EN

K

Installation documentation

for water heater Thermo Top Evo

'Inline' coolant circuit with engine preheating

Ford Transit

Left-hand drive vehicle

Manufacturer	Model	Type	Model year	EG-BE-No. / ABE
Ford	Transit	FCD	from 2020	e1* 2007/46* 1100*…
Ford	Transit	FCD	from 2020	e1* 2007/46* 1096*…

Motorisation	Fuel	Emission standard	Transmission type	Output [kW]	Displace-ment [cm³]	Engine code
2.0TDCi	Diesel	Euro6;WLTP;CI;…	6-speed SG	96	1995	BKFB
2.0TDCi	Diesel	Euro6;WLTP;CI;…	6-speed SG	96	1995	BKRA

Validity	Equipment variants	Model
		Transit
Verified equipment variants	Manual air-conditioning	x
	Halogen main headlights	x
	Halogen front fog lights	x
	Xenon main headlights	x
	70 L and 95 L tank	x

Total installation time	Note
8.1 hours	

Contents

1 List of abbreviations

AC	Manual air-conditioning
DP	Fuel pump
HG	Heater
SG	Manual transmission
SH2	Engine compartment fuse holder for F1/F2
UP	Coolant pump
Veh.	Vehicle
X10	Female plug for control element

2 Installation notes

2.1 Information on Validity

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

2.2 Components used

Designation	Order number
Basic delivery scope of Thermo Top Evo	In accordance with price list
Installation kit for Ford Transit diesel	1323197B
Additional 'Webasto Standard' A/C control kit for Ford	1324011_
Additional bag (for veh. with rear-wheel drive)	1328198_
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

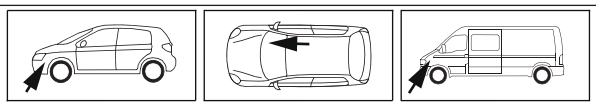
3.4.3 Work step identification marks

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 mm²
– Crimping pliers for cable lugs 0.5 – 10 mm²
– Crimping pliers for male connector 0.14 – 6 mm²
– Crimping pliers for connector 0.25 – 6 mm²
– Torque wrench for 2.0 - 10 Nm
– Deep-hole marker
– Metric thread-setter kit
– Webasto Thermo Test Diagnosis with current software

5 Preparations

5.1 Vehicle preparation

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

Vehicle area	Components to be removed	Other applicable documents
General	▶ Open the fuel tank cap ▶ Ventilate the fuel tank ▶ Close the fuel tank cap again ▶ Depressurise the cooling system	
Engine compartment and body	▶ Disconnect the battery ▶ Air filter box ▶ Intake hose between engine and air filter box ▶ Metal bracket on the right side of the air filter box (rear-wheel drive) ▶ Front engine underride protection (if present) ▶ Wheel-well inner panel on the front passenger's side	
Passenger compartment	▶ Glove box (see removal instructions in the A/C control installation documentation)	

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

DANGER

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

Vehicle body	▶ Tank in accordance with the manufacturer's instructions ▶ Tank fitting in accordance with the manufacturer's instructions	

5.2 Heater preparation

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

6 Installation overview

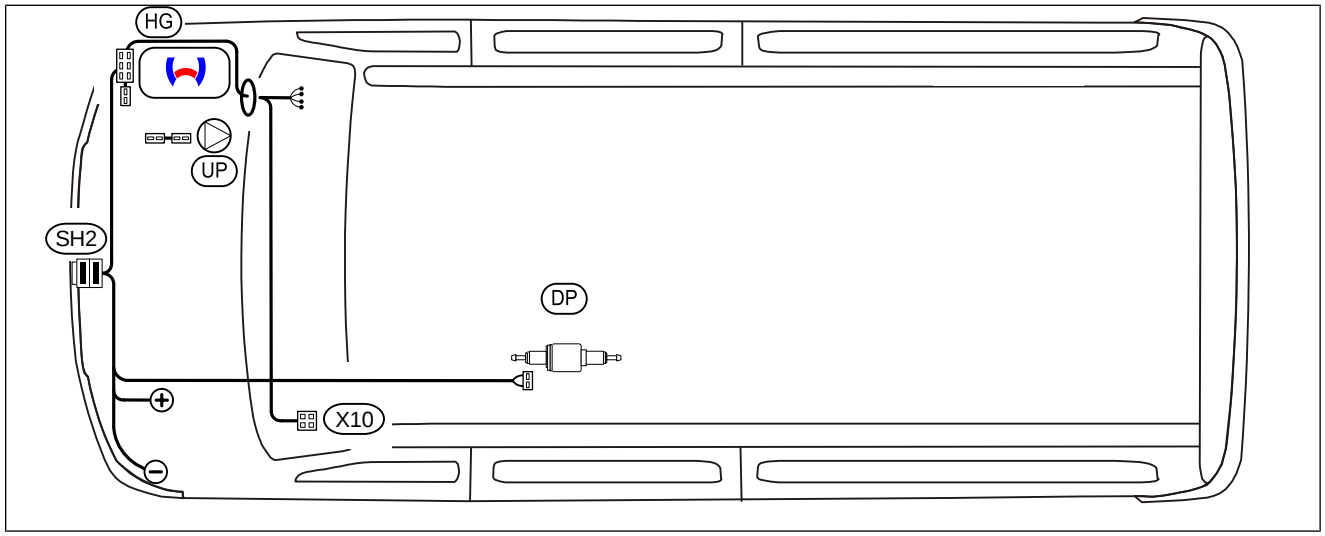


Fig. 1

Legend to installation overview

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

Heater installation location

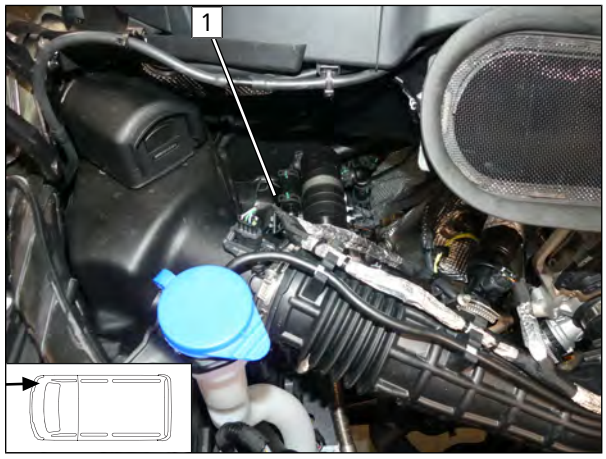


Fig. 2

1 Heater

7 Mechanical system

7.1 Preparing heater bracket

Shortening bracket, premounting bolts

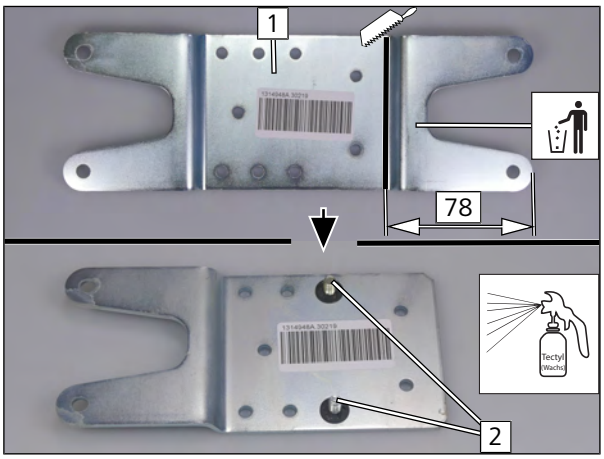


Fig. 3

- ▶ Shorten bracket 1 as shown.
- ▶ Countersink holes at pos. 2 with a drill on the side of the bolt heads to Ø12.

  2 M6x12 countersunk head screw, bracket, lock washer

Preparing perforated bracket A

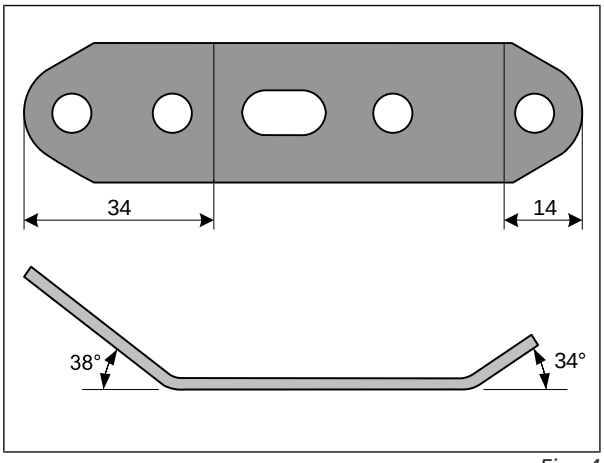


Fig. 4

Preparing perforated bracket B

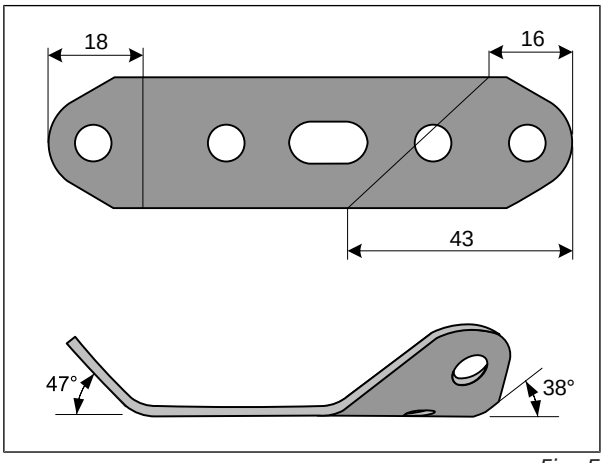


Fig. 5

Premounting HG bracket

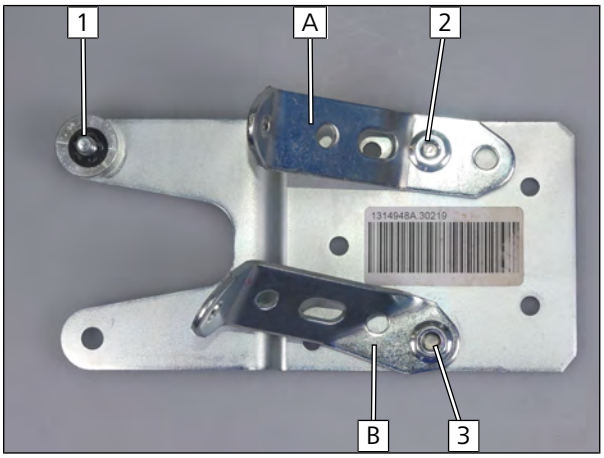


Fig. 6

1 M6x20 bolt, bracket, spacer (8), lock washer

2 Premounted M6x12 bolt, perforated bracket **A**, flanged nut

3 Premounted M6x12 bolt, perforated bracket **B**, flanged nut

7.2 Preparing installation location

Cutting out insulation mat

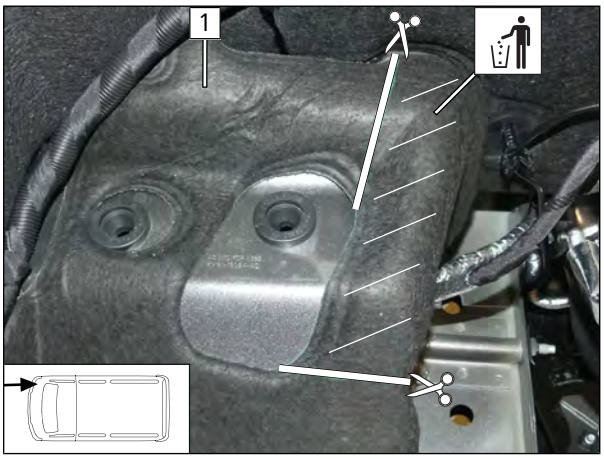


Fig. 7

▶ Cut insulation mat **1** as shown in Fig.

View of HG installation location

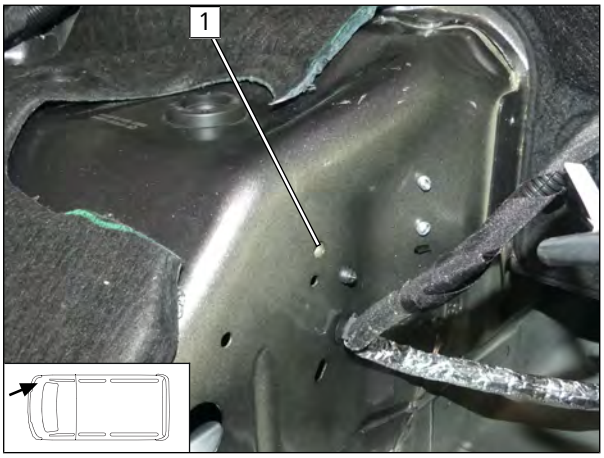


Fig. 8

1 Original vehicle threaded hole (alternatively cut a M6 thread in existing hole)

Copying hole pattern, drilling holes

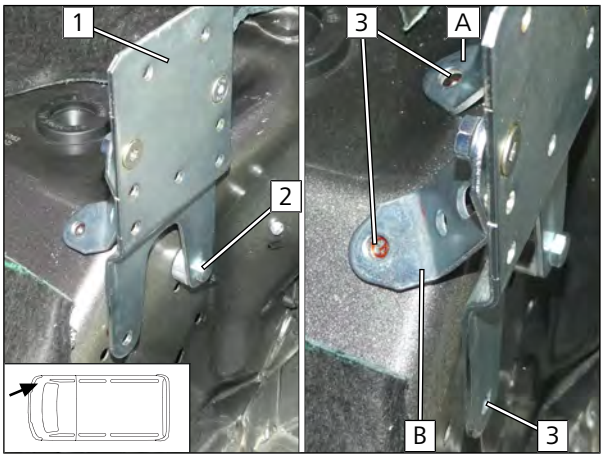


Fig. 9

- ▶ Align bracket [1] vertically, mount premounted M6x20 bolt [2] in threaded hole.
- ▶ Position bent surfaces of perforated brackets [A] and [B] on the body (correct perforated brackets if necessary), tighten premounted nuts.
- ▶ Copy hole pattern [3].
- ▶ Remove the bracket again.
- ▶ Drill Ø7 holes.
- ▶ 

Mounting bracket

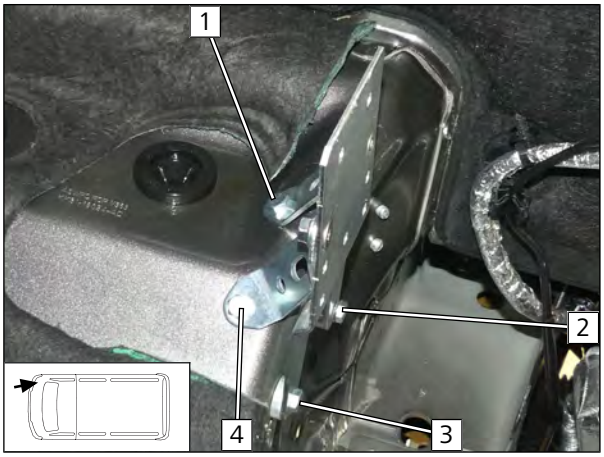


Fig. 10

- [1] M6x20 bolt, perforated bracket [A], drilled hole, large diameter washer, flanged nut
- [2] M6x20 bolt, spring lock washer, bracket, spacer (8), threaded hole
- [3] M6x20 bolt, bracket, spacer (5), drilled hole, large diameter washer, flanged nut
- [4] M6x20 bolt, perforated bracket [B], drilled hole, large diameter washer, flanged nut

7.3 Premounting heater

Mounting, aligning and fastening with 7Nm water connection piece with sealing ring and retaining plate

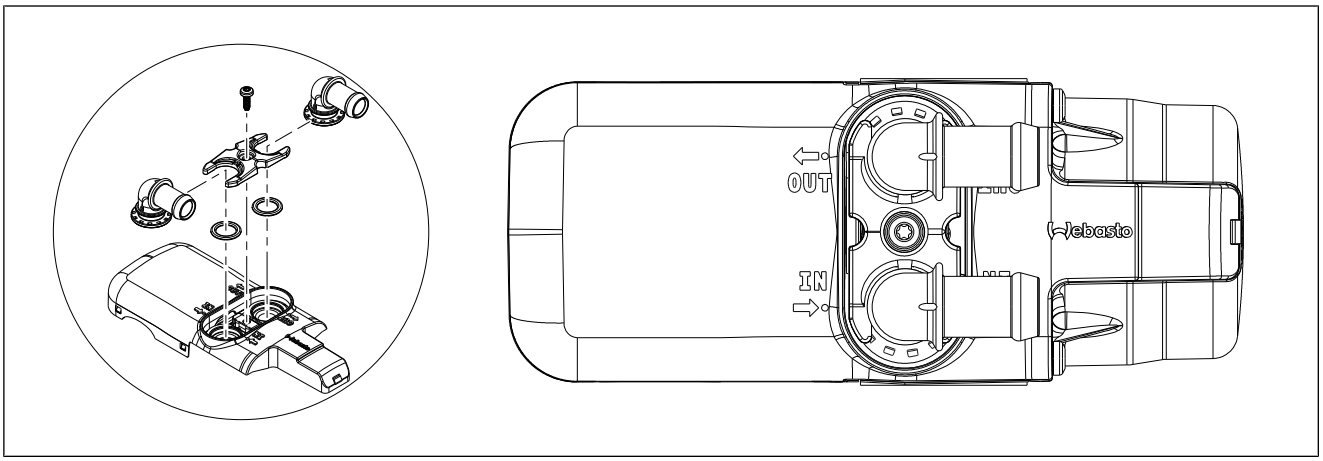


Fig. 11

Mounting combustion air intake pipe and fuel line

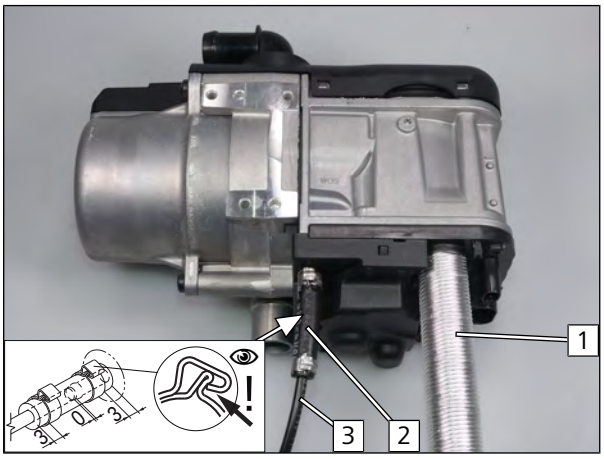


Fig. 12

Observe the installation instructions of the combustion air intake silencer.

1 Combustion air intake line
2 Hose section, Ø10 clamp [2x]
3 Fuel line

Mounting M6/5x25 self-tapping stud bolt

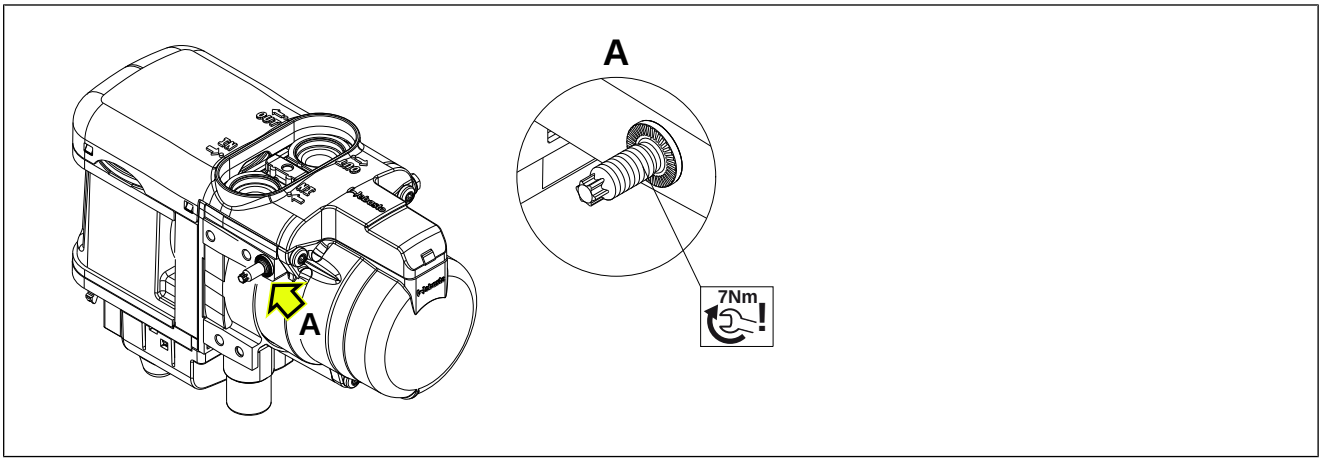


Fig. 13

7.4 Heater mounting

Mounting heater

Fig. 14

Observe the general installation instructions of the heater.

1 M5x13 self-tapping bolt, bracket, HG hole

8 Electrical system of engine compartment

8.1 SH2 installation - Vehicles with rear-wheel drive

Copying hole pattern, drilling hole

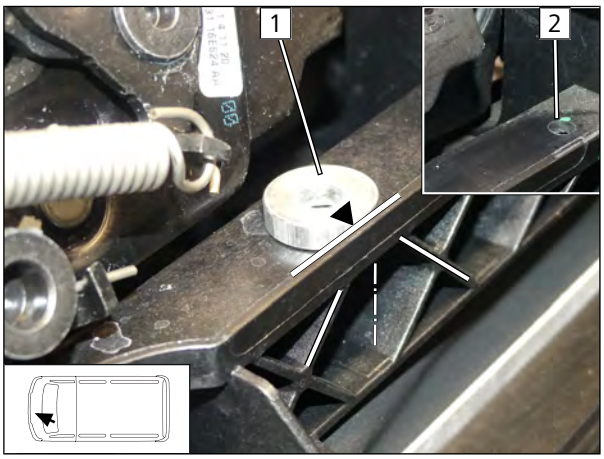


Fig. 15

- ▶ Align spacer (5) **1** centrally with the honeycomb structure below, position against the side and copy hole pattern.
- ▶ Drill Ø7 hole **2**.

Premounting retaining plate of SH2

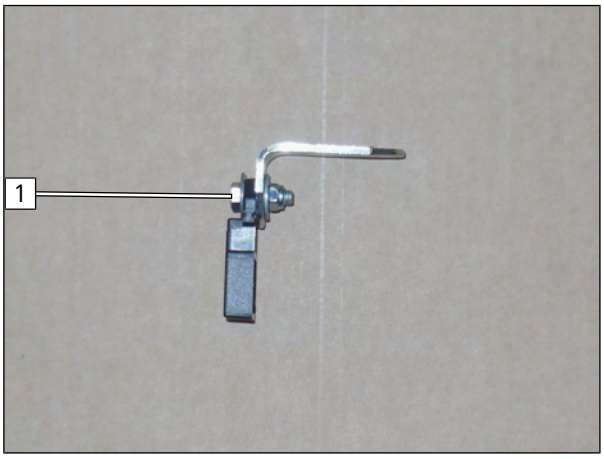


Fig. 16

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

Mounting retaining plate SH2

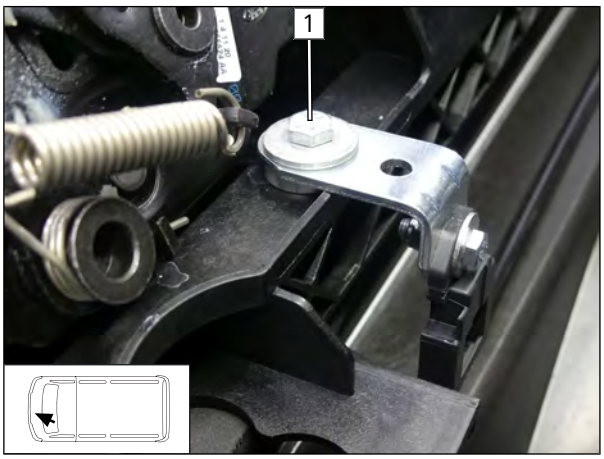


Fig. 17

1 M6x20 bolt, large diameter washer, spacer (5), drilled hole, flanged nut

Installing SH2

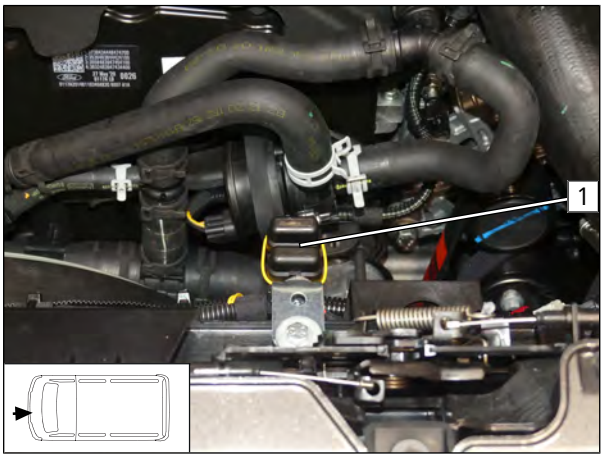


Fig. 18

1 Fuses F1 and F2

8.2 SH2 installation- Vehicles with front-wheel drive

Adapting plastic trim

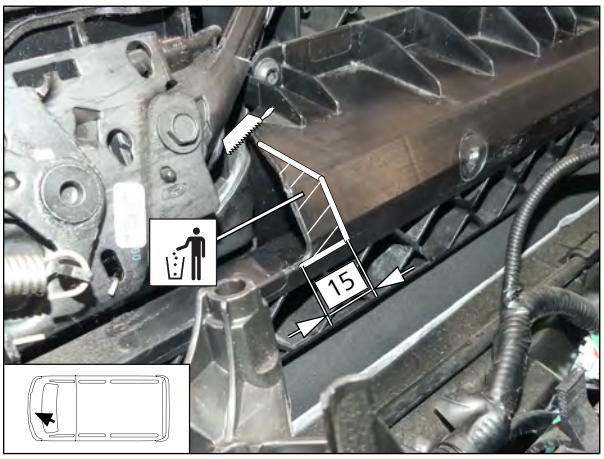


Fig. 19

▶ Cut out marked area of plastic trim as shown.

Copying hole pattern, drilling hole

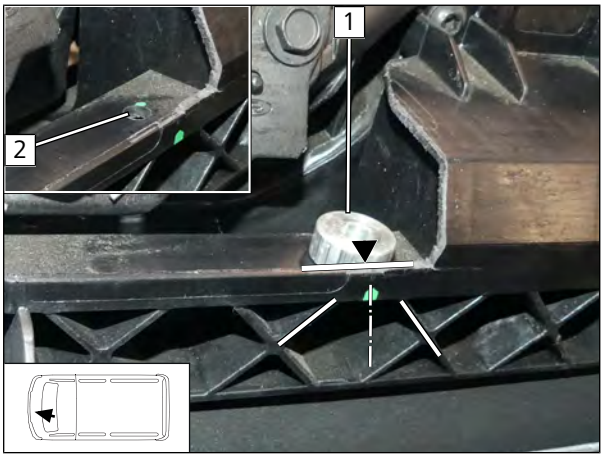


Fig. 20

▶ Align spacer (5) 1 centrally with the honeycomb structure below, position against the side and copy hole pattern.

▶ Drill Ø7 hole 2.

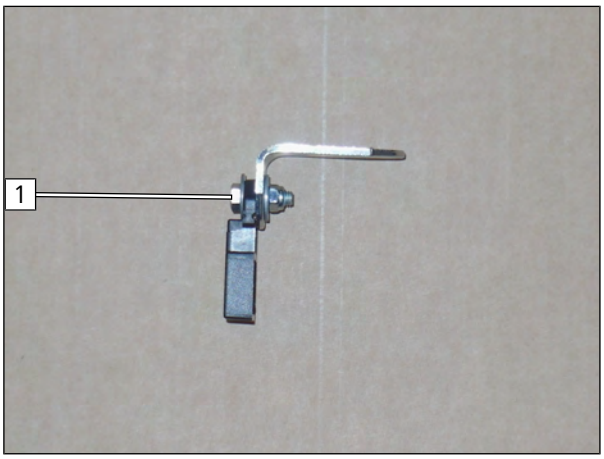


Fig. 21

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

Mounting retaining plate SH2

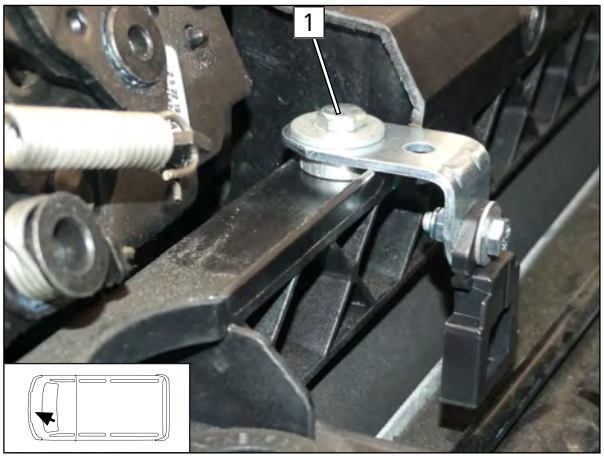


Fig. 22

1 M6x20 bolt, large diameter washer, spacer (5), drilled hole, flanged nut

Installing SH2

Fig. 23

1 Fuses F1 and F2

8.3 Routing wiring harness, positive and earth connections

Connecting positive wire

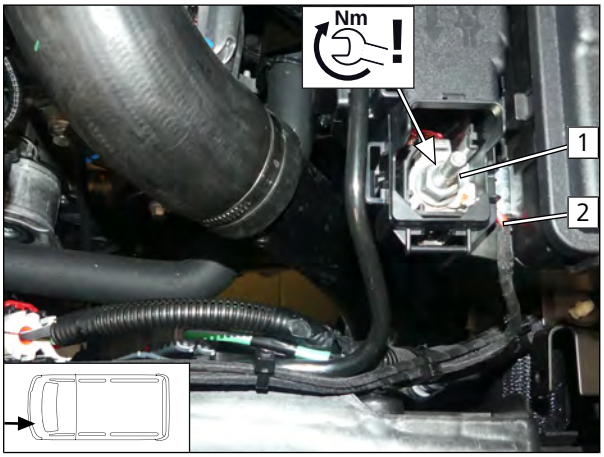


Fig. 24

DANGER

Observe tightening torque

1 Original vehicle positive support point

2 Positive wire

Adapting original vehicle plastic cap of positive connection

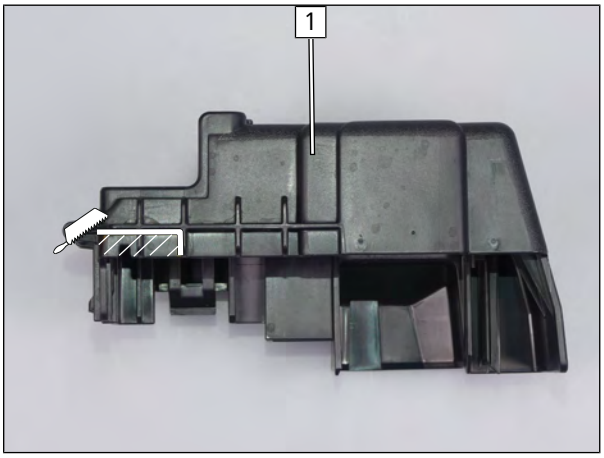


Fig. 25

▶ Adapt cap 1 as shown, then reinstall.

Connecting earth wire

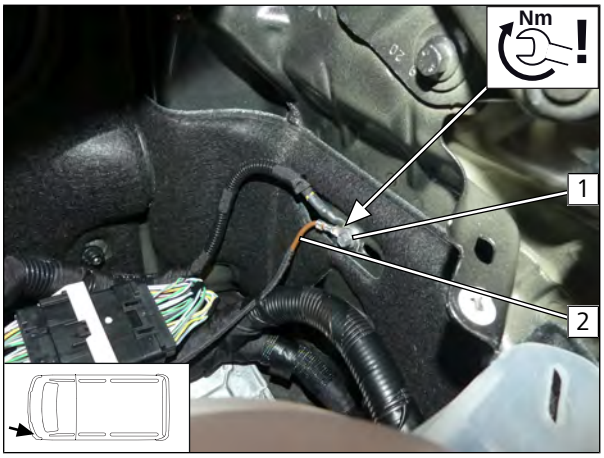


Fig. 26

DANGER

Observe tightening torque

1 Original vehicle earth support point

2 Earth wire

Routing wiring harness

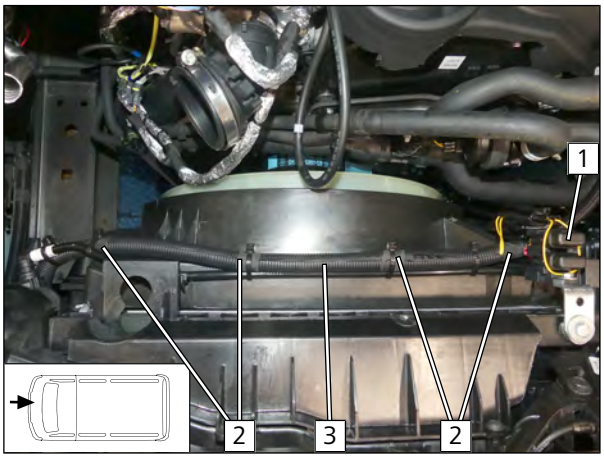


Fig. 27

▶ Route HG wiring harness in Ø13 corrugated tube [3] along original vehicle wires to HG, fasten with insulating tape at regular intervals and attach with cable tie [2].

[1] SH2

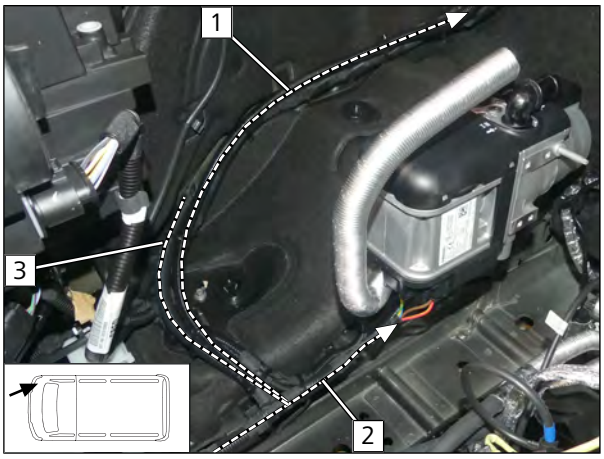


Fig. 28

[1] Passenger compartment and control element wiring harnesses in Ø10 corrugated tube to the passenger compartment pass through

[2] Heater wiring harness in Ø13 corrugated tube

[3] Rest of heater wiring harness in Ø13 corrugated tube

Routing wiring harnesses in passenger compartment

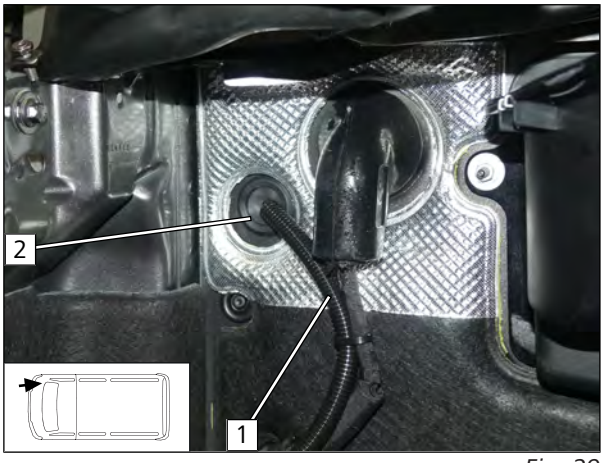


Fig. 29

To prevent water seeping into the passenger compartment, the wiring harness must be routed upwards to the protective rubber plug and this plug must then be sealed with a suitable sealing compound.

[1] Passenger compartment and control element wiring harnesses

[2] Protective rubber plug

Mounting HG wiring harness connector

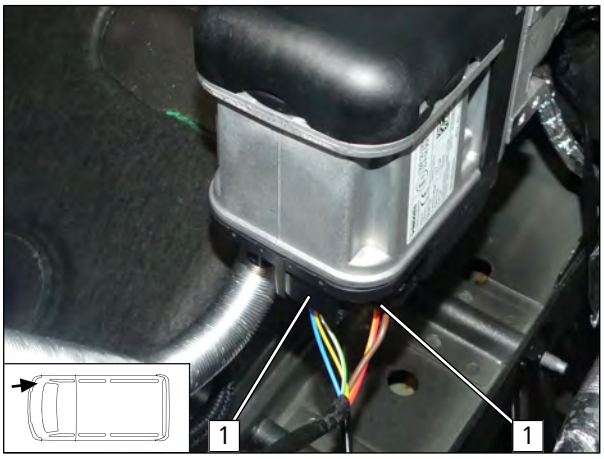


Fig. 30

1 Heater wiring harness connector

9 Fuel

DANGER

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

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

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

Danger of damage to components

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

Dismantling fuel pump connector X7

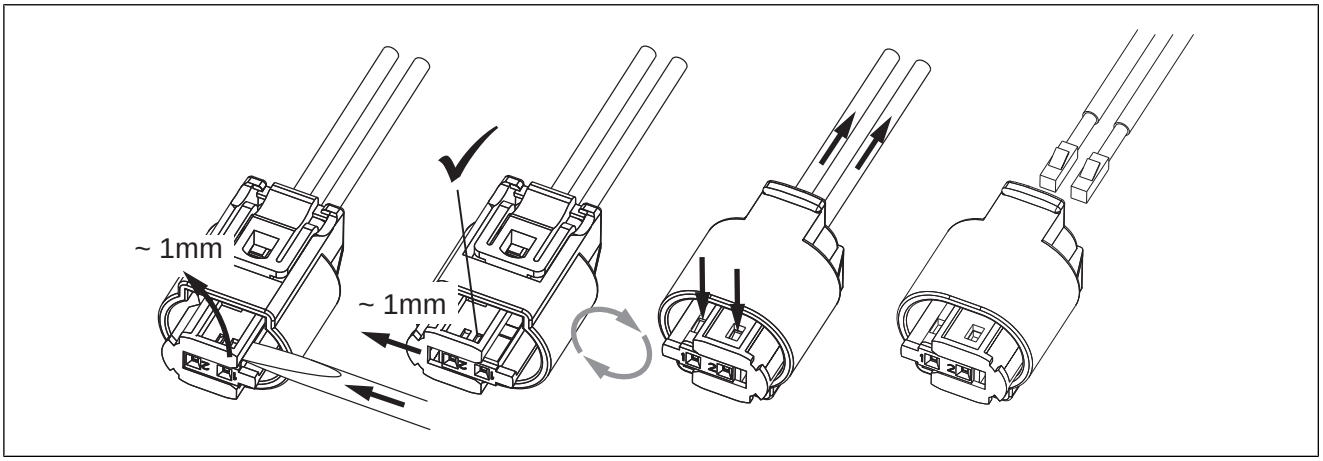


Fig. 31

9.1 Routing fuel line

Routing in engine compartment

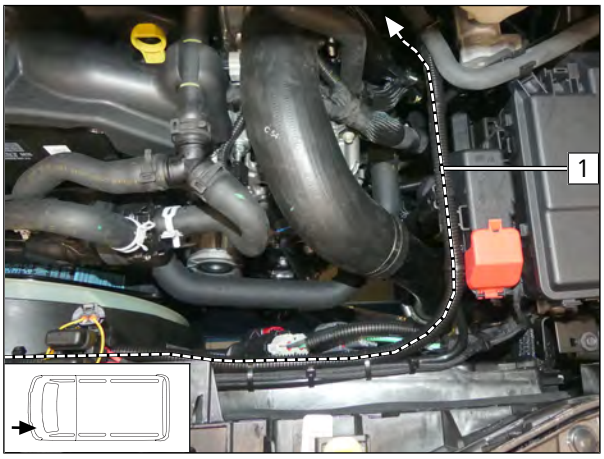


Fig. 32

- ▶ Draw fuel line and DP wiring harness into Ø10 corrugated tube [1] and route to underbody.

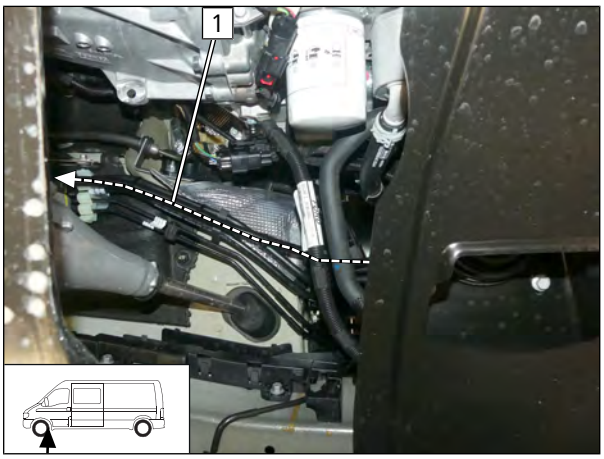


Fig. 33

▶ Route corrugated tube **1** along original vehicle wires to the underbody.

Routing on underbody

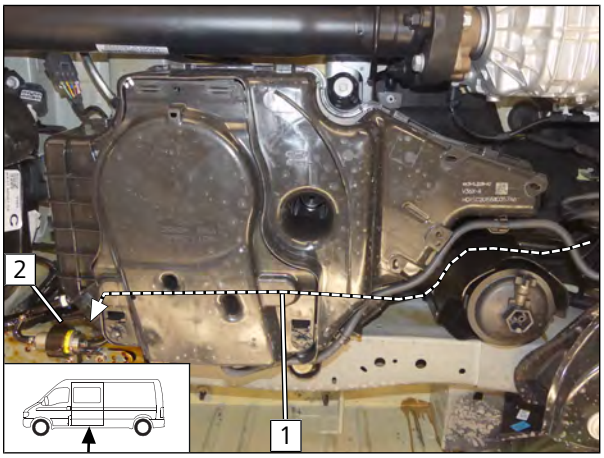


Fig. 34

▶ Route corrugated tube **1** to fuel pump installation location **2** as shown.

Premounting fuel pump

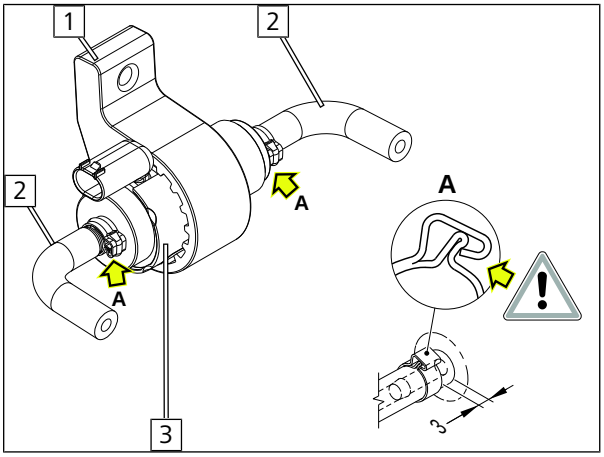


Fig. 35

The alignment of the fuel pump and fuel hoses will be carried out afterwards, during the installation.

1 Fuel pump mount
2 90° moulded hose, Ø10 clamp
3 Fuel pump

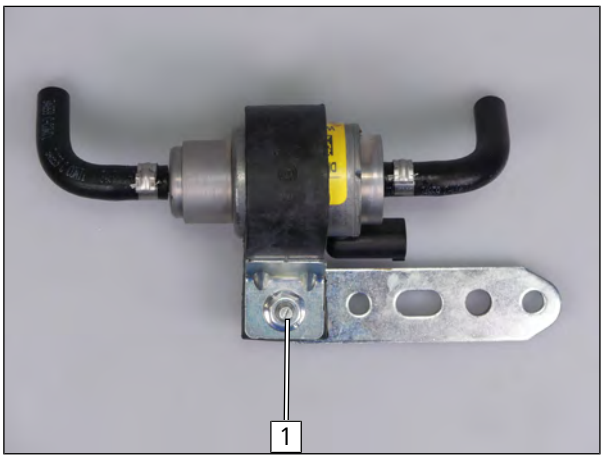


Fig. 36

1 M6x25 bolt, perforated bracket, DP mount, support angle bracket, flanged nut

Mounting fuel pump

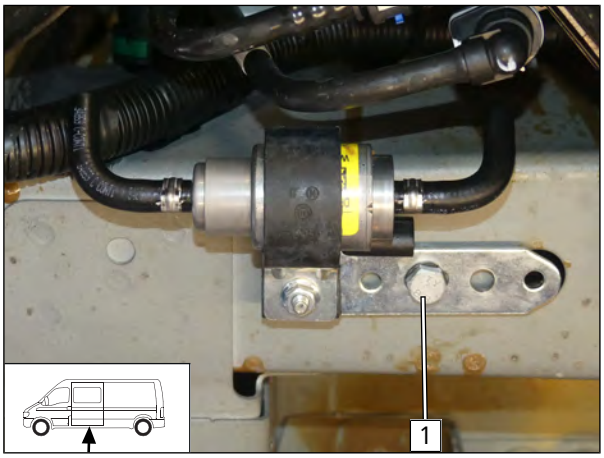


Fig. 37

1 M8x20 bolt, spring lock washer, perforated bracket, spacer (5), original vehicle threaded hole

Assembling fuel pump connector X7

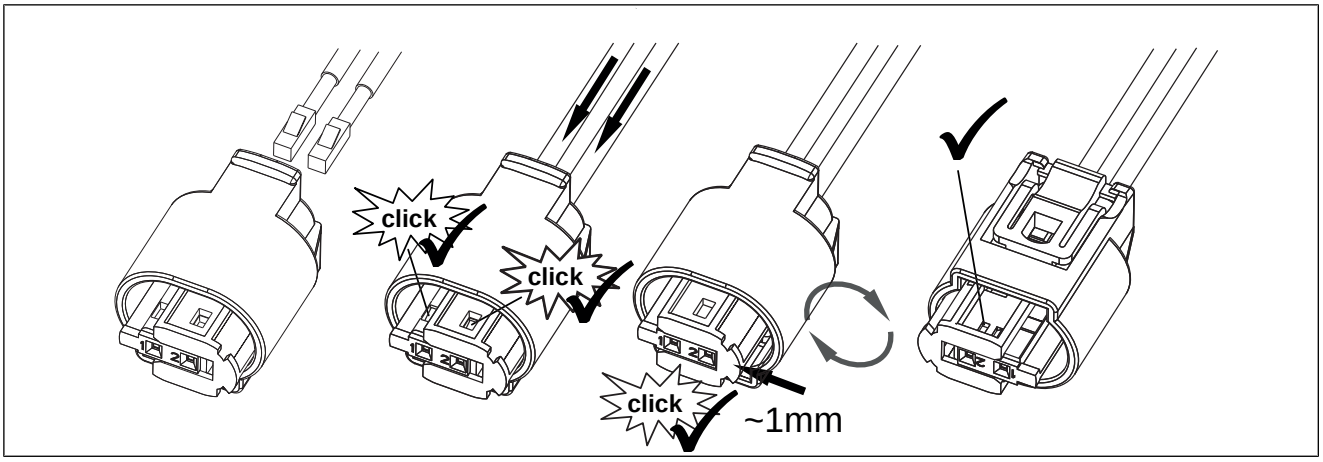


Fig. 38

Connecting HG fuel line to fuel pump

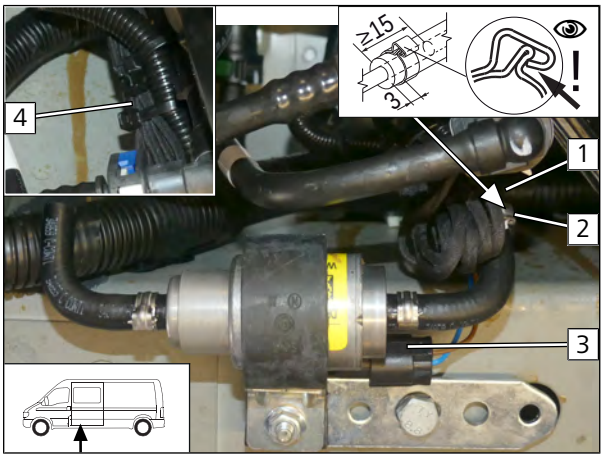


Fig. 39

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

▶ Attach the rest of wiring harness 4 to corrugated tube with a cable tie.

9.2 Tank extracting device

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

Moving tank fitting labels

▶ Move labels 2 and 3 of tank fitting 1 as shown.

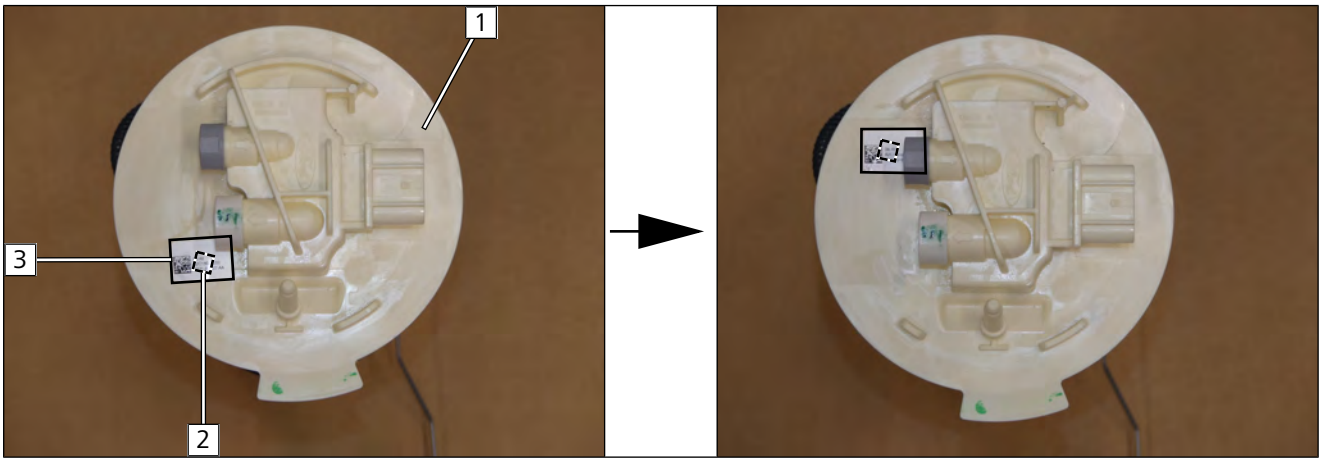


Fig. 40

Copy hole pattern

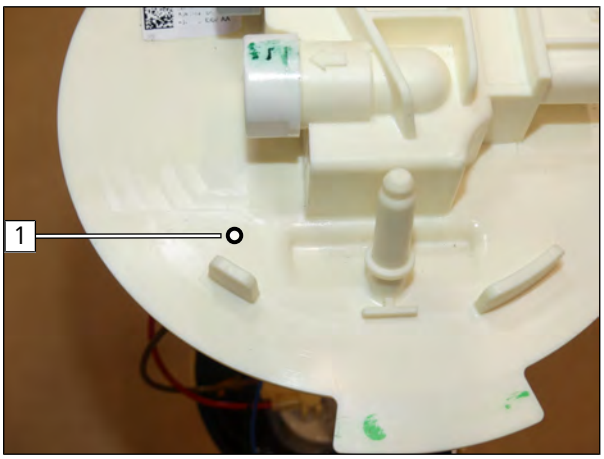


Fig. 41

▶ Copy hole pattern 1 in the middle of the embossing.

Drilling hole

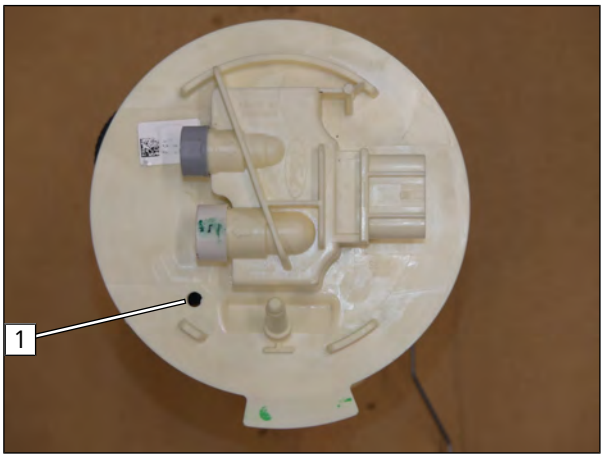


Fig. 42

1 Ø6 hole

Premounting tank extracting device

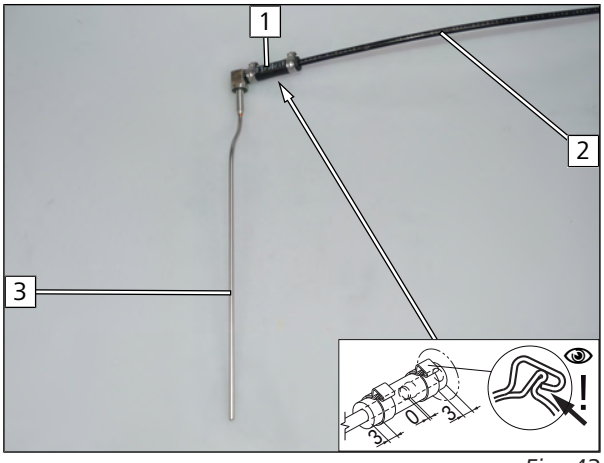


Fig. 43

Observe the installation instructions of the tank extracting device.

▶ Bend tank extracting device 3 according to template and cut to length.

1 Hose section, Ø10 clamp [2x]

2 Fuel line

Installing tank extracting device

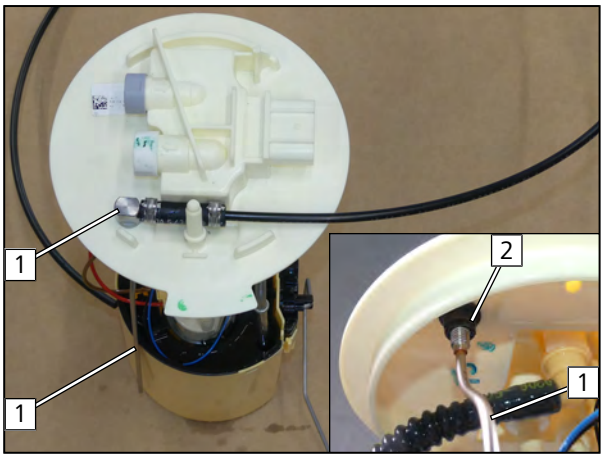


Fig. 44

1 Tank extracting device

2 Locking nut

Inserting tank fitting

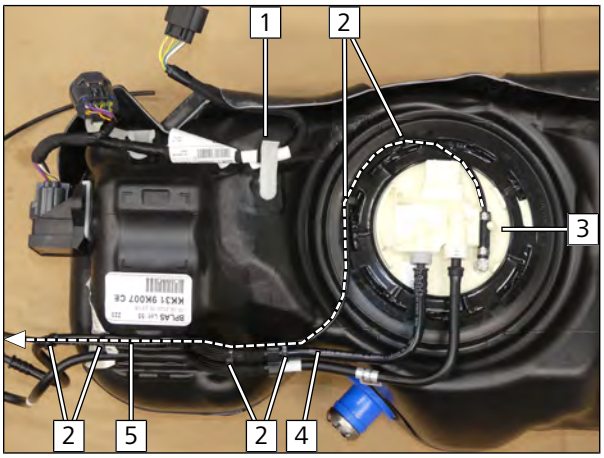


Fig. 45

▶ Attach fuel line [5] with cable tie to original vehicle fuel line [4].

Mount the tank as per the manufacturer's instructions.

[1] Fuel tank
[2] Cable tie
[3] Tank fitting

9.3 Fuel pump connection

Connecting tank extracting device fuel line to fuel pump

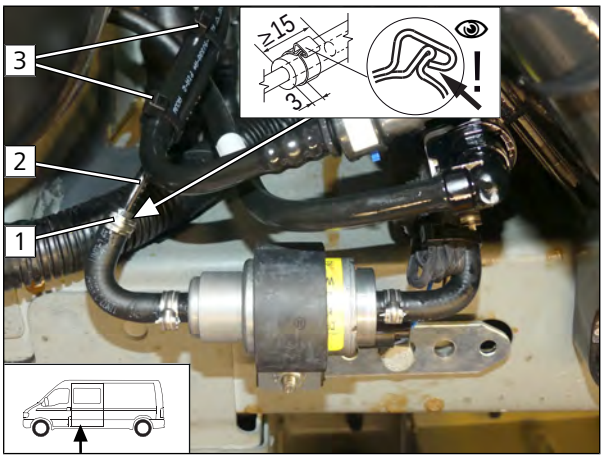


Fig. 46

[1] Ø10 clamp
[2] Fuel line of tank extracting device
[3] Cable tie

10 Exhaust

Cutting to length and preparing exhaust pipe

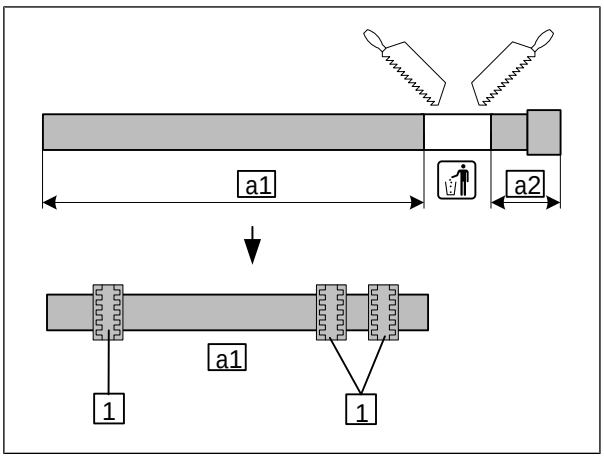


Fig. 47

a1 900
a2 70
1 Spacer bracket

Mounting exhaust pipe **a1** onto HG

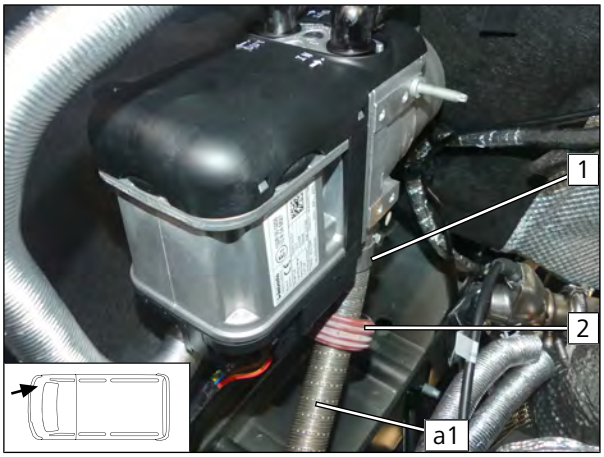


Fig. 48

1 Hose clamp
2 Align spacer bracket

Bending perforated bracket

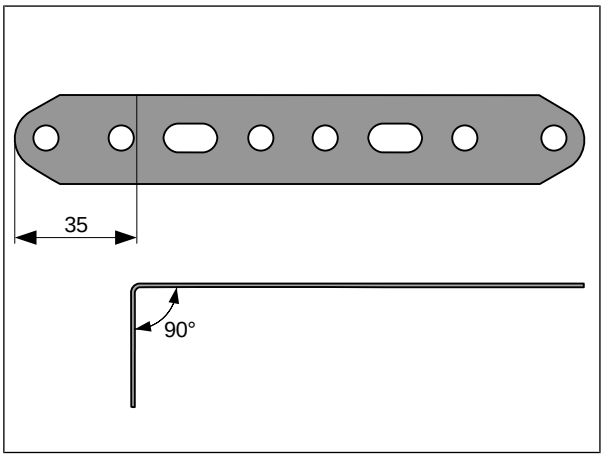


Fig. 49

Installing perforated bracket

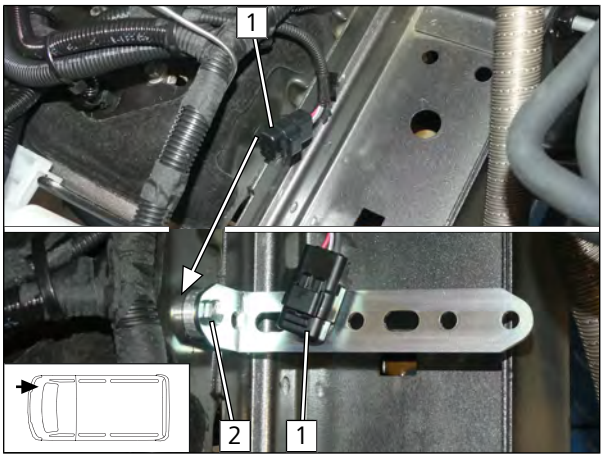


Fig. 50

- ▶ Detach original vehicle connector 1.
- ▶ Mount perforated bracket.
- ▶ Reinstall original vehicle connector 1 in hole of perforated bracket.

2 M6x20 bolt, perforated bracket, spacer (5), existing hole, flanged nut

Fastening exhaust pipe a1

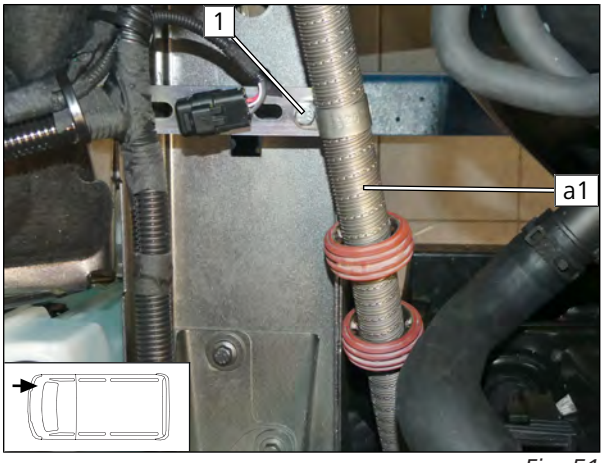


Fig. 51

1 M6x20 bolt, Ø25 pipe clamp, perforated bracket, flanged nut

Aligning spacer bracket – Vehicles with rear-wheel drive

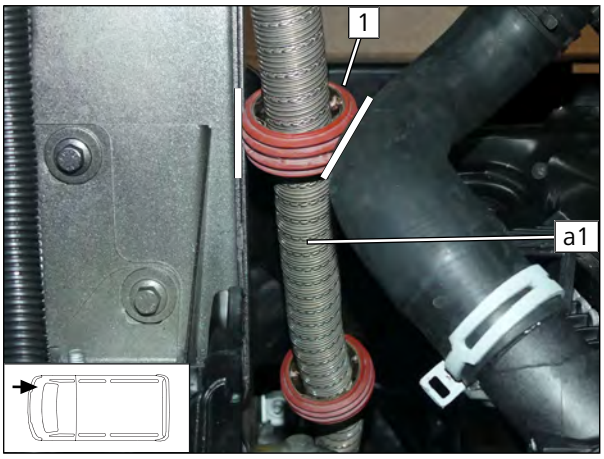


Fig. 52

1 Spacer bracket

Aligning spacer bracket – Vehicles with front-wheel drive

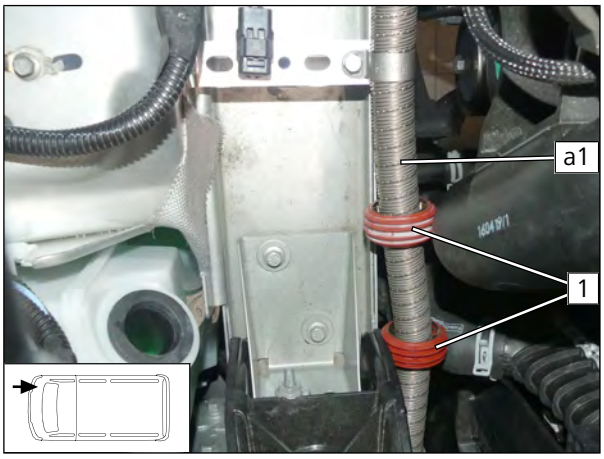


Fig. 53

1 Spacer bracket

Mounting exhaust silencer

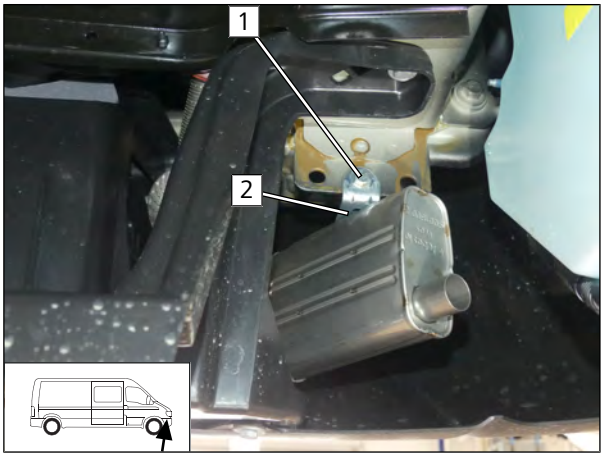


Fig. 54

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

2 M6x16 bolt, spring lock washer, large diameter washer, angle bracket, threaded hole exhaust silencer

Mounting exhaust pipe **a1** onto exhaust silencer

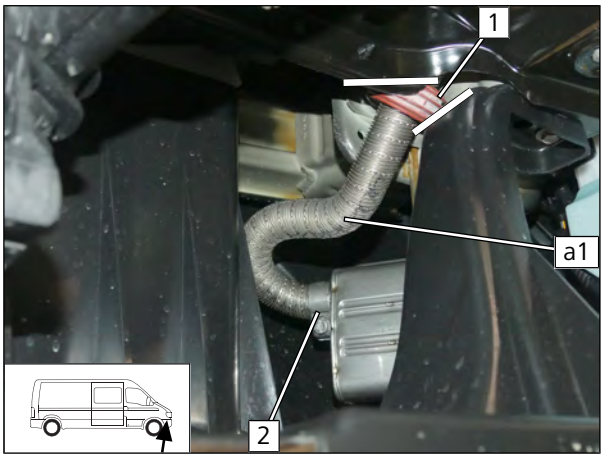


Fig. 55

1 Align spacer bracket

2 Hose clamp

Mounting exhaust pipe **a2** onto exhaust silencer

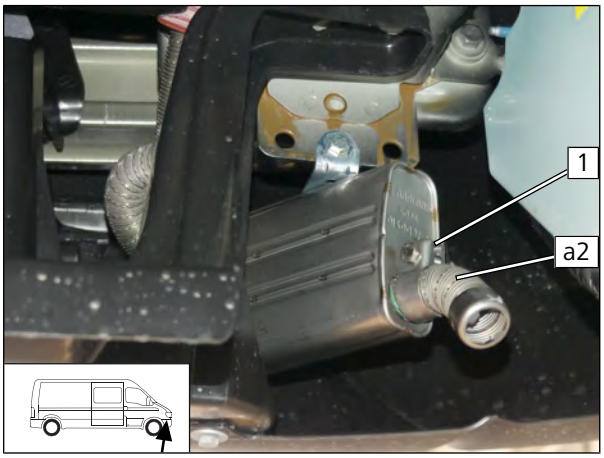


Fig. 56

1 Hose clamp

11 Coolant - Vehicles with rear-wheel drive

11.1 Hose routing diagram

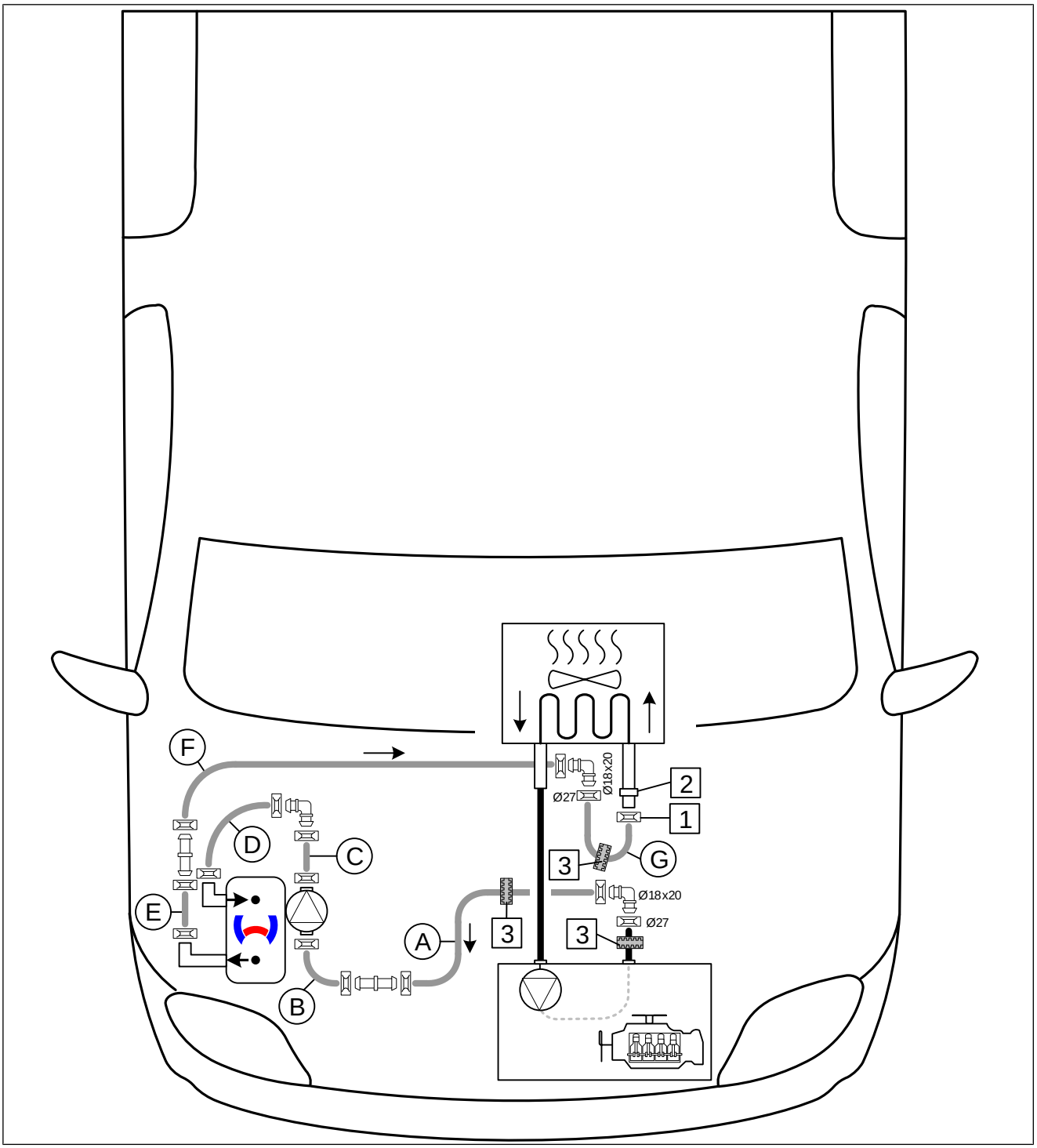


Fig. 57

All spring clips without a specific designation = Ø25

All connecting pipes without a specific designation = Ø18x18

1 Original vehicle spring clip, 2 Original vehicle quick-release coupling, 3 Rubber isolator

11.2 Coolant circuit installation

Cutting hoses to length

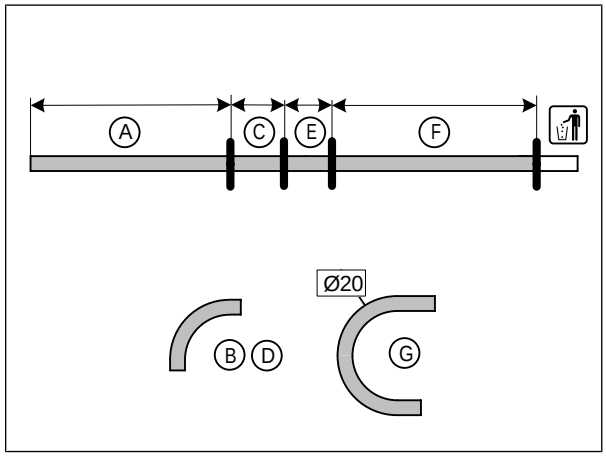


Fig. 58

Ⓐ	700
Ⓑ / Ⓓ	90° moulded hose
Ⓒ	60
Ⓔ	70
Ⓕ	690
Ⓖ	180° moulded hose

Cutting point

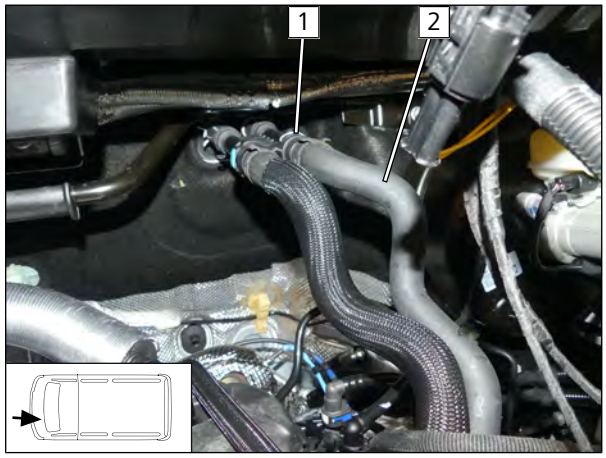


Fig. 59

- ▶ Pull off quick-release coupling [1].
- ▶ Separate engine outlet/heat exchanger inlet hose [2] from quick-release coupling. Original vehicle spring clip will be re-used.

Preparing hose group

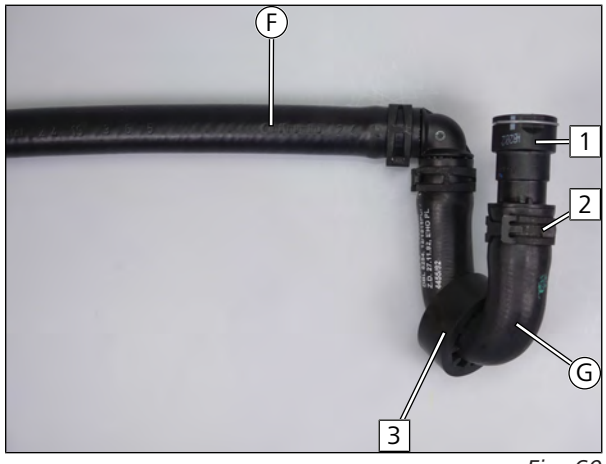


Fig. 60

[1] Quick-release coupling
[2] Original vehicle spring clip
[3] Rubber isolator

Premounting mount and tubular rivet on coolant pump

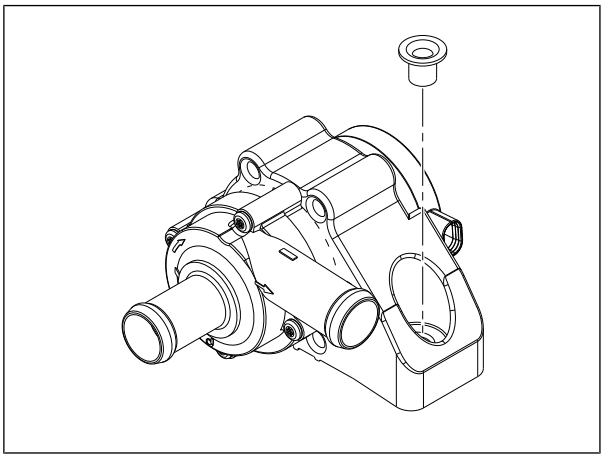


Fig. 61

Connecting hose Ⓑ to coolant pump inlet

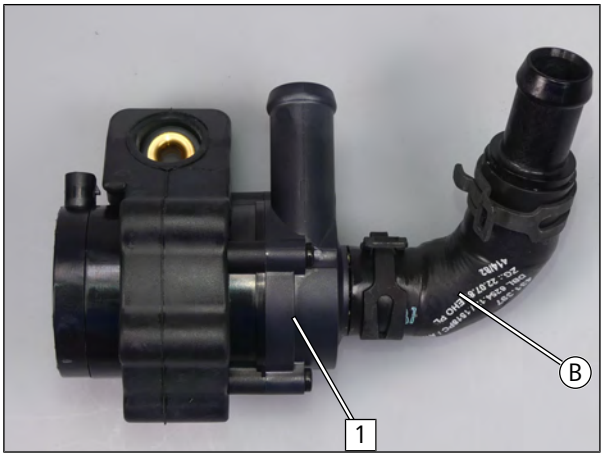


Fig. 62

1 Coolant pump

Mounting coolant pump

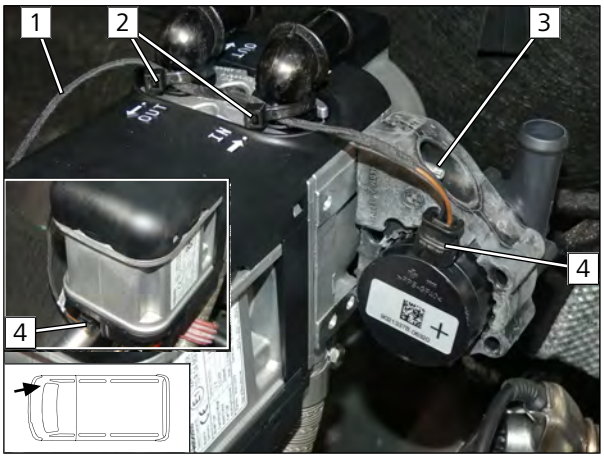


Fig. 63

▶ Attach coolant pump wiring harness **1** with cable tie **2** to HG connection piece.

3 Premounted stud bolt, coolant pump mount, flanged nut

4 Coolant pump wiring harness connector

Mounting hoses Ⓒ, Ⓓ and Ⓔ

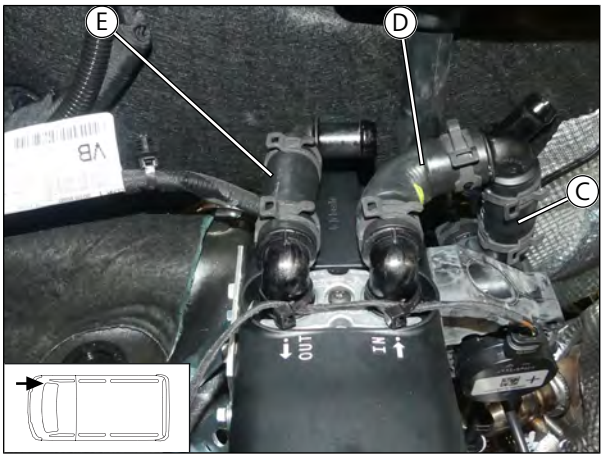


Fig. 64

▶ Connect hose Ⓒ to coolant pump outlet.

▶ Connect hose Ⓓ to HG/IN, hose Ⓔ to HG/OUT.

Connecting hose group Ⓕ / Ⓖ to heat exchanger inlet

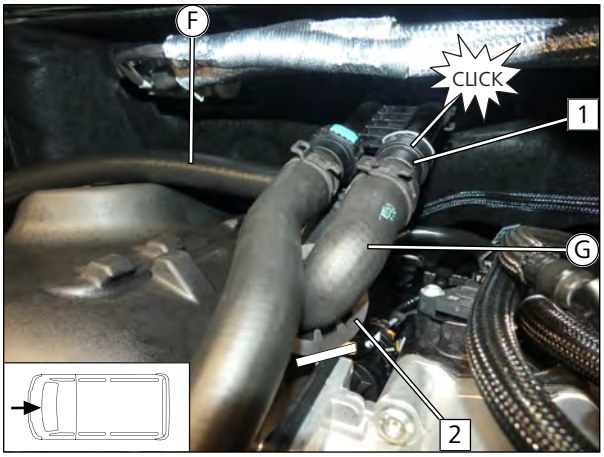


Fig. 65

1 Mount quick-release coupling

2 Align rubber isolator

Connecting hose Ⓕ to hose Ⓔ

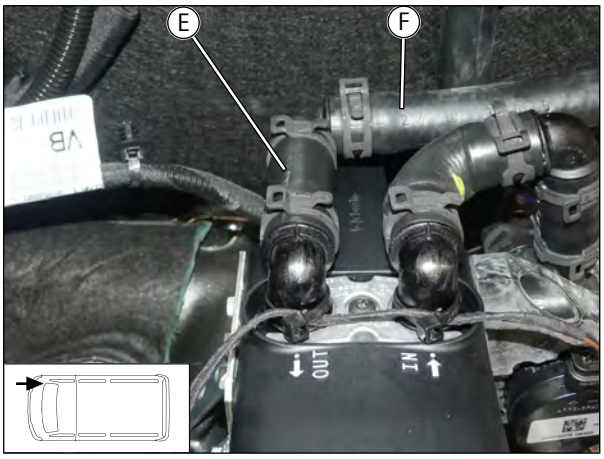


Fig. 66

Connecting hose Ⓐ to engine outlet

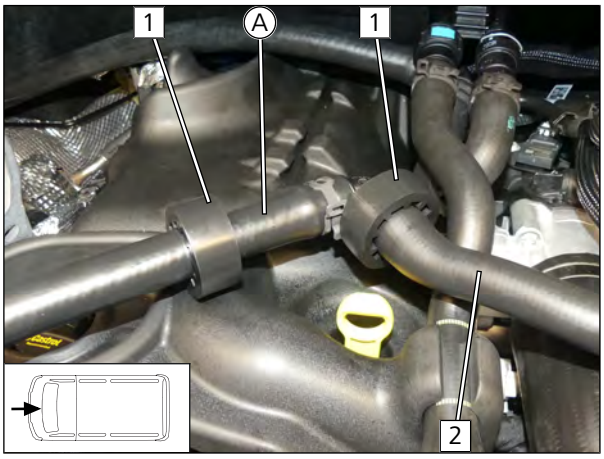


Fig. 67

1 Rubber isolator
2 Hose of engine outlet

Routing hose Ⓐ

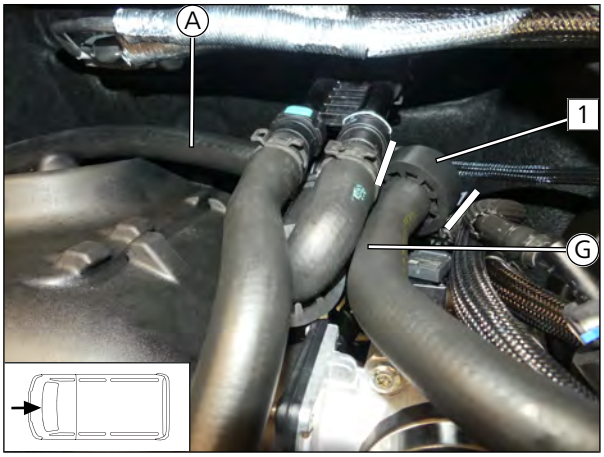


Fig. 68

▶ Route hose Ⓐ as shown, align rubber isolator 1.

Connecting hose Ⓐ to hose Ⓑ

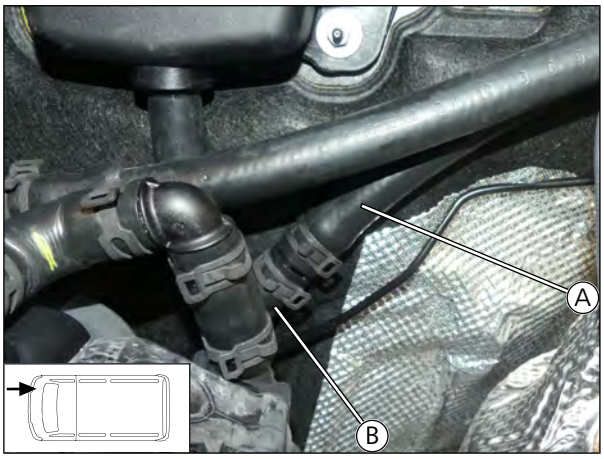


Fig. 69

Fastening hoses Ⓐ and Ⓕ

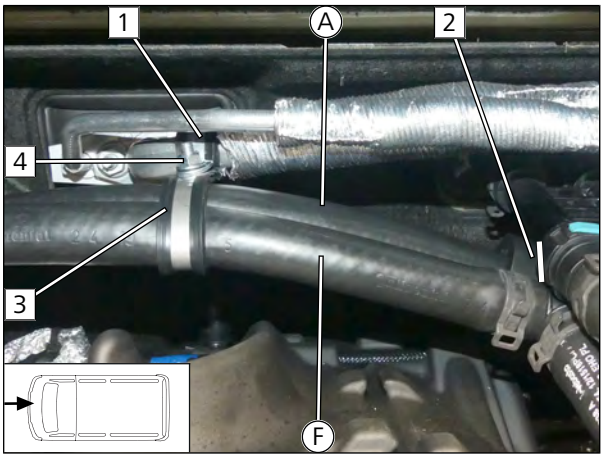


Fig. 70

1. Ø18 rubber-coated p-clamp around A/C line
2. Align rubber isolator
3. Ø38 rubber-coated p-clamp around hoses Ⓐ and Ⓕ
4. M6x20 bolt, Ø18 p-clamp and Ø38 p-clamp, flanged nut

Installing spacer nut

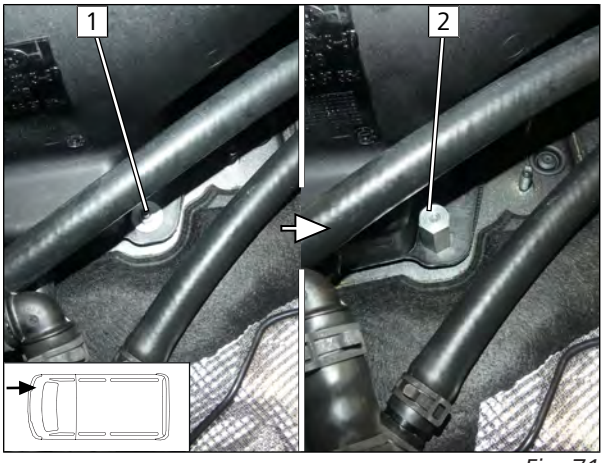


Fig. 71

1. Remove and discard original vehicle nut and washer
2. M6x30 spacer nut

Fastening hoses Ⓐ and Ⓕ

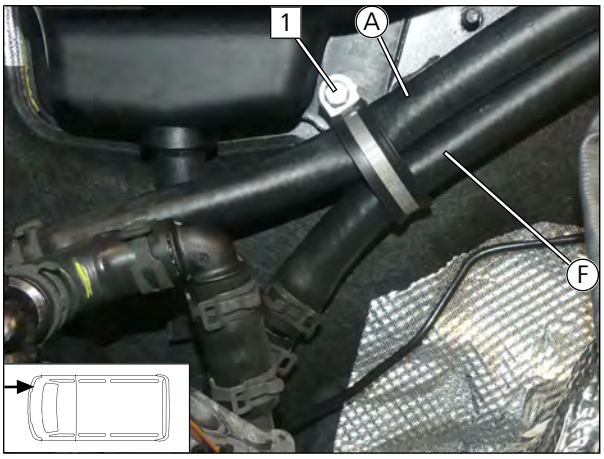


Fig. 72

1. M6x16 bolt, spring lock washer, Ø38 rubber-coated p-clamp around hoses Ⓐ and Ⓕ, spacer nut

Mounting hose bracket

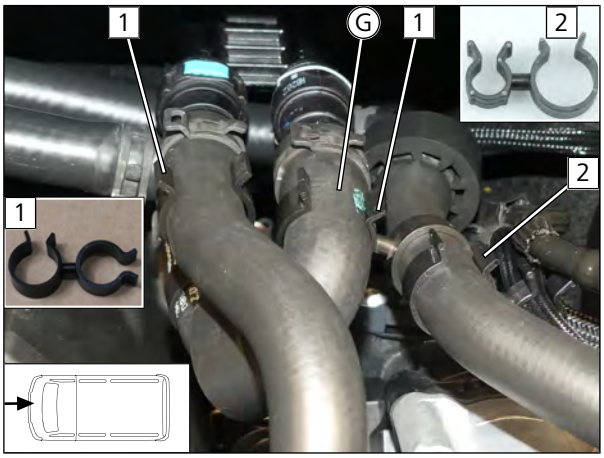


Fig. 73

1 Hose bracket around hose G and original vehicle heat exchanger outlet/engine inlet hose

2 Hose bracket around original vehicle engine outlet hose and original vehicle fuel line

12 Coolant - Vehicles with front-wheel drive

12.1 Hose routing diagram

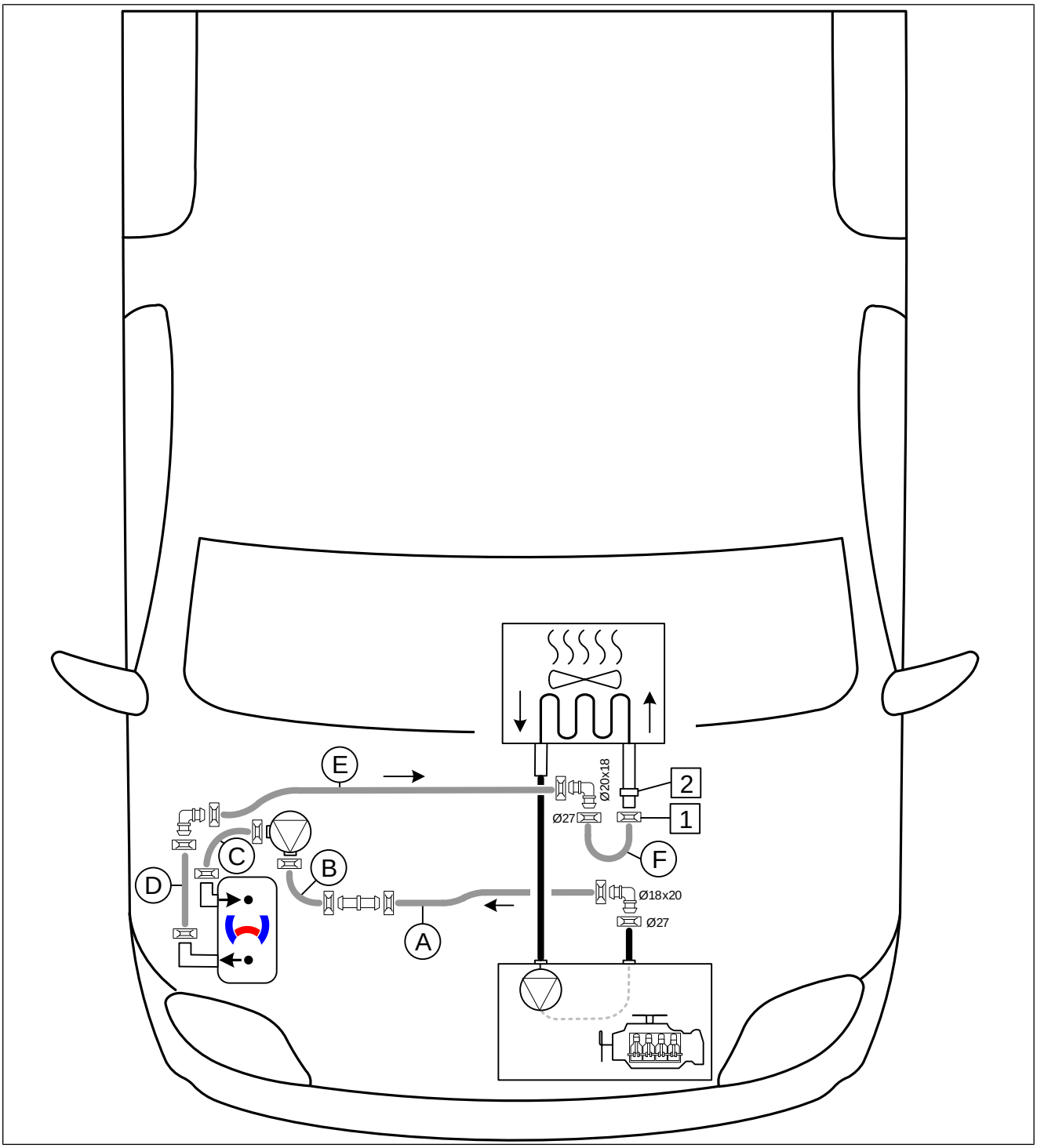


Fig. 74

All spring clips without a specific designation = Ø25

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

1 Original vehicle spring clip, 2 Original vehicle quick-release coupling

12.2 Coolant circuit installation

Cutting hoses to length

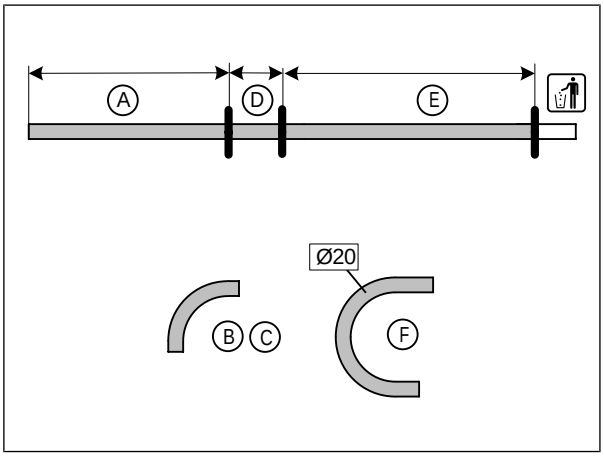


Fig. 75

A	540
B / C	90° moulded hose
D	70
E	700
F	180° moulded hose

Cutting point

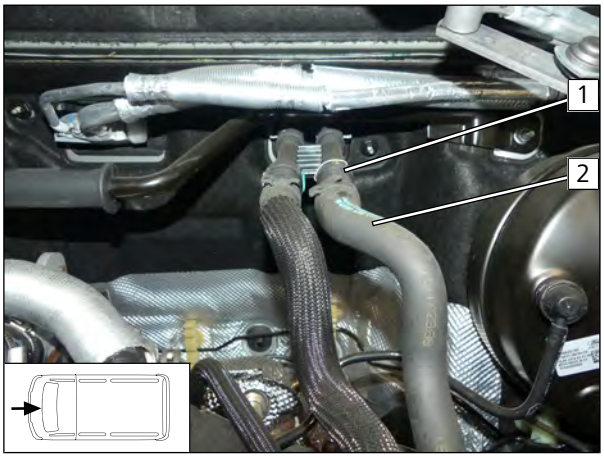


Fig. 76

- ▶ Pull off quick-release coupling 1.
- ▶ Separate engine outlet/heat exchanger inlet hose 2 from quick-release coupling. Original vehicle spring clip will be re-used.

Preparing hoses

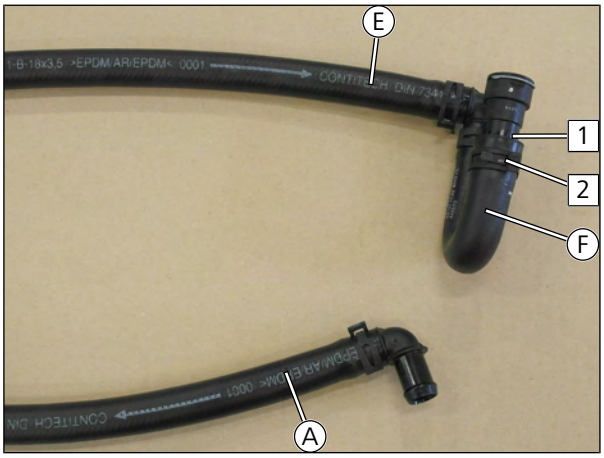


Fig. 77

1 Quick-release coupling
2 Original vehicle spring clip

Premounting mount and tubular rivet on coolant pump

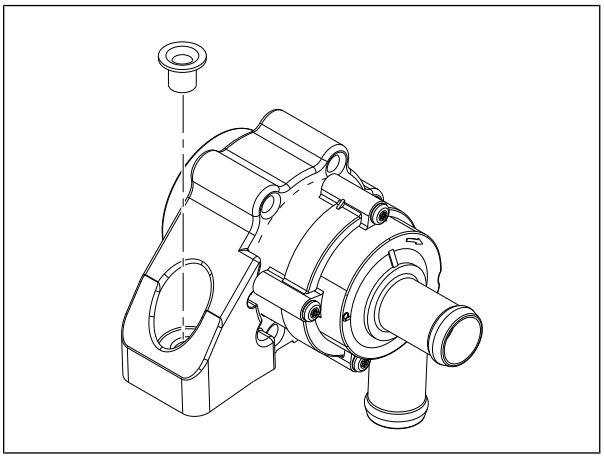


Fig. 78

Premounting coolant pump

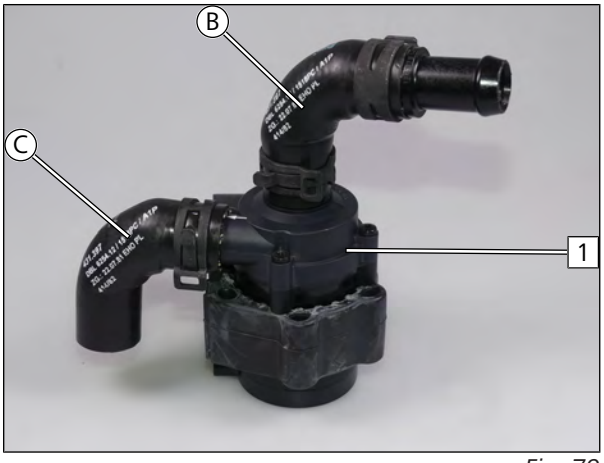


Fig. 79

- ▶ Connect hose (B) to coolant pump inlet.
- ▶ Connect hose (C) to coolant pump outlet.

1 Coolant pump

Mounting coolant pump

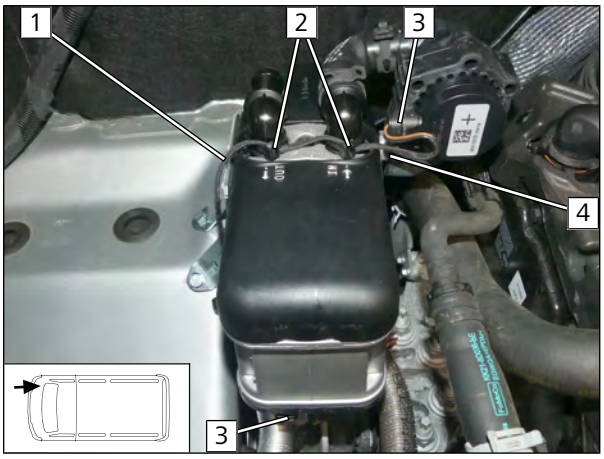


Fig. 80

- ▶ Attach coolant pump wiring harness **1** with cable tie **2** to HG connection piece.

3 Coolant pump wiring harness connector

4 Premounted stud bolt, spacer (5), coolant pump mount, flanged nut

Mounting hose Ⓓ onto HG/OUT

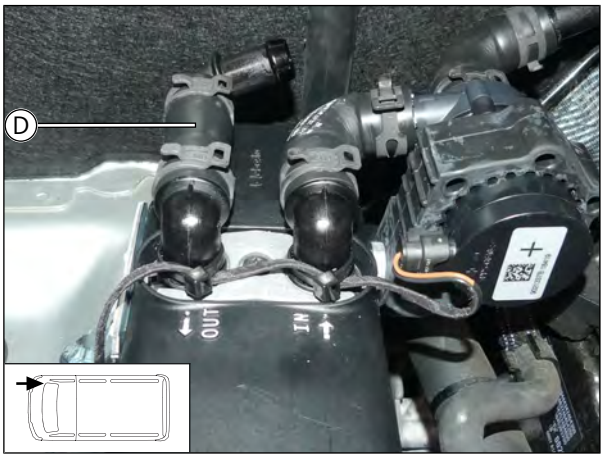


Fig. 81

Connecting hose group Ⓔ / Ⓕ to heat exchanger inlet

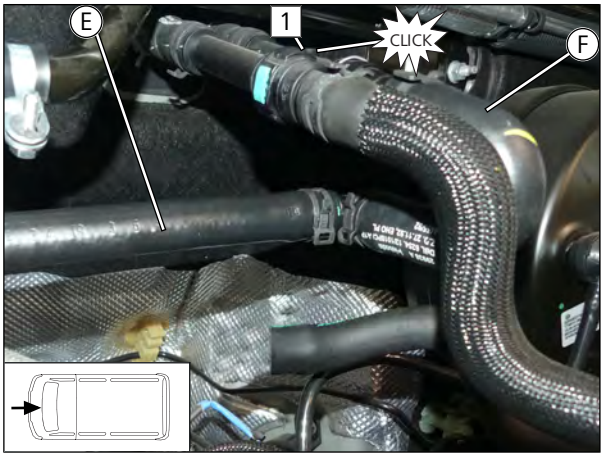


Fig. 82

1 Mount quick-release coupling

Connecting hose Ⓔ to hose Ⓓ

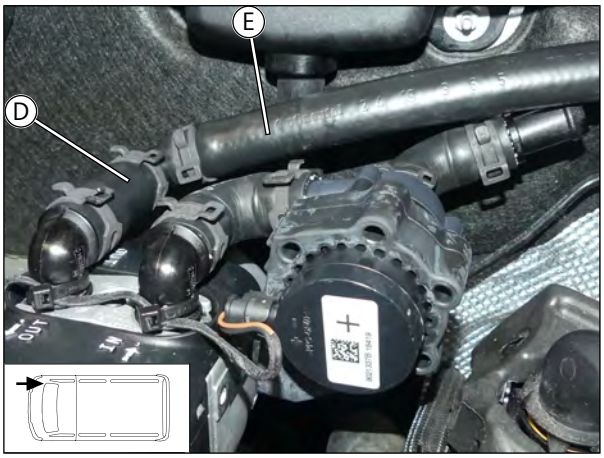


Fig. 83

Connecting hose Ⓐ to engine outlet

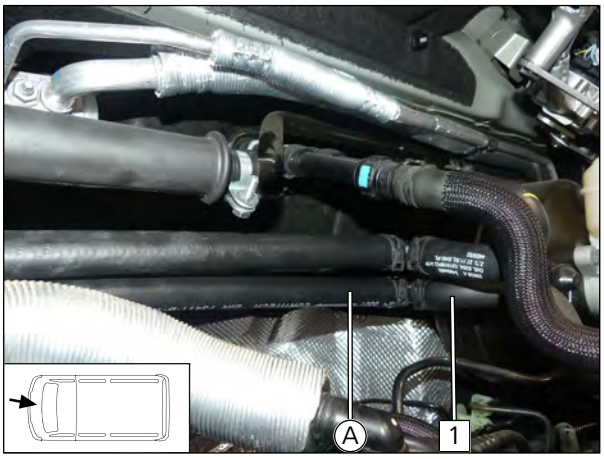


Fig. 84

1 Hose of engine outlet

Connecting hose Ⓐ to hose Ⓑ

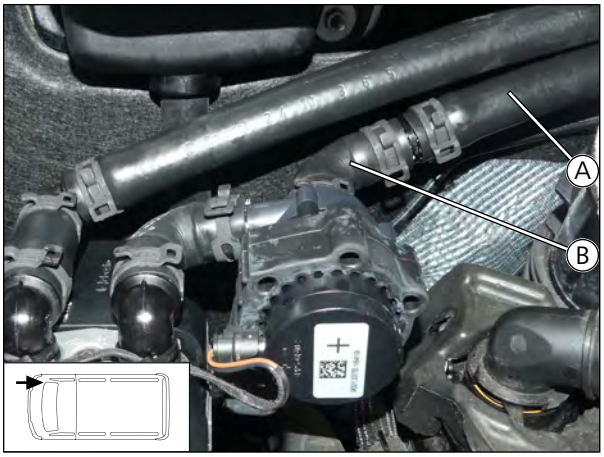


Fig. 85

Installing rubber-coated pipe clamps

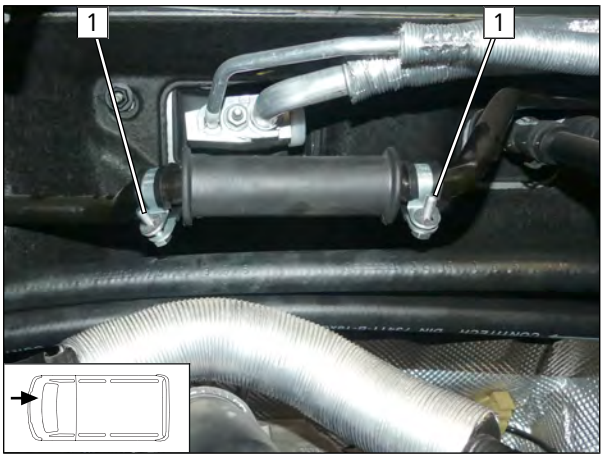


Fig. 86

1 M6x20 bolt, Ø18 rubber-coated p-clamp, lock washer

Fastening hoses Ⓐ and Ⓔ

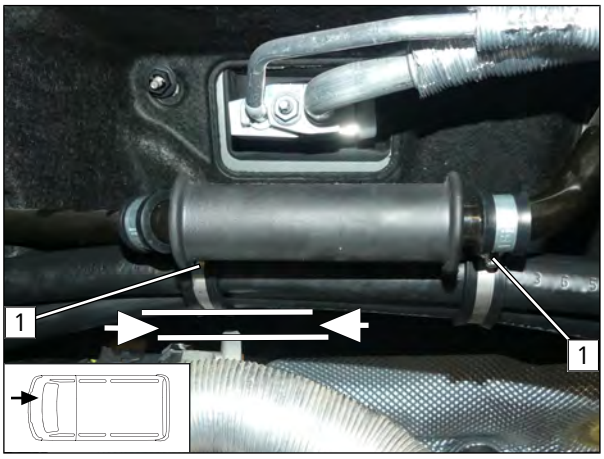


Fig. 87

Ensure sufficient distance from neighbouring components, correct if necessary.

>20

1 Ø38 rubber-coated p-clamp around hose Ⓐ and hose Ⓔ, flanged nut

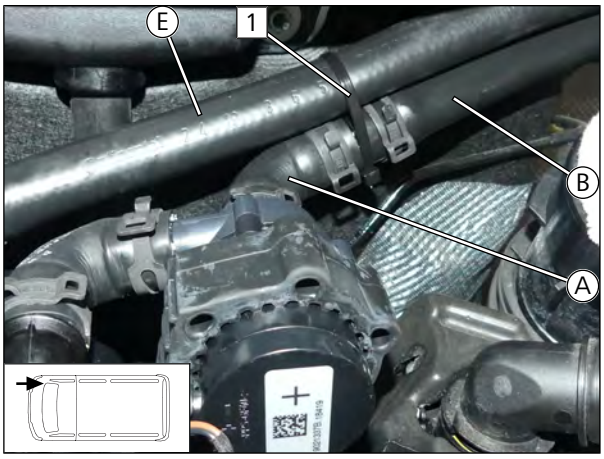


Fig. 88

1 Cable tie around hose Ⓔ and connecting pipe between hoses Ⓐ / Ⓑ

Mounting hose bracket

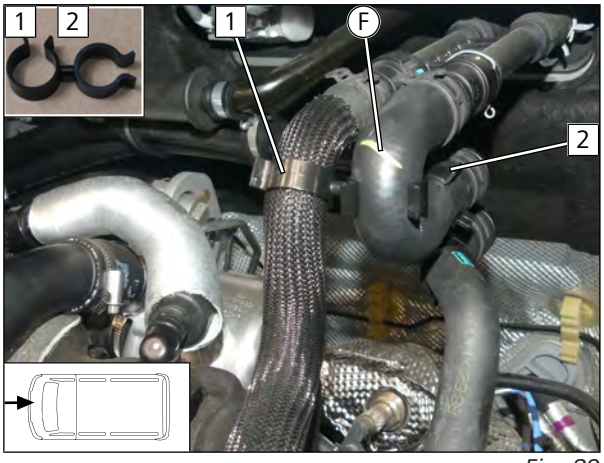


Fig. 89

1 Hose bracket around hose Ⓕ and original vehicle heat exchanger outlet/engine inlet hose

2 Hose bracket around hose Ⓕ and original vehicle engine outlet hose

13 Combustion air

Mounting combustion air intake silencer – Vehicles with rear-wheel drive

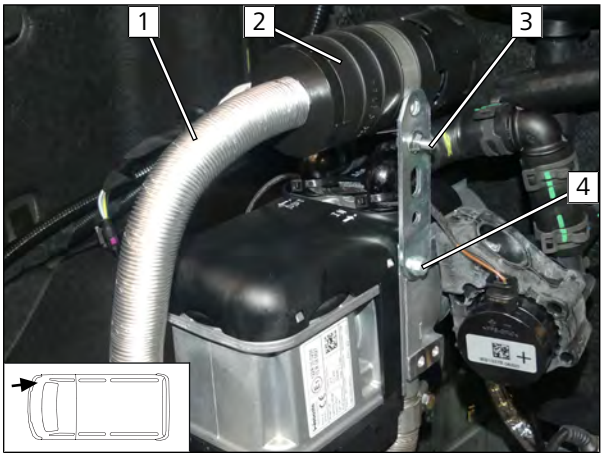


Fig. 90

Observe the installation instructions of the combustion air intake silencer.

1. Combustion air intake line
2. Combustion air intake silencer
3. M5x16 bolt, Ø51 pipe clamp, perforated bracket, flanged nut
4. 5x13 self-tapping bolt, perforated bracket, hole in HG

Mounting combustion air intake silencer – Vehicles with front-wheel drive

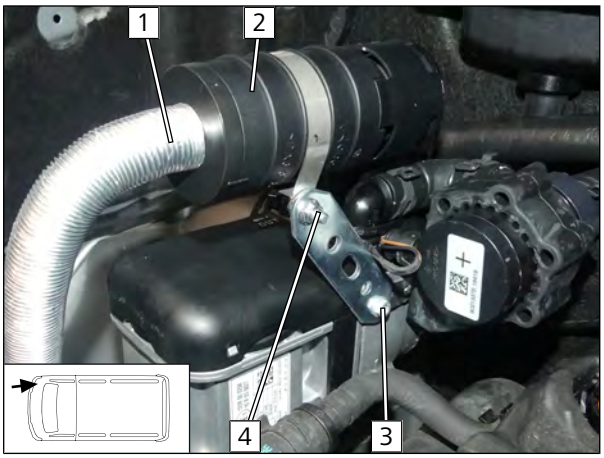


Fig. 91

Observe the installation instructions of the combustion air intake silencer.

1. Combustion air intake line
2. Combustion air intake silencer
3. 5x13 self-tapping bolt, perforated bracket, hole in HG
4. M5x16 bolt, Ø51 pipe clamp, perforated bracket, flanged nut

14 Final work in engine compartment – Vehicles with rear-wheel drive

Adapting original vehicle bracket

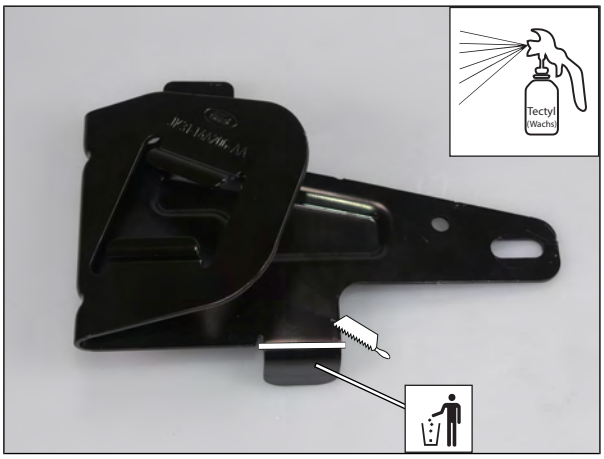


Fig. 92

Mounting bracket

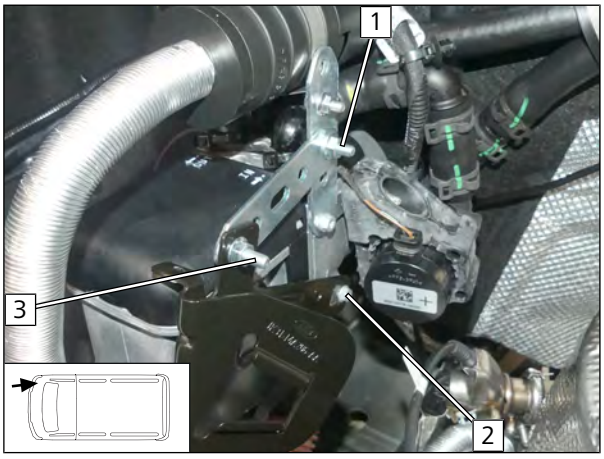


Fig. 93

- **1** M6x20 bolt, premounted perforated bracket, perforated bracket, flanged nut
- **3** M5x13 self-tapping bolt, bracket, HG hole
- **2** M6x20 bolt, perforated bracket, bracket, flanged nut

Mounting original vehicle control unit

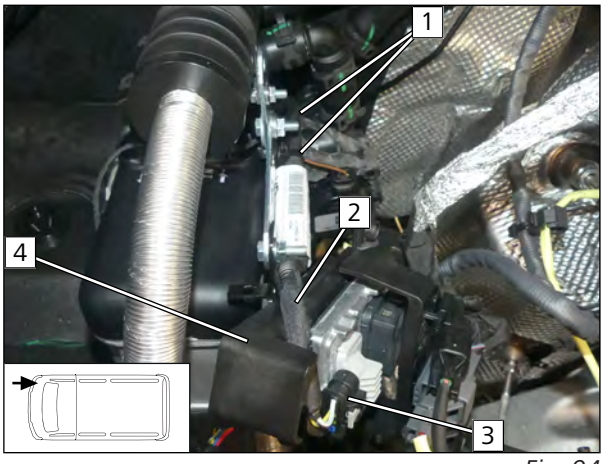


Fig. 94

- ▶ Route original vehicle wiring harness **2** as shown, fasten with cable tie **1** and mount connector **3**.
- ▶ Push plastic cap **4** onto bracket until it engages.

Checking distance

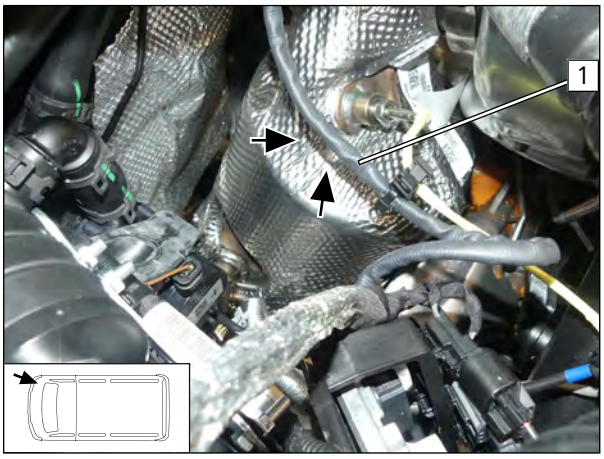


Fig. 95

Ensure sufficient distance from neighbouring components, correct if necessary.

1 Original vehicle wiring harness

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 Ford Transit / Transit Custom with AC

15.2 Control element installation

Install the control element in accordance with the provided relevant general installation documentation. The installation location of the optional control element MultiControl or the push button of the Telestart or ThermoCall/ThermoConnect options should be confirmed with the end customer and should comply with the installation conditions.

16 Final Work

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

▶ Mount removed parts in reverse order.

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

▶ Insulate and tie back loose lines

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

▶ Connect the battery.

Only use manufacturer-approved coolant.

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

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

▶ Program MultiControl CAR, teach Telestart transmitter

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

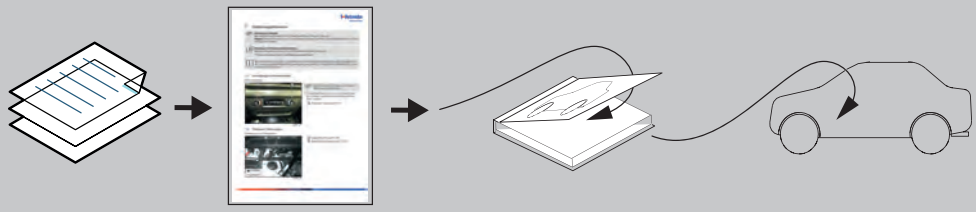
▶ Initial operation and functional test

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

Vehicle event log after parking heating mode

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

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



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

Ident No. 1328197A_EN • 01/21 • Errors and omissions excepted • © Webasto Thermo & Comfort SE • 2021

Webasto Thermo & Comfort SE
Postfach 1410
82199 Gilching
Germany

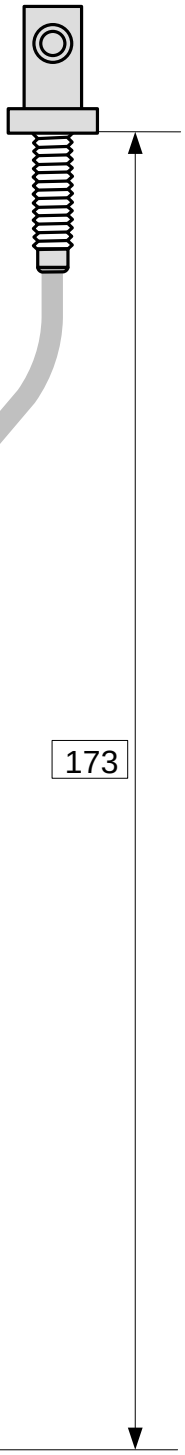
Company address:
Friedrichshafener Str. 9
82205 Gilching
Germany

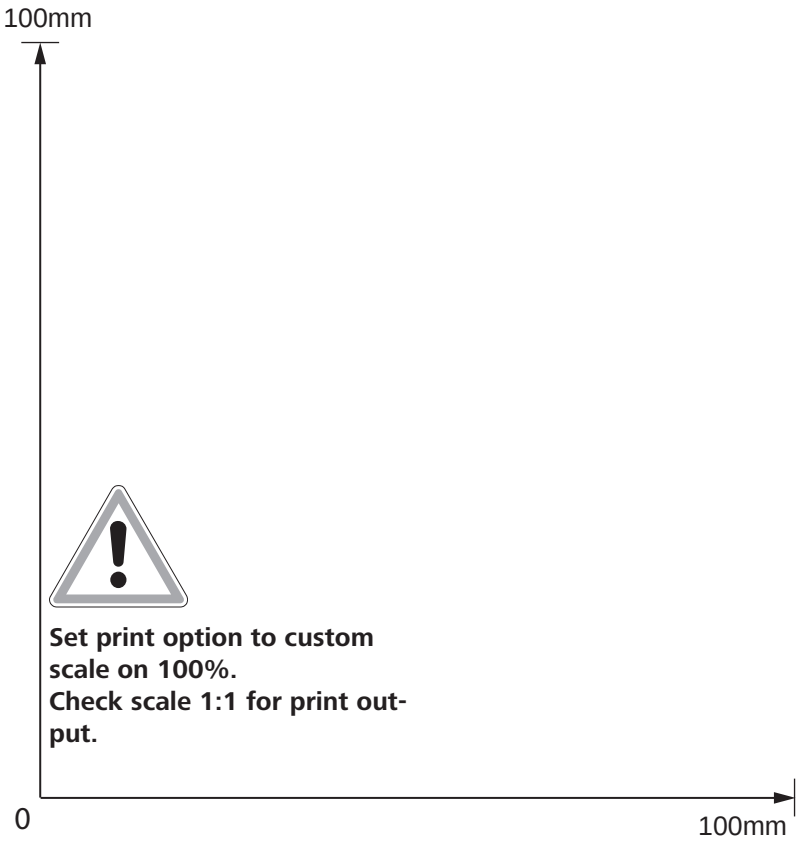
Technical Extranet: https://dealers.webasto.com

CE

WWW.WEBASTO.COM

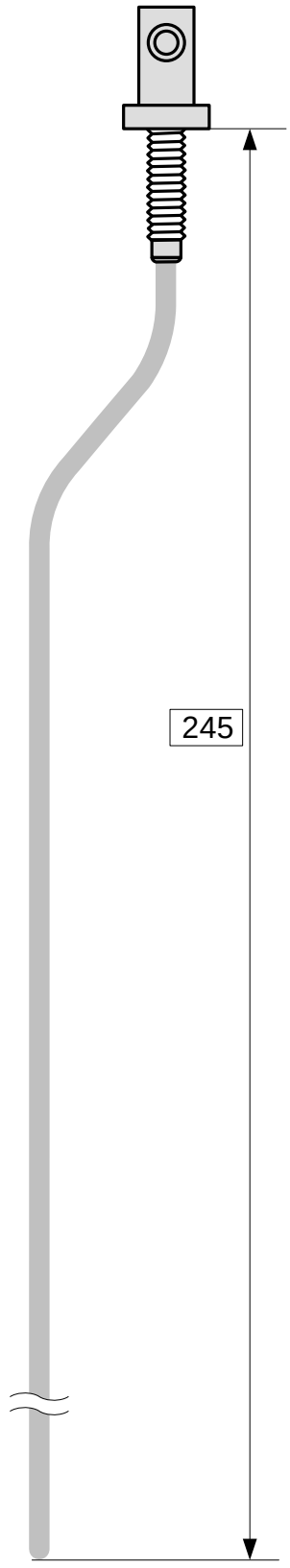
17 Tank extracting device template for 70 L and 80 L

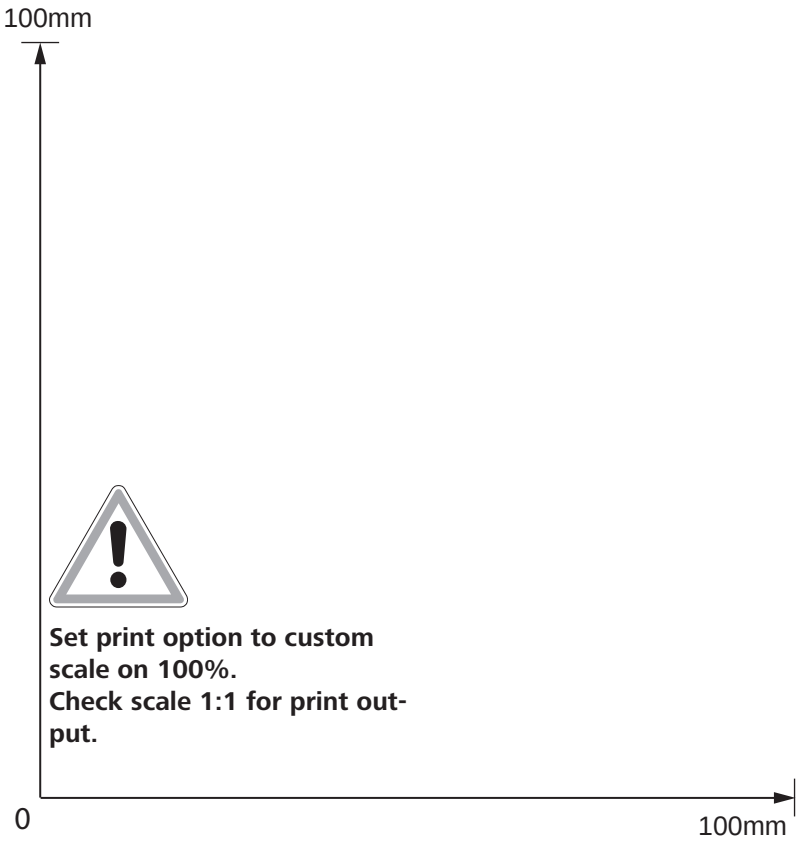




Set print option to custom scale on 100%.
Check scale 1:1 for print output.

18 Tank extracting device template for 95 L





Set print option to custom scale on 100%.
Check scale 1:1 for print output.