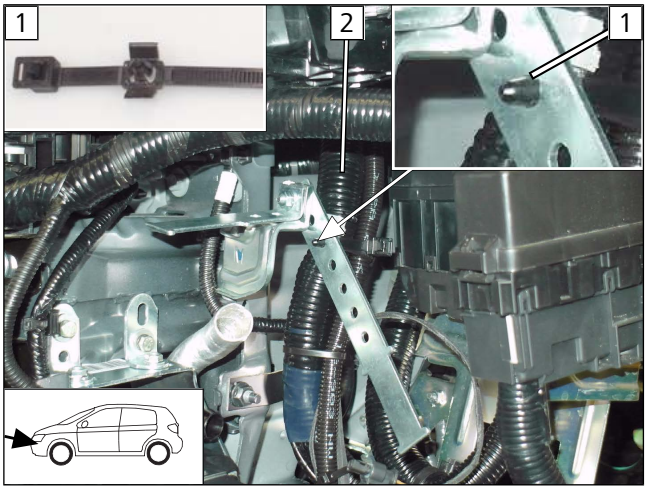


Fig. 67

▶ Using clip-type cable tie [**1**], fasten original vehicle wiring harness [**2**].

Mounting combustion air intake silencer

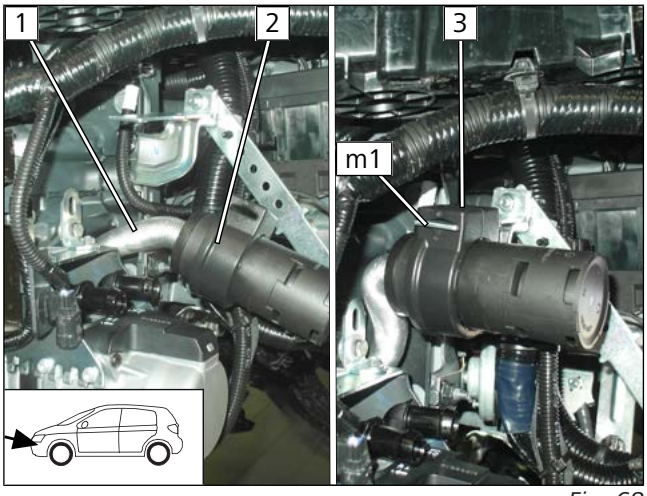


Fig. 68

▶ Mount combustion air intake silencer [**2**] on combustion air intake pipe [**1**].

▶ Mount combustion air intake silencer mount [**3**] onto perforated bracket [**m1**].

11 Coolant

11.1 Hose routing diagram

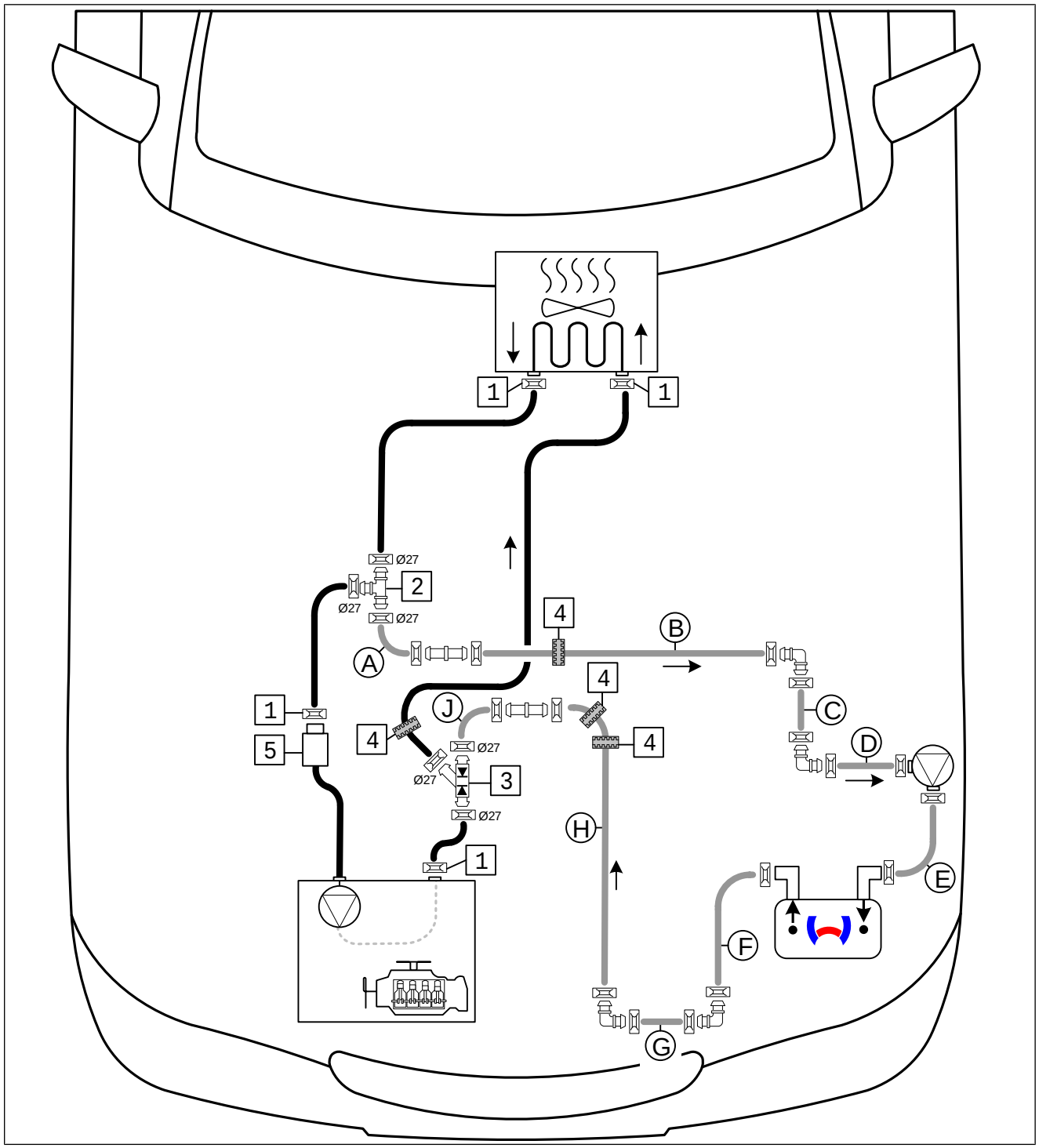


Fig. 69

- ▶ All spring clips without a specific designation = Ø25; All connecting pipes or = Ø18x18
- ▶ 1 Original vehicle spring clip; 2 T-piece; 3 Double non-return valve; 4 Black rubber isolator; 5 Original vehicle shut-off valve

11.2 Coolant circuit installation

Cutting hoses to length

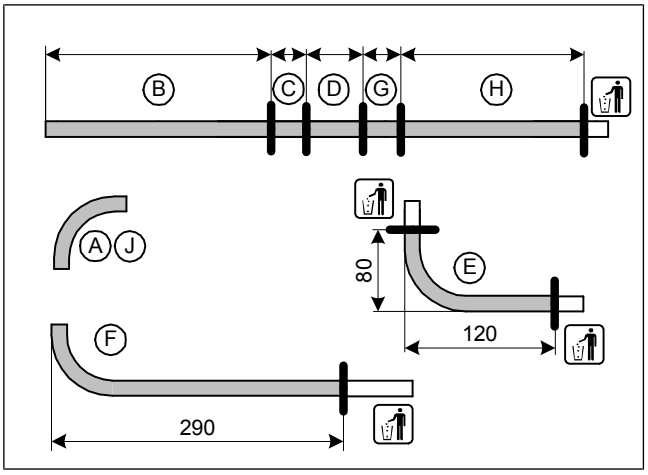


Fig. 70

(A)	90° moulded hose
(B)	850
(C)	70
(D)	240
(E)	90° moulded hose
(F)	90° moulded hose
(G)	100
(H)	790
(J)	90° moulded hose

Mounting fabric heat shrink tubings and rubber isolators

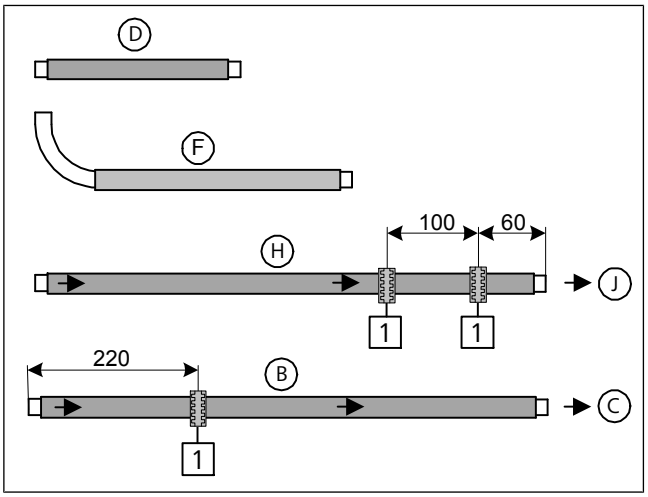


Fig. 71

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

- ▶ Position black (sw) rubber isolator [1] as shown.
- ▶ Indicate the direction of flow on hoses (B) and (H) using suitable means.

Drilling hole

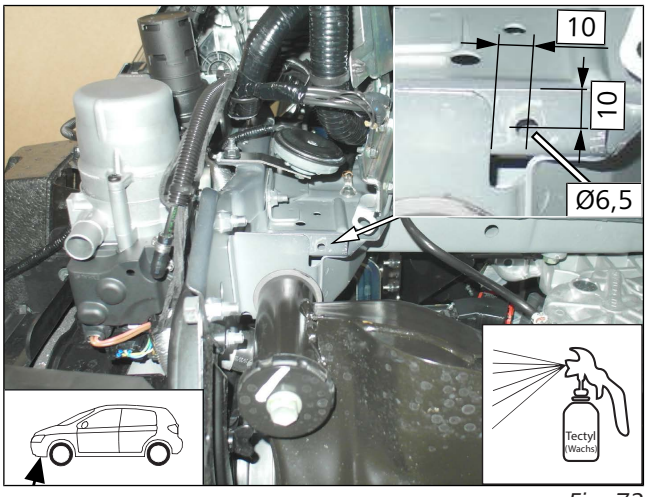


Fig. 72

Drilling holes

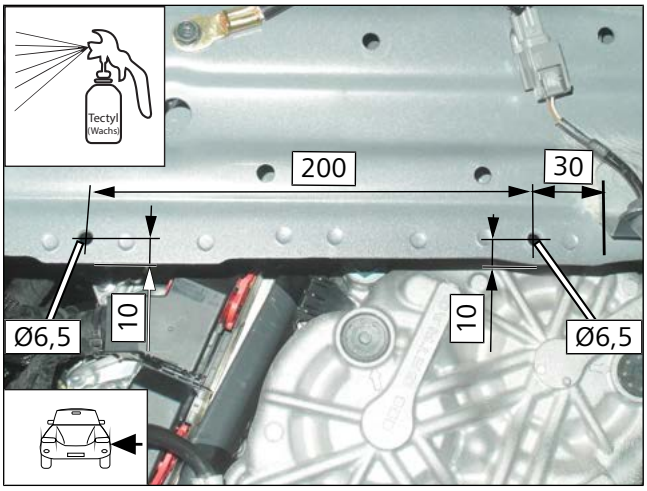


Fig. 73

Premounting coolant pump

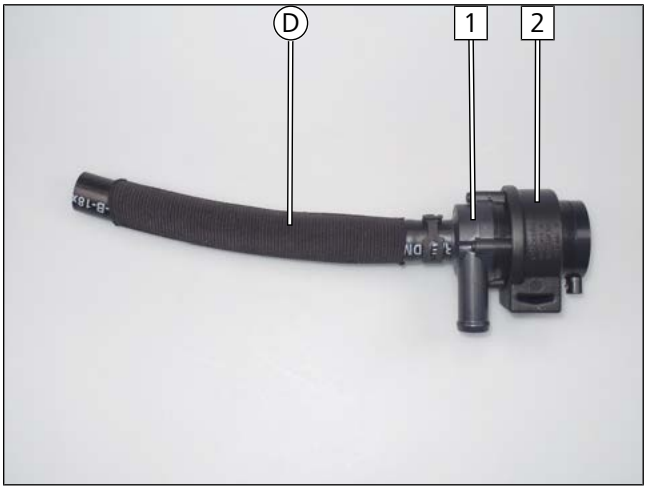


Fig. 74

[1] Coolant pump
[2] Coolant pump mount

Mounting coolant pump

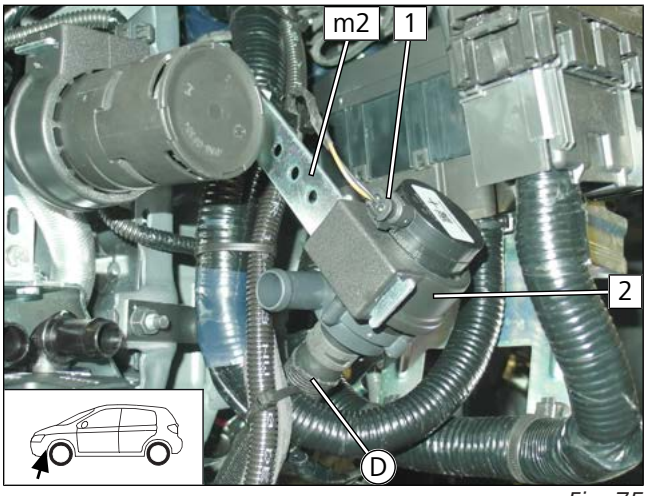


Fig. 75

▶ Push coolant pump mount [2] onto perforated bracket [**m2**].

[1] Coolant pump wiring harness connector

Connecting hose Ⓕ to HG/OUT

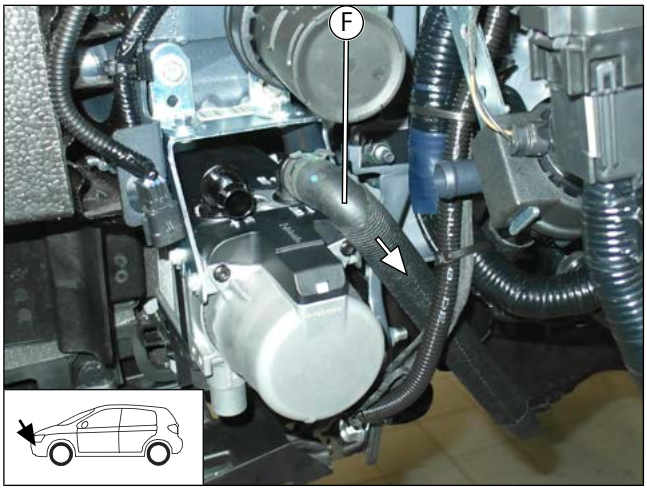


Fig. 76

Connecting hose Ⓔ

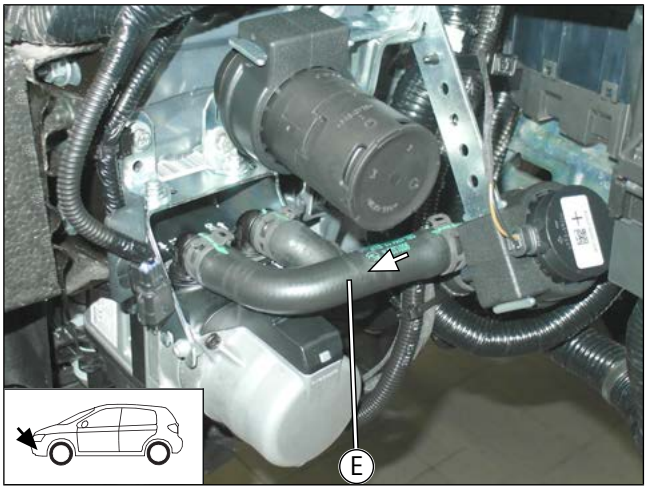


Fig. 77

▶ Connect hose Ⓔ to HG/IN and coolant pump outlet.

Dismantling hoses - View of heat exchanger

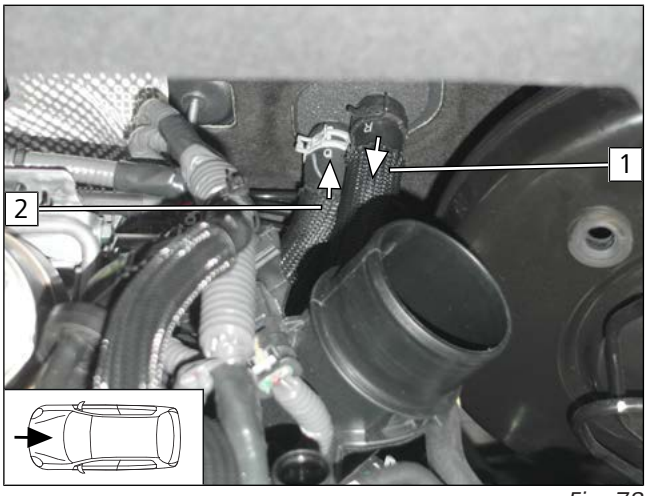


Fig. 78

▶ Remove heat exchanger outlet/engine inlet hose 1 and engine outlet/heat exchanger inlet hose 2. Original vehicle spring clips will not be reused.

Dismantling hoses - View of engine

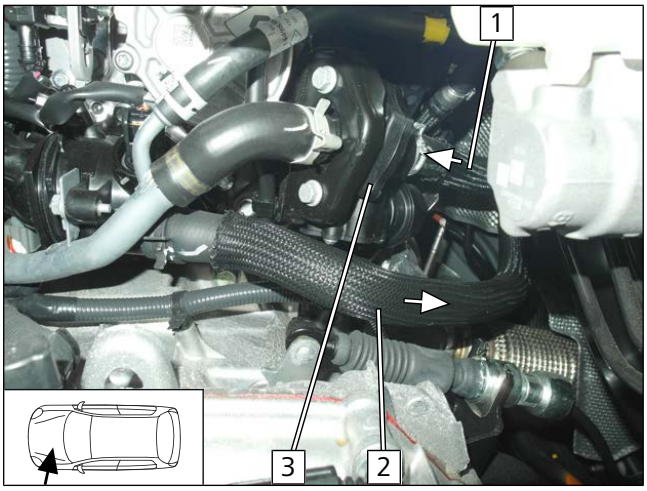


Fig. 79

▶ Remove heat exchanger outlet/engine inlet hose **1** and engine outlet/heat exchanger inlet hose **2**. Original vehicle spring clips will not be reused.

3 Original vehicle shut-off valve

Cutting point 1

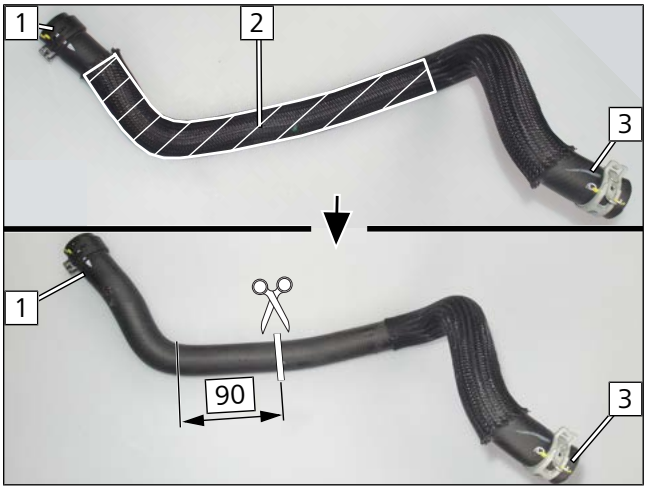


Fig. 80

▶ Remove marked section of braided protection **2**.

1 Engine outlet connection

3 Heat exchanger inlet connection

Premounting double non-return valve

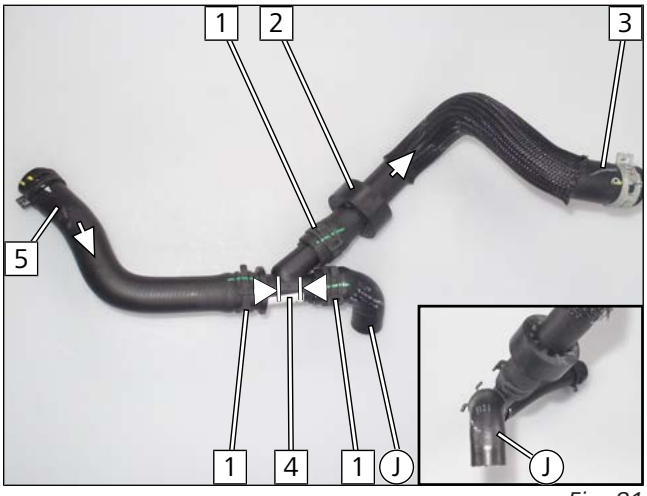


Fig. 81

1 Ø27 spring clip

2 Black (sw) rubber isolator

3 Heat exchanger inlet hose section

4 Double non-return valve

5 Engine outlet hose section

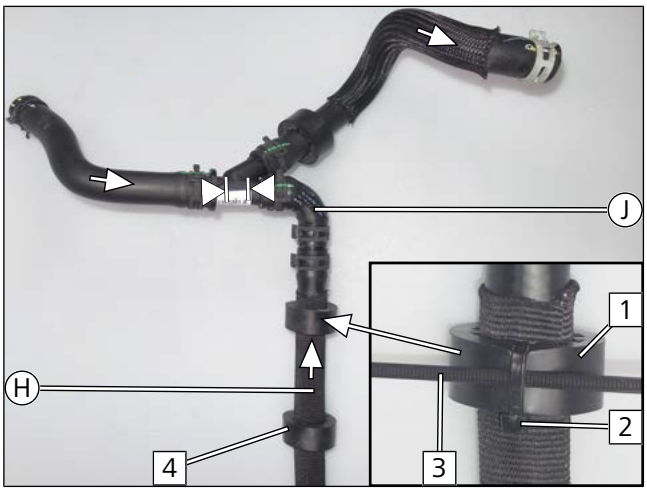


Fig. 82

▶ Pass cable tie [2] through rubber isolator [1] and use this to fix cable tie [3].

[4] Black (sw) rubber isolator

Cutting point 2

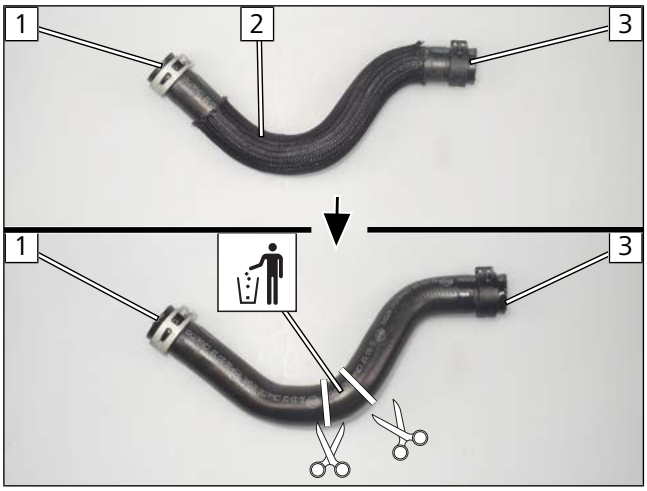


Fig. 83

▶ Remove braided protection [2].

[1] Engine inlet connection

[3] Heat exchanger outlet connection

Premounting T-piece

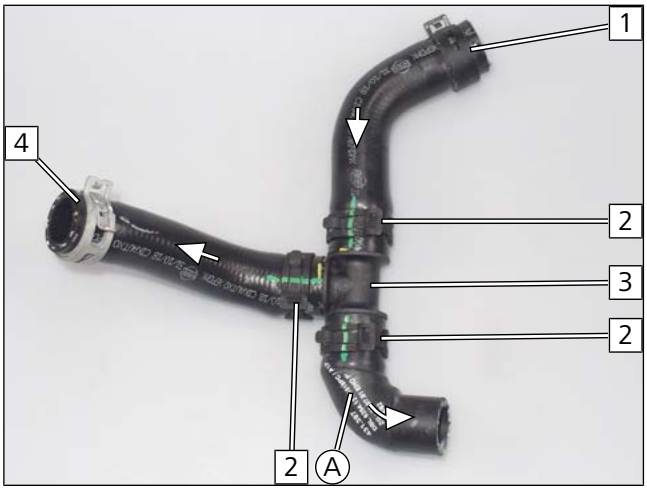


Fig. 84

[1] Heat exchanger outlet hose section

[2] Ø27 spring clip

[3] T piece

[4] Engine inlet hose section

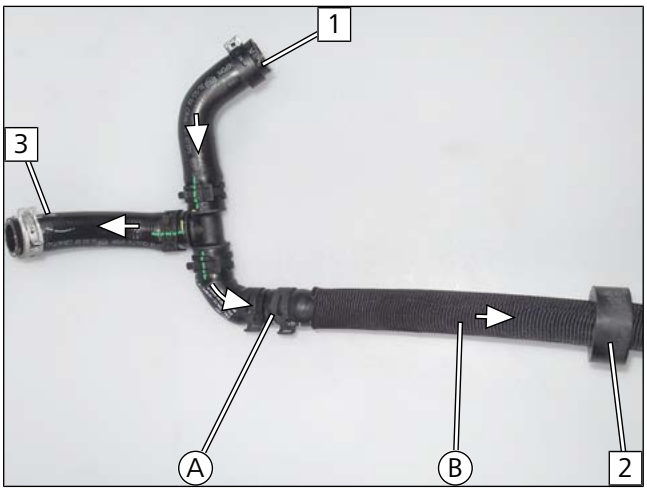


Fig. 85

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

Mounting T-piece

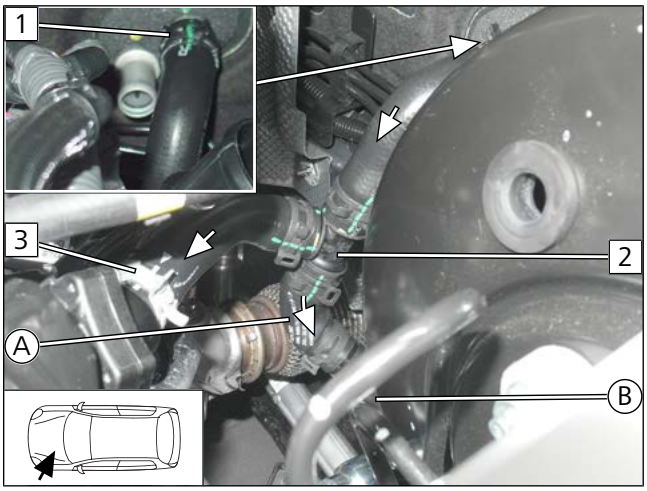


Fig. 86

▶ Route hose (B) in the direction of the HG.

1 Heat exchanger outlet connection
2 T piece
3 Engine inlet connection

Mounting double non-return valve – Connection to engine outlet

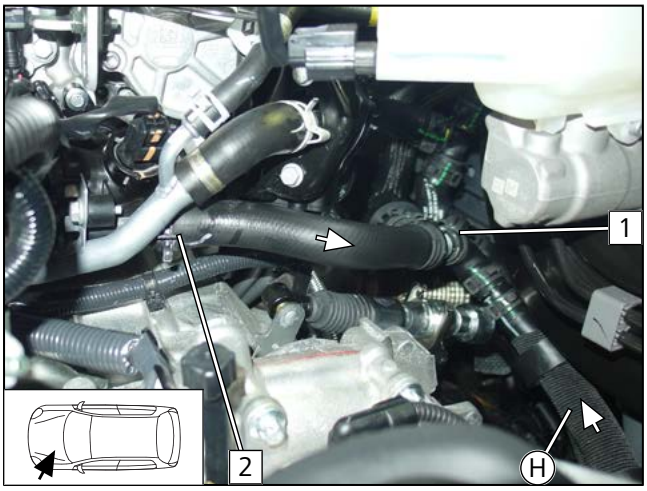


Fig. 87

1 Double non-return valve
2 Engine outlet connection

Mounting double non-return valve – Connection to heat exchanger inlet

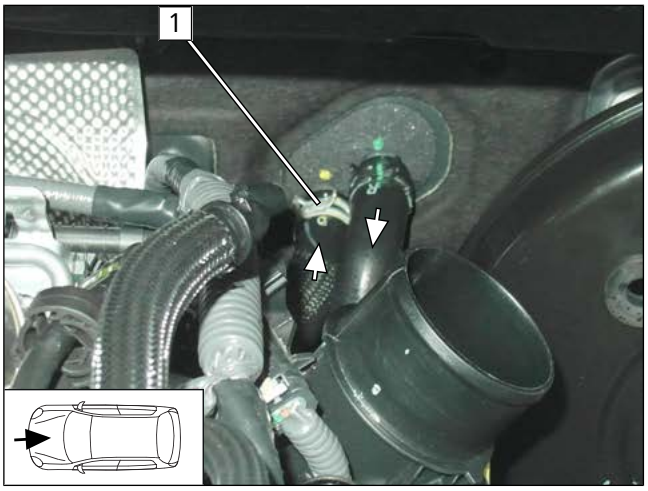


Fig. 88

[1] Heat exchanger inlet connection

Aligning hoses

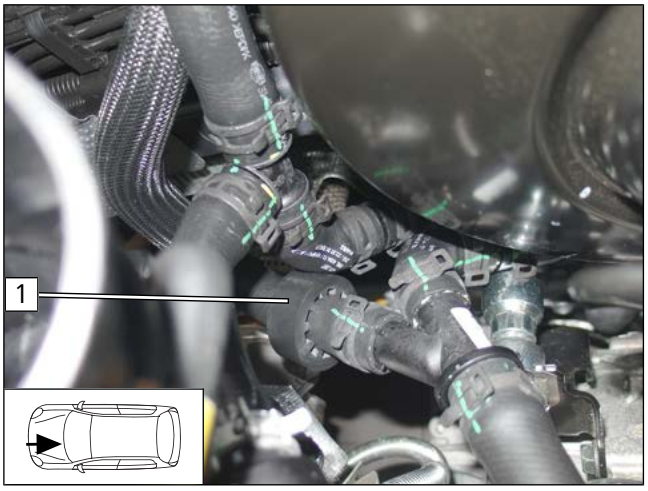


Fig. 89

▶ Check the routing of the hoses and the position of black (sw) rubber isolator [1].

Connecting hose Ⓖ

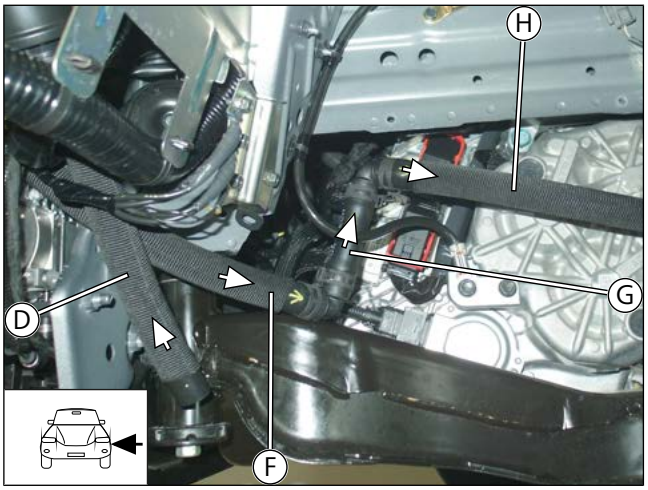


Fig. 90

Ensure correct direction of flow.

▶ Connect hose Ⓖ to hose Ⓕ and hose Ⓗ.

Connecting hose Ⓒ

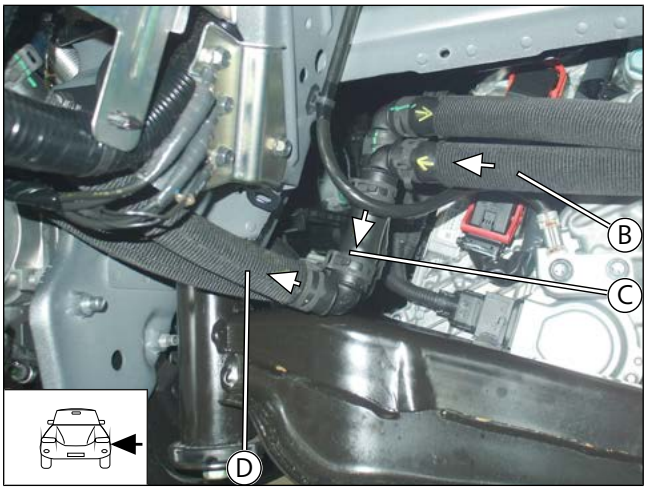


Fig. 91

▶ Connect hose Ⓒ to hose Ⓓ and hose Ⓑ.

Aligning and fastening hoses

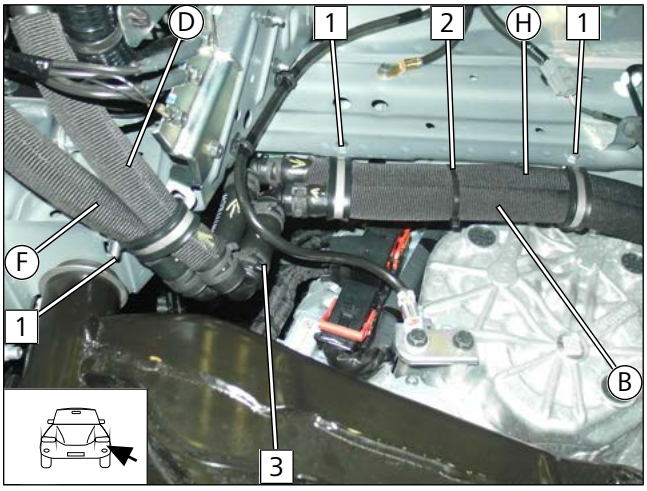


Fig. 92

1 M6x20 bolt, drilled hole, Ø38 rubber-coated p-clamp, flanged nut

2 Cable tie around hoses Ⓑ and Ⓗ

3 Cable tie around hoses Ⓒ and Ⓖ

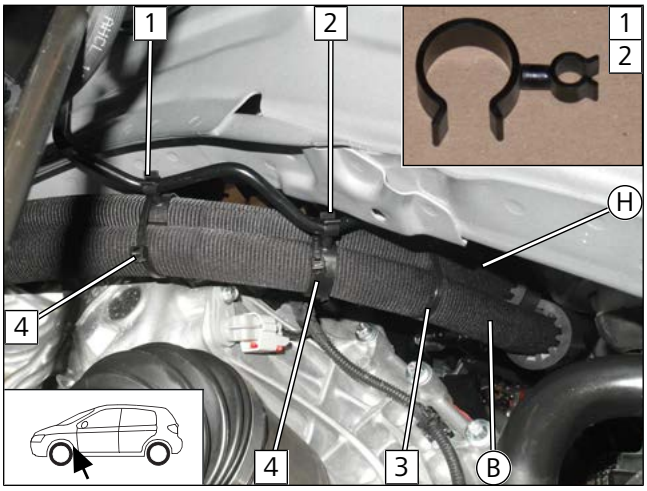


Fig. 93

1 Hose bracket around hose Ⓗ and original vehicle brake line

2 Hose bracket around hose Ⓑ and original vehicle brake line

3 Cable tie around hoses Ⓑ and Ⓗ

4 Cable tie around hoses Ⓑ, Ⓗ and hose bracket

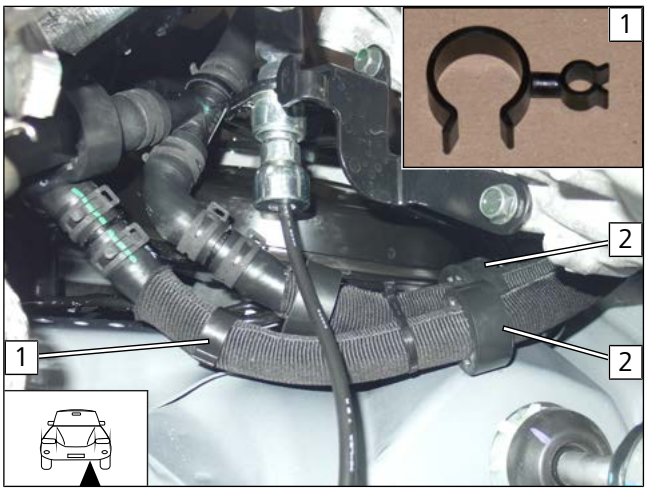


Fig. 94

1 Hose bracket around hose (B) and original vehicle brake line

2 Align rubber rubber isolators

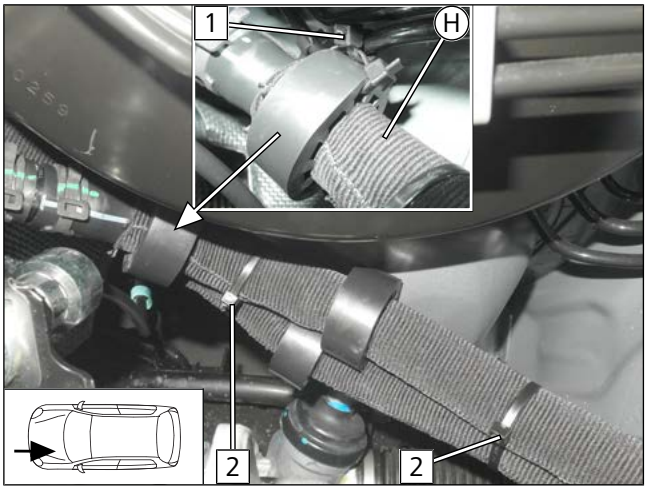


Fig. 95

1 Prepared cable tie for fastening to original vehicle brake line

2 Cable tie around hoses (B) and (H)

12 Exhaust

12.1 Mounting exhaust pipe

Cutting exhaust pipe to length

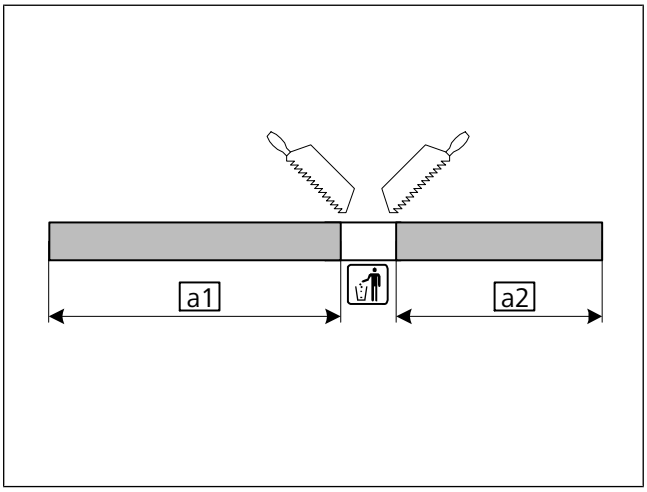


Fig. 96

a1 280
a2 250

Preparing perforated bracket

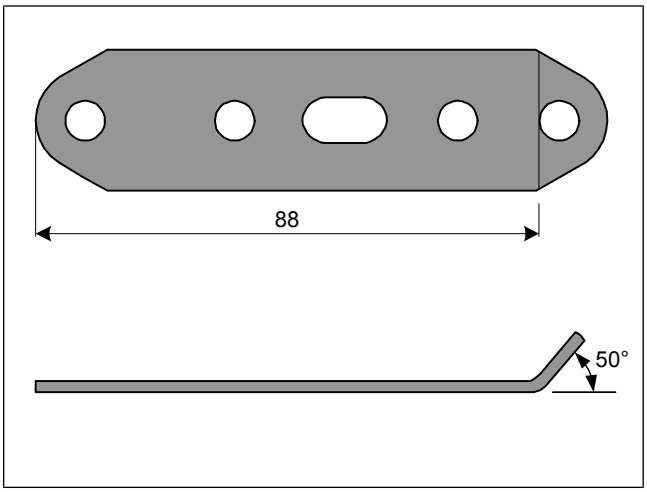


Fig. 97

Premounting exhaust silencer

Fig. 98

1 M6x16 bolt, spring lock washer, prepared perforated bracket, exhaust silencer

Mounting exhaust silencer

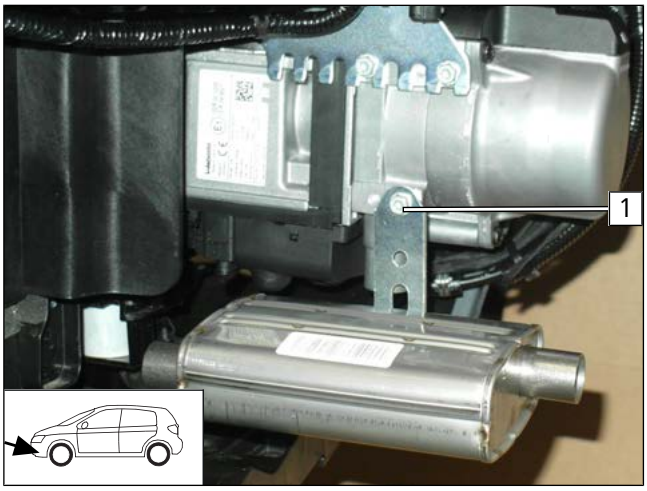


Fig. 99

[1] 5x13 self-tapping bolt, perforated bracket, hole in HG

Aligning exhaust silencer

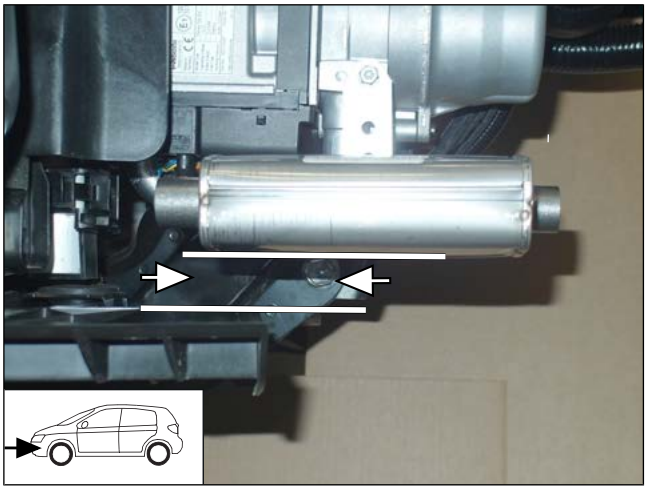


Fig. 100

Ensure sufficient distance from neighbouring components, correct if necessary.

>20

Premounting exhaust pipe [a1]

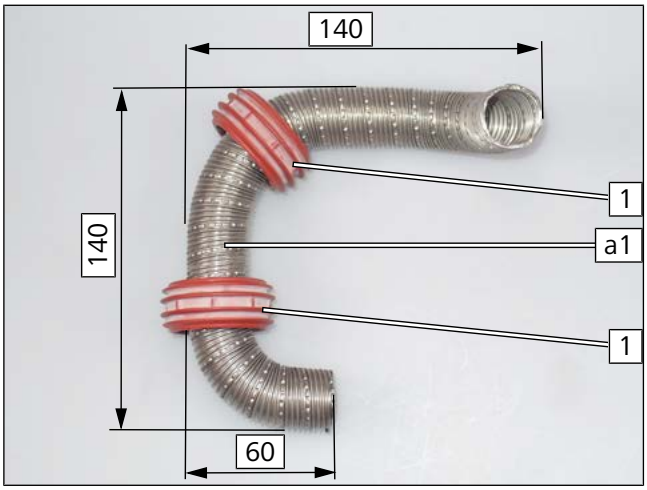


Fig. 101

[1] Spacer bracket

Mounting exhaust pipe **a1** onto heater

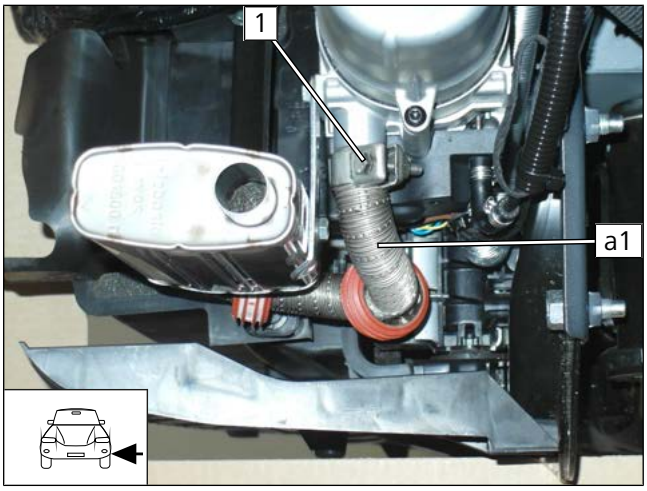


Fig. 102

1 Hose clamp

Mounting exhaust pipe **a1** onto exhaust silencer

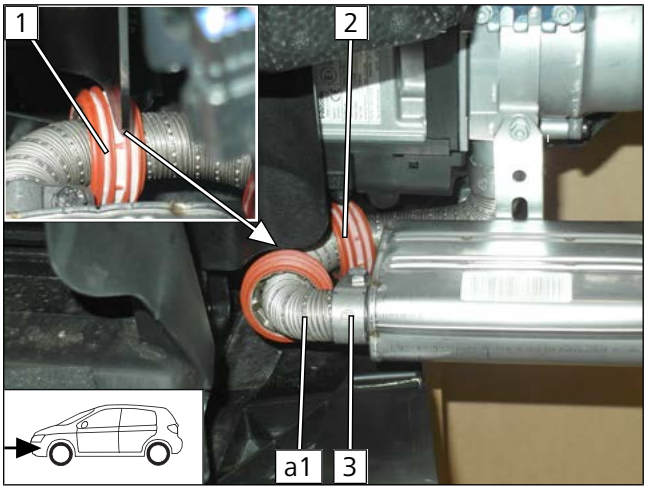


Fig. 103

1 Align spacer bracket with plastic edge
2 Spacer bracket
3 Hose clamp

Mounting exhaust pipe **a2**

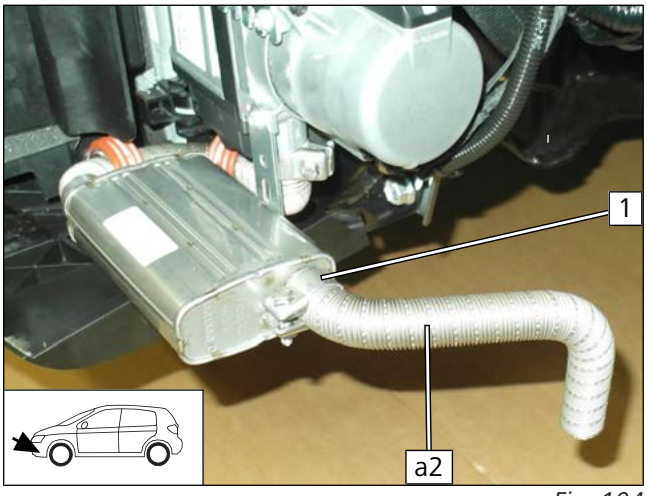


Fig. 104

1 Hose clamp

12.2 Mounting exhaust end fastener

Work step E1

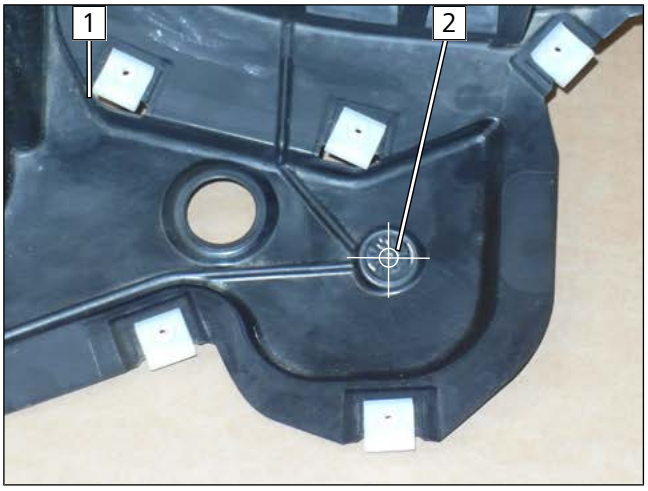


Fig. 105

Observe the EFIX installation instructions.

1 Wheel well trim

2 Copy hole pattern in the middle of the embossing

Work step E2

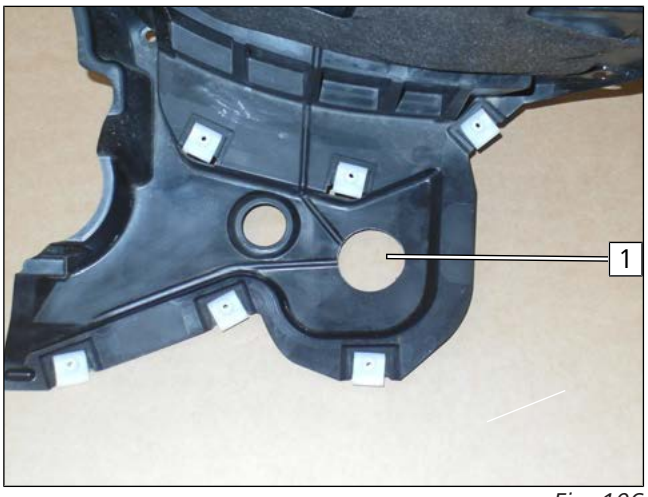


Fig. 106

1 Hole

Work step E3

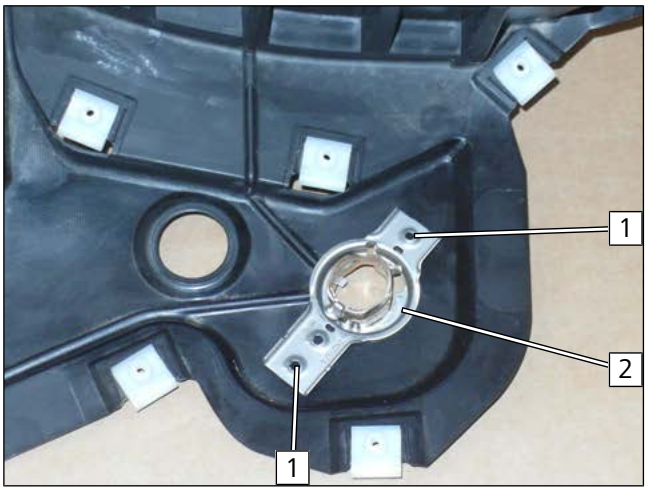


Fig. 107

1 Copy hole pattern

2 EFIX

Work step E4

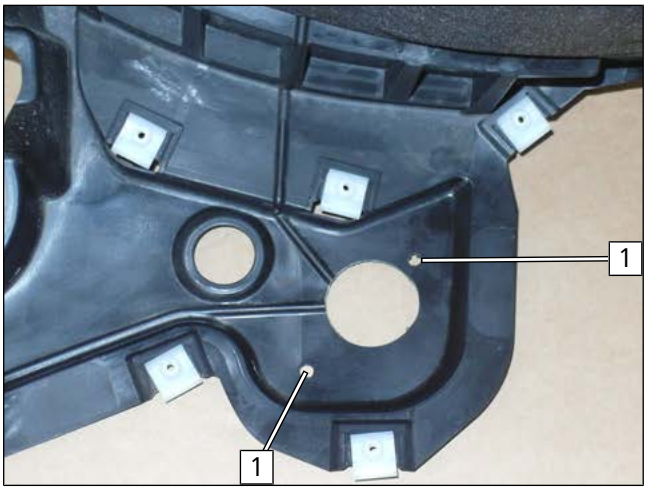


Fig. 108

1 Hole

Work step E5

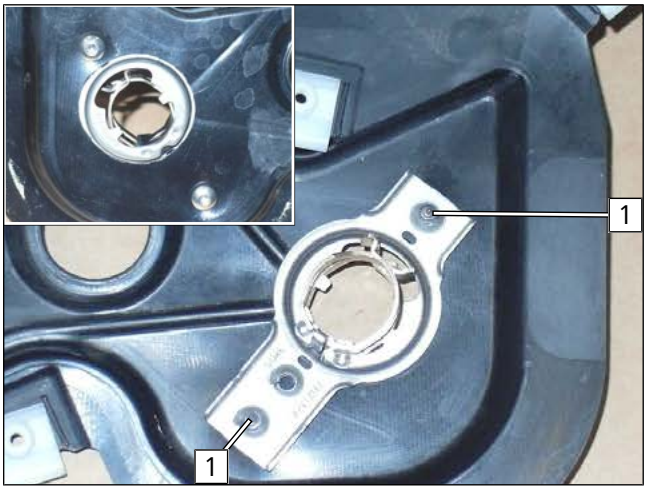


Fig. 109

1 5x13 self-tapping screw

Cutting out a section of wheel well trim

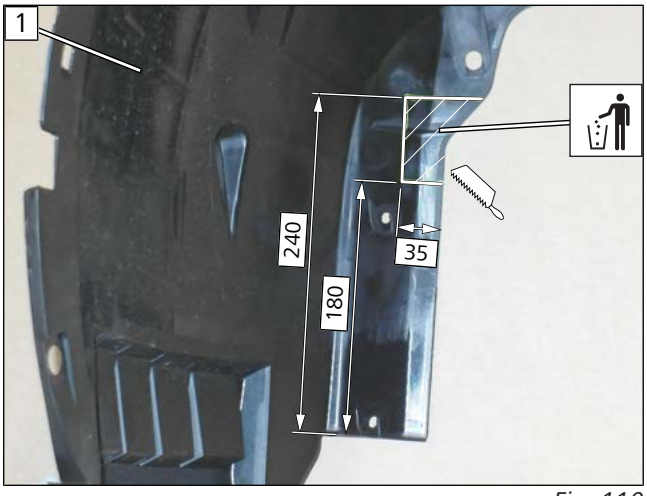


Fig. 110

▶ Cut out section of wheel well trim 1 as shown.

Preparing bumper – Inside view, driver's side

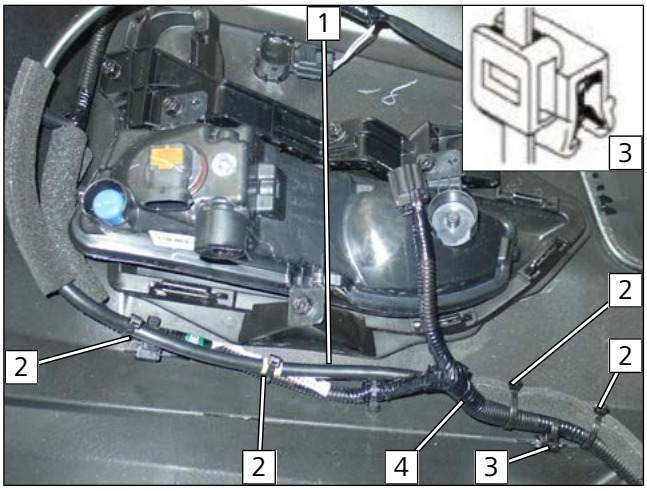


Fig. 111

▶ Relocate headlight washer system hose [1] on original vehicle wiring harness [4] as shown and fasten.

[2] Cable tie

[3] Edge clip cable tie, replaces original vehicle edge clip cable tie

13 Final work in engine compartment

Checking exhaust silencer distance

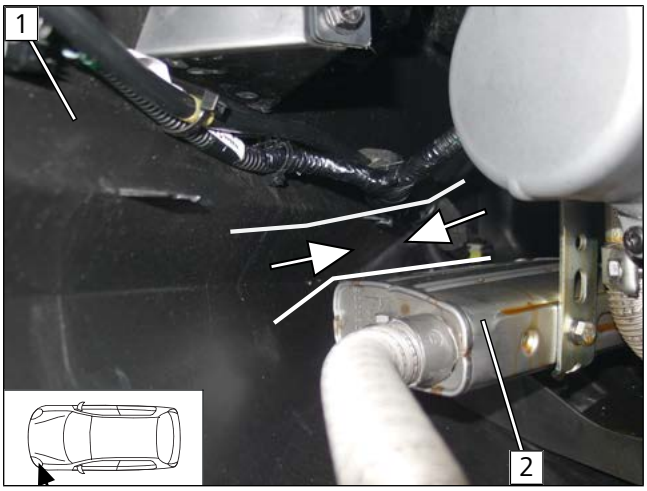


Fig. 112

▶ Mount bumper [1].

Ensure sufficient distance between exhaust system [2] and neighbouring components, correct if necessary.

Work steps E6-E8

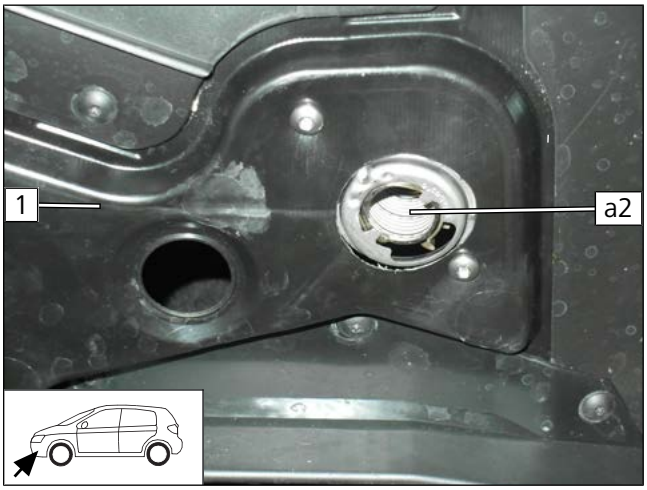


Fig. 113

▶ Install wheel well trim [1].

Observe the EFIX installation instructions.

Checking cut-out in wheel well trim

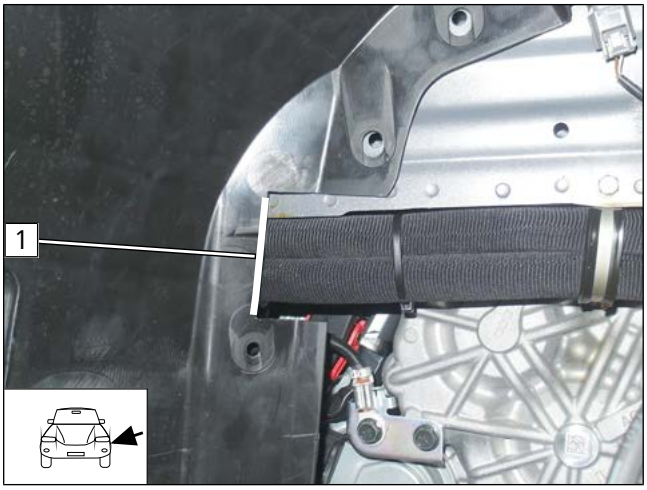


Fig. 114

Danger of damage to the coolant hose by sharp edges at pos. 1, enlarge the cut-out if necessary.

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 Nissan X-Trail with AC / AAC

'**Webasto Comfort**' A/C control installation documentation for Nissan X-Trail with AAC

15 Electrical system of control elements

15.1 MCC option

Mounting MCC

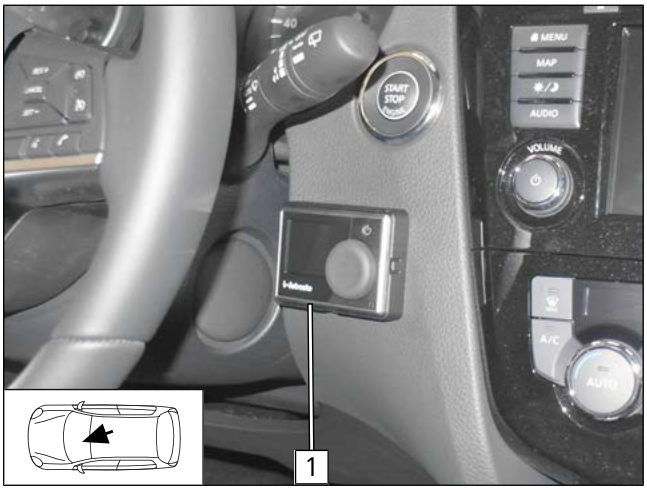


Fig. 115

Observe the MultiControl CAR installation documentation.

1 MCC installation frame

15.2 Remote option (Telestart)

Mounting receiver

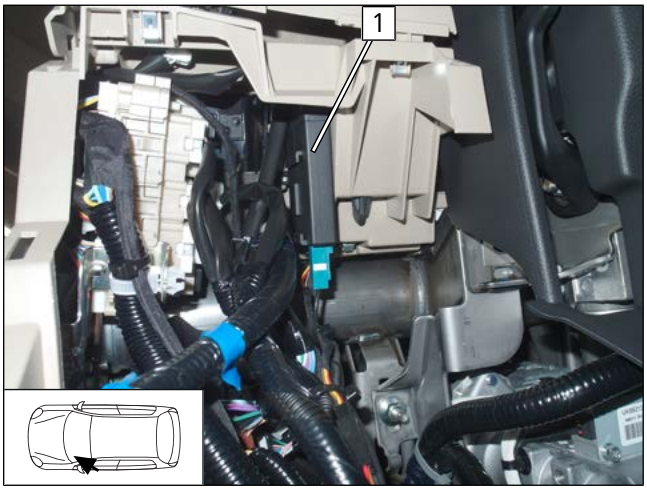


Fig. 116

Observe the Telestart installation documentation.

▶ Fasten receiver 1 using double-sided adhesive tape.

Mounting aerial

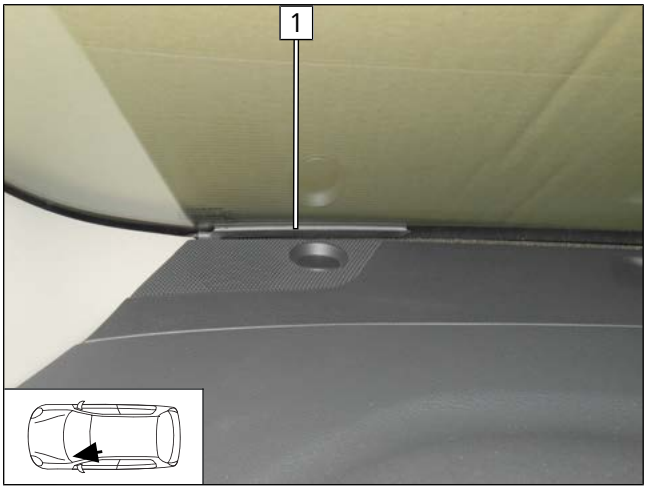


Fig. 117

1 Aerial

Mounting temperature sensor, only in case of T100 HTM

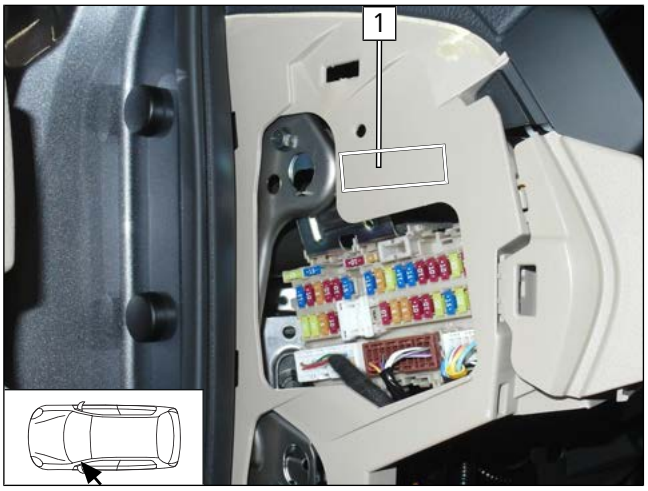


Fig. 118

▶ Fasten temperature sensor 1 with double-sided adhesive tape behind the trim at the marking.

15.3 ThermoCall option

Mounting receiver

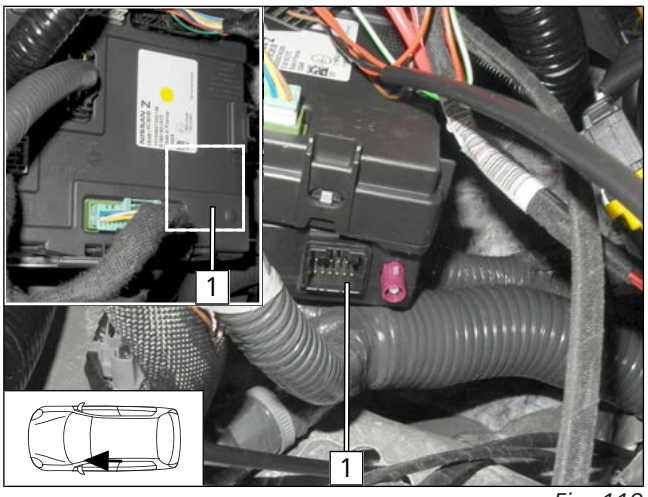


Fig. 119

Observe the ThermoCall installation documentation.

▶ Secure receiver 1 behind the control unit at the marking using double-sided adhesive tape.

Mounting aerial (optional)

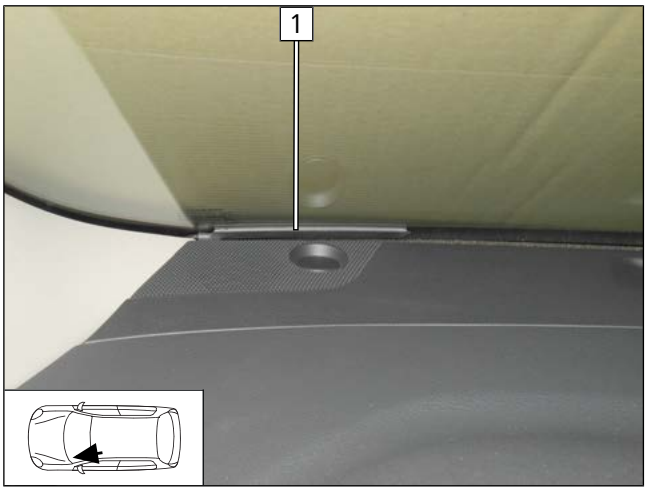


Fig. 120

1 Aerial

16 Final Work

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

- ▶ Mount removed parts in reverse order.

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

Only use manufacturer-approved coolant.

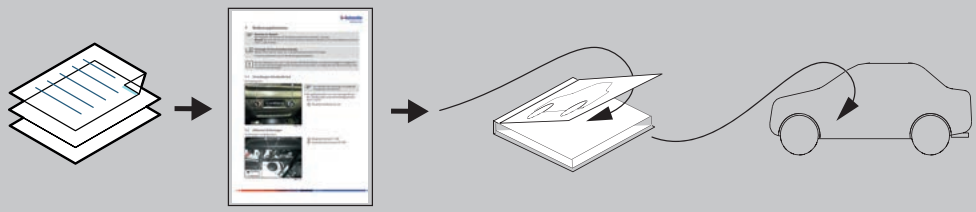
- ▶ Fill and bleed the coolant circuit according to the vehicle manufacturer's specifications.

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

- ▶ Program MultiControl CAR, teach Telestart transmitter
- ▶ If the fan function or A/C control panel settings need to be checked, see the installation documentation in the additional '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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82199 Gilching
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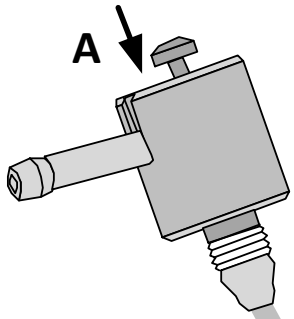
Friedrichshafener Str. 9
82205 Gilching
Germany

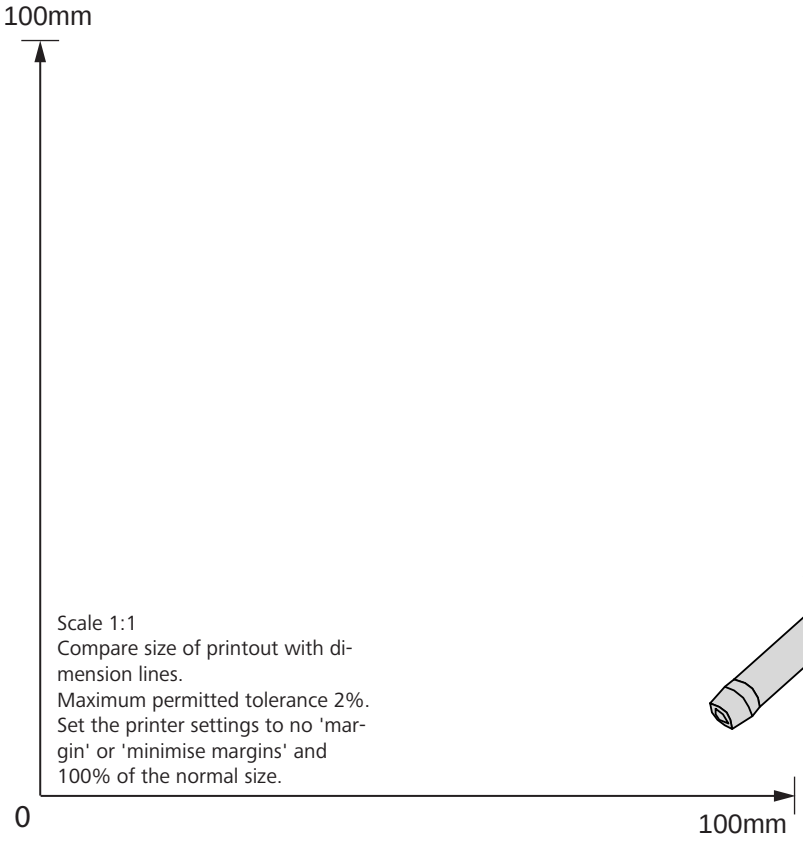
Technical Extranet: https://dealers.webasto.com

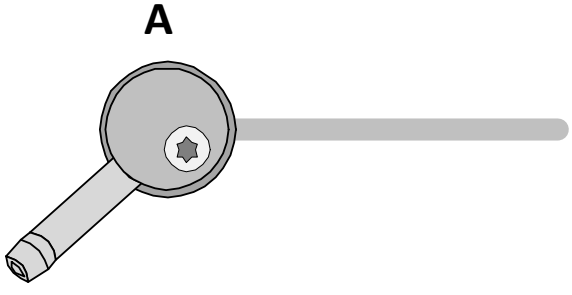
CE

WWW.WEBASTO.COM

17 FuelFix template







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