Water Heater

Thermo Top Evo Parking Heater

E1
00 0258

Installation Documentation
Volvo XC60 / XC90

Validity

Manufacturer	Model	Type	Model year	EG BE No. / ABE
Volvo	XC60	U	From model year 2017	e4 * 2007 / 46 * 1220*...

Motorisation	Fuel	Emission standard	Transmission type	Output in kW	Displacement in cm³	Engine code
2.0P	Petrol	Euro 6	AG	184	1969	B4204T26
2.0D	Diesel	Euro 6	AG	140	1969	D4204T14
2.0D	Diesel	Euro 6d-TEMP	AG	140	1969	D4204T14

Manufacturer	Model	Type	Model year	EG BE No. / ABE
Volvo	XC90	L	From model year 2015	e4 * 2007 / 46 * 0929*...

Motorisation	Fuel	Emission standard	Transmission type	Output in kW	Displacement in cm³	Engine code
2.0P	Petrol	Euro 6	AG	184	1969	B4204T26
2.0D	Diesel	Euro 6	AG	140	1996	D4204T14
2.0D	Diesel	Euro 6d-TEMP	AG	140	1969	D4204T14
2.0D	Diesel	Euro 6	AG	140	1996	D4204T6
2.0D	Diesel	Euro 6	AG	165	1969	D4204T11

AG = automatic transmission

Left-hand drive vehicle

Verified equipment variants: Multi-zone - automatic air-conditioning
Start button
Automatic Start-Stop system
LED daytime running lights
LED main headlights
4WD

Not verified: Passenger compartment monitoring

Total installation time: approx. 10.4 hours

Volvo XC60 / XC90

Table of Contents

Necessary Components

- Basic delivery scope of Thermo Top Evo based on price list
- Installation kit for Volvo XC60 / XC90 2015 Petrol and diesel: **1324178D**
- Control element 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
- In case of MultiControl CAR installation: MultiControl installation frame: **9030077_**

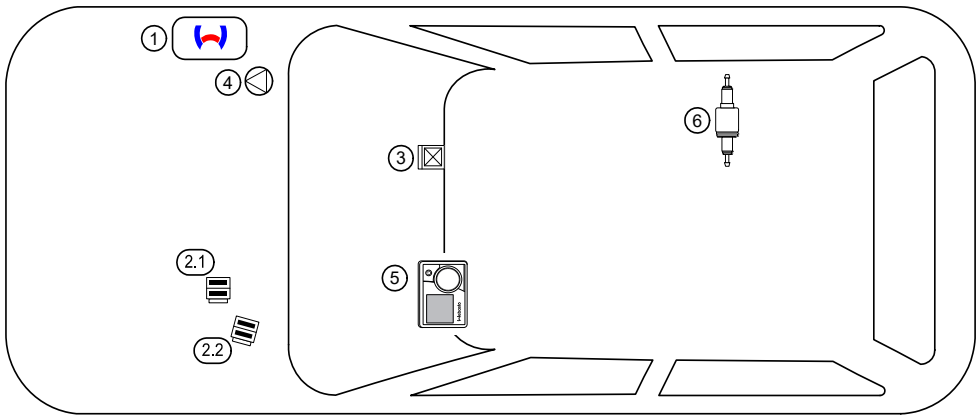
Installation instructions:

- 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
2.1 Engine compartment fuse holder XC60
2.2 Engine compartment fuse holder XC90
3. CCL-Gateway
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 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).

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

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

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

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.

Volvo XC60 / XC90

Information on Validity

This installation documentation applies to Volvo XC60 / XC90 Petrol and diesel vehicles - for validity, see page 1 - from model year 2015 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
- Hose clamping pliers
- Automatic wire stripper, 0.2 - 6mm²
- Crimping pliers for tab connector, 0.14 - 6mm²
- Crimping pliers for cable lug, 0.5 - 10mm²
- Crimping pliers for connector, 0.25 - 6mm²
- Torque wrench for 2.0 - 10 Nm
- Metric thread-setter kit
- Deep-hole marker
- Webasto Thermo Test Diagnosis with current software

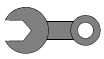
Dimensions
- All dimensions are in mm.

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.

Mechanical System



Electrical System

Coolant Circuit

Combustion Air

Fuel

Exhaust Gas

Software

Special features are highlighted using the following symbols:

Specific risk of damage to components.

Specific risk due to electrical voltage.

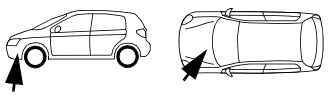
Specific risk of injury or fatal accidents.

Specific risk of fire or explosion.

Reference to the manufacturer's vehicle-specific documents or to the general installation instructions of 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.

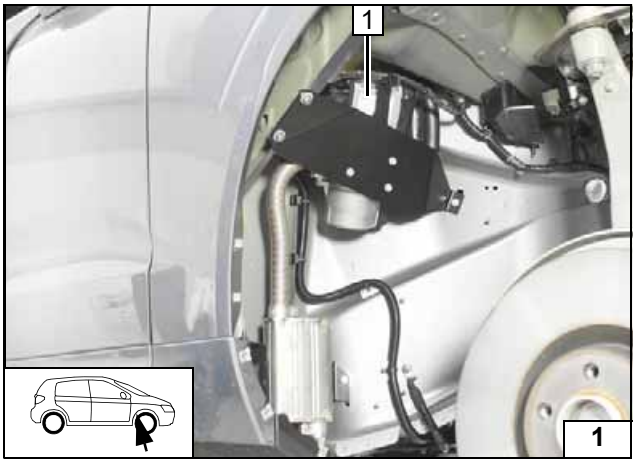
Warning:

For the removal of the air inlet duct, it is necessary to set the A/C control to recirculating air mode with the ignition switched on before disconnecting the battery and right after to disconnect the battery in the boot.

- Remove the air filter box.
- Disconnect and completely remove the auxiliary battery together with the carrier in the engine compartment.
- Remove the windscreen wipers.
- Remove the coolant reservoir cap.
- Remove the windscreen wiper motor.
- Remove the air intake duct.
- Remove engine underride protection.
- Remove the air baffle under the radiator.
- Drain off the coolant.
- Remove the coolant expansion tank.
- Remove the front wheel on the right side.
- Remove the wheel well trim on the right side.
- Remove the underbody trim on the right side.
- Remove the fuel tank underbody trim on the right side.
- Remove the entrance trim in the back on the left and right side.
- Remove the rear bench seat (see Rear Bench Seat Installation Instructions).
- Remove the footwell trim on the left and right side.
- Remove the instrument panel trim on the left and right side.
- Remove the centre A-pillar trim on the left and right side.
- Remove the upper A-pillar trim on the left side (only in case of Telestart and ThermoCall).
- Fold back the carpet on the right.
- Remove the sound insulation body on the right side.
- Remove the centre console trim in the left and right front area.
- Open the right-hand tank fitting service lid.

Heater

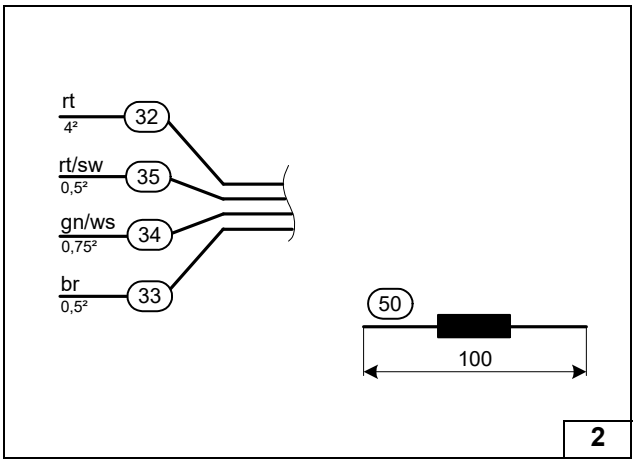
- Remove years that do not apply from the type and duplicate label.
- Attach the duplicate label (type label) visibly in the appropriate place in the engine compartment.



Heater Installation Location

1 Heater

Installation location



2

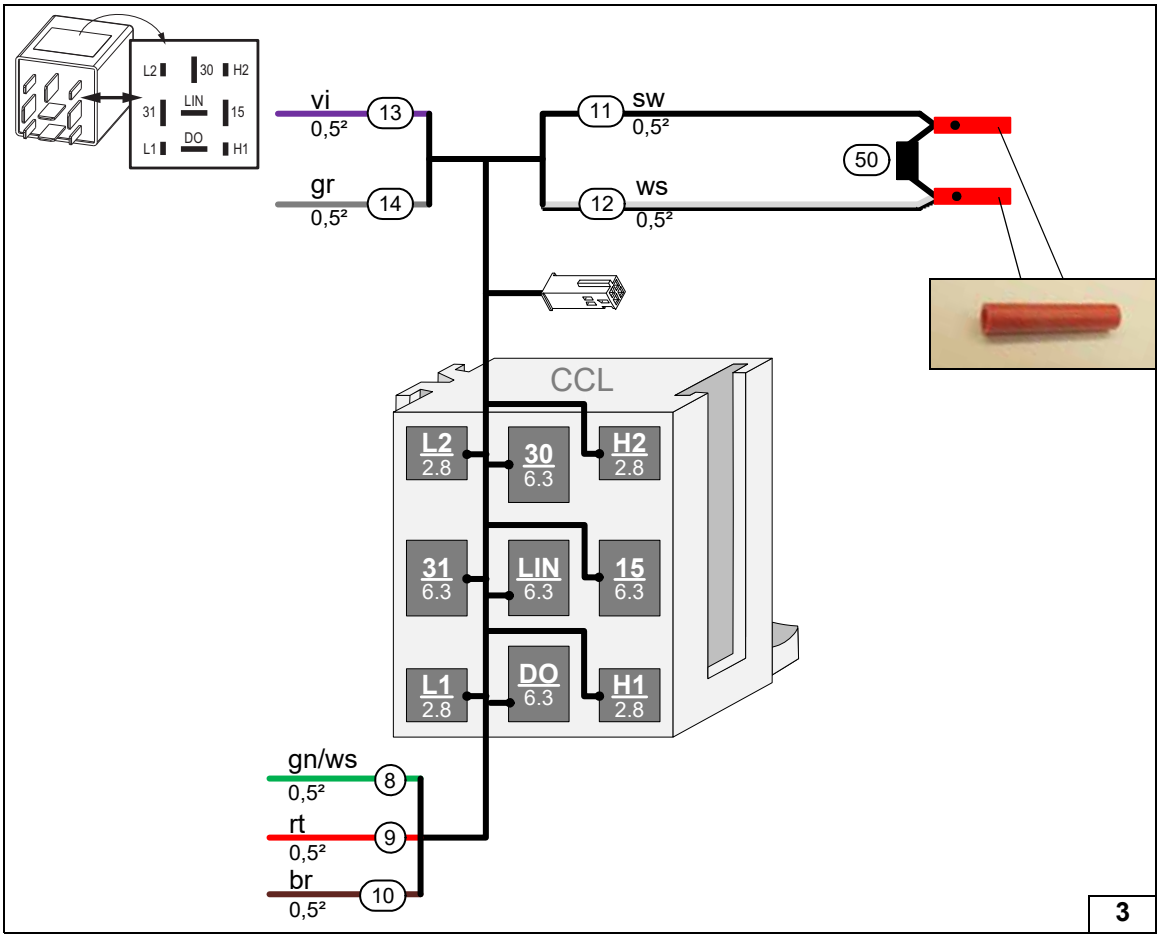
Preparing Electrical System

Wire sections retain their numbering in the entire document.

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

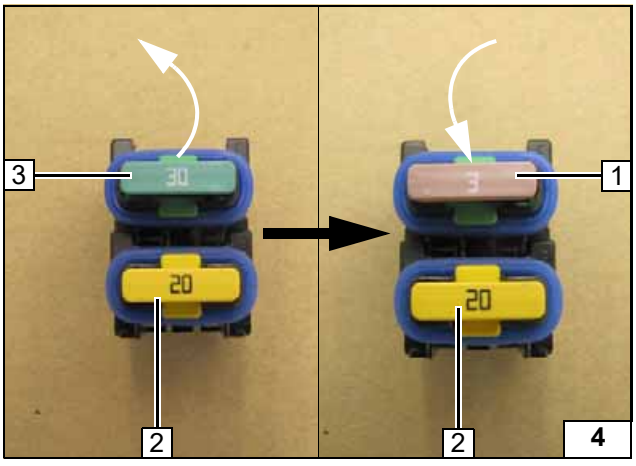
Assigning wiring harness

(32) Red (rt) wire of heater wiring harness from F2
(33) Brown (br) earth wire of heater wiring harness from 31
(34) Green/white (gn/ws) wire of heater wiring harness from X1/5
(35) Red/black (rt/sw) wire of heater wiring harness from X10
(50) Resistor



3

Connecting resistor (50) to CCL-Gateway wiring harness

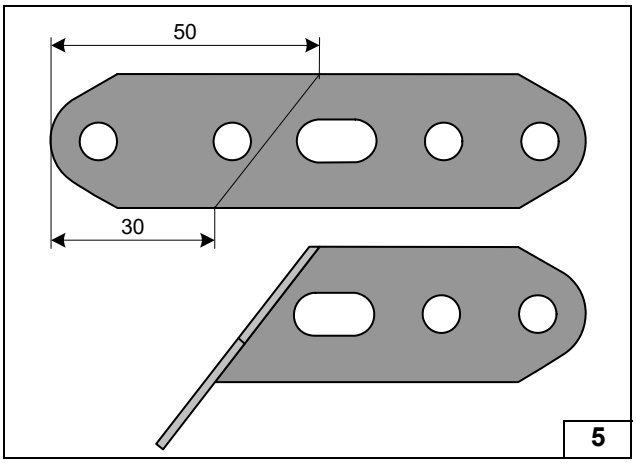


4

Replace passenger compartment 30A main fuse F2 **3** with 3A fuse **1**.

2 20A heater fuse F1

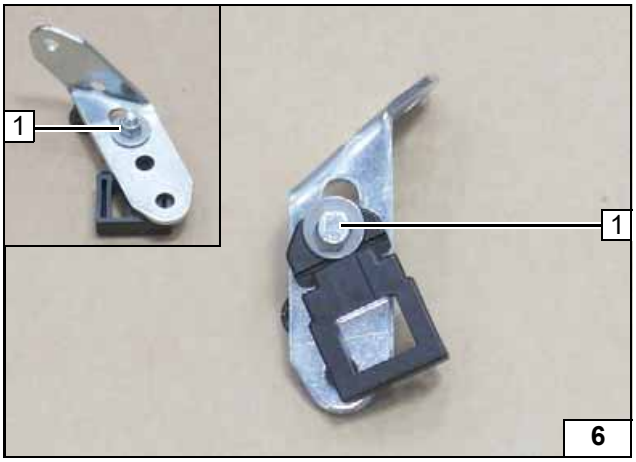
Preparing engine compartment fuses



5

XC60 only

Bending perforated bracket by 90°



6

1 M5x16 bolt, large diameter washer, fuse holder retaining plate, perforated bracket, large diameter washer, nut

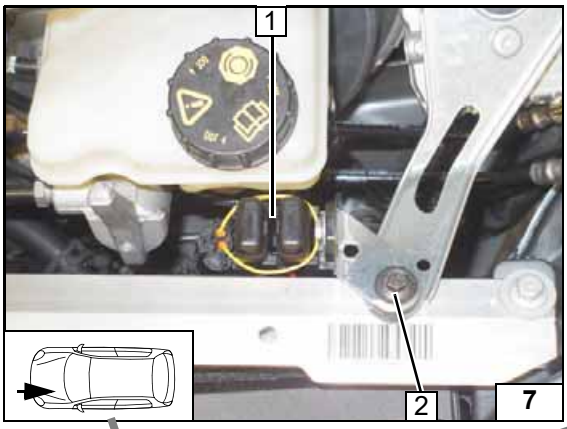
Premounting fuse holder

Electrical System for XC60

Engine compartment fuse holder

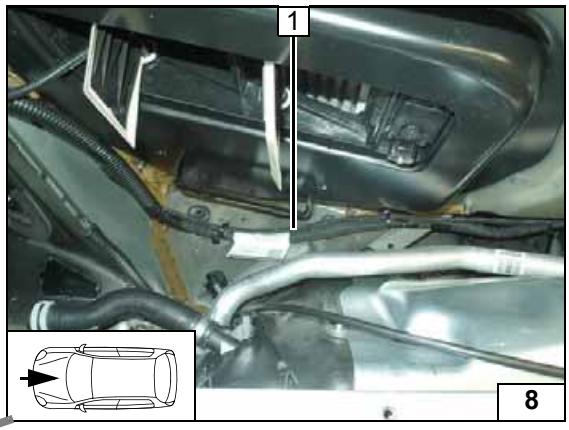
Perform work step during the windscreen wiper motor assembly.

1 Fuses F1-2
2 Original vehicle bolt, perforated bracket with premounted fuse holder retaining plate

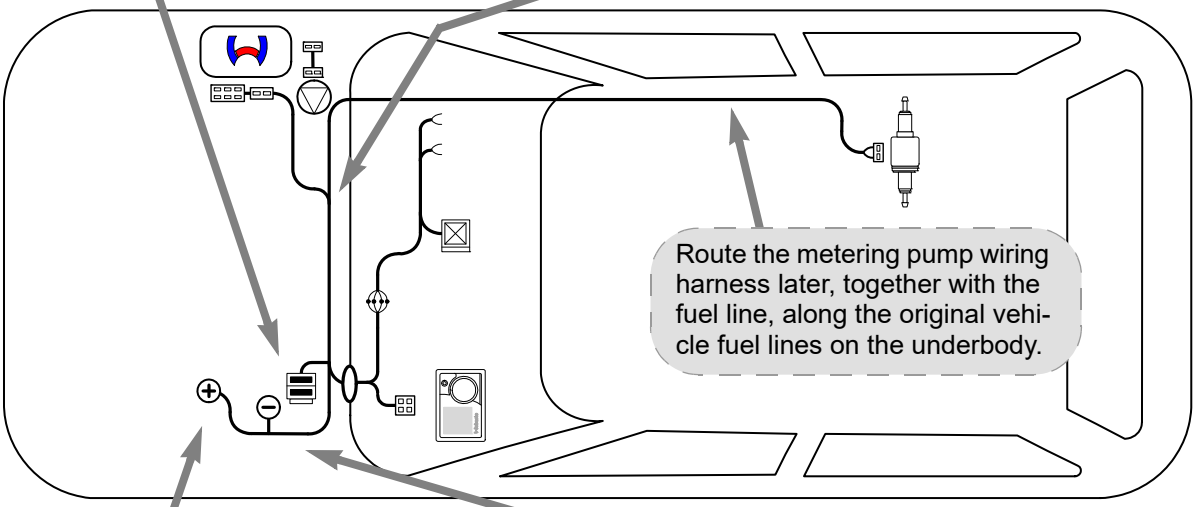


Wiring harness routing

1 Heater wiring harness



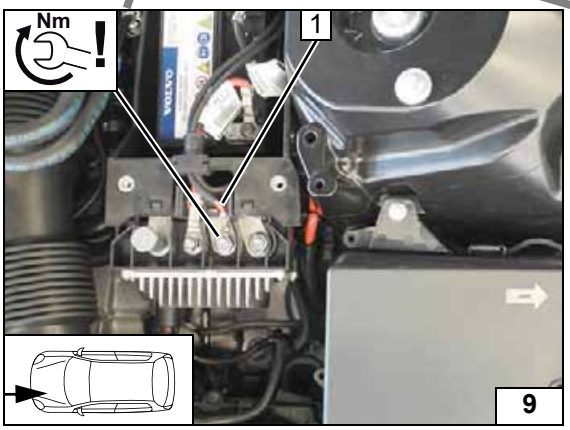
Wiring harness routing diagram



Positive wire

Perform work step during the additional battery assembly.

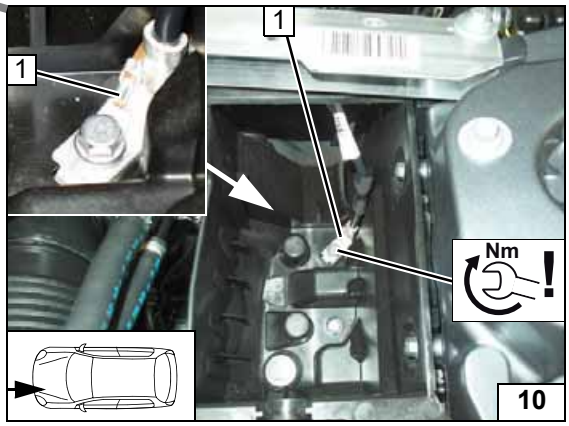
1 Positive wire on positive battery terminal



Earth wire

The connection is made after the installation of the battery carrier.

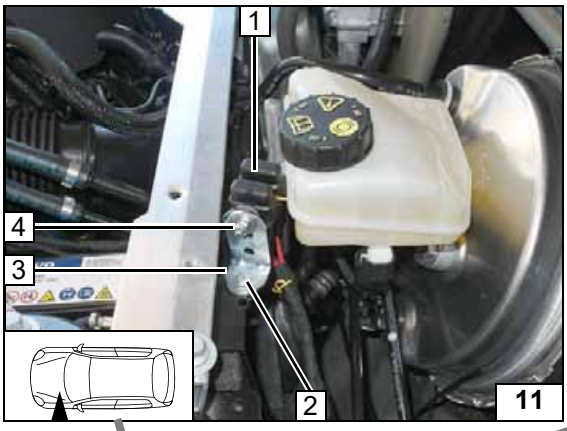
1 Earth wire on original vehicle earth support point



Electrical System for XC90

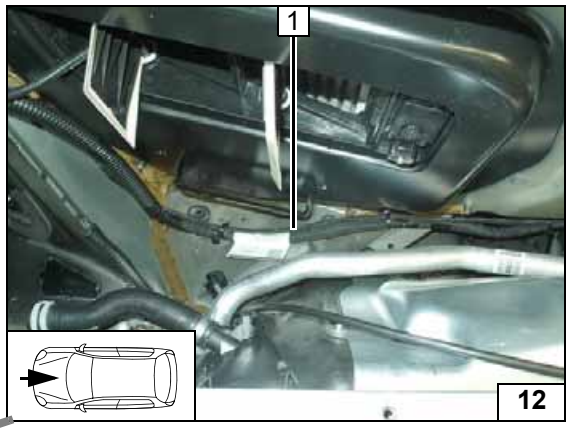
Engine compartment fuse holder

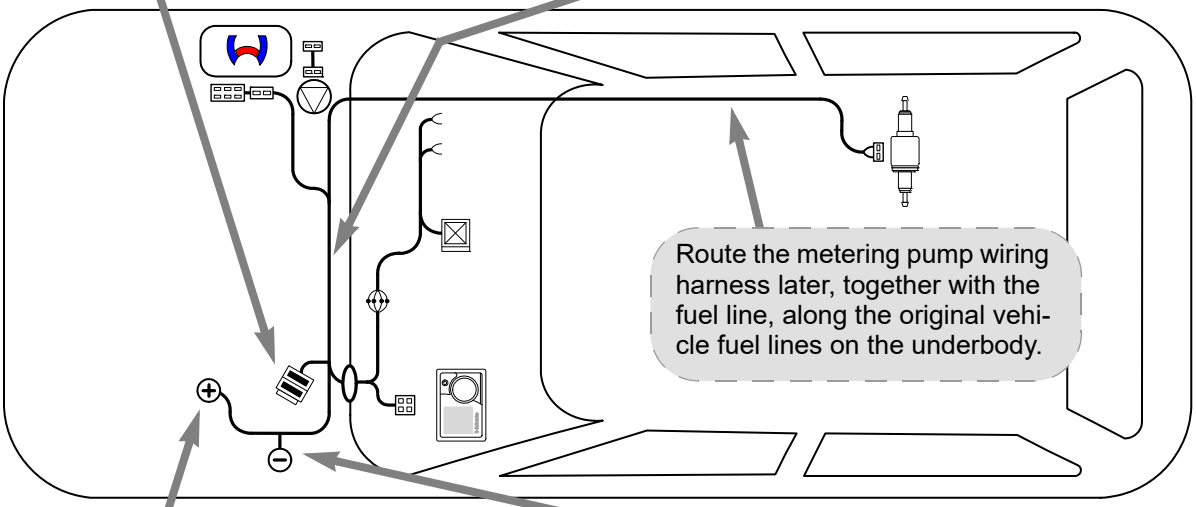
1 Fuses F1-2
2 M6x20 bolt, existing hole, flanged nut
3 Angle bracket
4 M5x16 bolt, large diameter washer [2x], retaining plate of fuse holder, nut



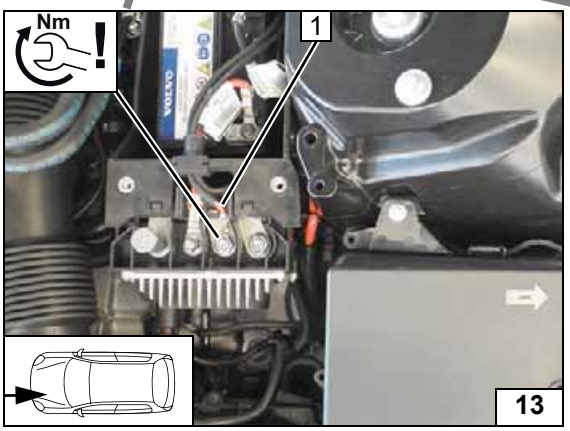
Wiring harness routing

1 Heater wiring harness





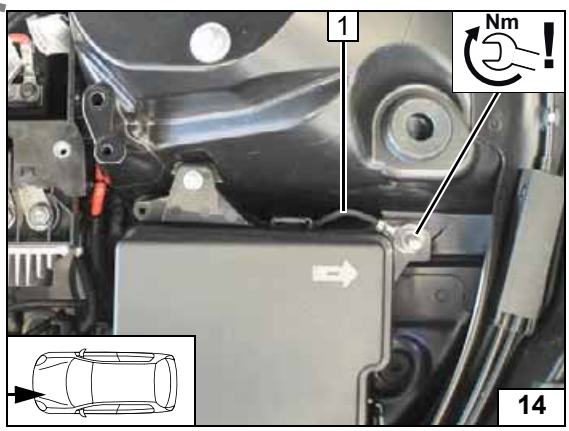
Wiring harness routing diagram



Positive wire

Perform work step during the additional battery assembly.

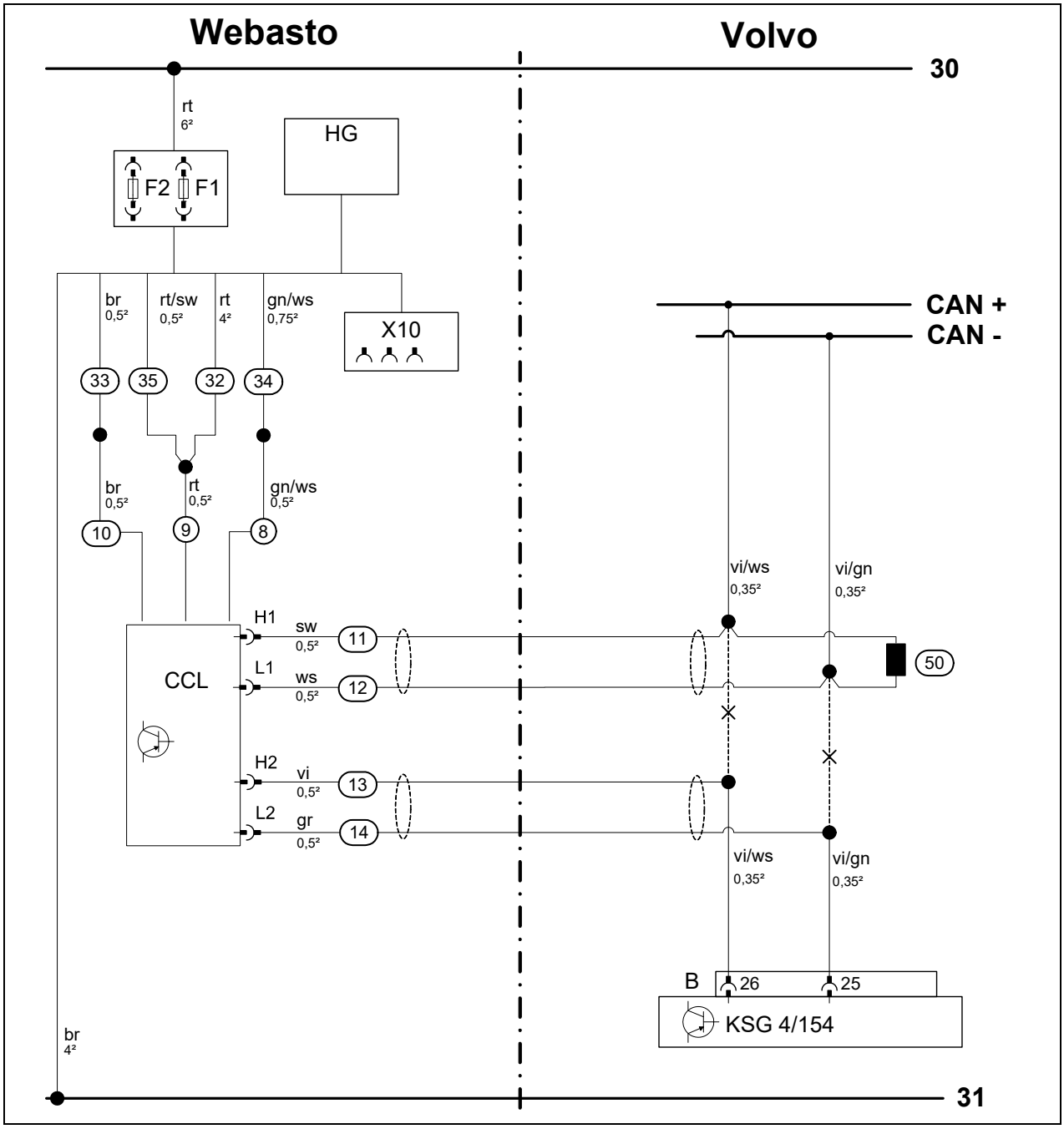
1 Positive wire on positive battery terminal



Earth wire

1 Earth wire on original vehicle earth support point

System Wiring Diagram for All Vehicles

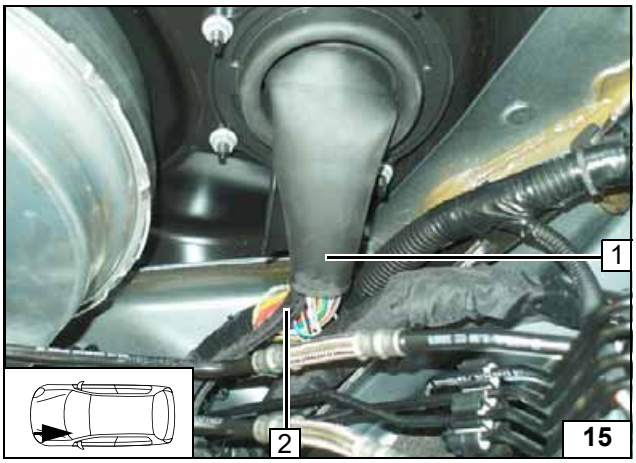


Webasto components		Vehicle components		Colours and symbols	
HG	TT-Evo heater	KSG 4/154	A/C control unit	rt	red
F1	20A fuse	B	28-pin connector of KSG	sw	black
F2	3A fuse			gn	green
X10	4-pin socket of control element			ws	white
				br	brown
CCL	CCL- Gateway			vi	violet
				gr	grey
				X	Cutting point
				Wiring colours may vary.	

System wiring diagram

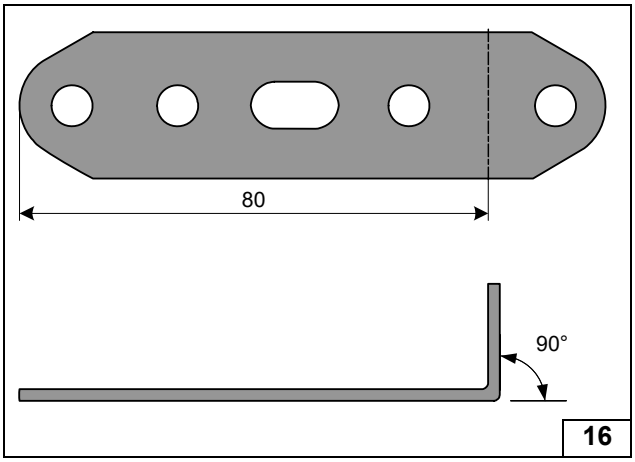
Legend

Fan Controller

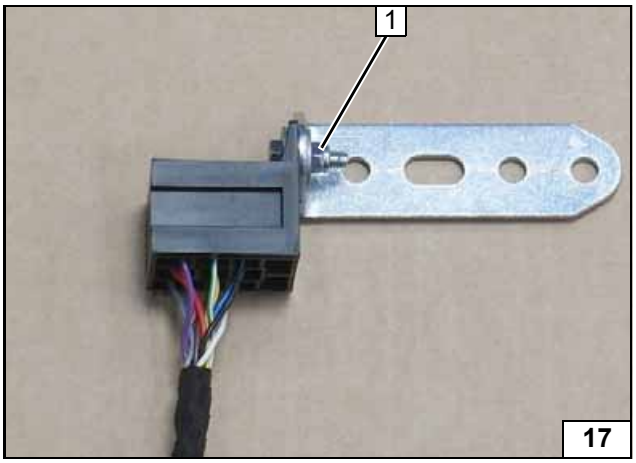


1 Protective rubber plug
2 Passenger compartment heater wiring harnesses, control element

Routing wiring harness routing in the passenger compartment

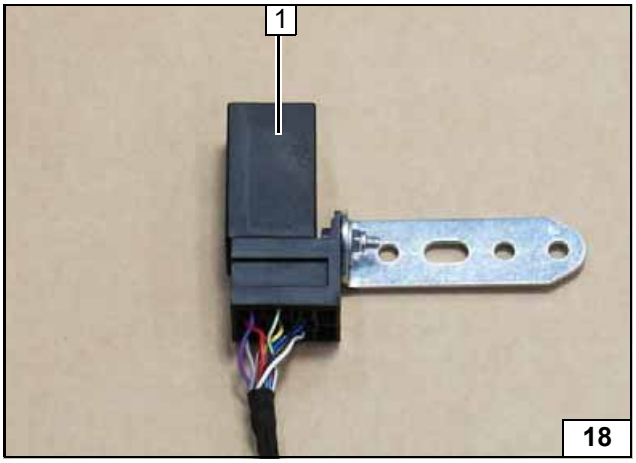


Angling down perforated bracket



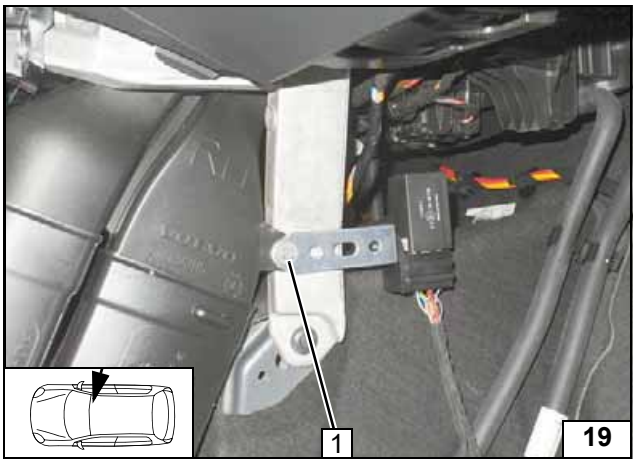
1 M5x16 bolt, large diameter washer, CCL GW socket, perforated bracket, large diameter washer, nut

Installing CCL GW socket



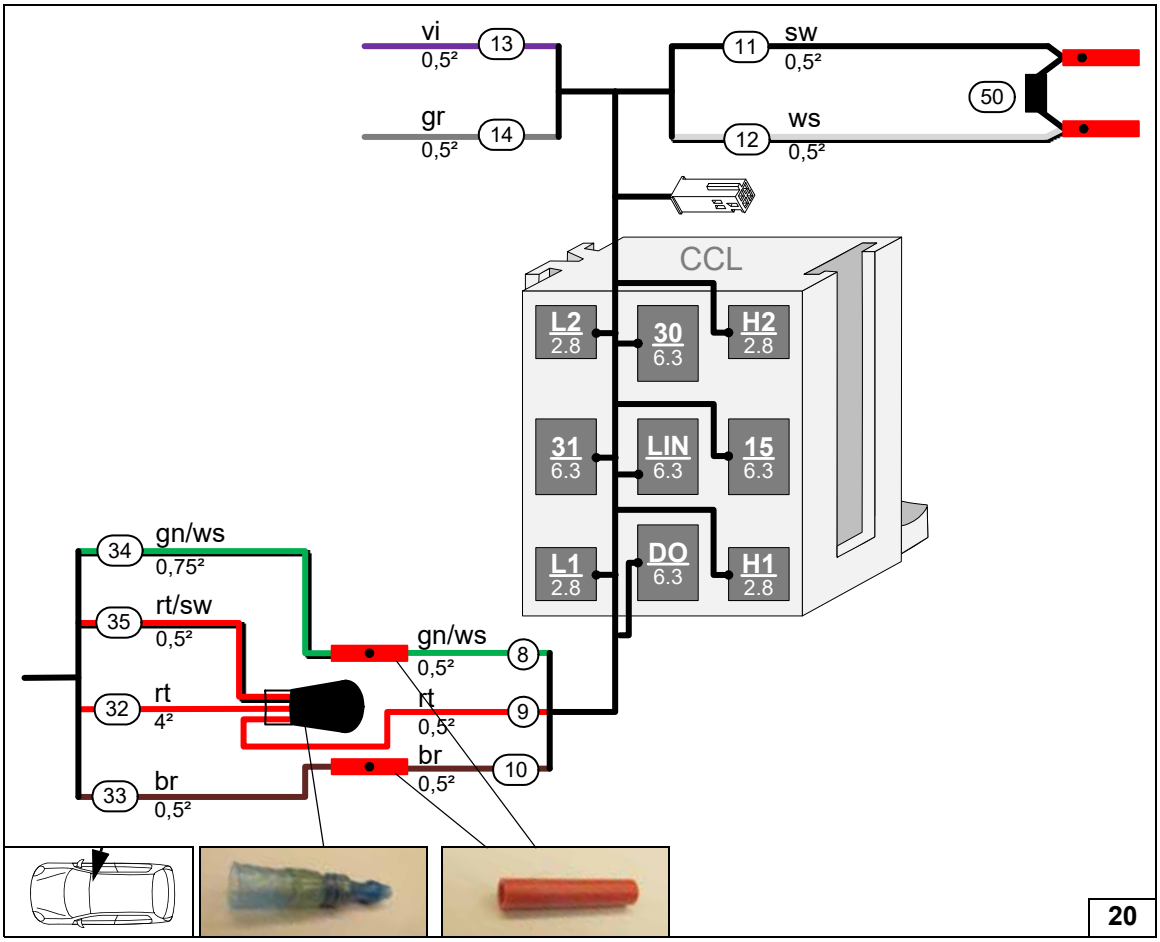
1 CCL GW

Installing CCL GW

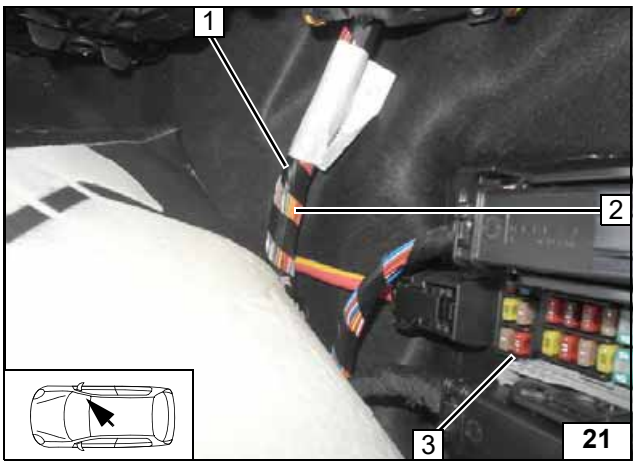


1 Original vehicle bolt, perforated bracket premounted CCL GW socket

Installing CCL-Gateway



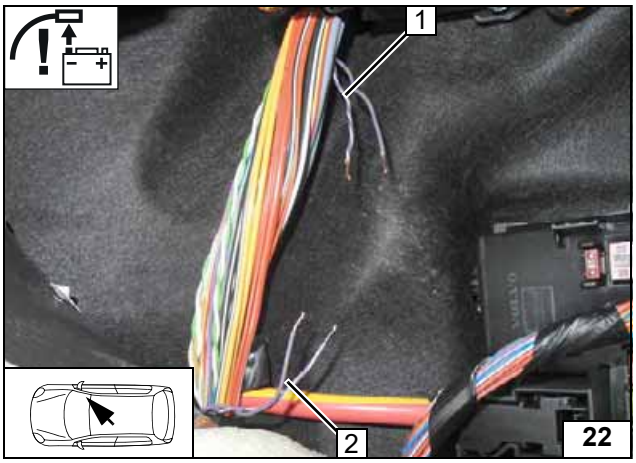
Connecting heater wiring harness and CCL Gateway wires



Remove insulating tape **1** from wiring harness **2**.

3 Fuse box without cover

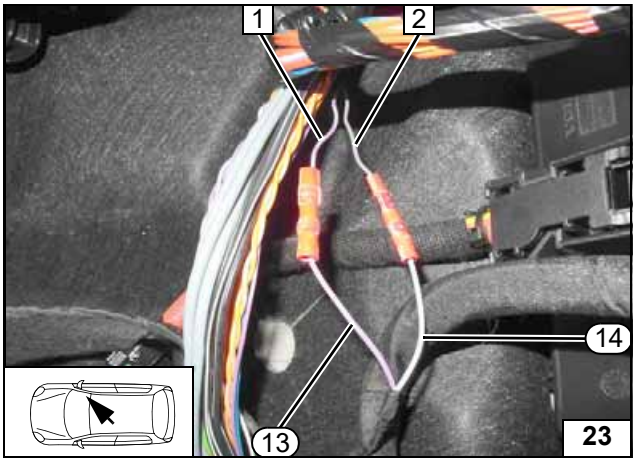
Exposing CAN wire



Free the twisted violet/white (vi/ws) and violet/green (vi/gn) CAN wires and cut as shown.

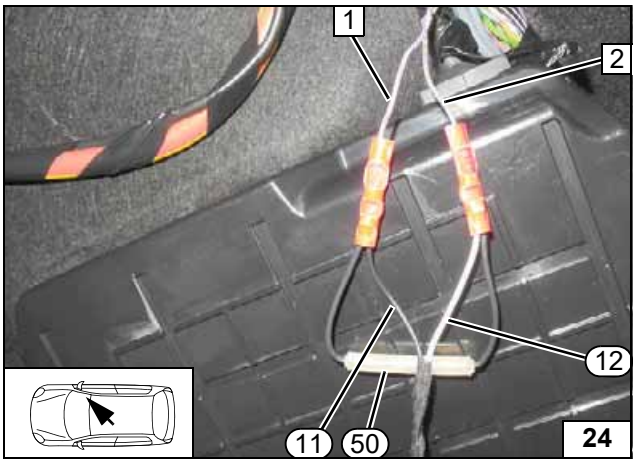
1 Towards A/C control unit
2 Towards vehicle CAN node

Cutting CAN wire



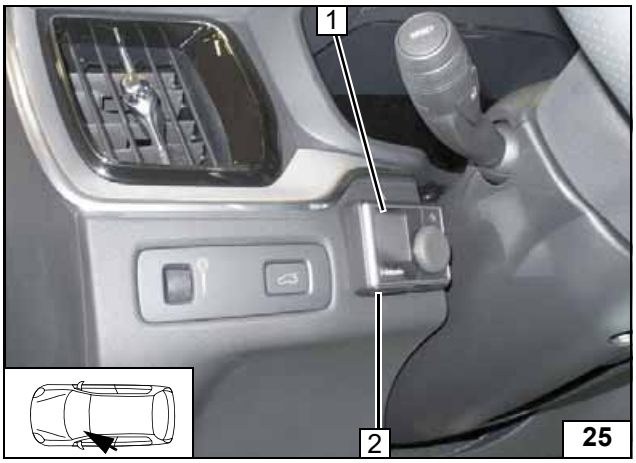
1 Violet/white (vi/ws) wire of connector B from KSG / pin 26
2 Violet/green (vi/gn) wire of connector B from KSG / pin 25
(13) Violet (vi) wire of CCL Gateway/H2
(14) Grey (gr) wire of CCL Gateway/L2

Connection towards A/C control unit



1 Violet/white (vi/ws) wire of CAN+
2 Violet/green (vi/gn) wire of CAN-
(11) Black (sw) wire of CCL Gateway/H1
(12) White (ws) wire of CCL Gateway/L1
(50) Premounted resistor

Connection of vehicle CAN node

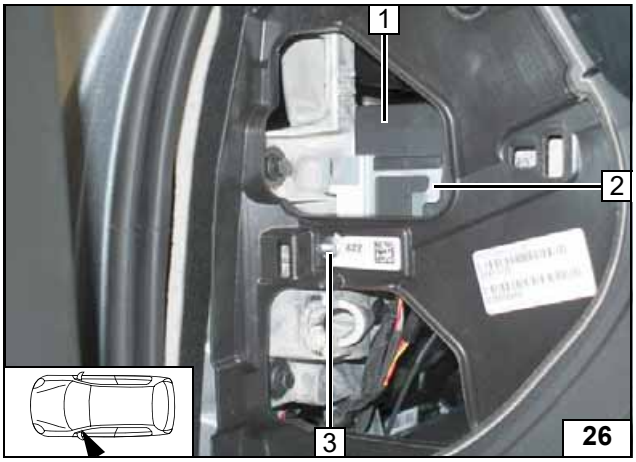


Control Elements for XC60

MultiControl CAR option

1 MultiControl CAR
2 Installation frame

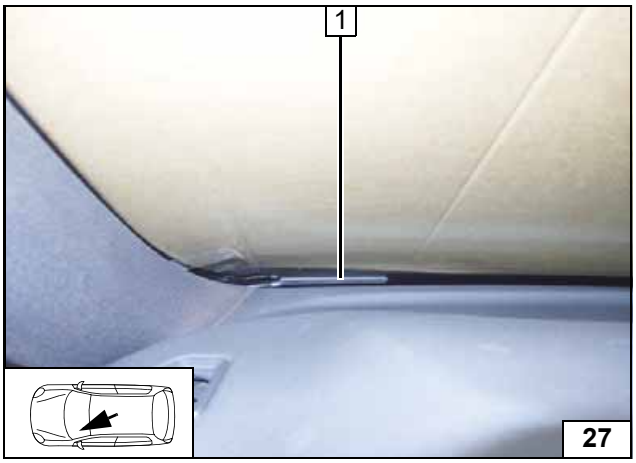
Installing MultiControl CAR



Telestart option

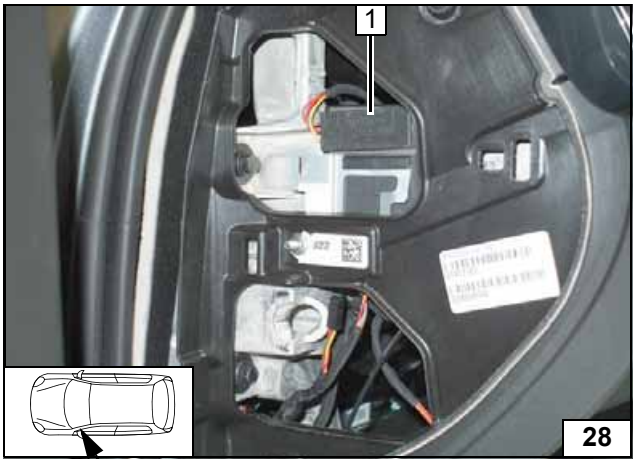
1 Receiver
2 Receiver bracket
3 5.5mm hole; M5x16 bolt, flanged nut

Installing receiver



1 Aerial

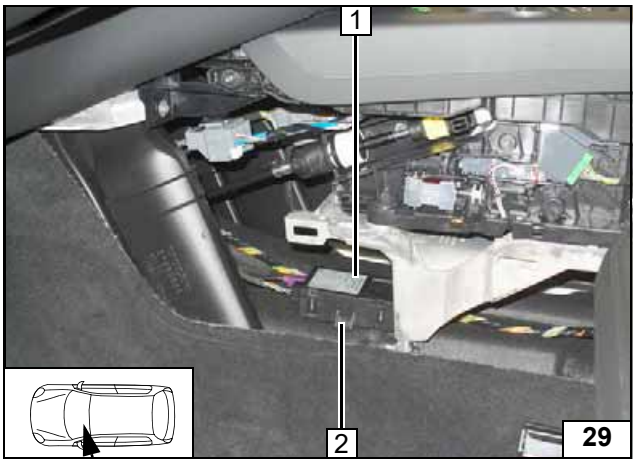
Installing aerial



Temperature sensor T100 HTM

Fasten temperature sensor **1** with double-sided adhesive tape.

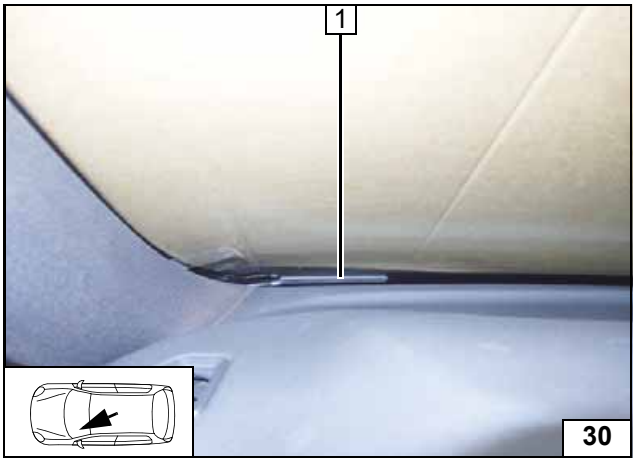
Installing temperature sensor



ThermoCall option

1 Receiver
2 Self-tapping screw

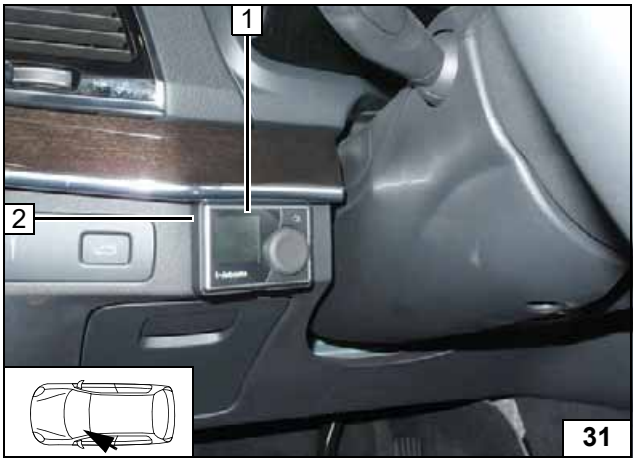
Installing receiver



1 Aerial (optional)

Installing aerial

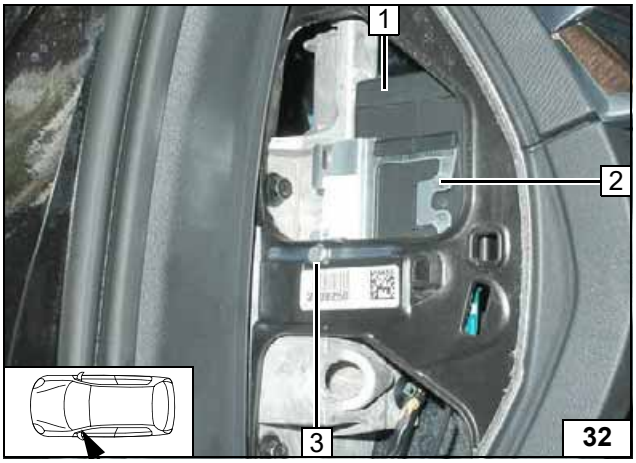
Control Elements for XC90



MultiControl CAR option

1 MultiControl CAR
2 Installation frame

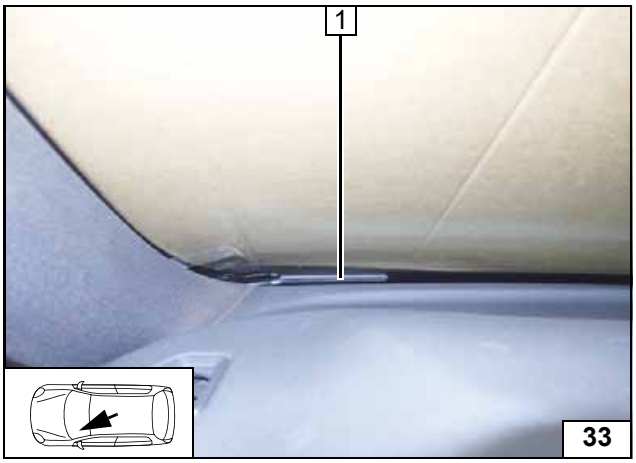
Installing MultiControl CAR



Telestart option

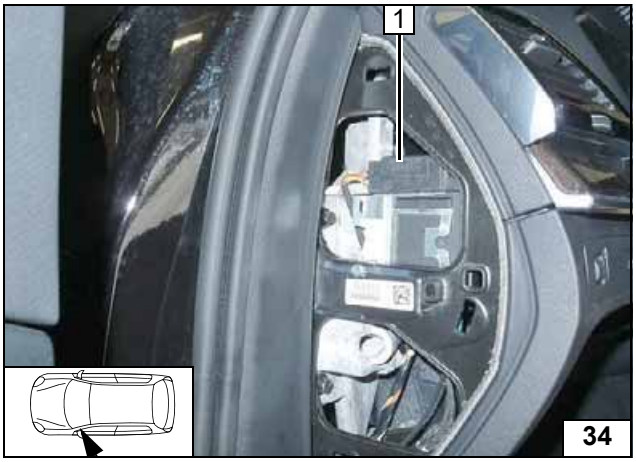
1 Receiver
2 Receiver bracket
3 5.5mm hole; M5x16 bolt, flanged nut

Installing receiver



1 Aerial

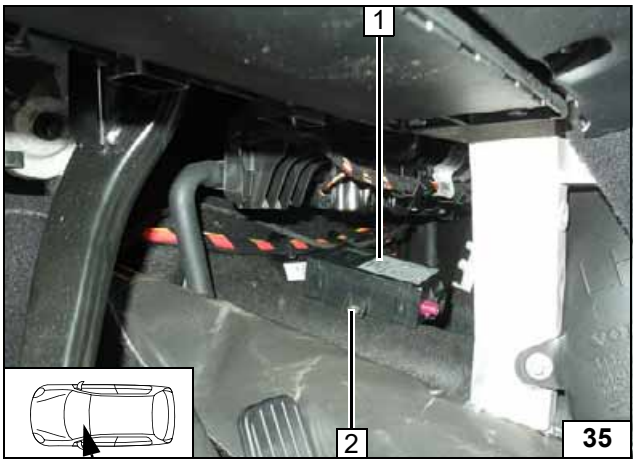
Installing aerial



Temperature sensor T100 HTM

Fasten temperature sensor **1** with double-sided adhesive tape.

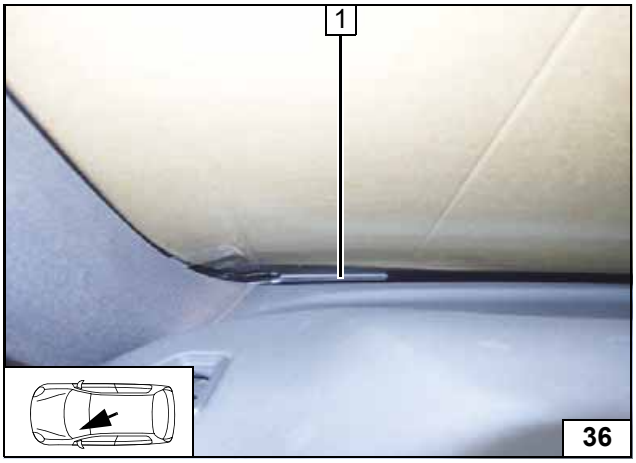
Installing temperature sensor



ThermoCall option

1 Receiver
2 Self-tapping screw

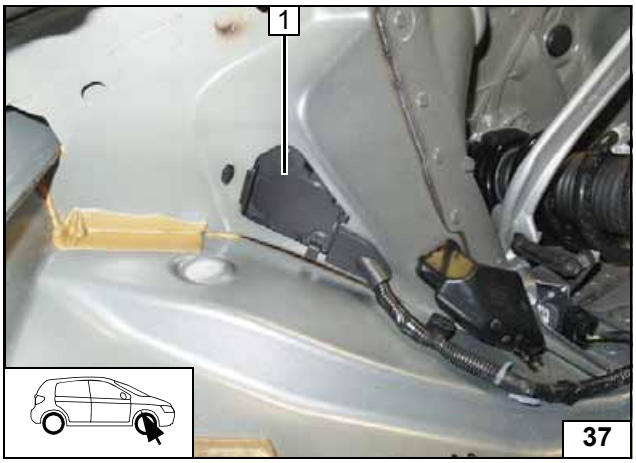
Installing receiver



1 Aerial (optional)

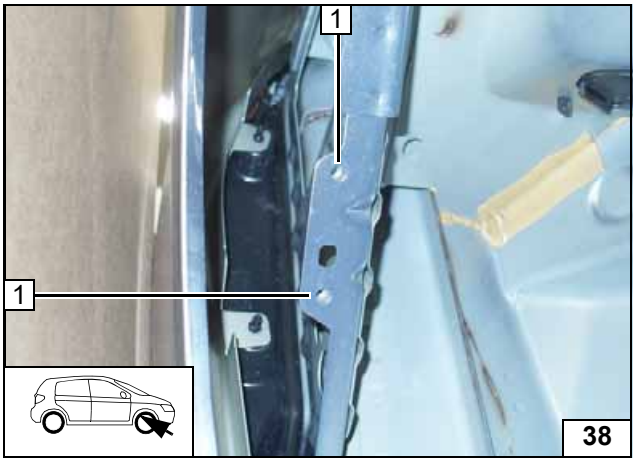
Installing aerial

Preparing Installation Location



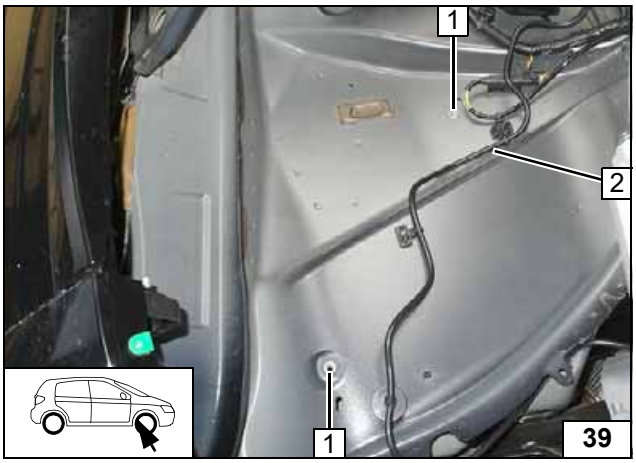
1 Remove original vehicle cap and discard

Removing cap



1 Tap a M6 thread, existing hole

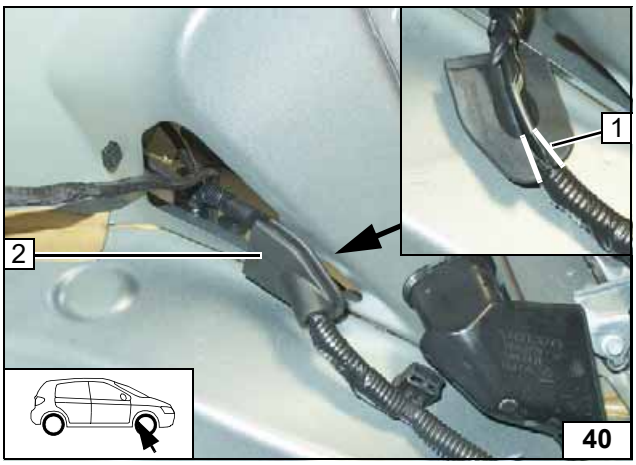
Tapping thread



The availability of original vehicle line **2** depends on the equipment.

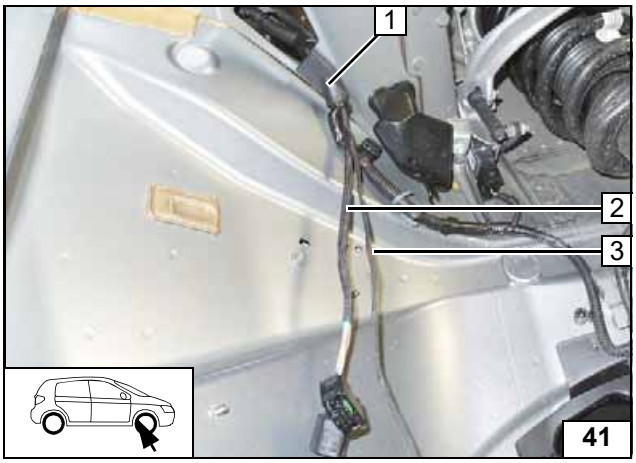
1 Rivet nut, existing hole

Installing rivet nut



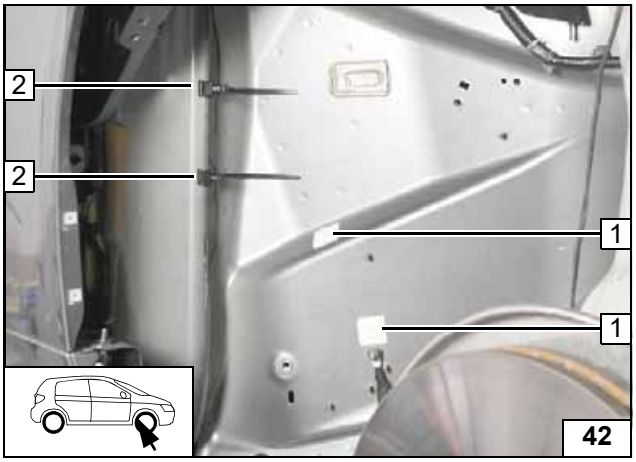
Detach grommet **2** and cut carefully as shown in lower part **1**!

Adapting grommet



Route heater wiring harness **2** and metering pump wiring harness **3** through original vehicle grommet **1** and reinstall grommet.

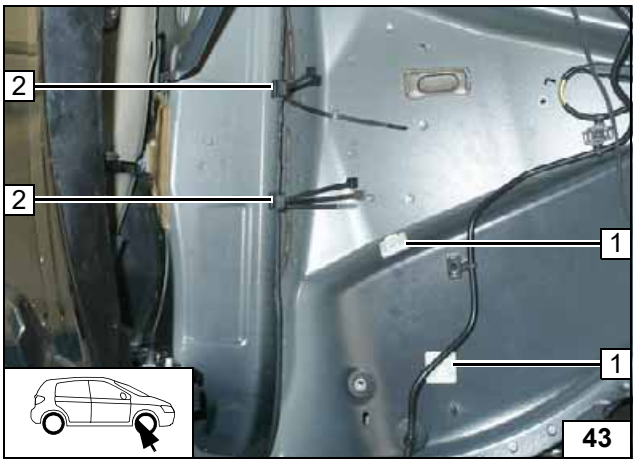
Routing heater wiring harness



XC60

1 Self-adhesive socket
2 Edge clip cable tie

Installing cable tie

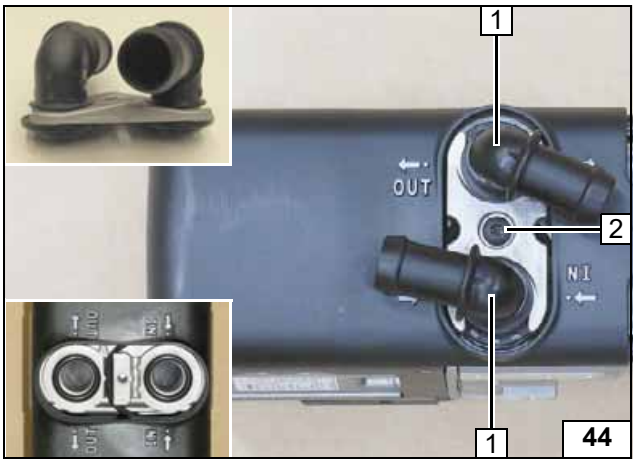


XC90

1 Self-adhesive socket
2 Clip-type cable tie

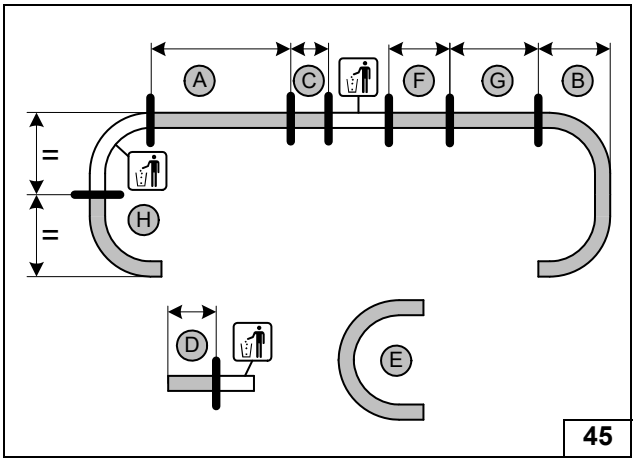
Installing cable tie

Preparing Heater



1 Water connection piece, sealing ring
2 5x15 self-tapping bolt, water connection piece retaining plate

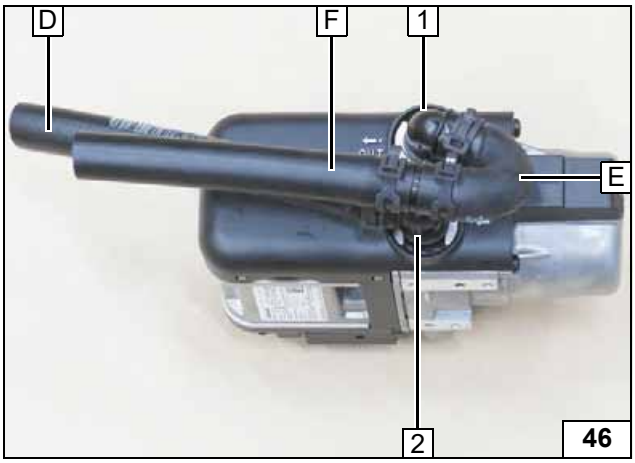
Installing water connection piece



E = 180°, 18mm dia. moulded hose

A	=	980
B	=	70
C	=	70
D	=	210
F	=	170
G	=	700

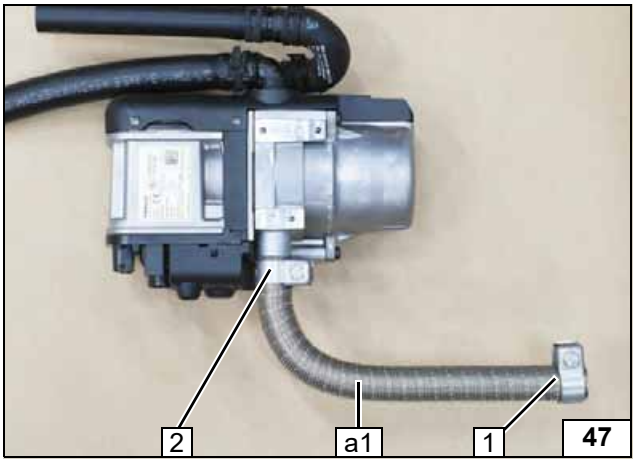
Cutting to length / assigning hoses



All spring clips 25mm dia.

1 Heater outlet
2 Heater inlet

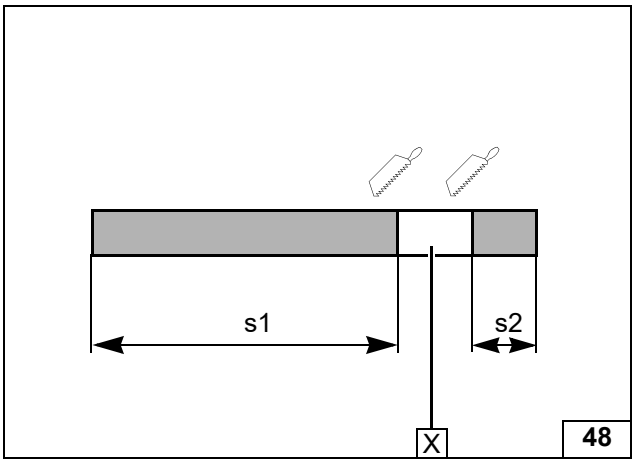
Premounting hoses



1 Mount hose clamps loosely
2 Hose clamp

Premounting exhaust pipe a1

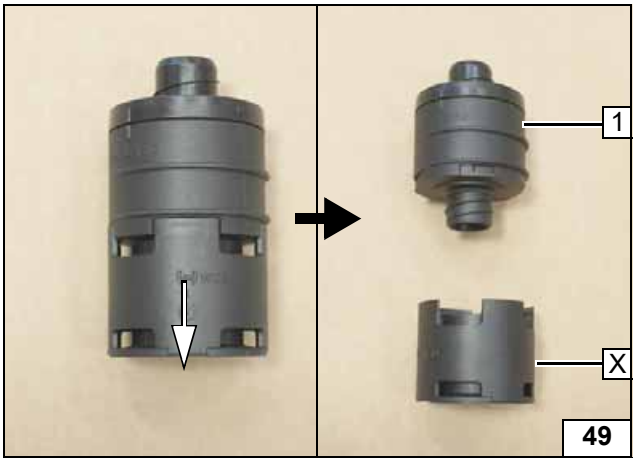
Cutting to length / assigning combustion air pipe



s1 = 230
s2 = 35

X =

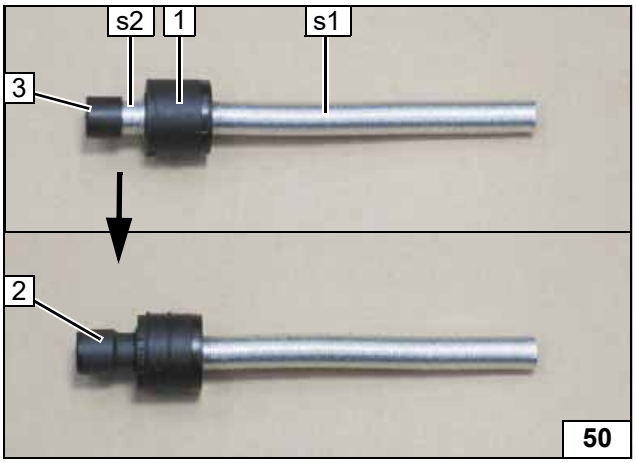
Dismantling combustion air silencer



1 Upper section of combustion air silencer

X =

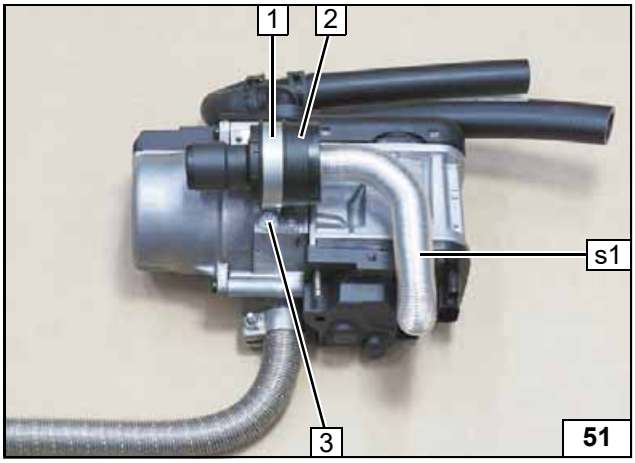
Premounting combustion air silencer



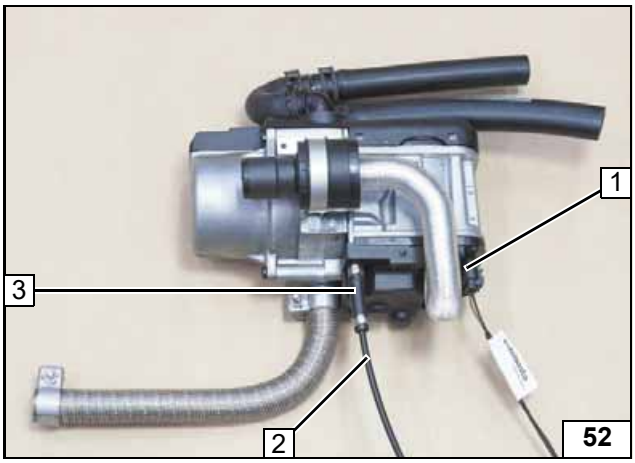
After installing protective cap **3**, mount 30mm heat shrink plastic tubing **2** and shrink.

1 Combustion air silencer

Installing combustion air silencer

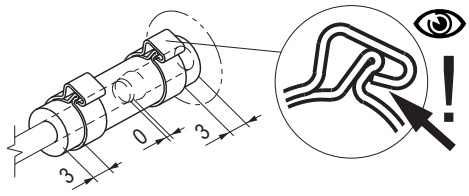


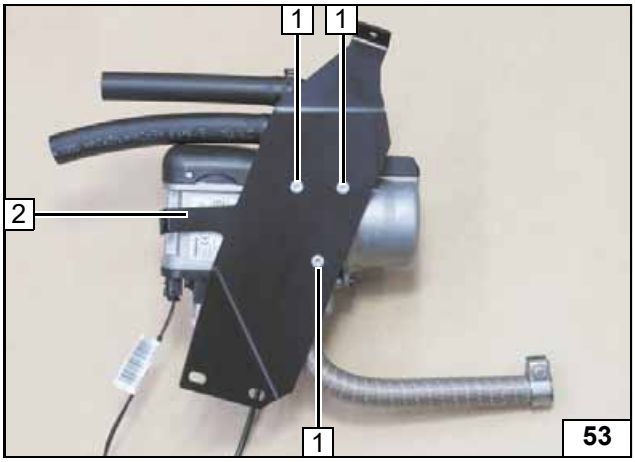
1 51 mm dia. clamp
2 Combustion air silencer
3 5x13 self-tapping bolt



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

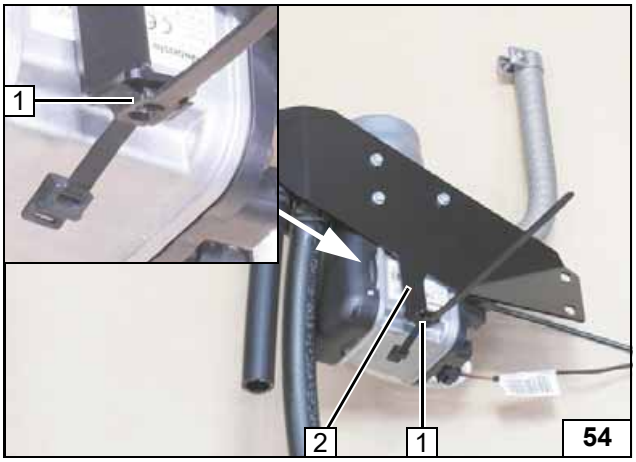
Premounting fuel line





1 5x13 self-tapping bolt
2 Bracket

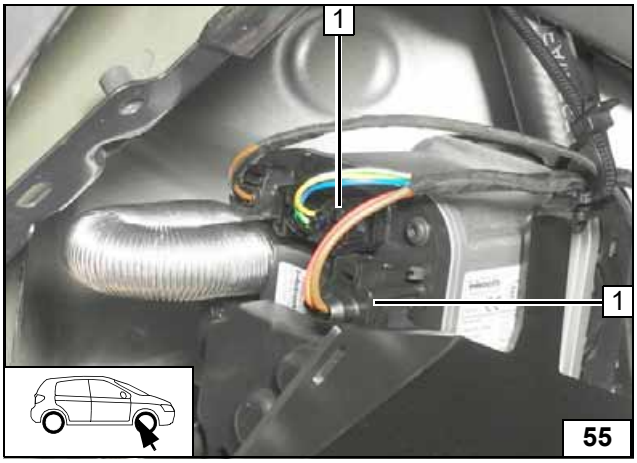
Premounting bracket



1 Eyelet cable tie
2 Bracket

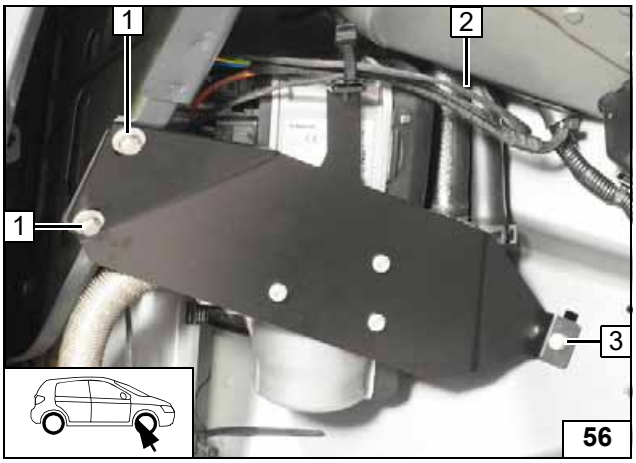
Premounting eyelet cable tie

Installing Heater



1 Heater wiring harness connector

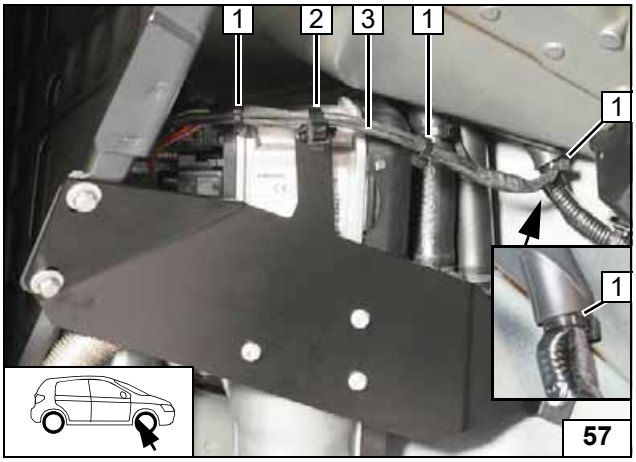
Installing heater wiring harness



Route hoses **D** and **F** as well as circulating pump wiring harness at position **2** in the coolant reservoir.

1 M6x20 bolt, spring lockwasher, large diameter washer
3 M6x20 bolt, spring lockwasher

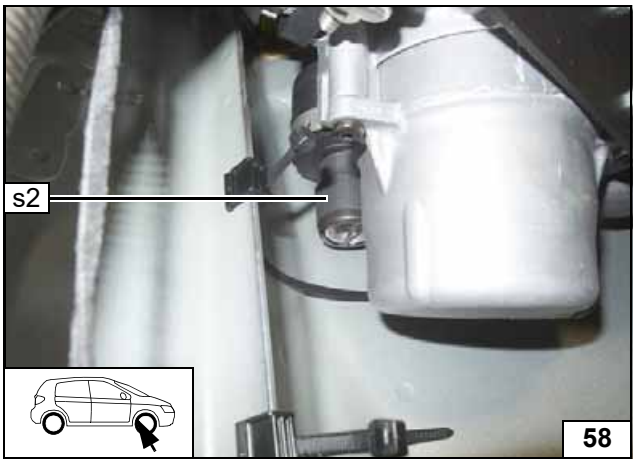
Installing heater



Align heater wiring harness, circulating pump and metering pump **3** as shown.

1 Cable tie
2 Tighten eyelet cable tie

Fastening wiring harnesses



Ensure sufficient distance between combustion air pipe **s2** and body, correct if necessary!

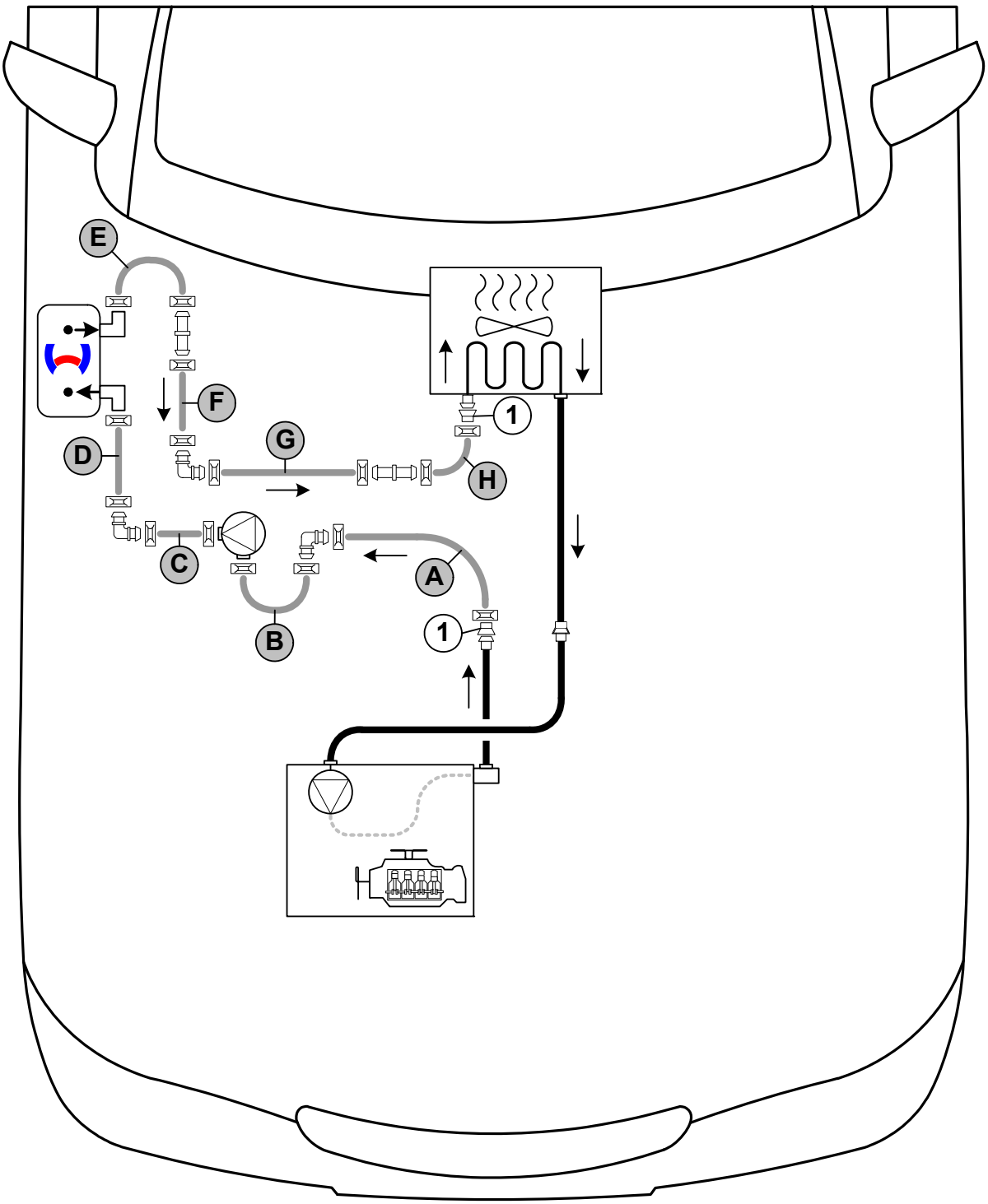
Checking distance

Coolant Circuit

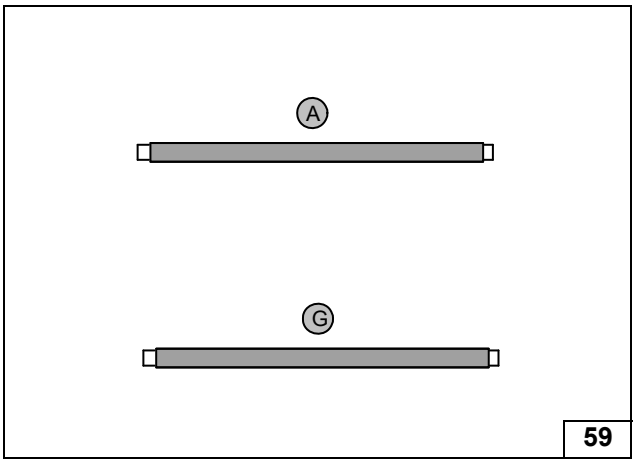
Any coolant running off should be collected in an appropriate container. Route hoses kink-free. Unless specified otherwise, always fasten using cable ties. Position clamps so that other hoses cannot be damaged. The heater must be filled with coolant when installing the hoses.

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

Hose routing diagram

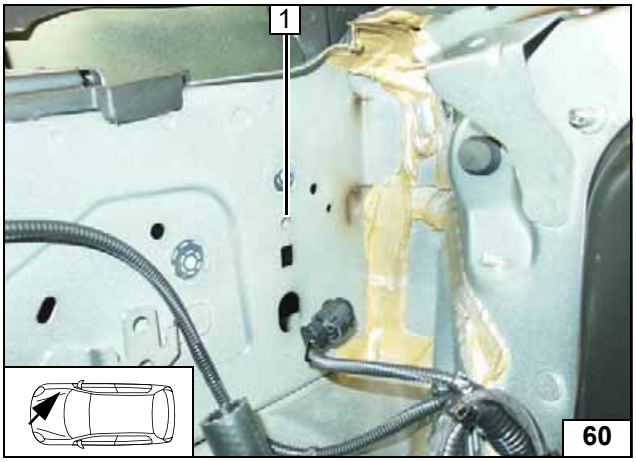


All spring clips = 25 mm dia. All connecting pipes and = 18x18 mm dia.
1 = Original vehicle hose coupling.



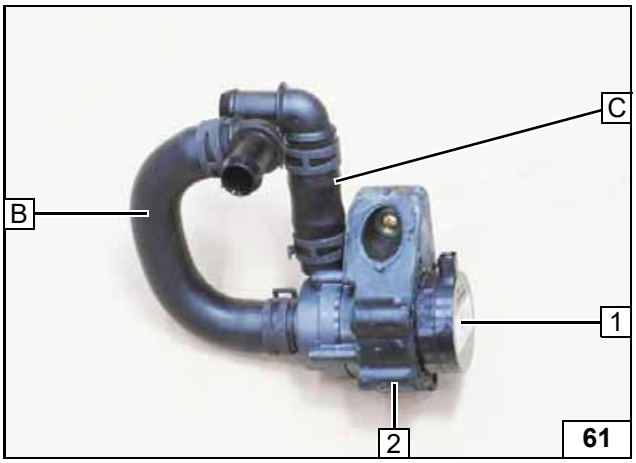
Slide on, cut to length and shrink fabric protective hose.

Installing fabric protective hoses



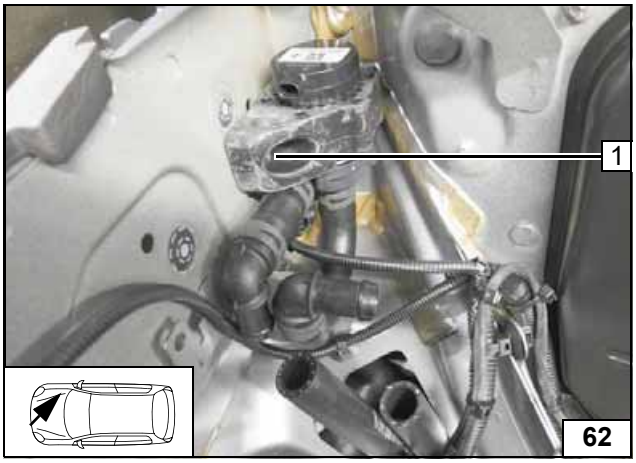
1 Existing hole, tap 6mm dia. thread

Tapping thread



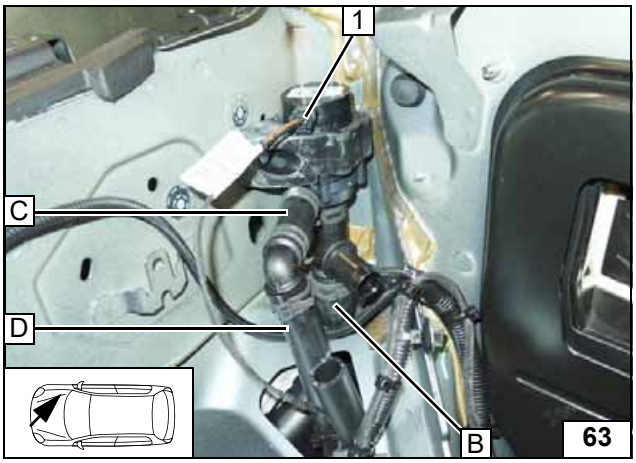
1 Circulating pump
2 Circulating pump mount

Premounting circulating pump



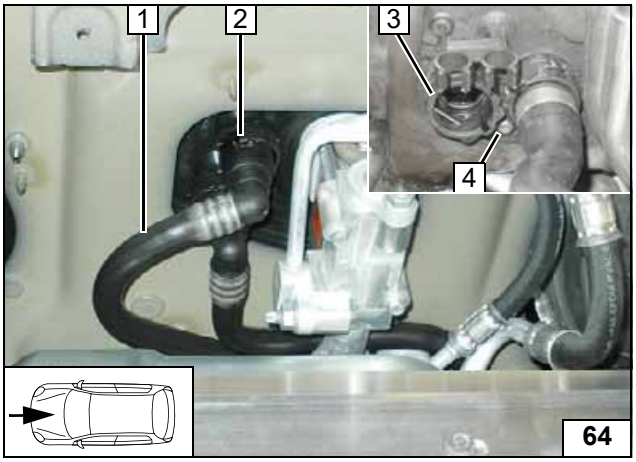
1 M6x25 bolt

Installing circulating pump



1 Connector of circulating pump wiring harness

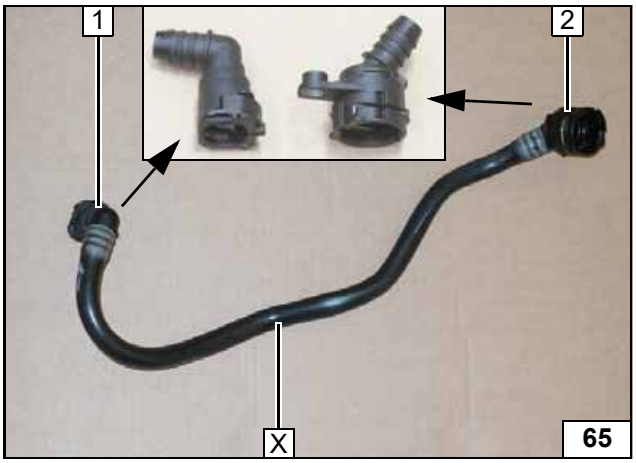
Connecting hoses C and D



Remove engine outlet / heat exchanger inlet hose **1**.

2 Coupling piece of heat exchanger inlet
3 Engine outlet coupling piece on coolant reservoir on engine side
4 Original vehicle bolt

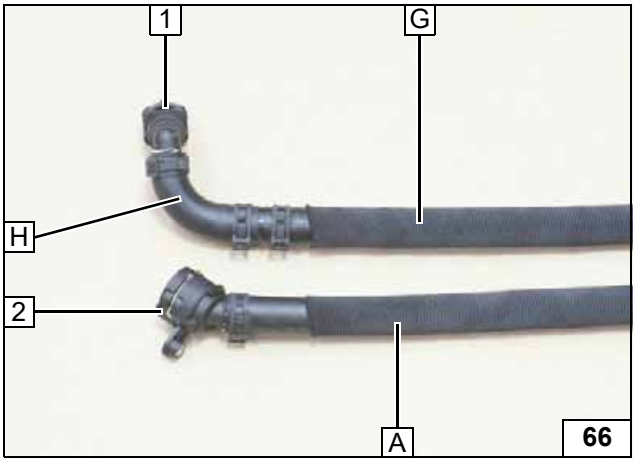
Removing hose



Carefully cut out coupling pieces of heat exchanger inlet **1** and engine outlet **2**.

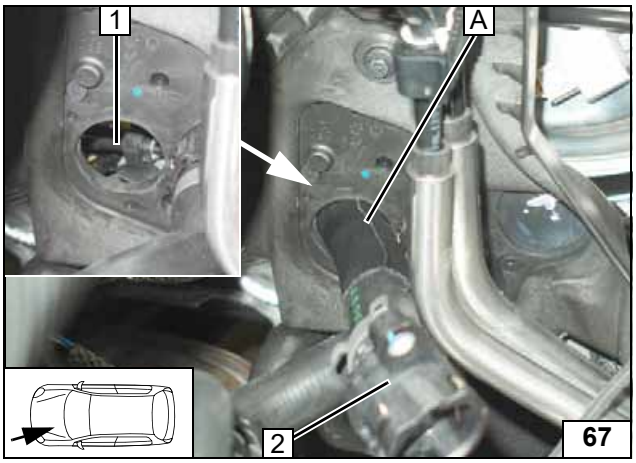
X =

Cutting hose



1 Coupling piece of heat exchanger inlet
2 Coupling piece of engine outlet

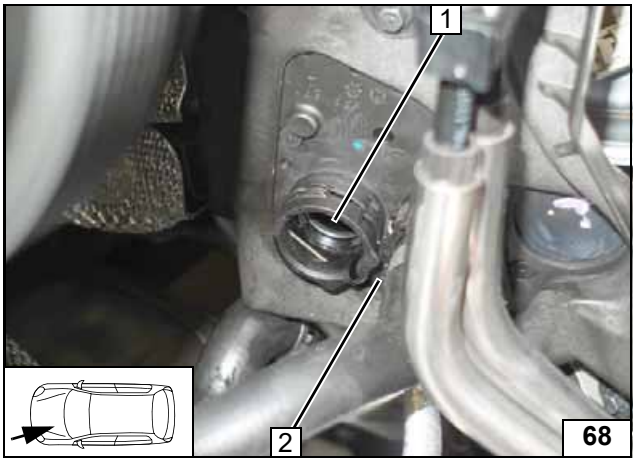
Premounting hoses



Route hose **A** through opening **1** in the coolant reservoir as shown.

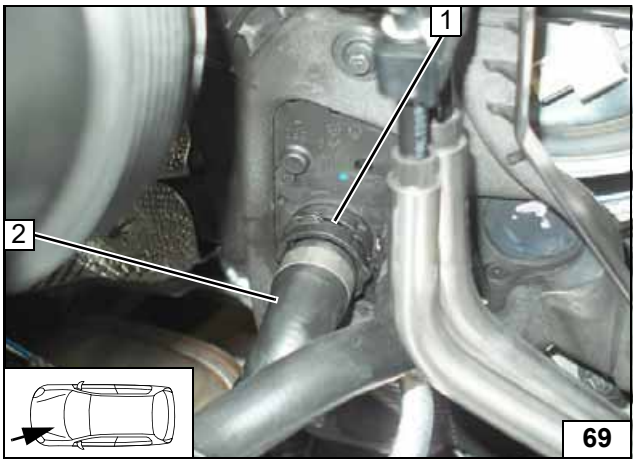
2 Premounted coupling piece of engine outlet

Routing hose A



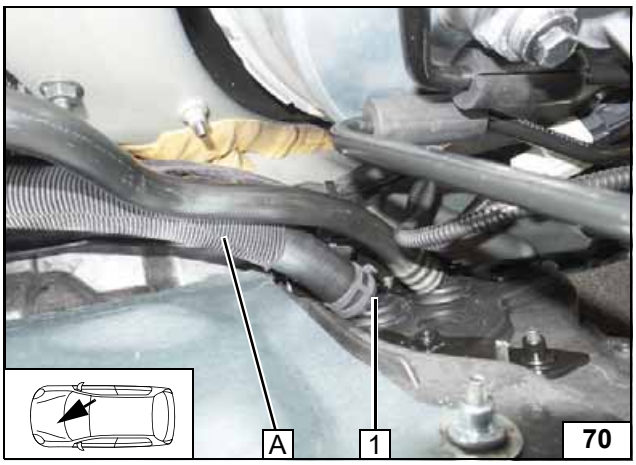
1 Coupling piece of engine outlet on engine side
2 Original vehicle bolt

Mounting coupling piece



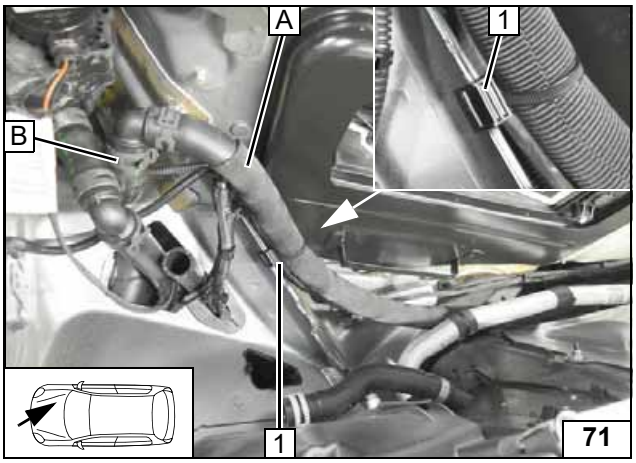
1 Coupling piece of engine outlet
2 Original vehicle engine outlet hose

Mounting hose



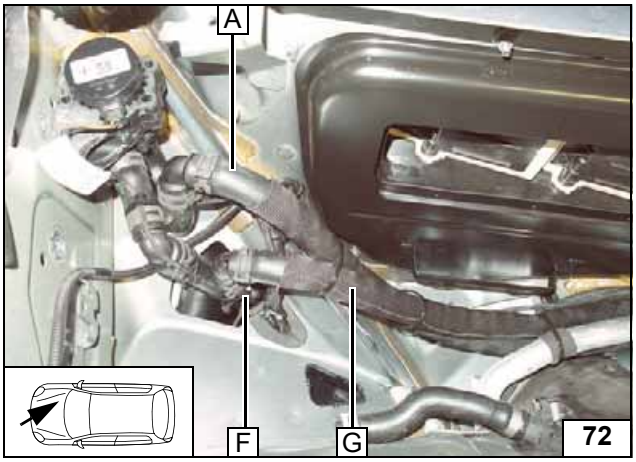
1 Coupling piece of engine outlet on coolant reservoir side

Routing hose A



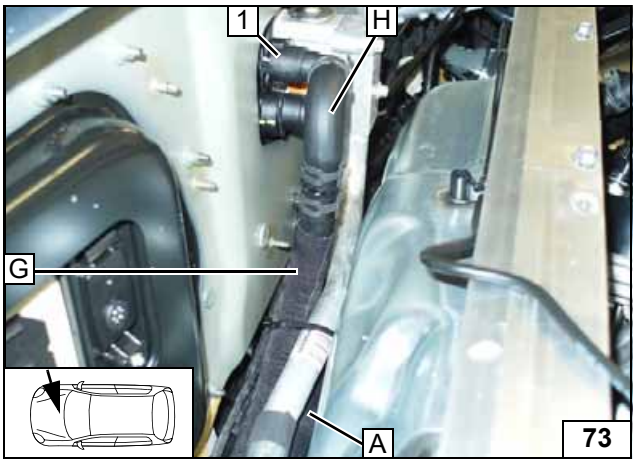
1 Edge clip cable tie

Connecting hoses A and B



Secure hoses **A** and **G** as shown using cable ties.

Connecting hoses F and G



Secure hoses **A** and **G** as shown using cable ties.

1 Coupling piece of heat exchanger inlet

Heat exchanger inlet connection

Fuel

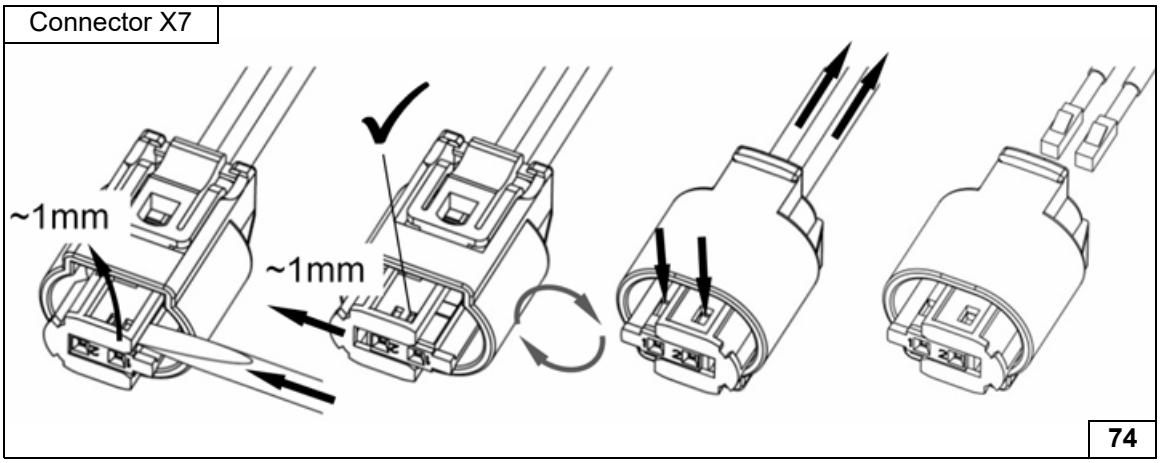
Open the vehicle's fuel tank cap, ventilate the tank and then re-close the tank lock.

Catch any fuel running off in an appropriate container.

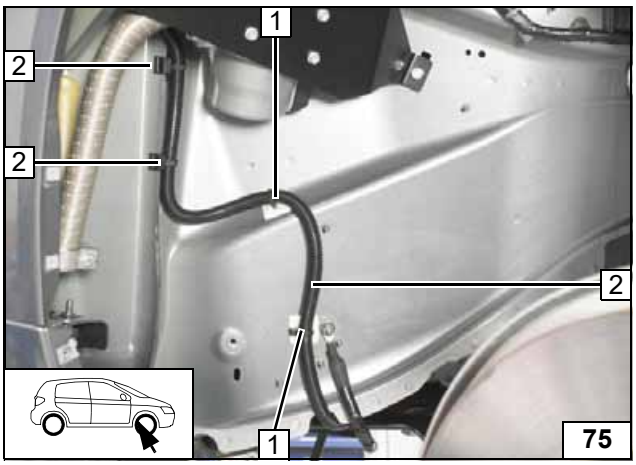
Route fuel line and metering pump wiring harness so that they are protected against stone impact.
Unless specified otherwise, always fasten using cable ties.
Provide rub protection for fuel line and wiring harness in areas where there are sharp edges.

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

Dismantling metering pump connector



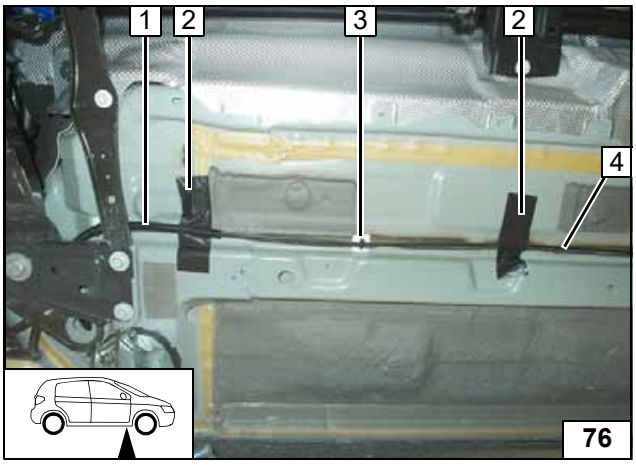
Routing lines



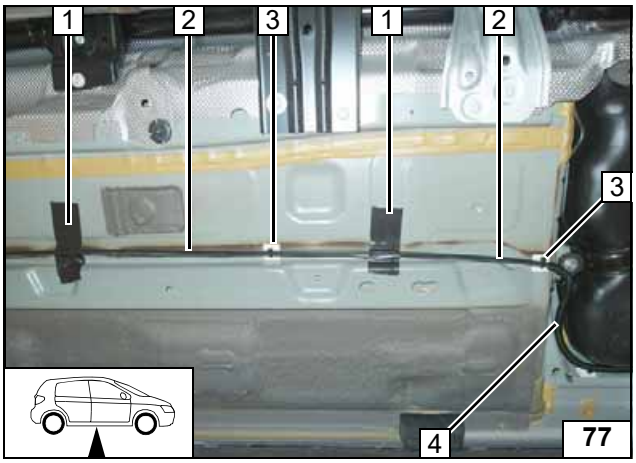
Insert fuel line and metering pump wiring harness into 10mm dia. corrugated tube **2**.

1 Self-adhesive socket with cable tie
2 Tighten clip-type cable tie

Routing lines

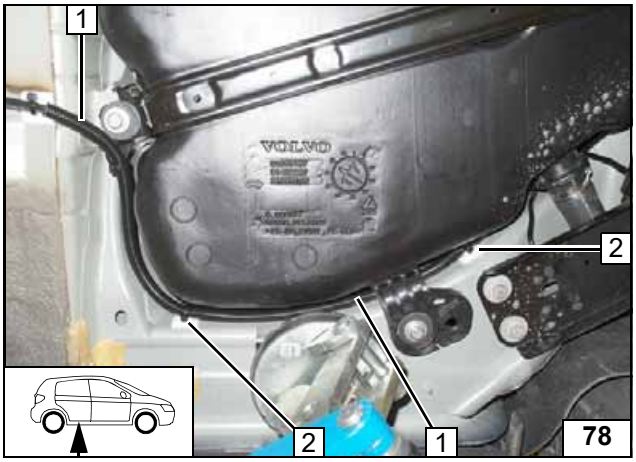


1 Fuel line and wiring harness of metering pump in 10mm dia. corrugated tube
2 Adhesive tape
3 Self-adhesive socket with cable tie
4 Fuel line and metering pump wiring harness



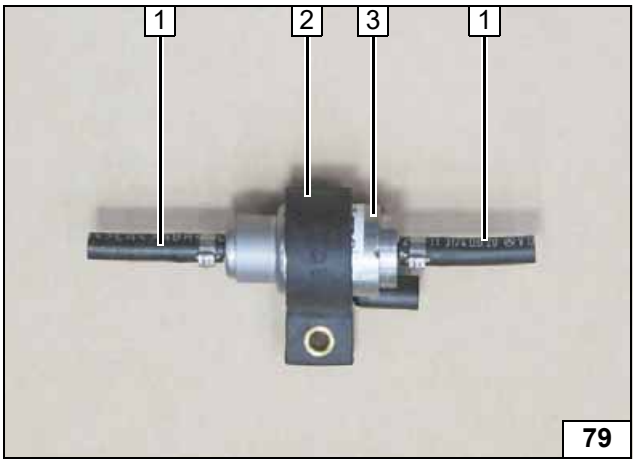
1 Adhesive tape
2 Fuel line and metering pump wiring harness
3 Self-adhesive socket with cable tie
4 Fuel line and wiring harness of metering pump in 10mm dia. corrugated tube

Routing lines



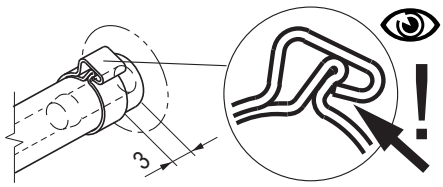
1 Fuel line and wiring harness of metering pump in 10mm dia. corrugated tube
2 Self-adhesive socket with cable tie

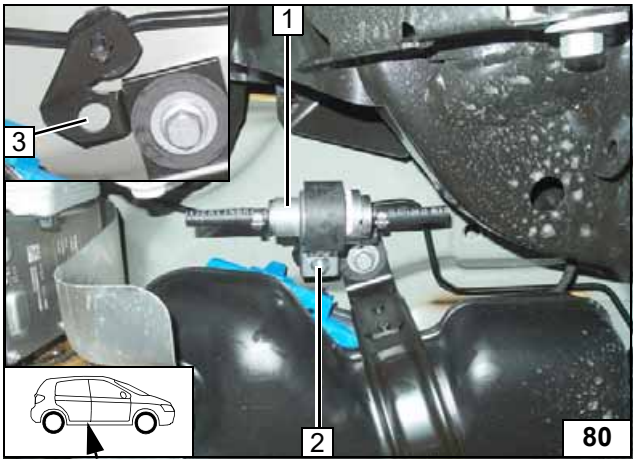
Routing lines



1 Hose section, 10 mm dia. clamp [2x]
2 Metering pump mount
3 Metering pump

Premounting metering pump

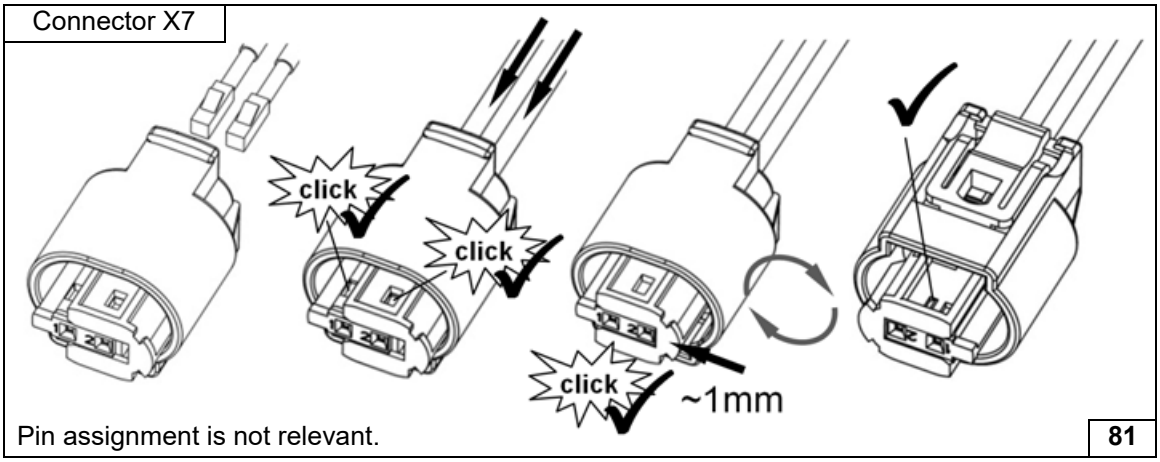




1 Metering pump
2 M6x25 bolt, support angle bracket, premounted metering pump mount, original vehicle hole **3**, large diameter washer, flanged nut

Installing metering pump

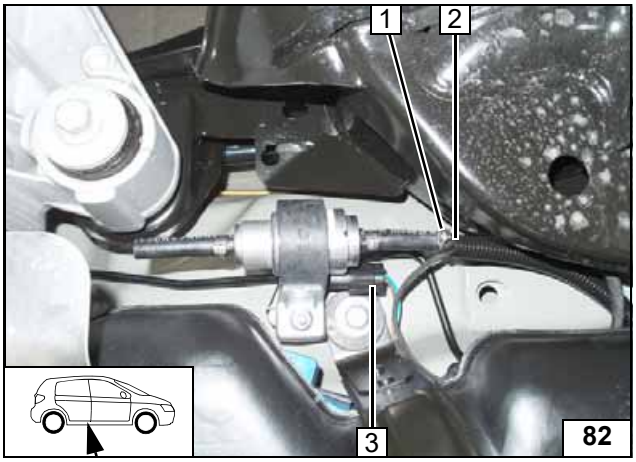
Connector X7



Pin assignment is not relevant.

81

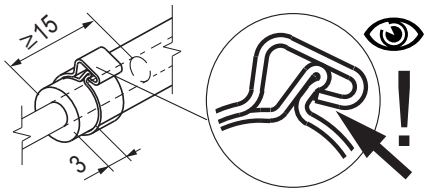
Completing metering pump connector

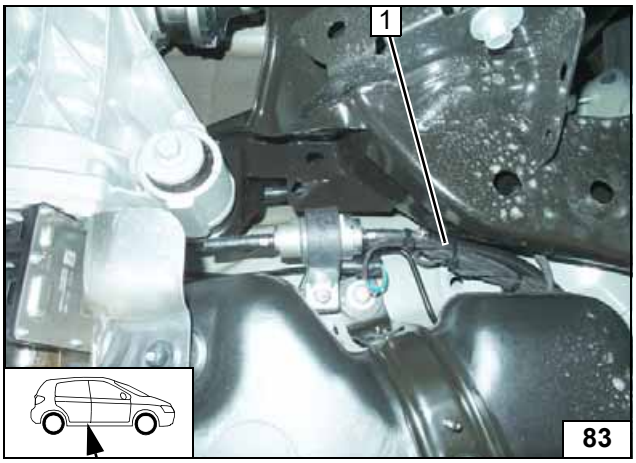


82

1 10 mm dia. clamp
2 Fuel line
3 Metering pump wiring harness, connector X7 mounted

Connection of metering pump

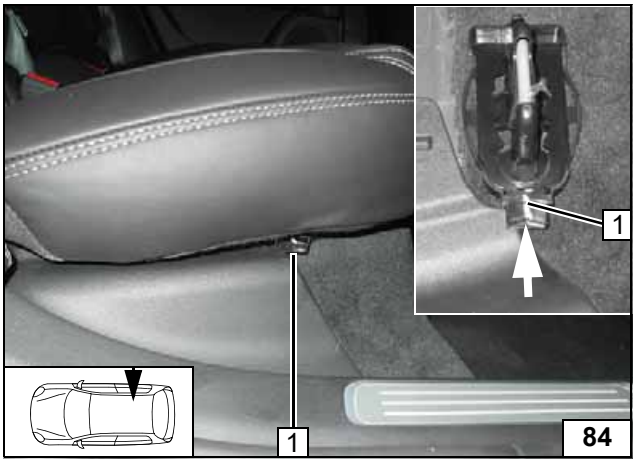




83

Route remaining length of metering pump wiring harness **1** as shown and fasten with cable ties.

Fastening wiring harness



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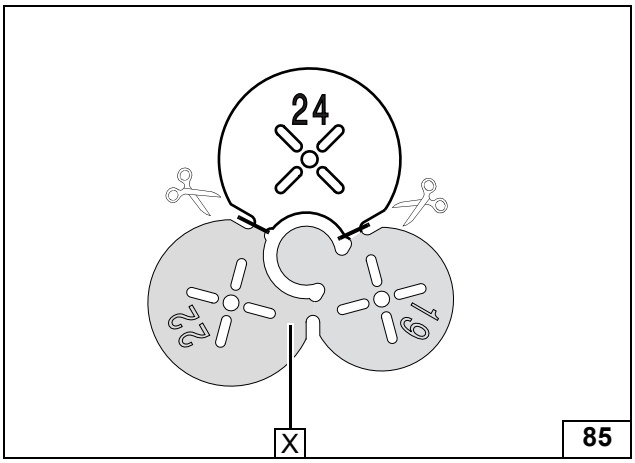
Rear Bench Seat Installation Instructions

Push in rear bench seat locking device **1** in the direction of the arrow using a suitable tool.

Detaching rear bench seat

Installing FuelFix



X =

Preparing drilling template

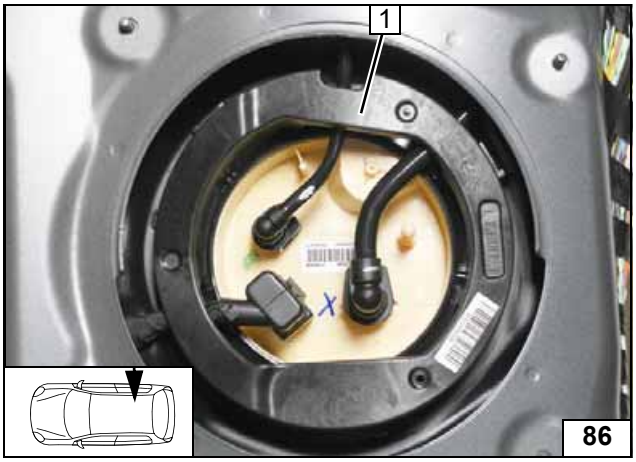
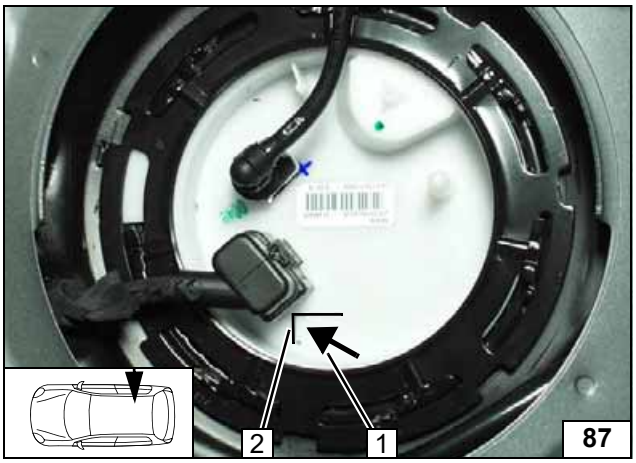


Figure shows diesel vehicle but applies to all.

1 Retaining ring, will be reinstalled later

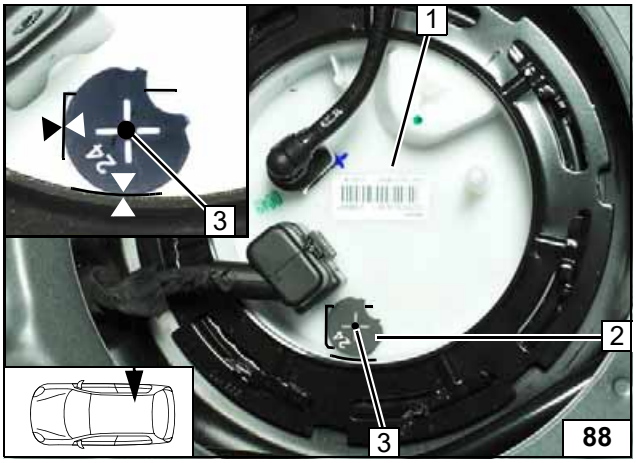
Removing retaining ring



Version 1
In case of vehicles without nipple at position **2**.

Draw existing contours **1** onto tank fitting as shown.

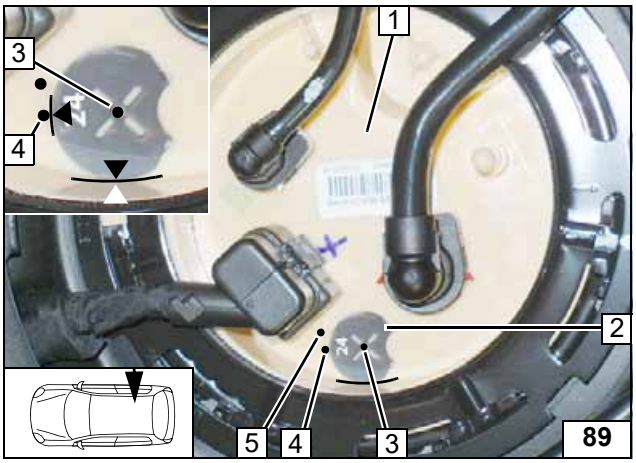
Drawing contours



Work steps F1, F2.

1 Tank fitting
2 Position 24mm dia. drilling template at the marked contours and the outer edge of the tank fitting as shown
3 Hole pattern

Copying hole pattern

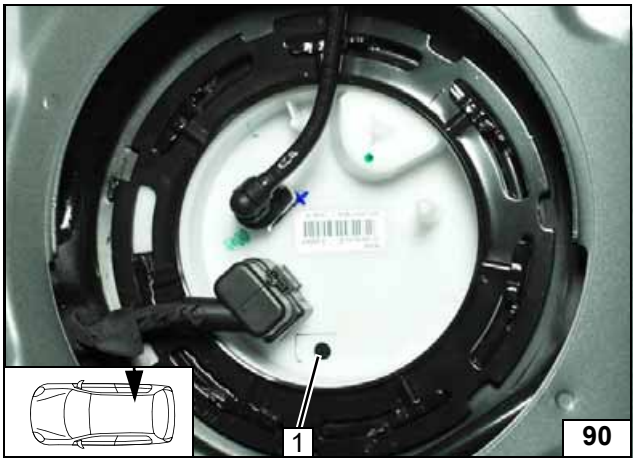


Version 2
In case of vehicles with one or two available nipples at position **4** or **5**.

Work steps F1, F2.

1 Tank fitting
2 Position 24mm dia. drilling template at the marked nipple **4** and the outer edge of the tank fitting as shown
3 Hole pattern

Copying hole pattern



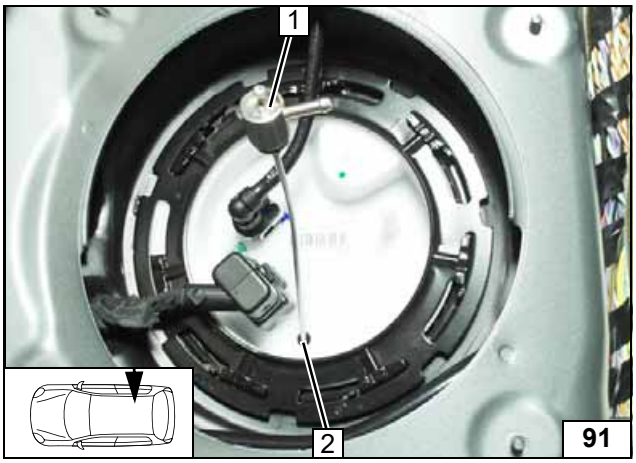
All vehicles

Figure shows petrol vehicle but applies to all.

Work step F3.

1 Hole made with provided drill

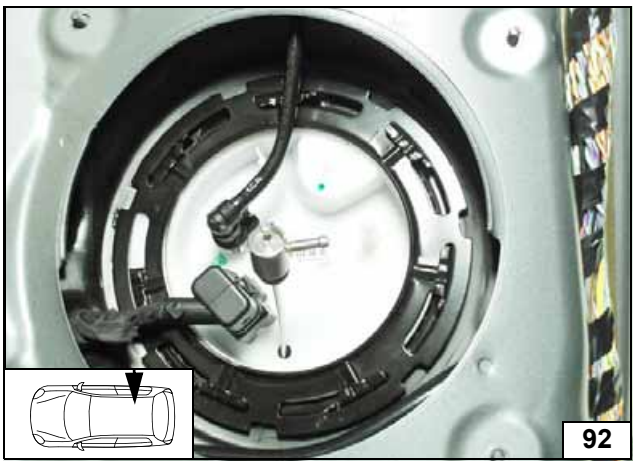
Hole for FuelFix



Work steps F4, F5.

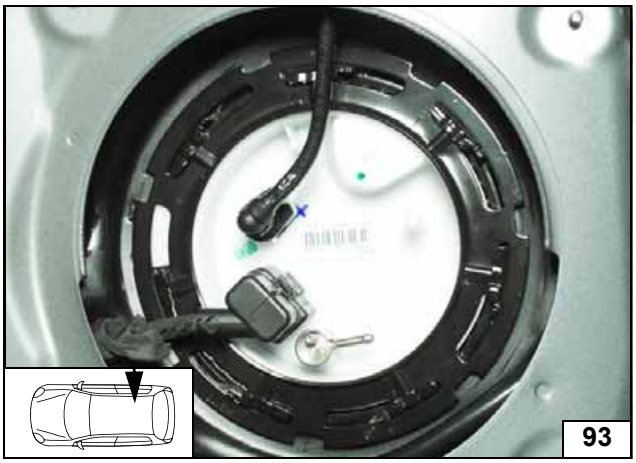
Bend FuelFix **1** according to template and cut to length.
Insert in hole **2**.

Inserting FuelFix

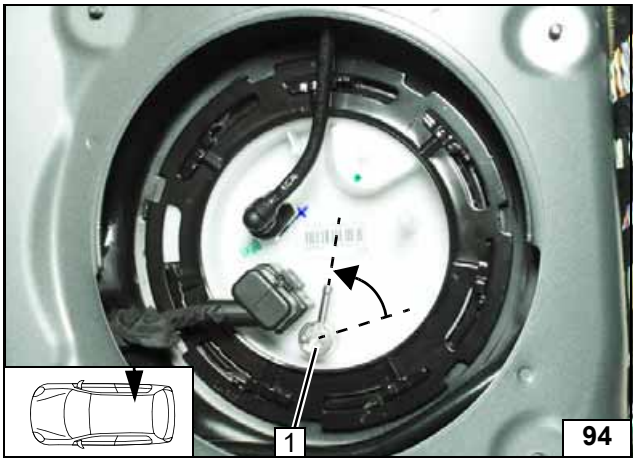


Work step F5.

Inserting FuelFix



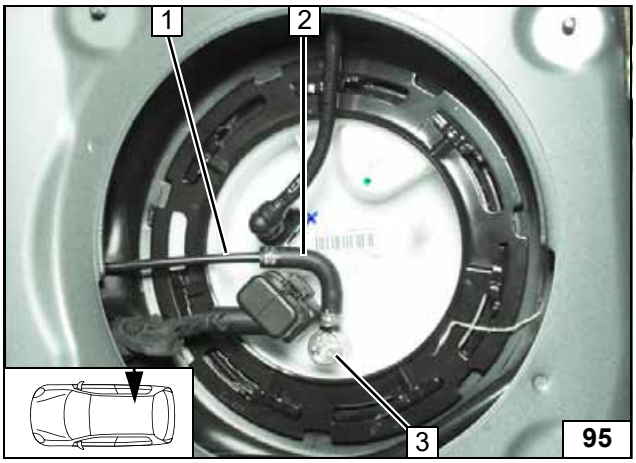
Inserting FuelFix



Work steps F5.3, F5.4.

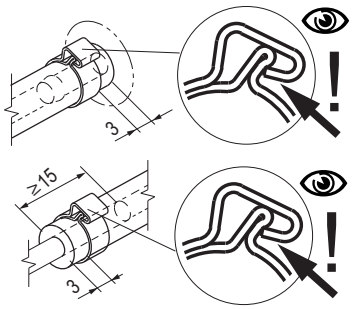
Align FuelFix **1** as shown.

Inserting FuelFix

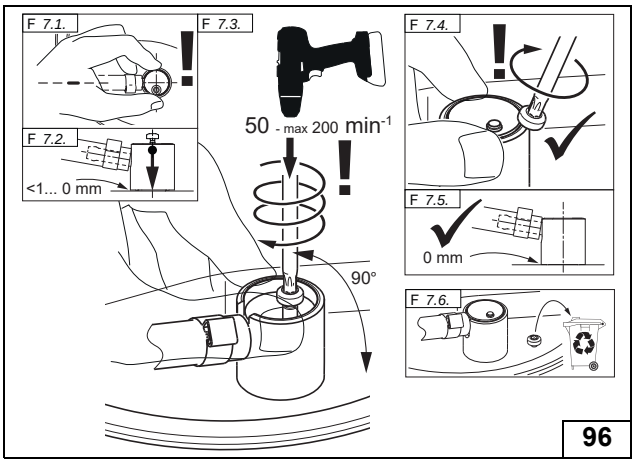


Work step F6.

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

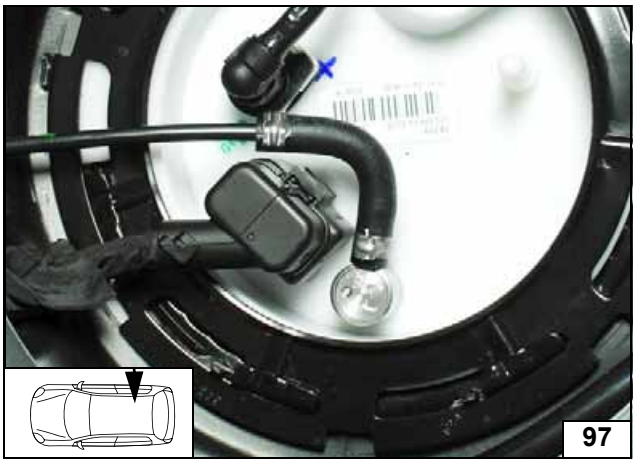


Connecting fuel line



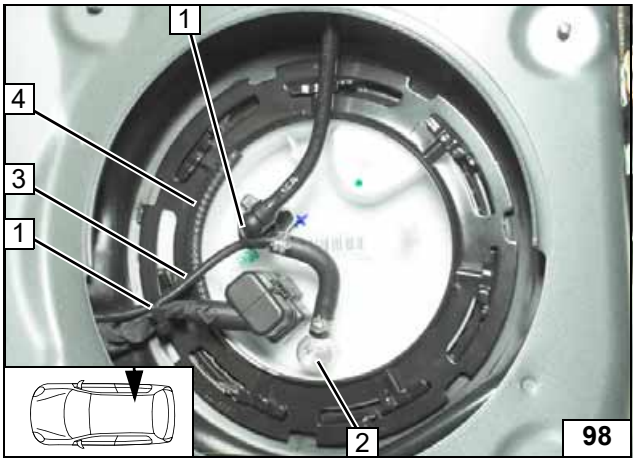
Work step F7.

Mounting FuelFix



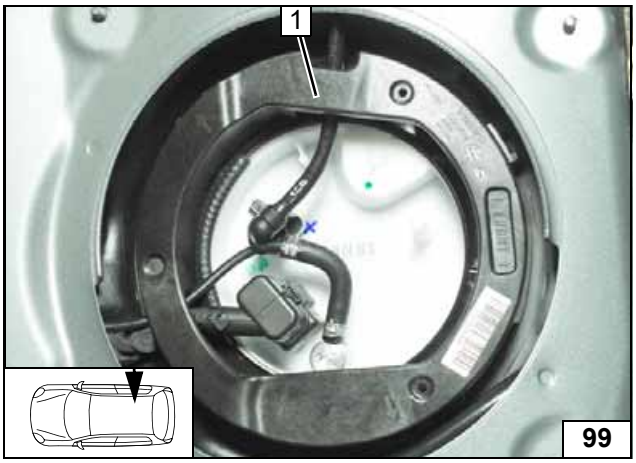
Work step F8.

Checking tight fit of FuelFix



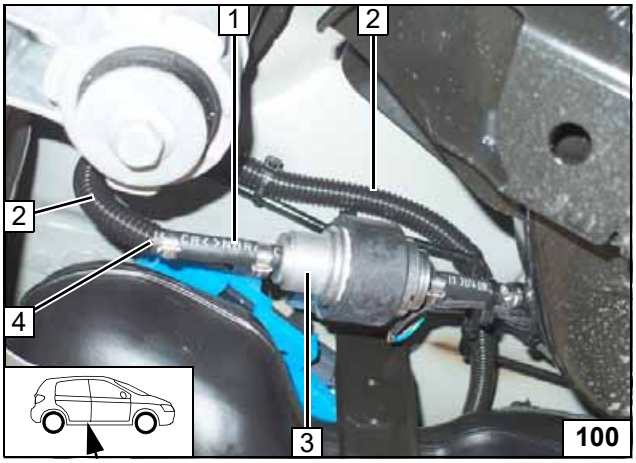
1 Cable tie as tension relief
2 FuelFix, mounted
3 Fuel line of FuelFix
4 70mm edge protection

Securing fuel line



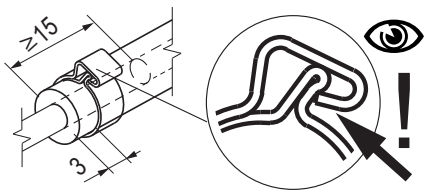
1 Retaining ring

Mounting retaining ring



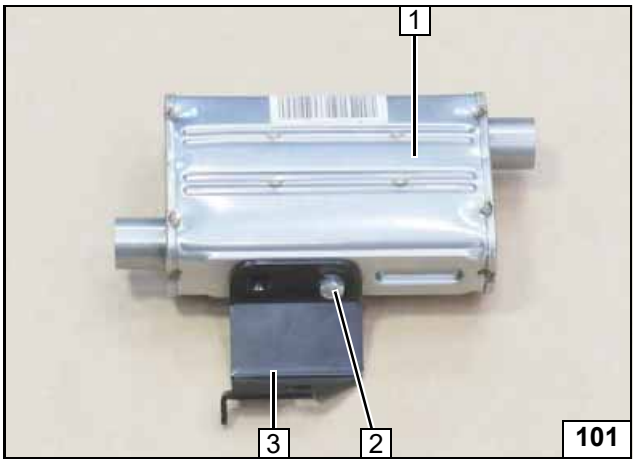
Draw fuel line of FuelFix **4** in 10mm dia. corrugated tube **2** and attach using cable ties.

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



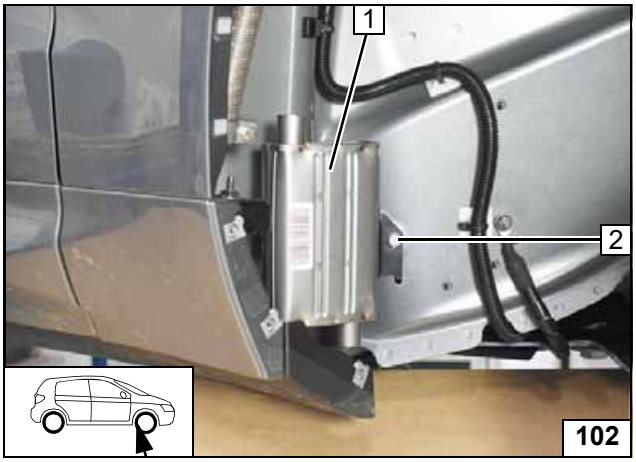
Connection of metering pump

Exhaust Gas



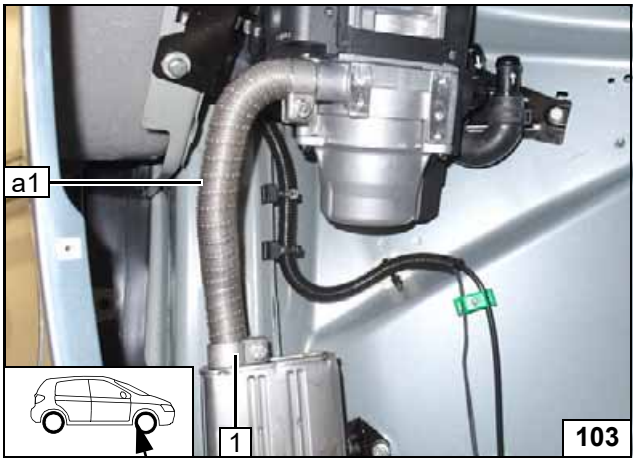
1 Silencer
2 M6x16 bolt, spring lockwasher
3 Silencer bracket

Premounting silencer



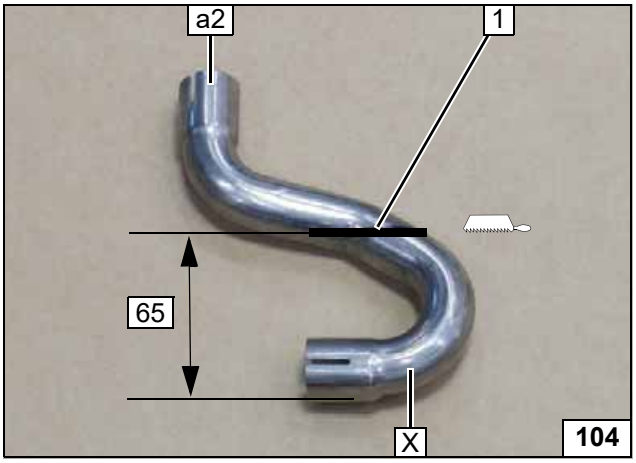
1 Silencer
2 M6x20 bolt, spring lockwasher, premounted silencer bracket, premounted rivet nut

Installing silencer



1 Hose clamp

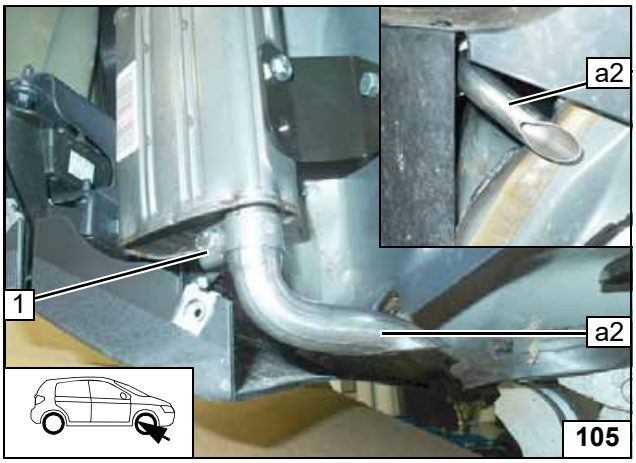
Installing exhaust pipe a1



Shorten exhaust pipe **a2** at the cutting line **1** as shown!

X =

Shortening exhaust pipe a2



1 Hose clamp

Installing exhaust pipe a2

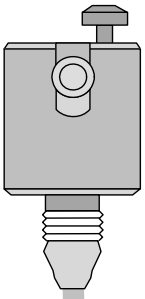
Final Work

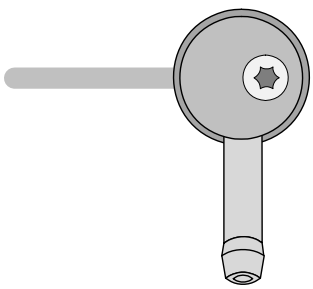
Reassemble the components in reverse order. Check all hoses, clamps and all electrical connections for firm seating. Insulate and tie back loose lines.
Only use manufacturer-approved coolant. Spray the heater components with anti-corrosion wax (Tectyl 100K).

- **Connect the battery.**
- **Fill and bleed the coolant circuit according to the vehicle manufacturer's instructions.**
- **Program MultiControl CAR, teach Telestart transmitter.**
- **For initial start-up and function check, please see installation instructions.**
- **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 point.**

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

FuelFix Template for XC60





100mm

Scale 1:1

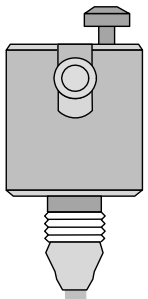
Compare size of printout with dimension lines.
Maximum permitted tolerance 2%.

Set the printer settings to ‘no margin’ or ‘minimise margins’ and 100% of the normal size.

100mm

0

FuelFix Template for XC90



100mm

Scale 1:1

Compare size of printout with dimension lines.
Maximum permitted tolerance 2%.

Set the printer settings to ‘no margin’ or ‘minimise margins’ and 100% of the normal size.

100mm

0

Webasto
Feel the Drive

Operating Instructions for Automatic A/C of XC60

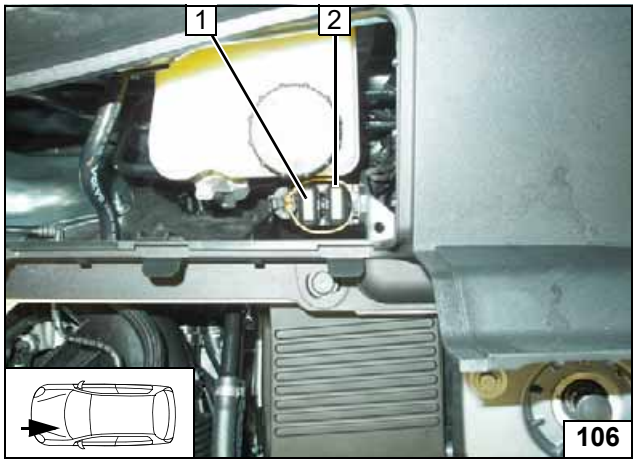
Please remove page and add to the vehicle operating instructions.

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

Information on the presettings of the A/C control panel:
Your vehicle is equipped with a Comfort air-conditioning control system.
No settings on the A/C control panel are therefore needed before parking the vehicle!
All required presettings, such as fan speed, temperature and flap positions are automatically applied.

Information on the active parking heating mode:
The vehicle fan is deactivated when the vehicle is opened and is activated again when the ignition is switched on.
After re-closing the vehicle it may take several minutes before it becomes active again.



1 20A heater fuse F1
2 3A main fuse F2 of passenger compartment/ control element

Engine compartment fuses

Operating Instructions for Automatic A/C of XC90

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 for the heating operation.
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Your vehicle is equipped with a Comfort air-conditioning control system.
No settings on the A/C control panel are therefore needed before parking the vehicle!
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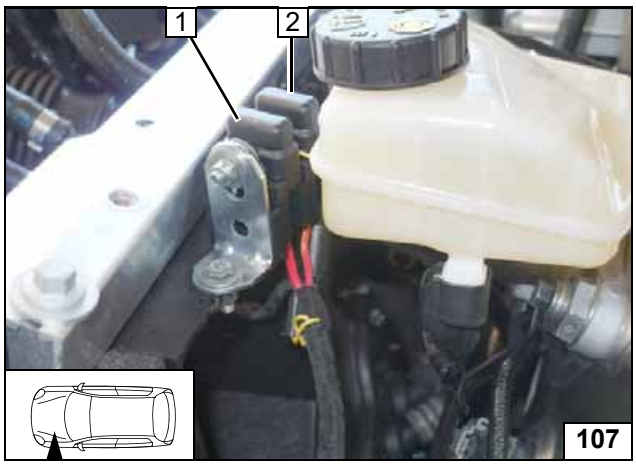

1 3A main fuse F2 of passenger compartment/ control element
2 20A heater fuse F1

Engine compartment fuses