



Water Heater

Thermo Top Evo Parking Heater



With FuelFix

Installation Documentation VW Caddy

Validity

Manufacturer	Model	Type	Model year	EG BE No. / ABE
VW	Caddy	2K	From model year 2015	e1 * 2001 / 116 * 0252 * ...

Motorisation	Fuel	Emission standard	Transmission type	Output in kW	Displacement in cm ³	Engine code
2.0 TDI	Diesel	Euro 6	SG	110	1968	CUUD

SG = manual transmission

Left-hand drive vehicle

Verified equipment variants: Climatronic
 Halogen front fog lights
 Xenon main headlights
 2WD

Not verified: Climatic
 Passenger compartment monitoring
 Headlight washer system
 Start - Stop

Total installation time: approx. 8.6 hours

VW Caddy

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Necessary Components

Description	Order No.:
Basic delivery scope of Thermo Top Evo	In accordance with price list
Installation kit with FuelFix for VW Caddy 2015 Diesel	1325016A
In case of Telestart, heater control, as well as indicator lamp in consultation with end customer	In accordance with price list
In case of installation of MultiControl CAR - timer wiring harness extension cable	1319724_
In case of installation of MultiControl CAR - MultiControl installation frame	9030077_

Webasto Individual Option

Description	Order No.:
Webasto Individual Auxiliary Heating additional kit	1320077_
Webasto Individual Quick additional kit	9030826_
Webasto Individual Select additional kit	9030828_

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.

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

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

2 Statutory regulations governing installation

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

Note

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

Important

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

Note

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

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

Beginning of excerpt.

ANNEX VII

REQUIREMENTS FOR COMBUSTION HEATERS AND THEIR INSTALLATION

1. GENERAL REQUIREMENTS

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

2. VEHICLE INSTALLATION REQUIREMENTS

2.1. Scope

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

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

2.2. Positioning of heater

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

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

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

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

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

2.3. Fuel supply

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

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

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

2.4. Exhaust system

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

2.5. Combustion air inlet

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

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

2.6. Heating air inlet

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

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

2.7. Heating air outlet

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

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

End of excerpt.

In multilingual versions the German language is binding.

VW Caddy

Information on Validity

This installation documentation applies to VW Caddy 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
- 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.

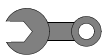
Tightening torque values

- 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.

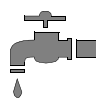
Mechanics



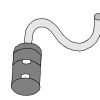
Electrics



Coolant Circuit



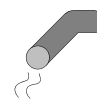
Combustion Air



Fuel



Exhaust Gas



Software



Special features are highlighted using the following symbols:

Specific risk of damage to components.



Reference to the manufacturer's vehicle-specific documents.



Specific risk due to electrical voltage.



Reference to specific installation instructions of Webasto components (demonstrated with the example of the FuelFix).



Specific risk of fire or explosion.



Reference to general installation instructions of Webasto components.



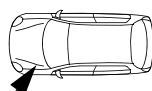
Reference to a special technical feature.



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



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



Preliminary Work

Vehicle



- Open the fuel tank cap.
- Ventilate the fuel tank.
- Close the fuel tank cap again.
- Depressurise the cooling system.
- Disconnect and remove the battery completely together with the carrier.
- Remove the air filter completely, together with the intake hose.
- Remove the right front wheel.
- Remove the front right wheel well trim.
- Remove the rear left wheel.
- Remove the rear left wheel well trim.
- Remove the underride protection (if present).
- Remove the bumper.
- Remove the washer reservoir.
- Remove the headlight on the right.
- Remove the footwell trim on the driver's side and front passenger's side.
- Remove the instrument panel trim on the driver's side.
- Detach the fuel filter and put it aside.

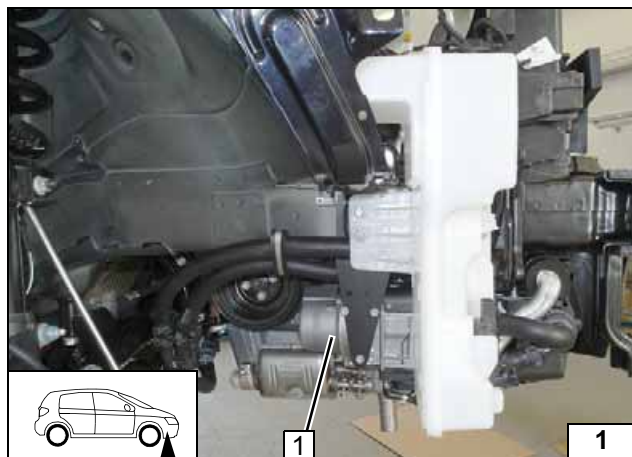
The following work should only be performed during the corresponding installation sequence:



- Remove the fuel tank according to the manufacturer's instructions.

Heater

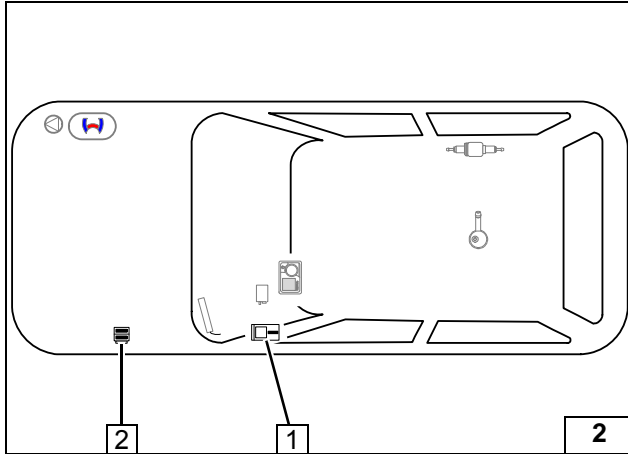
- Remove years that do not apply from the type and duplicate label.
- Attach the duplicate label (type label) visibly in the appropriate place in the engine compartment.



Heater Installation Location

- 1 Heater

Installation location

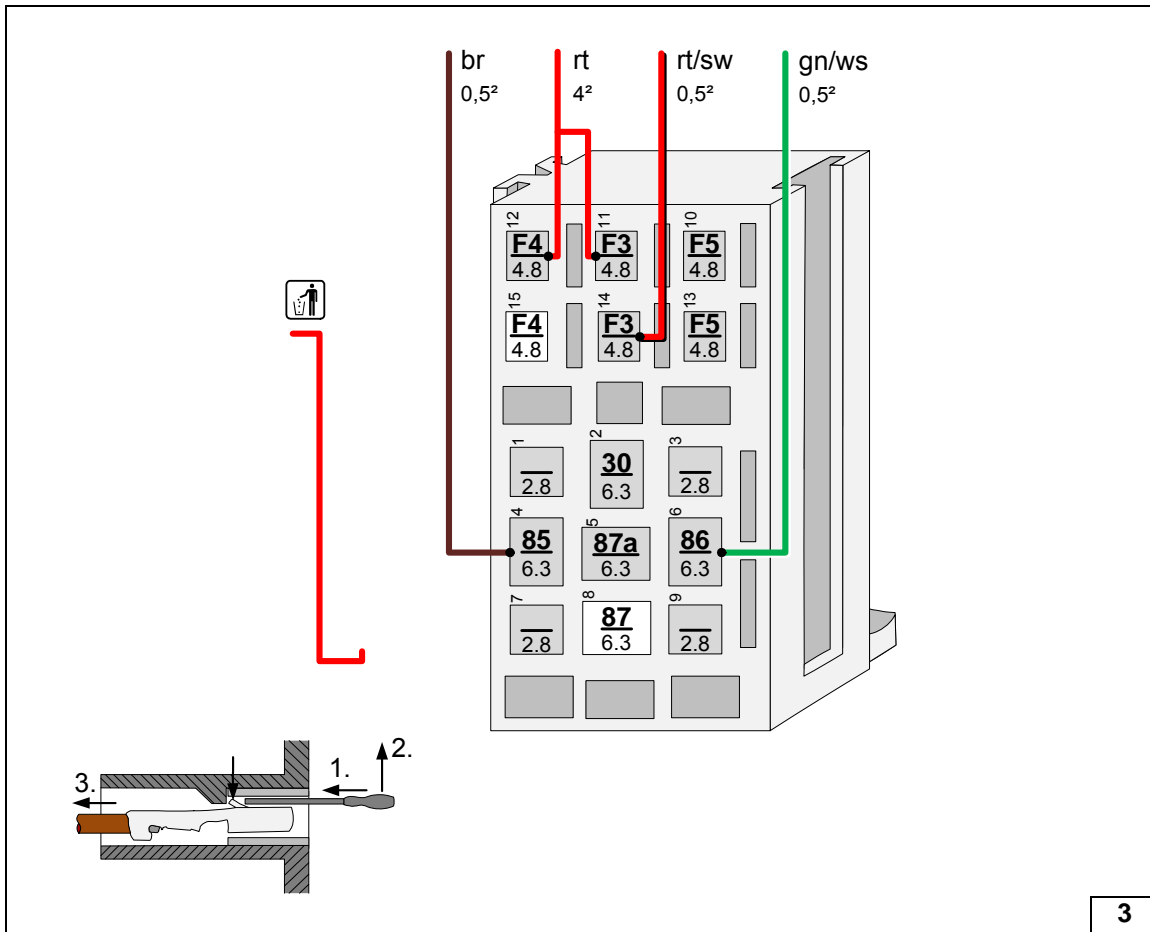


Preparing Electrical System

- 1 Passenger compartment relay and fuse holder
- 2 Engine compartment fuse holder

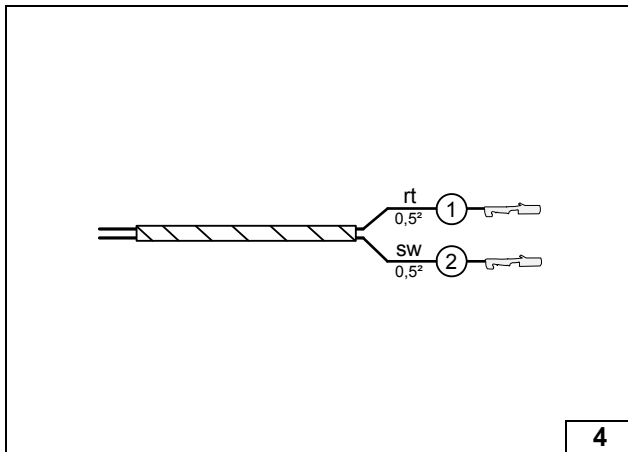


Installation Overview

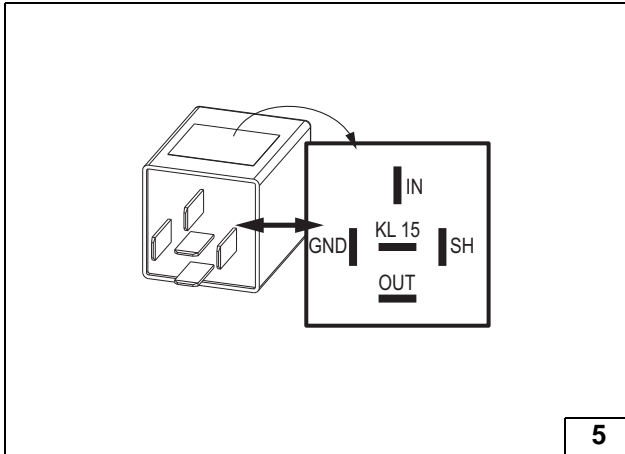


Disconnecting red (rt) wire from relay and fuse holder / 87 and F4

- ① Red (rt) wire from wiring harness of PWM control
- ② Black (sw) wire from wiring harness of PWM control



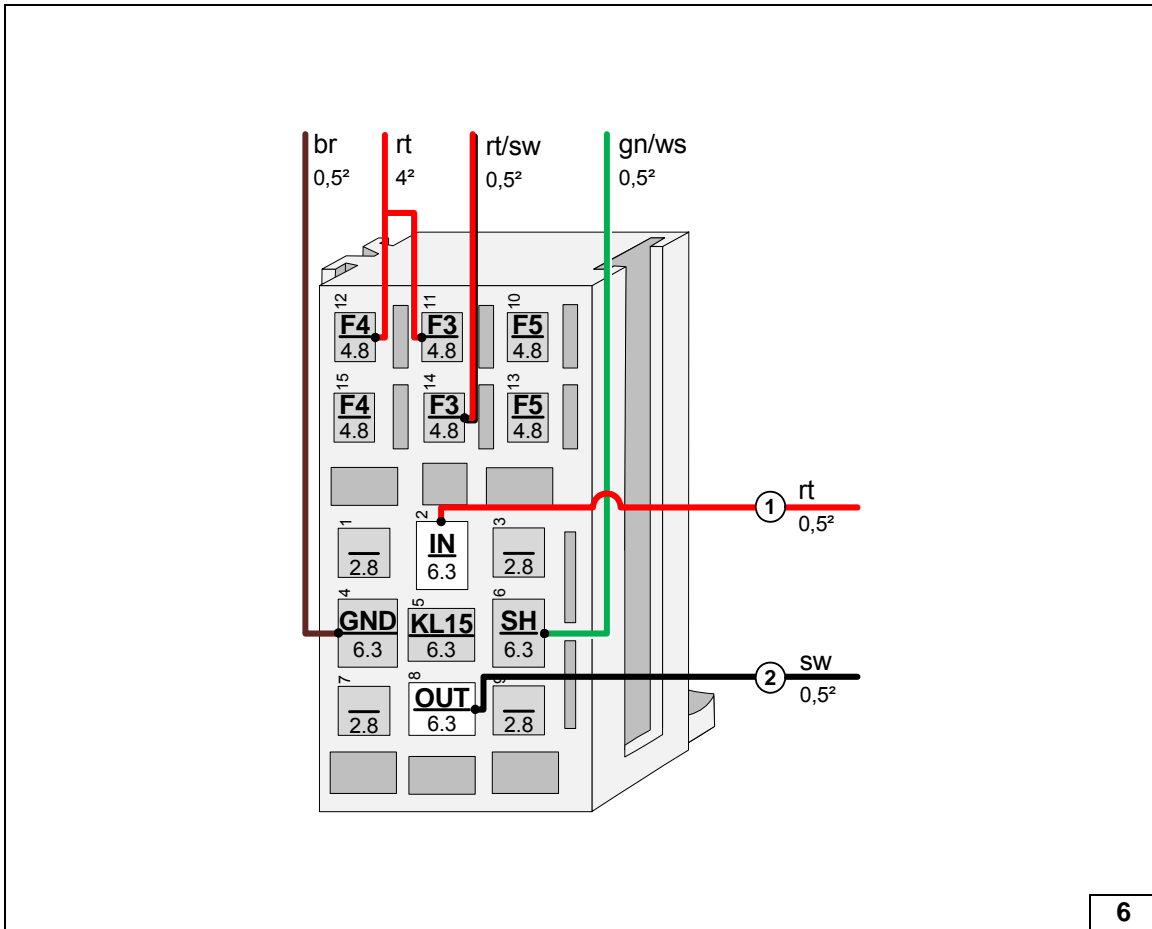
Assigning / preparing wires



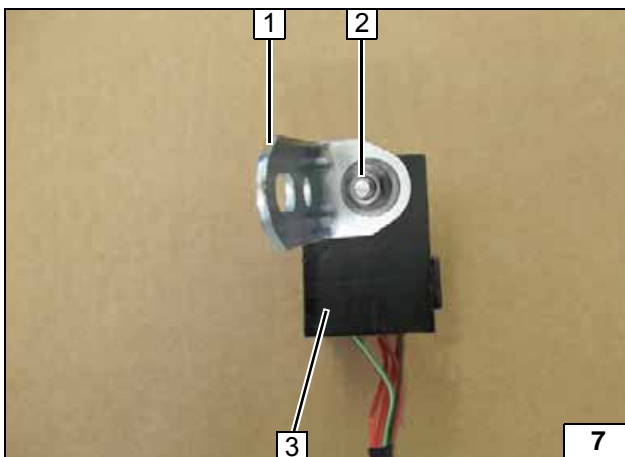
Check the PWM Gateway settings when starting up the heater and adjust if necessary.

Settings:
 Duty cycle: 30% (DC)
 Frequency: 400 Hz
 Voltage: 8.0V
 Function: High side

View of PWM GW

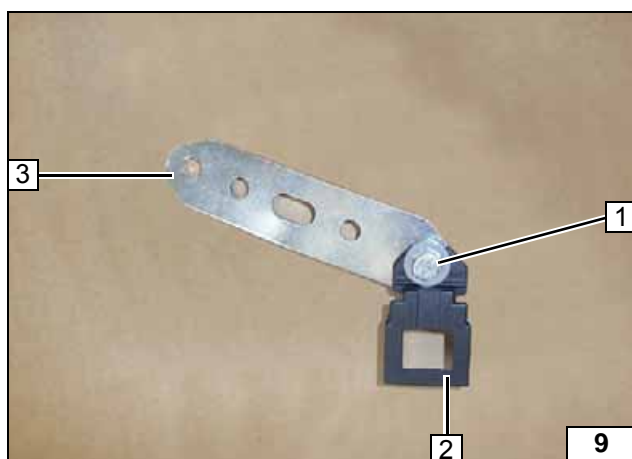
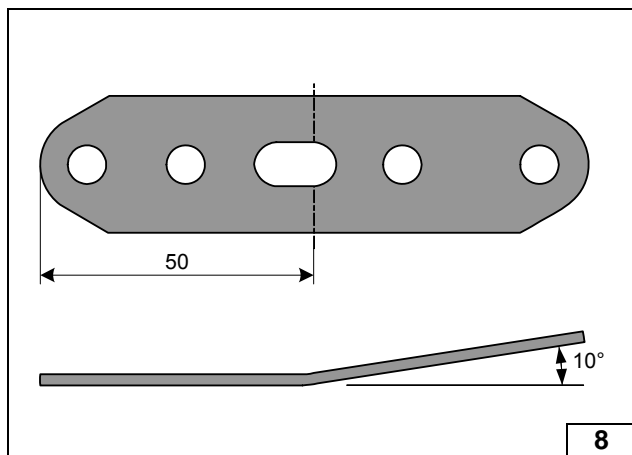


Connecting wires to passenger compartment relay and fuse holder



- 1 Angle bracket
- 2 M5x16 bolt, large diameter washer [2x], nut
- 3 Passenger compartment relay and fuse holder

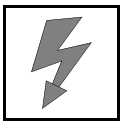
Installing angle bracket



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

Bending perforated bracket

Preparing retaining plate of engine compartment fuse holder

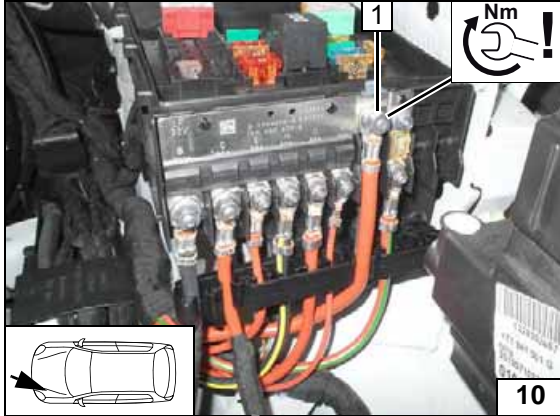


Electrical System



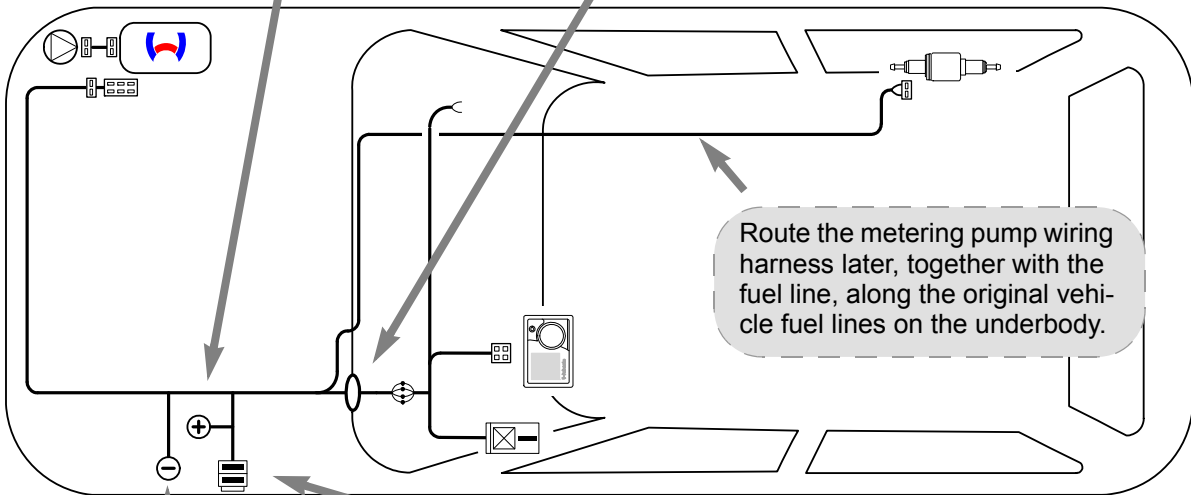
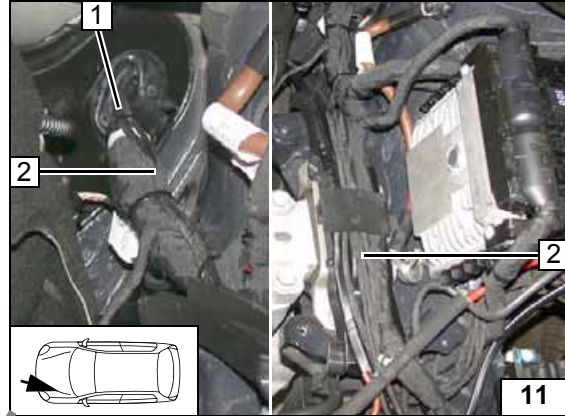
Positive wire

- 1 Positive wire on positive battery distributor

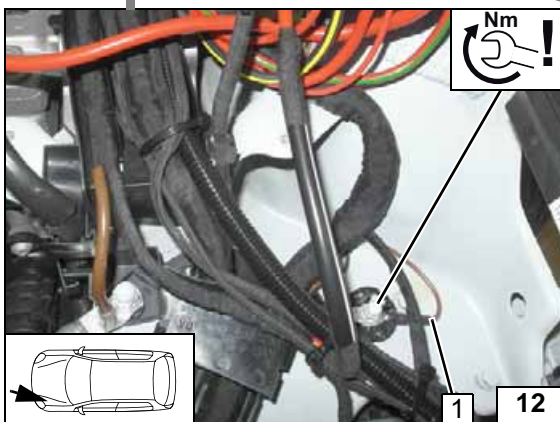


Wiring harness routing, wiring harness pass through

- 1 Use free protective rubber plug
- 2 Heater wiring harnesses, heater control

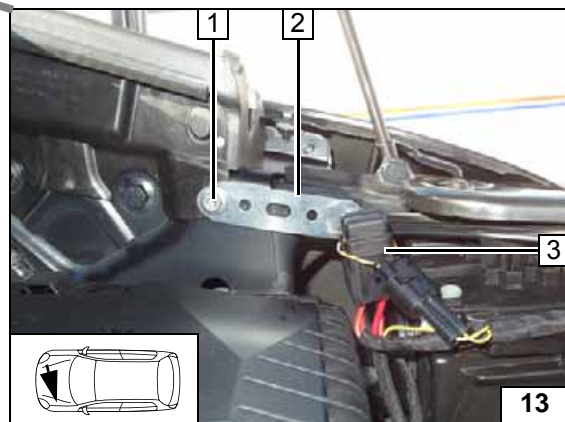


Wiring harness routing diagram



Earth wire

- 1 Earth wire on original vehicle earth support point



Engine compartment fuse holder

- 1 Original vehicle bolt
- 2 Perforated bracket
- 3 Fuses F1-2

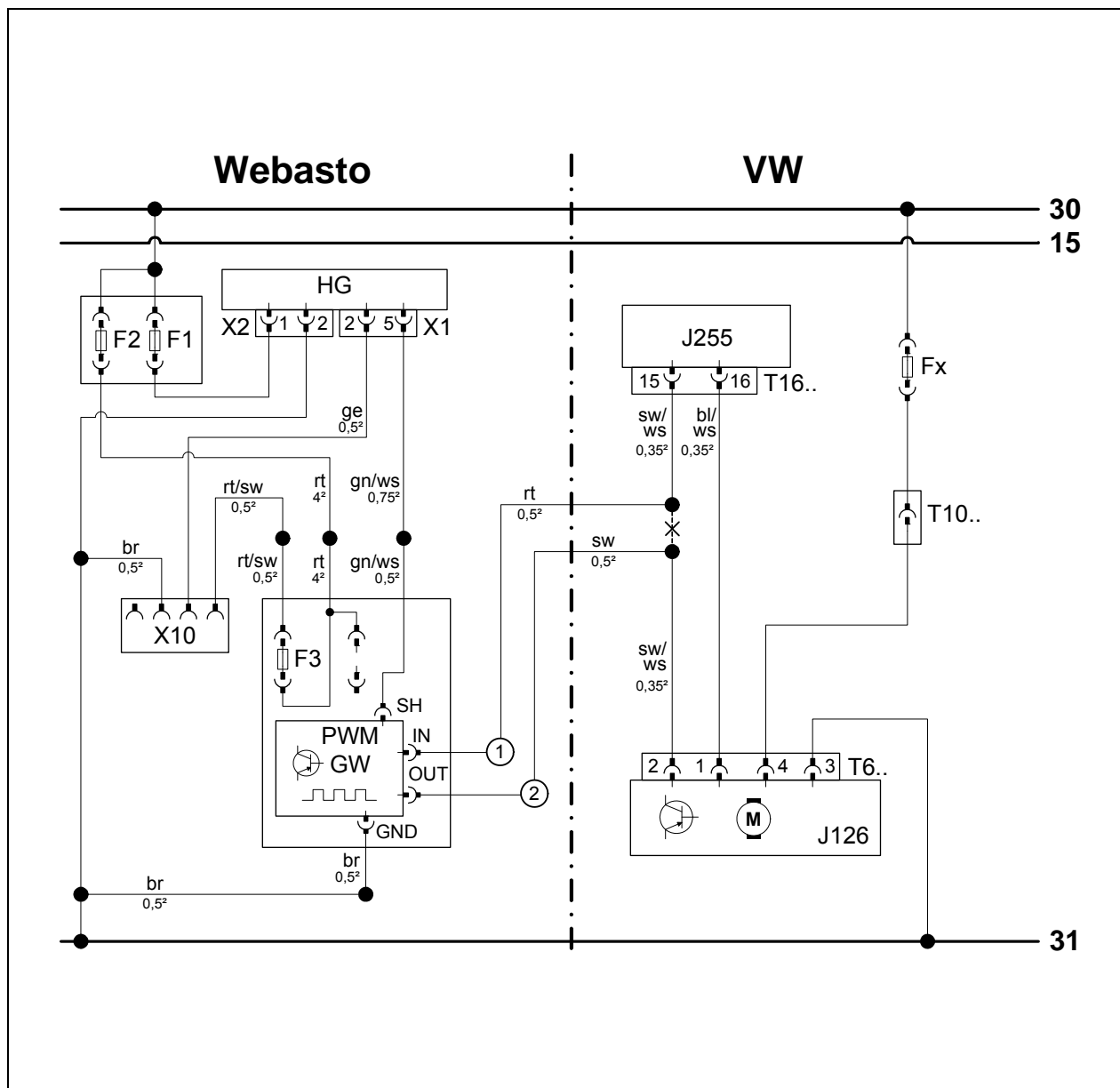




Climatronic Fan Controller

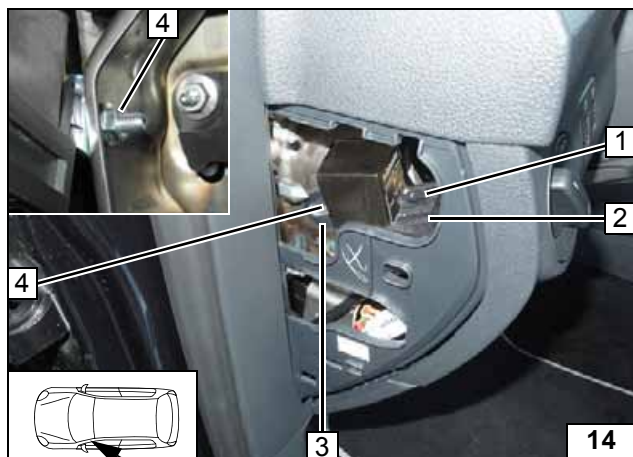


Wiring diagram



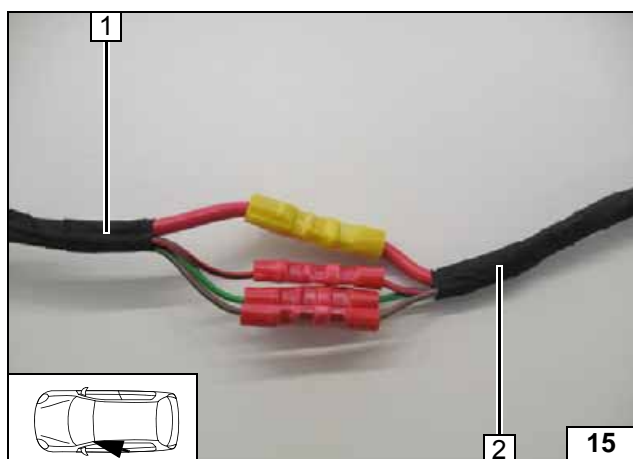
Webasto components		Vehicle components		Colours and symbols	
HG	TT-Evo heater	J255	A/C control unit	rt	red
X1	6-pin heater connector	T16..	16-pin connector J255	sw	black
X2	2-pin heater connector	Fx	40A fan fuse (assignment depends on vehicle and vehicle equipment variant)	ge	yellow
X10	4-pin connector of heater control			gn	green
F1	20A fuse	T10..	10-pin connector	bl	blue
F2	30A fuse	J126	Fan unit	ws	white
F3	1A fuse	T6..	6-pin connector J126	br	brown
PWM GW	Pulse width modulator				
PWM GW settings:					
Duty cycle: 30% (DC)					
Frequency: 400 Hz					
Voltage: 8.0V					
Function: High side					
				X	Cutting point
Wiring colours may vary.					

Legend



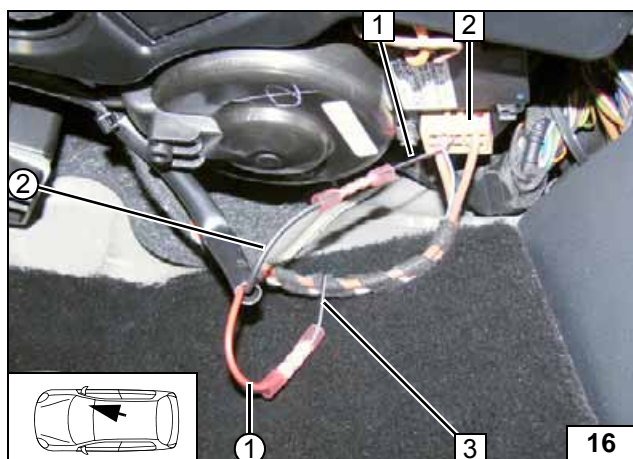
- 1 1A fuse F3
- 2 Passenger compartment relay and fuse holder
- 3 Angle bracket
- 4 M6x16 bolt, flanged nut

Installing passenger compartment relay and fuse holder



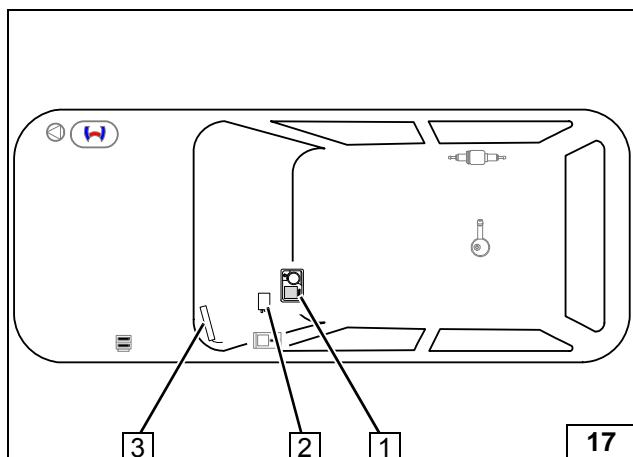
- 1 Passenger compartment relay and fuse holder wiring harness
- 2 Heater wiring harness

Connecting same colour wires of wiring harnesses



- 1 Black/white (sw/ws) wire from 6-pin connector T6.. / Pin 2
- 2 6-pin connector T6..
- 3 Black/white (sw/ws) wire from A/C control unit
- ① Red (rt) wire from PWM GW / IN of wiring harness of PWM control
- ② Black (sw) wire from PWM GW / OUT of wiring harness of PWM control

Connect- ing fan unit

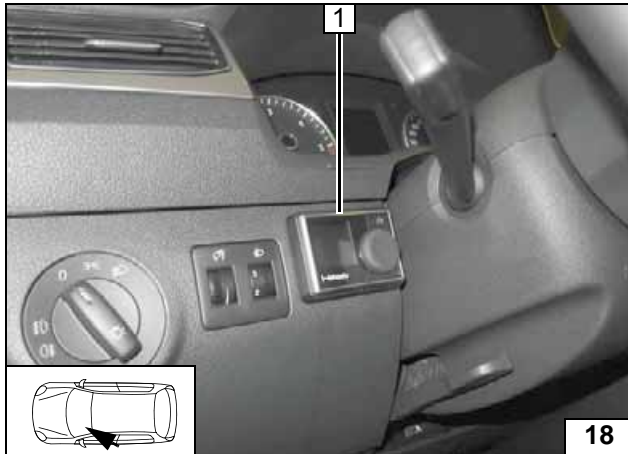
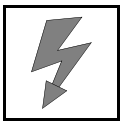


Heater Control Installation

- 1 MultiControl CAR
- 2 Telestart / ThermoCall receiver
- 3 Telestart / ThermoCall aerial



Installation Overview

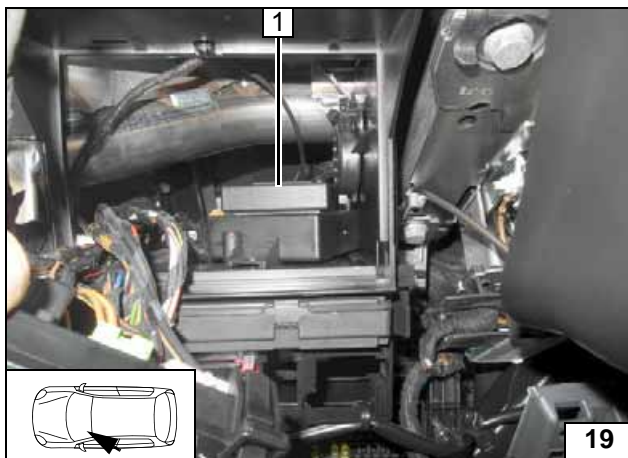


MultiControl CAR Option

1 Installation frame



Installing MultiControl CAR

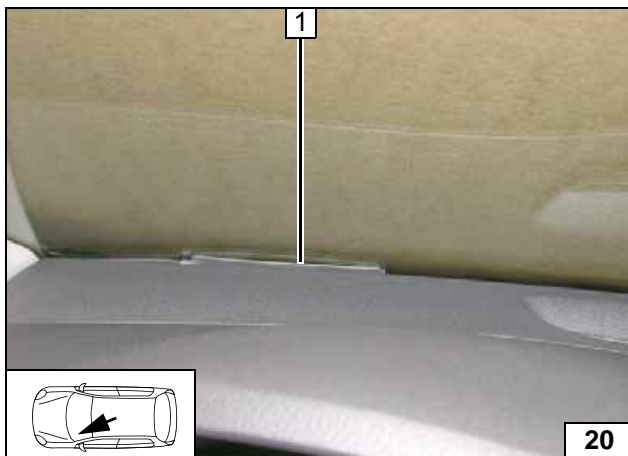


Remote Option (Telestart)

Fasten receiver 1 with double-sided adhesive tape.

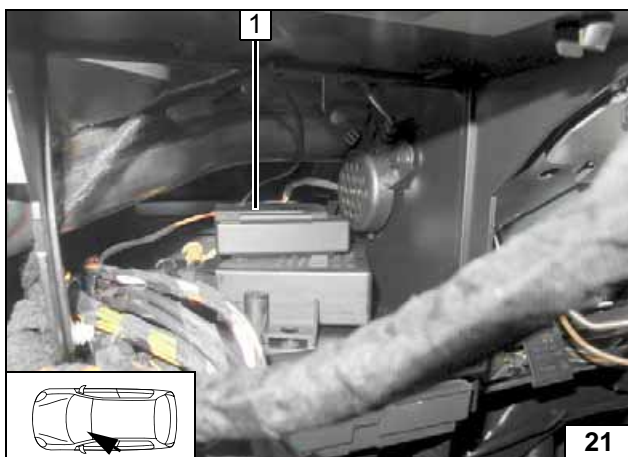


Installing receiver



1 Aerial

Installing aerial

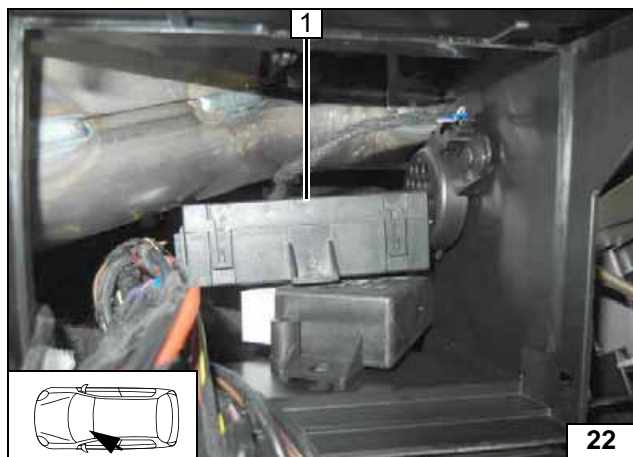


Temperature sensor T100 HTM

Fasten temperature sensor 1 with double-sided adhesive tape.



Installing temperature sensor

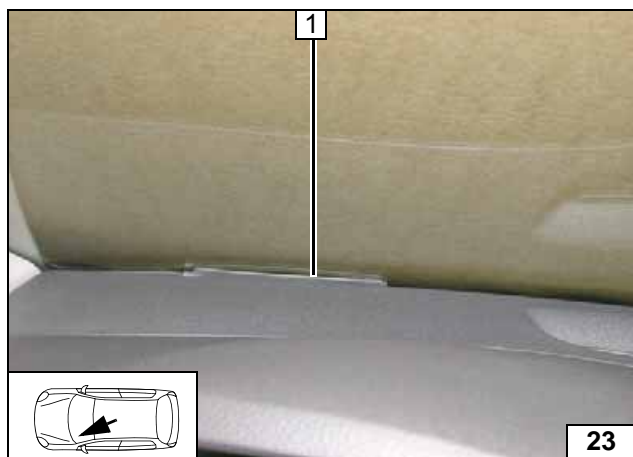


ThermoCall Option

Fasten receiver 1 with double-sided adhesive tape.

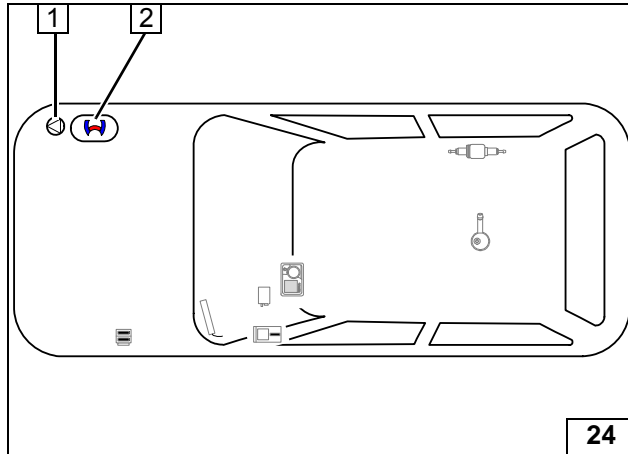
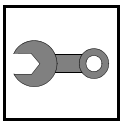


Installing receiver



1 Aerial (optional)

Installing aerial

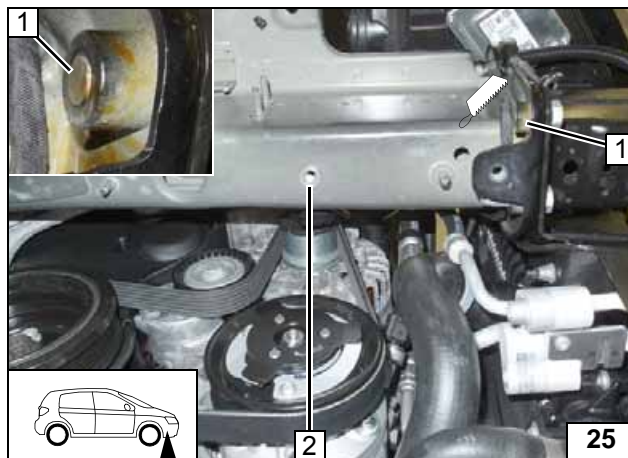


Preparing Installation Location

- 1 Circulating pump
- 2 Heater

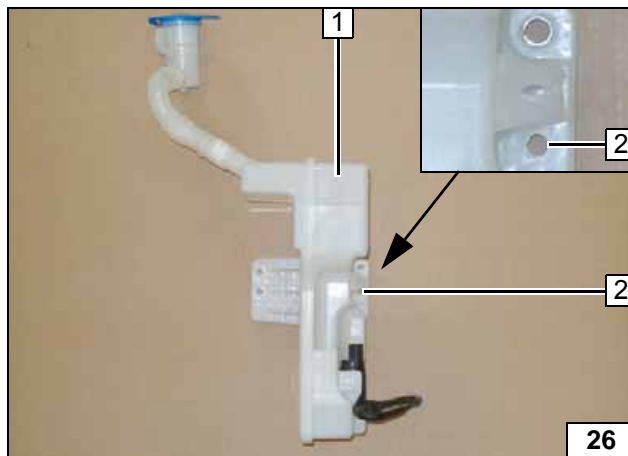


Installation Overview



- 1 Cut off original vehicle stud bolt flush
- 2 M8 rivet nut in existing hole

Installing rivet nut



- 1 Washer reservoir
- 2 Drill 6.5 mm dia. hole

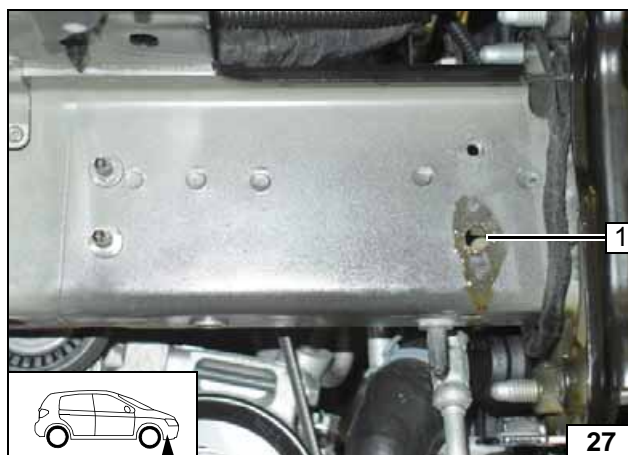
Preparing washer reservoir

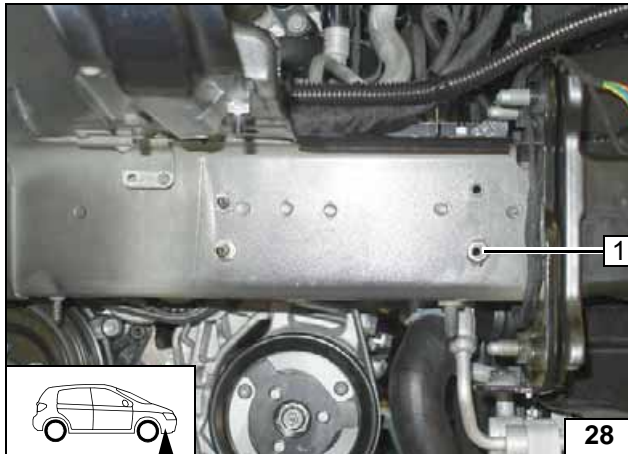
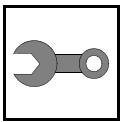
Position washer reservoir and copy hole pattern



- 1 Copy hole pattern, 9.1mm dia. hole

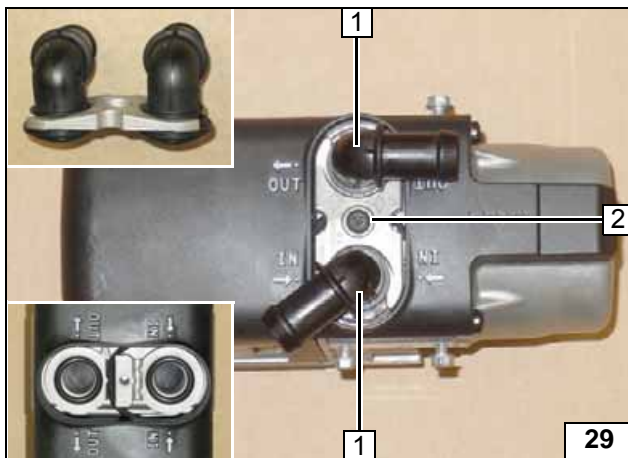
Drilling hole





1 M6 rivet nut

Installing rivet nut

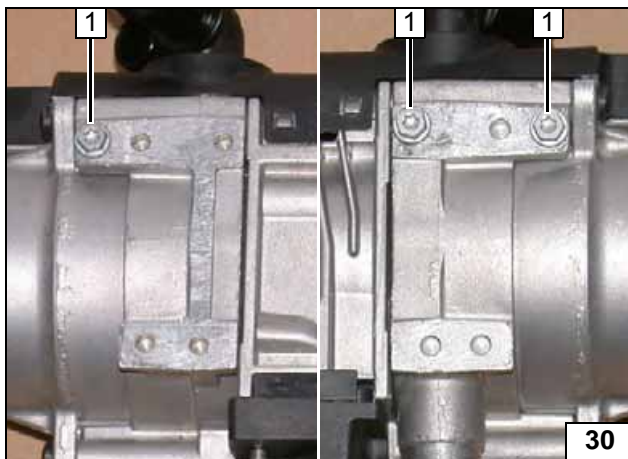


Preparing Heater

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



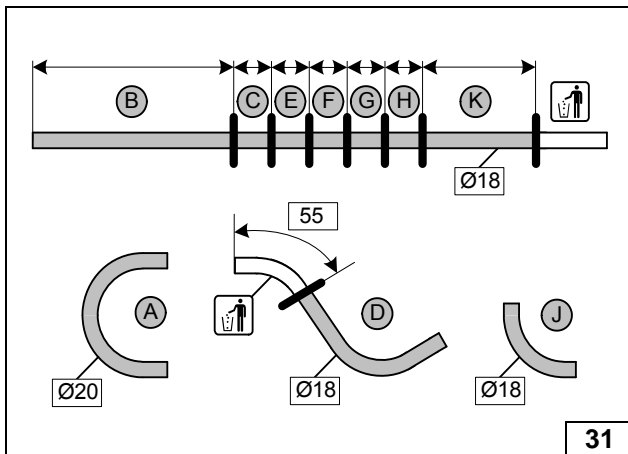
Installing water connection piece



Screw 5x13 self-tapping bolts 1 [3x] into existing holes by a maximum of 3 thread turns.

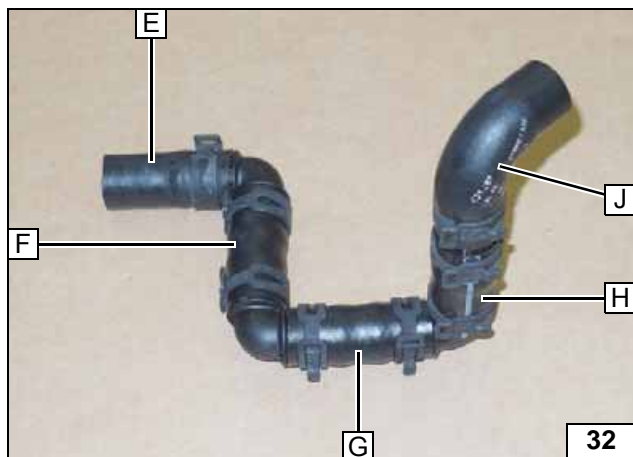


Premounting bolts loosely



- A = 180°
- B = 520
- C = 60
- D = 145°
- E = 60
- F = 60
- G = 60
- H = 60
- J = 90°
- K = 400

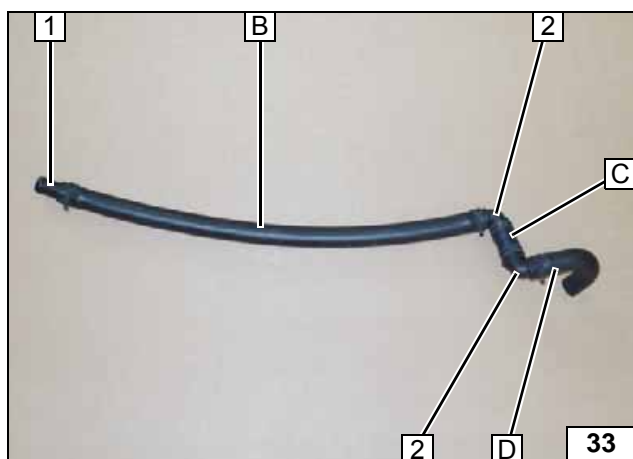
Cutting hoses to length



All spring clips 25 mm dia. [8x].
All connecting pipes 18x18 mm dia. [4x].



**Premounting
hose group E
- J**

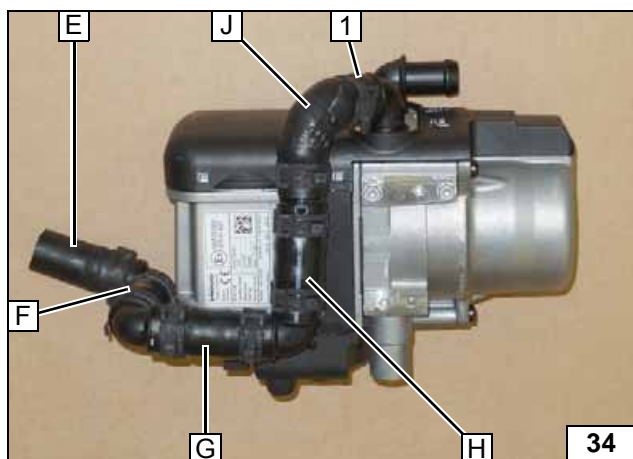


All spring clips 25 mm dia. [5x]

- 1 20x18 connecting pipe
- 2 90°, 18x18mm dia. connecting pipe [2x]

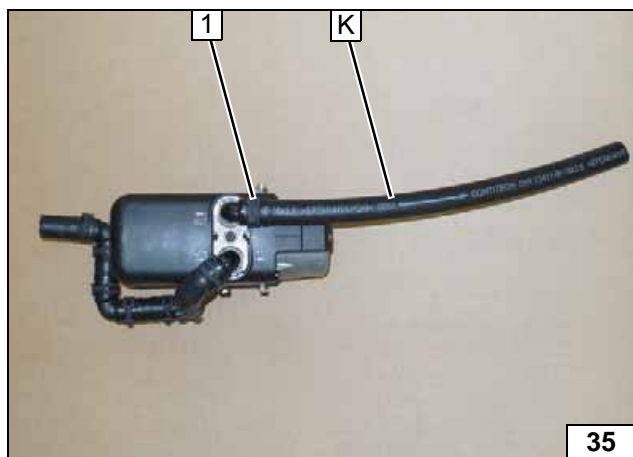


**Premounting
hose group B
- D**



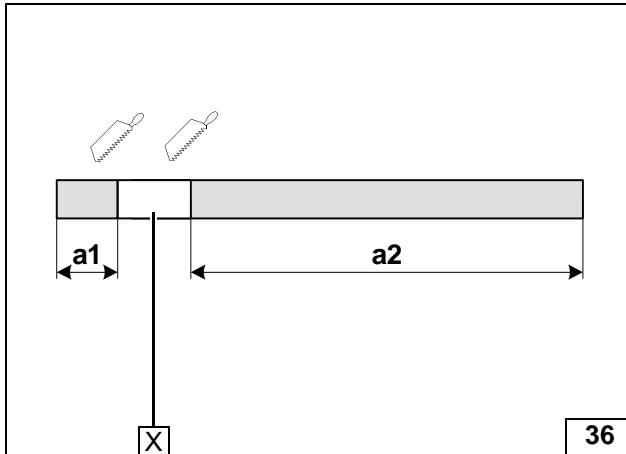
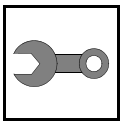
- 1 25 mm dia. spring clip

**Installing
hose group E -
J on heater in-
let**



- 1 25 mm dia. spring clip

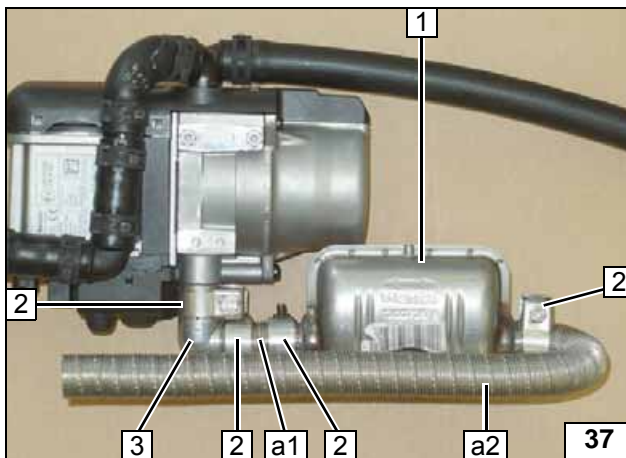
**Installing
hose K on
heater outlet**



a1 = 45
a2 = 370

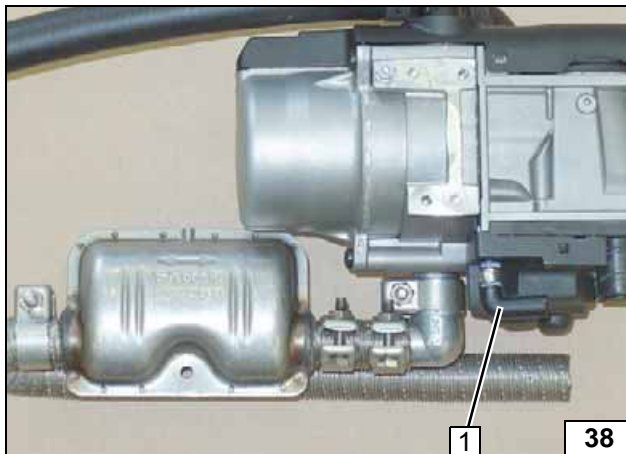
X =

Preparing ex-
haust pipe



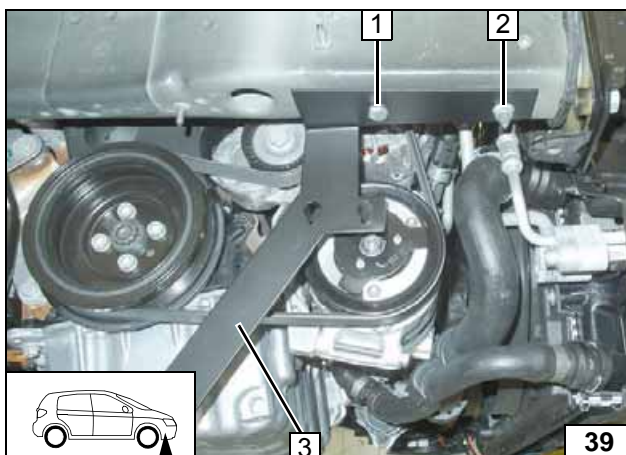
- 1 Exhaust silencer
- 2 P-clamp [4x]
- 3 Exhaust elbow, 15mm shortened (shortened side on exhaust pipe a1)

Installing ex-
haust sys-
tem



- 1 90° moulded hose, 10 mm dia. clamp

Premounting
90° moulded
hose

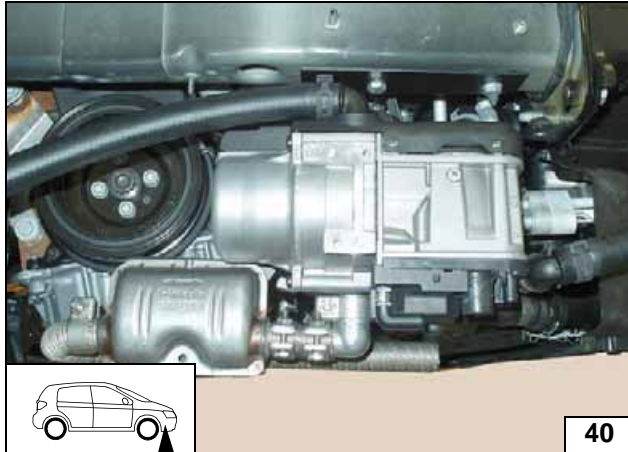
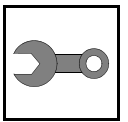


Installing Heater

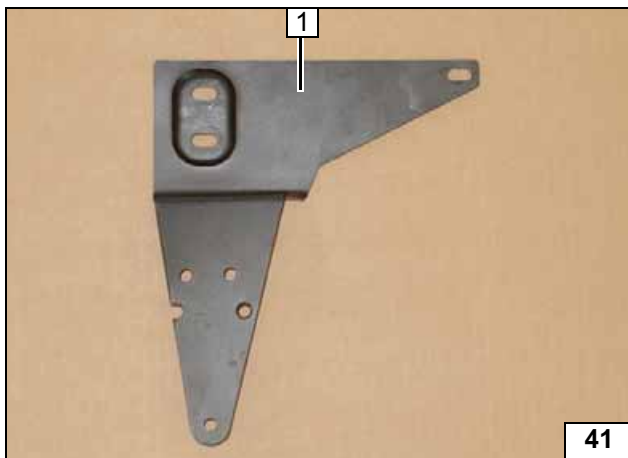
Installation, part 1

- 1 M8x25 bolt, spring lockwasher
- 2 M8 flanged nut, original vehicle stud bolt
- 3 Counter holder

Installing
counter
holder

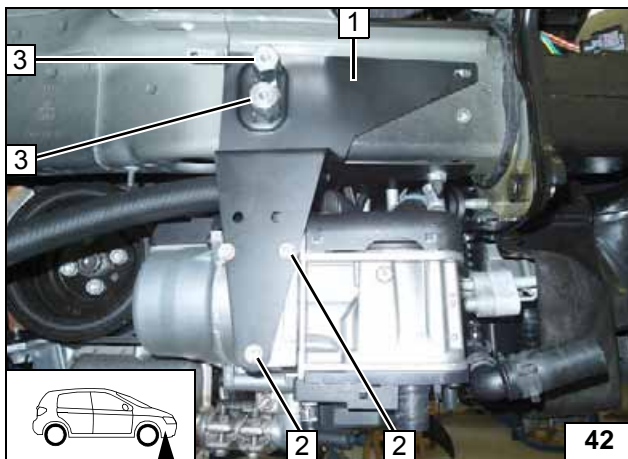


Mounting
heater on
counter hold-
er



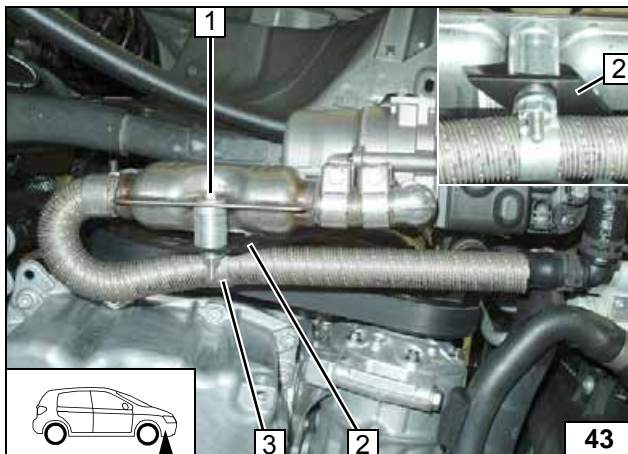
1 Bracket

View of
bracket



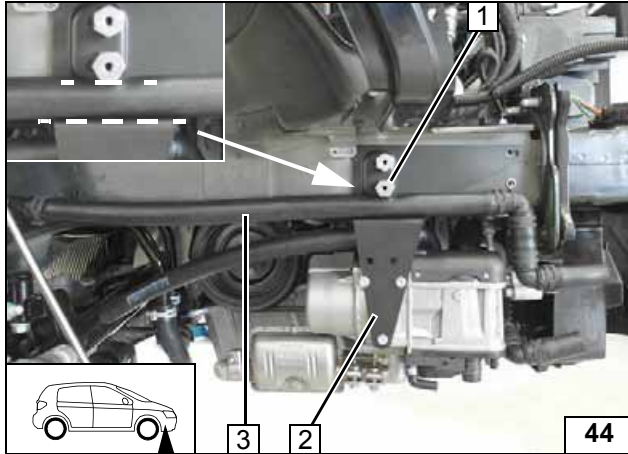
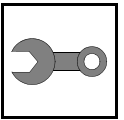
1 Bracket
2 M5x13 self-tapping bolt [2x]
3 30 mm spacer nut [2x]

Installing
bracket
loosely



1 M6x50 bolt, large diameter washer,
5mm shim, 20mm shim, 24-26mm
hose clamp, flanged nut
2 Counter holder
3 24-26 mm dia. hose clamp

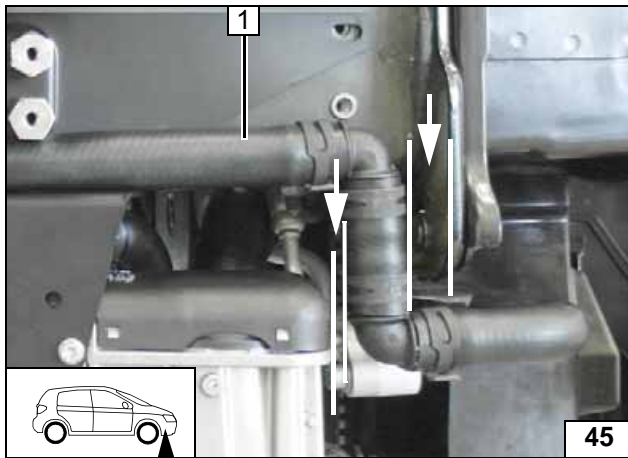
Installing ex-
haust silencer
on counter
holder



The lower edge of the spacer nut at position 1 must be parallel to the upper edge of bracket 2. Mount hose group B - D 3 as shown.



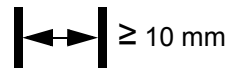
Mounting hose group B - D



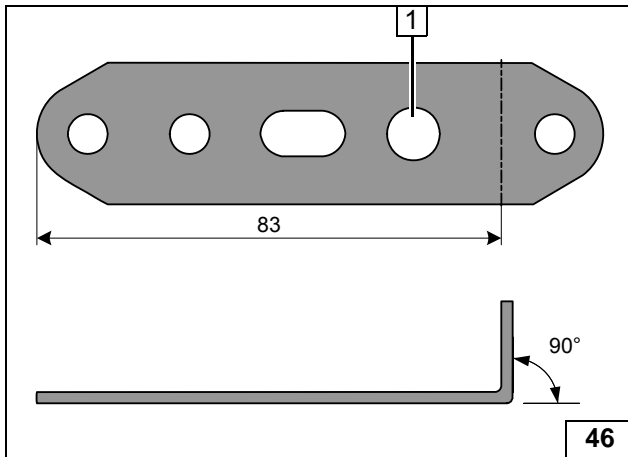
Ensure sufficient distance from neighbouring components, correct if necessary.



1 Hose group B - D

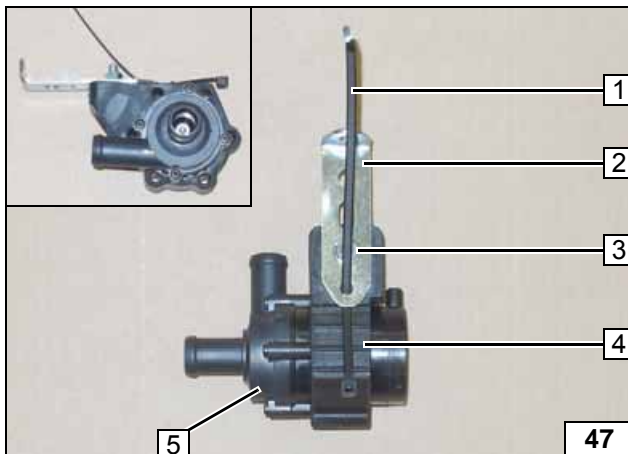


Mounting hose group B - D



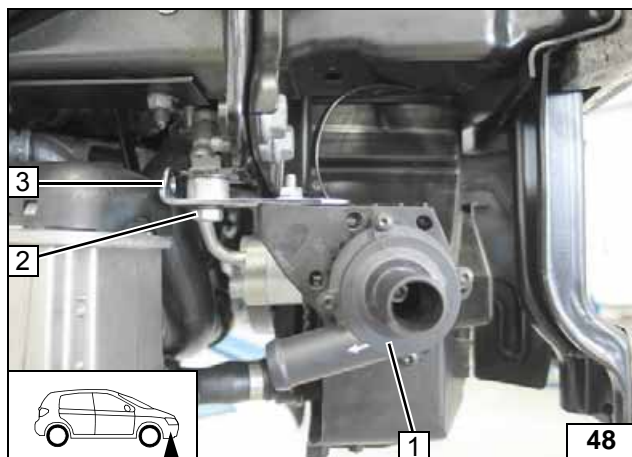
1 Drill out hole to 8.5 mm dia.

Preparing perforated bracket



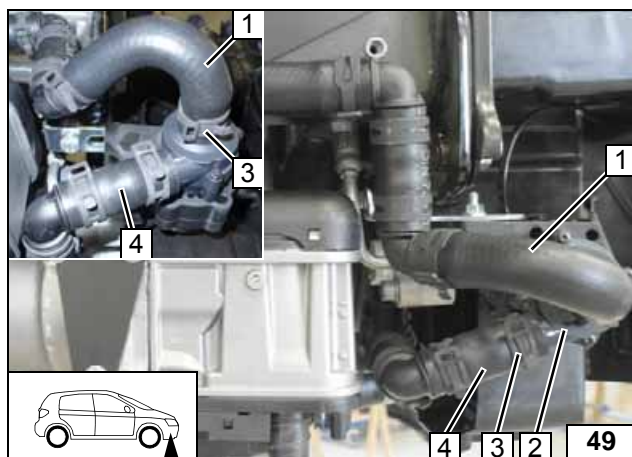
- 1 Insert cable tie and do not close, will be used for fastening the air intake silencer
- 2 Perforated bracket
- 3 M6x25 bolt, flanged nut
- 4 Circulating pump mount
- 5 Circulating pump

Pre-mounting circulating pump



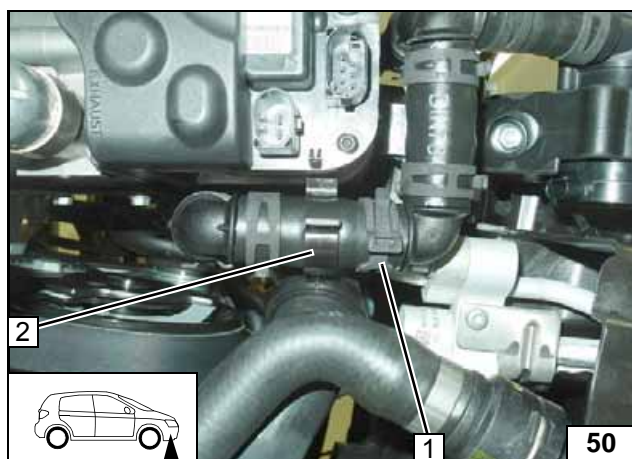
- 1 Circulating pump
- 2 M8x30 bolt, spring lockwasher, 10mm shim, original vehicle thread
- 3 Perforated bracket

Installing circulating pump



- 1 Hose group B - D on circulating pump inlet
- 2 Circulating pump
- 3 25mm dia. spring clip [2x]
- 4 Hose group E - J on circulating pump outlet

Connecting hose groups



Turn spring clip 1 as shown.

- 2 37x22 hose bracket



Installing hose bracket



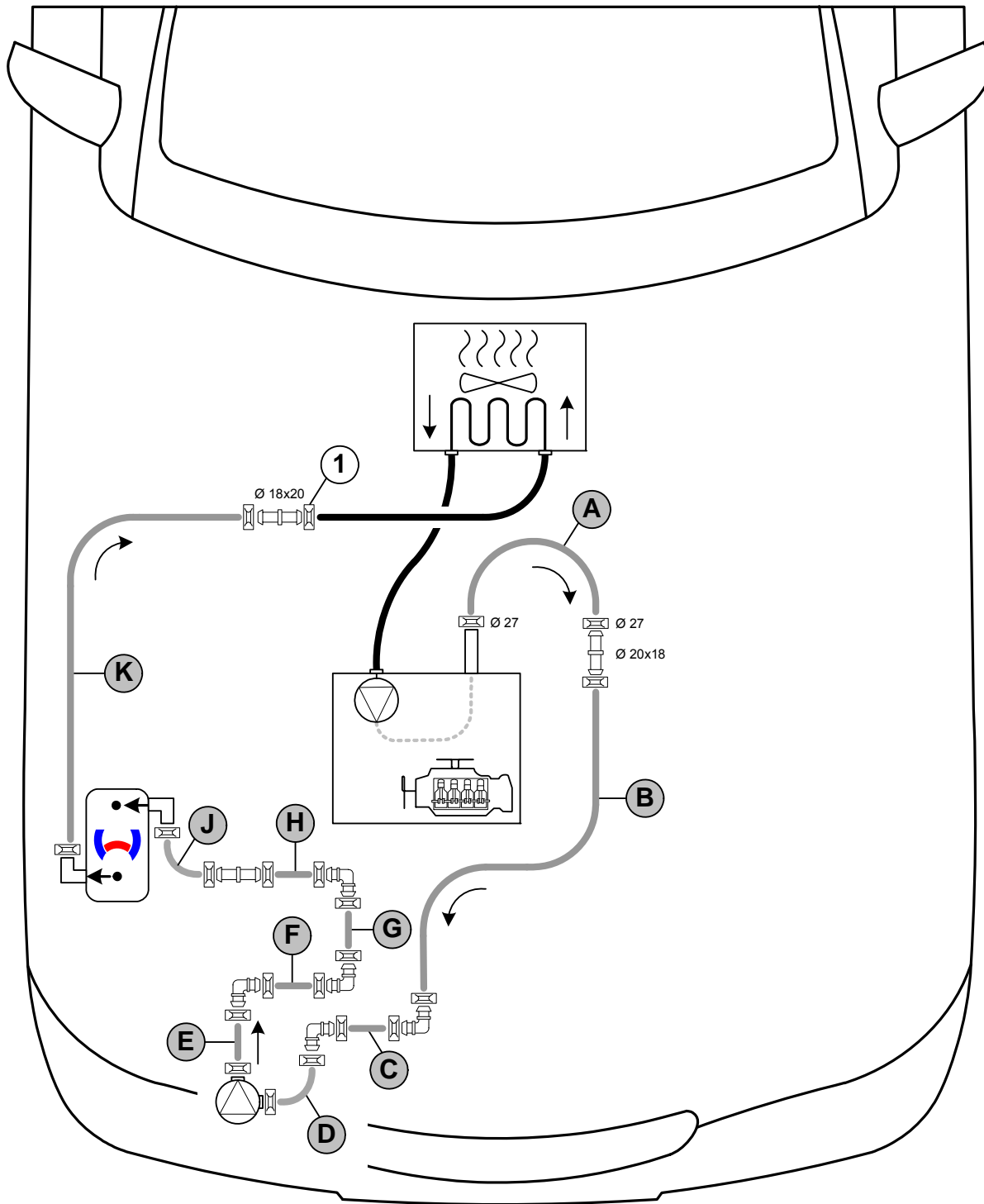
Coolant Circuit







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



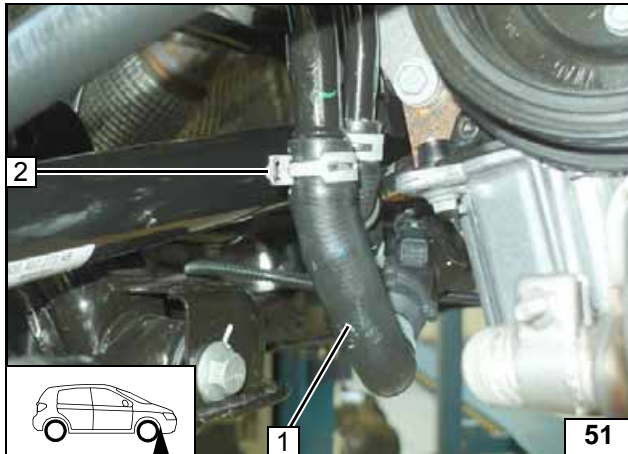
The connection should be modelled on an 'inline' circuit and based on the following diagram:



Hose routing diagram

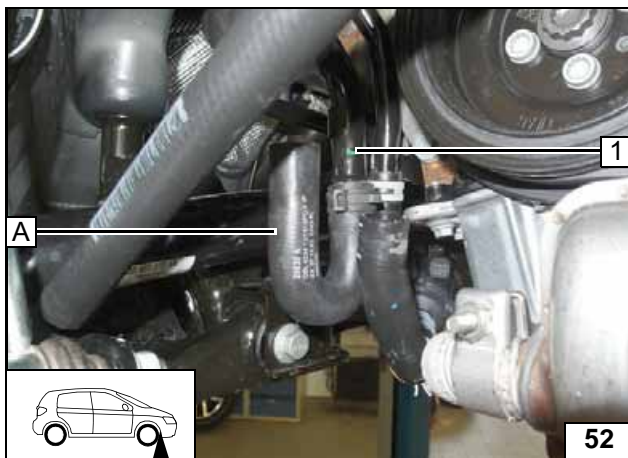
All spring clips without a specific designation  = 25 mm dia.
 All connecting pipes without a specific designation  and  = 18x18mm dia.
 1 = Original vehicle spring clip .





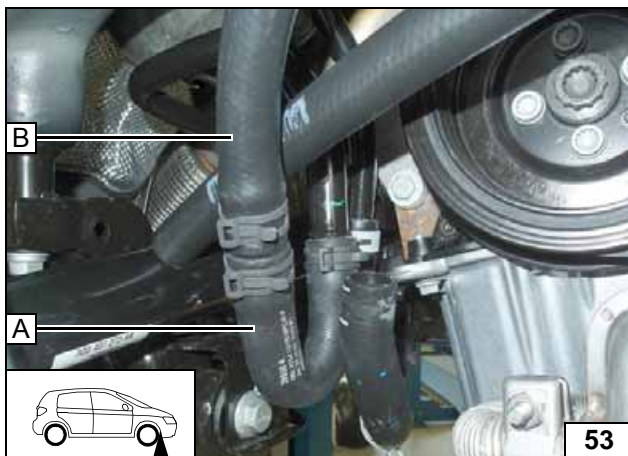
Pull off hose on engine outlet / heat exchanger inlet 1 on connection piece of engine outlet. Spring clip 2 will be reused.

Cutting point

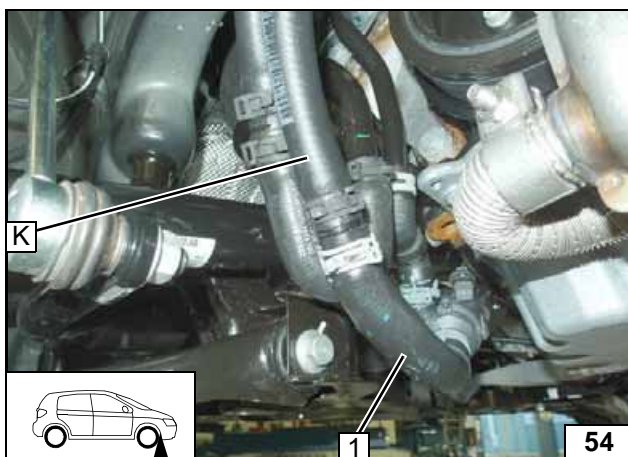


1 Engine outlet connection piece

Connecting engine outlet

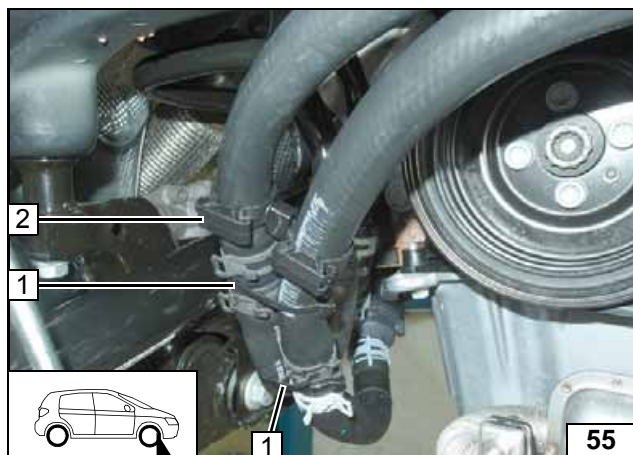


Routing in engine compartment



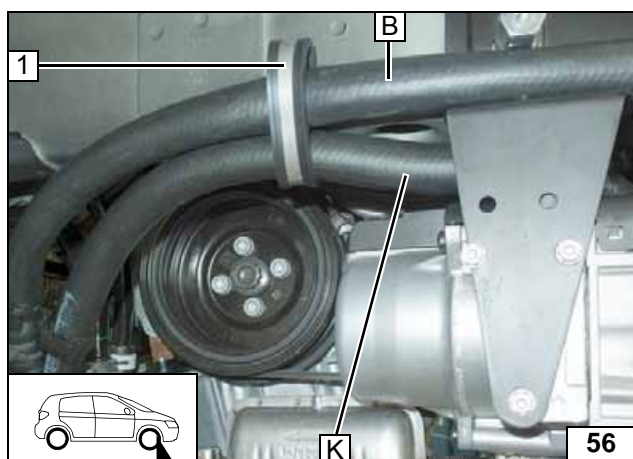
1 Original vehicle heat exchanger inlet hose

Connecting heat exchanger inlet



- 1 Cable tie [2x]
- 2 25x25 hose bracket

Installing hose bracket

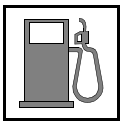


Align hoses. Ensure sufficient distance from neighbouring components, correct if necessary.

- 1 48 mm dia. p-clamp, plastic nut, original vehicle stud bolt



Mounting p-clamp



Fuel



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

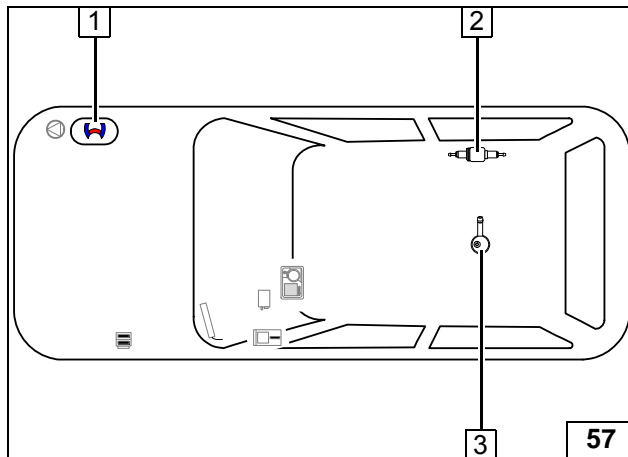
Catch any fuel running off in an appropriate container.

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



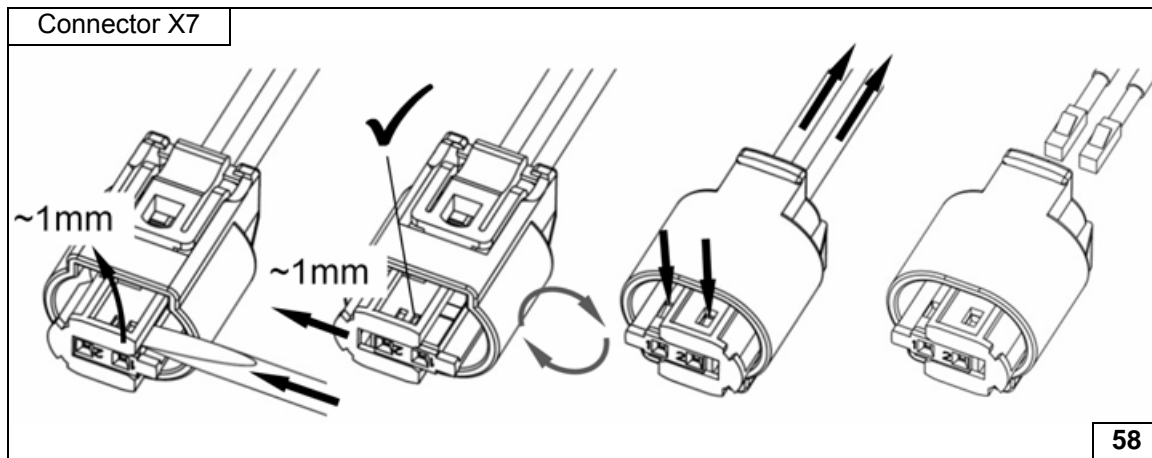
Provide rub protection for fuel line and wiring harness in areas where there are sharp edges.

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

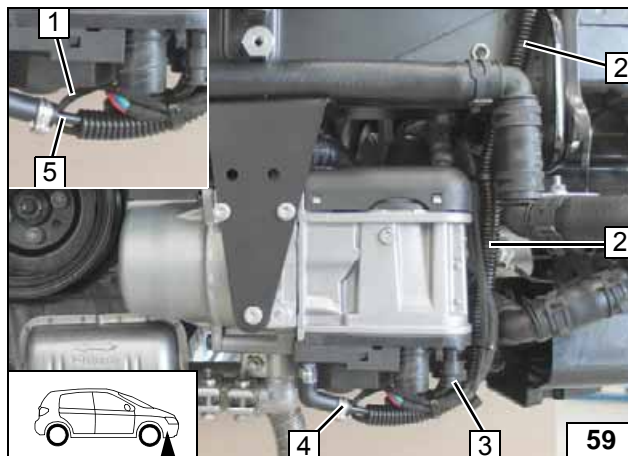


- 1 Heater
- 2 Metering pump
- 3 FuelFix

57



58



Insert fuel line **5** and metering pump wiring harness **1** into 10mm dia. corrugated tube **2** and route upwards along the original vehicle lines. Secure using cable ties!

- 3 Heater wiring harness connector [2x, hidden], circulating pump wiring harness connector
- 4 10 mm dia. clamp

59

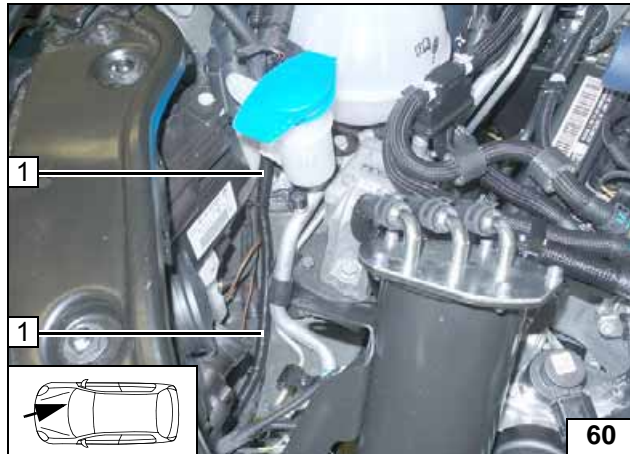


Installation Overview

Dismantling metering pump connector

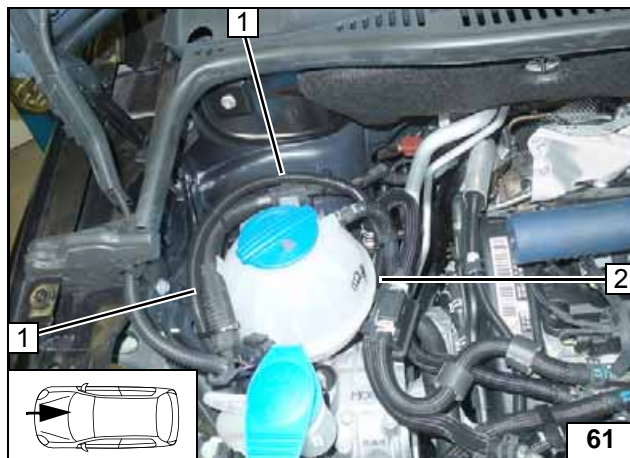


Connecting heater



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

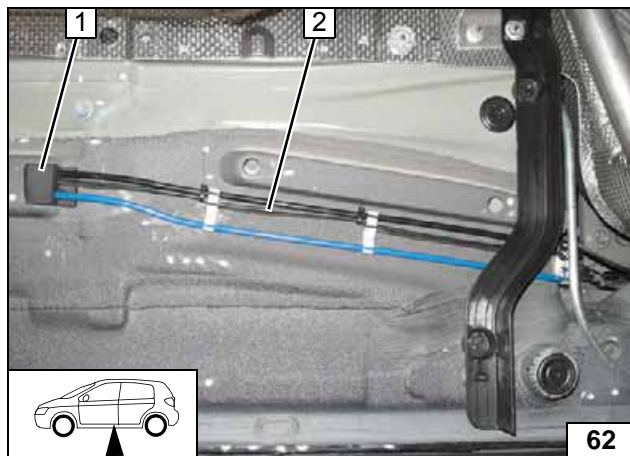
Routing lines



Insert fuel line and metering pump wiring harness in 10mm dia. corrugated tube 1 into original vehicle line duct 2 and route to the underbody.

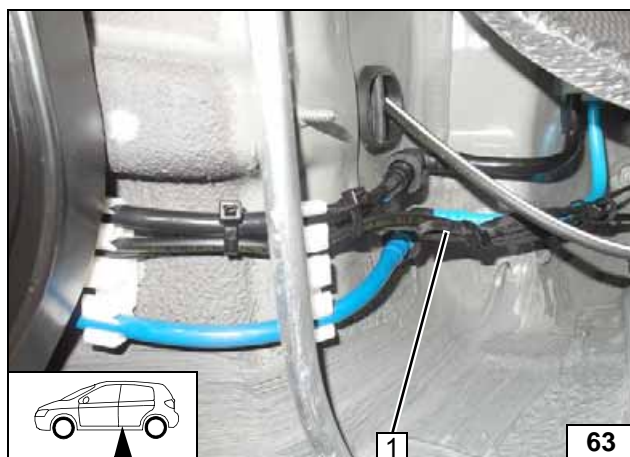


Routing lines



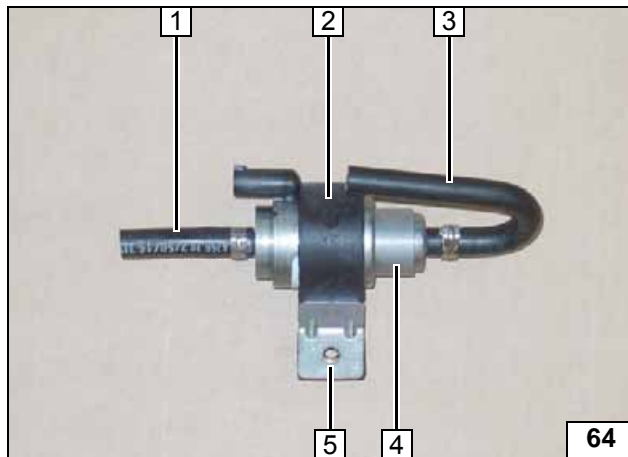
1 Original vehicle line duct
2 Fuel line and metering pump wiring harness

Routing lines



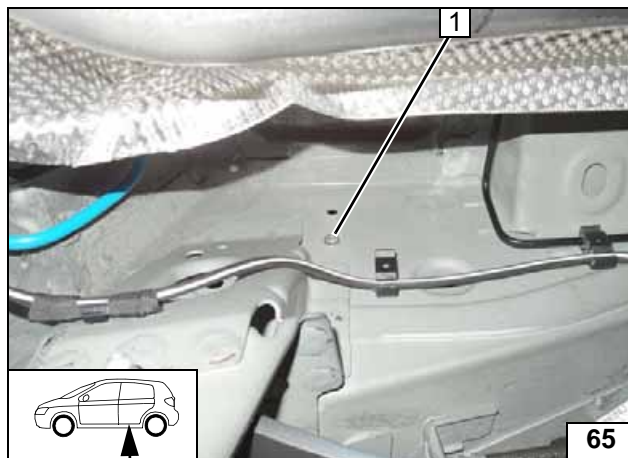
1 Fuel line and metering pump wiring harness

Routing lines



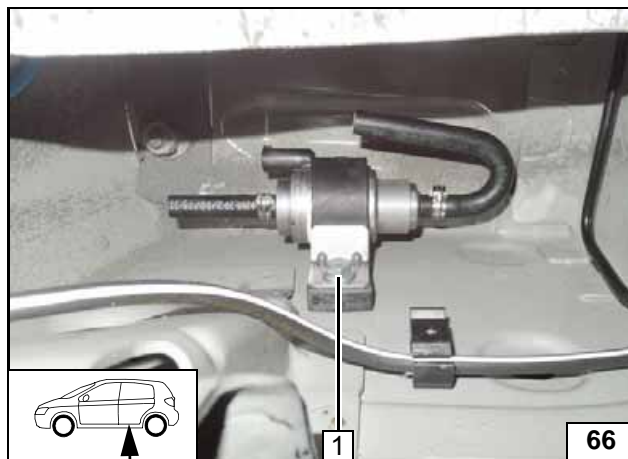
- 1 Hose section, 10 mm dia. clamp
- 2 Metering pump mount
- 3 Moulded hose, 10 mm dia. clamp
- 4 Metering pump
- 5 Support angle bracket

Premounting metering pump



- 1 Rivet nut, existing hole

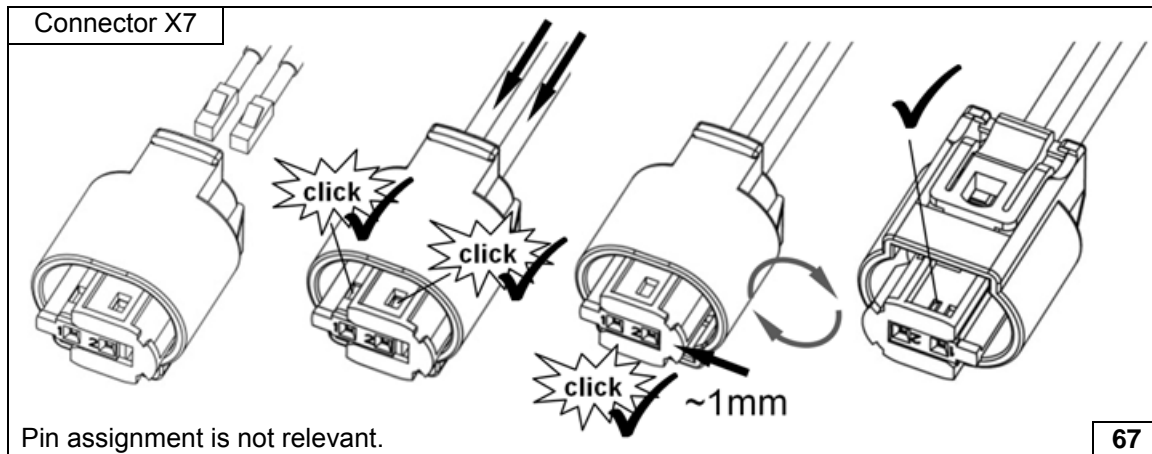
Installing rivet nut



- 1 M6x25 bolt

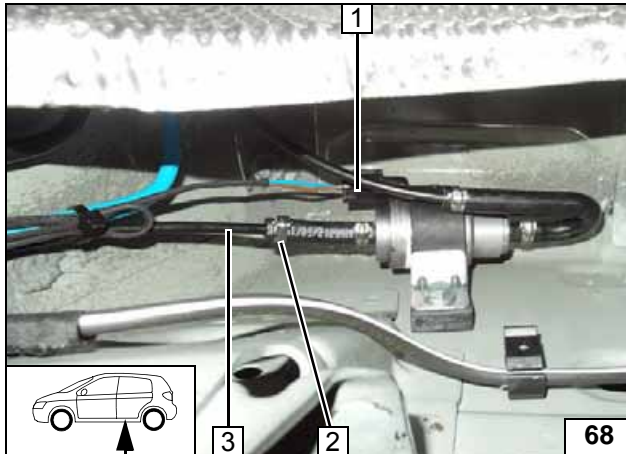


Installing metering pump



Pin assignment is not relevant.

Completing metering pump connector

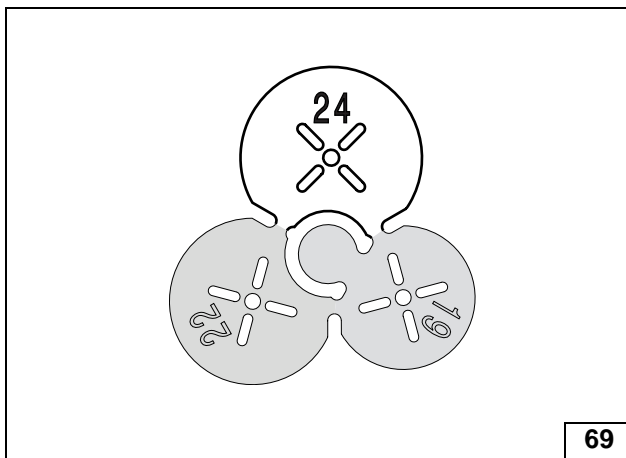


Ensure sufficient distance from neighbouring components, correct if necessary.



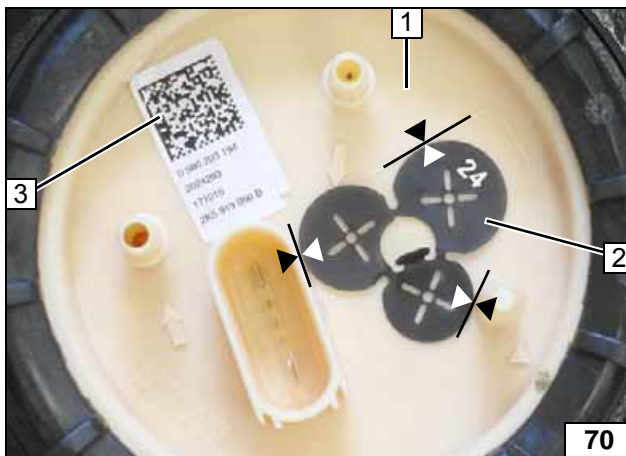
- 1 Metering pump wiring harness, connector X7 mounted
- 2 10 mm dia. clamp
- 3 Fuel line of heater

**Connect-
ing meter-
ing pump**



Installing FuelFix

**View of drill-
ing template**



Remove fuel tank according to manufacturer's instructions.

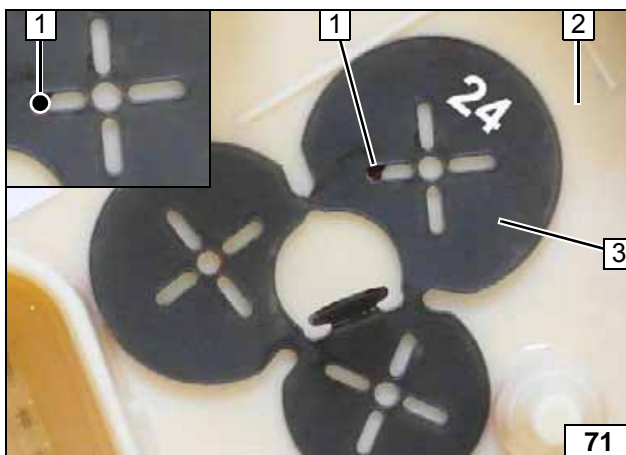


Work steps F1, F2.1 and F2.2.



- 1 Fuel tank sending unit
- 2 Position 24mm dia. drilling template as shown against the raised parts
- 3 Barcode label, moved

**Positioning
drilling tem-
plate**



Work step F2.3.



Note the position of hole pattern 1!

- 1 Copy hole pattern as shown
- 2 Fuel tank sending unit
- 3 24 mm dia. drilling template

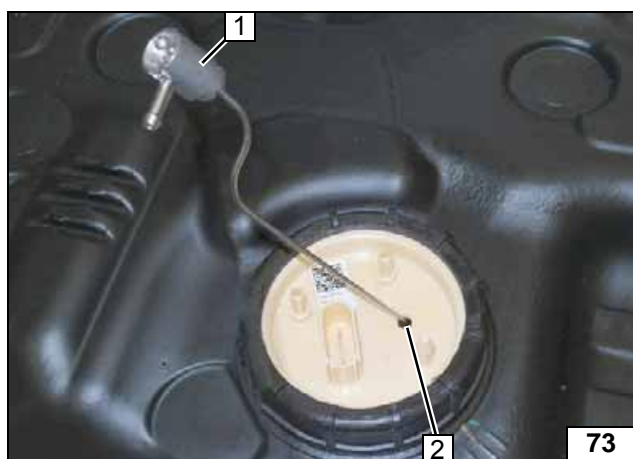
**Copying
hole pattern**



Work step F3.

- 1 Hole made with provided drill

Hole for FuelFix



Work steps F4 and F5.

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



Inserting FuelFix



Work step F5.

Inserting FuelFix



Inserting FuelFix



Inserting
FuelFix



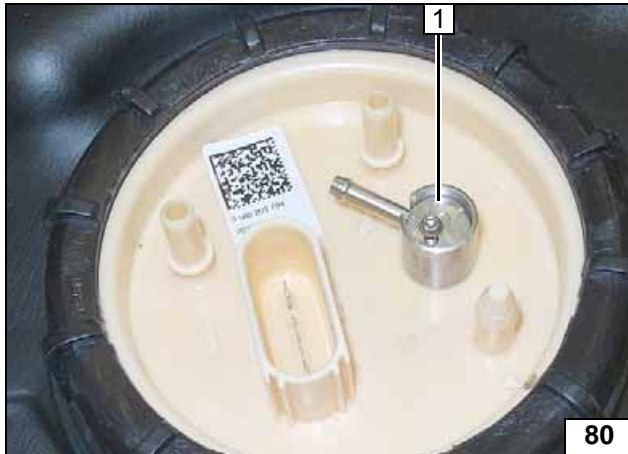
Inserting
FuelFix



Inserting
FuelFix



Inserting
FuelFix

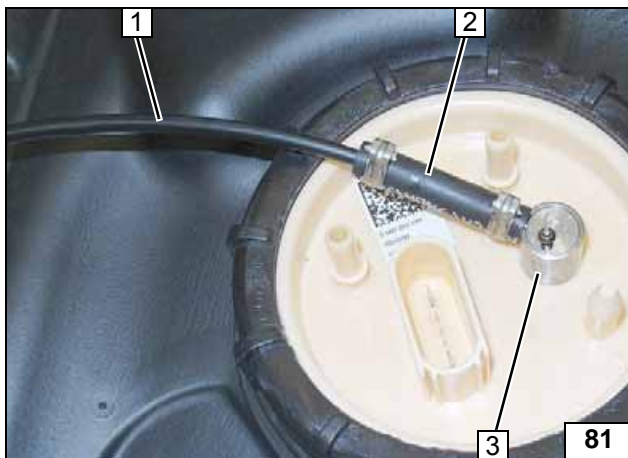


Work steps F5.3 and F5.4.

Align FuelFix 1 as shown.



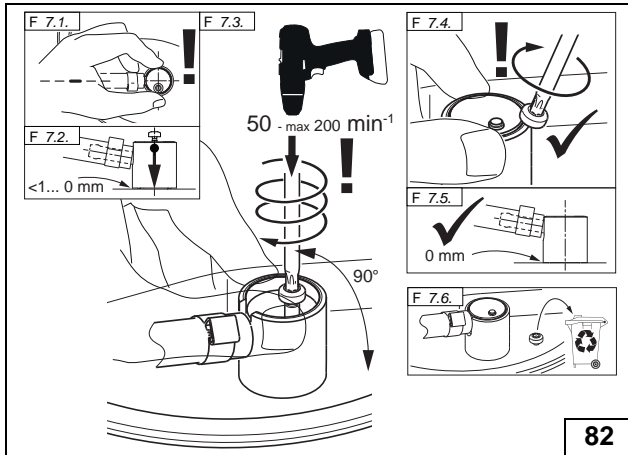
Aligning FuelFix



Work step F6.

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

Connecting fuel line



Work step F7.

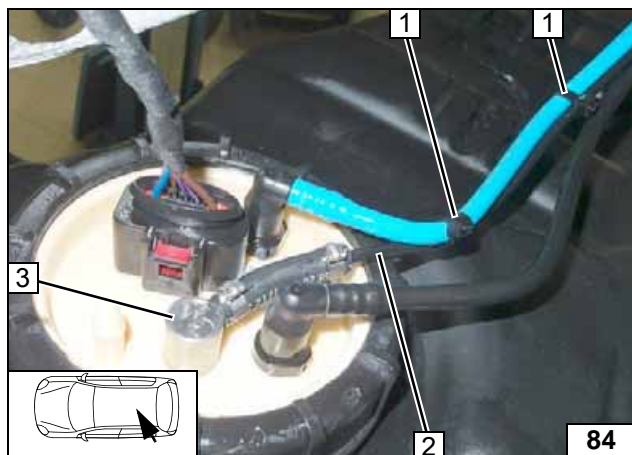


Installing FuelFix



Work step F8.

Ensuring firm seating of FuelFix



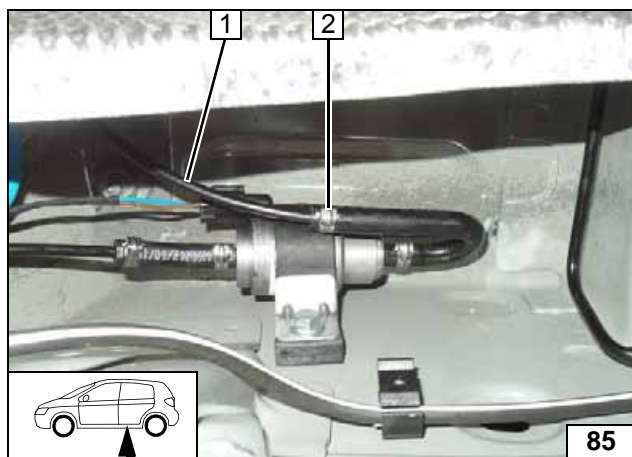
Install tank lowered!

- 1 Cable tie as tension relief [2x]
- 2 Fuel line of FuelFix
- 3 FuelFix installed



Securing fuel line

Install fuel tank in accordance with manufacturer's instructions.

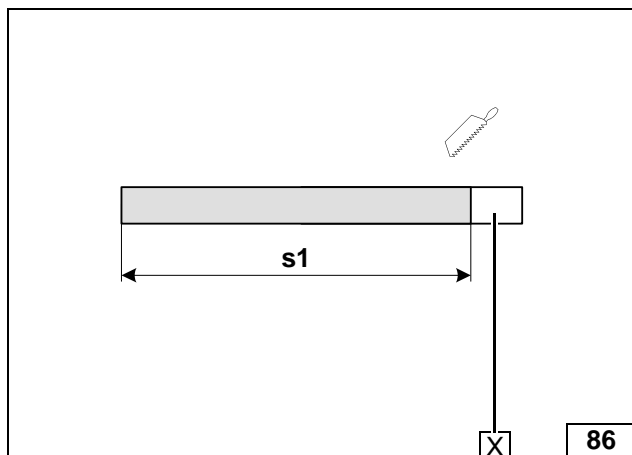
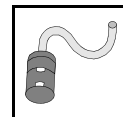


Ensure sufficient distance from neighbouring components, correct if necessary.

- 1 Fuel line of FuelFix
- 2 10 mm dia. clamp



Connecting metering pump

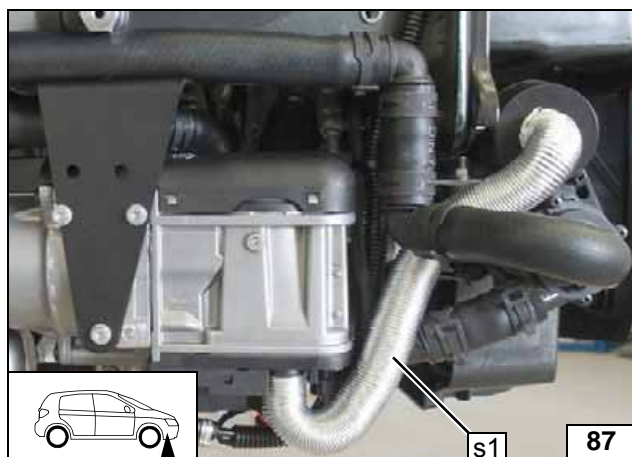


Combustion Air

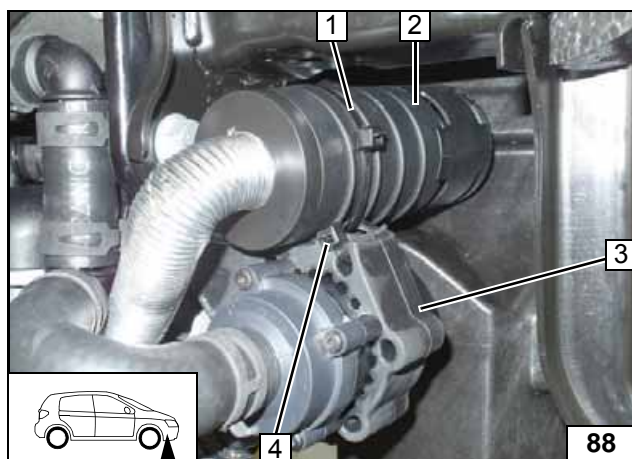
s1 = 270

X =

Cutting combustion air pipe s1 to length



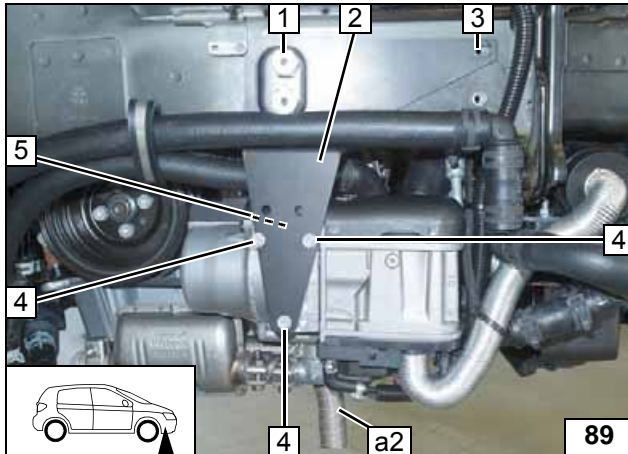
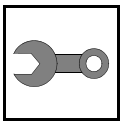
Installing combustion air pipe s1



- 1 Pre-mounted cable tie
- 2 Silencer
- 3 Circulating pump mount
- 4 Cable tie; led through circulating pump mount and pre-mounted cable tie



Installing silencer



Installation, part 2

Tighten 30mm spacer nut 1 as well as self-tapping bolts at positions 4 [3x] and 5 [2x, hidden].

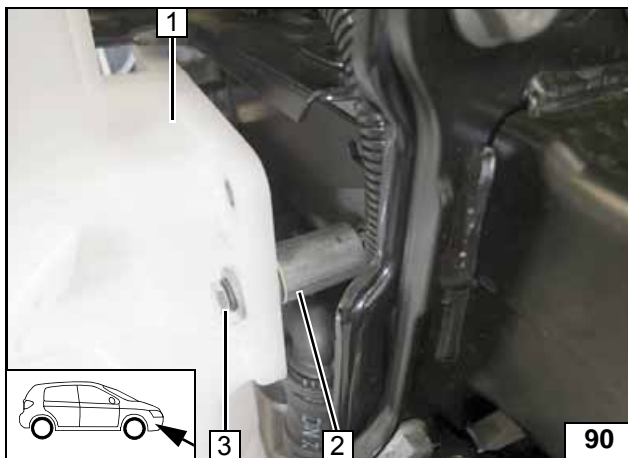
Ensure that the hole is properly centred at position 3.

Bend exhaust pipe a2 as shown.

- 2 Bracket

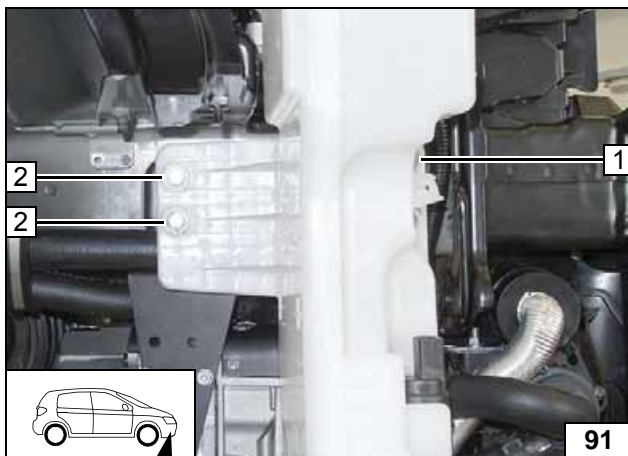


Aligning heater / installing bracket / bending exhaust pipe a2



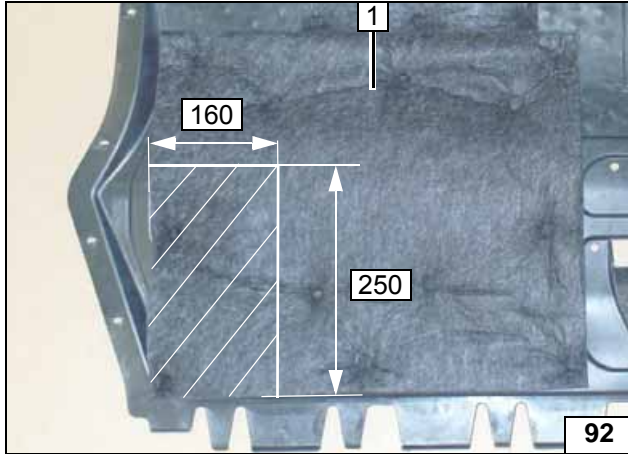
- 1 Washer reservoir
- 2 Large diameter washer, 30mm shim
- 3 M6x60 bolt, spring lockwasher, large diameter washer

Mounting washer reservoir



- 1 M6x60 bolt, spring lockwasher, large diameter washer, 30mm shim
- 2 M6x20 bolt, spring lockwasher, large diameter washer [2x each]

Mounting washer reservoir

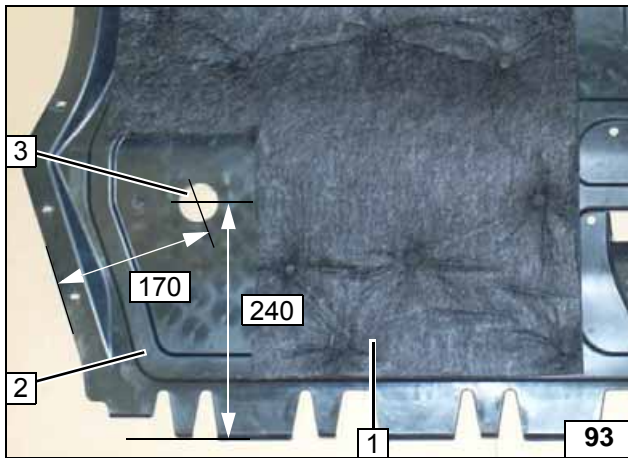


Exhaust End Fastener Installation

Remove insulation 1 in shaded area.



Cutting out insulation

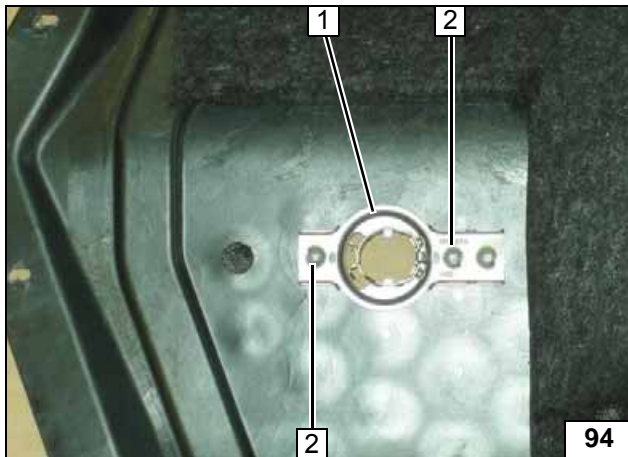


Work step E1.

- 1 Insulation
- 2 Underride protection
- 3 Hole



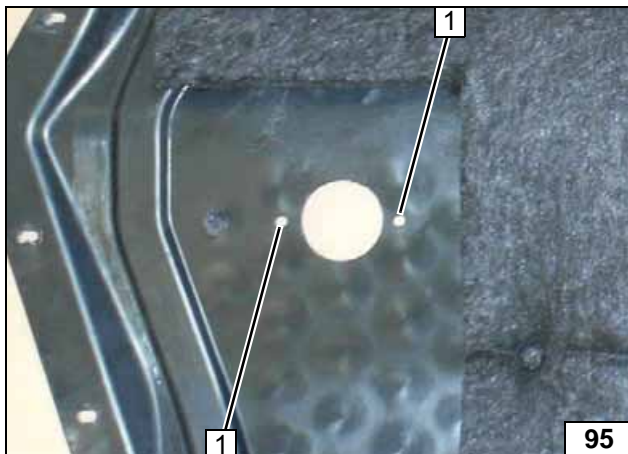
Hole in underride protection



Work step E3.

- 1 Exhaust end fastener
- 2 Hole pattern [2x]

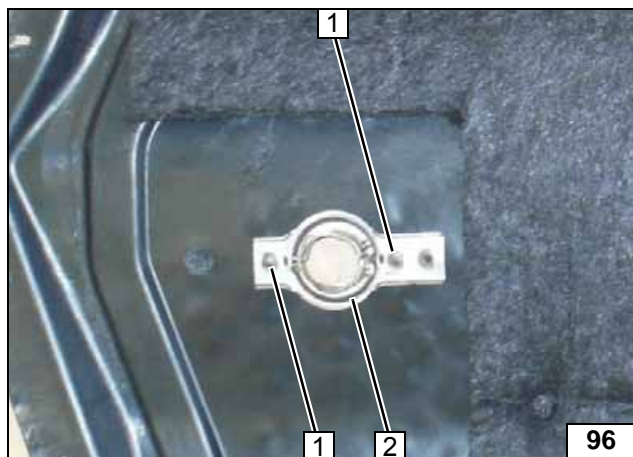
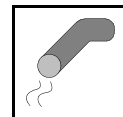
Copying hole pattern



Work step E4.

- 1 Hole [2x]

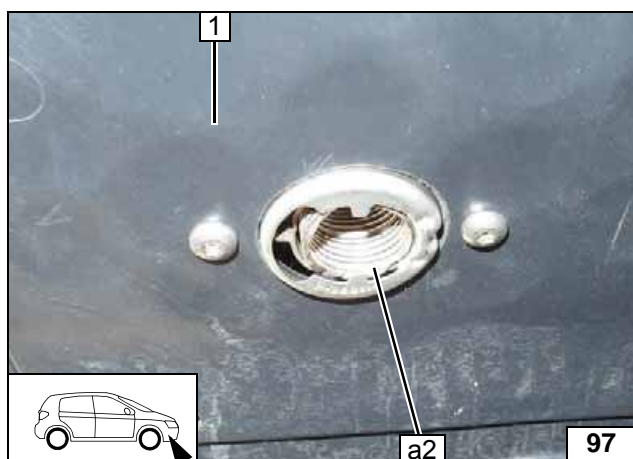
Holes in underride protection



Work step E5.

- 1 5x13 self-tapping screw [2x]
- 2 Exhaust end fastener

**Installing ex-
haust end
fastener**



Mount bumper.
Install underide protection 1.



**Installing
exhaust
pipe a2**

Work steps E6 - E8.



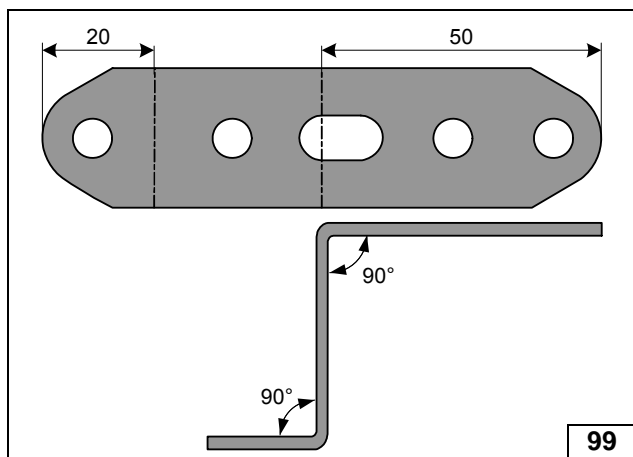


Final Work

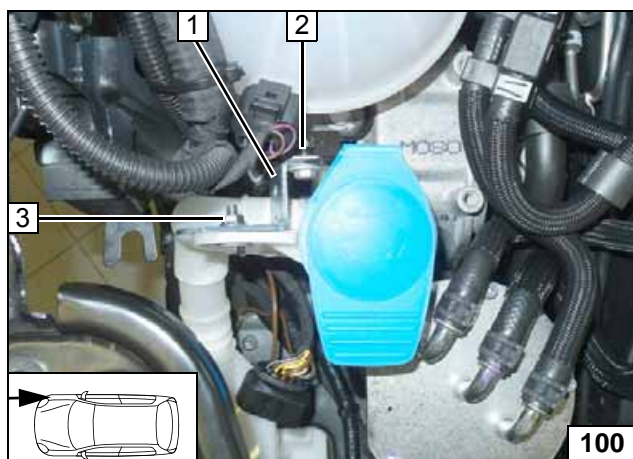
Cut off plastic collar on the washer reservoir filler neck 1 if necessary!



Adapting washer reservoir filler neck



Preparing perforated bracket



- 1 Perforated bracket
- 2 Original vehicle bolt, existing hole
- 3 M6x16 bolt, large diameter washer, existing hole, flanged nut

Attaching washer reservoir filler neck



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).

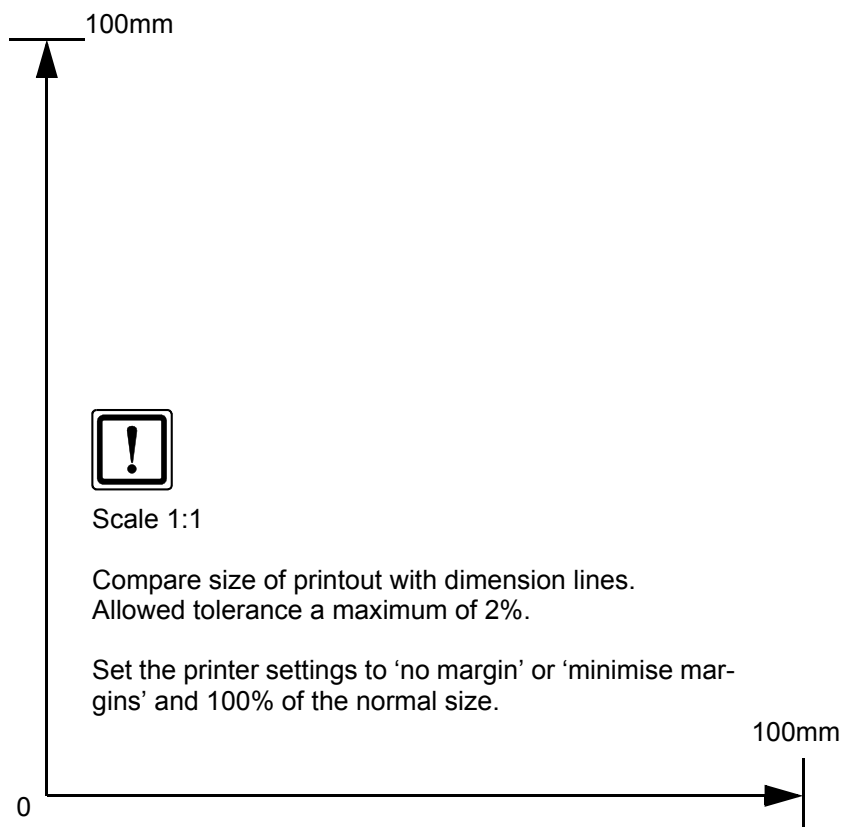
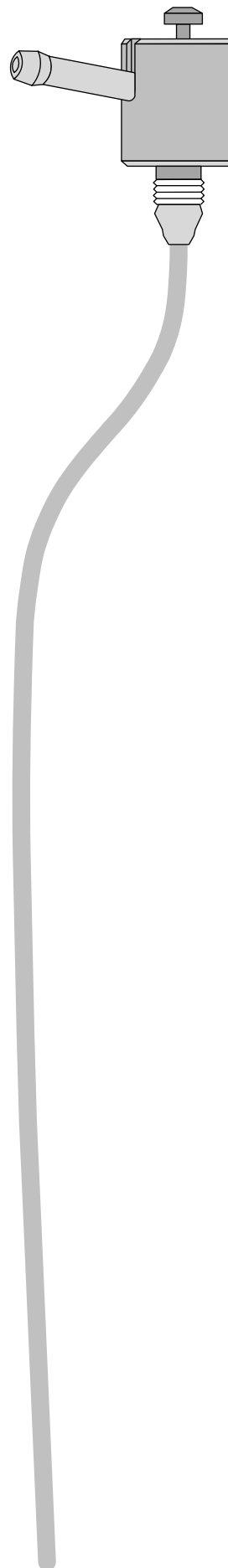
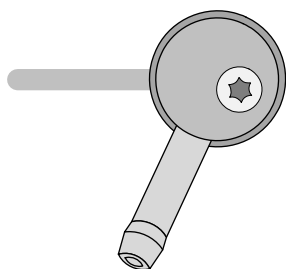
- **Connect the battery.**
- **Fill and bleed the coolant circuit according to the vehicle manufacturer's instructions.**
- **Program MultiControl CAR, teach Telestart transmitter.**
- **For initial startup and function check, please see installation instructions.**
- **Make settings on the A/C control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





FuelFix Template

Top view



Operating Instructions for Climatronic

Please remove page and add to the vehicle operating instructions.

Note:

We recommend matching the heating time to the driving time.
 Heating time = driving time

Example:

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

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

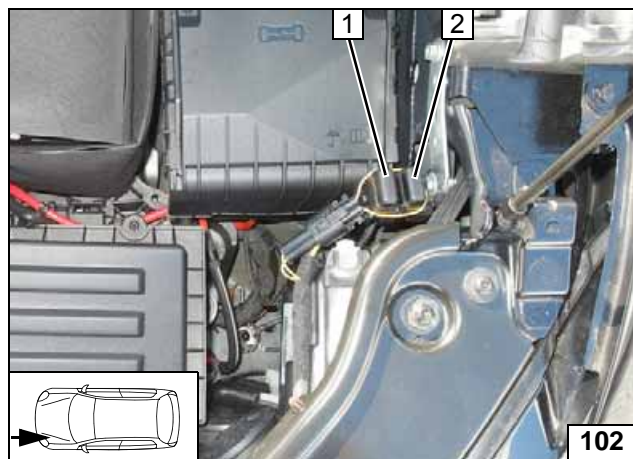
For instructions on deactivation, please refer to the operating instructions of the vehicle.

Before parking the vehicle, make the following settings:

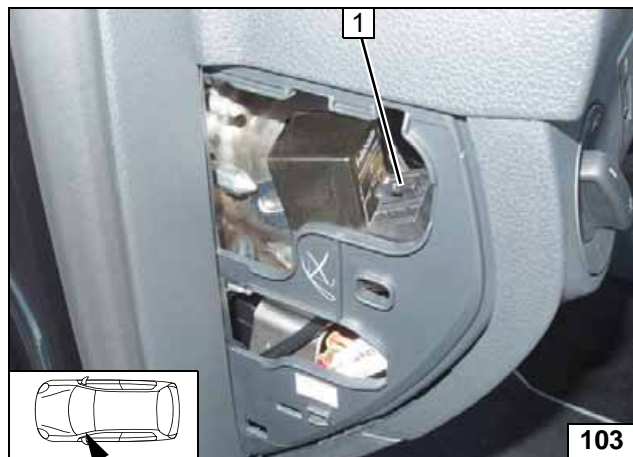


Setting the fan speed is not required, it will automatically be set to approx. 1/3.

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



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



- 1 1A heater control fuse F3



A/C control panel

Engine compartment fuses

Passenger compartment fuse