

K Installation documentation

for Thermo Top Evo water heater

'Inline' coolant circuit with engine preheating

Mitsubishi Eclipse Cross

Left-hand drive vehicle

Manufacturer	Model	Type	Model year	EG-BE-No. / ABE		
Mitsubishi	Eclipse Cross	GK0	from 2018	e1* 2007/46* 1769*...		
Motorisation	Fuel	Emission standard	Transmission type	Output [kW]	Displacement [cm ³]	Engine code
2.2D	Diesel	Euro 6d Temp	CVT	109	2268	4N14

Validity	Equipment variants	Model
		Eclipse Cross
Verified equipment variants	1 zone automatic air-conditioning	x
	2 zone automatic air-conditioning	x
	Headlight washer system	x
	Automatic Start-Stop system	x
	Halogen front fog lights	x
	LED main headlights	x
	4 WD	x
Unverified equipment variants	Manual air-conditioning	x

Total installation time	Note
8.8 hours	

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1 List of abbreviations

ASH	Spacer bracket
CVT	Continuously variable automatic transmission
DP	Fuel pump
EFIX	Exhaust end fastener
FF	FuelFix (tank extracting device)
Fig.	Figure
HG	Heater
MCC	MultiControl (control element)
PWM	Pulse width modulator
RSH	Relay and fuse holder of passenger compartment
SH2	Engine compartment fuse holder for F1/F2
UP	Coolant pump
Wire	Cable

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 of Thermo Top Evo	In accordance with price list
Installation kit for Mitsubishi Eclipse Cross petrol / diesel	1326400C
In case of MultiControl CAR installation - MultiControl installation frame	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 $\frac{1}{4}$ full.

For the MultiControl CAR option, the recommended installation locations for the Telestart or ThermoCall push button should be confirmed with the end customer.

Depending on the space required and the vehicle manufacturer's instructions, we recommend the use of a vehicle battery with a higher electrical capacity.

3 About this document

3.1 Purpose of the document

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

Thermo Top Evo heater

3.2 Warranty and liability

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

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

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

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

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

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

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

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

3.2.1 Statutory regulations governing installation

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

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

3.3 Safety

Qualifications of installation personnel

The installation personnel must have the following qualifications:

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

Regulations and legal requirements

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

3.3.1 Safety information on installation

Danger posed by live parts

- ▶ Prior to installation, disconnect the vehicle from the voltage supply.
- ▶ Make sure the electrical system is earthed correctly.
- ▶ Always comply with legal requirements.
- ▶ Observe data on type label.

Danger of fire and leaking toxic gases due to improper installation

- ▶ Vehicle parts in the vicinity of the heater must be protected against excessive heating by the following measures:
 - ⇒ Maintain minimum safety distances.
 - ⇒ Ensure adequate ventilation.
 - ⇒ Use fire-resistant materials or heat shields.

Danger due to sharp edges

- Lacerations
- Short circuit due to electrical wire damage
- ▶ Fit protectors on sharp edges.

3.4 Using this document

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

3.4.1 Explanatory Notes on the Document

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

Generally valid Webasto documentation	
Vehicle-specific installation documentation	
Vehicle-specific installation documentation of the cold start kit	
Webasto Comfort A/C control	
Webasto Standard A/C control	
Tank extracting device (e.g. FuelFix)	
Exhaust end fastener (EFIX)	
Combustion air intake silencer	
Spacer bracket (ASH)	

3.4.2 Use of symbols



DANGER

Type and source of the risk

Consequences: Failure to follow the instructions can result in death

► Actions to protect yourself against risks.



WARNING

Type and source of the risk

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

► Actions to protect yourself against risks.



CAUTION

Type and source of the risk

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

► Actions to protect yourself against risks.



Type and source of the risk

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

► Actions to protect yourself against risks.



Reference to the vehicle manufacturer's specific documents.



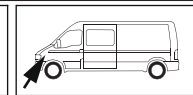
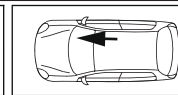
Note on a special technical feature

3.4.3 Work step identification marks

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

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

3.4.4 Orientation aid



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

3.4.5 Use of highlighting

Highlight	Explanation
►	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 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 Preparing measures

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	<ul style="list-style-type: none"> ▶ Open the fuel tank cap ▶ Ventilate the fuel tank ▶ Close the fuel tank cap again ▶ Depressurise the cooling system 	
Engine compartment and body	<ul style="list-style-type: none"> ▶ Battery ▶ 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 ▶ Upper bumper trim ▶ Lower engine trim ▶ Bumper trim ▶ Drain the engine coolant ▶ Air filter housing 	
Passenger compartment	<ul style="list-style-type: none"> ▶ Lower instrument panel trim on the driver's and front passenger's side ▶ Boot loading floor (4x bolts) ▶ Rear bench on the driver's and front passenger's side ▶ Door sill strip in the rear area on the driver's and front passenger's side ▶ Floor covering in the rear area ▶ Open the tank fitting service lid 	

5.2 Heater preparation

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

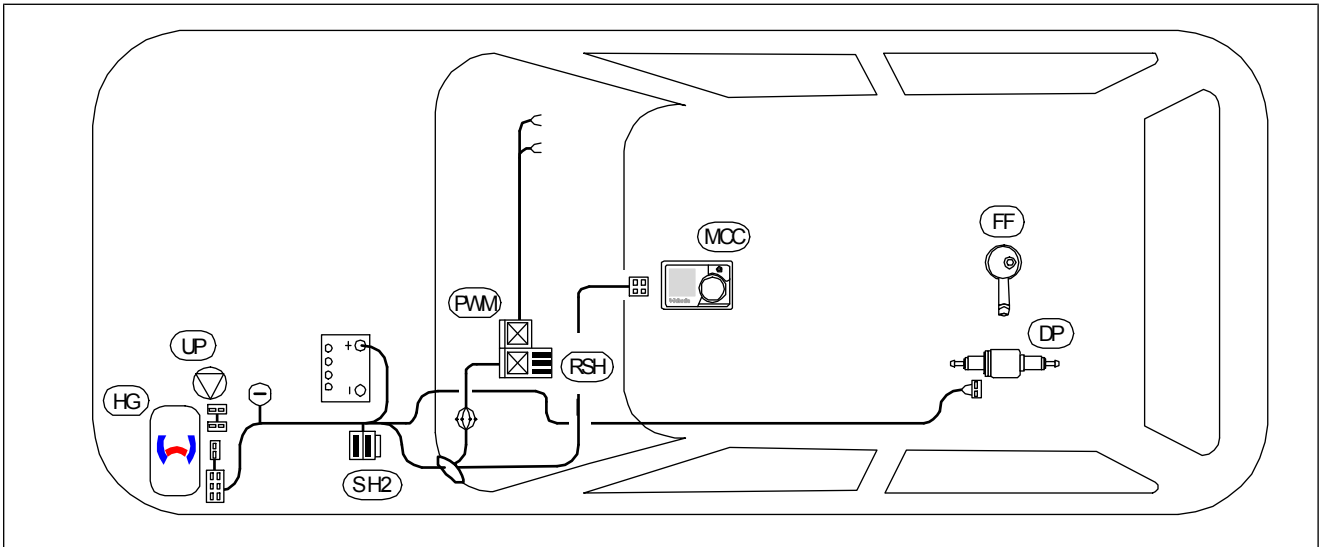


Fig. 1

Legend to installation overview

Abbreviation	Component
DP	Fuel pump
FF	FuelFix
HG	Heater
MCC	MultiControl CAR
PWM	Pulse width modulator
RSH	Relay and fuse holder of passenger compartment
SH2	Engine compartment fuse holder for F1/F2
UP	Coolant pump

Heater installation location



1 Heater

Fig. 2



7 Electrical system of engine compartment

Moving original vehicle wiring harness

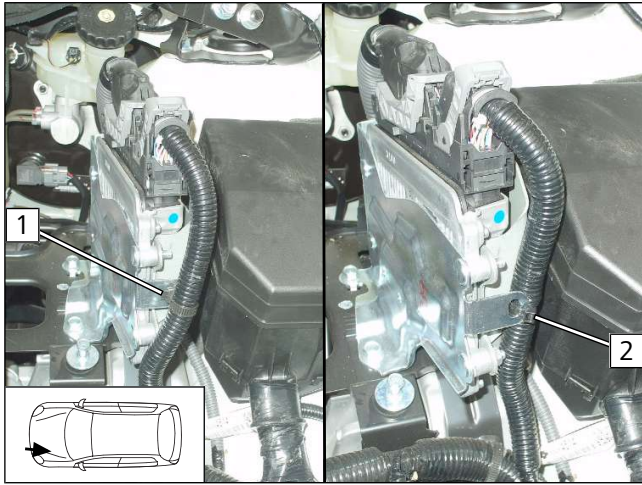


Fig. 3

- ▶ Detach original vehicle wiring harness at position **1** and fasten with cable tie **2** as shown in Fig.

Bending angle bracket

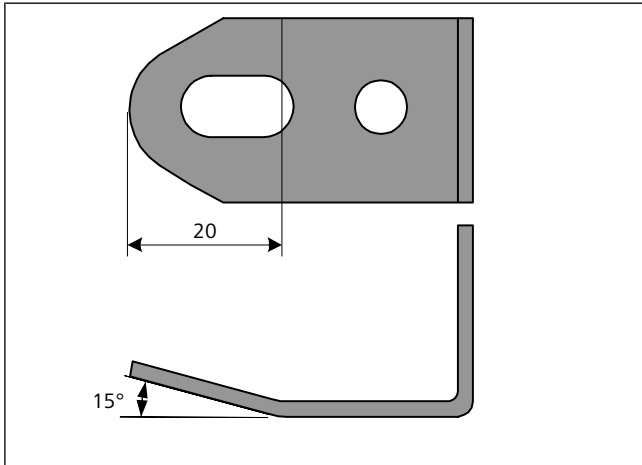


Fig. 4

Premounting fuse holder

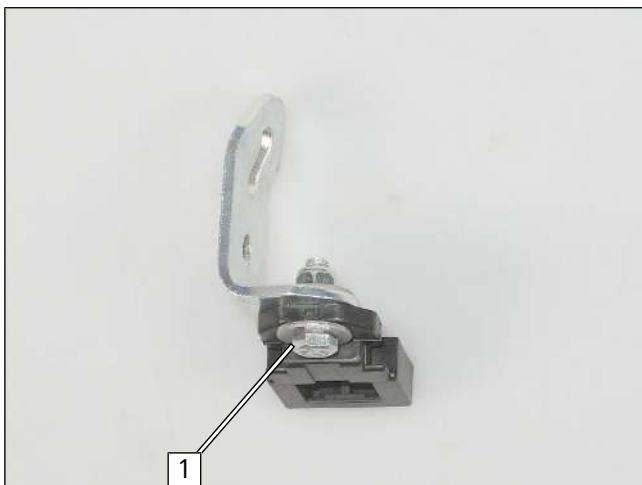


Fig. 5

- 1** M5x16 bolt, large diameter washer, fuse holder retaining plate, angle bracket, large diameter washer, nut



Mounting angle bracket

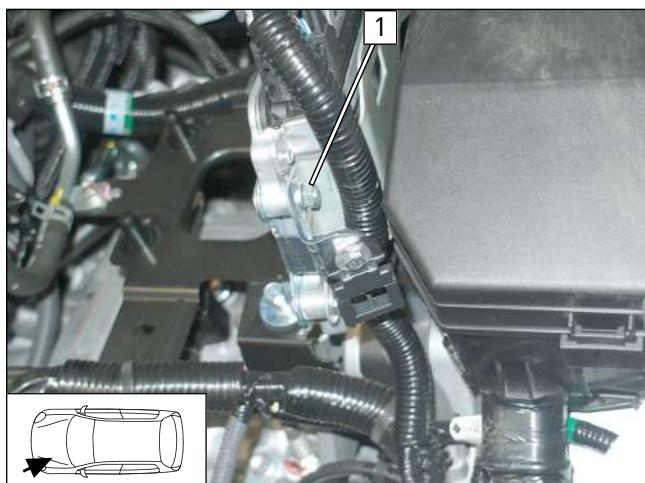


Fig. 6

- 1 Original vehicle bolt, premounted angle bracket, original vehicle nut

Mounting fuses

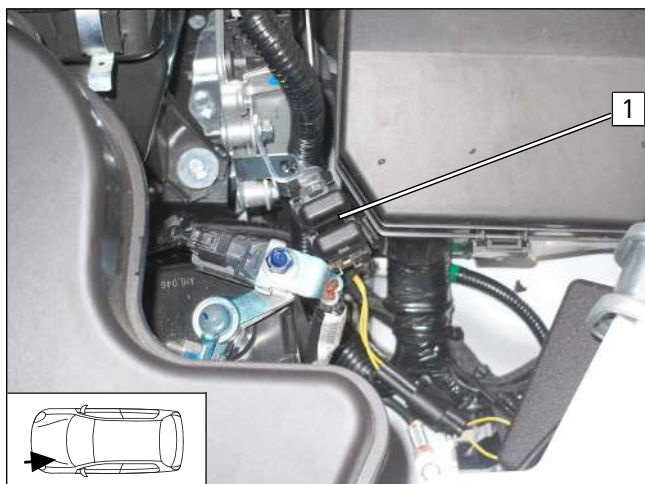


Fig. 7

- 1 Fuse F1 and F2

Passenger compartment wiring harness pass through

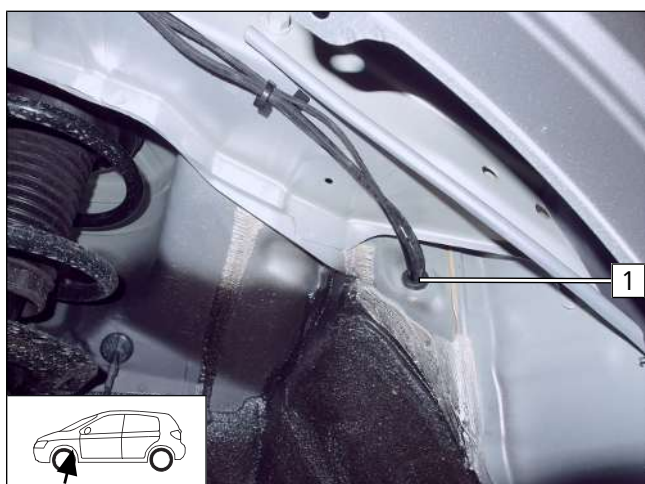


Fig. 8

- Route heater and control element wiring harnesses through protective rubber plug 1 into the passenger compartment.



Mounting positive wire

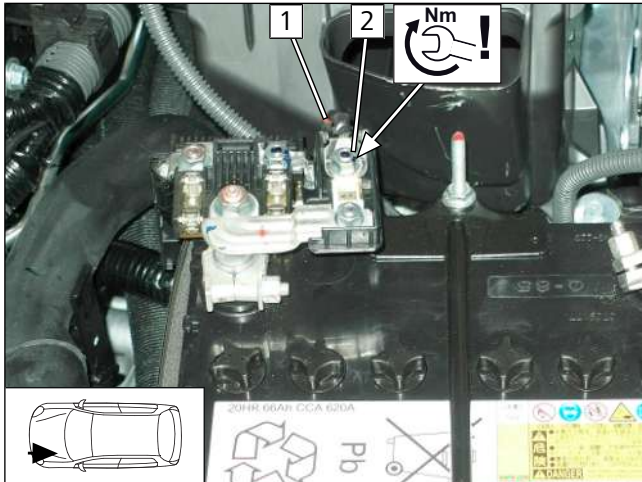


Fig. 9



DANGER

Fire hazard due to insufficient tightening torque

► Observe tightening torque

- 1 Positive wire
- 2 Original vehicle positive distributor

Mounting earth wire

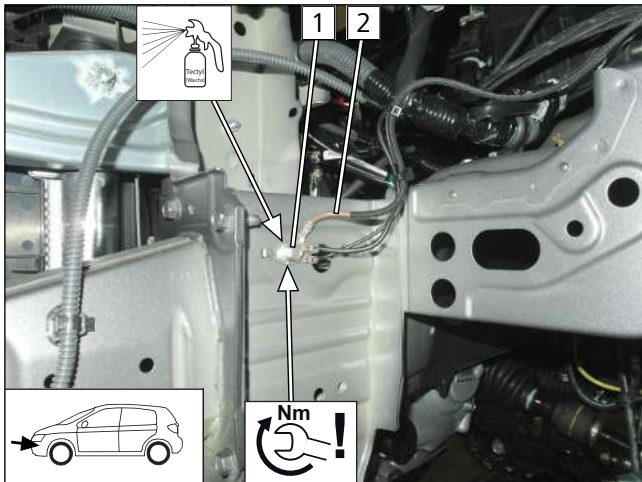


Fig. 10



DANGER

Fire hazard due to insufficient tightening torque

► Observe tightening torque

- 1 Original vehicle earth point
- 2 Earth wire



8 Mechanical system

8.1 Preparing installation location

Processing bracket

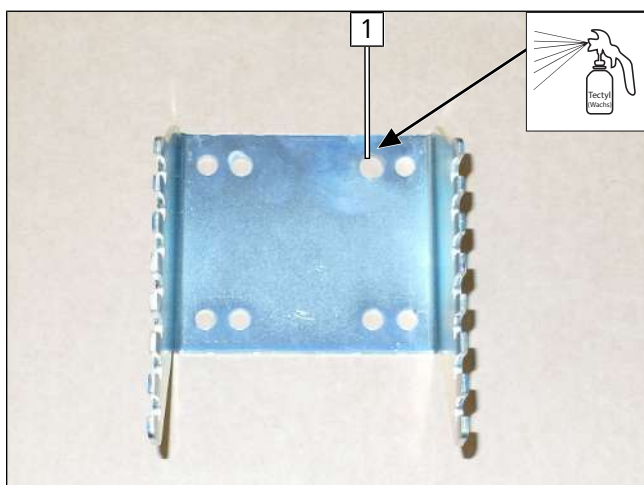


Fig. 11

► Drill out hole **1** to $\varnothing 8.5$

Copying hole pattern

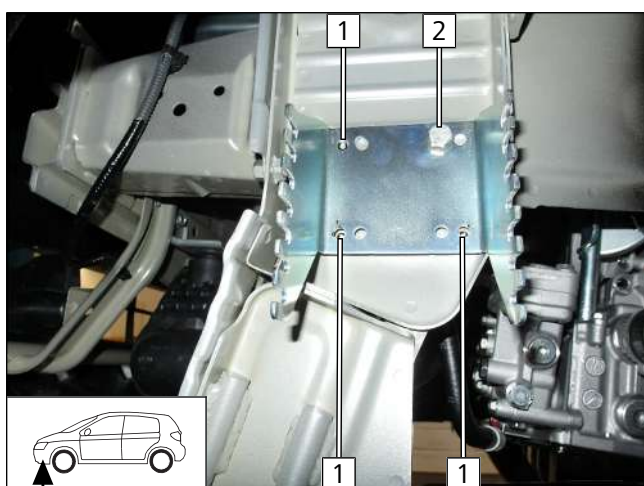


Fig. 12

► Align bracket with car body on right.

- 1** Hole pattern
- 2** M8x20 bolt, spring lockwasher, original vehicle thread

Drilling hole

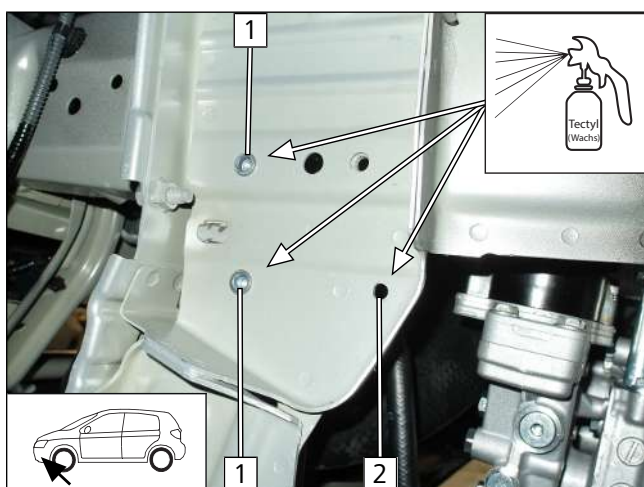


Fig. 13

► Remove bracket.

- 1** Insert rivet nut into $\varnothing 9.1$ hole
- 2** $\varnothing 7$ hole



Mounting bracket

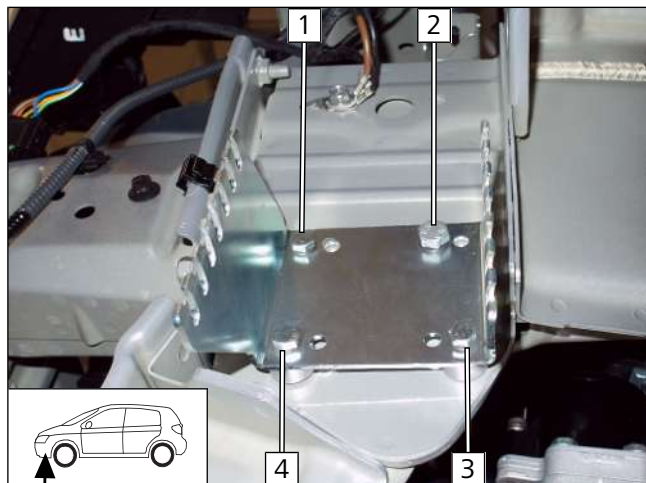


Fig. 14



The bolt at position **3** will only be fastened in the 'Exhaust' section.

- 1** M6x20 bolt, spring lockwasher
- 2** M8x20 bolt, spring lockwasher
- 3** M6x25 bolt, spring lock washer, bracket, distance washer (8), lock washer
- 4** M6x25 bolt, spring lock washer, bracket, distance washer (8), rivet nut

Routing heater wiring harness

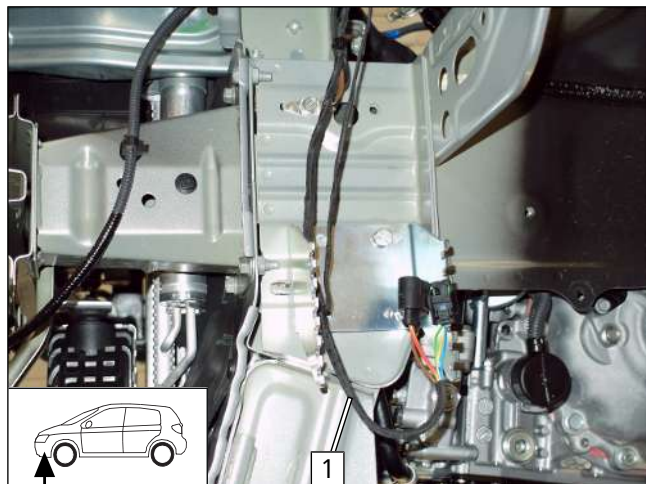


Fig. 15

- ▶ Route heater wiring harness **1** to the heater installation location as shown.

8.2 Premounting heater

Mounting water connection piece

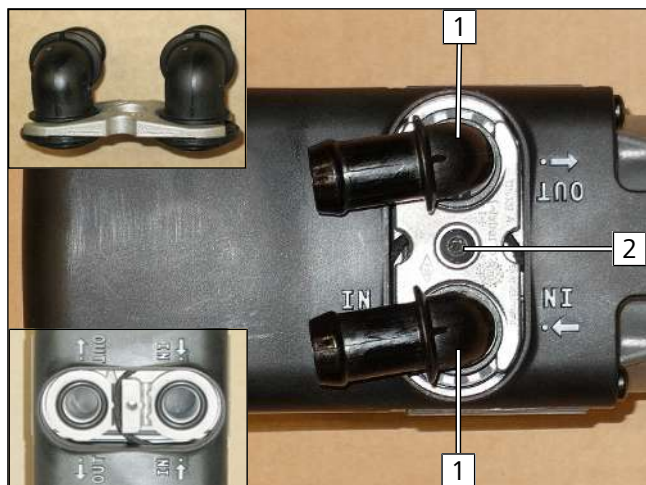


Fig. 16



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

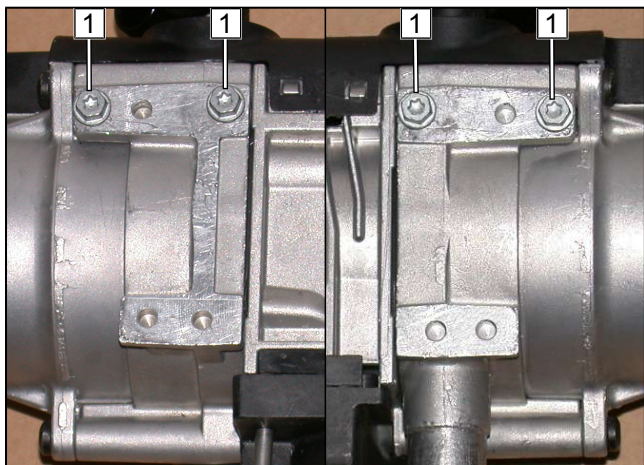


Fig. 17

- ▶ Screw 5x13 self-tapping bolt **1** in available holes by a max. of 3 thread turns.

Cutting hoses to length

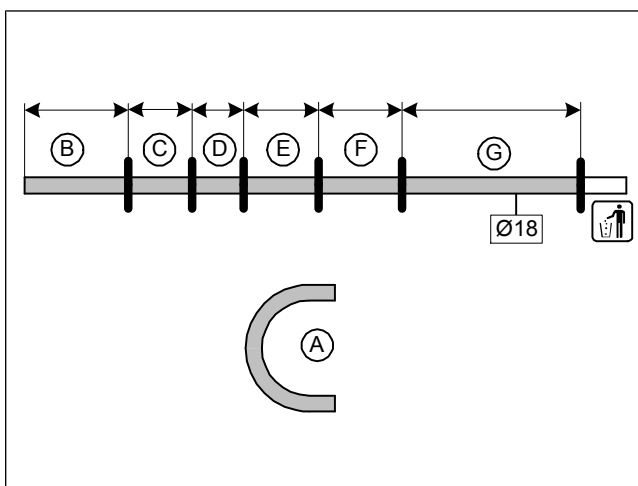


Fig. 18

(A)	180° Ø18x18 moulded hose
(B)	490
(C)	430
(D)	200
(E)	280
(F)	340
(G)	450

Preparing hoses

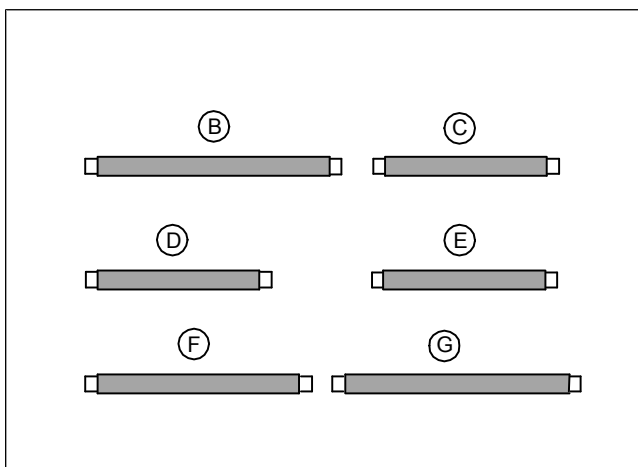


Fig. 19

- ▶ Slide fabric protective hose on all hoses, cut to length and shrink.



Mounting hoses

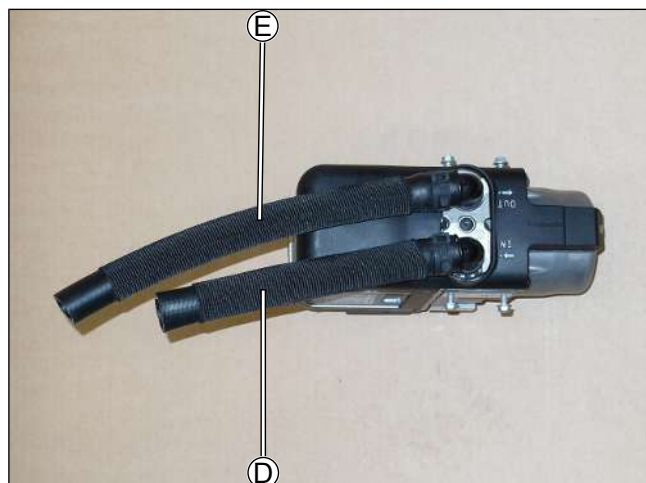


Fig. 20



All spring clips Ø25

8.3 Heater mounting

Mounting heater

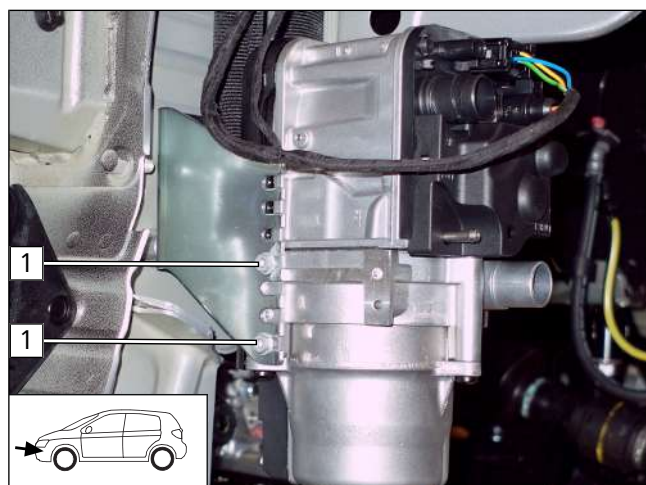


Fig. 21

► Tighten 5x13 self-tapping bolt **1**.

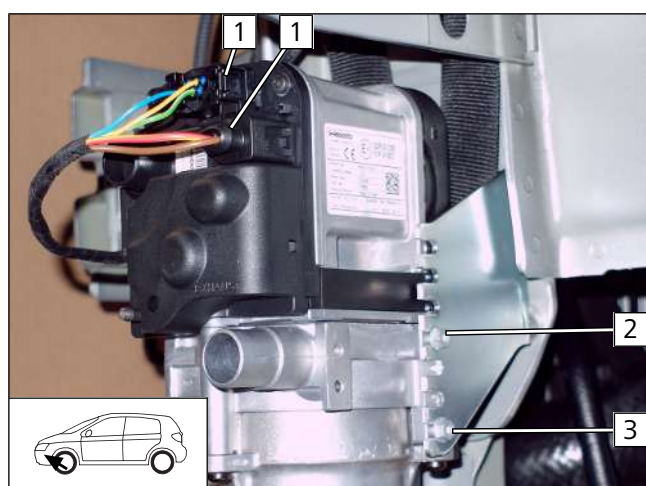


Fig. 22

► Tighten 5x13 self-tapping bolt **2**.

► Mount 5x13 self-tapping bolt **3** loosely, it will be fastened when mounting exhaust pipe **a1**.

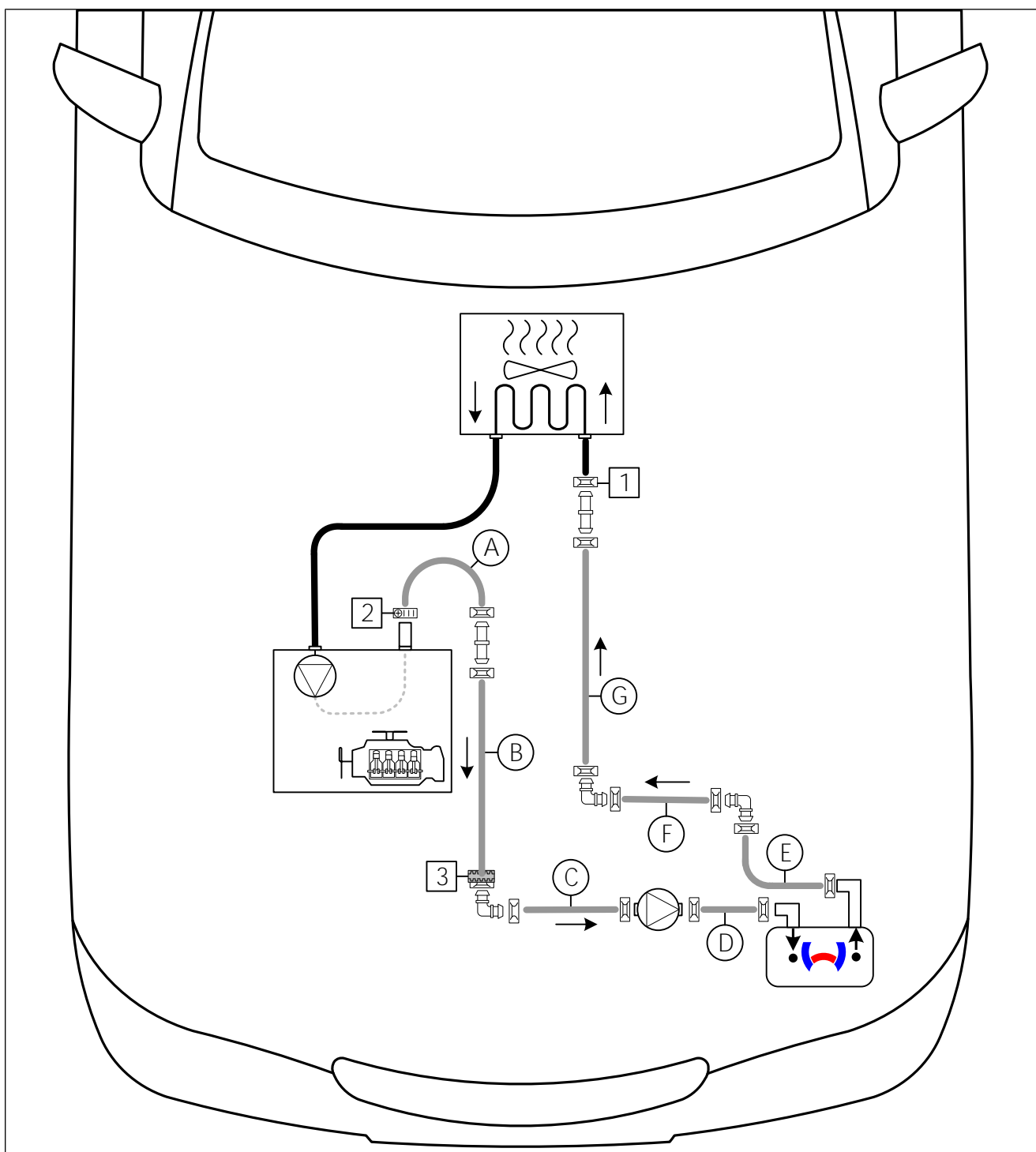
1 Heater wiring harness connector



9 Coolant

9.1 Hose routing diagram

'Inline' coolant circuit



All spring clips without a specific designation  = Ø25,

All connecting pipes  or  = Ø18x18

1 Original vehicle spring clip, **2** Ø16-27 screw clamp, **3** Black (sw) rubber isolator



9.2 Coolant circuit installation

View of coolant pump installation location

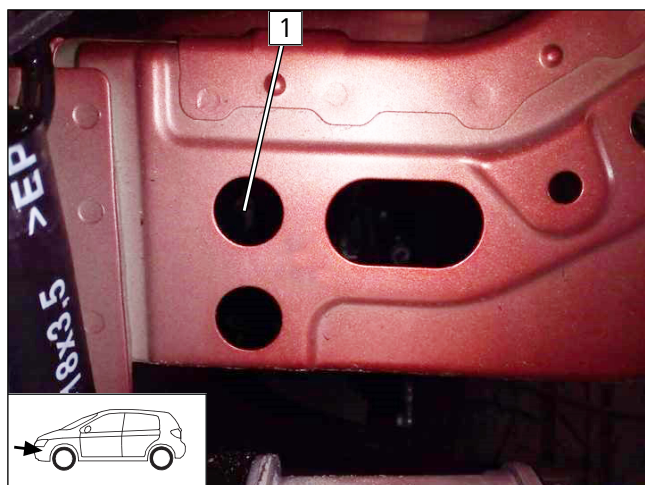


Fig. 23

- 1 Coolant pump fastening point

Mounting coolant pump

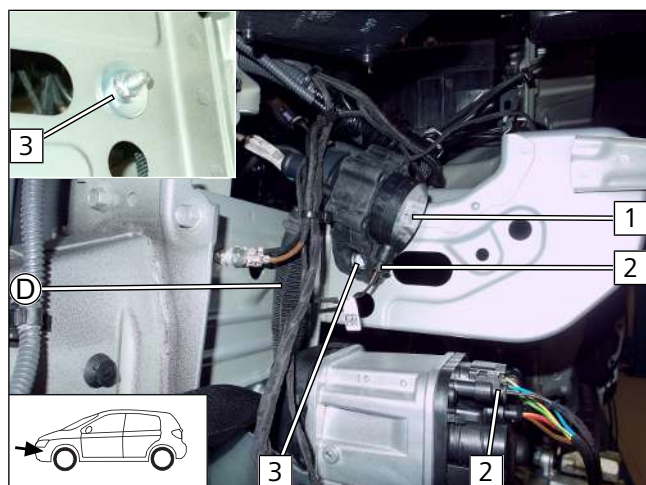


Fig. 24

► Mount hose (D) on the coolant pump.

- 1 Coolant pump
- 2 Coolant pump wiring harness connector
- 3 Bolt with M6x25 serrated flange, coolant pump mount, original vehicle hole, large diameter washer, flanged nut

Premounting hoses (A), (B) and (C)

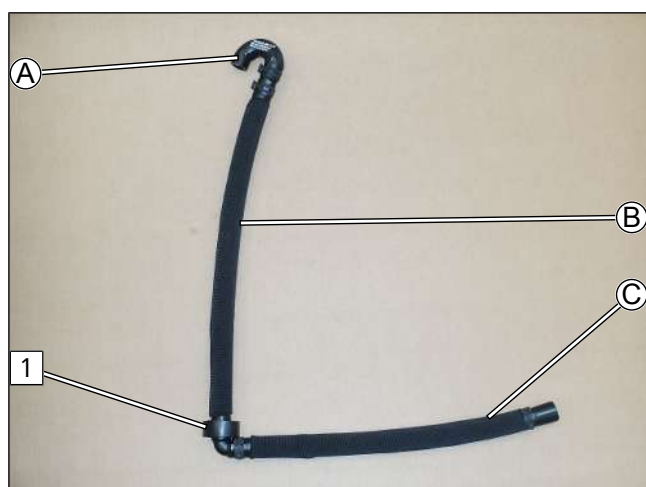


Fig. 25

- 1 Black (sw) rubber isolator



Premounting hoses **F** and **G**

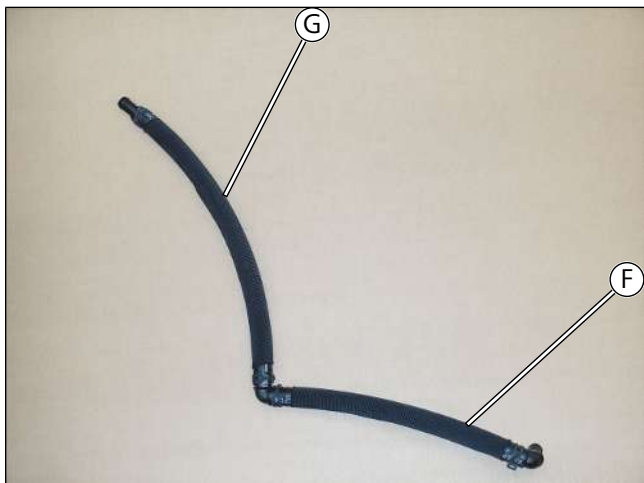


Fig. 26

Cutting point

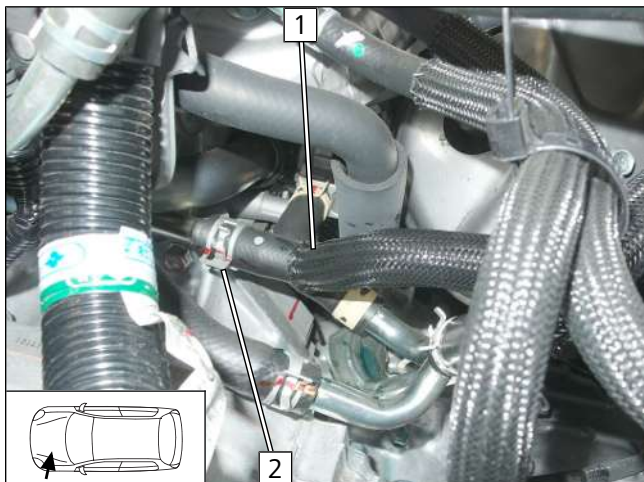


Fig. 27

- ▶ Remove engine outlet / heat exchanger inlet hose **1**.
- 2** Original vehicle spring clip, will be reused

Connecting engine outlet

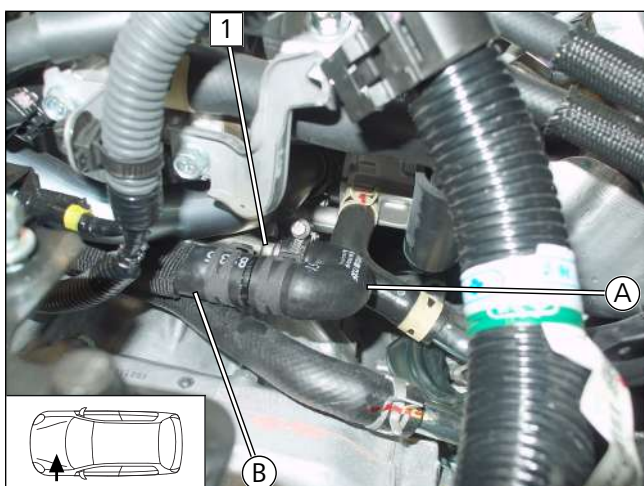


Fig. 28

- 1** Engine outlet connection piece



Routing hoses **B** and **C**

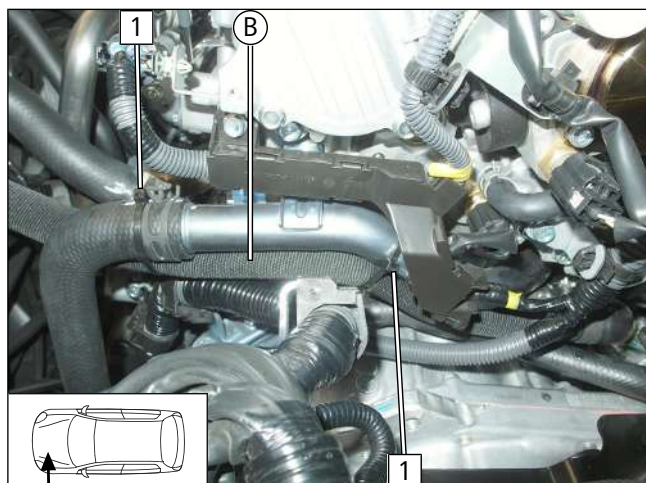


Fig. 29

- 1 Cable tie

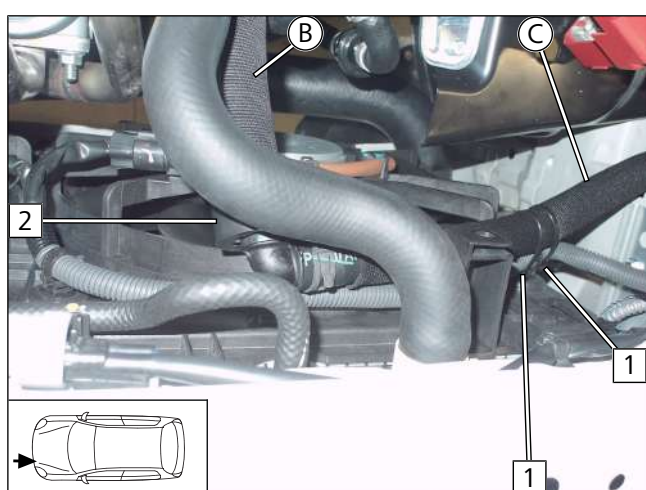


Fig. 30

- 1 Cable tie
- 2 Black (sw) rubber isolator

Connecting coolant pump



Fig. 31

- Bend original vehicle tab **1** by approx. 5°.
- 2 Coolant pump



Connecting heat exchanger inlet

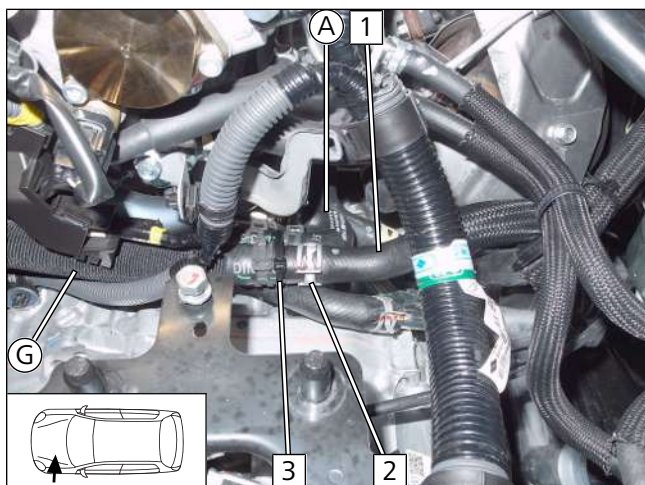


Fig. 32

- 1 Heat exchanger inlet hose
- 2 Original vehicle spring clip
- 3 Cable tie

Routing hoses G and F

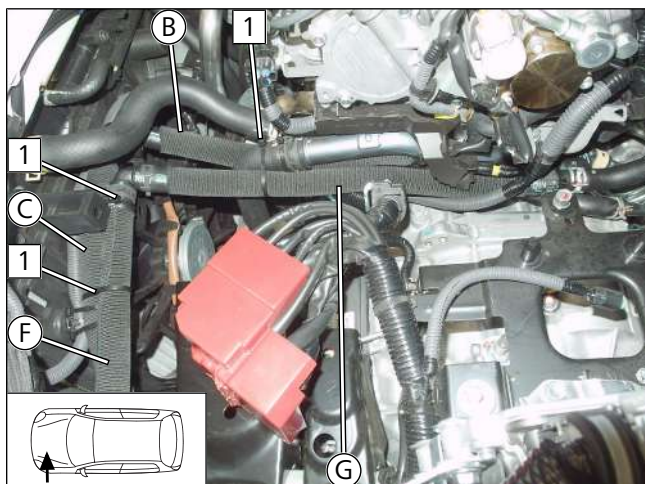


Fig. 33

- 1 Cable tie

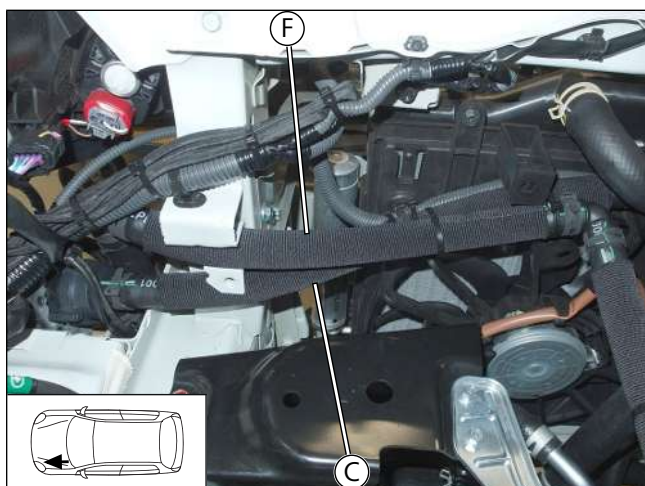
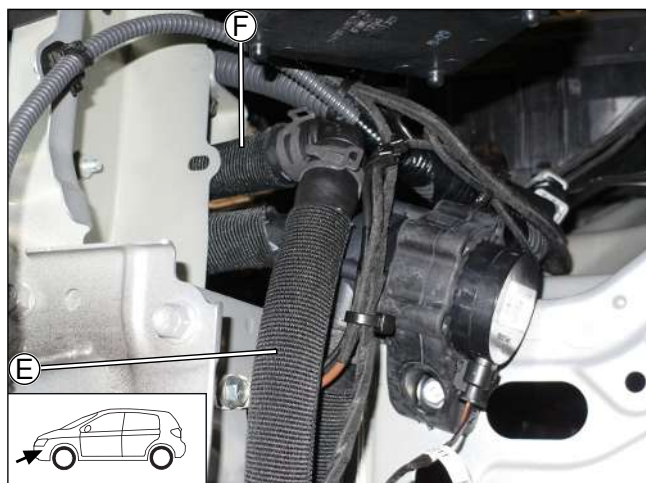


Fig. 34



Connecting hoses **E** and **F**



Danger of damage to components

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

Fig. 35



10 Combustion air

Installing cable tie

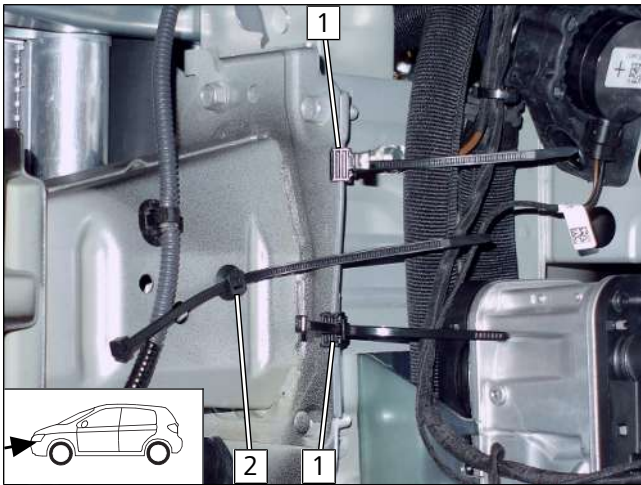


Fig. 36

- 1 Edge clip cable tie
- 2 Eyelet cable tie

Mounting combustion air intake silencer

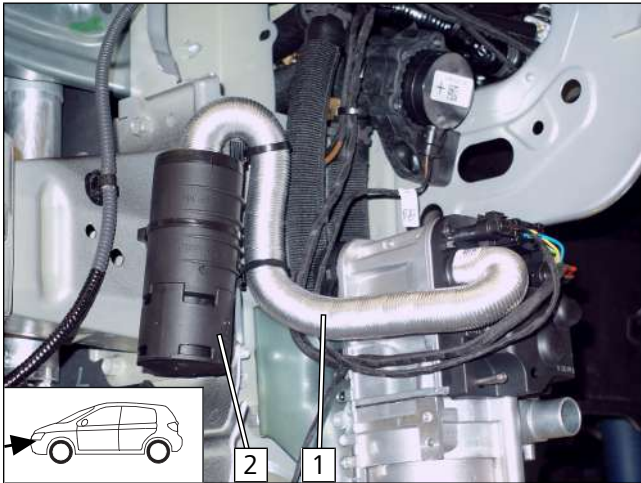


Fig. 37



Observe the installation instructions of the combustion air intake silencer.

- 1 Combustion air pipe
- 2 Combustion air intake silencer



11 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

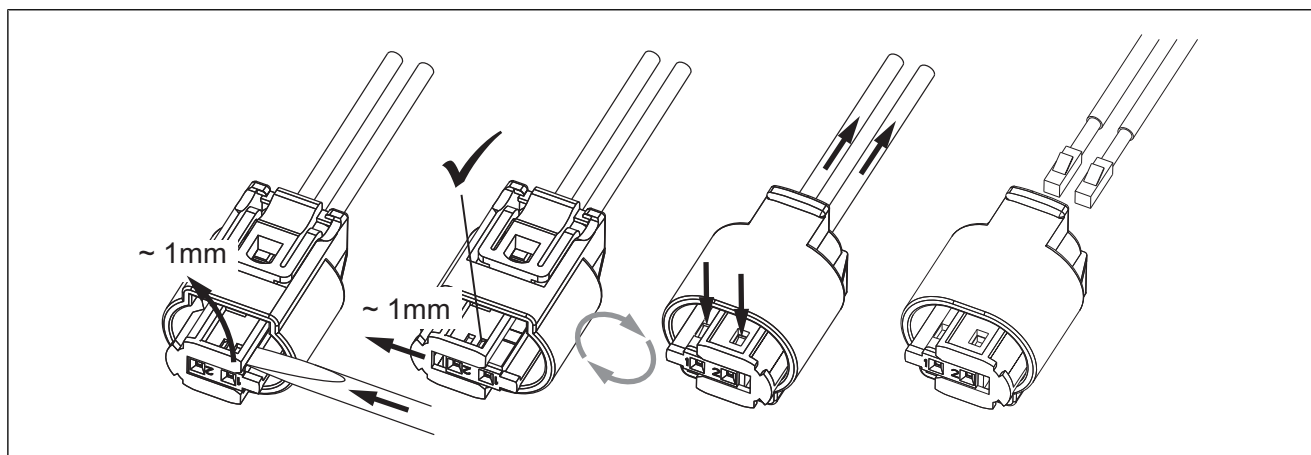


Fig. 38

11.1 Routing fuel line

Connection to heater

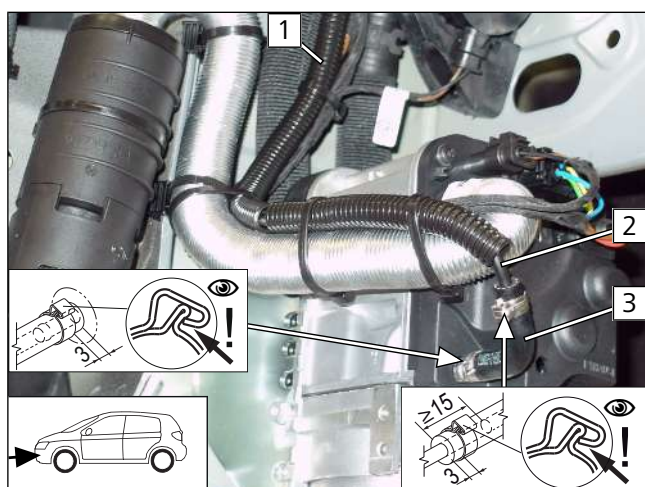


Fig. 39

- 1 Corrugated tube with fuel line and fuel pump wiring harness
- 2 Fuel line
- 3 90° moulded hose, Ø10 clamp [2x]



Installing lines

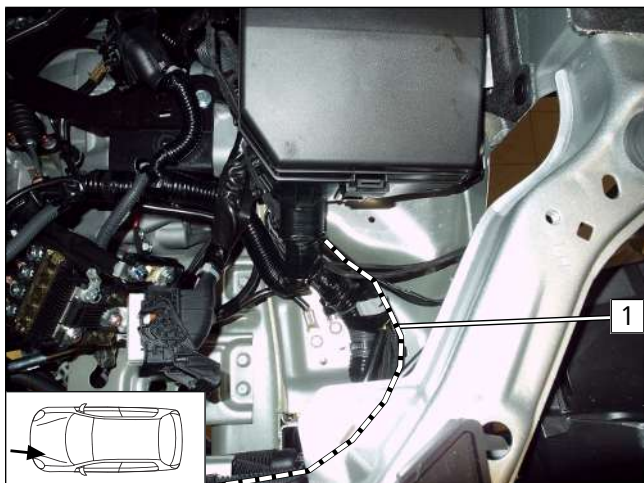


Fig. 40

- ▶ Route corrugated tube **1** with fuel line and fuel pump wiring harness in engine compartment to underbody.

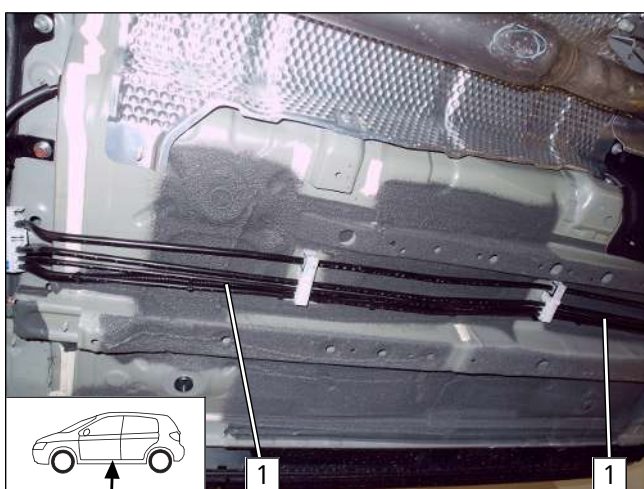


Fig. 41

- ▶ Route fuel line and fuel pump wiring harness in corrugated tube **1** on original vehicle lines to the fuel pump installation location.

Preparing perforated bracket

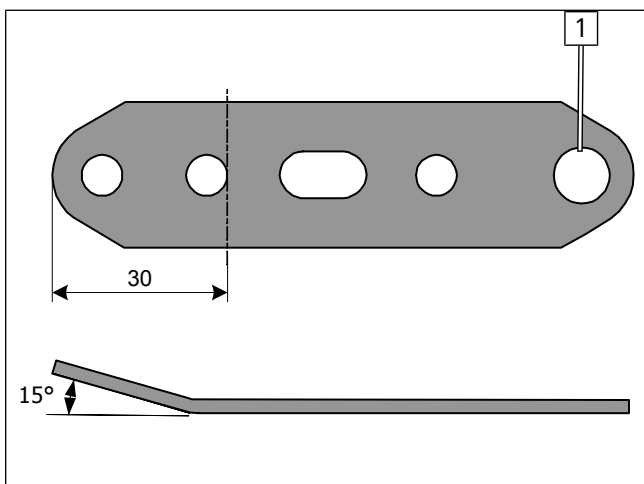


Fig. 42

- 1** Drill out hole to Ø8.5



Premounting fuel pump

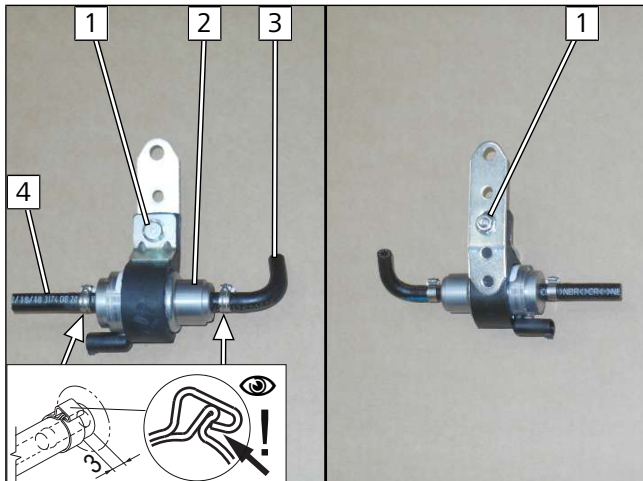


Fig. 43

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

Mounting fuel pump

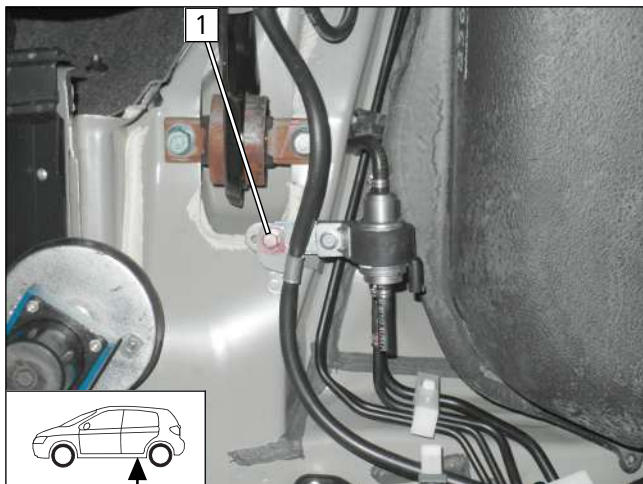


Fig. 44

- 1 Original vehicle bolt, brake cable bracket, pre-mounted fuel pump, original vehicle thread

Assembling fuel pump connector X7

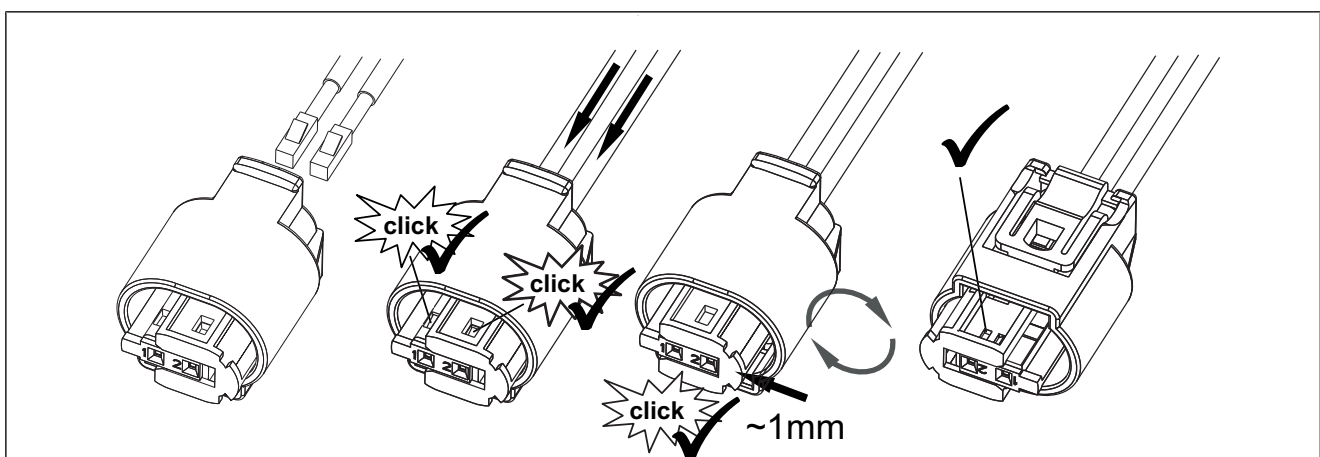


Fig. 45



Connecting fuel pump

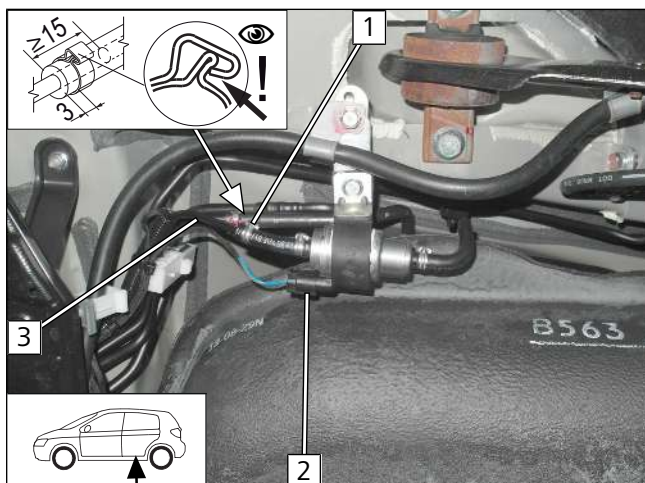


Fig. 46

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

11.2 Installing FuelFix

Assigning drilling template

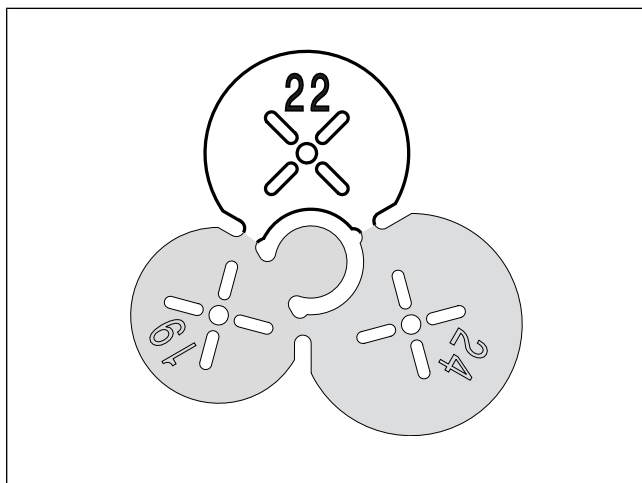
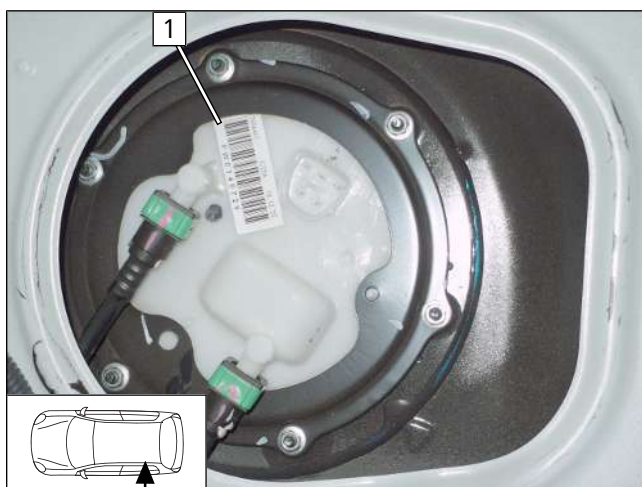


Fig. 47

Removing label



- 1 Label

Fig. 48



Work steps F1, F2

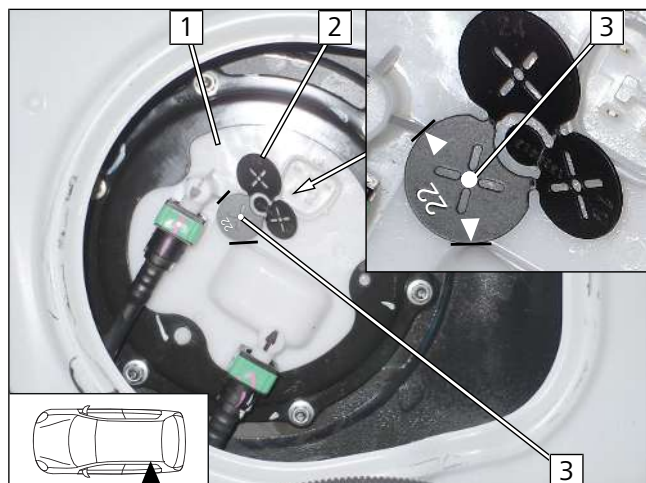


Fig. 49



Observe the installation instructions of the tank extracting device.

- 1 Tank fitting
- 2 Position Ø22 drilling template as shown in Fig.
- 3 Hole pattern

Work step F3

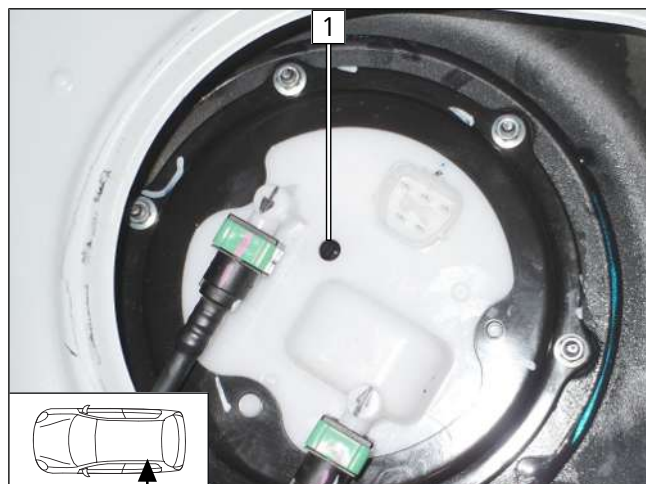


Fig. 50



DANGER

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

- 1 Hole made with provided drill

Work steps F4, F5

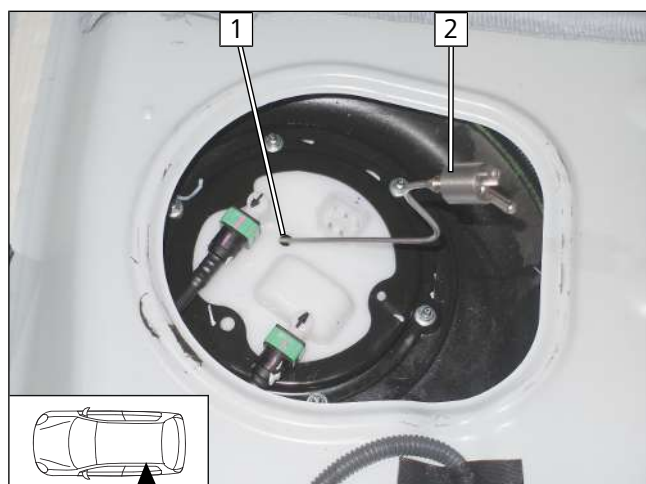


Fig. 51

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



Fig. 52

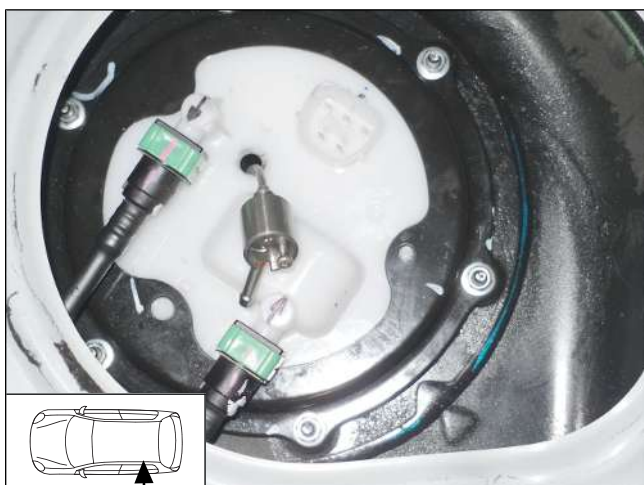


Fig. 53

Work steps F5.3, F5.4

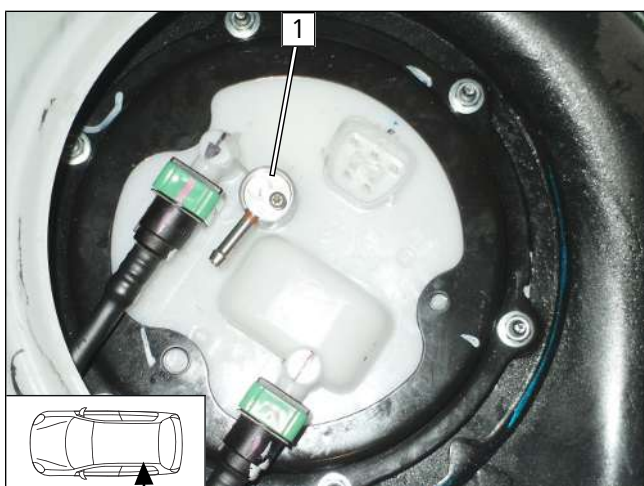


Fig. 54

► Align FuelFix **1** as shown.



Work step F6

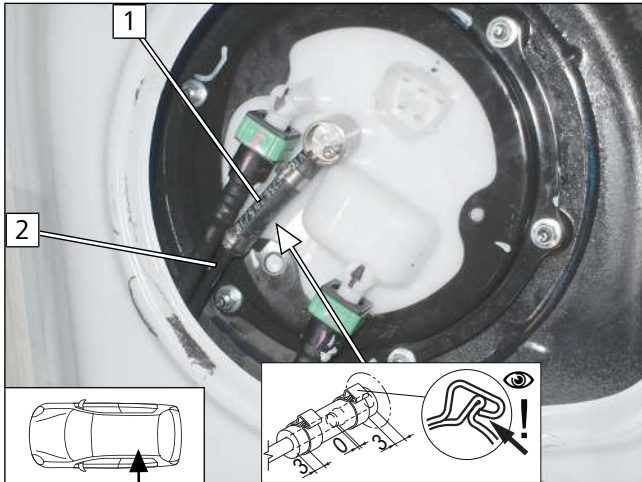


Fig. 55

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

Work step F7

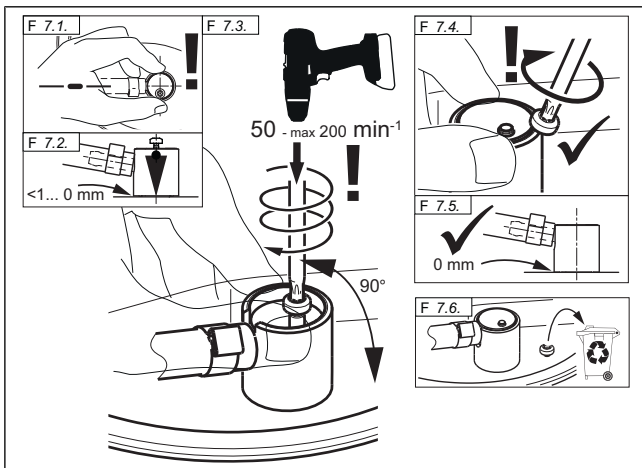



Fig. 56

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

Work step F8

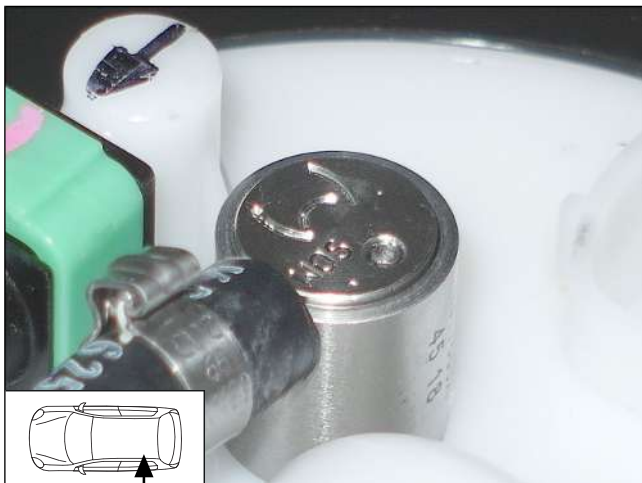


Fig. 57



Securing fuel line

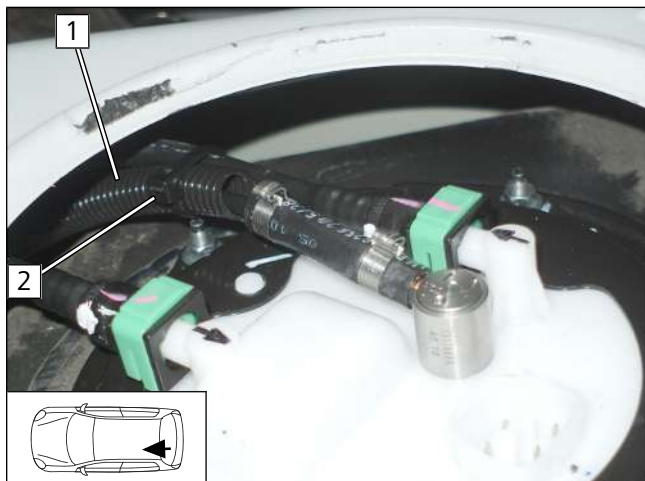


Fig. 58

- ▶ Secure corrugated tube with fuel line **1** using cable tie **2** for tension relief as shown in Fig.

11.3 Fuel pump connection

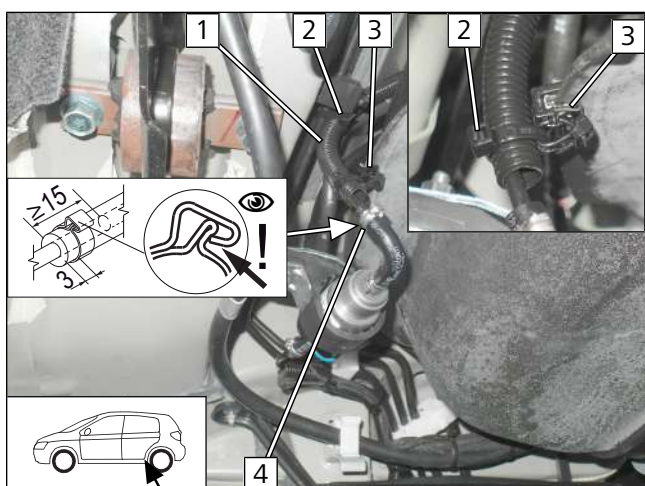


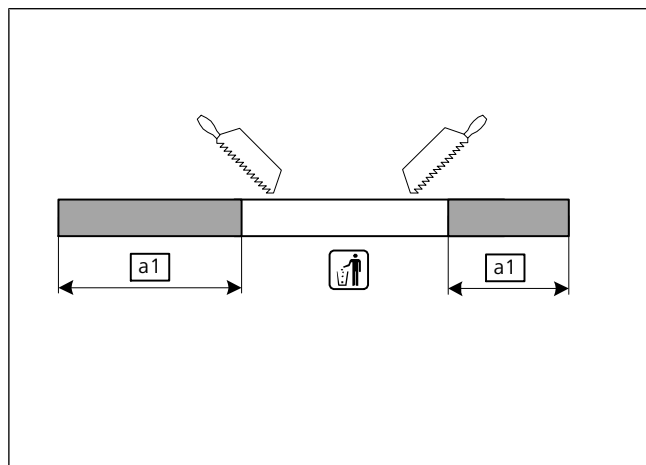
Fig. 59

- 1** Fuel line of FuelFix in corrugated tube
- 2** Cable tie
- 3** Edge clip cable tie
- 4** Ø10 clamp



12 Exhaust

Cutting exhaust pipe to length



a1 240

a2 180

Fig. 60

Bending perforated bracket

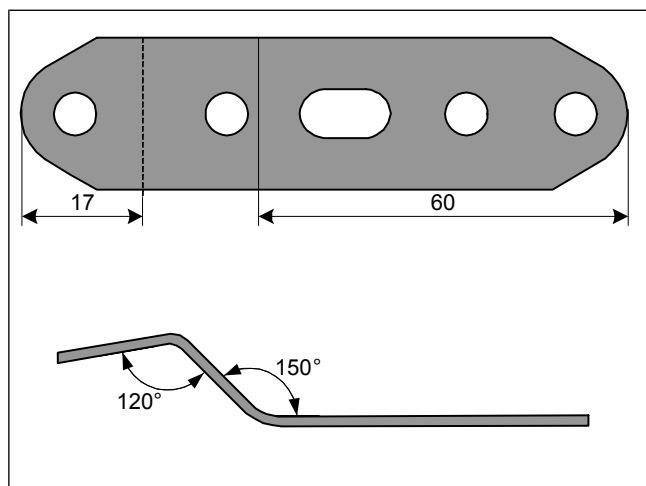


Fig. 61

Twisting perforated bracket by 90°



Fig. 62



Premounting exhaust silencer

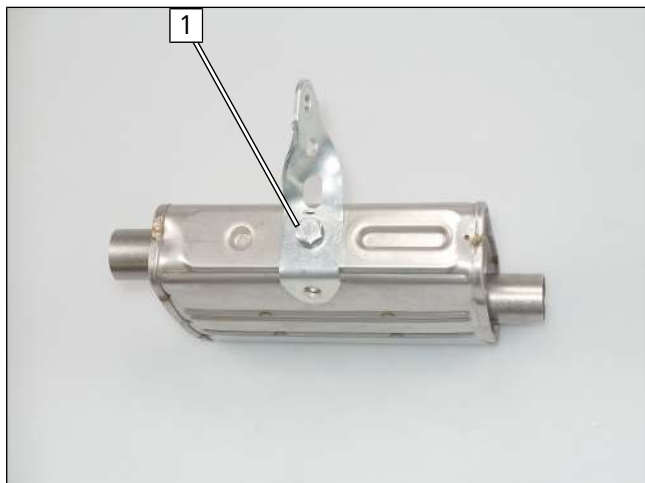


Fig. 63

- 1 M6x16 bolt, spring lockwasher, perforated bracket, exhaust silencer

Mounting exhaust silencer

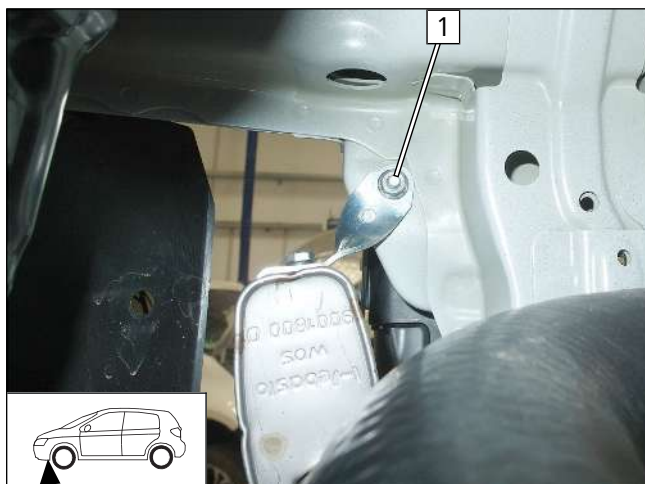


Fig. 64

- 1 Premounted bolt from heater bracket, perforated bracket, flanged nut

Mounting exhaust pipe **a1**

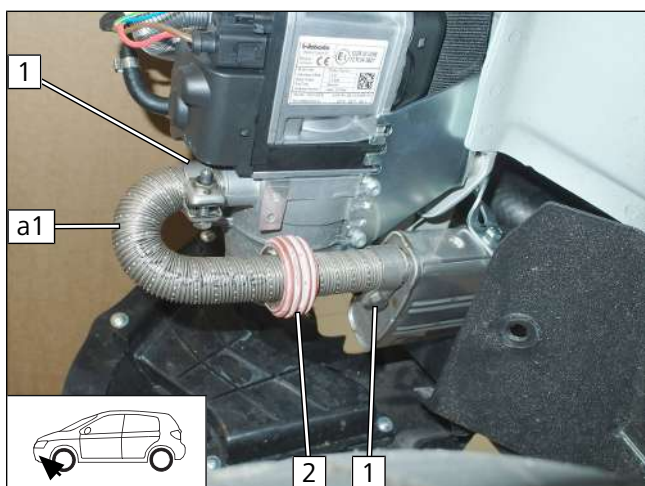


Fig. 65

- 1 Hose clamp
- 2 ASH



Mounting exhaust pipe **a2**

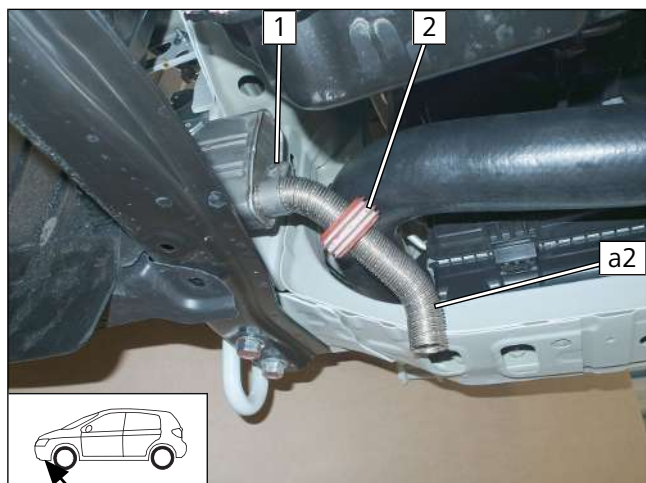


Fig. 66

- 1** Hose clamp
- 2** ASH

Work steps E1, E2

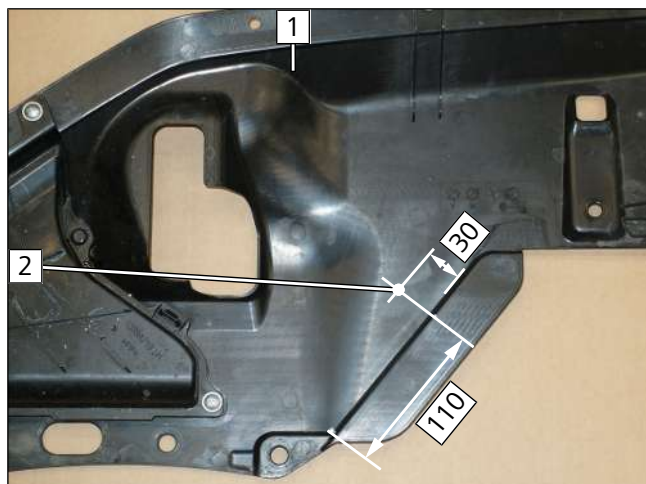


Fig. 67



Observe the EFIX installation instructions.

- 1** Underride protection
- 2** Hole pattern, hole

Work step E3

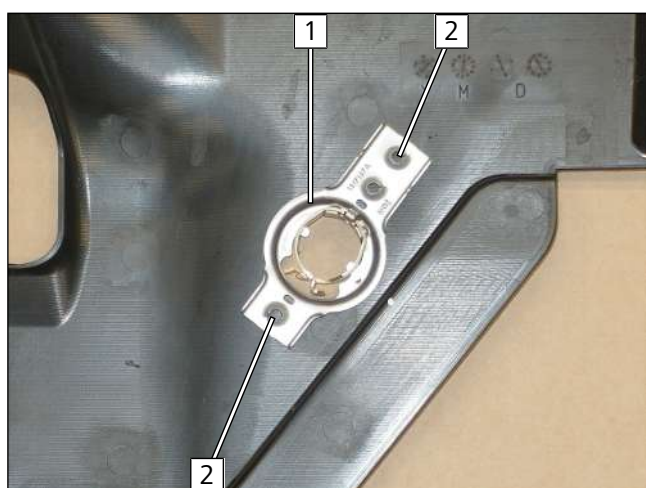


Fig. 68

- 1** EFIX
- 2** Copy hole pattern



Work step E4

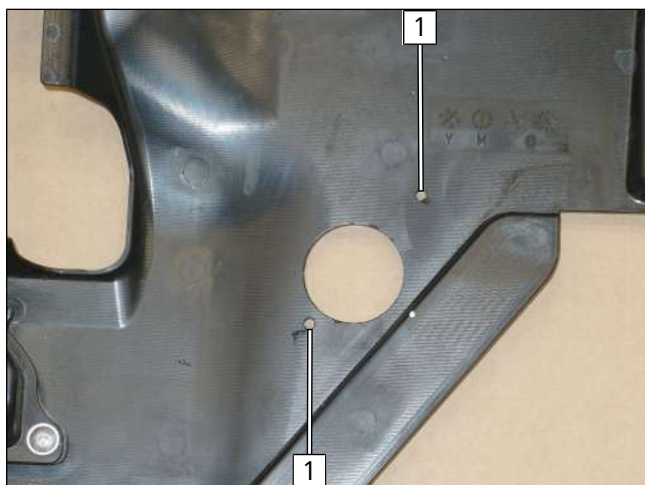


Fig. 69

1 Hole

Work step E5

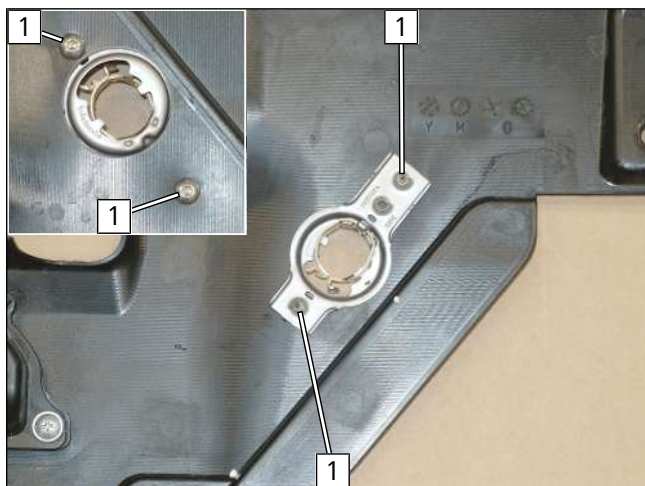


Fig. 70

1 5x13 self-tapping screw

Work steps E6-E8

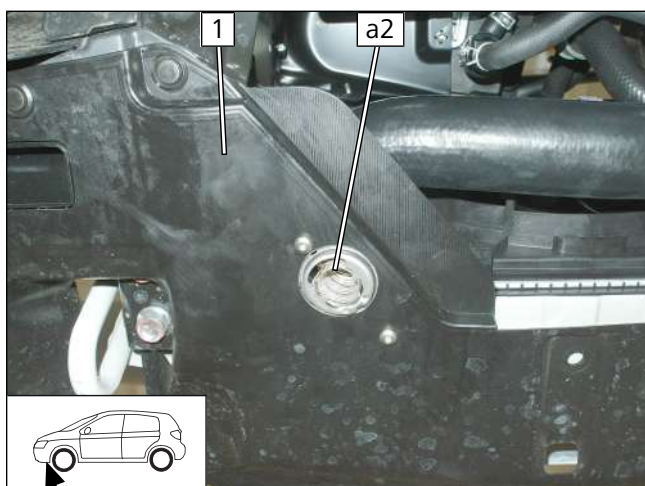


Fig. 71



Danger of damage to components

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

► Mount underide protection.



13 Electrical system of passenger compartment

13.1 Electrical system preparation

Assigning wires

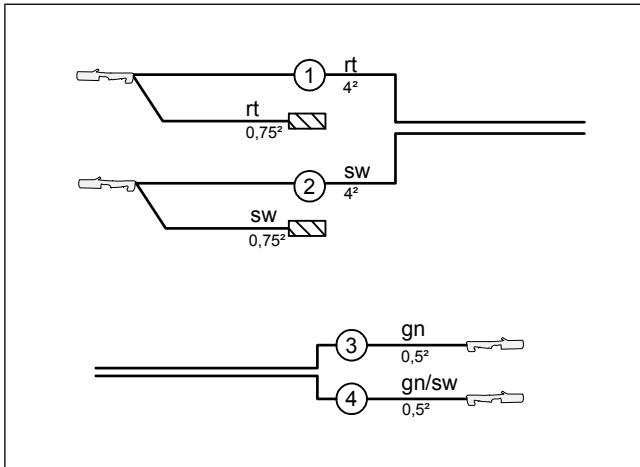


Fig. 72



Wire sections retain their numbering in the entire document.

- ① Red (rt) wire of fan wiring harness
- ② Black (sw) wire of fan wiring harness
- ③ Green (gn) wire from wiring harness of PWM control
- ④ Green/black (gn/sw) wire from wiring harness of PWM control

View of PWM GW

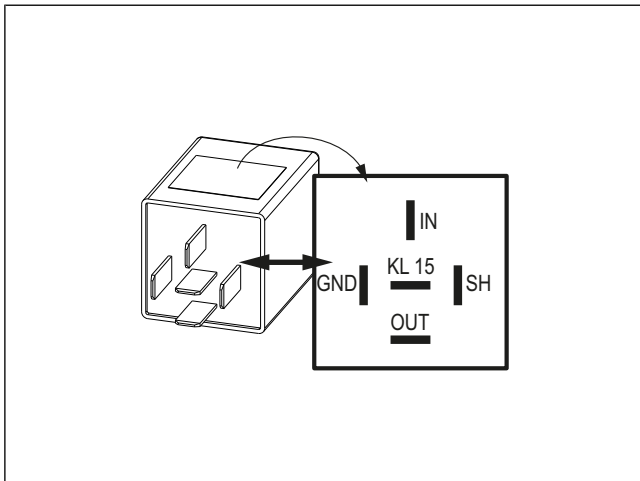


Fig. 73

► Check PWM GW settings when starting-up the heater, adjust if necessary to 1/3 of the fan capacity by changing the voltage.

Parameter	Setting
Duty cycle	100% [DC]
Frequency	not relevant
Voltage	3.9 V
Function	High side



Preparing RSH and PWM GW socket

- ▶ Connect wires.
- ▶ Connect connector and socket.
- ▶ Assemble RSH and PWM GW socket together.

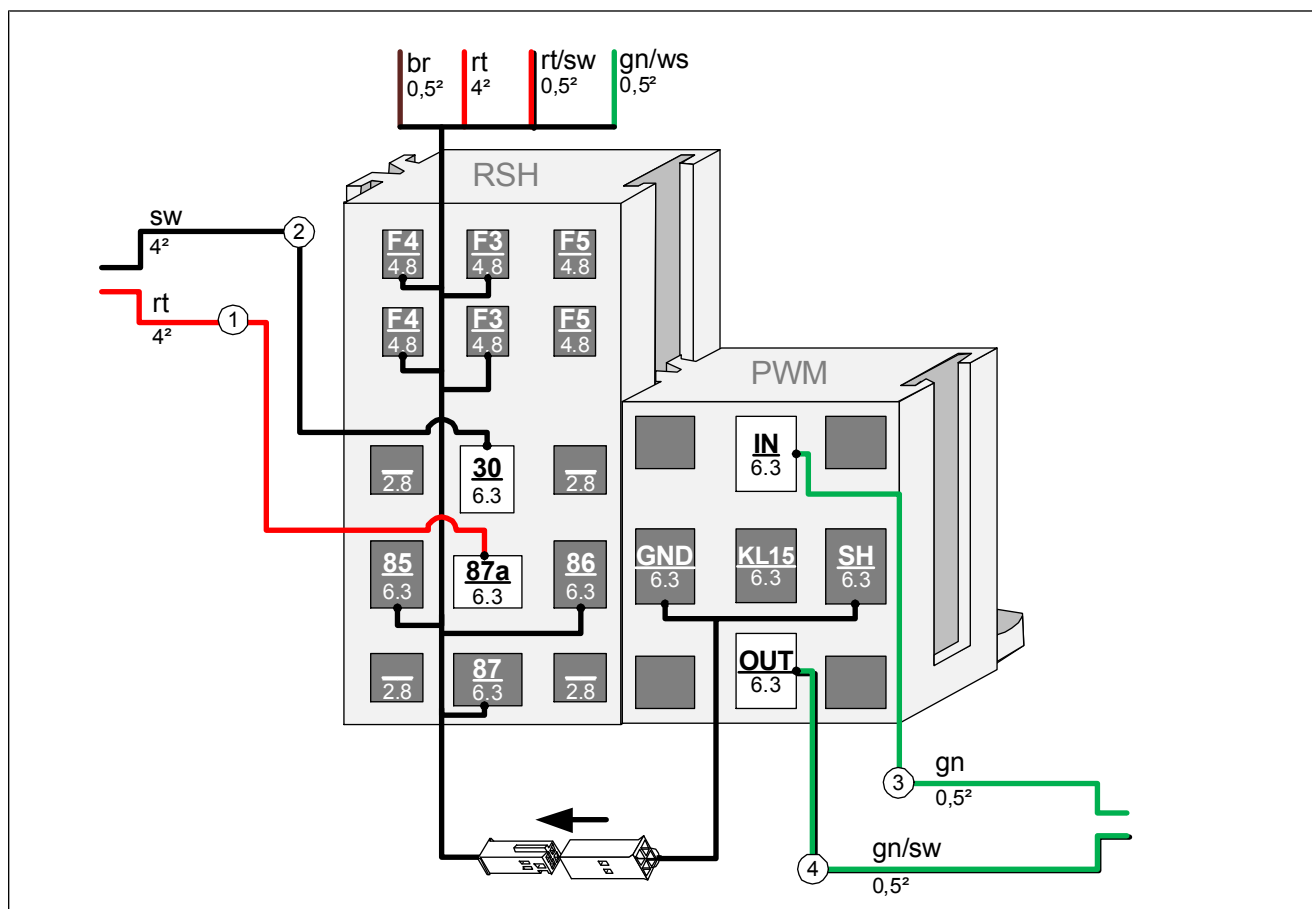


Fig. 74

Premounting RSH and PWM GW

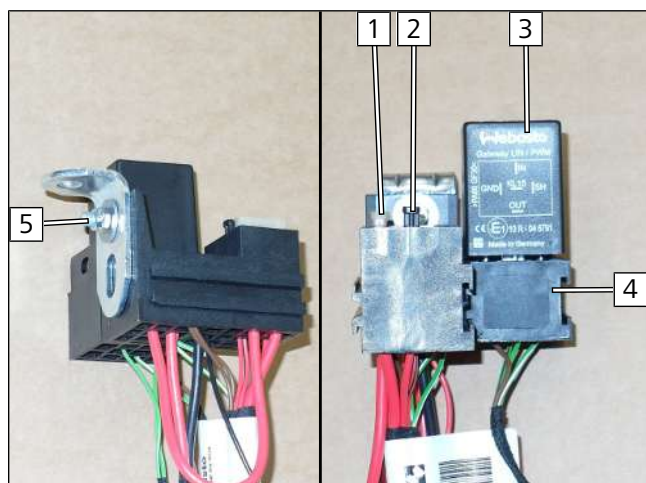


Fig. 75

- 1 Fuse F4: 25A
- 2 Fuse F3: 1A
- 3 PWM GW
- 4 PWM GW socket
- 5 M5x16 bolt, large diameter washer, RSH, angle bracket, large diameter washer, nut



13.2 Wiring diagram

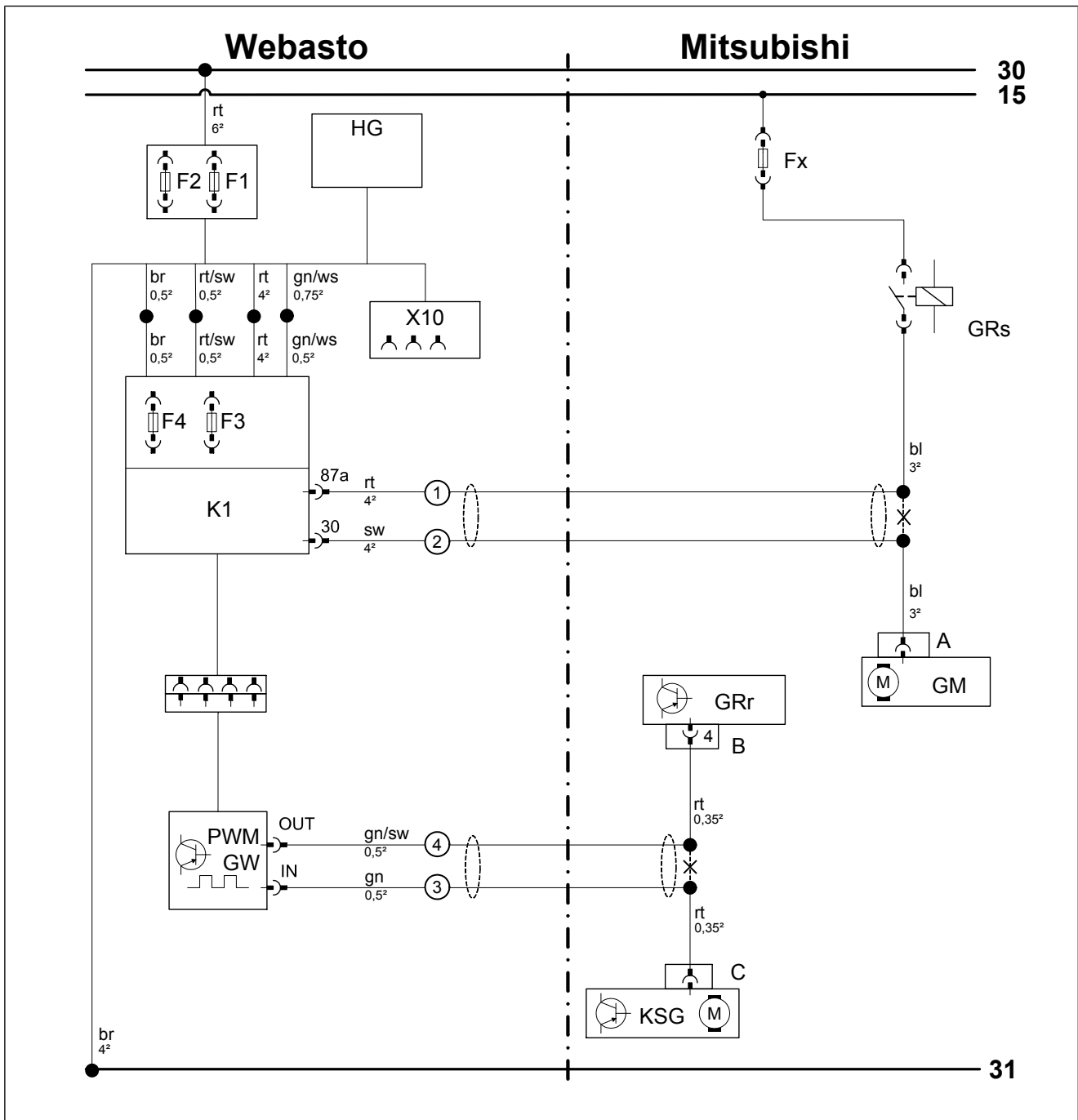


Fig. 76



Legend to wiring diagram



The vehicle connector and component designations are freely chosen by Webasto.
Cable colours may vary.

Vehicle components		Symbols	
Abbreviation	Component	Abbreviation	Explanation
Fx	Fuse	X	Cutting point
GRs	Fan relay		
GM	Fan motor		
A	Fan motor connector		
GRr	Fan controller		
B	Fan controller connector		
KSG	Air-conditioning control unit		
C	Air-conditioning control unit connector		

Webasto components		Cable colours	
Abbreviation	Component	Abbreviation	Colour
A	Male plug for CLR module wiring harness	bg	beige
B	Female plug for CLR module wiring harness	bl	blue
C	Male plug for adapter wiring harness	br	brown
D	Female plug for adapter wiring harness	dbl	dark blue
E	Male plug for Plug&Play wiring harness	dgn	dark green
F	Female plug for Plug&Play wiring harness	ge	yellow
CCL GW	CAN CAN LIN Gateway	gn	green
CL GW	CAN LIN Gateway	gr	grey
CLR	Cold start module	hbl	light blue
D1	Diode	hgn	light green
D2	Diode group	or	orange
F0	Additional fuse for power supply	pk	pink
F1	Heater main fuse	rt	red
F2	Passenger compartment fan controller main fuse	sw	black
F3	Control element fuse	vi	violet
F4	Fan controller fuse	ws	white
F5	Additional fuse		
HG	Heater TT-Evo		
K1	Relay K1		
K2	Relay K2		
K3	Relay K3		
LIN GW	LIN Gateway		
PWM GW	Pulse width modulator gateway		
RSH	Relay and fuse holder of passenger compartment		
RTD	Temperature sensor		
X10	Female plug for control element		
Y	Power adapter		



13.3 Fan controller

Mounting RSH and K1 relay

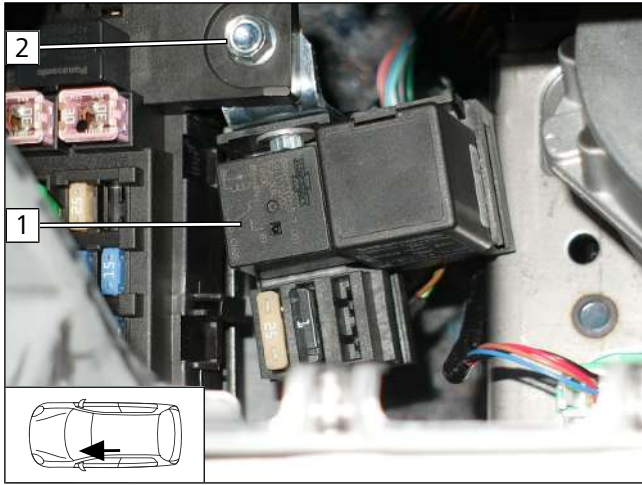


Fig. 77



Produce all following electrical connections as shown in the system wiring diagram.

- 1 Relay K1
- 2 Original vehicle bolt, premounted angle bracket, original vehicle hole, original vehicle thread

Connecting same colour wires of wiring harnesses

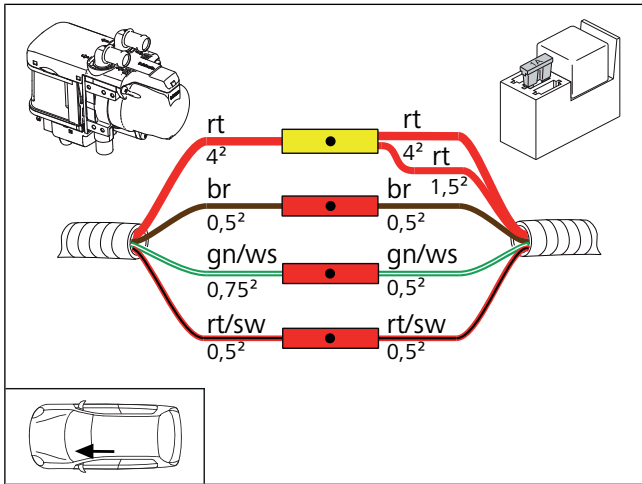


Fig. 78

View of connector A and B

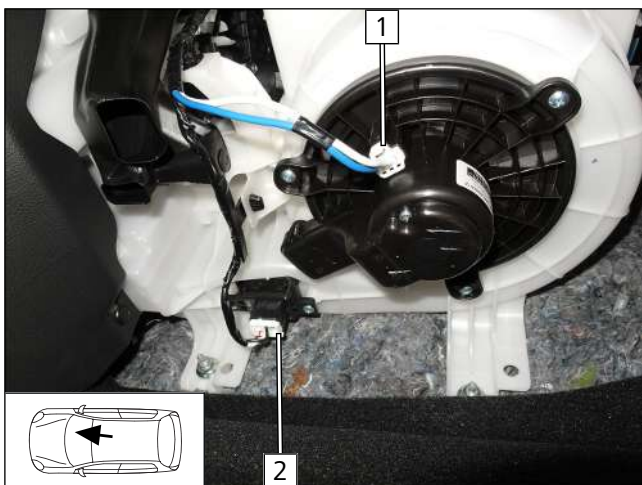


Fig. 79

- 1 Fan motor connector A
- 2 Fan controller connector B



Fan motor connection

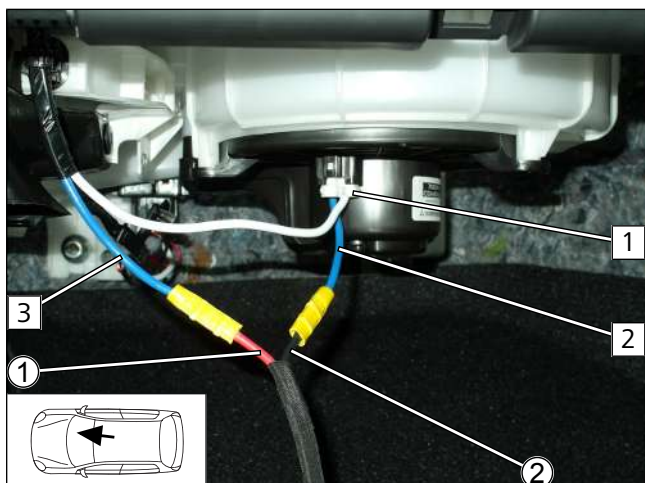


Fig. 80

- 1 Fan motor connector A
- 2 Blue (bl) wire of connector A
- 3 Wire blue (bl) wire of fan relay
- 1 Red (rt) wire of K1/87a fan wiring harness
- 2 Black (sw) wire of K1/30 fan wiring harness

Connection to fan controller

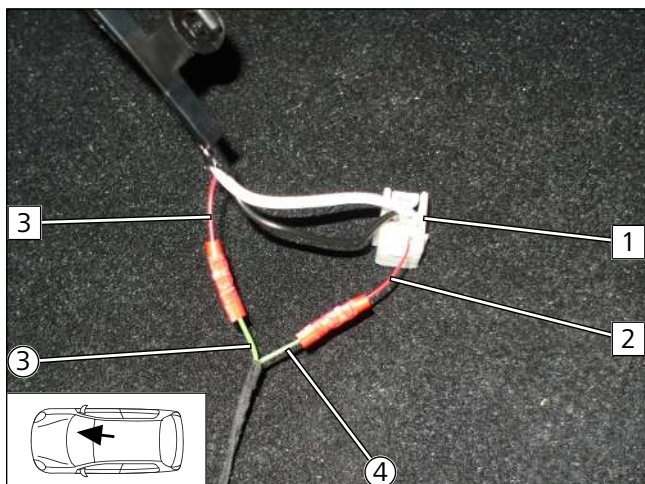


Fig. 81

- 1 Fan controller connector B
- 2 Red (rt) wire of connector B / pin 4 from fan controller
- 3 Red (rt) wire of connector C from A/C control unit
- 3 Green (gn) wire of PWM GW/IN wiring harness from PWM control
- 4 Green/black (gn/sw) wire of PWM GW/OUT wiring harness from PWM control



14 Electrical system of control elements

14.1 MultiControl CAR option

Mounting MultiControl CAR

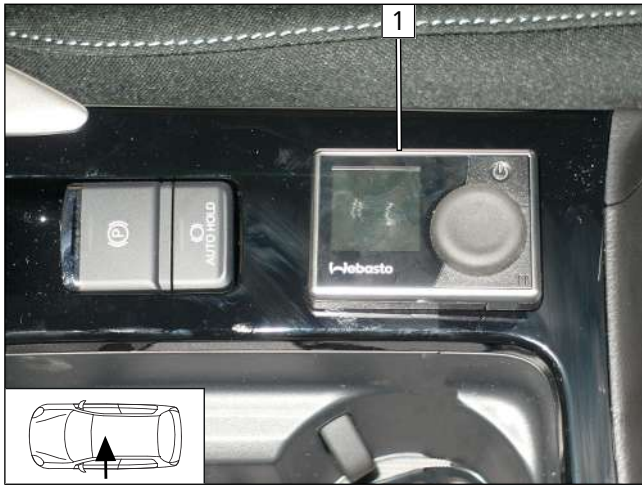


Fig. 82



Observe the MultiControl CAR installation documentation.



Shown on a vehicle with an electric parking brake.

- 1 Installation frame

14.2 Telestart option

Mounting receiver

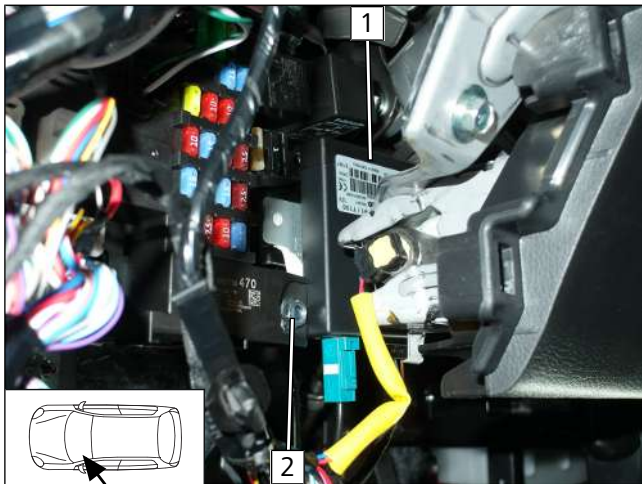


Fig. 83



Observe the Telestart installation documentation.

- 1 Receiver
- 2 Original vehicle bolt, Telestart bracket

Mounting temperature sensor T100 HTM

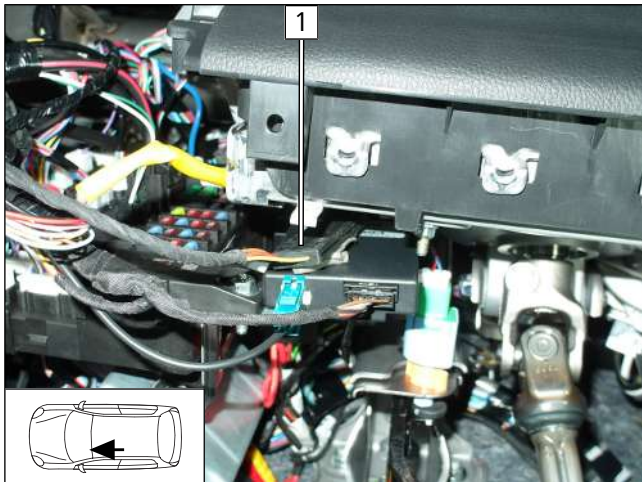


Fig. 84

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



Mounting aerial

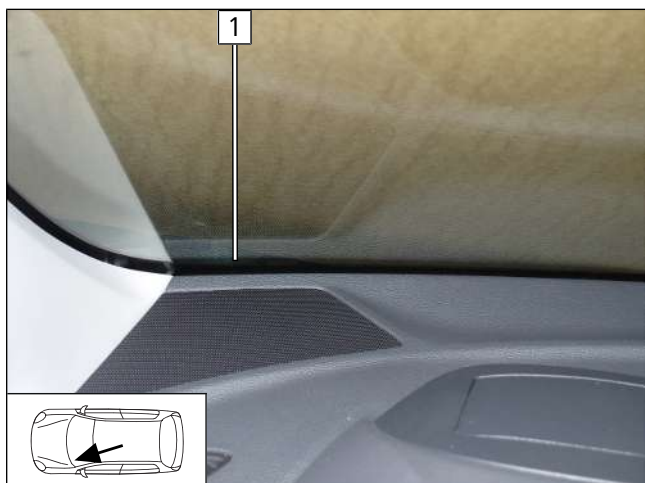


Fig. 85

1 Aerial

14.3 ThermoCall option

Mounting receiver

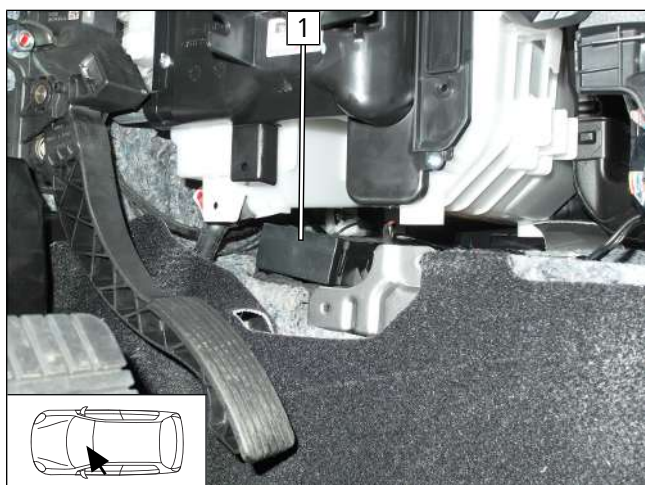


Fig. 86



Observe the ThermoCall installation documentation.

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

Mounting aerial (optional)

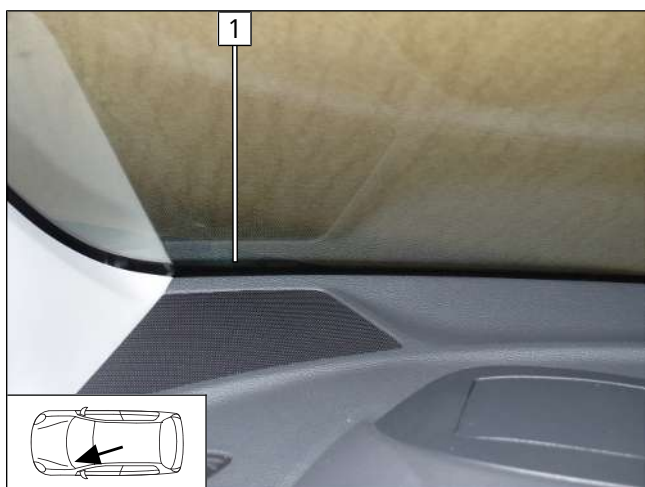


Fig. 87

1 Aerial



15 Final Work



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

- ▶ Mount removed parts in reverse order.



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

▶ Insulate and tie back loose lines

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

▶ Connect the battery.



Only use manufacturer-approved coolant.

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



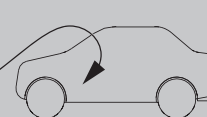
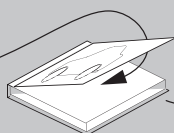
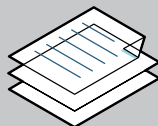
Further information can be found in the general installation and operating instructions of the Webasto components.

▶ Program MultiControl CAR, teach Telestart transmitter

▶ Make settings on A/C control panel according to the 'Operating Instructions'.

▶ Initial operation and functional test

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



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.

Webasto Thermo & Comfort SE
Postfach 1410
82199 Gilching
Germany

Company address:
Friedrichshafener Str. 9
82205 Gilching
Germany

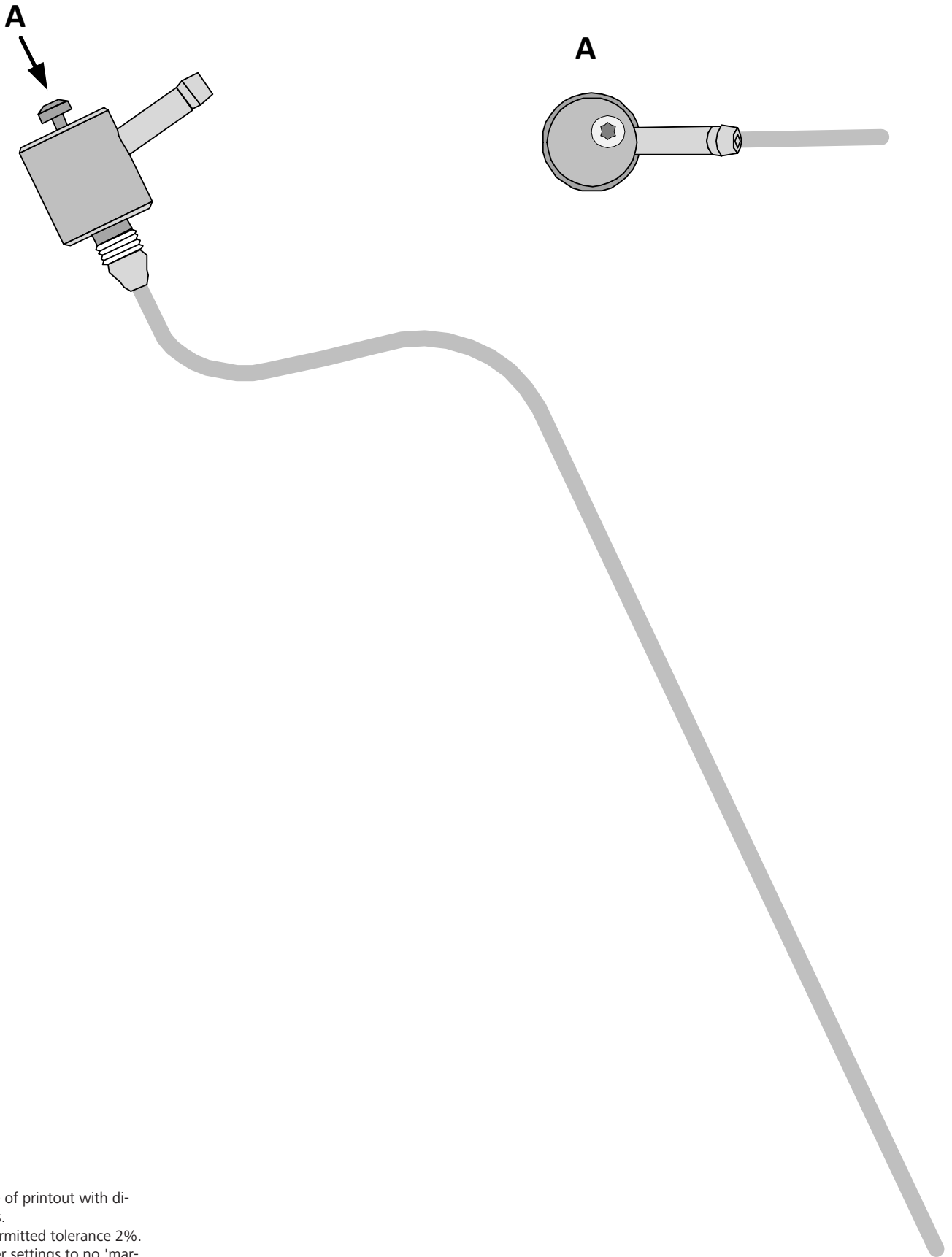
Technical Extranet: <https://dealers.webasto.com>



WWW.WEBASTO.COM



16 FuelFix template



100mm

0

100mm

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

17 Operating instructions for automatic air-conditioning



Information regarding the heating time:

We recommend matching the heating time to the driving time (heating time = driving time)

Example: for a driving time of approx. 20 min. (in one direction), we recommend not exceeding a switch-on time of 20 min.



Vehicles with passenger compartment monitoring:

Further information can be found in the vehicle operating instructions.

- ▶ Deactivate passenger compartment monitoring for the heating operation



Note for parking heater function

Your vehicle is equipped with a passenger compartment and engine preheating unit.

17.1 A/C control panel settings

1-zone automatic A/C control panel



Fig. 88



Before parking the vehicle, make the following settings:

- ▶ The fan speed must not be preset.

- 1 Set temperature to 'HI'
- 2 Air outlet to windscreen

2-zone automatic A/C control panel



Fig. 89



Before parking the vehicle, make the following settings:

- ▶ The fan speed must not be preset.

- 1 Temperature on both sides to 'HI'
- 2 Air outlet to windscreen

17.2 Installation location of fuses

Fuses in engine compartment

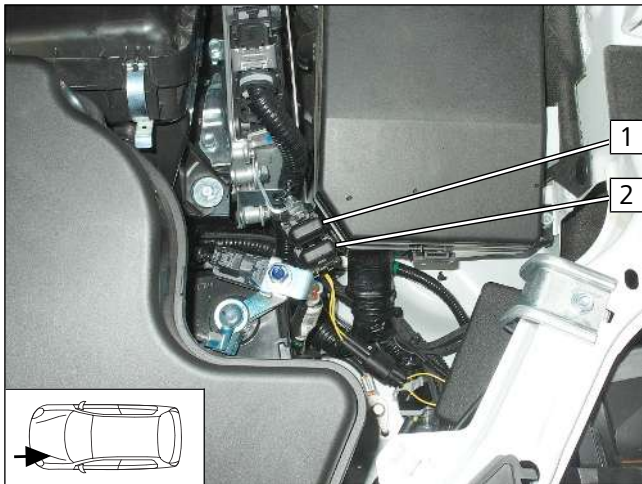


Fig. 90

- 1 F2 - 30A main fuse of passenger compartment
- 2 F1 - 20A heater main fuse

Fuses in passenger compartment

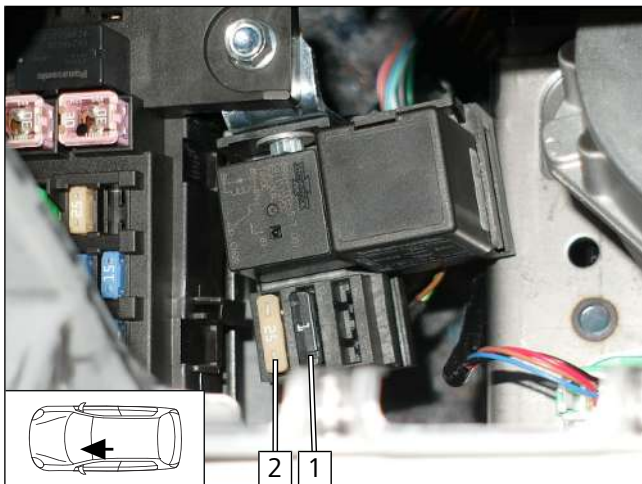


Fig. 91

- 1 F3 - 1A control element fuse
- 2 F4 - 25A fan controller fuse