Water Heater

Thermo Top Evo Parking Heater

E1
00 0258

With FuelFix

Installation Documentation
Toyota Yaris

Validity

Manufacturer	Model	Type	EG BE No. / ABE
Toyota	Yaris	XP13M	e11 * 2007 / 46 * 0152 * ...

Motorisation	Fuel	Transmission type	Output in kW	Displacement in cm³	Engine code
1.0 P	Petrol	5-gear SG	51	998	1KR-FE
1.3 P	Petrol	6-gear SG	73	1329	1NR-FE
1.3 P	Petrol	CVT	73	1329	1NR-FE
1.4 D	Diesel	6-gear SG	66	1364	1ND-TV

SG = manual transmission
CVT = Multidrive S Transmission

From model year 2012
Left-hand drive vehicle

Verified equipment variants: Manual / automatic air-conditioning system
Front fog lights
LED daytime running lights
Start-Stop for 1.3 P

Not verified: Passenger compartment monitoring
Headlight washer system

Exclusion: 1.4 D Euro 6

Total installation time: approx. 7 hours

Toyota Yaris

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Necessary Components

- Basic delivery scope of Thermo Top Evo according to price list
- Installation kit with FuelFix for Toyota Yaris 2012 Petrol and diesel: **1317761B**
- Heater control in accordance with price list and upon consultation with end customer
- In case of Telestart, indicator lamp in accordance with price list and in consultation with end customer

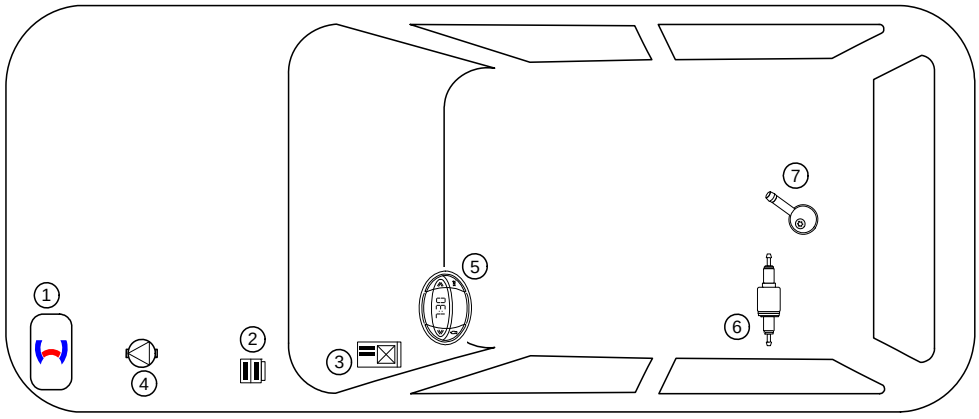
Installation instructions:

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

Installation Overview

Legend:

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



Information on Total Installation Time

The total installation time includes the time needed for mounting and demounting the vehicle-specific components, the heater specific installation time and all other times required for the system integration and initial start-up of the heater.
The total installation time may vary for vehicle equipment other than provided.

Information on Operating and Installation Instructions

1 Important information (not complete)

1.1 Installation and repair

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

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

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

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

1.2 Operation

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

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

Always switch off the heater before refuelling.

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

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

1.3 Please note

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

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

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

Important

Webasto shall assume no liability for defects, damage and injuries resulting from a failure to observe the installation, repair and operating instructions of the information contained in them.

This liability exclusion particularly applies to improper installations and repairs, installations and repairs by untrained persons or in the case of a failure to use genuine spare parts.

The liability due to culpable disregard to life, limb or health and due to damage or injuries caused by a wilful or reckless breach of duty remain unaffected, as does the obligatory product liability.

Installation should be carried out according to the general, standard rules of technology. Unless specified otherwise, fasten hoses, lines and wiring harnesses to original vehicle lines and wiring harnesses using cable ties. Insulate loose wire ends and tie back. Connectors on electronic components have to audibly click into place during installation.

Sharp edges should be fitted with rub protection. Spray unfinished body areas, e.g. drilled holes, with anti-corrosion wax (Tectyl 100K).

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

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

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

2 Statutory regulations governing installation

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

Note

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

Important

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

Note

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

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

Beginning of excerpt.

ANNEX VII

REQUIREMENTS FOR COMBUSTION HEATERS AND THEIR INSTALLATION

1. GENERAL REQUIREMENTS

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

2. VEHICLE INSTALLATION REQUIREMENTS

2.1. Scope

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

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

2.2. Positioning of heater

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

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

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

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

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

2.3. Fuel supply

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

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

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

2.4. Exhaust system

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

2.5. Combustion air inlet

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

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

2.6. Heating air inlet

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

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

2.7. Heating air outlet

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

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

End of excerpt.

In multilingual versions the German language is binding.

Toyota Yaris

Information on Validity

This installation documentation applies to Toyota Yaris Petrol and diesel vehicles - for validity, see page 1 - from model year 2012 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

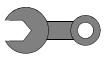
Dimensions
- All dimensions are in mm.

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.

Mechanical System



Electrical System

Coolant Circuit

Combustion Air

Fuel

Exhaust Gas

Software

Special features are highlighted using the following symbols:

Specific risk of damage to components.

Specific risk due to electrical voltage.

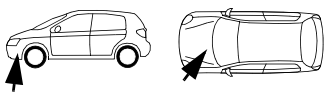
Specific risk of injury or fatal accidents.

Specific risk of fire or explosion.

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

Reference to a special technical feature.

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



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

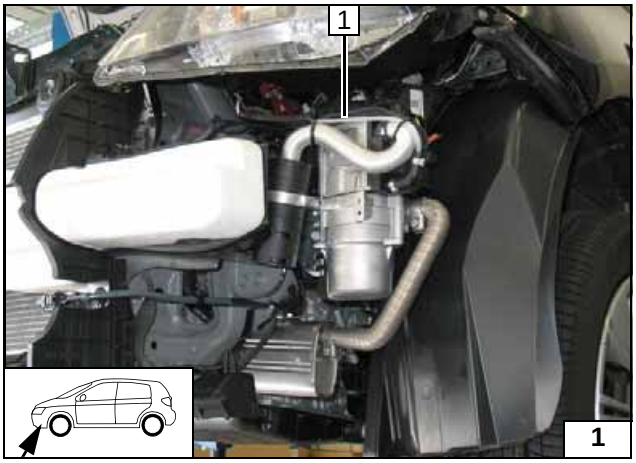
Preliminary Work

Vehicle

- Open the fuel tank cap.
- Ventilate the fuel tank.
- Close the fuel tank cap again.
- Depressurise the cooling system.
- Disconnect and completely remove the battery together with the carrier.
- Remove the air filter completely, together with the intake hose.
- Remove the coolant reservoir cap.
- Remove the windscreen wiper.
- Remove the coolant reservoir cap.
- Remove the windscreen wiper motor.
- Remove the entire coolant reservoir.
- Remove the left headlight.
- Detach the wheel well trim on the right and left.
- Remove the bumper.
- Remove the front left-hand underride protection.
- Remove the rear bench seat.
- Open the right-hand tank-fitting service lid.
- Remove the lower instrument panel trim on the driver's side
- Remove the footwell trim on the driver's side.

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.

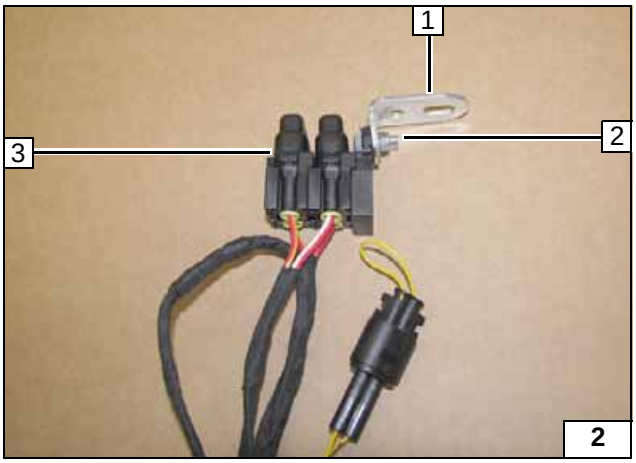


Heater Installation Location

1 Heater

Installation location

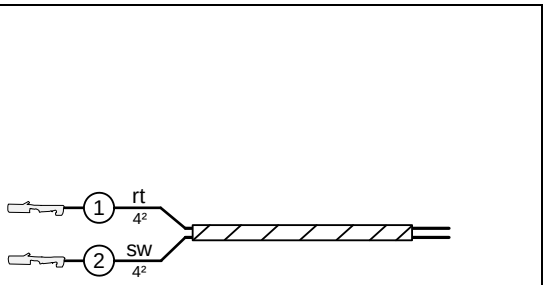
Preparing Electrical System



2

1 Angle bracket
2 M5x16 bolt, large diameter washer [2x], retaining plate for engine compartment fuse holder, nut
3 Fuse F1-2

Preparing fuse holder of engine compartment



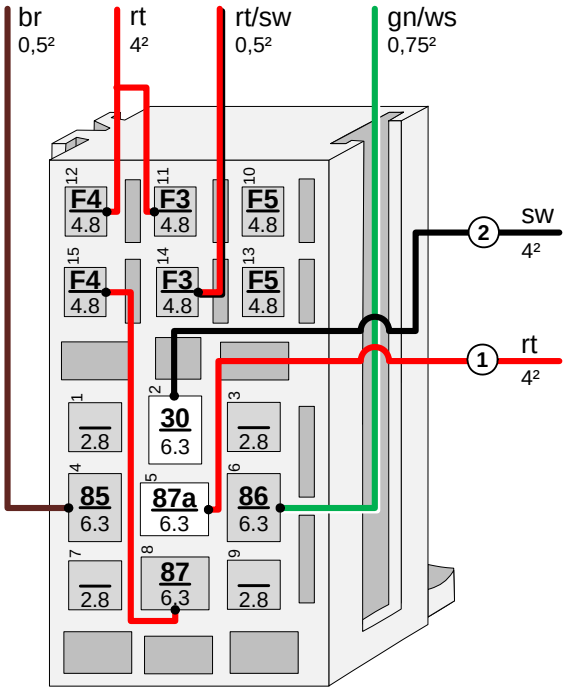
3

Wire sections retain their numbering in the entire document.

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

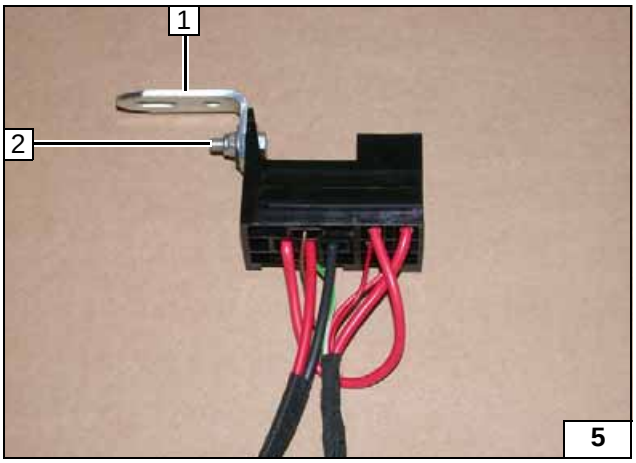
① Red (rt) wire of fan wiring harness
② Black (sw) wire of fan wiring harness

Assigning wires



4

Connecting wires to passenger compartment relay and fuse holder

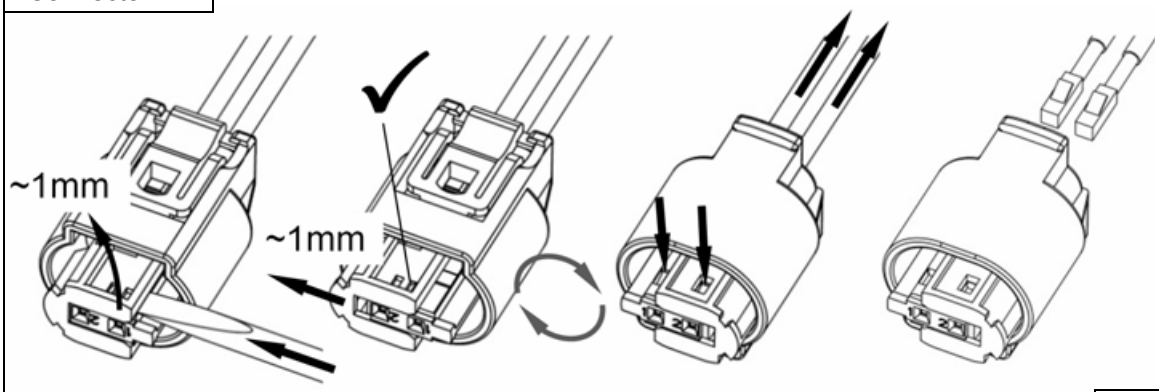


5

1 Angle bracket
2 M5x16 bolt, large diameter washer [2x], fuse holder of passenger compartment, angle bracket, nut

Preparing relay and fuse holder of passenger compartment

Connector X7



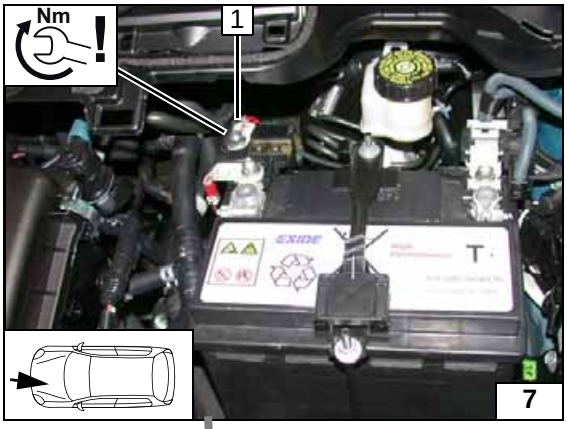
6

Dismantling metering pump connector

Electrical System

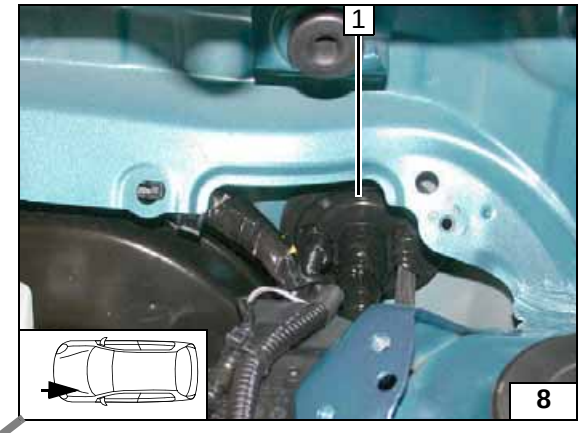
Positive wire

1 Positive wire on positive battery terminal

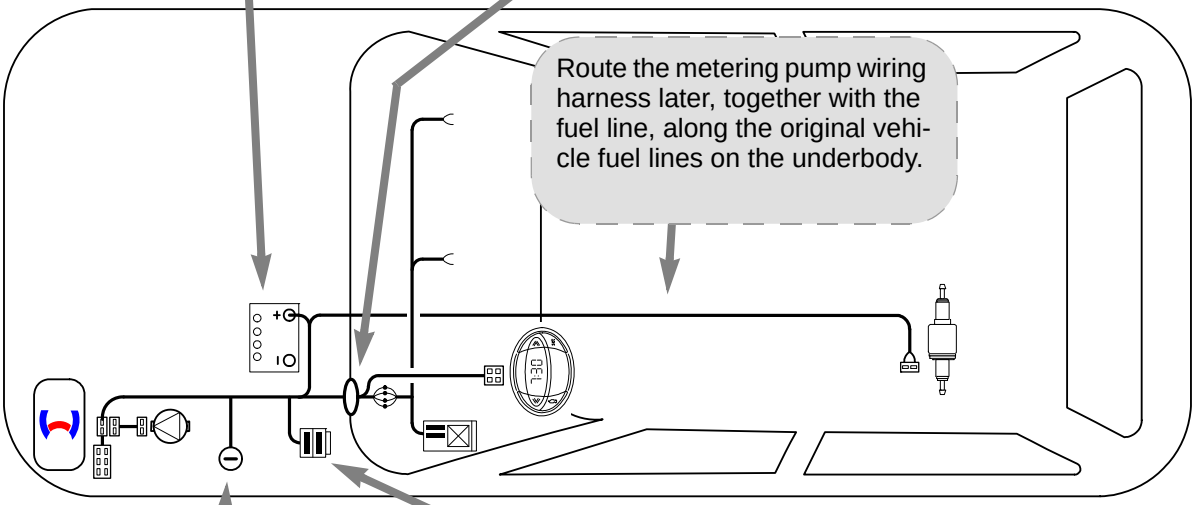


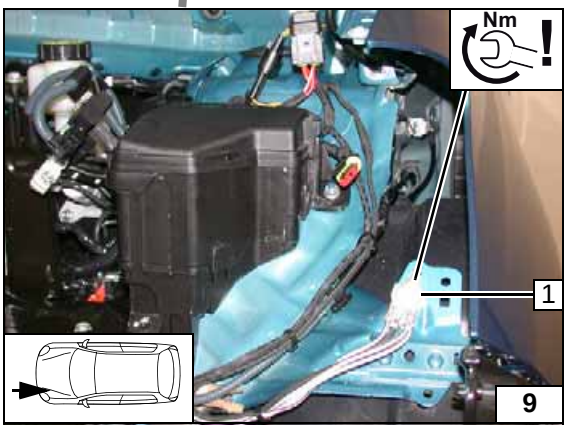
Wiring harness pass through

1 Protective rubber plug



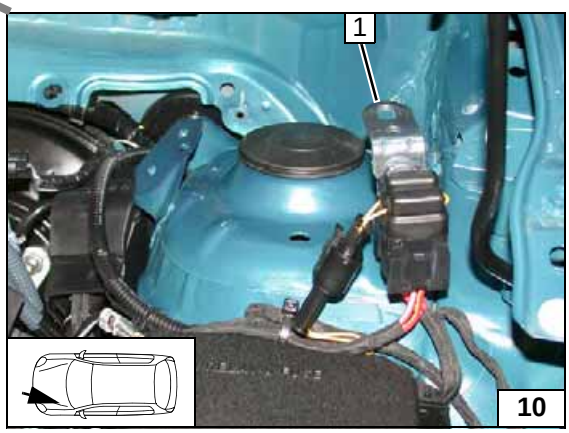
Wiring harness routing diagram





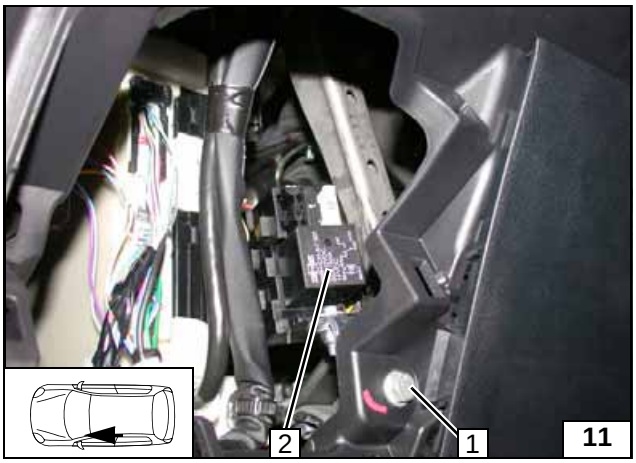
Earth wire

1 Earth wire on original vehicle earth support point



Engine compartment fuse holder

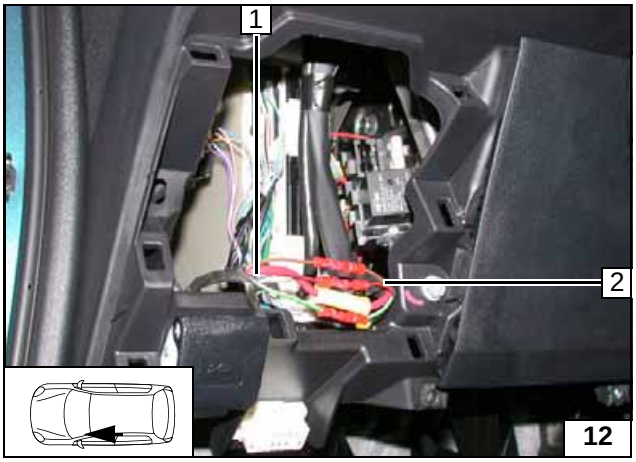
Position fuse holder of engine compartment **1** as shown. Will be mounted during final work.



Remove original vehicle bolt at position **1** and discard.

1 M6x25 bolt, 8 mm shim, angle bracket, flanged nut
2 Relay K1

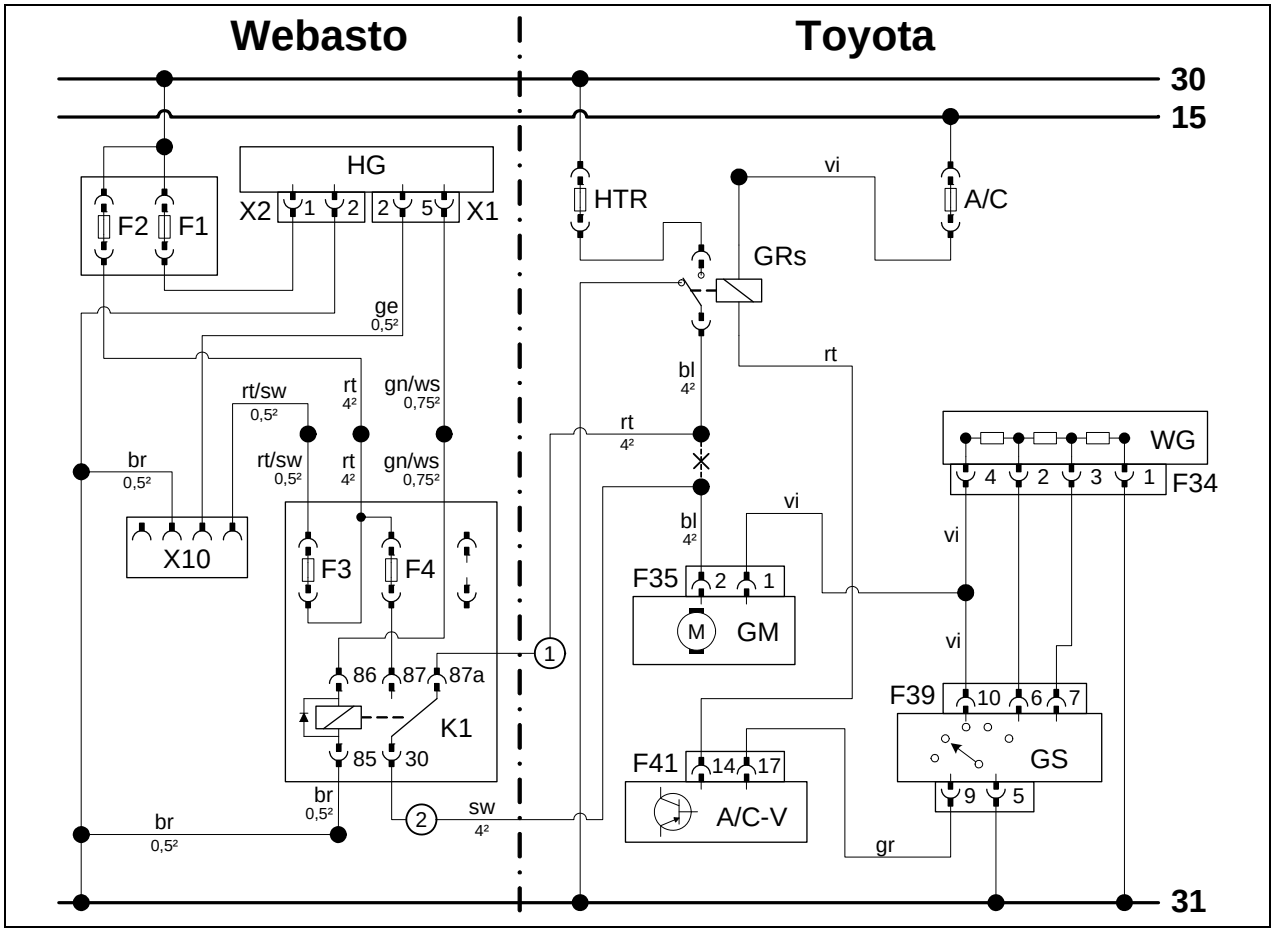
Installing relay and fuse holder of passenger compartment



1 Heater wiring harness
2 Wiring harness of passenger compartment fuse holder

Connecting wiring harnesses

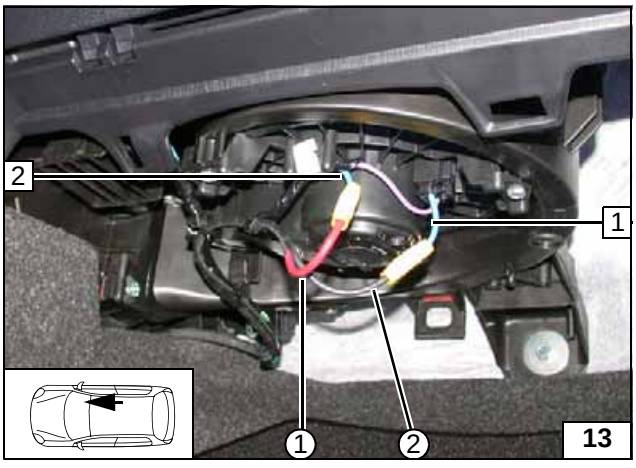
Manual Air-Conditioning Fan Controller



Wiring diagram

Webasto components		Vehicle components		Colours and symbols	
HG	TT-Evo heater	HTR	40A fuse	rt	red
X1	6-pin heater connector	A/C	7.5A fuse	sw	black
X2	2-pin heater connector	GRs	Fan relay	ge	yellow
F1	20A fuse	WG	Resistor group	gn	green
F2	30A fuse	F34	WG connector	vi	violet
X10	4-pin connector of heater control	GM	Fan motor	ws	white
		F35	2-pin connector GM	br	brown
F3	1A fuse	GS	Fan switch	bl	blue
F4	25A fuse	F39	GS connector	gr	grey
K1	Fan relay	A/C-V	A/C booster	X	Cutting point
		F41	A/C-V connector	Wiring colours may vary.	

Legend



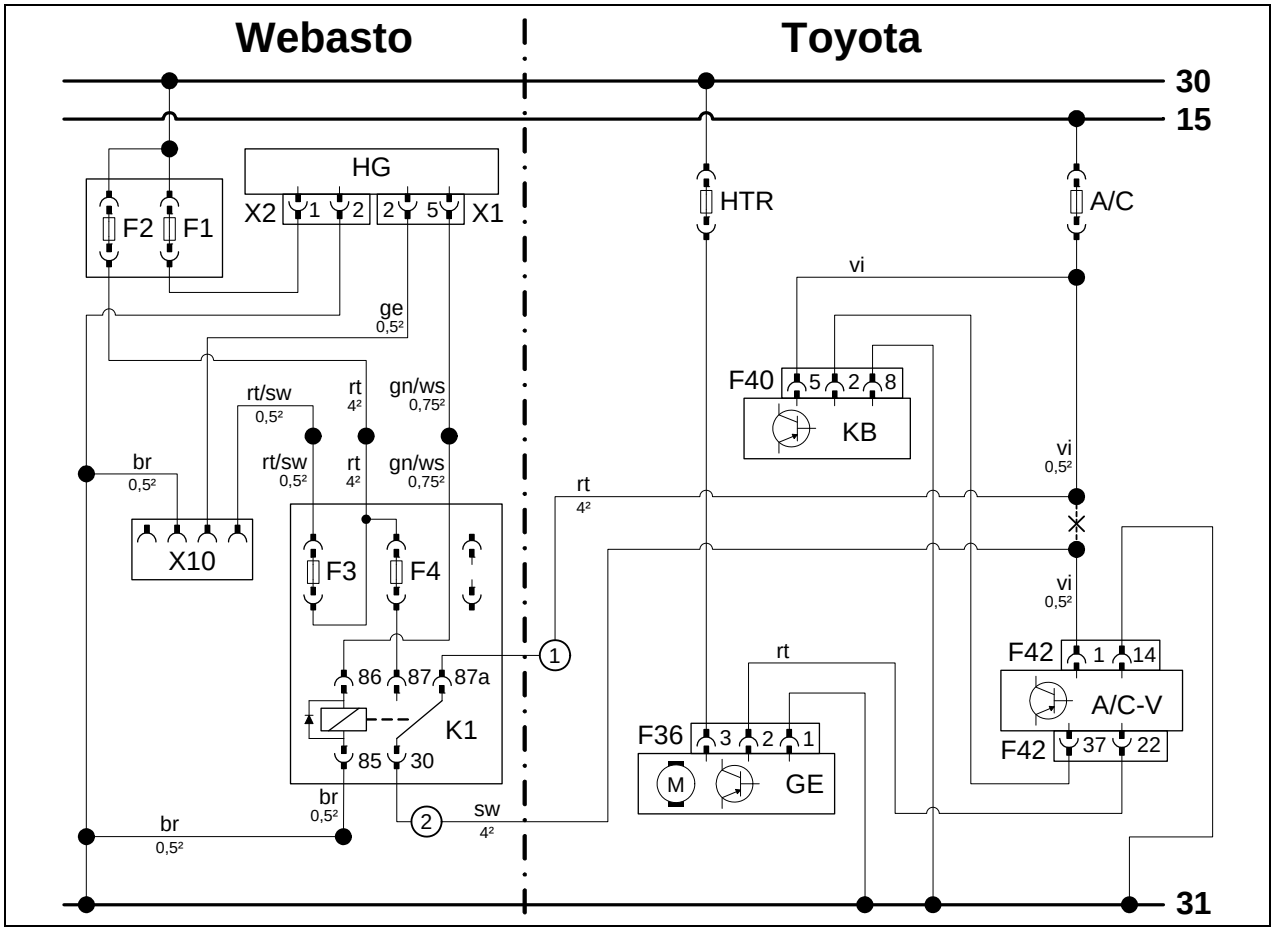
Connection to 2-pin connector F35 from fan motor.

1 Blue (bl) wire to connector F35 pin 2
2 Blue (bl) wire of fan relay
① Red (rt) wire of K1/87a
② Black (sw) wire of K1/30

Connecting fan motor

Automatic Air-Conditioning Fan Controller

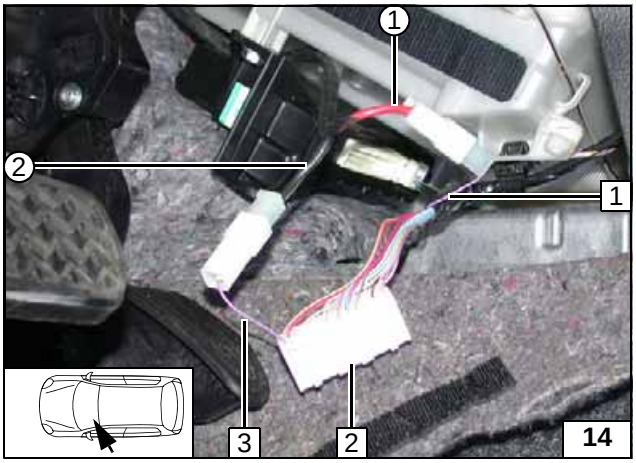
Wiring diagram



Legend

Webasto components		Vehicle components		Colours and symbols	
HG	TT-Evo heater	HTR	40A fuse	rt	red
X1	6-pin heater connector	A/C	7.5A fuse	sw	black
X2	2-pin heater connector	F40	Connector of KB	ge	yellow
F1	20A fuse	KB	A/C control panel	gn	green
F2	30A fuse	F42	40-pin connector of A/C V	vi	violet
X10	4-pin connector of heater control	A/C-V	A/C booster	ws	white
		F36	GE connector	br	brown
F3	1A fuse	GE	Fan unit		
F4	7.5A fuse				
K1	Fan relay			X	Cutting point
				Wiring colours may vary.	

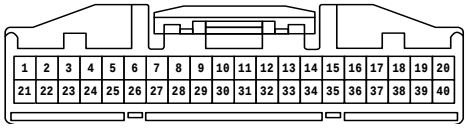
Connecting A/C booster

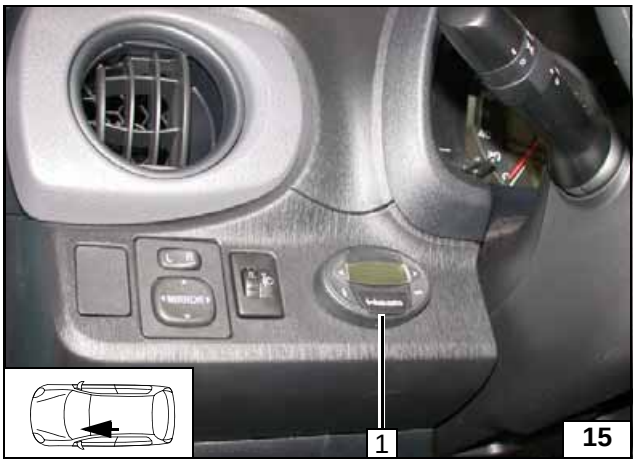


Connection to the 40-pin connector F42 **2** of the A/C booster.

- **1** Violet (vi) wire of A/C fuse
- **3** Violet (vi) wire of connector F42 from A/C booster pin 1
- ① Red (rt) wire of K1/87a, fan wiring harness
- ② Black (sw) wire of K1/30, fan wiring harness

View of F42 connector on contact side:

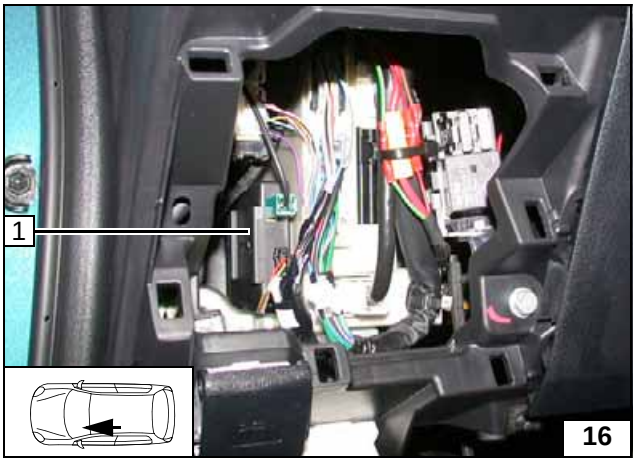




Digital Timer

1 Digital timer

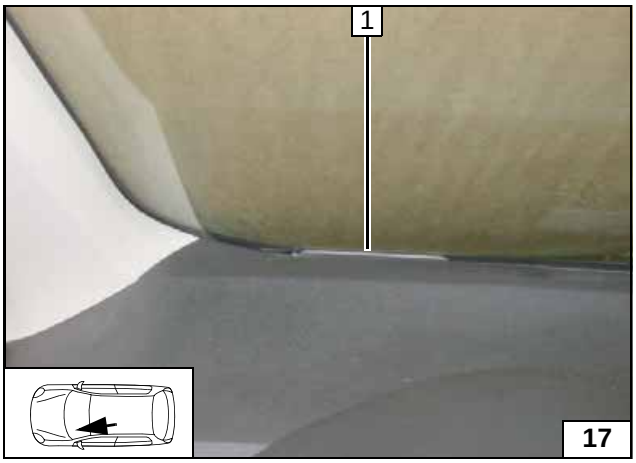
Installing digital timer



Remote Option (Telestart)

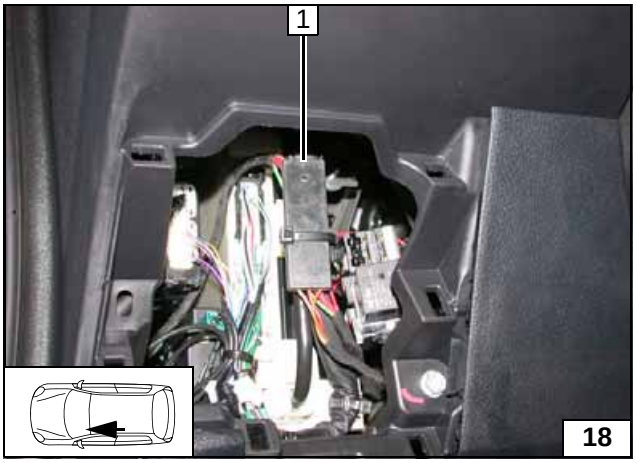
Fasten receiver **1** with adhesive tape.

Installing receiver



1 Aerial

Installing aerial



Temperature sensor T100 HTM

Fasten temperature sensor **1** with cable tie.

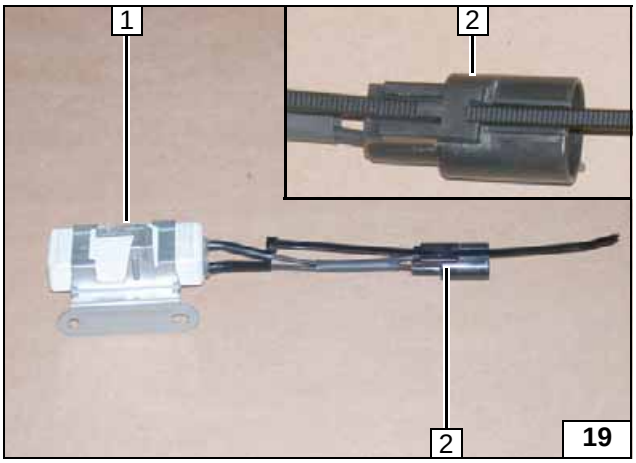
Installing tempera-ture sensor

Preparing Installation Location

Resistor with bracket and connector **1** removed for better display.

2 Cable tie mounted on connector

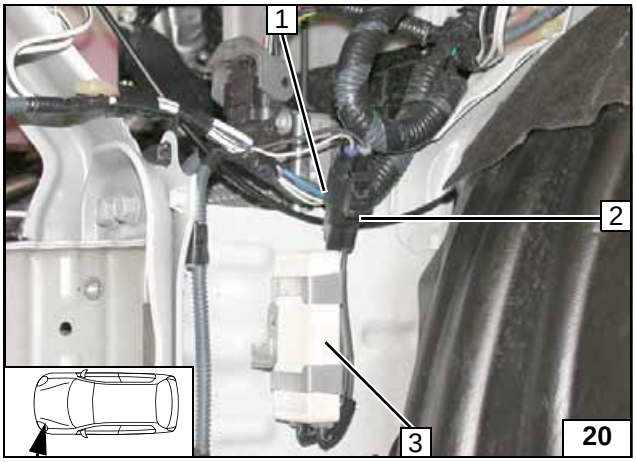
Preparing resistor



Fasten original vehicle connector **2** with cable tie to original vehicle wiring harness (close cable tie **1**)

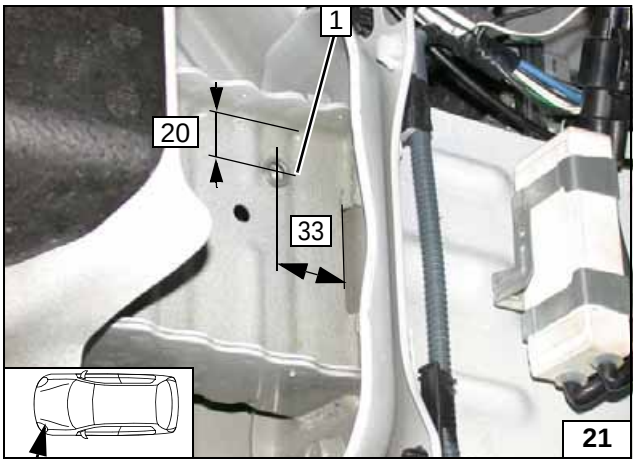
3 Resistor with bracket installed at the same position

Installing resistor



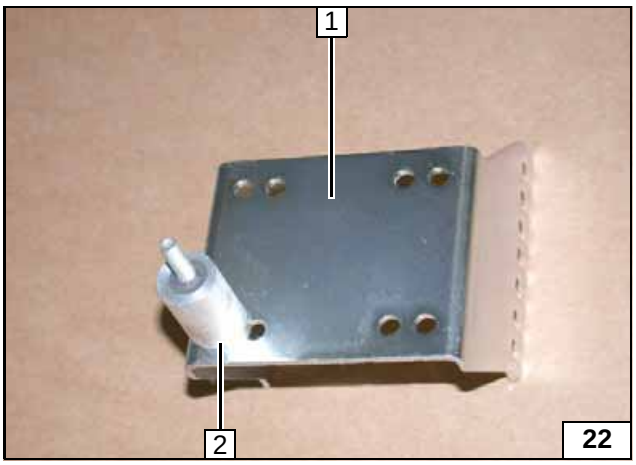
1 9.1 mm dia. hole; rivet nut

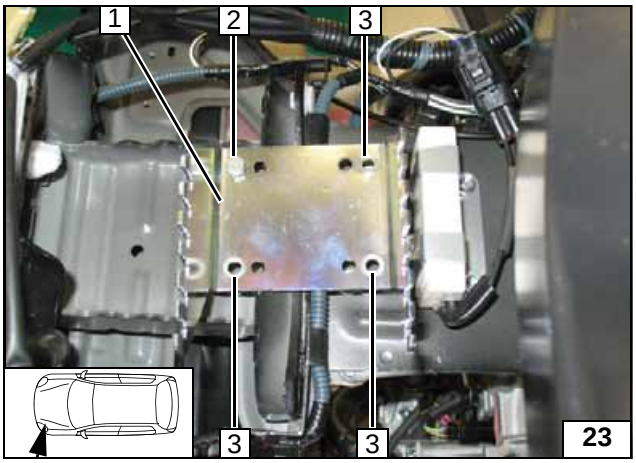
Installing rivet nut



1 Bracket
2 M6x60 bolt, spring lockwasher, 5 mm shim, 30 mm shim, washer, pin lock

Preparing bracket

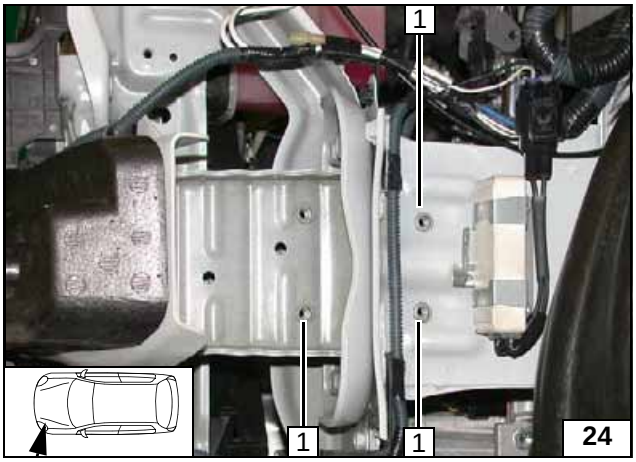




Align bracket **1** and mount loosely.

2 M6x60 bolt
3 Copy hole pattern [3x]

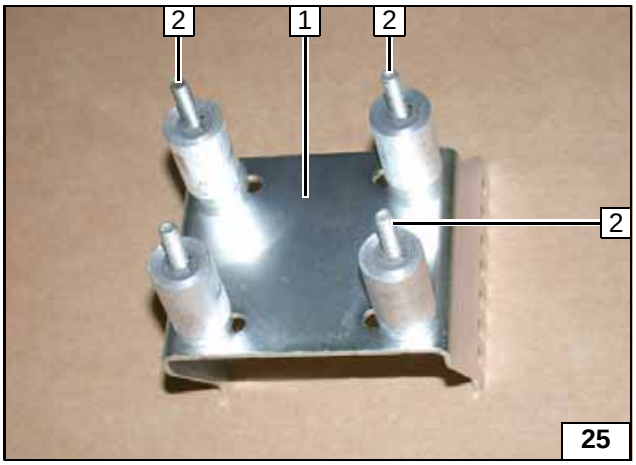
Copying hole pattern



Remove bracket.

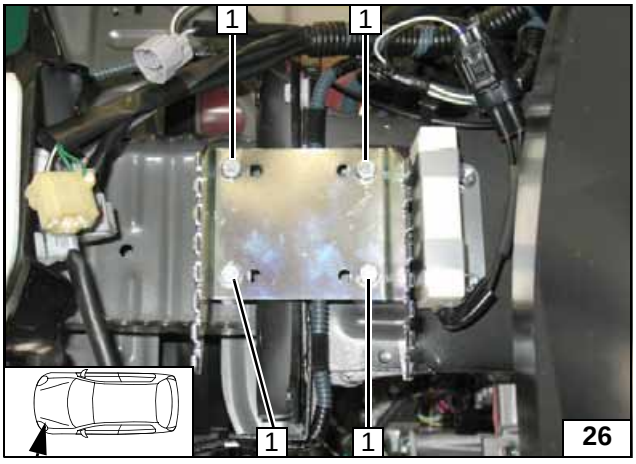
1 9.1 mm dia. hole; rivet nut [3x each]

Installing rivet nut



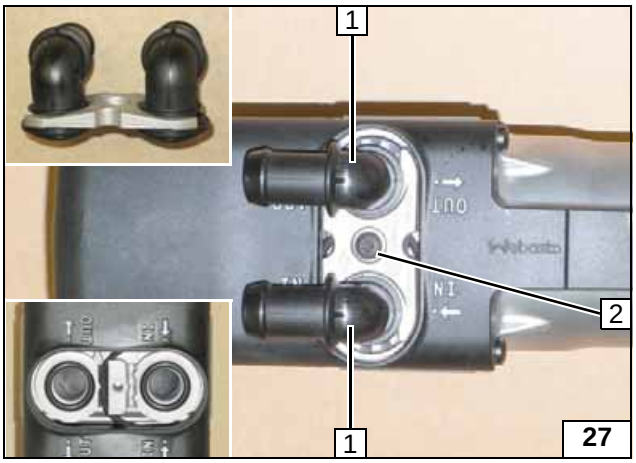
1 Bracket
2 M6x60 bolt, spring lockwasher, 5 mm shim, 30 mm shim, washer, pin lock [3x each]

Preparing bracket



1 Tighten M6x60 bolt [4x]

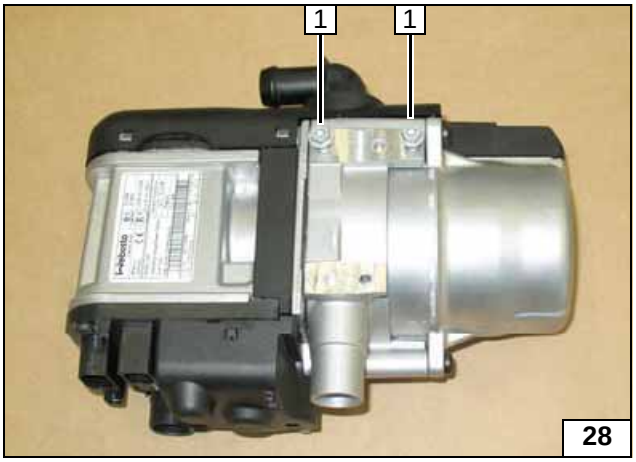
Installing bracket



Preparing Heater

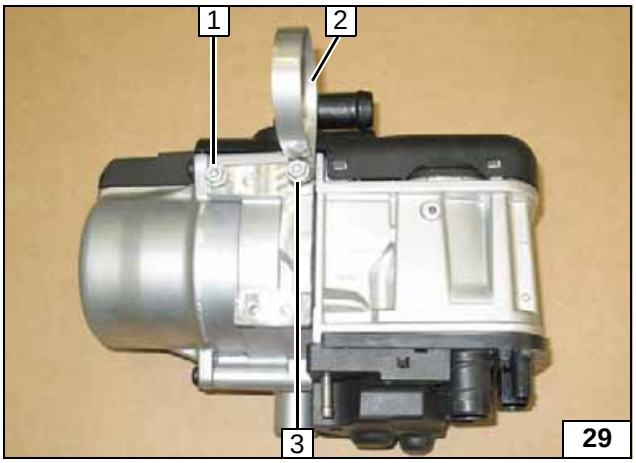
1 Water connection piece, sealing ring [2x each]
2 5x15 self-tapping bolt, retaining plate of water connection piece

Installing water connection piece



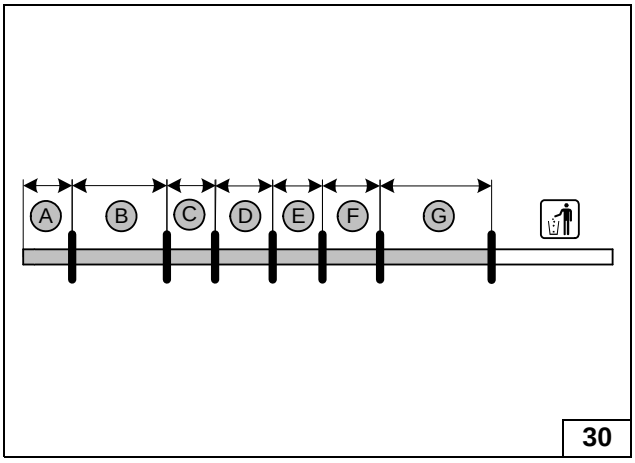
Screw 5x13 self-tapping bolts **1** [2x] into existing holes by a maximum of 3 thread turns.

Premounting bolts loosely



Screw 5x13 self-tapping bolts **1** [2x] into existing holes in position **1** and **3** by a maximum of 3 thread turns.
Loosely mount 51 mm dia. clamp **2** at position **3**.

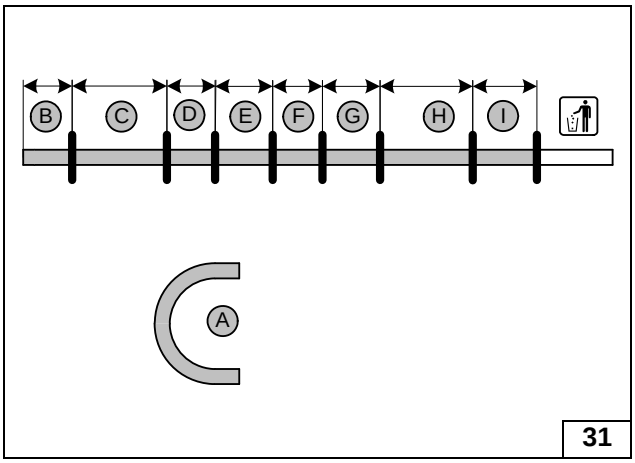
Premounting bolts loosely



Petrol

1.0l		1.3l	
A =	75	**A** =	75
B =	520	**B** =	470
C =	60	**C** =	60
D =	130	**D** =	130
E =	80	**E** =	80
F =	140	**F** =	140
G =	500	**G** =	500

Cutting hoses to length

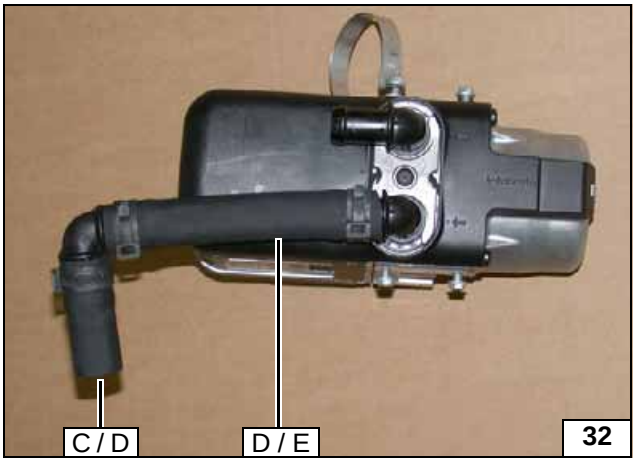


Diesel

A = 180°, 18mm dia.

B = 160
C = 360
D = 60
E = 130
F = 80
G = 160
H = 360
I = 160

Cutting hoses to length

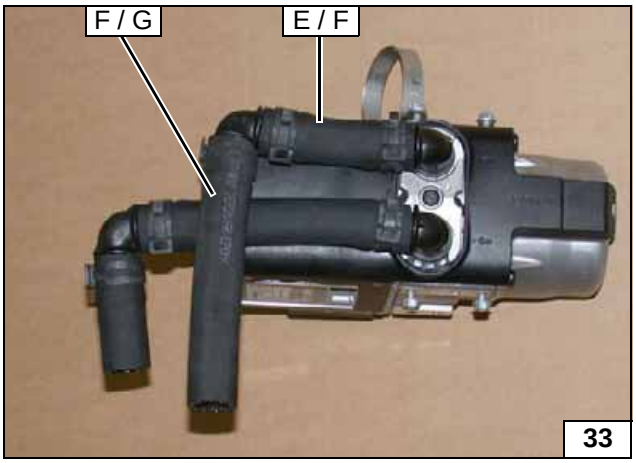


All vehicles

All spring clips = 25 mm dia.
All connecting pipes 90° and 18x18 mm dia.

Petrol **C** and **D**
Diesel **D** and **E**

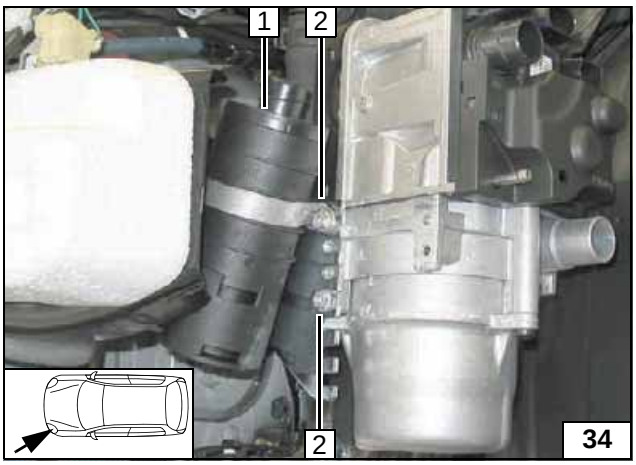
Premounting hoses of heater inlet



All spring clips = 25 mm dia.
All connecting pipes 90° and 18x18 mm dia.

Petrol **E** and **F**
Diesel **F** and **G**

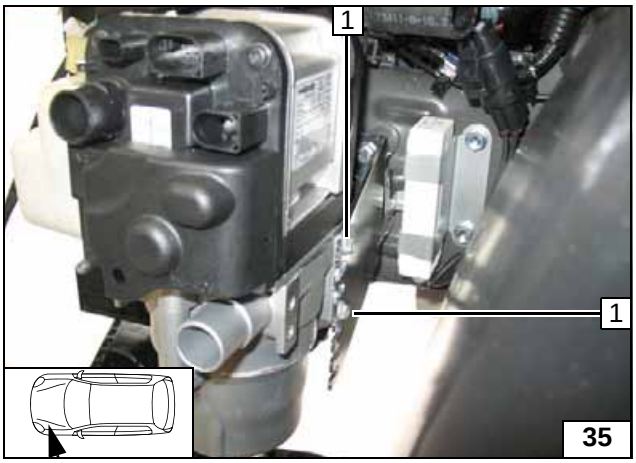
Premounting hoses of heater outlet



Installing Heater

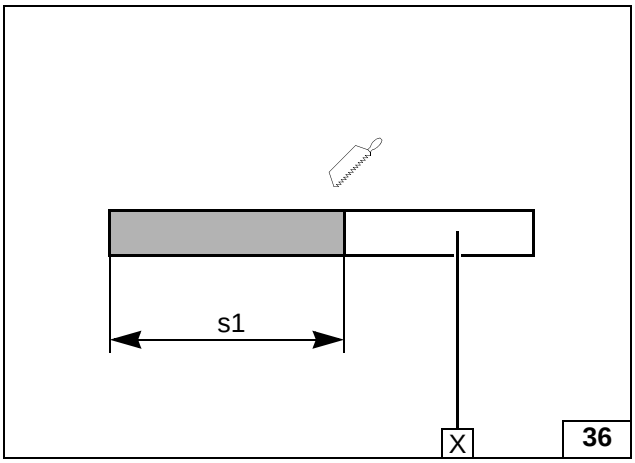
1 Combustion air silencer
2 Tighten 5x13 self-tapping bolt [2x]

Installing Heater



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

Installing heater

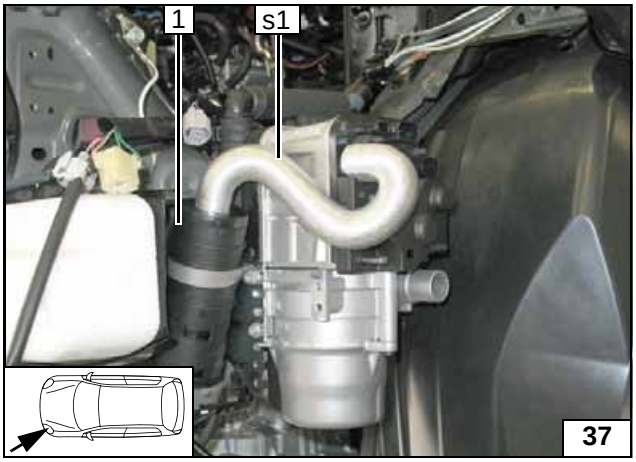


Combustion Air

s1 = 270

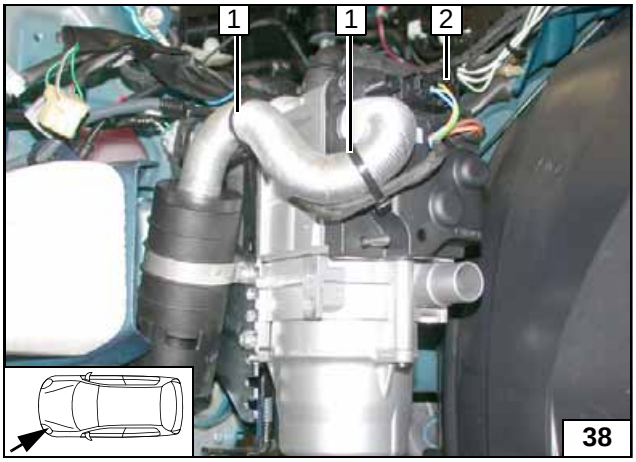
X = 

Cutting to length/assigning combustion air pipe



1 Silencer

Installing combustion air pipe s1



1 Cable tie
2 Installing heater wiring harness [2x]

Wiring harness of heater

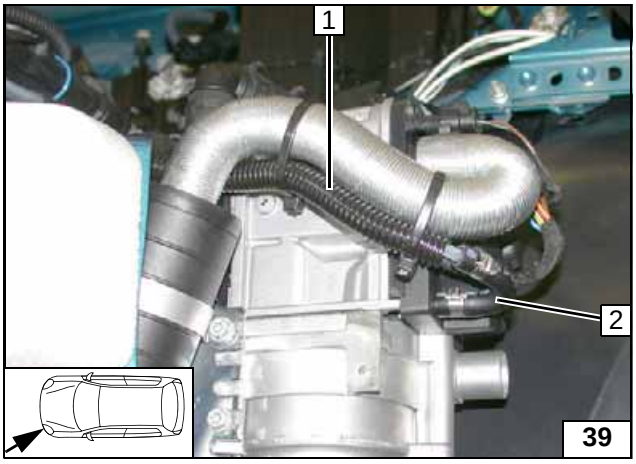
Fuel

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.

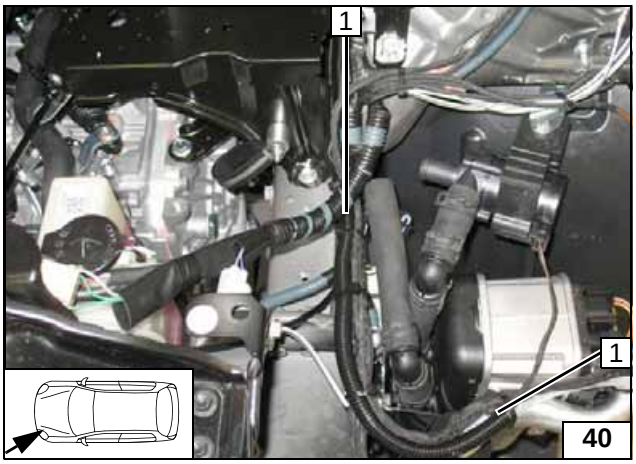
Route fuel line and metering pump wiring harness so that they are protected against stone impact.
Unless specified otherwise, always fasten using cable ties.
Provide rub protection for fuel line and wiring harness in areas where there are sharp edges.

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



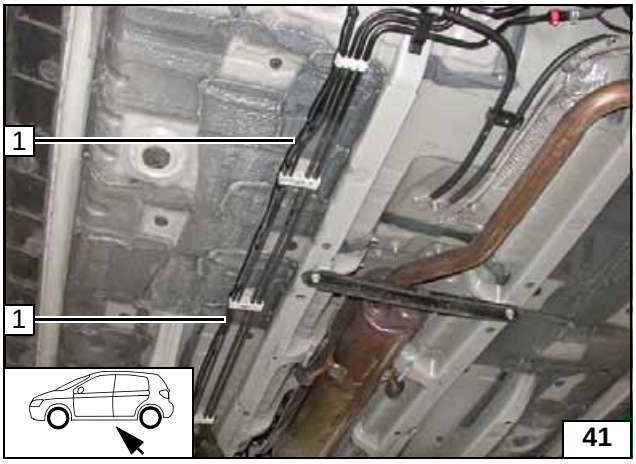
1 Fuel line and wiring harness of metering pump in corrugated tube
2 90° moulded hose, 10mm dia. clamp [2x]

Connecting heater



1 Route fuel line and wiring harness of metering pump in corrugated tube to firewall

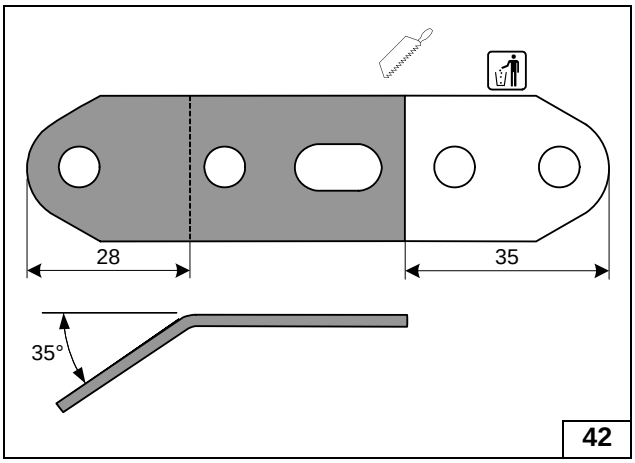
Routing lines



1 Fuel line and wiring harness of metering pump in corrugated tube

Routing lines

Preparing perforated bracket



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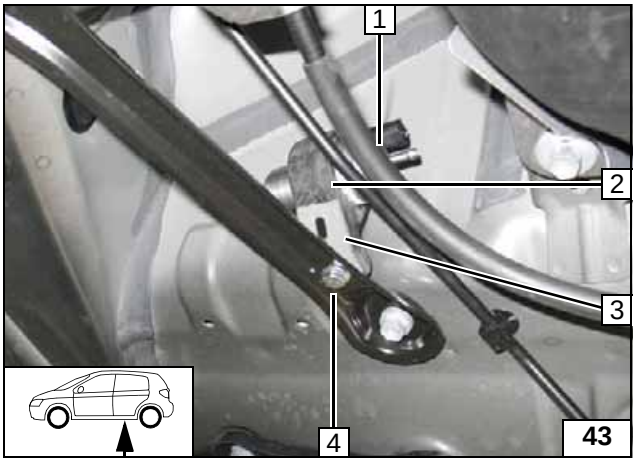
Installing metering pump



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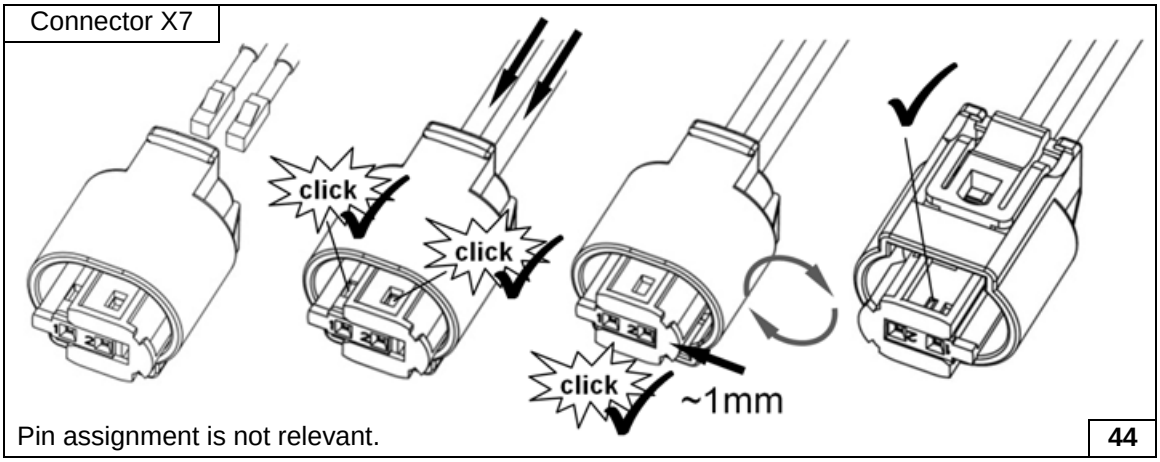
1 Metering pump
2 Metering pump mount
3 Perforated bracket
4 M6x25 bolt, existing hole in strut, support angle bracket, flanged nut

Completing metering pump connector

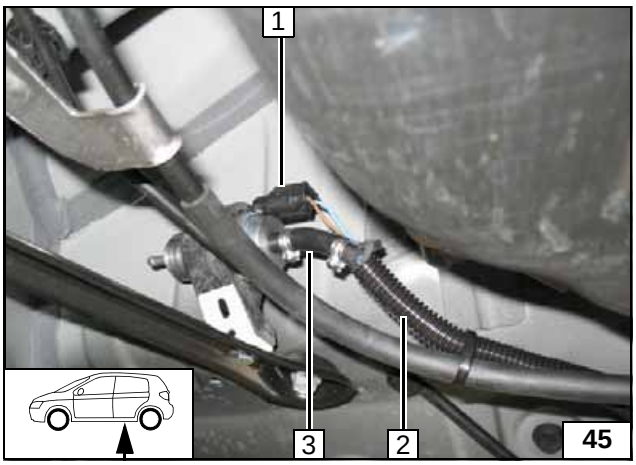
Connector X7



Pin assignment is not relevant.

44

Connecting metering pump



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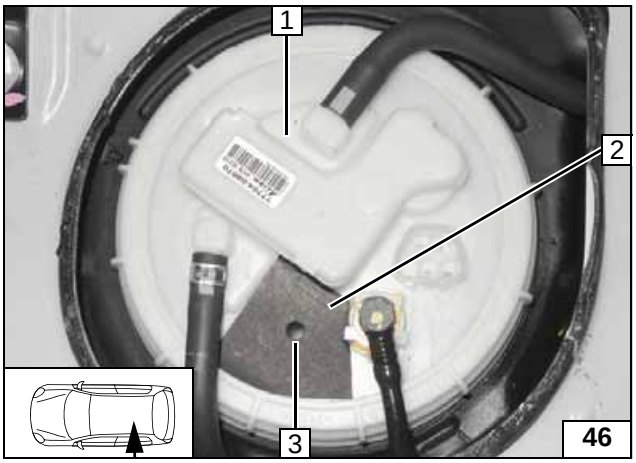
1 Metering pump wiring harness, connector X7 mounted
2 Fuel line of heater
3 Hose section, 10mm dia. clamp [2x]

Installing FuelFix

Petrol

Work steps F1, F2 and F3.

Copying hole pattern

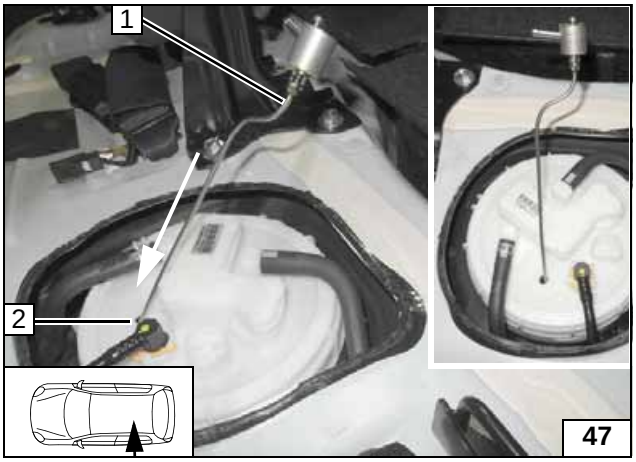


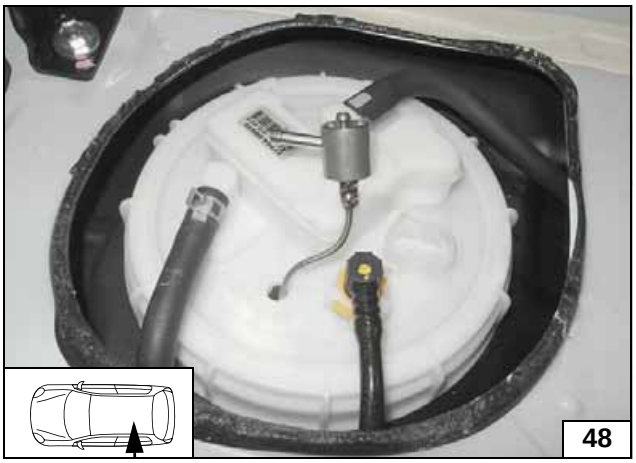
1 Fuel tank sending unit
2 Cut out template and place as shown.
3 Copy hole pattern, drill out with provided drill

Work steps F4 and F5.

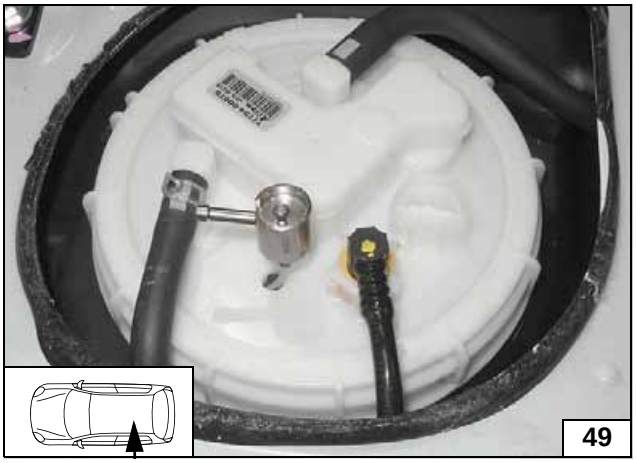
Bend FuelFix **1** according to template and cut to length.
Insert into hole **2**.

Inserting FuelFix

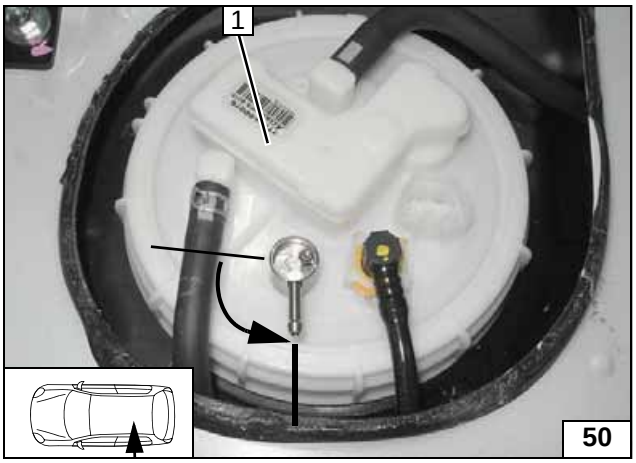




Inserting FuelFix



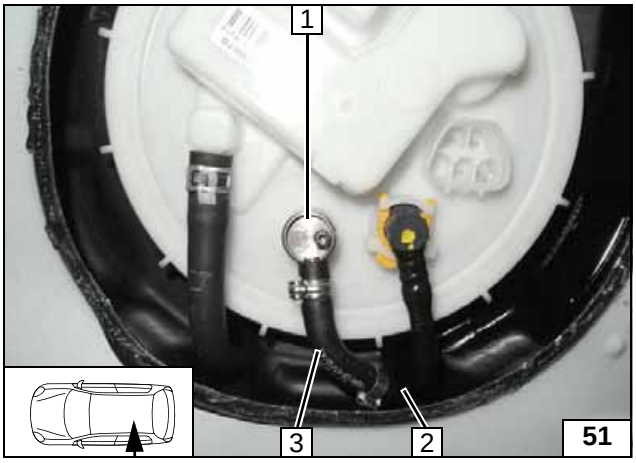
Inserting FuelFix



Work step F5.3, 5.4!

Position FuelFix **1** as shown!

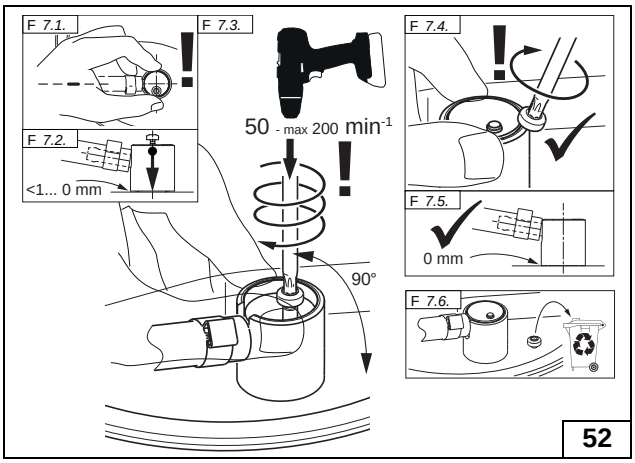
Aligning FuelFix



Work step F6.

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

Connecting fuel line

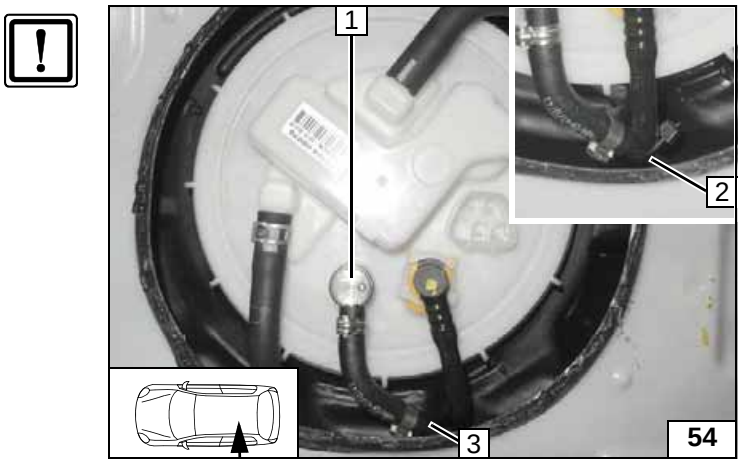


Work step F7.

Mounting FuelFix

Work step F8.

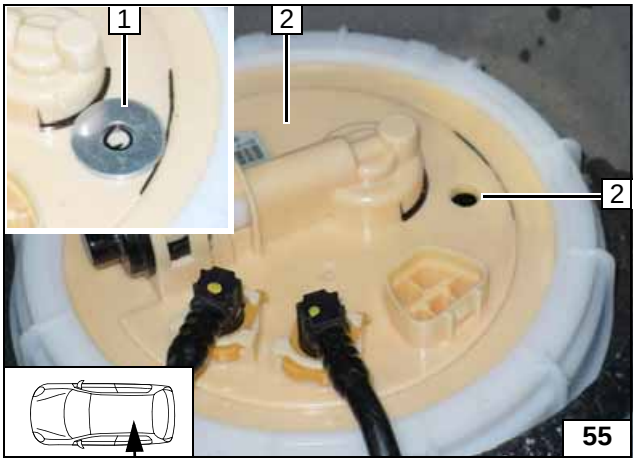
Ensuring firm seating of FuelFix



Work step F8.

1 FuelFix installed
2 Cable tie for strain relief
3 Fuel line of FuelFix

Securing fuel line

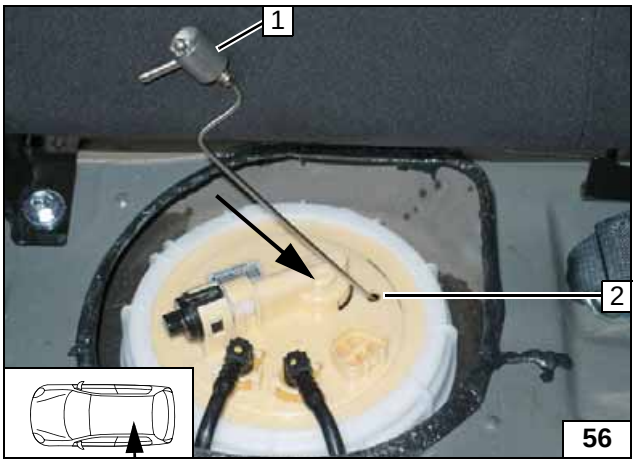


Diesel

Work steps F1, F2 and F3.

1 Position washer with outer dia. d_a = 24mm as template against connection piece and marked raised part
2 Fuel tank sending unit
3 Hole pattern, hole made with provided drill

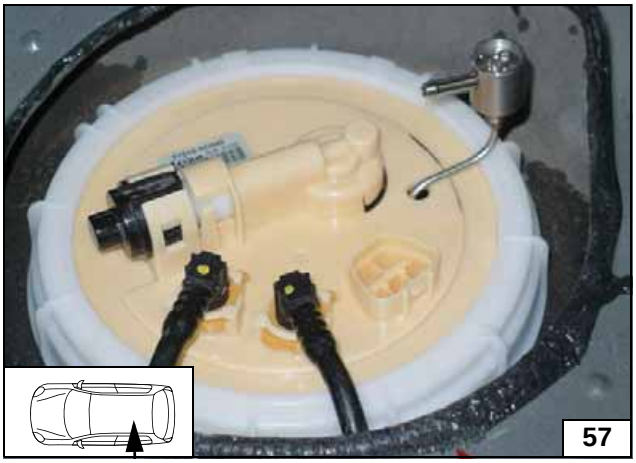
Copying hole pattern



Work steps F4 and F5.

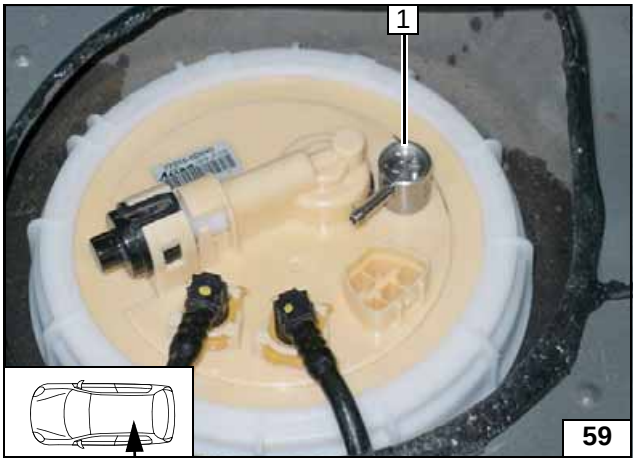
Bend FuelFix **1** according to template and cut to length.
Insert into hole **2**.

Inserting FuelFix



Inserting FuelFix

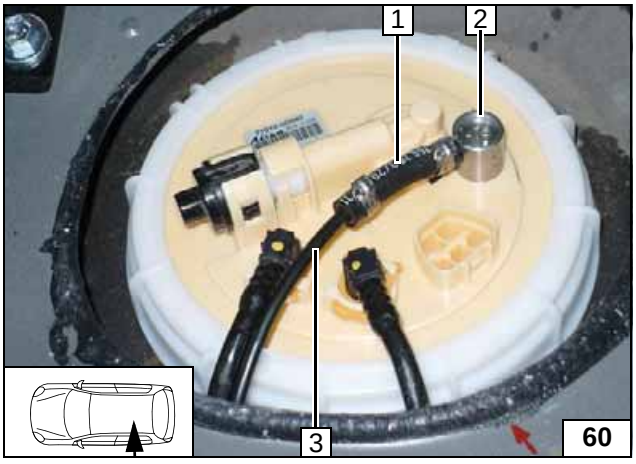
Inserting FuelFix



Work step F5.3, 5.4!

Position FuelFix **1** as shown!

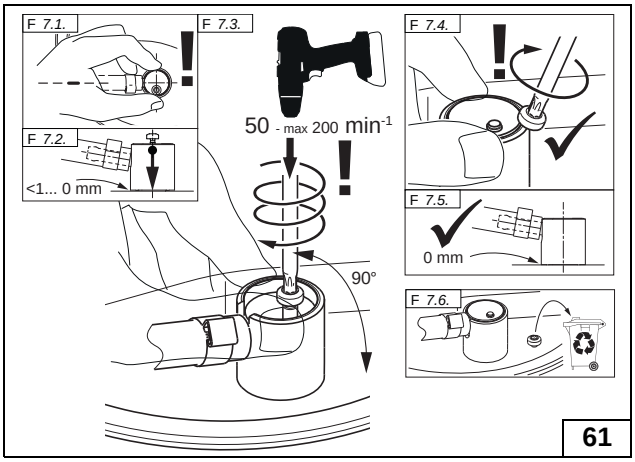
Aligning FuelFix



Work step F6.

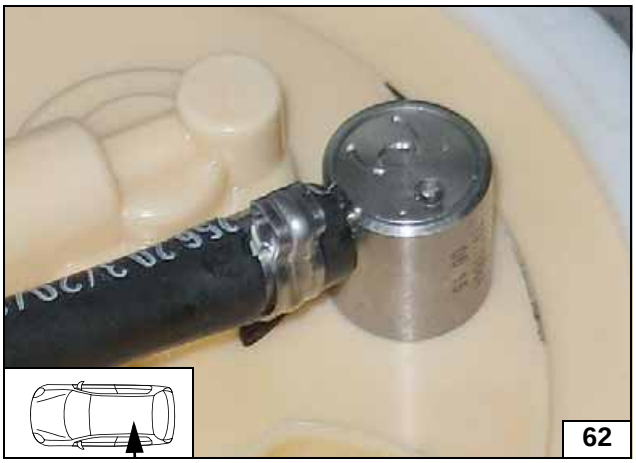
1 Hose section, 10 mm dia. clamp [2x]
2 FuelFix
3 Fuel line

Connecting fuel line



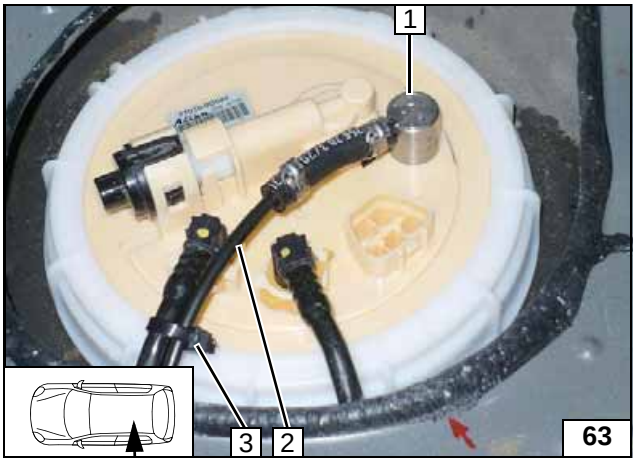
Work step F7.

Mounting FuelFix



Work step F8.

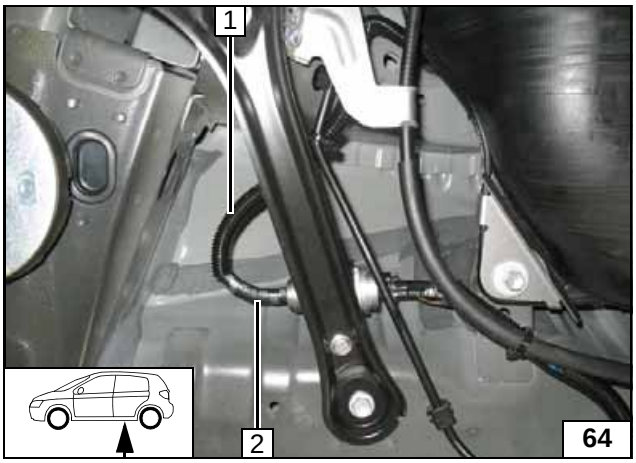
Ensuring firm seating of FuelFix



Work step F8.

1 FuelFix installed
2 Fuel line of FuelFix
3 Cable tie for strain relief

Securing fuel line



All vehicles

Check the position of the components; adjust if necessary. Check that they have freedom of movement.

1 Fuel line of FuelFix in corrugated tube
2 Hose section, 10 mm dia. clamp [2x]

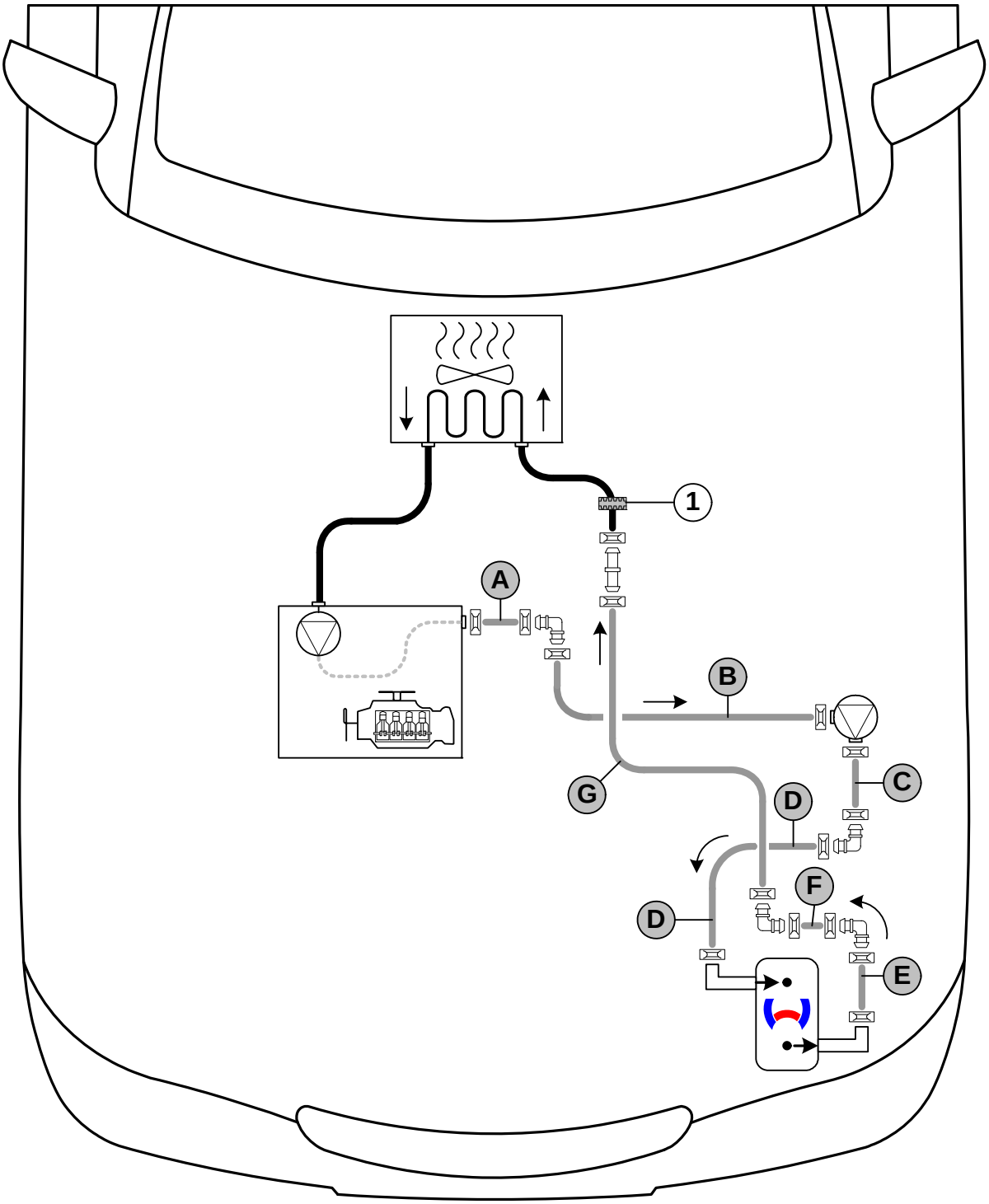
Connecting metering pump

Coolant Circuit for Petrol Vehicles

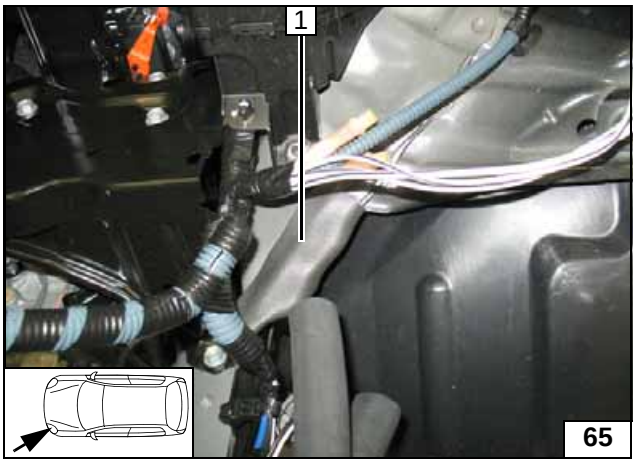
Any coolant running off should be collected in an appropriate container. Route hoses kink-free. Unless specified otherwise, always fasten using cable ties. Position clamps so that other hoses cannot be damaged. The heater must be filled with coolant when installing the hoses.

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

Hose routing diagram

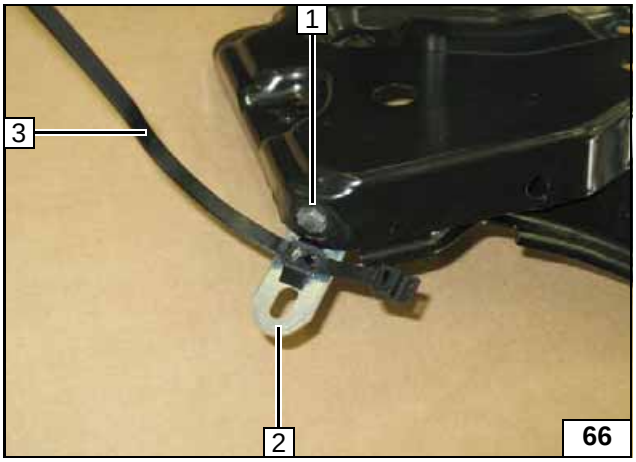


All spring clips = Ø 25 mm dia. All connecting pipes and = 18x18 mm dia.
1 = Black (sw) rubber isolator, 1.3 Petrol.



1 Foam base

Gluing rub protection



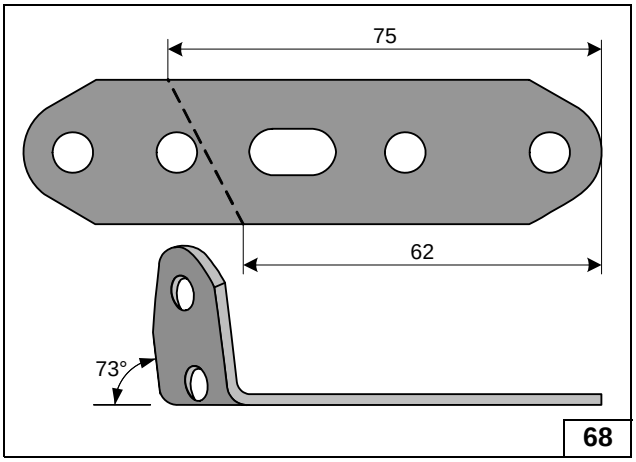
Battery carrier removed for documentation purposes.
Drill 7 mm dia. hole **1** at centre of battery carrier

2 Angle bracket, M6x20 bolt, battery carrier, flanged nut
3 Eyelet cable tie

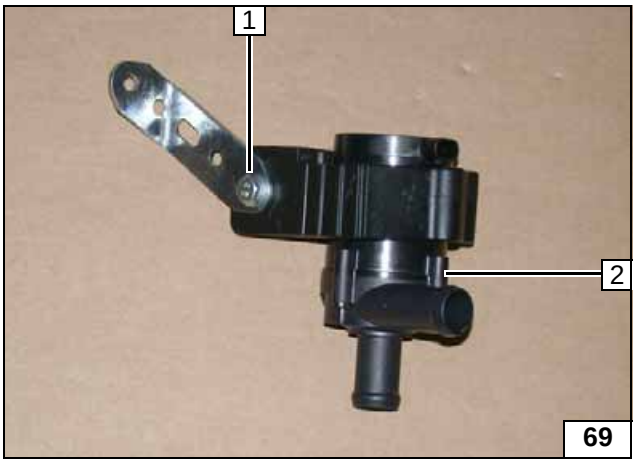
Installing angle bracket

1 M6x40 bolt, large diameter washer, 20mm shim, pin lock, existing hole

Installing bolt

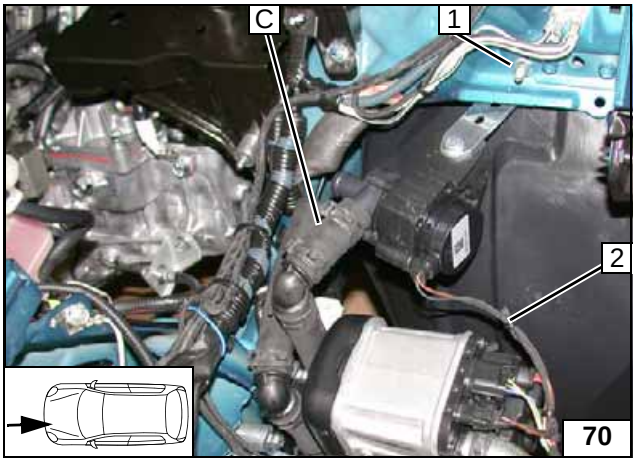


Bending perforated bracket



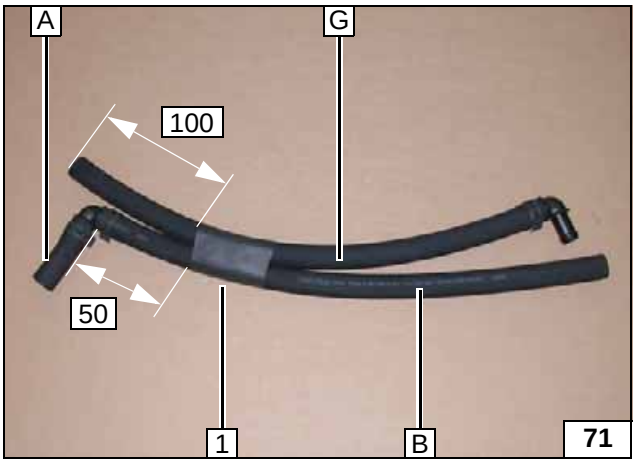
1 M6x25 bolt, perforated bracket, circulating pump mounting, flanged nut
2 Circulating pump

Preparing circulating pump



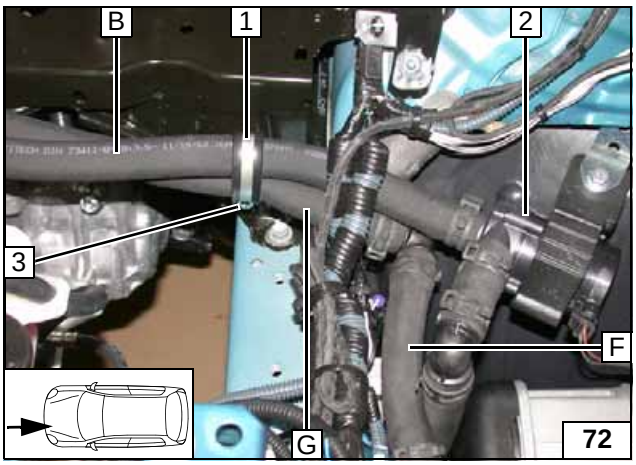
1 M6x20 bolt, perforated bracket, flanged nut, existing hole
2 Circulating pump wiring harness

Installing circulating pump



Slide heat shrink plastic tubing **1** over hose **B** and **G**and shrink.

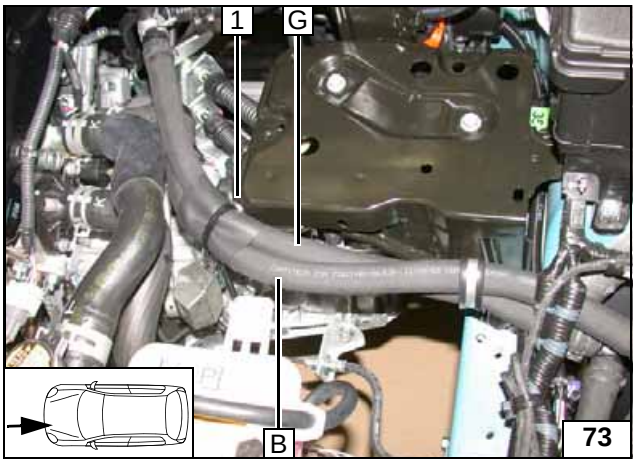
Preparing hoses A, B, G



Route hoses **B** and **G** through rubber-coated p-clamp **1**.

2 Circulating pump
3 Flanged nut, premounted bolt

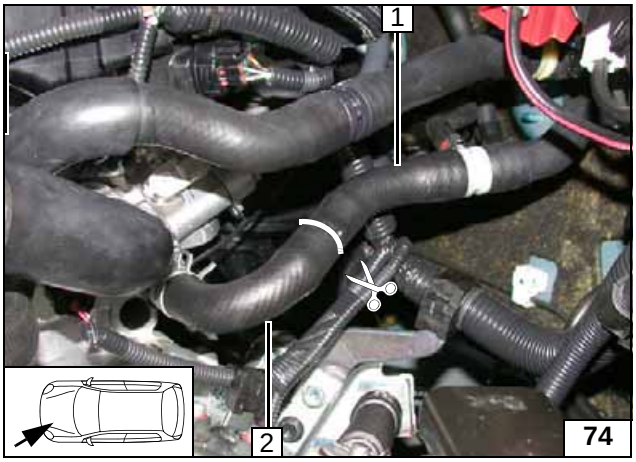
Connecting circulating pump



Fix hoses **B** and **G** using eyelet cable tie **1**.

1 Eyelet cable tie

Routing in engine compartment

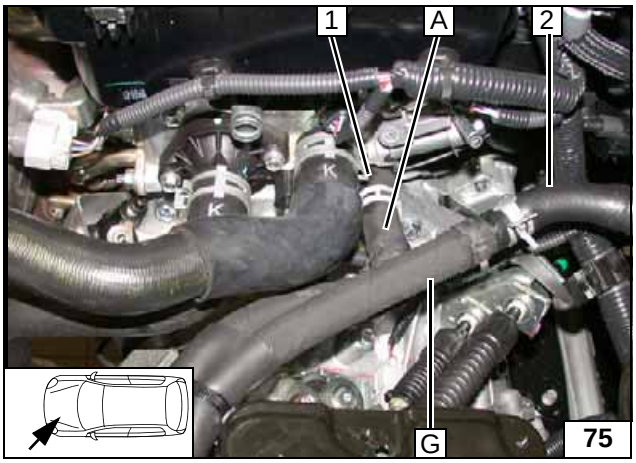


1.0 P

Cut the engine outlet hose / heat exchanger inlet at the marking. Remove engine outlet hose section **2** and discard.

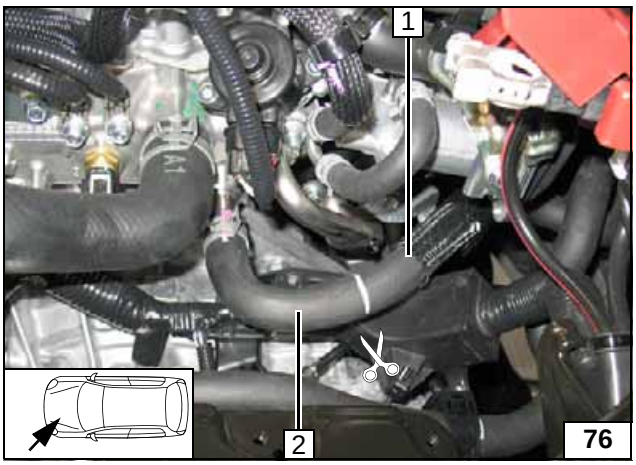
1 Hose section of heat exchanger inlet

Cutting point



1 Engine outlet
2 Hose section of heat exchanger inlet

Connecting engine outlet and heat exchanger inlet

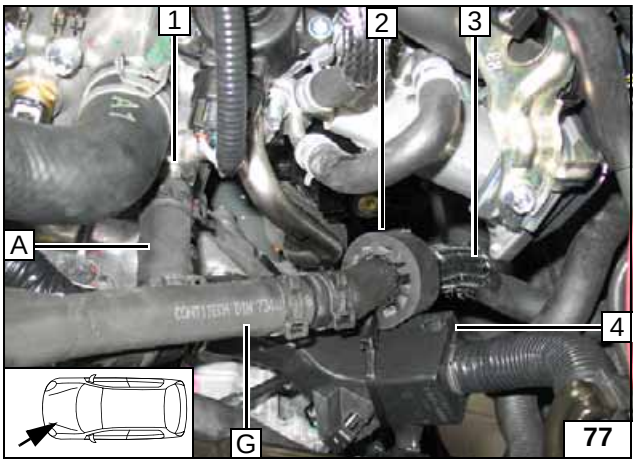


1.3 P

Cut the engine outlet hose / heat exchanger inlet at the marking. Remove engine outlet hose section **2** and discard.

1 Hose section of heat exchanger inlet

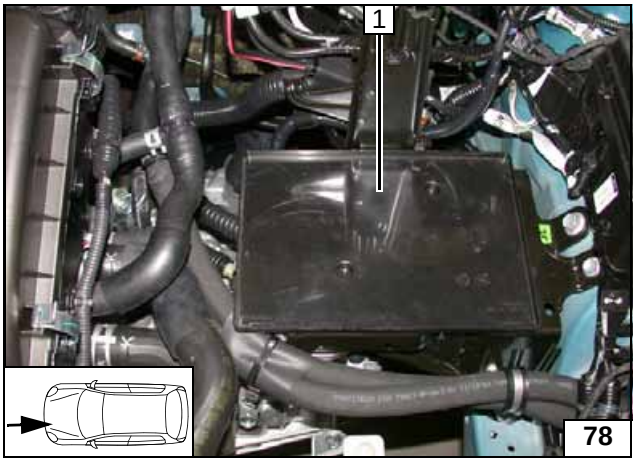
Cutting point



Slide rubber isolator **2** onto hose of heat exchanger inlet **3** and fasten with cable tie to original vehicle cable duct **4**.

1 Engine outlet

Connecting engine outlet and heat exchanger inlet



All vehicles

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

1 Battery support

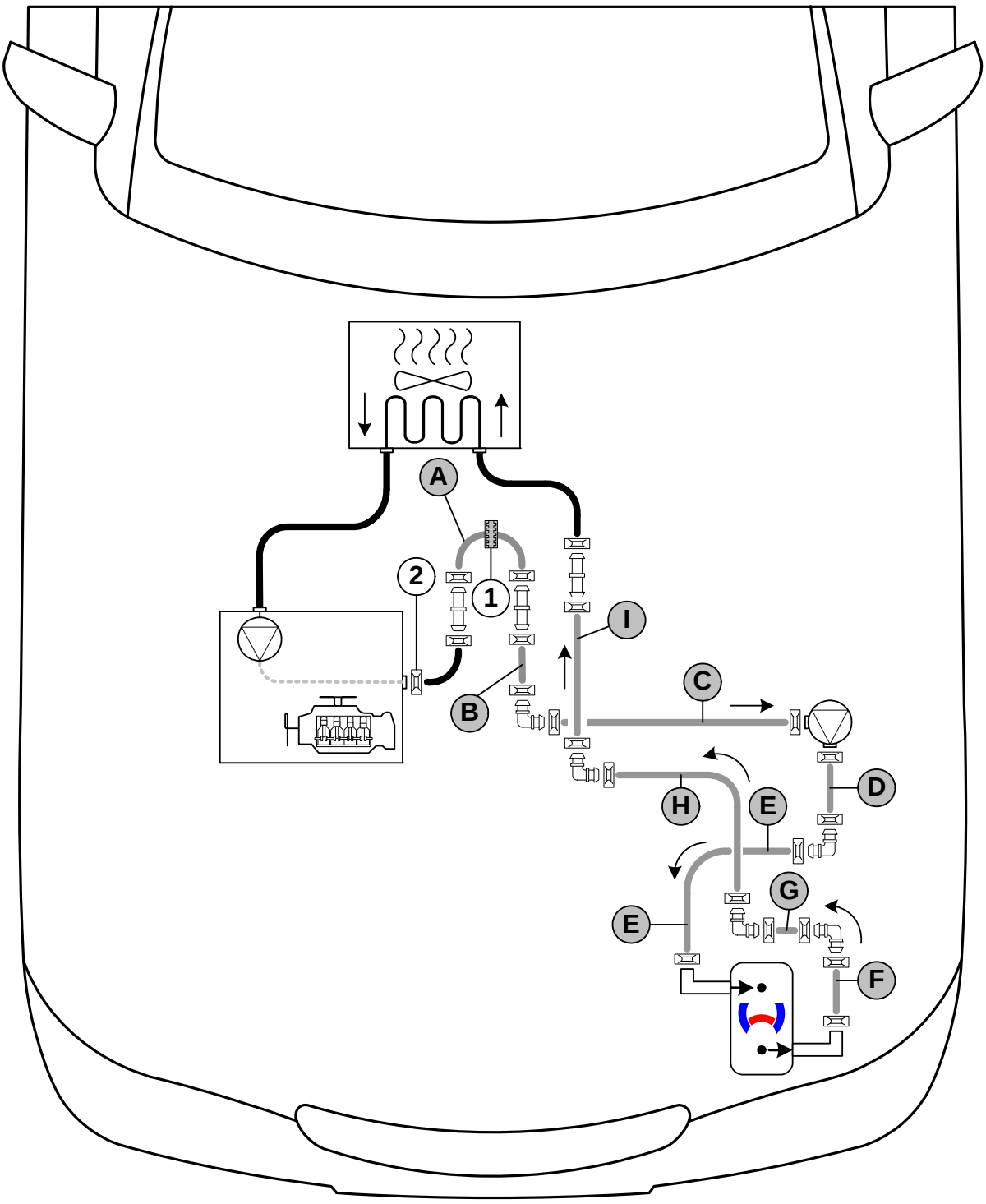
Installing battery support

Coolant Circuit for Diesel Vehicles

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:

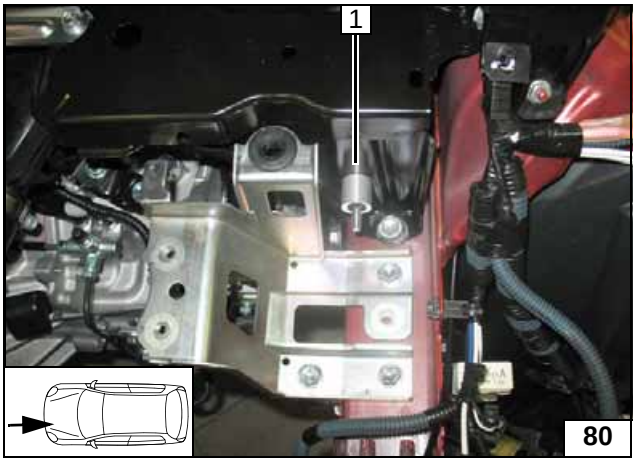
Hose routing diagram



All spring clips = Ø 25 mm dia. All connecting pipes and = 18x18 mm dia.
1 = Black (sw) rubber isolator .
2 = Original vehicle spring clip .

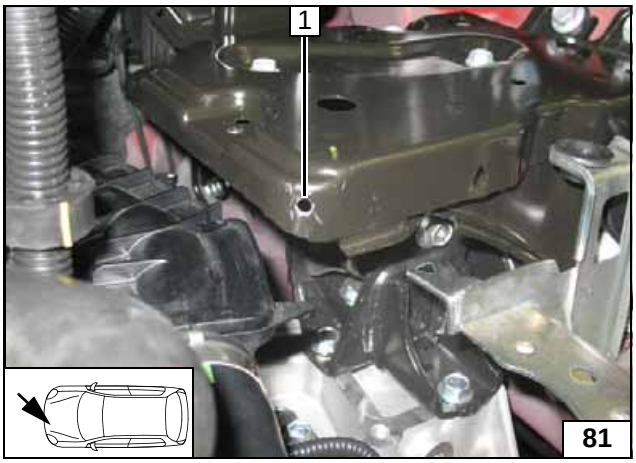
Detach positive wire **2** and slide on rubber isolator **1**.

Mounting rubber isolator



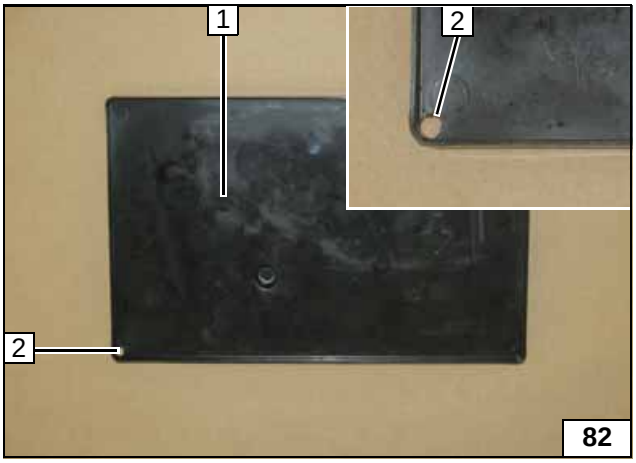
1 M6x40 bolt, large diameter washer, 20mm shim, pin lock, existing hole

Installing bolt



Drill 7 mm dia. hole **1** at centre of battery carrier

Preparing battery carrier

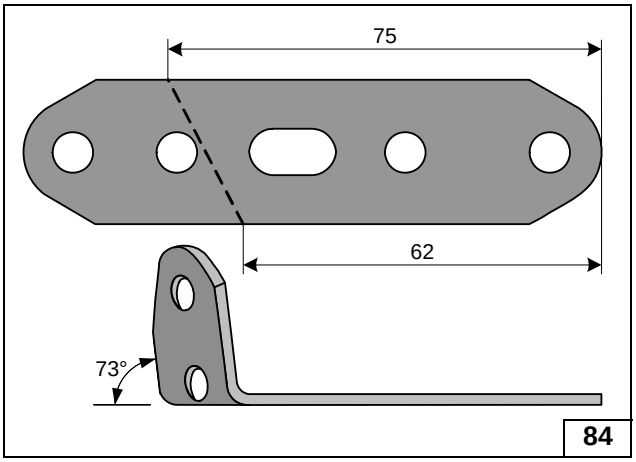


1 Battery support
2 7 mm dia. hole

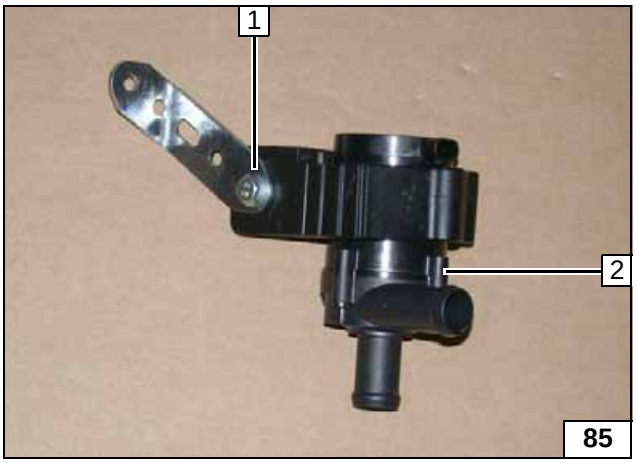
Preparing battery support

1 Paste foam base

Rub protection

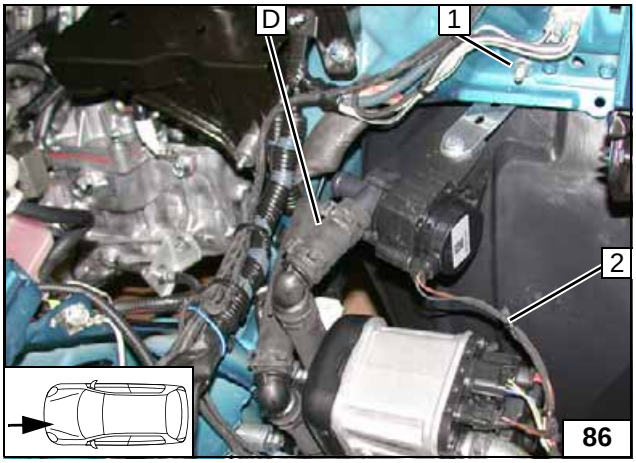


Bending perforated bracket



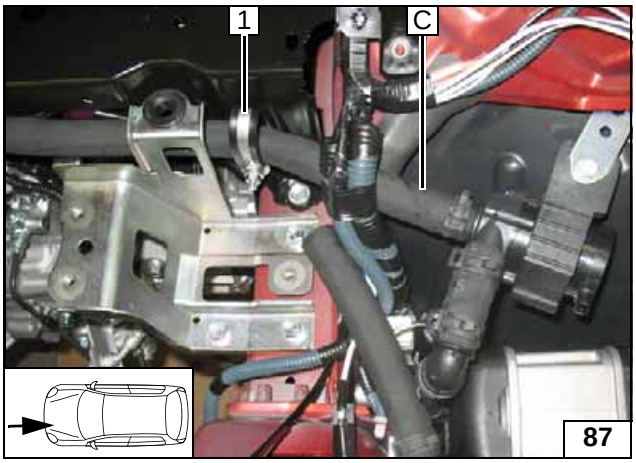
1 M6x25 bolt, perforated bracket, circulating pump mounting, flanged nut
2 Circulating pump

Preparing circulating pump



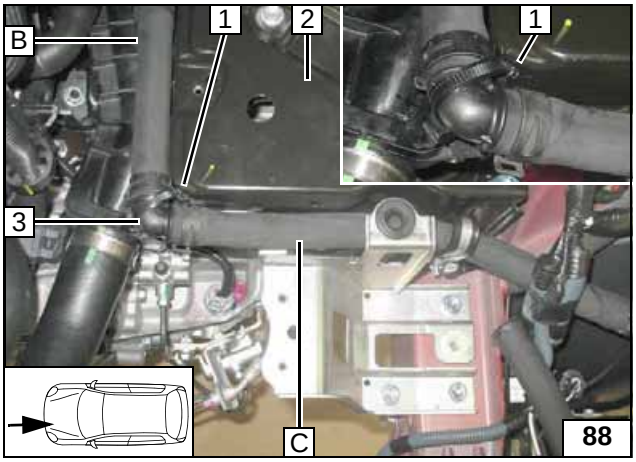
1 M6x20 bolt, perforated bracket, flanged nut, existing hole
2 Circulating pump wiring harness

Installing circulating pump



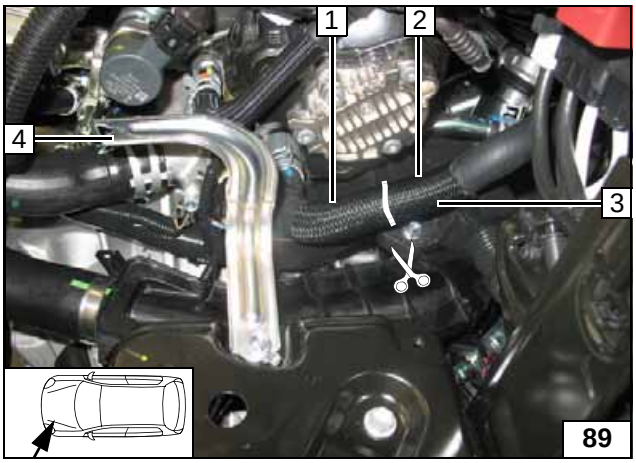
Route hose **C** through rubber-coated p-clamp **1**.

Connecting circulating pump



Attach connecting pipe **3** using eyelet cable tie **1** to battery carrier **2**.

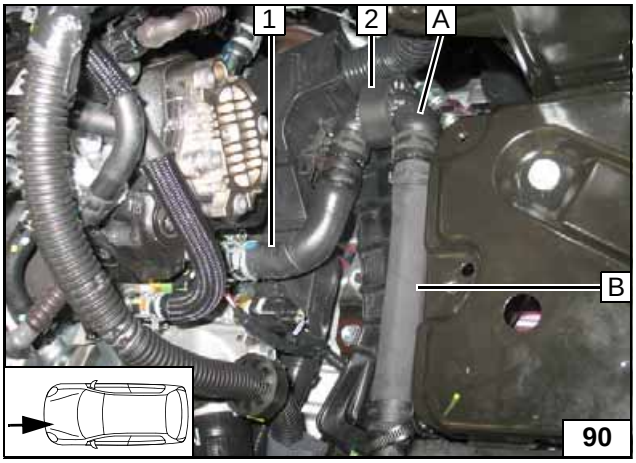
Routing in engine compartment



Remove braided protection hose at pos.**3**.

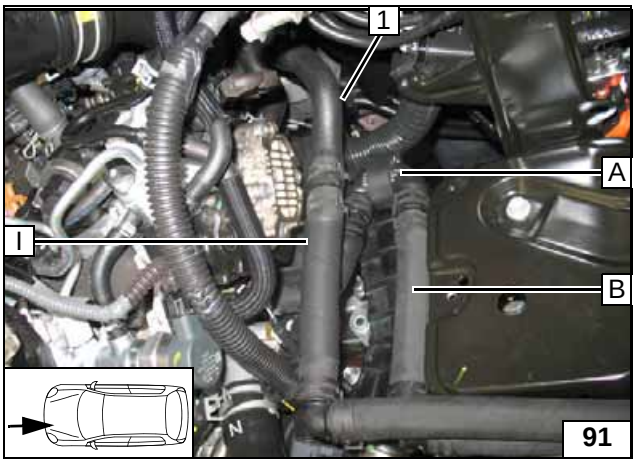
1 Engine outlet hose section
2 Hose section of heat exchanger inlet
4 Remove bracket and discard

Cutting point



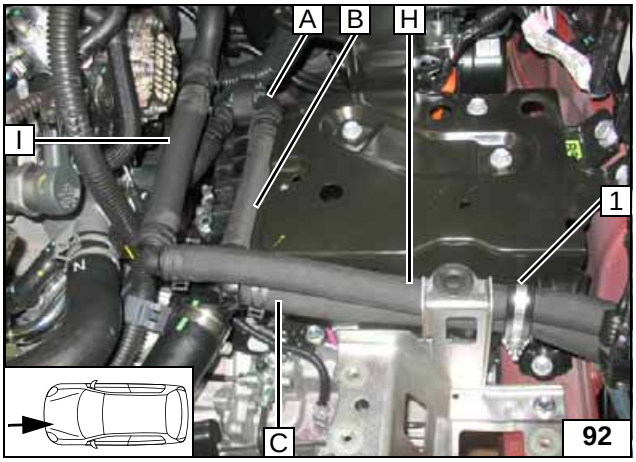
1 Engine outlet hose section
2 Rubber isolator

Connecting engine outlet



1 Hose section of heat exchanger inlet

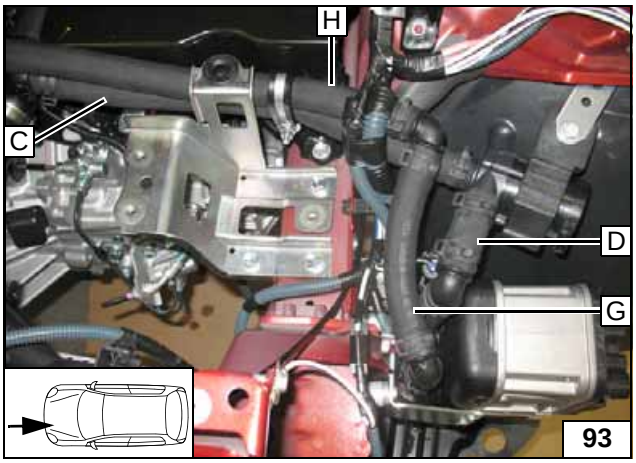
Connecting heat exchanger inlet



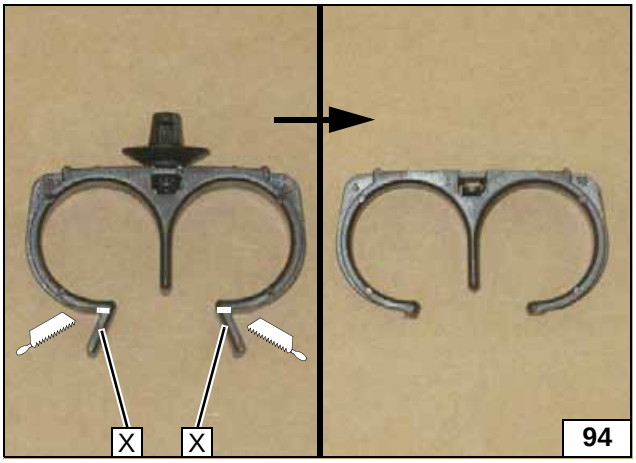
Route hose **H** through rubber-coated p-clamp **1**.

1 Tighten rubber-coated p-clamp

Routing in engine compartment



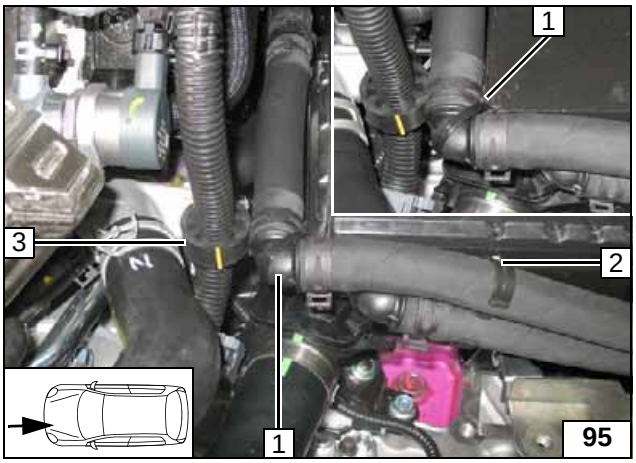
Routing in engine compartment



Adapt hose bracket as shown.

X =

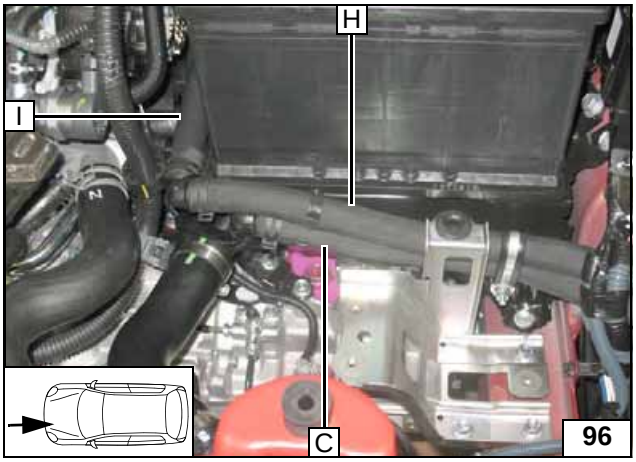
Preparing hose bracket



Fix connecting pipe **1** with cable tie to battery carrier.

2 Hose bracket
3 Align rubber isolator

Routing in engine compartment

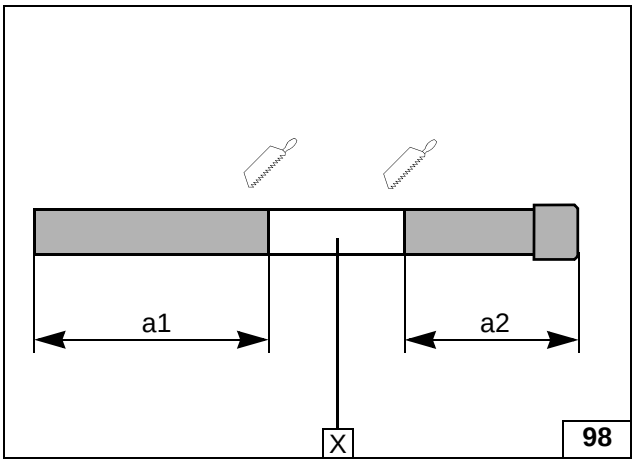


Align hoses. Ensure sufficient distance from neighbouring components, correct if necessary.

Routing in engine compartment

Shorten pin **2** of air filter box **1** by 5mm.

Processing air filter box

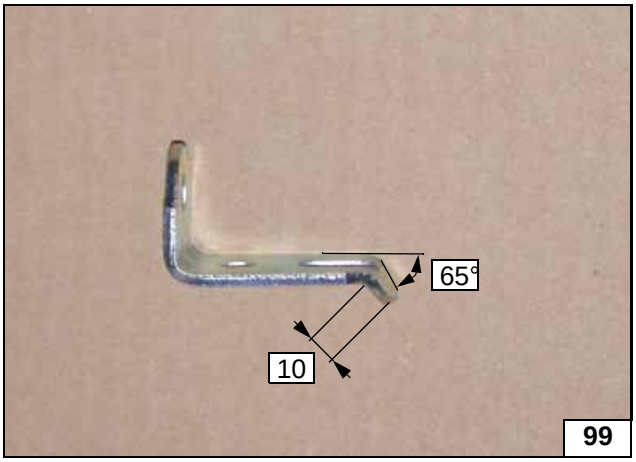


Exhaust Gas

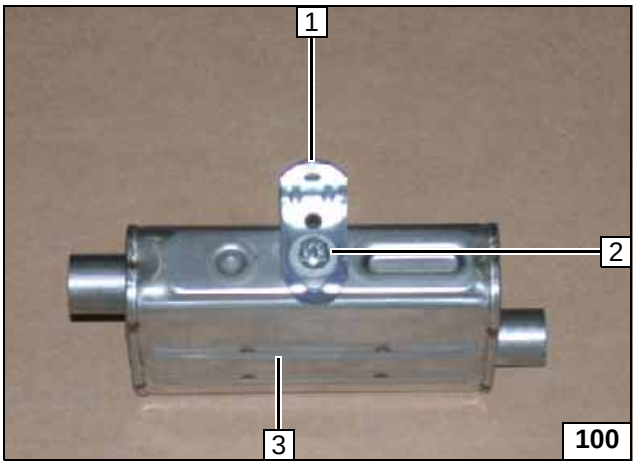
a1 = 300
a2 = 200

X =

Assign-ing/preparing exhaust pipe

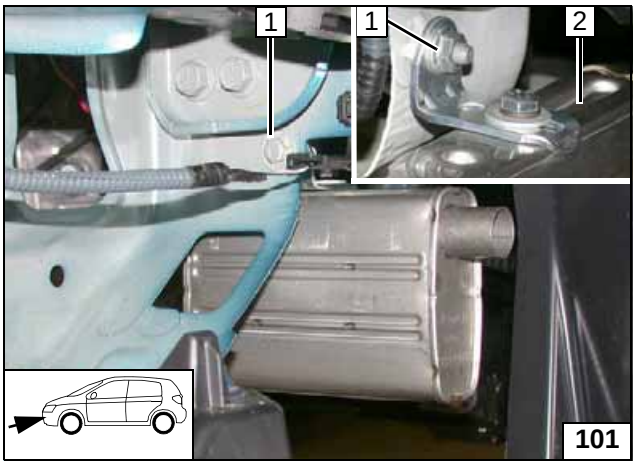


Bending angle bracket



1 Angle bracket
2 M6x16 bolt, spring lockwasher, large diameter washer
3 Silencer

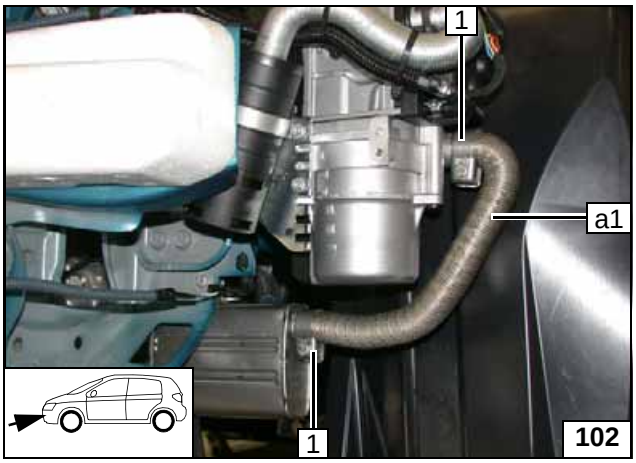
Premount-ing silencer



Remove original vehicle bolt at position **1** and discard.

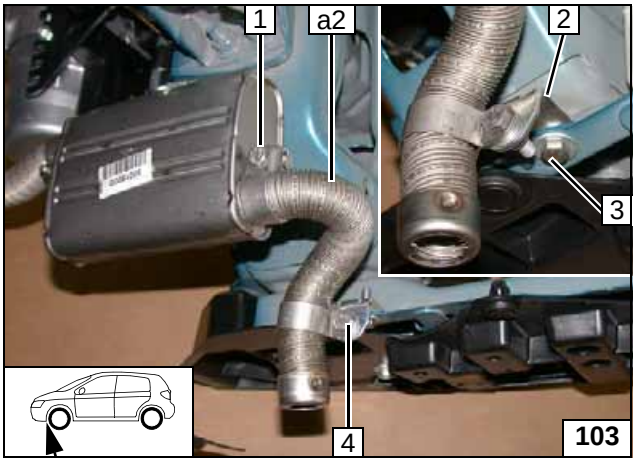
1 M6x25 bolt, large diameter washer, flanged nut
2 Exhaust silencer

Installing silencer



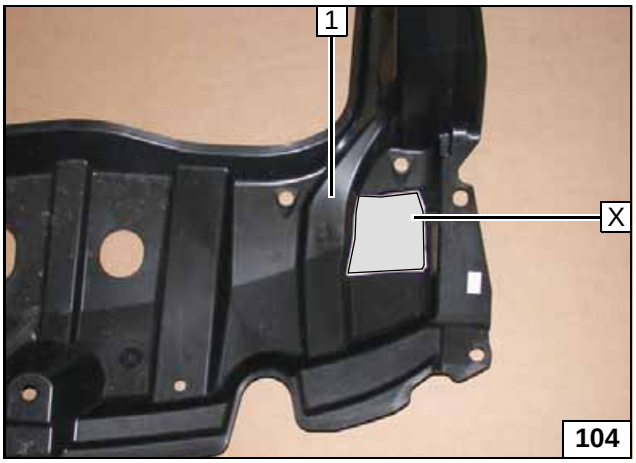
1 Hose clamp [2x]

Installing exhaust pipe a1



1 Hose clamp
2 Angle bracket
3 M6x20 bolt, large diameter washer, flanged nut, existing hole
4 M6x20 bolt, pipe clamp, flanged nut

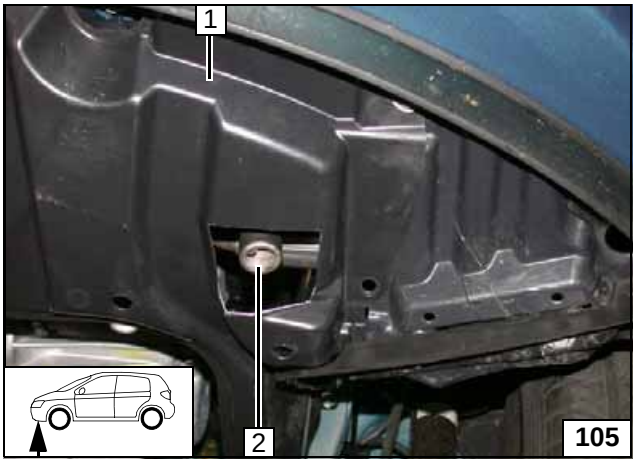
Installing exhaust pipe a2



1 Underride protection

X = 

Cutting out underride protection



Install underride protection **1**. Align exhaust pipe **a2** at centre of recess and flush with underride protection **1**. Ensure sufficient distance from neighbouring components.

Aligning exhaust pipe a2

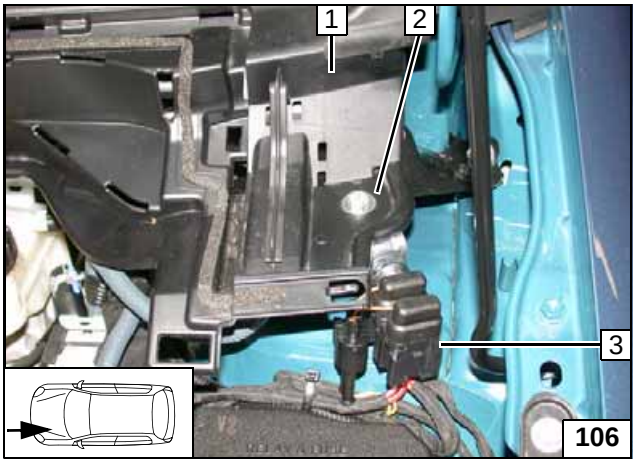
Final Work

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

- **Connect the battery.**
- **Fill and bleed the coolant circuit according to the vehicle manufacturer's specifications.**
- **Adjust digital timer, teach Telestart transmitter.**
- **Make settings on A/C control panel according to the 'Operating Instructions for End Customer'.**
- **Check the proper operation of the parking heater, see the operating instructions/installation instructions.**
- **Place the 'Switch off parking heater before refuelling' caution label near the filler neck.**

Proceed as follows with the Webasto Thermo test diagnostics during initial start-up:

- **Control coolant pump under Menu Component test, check coolant level**
- **Pre-feed fuel for the heater using the line filling menu.**
- **Check CO_2 settings; take setting values from the general installation instructions**
- **During the trial run, all water and fuel connections must be checked for leakage and firm seating**
- **Conduct troubleshooting in case of malfunctions.**

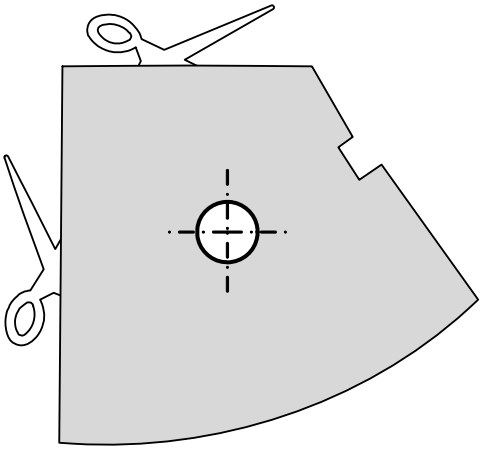


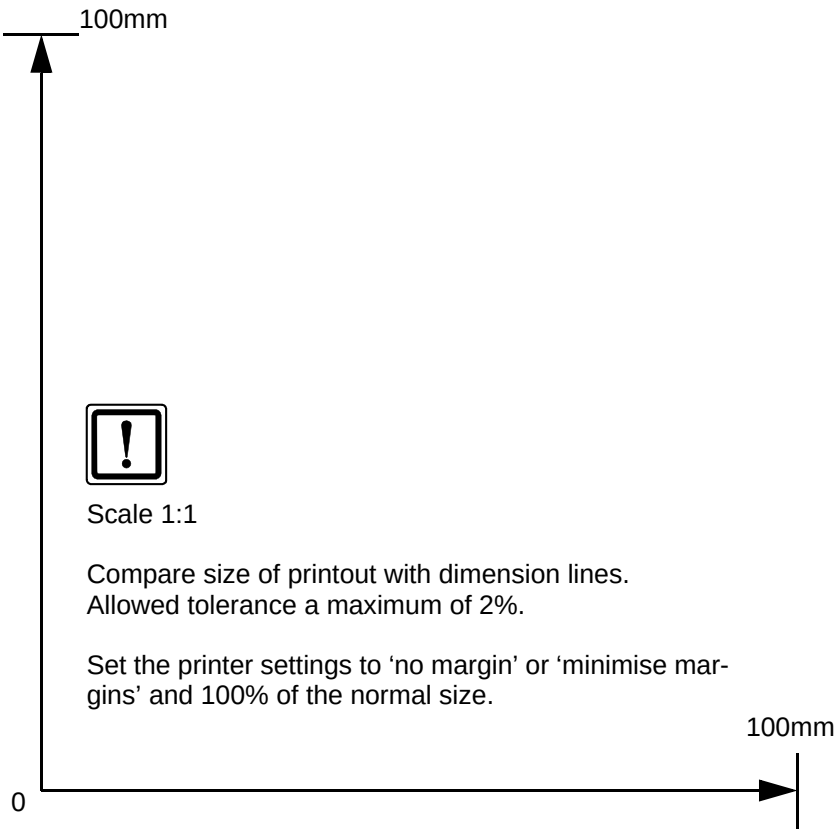
1 Mount coolant reservoir cap
2 M6x16 bolt, large diameter washer, flanged nut, existing hole
3 Engine compartment fuse holder

Installing fuse holder

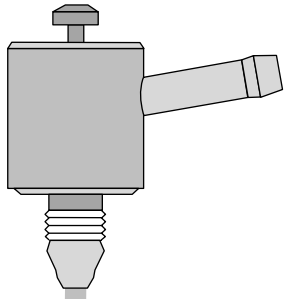
Webasto Thermo & Comfort SE
Postfach 1410
82199 Gilching
Germany
Internet: www.webasto.com
Technical Extranet:
http://dealers.webasto.com

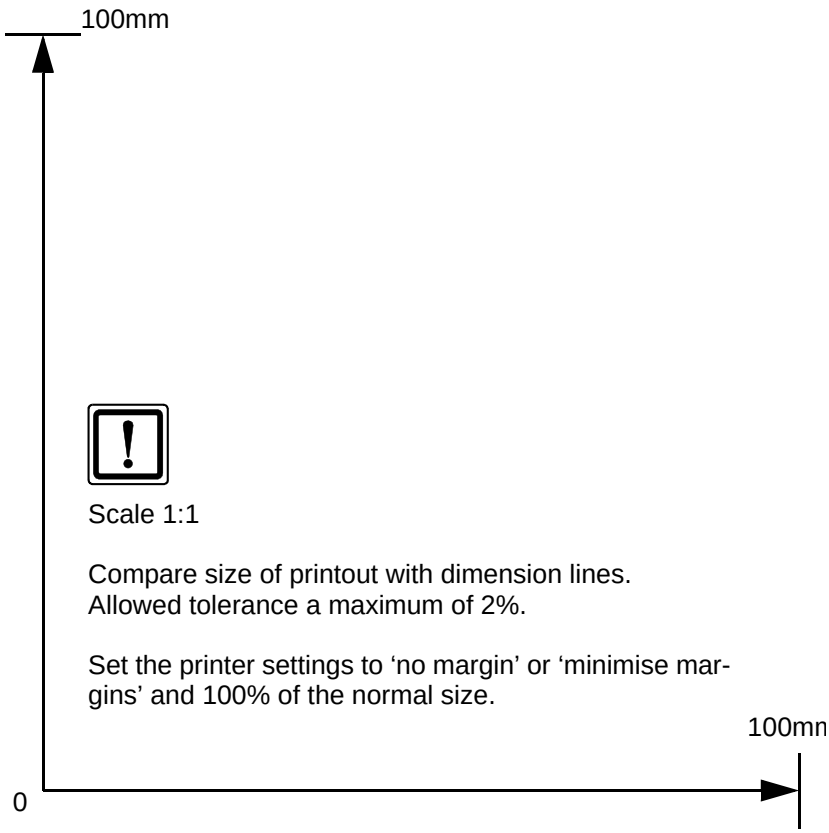
Drilling template for Petrol Fuel Tank Sending Unit



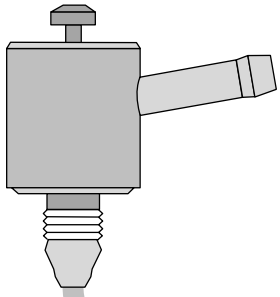


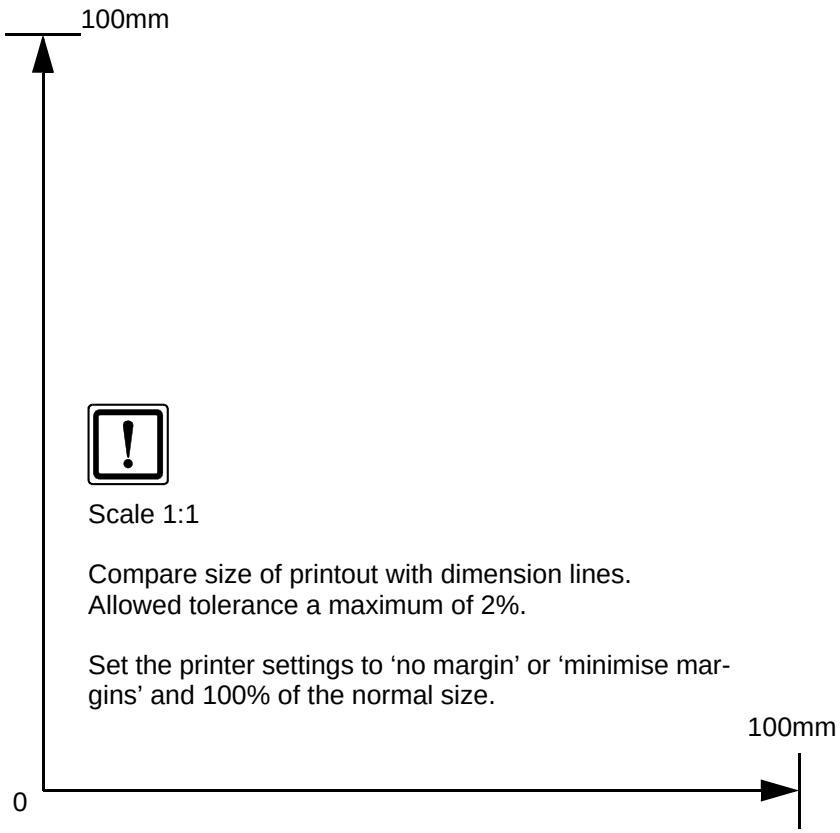
Template for Petrol FuelFix





Template for Diesel FuelFix





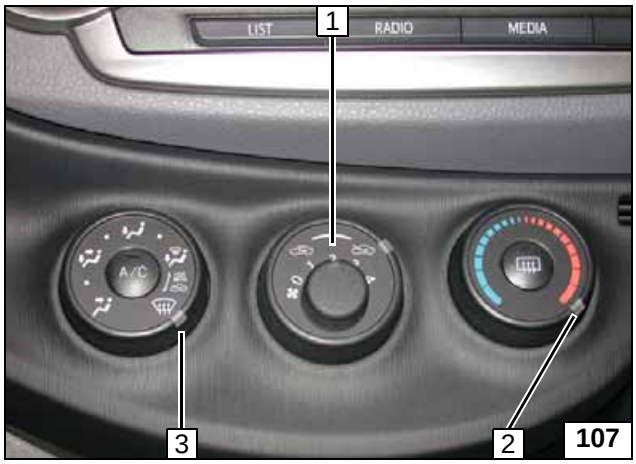
Operating Instructions for Manual Air-Conditioning

Please remove page and add to the vehicle operating instructions.

Note:
We recommend matching the heating time to the driving time.
Heating time = driving time
Example:
For a driving time of approx. 20 min. (in one direction), we recommend not exceeding a switch-on time of 20 min.

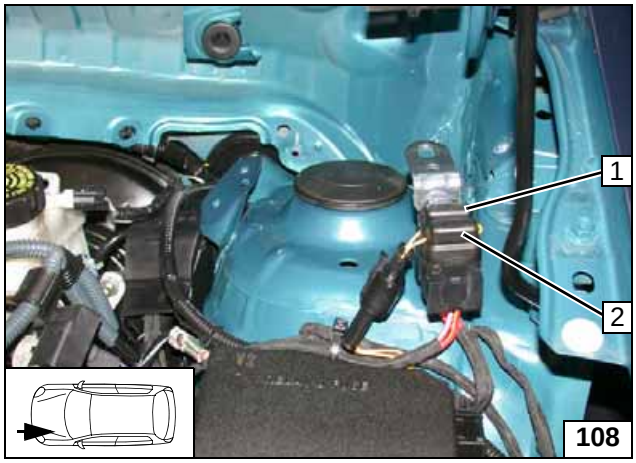
Passenger compartment monitoring, if installed, must be deactivated in addition to the vehicle settings for the heating operation.
For instructions on deactivation, please refer to the operating instructions of the vehicle.

Before parking the vehicle, make the following settings:



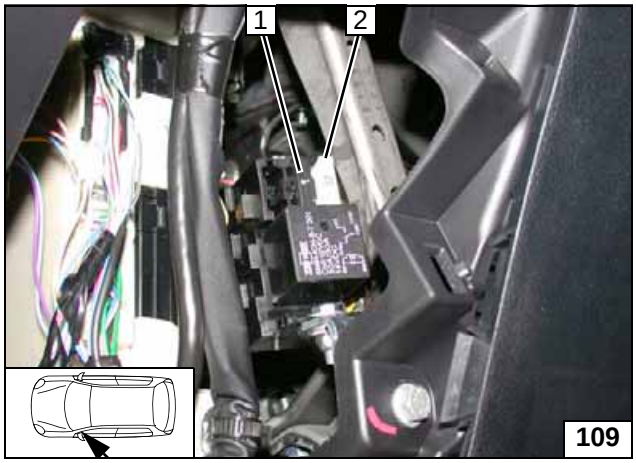
1 Set fan to level ‘1’, or max. ‘2’
2 Set temperature to ‘max.’
3 Air outlet to windscreen

A/C control panel



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

Engine compartment fuses



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

Passenger compartment fuses

Webasto
Feel the Drive

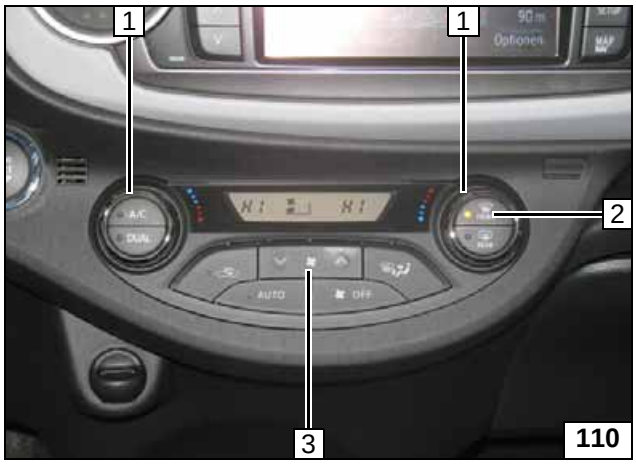
Operating Instructions for Automatic Air-Conditioning

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.

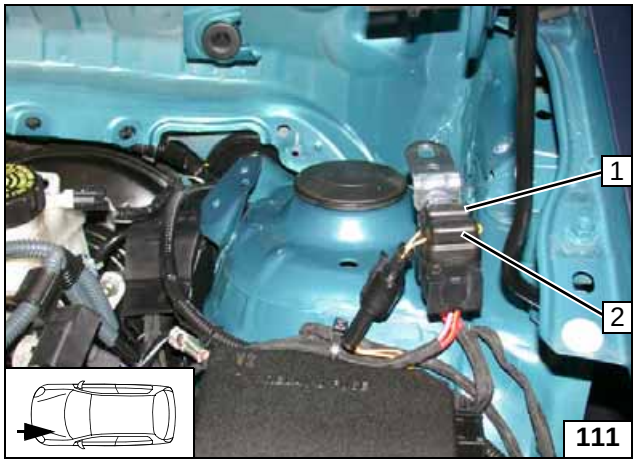
Passenger compartment monitoring, if installed, must be deactivated in addition to the vehicle settings for the heating operation.
For instructions on deactivation, please refer to the operating instructions of the vehicle.

Before parking the vehicle, make the following settings:



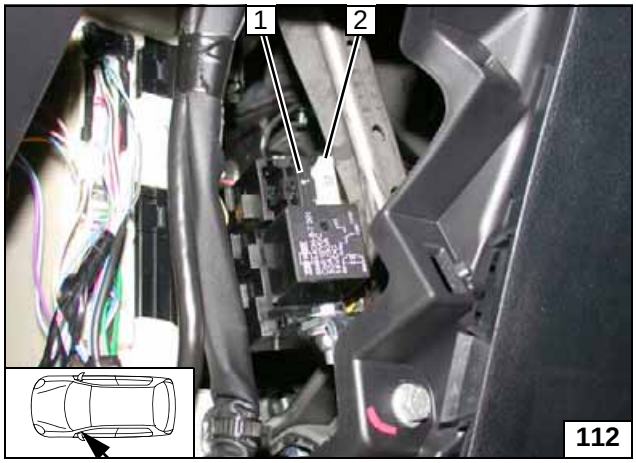
A/C control panel

1 Set temperature to ‘HI’
2 Air outlet to windscreen
3 Set fan to level ‘1’, or max. ‘2’



Engine compartment fuses

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



Passenger compartment fuses

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