Water Heater

Thermo Top Evo Parking Heater

E1
00 0258

Installation Documentation
Toyota Auris / Auris Hybrid / Corolla

Validity

Manufacturer	Model	Type	Model	Model year	EG BE No. / ABE
Toyota	Auris	E15UT(A)	E18	Starting with 2013	e11 * 2001 / 116 * 0305 * ...
Toyota	Auris Hybrid	HE15U (A)	E15	Starting with 2011	e11 * 2007 / 46 * 0018 * ...
Toyota	Auris Hybrid	HE15U (A)	E18	Starting with 2013	e11 * 2007 / 46 * 0018 * ...
Toyota	Corolla	E15UT(A)	E18	Starting with 2013	e11 * 2001 / 116 * 0304 * ...

Motorisation	Fuel	Transmission type	Output in kW	Displacement in cm³	Engine code
1.33 P	Petrol	6-gear SG	73	1329	1NR-FE
1.6 P	Petrol	6-gear SG	97	1598	1ZR-FAE
1.6 P	Petrol	MultiDrive S	97	1598	1ZR-FAE
1.8 Hybrid	Petrol	Continuously variable AG	73	1798	2ZR-FXE

SG = manual transmission
MultiDrive S = CVT Transmission
AG = automatic transmission

Left-hand drive vehicle

Verified equipment variants: Manual air-conditioning
1 and 2 zone automatic air-conditioning
Front fog lights
Xenon with headlight washer system

Not verified: Passenger compartment monitoring
Start / Stop

Total installation time: approx. 7 hours

Note:

Only experts in high-voltage systems for vehicles should be authorised to carry out independent work on hybrid vehicles!
High-voltage systems must be taken out of operation, secured and reactivated according to the manufacturer's instructions.

Toyota Auris / Auris Hybrid / Corolla

Table of Contents

Necessary Components

- Basic delivery scope of Thermo Top Evo according to price list
- Installation kit for Toyota Auris / Auris Hybrid / Corolla 2011 Petrol: **1316543E**
- The following must be additionally ordered Toyota:

Fuel tank sending unit mounting parts	**Auris E15 Hybrid**	**Auris E15 (other than Hybrid) / Corolla E18**	**Auris E18**
Ring	77169 -52040	-	77144 -02110
Seal	77144 -52030	77169-0D030	77169-0D030

Optional for Auris Hybrid	
Load status indicator	DENGS-56380-37
MXS 3.8 charging unit	DENGS-MXS38-37

- 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

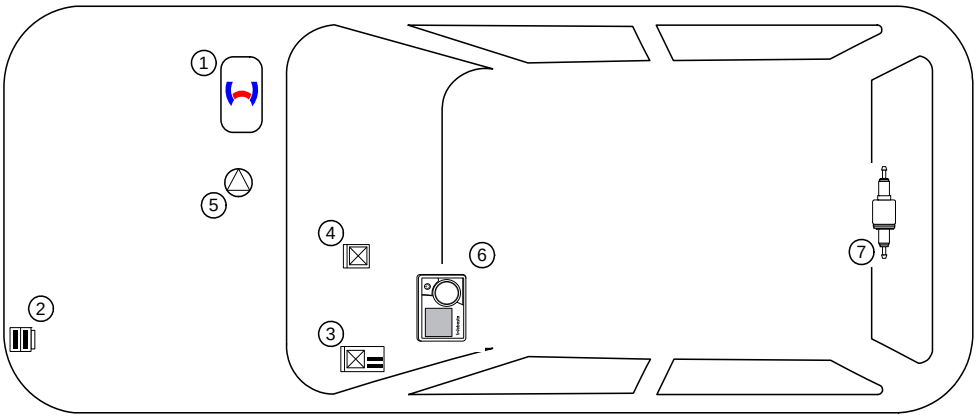
Installation instructions:

- 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.

Installation Overview

Legend:

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



Information on Total Installation Time

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

Toyota Auris / Auris Hybrid / 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, 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 Auris / Auris Hybrid / Corolla

Information on Validity

This installation documentation applies to Toyota Auris / Auris Hybrid / Corolla Petrol vehicles - for validity, see page 1 - from model year 2011 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
- Special tool for removal of fuel pump sensor (fuel tank sending unit)

Toyota Part No.:	
Auris E15 / Corolla E18	09808 -14020
Auris E18	09808 -14030

Dimensions

- All dimensions are in mm.

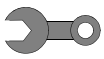
Tightening torque values

- 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.

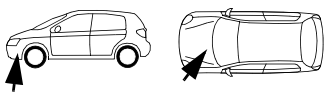
Specific risk of injury or fatal accidents.

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

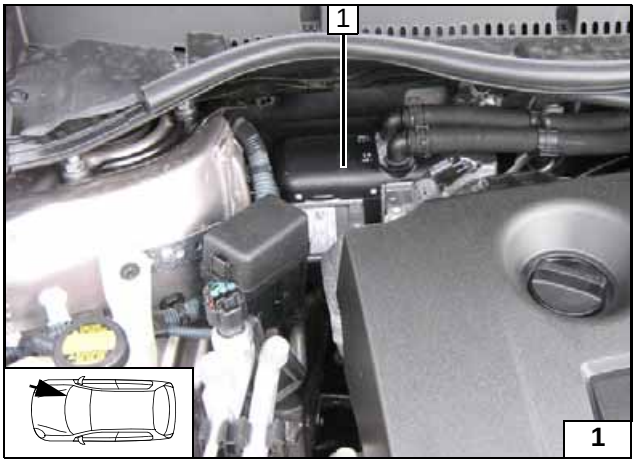
The deactivation of the high-voltage system should be carried out only in accordance with the manufacturer's instructions.
Please observe the order of the work steps.

Vehicle

- Open the fuel tank cap.
- Ventilate the fuel tank.
- Close the fuel tank cap again.
- Depressurise the cooling system.
- Disconnect the battery.
- Deactivate the high-voltage system in accordance with the manufacturer's instructions (for Auris Hybrid).
- Remove the windscreen wiper.
- Remove the cowl panel (note: detach first by pushing downwards towards the windscreen).
- Remove the windscreen wiper motor fully.
- Remove the entire coolant reservoir.
- Remove the rear bench seat.
- Remove the rear bench seat (Auris Hybrid 2015)
- Remove the backrest of the rear bench seat on the right side (2x screws) (Auris Hybrid 2015).
- Open the tank-fitting service lid on the left.
- Remove the fuel tank sending unit in accordance with the manufacturer's instructions.
- Remove the underride protection of the engine.
- Remove the trim on the underbody for the fuel lines.
- Remove the centre console trim in the driver's side and front passenger's side footwell.
- Remove the driver's side instrument panel trim.
- Remove the footwell trim on the driver's side and front passenger'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

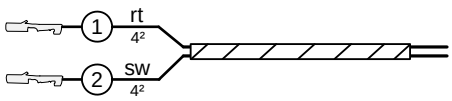
Preparing Electrical System

Wire sections retain their numbering in the entire document.

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

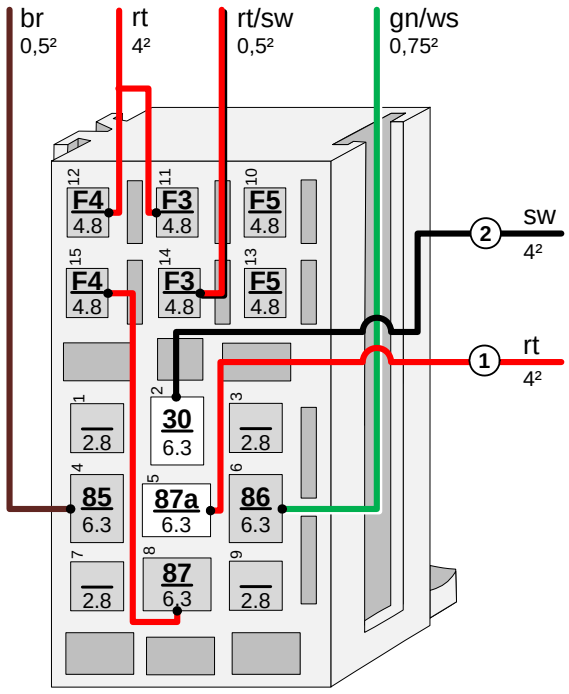
① Red (rt) wire of fan wiring harness
② Black (sw) wire of fan wiring harness

Assigning wires



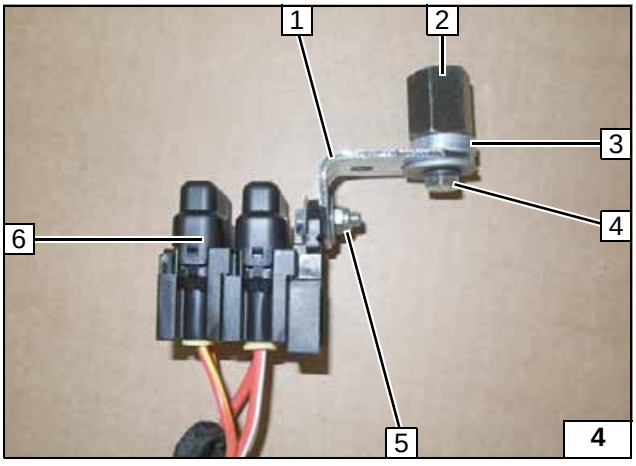
2

Connecting wires to passenger compartment relay and fuse holder



3

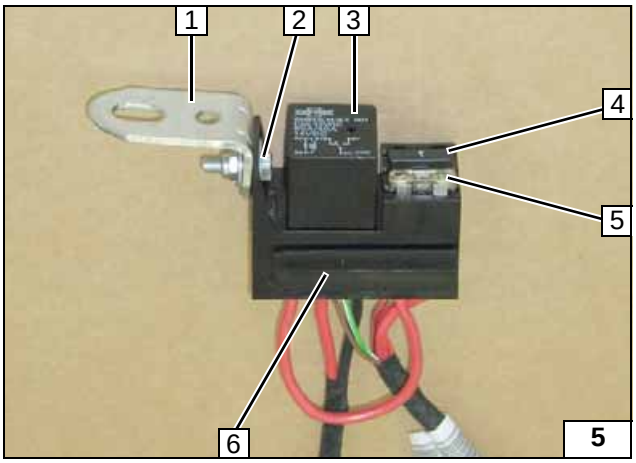
Premounting engine compartment fuse holder



4

1 Angle bracket
2 20 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 passenger compartment relay and fuse holder

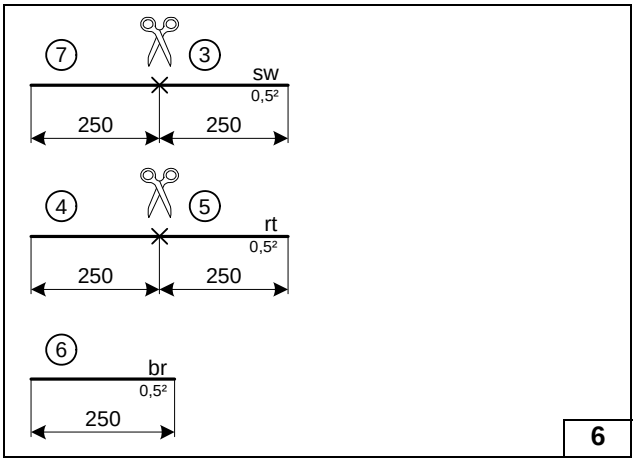


5

Manual air-conditioning

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

Cutting to length / assigning wires

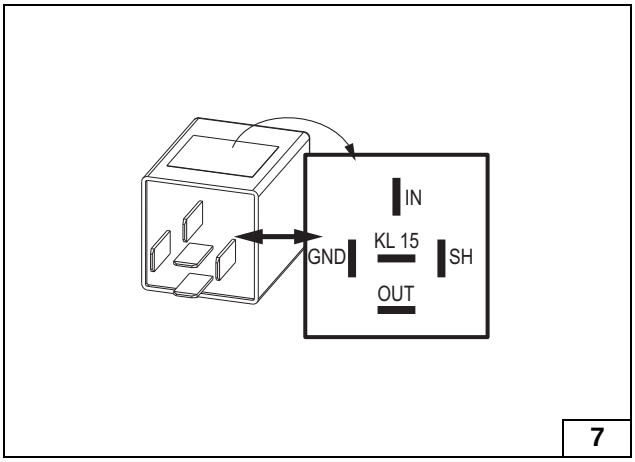


6

Automatic air-conditioning

Pull wires ③ and ⑤ into provided protective sleeving.

View of PWM GW



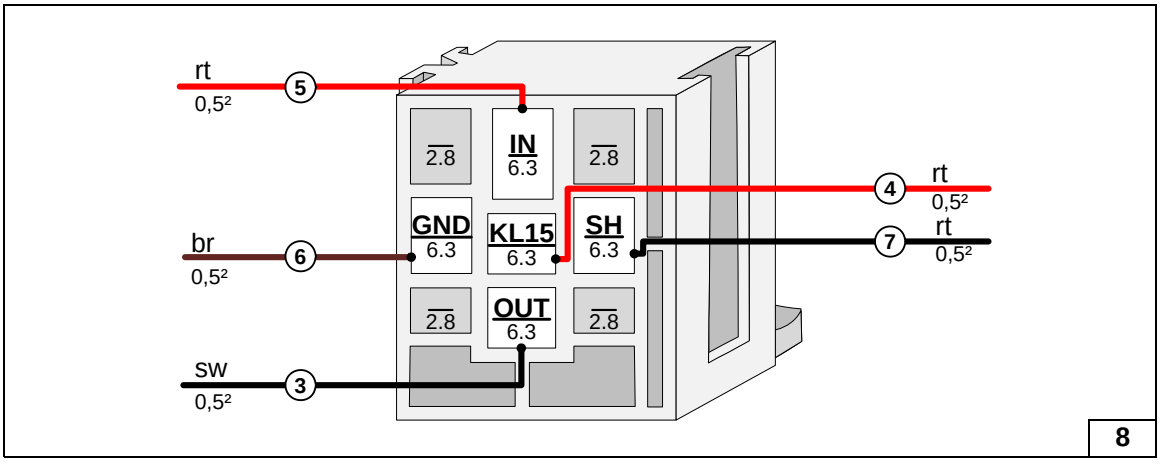
7

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

Connecting wires to PWM GW socket



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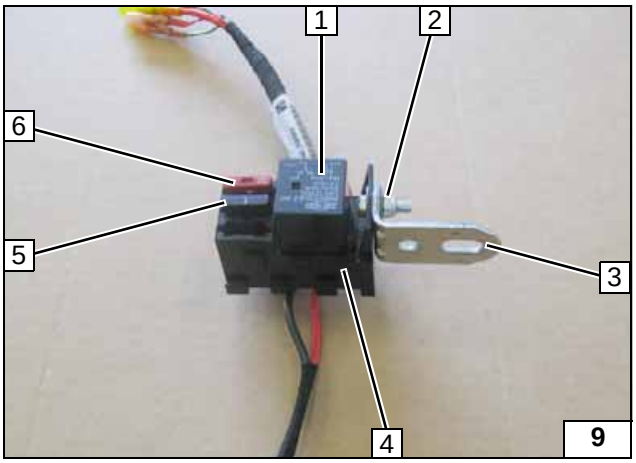
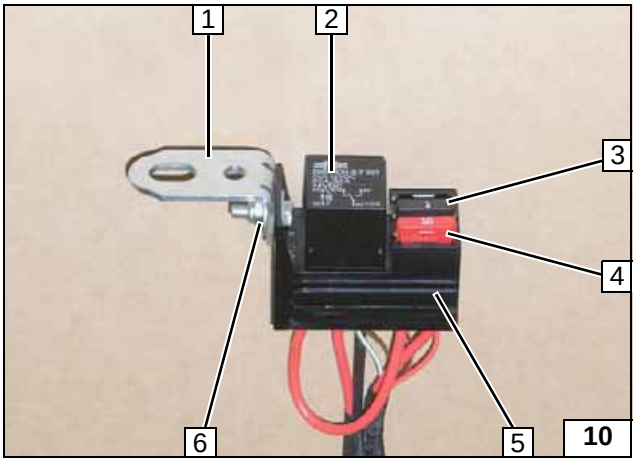


Automatic air-conditioning from model year 2011

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

Premounting passenger compartment relay and fuse holder



Automatic air-conditioning from model year 2013

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

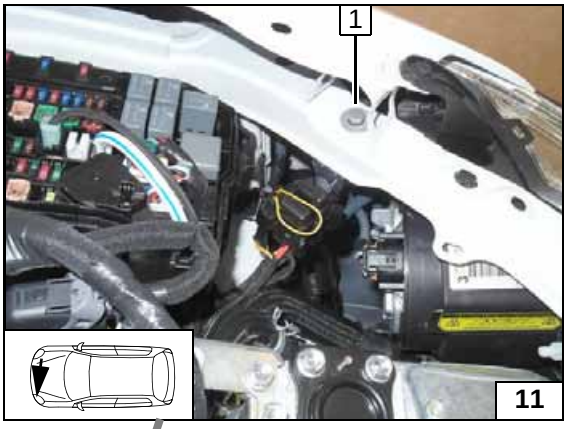
Premounting passenger compartment relay and fuse holder

Electrical System of Auris Hybrid 1.8

Engine compartment fuse holder

Figure shows model year 2013.

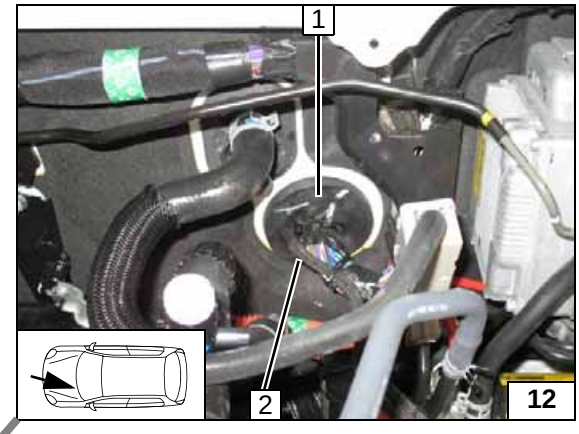
1 M6x12 bolt, spring lockwasher, large diameter washer, original vehicle hole



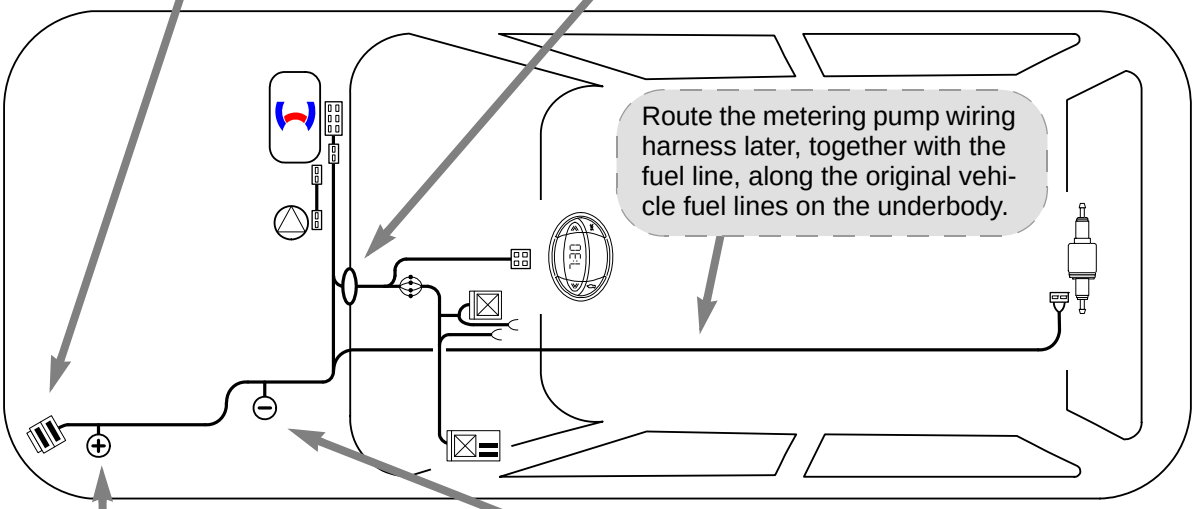
Wiring harness pass through

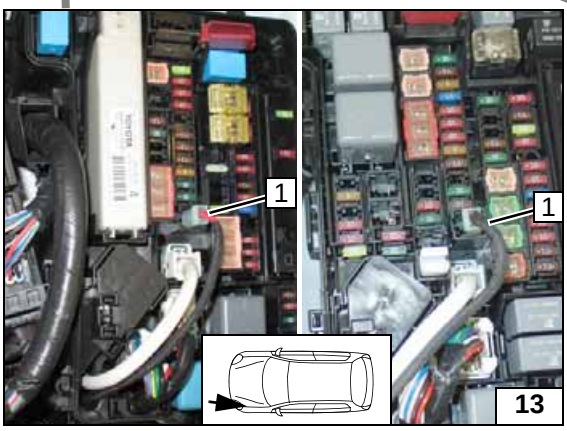
For wiring harness routing, see 'Installing heater' section

1 Protective rubber plug
2 Wiring harnesses of heater, heater control



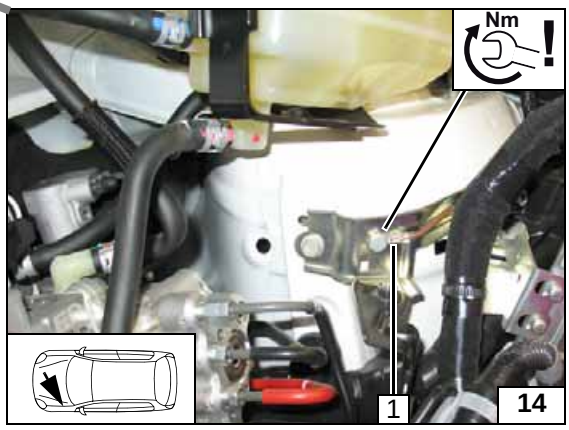
Wiring harness routing diagram





Positive wire

Left figure shows MY up to 2014; right figure shows MY from 2015:
Crimp the blade receptacle on the positive wire **1** and insert it into the free socket (+30).



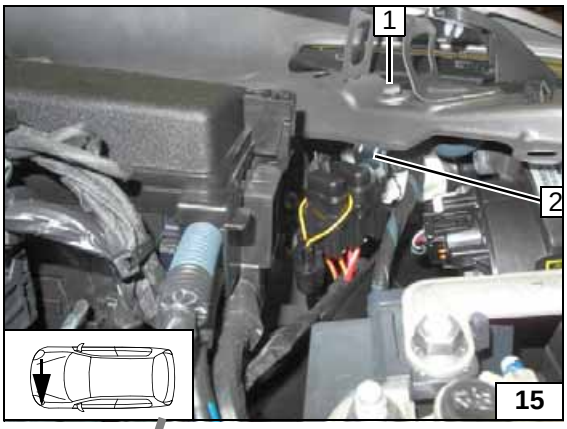
Earth wire

1 Earth wire on original vehicle earth support point

Electrical System of Auris 1.33 and 1.6 Petrol

Engine compartment fuse holder

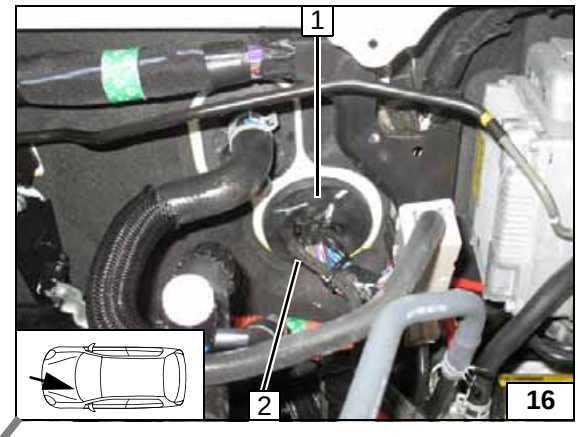
1 M6x12 bolt, spring lockwasher, large diameter washer, original vehicle hole
2 Angle bracket



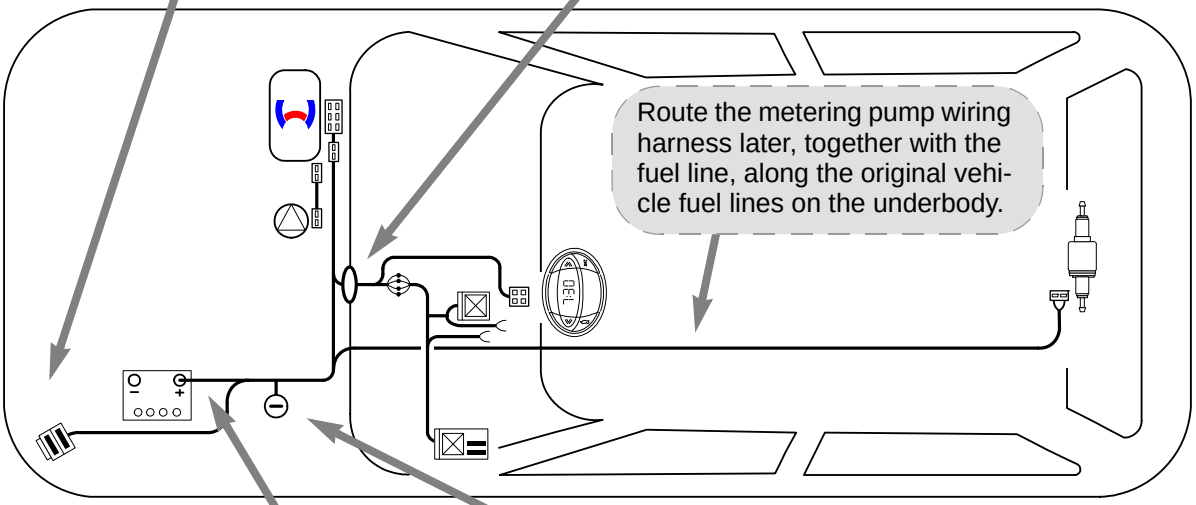
Wiring harness pass through

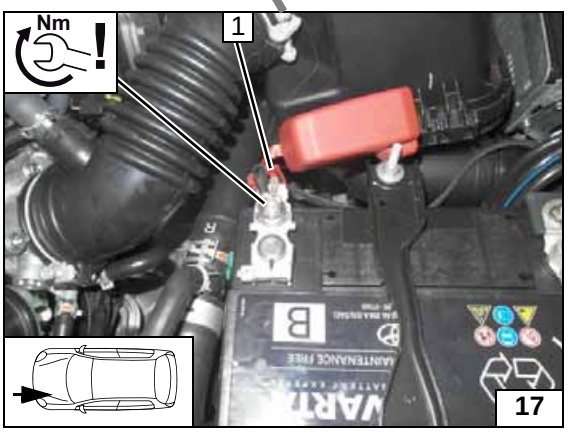
For wiring harness routing, see 'Installing heater' section

1 Protective rubber plug
2 Wiring harnesses of heater, heater control



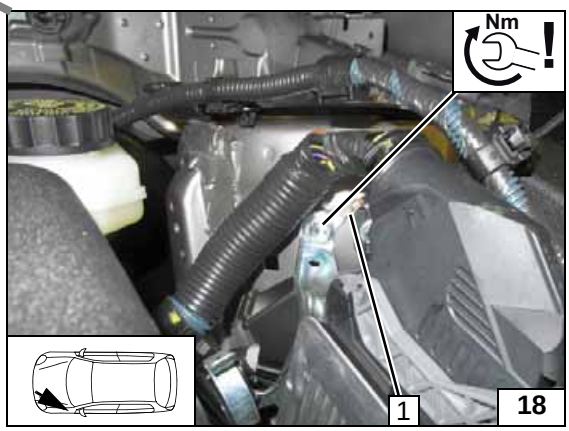
Wiring harness routing diagram





Positive wire

1 Positive wire on battery plus side



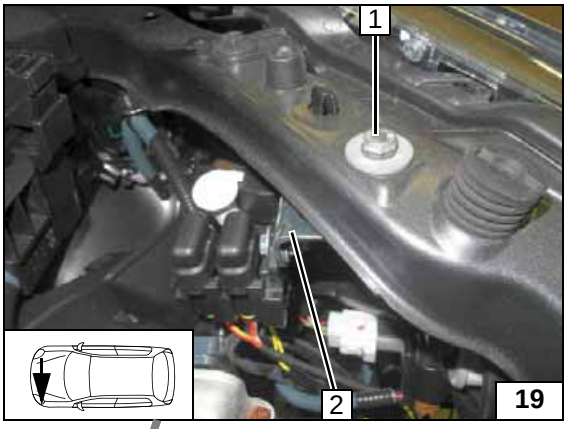
Earth wire

1 Earth wire on original vehicle earth support point

Electrical System of Corolla

Engine compartment fuse holder

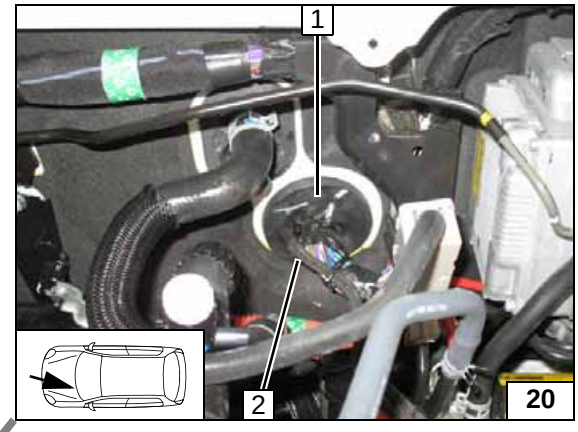
1 M6x12 bolt, spring lockwasher, large diameter washer, original vehicle hole
2 Angle bracket

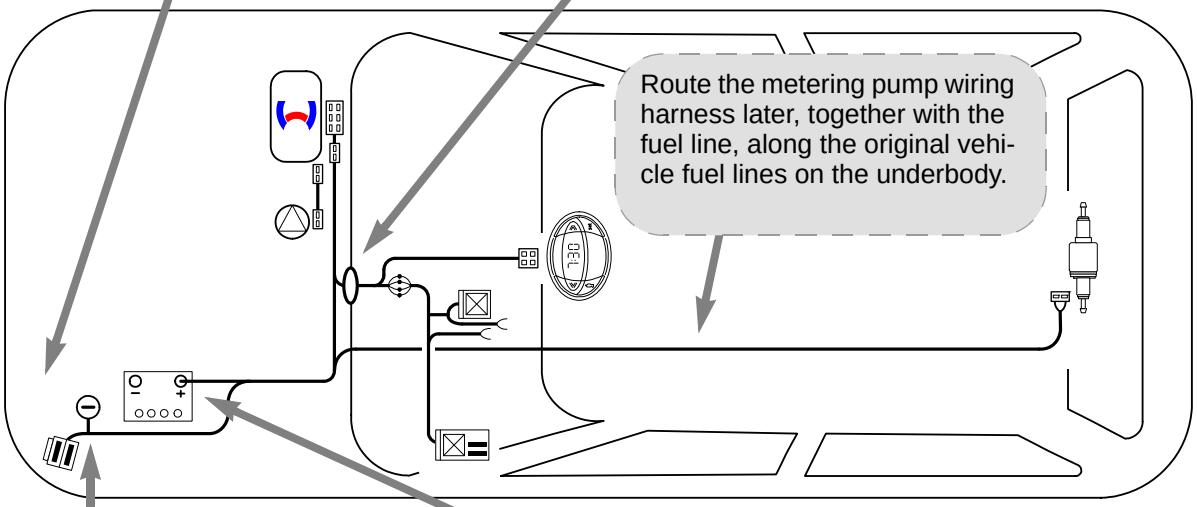


Wiring harness pass through

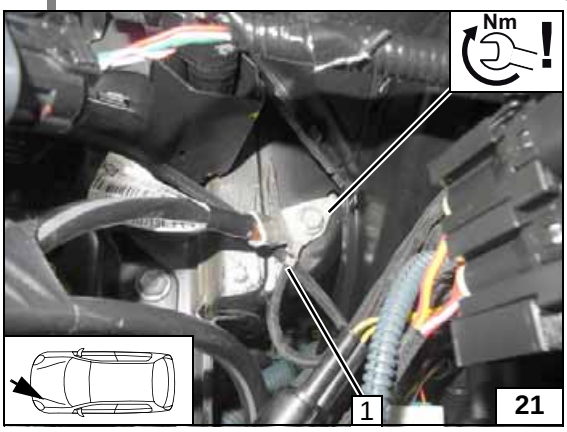
For wiring harness routing, see 'Installing heater' section

1 Protective rubber plug
2 Wiring harnesses of heater, heater control



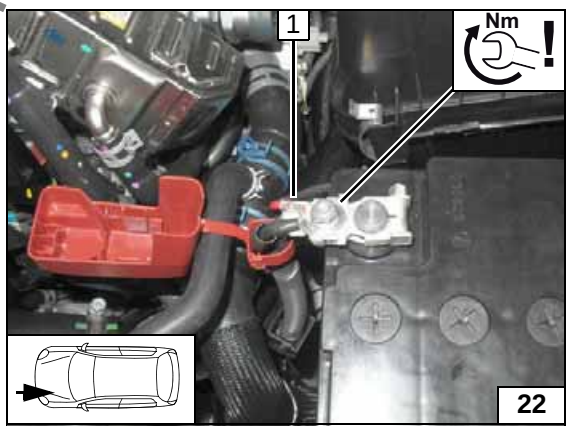


Wiring harness routing diagram



Earth wire

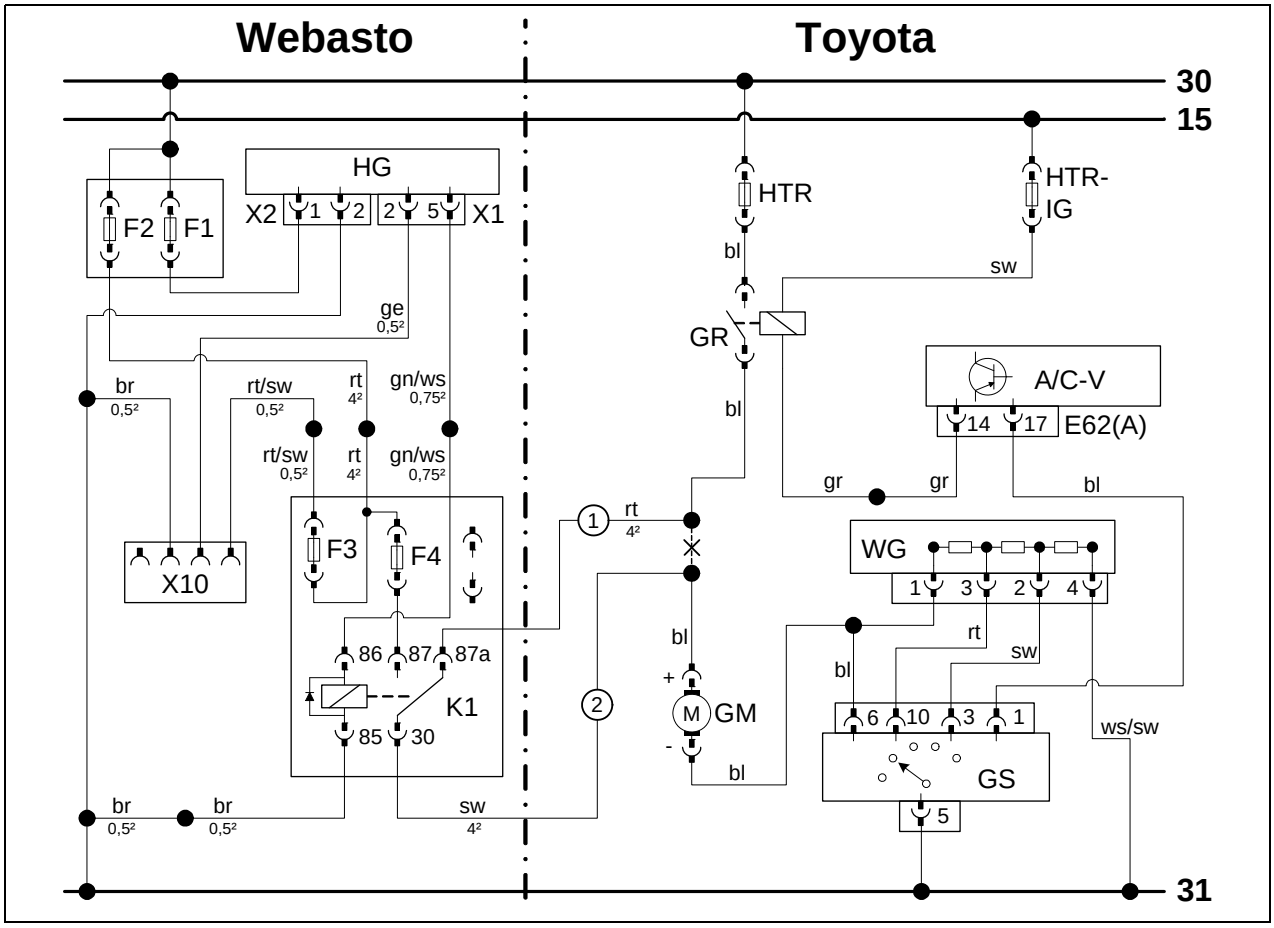
1 Earth wire on original vehicle earth support point



Positive wire

1 Positive wire on positive battery terminal

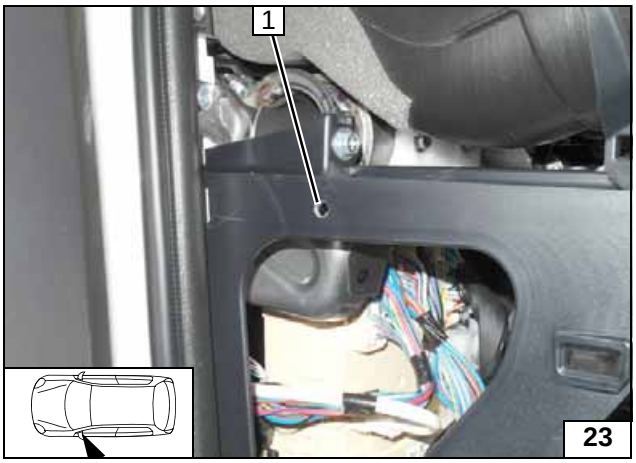
Manual Air-Conditioning Fan Controller



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

Wiring diagram

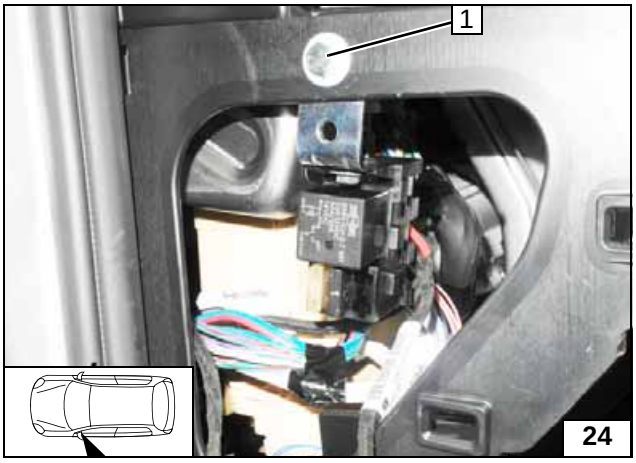
Legend



When drilling, be careful of components located behind!

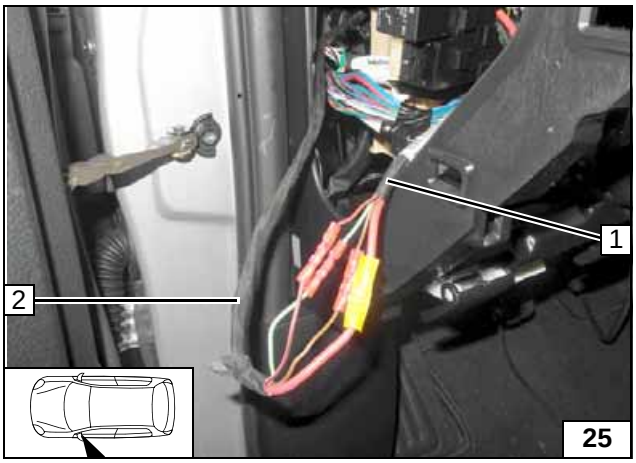
1 6.5 mm dia. hole

Hole for passenger compartment relay and fuse holder



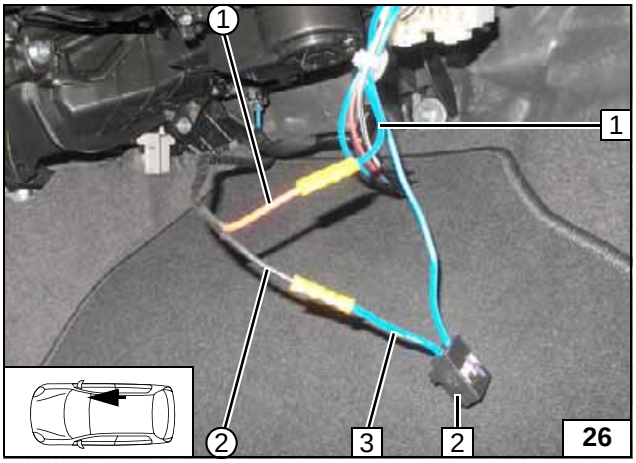
1 M6x20 bolt, large diameter washer, flanged nut
2 25A fuse F4

Installing passenger compartment relay and fuse holder



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

Connecting same colour wires of wiring harnesses



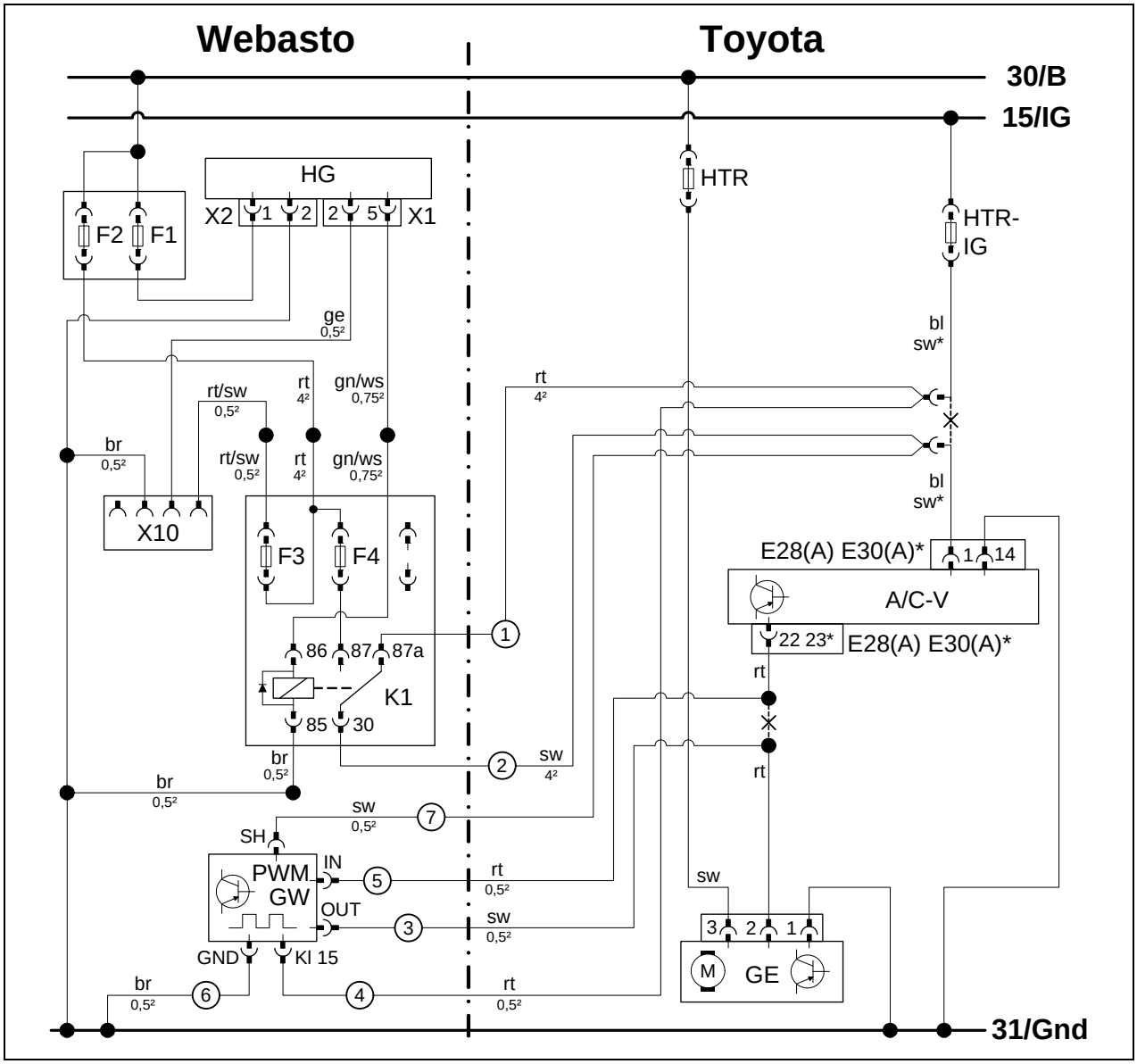
Connection to 2-pin connector **2** from the fan motor.

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

Connecting fan motor

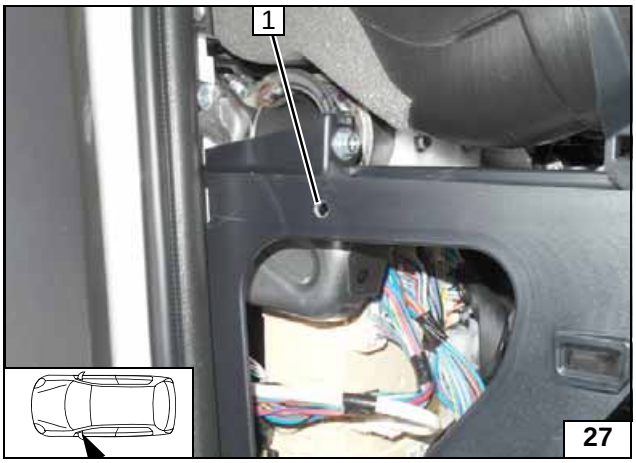
Automatic Air-Conditioning Fan Controller

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 (model year 2013)	sw	black
X2	2-pin heater connector	HTR-IG	10A fuse (model year 2011)	ge	yellow
F1	20A fuse	A/C-V	A/C booster	gn	green
F2	30A fuse	E28(A)	40-pin connector A/C-V (model year 2013)	bl	blue
X10	4-pin connector of heater control			ws	white
		E30(A)	40-pin connector A/C-V (model year 2011)	br	brown
F3	1A fuse				
F4	10A fuse	GE	Fan unit		
K1	Fan relay				
PWM GW	Pulse width modulator			*	Differences between model year 2013 and 2011
PWM GW settings:				**X**	Cutting point
Duty cycle: 60%				The values distinguished with an * apply to model year 2011	
Frequency: 400Hz					
Voltage: not relevant				Cable colours and pin designations may vary	
Function: Low side					

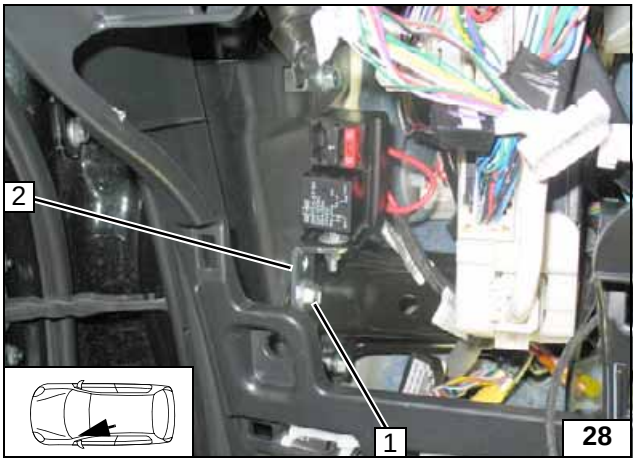
Legend



When drilling, be careful of components located behind!

1 6.5 mm dia. hole

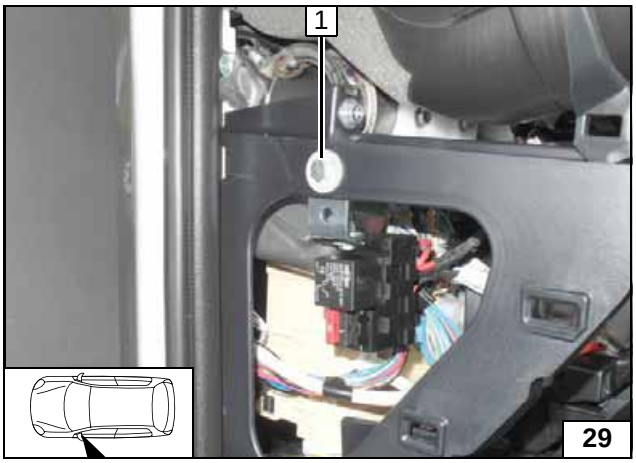
Hole for passenger compartment relay and fuse holder



MY 2011

1 Original vehicle bolt
2 Angle bracket

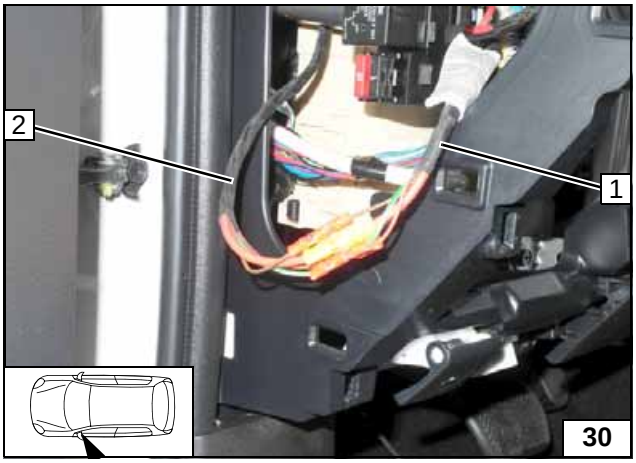
Installing passenger compartment relay and fuse holder



MY 2013

1 M6x20 bolt, large diameter washer, flanged nut

Installing passenger compartment relay and fuse holder

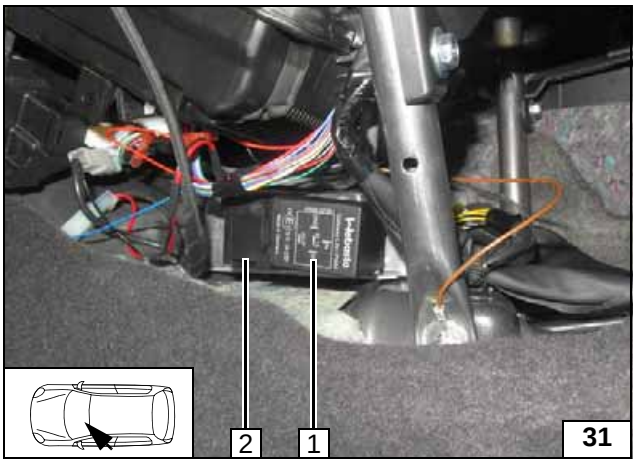


All vehicles

This one and the following figures show vehicles of model year 2013. The installation for model year 2011 is carried out in an analogous manner.

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

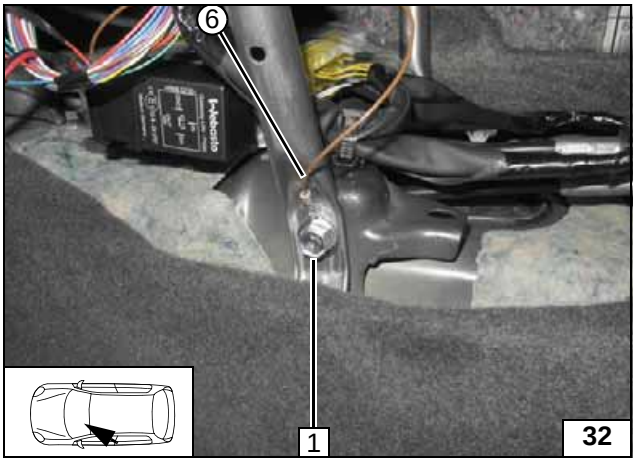
Connecting same colour wires of wiring harnesses



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

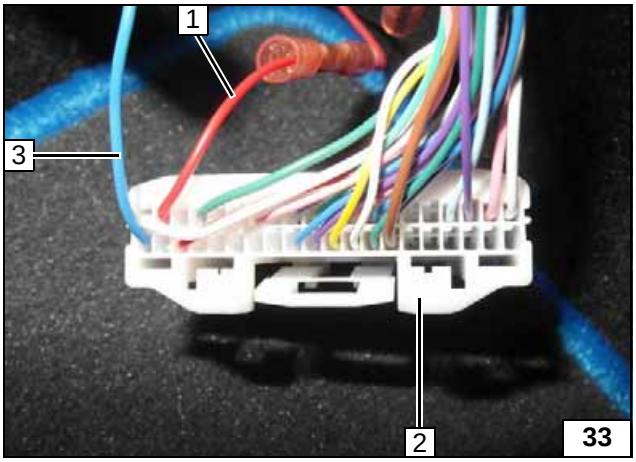
1 PWM gateway, mounted

Installing PWM GW



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

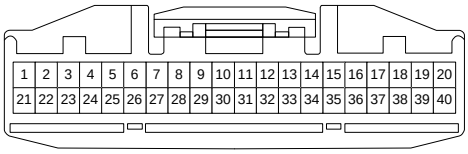
PWM GW earth connection



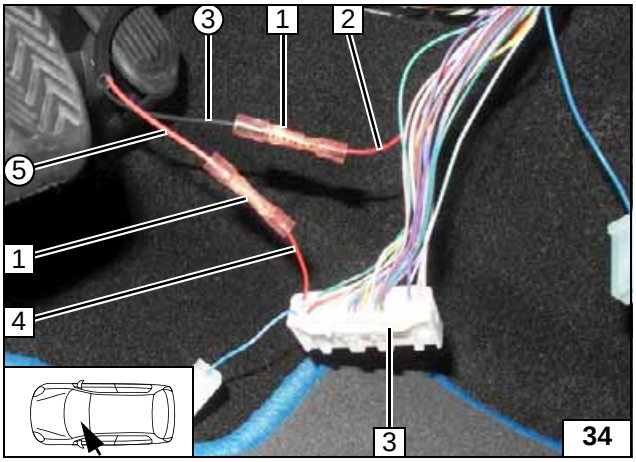
Connection to 40-pin connector **2** of the A/C booster.

1 Red (rt) wire of pin 22 for model year 2013 or pin 23 from model year 2011
3 Blue (bl) wire of pin 1 (model year 2011 = black (sw) wire)

E28(A) model year 2013 or E30(A) model year 2011
Contact side view [from the front]:

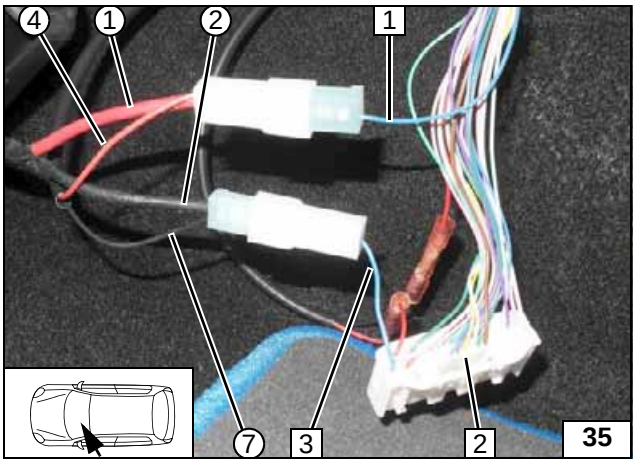


A/C booster connector



1 Crimp and shrink butt connector [2x].
2 Red (rt) wire of fan controller
3 Connector E28(A) or E30(A)
4 Red (rt) wire of E28(A) or E30(A)/22
③ Black (sw) wire of PWM Gateway/OUT
⑤ Red (rt) wire of PWM Gateway/IN

Connecting A/C booster



1 Blue (bl) wire of fuse (model year 2011 = black (sw) wire)
2 Connector E28(A) or E30(A)
3 Blue (bl) wire of connector (model year 2011 = black (sw) wire)
① Red (rt) wire of K1/87a, fan wiring harness
② Black (sw) wire of K1/30, fan wiring harness
④ Red (rt) wire of PWM Gateway/KL15
⑦ Black (sw) wire of PWM Gateway/SH

Connecting A/C booster

Digital Timer Option

1.8 Hybrid model year 2011

Installing digital timer

1.8 Hybrid model year 2013

Installing digital timer

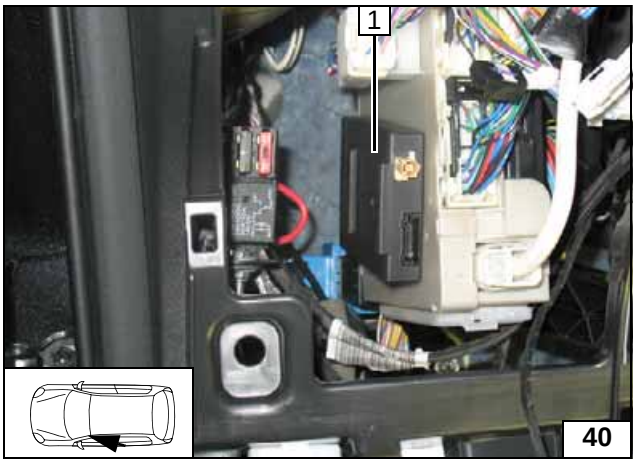
1.33 and 1.6 P

Installing digital timer

MultiControl CAR Option

1.8 Hybrid model year 2015

Installing MultiControl CAR

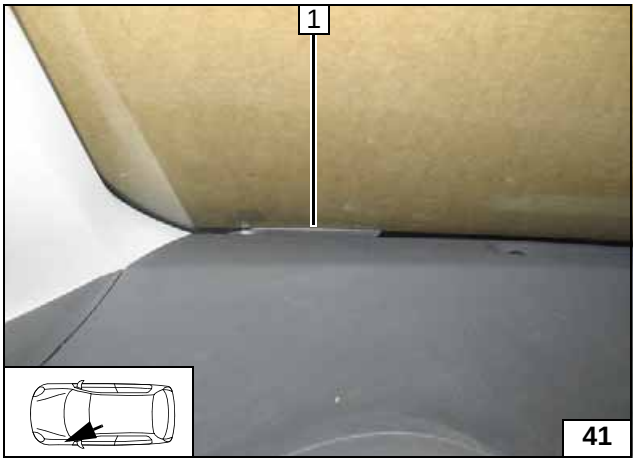


Remote Option (Telestart)

MY 2011

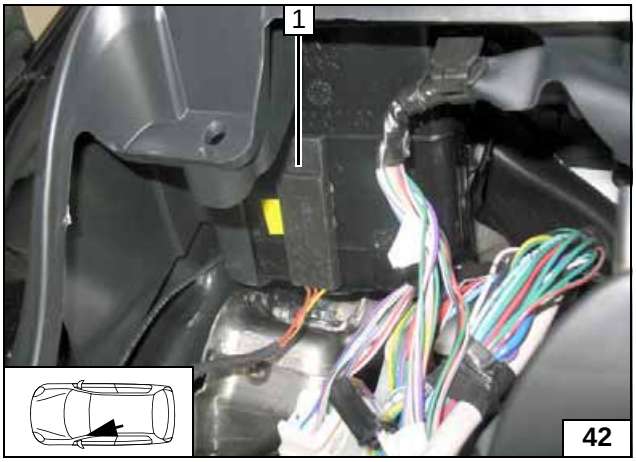
Fasten receiver **1** with adhesive tape.

Installing receiver



1 Aerial

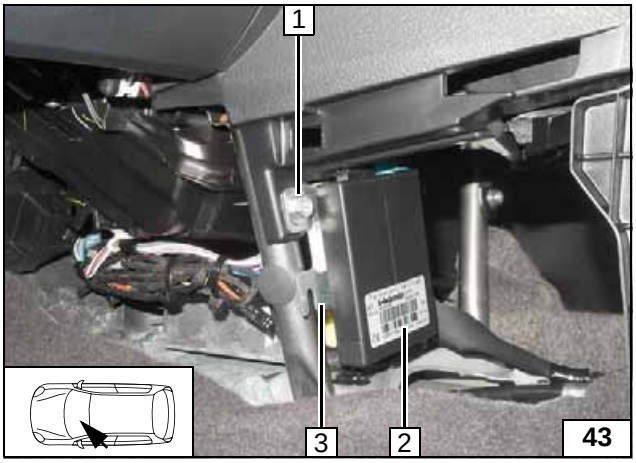
Installing aerial



Temperature sensor T100 HTM

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

Installing temperature sensor

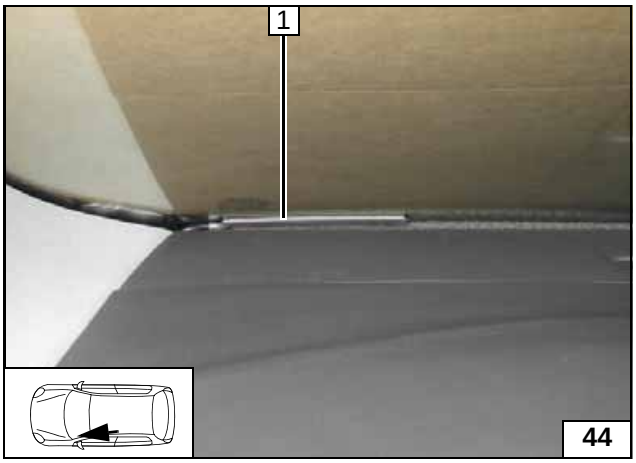


MY 2013

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

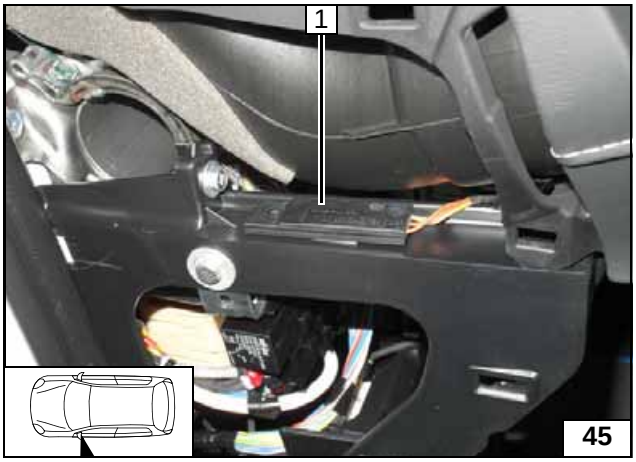
1 Original vehicle bolt
2 Receiver

Installing receiver



1 Aerial

Installing aerial



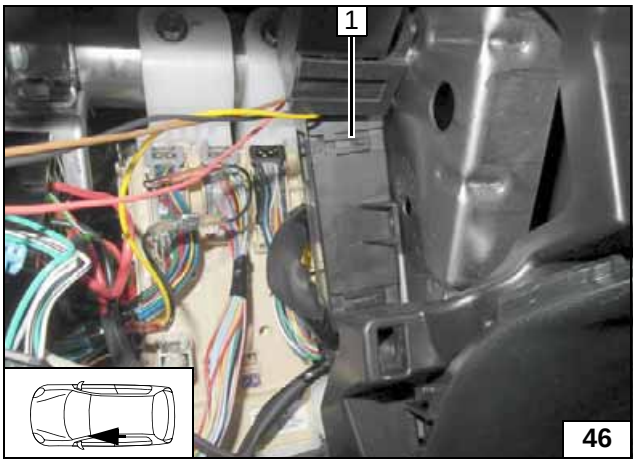
Temperature sensor T100 HTM

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

Installing temperature sensor

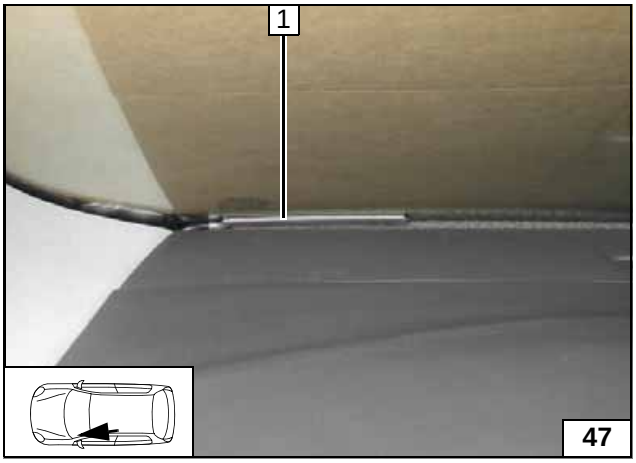
ThermoCall Option

All vehicles



Fasten receiver **1** with adhesive tape.

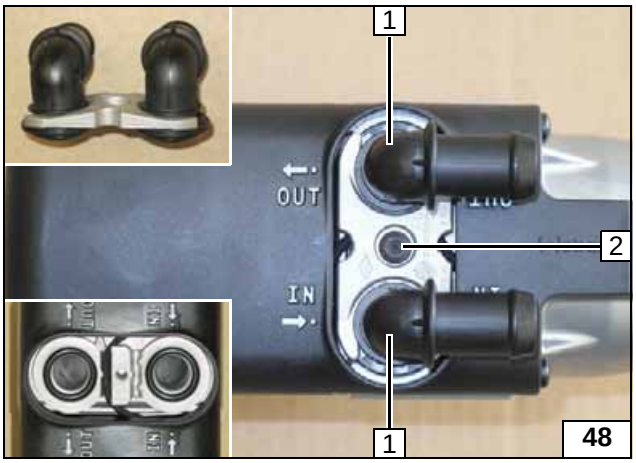
Installing receiver



1 Aerial (optional)

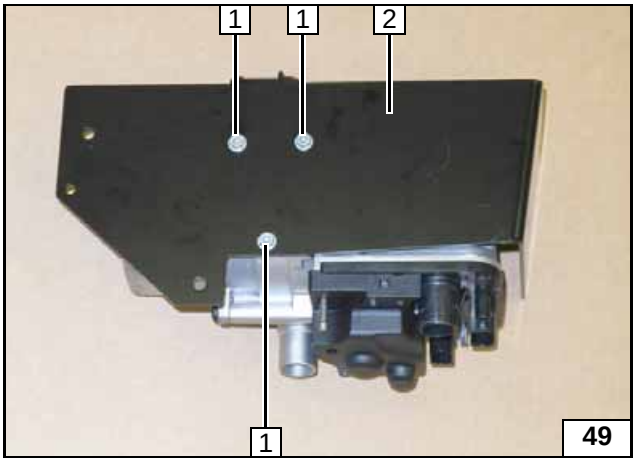
Installing aerial

Preparing Heater



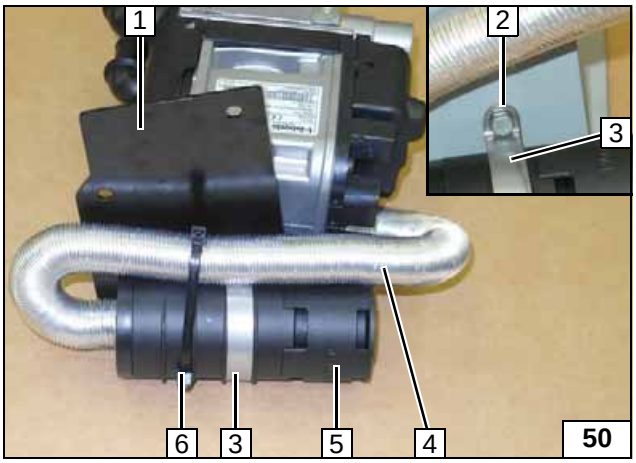
1 Water connection piece, sealing ring [2x each]
2 5x15 self-tapping bolt, retaining plate of water connection piece

Installing water connection piece



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

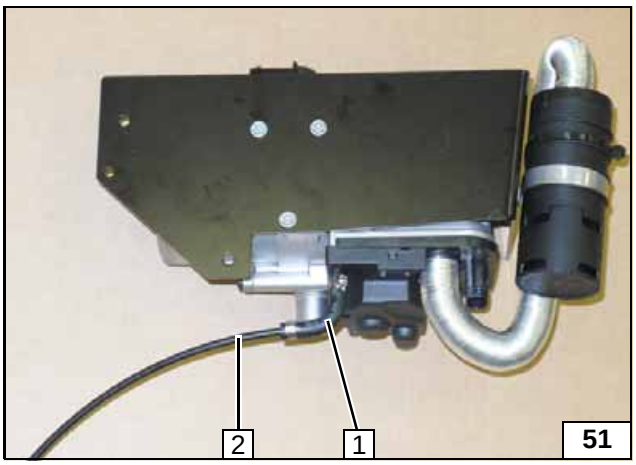
Premounting bracket on heater



Fasten combustion air pipe **4** with two cable ties **6** to silencer **5** .

1 Bracket
2 M5x16 bolt, flanged nut
3 51 mm dia. p-clamp

Installing silencer



1 90° moulded hose, 10mm dia. clamp [2x]
2 Fuel line

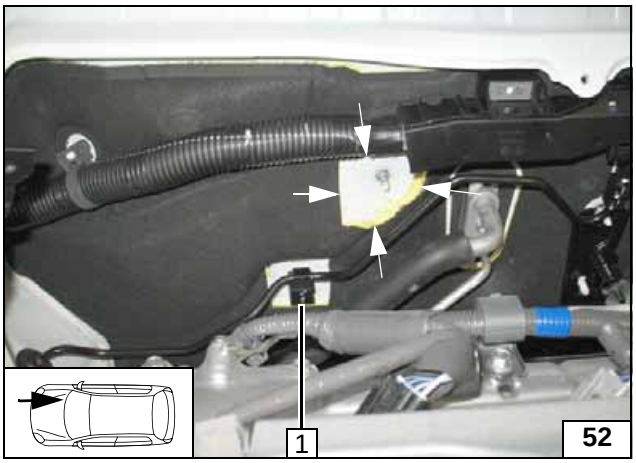
Premounting fuel line

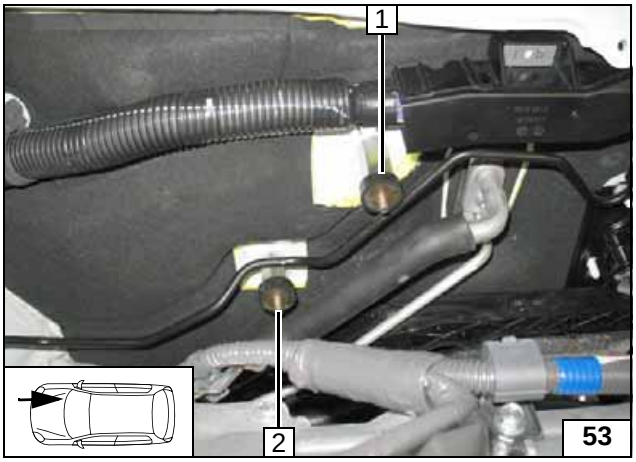
Preparing Installation Location

1.8 Hybrid

Cut out insulation mat in area of marking. Remove retaining clip **1** and discard

Cutting out insulation mat





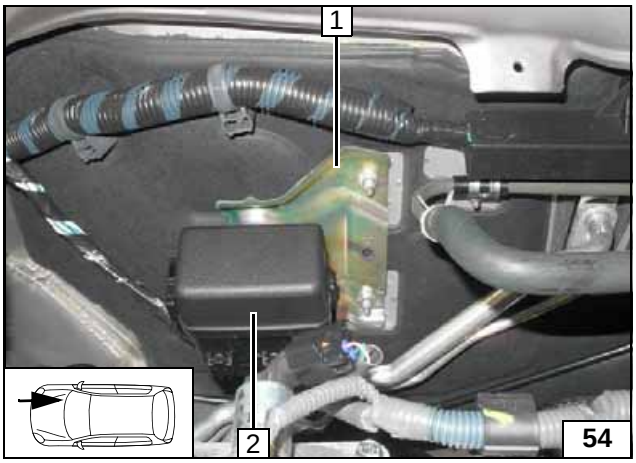
1 M6x40 spacer nut, silent block, original vehicle stud bolts
2 M6x30 spacer nut, silent block, original vehicle stud bolts

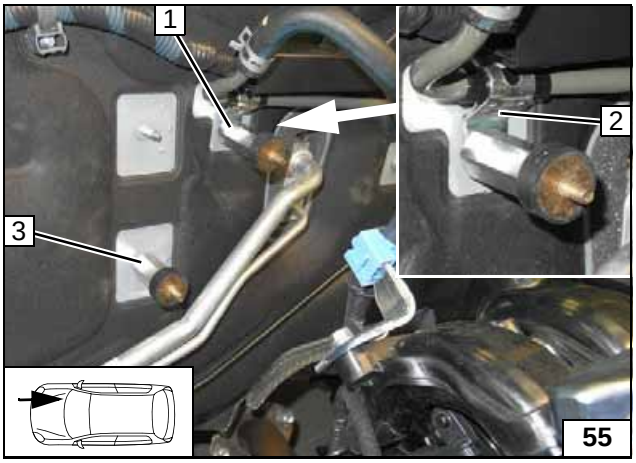
Installing spacer nuts

1.33 and 1.6

Relay box **2** depends on the equipment. Detach relay box **2**, if present, from bracket **1** and lay aside. Remove bracket **1**, will be re-mounted partially (see ‘Relay box’ section).

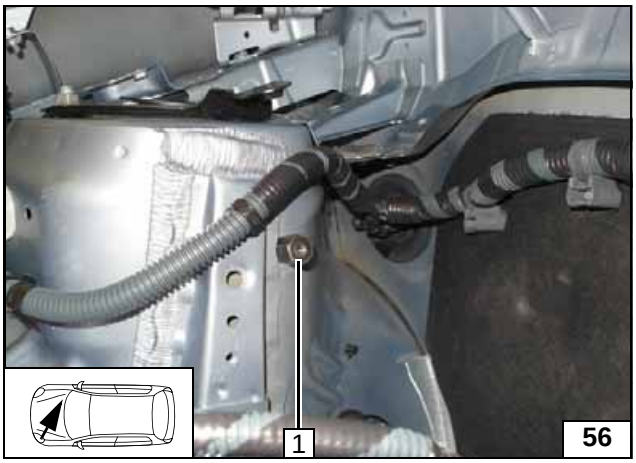
Removing relay box





1 M6x40 spacer nut, silent block, original vehicle stud bolts
2 Bracket of vacuum line
3 M6x30 spacer nut, silent block, original vehicle stud bolts

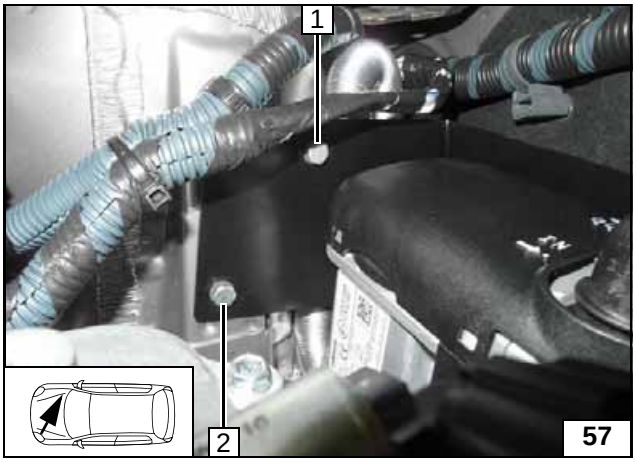
Installing spacer nuts



All vehicles

1 Install M6x20 spacer nut, M6x12 bolt, spring lockwasher, large diameter washer, existing hole loosely.

Installing spacer nut

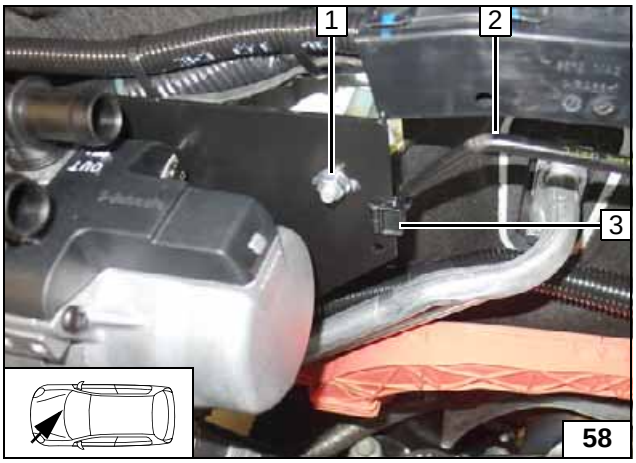


Installing Heater

Figure shows vehicle without Hybrid system.
Before installing heater, attach wiring harnesses of circulating pump and heater [2x].

1 M6x12 bolt mounted loosely, spring lockwasher, large diameter washer
2 M6x20 bolt mounted loosely, spring lockwasher, large diameter washer, existing threaded hole

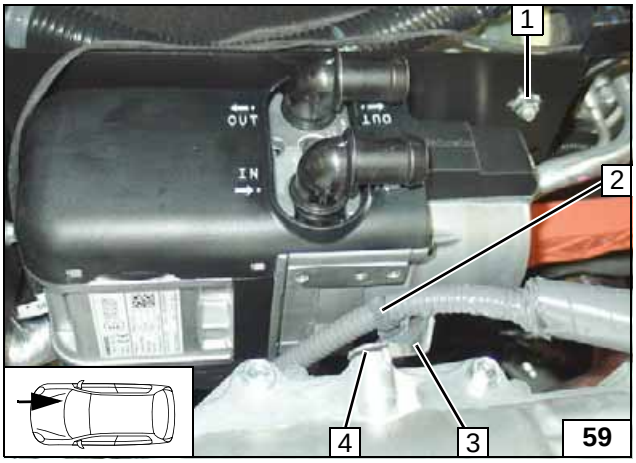
Installing heater



1.8 Hybrid up to model year 2014

1 M6 flanged nut mounted loosely, large diameter washer
2 Original vehicle brake line
3 Clip-type cable tie

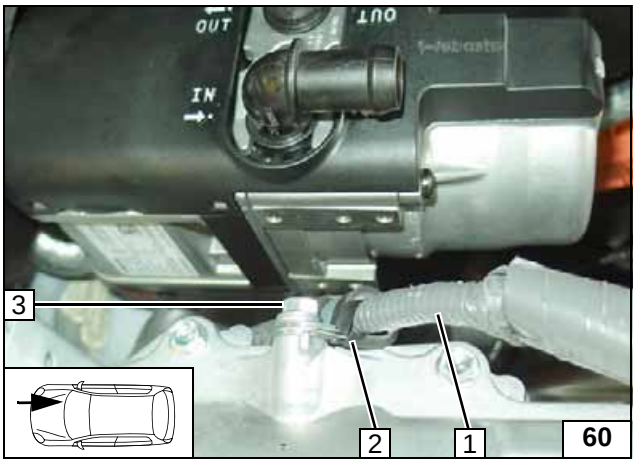
Installing heater



1.8 Hybrid from model year 2015

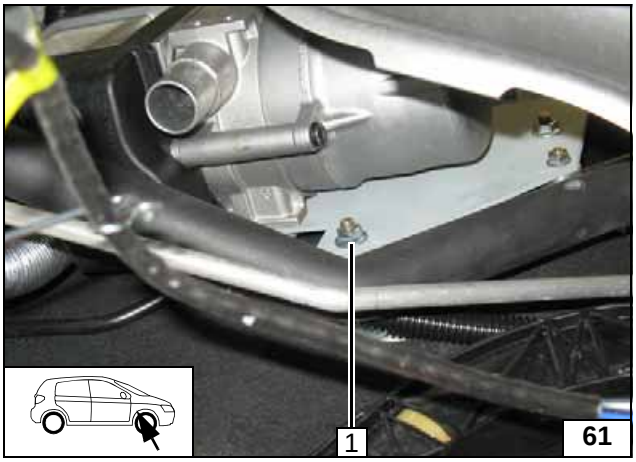
1 M6 flanged nut mounted loosely, large diameter washer
2 Discard original vehicle cable tie
3 Discard original vehicle bracket
4 Original vehicle bolt will be reused

Installing heater



Install original vehicle wiring harness **1** using 15mm dia. rubber-coated p-clamp **2** and original vehicle bolt **3**.

Installing heater

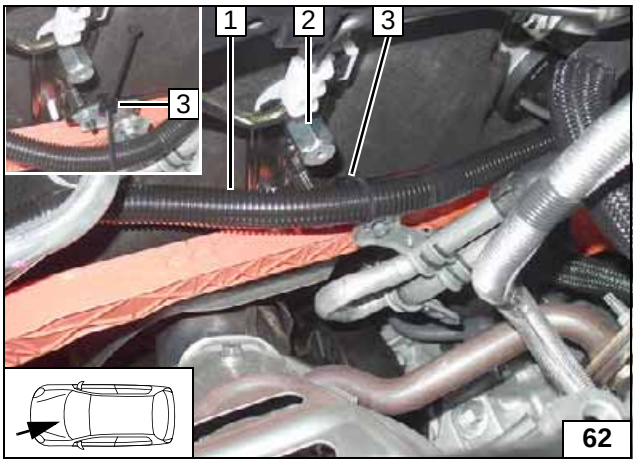


All hybrid vehicles

Align heater with bracket in the oblong holes and tighten loosely mounted bolts, spacer nuts and flanged nuts. Ensure sufficient distance from neighbouring components while doing so.

1 M6 flanged nut, large diameter washer

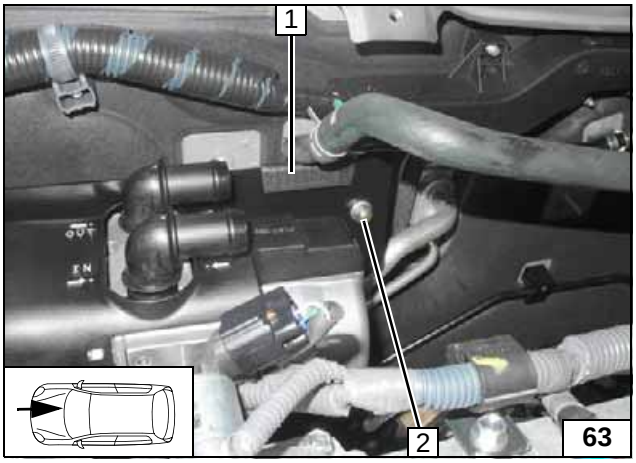
Installing heater



Slit open 17 mm dia. corrugated tube lengthwise. Route wiring harness of heater, fuel line and wiring harness of metering pump in 17 mm dia. corrugated tube **1** (700mm) to the left vehicle side.

2 M6x30 spacer nut, original vehicle stud bolts
3 Clip-type cable tie on original vehicle bracket

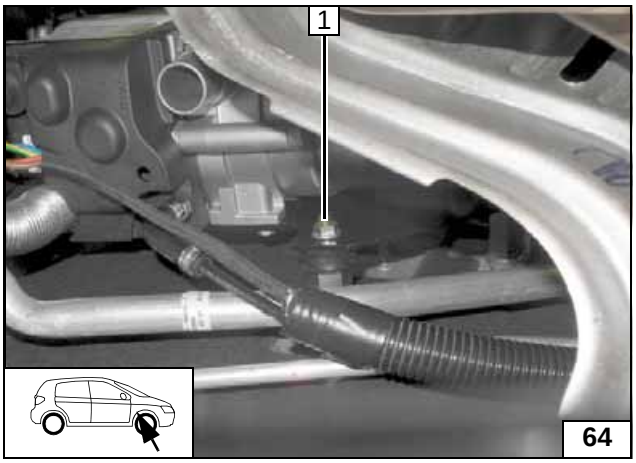
Routing wiring harnesses



1.33 and 1.6

1 50 mm edge protection
2 M6 flanged nut mounted loosely, large diameter washer

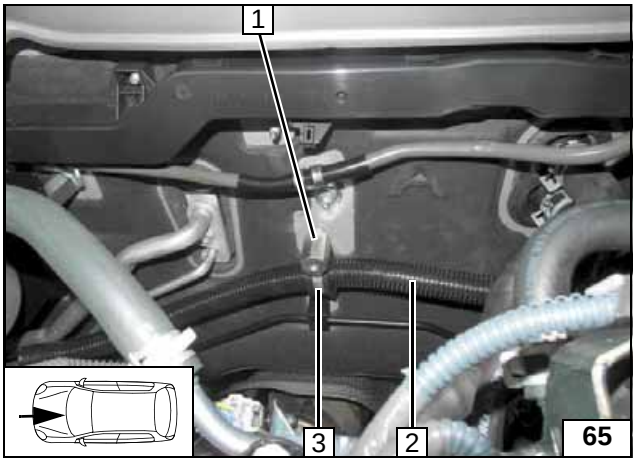
Installing heater



Align heater with bracket in the oblong holes and tighten loosely mounted bolts, spacer nuts and flanged nuts. Ensure sufficient distance from neighbouring components while doing so.

1 M6 flanged nut, large diameter washer

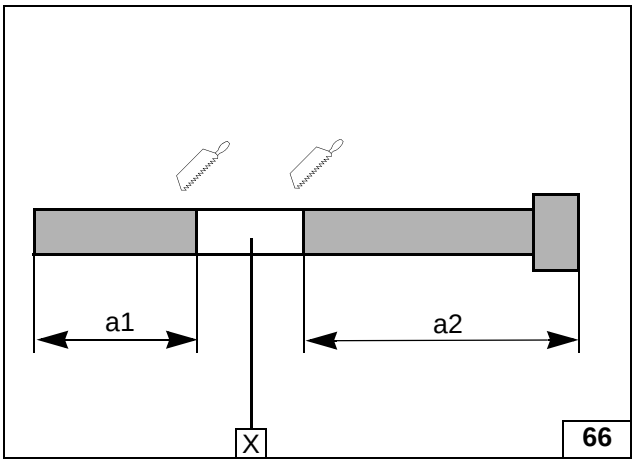
Installing heater



Slit open 17 mm dia. corrugated tube lengthwise. Route wiring harness of heater, fuel line and wiring harness of metering pump in 17 mm dia. corrugated tube **2** (700mm) to the left vehicle side.

1 M6x30 spacer nut, original vehicle stud bolts
3 25 mm dia. rubber-coated p-clamp

Routing wiring harnesses

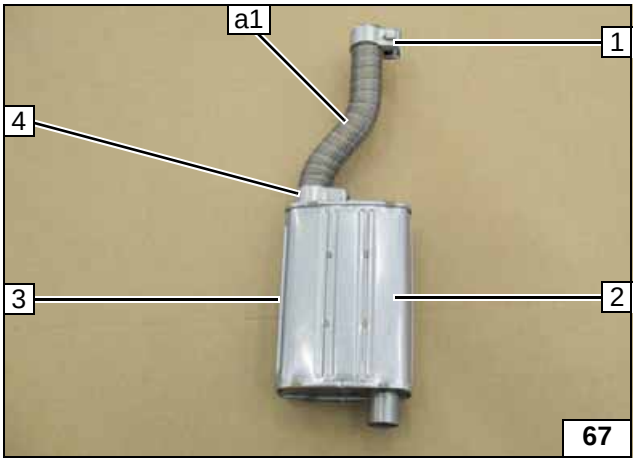


Exhaust Gas

a1 = 170
a2 = 420

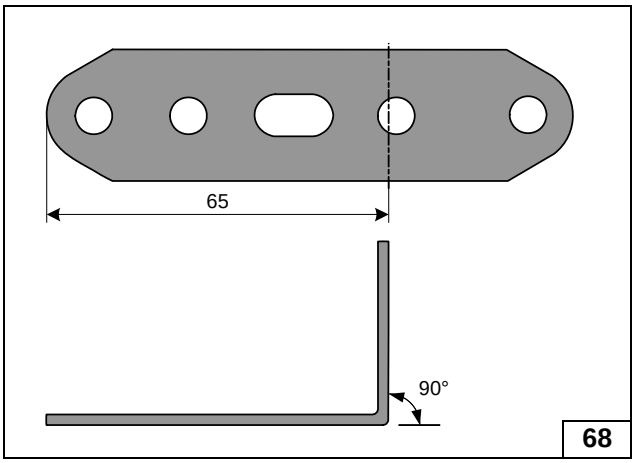
X = 

Preparing exhaust pipe

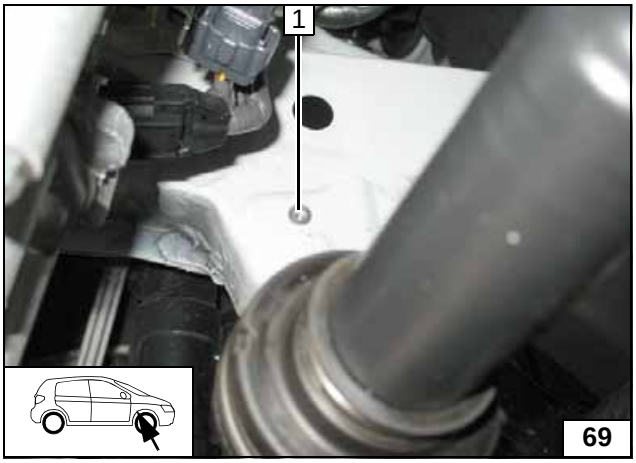


1 Tighten hose clamp slightly
2 Silencer
3 Existing threaded hole
4 Hose clamp

Premounting silencer



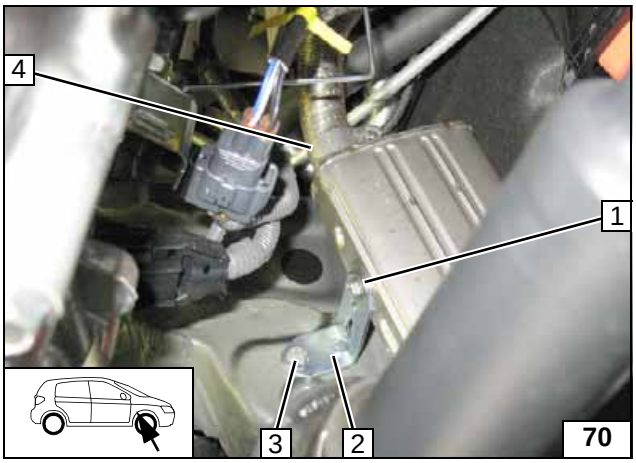
Angling down perforated bracket



Remove plug at position **1**.

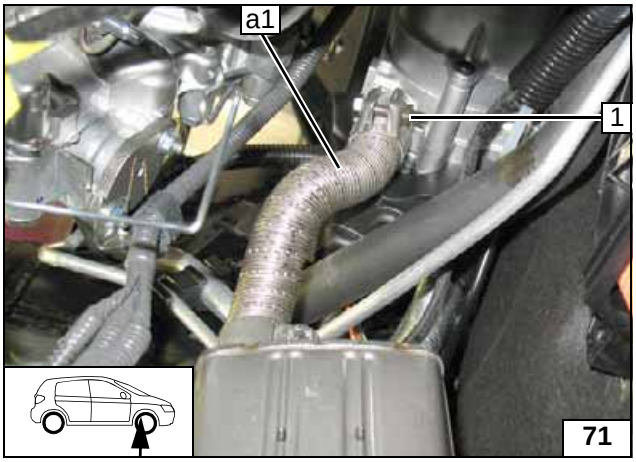
1 Rivet nut, existing hole

Installing rivet nut



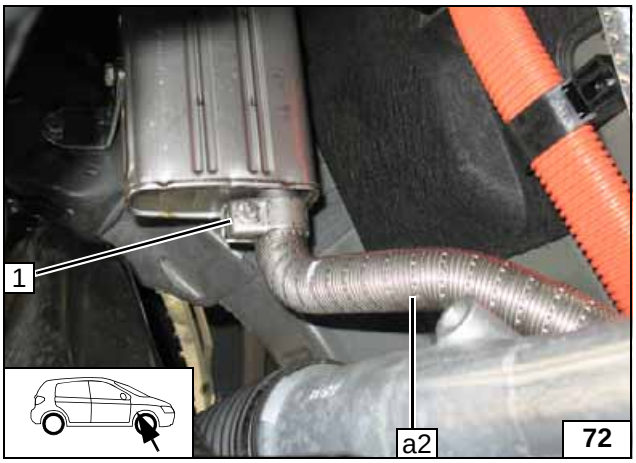
1 M6x16 bolt, spring lockwasher
2 Perforated bracket
3 M6x20 bolt, spring lockwasher
4 Tighten hose clamp

Installing perforated bracket and silencer



1 Tighten hose clamp

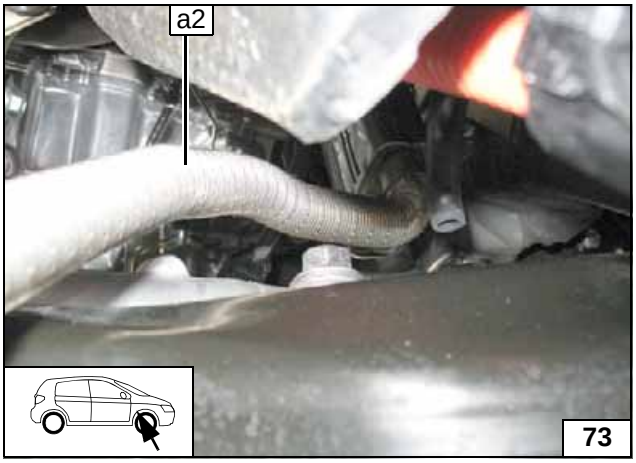
Installing exhaust pipe a1



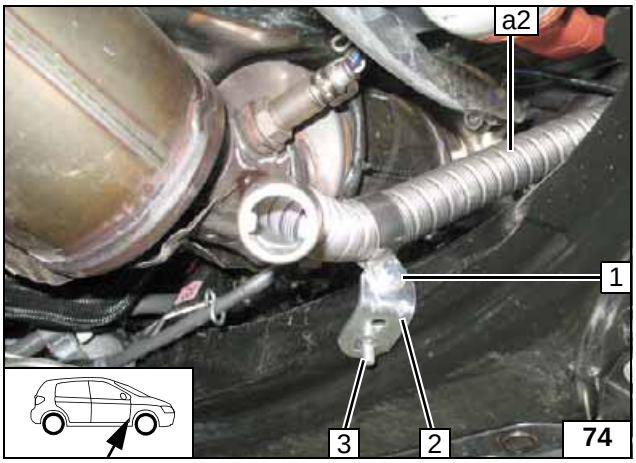
Ensure sufficient distance from steering sleeve (at least 30mm).

1 Hose clamp

Installing exhaust pipe a2



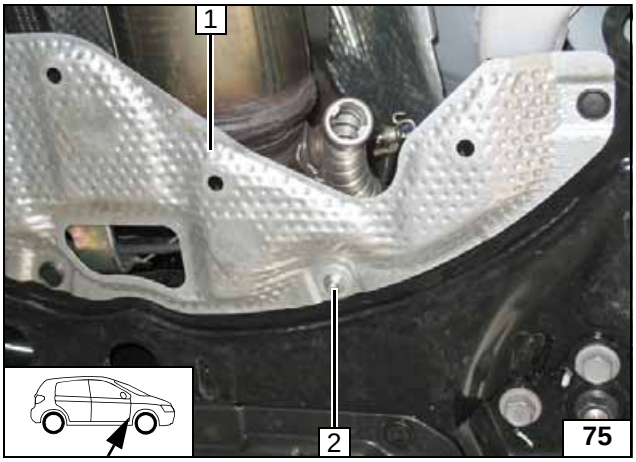
Routing exhaust pipe a2



1.8 Hybrid

1 M6x20 bolt, 25 mm dia. p-clamp, large diameter washer, flanged nut
2 Angle bracket
3 M6x16 bolt, pin lock, existing hole

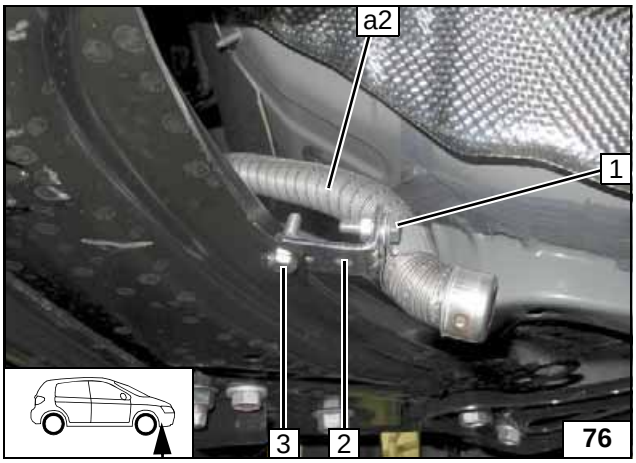
Fastening exhaust pipe a2



Install trim of underbody **1** (if present). Align exhaust system. Ensure sufficient distance from neighbouring components, correct if necessary.

2 Large diameter washer, M6 flanged nut

Fastening exhaust pipe a2



1.33 and 1.6

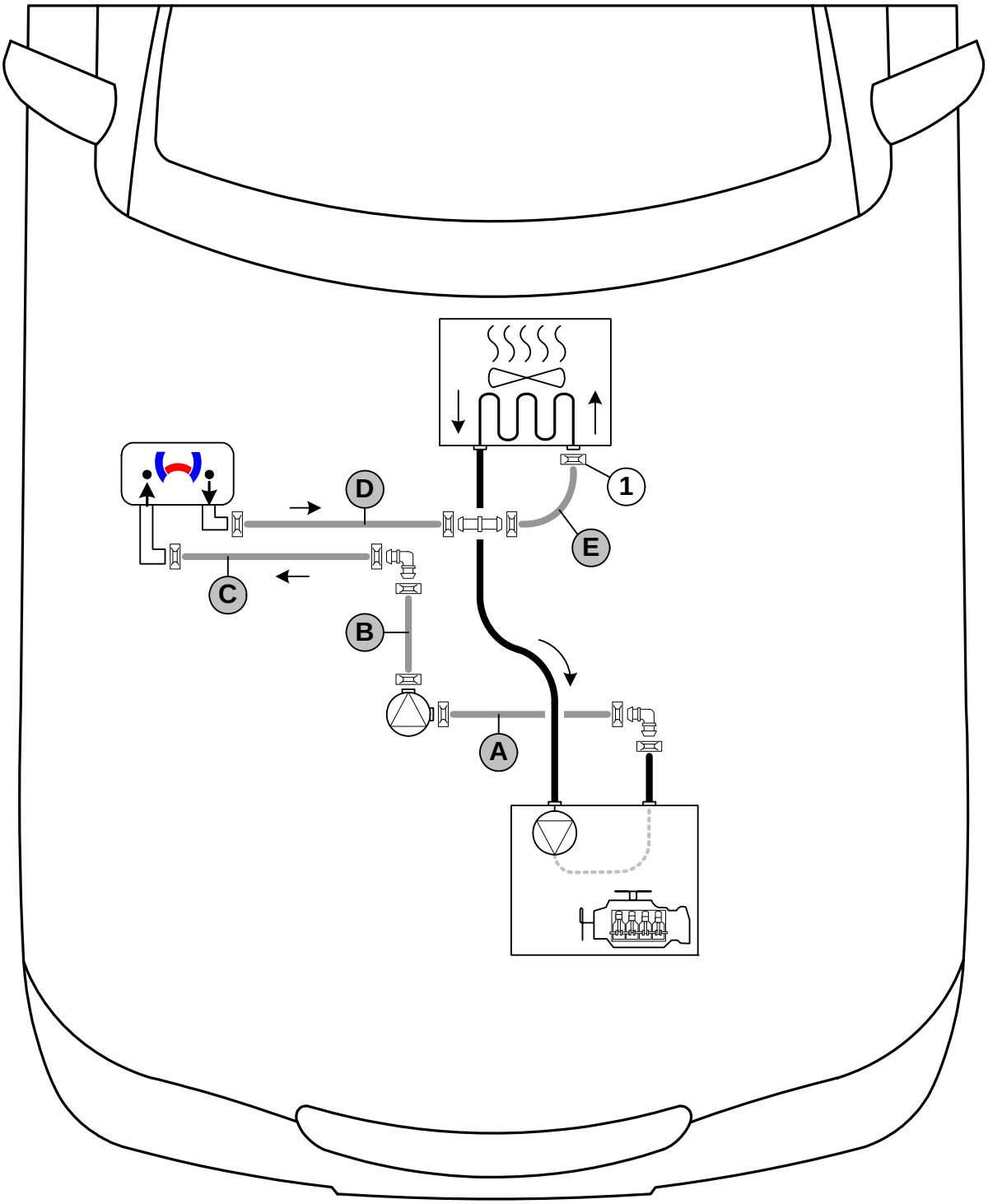
1 M6x20 bolt, 25 mm dia. pipe clamp, flanged nut
2 Angle bracket
3 M6x20 bolt, large diameter washer, flanged nut, existing hole

Fastening exhaust pipe a2

Coolant Circuit

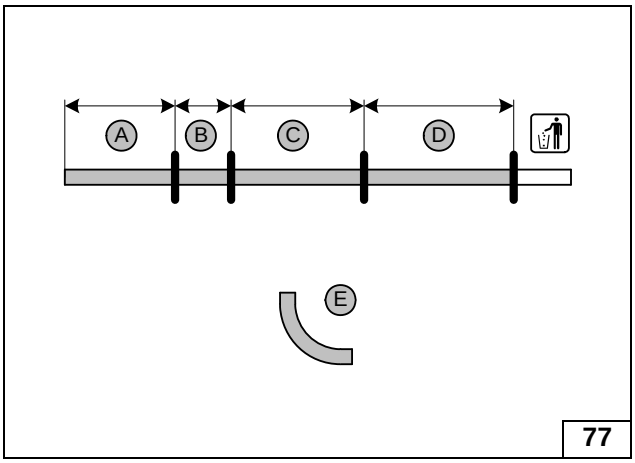
Any coolant running off should be collected in an appropriate container. Route hoses kink-free. Unless specified otherwise, always fasten using cable ties. Position clamps so that other hoses cannot be damaged. The heater must be filled with coolant when installing the hoses.

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



Hose routing diagram

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



Hose **E** = 90°, 18 mm dia. moulded hose

	1.8 Hybrid, 1.33	1.6
A	140	120
B	60	60
C	340	340
D	420	430

Cutting hoses to length

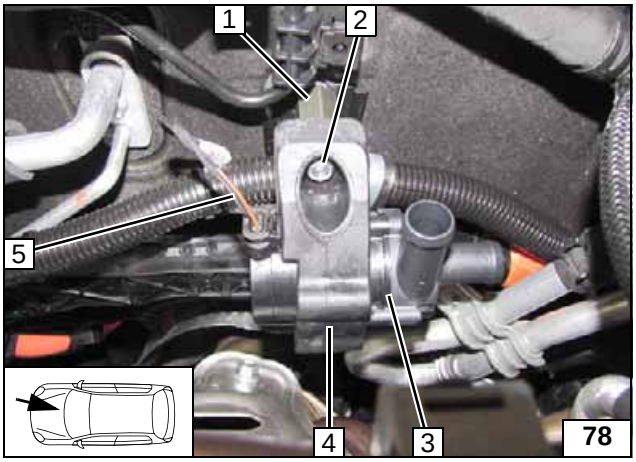
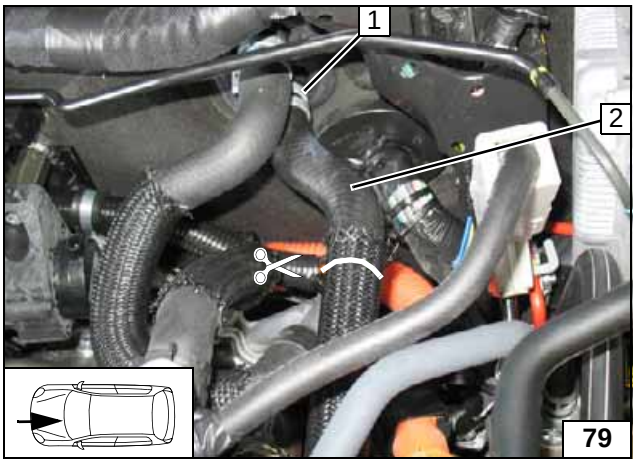


Figure shows Auris Hybrid.
Insert wiring harness of circulating pump **5** and route in slit open 17mm dia. corrugated tube.

1 Spacer nut premounted
2 M6x25 bolt
3 Circulating pump
4 Circulating pump mount

Installing circulating pump

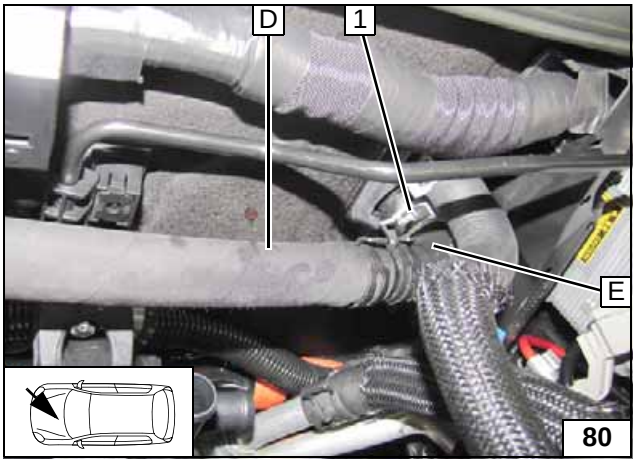


1.8 Hybrid

Slide back braided protection hose at the cutting point. Cut hose of engine outlet/heat exchanger inlet at the marking.

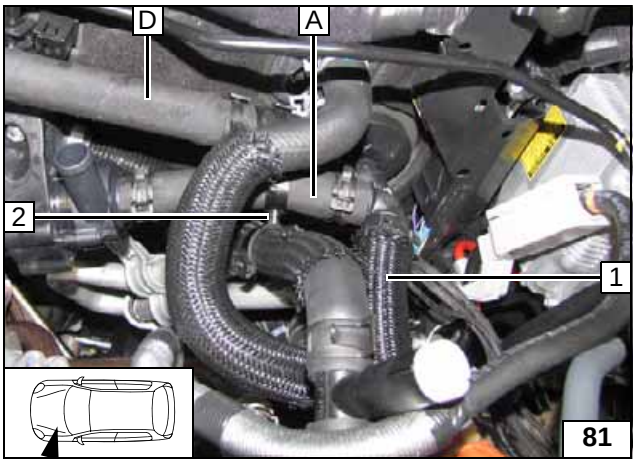
1 Original vehicle spring clip, will be reused
2 Remove hose section and discard

Cutting point



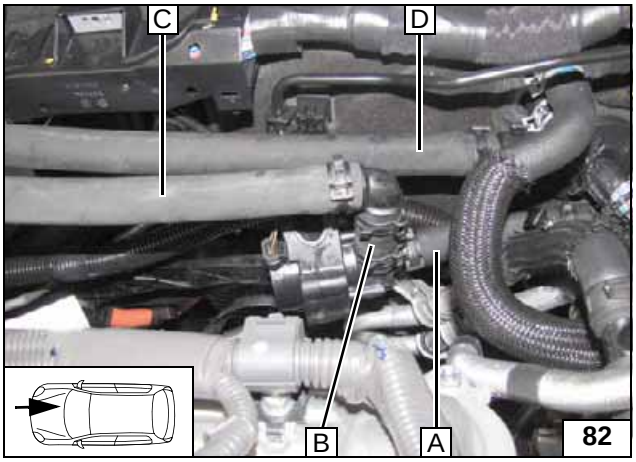
1 Original vehicle spring clip

Connecting heat exchanger inlet

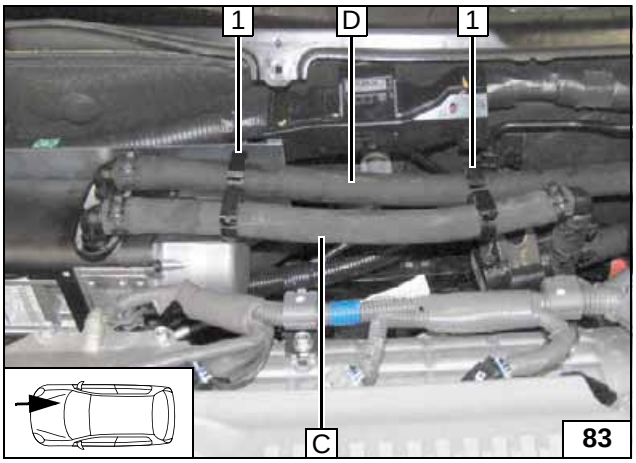


1 Engine outlet hose section
2 Hose bracket

Connecting engine outlet



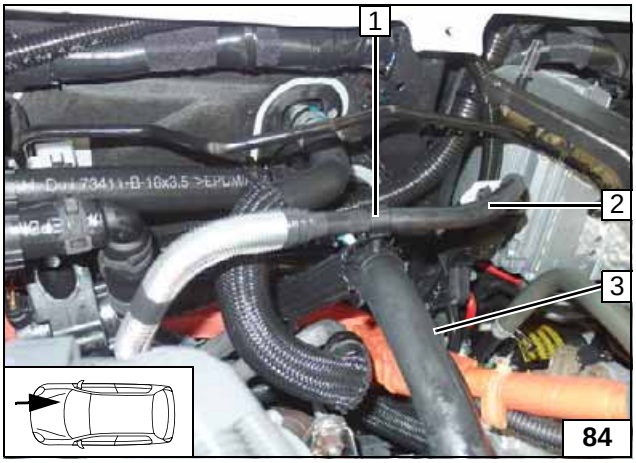
Connecting circulating pump



Ensure sufficient distance from neighbouring components, correct if necessary.

1 Hose bracket [2x]

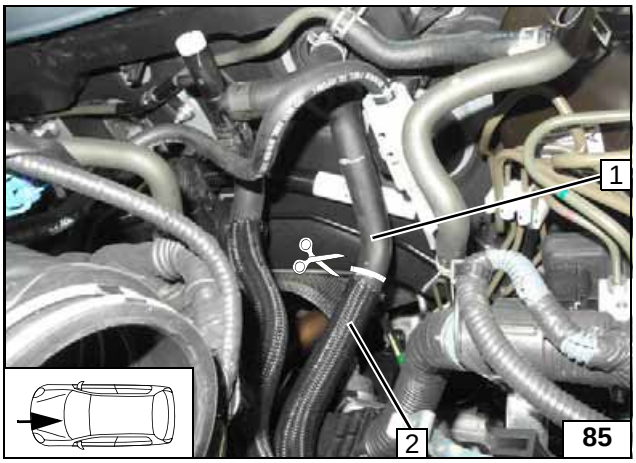
Connecting heater



From MY 2015

1 Hose bracket [2x]
2 Fuel line
3 Original vehicle water hose

Connecting heater

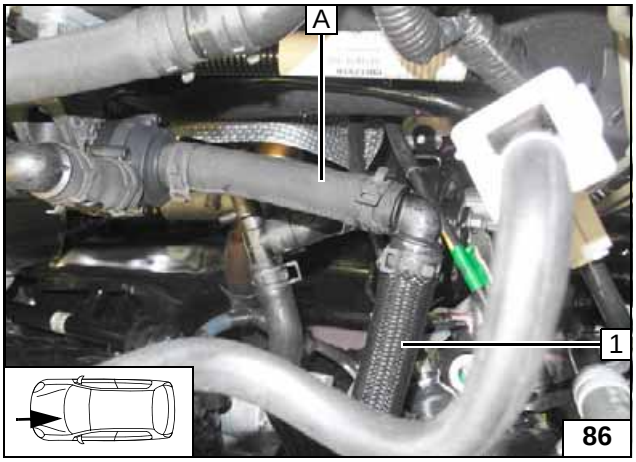


1.33 P

Slide back braided protection hose at the cutting point. Cut the engine outlet hose / heat exchanger inlet at the marking. Spring clip will be reused.

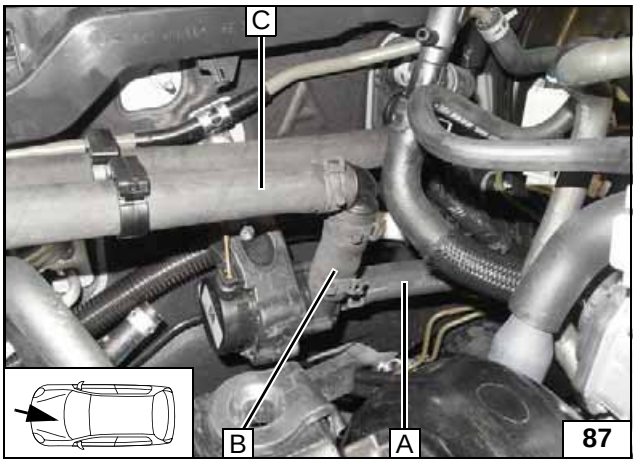
1 Remove hose section and discard
2 Engine outlet hose section

Cutting point

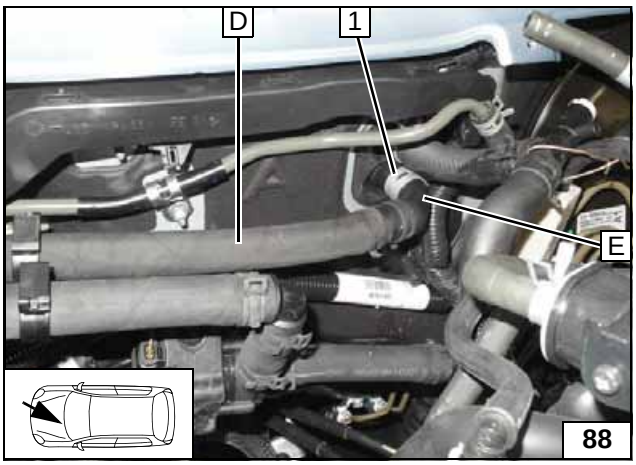


1 Engine outlet hose section

Connecting engine outlet

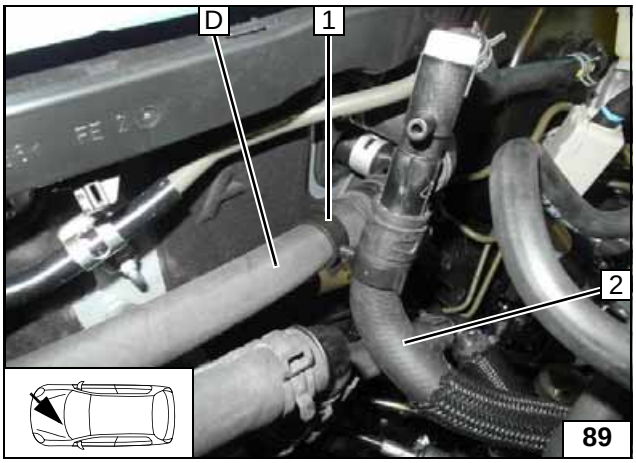


Connecting circulating pump



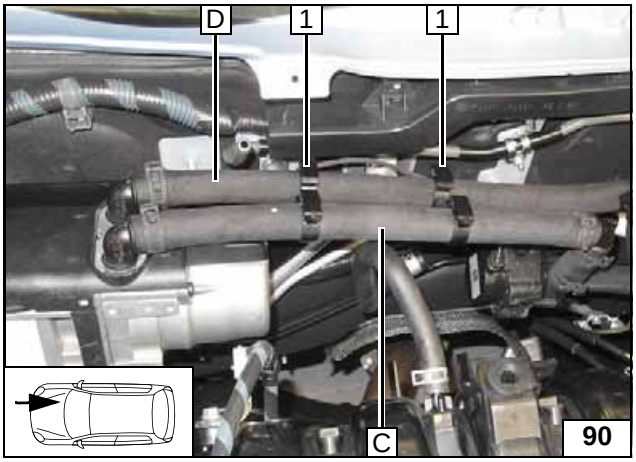
1 Original vehicle spring clip

Connecting heat exchanger inlet



1 Hose bracket
2 Hose for heat exchanger outlet

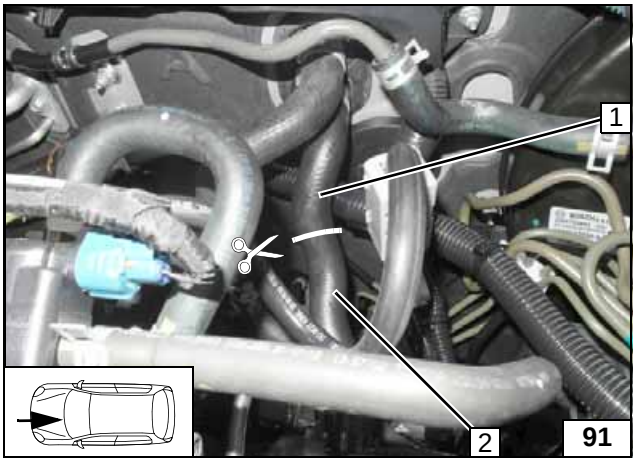
Installing hose bracket



Ensure sufficient distance from neighbouring components, correct if necessary.

1 Hose bracket [2x]

Connecting heater

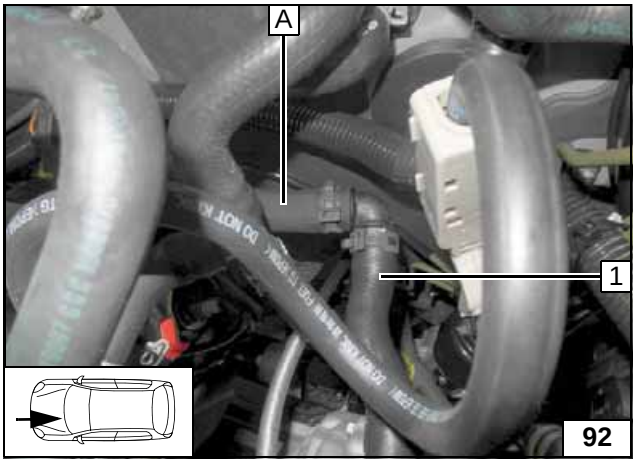


1.6 P

Cut the engine outlet hose / heat exchanger inlet at the marking. Original vehicle spring clip will be reused.

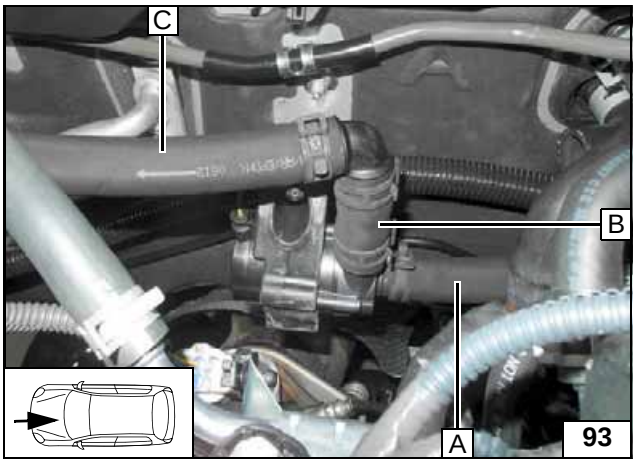
1 Remove hose section and discard
2 Engine outlet hose section

Cutting point



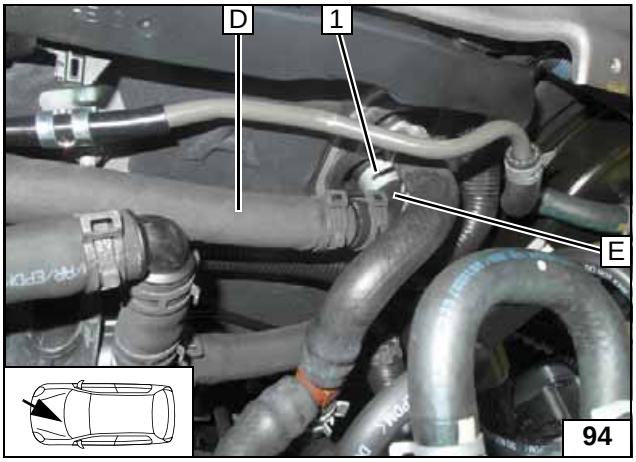
1 Engine outlet hose section

Connecting engine outlet

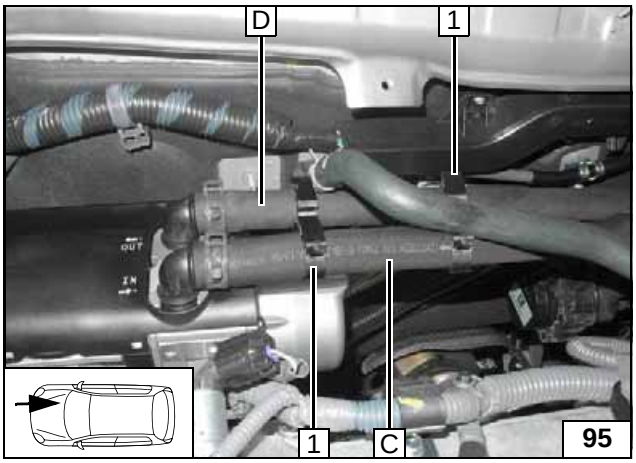


Connecting circulating pump

1 Original vehicle spring clip



Connecting heat exchanger inlet



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

1 Hose bracket [2x]

Connecting heater

Fuel

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

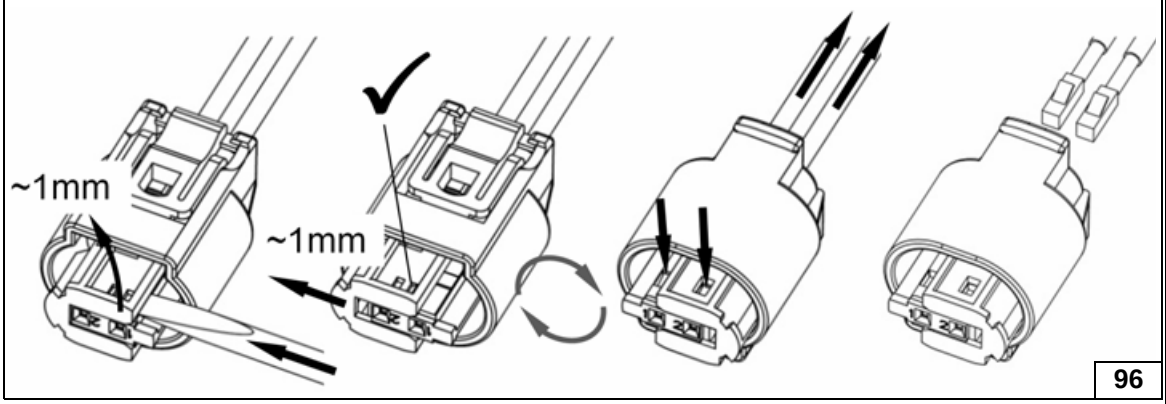
Catch any fuel running off in an appropriate container.

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.

Dismantling metering pump connector

Connector X7



96

Routing lines

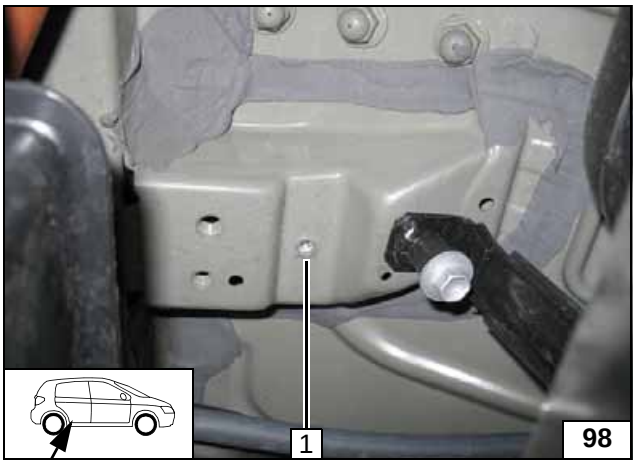
Route fuel line and wiring harness of metering pump in 10mm dia. corrugated tube **1** (1130 and 2100mm) along original vehicle fuel lines to installation location of metering pump.

97

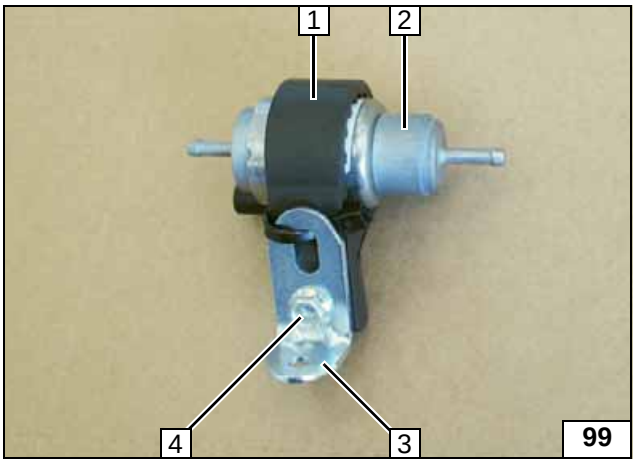
Installing rivet nut

1.8 Hybrid from model year 2011

1 Rivet nut, existing hole

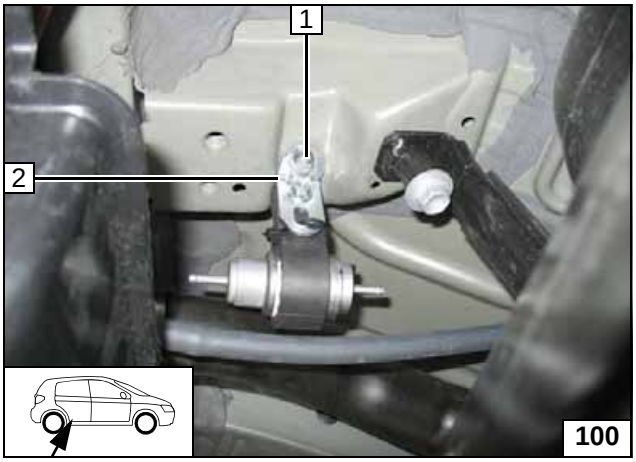


98



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

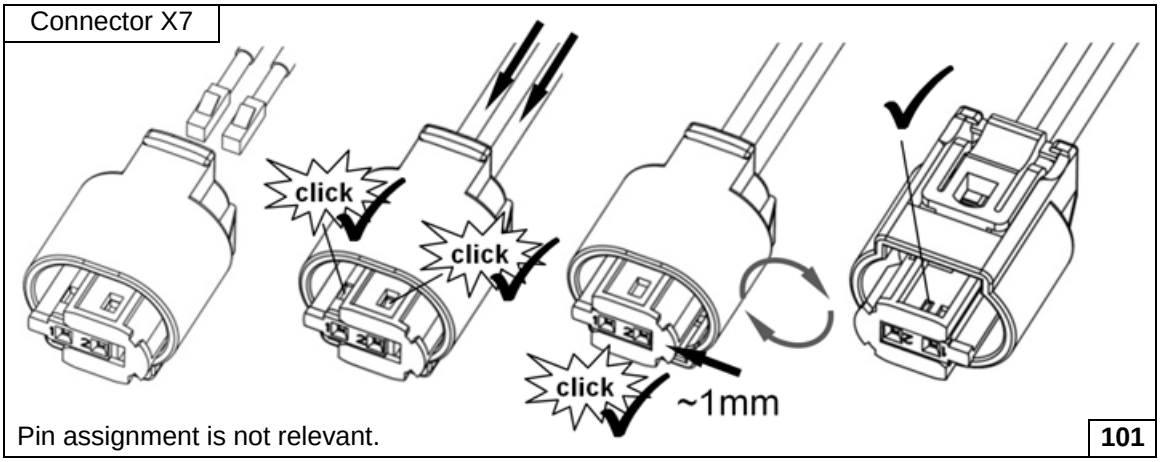
Premounting metering pump



1 M6x20 bolt, spring lockwasher
2 Angle bracket

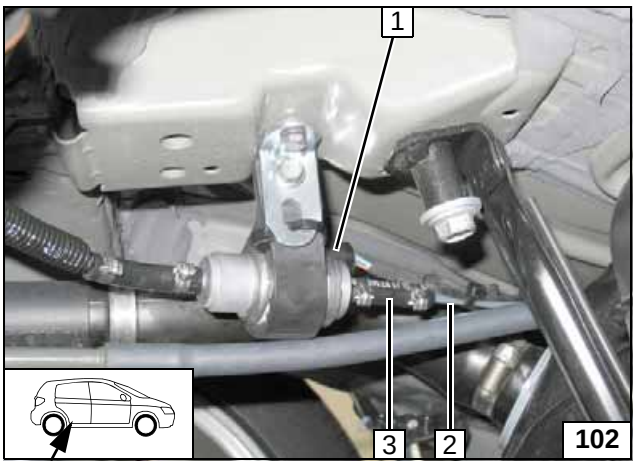
Installing metering pump

Connector X7



Pin assignment is not relevant.

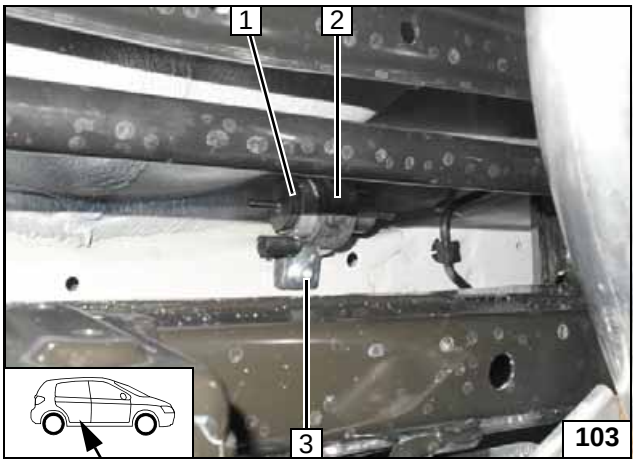
Completing metering pump connector



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

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

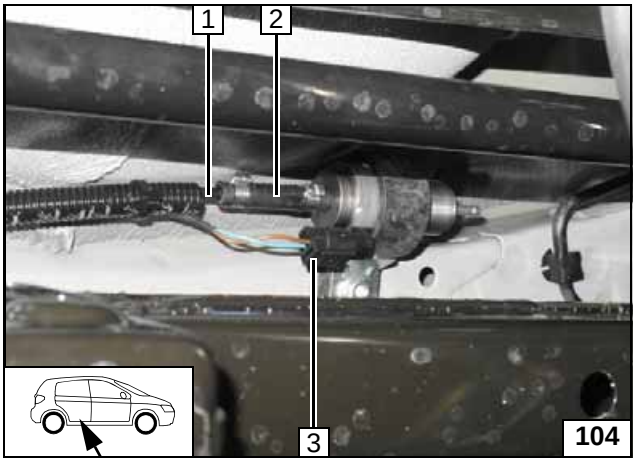
Connecting metering pump



1.8 Hybrid from model year 2013

1 Metering pump
2 Metering pump mount
3 Flanged nut, support angle bracket, original vehicle stud bolt

Installing metering pump

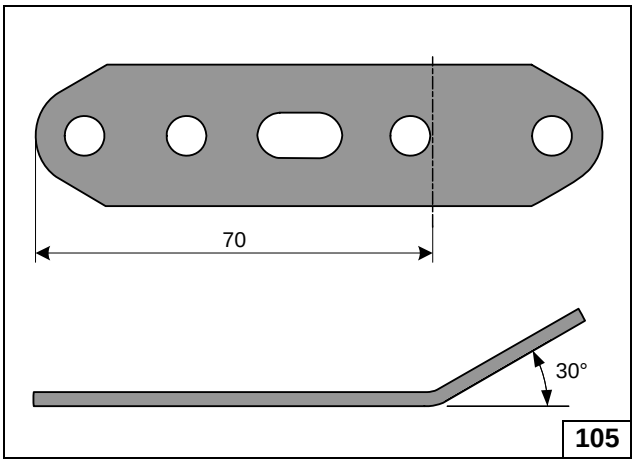


Check the position of the components; adjust if necessary. Check that they have freedom of movement.

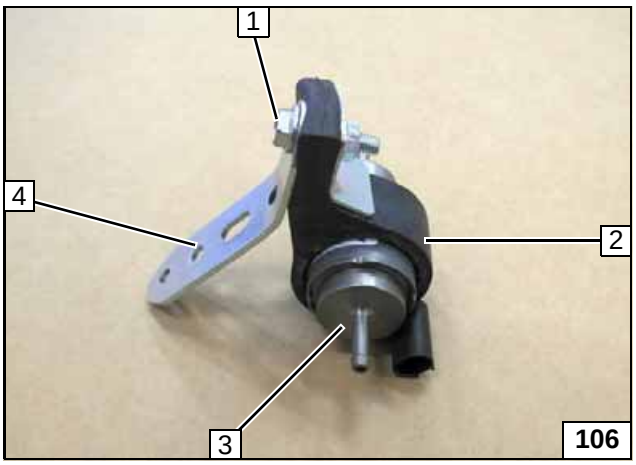
1 Fuel line of heater
2 Hose section, 10mm dia. Caillau clamp [2x]
3 Metering pump wiring harness, connector X7 mounted

Connecting metering pump

1.33 and 1.6 P

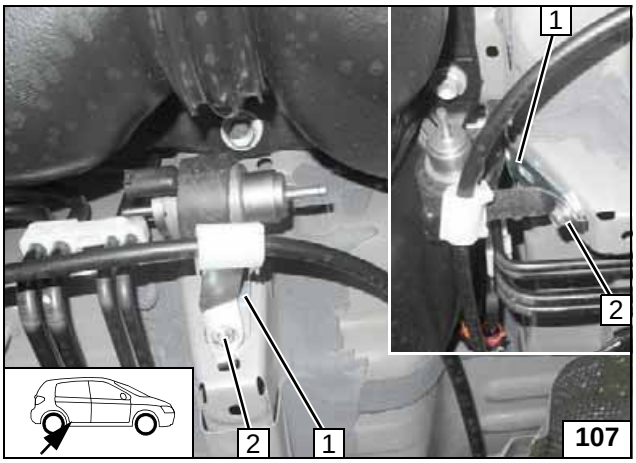


Angling down perforated bracket



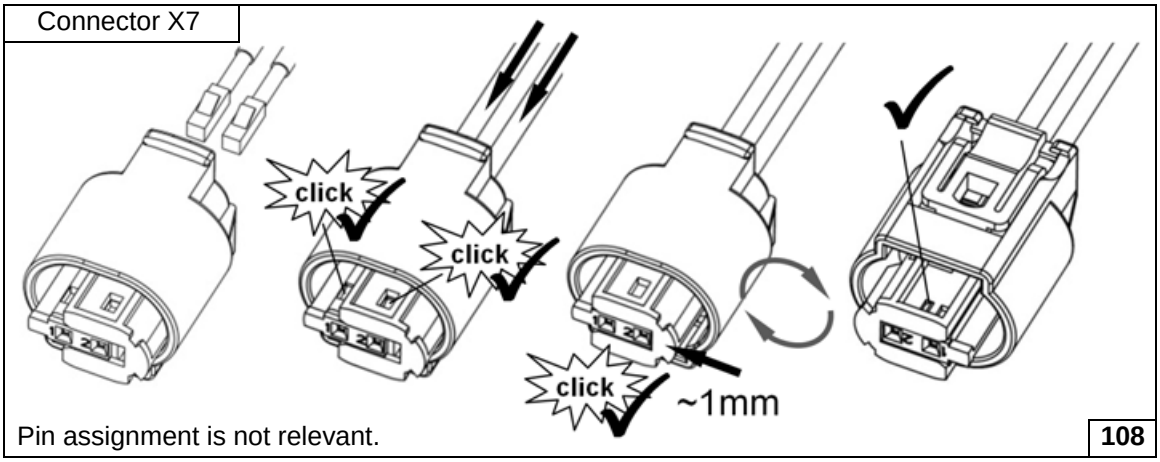
1 M6x25 bolt, support angle bracket, flanged nut
2 Metering pump mount
3 Metering pump
4 Perforated bracket

Premounting metering pump

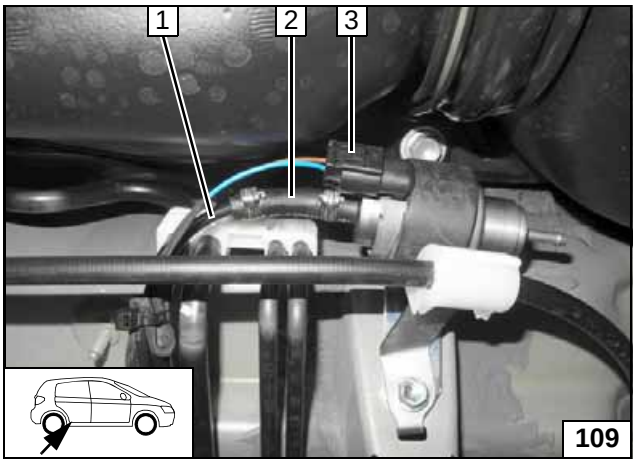


1 Perforated bracket
2 Original vehicle bolt

Installing metering pump



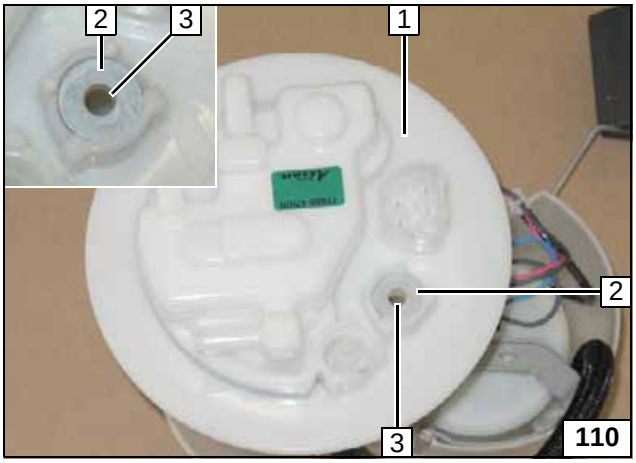
Completing metering pump connector



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

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

Connecting metering pump

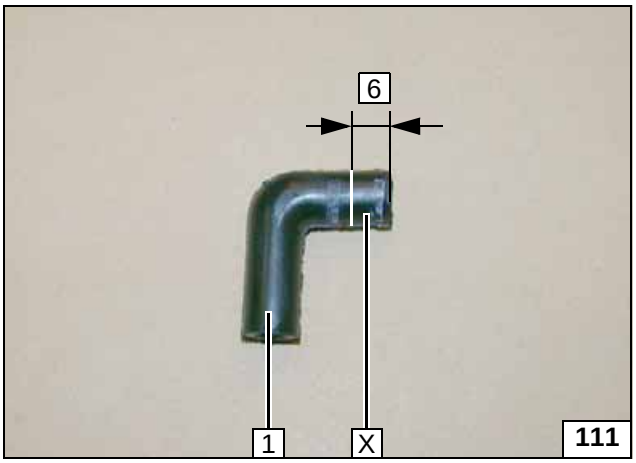


All vehicles

Remove the fuel tank sending unit **1** with the special tool in accordance with the manufacturer's instructions.

2 Washer with outer dia. d_a = 17.6mm
3 Copy hole pattern, 6mm dia. hole

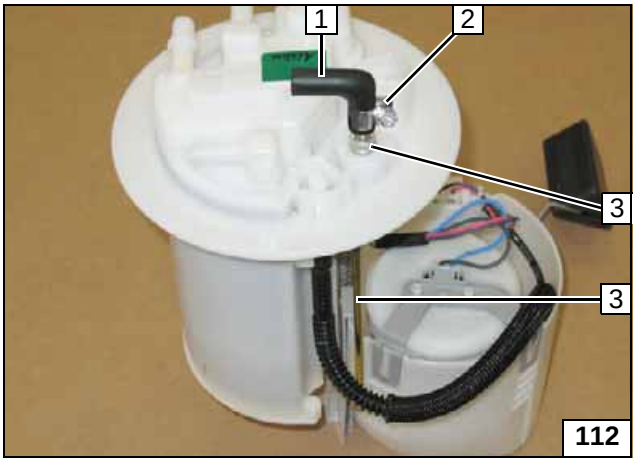
Copying hole pattern



1 90° moulded hose

X =

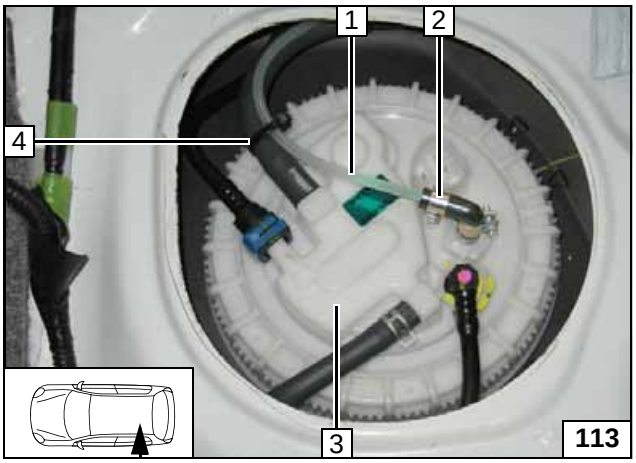
Shortening 90° moulded hose



Shape fuel standpipe **3** according to template, cut to length, install and align. Install 90° moulded hose **1** with shortened side on fuel standpipe **3**.

2 9 mm dia. clamp

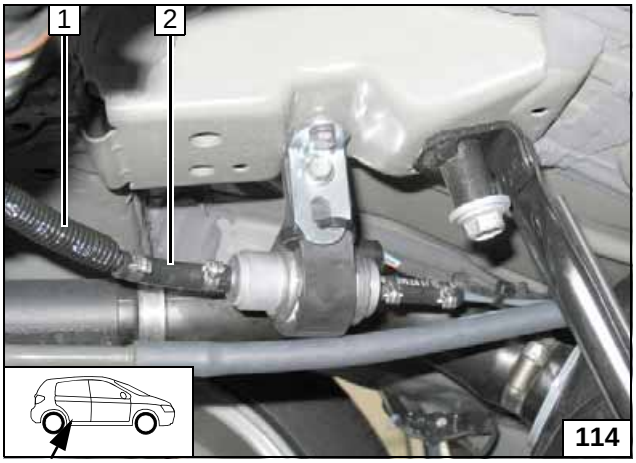
Installing fuel standpipe



Install fuel tank sending unit **3** using specified spare parts and tools according to manufacturer's instructions. Ensure sufficient distance between fuel line **1** and the cover.

2 9 mm dia. clamp
4 Cable tie

Connecting fuel line

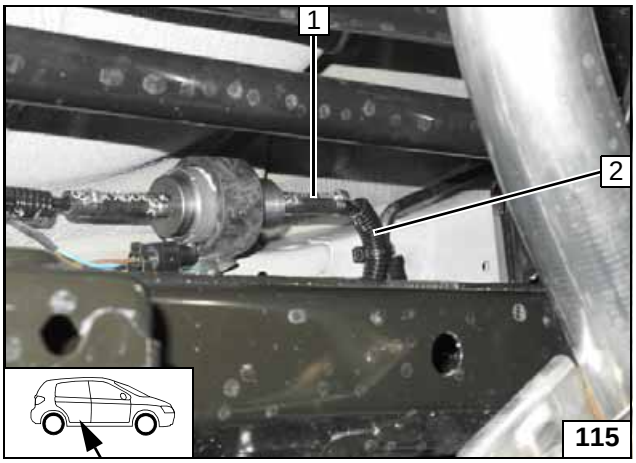


1.8 Hybrid from model year 2011

Slide corrugated tube **1** onto fuel line of fuel standpipe. Check the position of the components; adjust if necessary. Check that they have freedom of movement.

2 Hose section, 10mm dia. Caillau clamp [2x]

Connecting metering pump

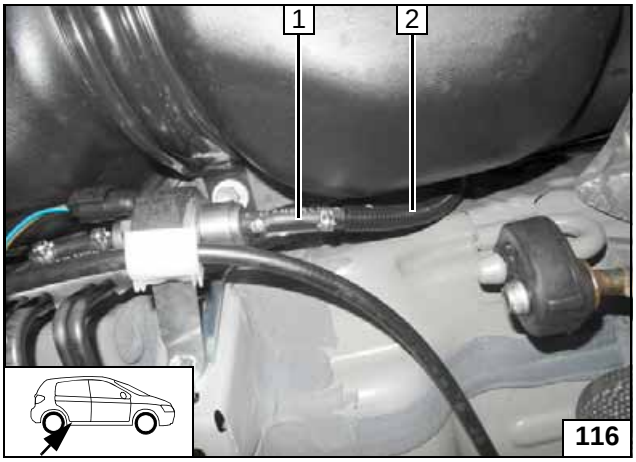


1.8 Hybrid from model year 2013

Slide corrugated tube **2** onto fuel line of fuel standpipe. Check the position of the components; adjust if necessary. Check that they have freedom of movement.

1 Hose section, 10mm dia. Caillau clamp [2x]

Connecting metering pump

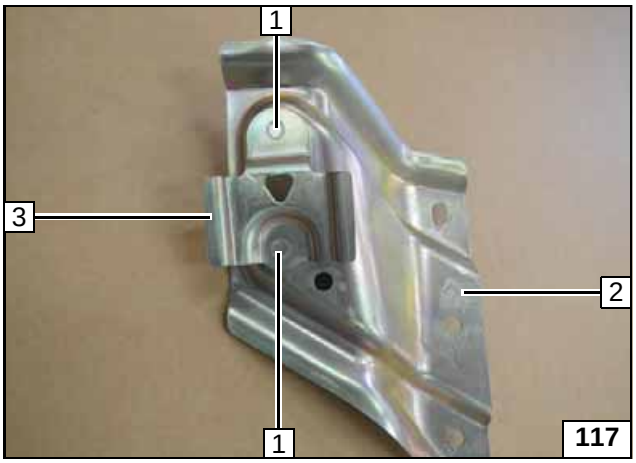


1.33 and 1.6

Slide corrugated tube **2** onto fuel line of fuel standpipe. Check the position of the components; adjust if necessary. Check that they have freedom of movement.

1 Hose section, 10mm dia. Caillau clamp [2x]

Connecting metering pump

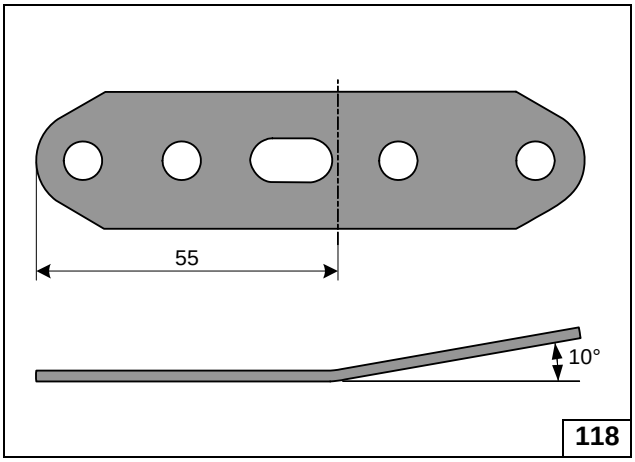


Installing Relay Box

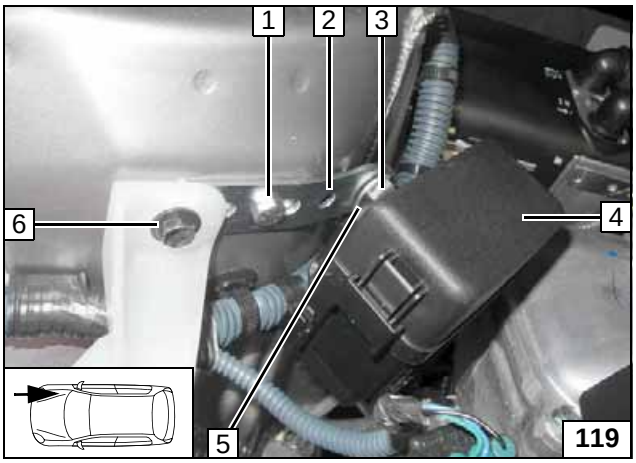
Only applies to vehicles with relay box (see ‘Preparing installation location’ section).

Preparing bracket of relay box

1 Drill out welding points [2x] to 7 mm dia. with a drill
2 Discard bracket
3 Bracket, will be reused

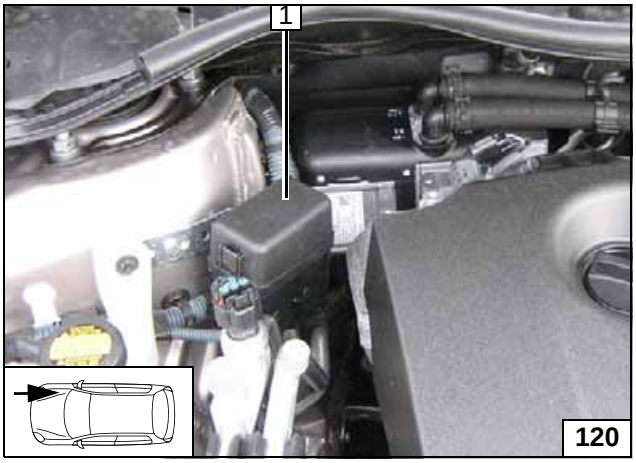


Angling down perforated bracket



Mounting relay box

1 M6x20 bolt, flanged nut, existing hole
2 Perforated bracket
3 Loosely mount M6x12 bolt, flanged nut
4 Relay box mounted
5 Bracket of relay box
6 Original vehicle bolt



Aligning relay box

1 Align relay box, tighten bolt

Final Work

Activation of hybrid system
The hybrid system should be re-activated prior to the connection of the 12V vehicle battery! Please observe the order of the work steps.

Reassemble the components in reverse order. Check all hoses, clamps and all electrical connections for firm seating. Insulate and tie back all 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 / program MultiControl CAR, teach Telestart transmitter.**
- **Make settings on A/C control panel according to the 'Operating Instructions for End Customer'.**
- **Verification of the fan function (PWM Gateway):**
  Set the fan speed to max. Then switch off ignition and switch on parking heater.
  On reaching the activation temperature of 50°C, the fan speed must correspond to the value of approx. 1/3 of the maximum speed specified by the PWM Gateway.
- **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 CO2 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.**

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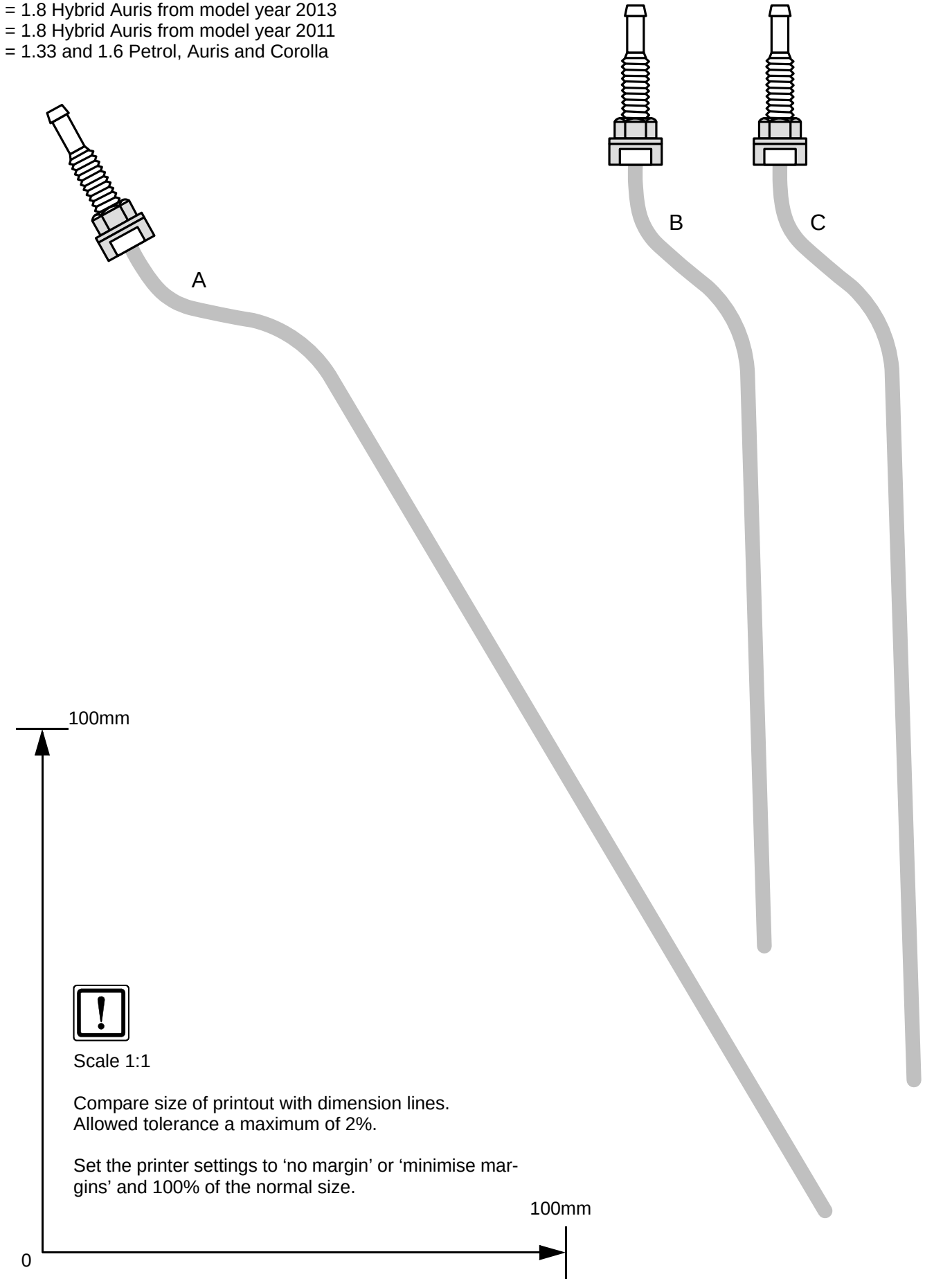
Technical Extranet:
http://dealers.webasto.com

Fuel Standpipe Template

A = 1.8 Hybrid Auris from model year 2013
B = 1.8 Hybrid Auris from model year 2011
C = 1.33 and 1.6 Petrol, Auris and Corolla



Scale 1:1

Compare size of printout with dimension lines.
Allowed 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

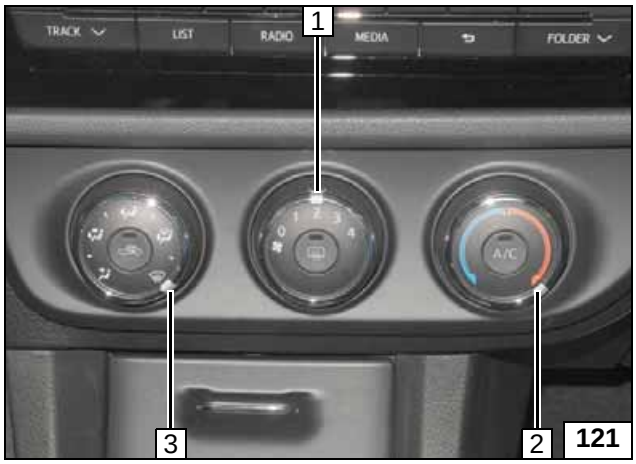
Operating Instructions for Manual Air-Conditioning

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.

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 or the alarm system.

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

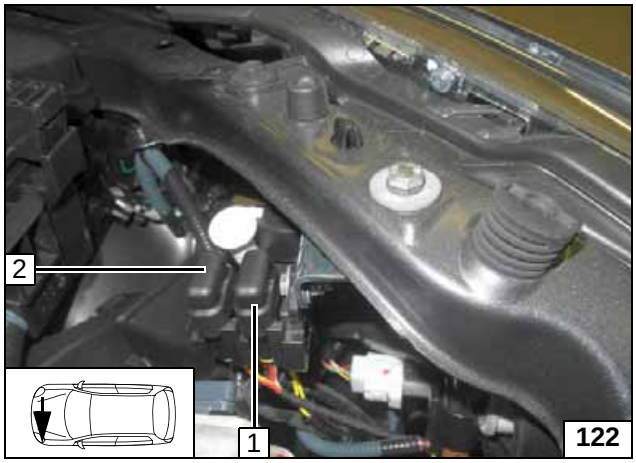
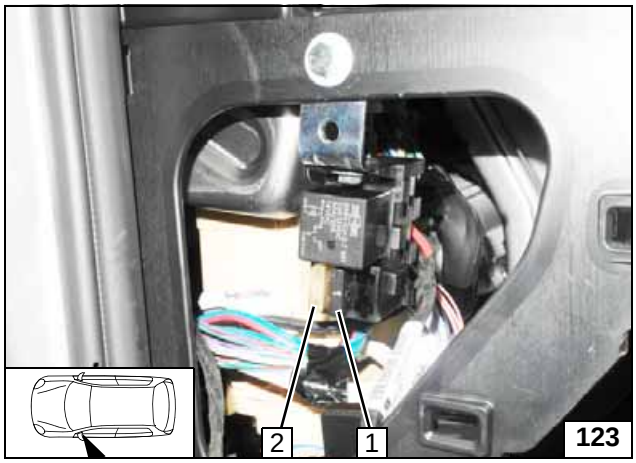


Figure shows Corolla!

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

Operating Instructions for Auris Hybrid Automatic A/C 2011 - 2014

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.

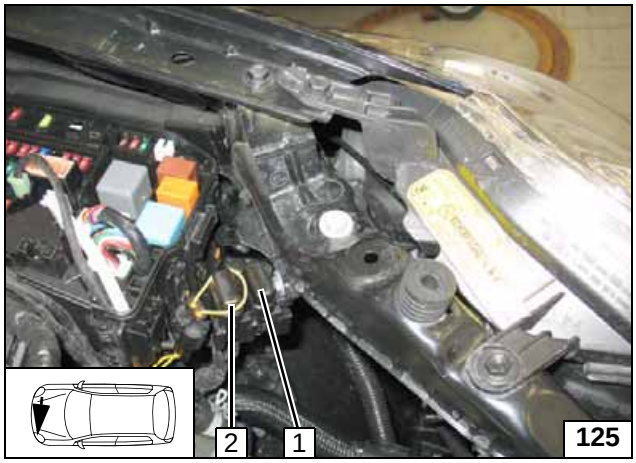
Passenger compartment monitoring, if installed, must be deactivated in addition to the vehicle settings for the heating operation. For instructions on deactivation, please refer to the operating instructions of the vehicle or the alarm system.

Before parking the vehicle, make the following settings:

There is no need to preselect the fan speed.

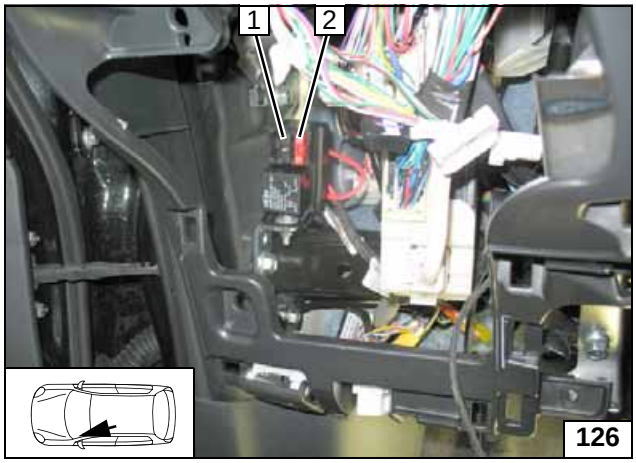
1 Set temperature to ‘HI’
2 Air outlet to windscreen

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 10A fan fuse F4

Passenger compartment fuses

Operating Instructions for 1 and 2 Zone Automatic A/C from 2013

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.

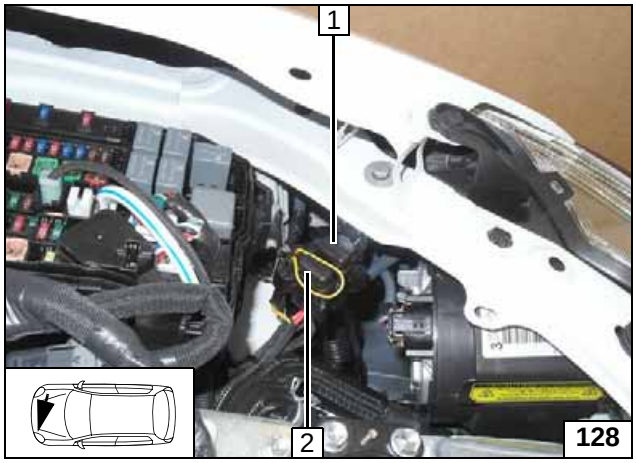
Passenger compartment monitoring, if installed, must be deactivated in addition to the vehicle settings for the heating operation. For instructions on deactivation, please refer to the operating instructions of the vehicle or the alarm system.

Before parking the vehicle, make the following settings:

The fan need not be configured.

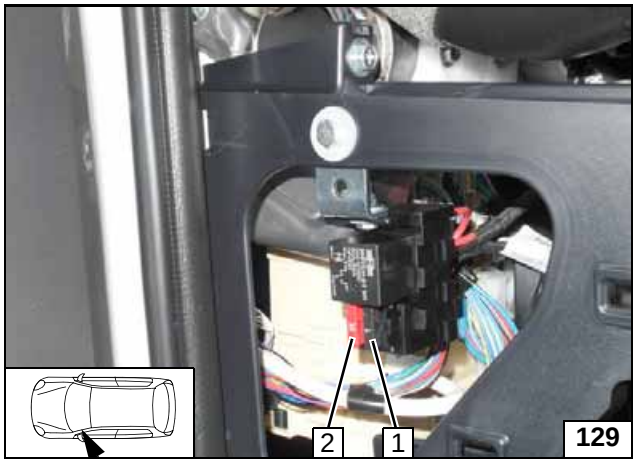
1 Set temperature to 'HI' (2x in case of 2-zone automatic air-conditioning)
2 Air outlet to windscreen

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 10A fan fuse F4

Passenger compartment fuses

Webasto
Feel the Drive

Operating Instructions for Auris Hybrid Automatic A/C from 2015

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.

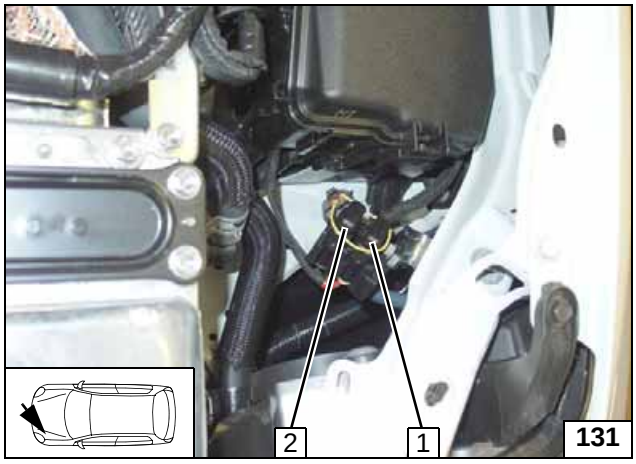
Passenger compartment monitoring, if installed, must be deactivated in addition to the vehicle settings for the heating operation. For instructions on deactivation, please refer to the operating instructions of the vehicle or the alarm system.

Before parking the vehicle, make the following settings:

There is no need to preselect the fan speed.

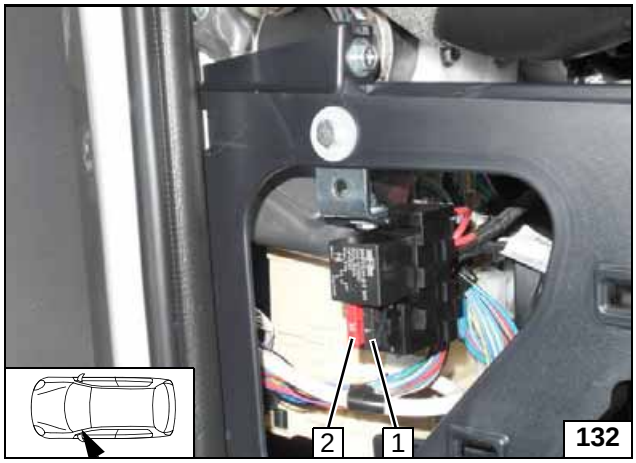
1 Set temperature to ‘HI’
2 Air outlet to windscreen

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 10A fan fuse F4

Passenger compartment fuses