



Water Heater

Thermo Top Evo Parking Heater



Installation Documentation Range Rover Evoque / Land Rover Discovery Sport

Validity

Manufacturer	Model	Type	EG-BE No. / ABE
Range Rover	Evoque	L 538	e11 * 2007 / 46 * 0223 * ...

Motorisation	Fuel	Transmission type	Output in kW	Displacement in cm ³	Engine code
2.2 D SD4	Diesel	6-speed AG	140	2179	224DT
2.2 D TD4	Diesel	AG	110	2179	224DT

Manufacturer	Model	Type	EG-BE No. / ABE
Land Rover	Discovery Sport	LC	e11 * 2007 / 46 * 1659 * ...

Motorisation	Fuel	Transmission type	Output in kW	Displacement in cm ³	Engine code
2.0 D TD4	Diesel	6-speed SG	110	1999	204DTD
2.0 D ED4	Diesel	AG	110	1999	204DTD
2.0 D TD4	Diesel	9-speed AG	132	1999	204DTD
2.2 D SD4	Diesel	6-speed AG	140	2179	224DT
2.2 D TD4	Diesel	AG	110	2179	224DT

SG = manual transmission
AG = automatic transmission

From model year 2014
Left-hand drive vehicle

Verified equipment variants: Automatic air-conditioning
Front fog lights
Xenon with headlight washer system
2WD / 4WD
2.2 D Euro 5
2.0 D Euro 6

Not verified: Passenger compartment monitoring

Total installation time: approx. 8.5 hours

Range Rover Evoque / Land Rover Discovery Sport

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Necessary Components

- Basic delivery scope for Thermo Top Evo according to price list
- Installation kit for Range Rover Evoque / Land Rover Discovery Sport 2014 Diesel: **1322061B**
- Heater control in accordance with price list and upon consultation with end customer
- In case of Telestart, indicator lamp in accordance with price list and in consultation with end customer

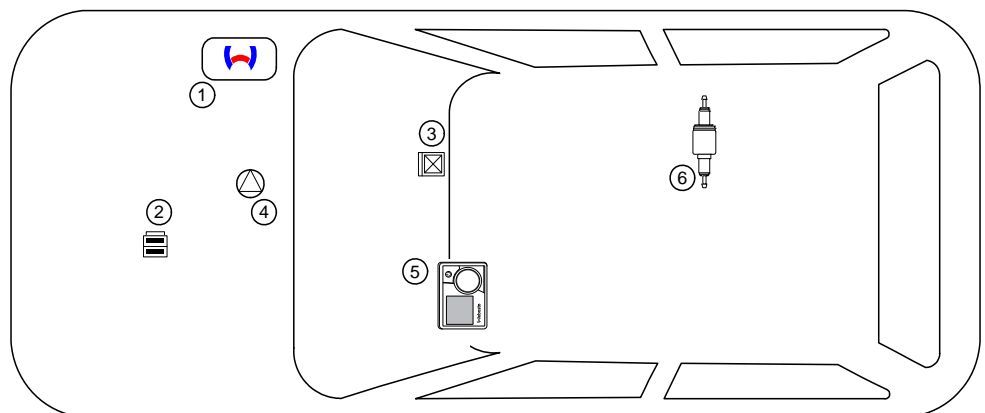
Installation instructions:

- 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 ThermoCall should be confirmed with the end customer.
- Depending on the space required and the vehicle manufacturer's instructions, we recommend the use of a vehicle battery with a higher electrical capacity.

Installation Overview

Legend:

1. Heater
2. Engine compartment fuse holder
3. PWM-GW
4. Circulating pump
5. MultiControl CAR
6. Metering pump



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 have to audibly click into place during installation.

Sharp edges should be fitted with rub protection. 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 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.

Range Rover Evoque / Land Rover Discovery Sport

Information on Validity

This installation documentation applies to Range Rover Evoque / Land Rover Discovery Sport Diesel vehicles - for validity, see page 1 - from model year 2014 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.





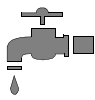

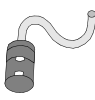






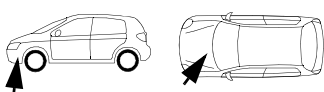

Tightening torque values

- Tightening torque values of 5x13 heater bolts and 5x11 heater stud bolts = 8Nm.
- Tightening torque values 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		Specific risk of injury or fatal accidents.	
Electrical System		Specific risk due to electrical voltage.	
Coolant Circuit		Specific risk of damage to components.	
Combustion Air		Specific risk of fire and explosion.	
Fuel		Reference to general installation instructions of the Webasto components or to the manufacturer's vehicle-specific documents.	
Exhaust Gas		Reference to a special technical feature.	
Software		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.	

Range Rover Evoque / Land Rover Discovery Sport

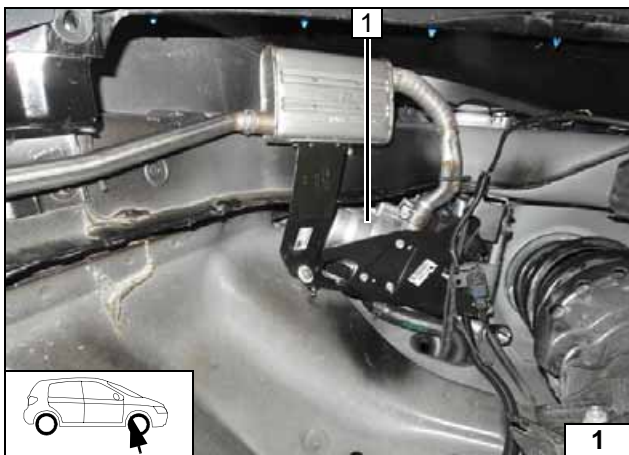
Preliminary Work

Vehicle

- Open the fuel tank cap.
- Ventilate the fuel tank.
- Close the fuel tank cap again.
- Open the tank-fitting service lid.
- Depressurise the cooling system.
- Disconnect the battery.
- Remove the windscreen wiper.
- Remove the upper and front cowl cover.
- Remove the engine control unit.
- Remove the right front wheel.
- Remove the rear part of the wheel well trim on the right.
- Remove the motor underride protection.
- Remove the underride protection in front of the tank.
- Detach the centre console cover (see dismantling instructions).
- Remove the lateral trim of the centre console on the right and the left (see dismantling instructions).
- Remove the glove box (see dismantling instructions).
- Detach the rear bench seat in the back on the right, fold forwards.
- Open the tank-fitting service lid.

Heater

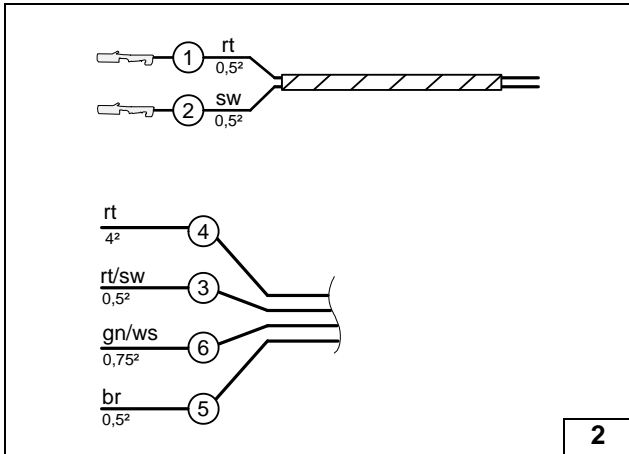
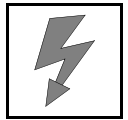
- Remove years that do not apply from the type and duplicate label.
- Attach the duplicate label (type label) visibly in the appropriate place in the engine compartment.



Heater Installation Location

1 Heater

Installation
location



Preparing Electrical System

All vehicles

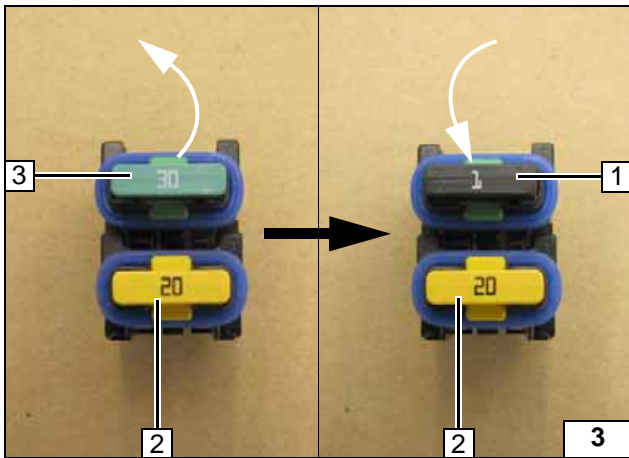
Wire sections retain their numbering in the entire document.

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

- ① Red (rt) wire of wiring harness from PWM control
- ② Black (sw) wire of wiring harness from PWM control
- ③ Red/black (rt/sw) wire of heater wiring harness/ X10
- ④ Installing red (rt) wire of heater wiring harness/ F2
- ⑤ Brown (br) wire of heater wiring harness/ earth 31
- ⑥ Green/white (gn/ws) wire of heater wiring harness/ X1/5



Assigning wires

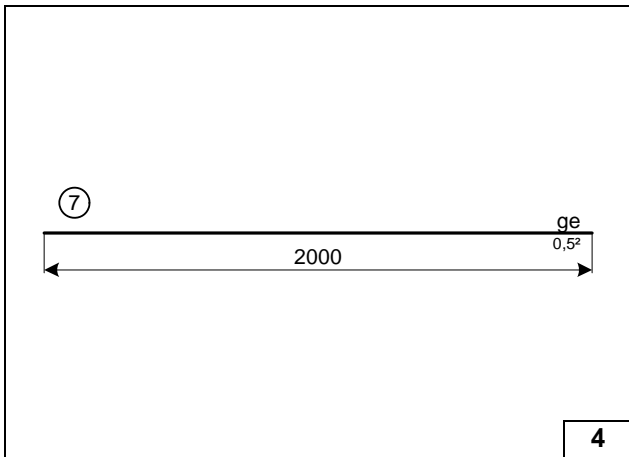


Replace 30A passenger compartment main fuse F2 3 with 1A fuse 1!

2 20A heater fuse F1



Preparing engine compartment fuses

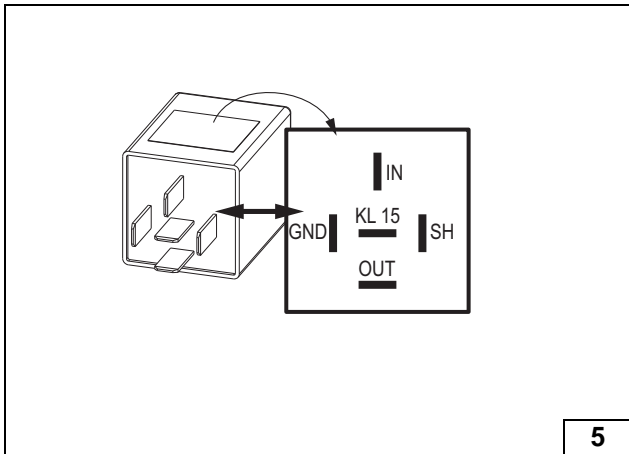


Additionally in case of Land Rover Discovery Sport

Pull wire section ⑦ into provided protective sleeving.



Assigning wire



Range Rover Evoque

This preprogrammed version is included in the kit.

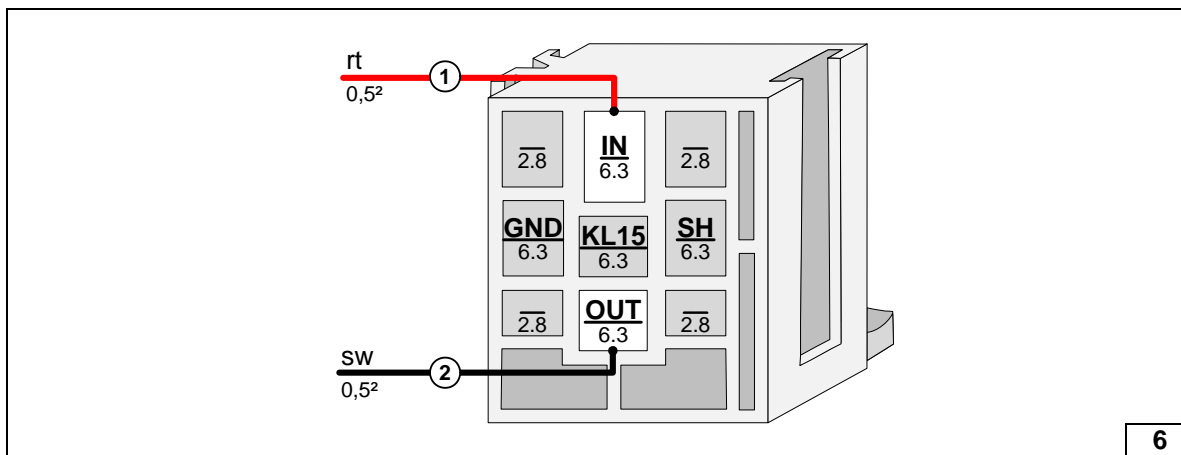
Check the PWM Gateway settings when starting up the heater and adjust if necessary.

Settings:

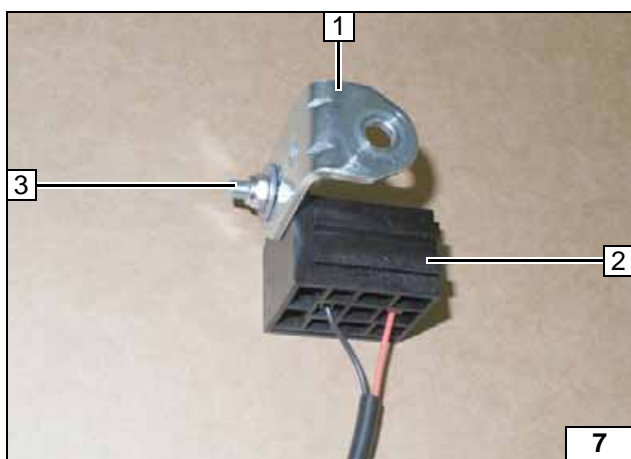
- Duty cycle: 36%
- Frequency: 400 Hz
- Voltage: 10V
- Function: High side



View of PWM-GW



Connecting wires to PWM-GW socket

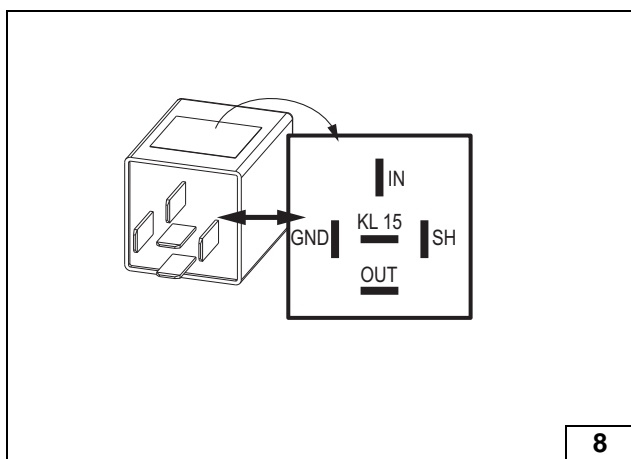


PWM-Gateway will only be inserted after installation.

- 1 Angle bracket
- 2 PWM-Gateway socket
- 3 M5x16 bolt, large diameter washer [2x], flanged nut



Preparing socket PWM-GW



Land Rover Discovery Sport

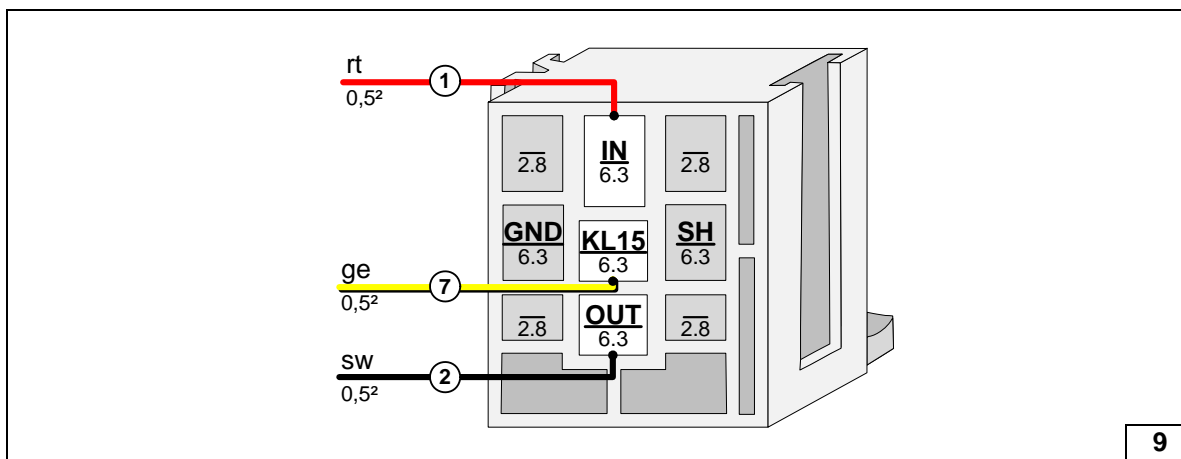
The PWM-Gateway must be reprogrammed before installation by means of the Webasto Thermo Test Diagnosis.

Settings:

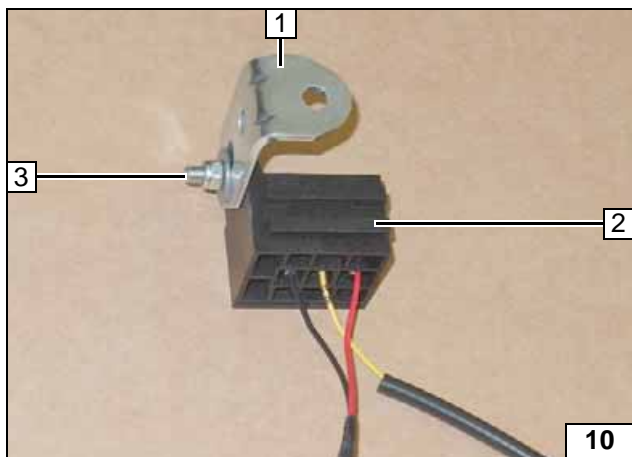
- Duty cycle: 65%
- Frequency: 400 Hz
- Voltage: not relevant
- Function: Low side



Programming PWM GW



Connecting wires to PWM-GW socket

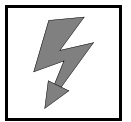


PWM-Gateway will only be inserted after installation.

- 1 Angle bracket
- 2 PWM-Gateway socket
- 3 M5x16 bolt, large diameter washer [2x], flanged nut



**Preparing
socket
PWM-GW**



Electrical System

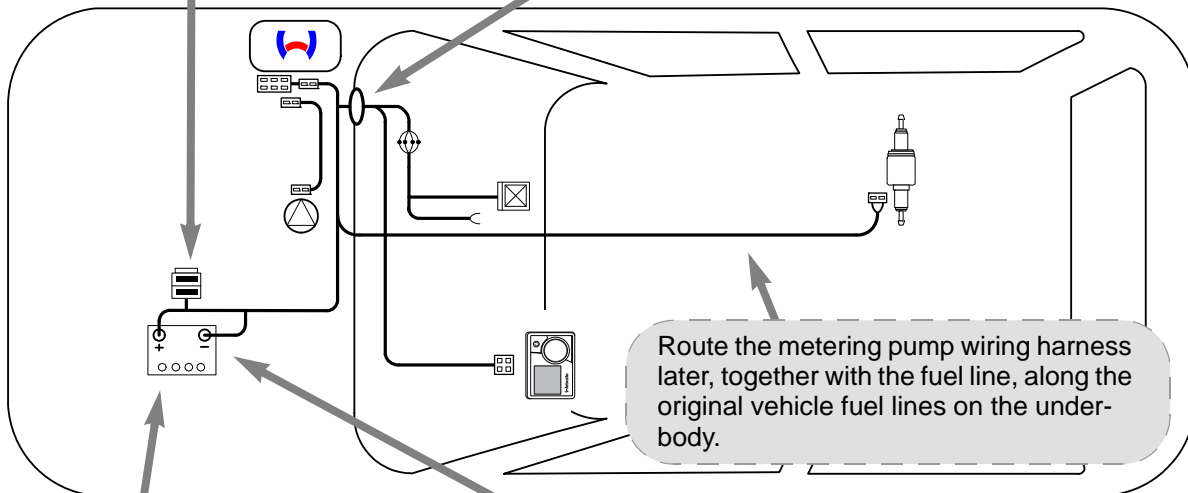
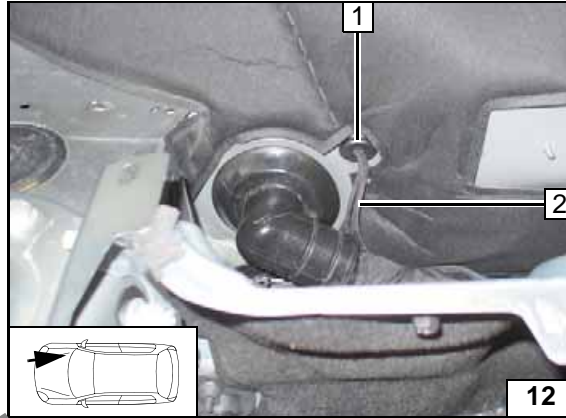
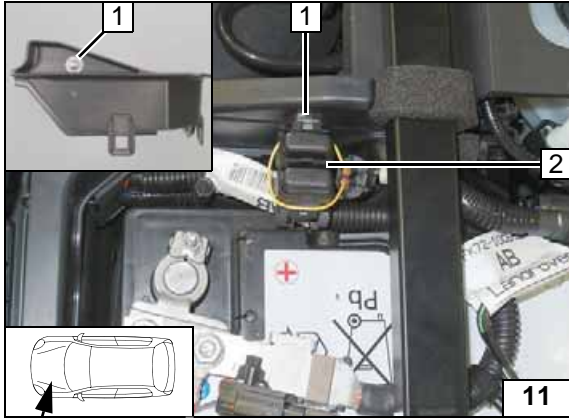
Engine compartment fuse holder

5.5 mm dia. hole at position 1 in battery box.

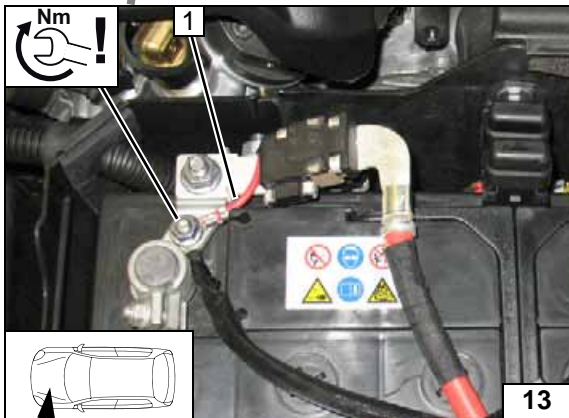
- 1 M5x16 bolt, large diameter washer [2x], retaining plate of fuse holder, nut
- 2 Fuses F1-2

Wiring harness pass through

- 1 Punch a 7mm dia. hole in the protective rubber plug
- 2 Heater wiring harnesses, heater control

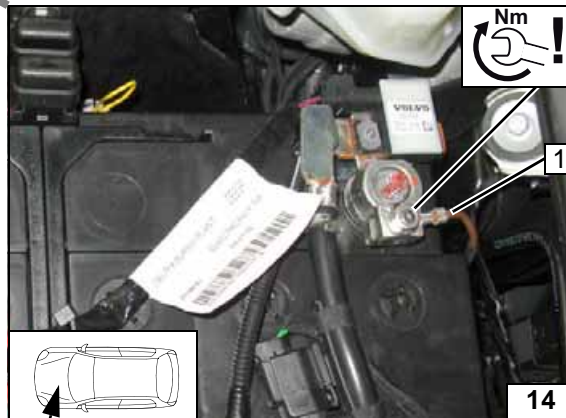


Wiring harness routing diagram



Positive wire

- 1 Positive wire on positive battery terminal



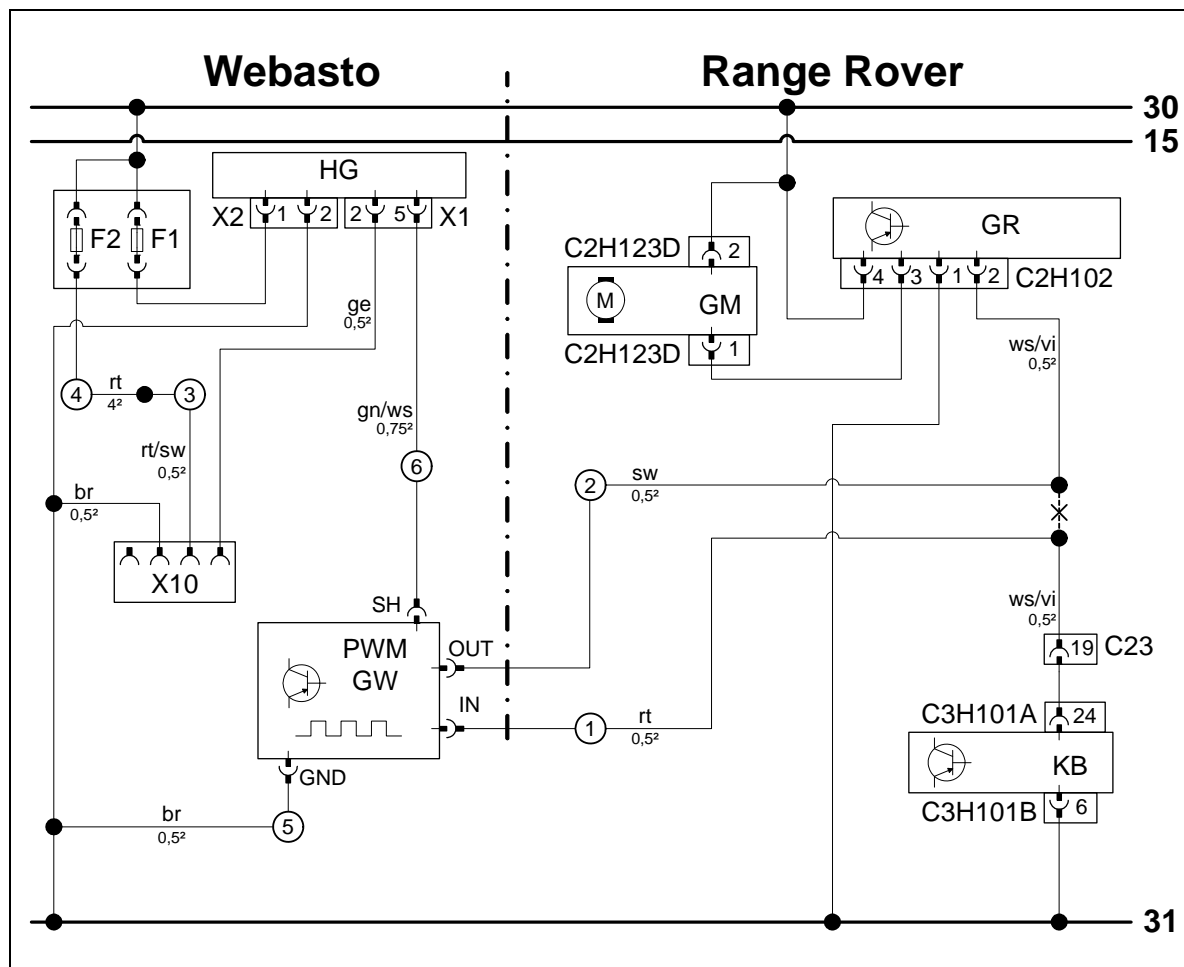
Earth wire

- 1 Earth wire on negative battery terminal





Wiring Diagram for Range Rover Evoque



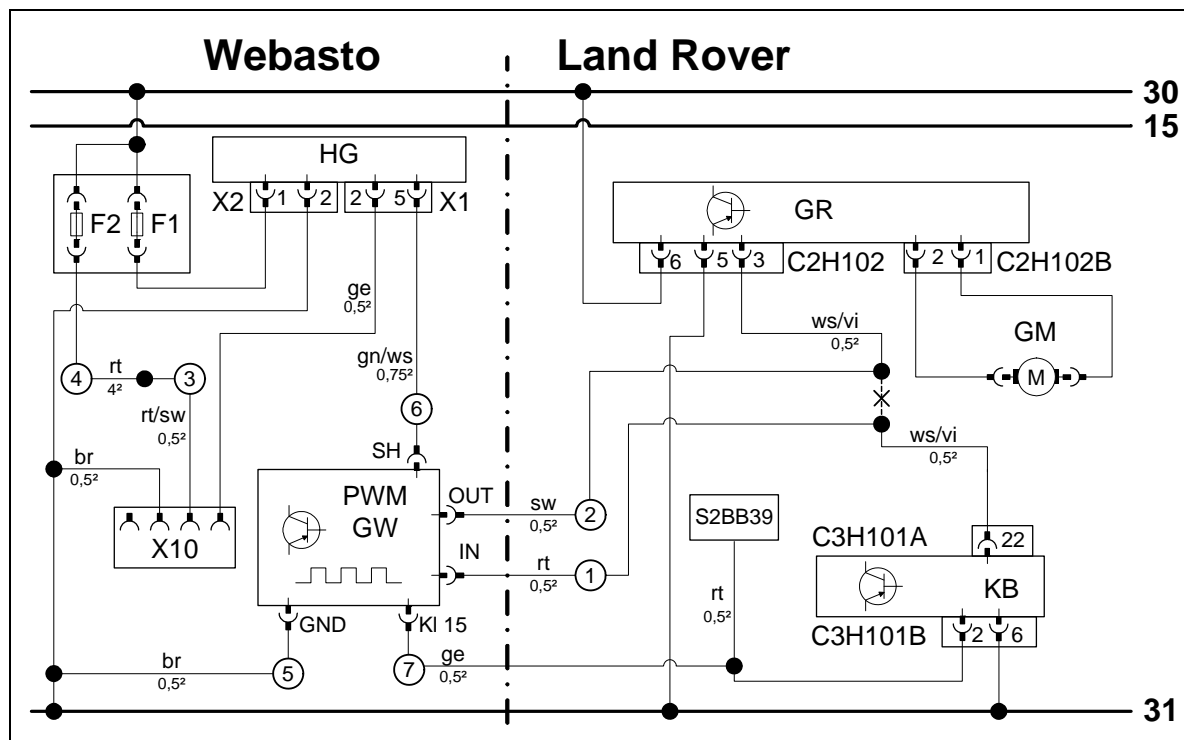
Wiring diagram

Webasto components		Vehicle components		Colours and symbols	
HG	TT-Evo heater	GR	Fan controller	rt	red
X1	6-pin heater connector	C2H102	4-pin connector of GR	sw	black
X2	2-pin heater connector	GM	Fan motor	ge	yellow
F1	20A fuse	C2H123D	2-pin connector of GM	gn	green
F2	1A fuse	C23	20-pin intermediate connector	vi	violet
X10	4-pin connector of heater control			ws	white
PWM-GW	Pulse width modulator	KB	A/C control panel	br	brown
PWM-GW settings:		C3H101A	Connector of KB		
Duty cycle: 36%		C3H101B	Connector of KB		
Frequency: 400Hz					
Voltage: 10V				X	Cutting point
Function: High side					Wiring colours may vary.

Legend



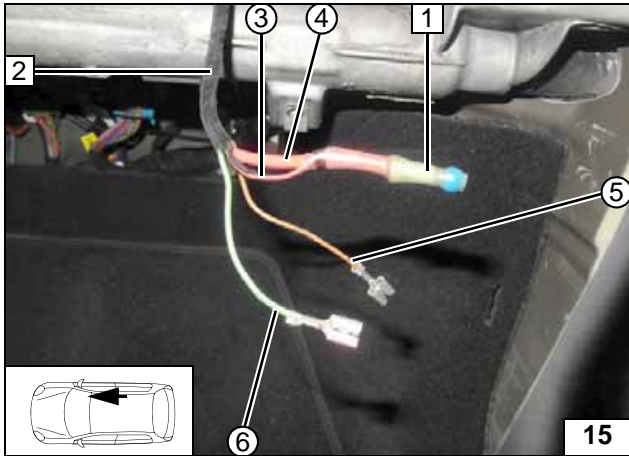
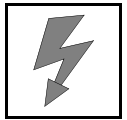
Wiring Diagram for Land Rover Discovery Sport



Wiring diagram

Webasto components		Vehicle components		Colours and symbols	
HG	TT-Evo heater	GR	Fan controller	rt	red
X1	6-pin heater connector	C2H102	4-pin connector of GR	sw	black
X2	2-pin heater connector	C2H102B	2-pin connector of GR	ge	yellow
F1	20A fuse	GM	Fan motor	gn	green
F2	1A fuse	S2BB39	Power supply of flap positioning motor	vi	violet
X10	4-pin connector of heater control	KB	A/C control panel	ws	white
PWM-GW	Pulse width modulator	C3H101A	Connector of KB	br	brown
		C3H101B	Connector of KB		
PWM-GW settings:					
Duty cycle: 65%					
Frequency: 400Hz					
Voltage: not relevant				X	Cutting point
Function: Low side					Wiring colours may vary.

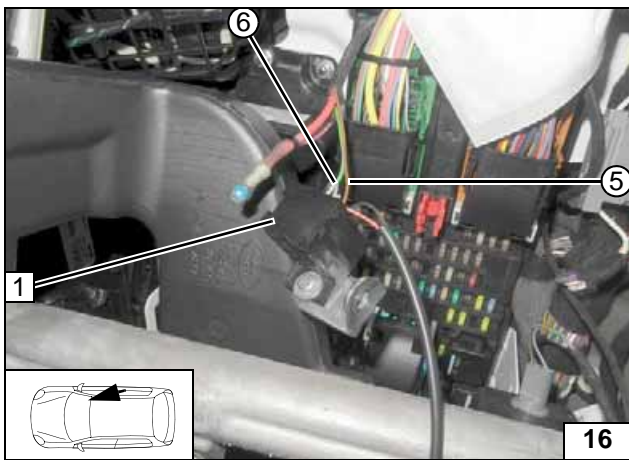
Legend



Fan controller for All Vehicles

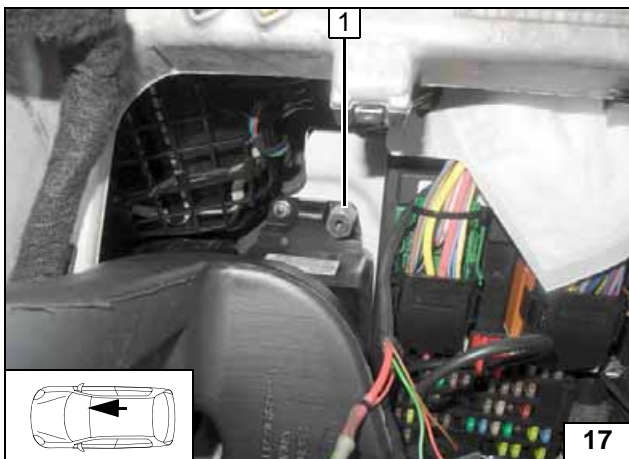
- 1 Solder wire terminator
- 2 Wiring harness of heater
- 3 Red/black (rt/sw) wire of heater wiring harness/ X10
- 4 Installing red (rt) wire of heater wiring harness/ F2
- 5 Brown (br) wire of heater wiring harness/ earth 31
- 6 Green/white (gn/ws) wire of heater wiring harness/ X1/5

Premounting heater wiring harness



- 1 PWM-GW socket
- 5 Brown (br) wire in PWM-GW/GND
- 6 Green/white (gn/ws) wire in PWM-GW/SH

Inserting wires

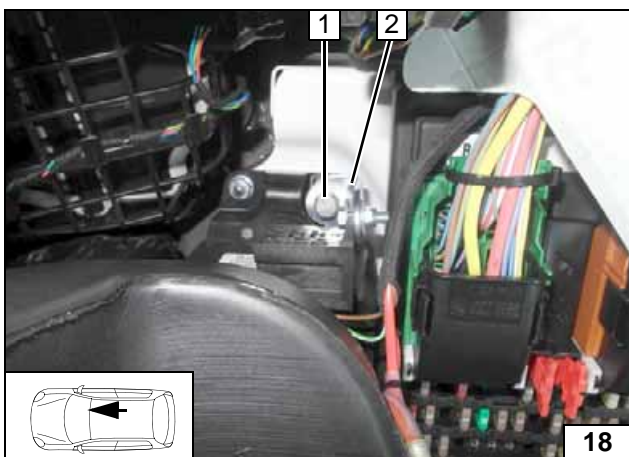


Remove original vehicle nut at position 1 and discard.

- 1 M6x30 spacer nut on original vehicle's stud bolt

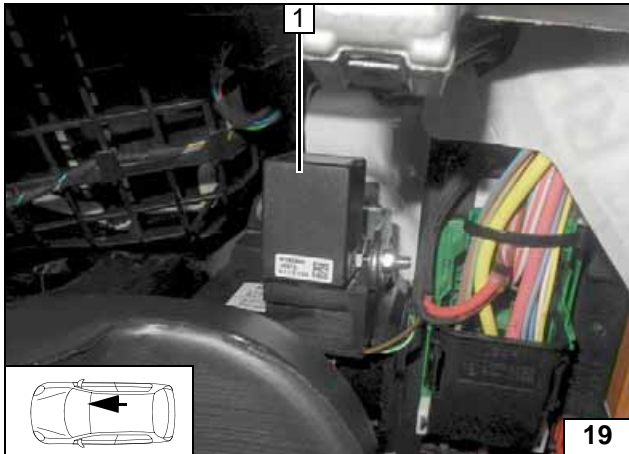
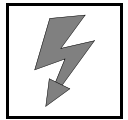


Installing spacer nut



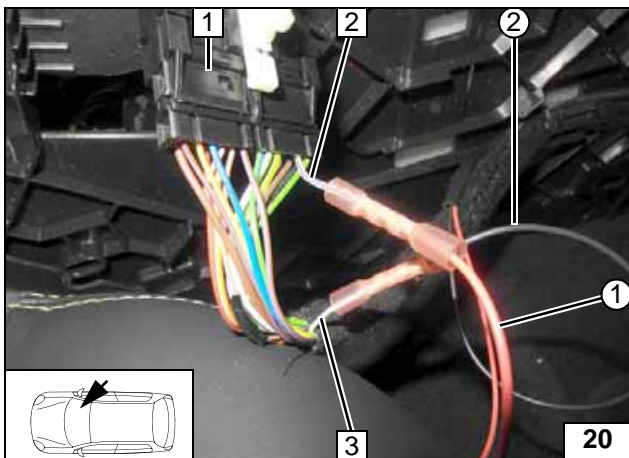
- 1 M6x12 bolt, spring lockwasher on spacer nut
- 2 Angle bracket

Installing socket PWM-GW



1 PWM-GW

Inserting PWM-GW



Fan Controller for Range Rover Evoque

Connection on 20-pin intermediate connector C23 1.

- 2 White/violet (ws/vi) wire of connector C23, pin 19
- 3 White/violet (ws/vi) wire of fan controller
- ① Red (rt) wire from PWM-GW/IN of PWM control wiring harness
- ② Black (sw) wire from PWM-GW/OUT of PWM control wiring harness



Connecting A/C control panel



Dismantling Instructions for Land Rover Discovery Sport

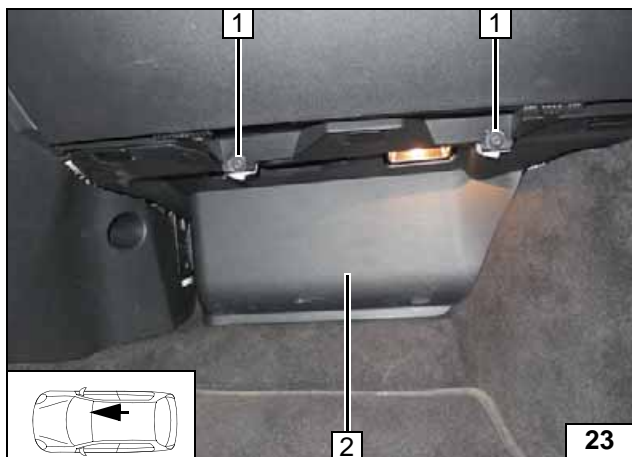
- 1 Lateral instrument panel trim on the right

Unclipping lateral instrument panel trim



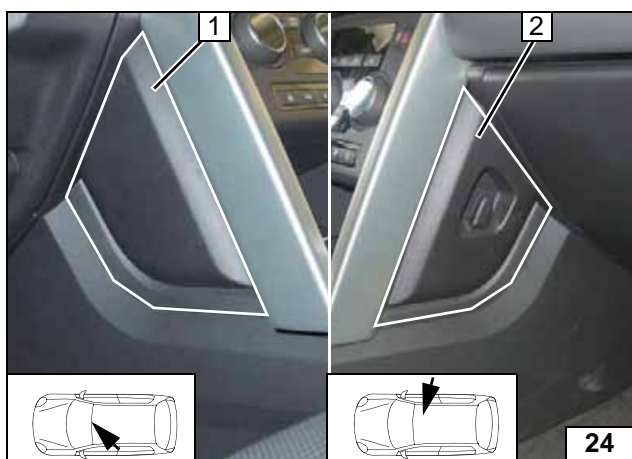
- 1 Door sill trim on the front passenger's side

Unclipping door sill trim on front passenger's side



- 1 Bottom bolts of the glove box [2x]
- 2 Footwell trim on front passenger's side

Unclipping
footwell trim
on front pas-
senger's side



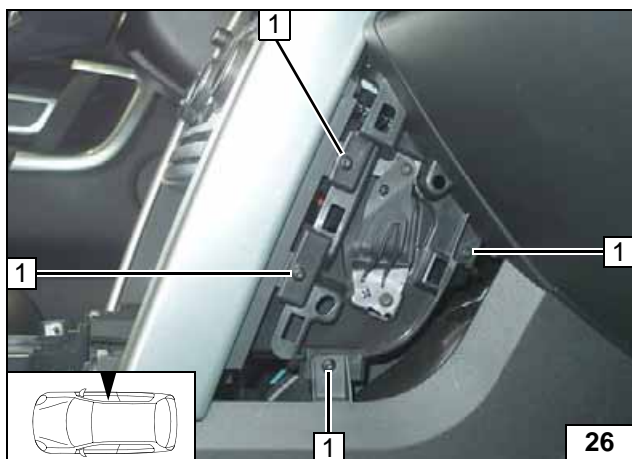
- 1 Upper lateral centre console trim on the left
- 2 Upper lateral centre console trim on the right

Unclipping
upper lateral
centre con-
sole trim



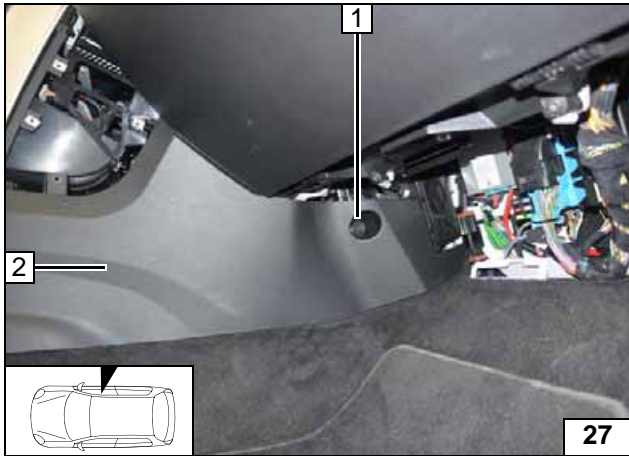
- 1 Centre console cover

Unclipping
centre con-
sole cover
and removing
upwards



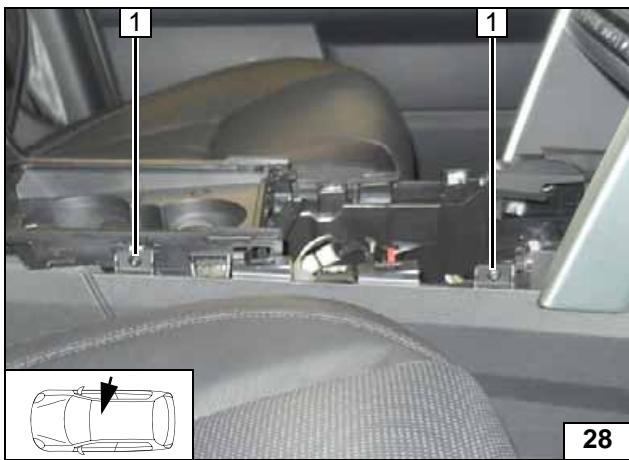
- 1 Original vehicle bolt [4x]

Removing
original vehi-
cle bolts



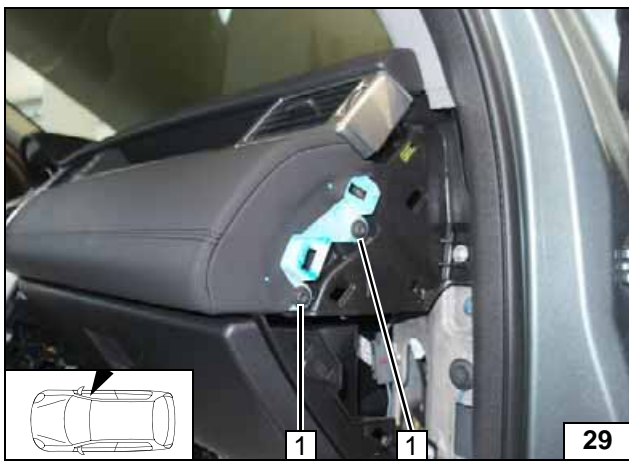
- 1 Original vehicle bolt
- 2 Lower lateral centre console trim on the right

Removing original vehicle bolt



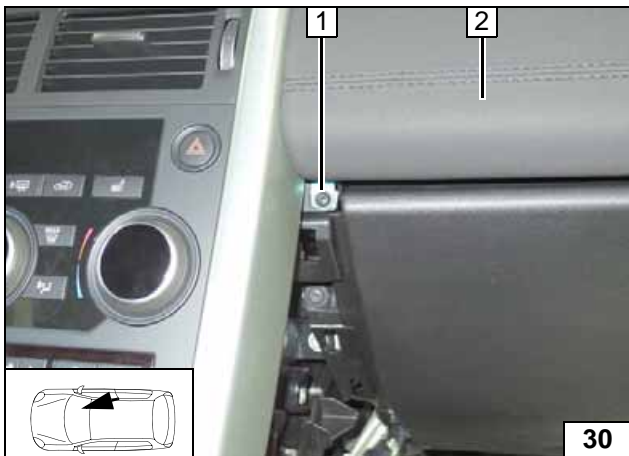
- 1 Original vehicle bolt [2x]

Removing original vehicle bolts



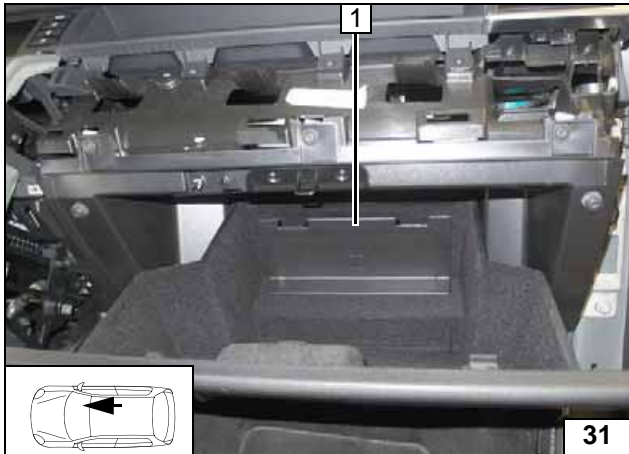
- 1 Original vehicle bolt [2x]

Removing original vehicle bolts



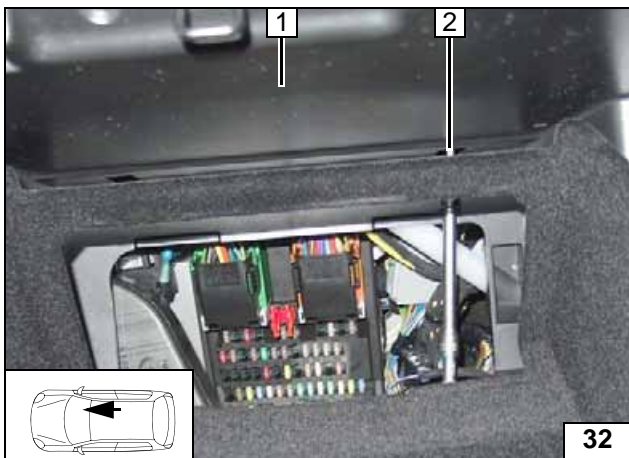
- 1 Original vehicle bolt
- 2 Instrument panel cover

Removing cover



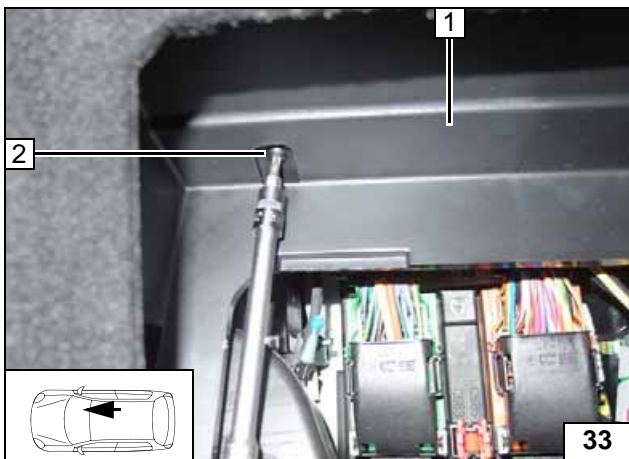
1 Cover for the fuses in the glove box

Removing cover



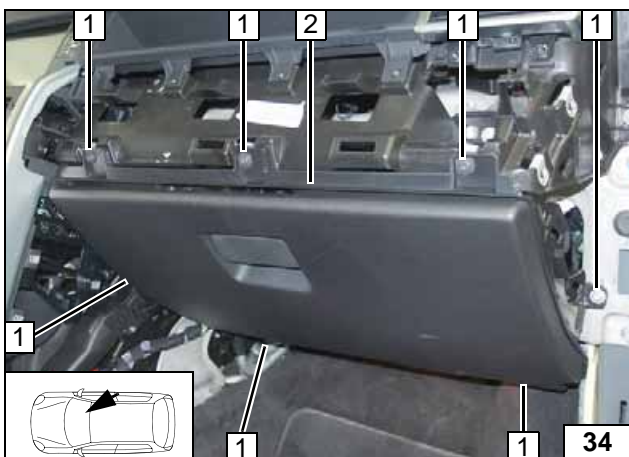
1 Glove box frame
2 Original vehicle bolt (hidden)

Removing original vehicle bolt



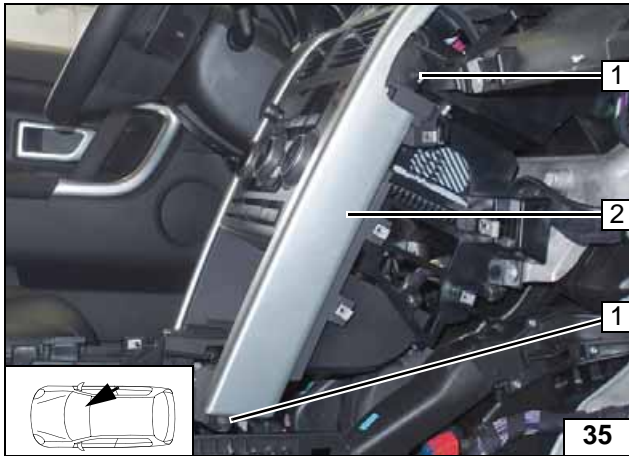
1 Glove box frame
2 Original vehicle bolt

Removing original vehicle bolt



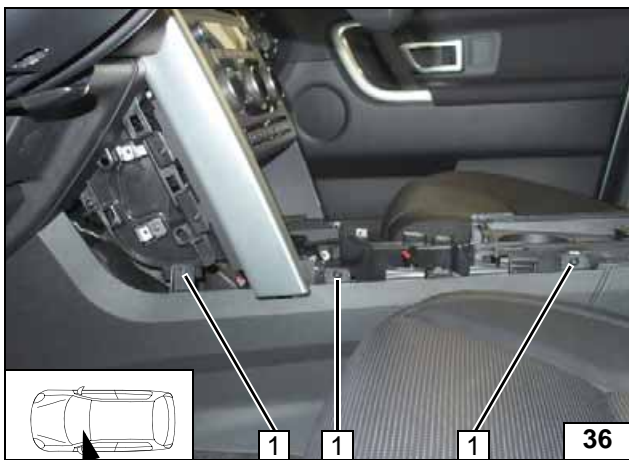
1 Original vehicle bolt [7x] (3x hidden on the underside)
2 Glove box with frame

Removing original vehicle bolts



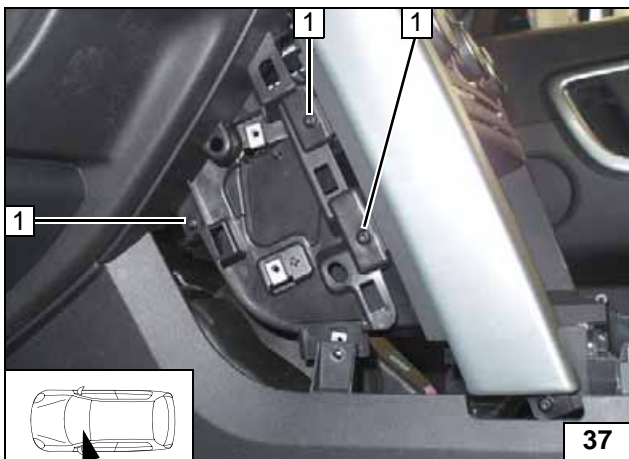
- 1 Original vehicle bolt [2x]
- 2 Centre console trim piece on the right

Removing centre console trim piece on the right



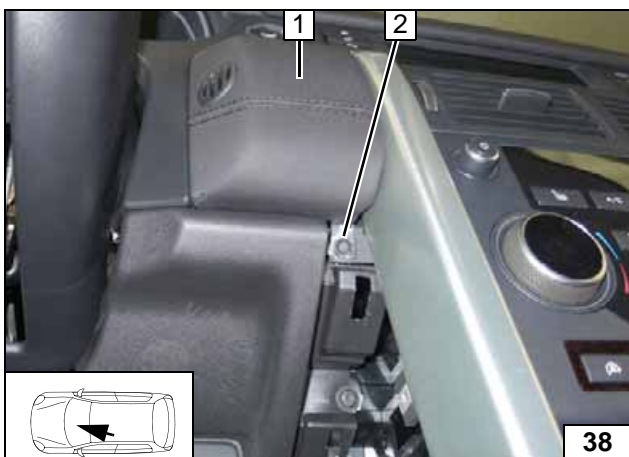
- 1 Original vehicle bolt [3x]

Removing original vehicle bolts



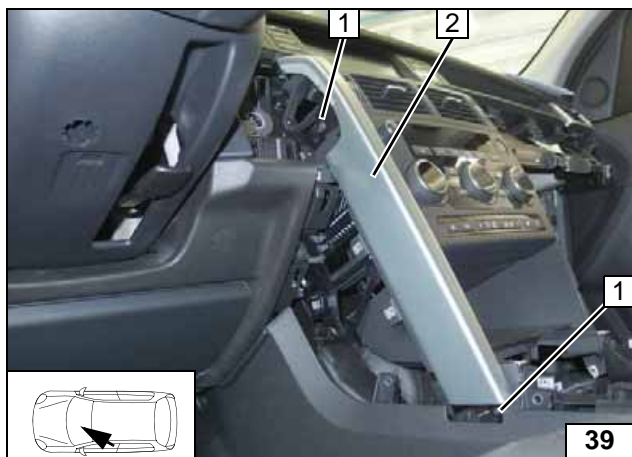
- 1 Original vehicle bolt [3x]

Removing original vehicle bolts



- 1 Instrument panel cover on the left
- 2 Original vehicle bolt

Removing instrument panel cover on the left



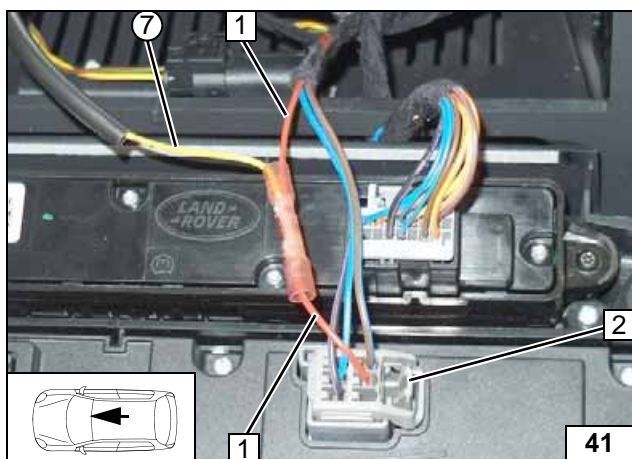
- 1 Original vehicle bolt [2x]
- 2 Centre console trim piece on the left

Removing centre console trim piece on the left



- 1 Original vehicle bolt [4x]
- 2 A/C control panel

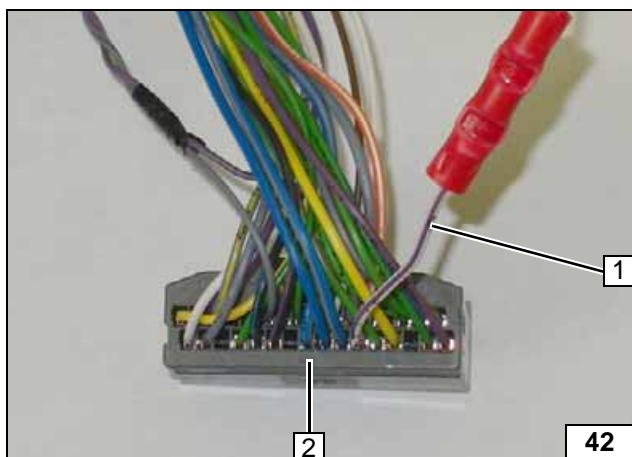
Removing A/C control panel



Fan Controller for Land Rover Discovery Sport

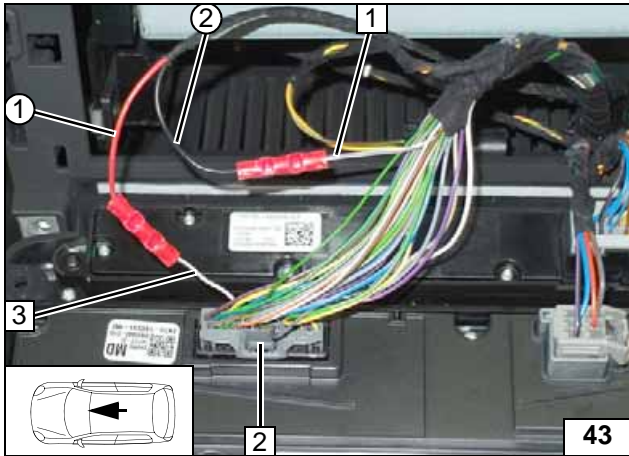
- 1 Red (rt) wire of connector C3H101B/ pin 2 from A/C control panel
- 2 Connector C3H101B from A/C control panel
- ⑦ Yellow (ge) wire of PWM-GW/K115

Connecting A/C control panel



- 1 White/violet (ws/vi) wire of connector C3H101A, pin 22 from A/C control panel
- 2 32-pin connector C3H101A of A/C control panel

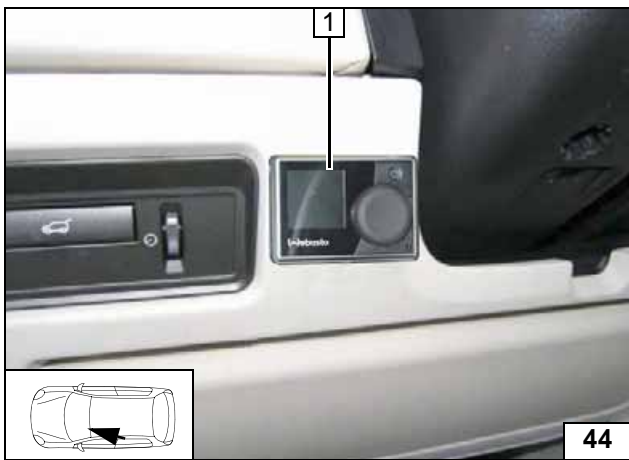
View of connector C3H101A



Connection on 32-pin connector 2 C3H101A 2.

- 1 White/violet (ws/vi) wire of fan controller
- 3 White/violet (ws/vi) wire of connector C3H101A, pin 22
- ① Red (rt) wire from PWM-GW/IN of PWM control wiring harness
- ② Black (sw) wire from PWM-GW/OUT of PWM control wiring harness

**Connect-
ing A/C
control
panel**



MultiControl CAR Option

Range Rover Evoque

- 1 MultiControl CAR



**Installing
MultiControl
CAR**

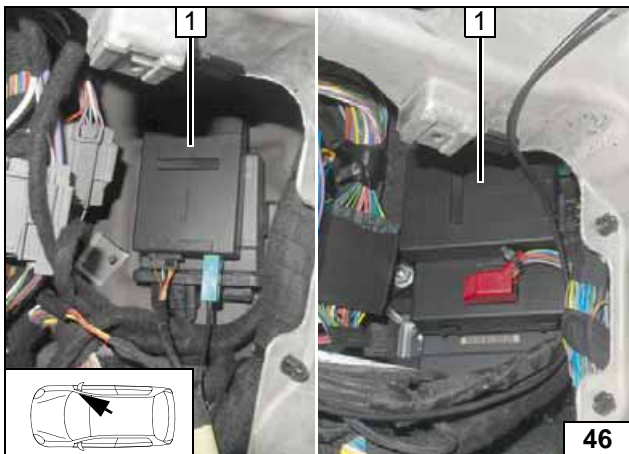


Land Rover Discovery Sport

- 1 MultiControl CAR



**Installing
MultiControl
CAR**



Remote Option (Telestart)

Depending on the space available, secure receiver 1 with double-sided adhesive tape.



**Installing
receiver**

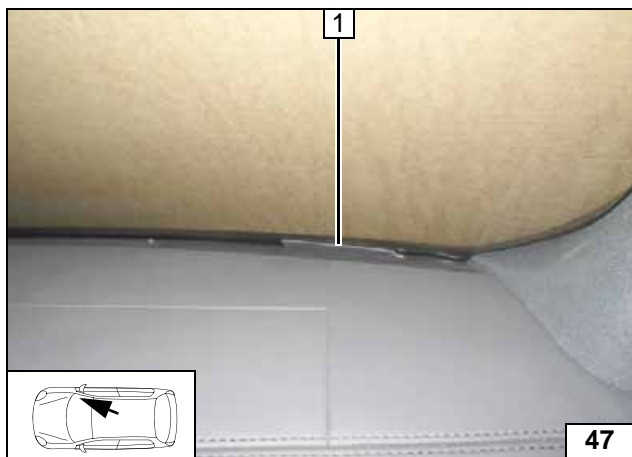
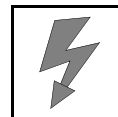
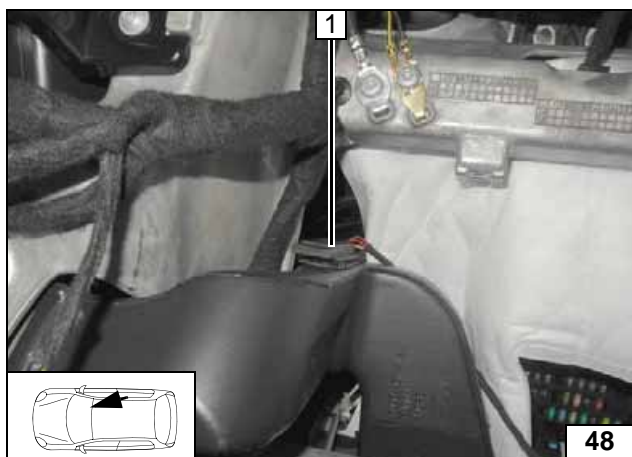


Figure shows Range Rover Evoque.

1 Aerial



Installing aerial

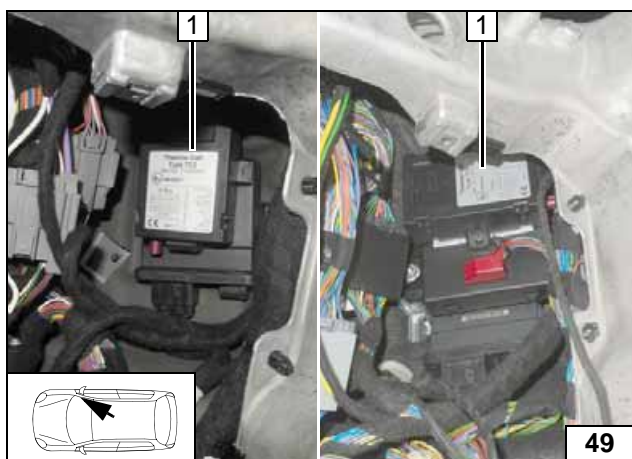


Temperature sensor T100 HTM

Fasten temperature sensor 1 with double-sided adhesive tape



Installing temperature sensor



ThermoCall Option

Secure receiver 1 using double-sided adhesive tape.



Installing receiver

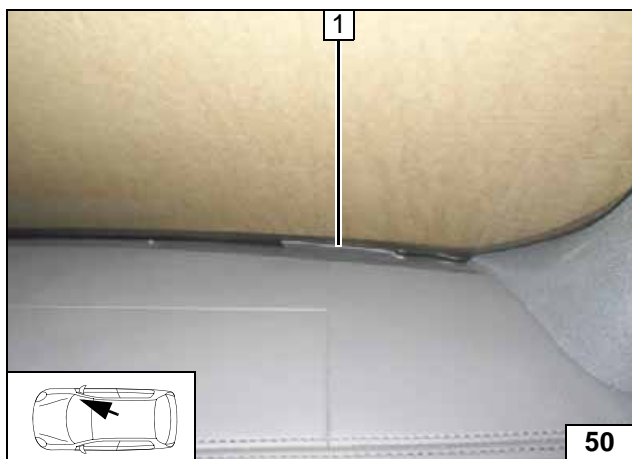
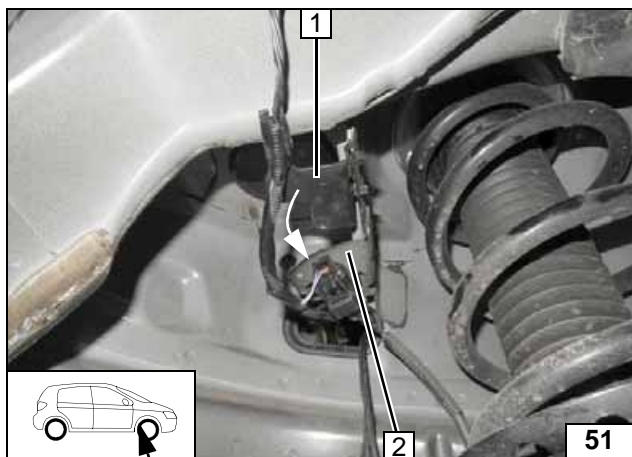


Figure shows Range Rover Evoque.

1 Aerial (optional)



Installing aerial



Preparing Installation Location



All vehicles

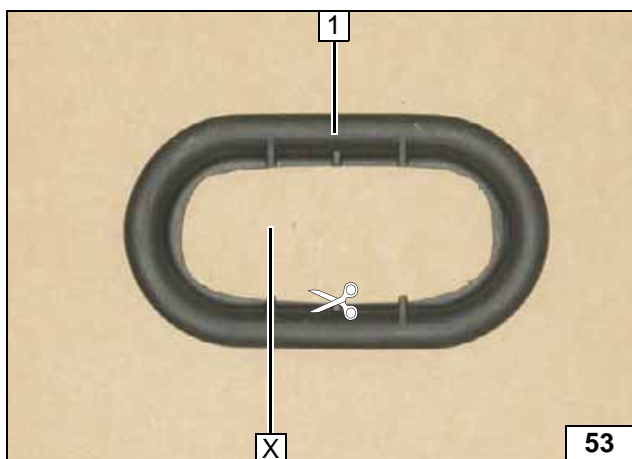
Detach bracket 1 from original vehicle wiring harness. Bend tab 2 downwards in the direction of the arrow as shown.

Detaching bracket



1 Cover

Removing cover

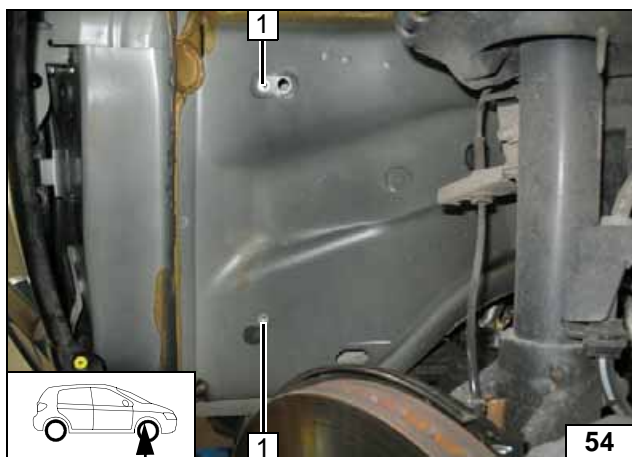


Cut out pass through 1 and re-install.



X =

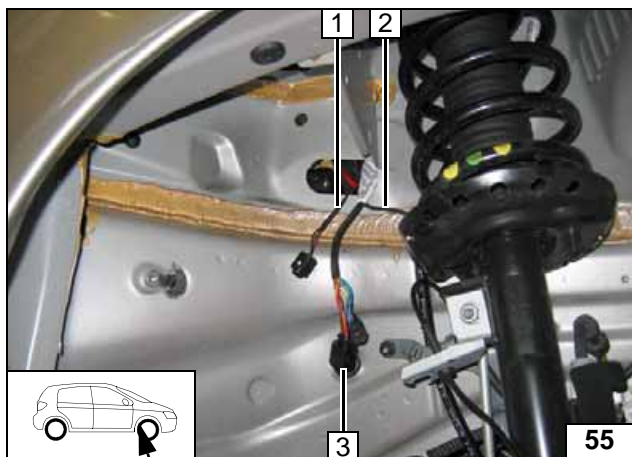
Cutting out pass through



Insert rivet nuts M6 1 [2x] in existing holes.

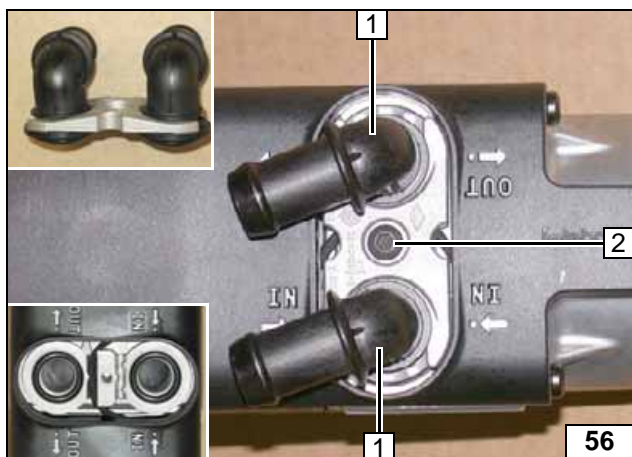


Installing rivet nuts



- 1 Circulating pump wiring harness
- 2 Metering pump wiring harness
- 3 Heater wiring harness

Inserting wires

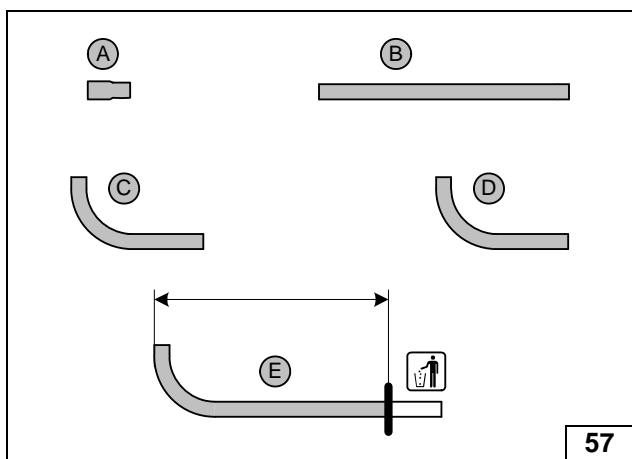


Preparing Heater

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

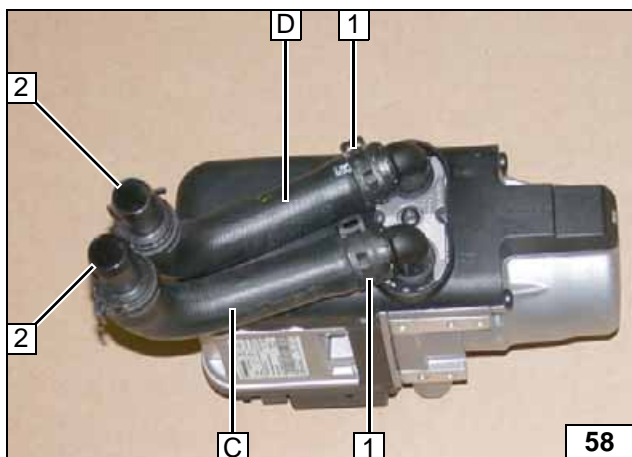


Installing water connection piece



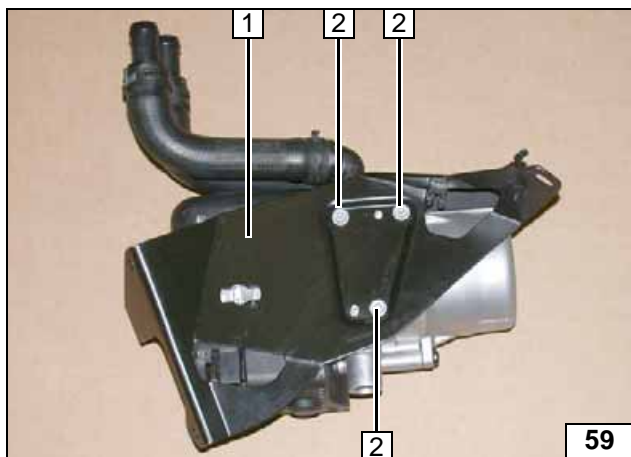
- A = 18x20mm dia.
- B = 430
- C = 90°, 18mm dia.
- D = 90°, 18mm dia.
- E = 335

Cutting hoses to length



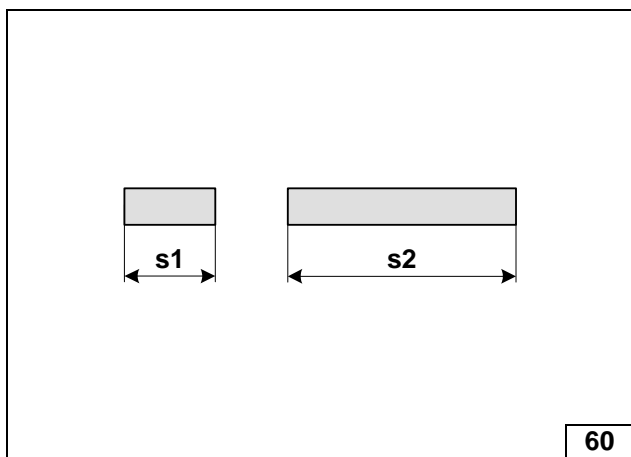
- 1 25mm dia. spring clip [2x]
- 2 18x18mm dia. connecting pipe, 25mm dia. spring clip [2x each]

Premounting hoses



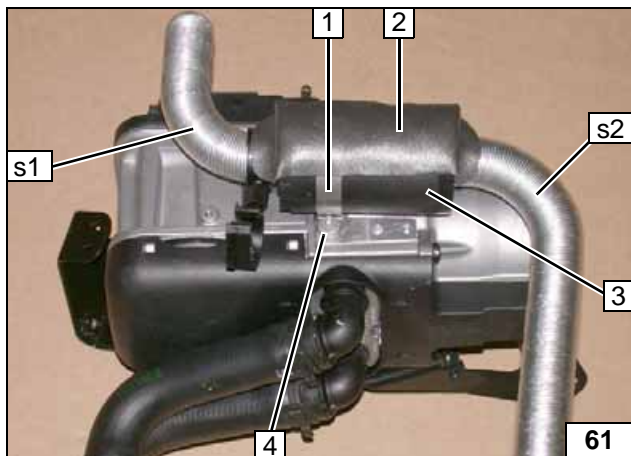
- 1 Bracket
- 2 5x13 self-tapping bolt [3x]

Premounting bracket



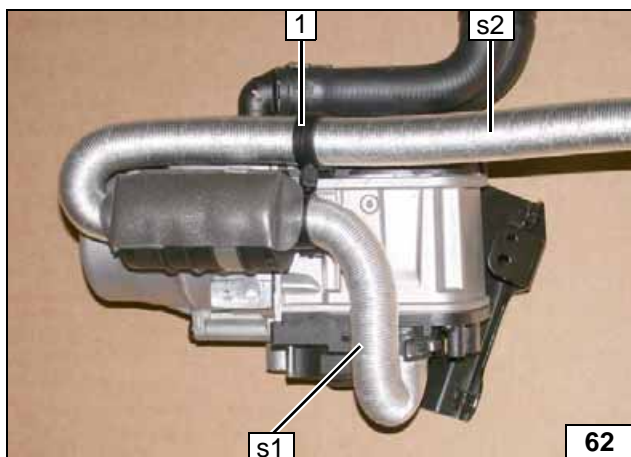
- s1 = 210
- s2 = 480

Assigning combustion air pipe



- 1 51mm dia. clamp
- 2 Stick on insulation protection strips
- 3 Combustion air silencer
- 4 5x13 self-tapping bolt

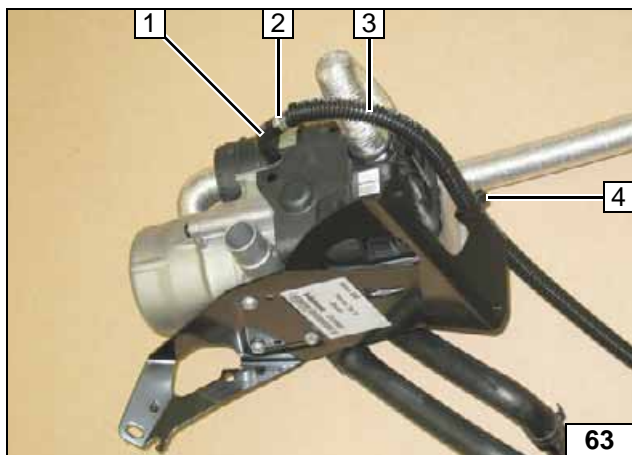
Installing combustion air silencer



- 1 Spacer bracket

Fastening combustion air pipe



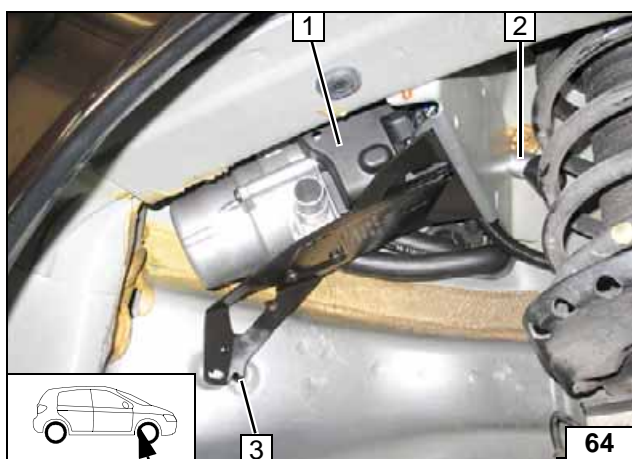


Slide 1130 mm corrugated tube **3** onto fuel line (later, also insert wiring harness of metering pump into corrugated tube **3**).

- 1** 90° moulded hose, 10mm dia. clamp
- 2** Fuel line, 10 mm dia. clamp
- 4** Cable tie



Premounting fuel line

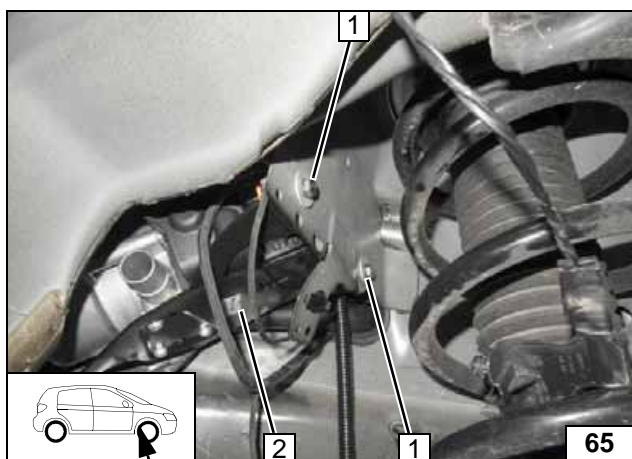


Installing Heater

Route combustion air pipe through pass through at position **2**. Connect passed through wiring harness of heater and wiring harness of circulating pump to heater. Attach heater **1** at original vehicle hole **3** as shown.



Installing heater

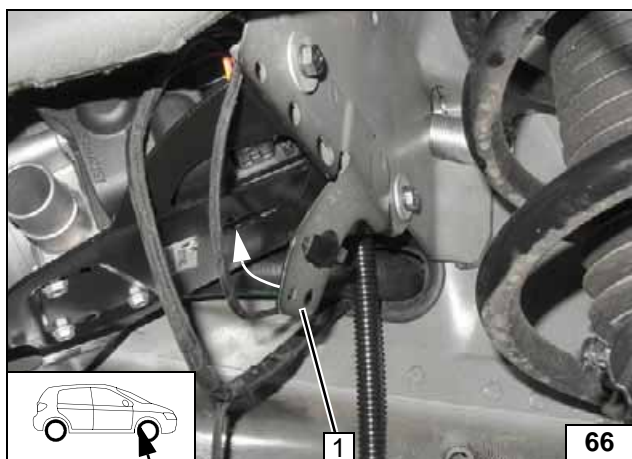


Fasten bolts **1** [2x] loosely.

- 1** M6x20 bolt, spring lockwasher, large diameter washer, existing holes [2x each]
- 2** Heater bracket



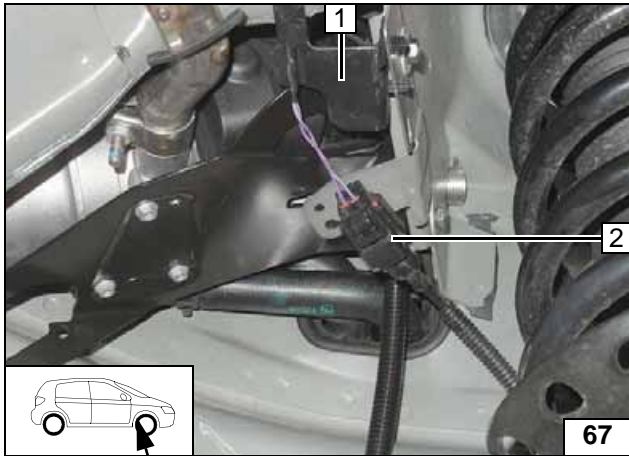
Installing heater



Bend back tab at position **1**.



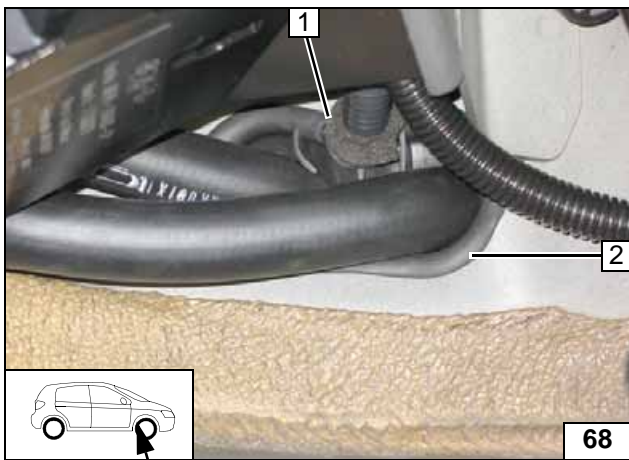
Installing heater



Reinstall bracket of original vehicle's wiring harness 1.

2 Original vehicle wiring harness, mounted

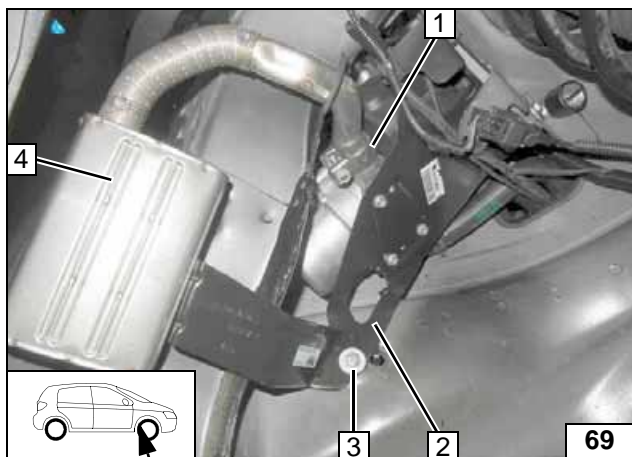
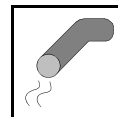
Fastening original vehicle wiring harness



1 Wind wiring harnesses with rub protection

2 Pass through

Aligning pass through



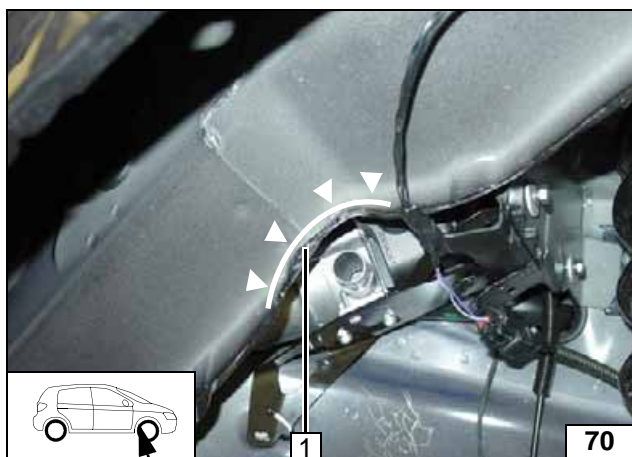
Exhaust Gas

Adapt body as shown in next picture in case of space problems nearby the heater exhaust connection piece at position 1.

- 1 Hose clamp
- 2 Heater bracket
- 3 M6x20 bolt, spring lockwasher, large diameter washer
- 4 Exhaust system



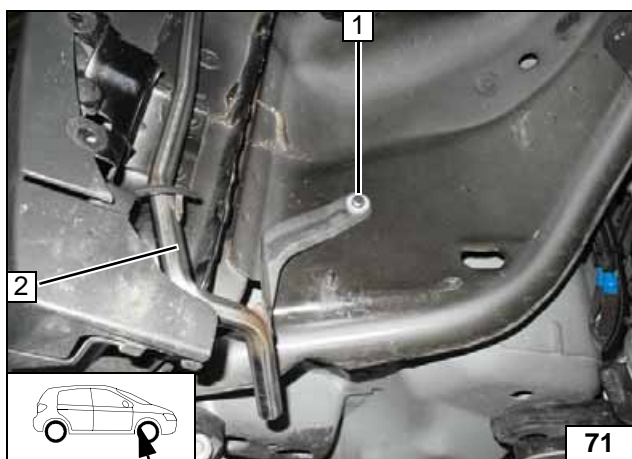
Installing exhaust system



Bend original vehicle edge 1 as shown if necessary. Apply suitable corrosion protection on the adapted section.



Adapting original vehicle edge



Tighten all loose screw fittings.

- 1 M6x20 bolt, spring lockwasher, large diameter washer
- 2 Align exhaust system



Installing exhaust system

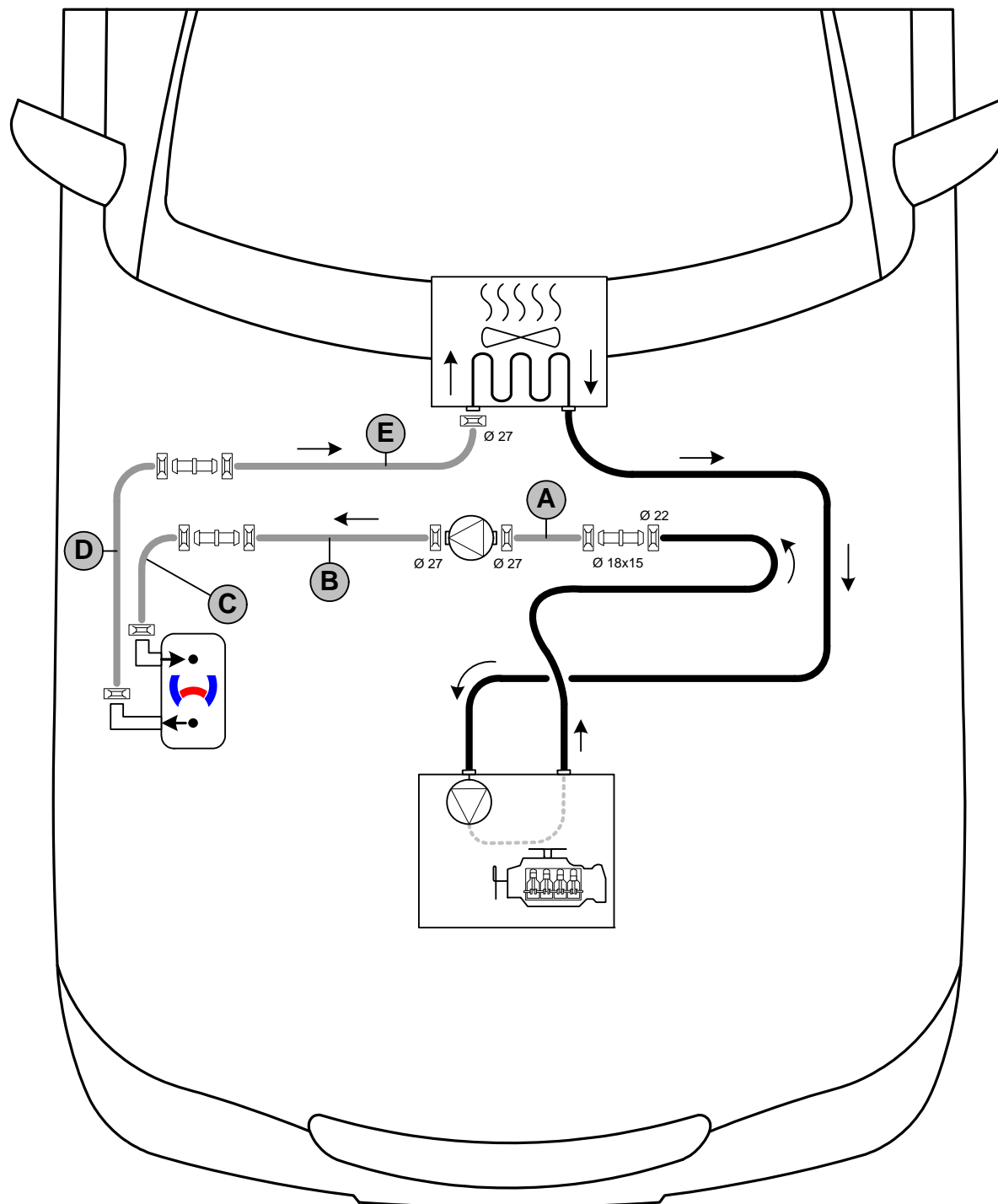


Coolant Circuit


WARNING!

Any coolant running off should be collected in a suitable 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.

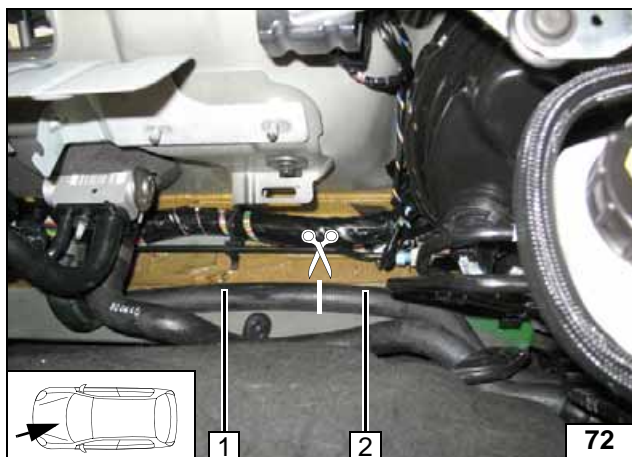
The connection should be modelled on an 'inline' circuit and based on the following diagram:



Hose routing diagram

All spring clips without a specific designation  = 25 mm dia.
 All connecting pipes without a specific designation = 18x18mm dia.



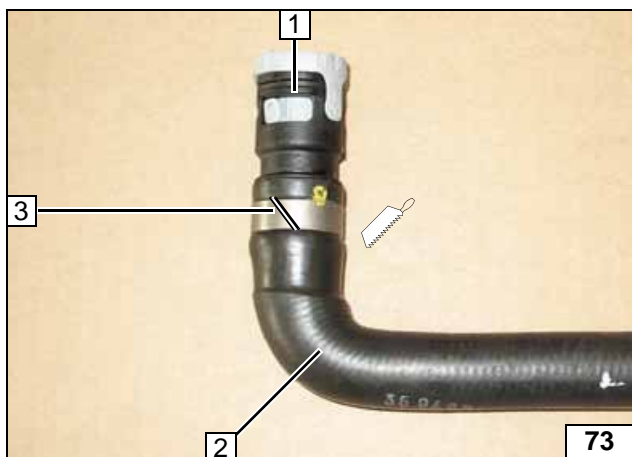


Remove hose section 1 of heat exchanger inlet.



2 Hose section of engine outlet

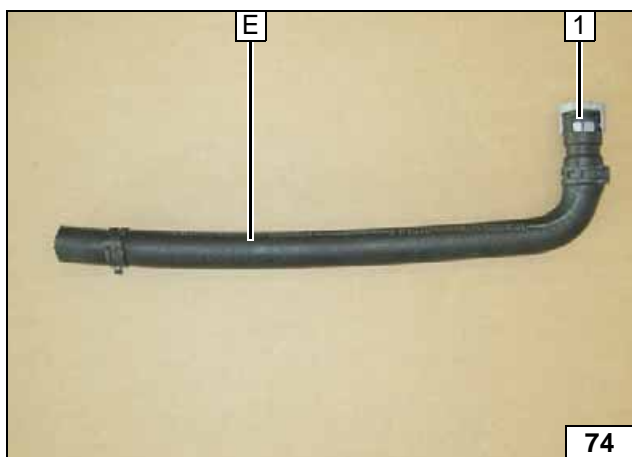
Cutting point



Quick-release coupling 1 will be reused. Carefully remove clamp 3, take care not to damage the quick-release coupling. Discard hose section 2 .



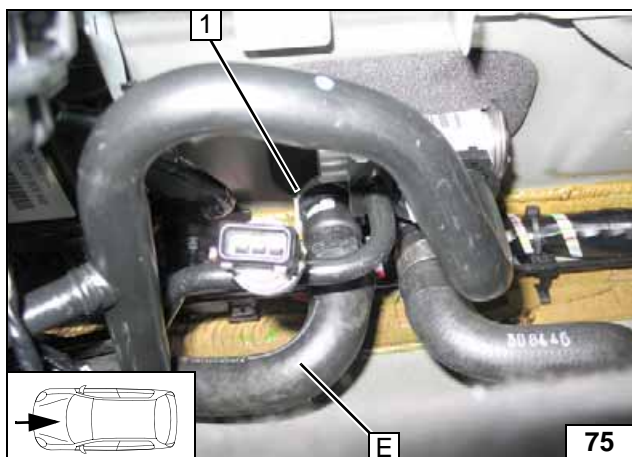
Adapting hose section



Observe coding of quick-release coupling 1 .

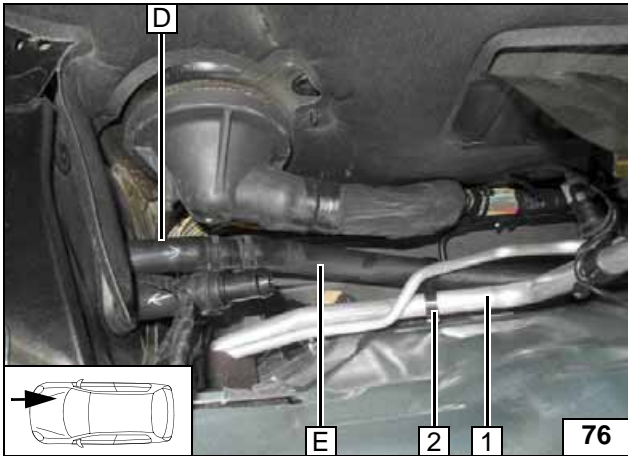


Premounting hose E



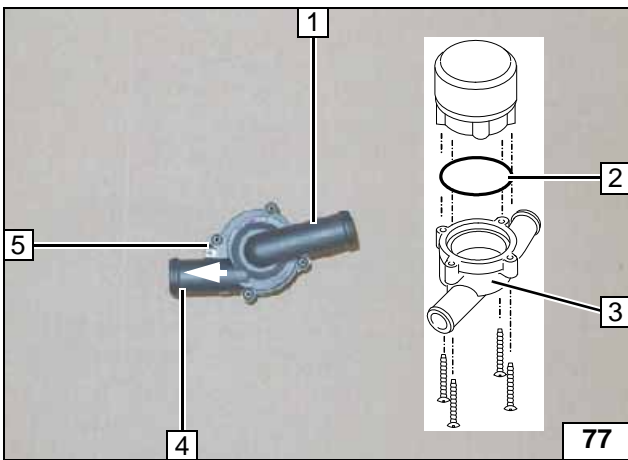
1 Quick-release coupling of heat exchanger inlet

Connecting heat exchanger inlet



- 1 A/C line
- 2 Hose bracket

Connect-
ing heater
outlet

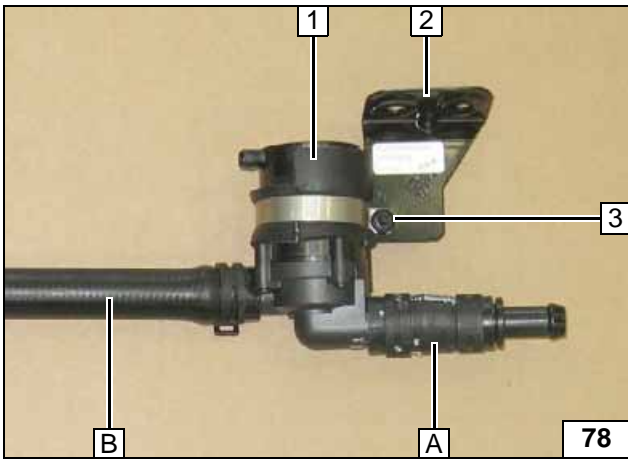


Replace axial cover of circulating pump with 193° cover 3 with sealing ring 2.

- 1 Circulating pump inlet connection piece
- 4 Circulating pump outlet connection piece
- 5 Connection of circulating pump wiring harness

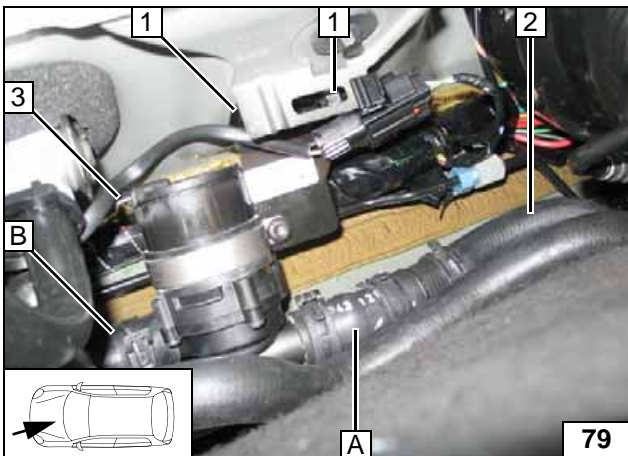


Replacing
circulating
pump cover



- 1 Circulating pump
- 2 Bracket
- 3 Retaining clip with rubber support, M6x20 pan head screw

Premount-
ing circu-
lating
pump

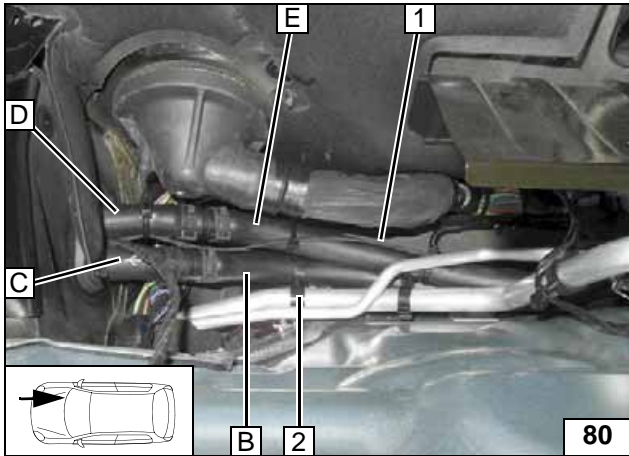


Mount circulating pump onto existing stud bolts with plastic nuts 1 [2x].

- 2 Hose section of engine outlet
- 3 Wiring harness of circulating pump attached



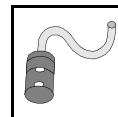
Installation
and con-
nection of
circulating
pump



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

- 1 Circulating pump wiring harness
- 2 Hose bracket

**Connect-
ing heater
inlet**

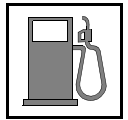


Combustion Air

Mount and align protective cap **1** onto combustion air pipe **s2**.



Routing
combustion air pipe
s2



Fuel

CAUTION!

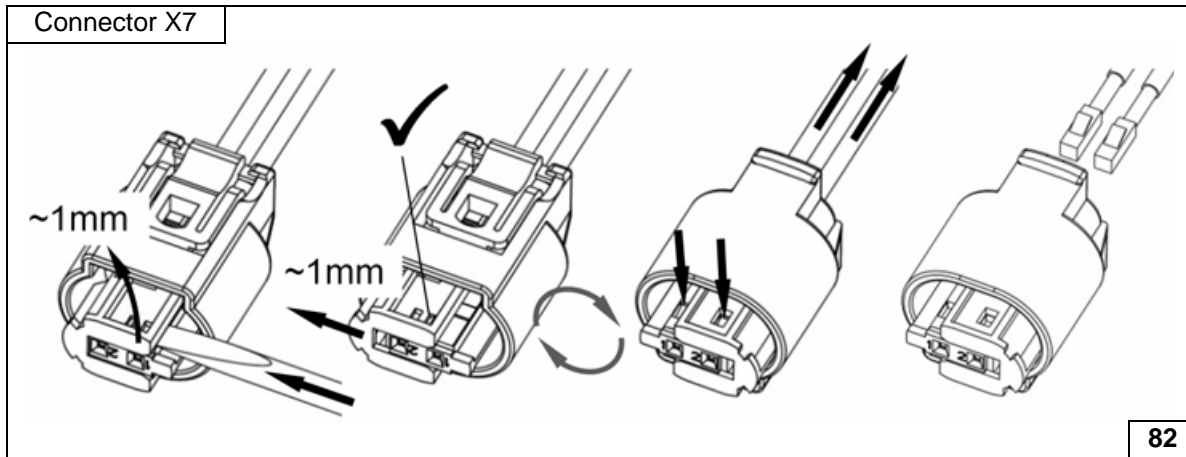
Open the vehicle's fuel tank cap, ventilate the tank and then re-close the tank lock.

Catch any fuel running off in a suitable container.

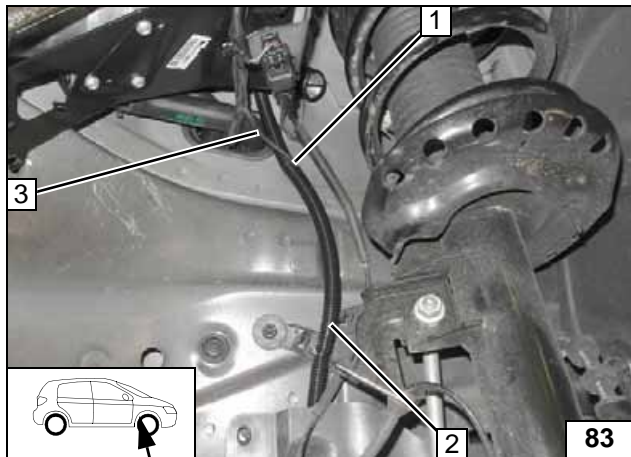
Install fuel line and metering pump wiring harness so that they are protected against stone impact. Unless specified otherwise, always fasten using cable ties. Provide rub protection for fuel line and wiring harness in areas where there are sharp edges.

WARNING!

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



Dismantling metering pump connector



Cut 10mm dia. corrugated tube 2 open at position 1 and insert metering pump wiring harness 3 into corrugated tube.



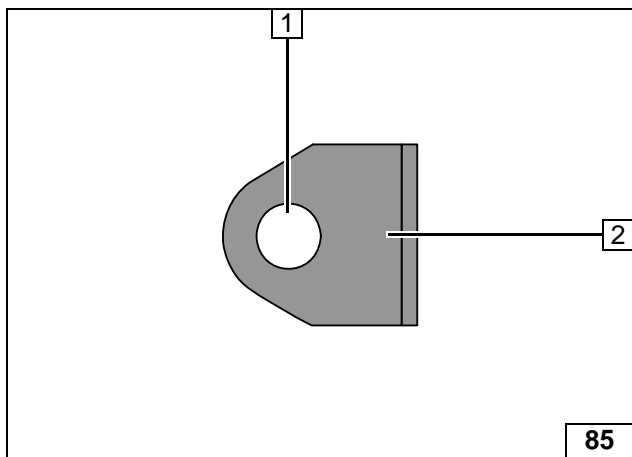
Routing lines



Route fuel line 2 and wiring harness of metering pump 1 behind the underride protection to installation location of metering pump.



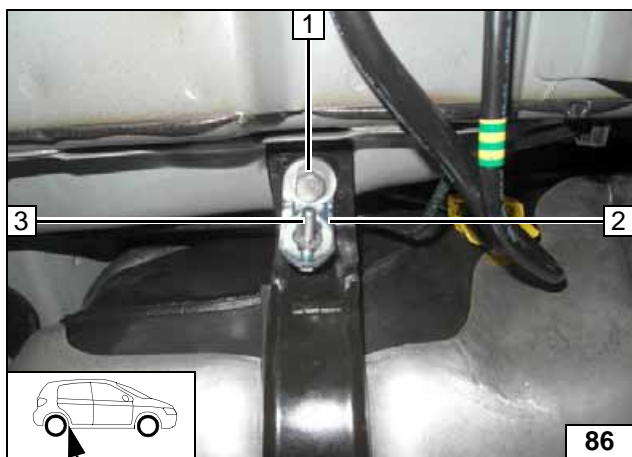
Routing lines



- 1 8.5 mm dia. hole
- 2 Angle bracket



Drilling hole in angle bracket

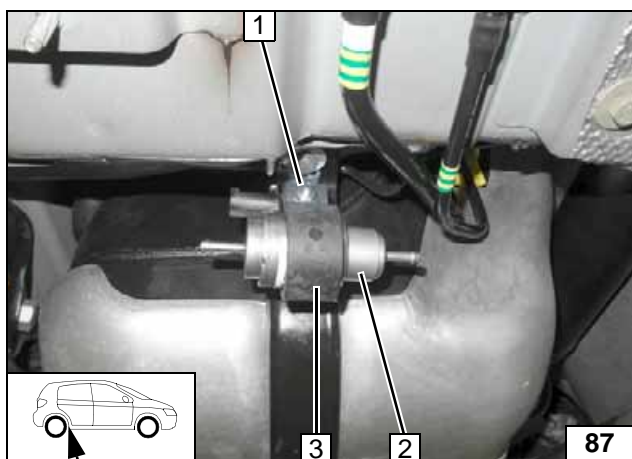


Before installation, insert M6x25 bolt 3 in angle bracket 2 and secure with pin lock.

- 1 Original vehicle M8 bolt



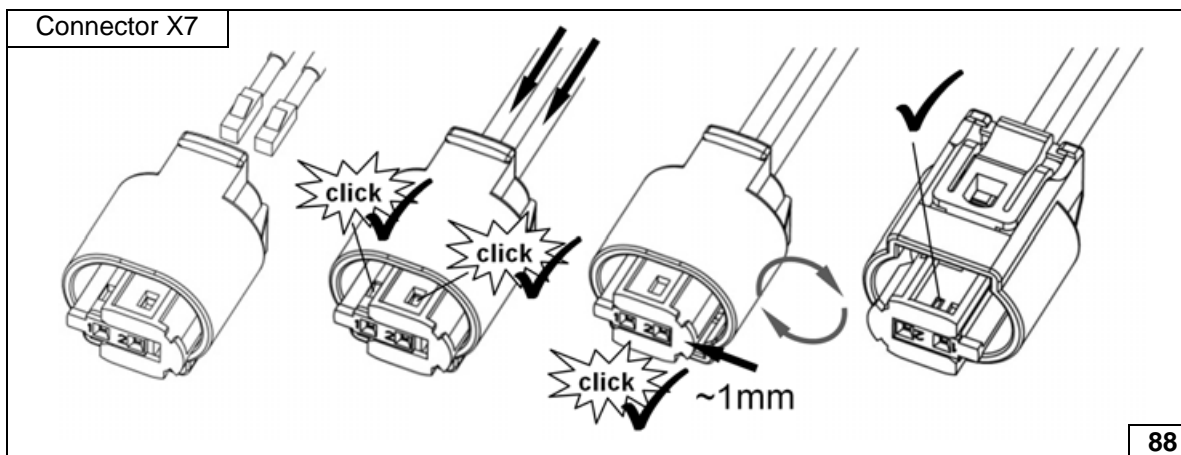
Installing angle bracket



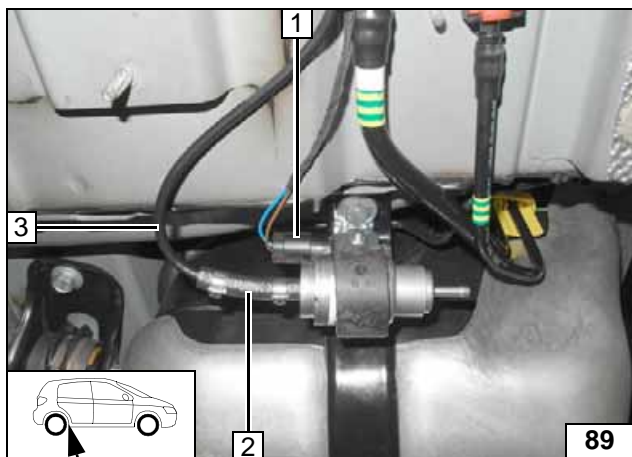
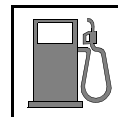
- 1 Support angle bracket, flanged nut M6
- 2 Metering pump
- 3 Metering pump mount



Installing metering pump

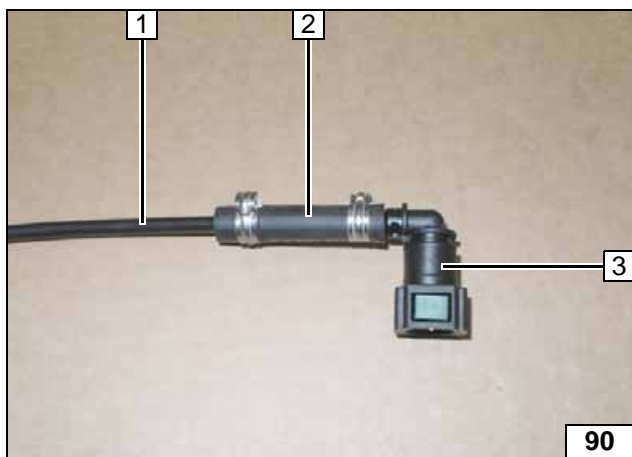


Completing metering pump connector



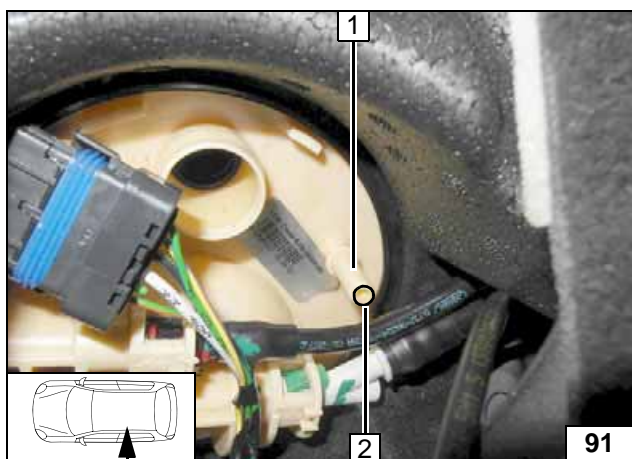
- 1 Connector of metering pump wiring harness
- 2 Hose section, 10mm dia. clamp [2x]
- 3 Fuel line of heater

Connect-
ing meter-
ing pump



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

Preparing
fuel line

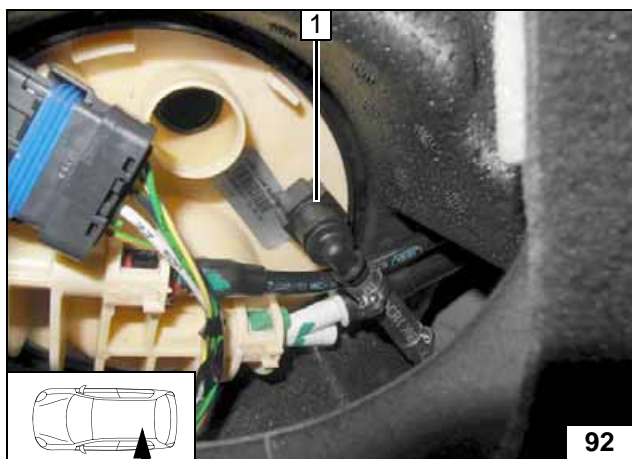


Version 1

Cut off 5mm from the end of connection piece 1 at position 2.



Fuel ex-
traction

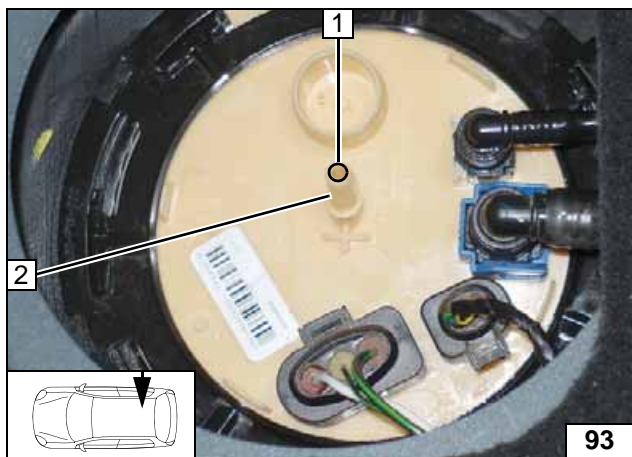
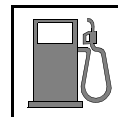


Route fuel line to metering pump.

- 1 Quick-release coupling mounted



Connect-
ing fuel line

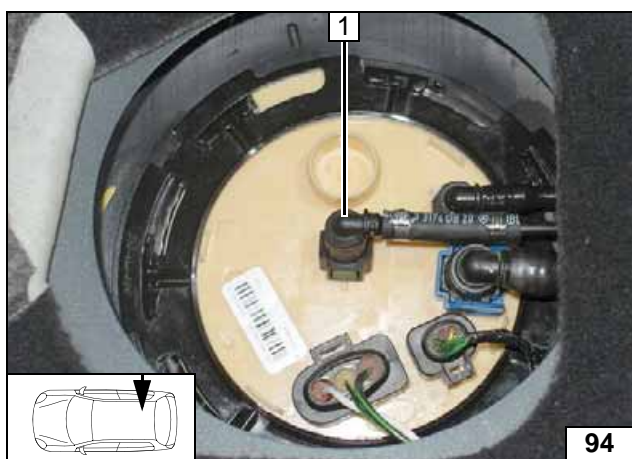


Version 2

Cut off 5mm from the end of connection piece 2 at position 1.



Fuel extraction

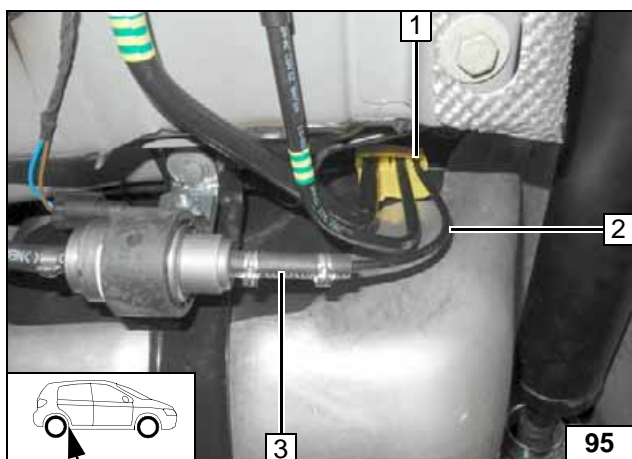


Route fuel line to metering pump.

1 Quick-release coupling mounted



Connecting fuel line



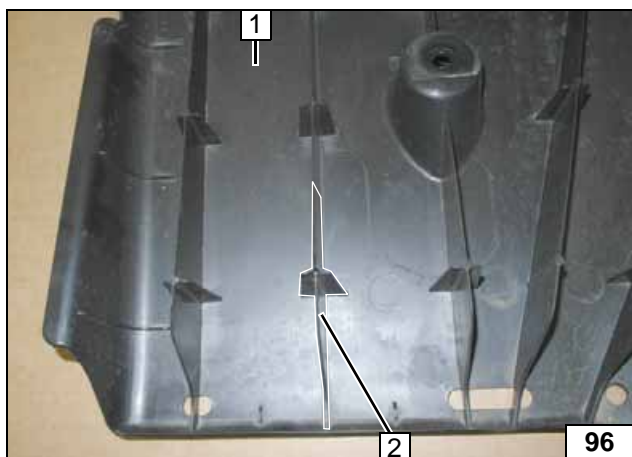
All vehicles

Route fuel line of fuel tank sending unit 2 through original vehicle's bracket 1. Ensure sufficient distance from neighbouring components, correct if necessary.

3 Hose section, 10mm dia. clamp [2x]



Connecting metering pump

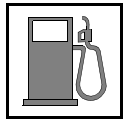


Range Rover Evoque only

Cut out rib 2 from underride protection 1 at the marking (see following figure).

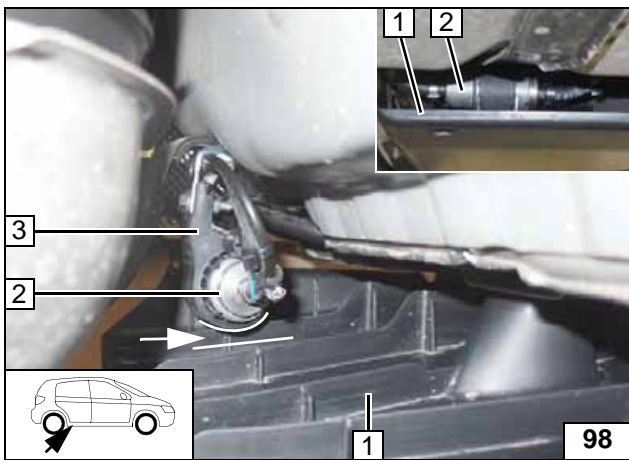


Removing underride protection reinforcement rib

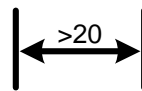


1 Underride protection

Cutting out
underride
protection



Land Rover Discovery Sport



- 1 Underride protection
- 2 Metering pump
- 3 Metering pump mount



Checking
distance
between
underride
protection
and meter-
ing pump

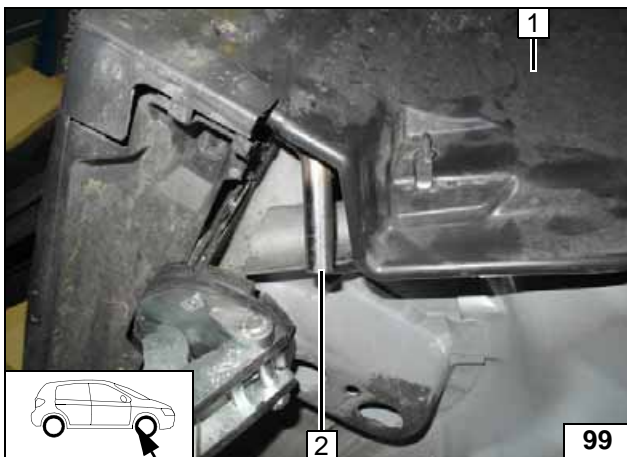


Final Work

WARNING!

Reassemble the components in reverse order. Check all hoses, clamps and all electrical connections for firm seating. Insulate loose wire ends and tie back. Only use manufacturer-approved coolant. Spray the heater components with anti-corrosion wax (Tectyl 100K).

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

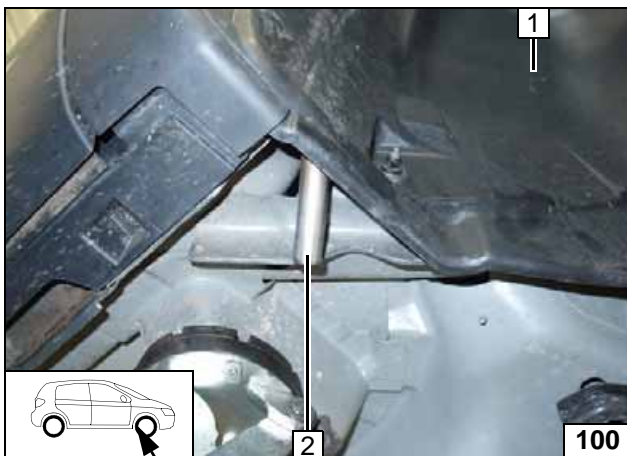


Range Rover Evoque

Ensure sufficient distance from neighbouring components.

- 1 Wheel well trim, mounted
- 2 Exhaust end section

Aligning exhaust end section



Land Rover Discovery Sport

Ensure sufficient distance from neighbouring components.

- 1 Wheel well trim, mounted
- 2 Exhaust end section



Aligning exhaust end section

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

Operating Instructions for Range Rover Evoque

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 the vehicle settings for the heating operation.

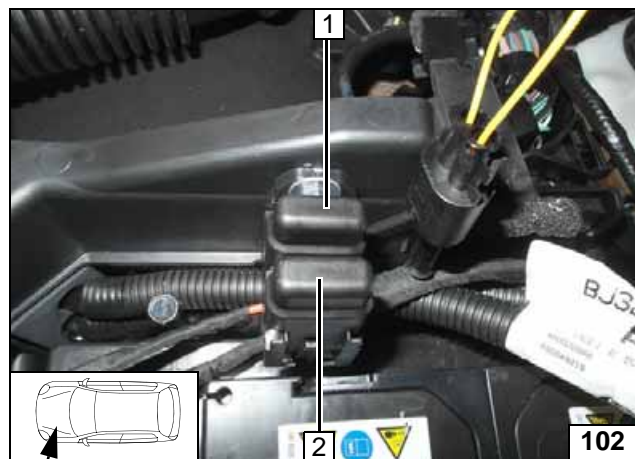
For instructions on deactivation, please refer to the operating instructions of the vehicle.

Before parking the vehicle, make the following settings:



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

A/C control panel



- 1 1A heater control fuse F2
- 2 20A heater fuse F1

Engine compartment fuses



Operating Instructions for Land Rover Discovery Sport

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

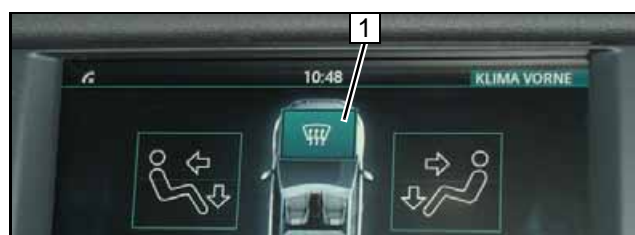
Example:

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

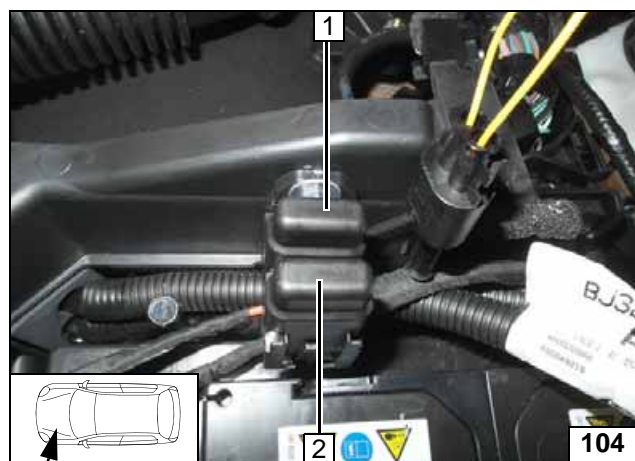
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For instructions on deactivation, please refer to the operating instructions of the vehicle.

Before parking the vehicle, make the following settings:



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



- 1 1A heater control fuse F2
- 2 20A heater fuse F1



A/C control panel

Engine compartment fuses