Water Heater

Thermo Top Evo 4 **Parking Heater** E1 00 0258

Installation Documentation
Toyota Auris / Auris TS (Estate Car) / Corolla

Validity

Manufacturer	Model	Type	Model	Model year	EG-BE No. / ABE
Toyota	Auris	E15UT(A)	E18	2013	e11 * 2001 / 116 * 0305 * ...
Toyota	Corolla	E15UT(A)	E18	2013	e11 * 2001 / 116 * 0304 * ...

Motorisation	Fuel	Transmission type	Output in kW	Displacement in cm³	Engine code
1.4 D	Diesel	6-speed SG	66	1364	1ND-TV

SG = Manual transmission

Model 2013
Left-hand drive vehicle

Verified equipment variants: Manual air-conditioning system
1 zone automatic air-conditioning
2 zone automatic air-conditioning
Front fog light
Headlight washer system (only applies to Auris)
Start / Stop

Not verified: Passenger compartment monitoring
Headlight washer system (only applies to Corolla)

Total installation time: about 8.5 hours

Toyota Auris / Auris TS (Estate Car) / Corolla

Table of Contents

Necessary components

- Basic delivery scope of *Thermo Top Evo 4* in accordance with price list
- Installation kit Toyota Auris / Auris TS (Estate Car) / Corolla 2013 1.4 Diesel: **1322170B**
- 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:

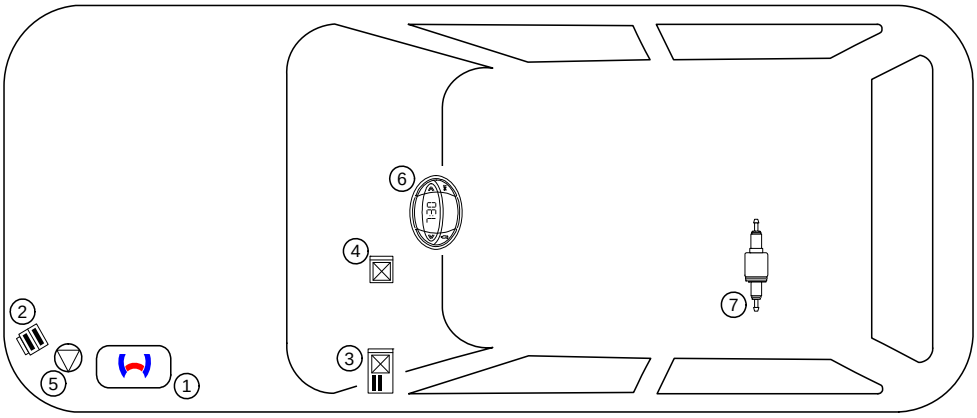
- Arrange for the vehicle to be delivered with the tank only about ¼ full.
- The installation location of the push button in the case of Telestart or Thermo Call should be confirmed with the end customer.
- Depending on the available space and manufacturer's instructions, we recommend the use of a vehicle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

The heater will be integrated into the "island" coolant circuit and is used to heat up the vehicle interior. The engine is not preheated.

Installation Overview

Legend:

1. Heater
2. Fuse holder of engine compartment
3. Relay and fuse holder of passengercompartment
4. PWM Gateway (only in case of automatic A/C)
5. Circulating pump
6. Digital timer
7. Metering pump



Notes on Total Installation Time

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

Toyota Auris / Auris TS (Estate Car) / Corolla

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, Serious or fatal injuries can be caused as a result.

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 original Webasto parts must be used. 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, Order No. 111329).

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

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

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

2 Statutory regulations governing installation

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

Note

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

Important

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

Note

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

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

Beginning of excerpt.

ANNEX VII

REGULATIONS 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 Auris / Auris TS (Estate Car) / Corolla

Notes on Validity

These installation instructions apply to Toyota Auris / Auris TS (Estate Car) / Corolla Diesel vehicles - for validity, see page 1 - from model year 2013 , 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 Instructions

Special Tools
- Hose clamp pliers for self-clamping 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
- Webasto Thermo Test diagnosis with current software

Dimensions
- All dimensions are in mm

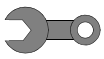
Tightening torque values
- Tightening torque for 5x13 heater bolts and 5x11 heater stud bolts = 8Nm.
- Tightening torque values of 5x15 retaining plate of water connection piece bolt = 7Nm.
- Tighten other screw connections in accordance with manufacturer's instructions or in accordance with state-of-the-art-technology.

Explanatory Notes on Document

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

Special features are highlighted using the following symbols:

Mechanical system



Electrical system

Coolant circuit

Combustion air

Fuel

Exhaust gas

Software

Specific risk of injury or fatal accidents.

Specific risk due to electrical voltage.

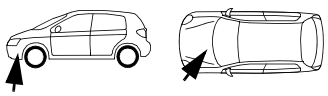
Specific risk of damage to components.

Specific risk of fire or explosion.

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

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

Toyota Auris / Auris TS (Estate Car) / Corolla

Preliminary Work

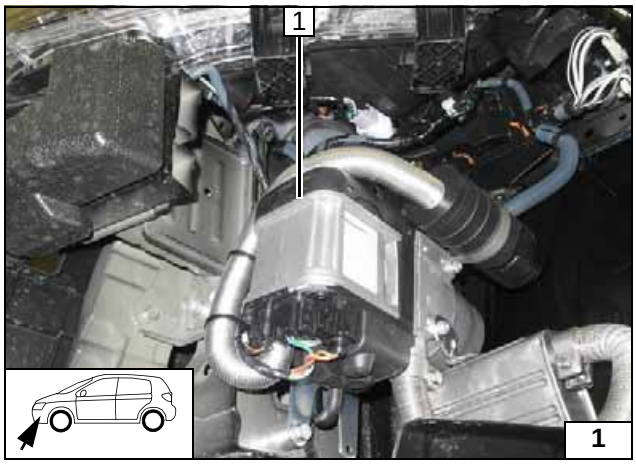
Vehicle

- Open the fuel tank cap.
- Ventilate the tank.
- Close the fuel tank cap again.
- Depressurise the cooling system.
- Disconnect and remove the battery.
- Remove the battery support.
- Remove the air filter box.
- Remove the engine cover.
- Remove the left-hand wheel well trim.
- Remove the bumper trim.
- Remove the front fog light cover frame on the left (only for Corolla).
- Remove the left headlight.
- Remove the engine underride protection.
- Remove the left-hand underride protection.
- Remove the lower instrument panel trim on the driver's side.
- Remove the side trim on the right-hand side in the driver's footwell.
- Remove the centre A-pillar trim.

Heater

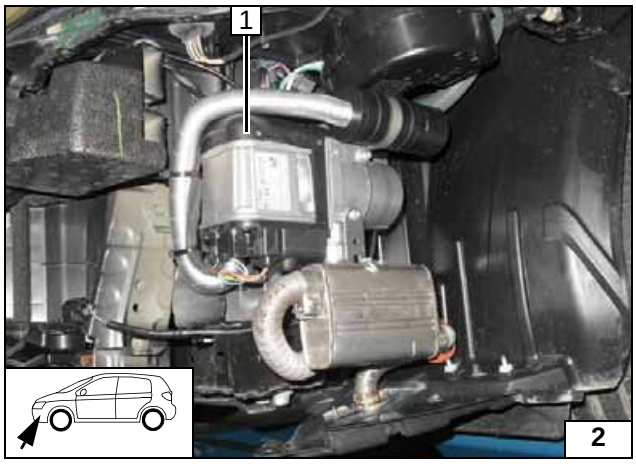
- Remove years that do not apply from the type and duplicate label.
- Attach the duplicate label (type label) in the appropriate place inside the engine compartment.

Heater Installation Location



1 Heater

Installation location for Corolla



1 Heater

Installation location for Auris

Preparing Electrical System

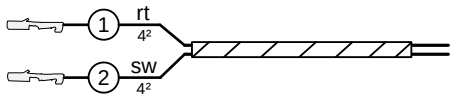
Wire sections retain their numbering in the entire document.

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

Manual air-conditioning system

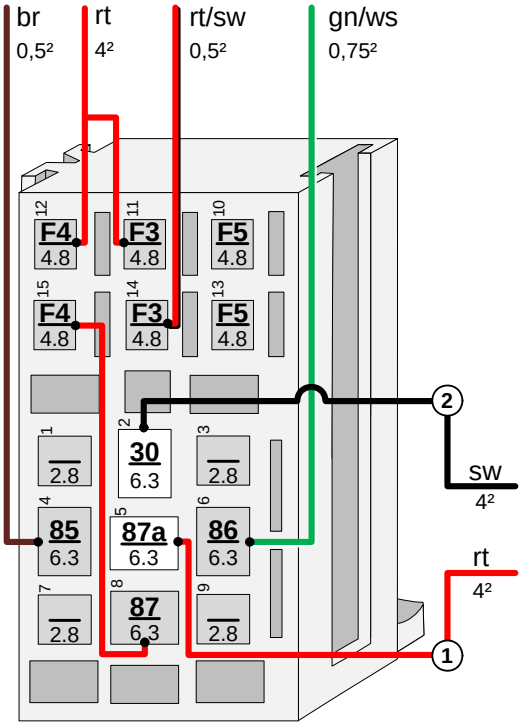
① Red (rt) wire of fan wiring harness
② Black (sw) wire of fan wiring harness

Assigning wires



3

Preparing passenger compartment relay and fuse holder, connecting wires



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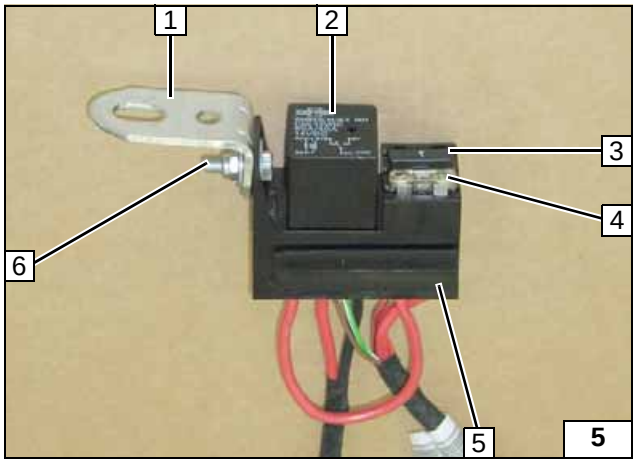
Premounting relay and fuse holder of passenger compartment



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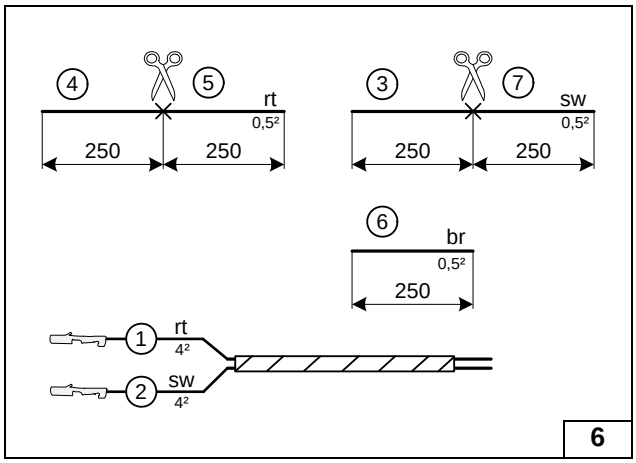
1 Angle bracket
2 K1 relay
3 1A fuse F3
4 25A fuse F4
5 Relay and fuse holder of passenger compartment
6 M5x16 bolt, large diameter washer [2x], nut.



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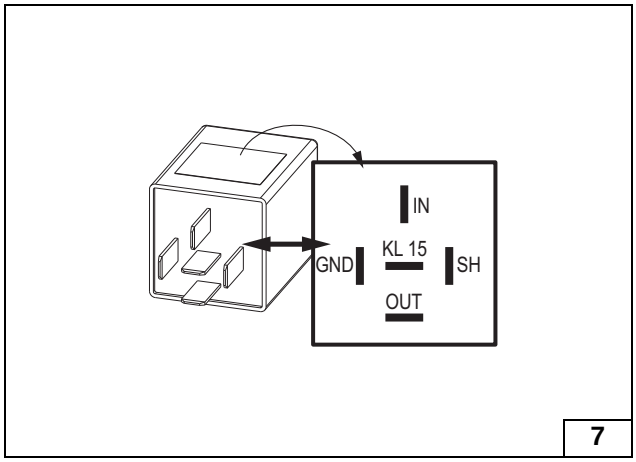
Automatic air-conditioning

Cut protective sleeving to length. Draw wires ③ / ⑤ and wires ④ / ⑦ together, each into one protective sleeving.

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

Cutting to length / assigning wires



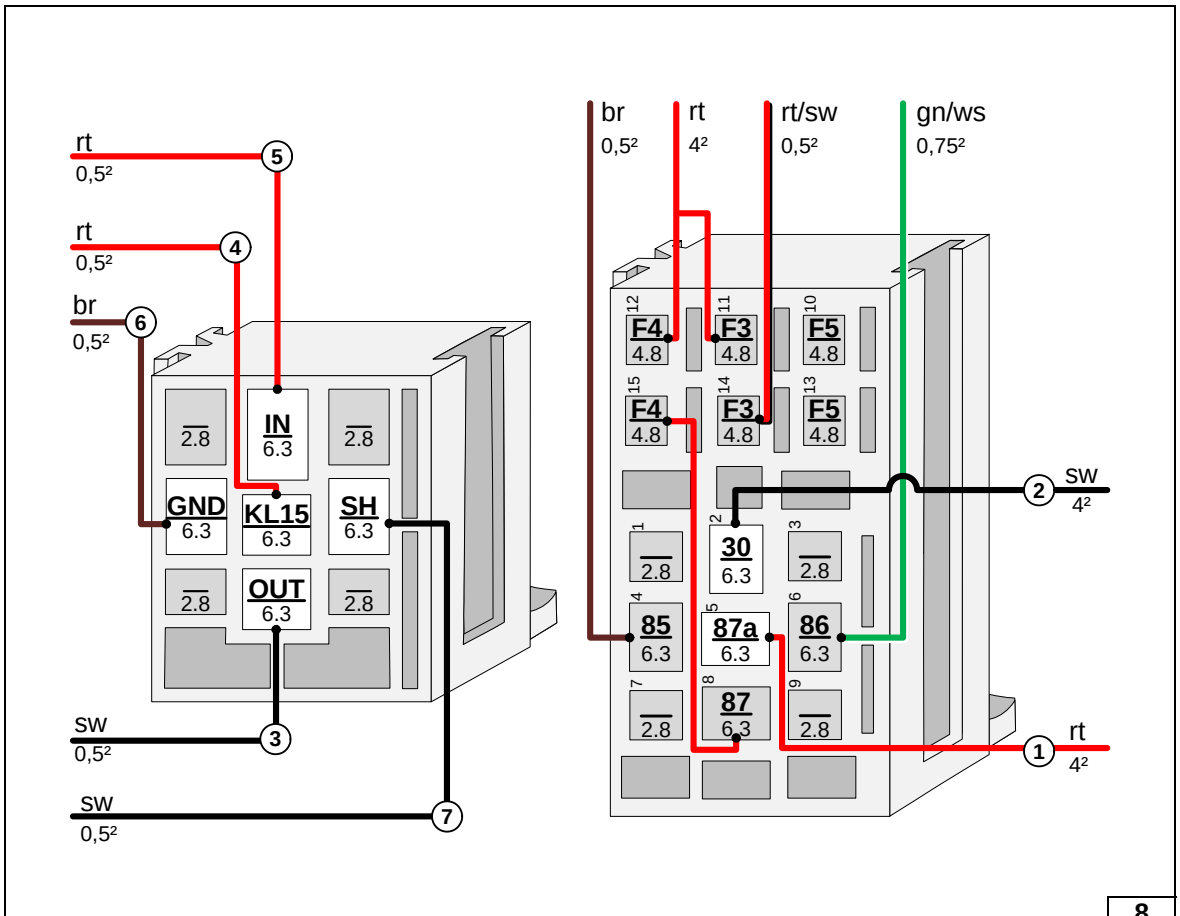
7

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

Settings:

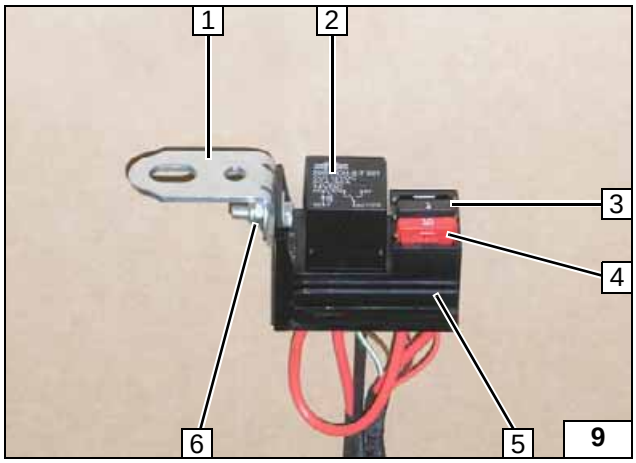
Duty-Cycle: 60%
Frequency: 400Hz
Voltage: not relevant
Function: Low-side

Preparing PWM GW



8

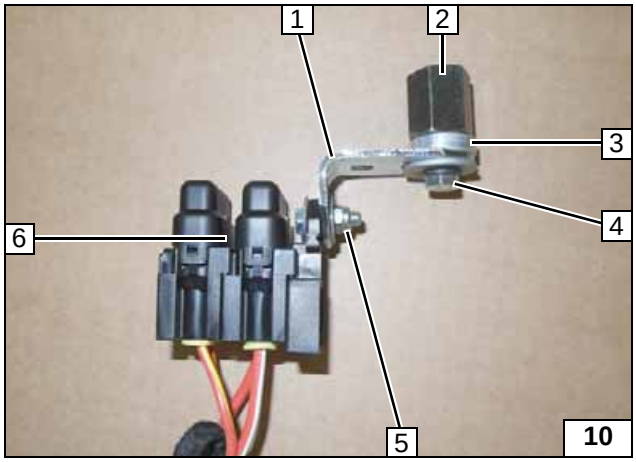
Connecting wires to socket of PWM GW and passenger compartment relay and fuse holder



9

1 Angle bracket
2 K1 relay
3 1A fuse F3
4 10A fuse F4
5 Relay and fuse holder of passenger compartment
6 M5x16 bolt, large diameter washer [2x], nut.

Premounting relay and fuse holder of passenger compartment



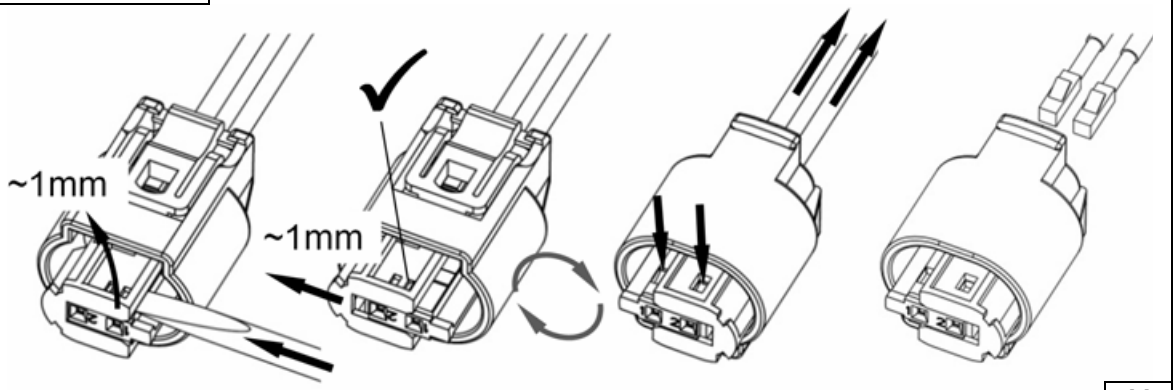
10

All vehicles

1 Angle bracket
2 M6x20 mm spacer nut
3 5 mm shim
4 M6x16 bolt, spring lockwasher, large diameter washer
5 M5x16 bolt, large diameter washer [2x], retaining plate for fuse holder, nut
6 Fuses F1-2 mounted

Premounting engine compartment relay and fuse holder

Connector X7



11

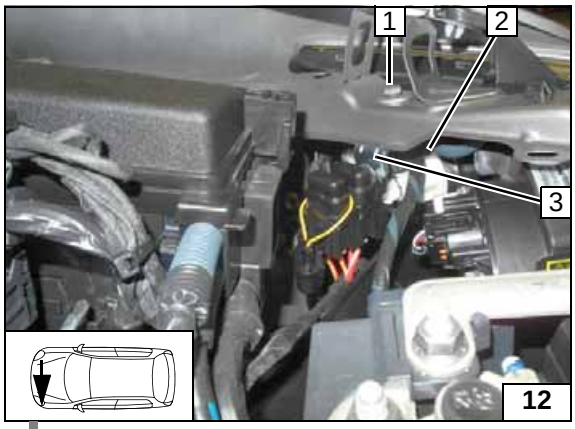
Removing connector of metering pump

Electrical System of Auris Engine Compartment

Fuse holder of engine compartment

Remove clip at position **1**. Fasten original vehicle wiring harness **2** using a cable tie.

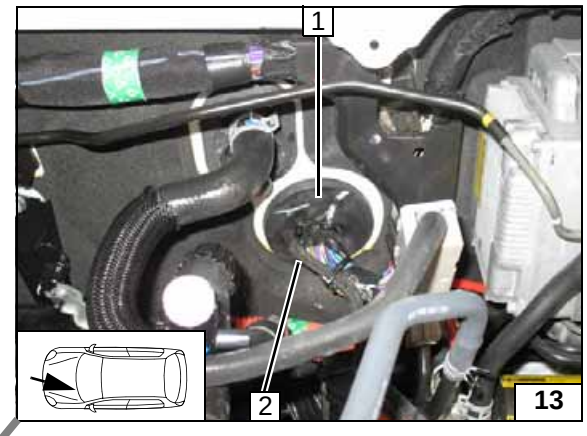
1 M6x12 bolt, spring lockwasher, large diameter washer, original vehicle hole
3 Angle bracket

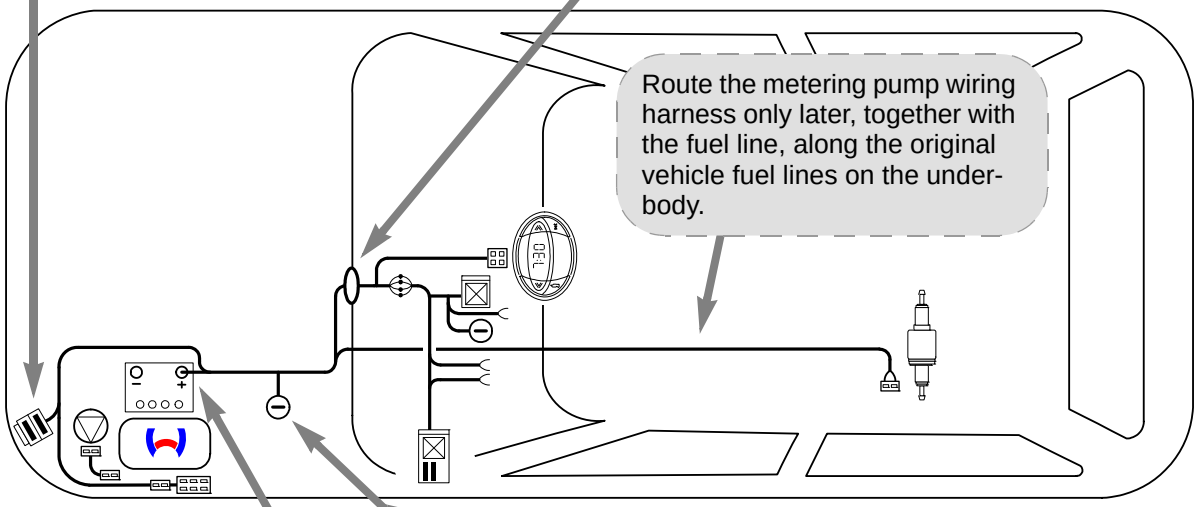


Wiring harness pass through

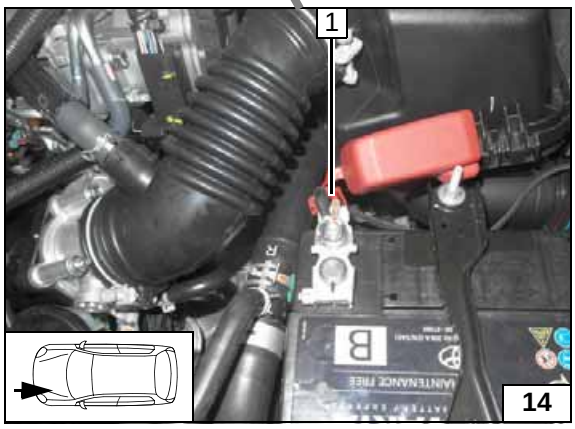
For routing see section "fuel".

1 Protective rubber plug
2 Wiring harness of heater unit, heater control



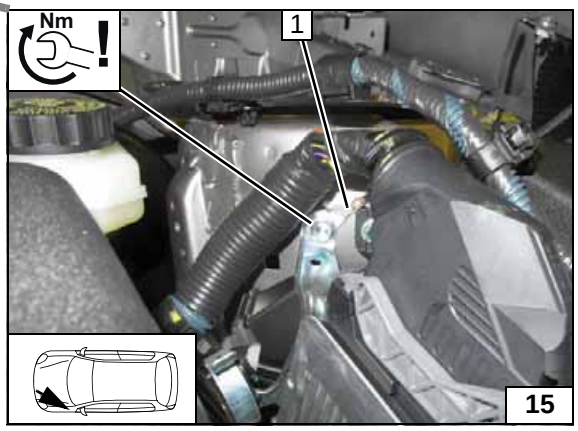


Wiring harness routing diagram



Positive wire

1 Positive wire on positive battery terminal



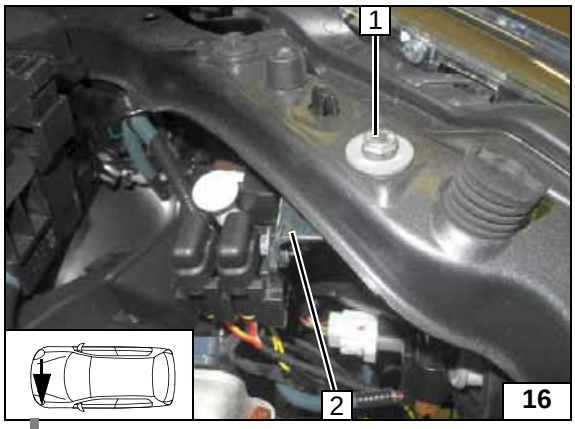
Earth wire

1 Earth wire on original vehicle earth support point

Electrical System of Corolla Engine Compartment

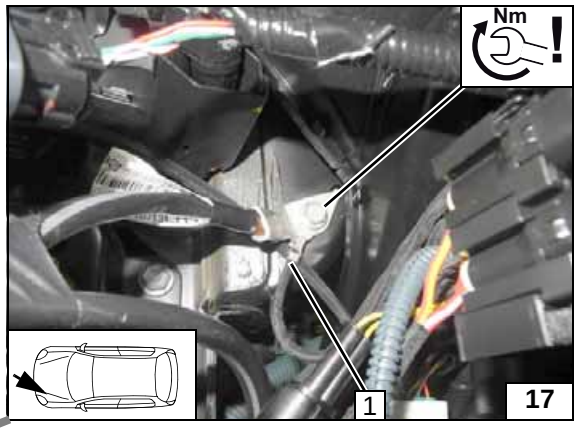
Fuse holder of engine compartment

1 M6x12 bolt, spring lockwasher, large diameter washer, original vehicle hole
2 Angle bracket

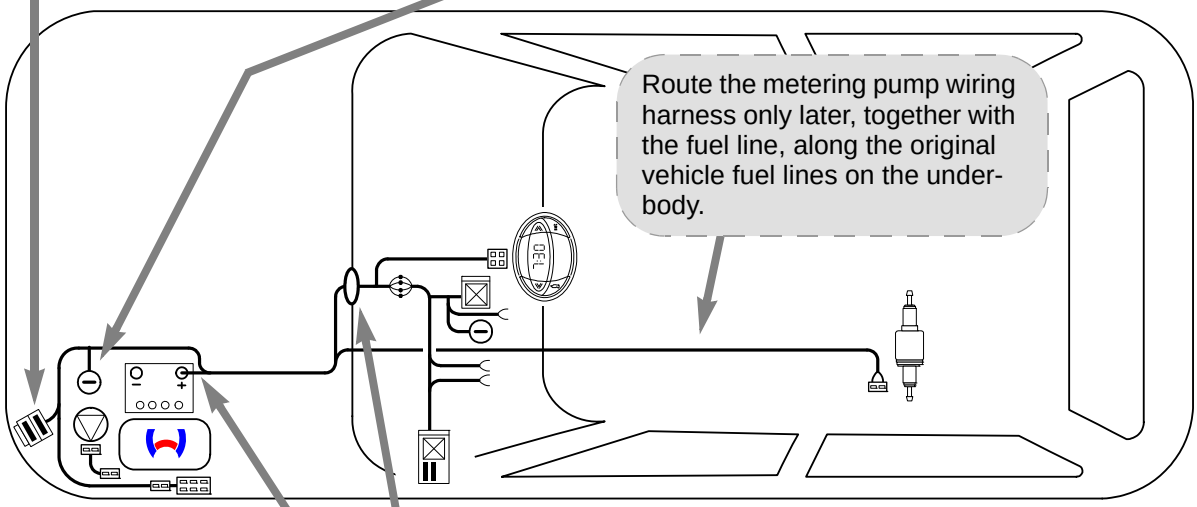


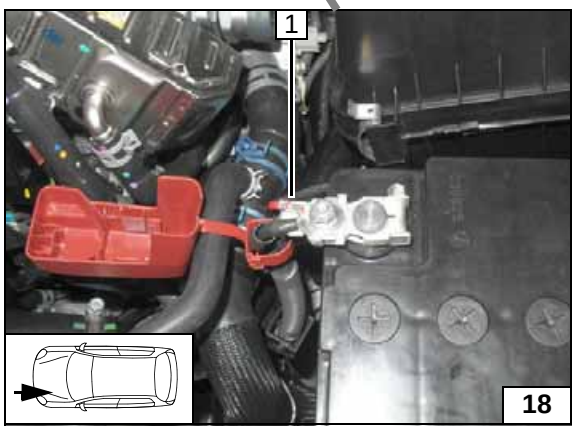
Earth wire

1 Earth wire on original vehicle earth support point



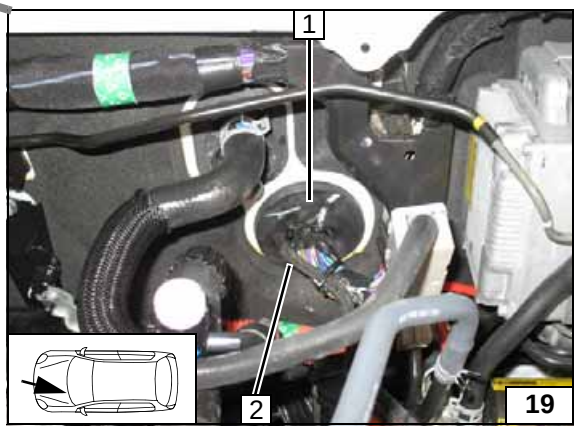
Wiring harness routing diagram





Positive wire

1 Positive wire on positive battery terminal



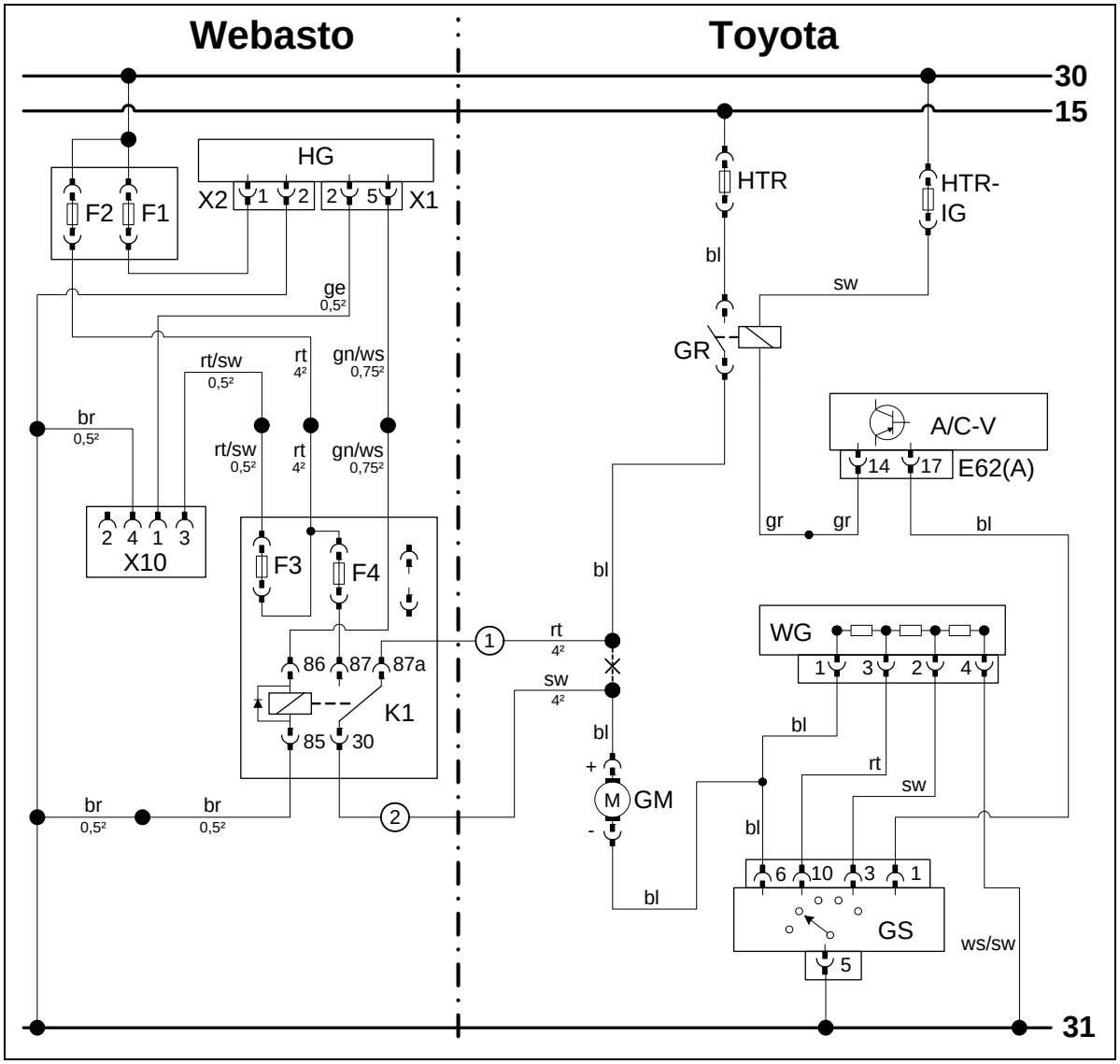
Wiring harness pass through

For routing see section "fuel".

1 Protective rubber plug
2 Wiring harness of heater unit, heater control

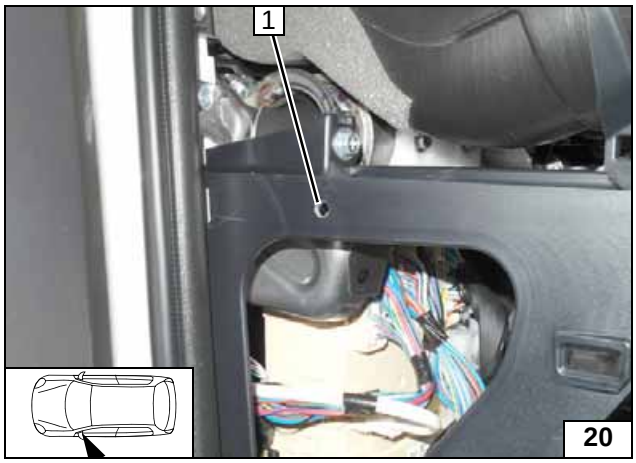
Fan Controller for Manual Air-Conditioning

Wiring diagram



Legend

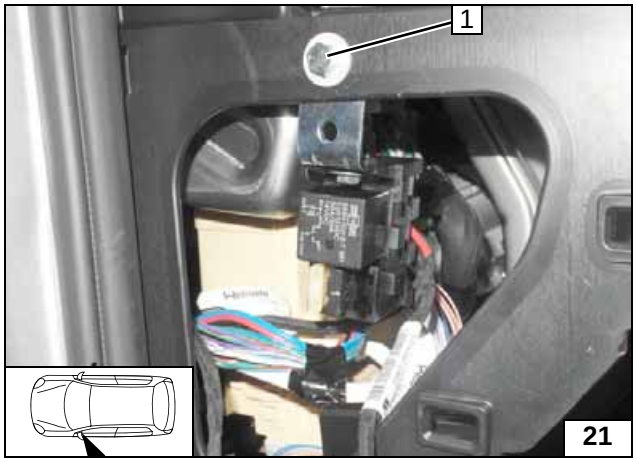
Webasto components		Vehicle Components		Colours and symbols	
HG	TT-Evo heater	HTR	50A fuse	rt	red
X1	6-pin heater connector	HTR-IG	7.5A fuse	sw	black
X2	2-pin heater connector	GR	Fan relay	ge	yellow
F1	20A fuse	A/C-V	A/C booster	gn	green
F2	30A fuse	E62(A)	24-pin connector A/C V	gr	grey
X10	4-pin connector of heater control	WG	Resistor group	ws	white
		GM	Fan motor	br	brown
F3	1A fuse	GS	Fan switch	bl	blue
F4	25A fuse				
K1	Fan relay				
				X	Cutting point
				Cable colours and pin designations may vary	



When drilling, be careful of components located behind.

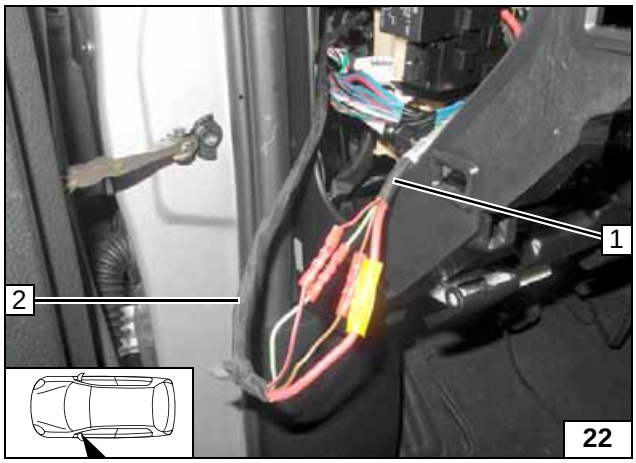
1 6.5 mm dia. hole

Hole for passenger compartment relay and fuse holder



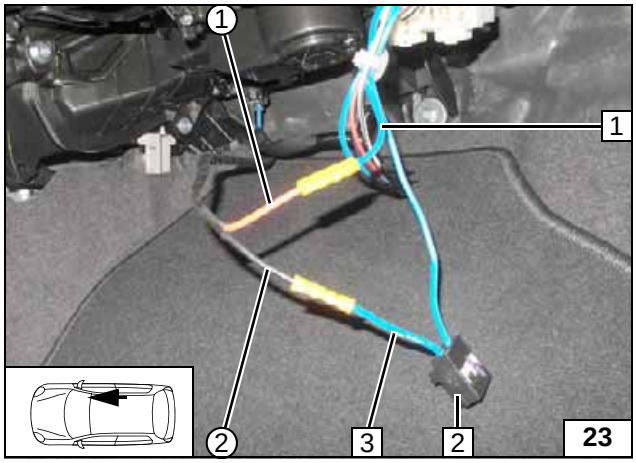
1 M6x20 bolt, large diameter washer, flanged nut

Installing relay and fuse holder of passenger compartment



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

Connecting same colour wires of wiring harnesses

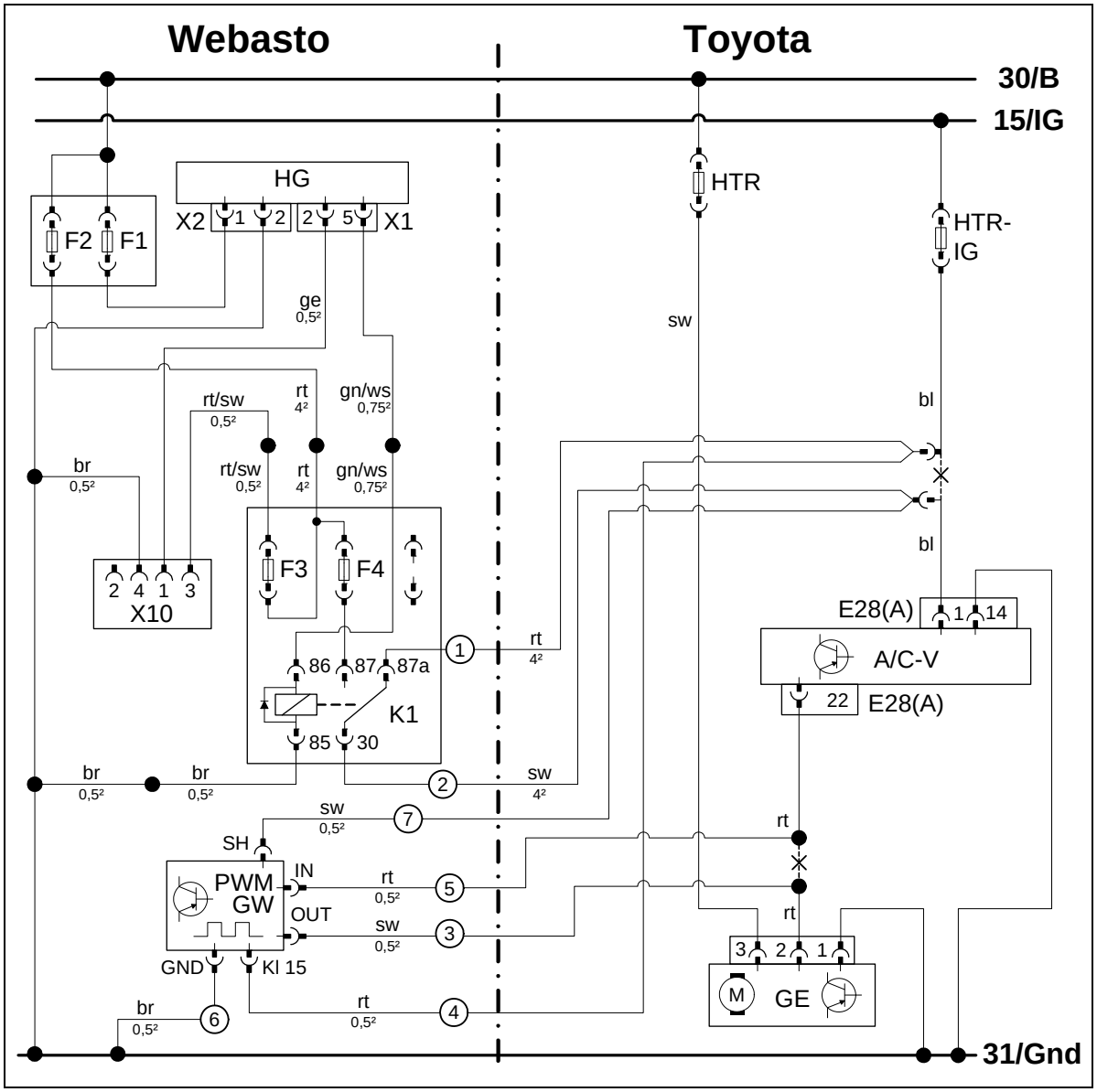


1 Blue (bl) wire of fan relay
2 2-pin connector of fan motor
3 Blue (bl) wire of fan motor connector
① Red (rt) wire of fan wiring harness, K1/87a
② Black (sw) wire of fan wiring harness, K1/30

Connecting fan motor

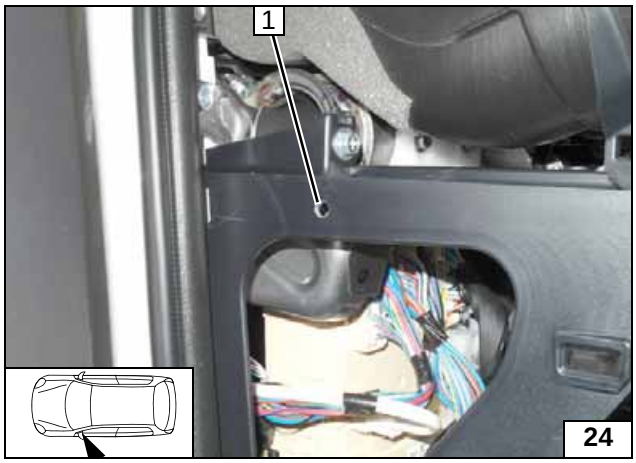
Fan Controller for Automatic Air-Conditioning

Wiring diagram



Webasto components		Vehicle Components		Colours and symbols	
HG	TT-Evo heater	HTR	50A fuse	rt	red
X1	6-pin heater connector	HTR-IG	7.5A fuse	sw	black
X2	2-pin heater connector	A/C-V	A/C booster	ge	yellow
F1	20A fuse	E28(A)	40-pin connector A/C V	gn	green
F2	30A fuse	GE	Fan unit	bl	blue
X10	4-pin connector of heater control			ws	white
				br	brown
F3	1A fuse				
F4	10A fuse				
K1	Fan relay				
PWM GW	Pulse width modulator				
PWM GW settings:					
Duty-Cycle: 60%					
Frequency: 400Hz				**X**	Cutting point
Voltage: not relevant				Cable colours and pin designations may vary	
Function: Low-side					

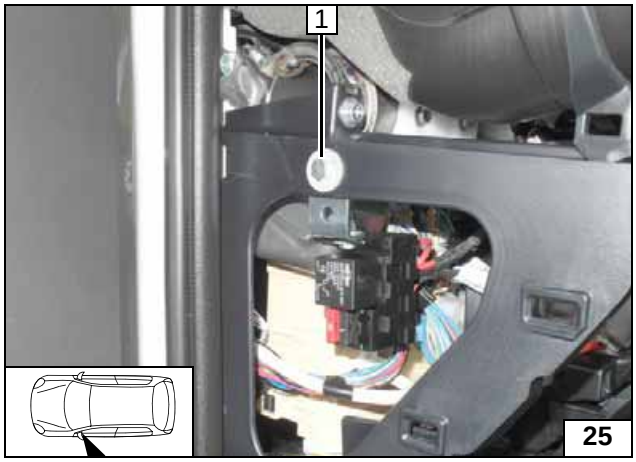
Legend



When drilling, be careful of components located behind.

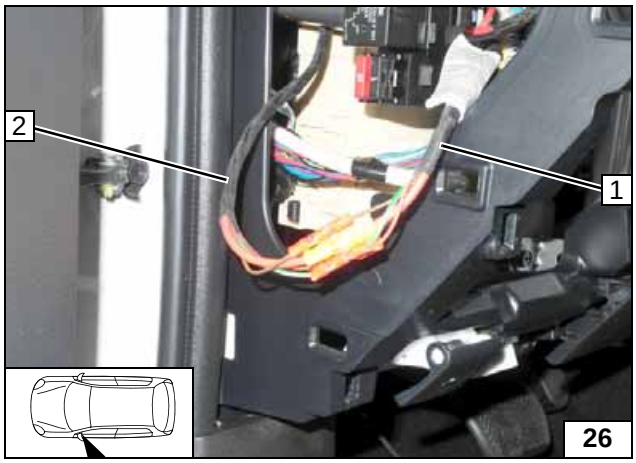
1 6.5 mm dia. hole

Hole for passenger compartment relay and fuse holder



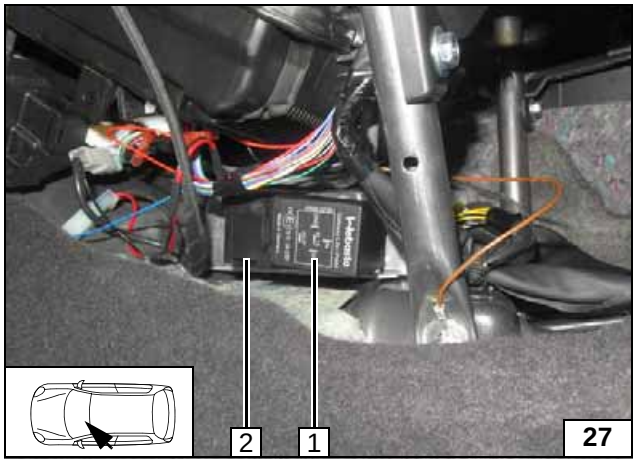
1 M6x20 bolt, large diameter washer, flanged nut

Installing relay and fuse holder of passenger compartment



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

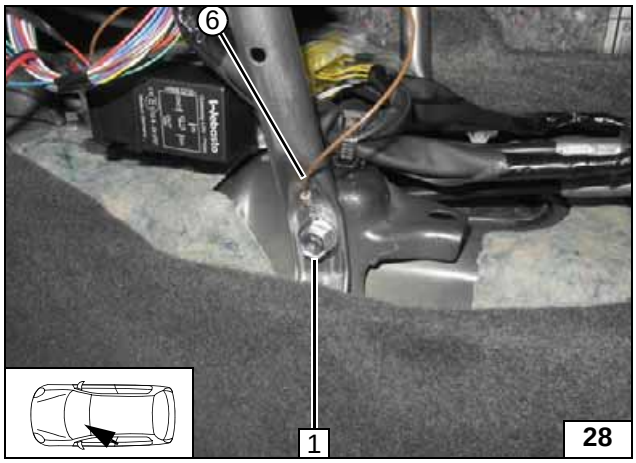
Connecting same colour wires of wiring harnesses



Fasten PWM socket **2** on control unit with adhesive tape.

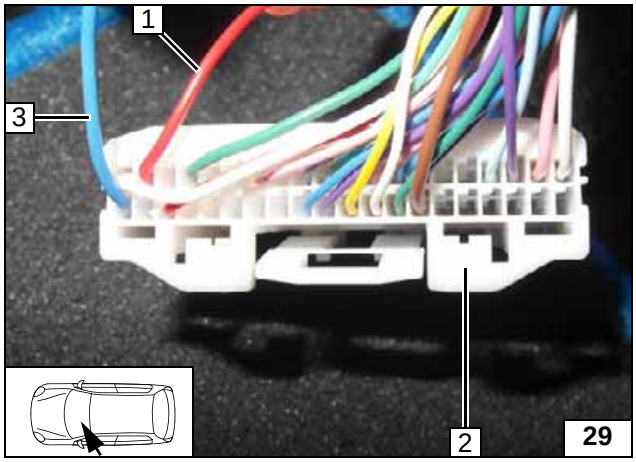
1 PWM Gateway

Mounting PWM GW



1 Original vehicle bolt
⑥ Brown (br) wire of PWM GW/GND

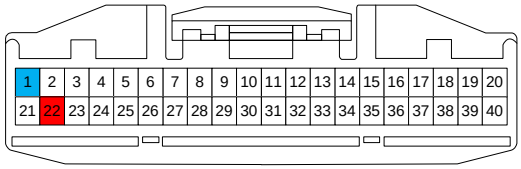
PWM GW earth connection

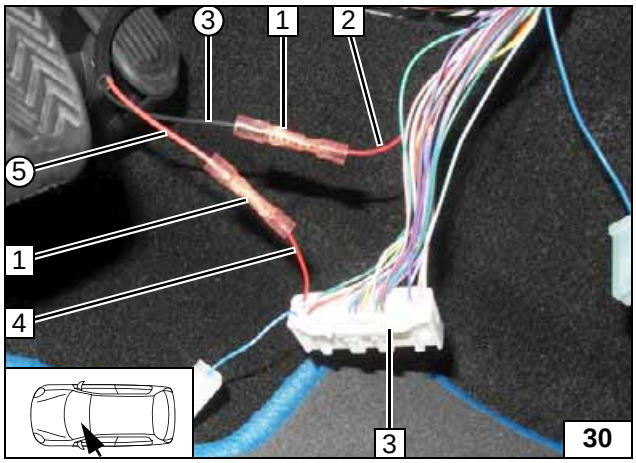


1 Red (rt) wire of pin 22
2 40-pin connector of E28(A)
3 Blue (bl) wire of pin 1

A/C booster connector

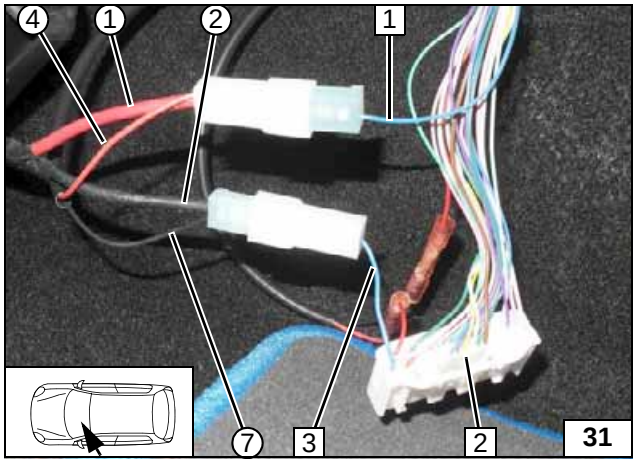
View of connector E28(A) on contact side [from front]





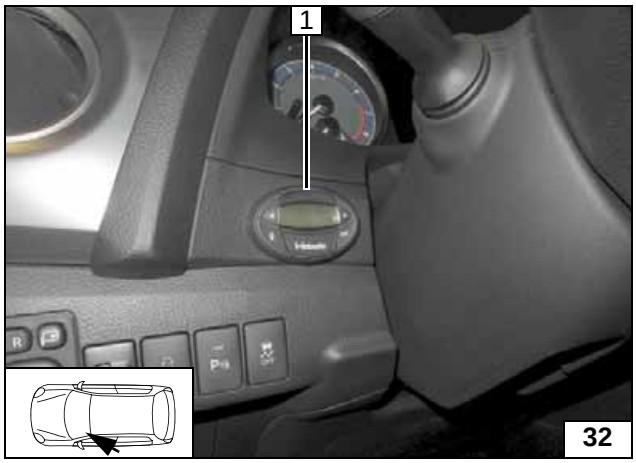
1 Crimp and shrink connector [2x].
2 Red (rt) wire of fan controller
3 40-pin connector of E28(A)
4 Red (rt) wire of connector E28(A)/pin 22
③ Black (sw) wire of PWM GW/OUT
⑤ Red (rt) wire of PWM GW/IN

Connecting the A/C booster



1 Blue (bl) wire of fuse HTR-IG
2 40-pin connector of E28(A)
3 Blue (bl) wire of connector E28(A)/pin 1
① Red (rt) wire of fan wiring harness, K1/87a
② Black (sw) wire of fan wiring harness, K1/30
④ Red (rt) wire of PWM GW/KL15
⑦ Black (sw) wire of PWM GW/SH

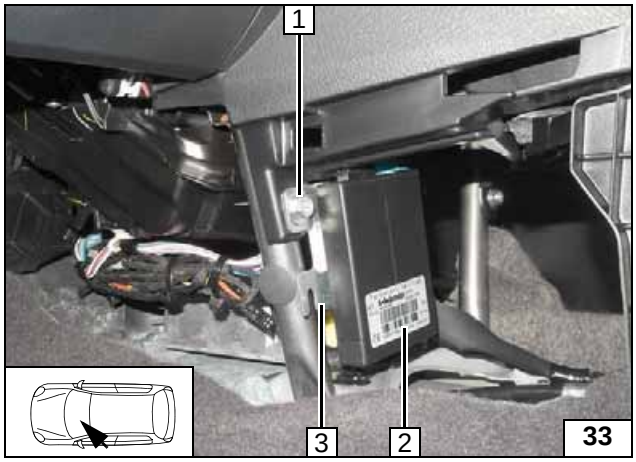
Connecting the A/C booster



Digital Timer

1 Digital timer

Mounting digital timer

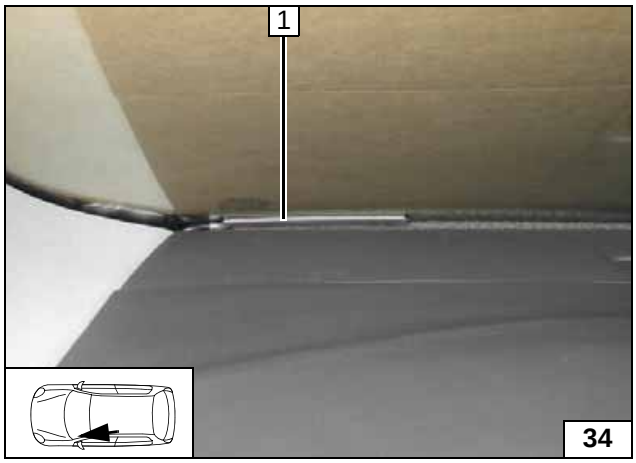


Remote option (Telestart)

Drill out bracket **3** to 6.5 mm at position **1**.

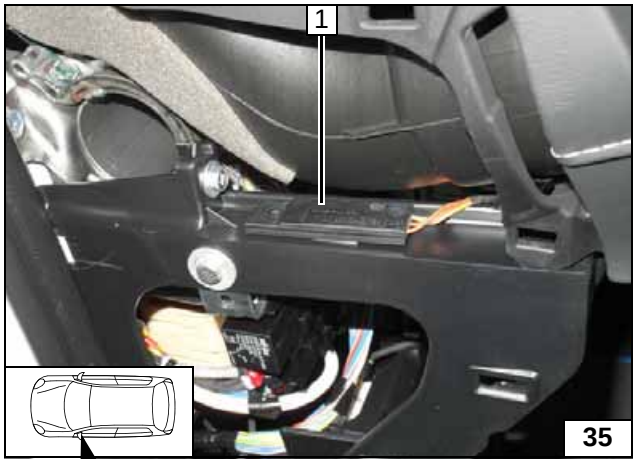
1 Original vehicle bolt
2 Receiver

Installing receiver



1 Antenna

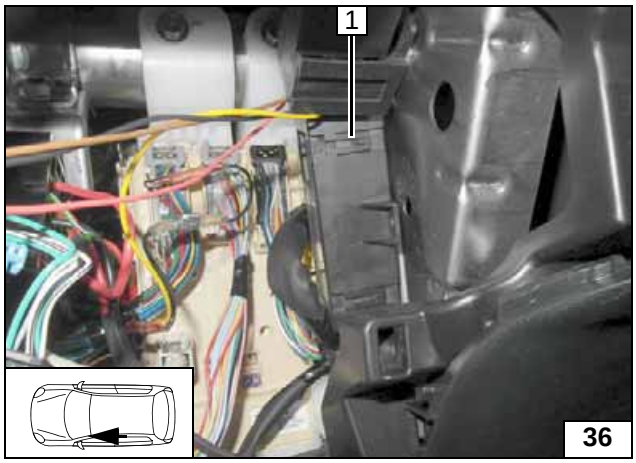
Installing antenna



Temperature sensor T100 HTM

Fasten temperature sensor **1** with adhesive tape.

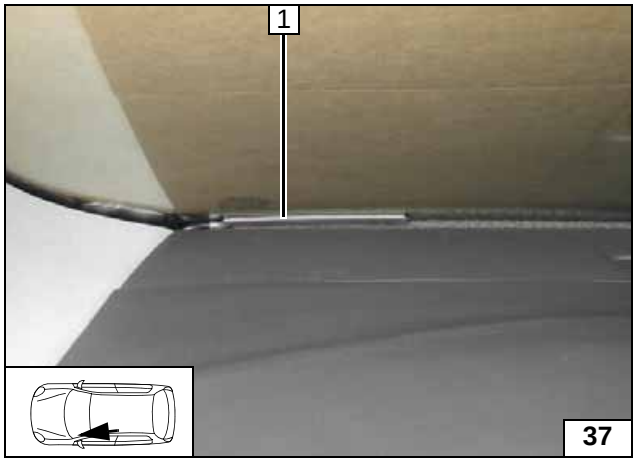
Installing temperature sensor



Remote option Thermo Call

Fasten receiver **1** with adhesive tape.

Installing receiver



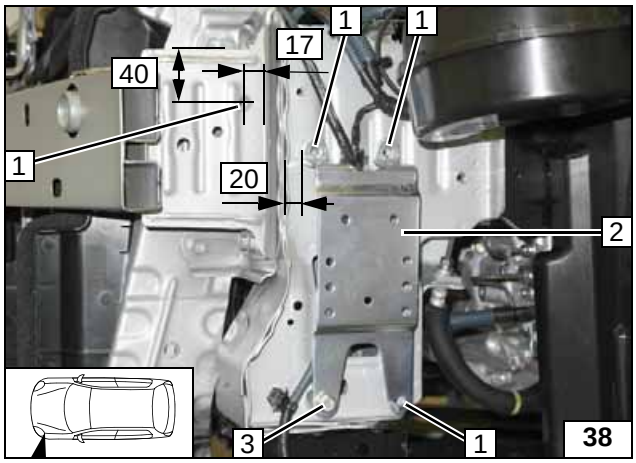
1 Antenna

Installing antenna

Preparing Installation Location

Figure shows bracket for Auris. Same procedure is used for Corolla.
Prepare bracket **2** in accordance with the template, install it loosely at position **3** and align it.

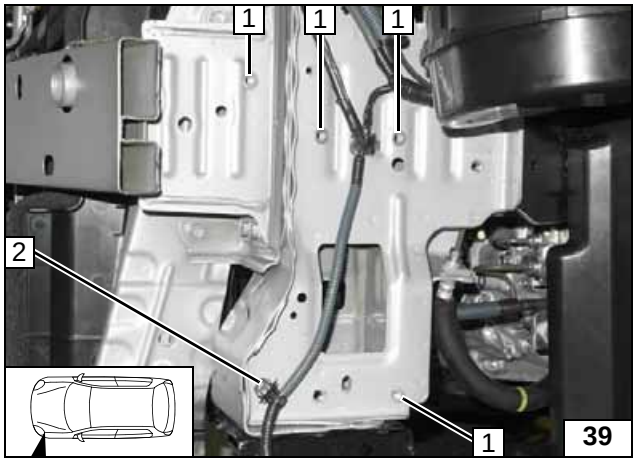
1 Copy hole pattern [4x]
3 M8x40 bolt, spring lockwasher, 20mm shim, existing threaded hole



Copying hole pattern

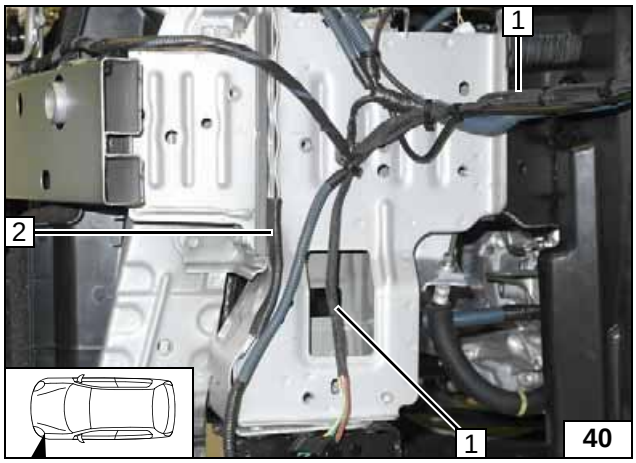
Remove the bracket.

1 9.1 mm dia. hole; rivet nut [4x each]
2 Detach wiring harness of front fog light, remove the clip



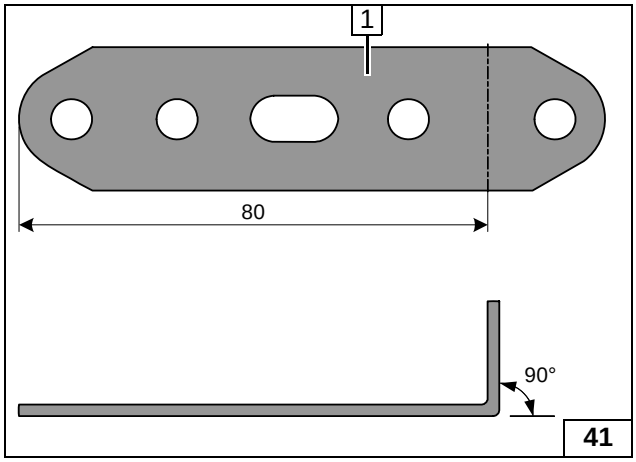
Installing rivet nut

1 Wiring harness of heater
2 100 mm edge protection

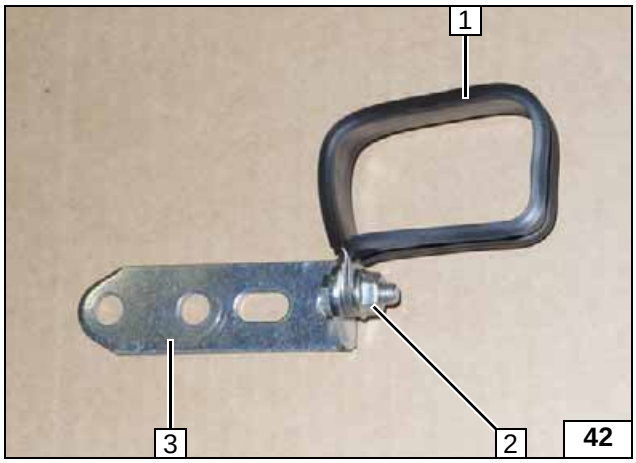


Installing edge protection

1 Perforated bracket

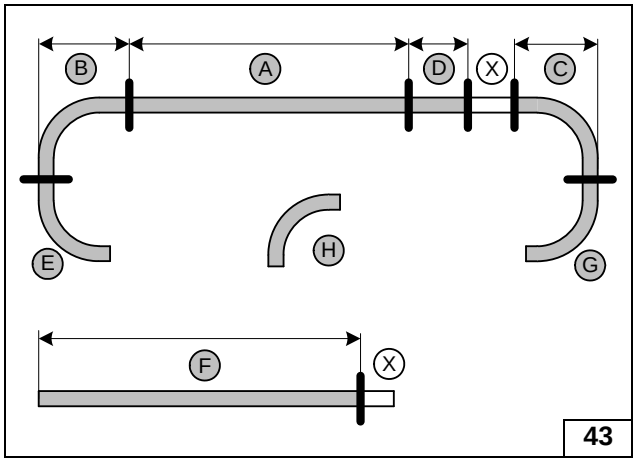


Preparing perforated bracket



1 48 mm dia. rubber-coated p-clamp
2 M6x20 bolt, flanged nut
3 Perforated bracket

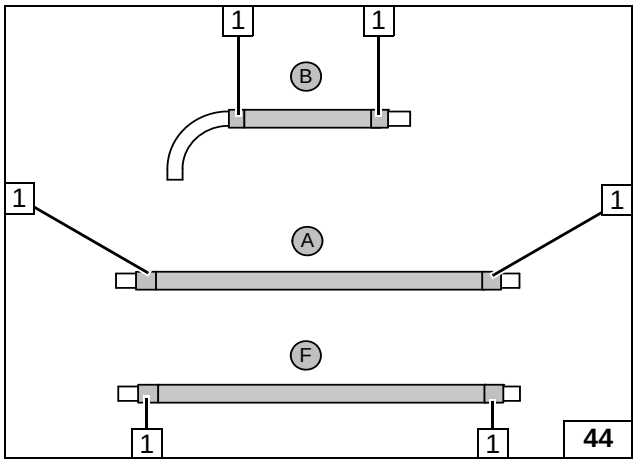
Premounting perforated bracket



Discard section **X**.
Hose **H** = 90°, 18x18 mm dia. moulded hose

	Auris	Corolla
A =	900	900
B =	250	250
C =	120	135
D =	120	105
F =	920	920

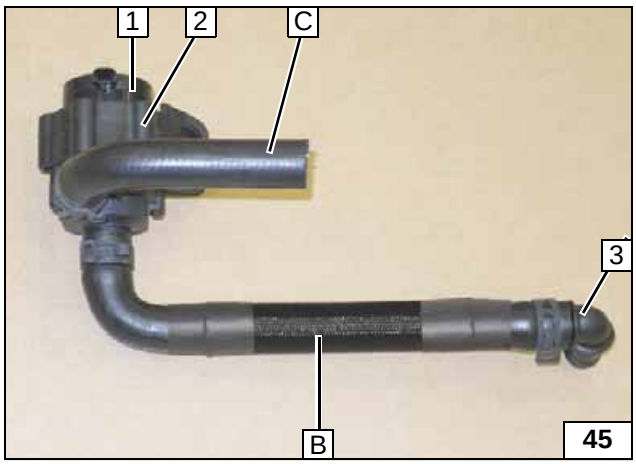
Cutting hoses to length



Slide on braided protection hose and cut to length. Cut heat shrink plastic tubing to length.

1 40 mm long heat shrink plastic tubing [6x]

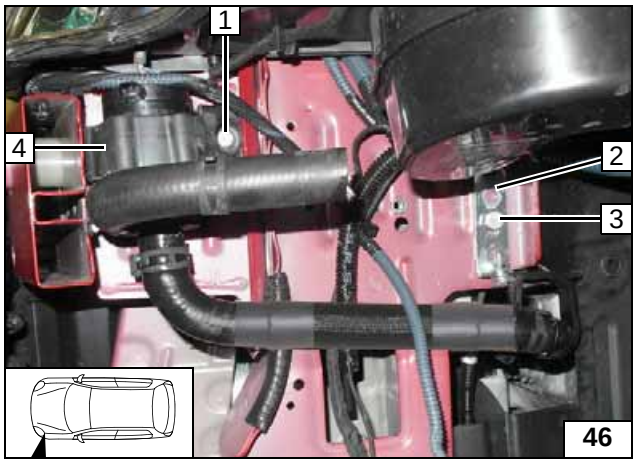
Installing braided protection



All spring clips = 25 mm dia.

1 Circulating pump
2 Circulating pump mounting
3 90° connecting pipe

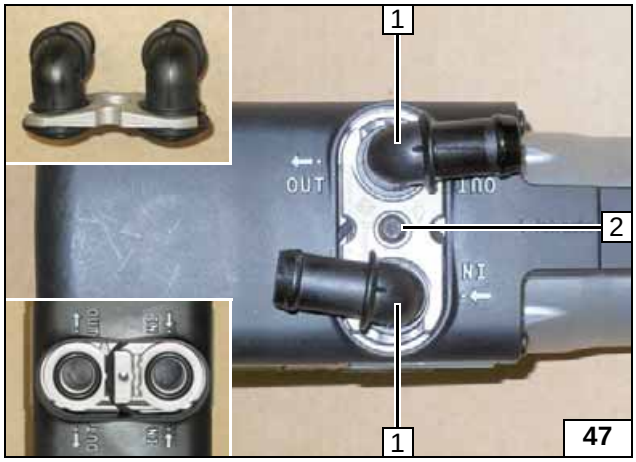
Premounting circulating pump



1 M6x25 bolt
2 Perforated bracket
3 M8x20 bolt, spring lockwasher, existing threaded hole
4 Circulating pump mounting

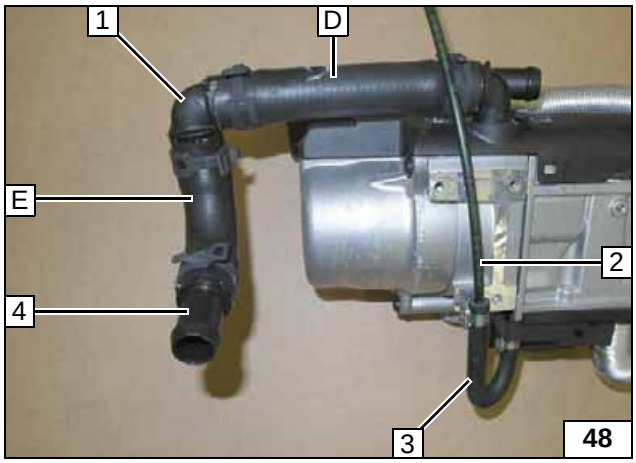
Installing perforated bracket and circulating pump

Preparing Heater



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

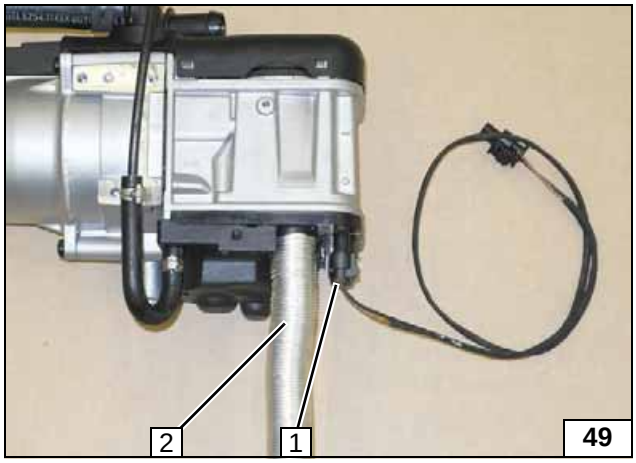
Installing water connection piece



All spring clips = 25 mm dia.

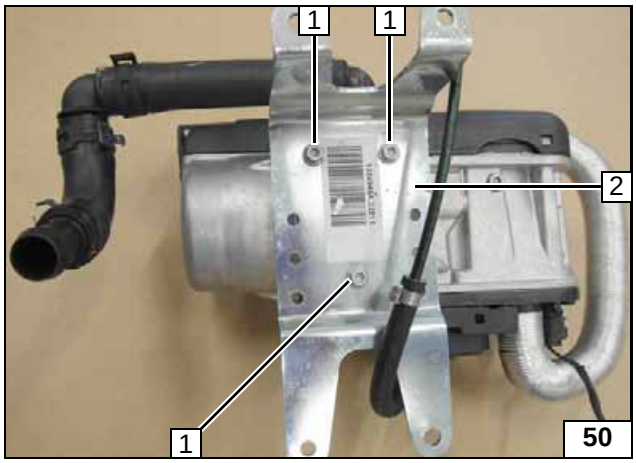
1 90° connecting pipe
2 Fuel line
3 180° moulded hose, 10 mm dia. clamp [2x]
4 Connecting pipe

Premounting fuel line and hoses



1 Connector of circulating pump wiring harness
2 Combustion air pipe

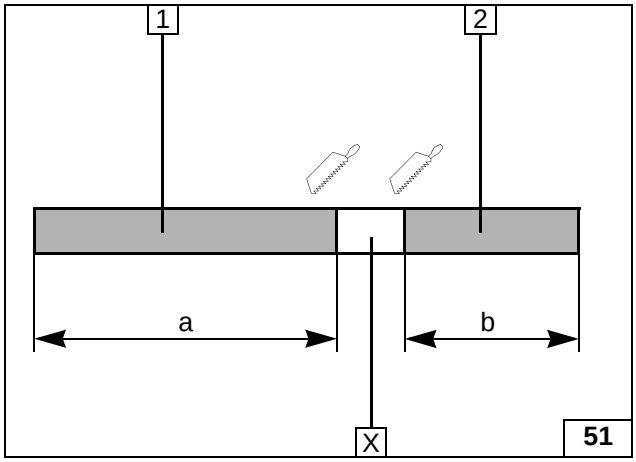
Premounting wiring harness and combustion air pipe



Auris

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

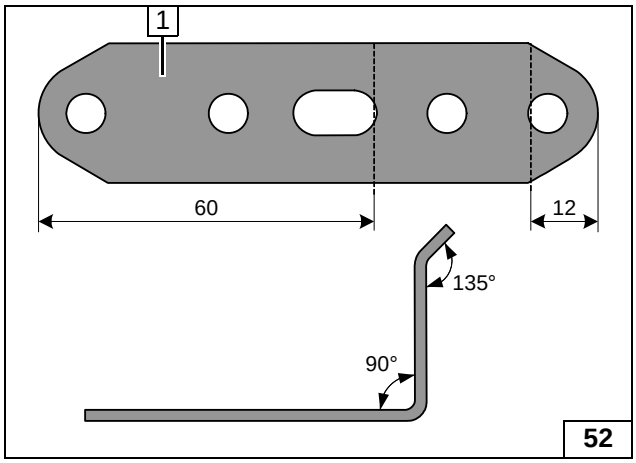
Installing bracket



Discard section **X**.

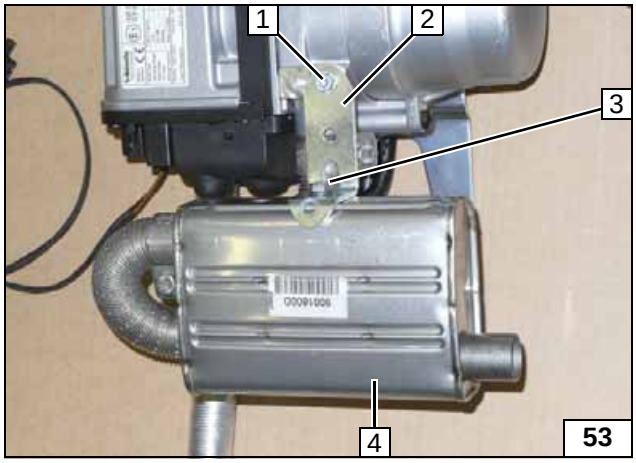
1 Exhaust pipe
a = 290
2 Exhaust end section
b = 180

Preparing exhaust pipe



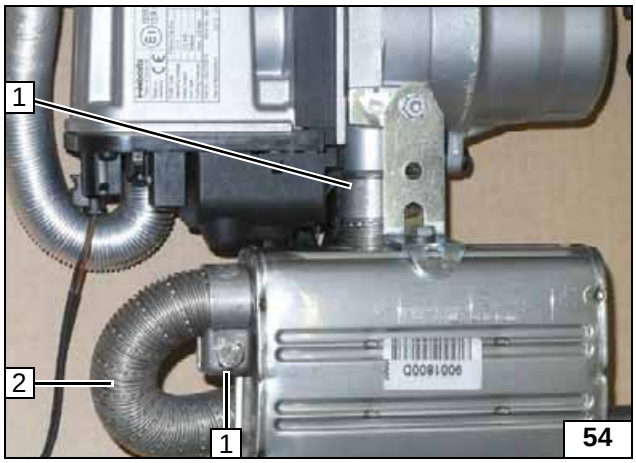
1 Perforated bracket

Preparing perforated bracket



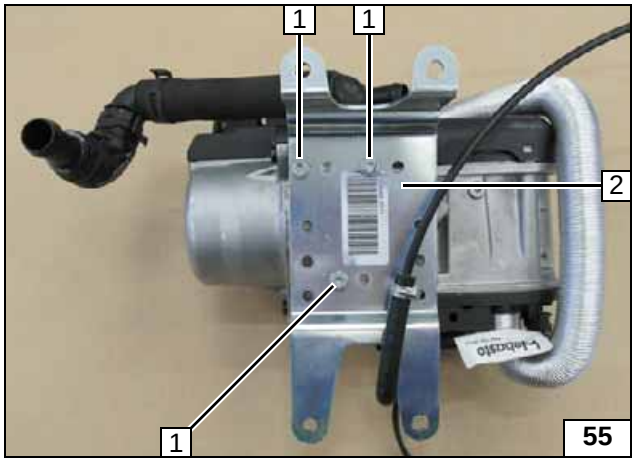
1 5x13 self-tapping bolt
2 Perforated bracket
3 M6x16 bolt, spring lockwasher
4 Silencer

Installing silencer



1 Hose clamp [2x]
2 Exhaust pipe

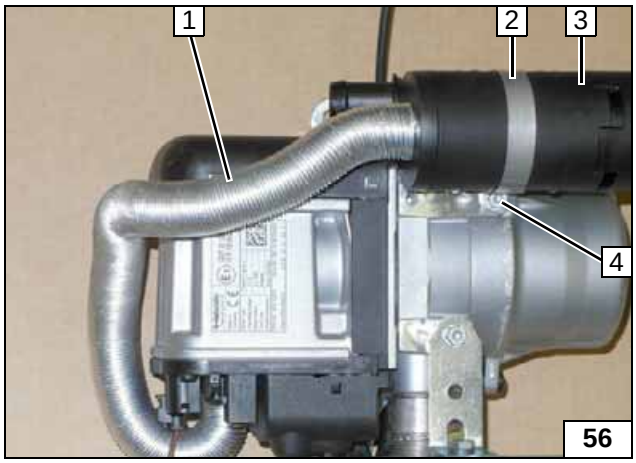
Installing exhaust pipe



Corolla

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

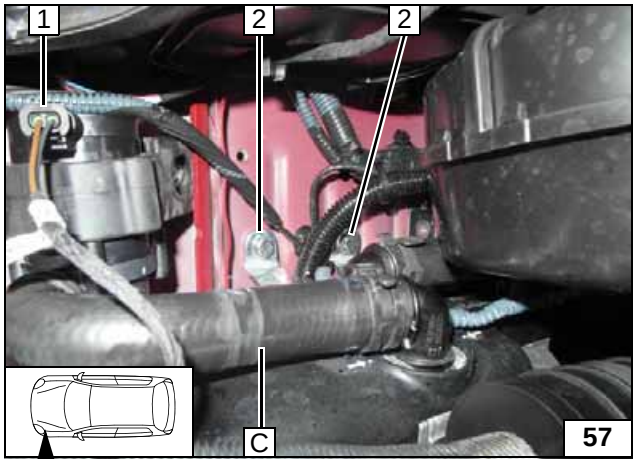
Installing bracket



All vehicles

1 Combustion air pipe
2 51 mm dia. p-clamp
3 Silencer
4 5x13 self-tapping bolt

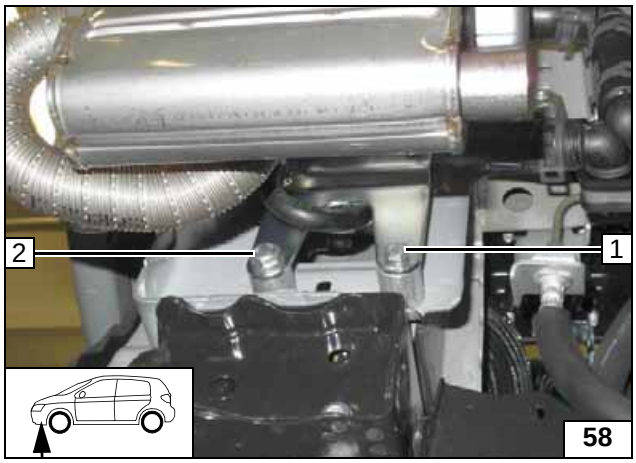
Installing silencer



Installing Heater

1 Connector of circulating pump wiring harness
2 M6x20 bolt, spring lockwasher [2x each]

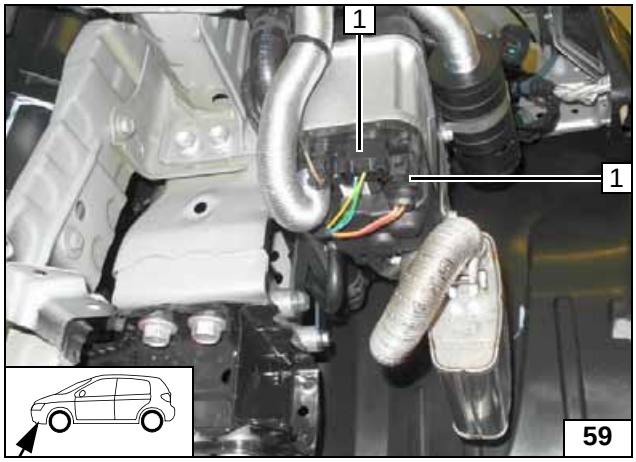
Installing heater



Auris

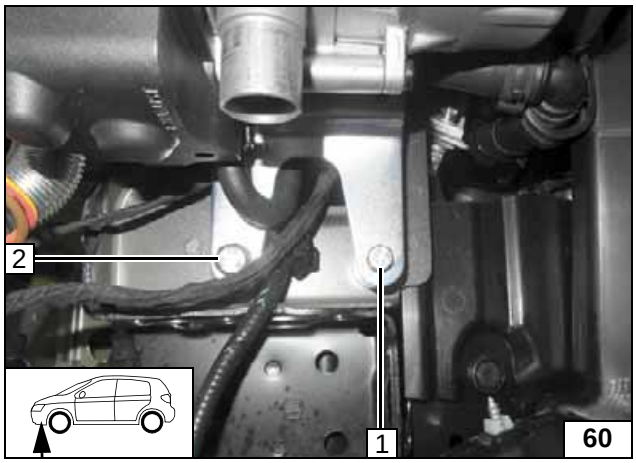
1 M6x40 bolt, spring lockwasher, bracket, 20 mm shim
2 M8x40 bolt, spring lockwasher, bracket, 20mm shim

Installing heater



1 Connector of heater wiring harness [2x]

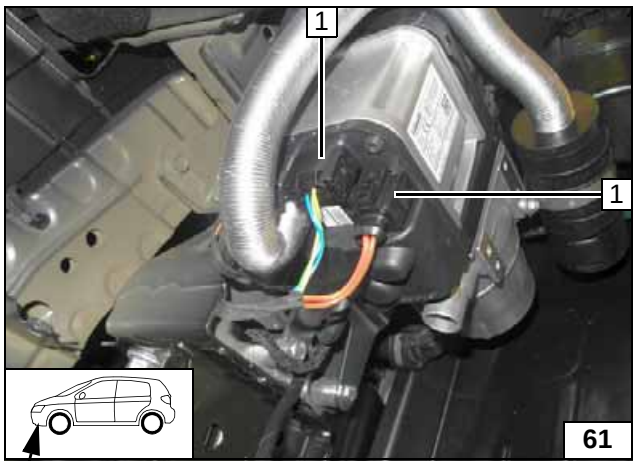
Installing heater wiring harness



Corolla

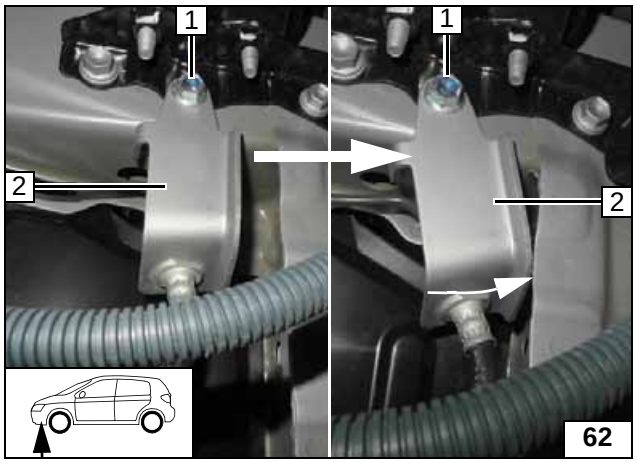
1 M6x40 bolt, spring lockwasher, bracket, 20 mm shim
2 M8x40 bolt, spring lockwasher, bracket, 20mm shim

Installing heater



1 Connector of heater wiring harness [2x]

Installing heater wiring harness



All vehicles

Detach original vehicle bolt at position **1**, turn bracket of brake line **2** as far as possible inthe direction of the arrow and tighten bolt **1** again.

Installing heater

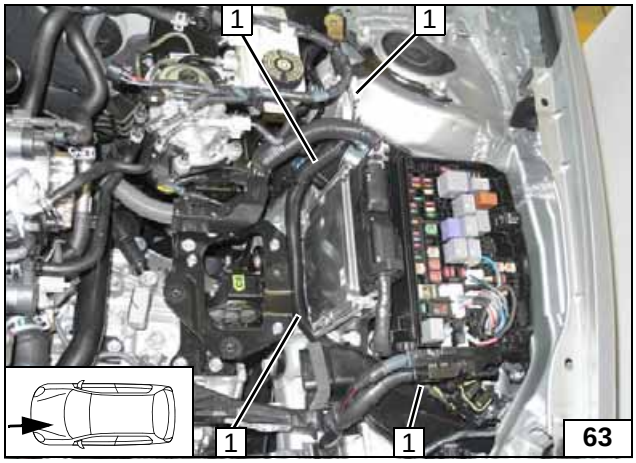
Fuel

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

Catch any fuel running off in an appropriate container.

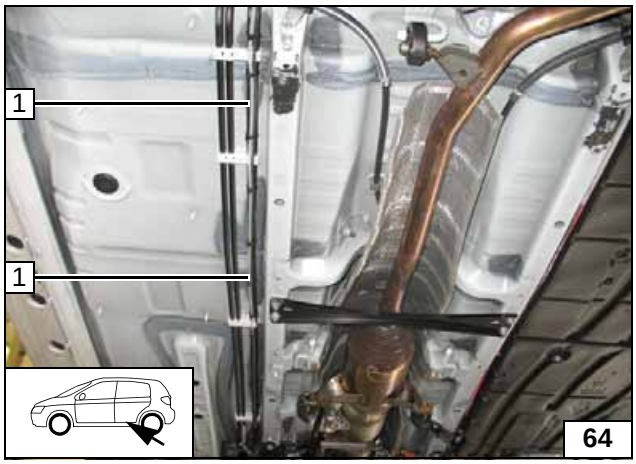
Install fuel line and metering pump wiring harness so that they are protected against stone impact. Unless specified otherwise, always fasten using cable ties.
Provide rub protection for fuel line and wiring harness in areas where there are sharp edges.

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



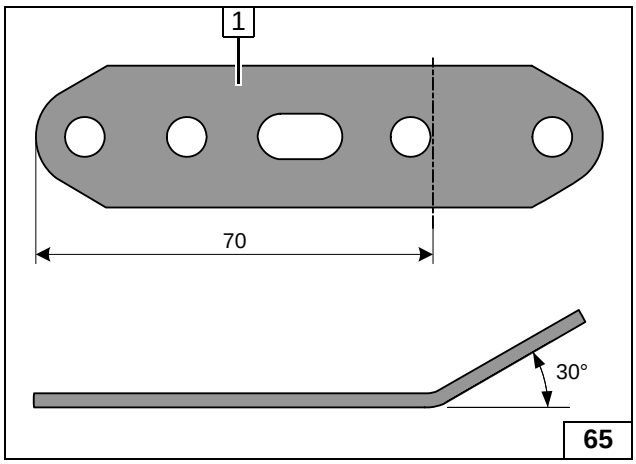
Route wiring harnesses of heater control,heater, metering pump and fuel line in 700mm long, 13mm dia. corrugated tube **1** to the firewall.

Installing lines



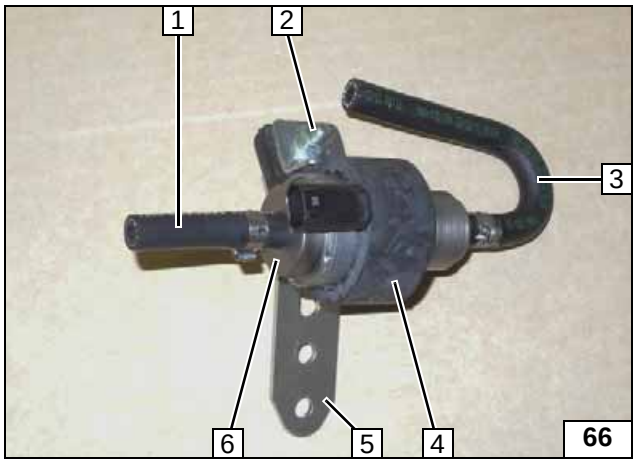
Route fuel line and wiring harness of meteringpump in 10mm dia. corrugated tube **1** (1130 and 2100) along original vehicle fuellines to installation location of metering pump.

Installing lines



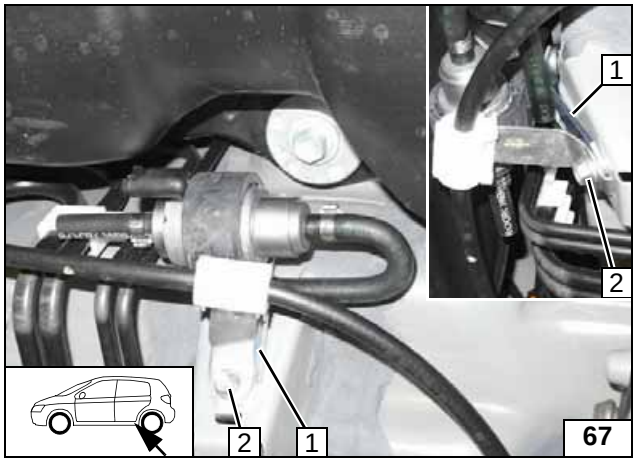
1 Perforated bracket

Preparing perforated bracket



1 Hose section, 10 mm dia. clamp
2 M6x25 bolt, support angle bracket, flanged nut
3 180° moulded hose, 10 mm dia. clamp
4 Metering pump mounting
5 Perforated bracket
6 Metering pump

Premounting metering pump

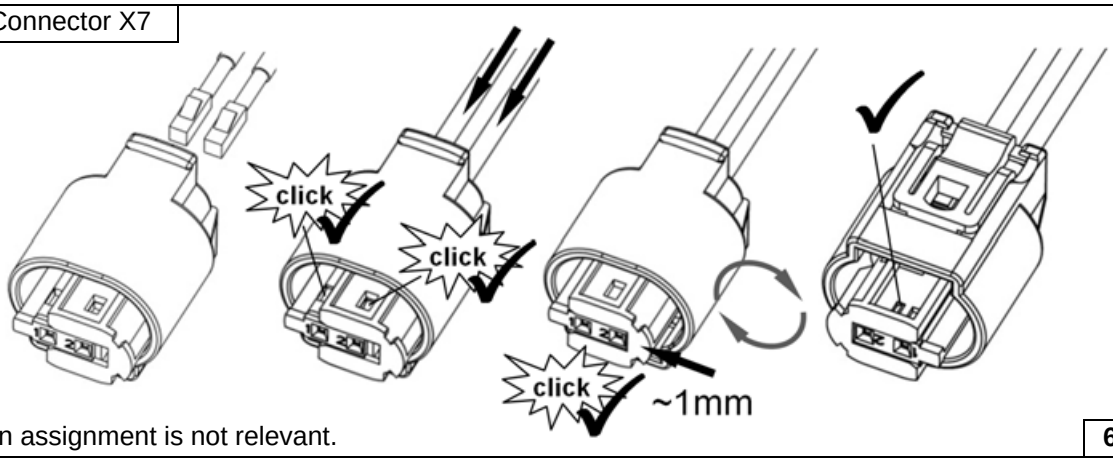


Ensure sufficient distance from neighbouring components, correct if necessary.

1 Perforated bracket
2 Original vehicle bolt

Installing metering pump

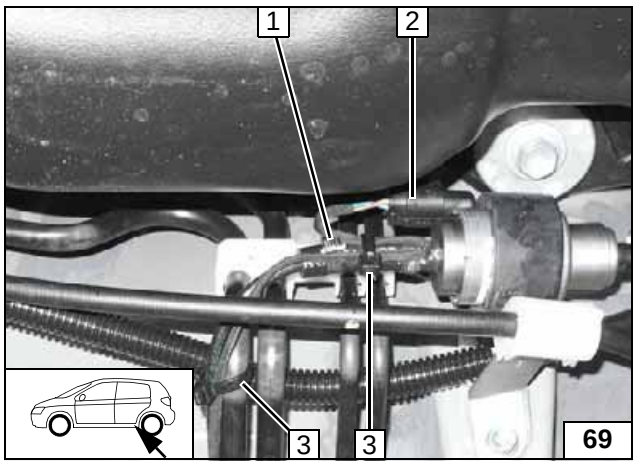
Connector X7



Pin assignment is not relevant.

68

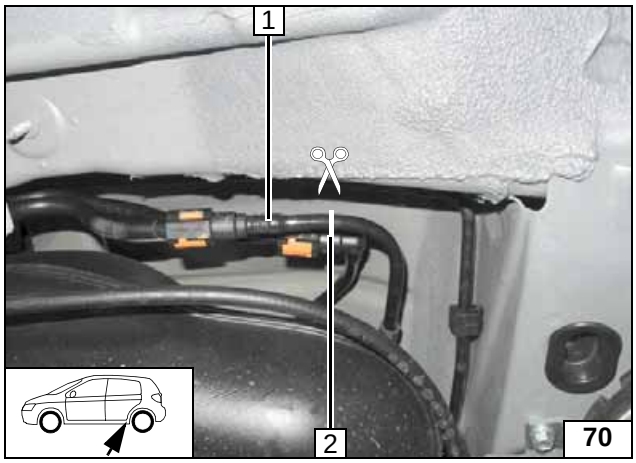
Completing connector of metering pump



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

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

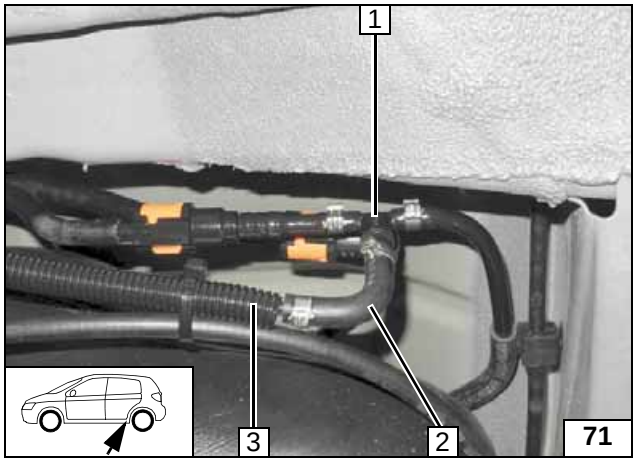
Connecting metering pump



Cut out fuel return line **1** along the marking.

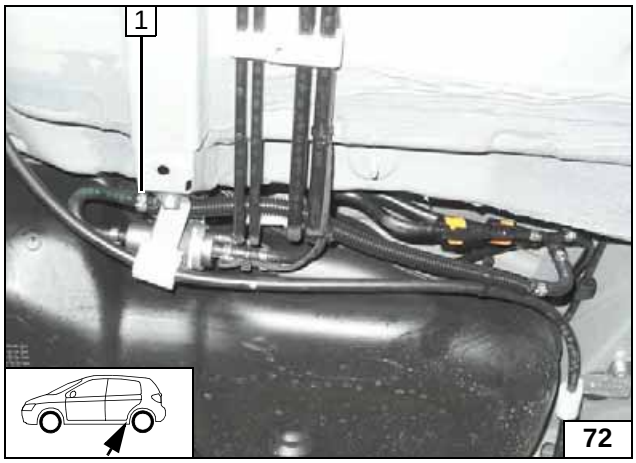
2 Cutting point

Removing fuel



1 6x5x6 fuel standpipe, 8 mm dia. clamp [2x]
2 90° moulded hose, 10 mm dia. clamp [2x]
3 Fuel line in 10 mm dia. corrugated tube

Installing fuel standpipe



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

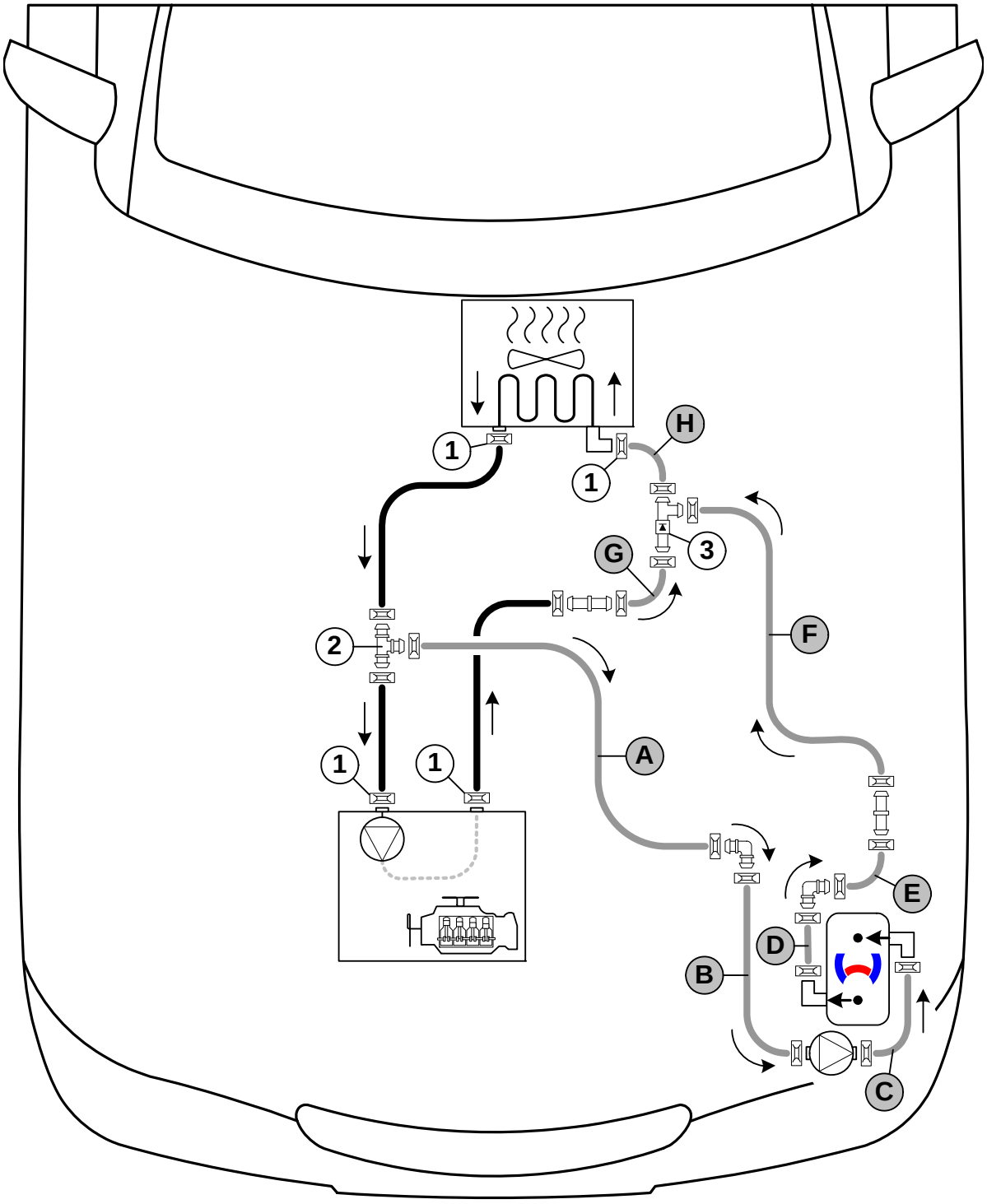
1 Fuel line, 10mm dia. clamp

Connecting metering pump

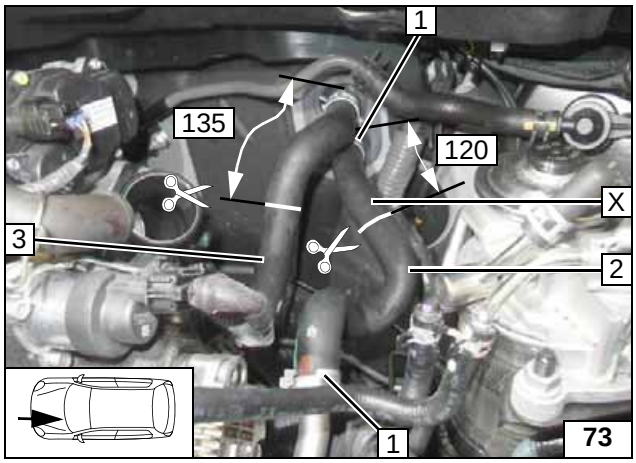
Coolant Circuit

WARNING!
Any coolant running off should be collected in a suitable container. Install hoses so that they are kink-free. Unless specified otherwise, always fasten using cable ties. Position clamps so that other hoses cannot be damaged. When installing the hoses, the heater must be filled with coolant.
The connection should be modelled on an "island" circuit and based on the following diagram:

Hose routing diagram



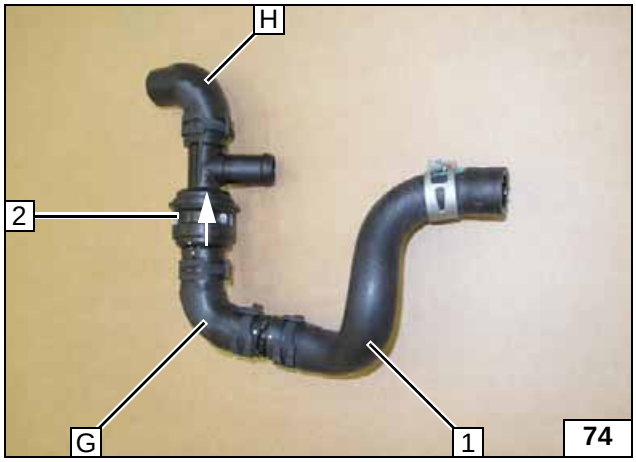
All spring clips without a specific designation = 25 mm dia. **1** = Original vehicle spring clip.
All connecting pipes and 18x18 mm dia. **2** = T-piece **3** = check valve.



Cut hoses of heat exchanger outlet **3** and engine outlet **2** at the markings.
Remove hose section **X** of heat exchanger inlet and discard.

1 Original vehicle spring clip [2x], will be reused
2 Remove hose section of engine outlet, will be reused

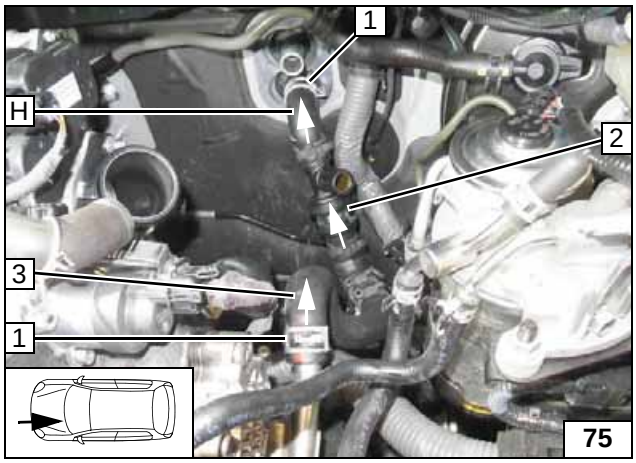
Cutting point



Mind direction of flow of check valve **2**!

1 Hose section of engine outlet

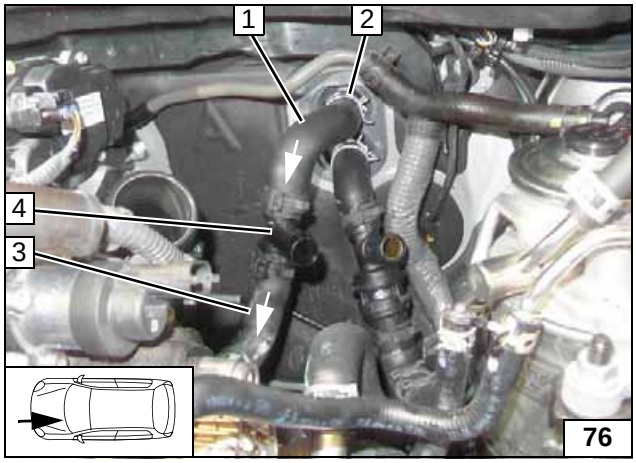
Premounting check valve



Hose section of heat exchanger outlet is removed only for better display.

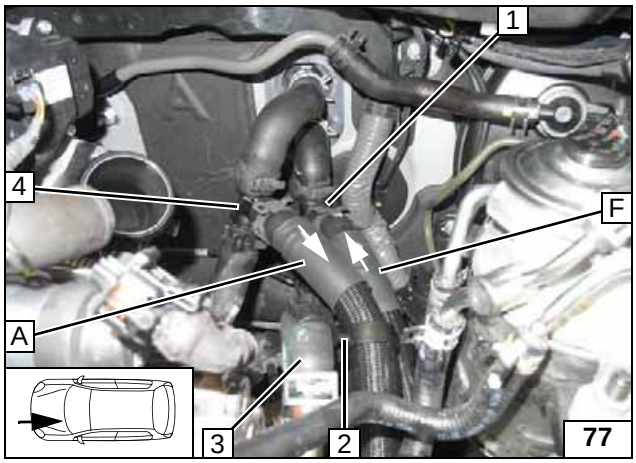
1 Original vehicle spring clip [2x].
2 Check valve
3 Hose section of engine outlet

Connecting engine outlet / heat exchanger inlet



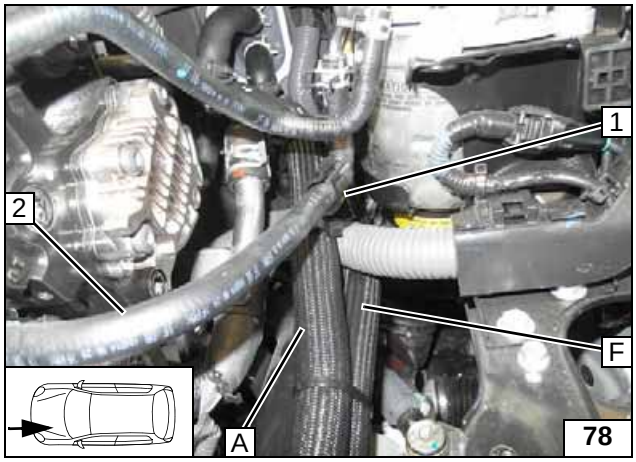
1 Hose section of heat exchanger outlet
2 Original vehicle spring clip
3 Hose section of engine inlet
4 T-piece

Mounting T-Piece



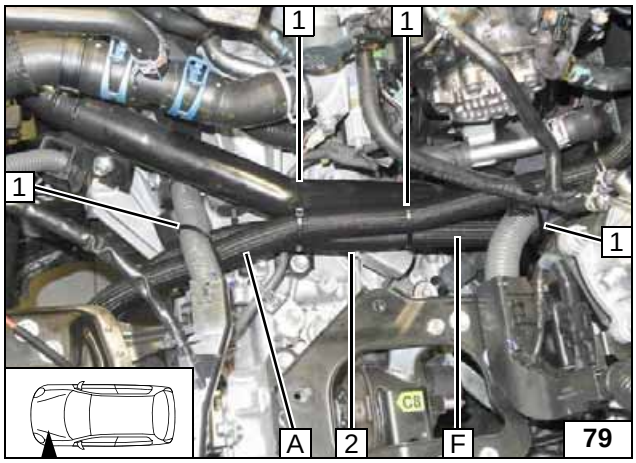
1 Check valve
2 25x25 mm hose bracket between hose **A** and hose of engine outlet **3**
4 T-piece

Connecting T-piece and check valve



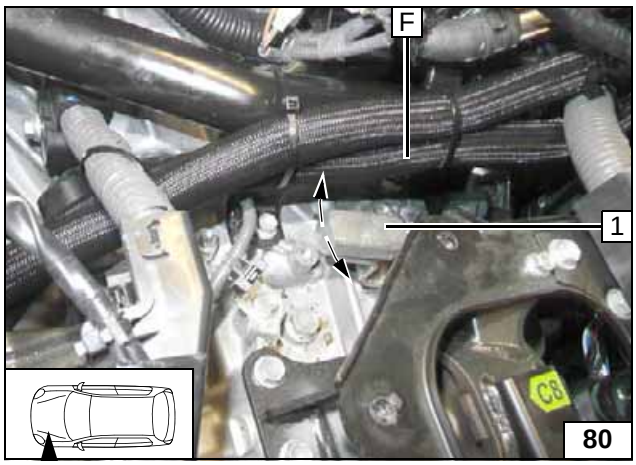
1 25x13 mm hose bracket between hose **A** and original vehicle line **2**

Routing in engine compart-ment



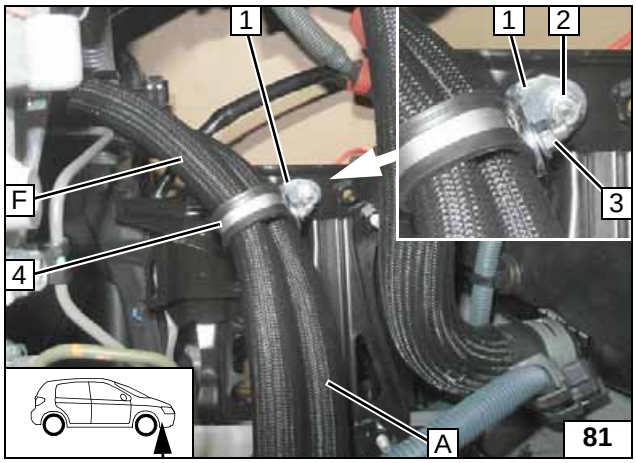
Align hoses and secure using cable ties **1** [4x]. Ensure sufficient distance between hose **F** and gear-shifting system at position **2** (see next figure), correct if necessary.

Routing in engine compart-ment



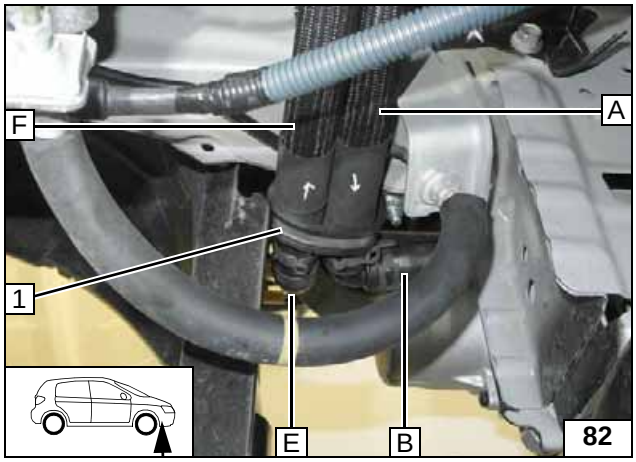
1 Gear-shifting system

Checking distance



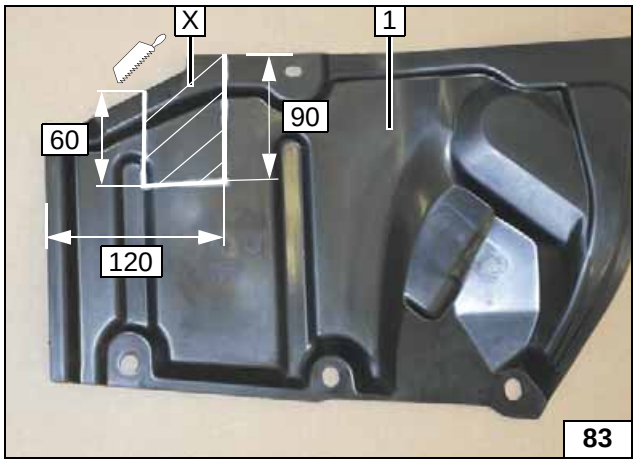
1 Angle bracket
2 M6x20 bolt, flanged nut, existing hole
3 M6x20 bolt, flanged nut
4 38 mm dia. rubber-coated p-clamp

Routing in engine compartment



Route hoses **A** and **F** through 48mm dia. rubber-coated p-clamp **1** .

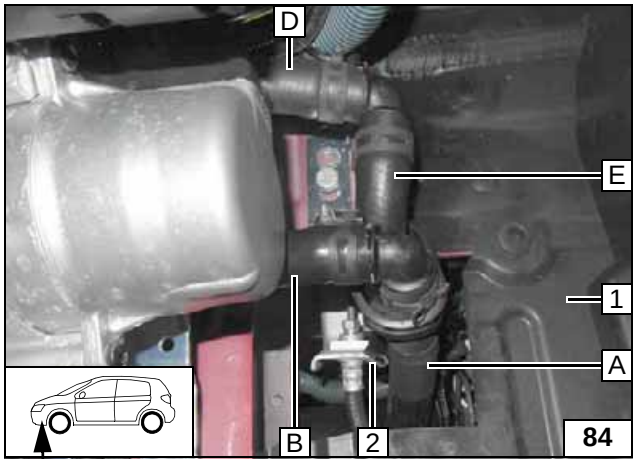
Connecting heater



Discard section **X**.

1 Splash guard

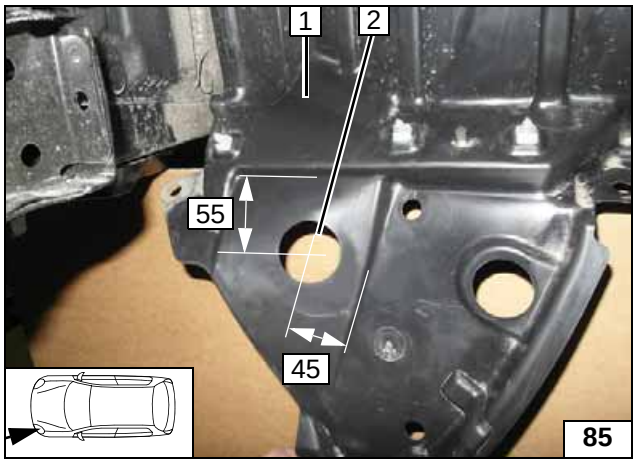
Cutting out the splash guard



Ensure sufficient distance from neighbouring components, correct if necessary.

1 Splash guard mounted
2 80 mm long edge protection on bracket of hydraulic line

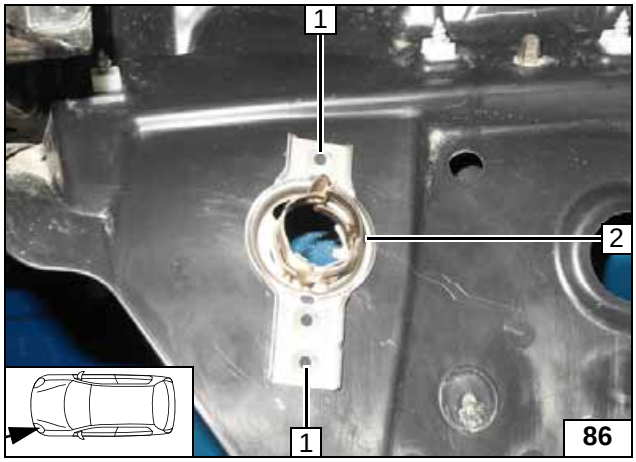
Aligning hoses



Exhaust Gas Auris

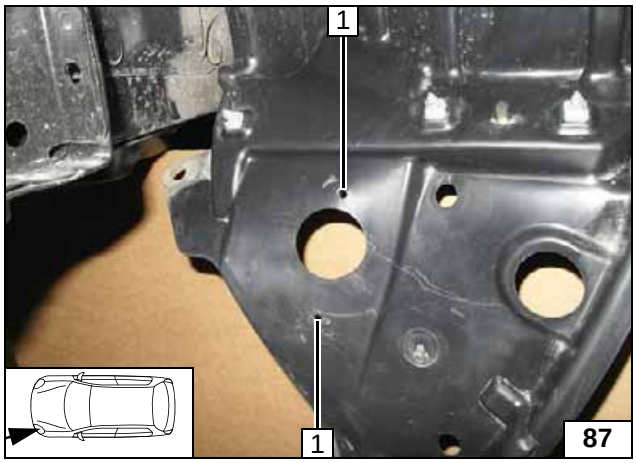
1 Wheel well trim
2 Hole as described in work step 1 of the installation instructions.

Hole in wheel well trim



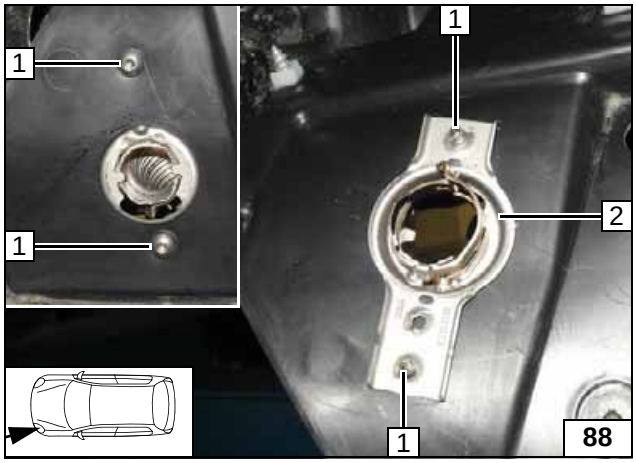
Position exhaust end fastener **2** in the hole as per work step 3 of the installation instructions and copy hole pattern **1** [2x].

Copying hole pattern



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

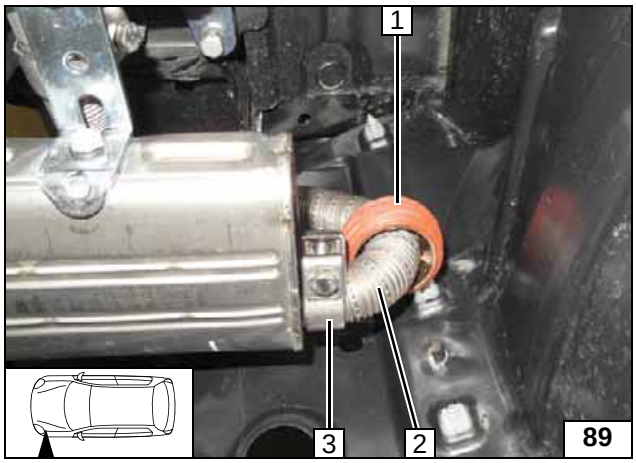
Hole in wheel well trim



Position exhaust end fastener **2** in hole.

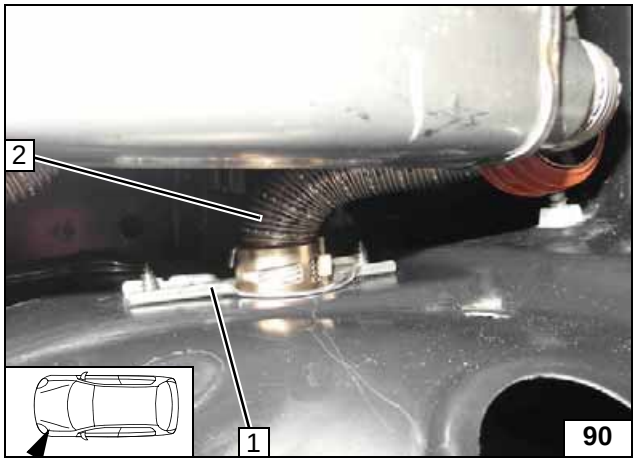
1 5x13 self-tapping screw [2x] as per work step 5 of the installation instructions

Installing exhaust end fastener



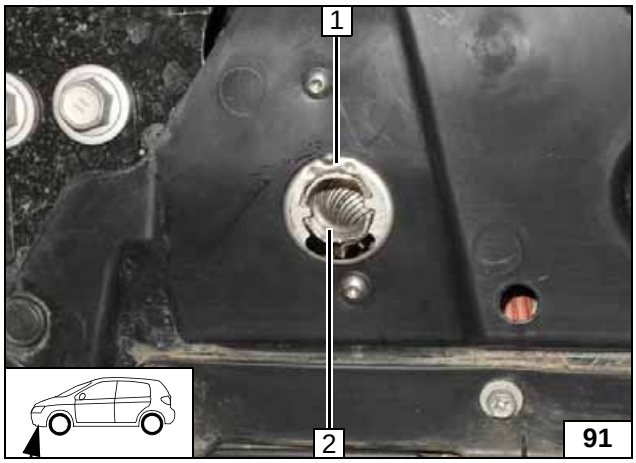
1 Spacer bracket
2 Exhaust end section
3 Hose clamp

Installing exhaust end section



Install wheel well trim. Mount exhaust end section **2** in exhaust end fastener **1** as described in work steps 6 and 7 of the installation instructions!

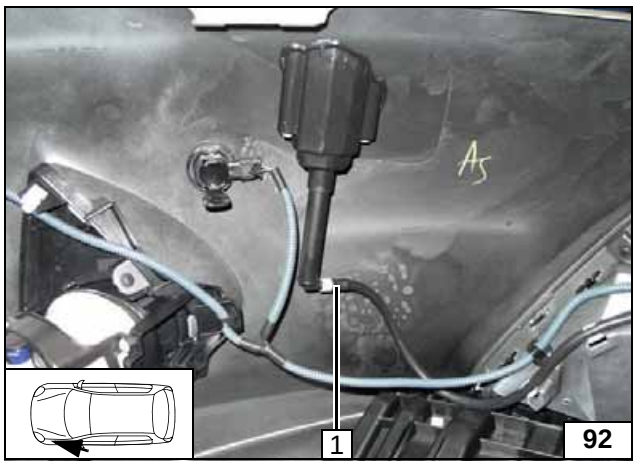
Installing exhaust end section



Install exhaust end section **2** as per work step 8 of the installation instructions.

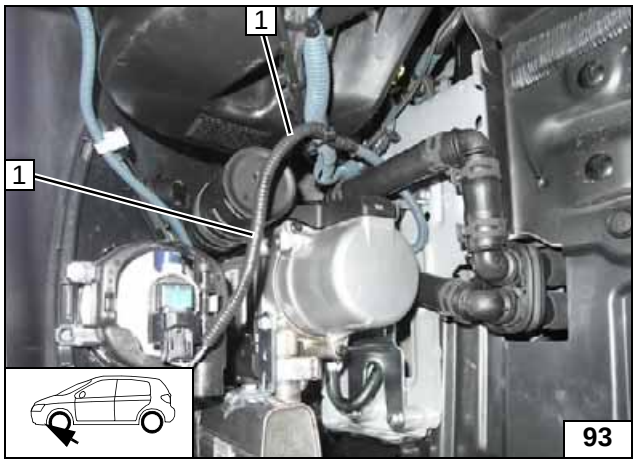
1 Exhaust end fastener

Installing exhaust end section



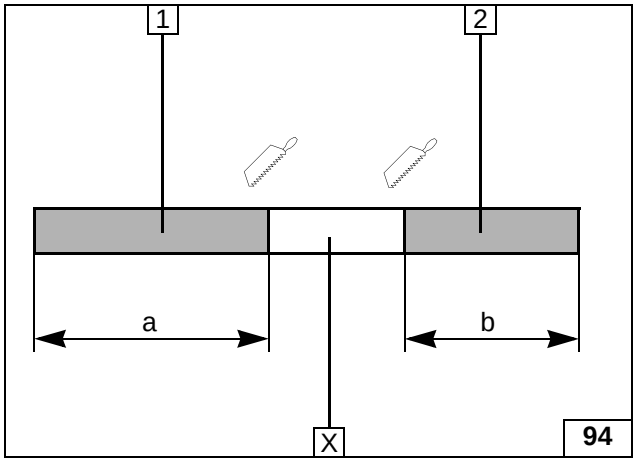
Align headlight washer system **1** as shown. Ensure a distance from the heater of at least 20mm.

Aligning headlight washer system



Install bumper trim. Route and align wiring harness of front fog light **1** as shown. Ensure a distance from the heater of at least 20mm.

Aligning wiring harness of front fog light

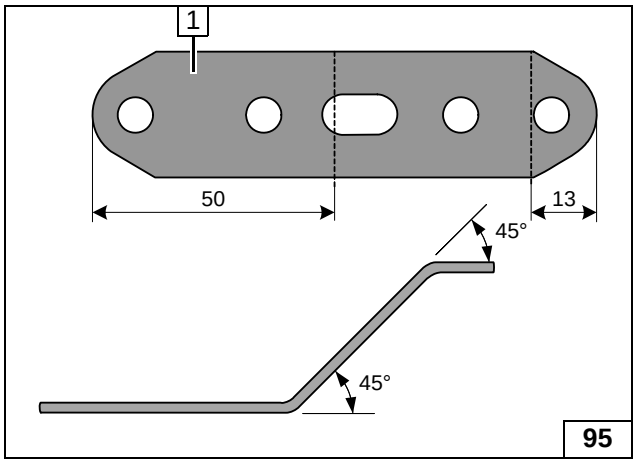


Exhaust Gas Corolla

Discard section **X**.

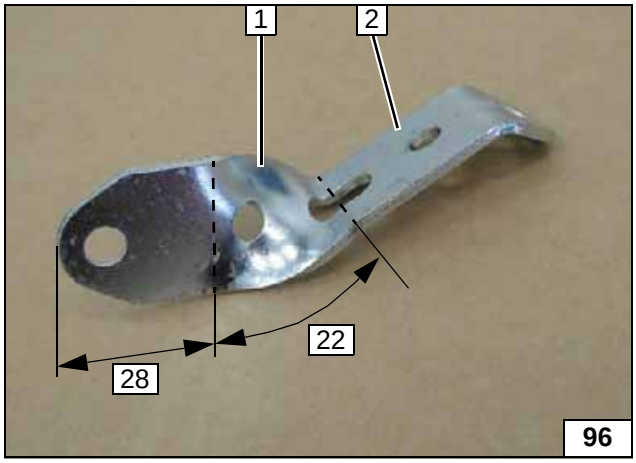
1 Exhaust pipe
a = 250
2 Exhaust end section
b = 210

Preparing exhaust pipe



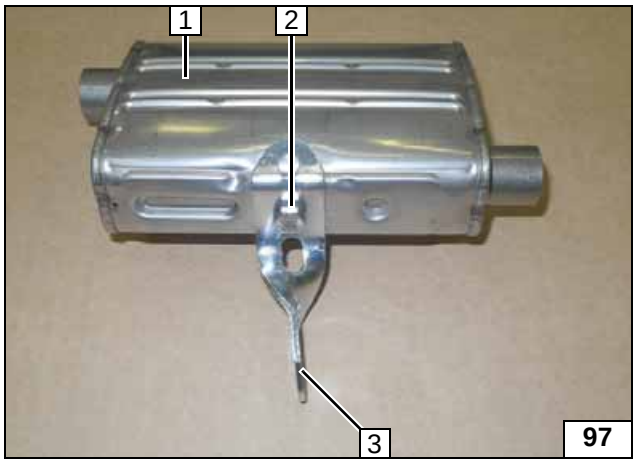
Angle down perforated bracket **1** 2x by 45° and twist as shown in the following figure.

Preparing perforated bracket



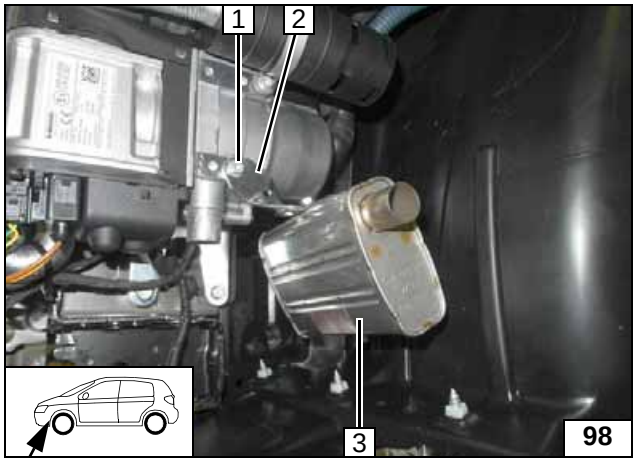
Mark twist area **1**. Twist perforated bracket **2** by 90° in longitudinal direction as shown.

Preparing perforated bracket



1 Silencer
2 M6x16 bolt, spring lockwasher
3 Perforated bracket

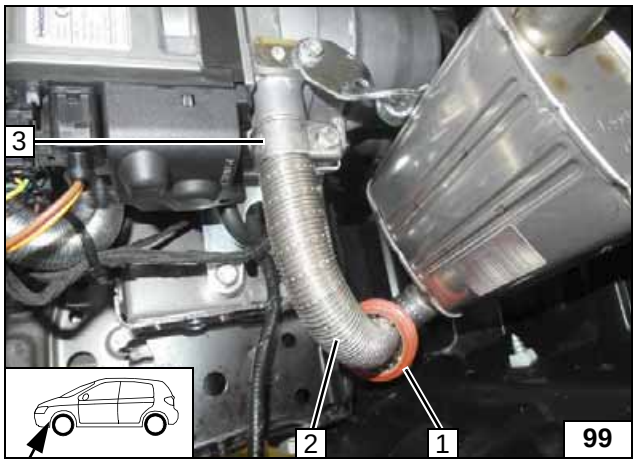
Premounting silencer



Align silencer **3** as shown, ensure sufficient (at least 20mm) from wheelwell trim, correct if necessary.

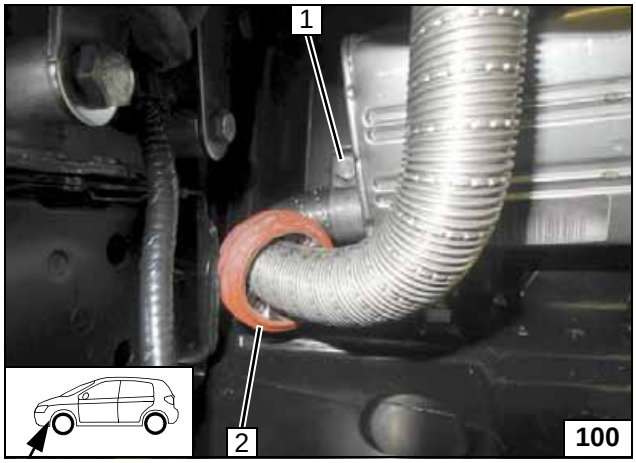
1 5x13 self-tapping bolt
2 Perforated bracket

Installing silencer



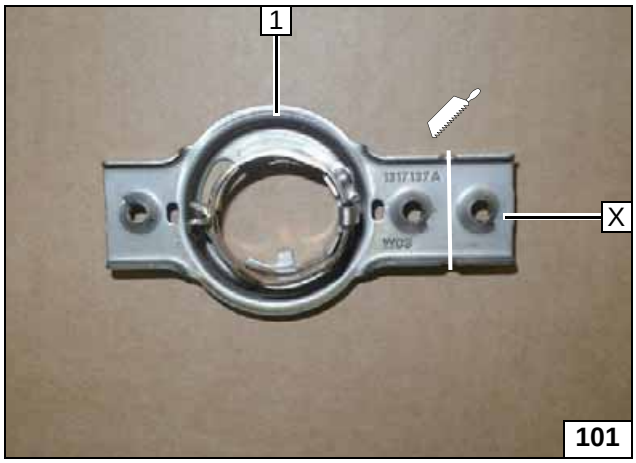
1 Push on spacer bracket
2 Exhaust pipe
3 Hose clamp

Installing exhaust pipe



1 Hose clamp
2 Position spacer bracket

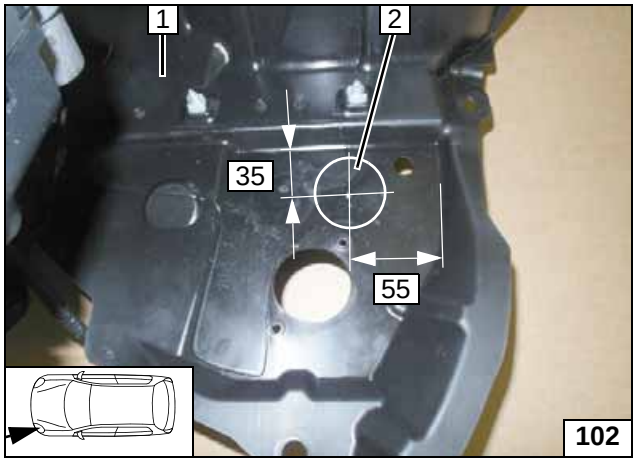
Aligning exhaust pipe



Discard section **X**.

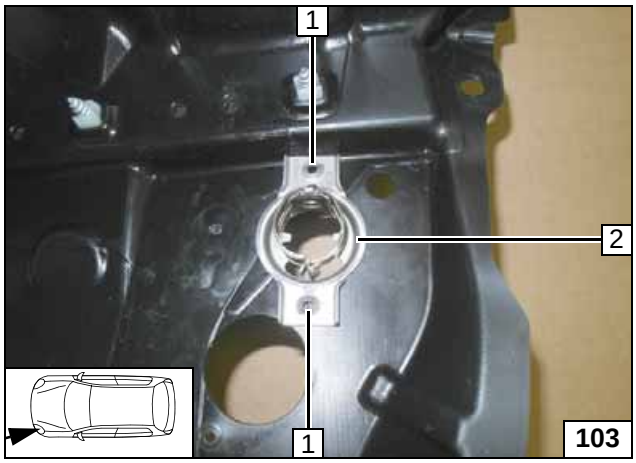
1 Exhaust end fastener

Cutting exhaust end fastener to length



1 Wheel well trim
2 Hole as described in work step 1 of the installation instructions.

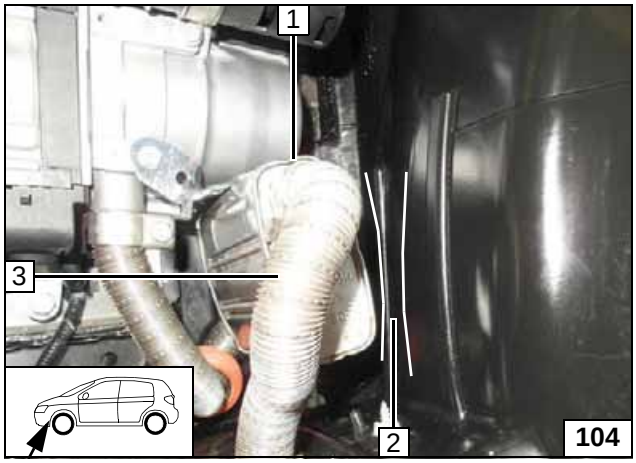
Hole in wheel well trim



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

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

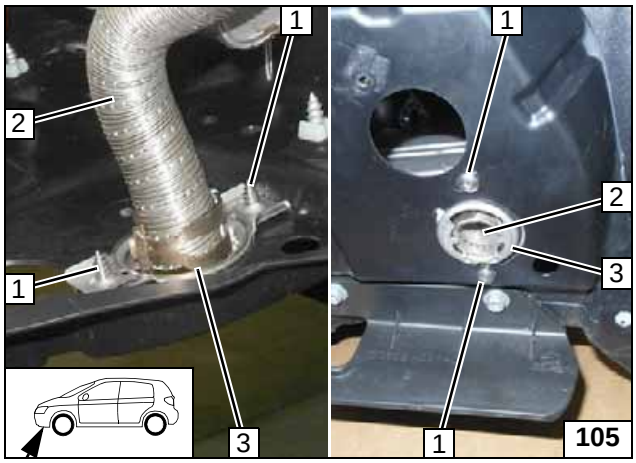
Hole in wheel well trim



Ensure sufficient distance (at least 20mm) tothe wheel well trim at position **2**, adjust if necessary.

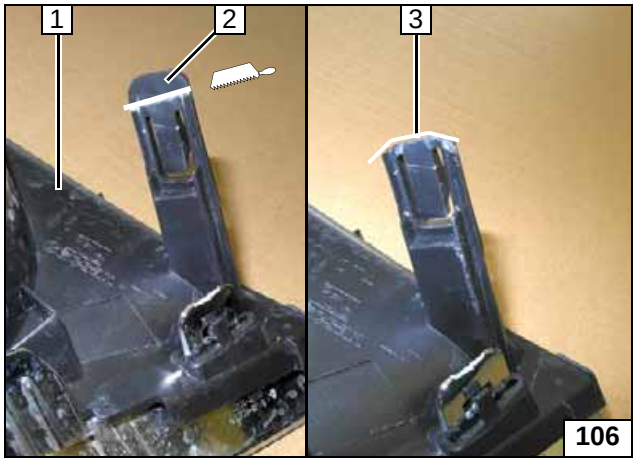
1 Hose clamp
3 Exhaust end section

Installing exhaust end section



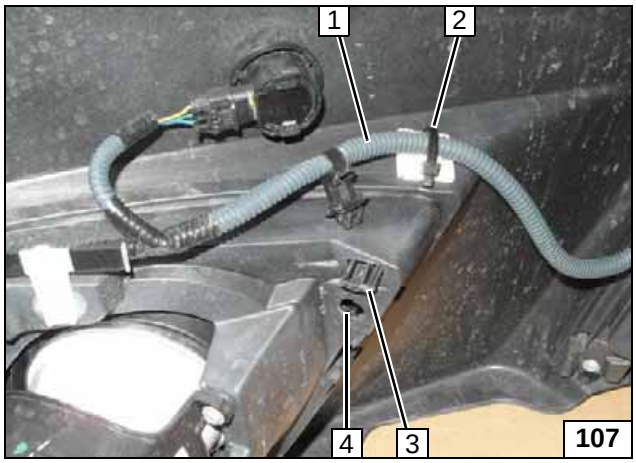
Install wheel well trim. Mount exhaust end fastener **3** using 5x13 self-tapping screw [2x] **1** as per work step 5 of the installation instructions and mount exhaust end section **2** as per work steps 6 to 8 of the installation instructions.

Installing exhaust end section



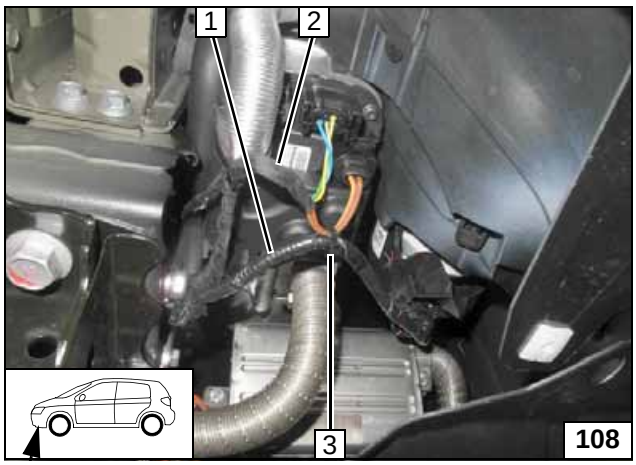
Cut off and discard end section **2** of the bracket for front fog lights cover frame **1** as shown in the left figure. Round off the edge of the bracket inarea **3** as shown in the right figure.

Processing front fog light cover frame



Detach headlight washer system wiring harness **1** at position **4** and secure with adhesive base and cable tie at position **2**. Install cover cap with adapted bracket **3**.

Repositioning headlight washer system wiring harness



Install bumper trim. Route wiring harness of front fog light **1** and wiring harness of heater **2** as shown, align and secure with cable tie **3**. Ensure a distance to the exhaust pipe of atleast 20mm.

Aligning wiring harness of front fog light

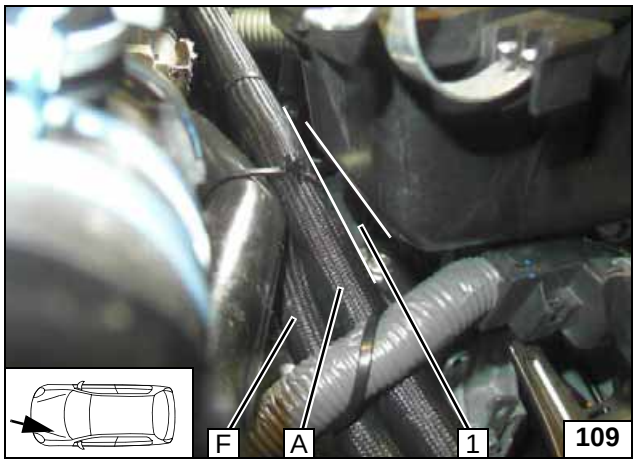
Final Work

WARNING!
Reassemble the components in reverse order.
Check all hoses, clamps and all electrical connections for firm seating.
Secure all loose wires using cable ties.
Only use manufacturer-approved coolant.
Spray the heater components with anti-corrosion wax (Tectyl 100K, Order No. 111329).

- **Connect the battery**
- **Fill and bleed the coolant circuit according to the vehicle manufacturer's specifications.**
- **Set the digital timer.**
- **Make settings on A/C control panel according to the "Operating Instructions for End Customer".**
- **Checking the fan function (PWM Gateway):**
  Adjust fan output to maximum. Then switch off ignition and switch on parking heater. On reaching the activation temperature of approx. 55°C the fan speed must correspond to the value of approx. ? of the maximum speed specified by the PWM Gateway.
- **Check the proper function of the parking heater, see the operating instructions/installation instructions.**
- **Place caution label "Switch off parking heater before refuelling" in the area of the filler neck.**

During initial start up, proceed as follows with the Webasto Thermo Test Diagnosis:

- **Control coolant pump underMenu Component test, check coolant level**
- **Pump fuel for the heater under the menu pipe filling**
- **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**
- **An error search is to be conducted in case of fault**

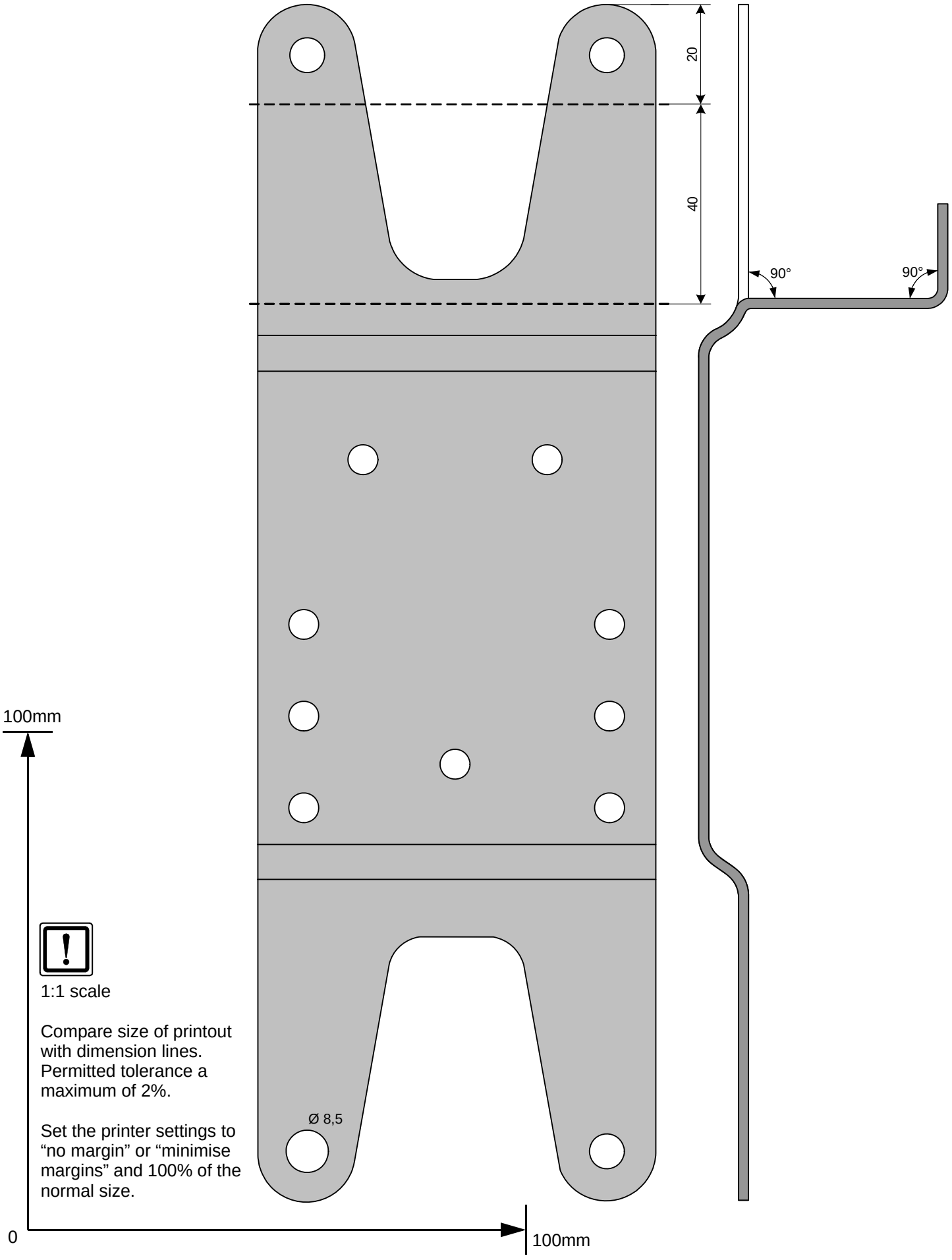


Ensure sufficient distance (at least 20mm) between hose **A** as well as hose **F** and the air filter box at position **1**, adjust if necessary.

Checking distance

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

Template of Bracket for Auris

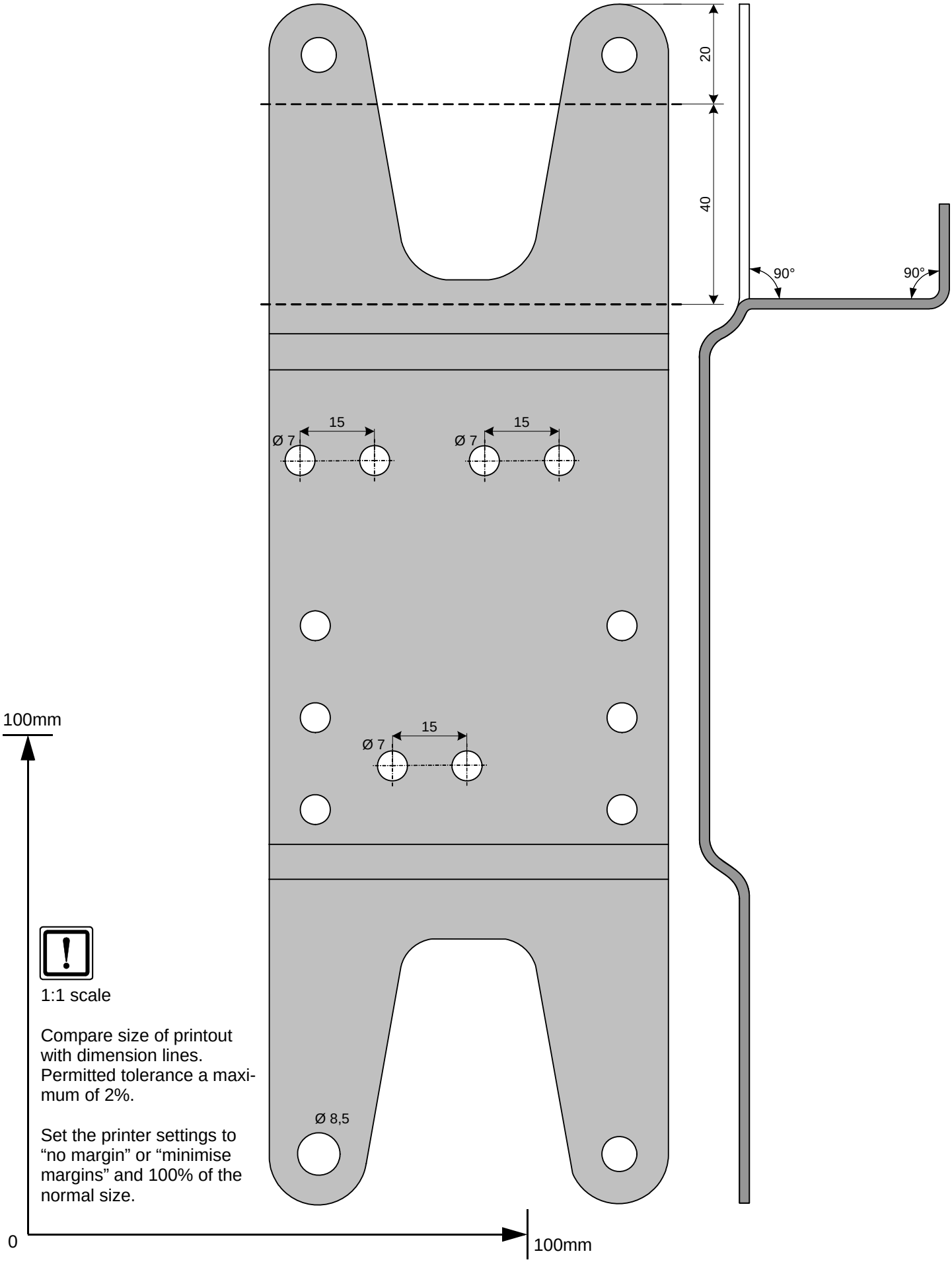


1:1 scale

Compare size of printout with dimension lines. Permitted tolerance a maximum of 2%.

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

Template of Bracket for Corolla



1:1 scale

Compare size of printout with dimension lines. Permitted tolerance a maximum of 2%.

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

Webasto
Feel the Drive

Operating Instructions for Manual Air-Conditioning

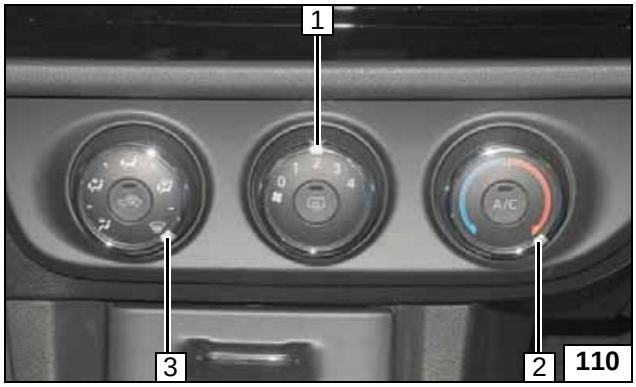
Please remove page and add to the vehicle operating instructions.

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.

If vehicles have passenger compartment monitoring, it must be deactivated in addition to the vehicle settings for the heating operation. Deactivation instructions can be found in the operating instructions of the vehicle.

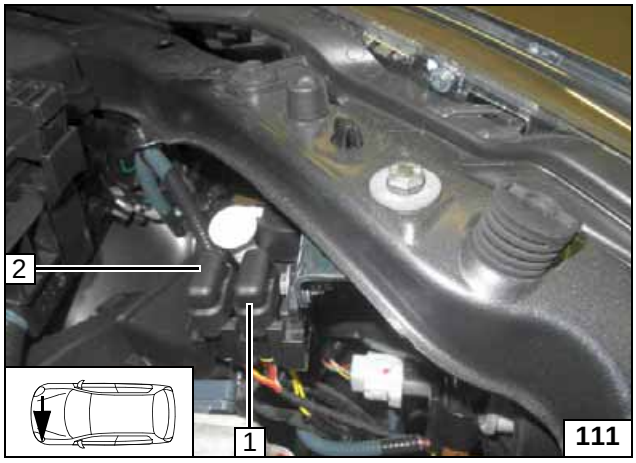
The heater will be integrated into the "island" coolant circuit and is used exclusively to heat up the vehicle interior. The engine is not preheated.

Before parking the vehicle, make the following settings:



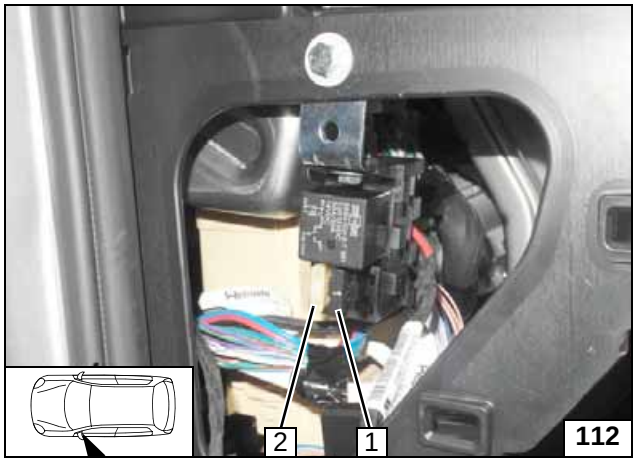
1 Set fan to level "1", or max. level "2"
2 Set temperature to "max."
3 Direct the air outlet towards the windscreen

A/C control panel



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

Engine compartment fuses



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

Passenger compartment fuses

Webasto
Feel the Drive

Operating Instructions for 1 and 2 Zone 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.

If vehicles have passenger compartment monitoring, it must be deactivated in addition to the vehicle settings for the heating operation.
Deactivation instructions can be found in the operating instructions of the vehicle.

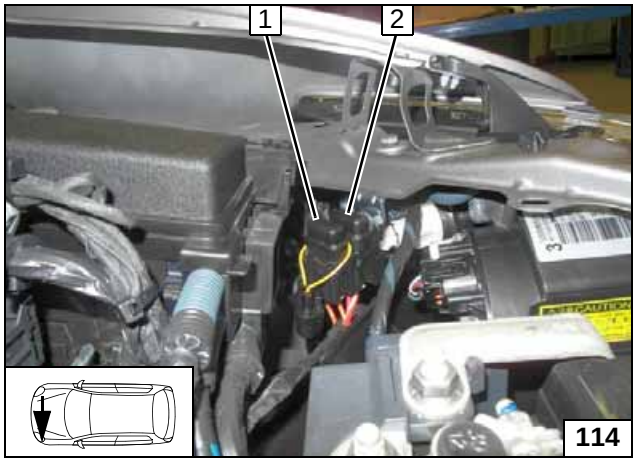
The heater will be integrated into the "island" coolant circuit and is used exclusively to heat up the vehicle interior. The engine is not preheated.

Before parking the vehicle, make the following settings:

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

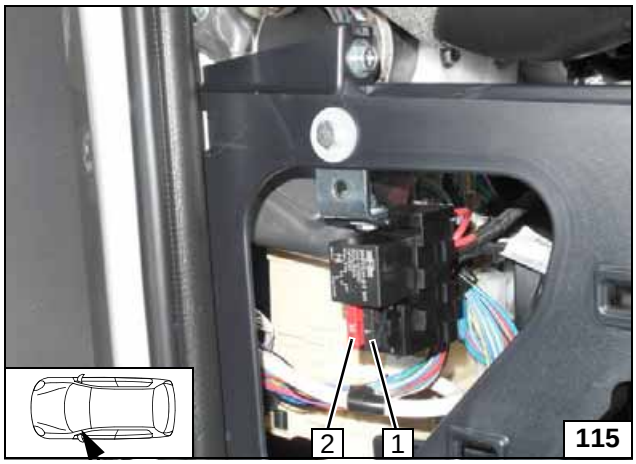
1 Set temperature to "HI" (2x in case of 2-zone automatic air-conditioning)
2 Direct the air outlet towards the windscreen

A/C control panel



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

Engine compartment fuses



1 1A fuse F3 of heater control
2 10A fan fuse F4

Passenger compartment fuses