EN

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# Installation Documentation

for water heater Thermo Top Evo

'Inline' coolant circuit with engine preheating

## Lexus UX 200

Left-hand drive vehicle

| Manufacturer | Model | Type | Model year | EG-BE-No. / ABE |
|---|---|---|---|---|
| Lexus | UX 200 | ZA1 (EU,M) | 2019 | e13* 2007/46* 2005*… |

| Motorisation | Fuel | Emission standard | Transmission type | Output [kW] | Displace-ment [cm³] | Engine code |
|---|---|---|---|---|---|---|
| 2.0P | Petrol | EURO6;WLTP;AG… | CVT | 127 | 1987 | M20A-FKS |

| Validity | Equipment variants | Model |
|---|---|---|
| | | UX 200 |
| Verified equipment variants | 2 zone automatic air-conditioning | x |
| | LED main headlights | x |
| | Matrix LED main headlights | x |
| | LED daytime running lights | x |
| | LED front fog lights | x |
| | Headlight washer system | x |
| | Start button with keycard | x |
| | Passenger compartment monitoring | x |
| | Alarm system | x |
| | 2WD/4WD | x |
| | Bumper of F-Sport | x |

| Total installation time | Note |
|---|---|
| 11 hours | |

# Contents

# 1 List of abbreviations

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

# 2 Installation notes

## 2.1 Information on Validity

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

## 2.2 Components used

| Designation | Order number |
|---|---|
| Basic delivery scope of Thermo Top Evo | In accordance with price list |
| Installation kit for Lexus UX200 petrol 2019 | 1327614A |
| Additional 'Webasto Standard' automatic air-conditioning control kit for Toyota / Lexus | 1324414_ |
| The following must also be ordered: tank fitting gasket, Lexus order no. | 77169 47030 |
| In case of Telestart, control element, as well as indicator lamp in consultation with end customer | In accordance with price list |

## 2.3 Notes on installation, in coordination with the end customer

▶ Arrange for the vehicle to be delivered with the tank only about ¼ full.

▶ The installation location of the following elements should be chosen in coordination with the end customer:

- the push button in case of the Telestart and/or ThermoCall and/or ThermoConnect options
- the MultiControl CAR option

## 2.4 Information on Total Installation Time

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

# 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

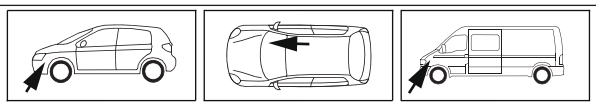
### 3.4.3 Work step identification marks

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<br>▶ Ventilate the fuel tank<br>▶ Close the fuel tank cap again<br>▶ Depressurise the cooling system | K |
| Engine compartment and body | ▶ Disconnect the battery<br>▶ Complete air filter box<br>▶ Front wheel on the driver's side<br>▶ Wheel-well inner panel on the driver's side<br>▶ Side wheel well trim on the driver's side<br>▶ Engine underride protection<br>▶ Underbody trim on the front passenger's side<br>▶ Underbody trim on the driver's side | K |
| Passenger compartment | ▶ Lower A-pillar trim on the driver's side<br>▶ Upper A-pillar trim on the driver's side<br>▶ Footwell trim on the driver's side<br>▶ Lower instrument panel trim on the driver's side | K G |

**DANGER**

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

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

| | | |
|---|---|---|
| Vehicle body | ▶ Tank and tank fitting | K |

## 5.2 Heater preparation

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

# 6 Installation overview

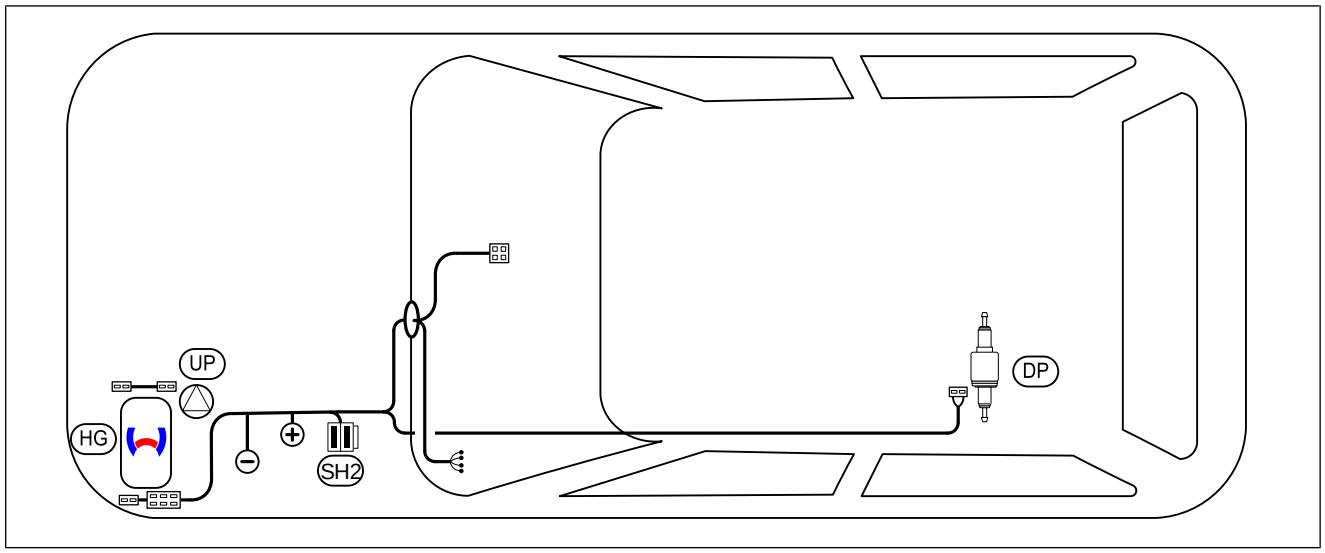



*Fig. 1*

## Legend to installation overview

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

## Heater installation location

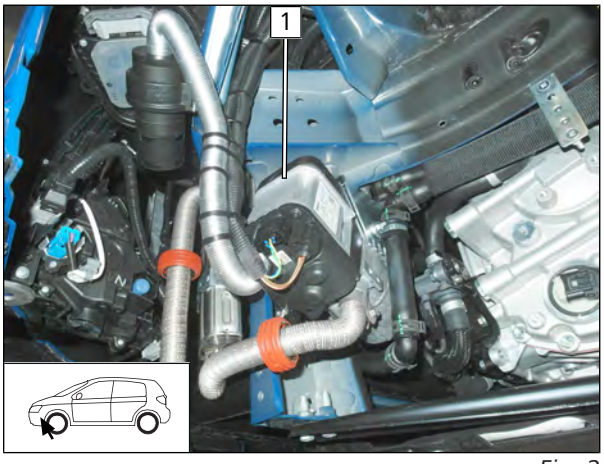



*Fig. 2*

1 Heater

# 7 Electrical system of engine compartment

## Cutting corrugated tube to length

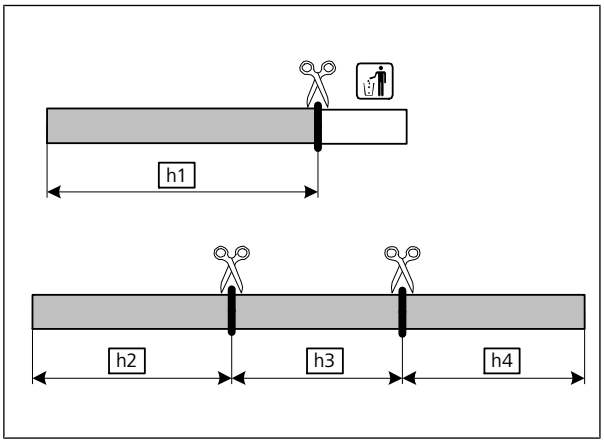



*Fig. 3*

**h1** 400, Ø17 unslit corrugated tube
**h2** 450, Ø13 slit, corrugated tube
**h3** 400, Ø13 slit, corrugated tube
**h4** 350, Ø13 slit, corrugated tube

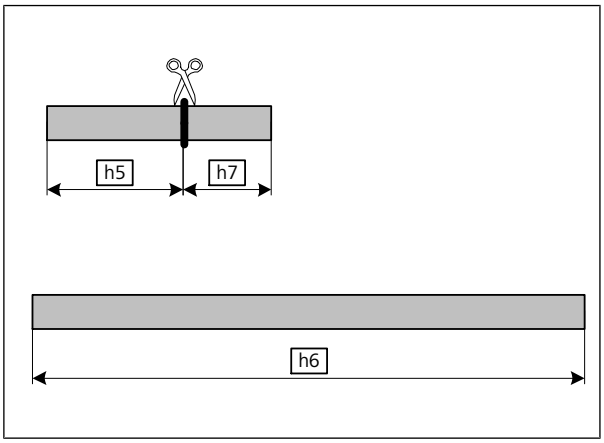



*Fig. 4*

**h5** 300, Ø10 unslit corrugated tube
**h6** 2100, Ø10 unslit corrugated tube
**h7** 130, Ø10 unslit corrugated tube

## Dismantling fuel pump connector X7

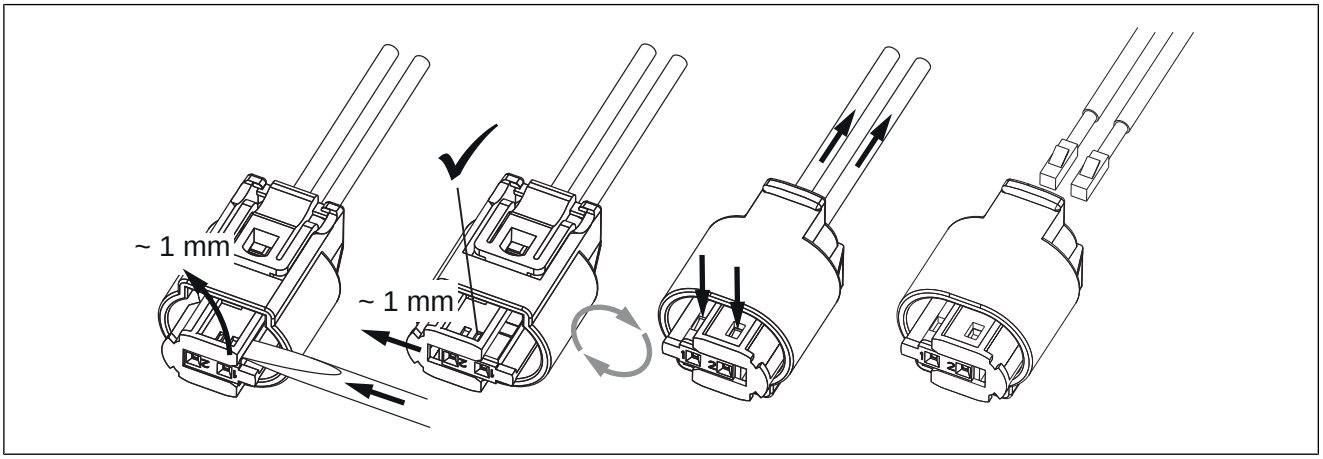



*Fig. 5*

## Preparing wiring harness and fuel line

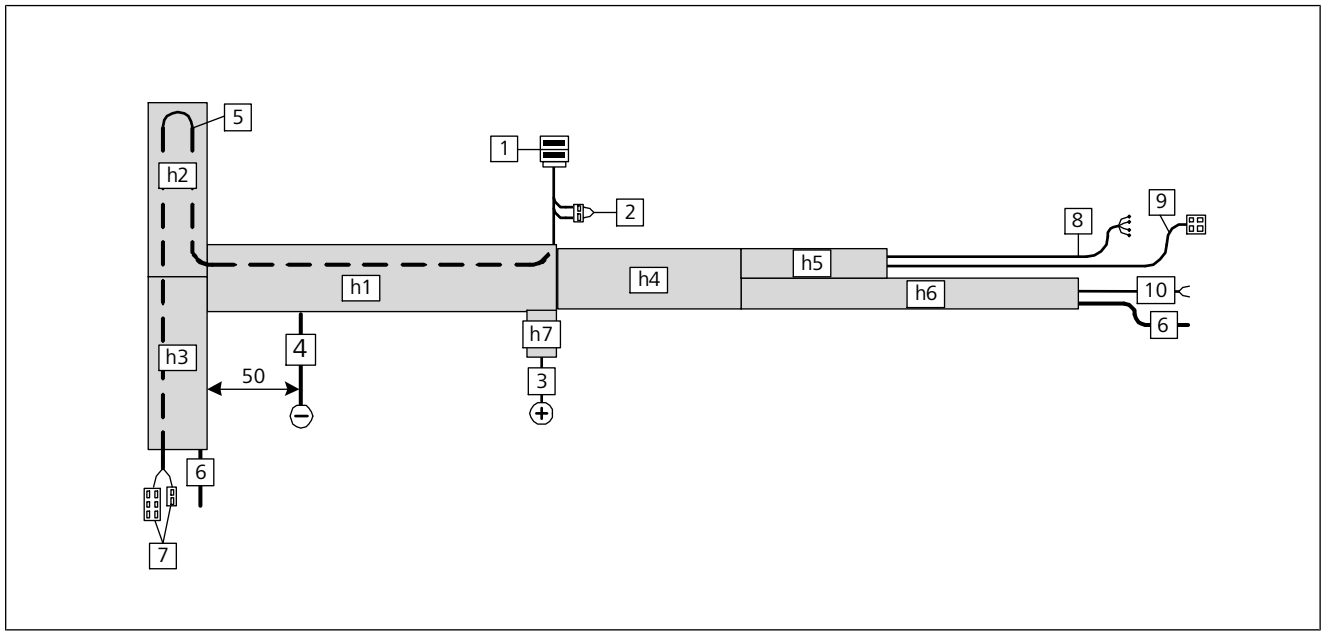



*Fig. 6*

▶ Slit open corrugated tube **h1** lengthwise before the installation.

▶ Wrap corrugated tubes, at the ends and joints and at regular intervals with insulating tape.

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

## Shortening perforated bracket

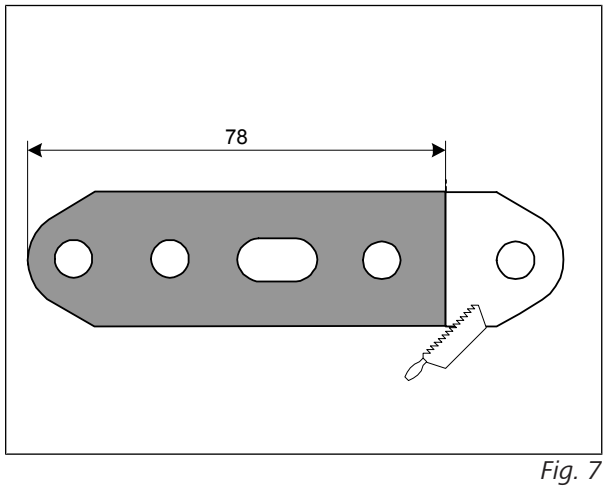



*Fig. 7*

## Premounting retaining plate of SH2

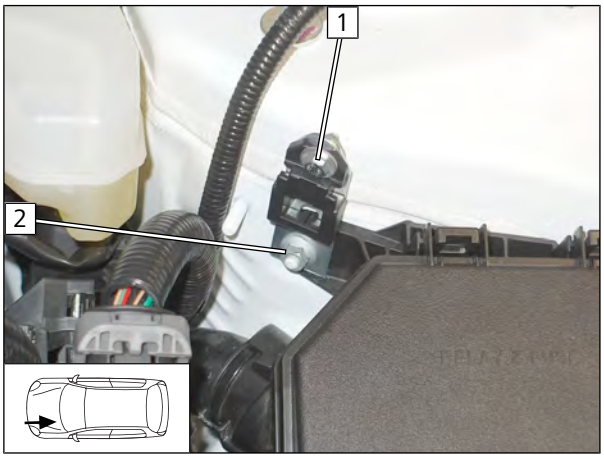



*Fig. 8*

**1** M5x16 bolt, large diameter washer, SH2 retaining plate, large diameter washer, nut

**2** Original vehicle stud bolt, perforated bracket, original vehicle nut

## Installing SH2

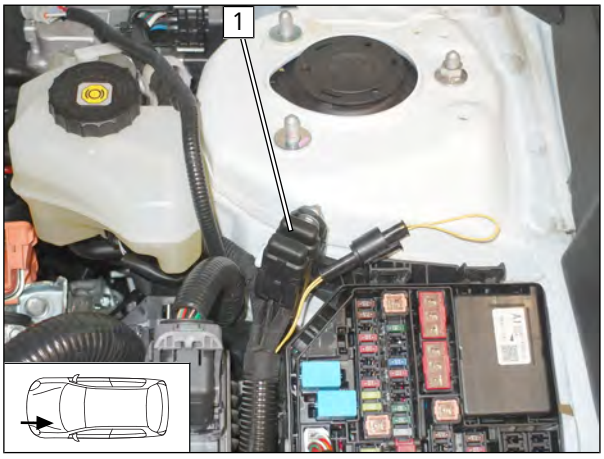



*Fig. 9*

**1** SH2 with fuse F1 and F2

## Routing corrugated tubes

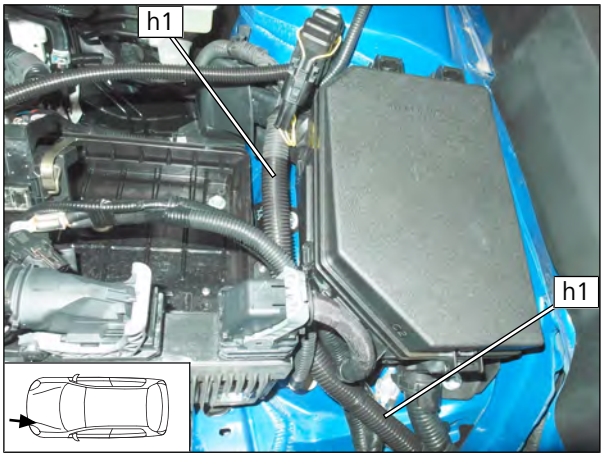



*Fig. 10*

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

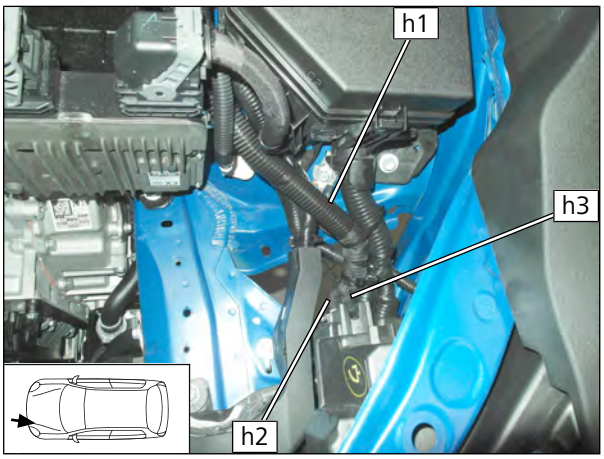



*Fig. 11*

- ▶ Route corrugated tube **h1** along original vehicle lines and fasten with cable ties.
- ▶ Route corrugated tubes **h2** and **h3** to the heater installation location.

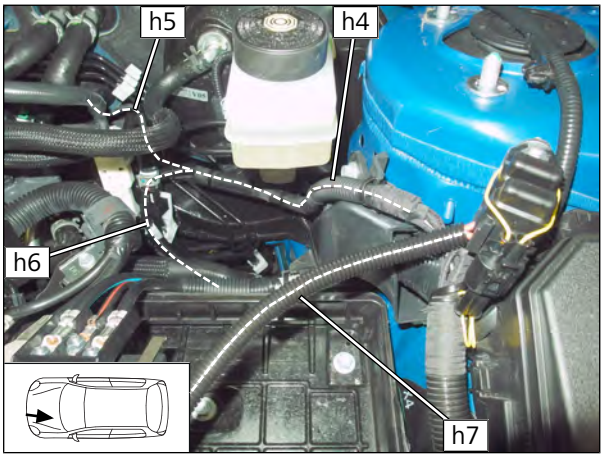



*Fig. 12*

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

## Routing passenger compartment wiring harness

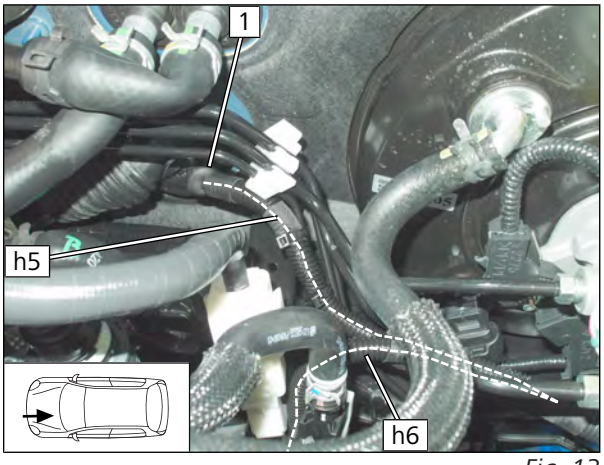



*Fig. 13*

**1** Passenger compartment wiring harness pass through

## Connecting earth wire

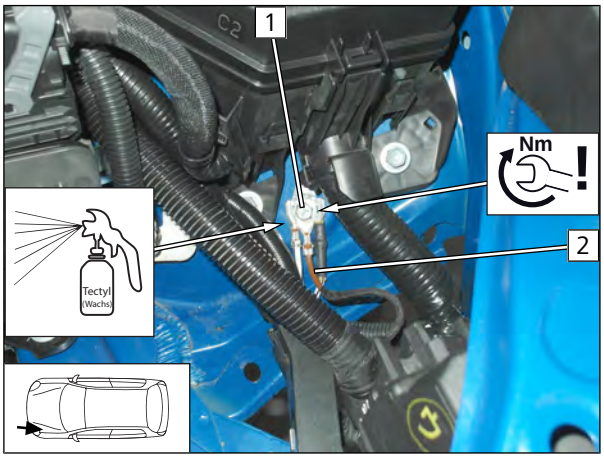



*Fig. 14*

**DANGER**

Observe tightening torque

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

1 Earth support point

2 Earth wire

## Connecting positive wire

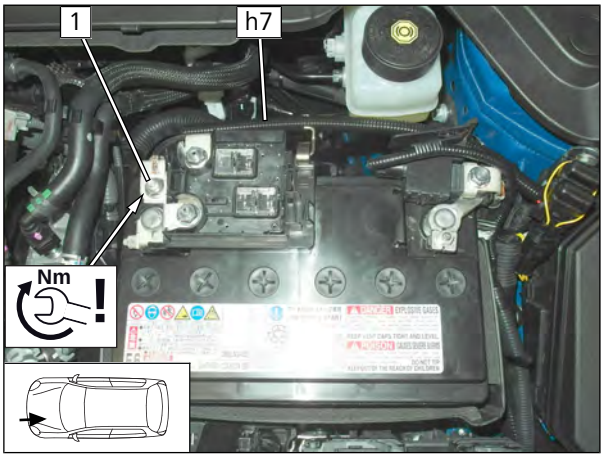



*Fig. 15*

**DANGER**

Observe tightening torque

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

1 Positive distributor

# 8 Mechanical system

## 8.1 Preliminary Work

### Drilling hole/shortening bracket

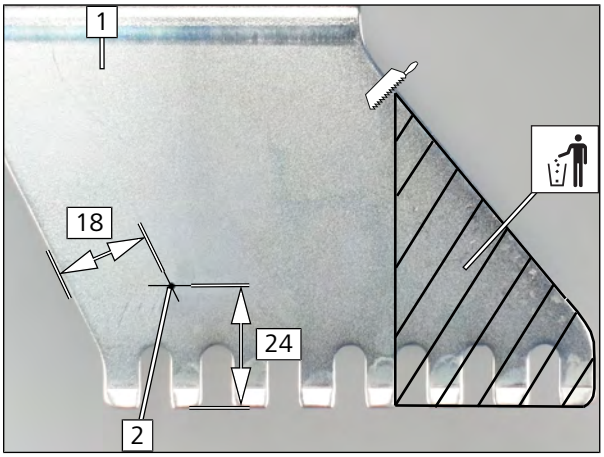



*Fig. 16*

1 Heater bracket
2 Copy hole pattern, Ø7 hole

### Shortening bracket

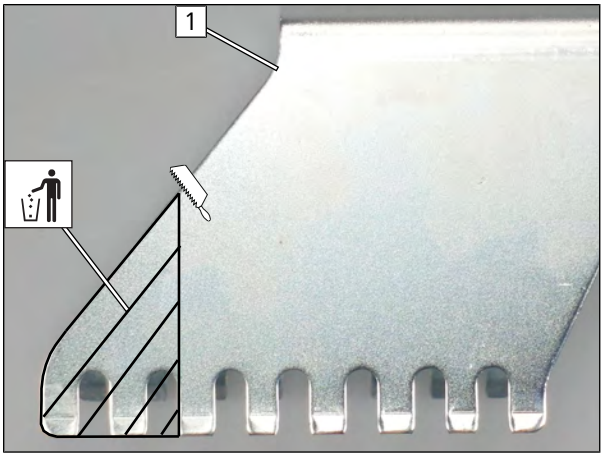



*Fig. 17*

1 Heater bracket

### Preparing perforated bracket of exhaust silencer

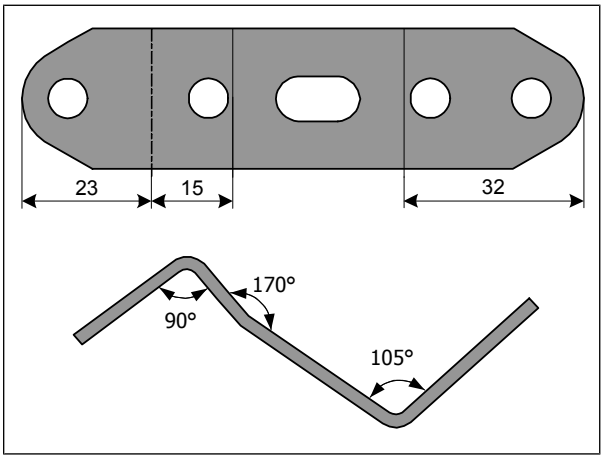



*Fig. 18*

## Premounting exhaust silencer

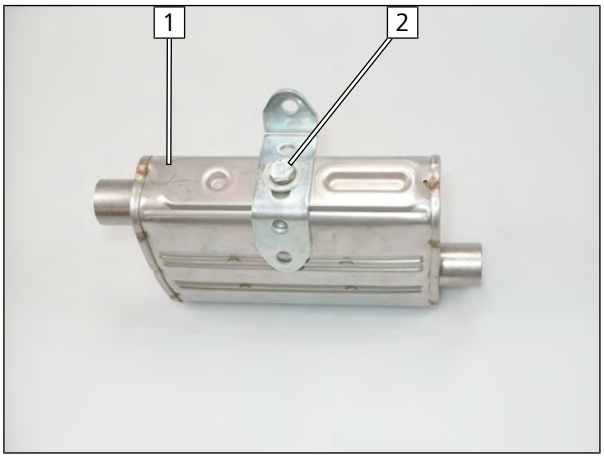



*Fig. 19*

[1] Exhaust silencer

[2] M6x16 bolt, spring lock washer, large diameter washer, perforated bracket, exhaust silencer

## 8.2 Preparing installation location

### Routing original vehicle wiring harness

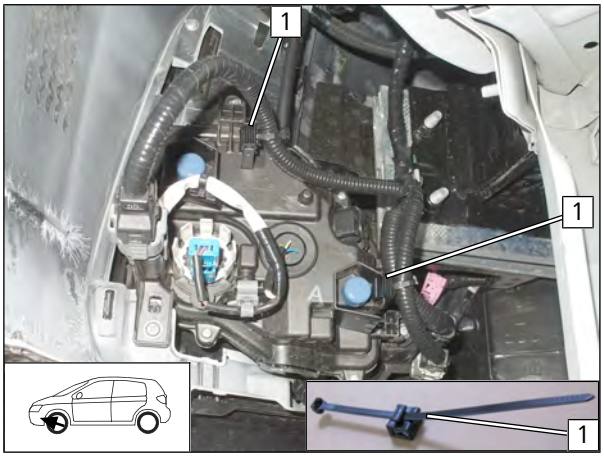



*Fig. 20*

▶ Fasten original vehicle wiring harness with edge clip cable tie [1] as shown.

### Inserting rivet nut

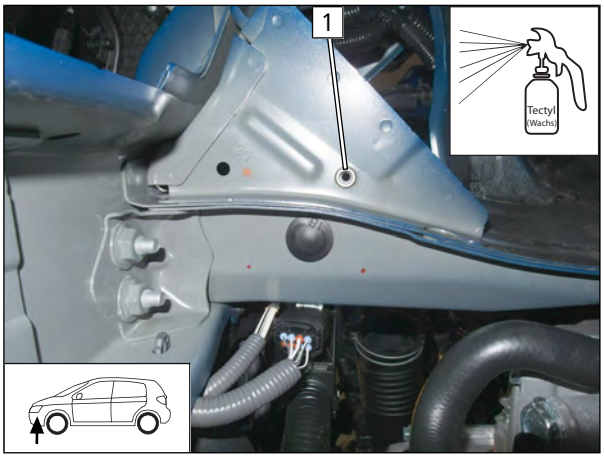
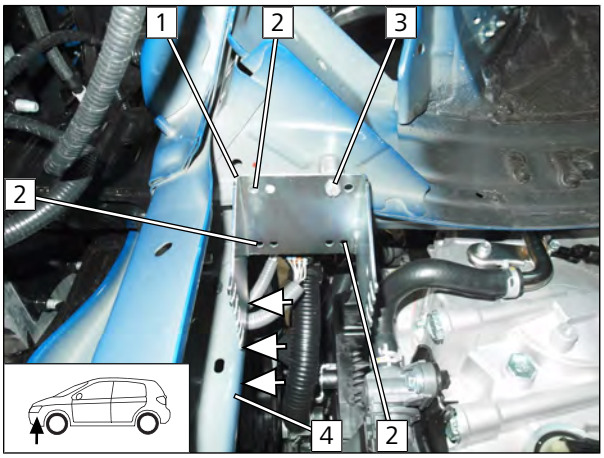



*Fig. 21*

[1] Enlarge original vehicle hole to Ø9, rivet nut

## Copying hole pattern of bracket




▶ Align bracket 1 parallel with original vehicle cross member 4.

2 Hole pattern

3 M6x50 bolt, bracket, spacer (20), spacer (5), large diameter washer, rivet nut

## Inserting and tightening rivet nuts

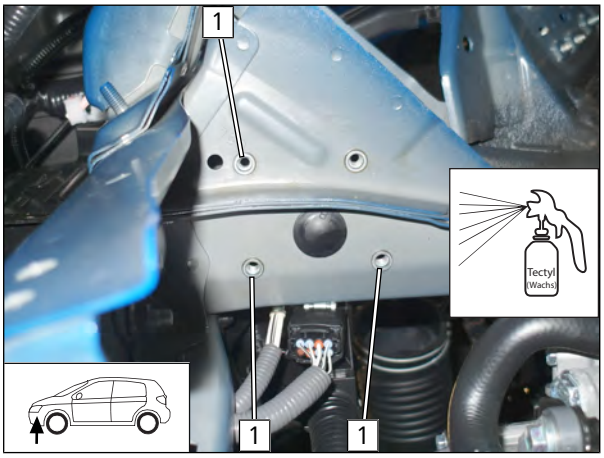



*Fig. 22*

1 Ø9 hole, rivet nut

## Mounting exhaust silencer

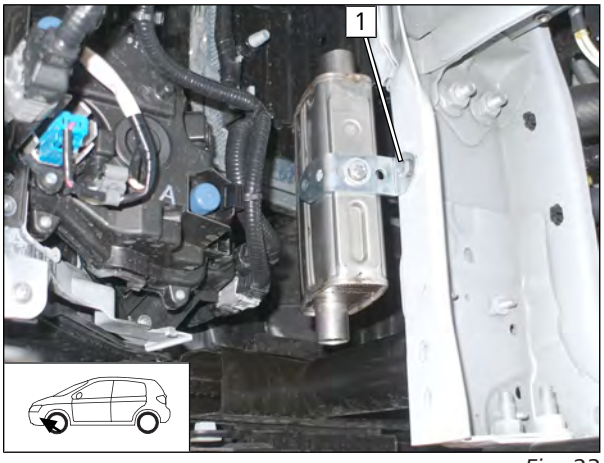



*Fig. 23*

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

## Aligning exhaust silencer

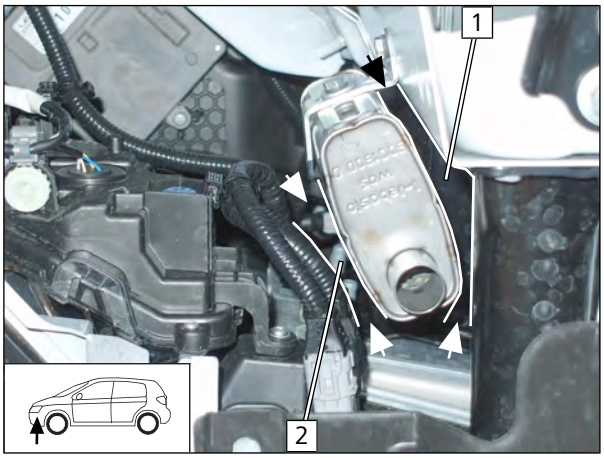
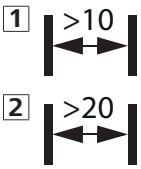



*Fig. 24*

Danger of damage to components

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

Tighten loose screw connections.




## Mounting bracket

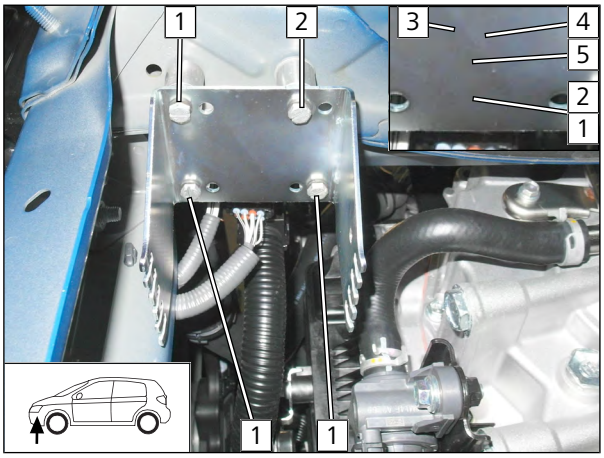



*Fig. 25*

▶ Insert a spacer (20) 4 and a spacer (5) 5 between bracket and vehicle at each position 1 and 2.

▶ Insert also at position 2 a large diameter washer 3.

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

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

# 8.3 Premounting heater

## Mounting water connection piece

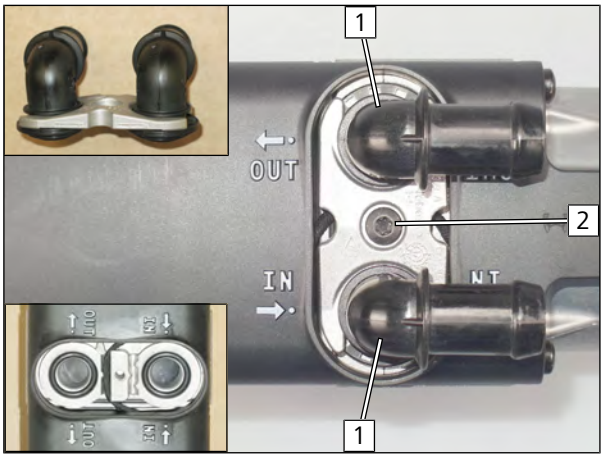



*Fig. 26*

Observe the general installation instructions of the heater.

1 Water connection piece, seal

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

## Premounting bolts

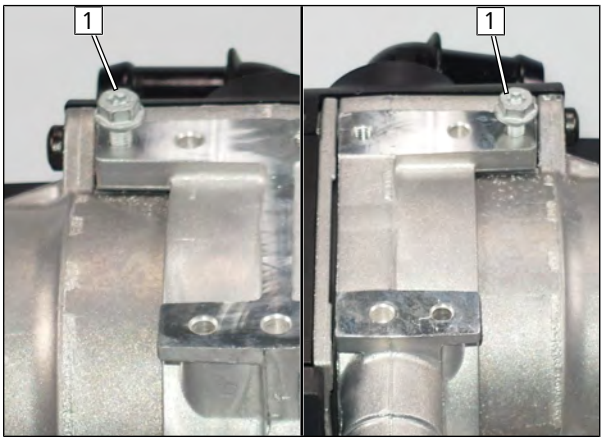



*Fig. 27*

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

## Mounting moulded hose

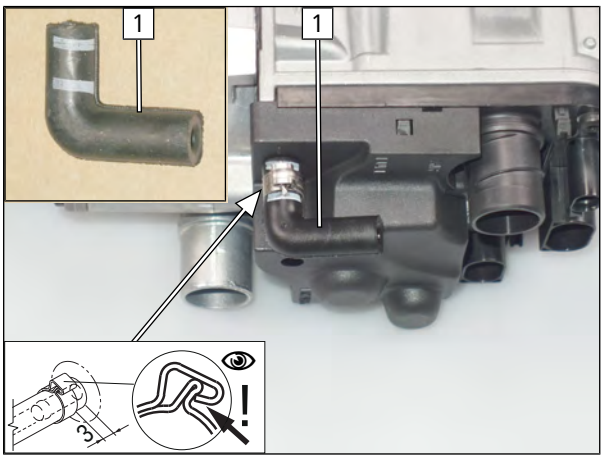



*Fig. 28*

1 90° moulded hose, Ø10 clamp

## Preparing hoses

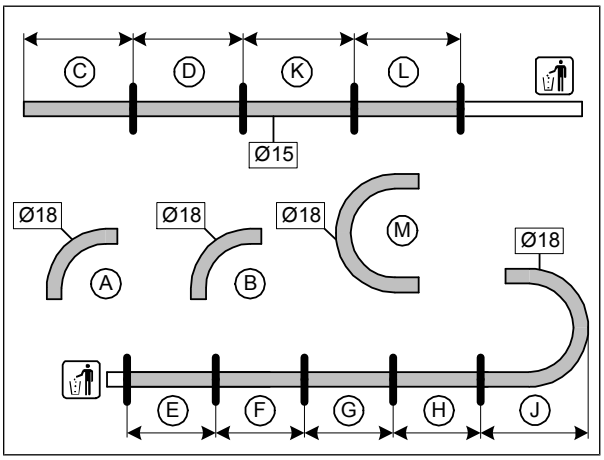



*Fig. 29*

| | | | |
|---|---|---|---|
| A | 90° moulded hose | G | 80 |
| B | 90° moulded hose | H | 90 |
| C | 440 | J | 180°, 90 moulded hose |
| D | 480 | K | 500 |
| E | 145 | L | 480 |
| F | 170 | M | 180° moulded hose |

## Mounting hose Ⓗ

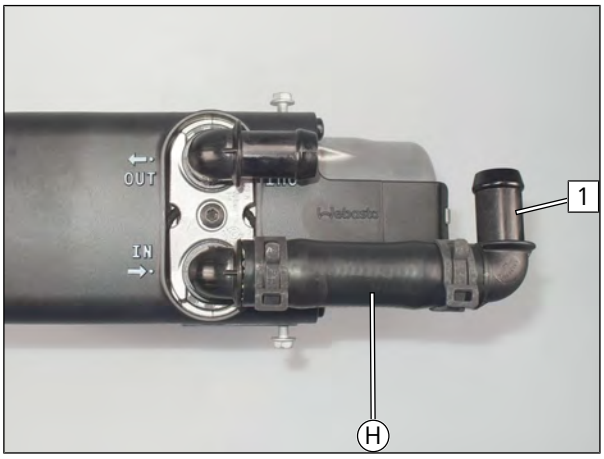



*Fig. 30*

All spring clips Ø25

1 90°, 18x18 connecting pipe

## Mounting hose Ⓙ

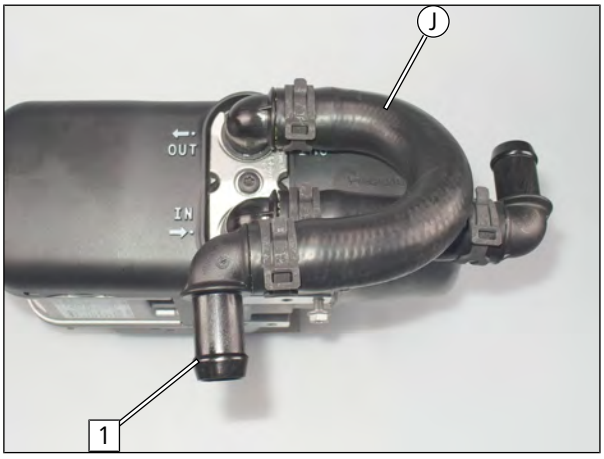



*Fig. 31*

All spring clips Ø25

▶ Hose Ⓙ with short side on connection piece HG/OUT.

1 90°, 18x18 connecting pipe

# 8.4 Heater mounting

## Mounting heater

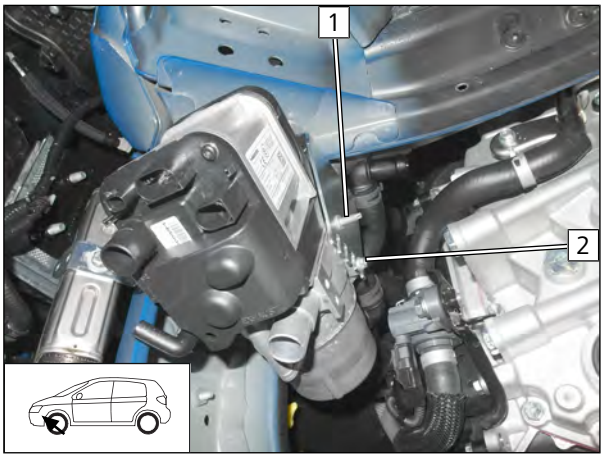



*Fig. 32*

1 M5/M6x15 self-tapping stud bolt, drilled hole in bracket, heater

2 Tighten 5x13 self-tapping bolt

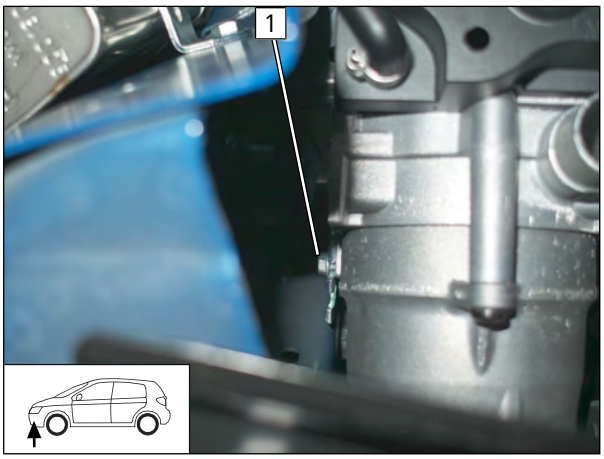



*Fig. 33*

[1] Tighten 5x13 self-tapping bolt

## Installing wiring harness

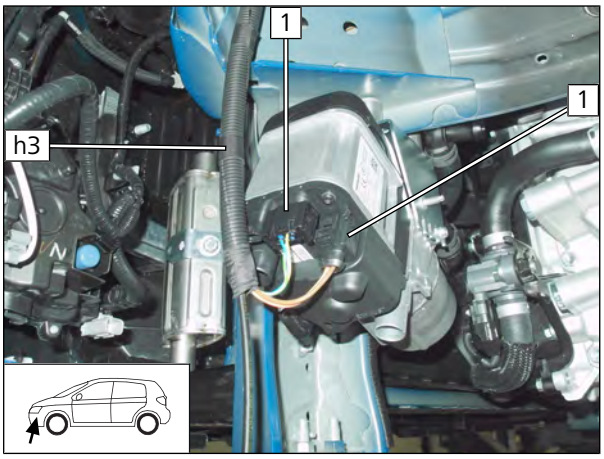



*Fig. 34*

[1] Heater wiring harness connector

## Fastening wiring harness

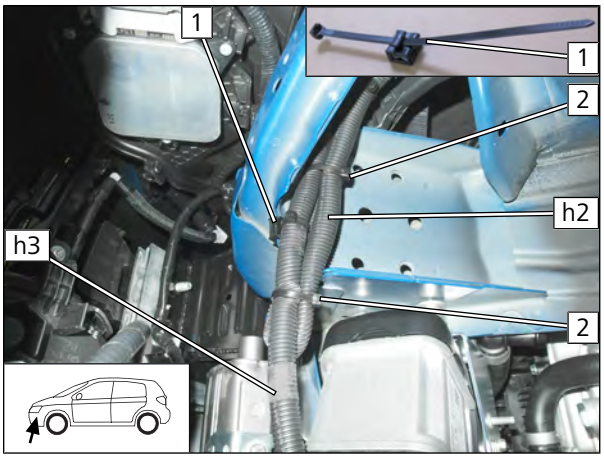



*Fig. 35*

▶ Fasten corrugated tubes **h2** and **h3** as shown.

[1] Edge clip cable tie

[2] Cable tie

# 9 Fuel

**DANGER**

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

The incorrect installation of the fuel extractor can cause damage and fire.

- ▶ Avoid electrostatic discharges and open fire
- ▶ When working on the fuel system, ensure sufficient ventilation and bleeding
- ▶ Open the fuel tank cap of the vehicle
- ▶ Ventilate the fuel tank
- ▶ Re-close the tank lock
- ▶ Catch any fuel running off with an appropriate container

**Danger of damage to components**

- ▶ Install fuel line and fuel pump wiring harness so that they are protected against stone impact.
- ▶ Provide rub protection for fuel line and wiring harness in areas where there are sharp edges.

## 9.1 Routing fuel line

### Connecting heater

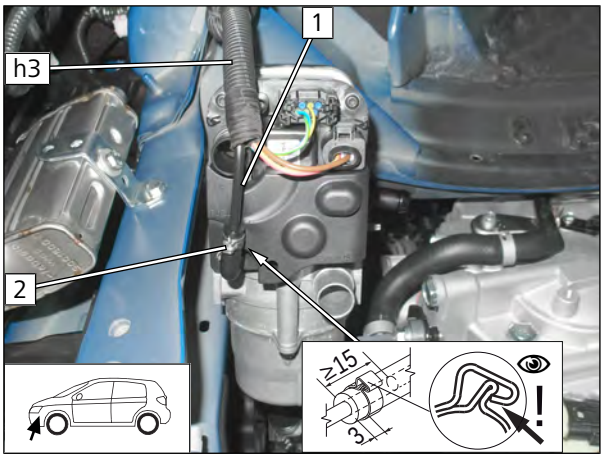



*Fig. 36*

1 Fuel line
2 Ø10 clamp

### Routing fuel line

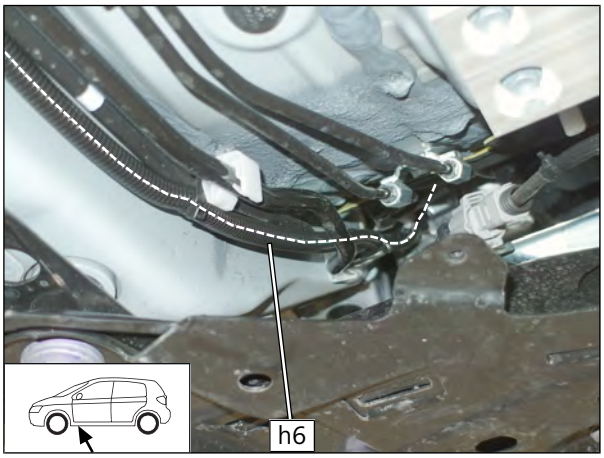



*Fig. 37*

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

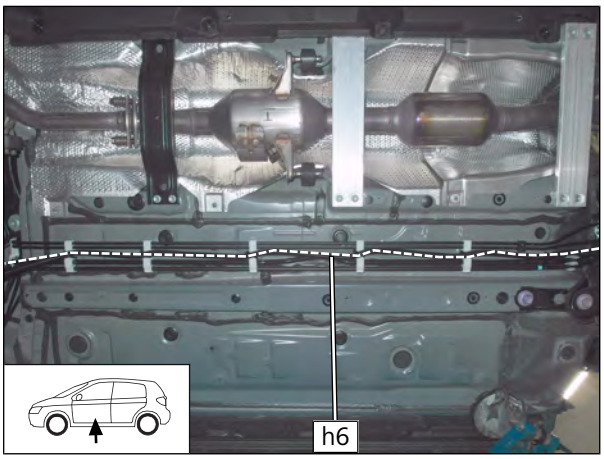



*Fig. 38*

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

## Preparing fuel pump perforated bracket

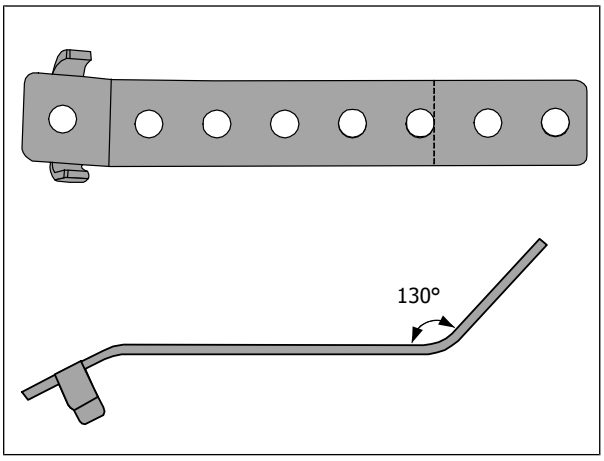



*Fig. 39*

## Premounting fuel pump

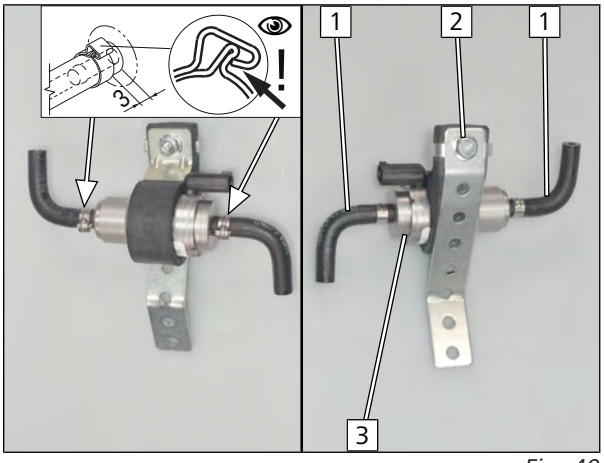



*Fig. 40*

**1** 90° moulded hose, Ø10 clamp

**2** M6x25 bolt, prepared perforated bracket, fuel pump mount, support angle bracket, flanged nut

**3** Fuel pump

## Preparing fuel pump installation location

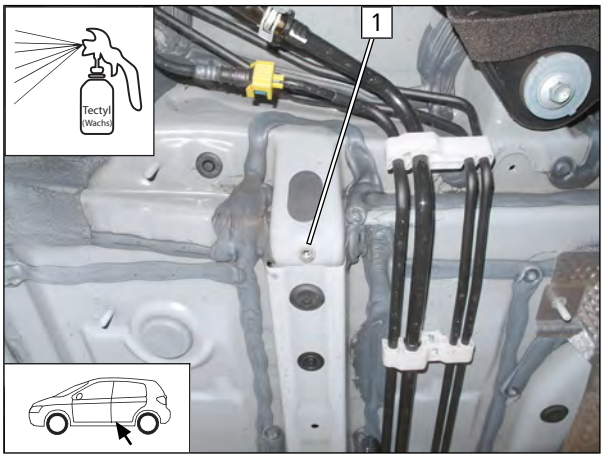



*Fig. 41*

1 Enlarge existing hole to Ø9, insert a rivet nut

## Mounting fuel pump

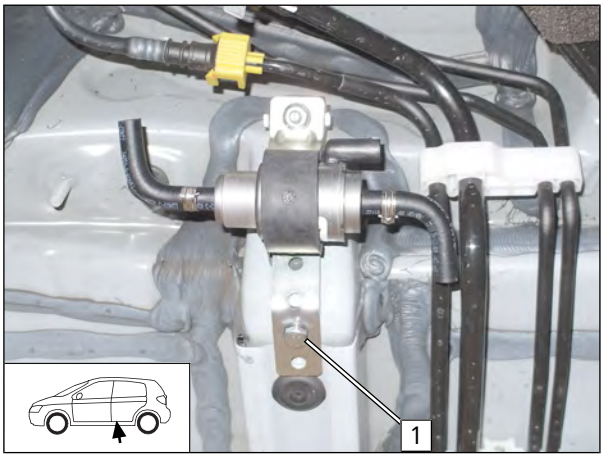



*Fig. 42*

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

## Assembling fuel pump connector X7

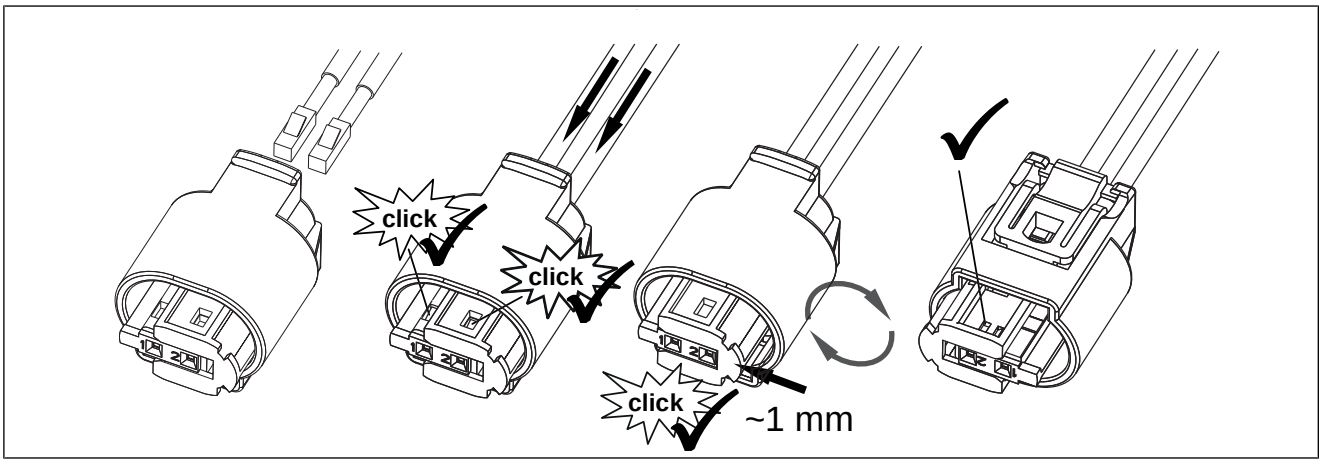



*Fig. 43*

## Fuel pump connection

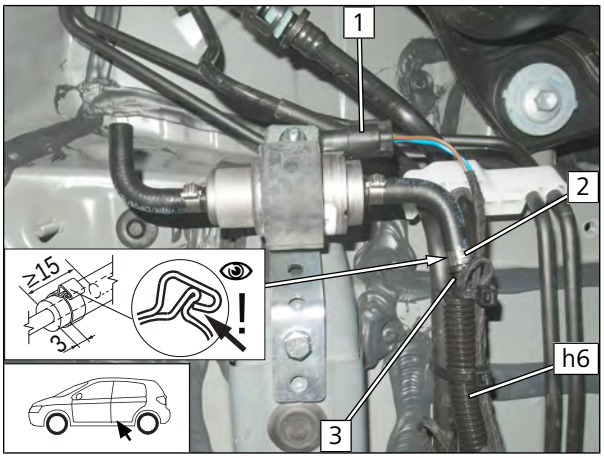



*Fig. 44*

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

## 9.2 Installing fuel extractor

### Preparing spacer sleeve

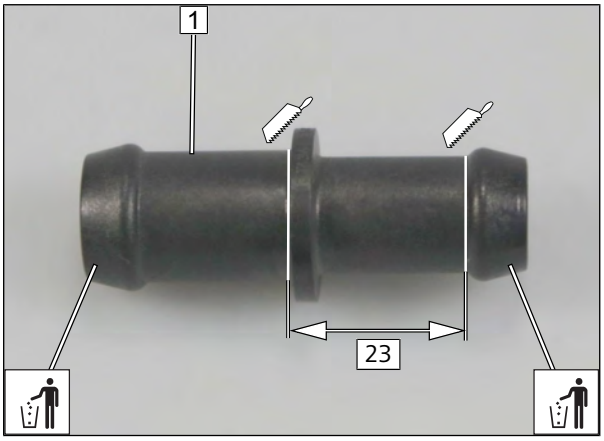



*Fig. 45*

▶ Cut 18x16 connecting pipe 1 as shown.

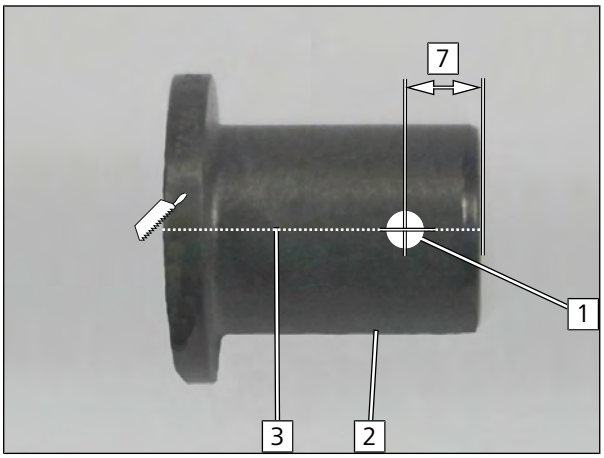



*Fig. 46*

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

## View of spacer sleeve

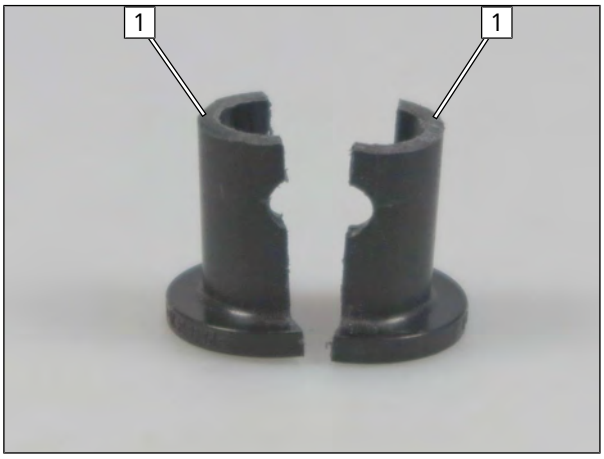



*Fig. 47*

1 Spacer sleeve

## Preparing fuel extractor

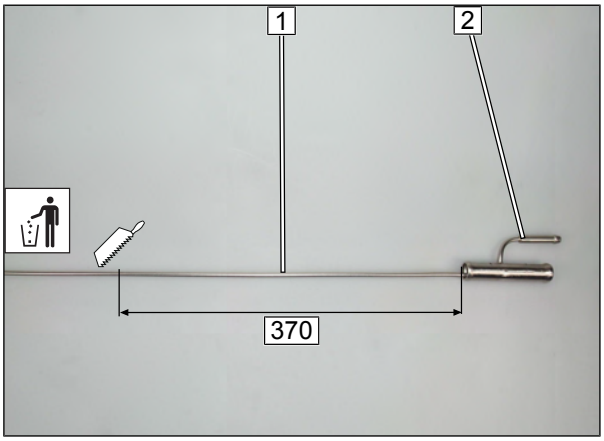



*Fig. 48*

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

## Mounting fuel extractor threading aid

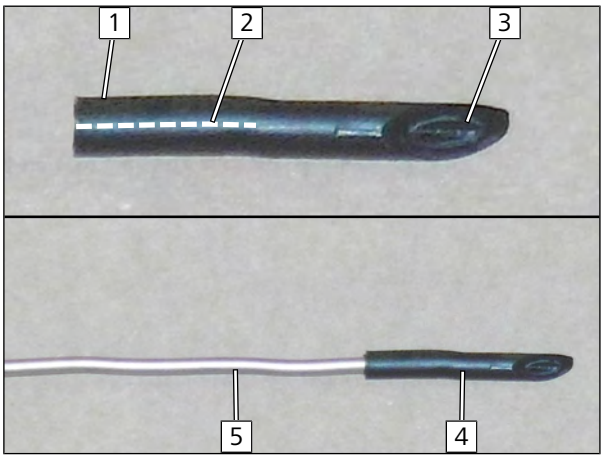



*Fig. 49*

Enlarge 100 long fuel line 1 at position 2 to Ø3 for approx. 30mm and bevel it at position 3.

Mount fuel extractor 5 and fuel line 4 as shown.

## Mounting spacer sleeve

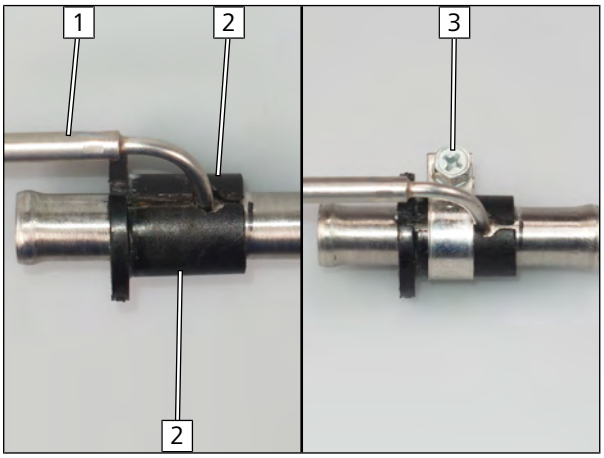



*Fig. 50*

1 Fuel extractor
2 Spacer sleeve
3 Ø15 clamp

## Mounting fuel extractor

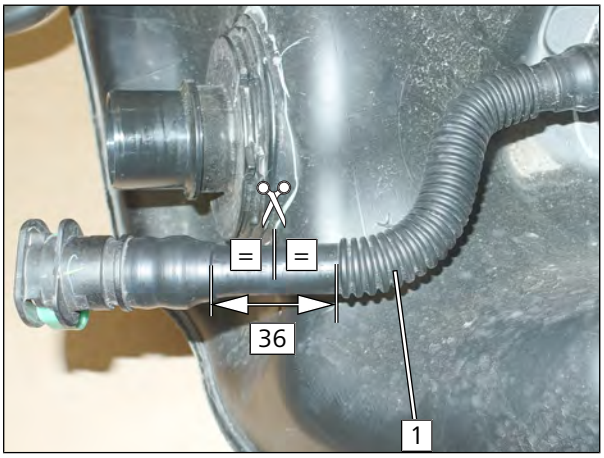



*Fig. 51*

**DANGER**

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

▶ Cut fuel tank vent line 1 as shown.

## Positioning clamp

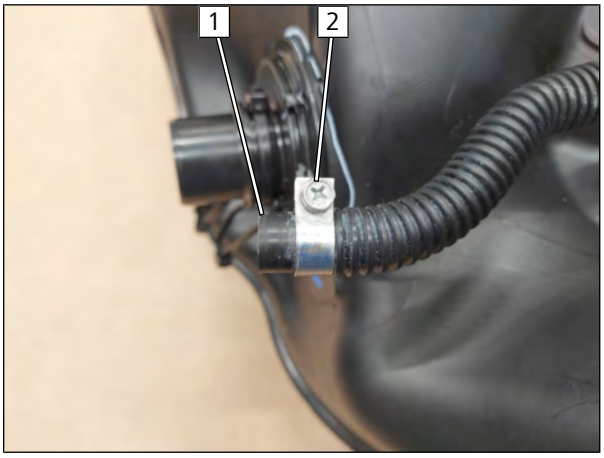



*Fig. 52*

1 Fuel tank ventilation line
2 Ø15 clamp

## Mounting fuel extractor

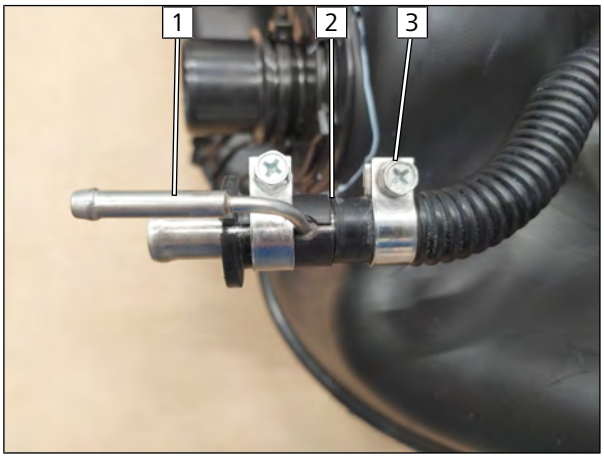



*Fig. 53*

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

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

**3** Ø15 clamp

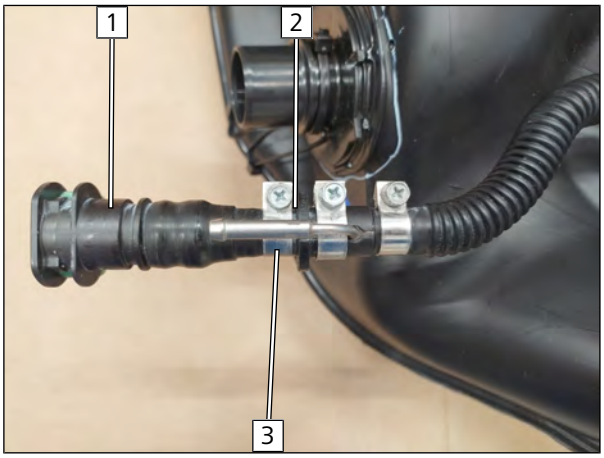



*Fig. 54*

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

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

**3** Ø15 clamp

## Tightening clamps

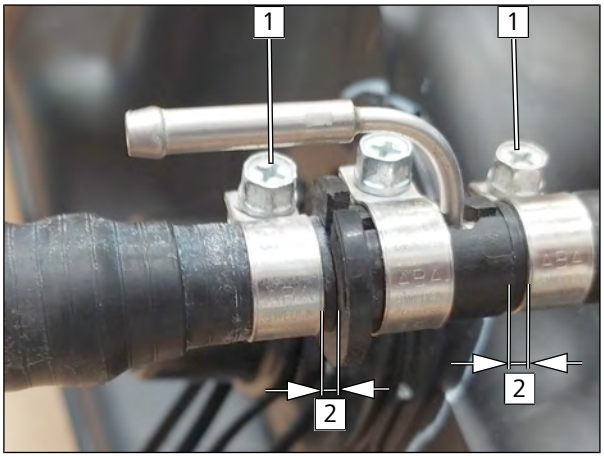



*Fig. 55*

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

## Connecting fuel extractor

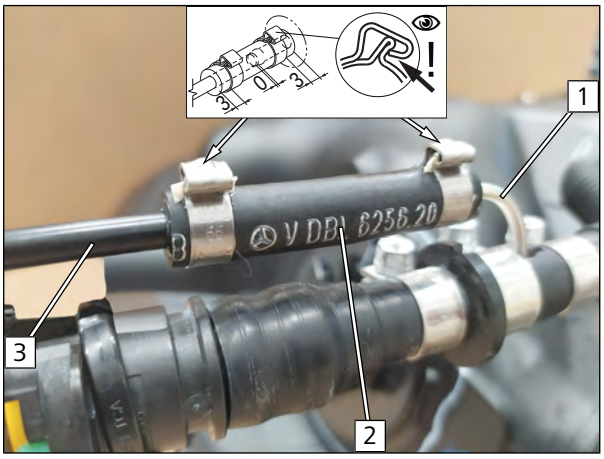



*Fig. 56*

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

## Aligning fuel extractor

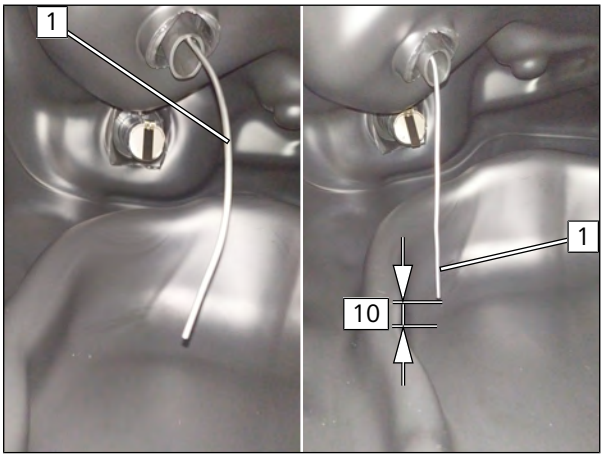



*Fig. 57*

Remove the threading aid.

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

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

# 9.3 Fuel pump connection

## Routing fuel line

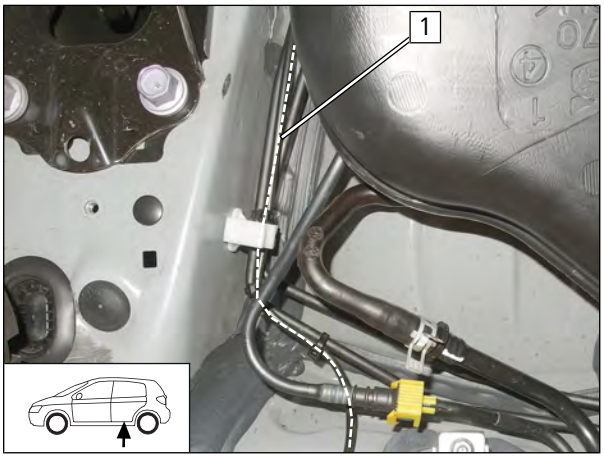



*Fig. 58*

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

## Connecting fuel extractor fuel line

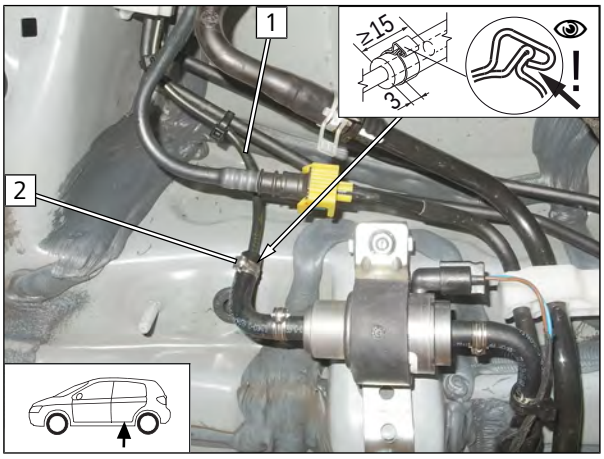



*Fig. 59*

**1** Fuel line of fuel extractor

**2** Ø10 clamp

# 10 Exhaust part 1

## Cutting exhaust pipe to length

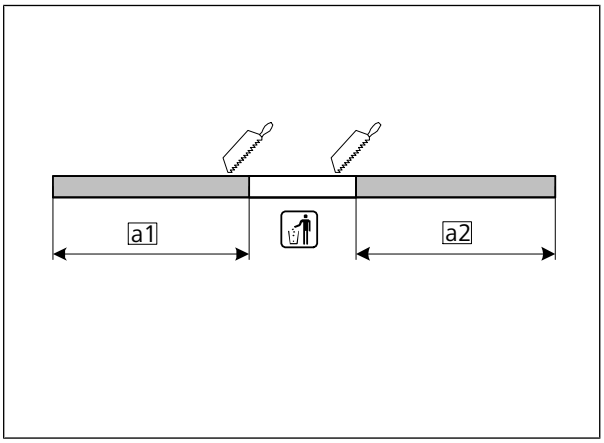



*Fig. 60*

**a1** 340

**a2** 340

## Mounting exhaust pipe **a1**

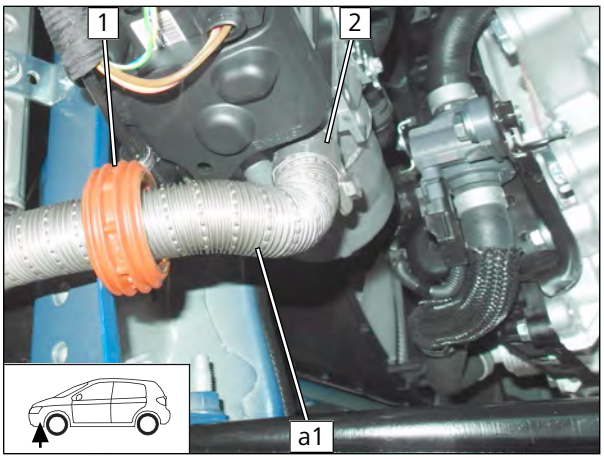



*Fig. 61*

**1** ASH

**2** Hose clamp

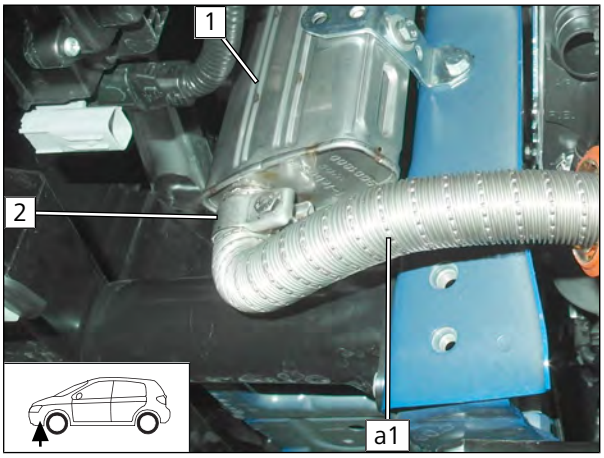



*Fig. 62*

**1** Exhaust silencer

**2** Hose clamp

## Mounting exhaust pipe **a2**

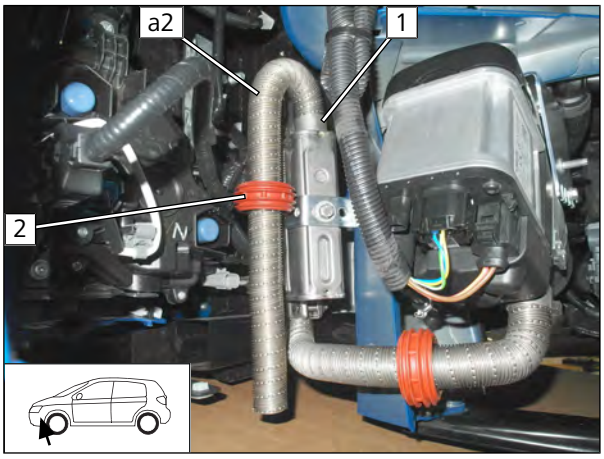



*Fig. 63*

1 Hose clamp
2 ASH

# 11 Combustion air

## Assigning combustion air intake line

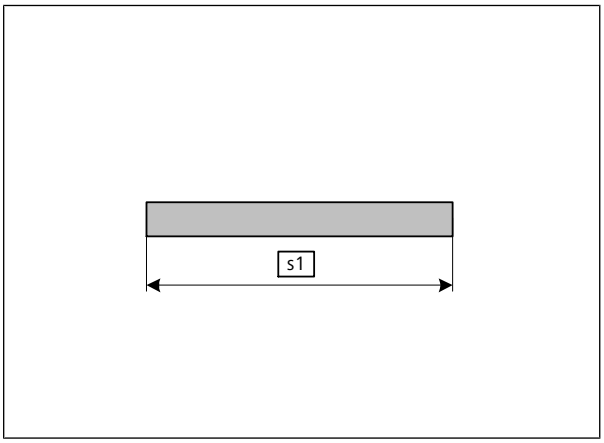



*Fig. 64*

**s1** 400

## Preparing perforated bracket

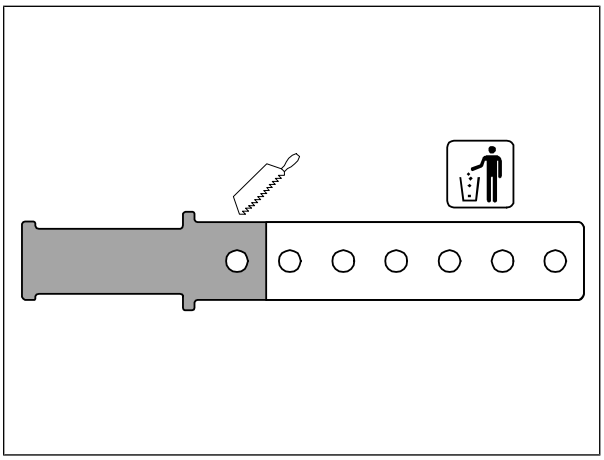


*Fig. 65*

## Premounting combustion air intake silencer

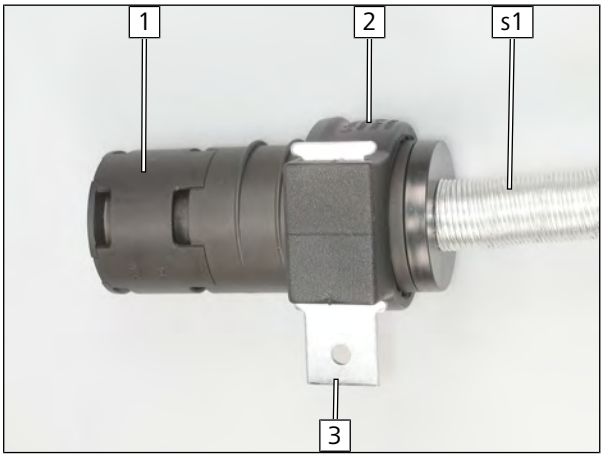



*Fig. 66*

Observe the installation instructions of the combustion air intake silencer.

**1** Combustion air intake silencer
**2** Combustion air intake silencer mount
**3** Prepared perforated bracket

## Mounting combustion air intake pipe **s1**

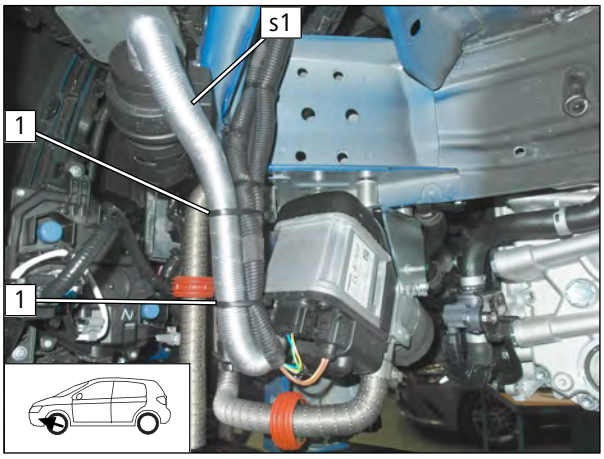



*Fig. 67*

**1** Cable tie

## Mounting combustion air intake silencer

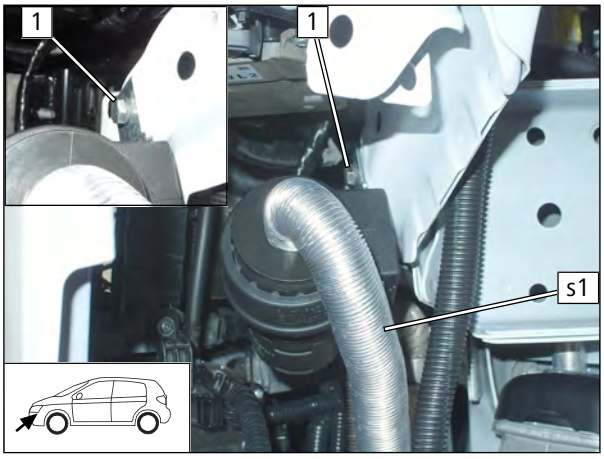



*Fig. 68*

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

# 12 Coolant

## 12.1 Preliminary Work

### Mounting fabric heat shrink tubing

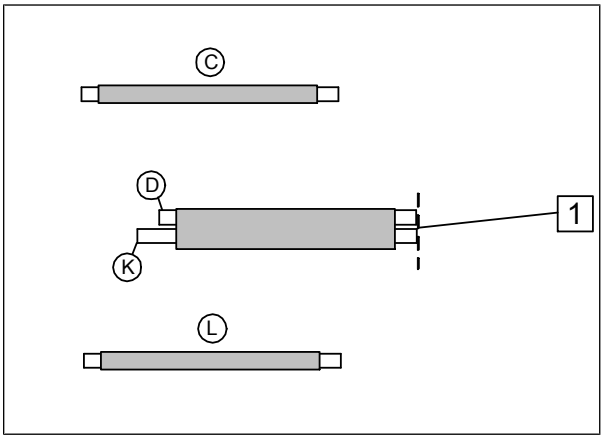



*Fig. 69*

▶ Align hoses **D** and **K** flush at position **1** as shown.

▶ 1. Slide on and cut to length

▶ 2. Shrink, use at most 230 °C

### Preparing perforated bracket

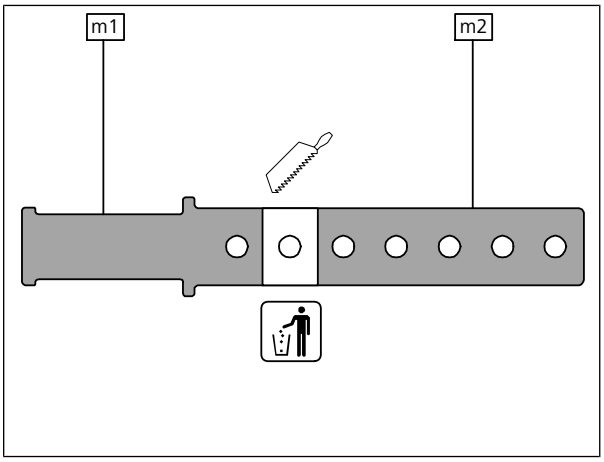



*Fig. 70*

**m1** Perforated bracket for coolant pump

**m2** Perforated bracket for hose routing

### Countersinking hole

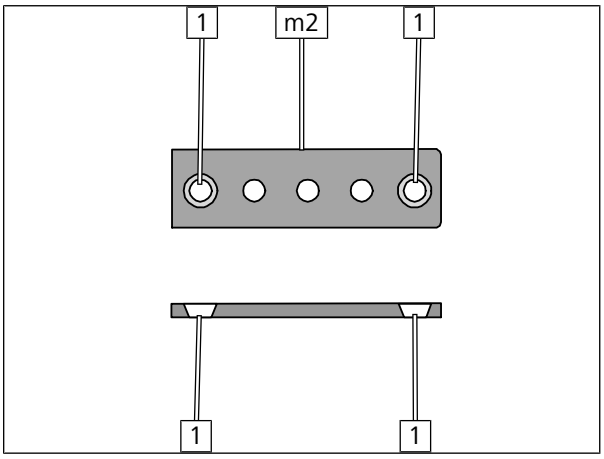



*Fig. 71*

**1** Countersunk hole

## Preparing hoses Ⓓ and Ⓚ

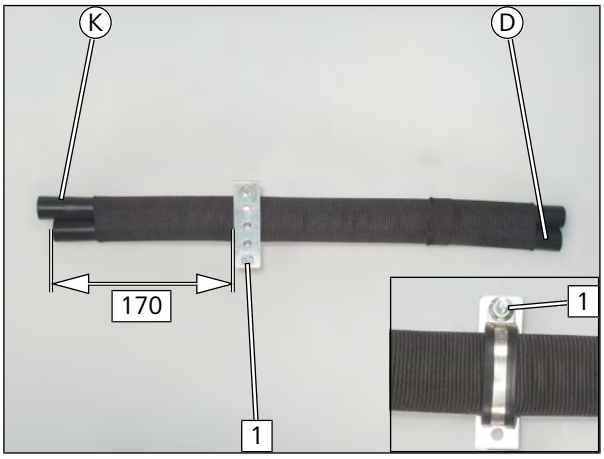



*Fig. 72*

[1] M6x25 countersunk head screw, perforated bracket [m2], Ø38 rubber-coated p-clamp, flanged nut

## Connecting hose Ⓒ to hose Ⓓ and hose Ⓚ to hose Ⓛ

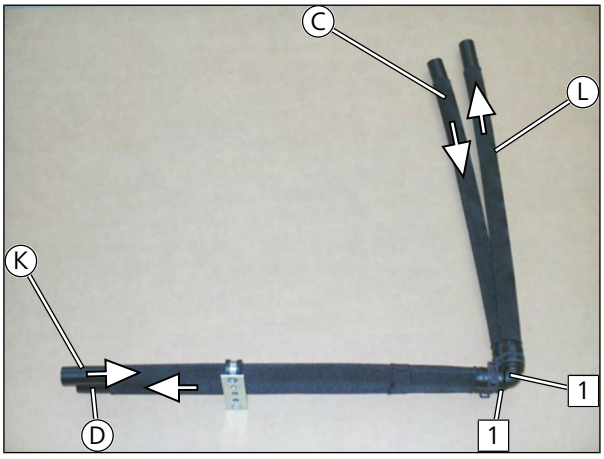



*Fig. 73*

All spring clips Ø25

[1] 90°, 18x18 connecting pipe

## Premounting coolant pump

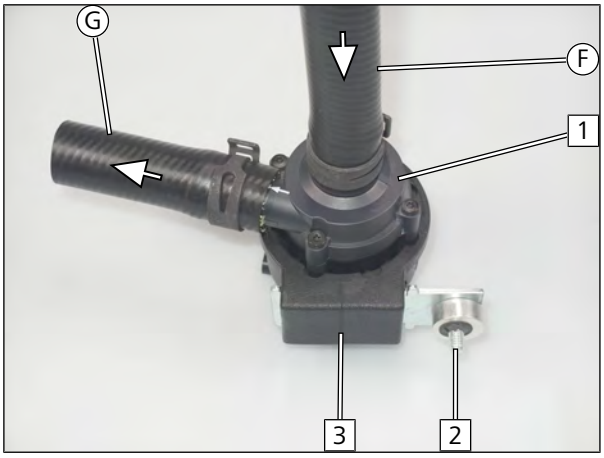



*Fig. 74*

All spring clips Ø25

[1] Coolant pump

[2] M6x20 bolt, perforated bracket [m1], spacer (8), lock washer

[3] Coolant pump mount

## Mounting coolant pump

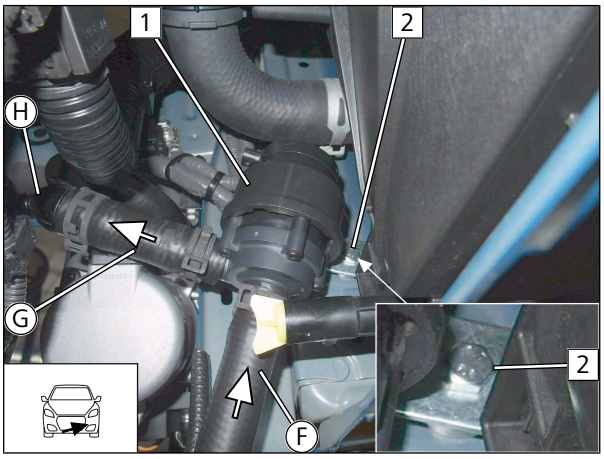



*Fig. 75*

All spring clips Ø25

▶ Mount coolant pump 1 and connect hoses G and H at the same time.

2 Prepared bolt, original vehicle hole, flanged nut

## Mounting coolant pump wiring harness

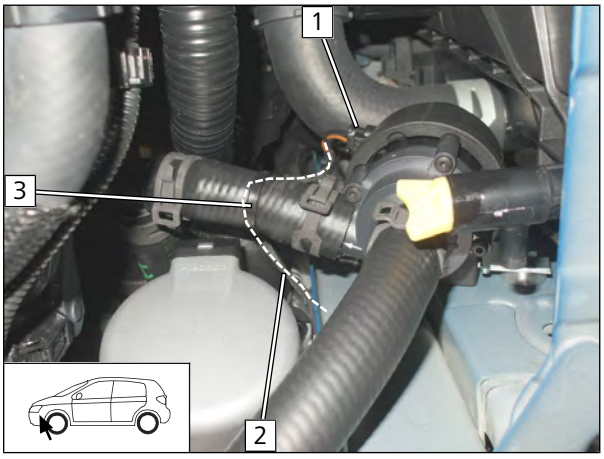



*Fig. 76*

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

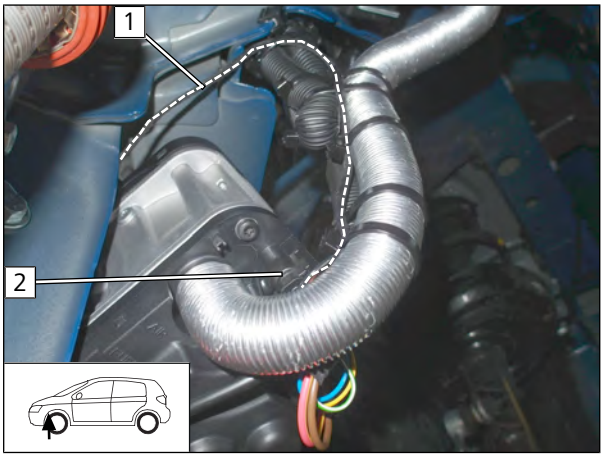



*Fig. 77*

▶ Fasten coolant pump wiring harness 1 with cable ties as shown.

2 Coolant pump wiring harness connector

## Drilling hole

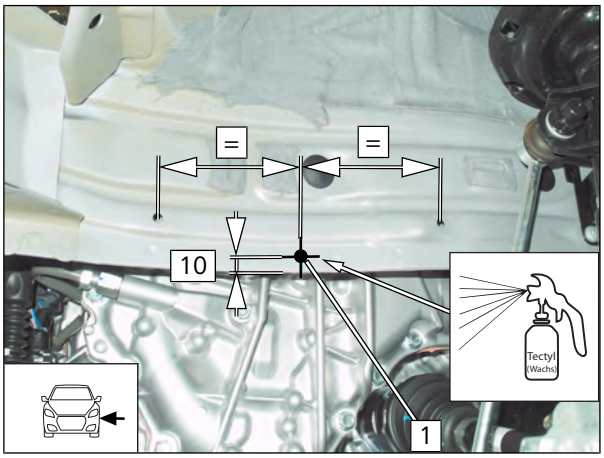



*Fig. 78*

[1] Ø7 hole

## Premounting bolts

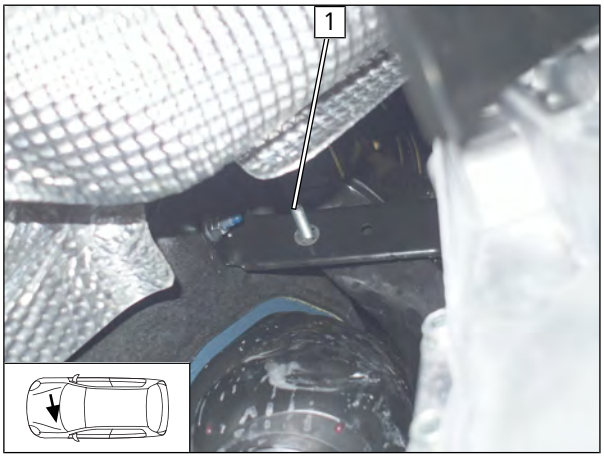



*Fig. 79*

[1] M6x25 bolt with serrated flange, original vehicle hole, lock washer

## 12.2 Hose routing diagram

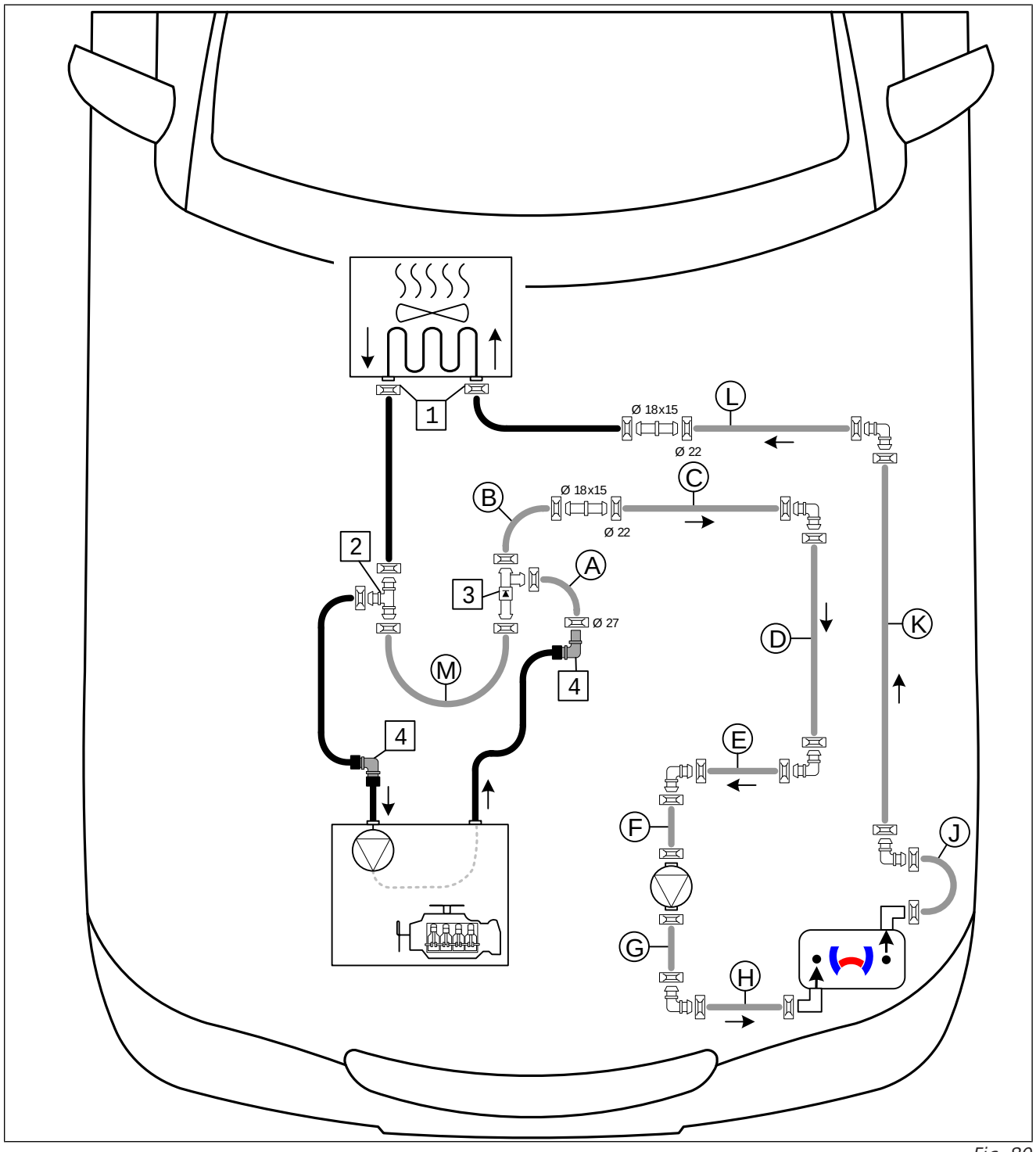



*Fig. 80*

All spring clips without a specific designation = Ø25;

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

[1] Original vehicle spring clip, [2] T-piece, [3] Non-return valve, [4] Original vehicle, 90° coupling piece

## 12.3 Coolant circuit installation

### Connecting hoses Ⓔ and Ⓕ

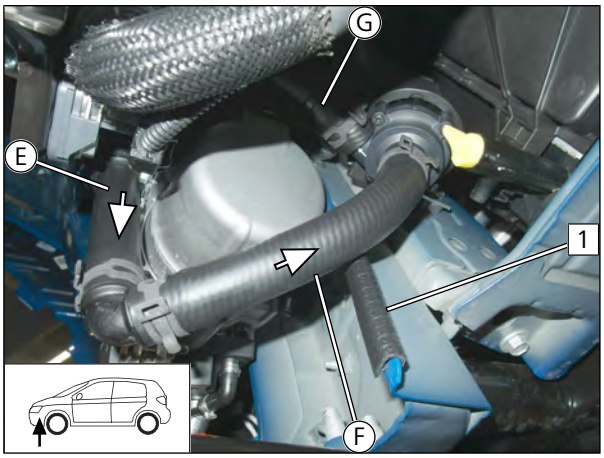



*Fig. 81*

1 100 long edge protection

### Cutting point

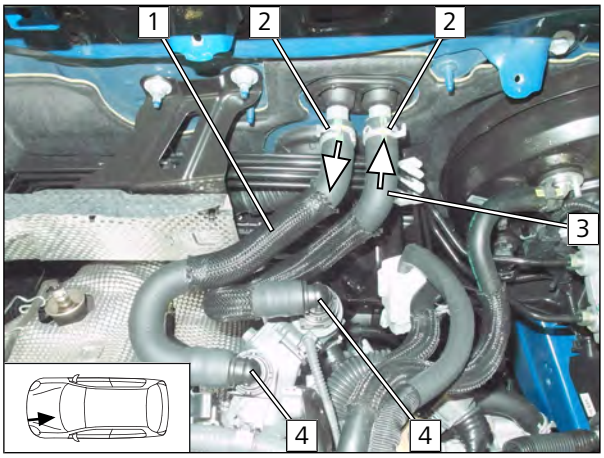



*Fig. 82*

- ▶ Remove heat exchanger outlet / engine inlet hose 1.
- ▶ Disconnect engine outlet / heat exchanger inlet hose 3.
- ▶ Original vehicle spring clip 2 will be needed later.

4 Original vehicle 90° coupling piece

### Cutting heat exchanger outlet / engine inlet hose

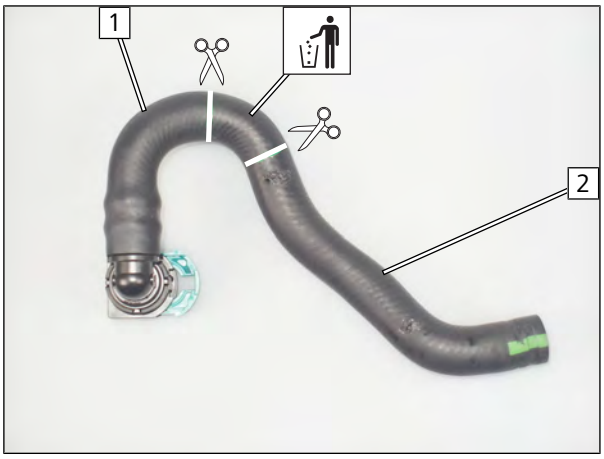



*Fig. 83*

1 Engine inlet hose section

2 Heat exchanger outlet hose section

## Premounting T-piece

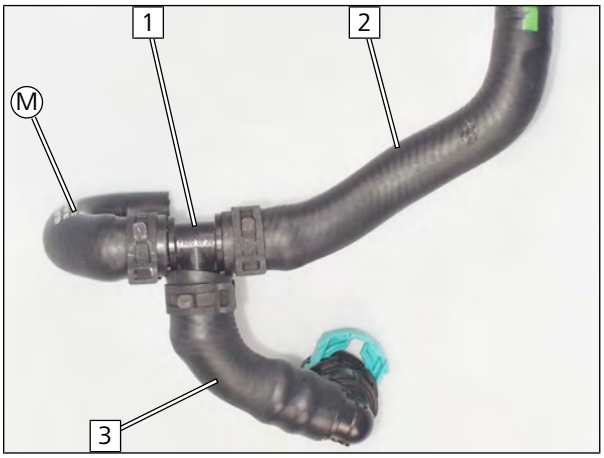



*Fig. 84*

1 T piece
2 Heat exchanger outlet hose section
3 Engine inlet hose section

## Mounting T-piece hose group

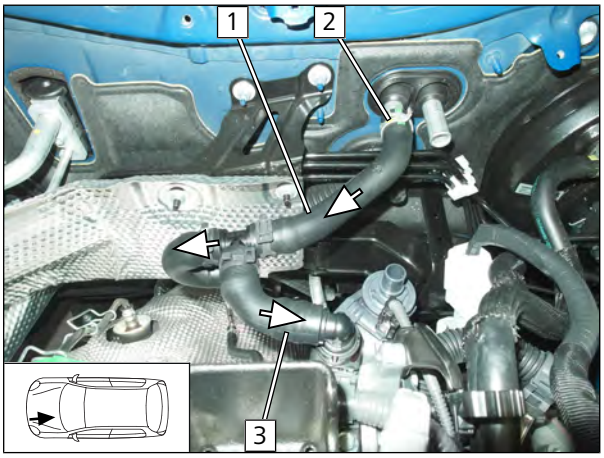



*Fig. 85*

1 Heat exchanger outlet hose section
2 Original vehicle spring clip
3 Engine inlet hose section

## Cutting hose of engine outlet / heat exchanger inlet

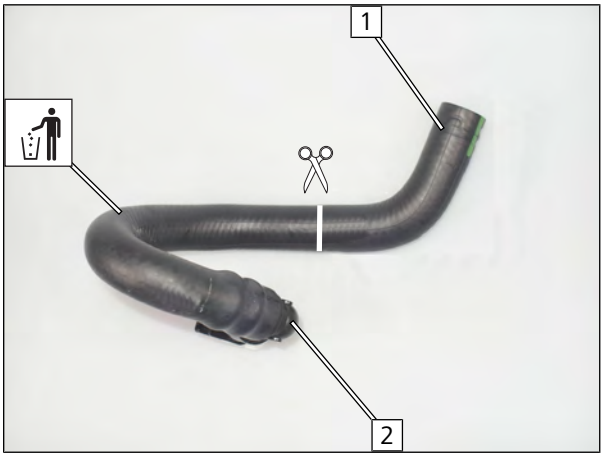



*Fig. 86*

1 Heat exchanger inlet hose section
2 Coupling piece will be reused

## Premounting non-return valve

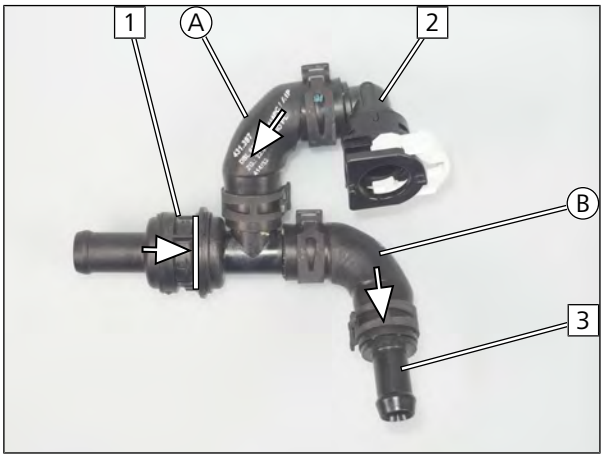



*Fig. 87*

**1** Non-return valve
**2** Original vehicle 90° coupling piece of engine outlet
**3** 18x15 connecting pipe

## Mounting non-return valve hose group

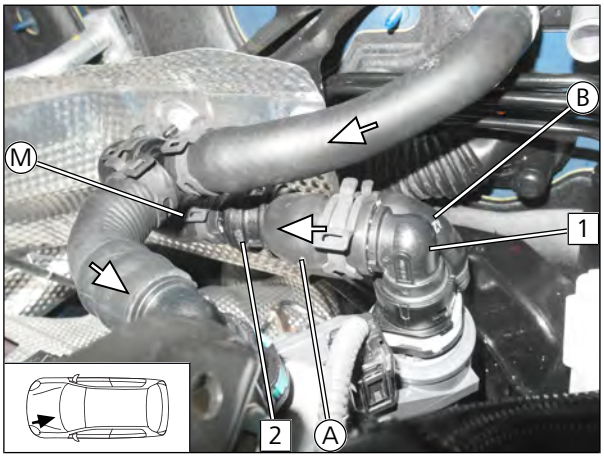



*Fig. 88*

**1** Original vehicle 90° coupling piece of engine outlet
**2** Non-return valve

## Mounting hose of heat exchanger inlet and connecting pipe

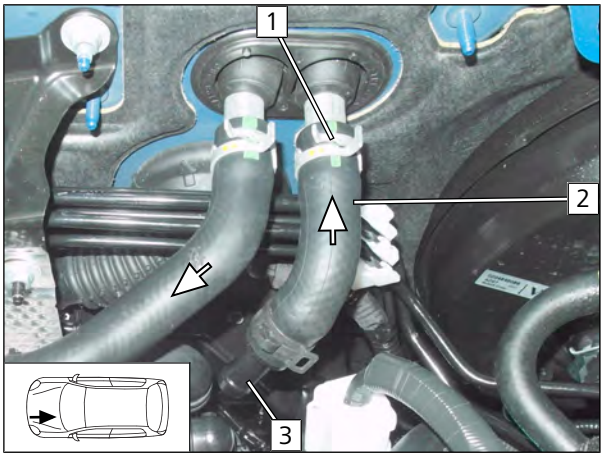



*Fig. 89*

**1** Original vehicle spring clip
**2** Heat exchanger inlet hose section
**3** Ø18x15 connecting pipe

## Inserting hoses

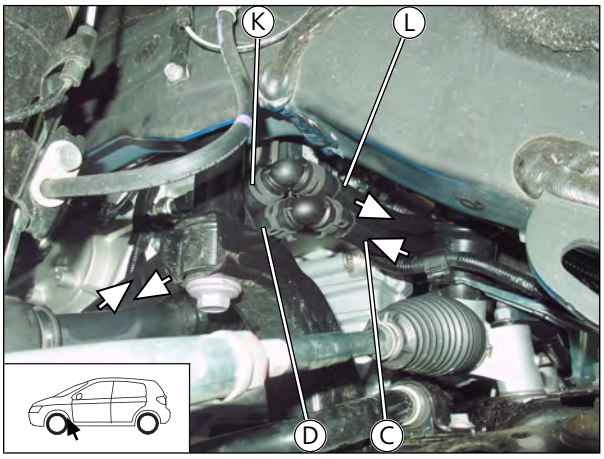



*Fig. 90*

## Connecting hose Ⓓ to hose Ⓔ and hose Ⓙ to hose Ⓚ

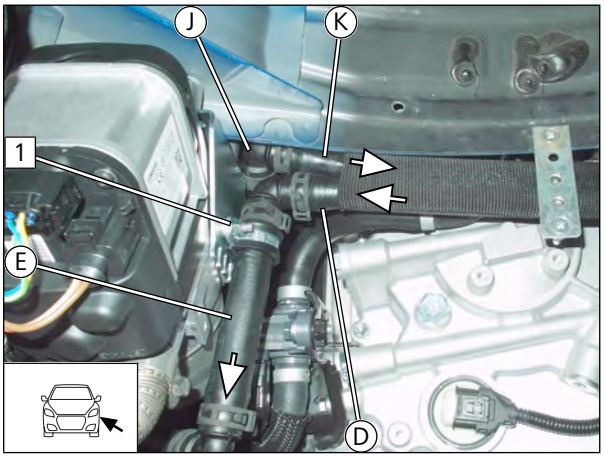



*Fig. 91*

1 Premounted stud bolt, Ø25 rubber-coated p-clamp, flanged nut

## Fastening hoses

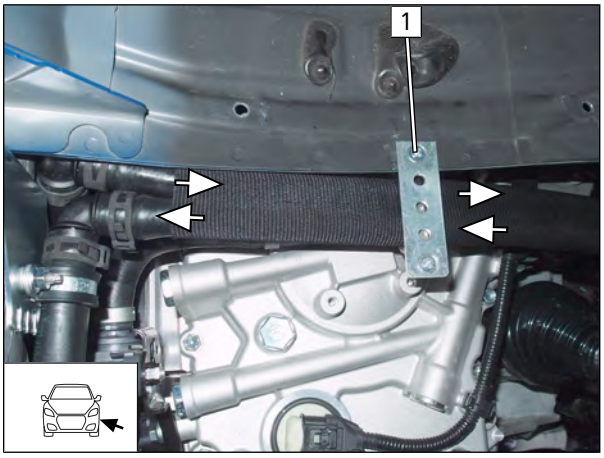



*Fig. 92*

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

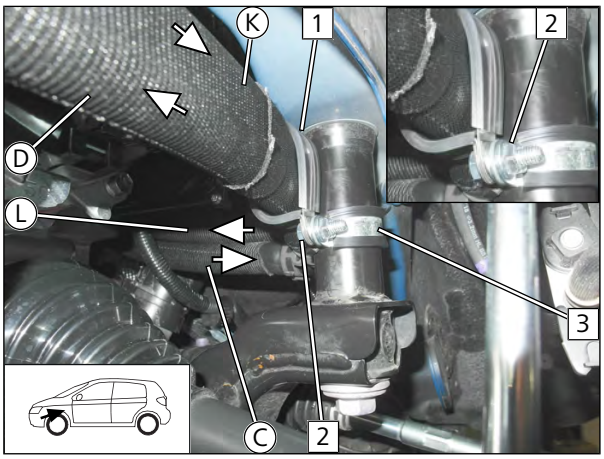



*Fig. 93*

1 Ø38 rubber-coated p-clamp

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

3 Ø34 rubber-coated p-clamp

## Checking distance

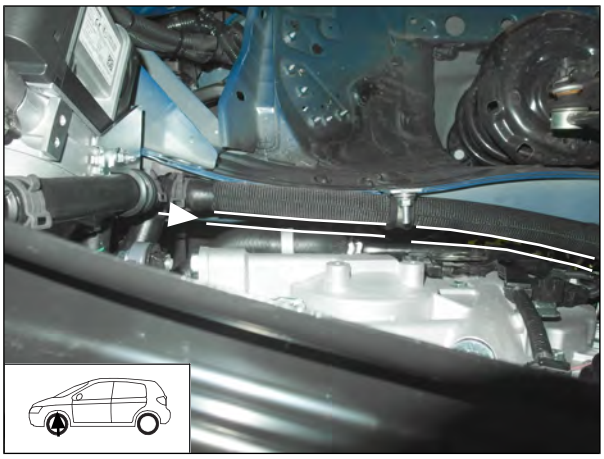


*Fig. 94*

Ensure sufficient distance from neighbouring components, correct if necessary.

>10

▶ Tighten screw connection.

## Connecting hoses Ⓑ and Ⓒ

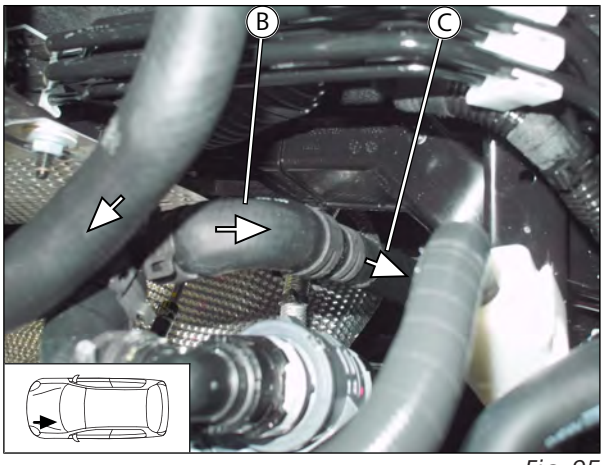



*Fig. 95*

## Connecting heat exchanger inlet hose and hose Ⓛ

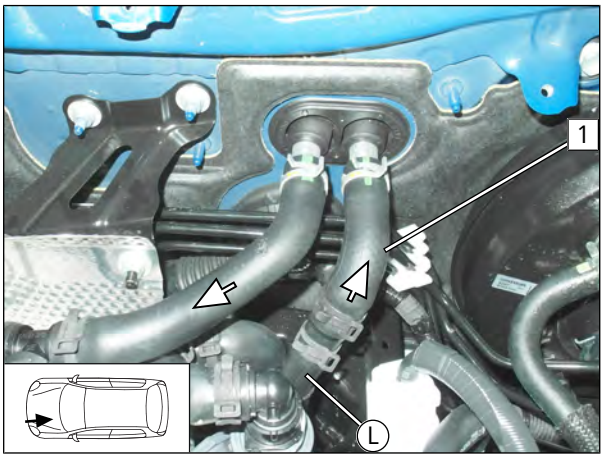



*Fig. 96*

**1** Heat exchanger inlet hose section

## Fastening hoses

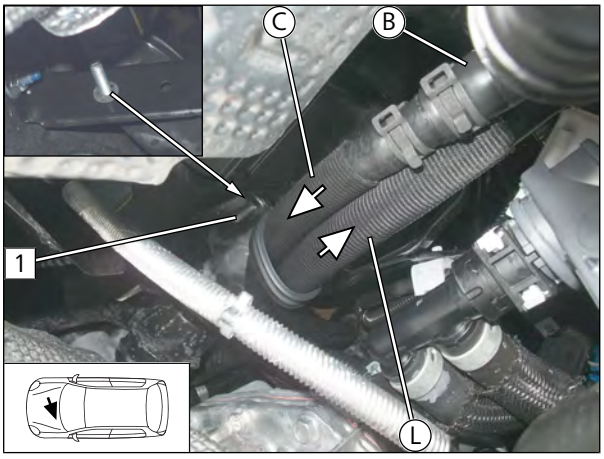



*Fig. 97*

Danger of damage to components

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

**1** Premounted bolt, Ø38 rubber-coated p-clamp, flanged nut

# 13 Exhaust part 2

## 13.1 Mounting exhaust end fastener

### Work step E1

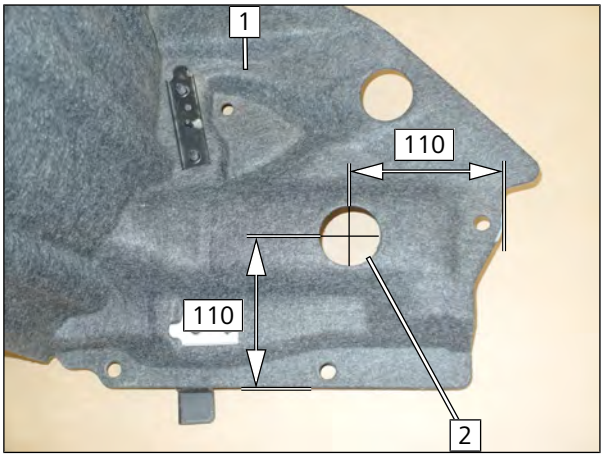



*Fig. 98*

Observe the EFIX installation instructions.

1 Wheel well trim
2 Hole

### Work step E3

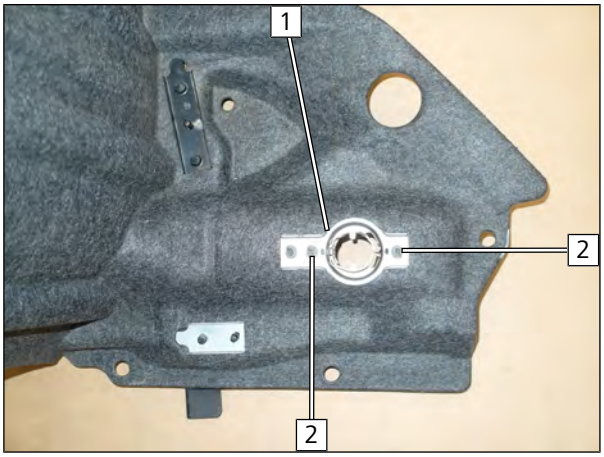



*Fig. 99*

1 EFIX
2 Copy hole pattern

### Work step E4

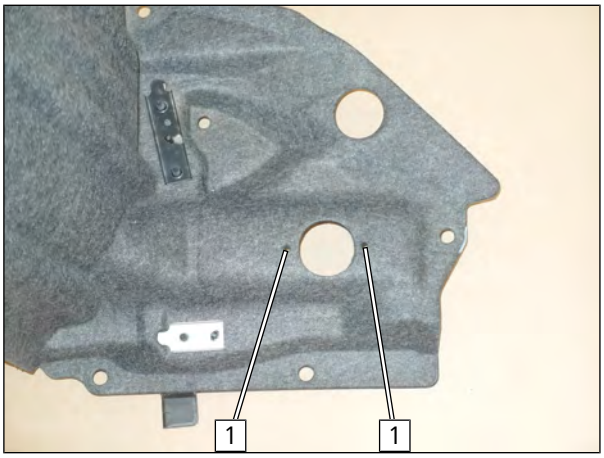



*Fig. 100*

1 Hole

## Work step E5

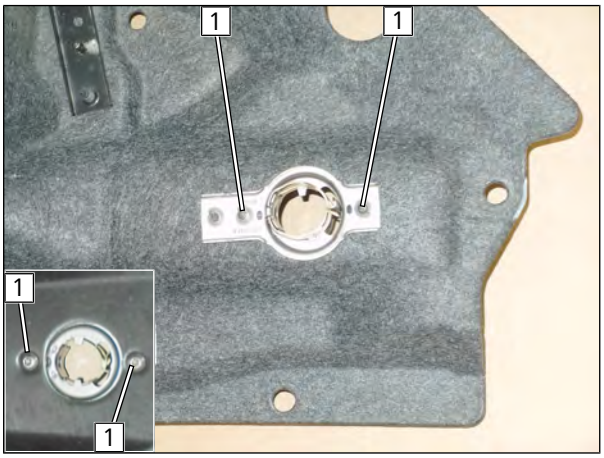



*Fig. 101*

1 5x13 self-tapping screw, large diameter washer

▶ Install wheel well trim.

## Work steps E6-E8

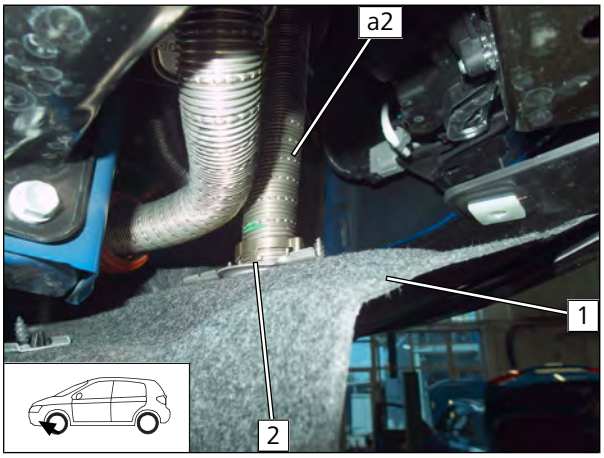



*Fig. 102*

1 Wheel well trim

2 EFIX

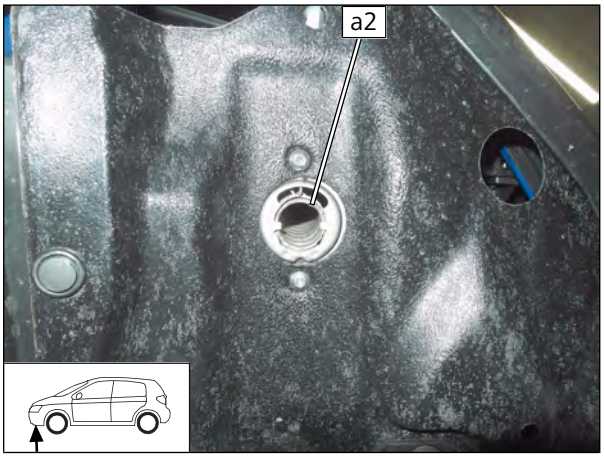



*Fig. 103*

# 14 Final work in engine compartment

## Adapting side wheel well trim

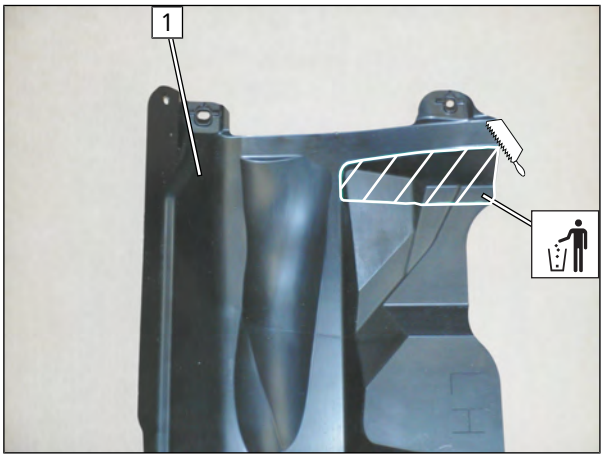



*Fig. 104*

▶ Cut side wheel well trim 1 as shown.

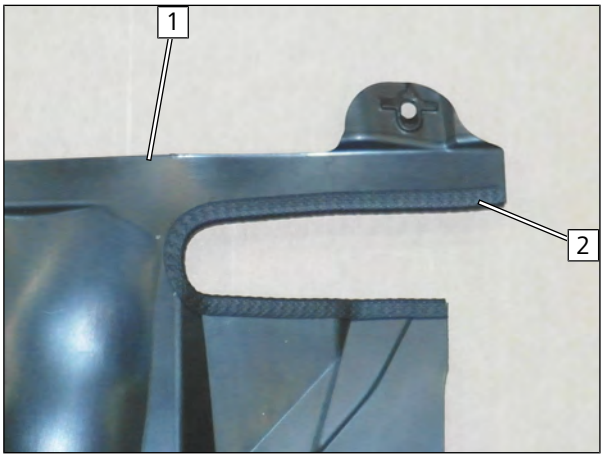



*Fig. 105*

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

## Mounting side wheel well trim

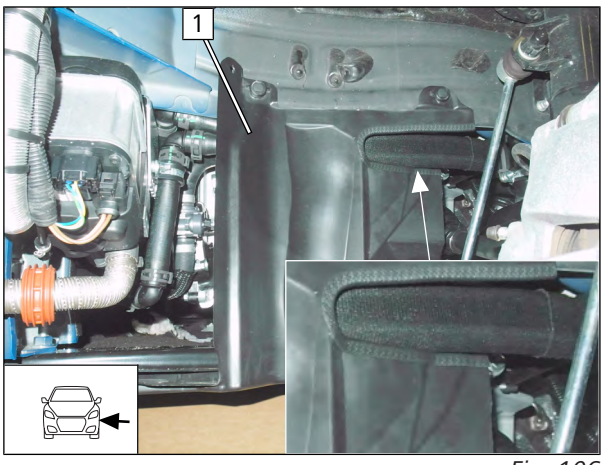



*Fig. 106*

▶ Mount side wheel well trim 1 as shown.

## Checking distance

*Fig. 107*

Ensure sufficient distance from neighbouring components, correct if necessary.

>10

# 15 Electrical system of passenger compartment

## 15.1 Air-conditioning control

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

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

# 16 Electrical system of control elements

## 16.1 Remote option (Telestart)

### Preparing receiver bracket

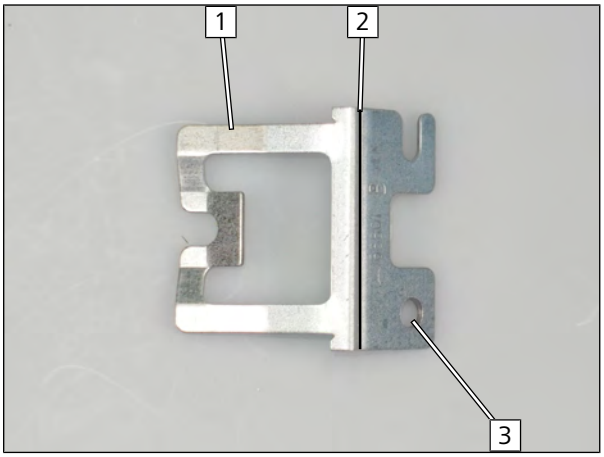



*Fig. 108*

Observe the Telestart installation documentation.

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

3 Drill out hole to Ø7

### Premounting receiver

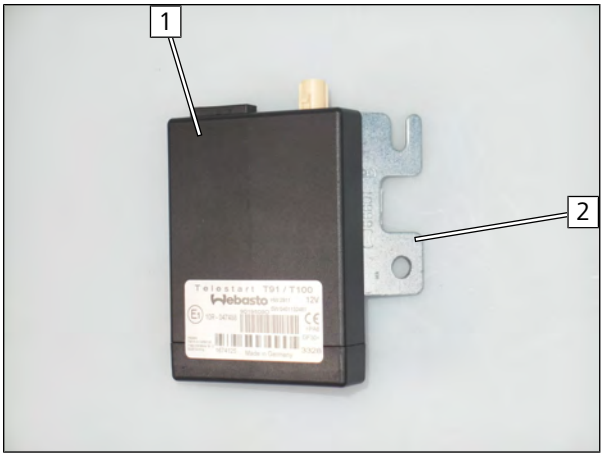



*Fig. 109*

Observe the Telestart installation documentation.

1 Receiver

2 Receiver bracket

### Mounting receiver

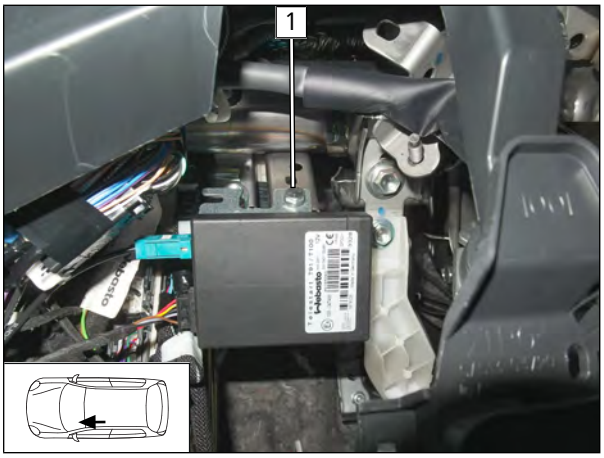



*Fig. 110*

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

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

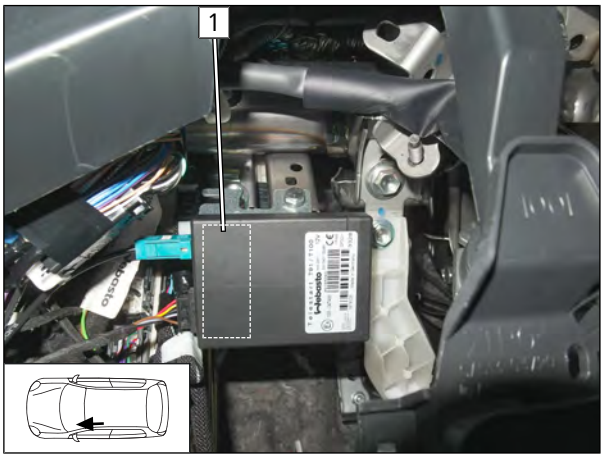



*Fig. 111*

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

## Mounting aerial

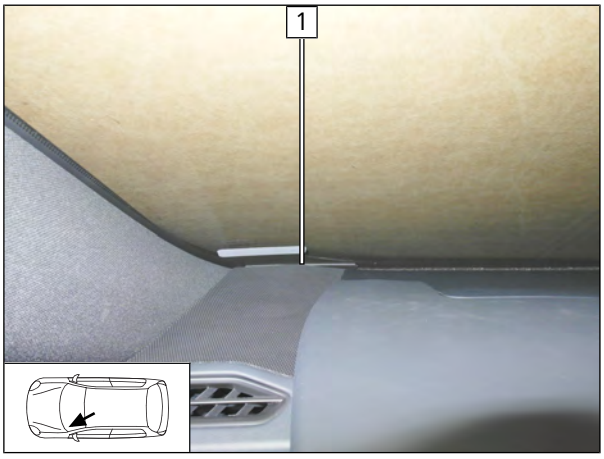



*Fig. 112*

1 Aerial

# 16.2 ThermoCall option

## Preparing perforated bracket

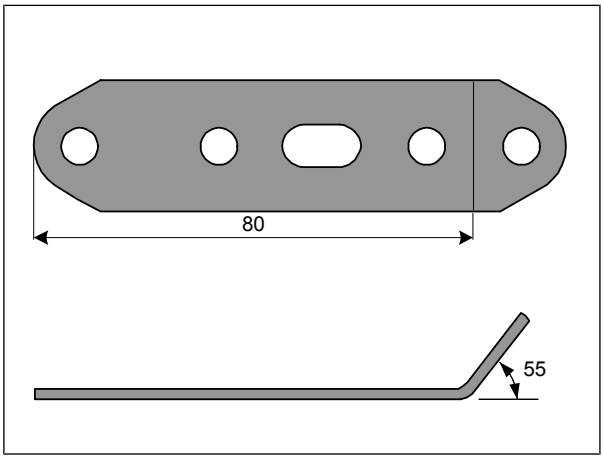



*Fig. 113*

## Premounting ThermoCall

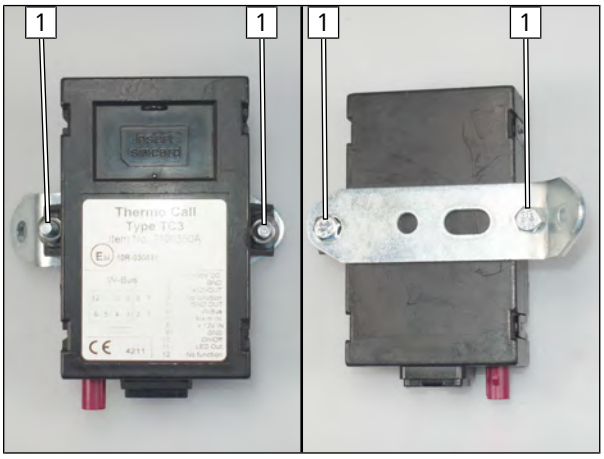



*Fig. 114*

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

## Mounting receiver

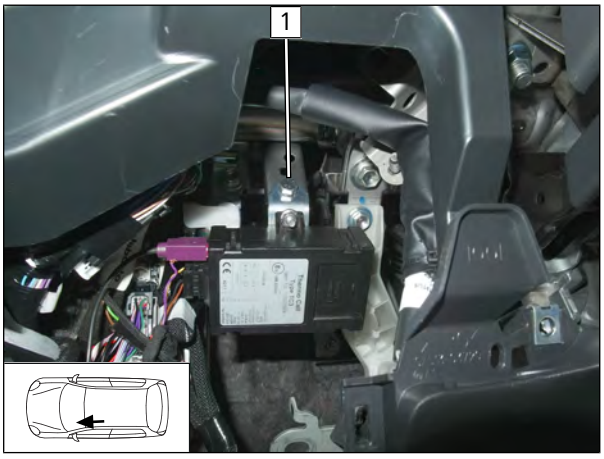



*Fig. 115*

Observe the ThermoCall installation documentation.

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

## Mounting aerial (optional)

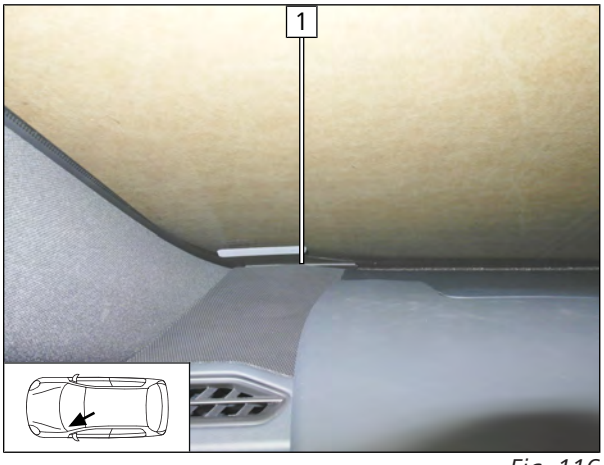



*Fig. 116*

**1** Aerial

# 17 Final Work

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

▶ Reassemble the components in reverse order.

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

▶ Insulate and tie back loose lines.

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

▶ 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, pair Telestart transmitter.

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

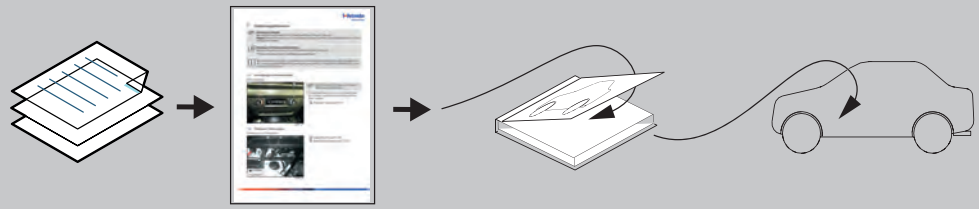
▶ Perform the initial start-up and function check.

▶ 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.



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



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