



Water Heater

Thermo Top Evo Parking Heater



With FuelFix

Installation Documentation Jeep Cherokee

Validity

Manufacturer	Model	Type	EG-BE No. / ABE
Jeep	Cherokee	KL	e4 * 2007 / 46 * 0783 * ...

Motorisation	Fuel	Transmission type	Output in kW	Displacement in cm ³	Engine code
2.0 CRD MultiJet	Diesel	SG	103	1956	EBT
2.0 CRD MultiJet	Diesel	6-speed AG	125	1956	EBT

SG = manual transmission
AG = automatic transmission

From model year 2014
Left-hand drive vehicle

Verified equipment variants: Automatic air-conditioning
Front fog lights
Headlight washer system
Start / Stop
4WD
Forward Collision Warning (FCW) for the "Trailhawk"

Not verified: Passenger compartment monitoring
2WD

Total installation time: about 9 hours

Jeep Cherokee

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Necessary Components

- Basic delivery scope of Thermo Top Evo based on price list
- Installation kit with FuelFix Jeep Cherokee 2014 Diesel: **1323617A**
- 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

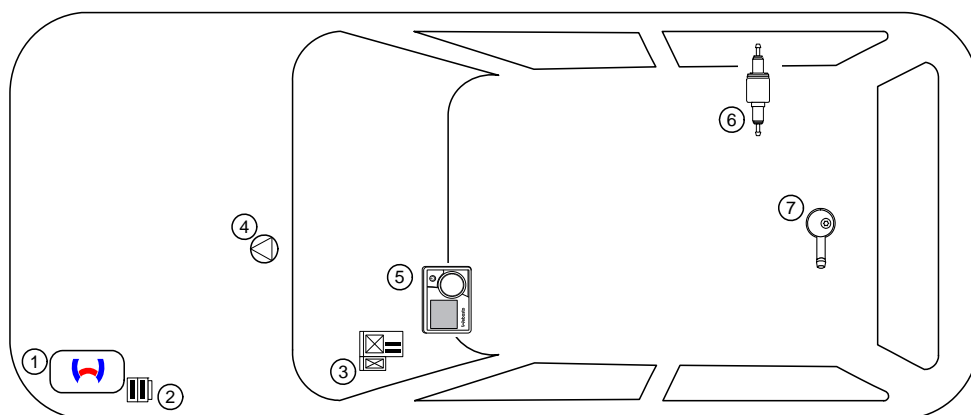
Installation instructions:

- Arrange for the vehicle to be delivered with the tank only about $\frac{1}{4}$ full.
- The installation location of the push button in case of Telestart or Thermo Call should be confirmed with the end customer.
- Depending on the available space and manufacturer's instructions, we recommend the use of a vehicle battery with more electrical capacity.

Installation Overview

Legend:

1. Heater
2. Engine compartment fuse holder
3. Passenger compartment relay and fuse holder
4. Circulating pump
5. MultiControl CAR
6. Metering pump
7. FuelFix



Information on Total Installation Time

The total installation time includes the time needed for mounting and demounting of 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, Order No. 111329).

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

The initial startup is to be executed with the Webasto Thermo Test Diagnosis.

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

2 Statutory regulations governing installation

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

Note

The regulations of these guidelines are binding in the scope of the Directive 70/156/EEC and/or 2007/46/EC (for new vehicle models from 29/04/2009) and should also be observed in countries in which there are no special regulations.

Important

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

Note

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

2.1 Excerpt from the directive 122 (heater) section 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 gas 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.

Jeep Cherokee

Information on Validity

This installation documentation applies to Jeep Cherokee 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 value of 5x15 water connection piece retaining plate bolt = 7Nm.
- Tighten other bolt connections in accordance with manufacturer's instructions or in accordance with state-of-the-art technology.

Explanatory Notes on Document

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

Special features are highlighted using the following symbols:

Mechanical System



Electrical System



Coolant Circuit



Combustion Air



Fuel



Exhaust Gas



Software



Specific risk of damage to components.



Specific risk due to electrical voltage.



Specific risk of injury or fatal accidents.



Specific risk of fire or explosion.



Reference to 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.



Jeep Cherokee

Preliminary Work

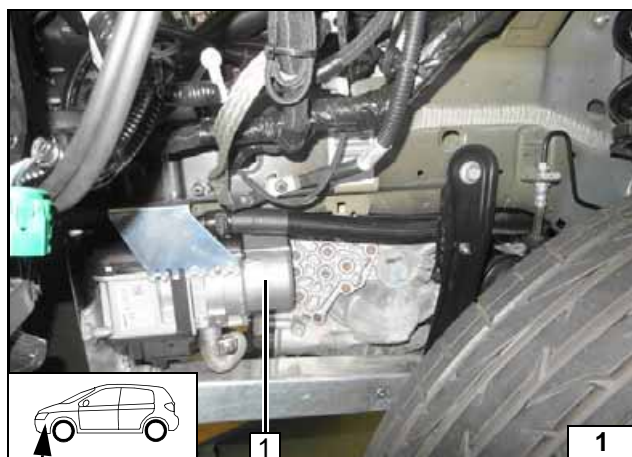
Vehicle



- Open the fuel tank cap.
- Ventilate the fuel tank.
- Close the fuel tank cap again.
- Depressurise the cooling system.
- Remove the engine cover.
- Disconnect and completely remove the battery together with the carrier.
- Remove the charge-air tube.
- Remove the washer reservoir.
- Remove the underride protection of engine.
- Remove the underride protection on the right.
- Remove the wheel well trim on the left, detach it on the right.
- Remove the bumper trim.
- Remove the rear bench seat (see dismantling aid).
- Remove the service cover of the fuel tank sending unit on the right according to the manufacturer's instructions.
- Remove the lower instrument panel trim on the driver's side.
- Remove the lateral instrument panel trim on the driver's side.
- Remove the central electrical box of the passenger compartment on the left.
- Remove the trim under the steering wheel.
- Remove the door sill cover in the front on the driver's side.
- Remove the lower trim of the centre console on the right and on the left.
- Remove the footwell trim on the front passenger's side.
- Remove the ventilation shaft.
- Remove the A/C control panel (see dismantling aid).

Heater

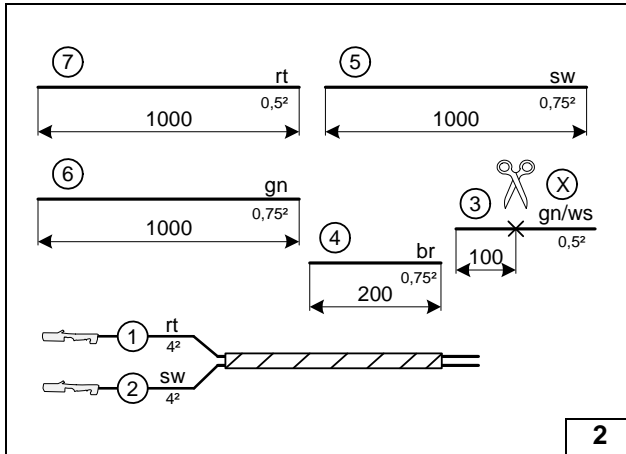
- Remove years that do not apply from the type and duplicate label.
- Attach the duplicate label (type label) in the appropriate place inside the engine compartment.



Heater Installation Location

- 1 Heater

Installation location



Preparing Electrical System

Wire sections retain their numbering throughout the entire document.

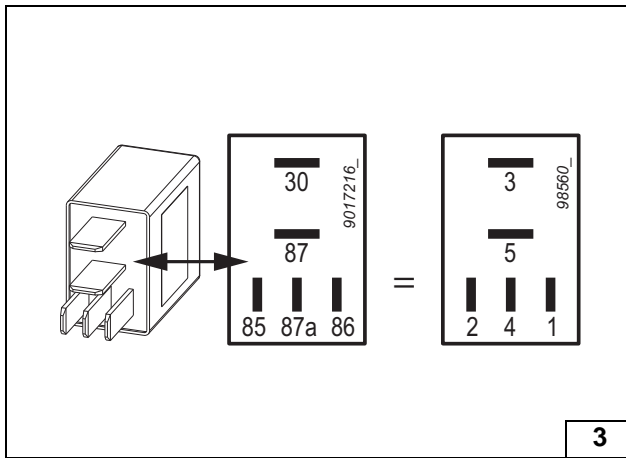
Produce all following electrical connections as shown in the wiring diagram.

Discard section X.

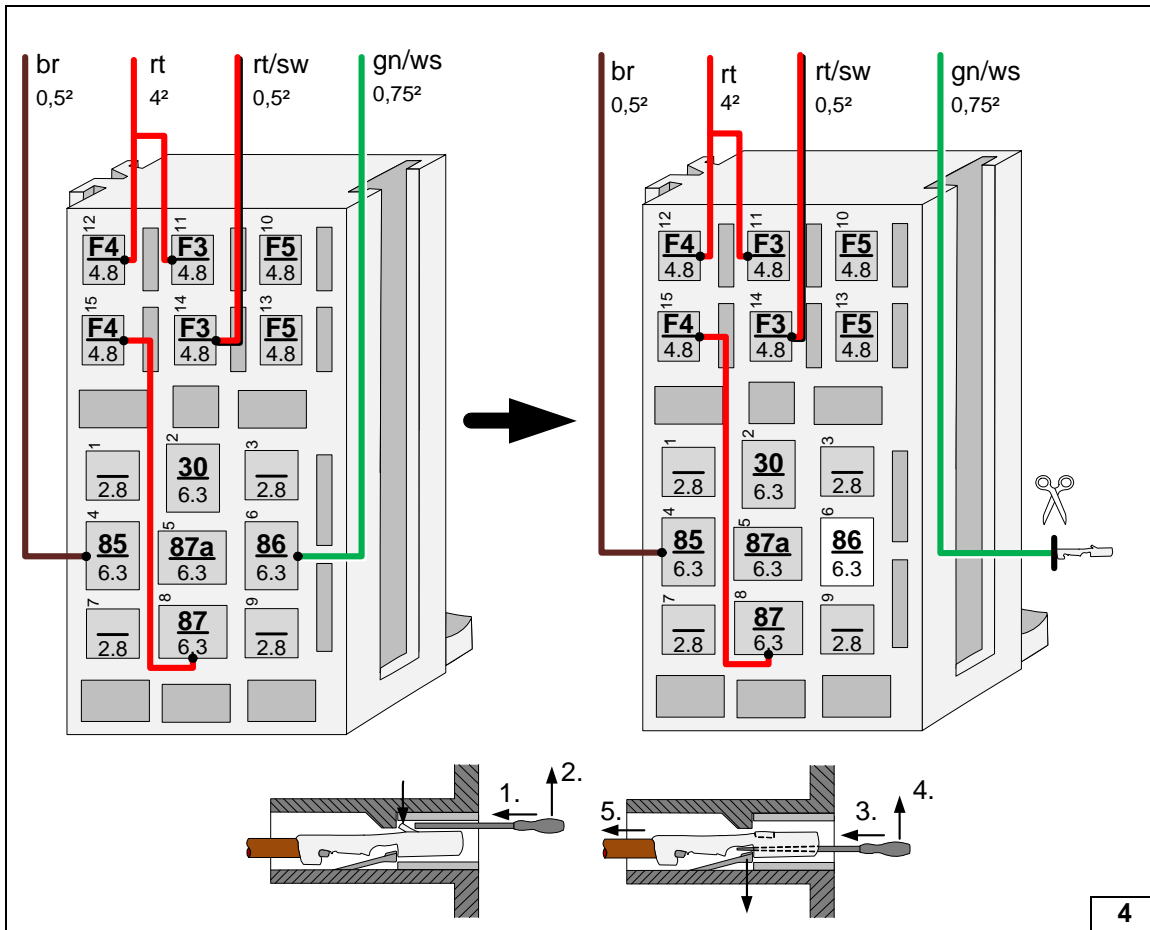
- ① Red (rt) wire of fan wiring harness
- ② Black (sw) wire of fan wiring harness



Cutting to length / assigning wires

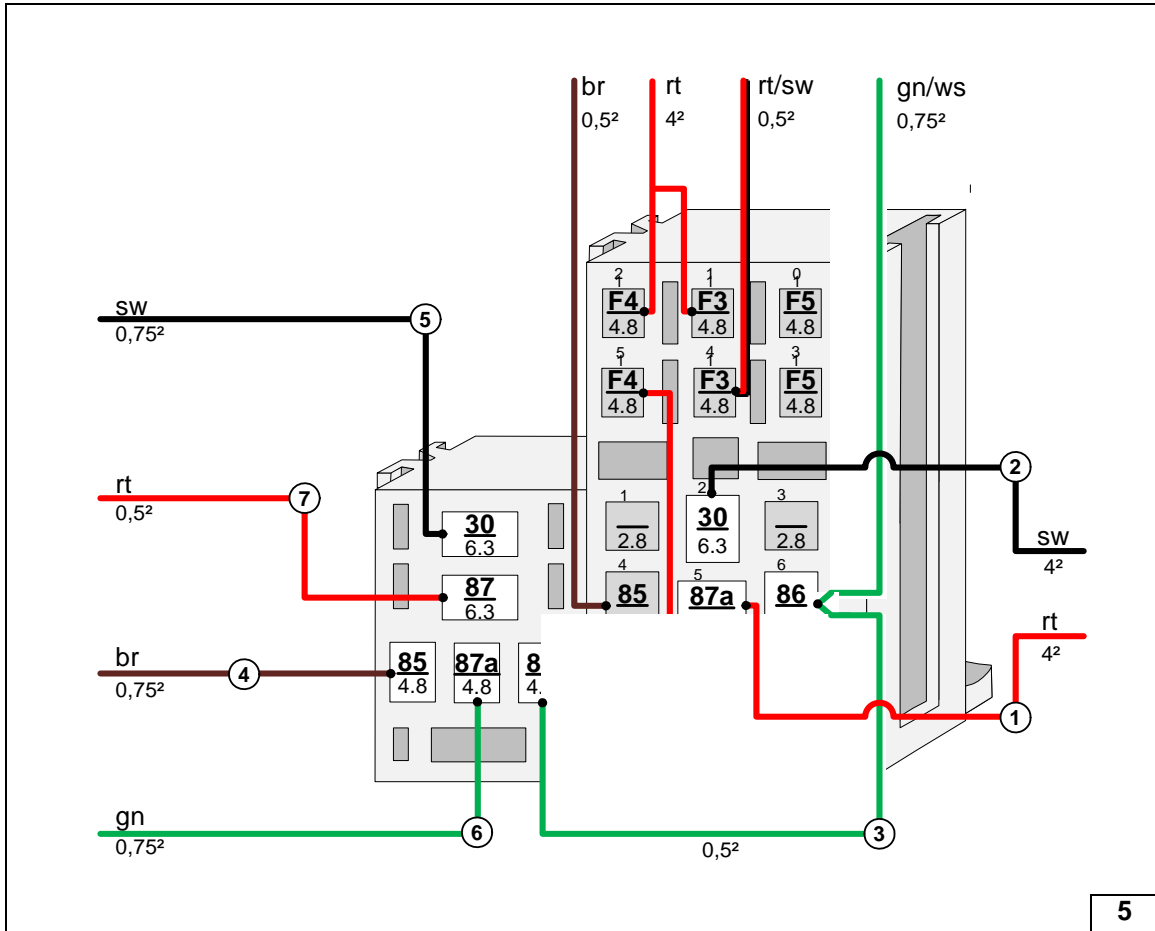


View of K2 relay

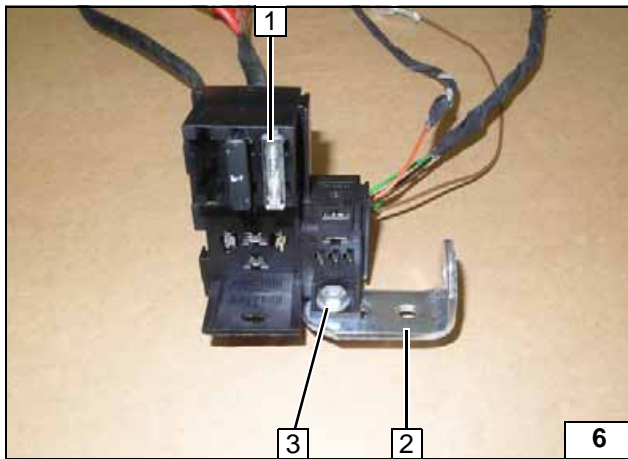


Preparing passenger compartment relay and fuse holder



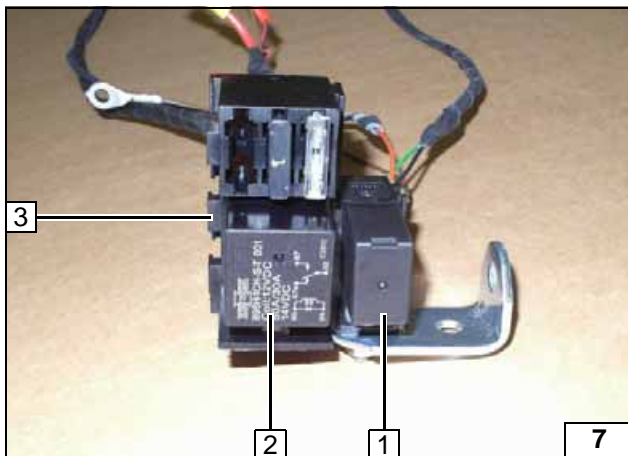


Interlocking relay socket K2 and passenger compartment relay and fuse holder and connecting wires



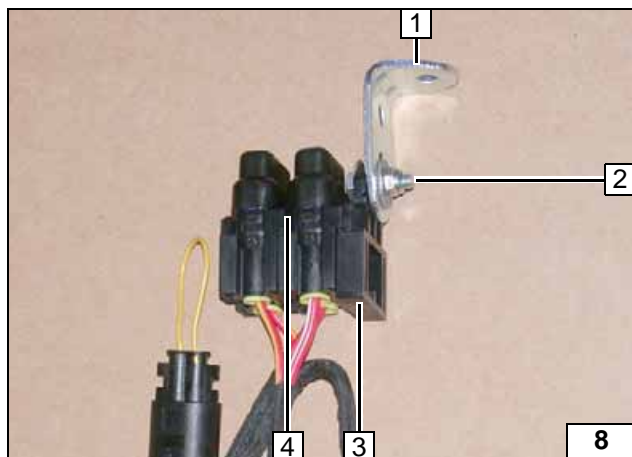
- 1 25A fuse F4
- 2 Angle bracket
- 3 M5x16 bolt, large diameter washer [2x], nut

Premounting passenger compartment relay and fuse holder



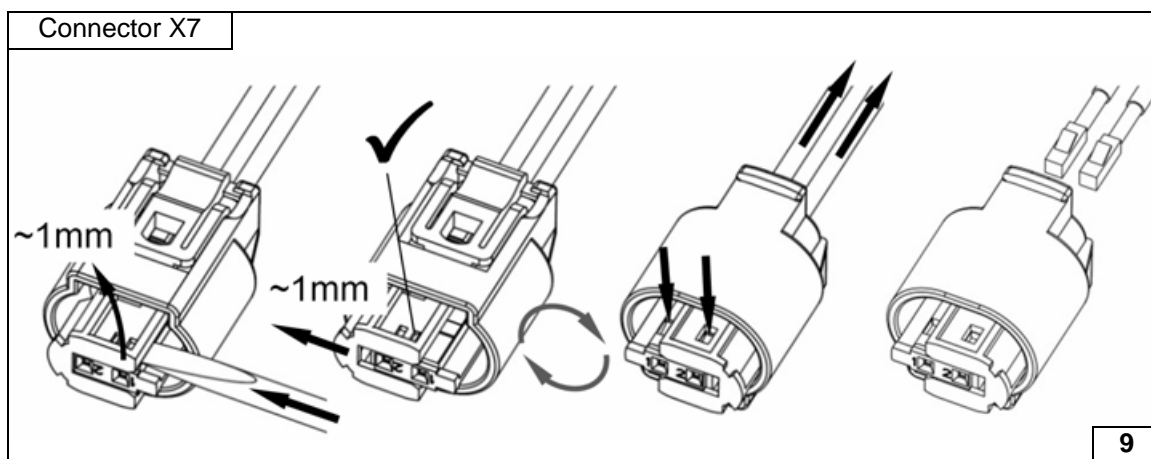
- 1 K2 additional relay
- 2 K1 fan relay
- 3 Passenger compartment relay and fuse holder

Installing relay [2x]



- 1 Angle bracket
- 2 M5x16 bolt, large diameter washer [2x], nut
- 3 Retaining plate of engine compartment fuse holder
- 4 Fuses F1-2

Premounting engine compartment fuse holder



Dismantling metering pump connector



Electrical System

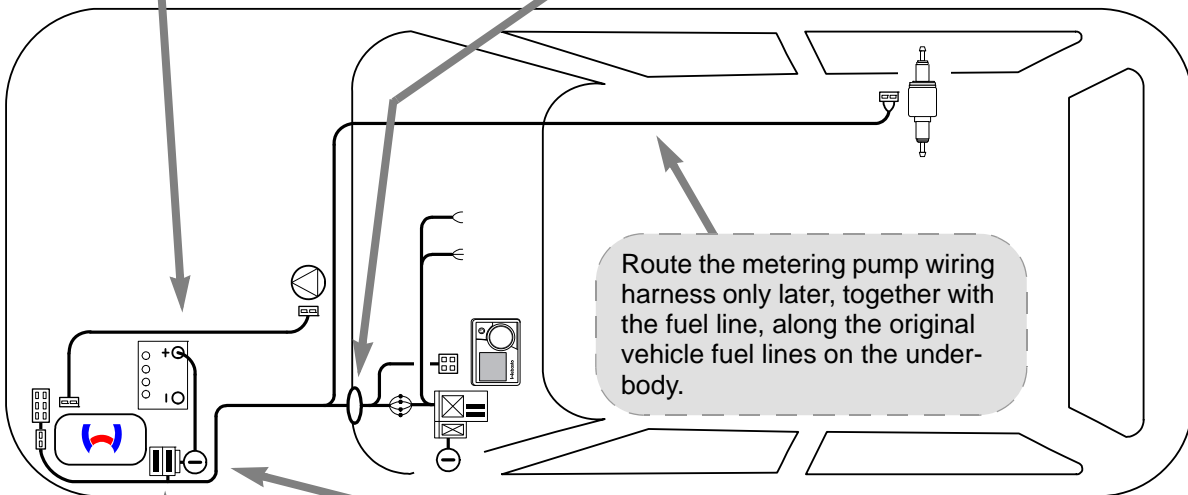
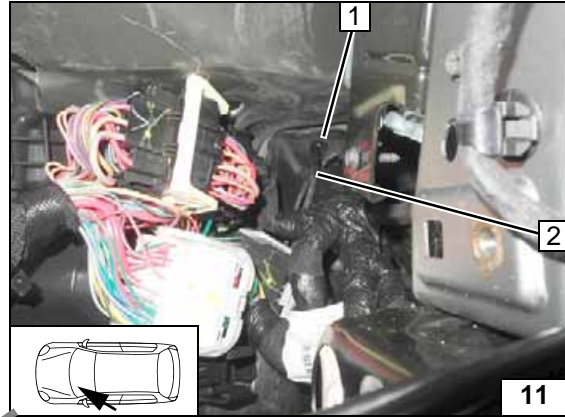
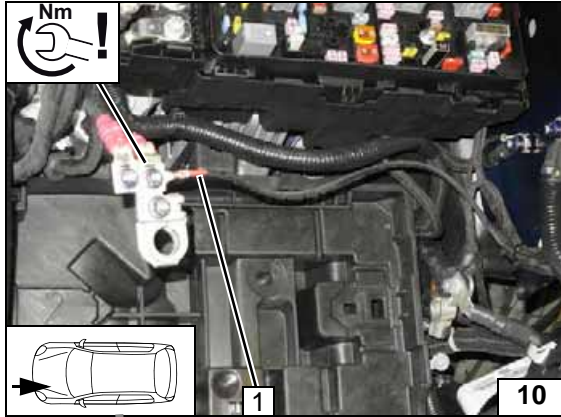


Positive wire

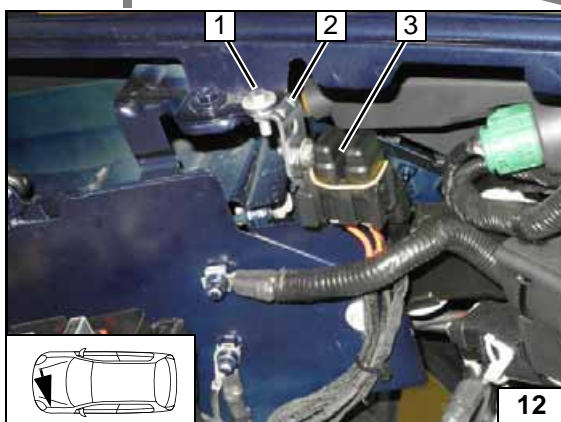
- 1 Positive wire on positive battery terminal

Wiring harness pass through

Pull wiring harnesses of heater and heater control **2** using the pulling tool through protective rubber plug **1** into the passenger compartment.

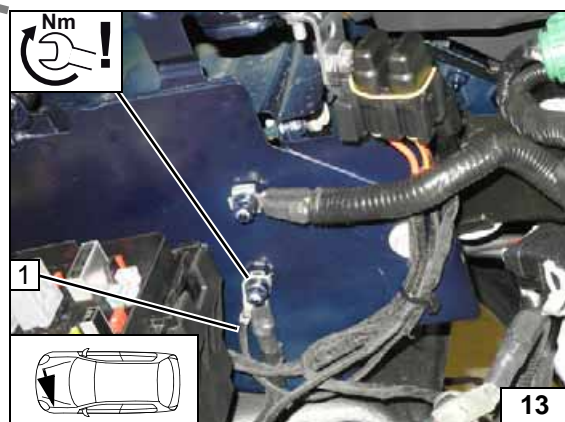


Wiring harness routing diagram



Engine compartment fuse holder

- 1 M6x20 bolt, large diameter washer, flanged nut, original vehicle hole
- 2 Angle bracket
- 3 Fuses F1-2



Earth wire

- 1 Earth wire on original vehicle earth support point

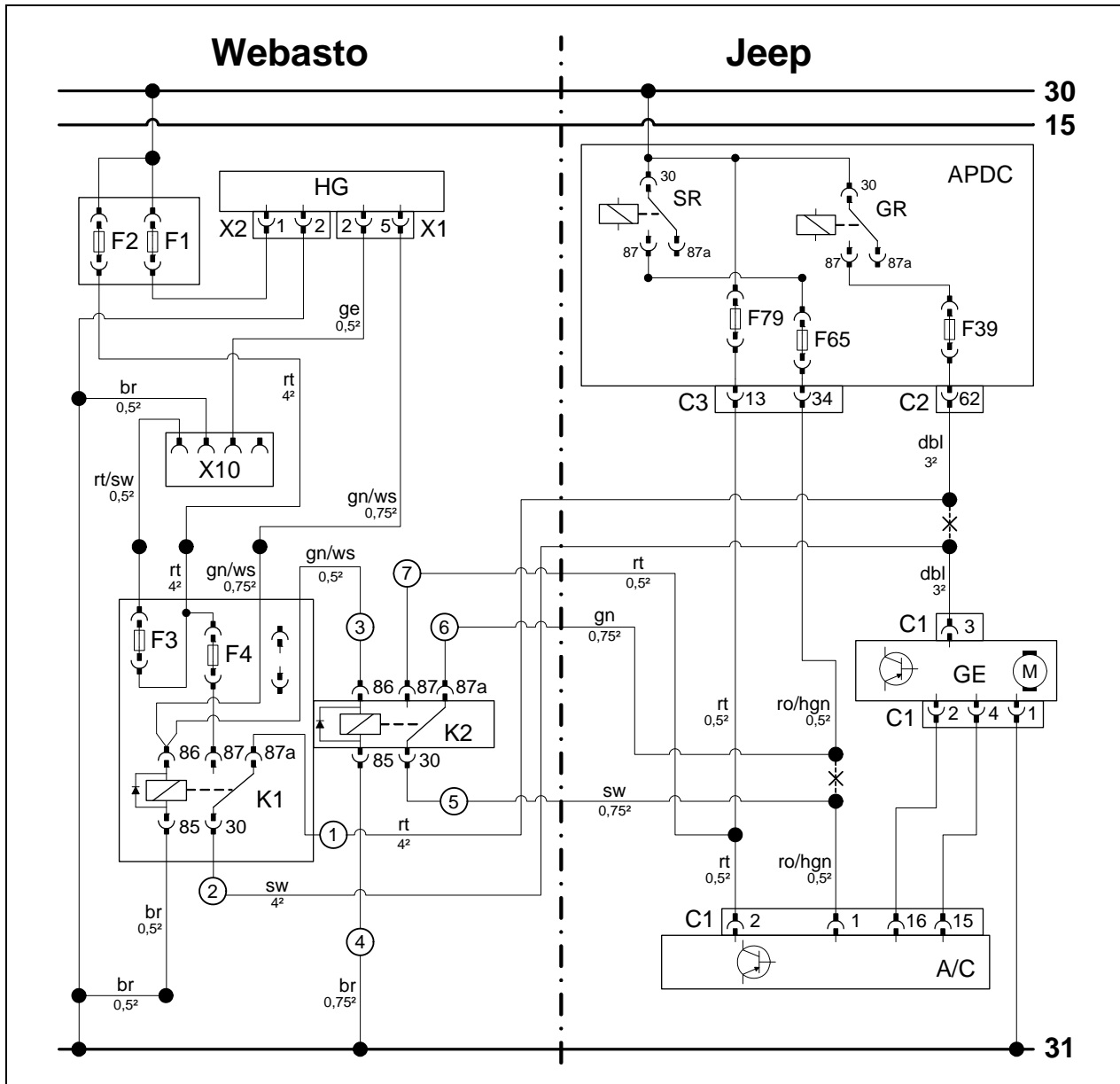




Fan Controller

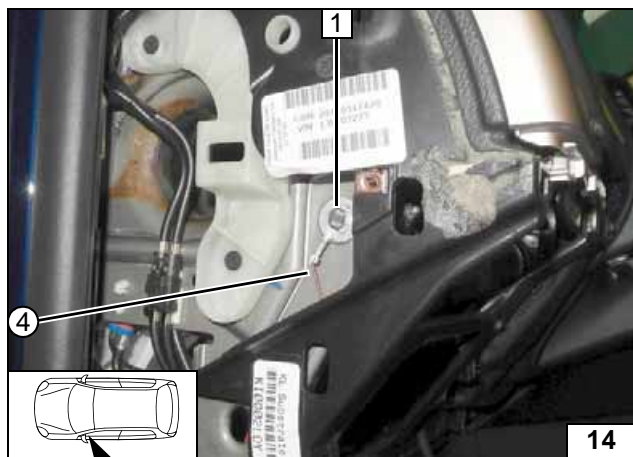


Wiring diagram



Webasto components		Vehicle components		Colours and symbols	
HG	TT-Evo heater	APDC	Assembly Power Distribution Center	rt	red
X1	6-pin heater connector	SR	Starting relay	sw	black
X2	2-pin heater connector	GR	Fan relay	ge	yellow
F1	20A fuse	F79	10A fuse	gn	green
F2	30A fuse	F39	40A fuse	br	brown
X10	4-pin connector of heater control	F65	15A fuse	ws	white
F3	1A fuse	C3	Connector APDC	ro	pink
F4	25A fuse	C2	Connector APDC	dbl	dark blue
K2	Additional relay	GE	Fan unit	hgn	pale green
K1	Fan relay	C1	4-pin connector of GE		
		A/C	A/C control unit		
		C1	36-pin A/C connector		
				X	Cutting point
				Wiring colours may vary.	

Legend

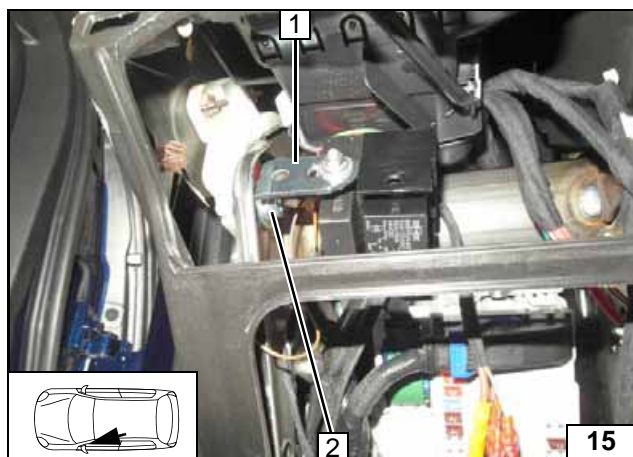


Install bolt 1 loosely.

- 1 M6x20 bolt, large diameter washer with inner dia. $d_i = 6.5\text{mm}$; large diameter washer with inner dia. $d_i = 8.5\text{mm}$, existing hole
- ④ Brown (br) wire of K2/85

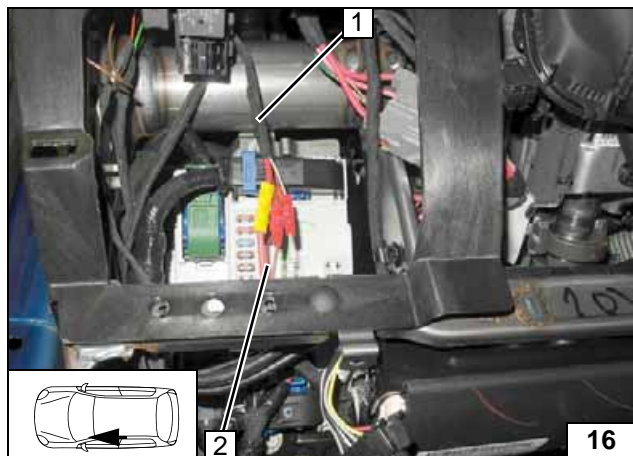


Earth connection of K2 relay



- 1 Premounted angle bracket
- 2 Flanged nut on premounted M6x20 bolt

Installing passenger compartment relay and fuse holder



- 1 Wiring harness of passenger compartment relay and fuse holder
- 2 Wiring harness of heater

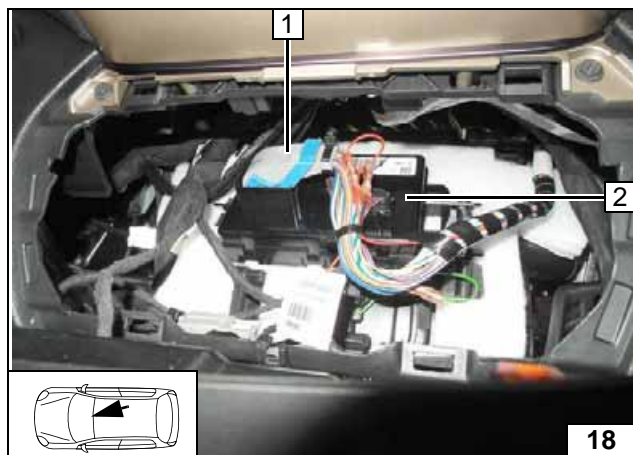
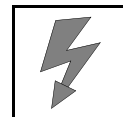
Connecting same colour wires of wiring harnesses



Installation Instructions for A/C Control Panel

- Unclip fastening points (retaining clip) [4x]

Removing A/C control panel

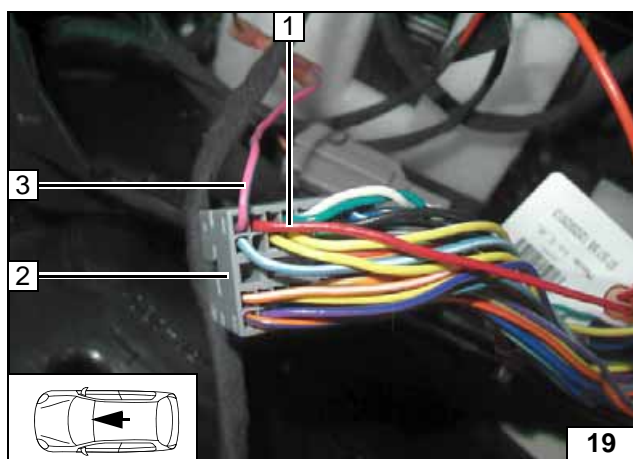


Fan Controller

Detach 36-pin connector C1 1 from A/C control unit 2 and remove.

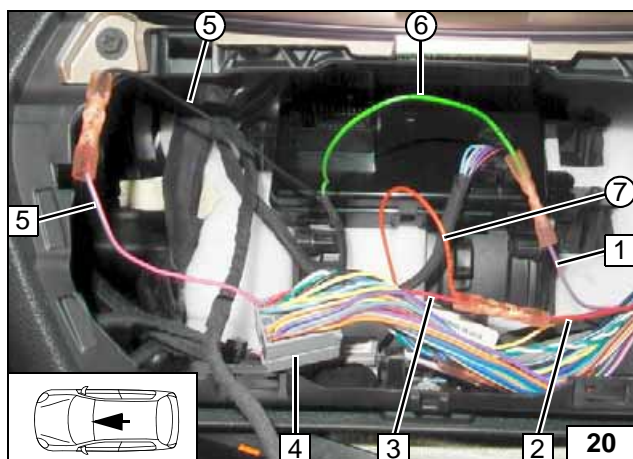


Socket of connector C1 from A/C control unit



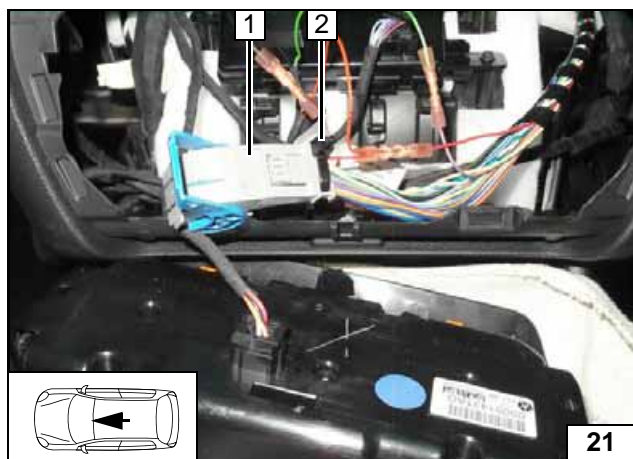
- 1 Red (rt) wire of 36-pin A/C connector C1, pin 2
- 2 36-pin A/C connector C1
- 3 Pink/light green (ro/hgn) wire of 36-pin A/C connector C1, pin 1

View of connector C1 of A/C control unit



- 1 Pink/light green (ro/hgn) wire from fuse F65
- 2 Red (rt) wire of fuse F79
- 3 Red (rt) wire of 36-pin A/C connector C1, pin 2
- 4 36-pin A/C connector C1
- 5 Pink/light green (ro/hgn) wire of 36-pin A/C connector C1, pin 1
- ⑤ Black (sw) wire from K2/30
- ⑥ Green (gn) wire from K2/87a
- ⑦ Red (rt) wire from K2/87

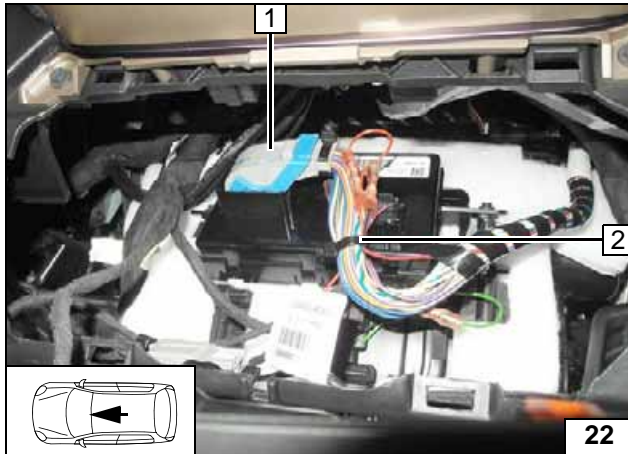
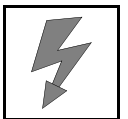
Connecting A/C control unit



Complete 36-pin A/C connector C1 1 and secure with cable tie 2.

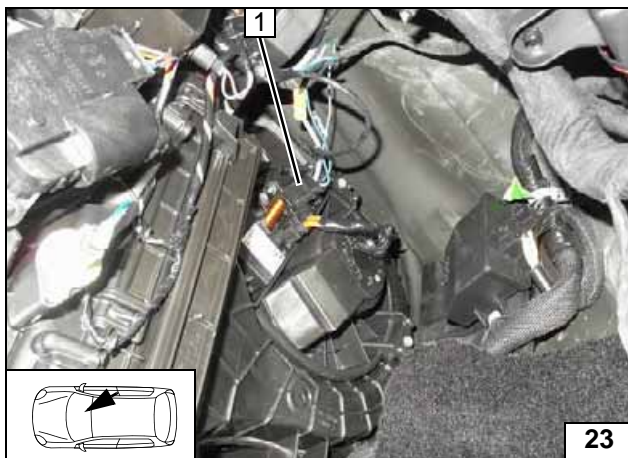


Installing connector



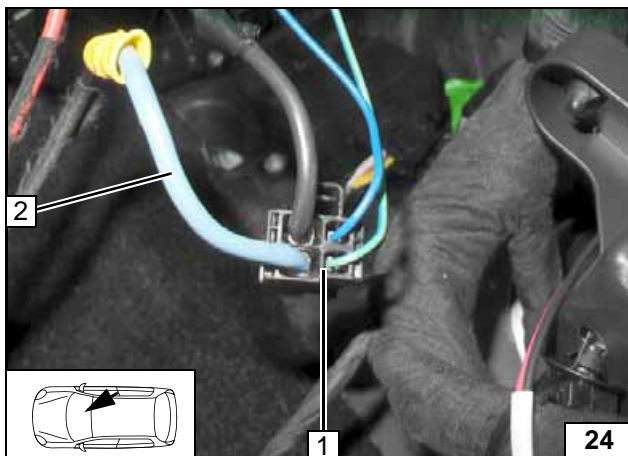
- 1 A/C connector C1
- 2 Cable tie

Attaching connector



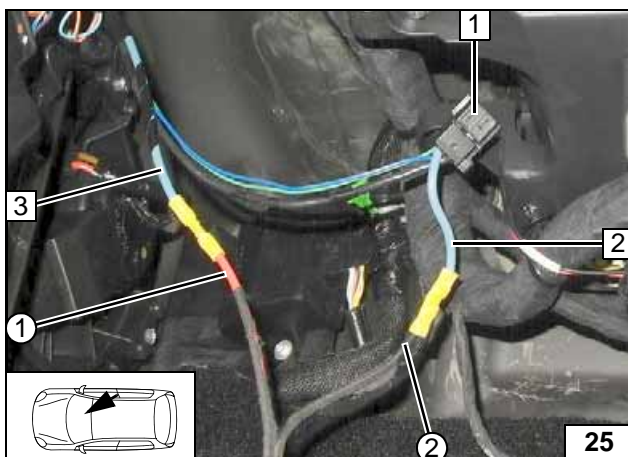
- 1 Pull off 4-pin connector C1 of GE

Socket of connector C1 from fan unit



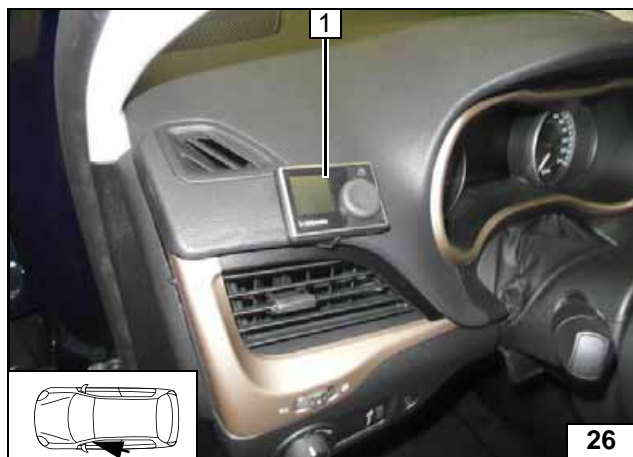
- 1 4-pin connector C1 of GE
- 2 Dark blue (dbl) wire from 4-pin GE connector, pin 3

Connect-
ing fan unit



- 1 4-pin connector C1 of GE
- 2 Dark blue (dbl) wire of 4-pin connector C1, pin 3
- 3 Dark blue (dbl) wire of fuse F39
- ① Red (rt) wire from K1/87a, fan wiring harness
- ② Black (sw) wire from K1/30, fan wiring harness

Connect-
ing fan unit

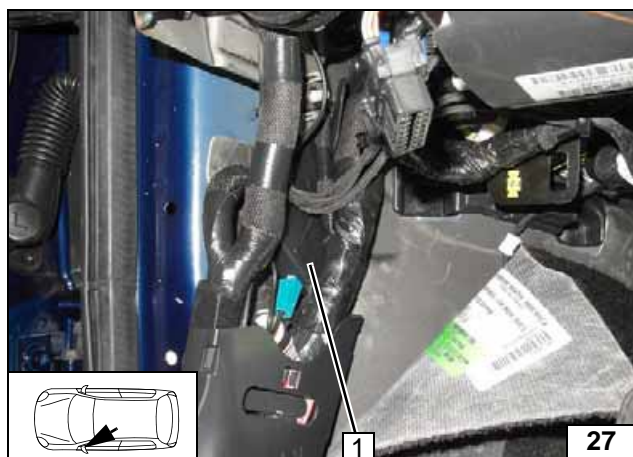


MultiControl CAR Option

1 MultiControl CAR



Installing
MultiControl
CAR

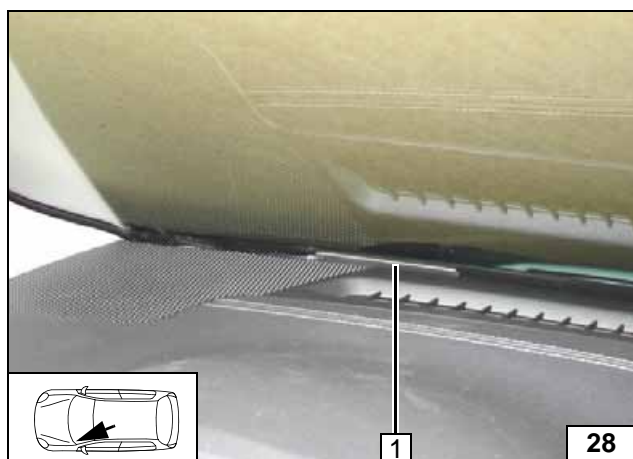


Remote Option (Telestart)

Fasten receiver 1 with adhesive tape.

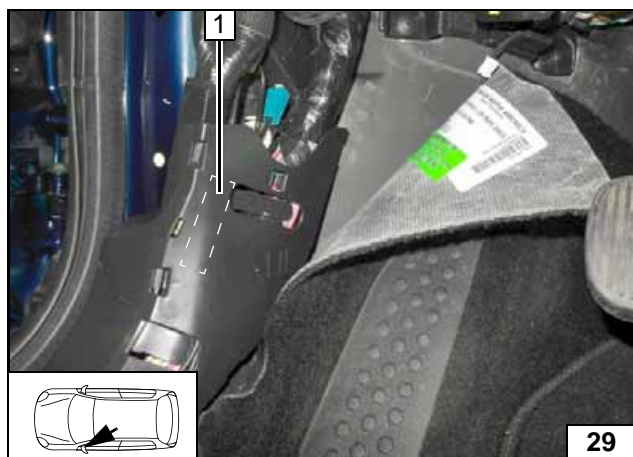


Installing
receiver



1 Aerial

Installing
aerial

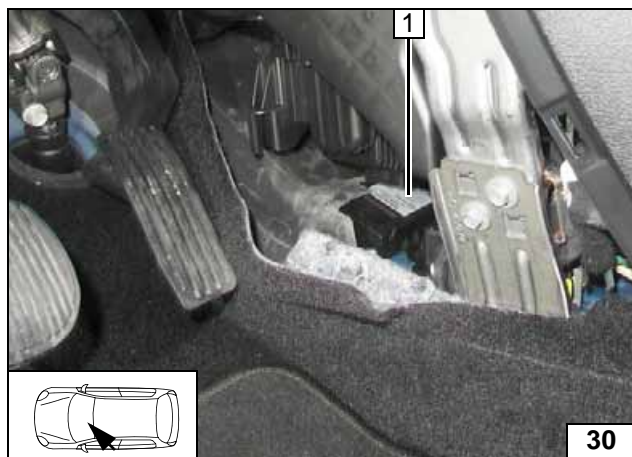


Temperature sensor T100 HTM

Secure temperature sensor 1 inside the cable duct at the marking using adhesive tape.



Installing
temperature
sensor

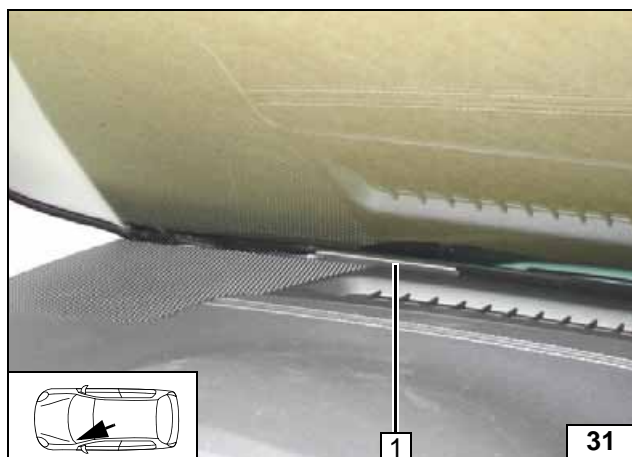


Remote Option (Thermo Call)

Fasten receiver 1 with adhesive tape.

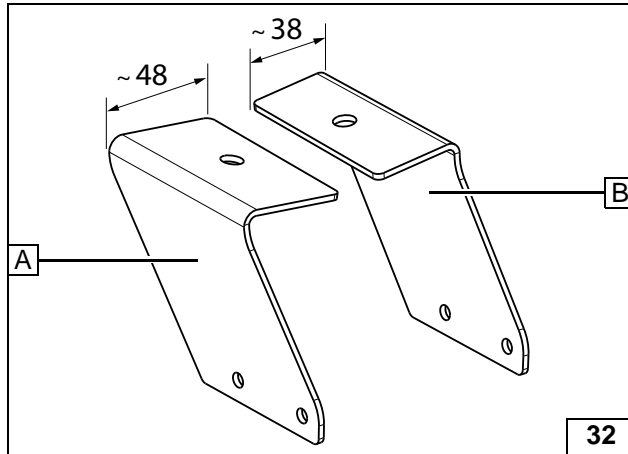
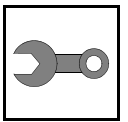


Installing receiver

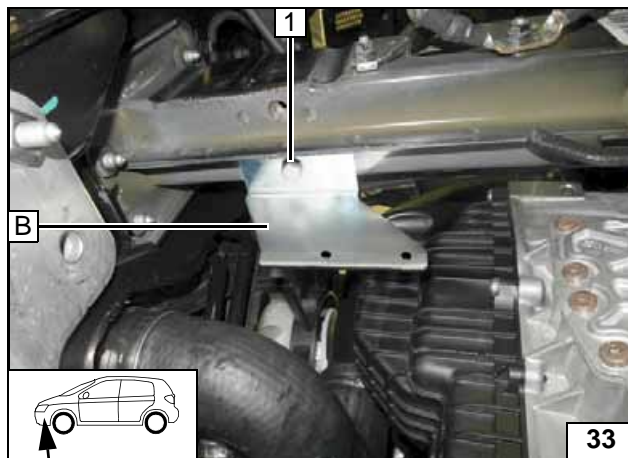


1 Aerial

Installing aerial

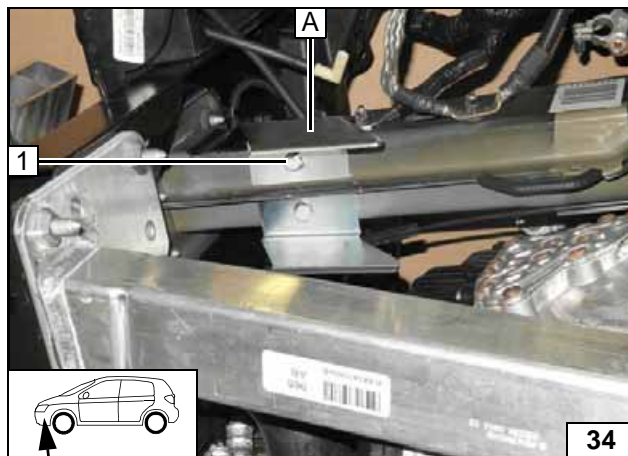


2-part
bracket



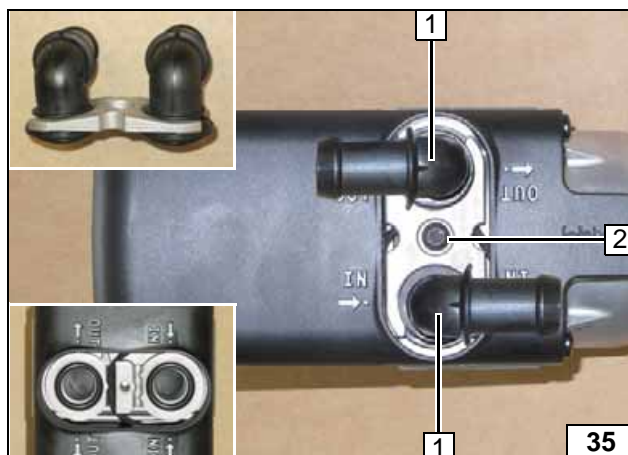
- 1 M8x30 bolt, springlock washer in existing threaded hole

Installing
bracket part
B



- 1 M8x30 bolt, springlock washer in existing threaded hole

Installing
bracket part
A

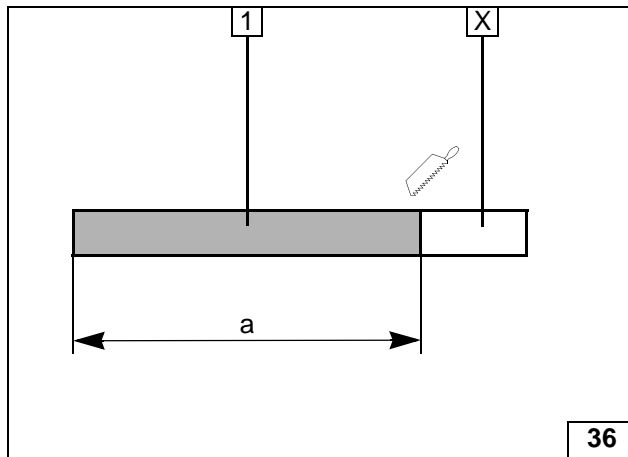
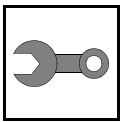


Preparing Heater

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



Installing
water con-
nection
piece

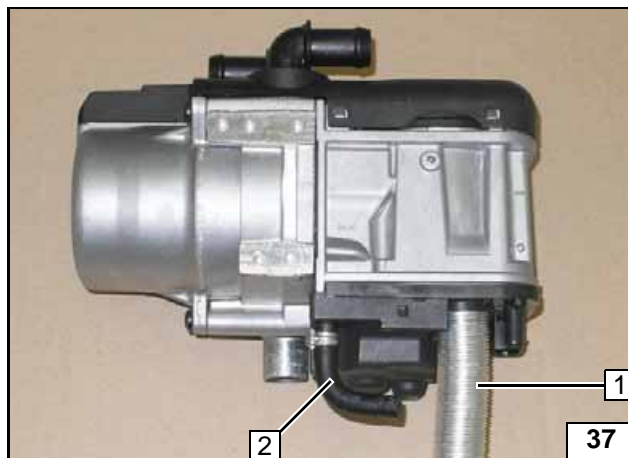


Discard section **X**.

- 1 Combustion air pipe a =500



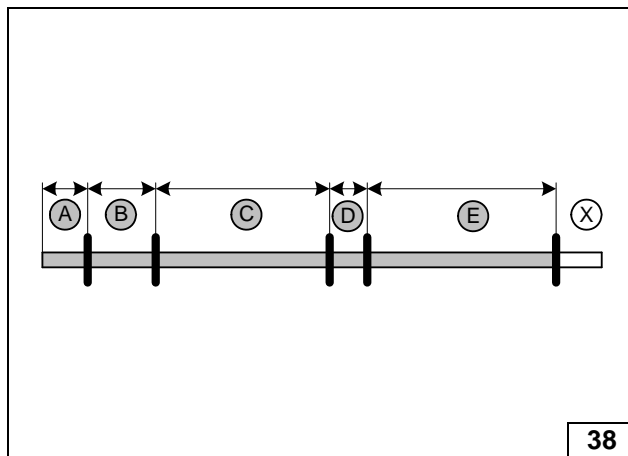
Cutting combustion air pipe to length



- 1 Combustion air pipe
- 2 90° moulded hose, 10mm dia. clamp



Premounting heater

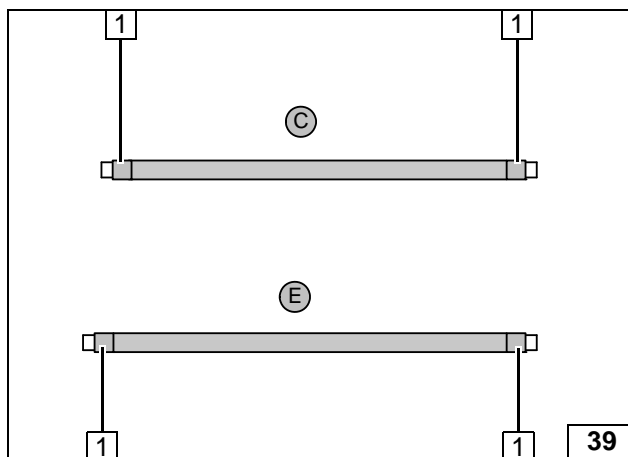


Discard section **X**.

- A = 70
- B = 190
- C = 820
- D = 80
- E = 890



Cutting hoses to length

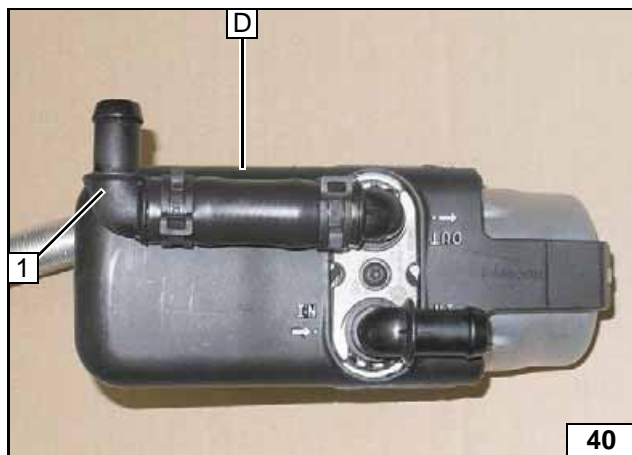
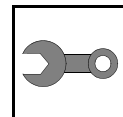


Push braided protection hoses onto hoses **C** and **E** and cut to length. Cut heat shrink plastic tubing to size.

- 1 50 mm long heat shrink plastic tubing [4x]



Preparing hoses

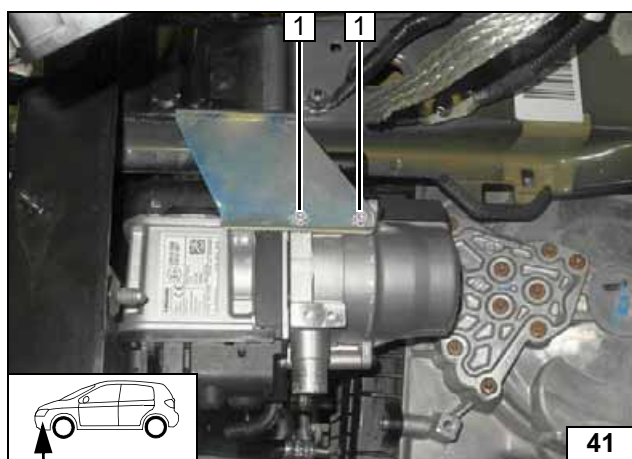


All spring clips = 25 mm dia.

- 1 90°, 18x18mm dia. connecting pipe



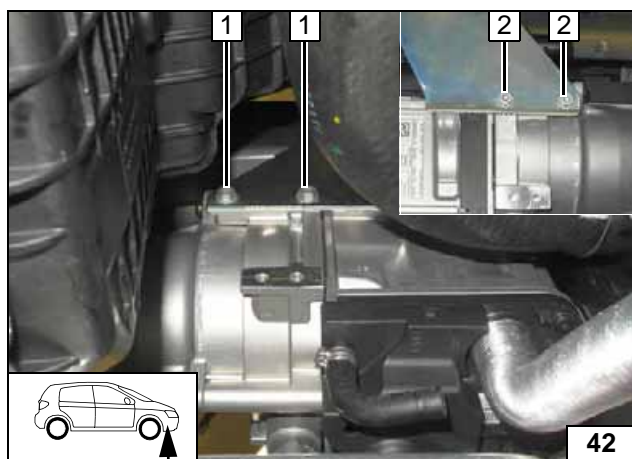
Premounting hose D



Installing Heater

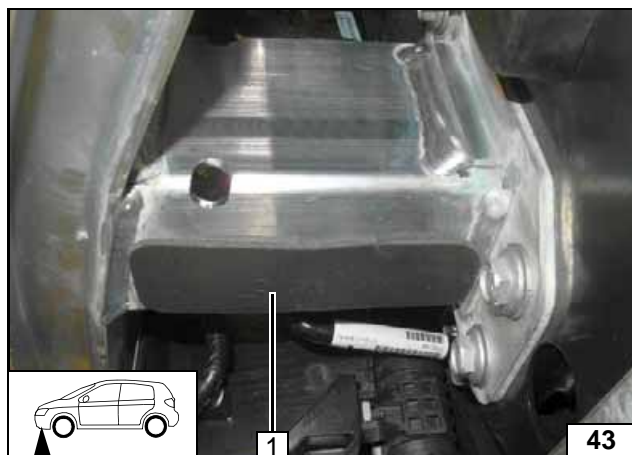
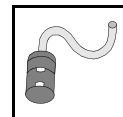
- 1 Screw 5x13 self-tapping bolt [2x] in by 3 thread turns.

Mounting heater



- 1 Install 5x13 self-tapping bolt [2x]
- 2 Tighten 5x13 self-tapping bolt [2x]

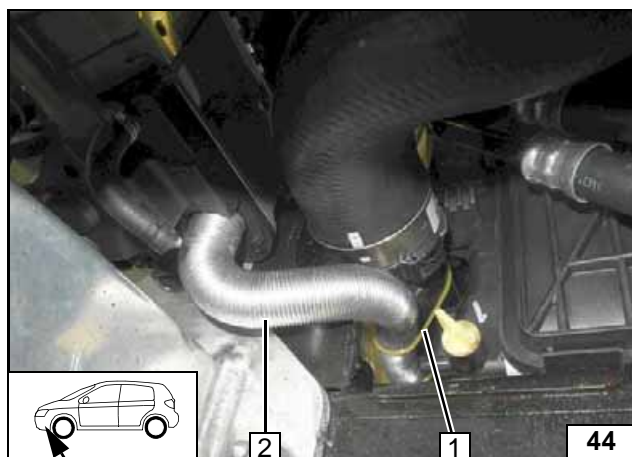
Mounting heater



Combustion Air

- 1 Insulation protection strips

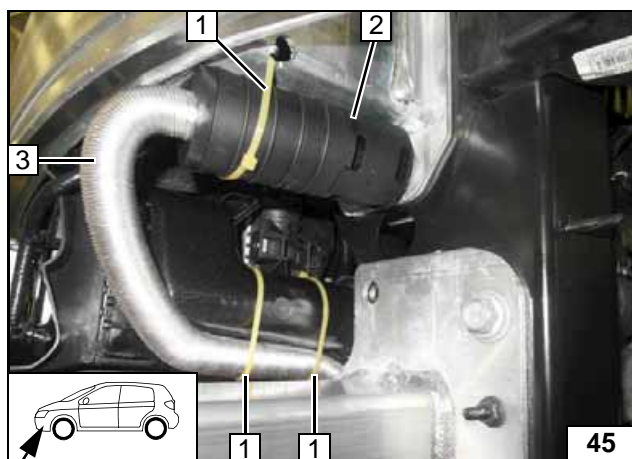
Sticking on in-
sulation pro-
tection strips



- 1 Cable tie, long
- 2 Combustion air pipe



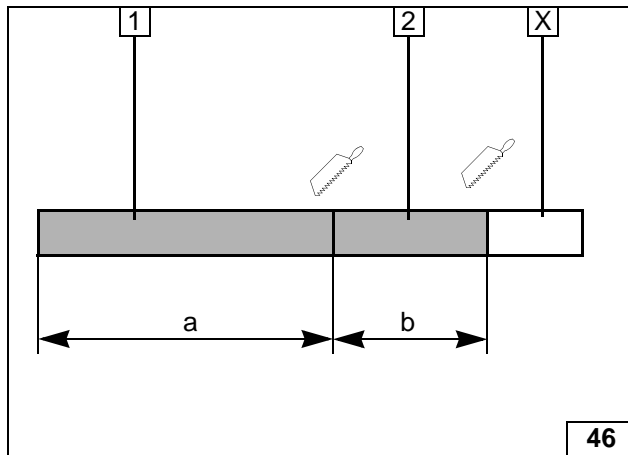
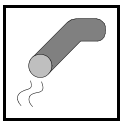
Routing
Combus-
tion Air
Pipe



- 1 Cable tie, long [3x]
- 2 Silencer
- 3 Combustion air pipe



Installing
silencer



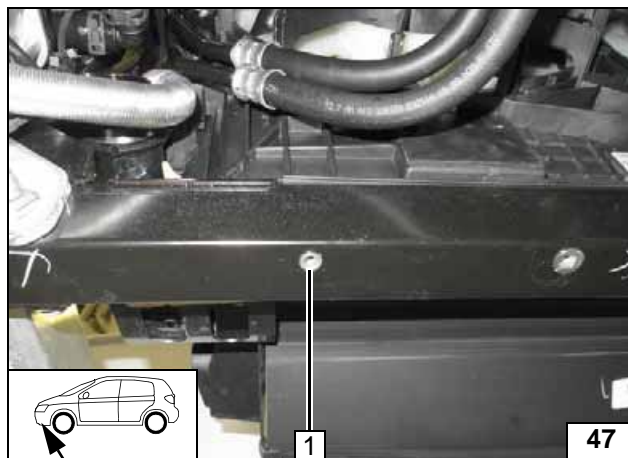
Exhaust Gas

Discard section X.

- 1 Exhaust pipe a =550
- 2 Exhaust end section b =310

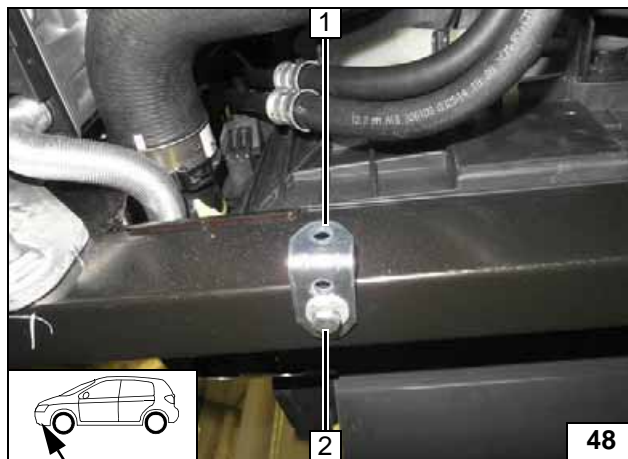


Preparing exhaust pipe



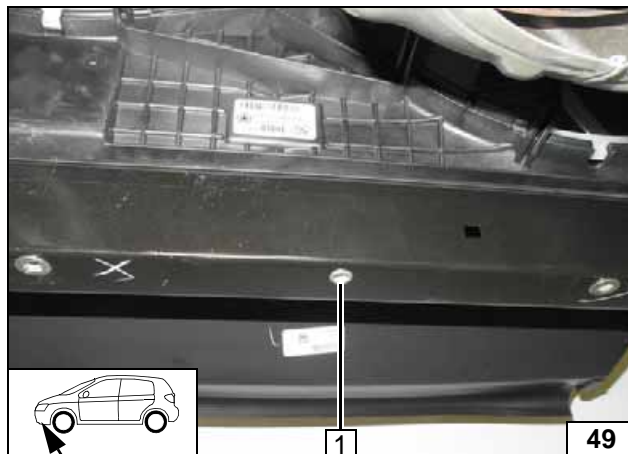
- 1 Rivet nut in existing hole

Installing rivet nut



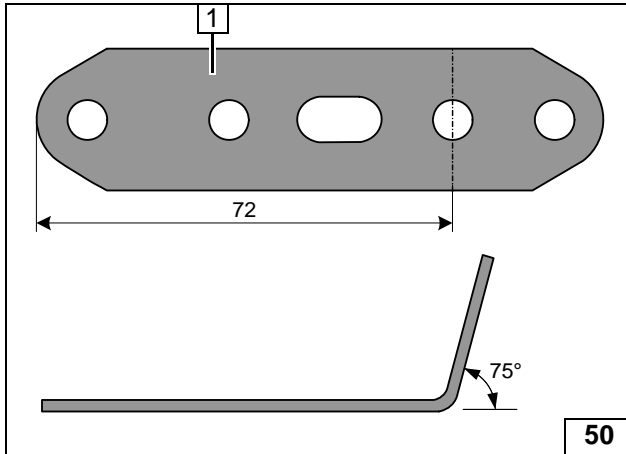
- 1 Angle bracket
- 2 M6x20 bolt, spring lockwasher, large diameter washer

Installing angle bracket



- 1 Rivet nut in existing hole

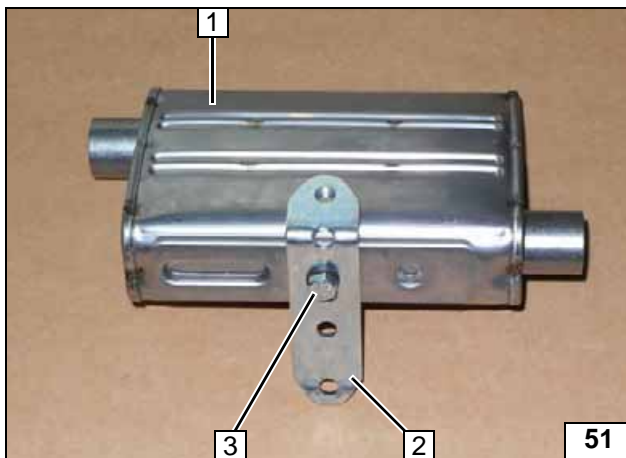
Installing rivet nut



1 Perforated bracket

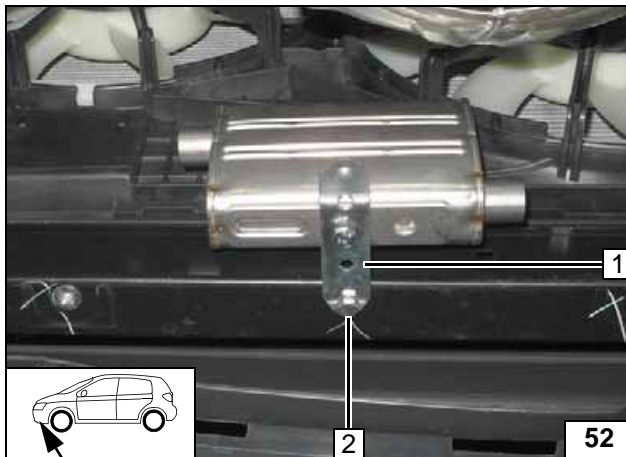


Preparing perforated bracket



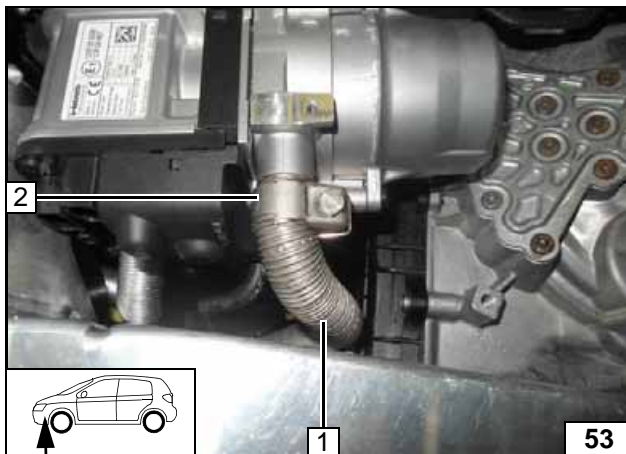
1 Silencer
2 Perforated bracket
3 M6x16 bolt, spring lockwasher

Premounting silencer



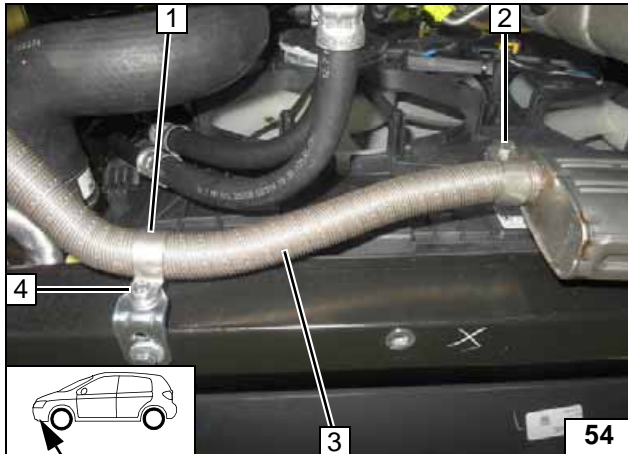
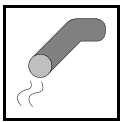
1 Perforated bracket
2 M6x20 bolt, spring lockwasher

Installing silencer



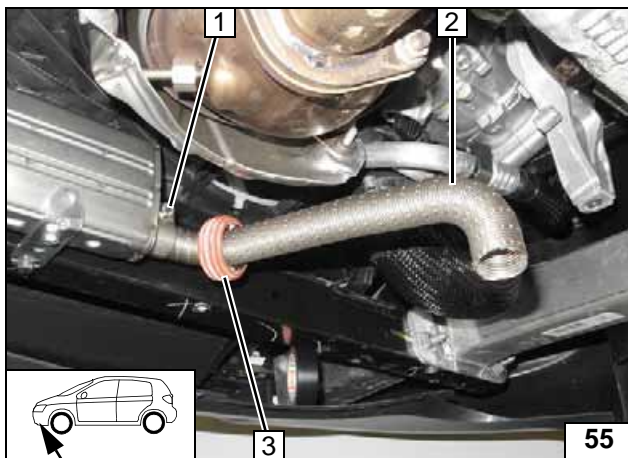
1 Exhaust pipe
2 Hose clamp

Installing exhaust pipe



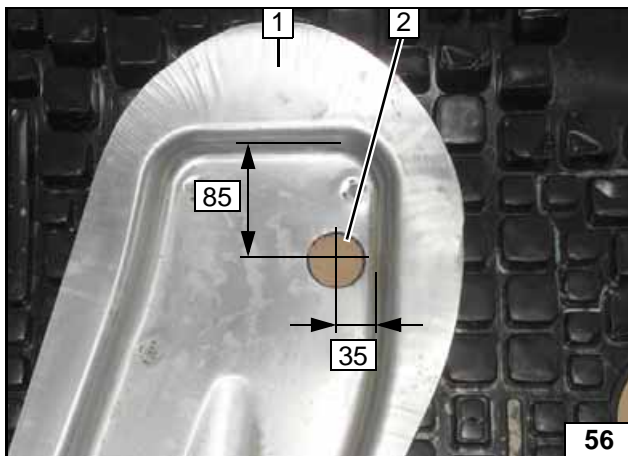
- 1 P-clamp
- 2 Hose clamp
- 3 Exhaust pipe
- 4 M6x20 bolt, flanged nut on angle bracket

Installing exhaust pipe



- 1 Hose clamp
- 2 Exhaust end section
- 3 Slide on spacer bracket

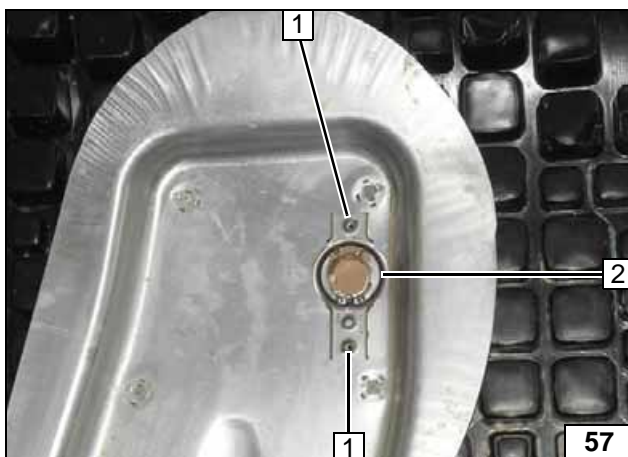
Installing exhaust end section



- 1 Underride protection
- 2 Hole (as per work step 1 of the installation instructions).



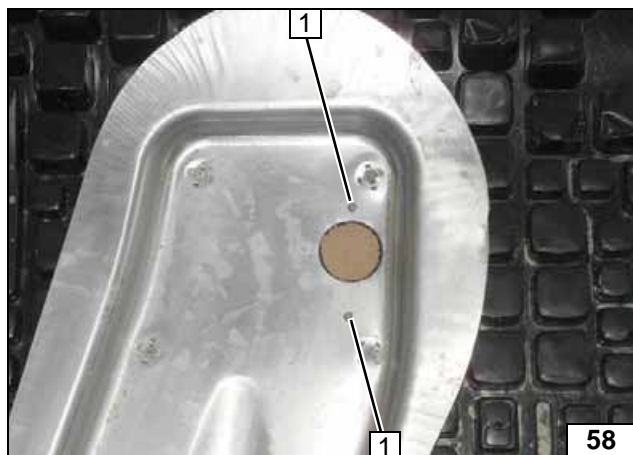
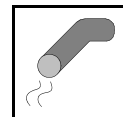
Installation of exhaust end fastener



Position exhaust end fastener 2 as per work step 3 of the installation instructions and copy hole pattern 1 [2x].



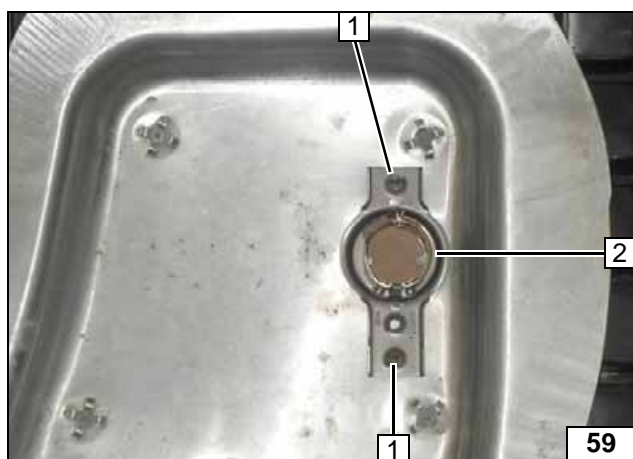
Copying hole pattern



Hole 1 [2x] as per work step 4 of the installation instructions.



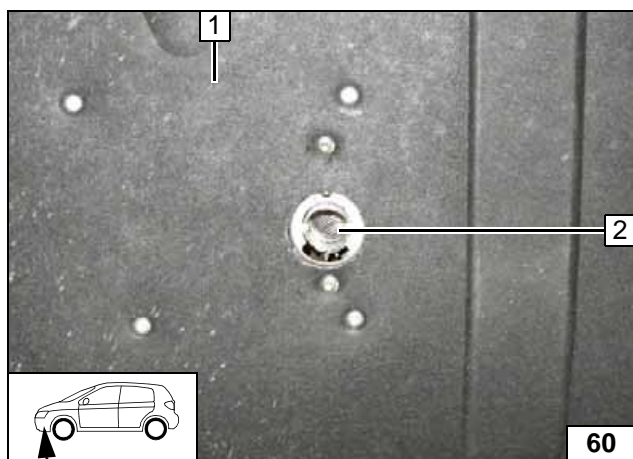
**Holes in under-
ride protection**



- 1 5x13 self-tapping screw [2x] as per work step 5 of the installation instructions
- 2 Exhaust end fastener



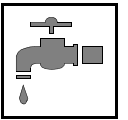
**Installing ex-
haust end
fastener**



Install under-
ride protection 1. Install ex-
haust end section 2 according to work
step 6 - 8 of the installation instructions.



**Installing
exhaust
end section**

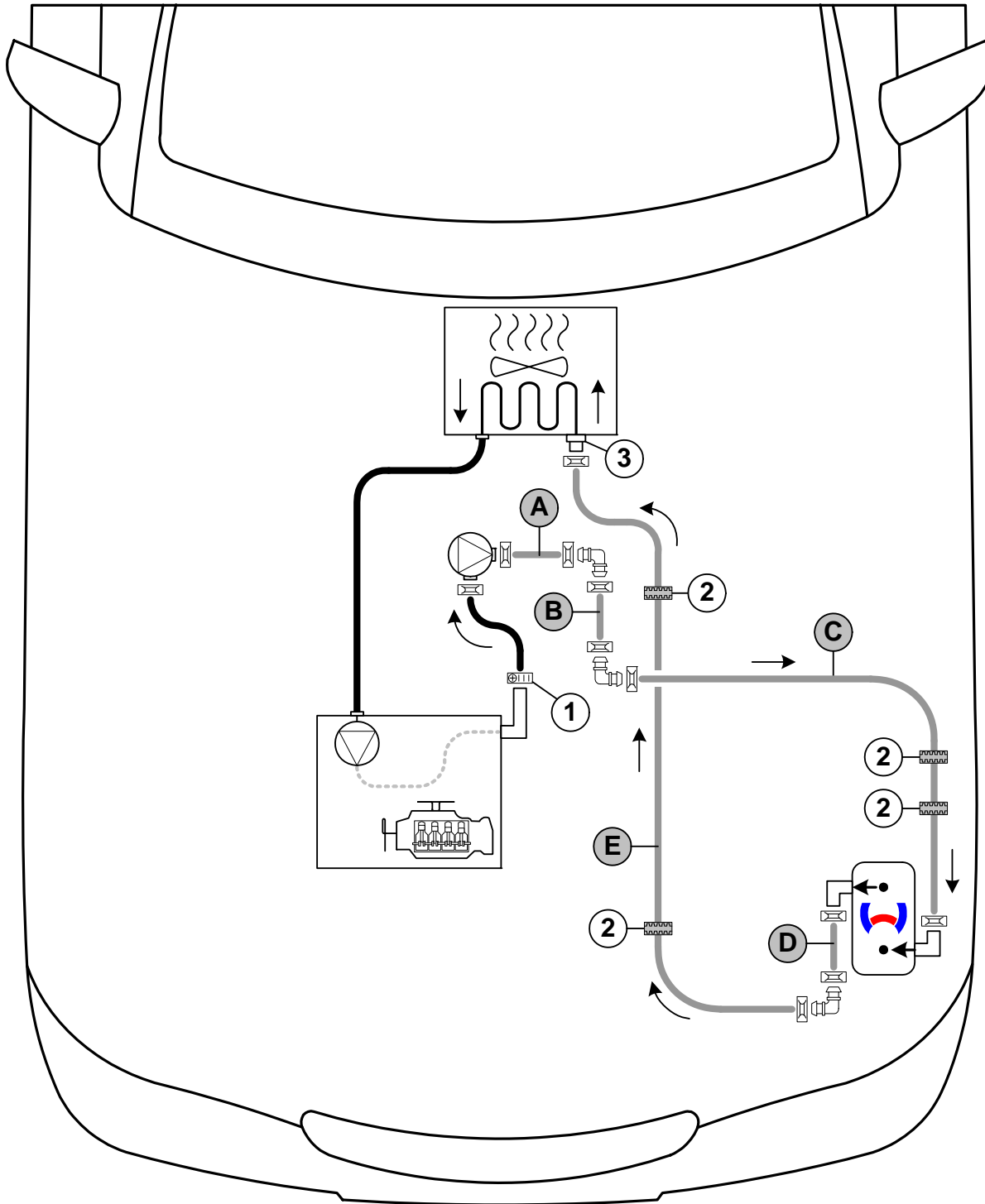


Coolant Circuit







Any coolant running off should be collected in an appropriate container. Route hoses so that they are 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.

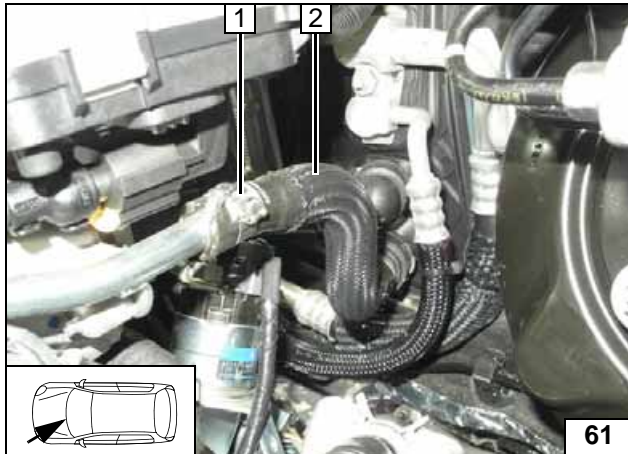
The connection should be modelled on an "inline" circuit and based on the following diagram:



Hose routing diagram

All spring clips  = 25 mm dia. **1** = Hose clamp  = 20-27mm dia.
2 = Black (sw) rubber isolator . **3** = Coupling piece on heat exchanger inlet.
 All connecting pipes  = 18x18 mm dia.

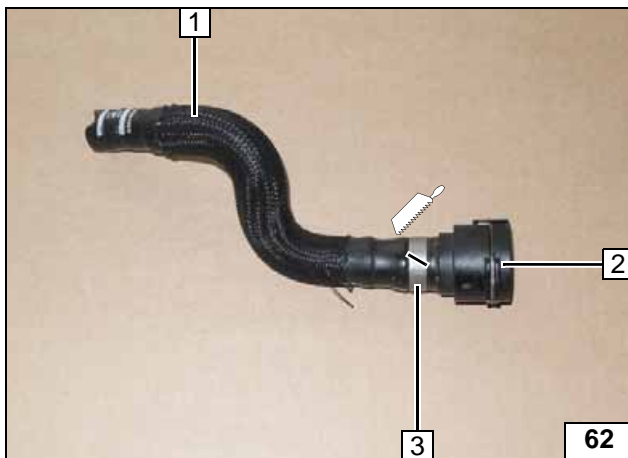




Remove hose of engine outlet/ heat exchanger inlet **2** with coupling piece on heat exchanger inlet. Discard clamp **1**.



Cutting point

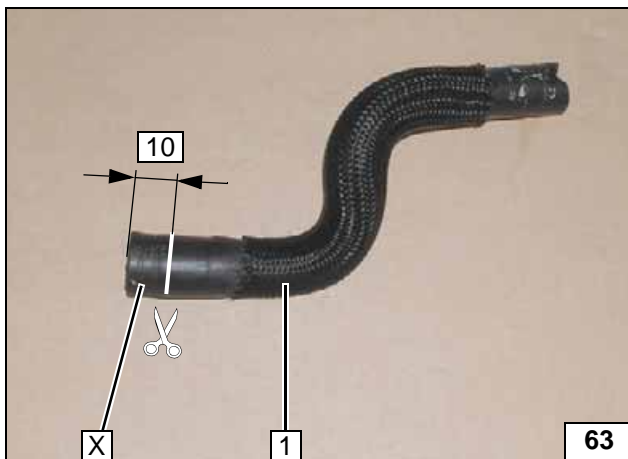


Cut off clamp **3** carefully. Do not damage coupling piece **2**, it will be reused.



- 1 Original vehicle hose

Removing coupling piece

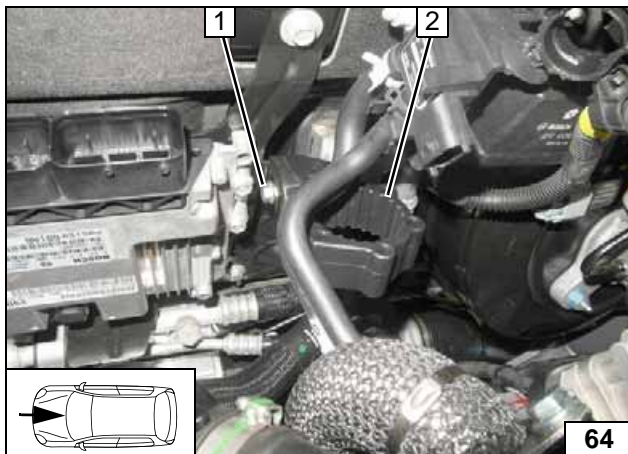


Discard section **X**.

- 1 Original vehicle hose

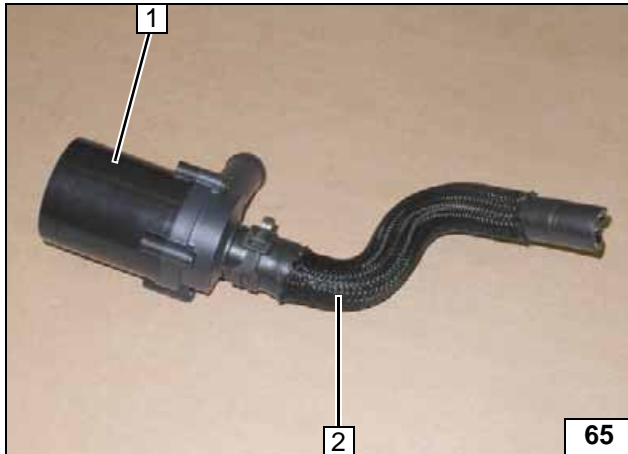
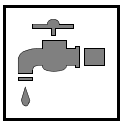


Cutting hose to length



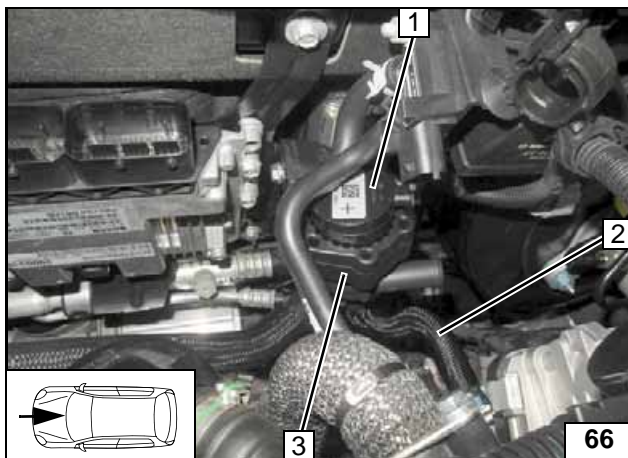
- 1 M6x25 bolt, flanged nut in existing vehicle hole
- 2 Circulating pump mounting

Installing circulating pump mounting



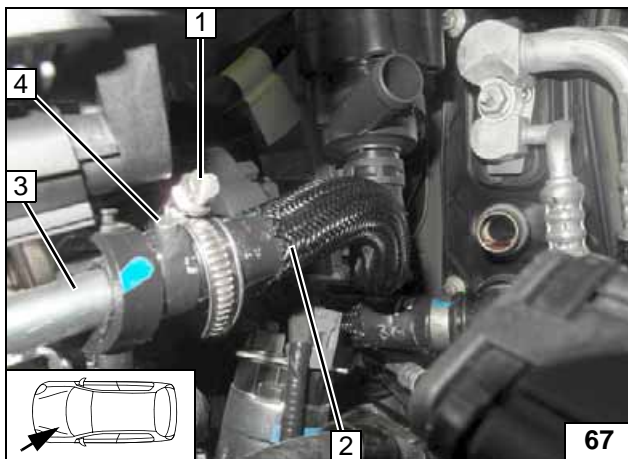
- 1 Circulating pump
- 2 Original vehicle hose

Premounting circulating pump



- 1 Circulating pump
- 2 Original vehicle hose
- 3 Circulating pump mounting

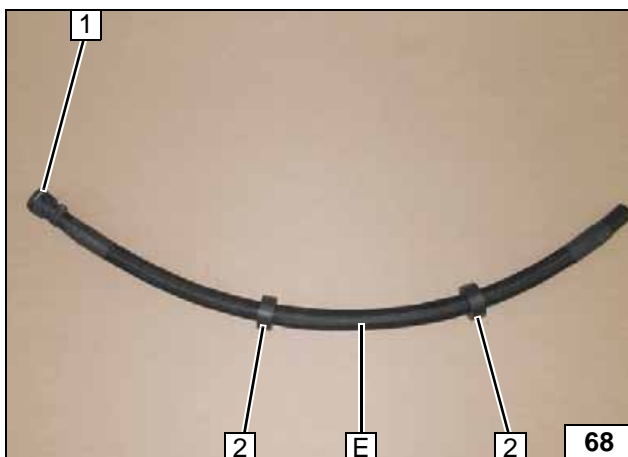
Installing circulating pump



Slide original vehicle hose 2 with notch onto twist protection 4 of engine outletpipe 3 and secure with hose clamp 1.

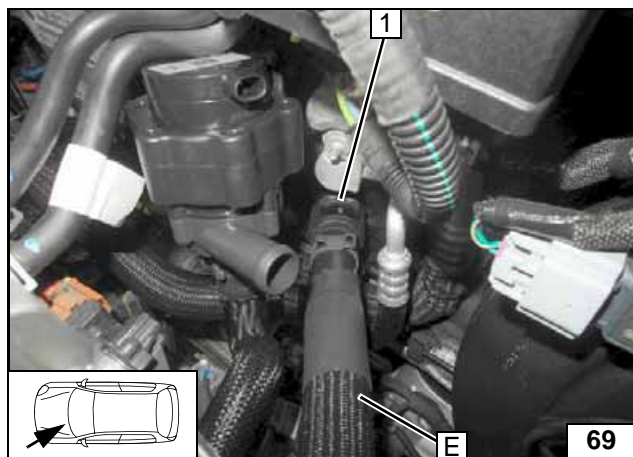


Connecting engine outlet



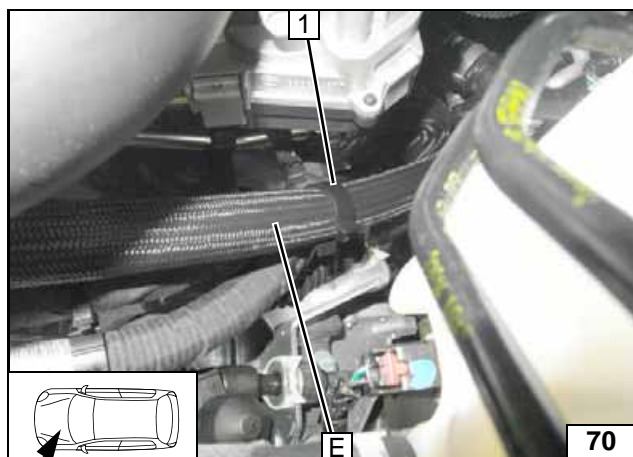
- 1 Coupling piece on heat exchanger inlet
- 2 Slide on black (sw) rubber isolator [2x]

Premounting hose E



1 Coupling piece on heat exchanger inlet

Connect-
ing heat ex-
changer
inlet

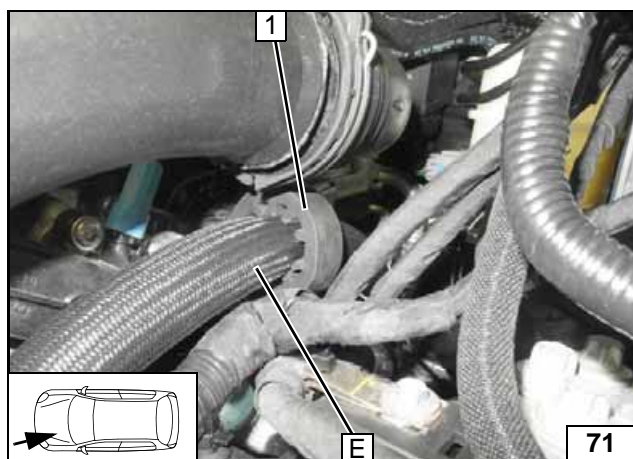


Route hose **E** above original vehicle wiring harness.



1 25x25 hose bracket between original vehicle wiring harness and hose **C**

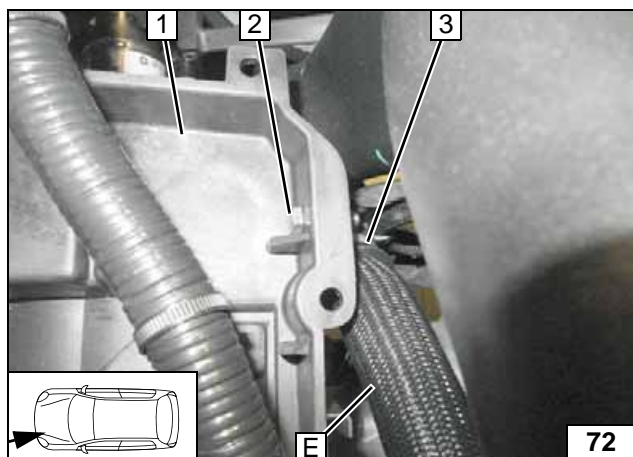
Routing in
engine
compart-
ment



Black (sw) rubber isolator **1** between charge-air tube and original vehicle wiring harness.



Routing in
engine
compart-
ment

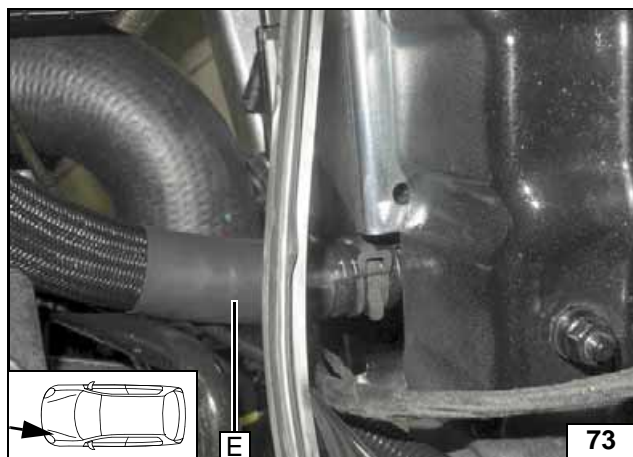
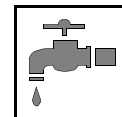


Install battery carrier **1**.



2 M6x20 bolt, existing hole, p-clamp **3**,
flanged nut
3 25 mm dia. rubber-coated p-clamp

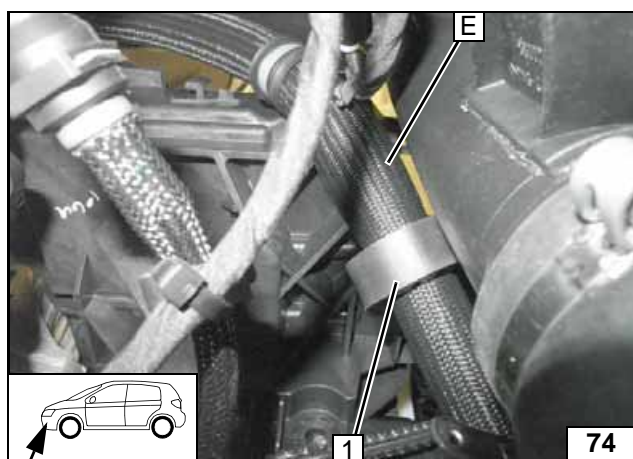
Routing in
engine
compart-
ment



Connect hose **E** with 90° connecting pipe of hose **D**.

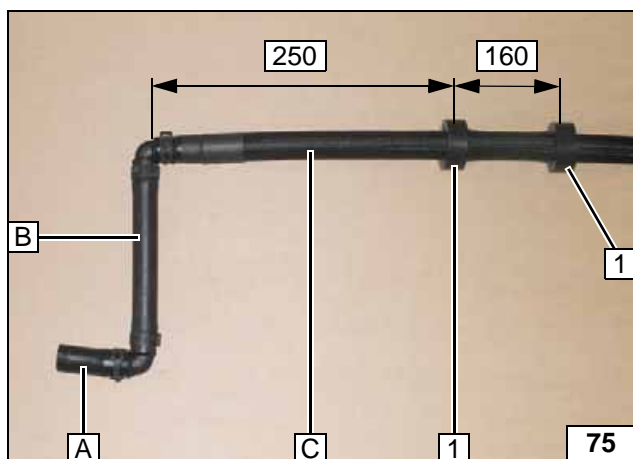


**Connect-
ing heater
outlet**



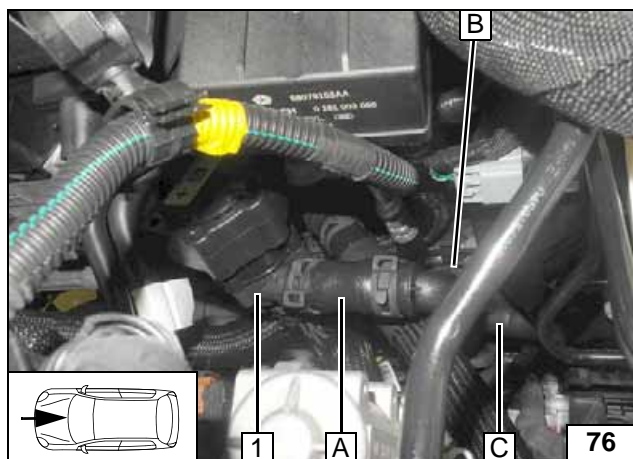
1 Align black (sw) rubber isolator with charge-air tube.

**Routing in
engine
compartment**



1 Slide on black (sw) rubber isolator [2x]

**Premount-
ing hoses**



Route prepared hose group **A, B, C** under the brake booster to the left vehicle side (see next figure). Hose **B** is covered.



1 Circulating pump

**Connect-
ing circulat-
ing pump**

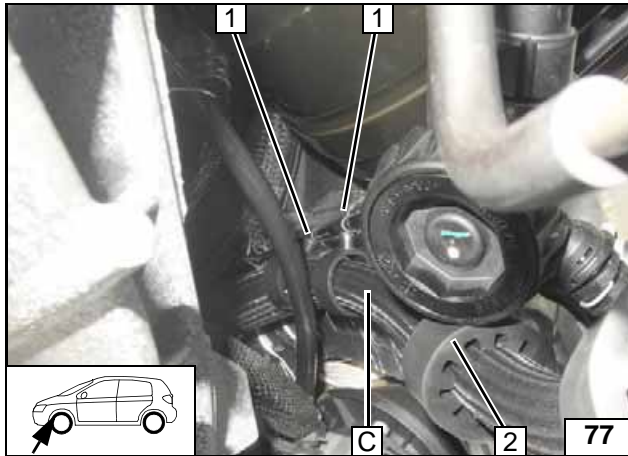
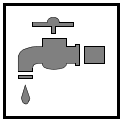


Figure shows vehicle with manual transmission.

- 1 4x22 hose bracket [2x] between original vehicle brake line and hose C
- 2 Align black (sw) rubber isolator with original vehicle clutch master cylinder (when present)

Routing in engine compartment

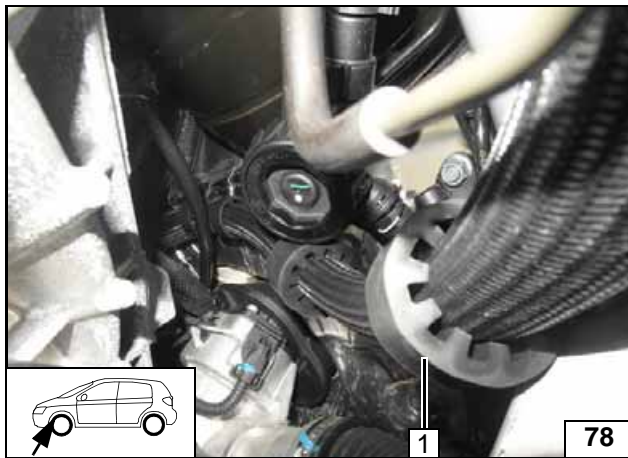
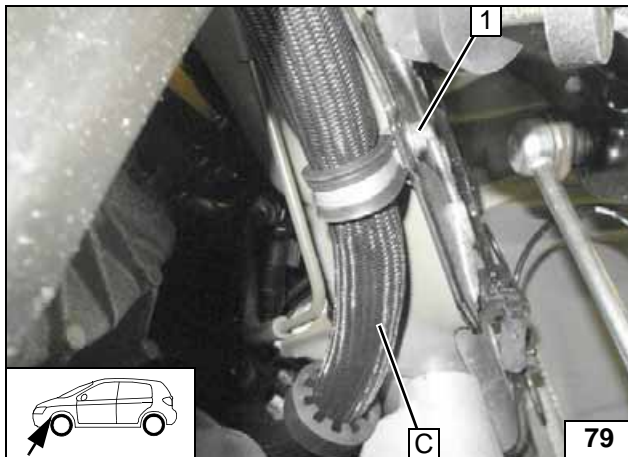


Figure shows vehicle with manual transmission.

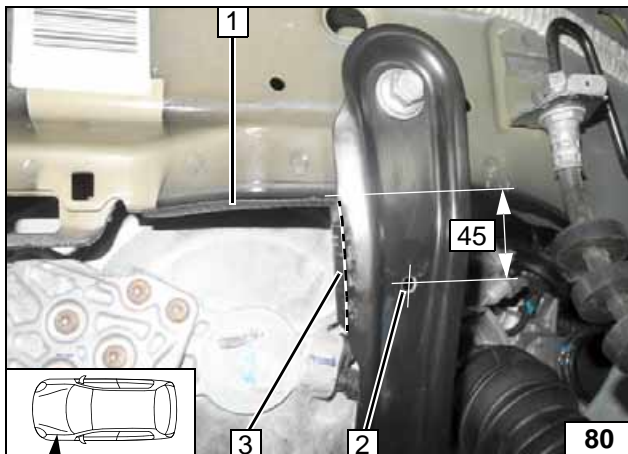
- 1 Align black (sw) rubber isolator with frame side member

Routing in engine compartment



- 1 M6x20 bolt, 25mm dia. rubber-coated p-clamp, existing hole, flanged nut

Securing hose C

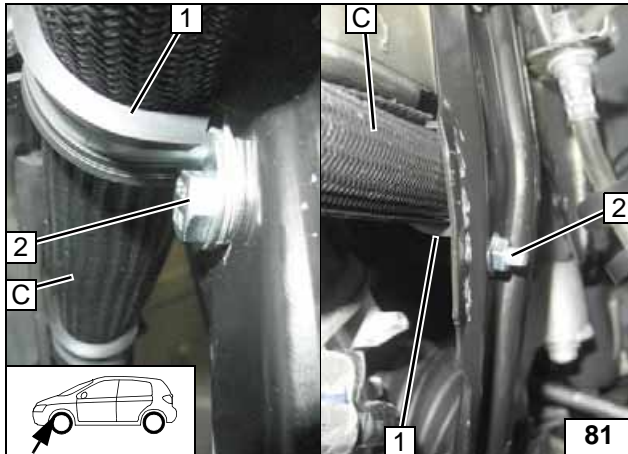


Straighten cross member side 3 as shown.

- 1 100 mm edge protection
- 2 7 mm dia. hole

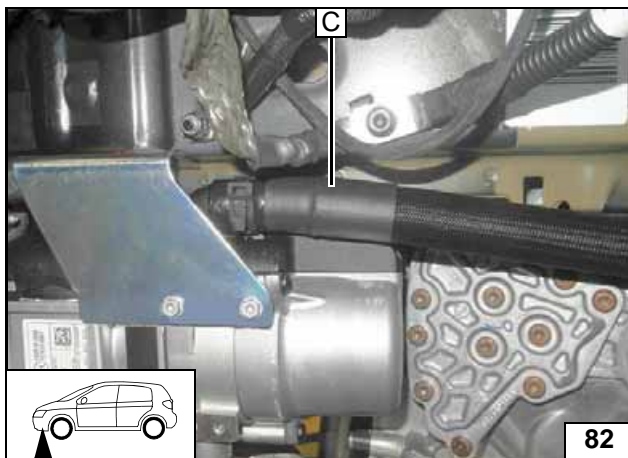
Hole in cross member



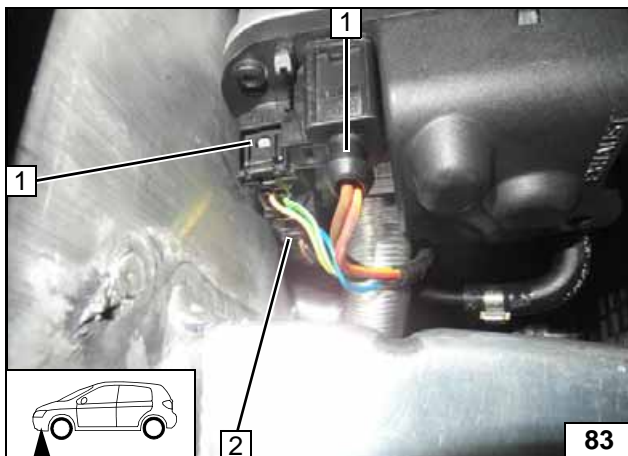


- 1 25 mm dia. rubber-coated p-clamp
- 2 M6x20 bolt, flanged nut in prepared hole

Securing hose C



Connect-
ing heater
inlet

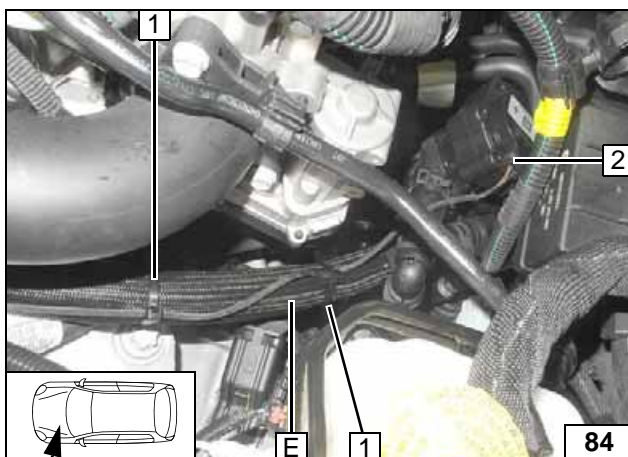


Route wiring harness of circulating pump along hose E and secure using cable ties.



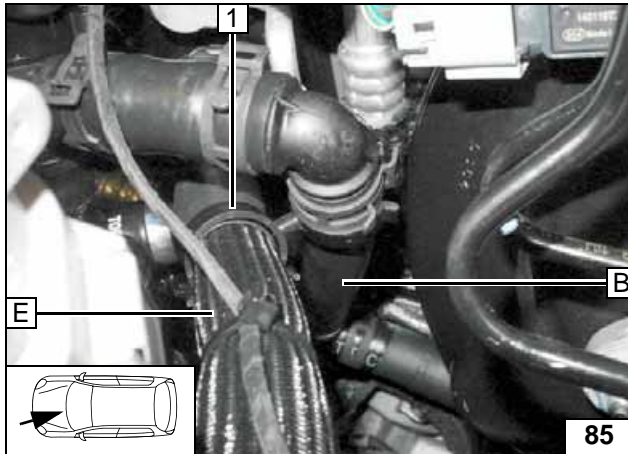
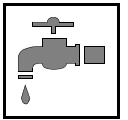
- 1 Heater wiring harness connector [2x]
- 2 Connector of circulating pump wiring harness

Connect-
ing heater



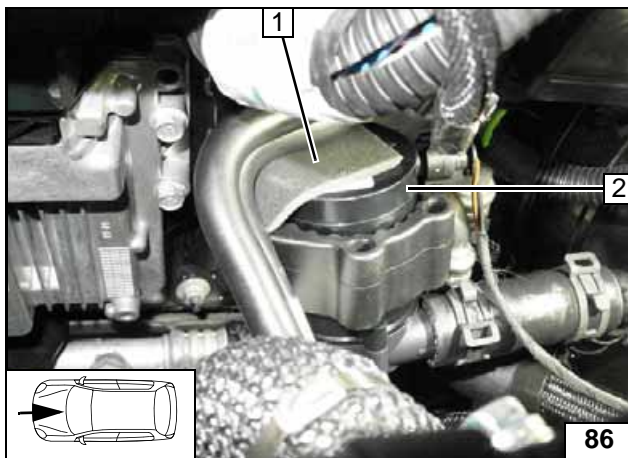
- 1 Cable tie [2x]
- 2 Connector of circulating pump wiring harness

Connect-
ing circulat-
ing pump



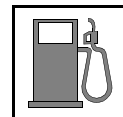
- 1 25x25 hose bracket between hose **B** and hose **E**

Installing hose bracket



- 1 Insulation protection strips
- 2 Circulating pump

Gluing on insulation protection strips



Fuel



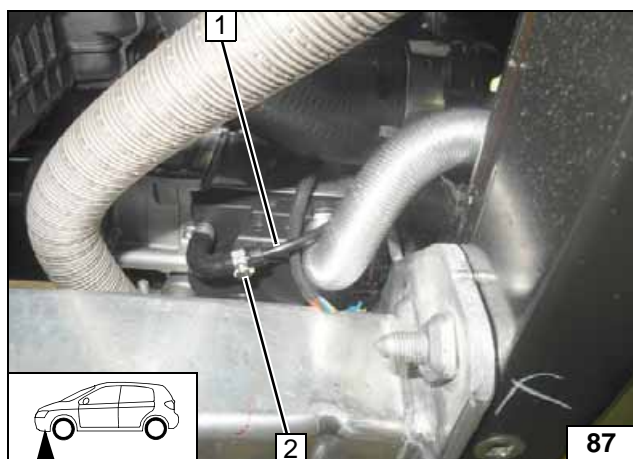
Open the vehicle's fuel tank cap, ventilate the tank and then re-close the tank lock.

Catch any fuel running off in an appropriate container.



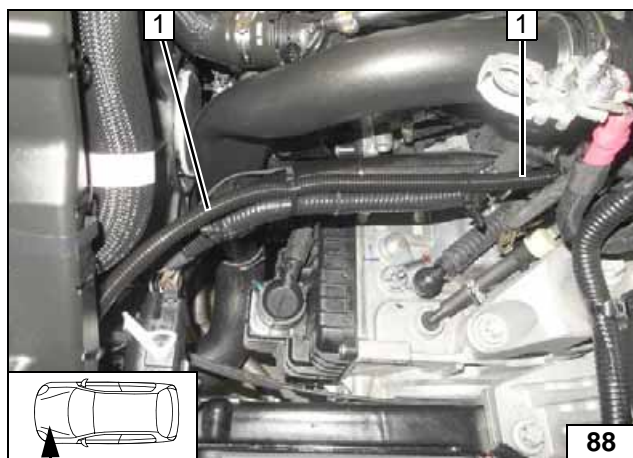
Route fuel line and metering pump wiring harness so that they are protected against stone impact. Unless specified otherwise, always fasten using cable ties. Provide rub protection for fuel line and wiring harness in areas where there are sharp edges.

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



- 1 Fuel line
- 2 10 mm dia. clamp

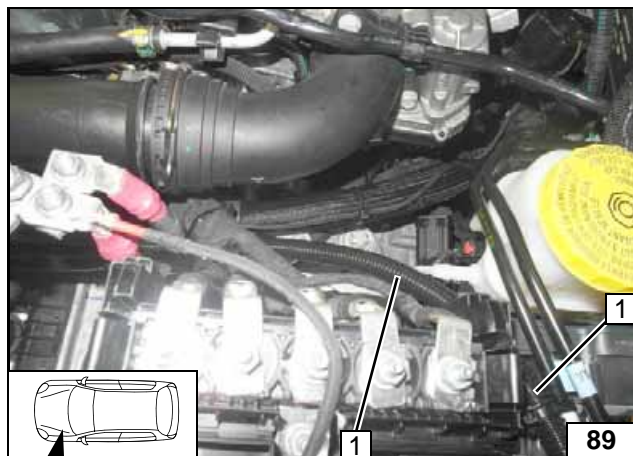
**Connect-
ing heater**



Pull fuel line and wiring harness of metering pump into 10mm dia. corrugated tube 1, route along hose E to the firewall and attach to original vehicle wiring harness using cable ties.

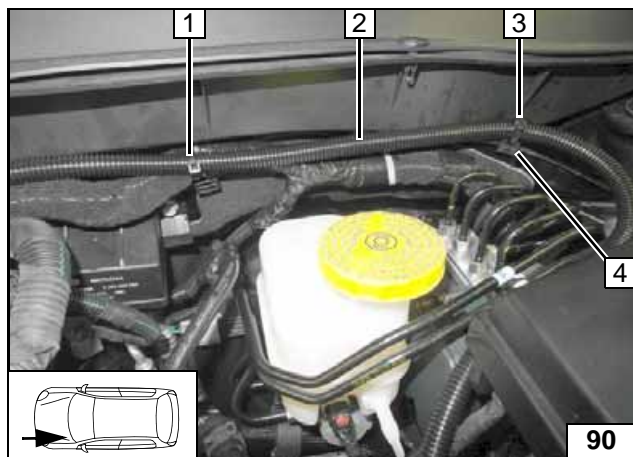


**Routing
lines**



- 1 Fuel line and wiring harness of metering pump in 10mm dia. corrugated tube

**Routing
lines**

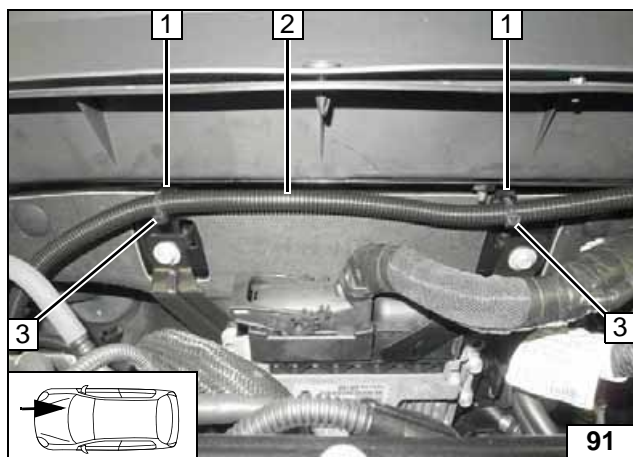


Install retaining clip 4 on the edge.

- 1 Cable tie on original vehicle wiring harness
- 2 Fuel line and wiring harness of metering pump in 10mm dia. corrugated tube
- 3 Close clip-type cable tie



Routing lines

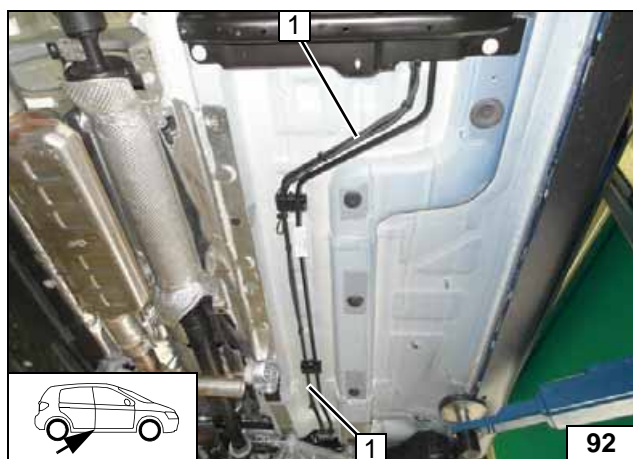


Install retaining clip 1 [2x] on the edge of the insulation mat. Route fuel line and wiring harness of metering pump in 10mm dia. corrugated tube 2 along original vehicle lines to the underbody.

- 3 Close clip-type cable tie [2x]



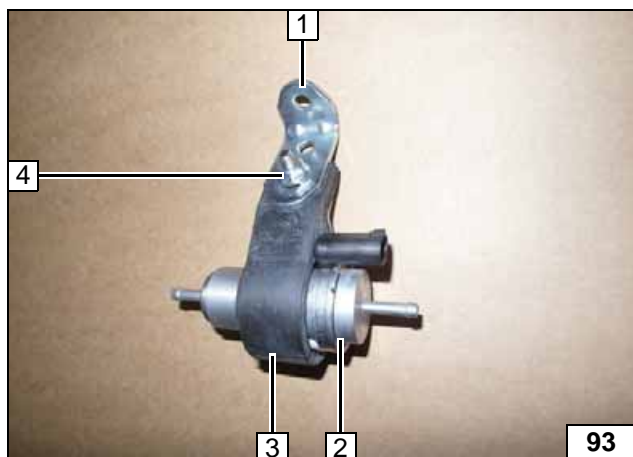
Routing lines



Route fuel line and wiring harness of metering pump 1 on original vehicle fuel lines for installation location of metering pump.



Routing lines



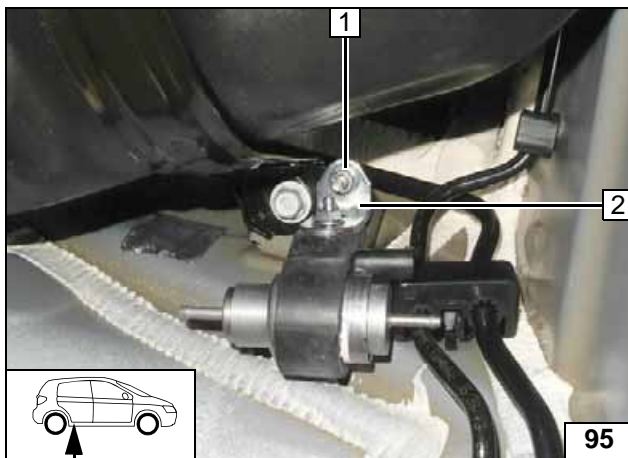
- 1 Angle bracket
- 2 Metering pump
- 3 Metering pump mounting
- 4 M6x25 bolt, support angle bracket, flanged nut

Premounting metering pump



- 1 M6x20 bolt, pin lock, existing hole

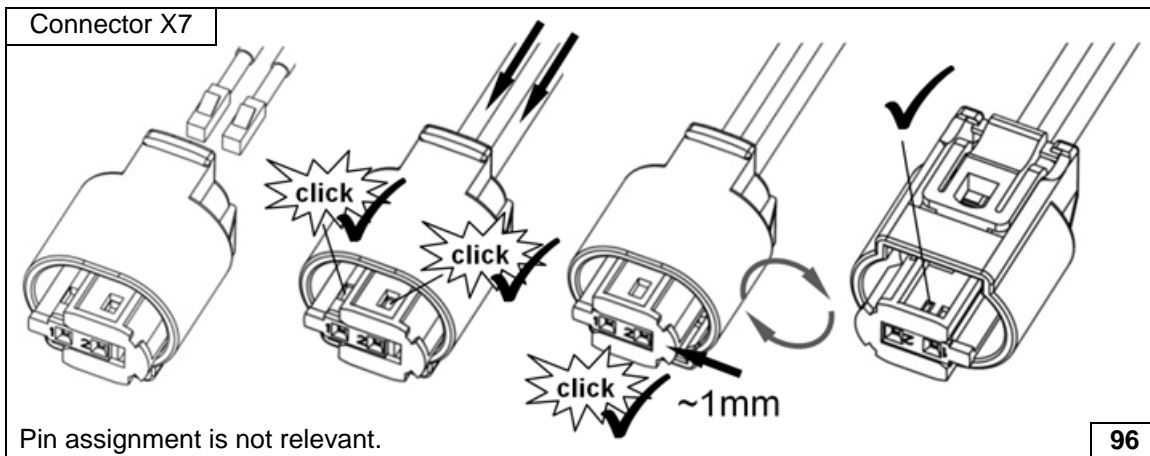
Premounting bolt



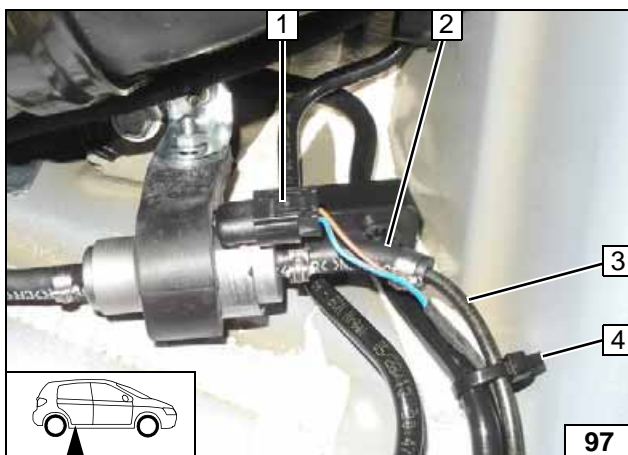
- 1 Flanged nut
- 2 Angle bracket



Installing metering pump



Completing metering pump connector



- 1 Wiring harness of metering pump, connector X7 mounted
- 2 Hose section, 10mm dia.clamp [2x]
- 3 Fuel line of heater
- 4 Cable tie



Installing metering pump

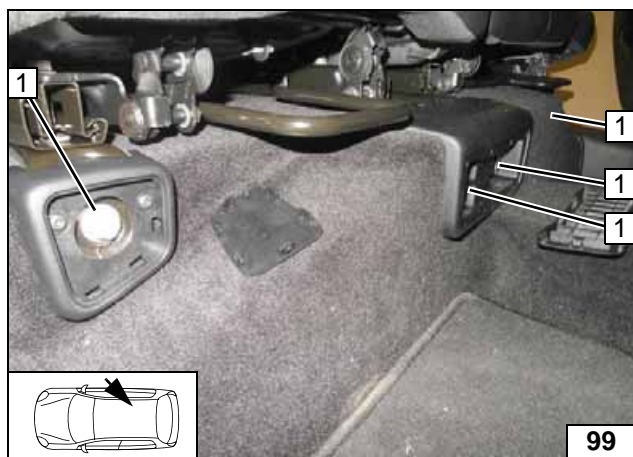


Installation Instructions for Rear Bench Seat

1 Cover [3x]

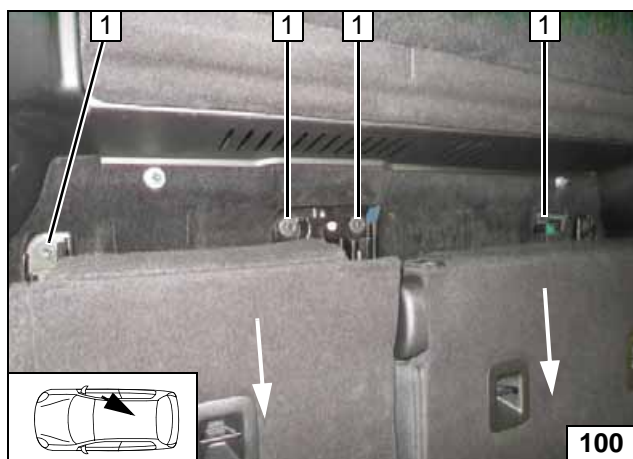


Removing cover



1 Remove bolts [4x]

Detaching front screw fitting

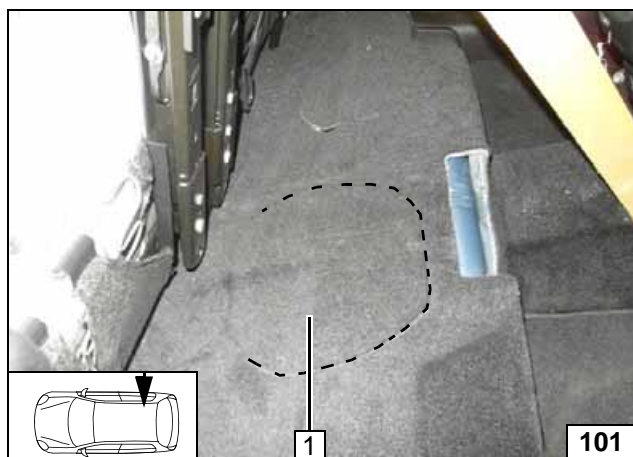


Fold down the backrest. Push the rear bench seat completely forward. Remove any connectors.

1 Remove nut [4x]



Loosening back screw fitting

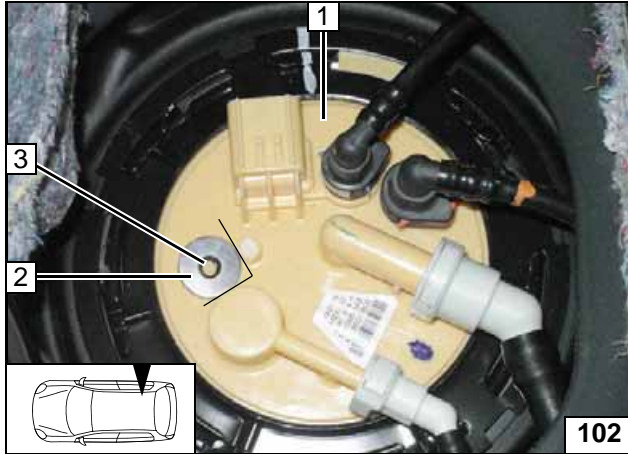
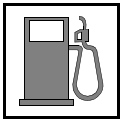


Fold up rear bench seat and secure. Cut out the perforation in the floor covering according to the marking. Watch out for the lines behind.

1 Remove the cover of the fuel tank sending unit on the right



Uncovering fuel tank sending unit



Installing FuelFix

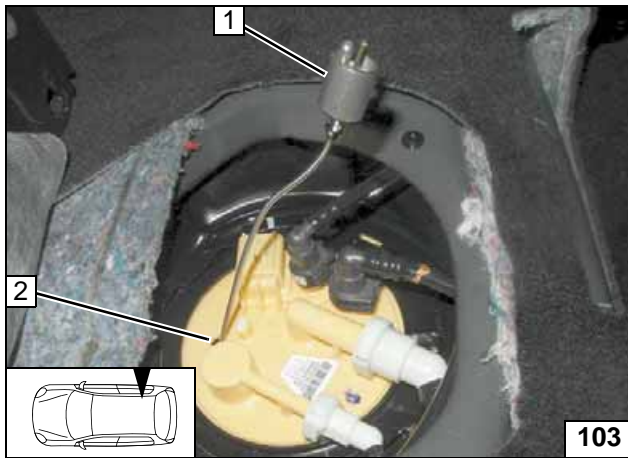
Work steps F1, F2 and F3.

Place large diameter washer with outer dia. $d_a = 23.8\text{mm}$ 2 on fuel tank sending unit 1 against the connection pieces.

- 3 Copy hole pattern, hole with provided-drill



Hole in fuel tank sending unit



Work steps F4 and F5.

Bend FuelFix 1 according to template and cut to length.

- 2 Hole



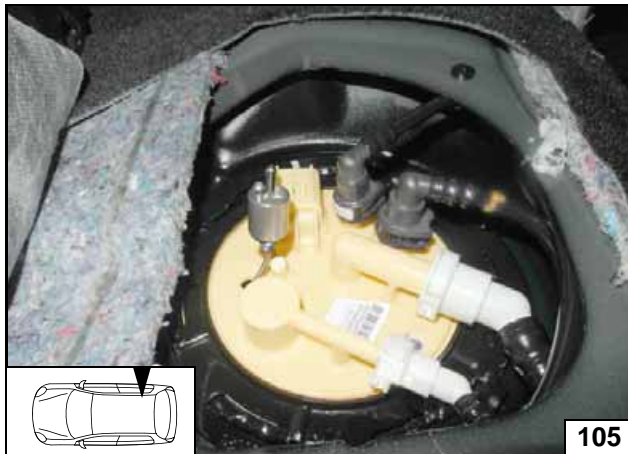
Inserting FuelFix



Work step F5.



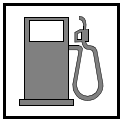
Inserting FuelFix



Work step F5.



Inserting FuelFix

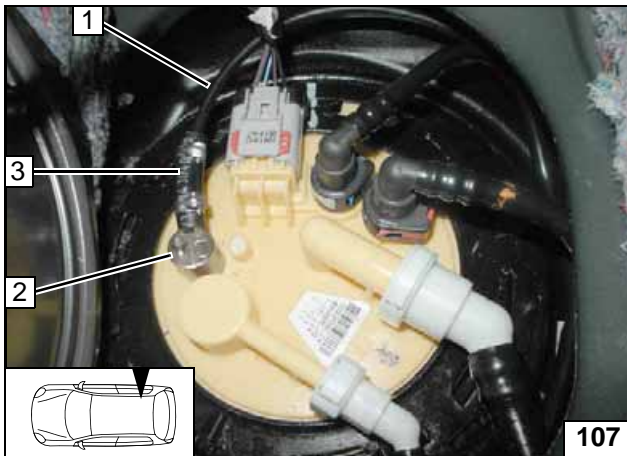


Work steps F5.3 and F5.4.

Position FuelFix 1 as shown.



Inserting/aligning FuelFix

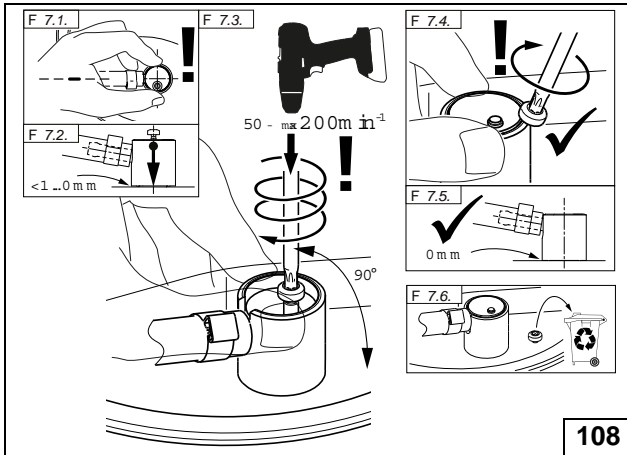


Work step F6.

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



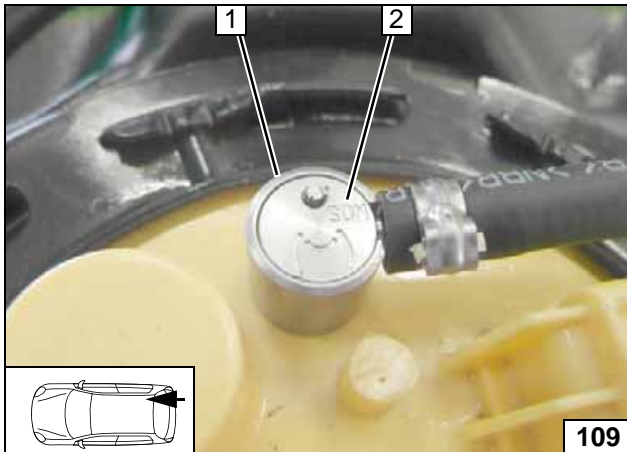
Connecting fuel line



Work step F7.



Installing FuelFix

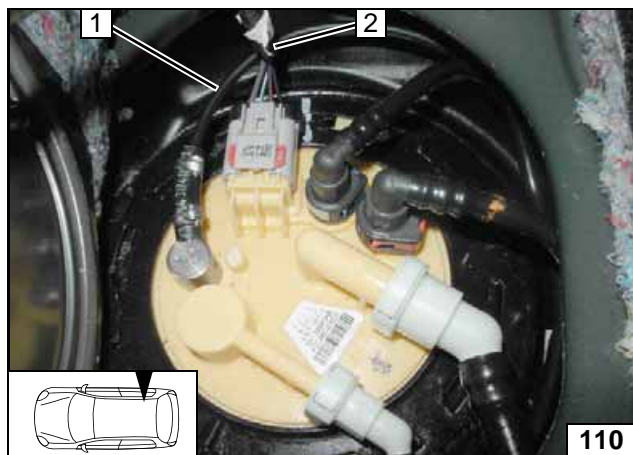
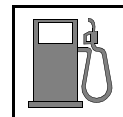


Work step F8.

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



Installing fuel line

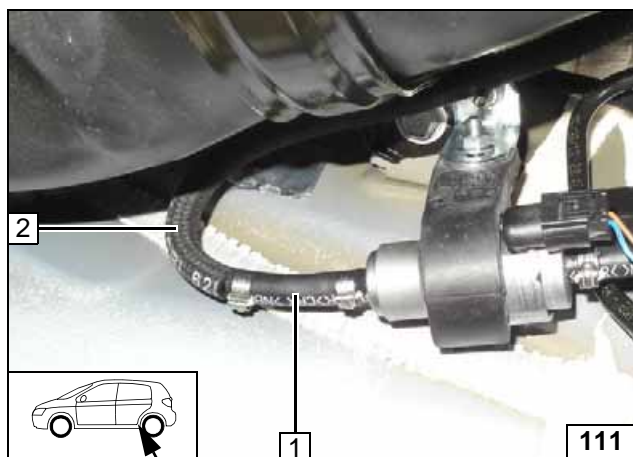


Work step F8.

- 1 Fuel line of FuelFix
- 2 Cable tie for strain relief



Installing fuel line

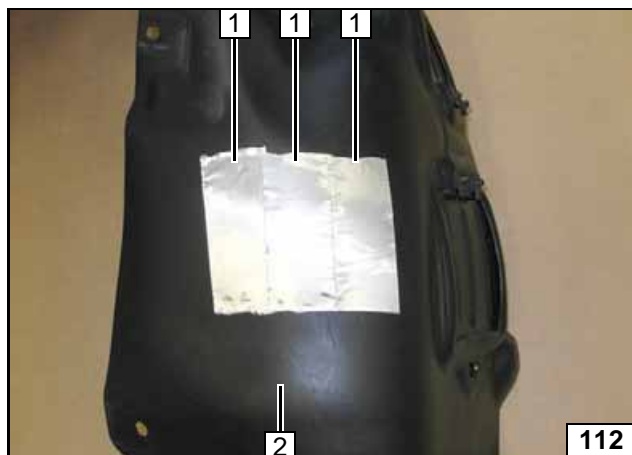
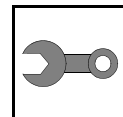


Slide fabric protective hose **2** onto fuel line of FuelFix. Ensure sufficient distance from neighbouring components, correct if necessary.

- 1 Fuel line, hose section, 10 mm dia. clamp [2x]



Connecting metering pump



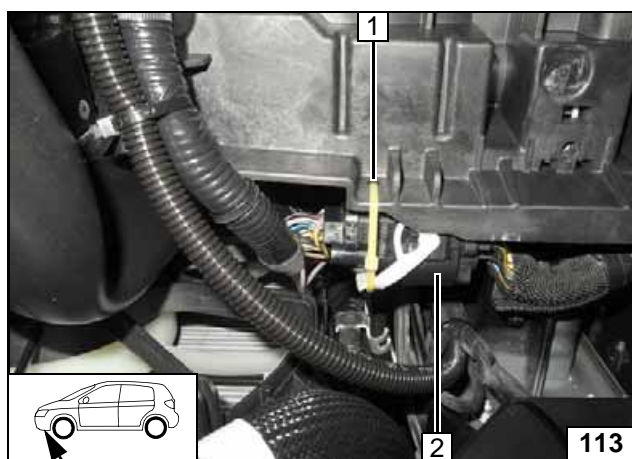
Final Work

Stick on heat protection film 1 [3x 100mm] as shown.

- 2 Left wheel well trim



Sticking on heat protection film

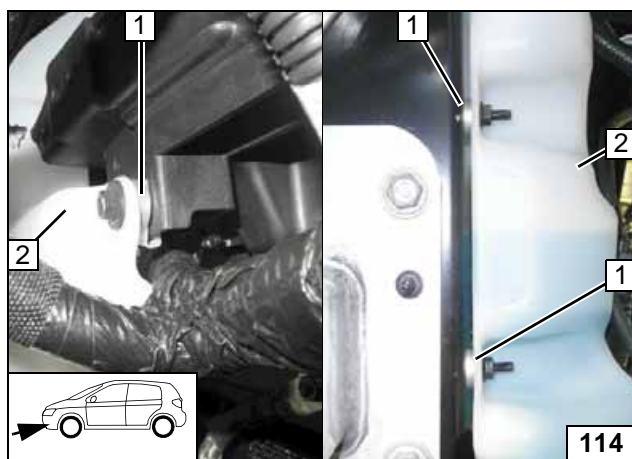


Install battery carrier.

- 1 Long cable tie through existing hole
- 2 Connector of original vehicle wiring harness



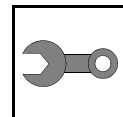
Fastening original vehicle wiring harness



Insert, during the installation, one 5mm shim 1 between the cross member and washer reservoir 2 for each of the three-fastening points [3x].



Installing washer reservoir



Reassemble the components in reverse order. Check all hoses, clamps and all electrical connections for firm seating. Insulate and tie back all loose wires.

Only use manufacturer-approved coolant. Spray the heater components with anti-corrosion wax (Tectyl 100K, Order No. 111329).

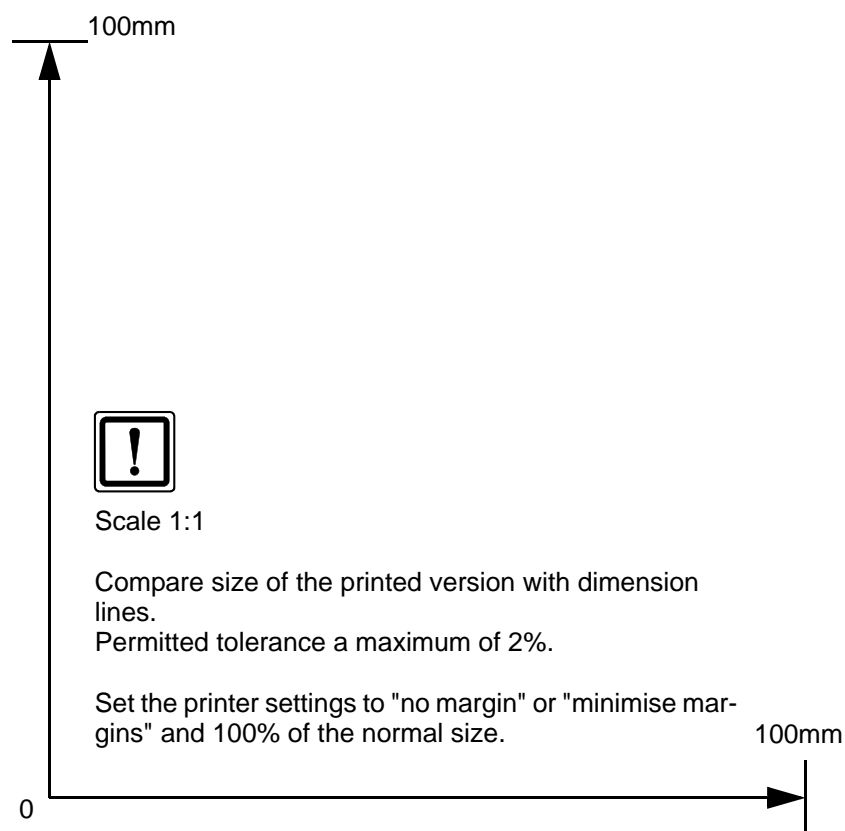
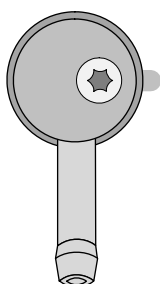
- **Connect the battery.**
- **Fill and bleed the coolant circuit according to the vehicle manufacturer's specifications.**
- **Program MultiControl CAR, teach Telestart transmitter.**
- **Make settings on A/C control panel according to the "Operating Instructions for End Customer".**
- **Place the "Switch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





FuelFix template

Top view



Operating Instructions for End Customer

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.

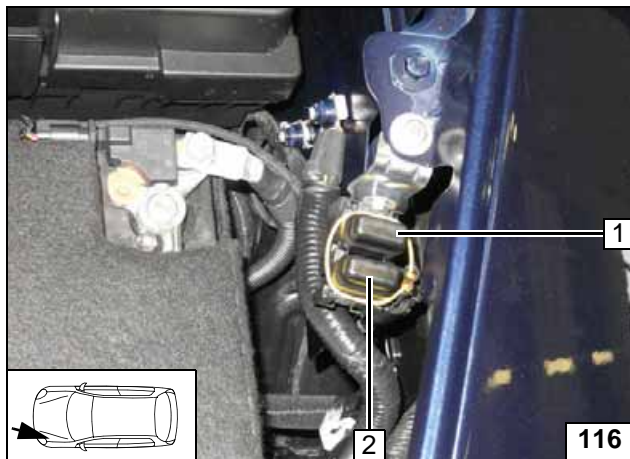
For instructions on deactivation, please refer to the operating instructions of the vehicle.

Before parking the vehicle, make the following settings:

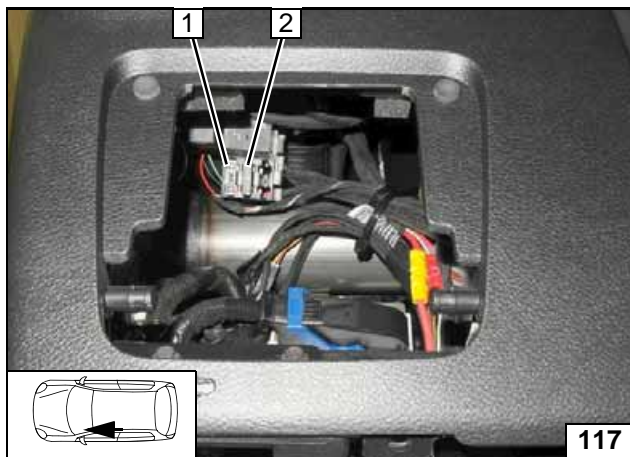


Configure the settings when the engine is running and wait until they are accepted or implemented. The backlight of the instrument panel is activated during the heating operation.

- 1 Set temperature on both sides to "HI"
- 2 Air outlet to windscreen
- 3 Set fan to level "1", max. "2"



- 1 30A main fuse F2 of passenger compartment
- 2 20A heater fuse F1



- 1 25A fan fuse F4
- 2 1A fuse F3 of heater control



Touchscreen

Engine compartment fuses

Passenger compartment fuses