



Water Heater

Thermo Top Evo Parking Heater



With FuelFix

Installation Documentation VW Golf VII / Sportsvan

Validity

Manufacturer	Model	Type	EG-BE No. / ABE
VW	Golf VII	AU	e1 * 2007 / 46 * 0623 * ...
VW	Golf VII Variant	AU	e1 * 2007 / 46 * 0627 * ...

Motorisation	Fuel	Transmission type	Output in kW	Displacement in cm ³	Engine code
1.2 TSI	Petrol	5-speed SG	63	1197	CJZB
1.2 TSI	Petrol	6-speed SG	77	1197	CJZA
1.4 TSI	Petrol	DSG	90	1395	CMBA / CUKA
1.4 TSI	Petrol	6-speed SG	90	1395	CMBA / CXSA
1.4 TSI	Petrol	6-speed SG	103	1395	CHPA
1.4 TSI	Petrol	DSG	103	1395	CPTA
1.6 TDI	Diesel	5-speed SG	77	1598	CLHA
1.6 TDI	Diesel	6-speed SG	81	1598	CRKB
2.0 TDI	Diesel	DSG	110	1968	CRBC

Manufacturer	Model	Type	EG-BE No. / ABE
VW	Sportsvan	AUV	e1 * 2007 / 46 * 0627 * ...

Motorisation	Fuel	Transmission type	Output in kW	Displacement in cm ³	Engine code
1.2 TSI	Petrol	5-speed SG	63	1197	CJZB
1.4 TSI	Petrol	DSG	92	1395	CZCA
1.6 TDI	Diesel	5-speed SG	81	1598	CRKB
1.6 TDI (BlueMotion)	Diesel	6-speed SG	81	1598	CRKB
2.0 TDI (BlueMotion)	Diesel	6-speed SG	110	1968	CRLB

SG = manual transmission
DSG = dual clutch transmission

Golf VII from Model Year 2013
Sportsvan from Model Year 2014
Left-hand drive vehicle

VW Golf VII / Sportsvan

Verified equipment variants: Climatronic
Climatic (only for Golf VII)
Front fog lights
Passenger compartment monitoring (can be turned off)
Xenon / Headlight cleaning device
Start - Stop (only for Golf VII)

Not verified: Passenger compartment monitoring

Exclusion: Heavy-duty running gear incl. stoneguard

Total installation time: approx. 8.0 hours

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Necessary Components

- Basic delivery scope of Top Evo according to price list
- Installation kit with FuelFix for VW Golf VII / Sportsvan 2013 Petrol and diesel: **1319108B**
- Heater control in accordance with price list and upon consultation with end customer
- In case of installation of MultiControl CAR: MultiControl installation frame: **9030077_**
- In case of Telestart, indicator lamp in accordance with price list and in consultation with end customer

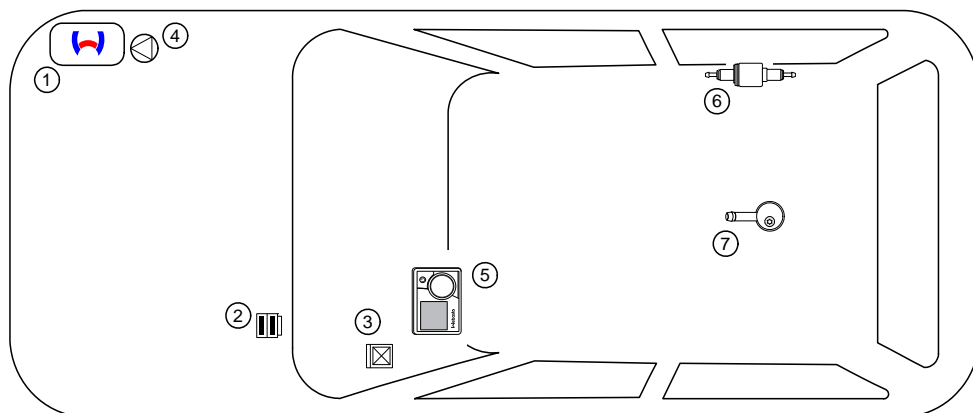
Installation instructions:

- Arrange for the vehicle to be delivered with the tank only about ¼ full.
- The installation location of the push button in case of Telestart or Thermo Call should be confirmed with the end customer.
- Depending on the space required and the manufacturer's instructions, we recommend the use of a vehicle battery with a higher electrical capacity.

Installation Overview

Legend:

1. Heater
2. Engine compartment fuse holder
3. LIN- Gateway
4. Circulating pump
5. MultiControl CAR
6. Metering pump
7. FuelFix



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.

Information on Operating and Installation Instructions

1 Important information (not complete)

1.1 Installation and repair



The improper installation or repair of Webasto heating and cooling systems can cause fire or the leakage of deadly carbon monoxide, leading to serious injury or death.



To install and repair Webasto heating and cooling systems you need to have completed a special company training course and have the appropriate technical documentation, special tools and special equipment.



Installation and repair may **ONLY** be carried out by persons trained and certified in a Webasto training course. **NEVER** try to install or repair Webasto heating or cooling systems if you have not completed a Webasto training course, you do not have the necessary technical skills and you do not have the technical documentation, tools and equipment available to ensure that you can complete the installation and repair work properly.

Only use genuine Webasto parts. See the Webasto air and water heaters accessories catalogue for this purpose.

1.2 Operation

To ensure safe operation, we recommend having the heater checked every two years by an authorised Webasto dealer, especially when used over a long period and/or under extreme environmental conditions.

Do not operate the heater in closed rooms due to the danger of poisoning and suffocation.

Always switch off the heater before refuelling.

The heater may only be used with the prescribed fuel diesel (DIN EN 590) or petrol (DIN EN 228).

The heater may not be cleaned with a high-pressure cleaner.

1.3 Please note

ALWAYS follow all Webasto installation and operating instructions and observe all warnings.

To become familiar with and understand all functions and properties of the heater, the operating instructions must be read carefully and observed at all times.

For proper, safe installation and repair work, the installation instructions with all warnings and safety information must be carefully read and observed at all times. Please always contact a workshop authorised by Webasto for all installation and repair work.

Important

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, 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.

Sharp edges should be fitted with rub protection. Spray unfinished body areas, e.g. drilled holes, with anti-corrosion wax (Tectyl 100K, Order No. 111329).

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

The initial startup 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.

2 Statutory regulations governing installation

Guidelines	Thermo Top Evo
Heating Directive ECE R122	E1 00 0258
EMC Directive ECE R10	E1 04 5627

Note

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.

Important

Failure to follow the installation instructions will result in the invalidation of the type approval for the heater and therefore invalidation of the general **homologation of the vehicle**.

Note

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

2.1 Excerpt from ECE regulation 122 (heating system) paragraph 5 for the installation of the heater

Beginning of excerpt.

ANNEX VII

REQUIREMENTS FOR COMBUSTION HEATERS AND THEIR INSTALLATION

1. GENERAL REQUIREMENTS

1.7.1. A clearly visible tell-tale in the operator's field of view shall inform when the combustion heater is switched on or off.

2. VEHICLE INSTALLATION REQUIREMENTS

2.1. Scope

2.1.1. Subject to paragraph 2.1.2, combustion heaters shall be installed according to the requirements of this Annex.

2.1.2. Vehicles of category O having liquid fuel heaters are deemed to comply with the requirements of this Annex.

2.2. Positioning of heater

2.2.1. Body sections and any other components in the vicinity of the heater must be protected from excessive heat and the possibility of fuel or oil contamination.

2.2.2. The combustion heater shall not constitute a risk of fire, even in the case of overheating. This requirement shall be deemed to be fulfilled if the installation ensures an adequate distance to all parts and suitable ventilation, by the use of fire resistant materials or by the use of heat shields.

2.2.3. In the case of M2 and M3 vehicles, the heater must not be positioned in the passenger compartment. However, an installation in an effectively sealed envelope which also complies with the conditions in paragraph 2.2.2 may be used.

2.2.4. The label referred to in paragraph 1.4 or a duplicate, must be positioned so that it can be easily read when the heater is installed in the vehicle.

2.2.5. Every reasonable precaution should be taken in positioning the heater to minimise the risk of injury and damage to personal property.

2.3. Fuel supply

2.3.1. The fuel filler must not be situated in the passenger compartment and must be provided with an effective cap to prevent fuel spillage.

2.3.2. In the case of liquid fuel heaters, where a supply separate to that of the vehicle is provided, the type of fuel and its filler point must be clearly labelled.

2.3.3. A notice, indicating that the heater must be shut down before refuelling, must be affixed to the fuelling point. In addition a suitable instruction must be included in the manufacturer's operating manual.

2.4. Exhaust system

2.4.1. The exhaust outlet must be located so as to prevent emissions from entering the vehicle through ventilators, heated air inlets or opening windows.

2.5. Combustion air inlet

2.5.1. The air for the combustion chamber of the heater must not be drawn from the passenger compartment of the vehicle.

2.5.2. The air inlet must be so positioned or guarded that blocking by rubbish or luggage is unlikely.

2.6. Heating air inlet

2.6.1. The heating air supply may be fresh or recirculated air and must be drawn from a clean area not likely to be contaminated by exhaust fumes emitted either by the propulsion engine, the combustion heater or any other vehicle source.

2.6.2. The inlet duct must be protected by mesh or other suitable means.

2.7. Heating air outlet

2.7.1. Any ducting used to route the hot air through the vehicle must be so positioned or protected that no injury or damage could be caused if it were to be touched.

2.7.2. The air outlet must be so positioned or guarded that blocking by rubbish or luggage is unlikely.

End of excerpt.

In multilingual versions the German language is binding.

VW Golf VII / Sportsvan

Information on Validity

The installation instructions apply to VW Golf VII / Sportsvan Petrol and diesel vehicles - for validity, see page 1 - from model year 2013 and later, 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.

Technical Information

Special Tools

- Hose clamp pliers for auto-tightening hose clamps
- Hose clamp pliers for Clic hose clamps of type W
- Automatic wire stripper 0.2 - 6mm²
- Crimping pliers for cable lug / tab connector 0.5 - 6mm²
- Torque wrench for 2.0 - 10 Nm
- Hose clamping pliers
- Metric thread-setter kit
- Deep-hole marker
- Webasto Thermo Test Diagnosis with current software

Dimensions

- All dimensions are in mm.

Tightening torque values

- Tightening torque values of 5x13 heater bolts and 5x11 heater stud bolts = 8Nm.
- Tightening torque value of 5x15 water connection piece retaining plate bolt = 7Nm.
- Tighten other bolt connections in accordance with manufacturer's instructions or in accordance with state-of-the-art technology.

Explanatory Notes on Document

You will find an identification mark on the outside top right corner of the page in question to provide you with a quick overview of the individual working steps.

Special features are highlighted using the following symbols:

Mechanical System



Electrical System



Coolant Circuit



Combustion Air



Fuel



Exhaust Gas



Software



Specific risk of damage to components.



Specific risk due to electrical voltage.



Specific risk of injury or fatal accidents.



Specific risk of fire or explosion.



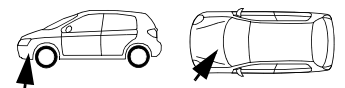
Reference to vehicle specific documents of the manufacturer's or to the installation instructions of the Webasto components.



Reference to a special technical feature.



The arrow in the vehicle icon indicates the position on the vehicle and the viewing angle.



Tightening torque according to the manufacturer's vehicle-specific documents.



Preliminary Work

Vehicle



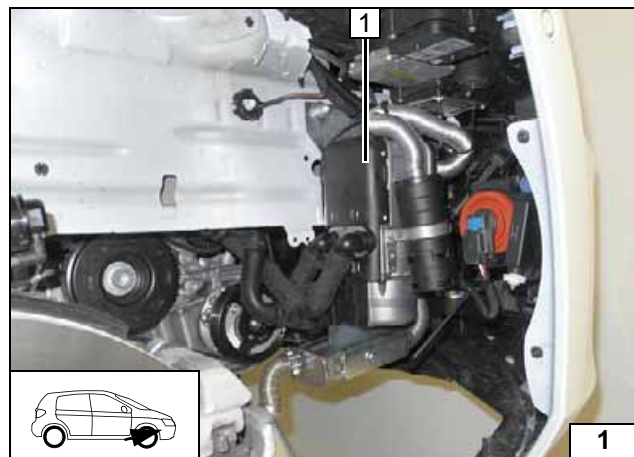
- Open the fuel tank cap.
- Ventilate the fuel tank.
- Close the fuel tank cap again.
- Depressurise the cooling system.
- Disconnect and remove the battery completely together with the carrier.
- Completely remove the air filter box together with the intake hose.
- Remove the engine underride protection.
- Remove the right underride protection.
- Remove the underride protection on the fuel tank (if present).
- Remove the right front wheel.
- Remove the wheel well trim on the front right-hand side.
- Remove the lateral instrument panel trim on the driver's side (only for Telestart).
- Remove the A-pillar trim on the driver's side (only for Telestart).
- Remove the footwell trim on the front passenger's side.
- Remove the lateral instrument panel trim on the front passenger's side (only for Thermo Call, Golf VII).
- Remove the lower and lateral A-pillar trim on the front passenger's side (only for Thermo Call, Golf VII).
- Remove the rear bench seat (only for Golf VII).
- Remove the right rear seat (only for Sportsvan).
- Open the right-hand tank-fitting service lid.

Heater

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

Note:

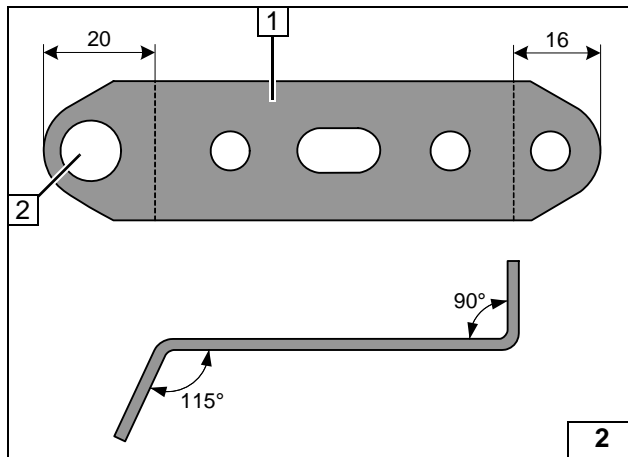
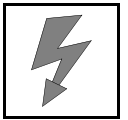
The installation steps are nearly identical for both TSI and TDI. Deviations have been documented, otherwise all images show a 1.6 TDI.



Heater Installation Location

- 1 Heater

Installation location

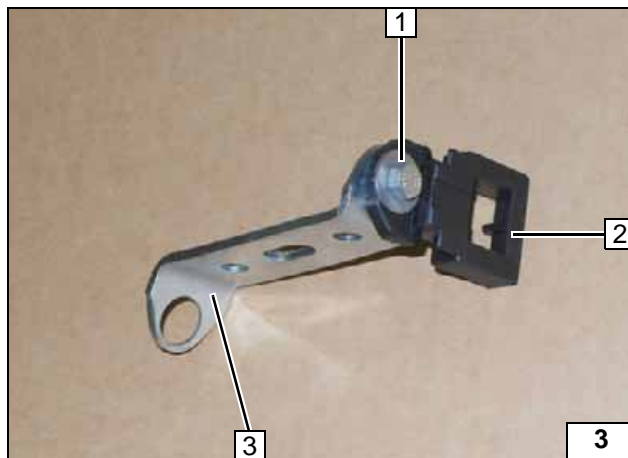


Preparing Electrical System

- 1 Perforated bracket
- 2 12.5 mm dia. hole

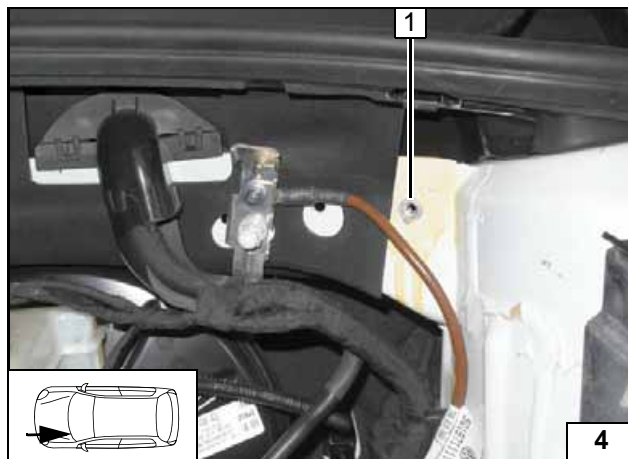


Preparing perforated bracket



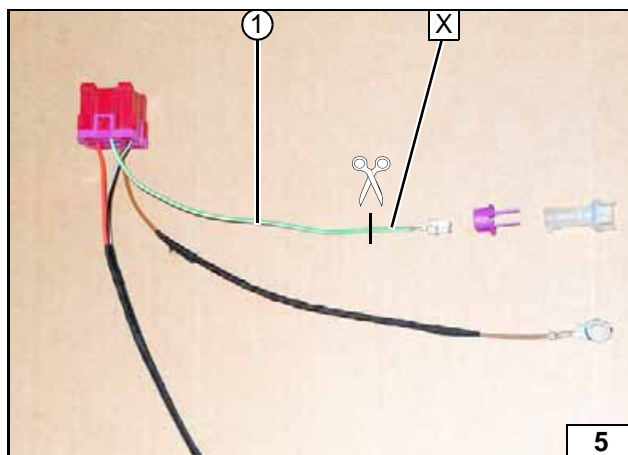
- 1 M5x16 bolt, washer [2x], nut
- 2 Fuse holder retaining plate
- 3 Perforated bracket

Premounting engine compartment fuse holder



- 1 Drill out existing hole to 9.1 mm dia., rivet nut

Installing rivet nut



Wire sections retain their numbering in the entire document.

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

Separate green/white (gn/ws) wire of ① LIN Gateway socket, pin SH, at the marking (if connector premounted). Discard section X and connector.



Preparing wiring harness

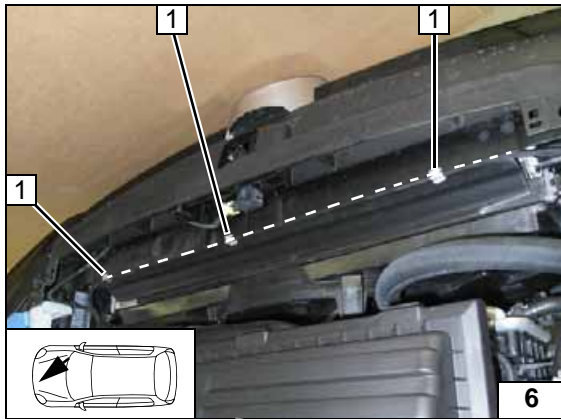


Electrical System



Wiring harness routing

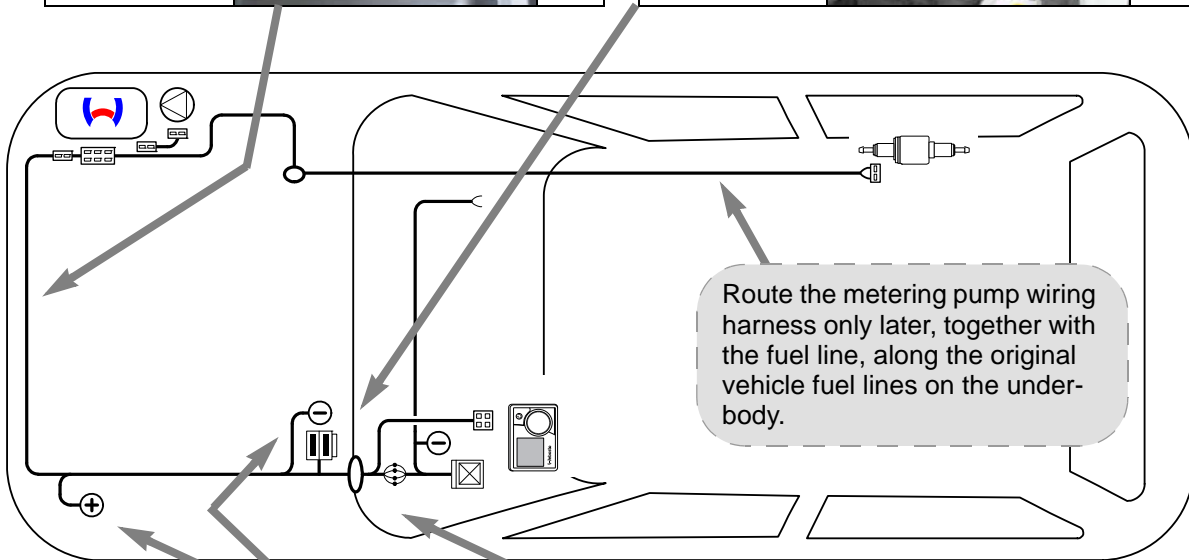
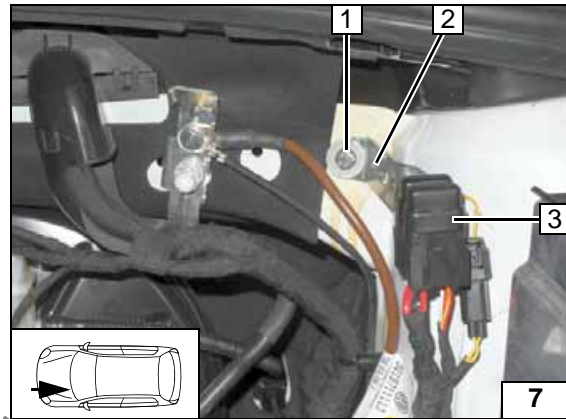
Route heater wiring harness below the cover along the marking to the installation location of the heater and fasten using retaining clamp 1 [3x].



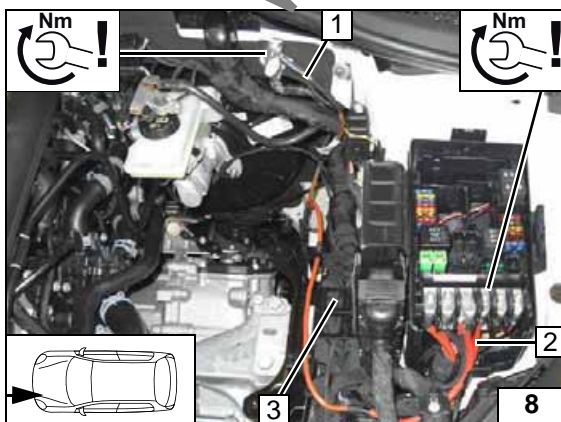
Engine compartment fuse holder

Replace 30A fuse F2 with 1A fuse.

- 1 M6x20 bolt, large diameter washer
- 2 Perforated bracket
- 3 Fuses F1-2

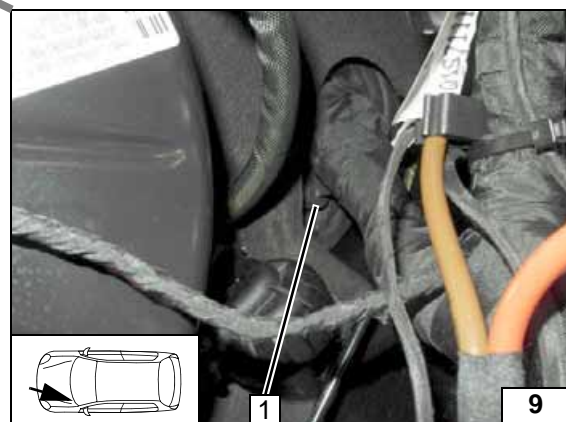


Wiring harness routing diagram



Positive and earth wire

- 1 Earth wire on original vehicle earth point
- 2 Positive wire on positive distributor
- 3 Wiring harnesses in original vehicle line duct



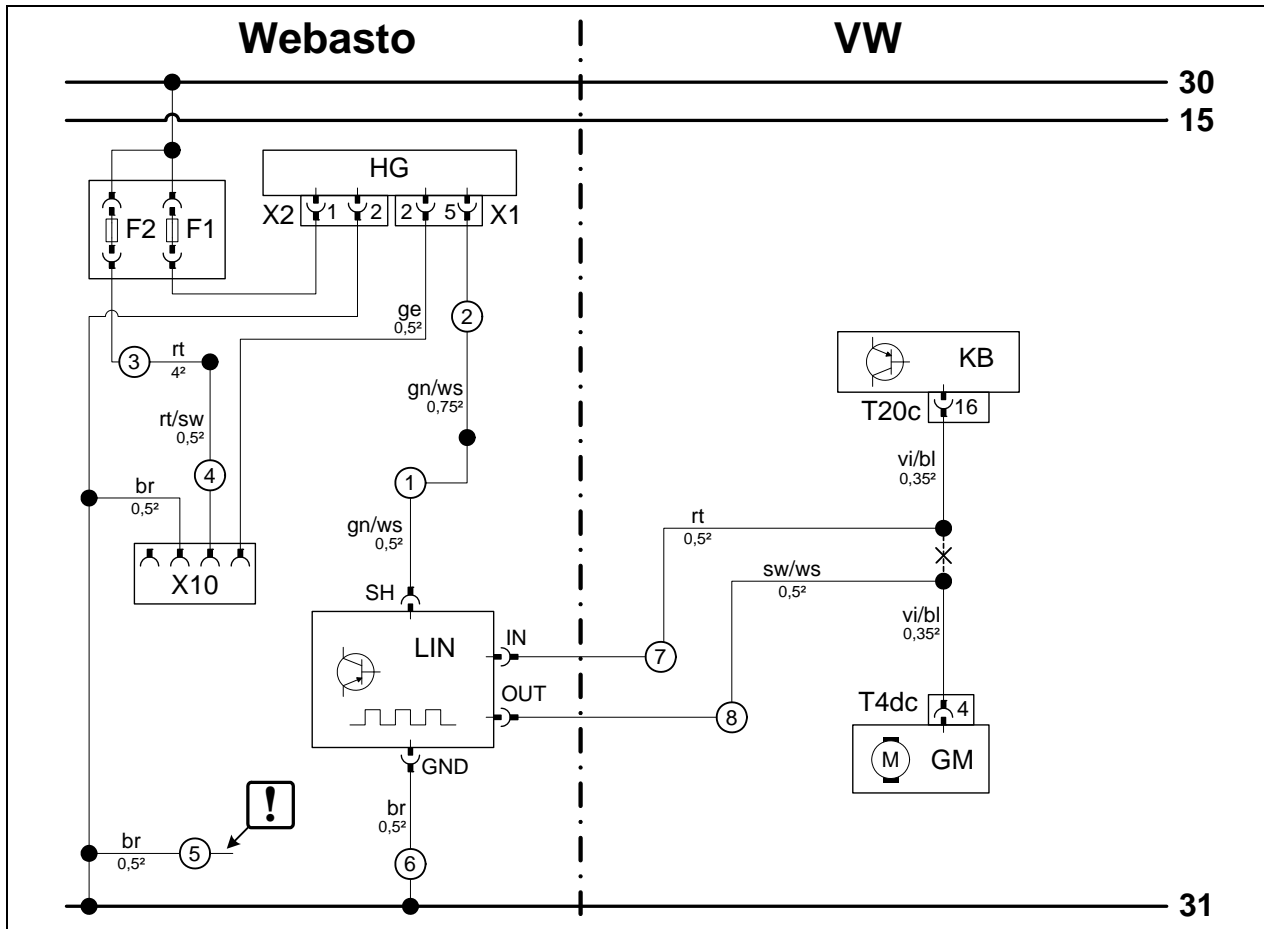
Wiring harness pass through

Route heater wiring harnesses and heater control through protective rubber plug 1 to the passenger compartment.





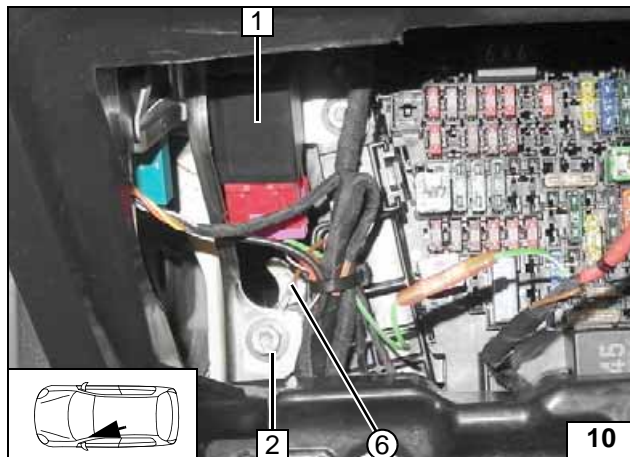
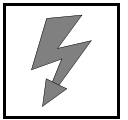
Fan Controller



Wiring diagram

Webasto components		Vehicle components		Colours and symbols	
HG	TT-Evo heater	KB	A/C control unit	rt	red
X1	6-pin heater connector	T20c	20-pin connector KB	sw	black
X2	2-pin heater connector	GM	Fan motor	ge	yellow
F1	20A fuse	T4dc	4-pin connector GM	gn	green
F2	Replace 30A fuse with 1A fuse			vi	violet
X10	4-pin connector of heater control			ws	white
LIN	LIN- Gateway			br	brown
				bl	blue
					Insulate wire end and tie back
				X	Cutting point
				Wiring colours may vary.	

Legend

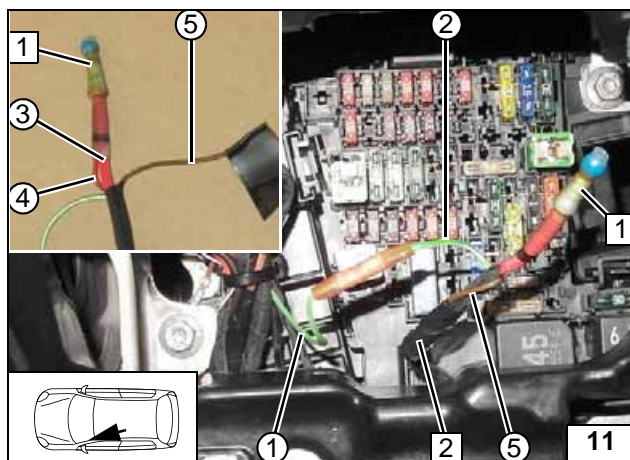


Golf VII

Mount LIN Gateway 1 on socket and fasten together with adhesive tape. Ensure freedom of movement with respect to storage compartment.

- 2 Original vehicle bolt
- ⑥ Brown (br) wire of LIN-Gateway/GND

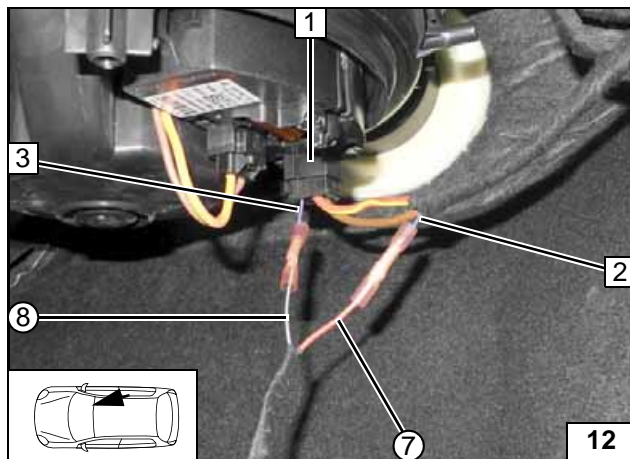
Installing LIN- GW



Connect red (rt) wire ③ and red/black (rt/sw) wire ④ according to wiring diagram. Insulate and tie back brown (br) wire ⑤.

- 1 Solder wire terminator
- 2 Heater wiring harness
- ① Green/white (gn/ws) wire of LIN-Gateway/SH
- ② Green/white (gn/ws) wire of heater X1/5

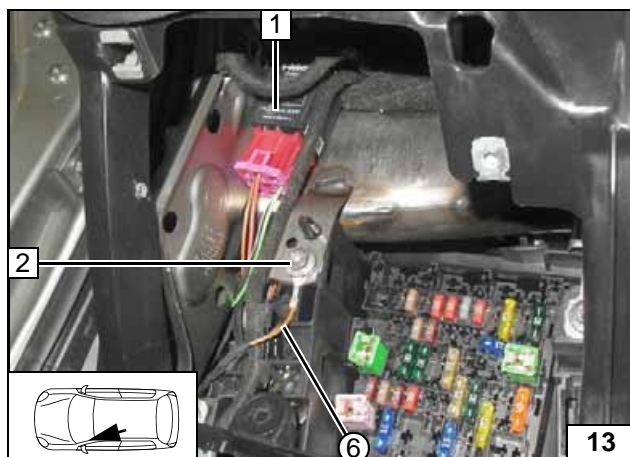
Connecting wiring harnesses



Connection to 4-pin connector T4dc 1 from fan motor.

- 2 Violet/blue (vi/bl) wire of connector T20c, pin 16, A/C control unit
- 3 Violet/blue (vi/bl) wire of 4-pin connector of GM, pin 4
- ⑦ Red (rt) wire of LIN-Gateway/IN
- ⑧ Black/white (sw/ws) wire of LIN-Gateway/OUT

Connecting fan motor



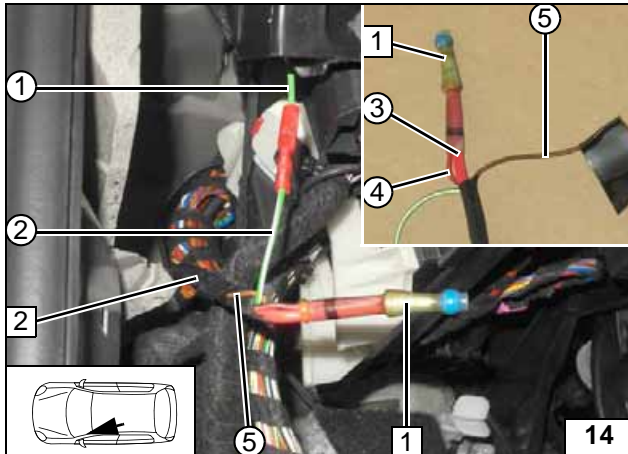
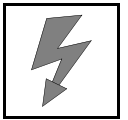
Sportsvan

Mount LIN Gateway 1 on socket and fasten together with adhesive tape.

- 2 Original vehicle bolt
- ⑥ Brown (br) wire of LIN-Gateway/GND

Installing LIN- GW



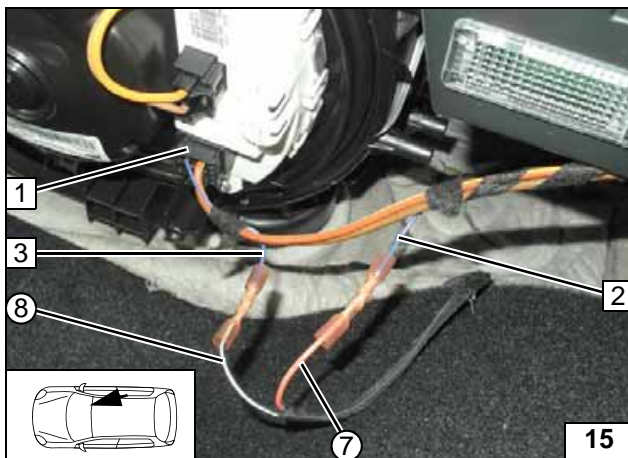


Connect red (rt) wire ③ and red/black (rt/sw) wire ④ according to wiring diagram. Insulate and tie back brown (br) wire ⑤.

- 1 Solder wire terminator
- 2 Heater wiring harness
- ① Green/white (gn/ws) wire of LIN-Gateway/SH
- ② Green/white (gn/ws) wire of heater X1/5



Connecting wiring harnesses

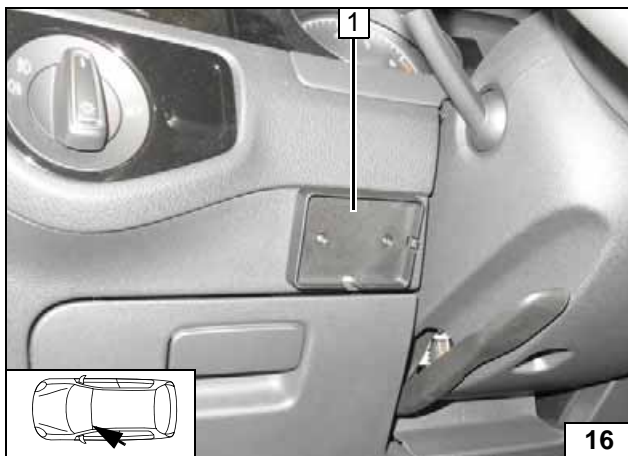


Connection to 4-pin connector T4dc 1 from fan motor.

- 2 Violet/blue (vi/bl) wire of connector T20c, pin 16, A/C control unit
- 3 Violet/blue (vi/bl) wire of 4-pin connector of GM, pin 4
- ⑦ Red (rt) wire of LIN-Gateway/IN
- ⑧ Black/white (sw/ws) wire of LIN-Gateway/OUT



Connecting fan motor



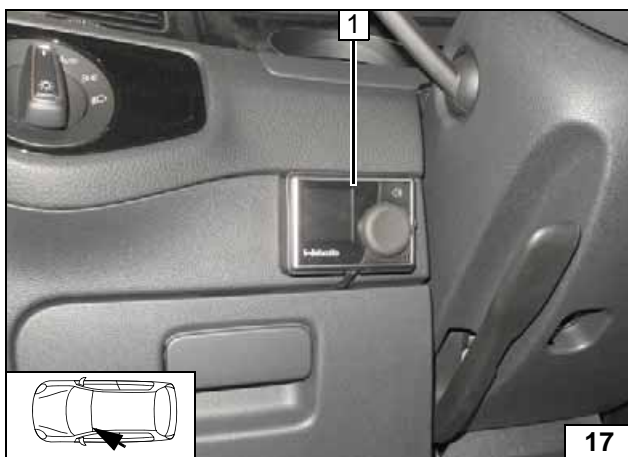
Heater Control Elements for Golf VII

MultiControl CAR Option

Install MultiControl CAR bracket 1 using the provided bolts as shown.



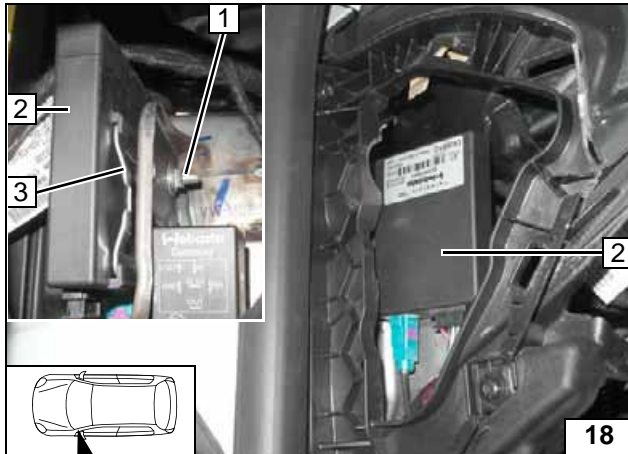
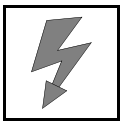
Installing MultiControl CAR bracket



- 1 MultiControl CAR



Installing MultiControl CAR

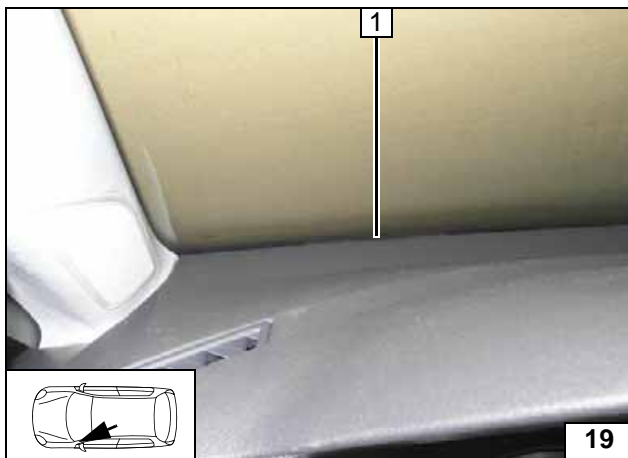


Remote Option (Telestart)

- 1 M5x16 bolt, large diameter washer, nut, existing hole
- 2 Receiver
- 3 Bracket of receiver

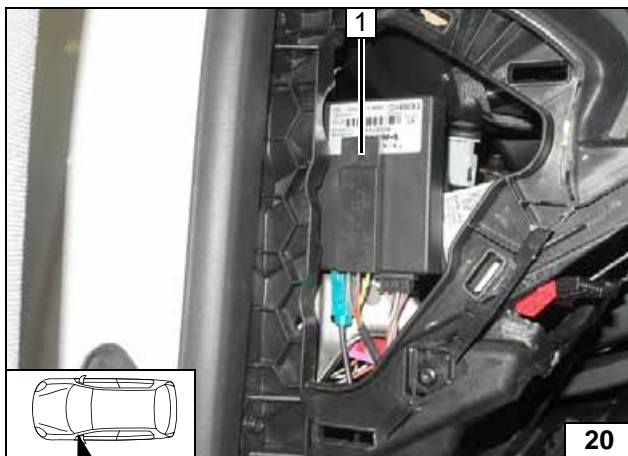


Installing receiver



- 1 Aerial

Installing aerial



Temperature sensor T100 HTM

Fasten temperature sensor 1 with double-sided adhesive tape.



Installing temperature sensor

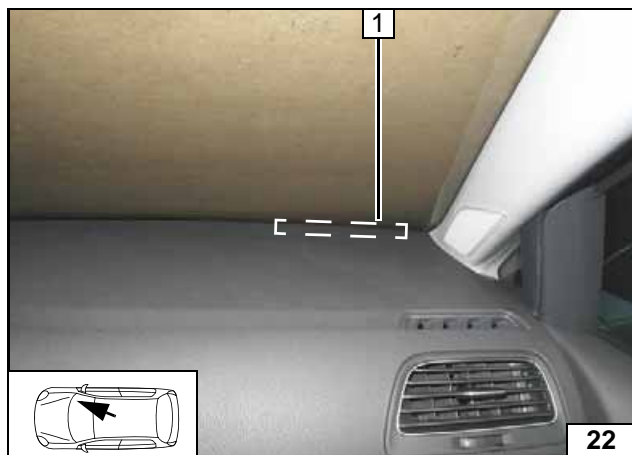


Thermo Call Option

- 1 Fasten receiver with double-sided adhesive tape

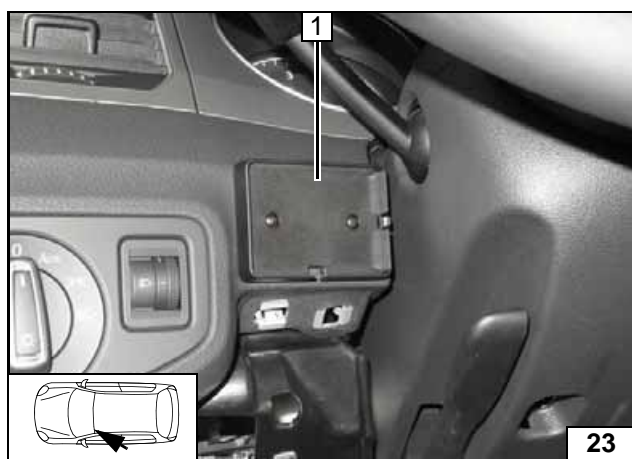


Installing receiver



1 Aerial (concealed on windscreen)

Installing aerial



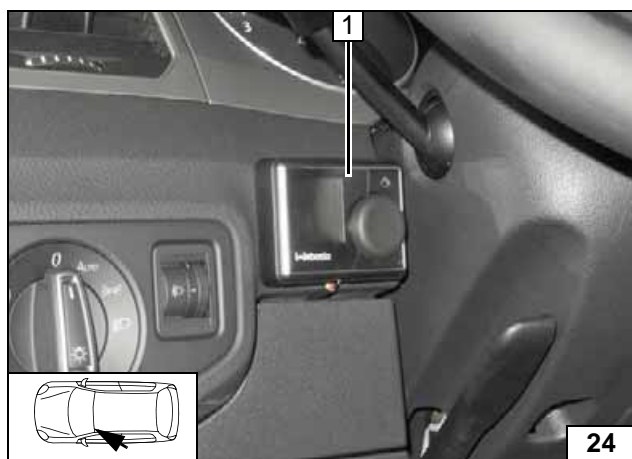
Heater Control Elements for Sportsvan



MultiControl CAR Option

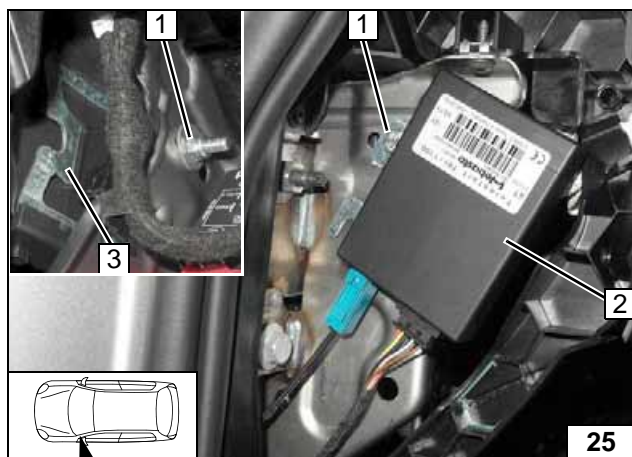
Install MultiControl CAR bracket 1 using the provided bolts as shown.

Installing MultiControl CAR bracket



1 MultiControl CAR

Installing MultiControl CAR

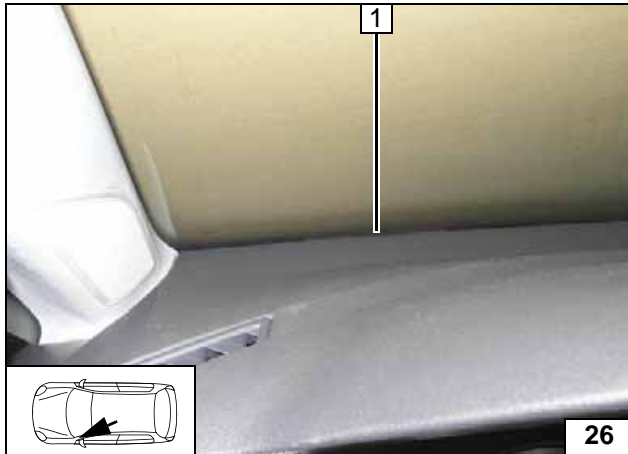


Remote Option (Telestart)



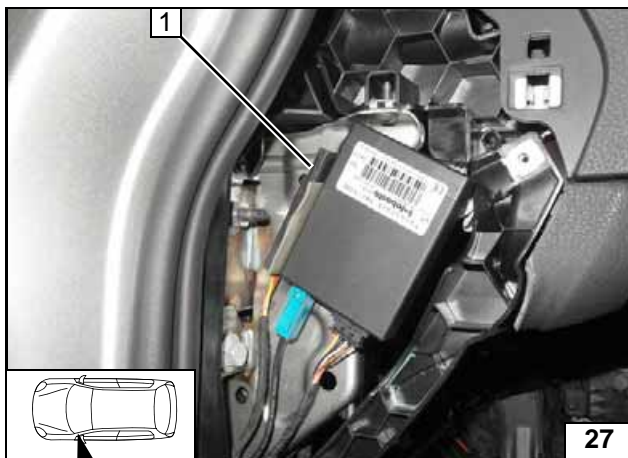
- 1 M5x16 bolt, large diameter washer, nut, existing hole
- 2 Receiver
- 3 Bracket of receiver

Installing receiver



1 Aerial

Installing aerial

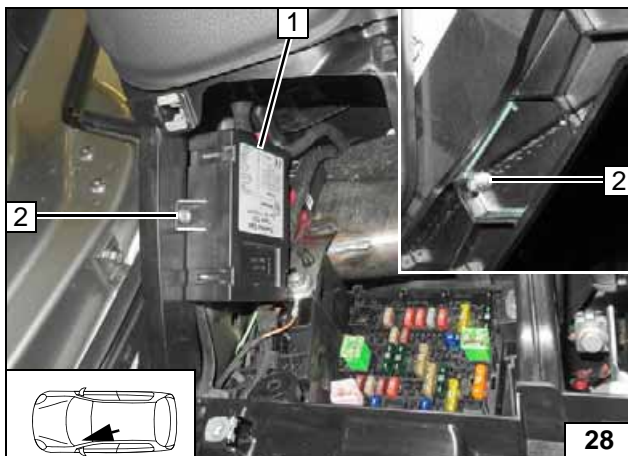


Temperature sensor T100 HTM

Fasten temperature sensor 1 with double-sided adhesive tape.



Installing temperature sensor

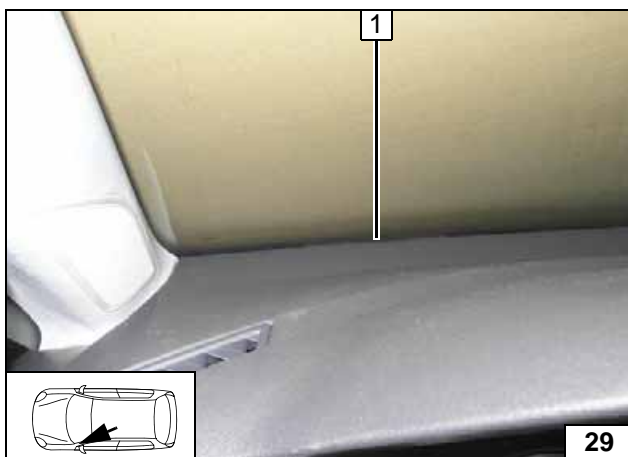


Thermo Call Option

- 1 Receiver
- 2 2.5 mm dia. hole, 5.5x9.5 mm self-tapping screw

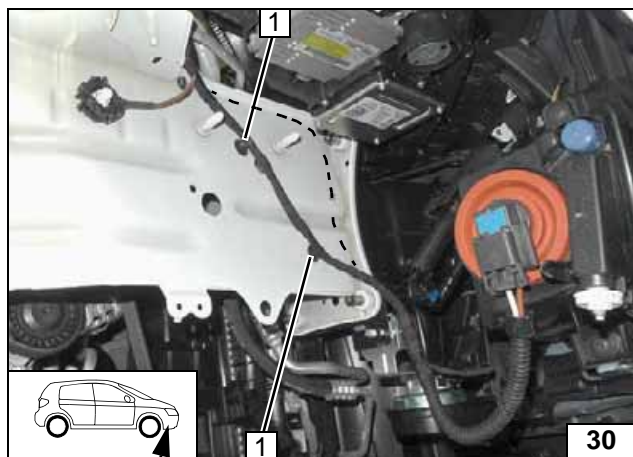


Installing receiver



1 Aerial

Installing aerial

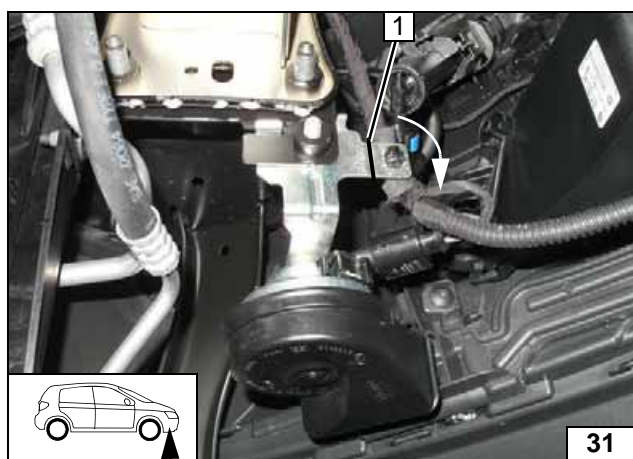


Preparing Installation Location

Detach retaining clip 1 [2x] from original vehicle wiring harness. Route wiring harness along the marking (dotted line).



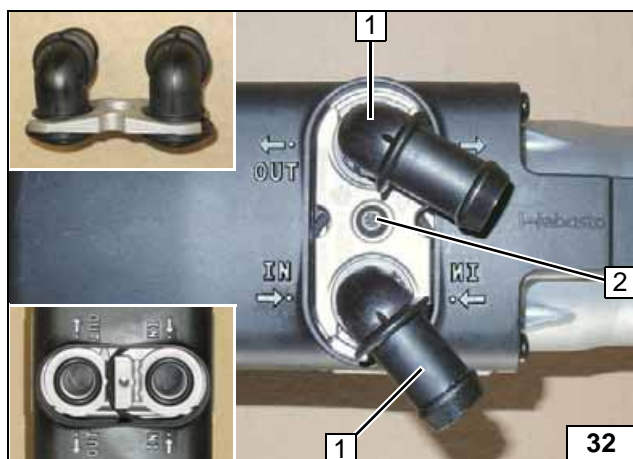
Aligning wiring harness



Angle down horn bracket at marking 1 by 90°.



Aligning horn bracket

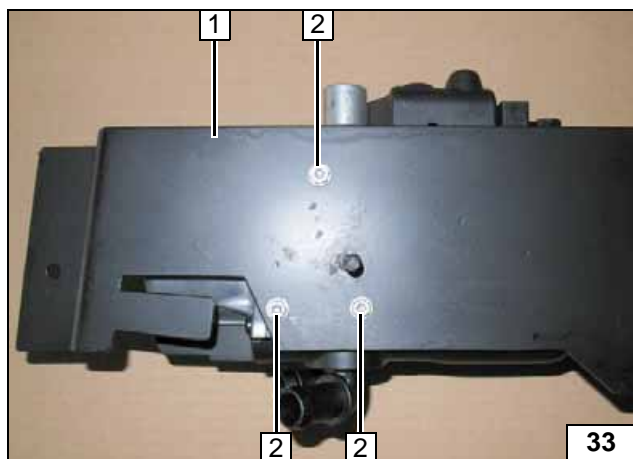


Preparing Heater

- 1 Water connection piece, sealing ring [2x each]
- 2 5x15 self-tapping bolt, retaining plate of water connection piece

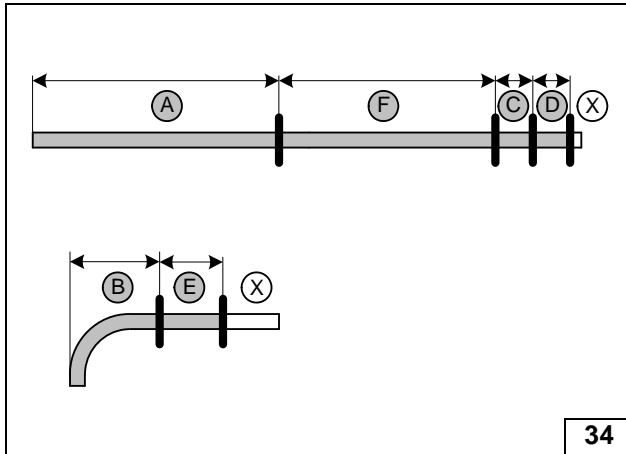
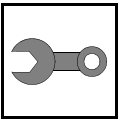


Installing water connection piece



- 1 Bracket
- 2 5x13 self-tapping bolt [3x]

Installing bracket



34

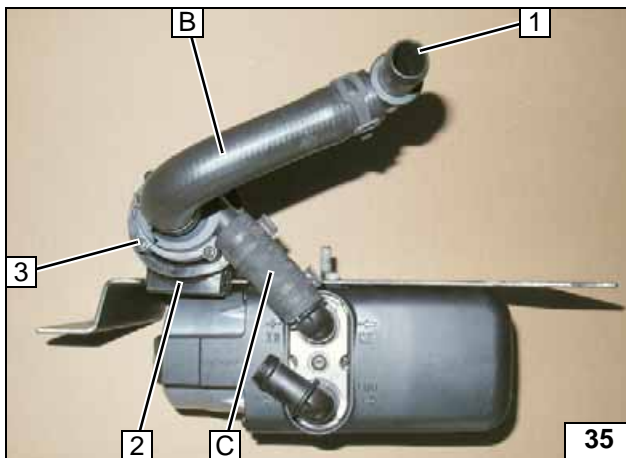
TSI

Discard section X.

- A = 1070
- B = 110
- C = 60
- D = 70
- E = 110
- F = 990



Cutting hoses to length



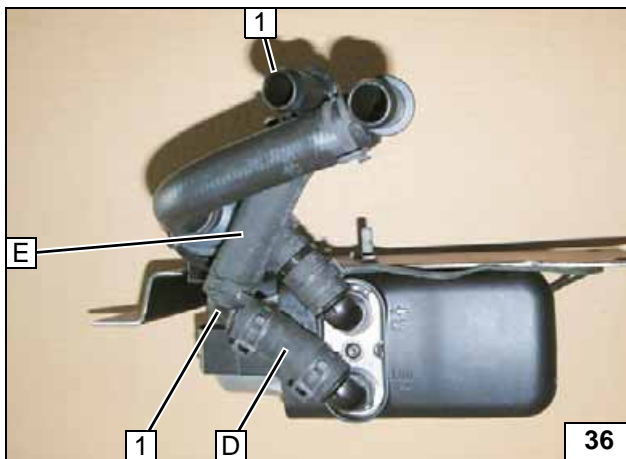
35

All spring clips = 25 mm dia.
Push circulating pump mount 2 onto tab of bracket.

- 1 90° connecting pipe
- 3 Circulating pump



Premounting hoses



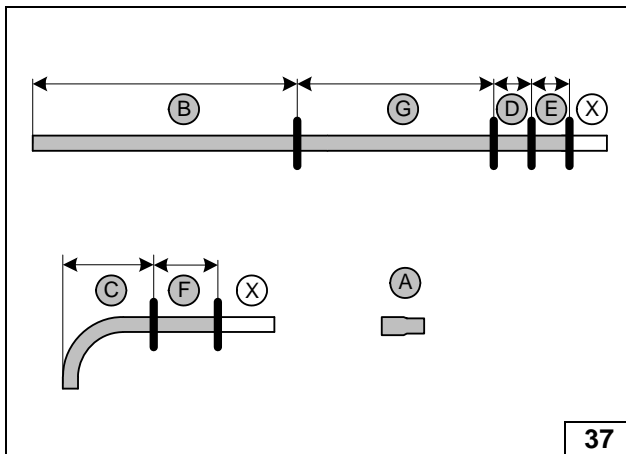
36

All spring clips = 25 mm dia.

- 1 90° connecting pipe [2x]



Premounting hoses



37

TDI

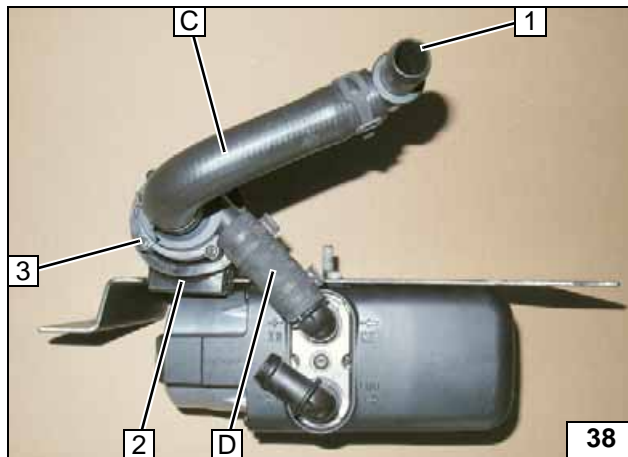
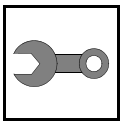
Discard section X.

Hose A = 18x20 mm dia., straight moulded hose

- B = 1020
- C = 110
- D = 60
- E = 70
- F = 110
- G = 980



Cutting hoses to length

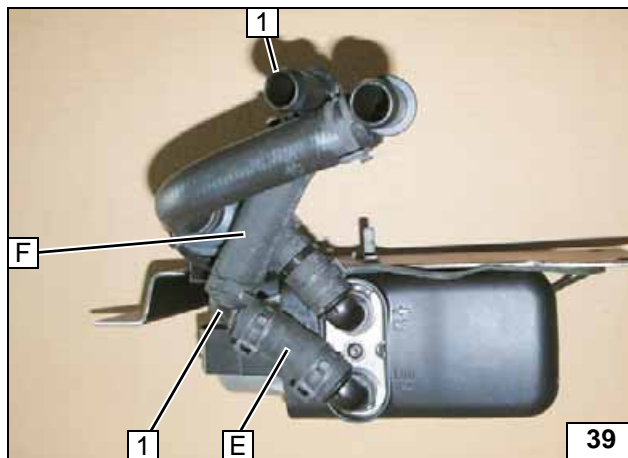


All spring clips = 25 mm dia.
Push circulating pump mount 2 onto tab of bracket.

- 1 90° connecting pipe
- 3 Circulating pump



Premounting hoses

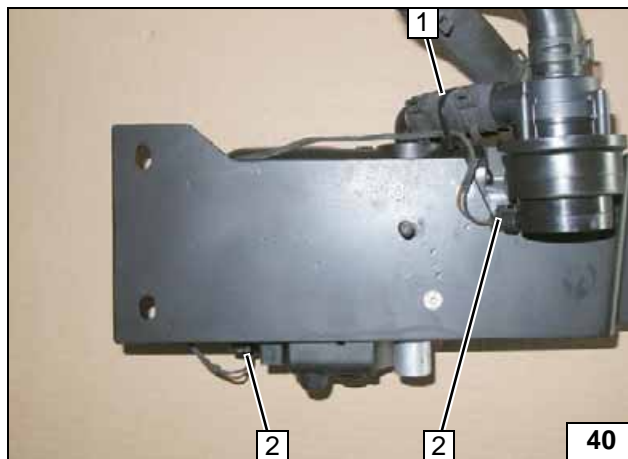


All spring clips = 25 mm dia.

- 1 90° connecting pipe [2x]



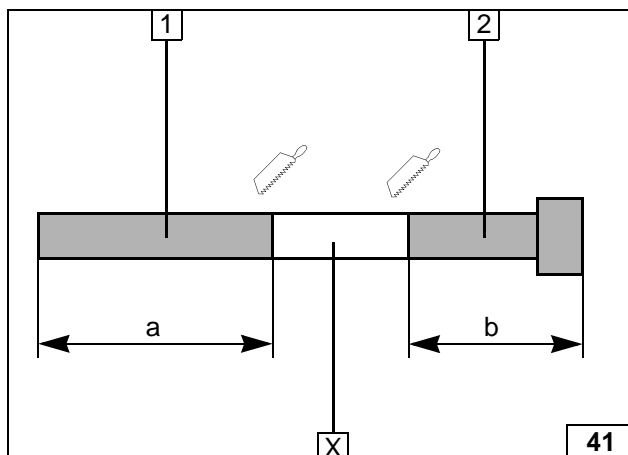
Premounting hoses



All vehicles

- 1 Cable tie
- 2 Connector of circulating pump wiring harness [2x]

Connecting wiring harness

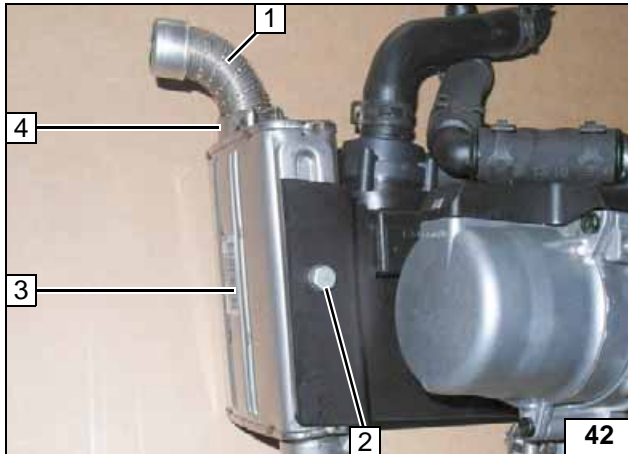
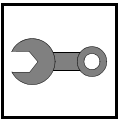


Discard section X.

- 1 Exhaust pipe
a = 215
- 2 Exhaust end section
b = 100

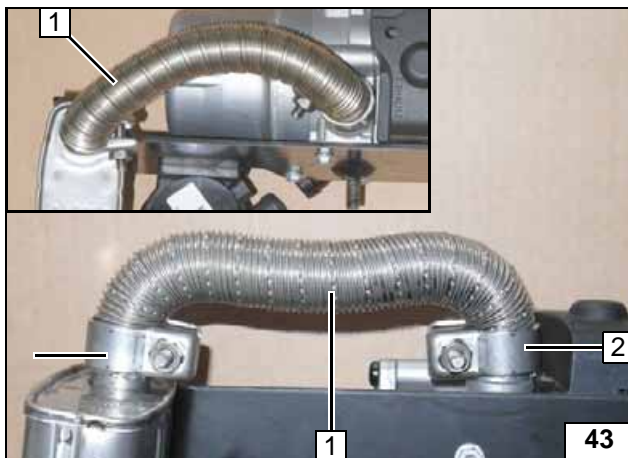


Preparing exhaust pipe



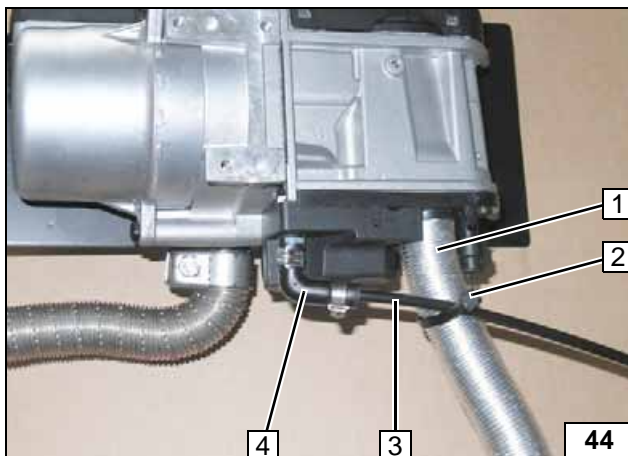
- 1 Exhaust end section
- 2 M6x16 bolt, spring lockwasher
- 3 Silencer
- 4 Hose clamp

Installing silencer and exhaust end section



- 1 Exhaust pipe
- 2 Hose clamp [2x]

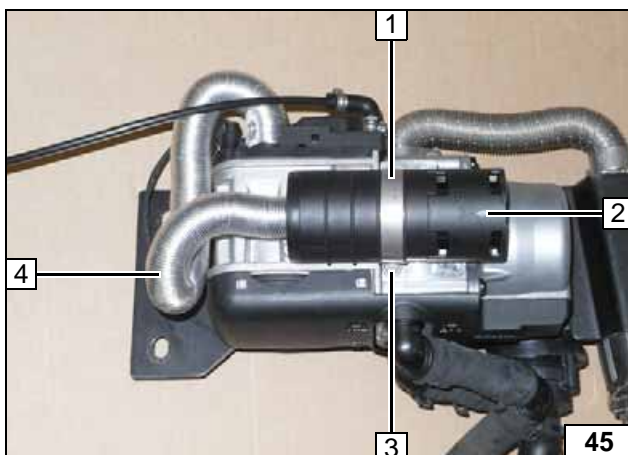
Installing exhaust pipe



- 1 Combustion air pipe
- 2 Cable tie
- 3 Fuel line
- 4 90° short moulded hose, 10 mm dia. clamp [2x]



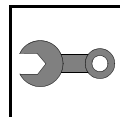
Premounting combustion air pipe and fuel line



- 1 51 mm dia. clamp
- 2 Combustion air silencer
- 3 5x13 self-tapping bolt
- 4 Combustion air pipe



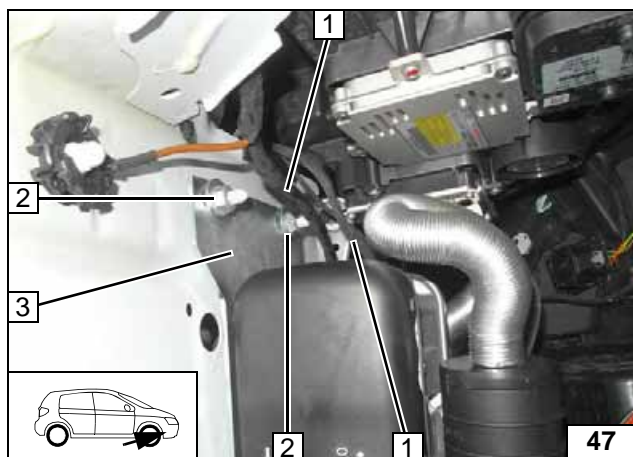
Premounting combustion air silencer



Installing Heater

- 1 Heater wiring harness connector [2x]

Installing wiring harness

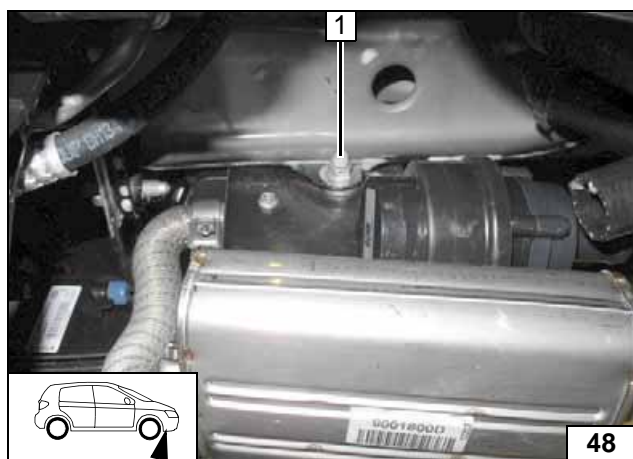


Insert one 5 mm shim each between bracket 3 and frame side member. Route original vehicle wiring harness 1 in front of the bracket as shown.



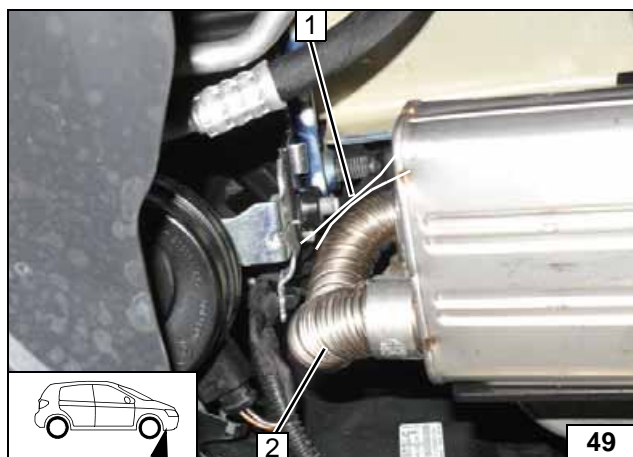
- 2 Original vehicle stud bolt, 5 mm shim, M8 flanged nut [2x each]

Installing heater



- 1 Stud bolt of bracket, large diameter washer, M8 flanged nut

Installing heater



Ensure sufficient distance between exhaust pipe 2 and bolts of horn bracket at position 1, correct if necessary.



Aligning exhaust pipe



Fuel



Open the vehicle's fuel tank cap, ventilate the tank and then re-close the fuel tank cap.

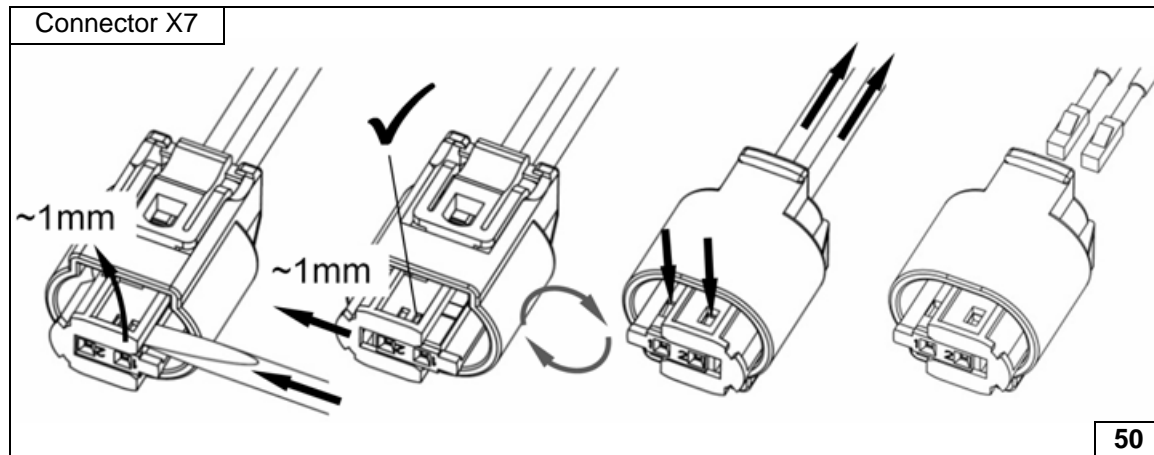
Catch any fuel running off in an appropriate container.

Route fuel line and metering pump wiring harness so that they are protected against stone impact. Unless specified otherwise, always fasten using cable ties.

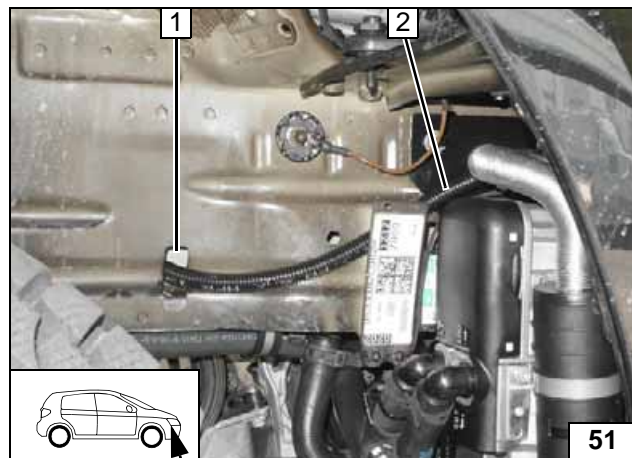


Provide rub protection for fuel line and wiring harness in areas where there are sharp edges.

The fuel line and wiring harness are routed to the metering pump as shown in the wiring harness routing diagram.



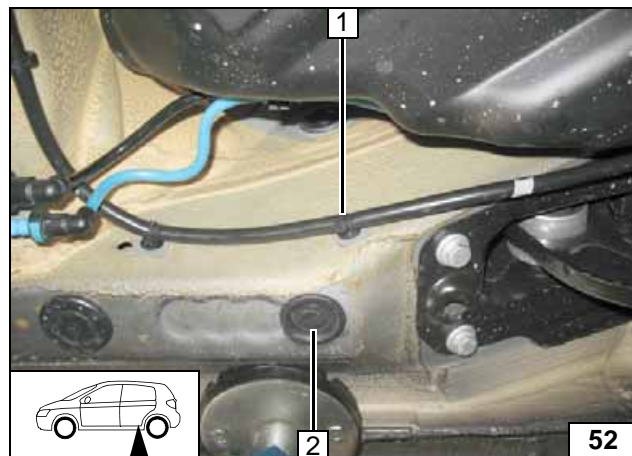
Dismantling metering pump connector



Pull fuel line and metering pump wiring harness into 10 mm dia. corrugated tube 2 and route to the underbody through original vehicle pass through 1.

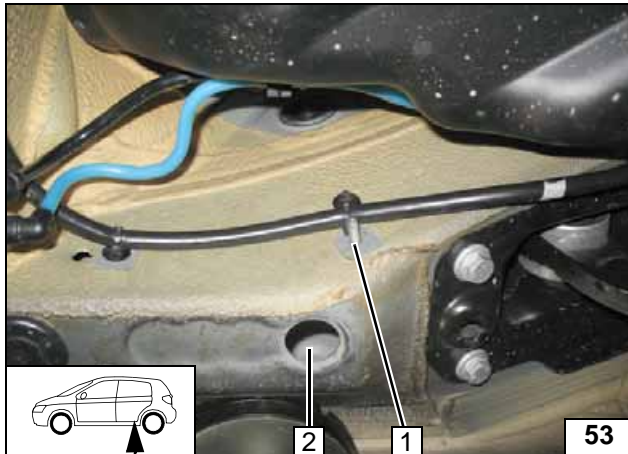


Routing lines



- 1 Detach retaining clip from hole (if present)
- 2 Remove cover cap (will be remounted later)

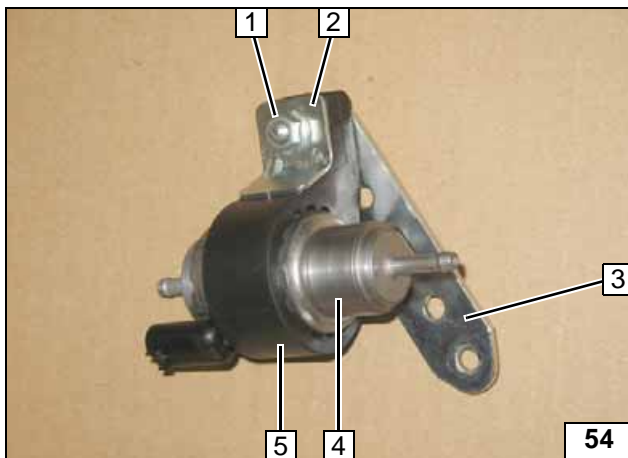
Preparing installation location of metering pump



Insert M6x20 bolt 1 through opening 2 into hole.

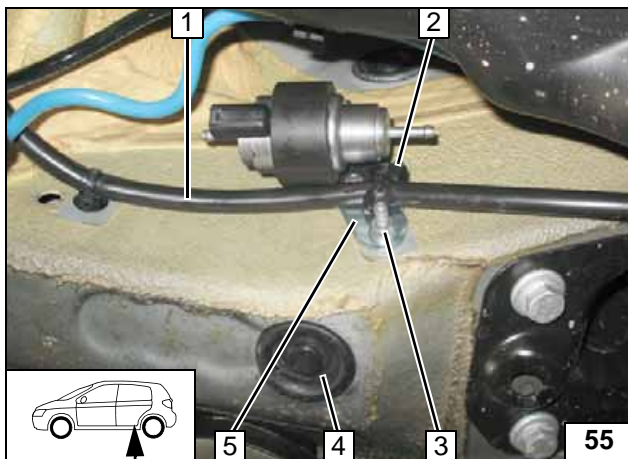


Preparing installation location of metering pump



- 1 M6x25 bolt, flanged nut
- 2 Support angle bracket
- 3 Perforated bracket
- 4 Metering pump
- 5 Metering pump mount

Premounting metering pump

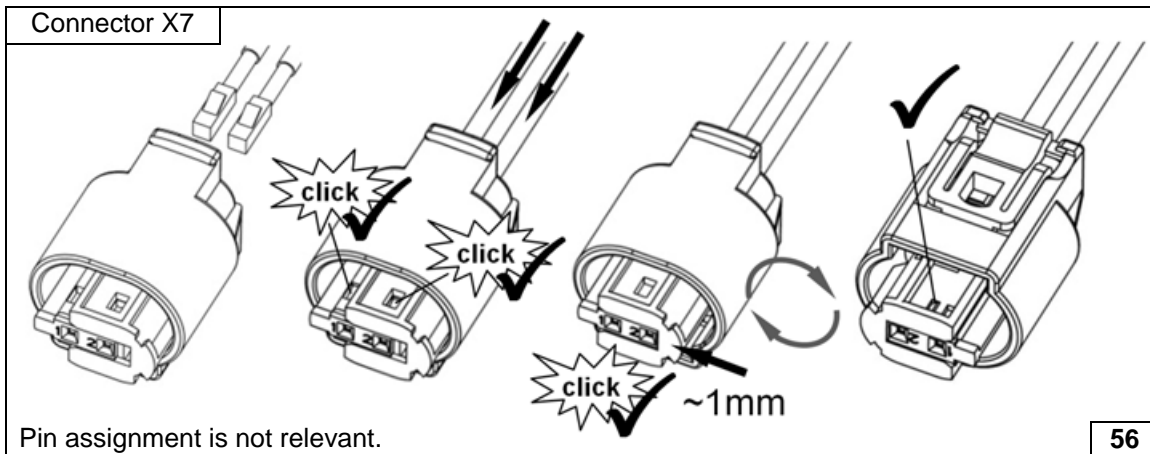


Fasten original vehicle wiring harness 1 with cable tie 2 on perforated bracket 5.

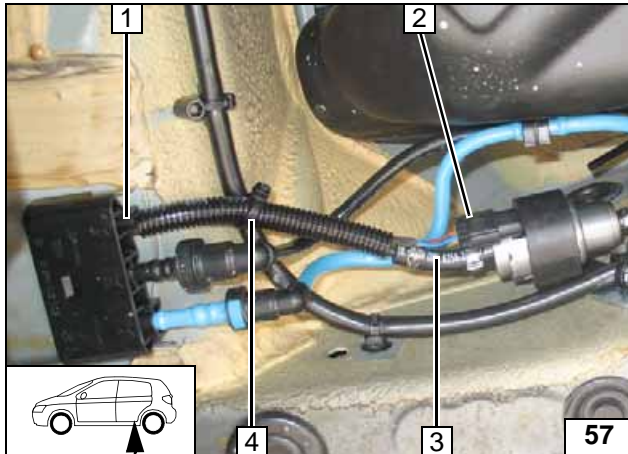


- 3 M6 flanged nut
- 4 Cover cap inserted

Installing metering pump



Completing metering pump connector

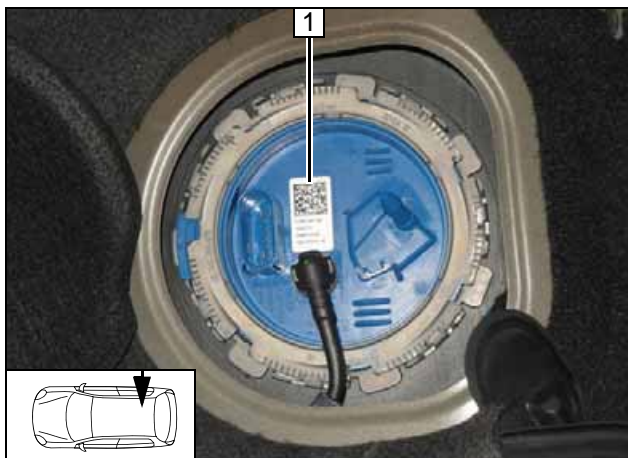


Cut 10mm dia. corrugated tube to length by 130mm. Route fuel line and wiring harness of metering pump out of original vehicle pass through 1 and pull them into 130mm long corrugated tube.

- 2 Metering pump wiring harness, connector X7 mounted
- 3 Fuel line of heater, hose section, 10 mm dia. clamp [2x]
- 4 Cable tie



**Connect-
ing meter-
ing pump**



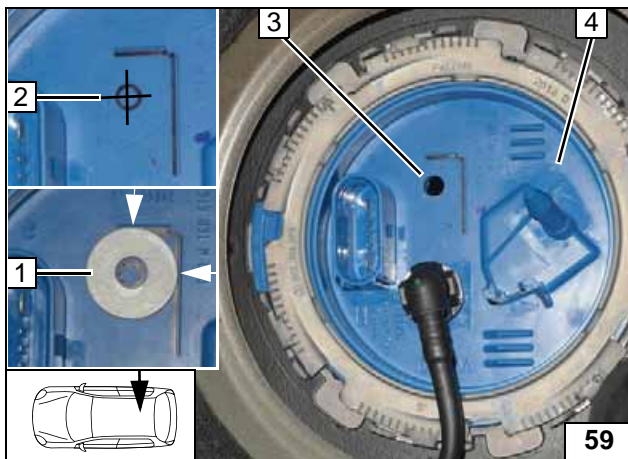
FuelFix Installation for TSI

Work step F1.

Remove sticker 1, will finally be fixed on again in a new position.



**Moving
sticker**

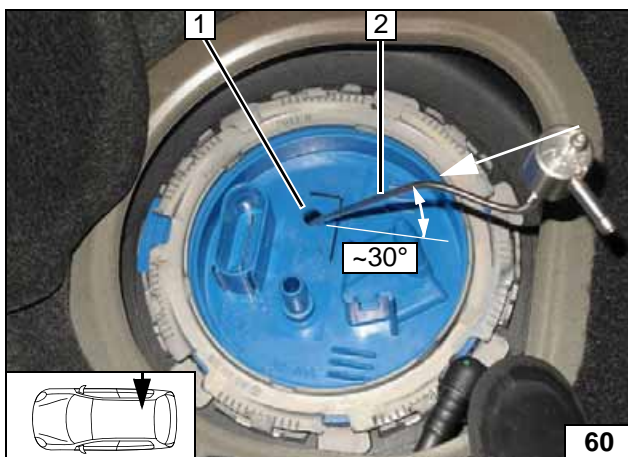


Work steps F2 and F3.

- 1 Position washer with outer dia. $d_a = 21.6\text{mm}$ as template at the markings.
- 2 Hole pattern
- 3 Hole made with provided drill
- 4 Fuel tank sending unit



**Copying
hole pat-
tern, drilling
hole**



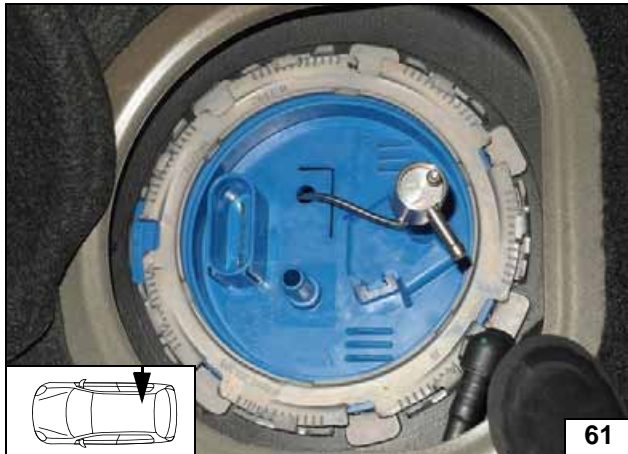
Work steps F4 and F5.

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



**Inserting
FuelFix**





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Work step F5.



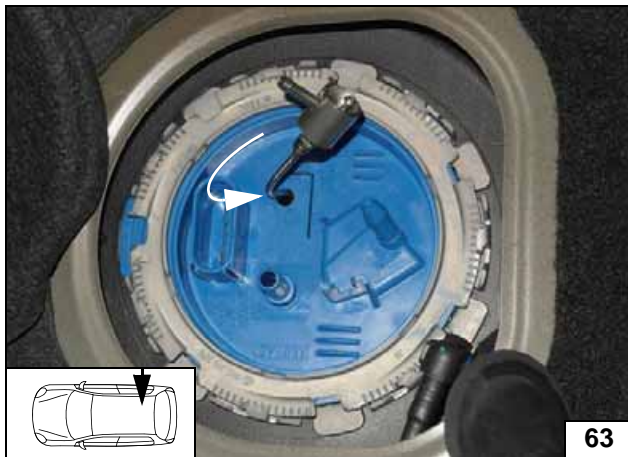
Inserting FuelFix



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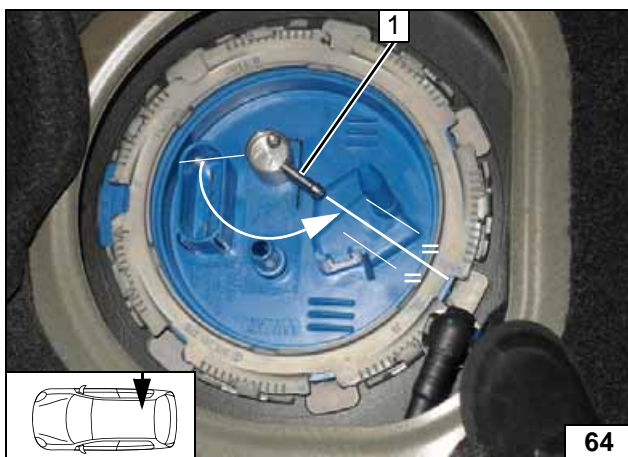
Inserting FuelFix



63



Inserting FuelFix



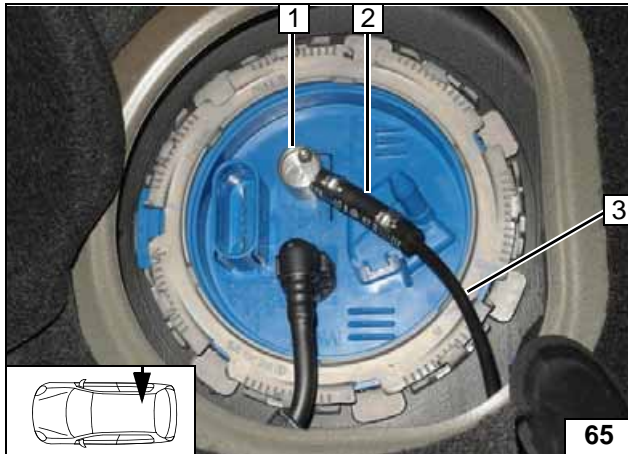
64

Work steps F5.3 and F5.4.

Align FuelFix 1 as shown.



Inserting FuelFix

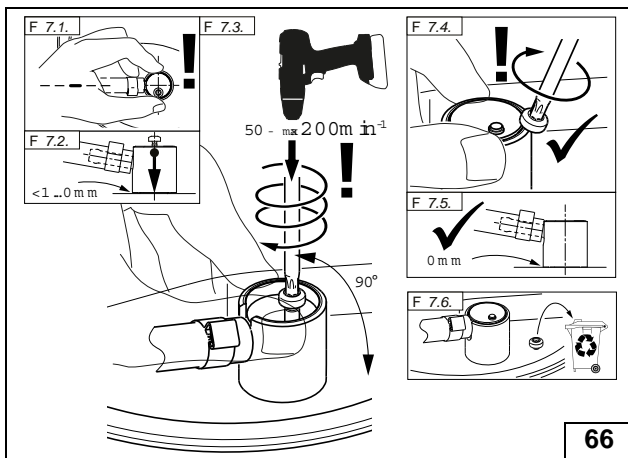


Work step F6.

- 1 FuelFix
- 2 Hose section, 10mm dia. clamp [2x]
- 3 Fuel line



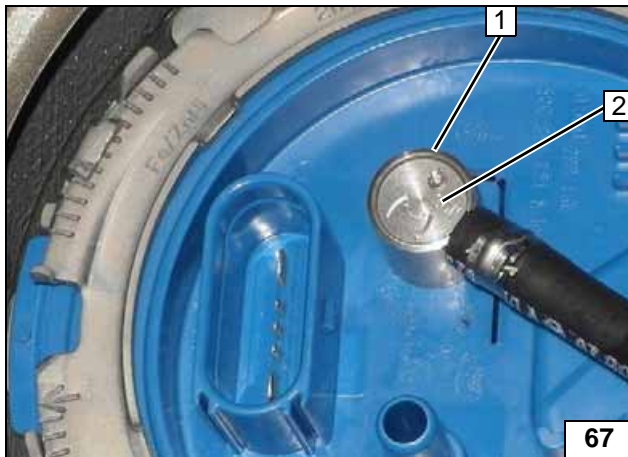
**Connect-
ing fuel line**



Work step F7.



**Installing
FuelFix**

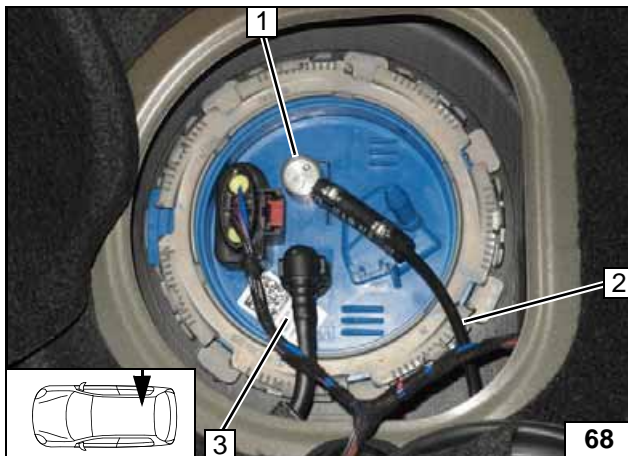


Work step F8.

Ensure firm seating of FuelFix and positioning of clamping piece 2 with respect to upper edge 1 of the housing.



**Checking fi-
nal position**



Work step F8.

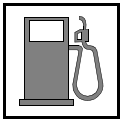
Attach FuelFix fuel line 2 for tension relief at an appropriate point.

- 1 FuelFix installed
- 2 Fuel line of FuelFix
- 3 Fix sticker



**Securing
fuel line**





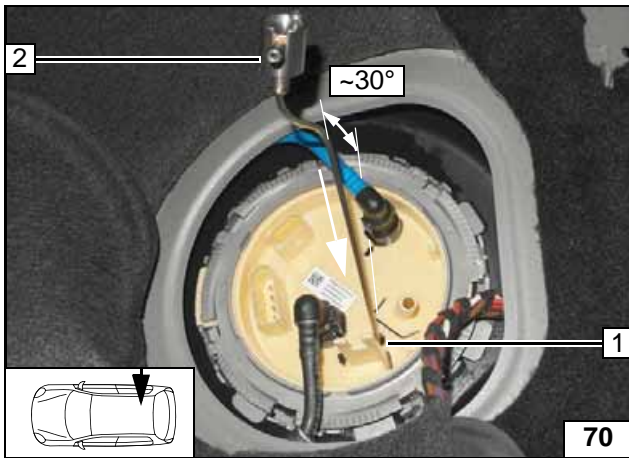
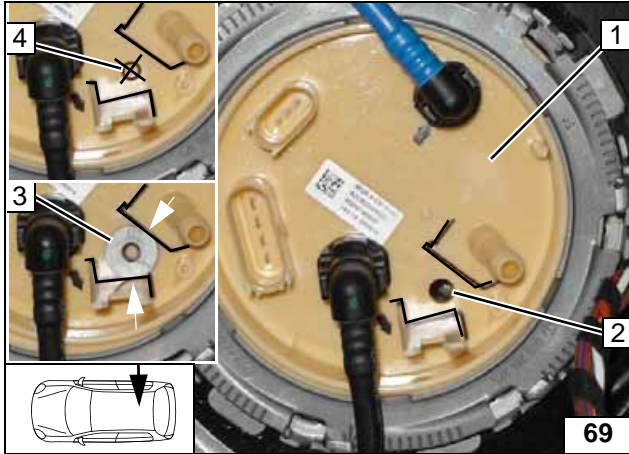
FuelFix Installation for TDI

Work steps F1, F2 and F3.

- 1 Fuel tank sending unit
- 2 Hole made with provided drill
- 3 Position washer with outer dia.
 $d_a = 21.6\text{mm}$ as template at the markings.
- 4 Hole pattern



Copying hole pattern, drilling hole



Work steps F4 and F5.

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



Inserting FuelFix



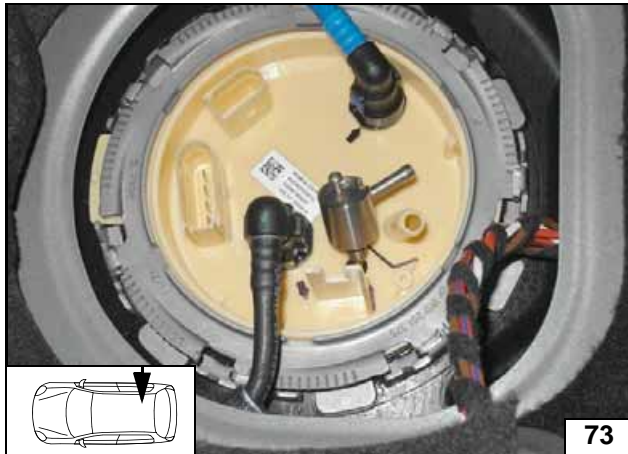
Work step F5.



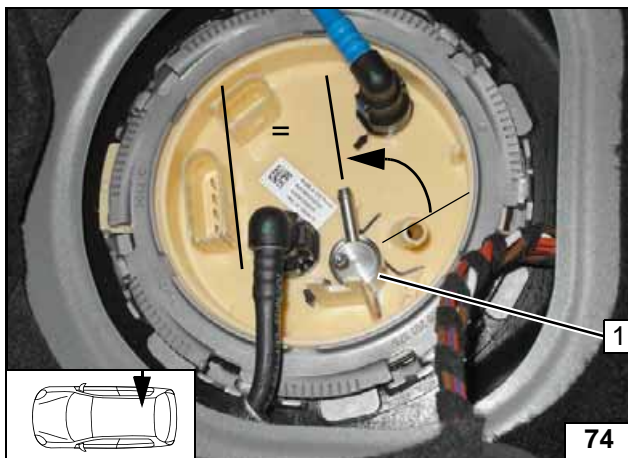
Inserting FuelFix



Inserting FuelFix



Inserting FuelFix

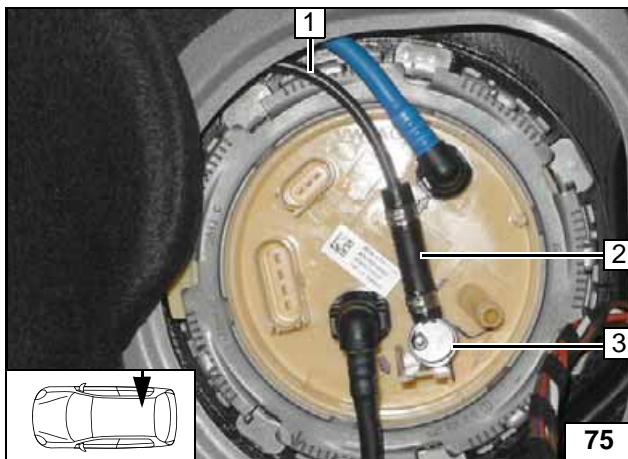


Work steps F5.3 and F5.4.

Align FuelFix 1 as shown.



Inserting FuelFix

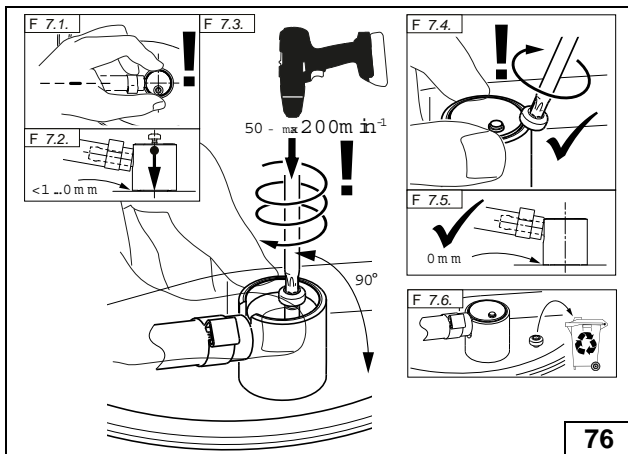


Work step F6.

- 1 Fuel line
- 2 Hose section, 10mm dia. clamp [2x]
- 3 FuelFix



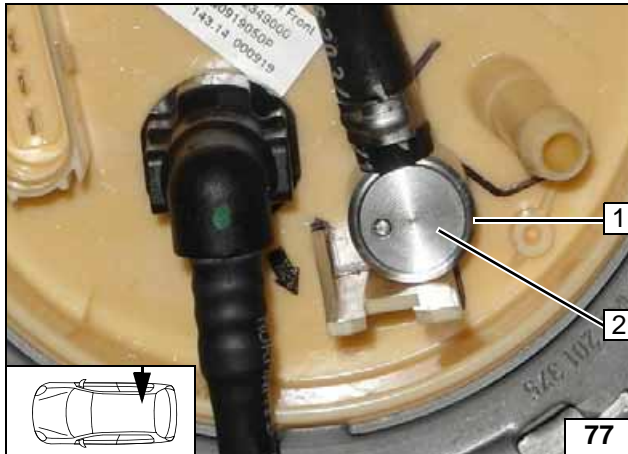
Connect-
ing fuel line



Work step F7.



Installing FuelFix

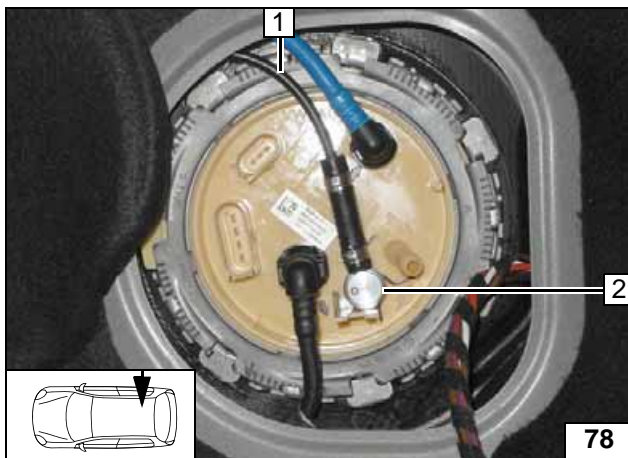


Work step F8.

Ensure firm seating of FuelFix and positioning of clamping piece 2 with respect to upper edge 1 of the housing.



Checking final position



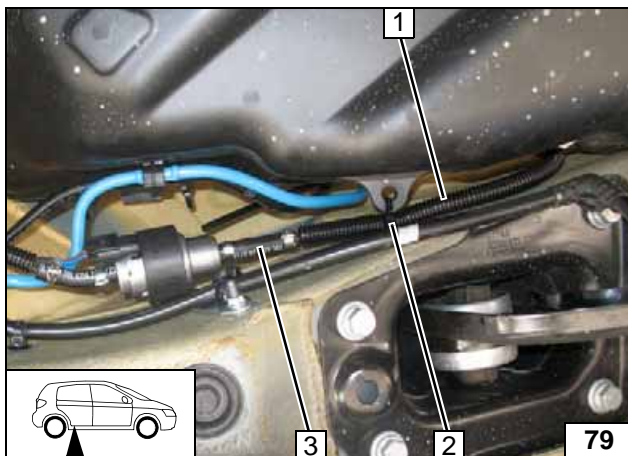
Work step F8.

Attach FuelFix fuel line 1 for tension relief at an appropriate point.

- 1 Fuel line of FuelFix
- 2 FuelFix mounted



Securing fuel line



Slide 10 mm dia. corrugated tube 1 onto fuel line. Check the position of the components; adjust if necessary. Check that they have freedom of movement.

- 2 Cable tie
- 3 Fuel line, hose section, 10 mm dia. clamp [2x]



Connecting metering pump

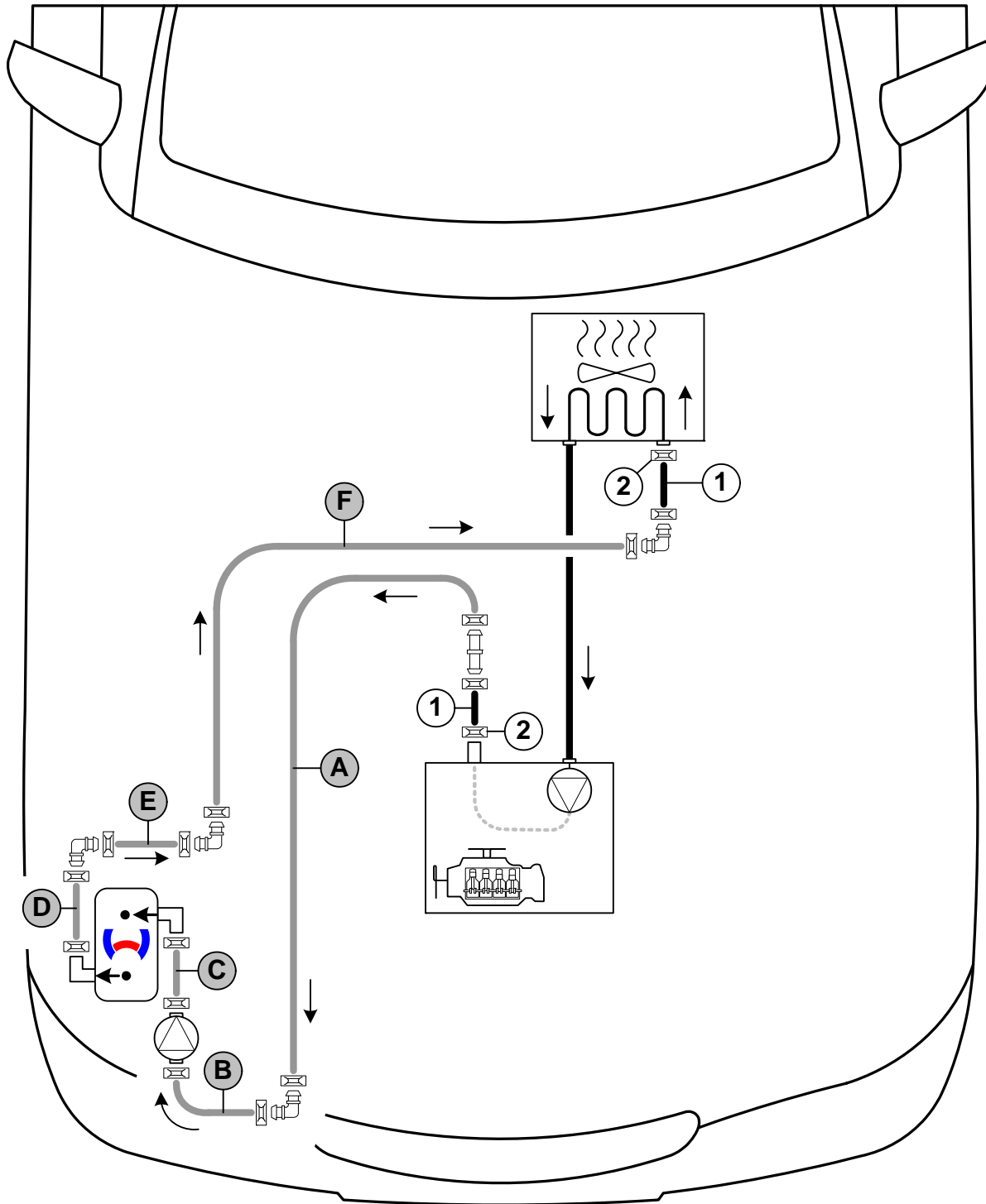


TSI Coolant Circuit







Any coolant running off should be collected in an appropriate container. Route hoses kink-free. Unless specified otherwise, always fasten using cable ties. Position clamps so that other hoses cannot be damaged. The heater must be filled with coolant when installing the hoses.

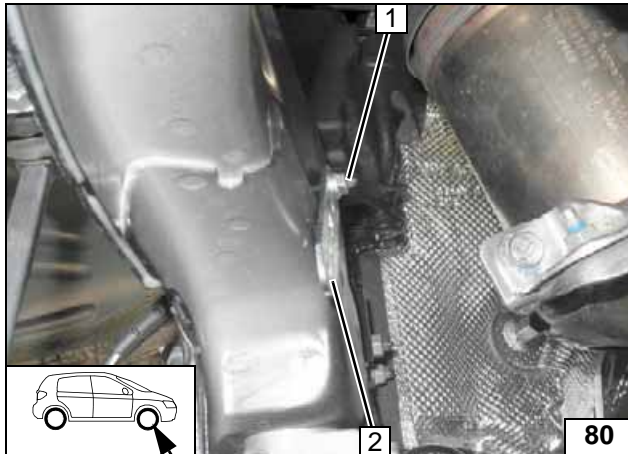
The connection should be modelled on an 'inline' circuit and based on the following diagram:



Hose routing diagram

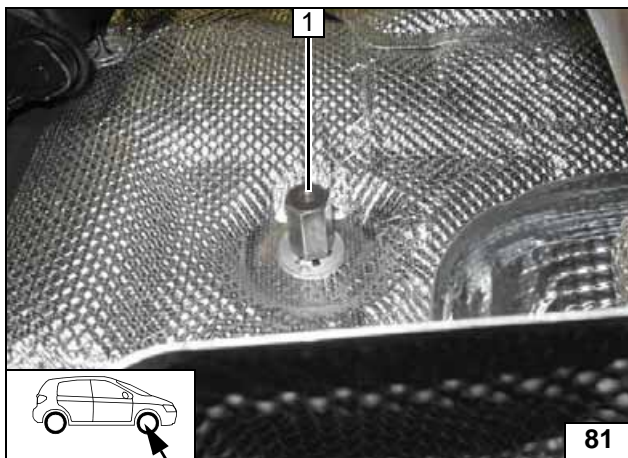
All spring clips without a specific designation  = 25 mm dia. All connecting pipes  and  = 18x18 mm dia.
 1 = Original vehicle hose
 2 = Original vehicle spring clip .





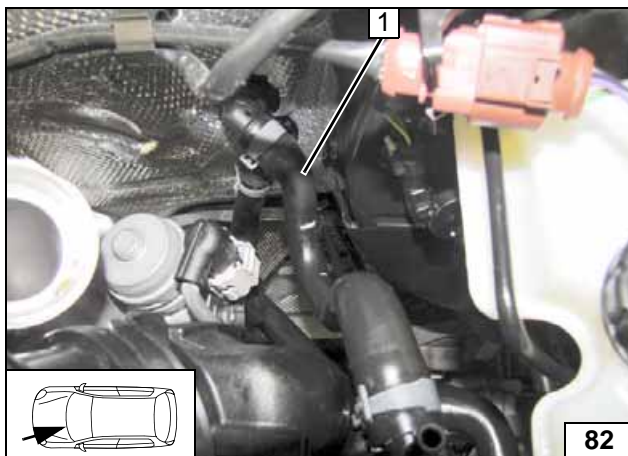
- 1 M6 flanged nut, original vehicle stud bolt
- 2 Perforated bracket

Installing perforated bracket



- 1 M6x30 spacer nut, original vehicle stud bolt

Mounting spacer nut

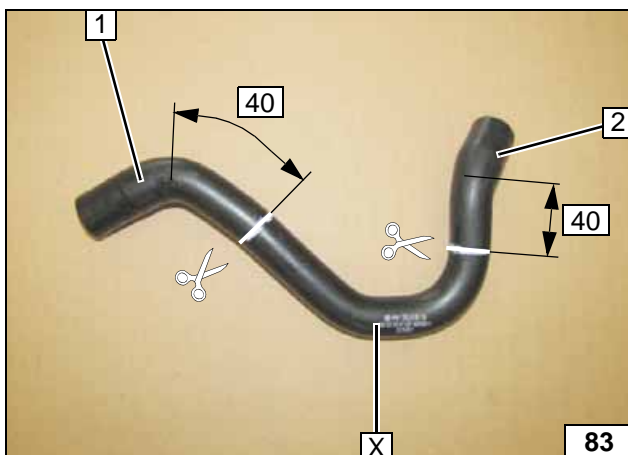


Version 1

Remove hose from engine outlet / heat exchanger inlet 1. Spring clips will be reused!



Cutting point

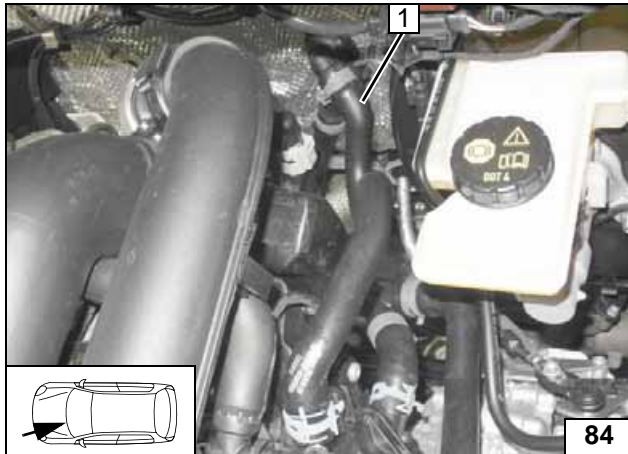


Discard section X.

- 1 Engine outlet hose section
- 2 Hose section of heat exchanger inlet



Cutting point

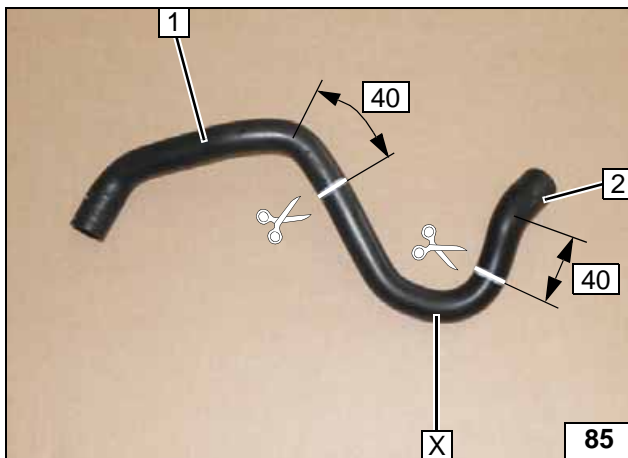


Version 2

Remove hose from engine outlet / heat exchanger inlet 1. Spring clips will be reused!



Cutting point

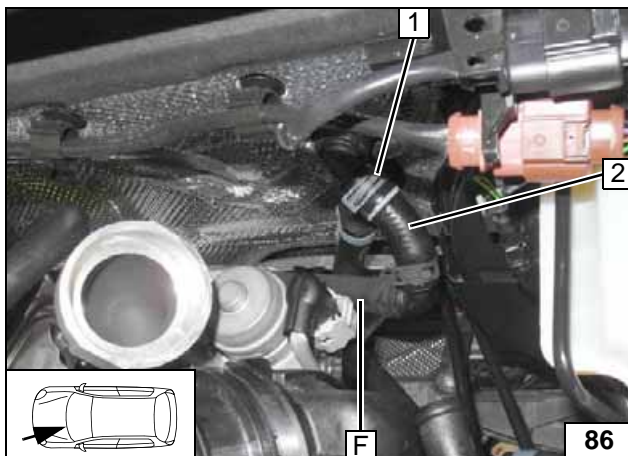


Discard section X.

- 1 Engine outlet hose section
- 2 Hose section of heat exchanger inlet



Cutting point

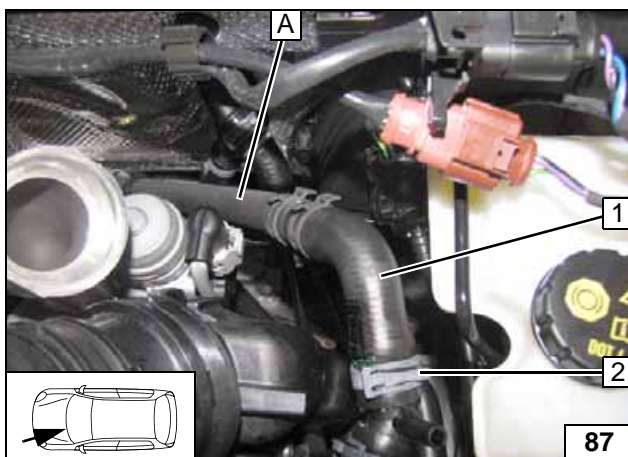


All vehicles

- 1 Original vehicle spring clip
- 2 Hose section of heat exchanger inlet

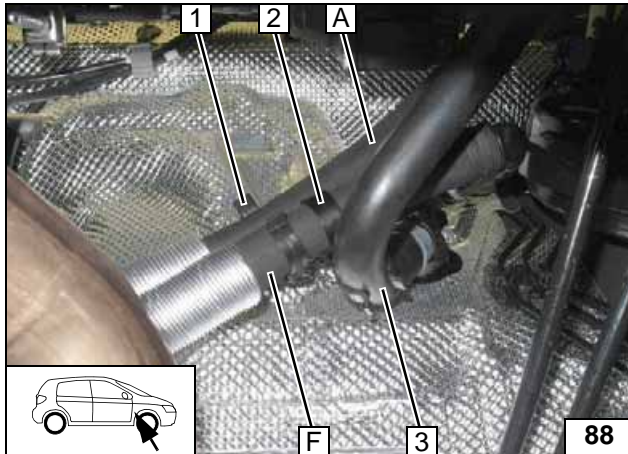


Connecting heat exchanger inlet



- 1 Hose of engine outlet
- 2 Original vehicle spring clip

Connecting engine outlet

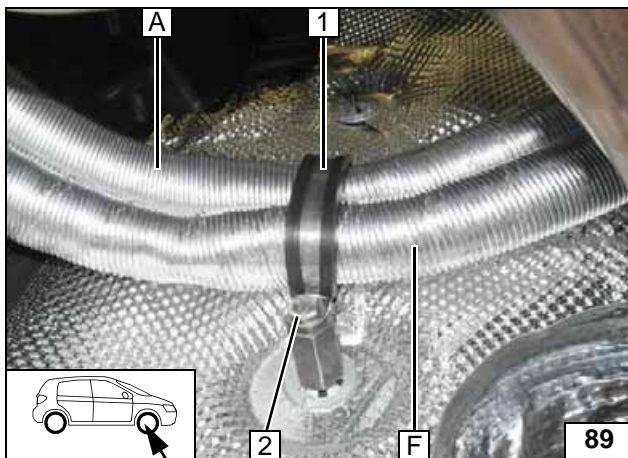


Push one 600 mm long heat protection hose each onto hose **A** and **F**.

- 1 Spacer bracket
- 2 Twistable spacer bracket
- 3 Hose of heat exchanger outlet

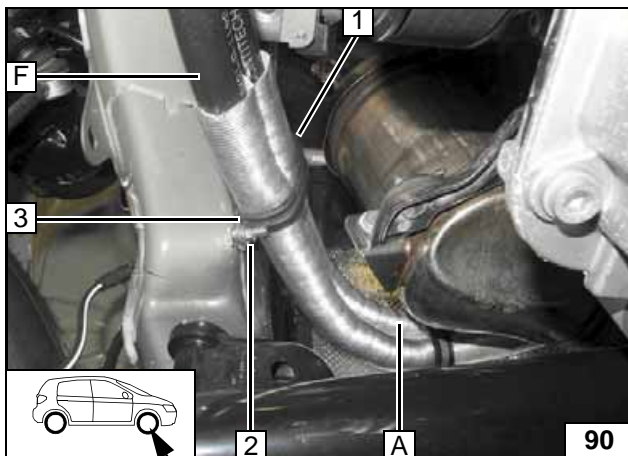


Routing on firewall



- 1 48 mm dia. rubber-coated p-clamp
- 2 M6x20 bolt, spring lockwasher

Fastening on firewall

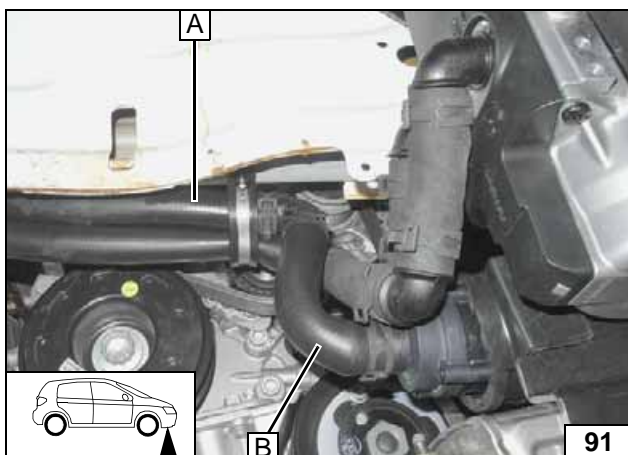


Align hoses. Ensure sufficient distance to catalytic converter, correct if necessary.

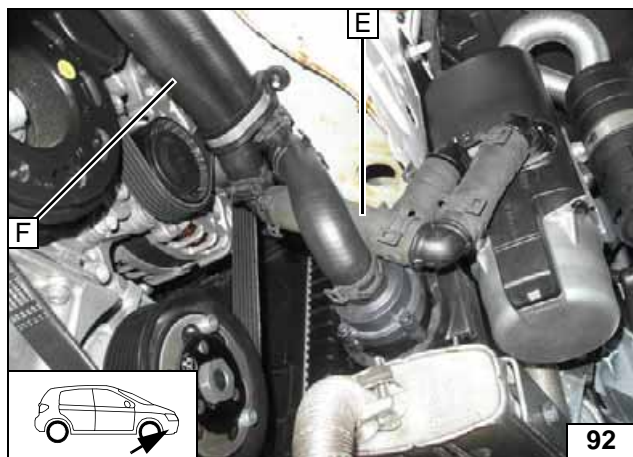
- 1 38 mm dia. rubber-coated p-clamp
- 2 M6x20 bolt, flanged nut
- 3 Perforated bracket



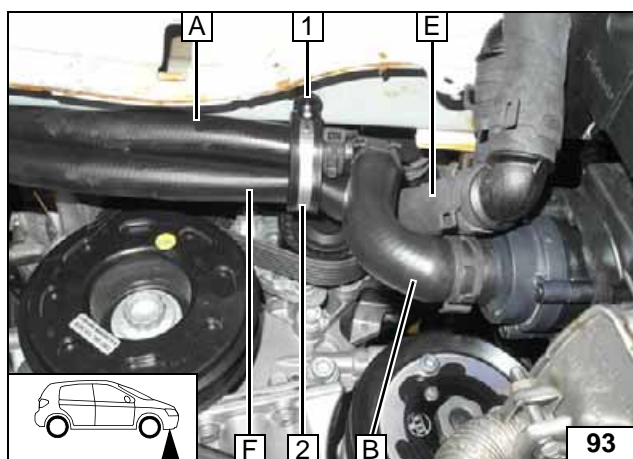
Routing on frame side member



**Connect-
ing heater
inlet**



**Connect-
ing heater
outlet**



Ensure sufficient distance from neighbour-
ing components, correct if necessary.



- 1 Original vehicle stud bolt, plastic nut
- 2 38 mm dia. rubber-coated p-clamp

**Aligning
hoses**

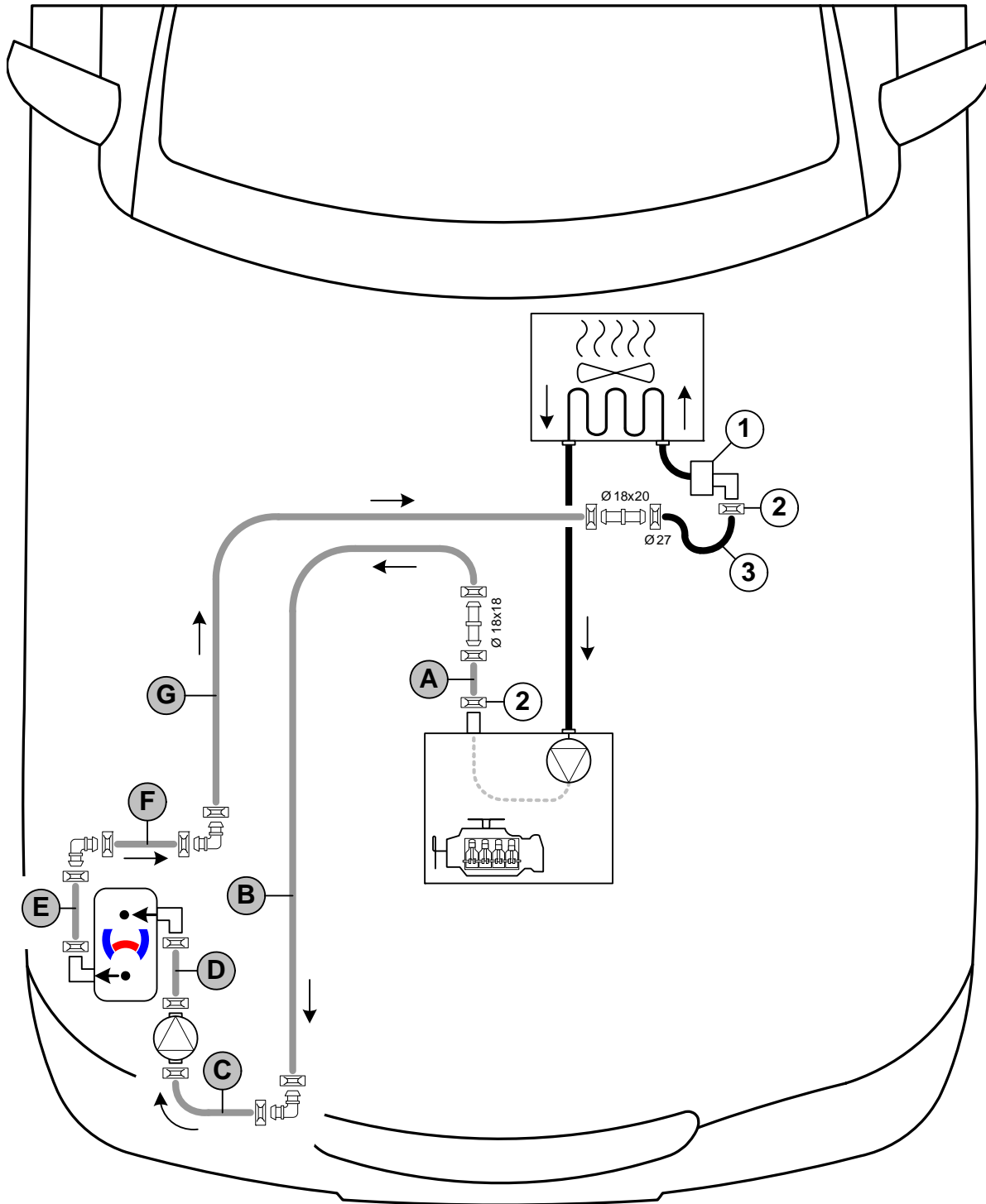


TDI Coolant Circuit





Any coolant running off should be collected in an appropriate container. Route hoses kink-free. Unless specified otherwise, always fasten using cable ties. Position clamps so that other hoses cannot be damaged. The heater must be filled with coolant when installing the hoses.


The connection should be modelled on an 'inline' circuit and based on the following diagram:



Hose routing diagram

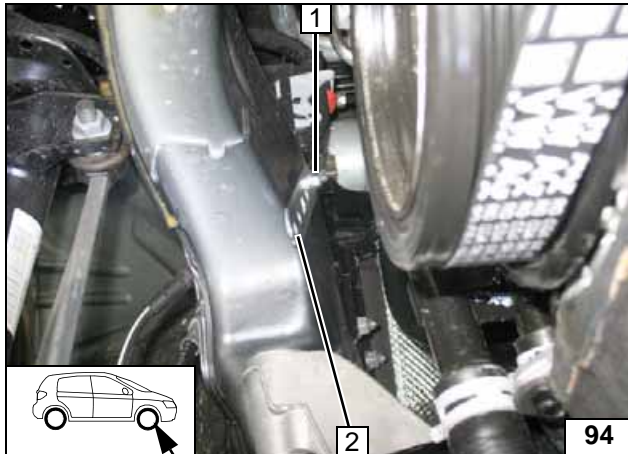
All spring clips without a specific designation  = 25 mm dia. All connecting pipes  = 18x18 mm dia.

1 = EGR!

2 = Original vehicle spring clip .

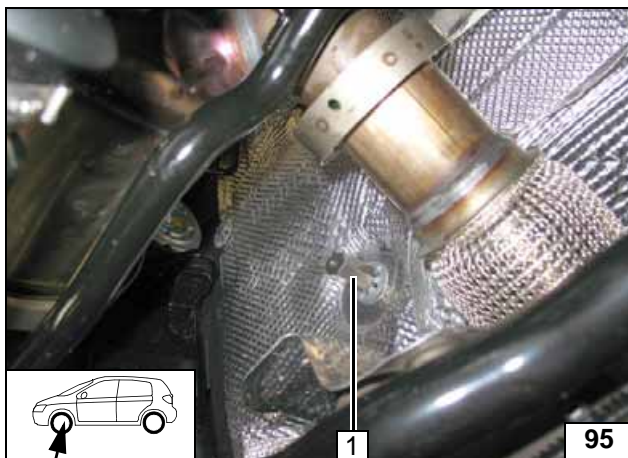
3 = Original vehicle hose





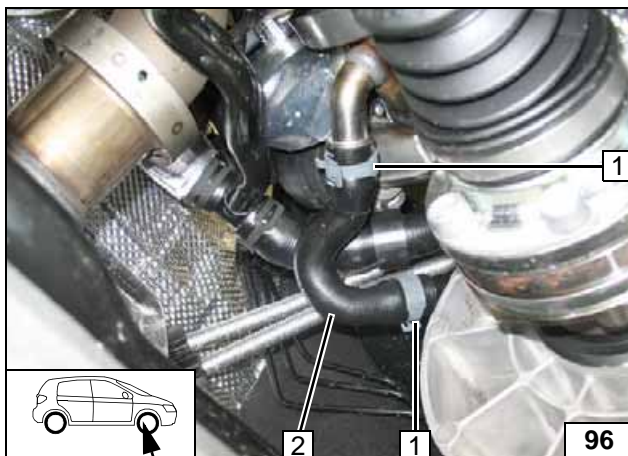
- 1 M6 flanged nut, original vehicle stud bolt
- 2 Perforated bracket

Installing perforated bracket



- 1 M6x30 spacer nut, original vehicle stud bolt

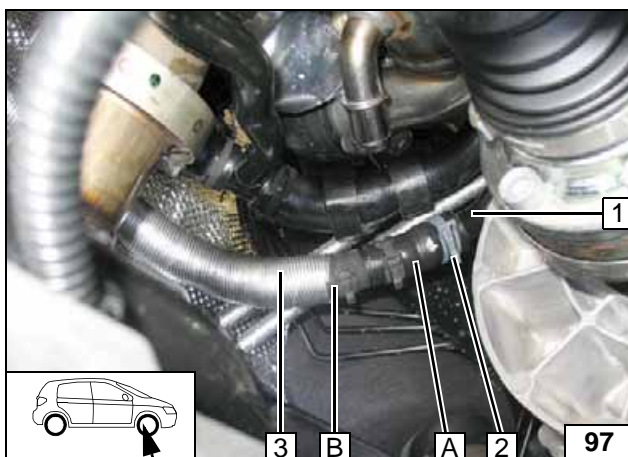
Mounting spacer nut



Remove hose from engine outlet / EGR inlet 2. Spring clips 1 will be reused.



Cutting point

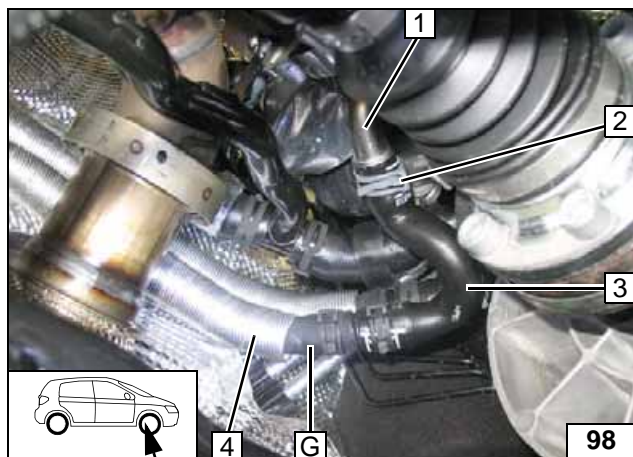


Slide 600mm long heat protection hose 3 onto hose B.



- 1 Pipe of engine outlet
- 2 Original vehicle spring clip

Connecting engine outlet

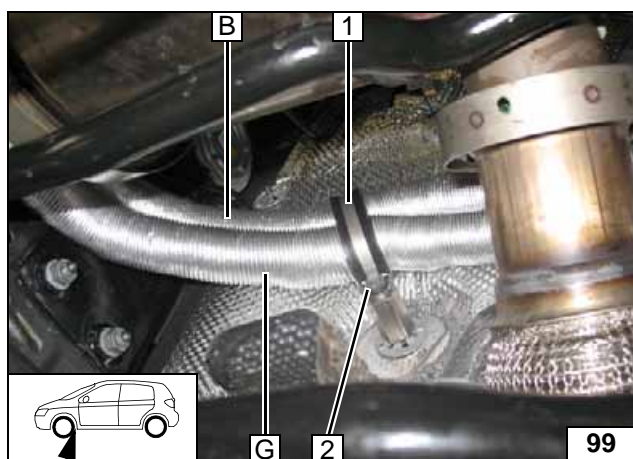


Slide 600mm long heat protection hose 4 onto hose B.

- 1 Pipe of EGR
- 2 Original vehicle spring clip
- 3 Original vehicle hose

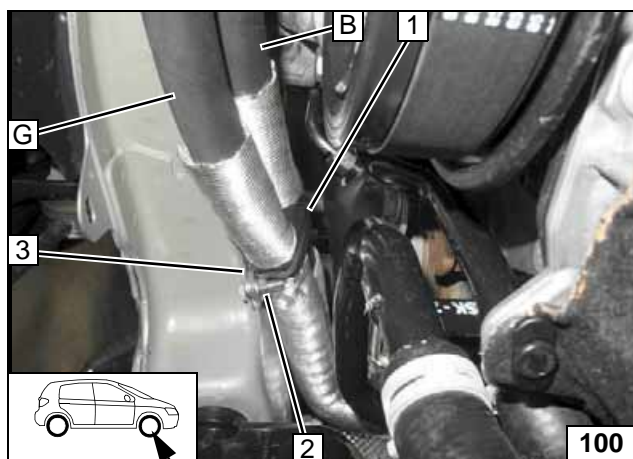


**Connect-
ing heat ex-
changer
inlet**



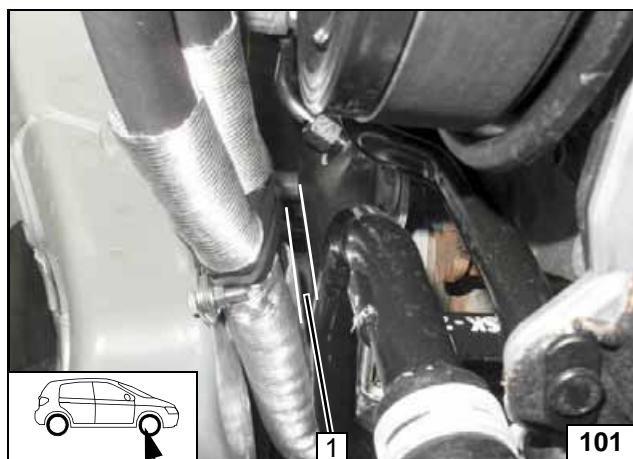
- 1 48 mm dia. rubber-coated p-clamp
- 2 M6x20 bolt, spring lockwasher

**Fastening on
firewall**



- 1 38 mm dia. rubber-coated p-clamp
- 2 M6x20 bolt, flanged nut
- 3 Perforated bracket

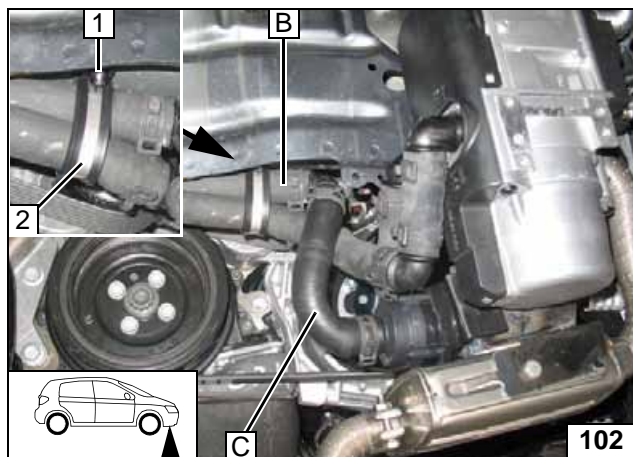
**Routing on
frame side
member**



Align hoses. Ensure sufficient distance to catalytic converter at position 1, correct if necessary.

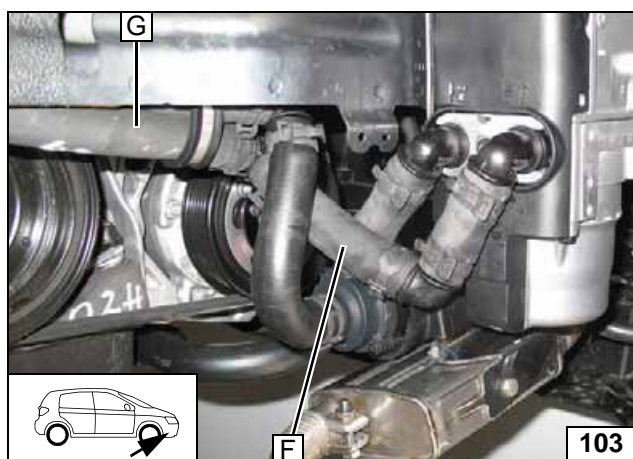


**Routing in
engine
compart-
ment**



- 1 Original vehicle stud bolt, plastic nut
- 2 38 mm dia. rubber-coated p-clamp

Connect-
ing heater
inlet



Align hoses. Ensure sufficient distance
from neighbouring components, correct if
necessary.



Connect-
ing heater
outlet

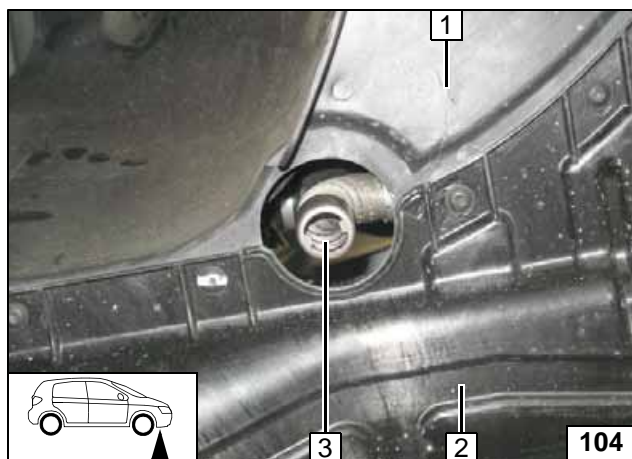


Final Work



Install removed parts in reverse order. Check all hoses, clamps and all electrical connections for firm seating. Insulate and tie back all loose lines.
Only use manufacturer-approved coolant. Spray the heater components with anti-corrosion wax (Tectyl 100K, Order No. 111329).

- **Connect the battery.**
- **Fill and bleed the coolant circuit according to the vehicle manufacturer's specifications.**
- **Program MultiControl CAR, teach Telestart transmitter**
- **Make settings on A/C control panel according to the 'Operating Instructions for End Customer'.**
- **Place the 'Switch off parking heater before refuelling' caution label near the filler neck.**
- **For initial startup and function check, please see installation instructions.**



Align exhaust end section 3 with centre of pass through.

- 1 Wheel well trim installed
- 2 Override protection installed

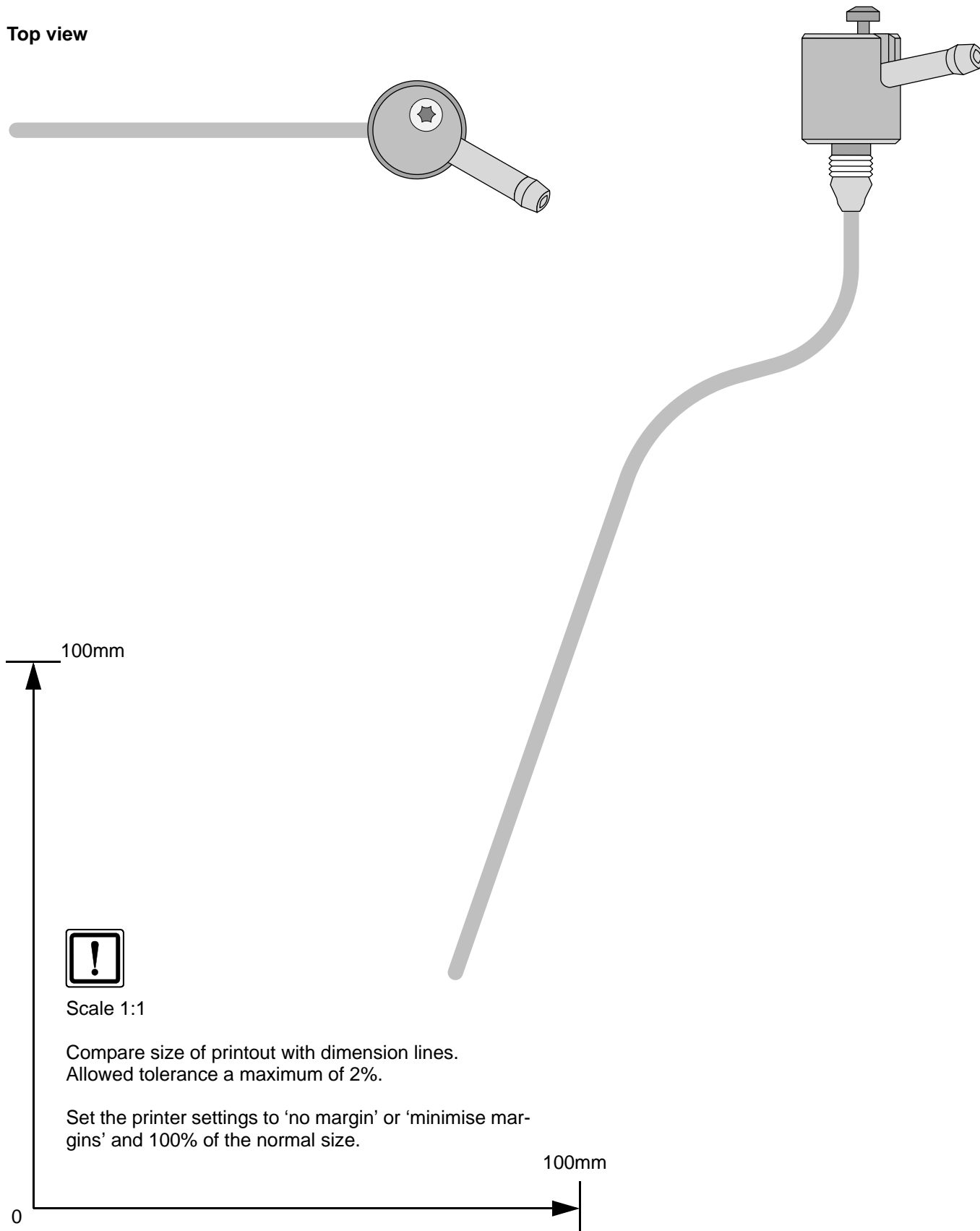
**Aligning
exhaust
end section**

Webasto Thermo & Comfort SE
Postfach 1410
82199 Gilching
Germany
Internet: www.webasto.com
Technical Extranet:
<http://dealers.webasto.com>



Template for Fuel Standpipe TSI

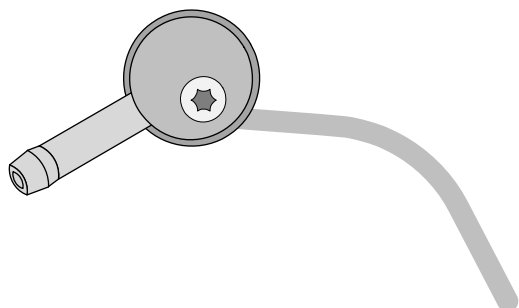
Top view



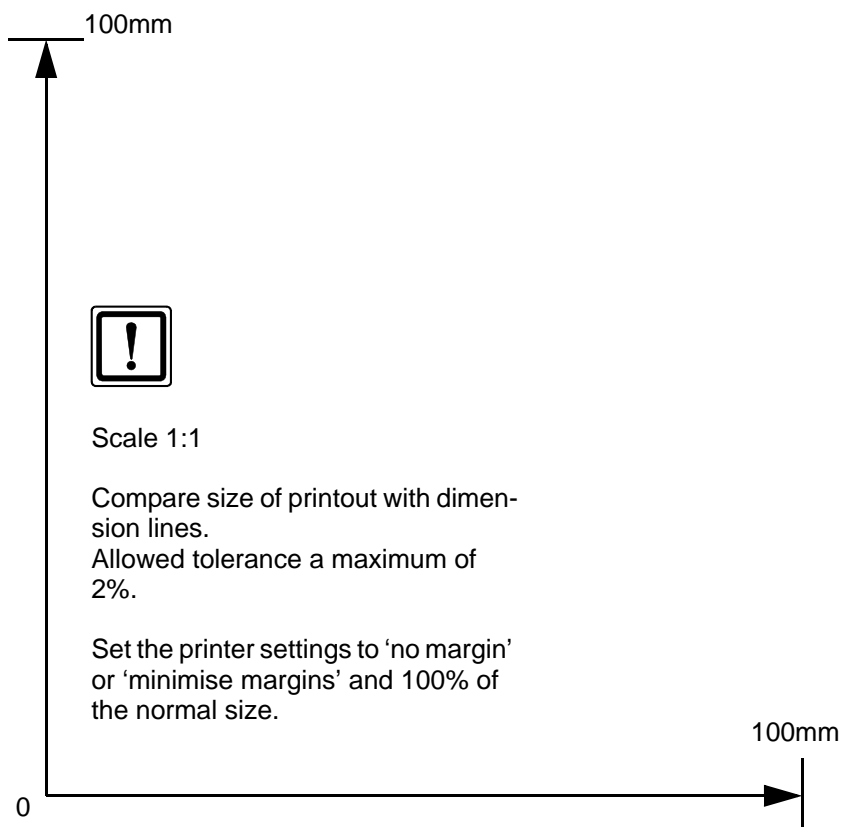
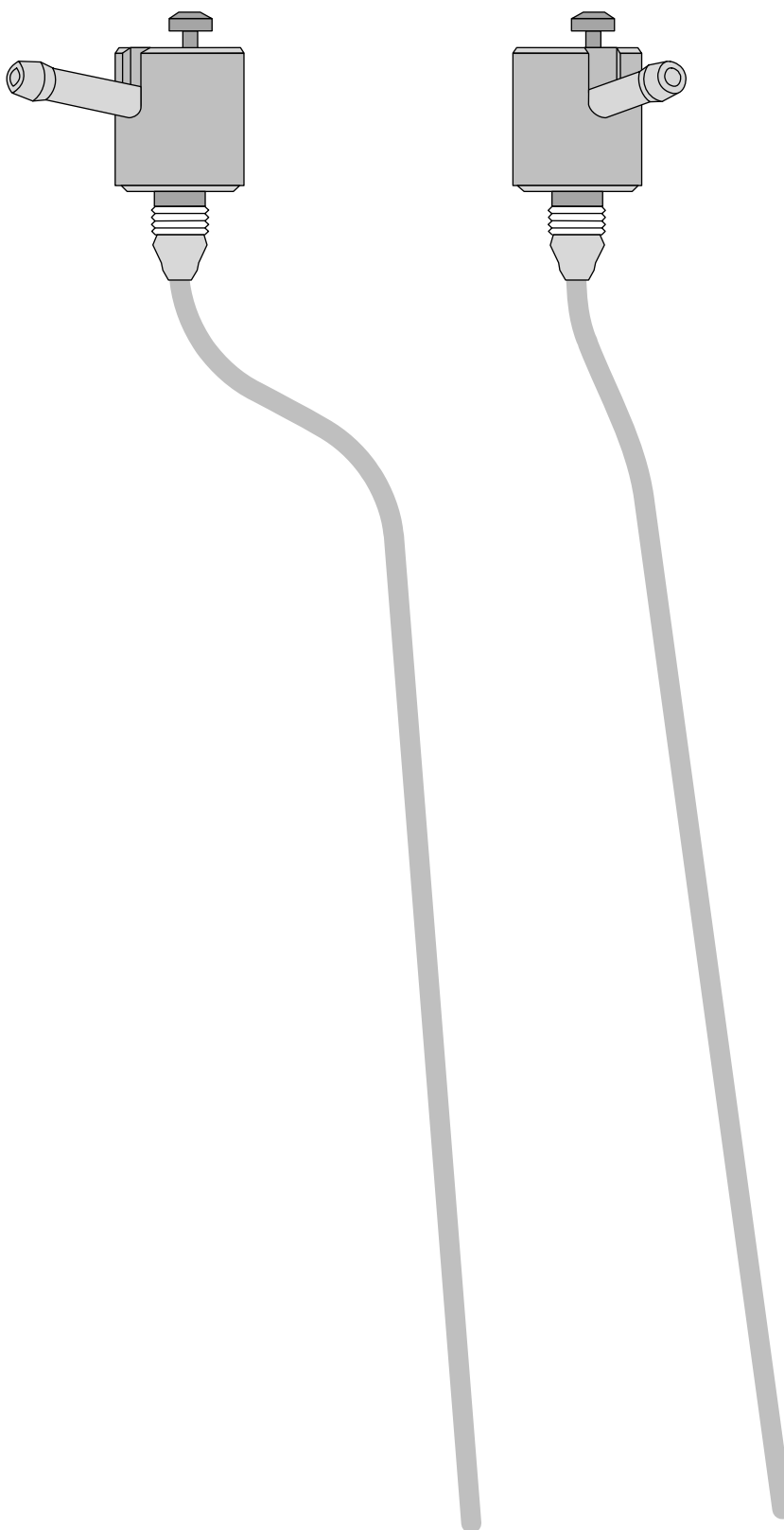


Template for Fuel Standpipe TDI

Top view



Side views



Operating Instructions for Climatic

Please remove page and add to the vehicle operating instructions.

Note:

We recommend matching the heating time to the driving time.

Heating time = driving time

Example:

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

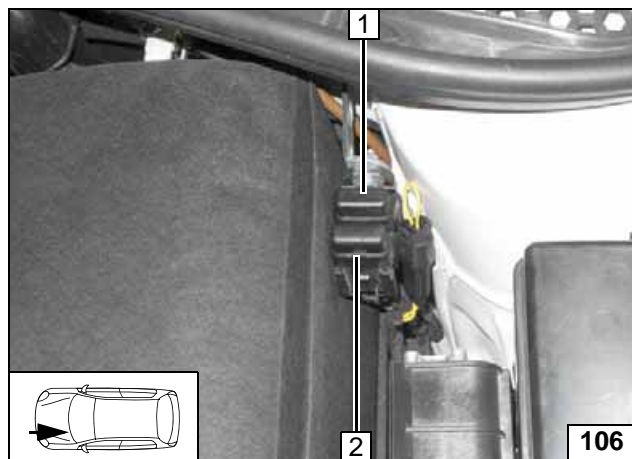
Passenger compartment monitoring, if installed, must be deactivated in addition to vehicle settings for the heating operation .

For instructions on deactivation, please refer to the operating instructions of the vehicle.

Before parking the vehicle, make the following settings:



- 1 Air outlet to windscreen
- 2 Set temperature to 'max.'



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



A/C control panel

Engine compartment fuses



Operating Instructions for Climatronic

Please remove page and add to the vehicle operating instructions.

Note:

We recommend matching the heating time to the driving time.

Heating time = driving time

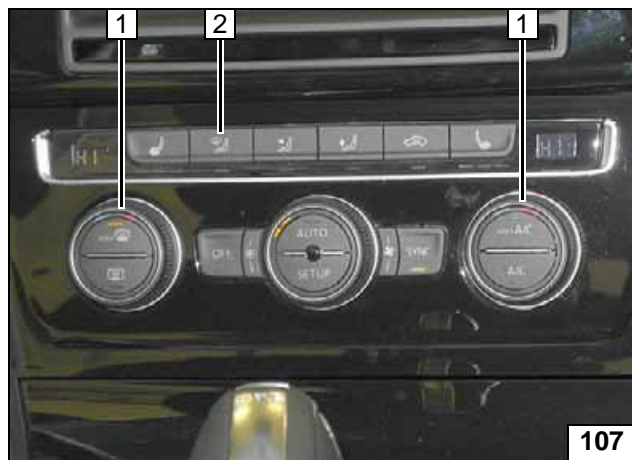
Example:

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

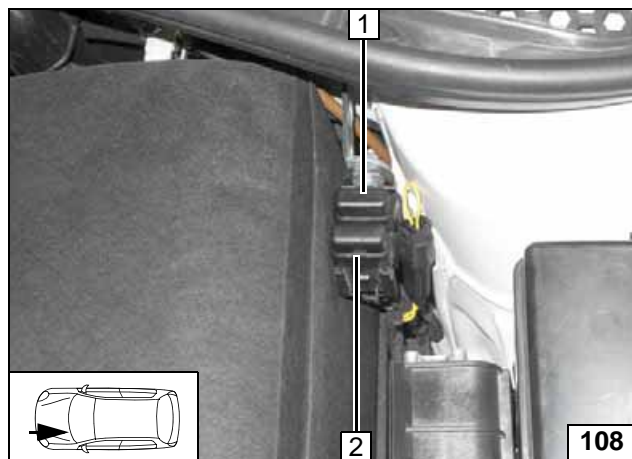
Passenger compartment monitoring, if installed, must be deactivated in addition to vehicle settings for the heating operation .

For instructions on deactivation, please refer to the operating instructions of the vehicle.

Before parking the vehicle, make the following settings:



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



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



A/C control panel

Engine compartment fuses

