Water Heater

Thermo Top Evo Parking Heater

E1
00 0258

Installation Documentation
Nissan Qashqai

Validity

Manufacturer	Model	Type	EG BE No. / ABE
Nissan	Qashqai	J11	e11 * 2007 / 46 * 0963 * ...

Motorisation	Fuel	Transmission type	Output in kW	Displacement in cm³	Engine code
1.6 D	Diesel	Xtronic	96	1598	R9M

Xtronic = continuously variable automatic transmission

From model year 2014
Left-hand drive vehicle

Verified equipment variants:
Manual air-conditioning
2 zone automatic air-conditioning
Front fog lights
2 WD / 4 WD
LED daytime running lights
Start / Stop
Euro 5 / 5b+

Not verified:
Passenger compartment monitoring
LED headlights

Total installation time:
approx. 7 hours without A/C control
approx. 8 hours with A/C control ‘Standard’ or ‘Comfort’

Nissan Qashqai

Table of Contents

Necessary Components

- Basic delivery scope of *Thermo Top Evo* according to price list
- Installation kit for Nissan Qashqai 2014 1.2 P**/**1.6 Diesel: **1324075A**
- Additional kit for Nissan A/C control ‘Standard’, manual and automatic air-conditioning: **1324070**_ or
  Additional kit for Nissan / Renault A/C control ‘Comfort’, automatic air-conditioning: **1324068**_
- Heater control in accordance with price list and upon consultation with end customer
- In case of Telestart, indicator lamp in accordance with price list and in consultation with end customer

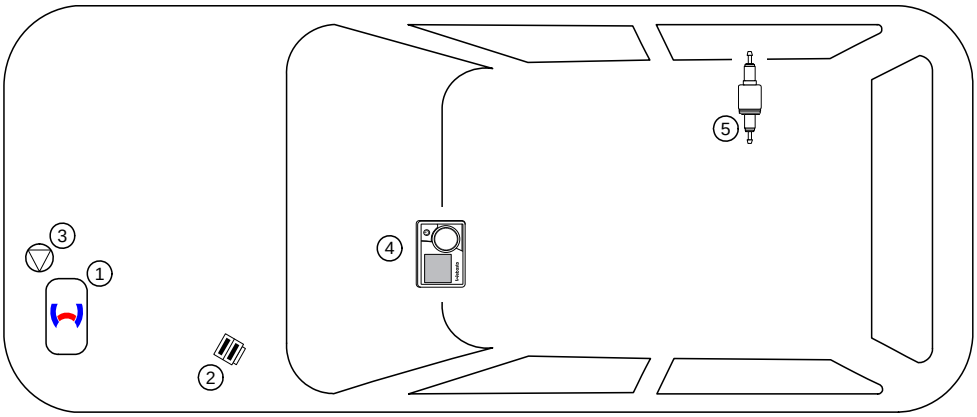
Installation instructions:

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

Installation Overview

Legend:

1. Heater
2. Engine compartment fuse holder
3. Circulating pump
4. MultiControl CAR
5. 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.

Information on Operating and Installation Instructions

1 Important information (not complete)

1.1 Installation and repair

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

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

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

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

1.2 Operation

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

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

Always switch off the heater before refuelling.

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

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

1.3 Please note

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

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

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

Important

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

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

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

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

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

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

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

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

2 Statutory regulations governing installation

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

Note

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

Important

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

Note

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

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

Beginning of excerpt.

ANNEX VII

REQUIREMENTS FOR COMBUSTION HEATERS AND THEIR INSTALLATION

1. GENERAL REQUIREMENTS

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

2. VEHICLE INSTALLATION REQUIREMENTS

2.1. Scope

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

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

2.2. Positioning of heater

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

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

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

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

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

2.3. Fuel supply

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

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

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

2.4. Exhaust system

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

2.5. Combustion air inlet

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

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

2.6. Heating air inlet

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

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

2.7. Heating air outlet

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

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

End of excerpt.

In multilingual versions the German language is binding.

Nissan Qashqai

Information on Validity

This installation documentation applies to Nissan Qashqai 1.6 Diesel vehicles - for validity, see page 1 - from model year 2014 and later, assuming technical modifications to the vehicle do not affect installation, any liability claims excluded. Depending on the vehicle version and equipment, modifications may be necessary during installation with respect to this 'installation documentation'.

Vehicle and engine types, equipment variants and other specifications not listed in this installation documentation have not been tested. However, installation according to this installation documentation may be possible.

Technical Information

Special Tools
- Hose clamp pliers for auto-tightening hose clamps
- Hose clamp pliers for Clic hose clamps of type W
- Automatic wire stripper 0.2 - 6mm²
- Crimping pliers for cable lug / tab connector 0.5 - 6mm²
- Torque wrench for 2.0 - 10 Nm
- Hose clamping pliers
- Metric thread-setter kit
- Deep-hole marker
- Webasto Thermo Test Diagnosis with current software

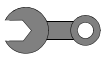
Dimensions
- All dimensions are in mm.

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

Explanatory Notes on Document

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

Mechanical System



Electrical System

Coolant Circuit

Combustion Air

Fuel

Exhaust Gas

Software

Special features are highlighted using the following symbols:

Specific risk of damage to components.

Specific risk due to electrical voltage.

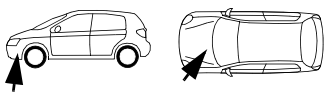
Specific risk of injury or fatal accidents.

Specific risk of fire or explosion

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

Reference to a special technical feature.

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



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

Preliminary Work

Vehicle

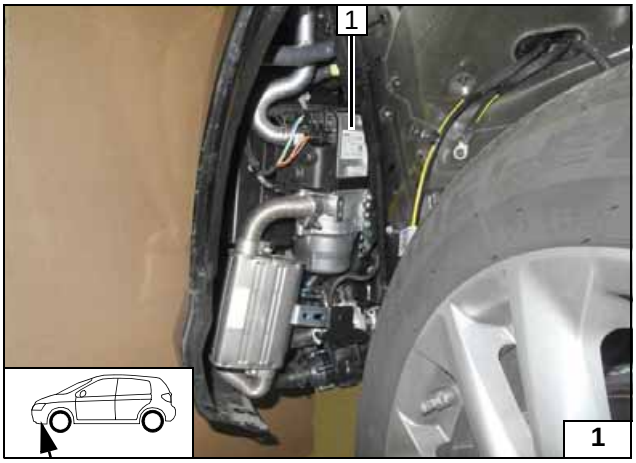
- Open the fuel tank cap.
- Ventilate the fuel tank.
- Close the fuel tank cap again.
- Depressurise the cooling system.
- When a ‘Standard’ additional kit is used, carry out all the preliminary work as explained in the ‘Standard additional kit’ installation documentation before disconnecting the battery!
- Disconnect the battery and remove it completely with the battery carrier.
- Remove the air filter completely with the intake hose as far as the engine.
- Remove the front left-hand wheel well trim.
- Remove the front bumper trim.
- Remove the underride protection of the engine.
- Remove the underride protection on the underbody on the right.
- Remove the control unit of the electric auxiliary heater together with the front left bracket.
- Remove the fuse and relay box [2x] with the front left bracket.
- Remove the rear bench seat.

Only carry out the following steps during the corresponding installation sequence:

- Open the tank-fitting service lid.
- Remove the fuel tank sending unit in accordance with the manufacturer's instructions.

Heater

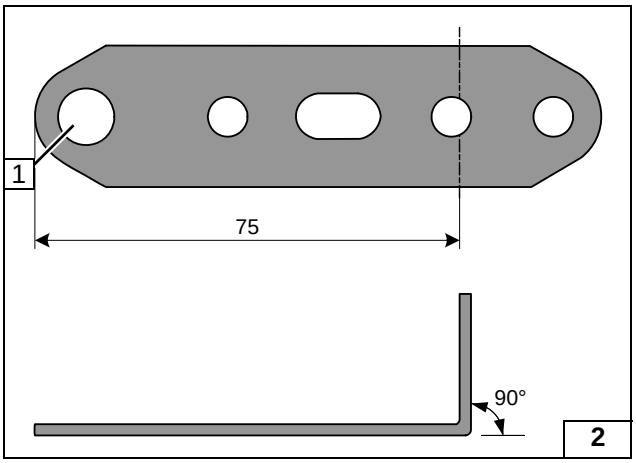
- Remove years that do not apply from the type and duplicate label.
- Attach the duplicate label (type label) visibly in the appropriate place in the engine compartment.



Heater Installation Location

1 Heater

Installation location



Preparing Electrical System

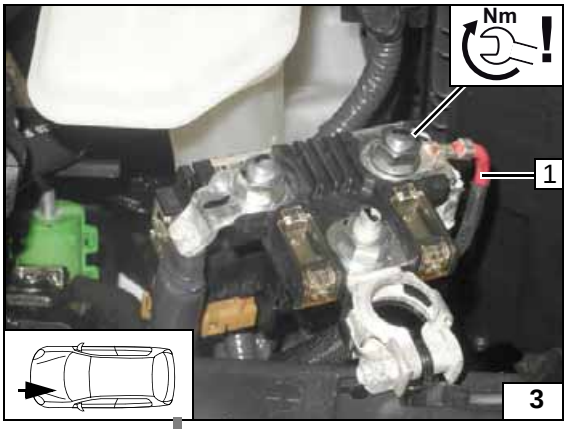
1 Drill out hole to 8.5 mm dia.

Preparing perforated bracket for engine compartment fuse holder

Electrical System

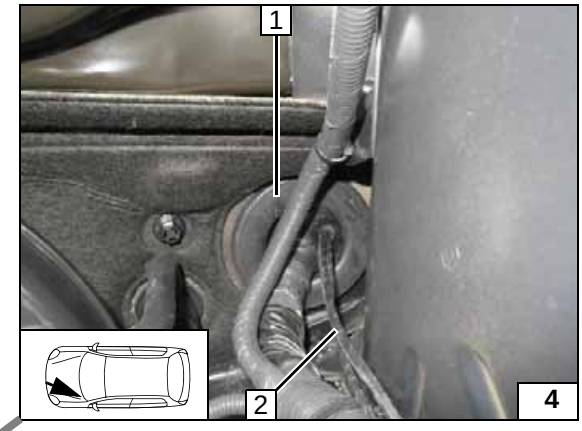
Positive wire

1 Positive wire on positive battery terminal

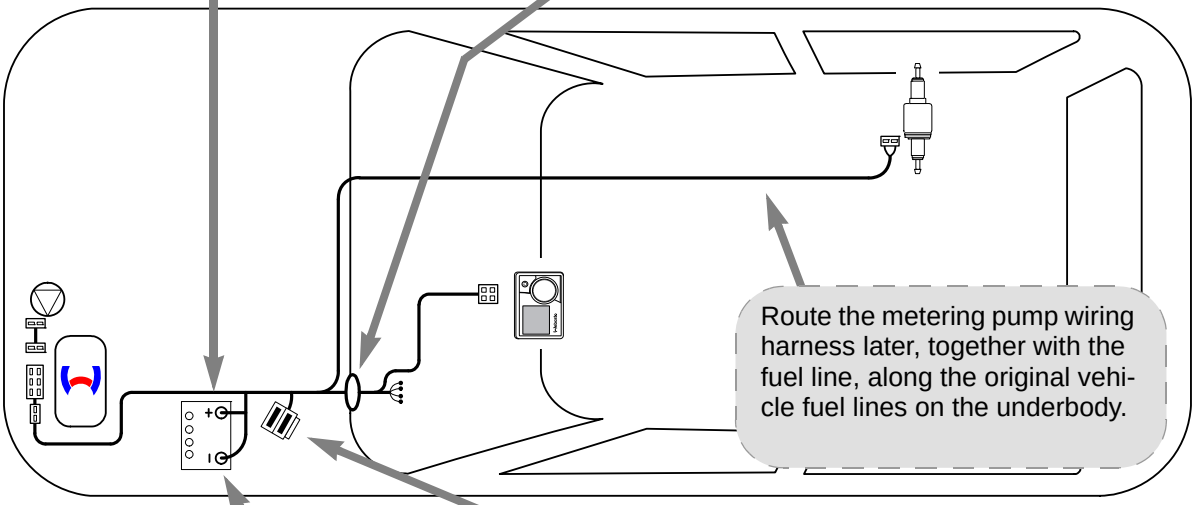


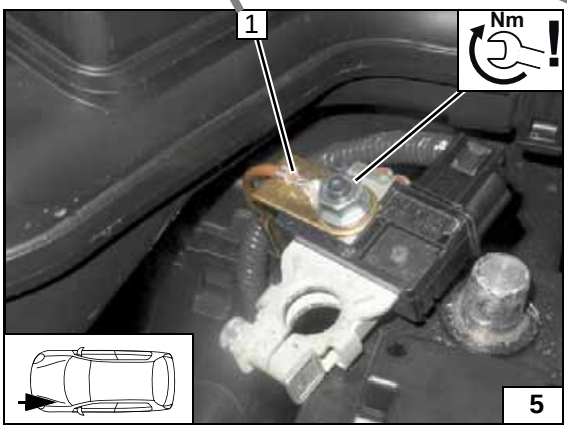
Wiring harness pass through

1 Protective rubber plug
2 Heater wiring harnesses, heater control



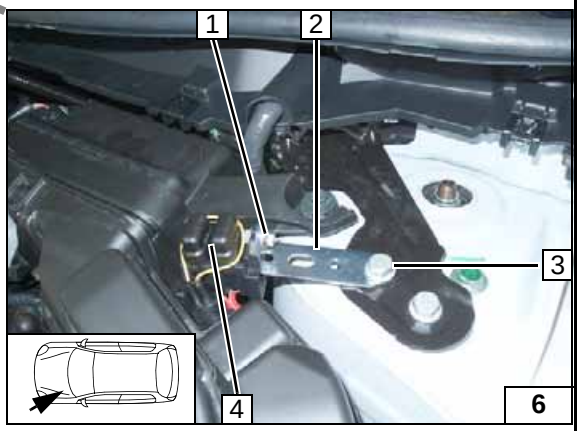
Wiring harness routing diagram





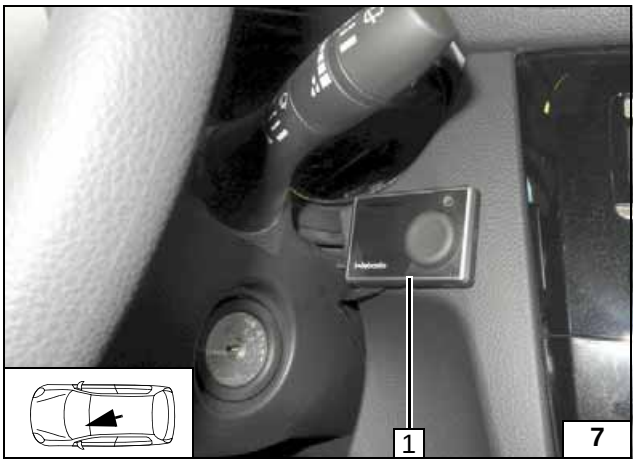
Earth wire

1 Earth wire on negative battery terminal



Engine compartment fuse holder

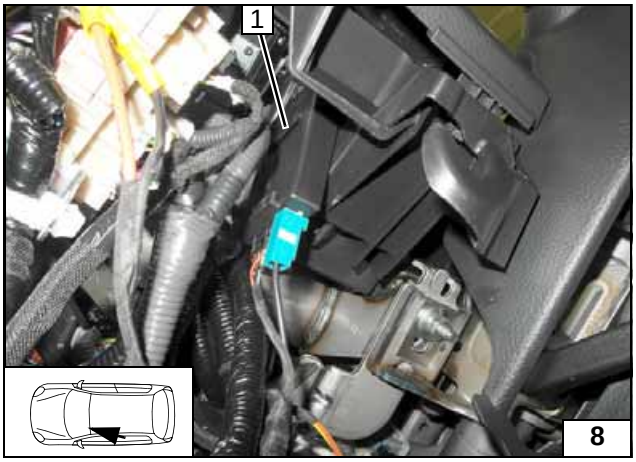
1 M5x16 bolt, large diameter washer [2x], retaining plate of fuse holder, nut
2 Prepared perforated bracket
3 Original vehicle bolt
4 Fuses F1-2



MultiControl CAR

1 MultiControl CAR

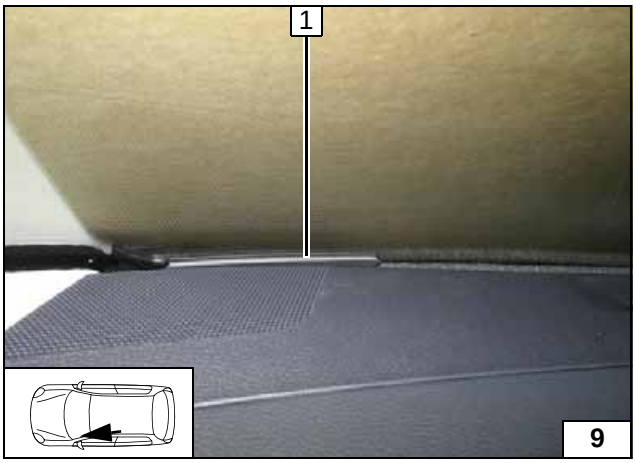
Installing MultiControl CAR



Remote Option (Telestart)

Fasten receiver **1** with adhesive tape as shown.

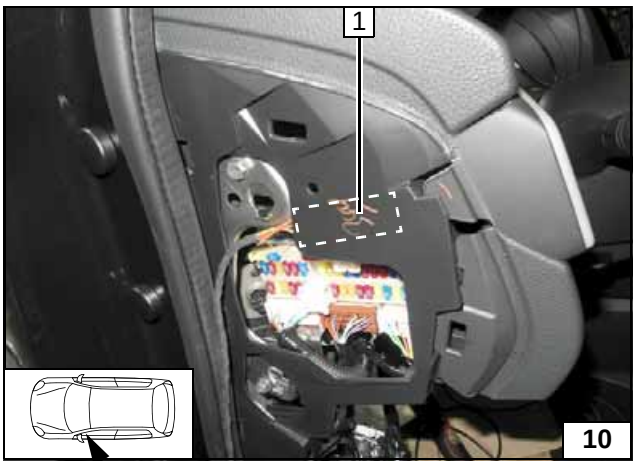
Installing receiver



For windscreens with a special coating or heater, use only the area recommended by the manufacturer to assemble aerial.

1 Aerial

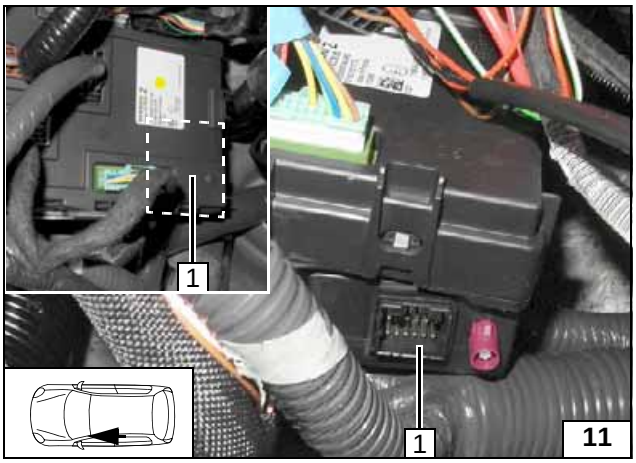
Installing aerial



Temperature sensor T100 HTM

Secure temperature sensor **1** behind trim at the marking using adhesive tape.

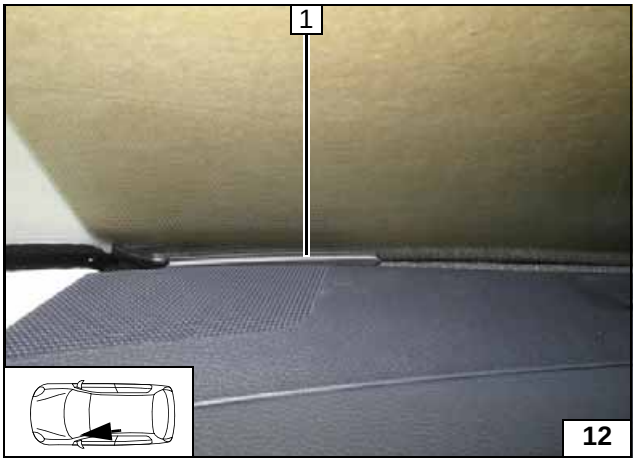
Installing temperature sensor



ThermoCall Option

Secure receiver **1** behind the control unit at the marking using adhesive tape.

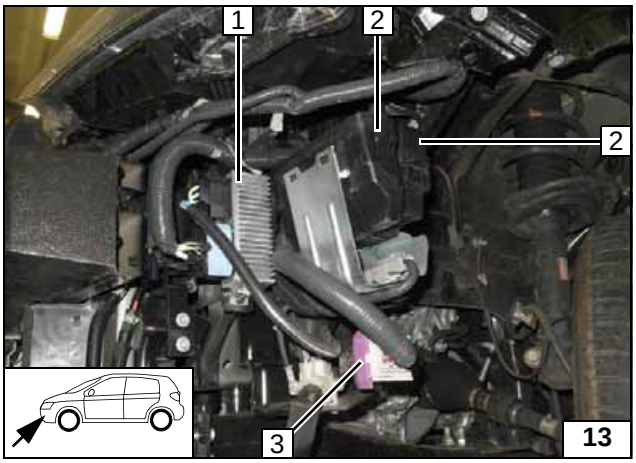
Installing receiver



For windscreens with a special coating or heater, use only the area recommended by the manufacturer to assemble aerial.

1 Aerial (optional)

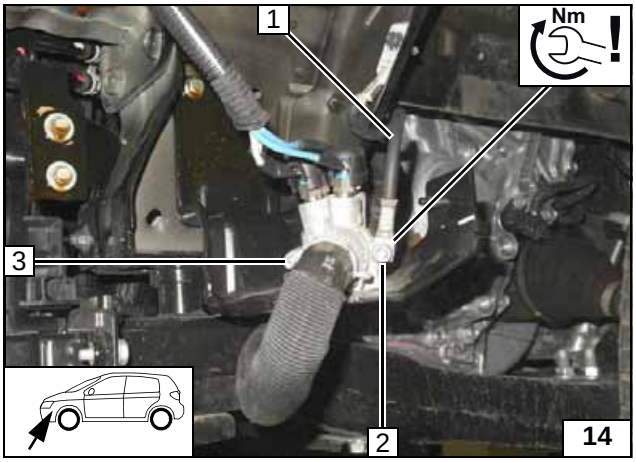
Installing aerial



Preparing Installation Location

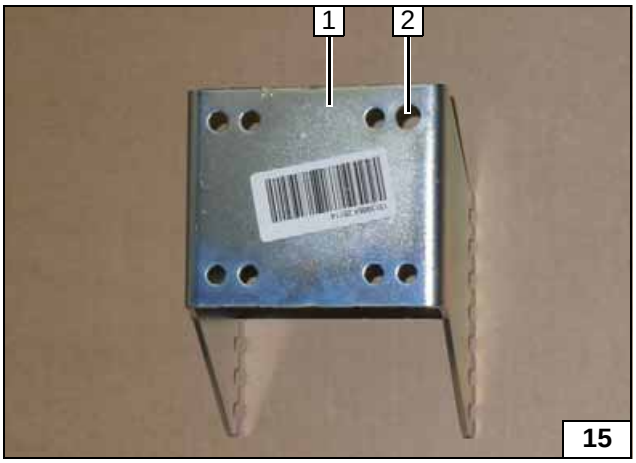
Remove relay **3**, fuse and relay box **2** [2x] together with the bracket and control unit of electric auxiliary heater **1** with the bracket and put aside.

Preparing installation location



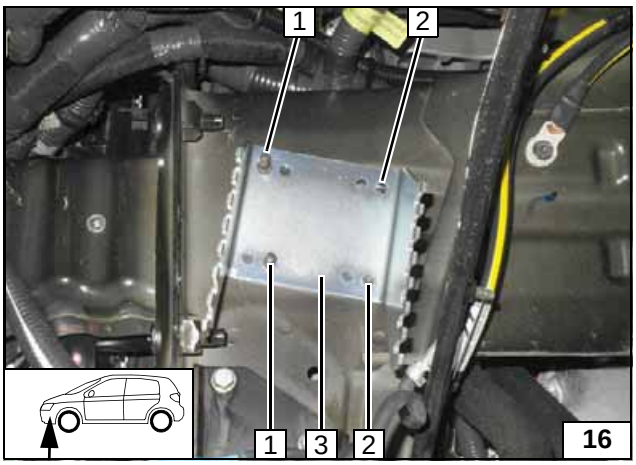
Mount earth wire **1** of position **3** at position **2**.

Moving earth wire



1 Bracket
2 Drill out hole to 9mm dia.

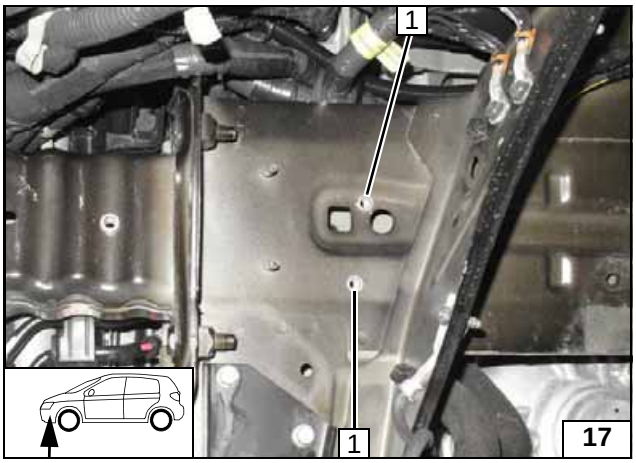
Preparing bracket



Install bracket **3** on original vehicle stud bolts **1** [2x].

2 Copy hole pattern [2x]

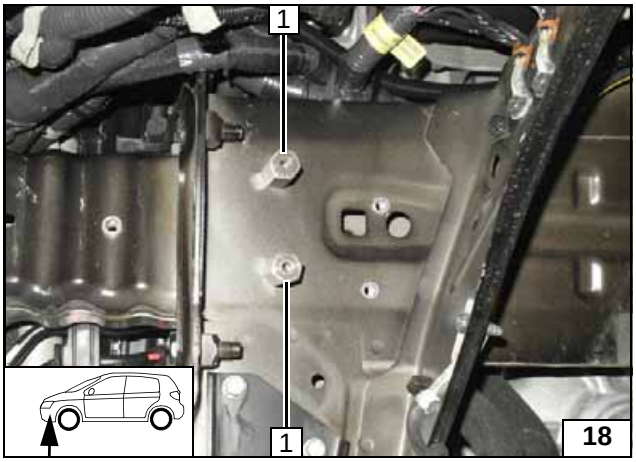
Copying hole pattern



Remove bracket.

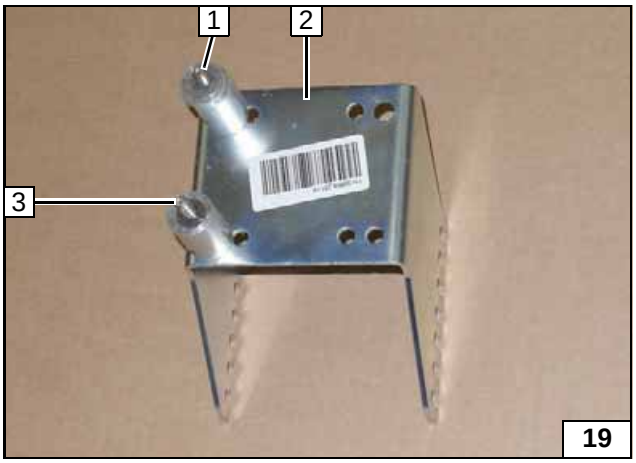
1 9.1 mm dia. hole; rivet nut [2x]

Installing rivet nut



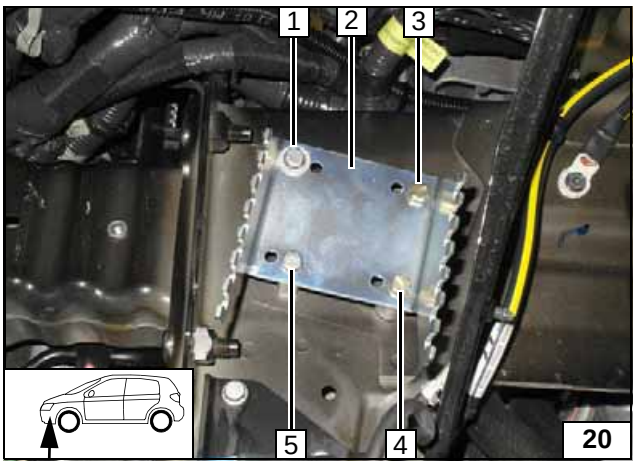
1 M6x30 spacer nut [2x] on original vehicle stud bolt

Installing spacer nuts



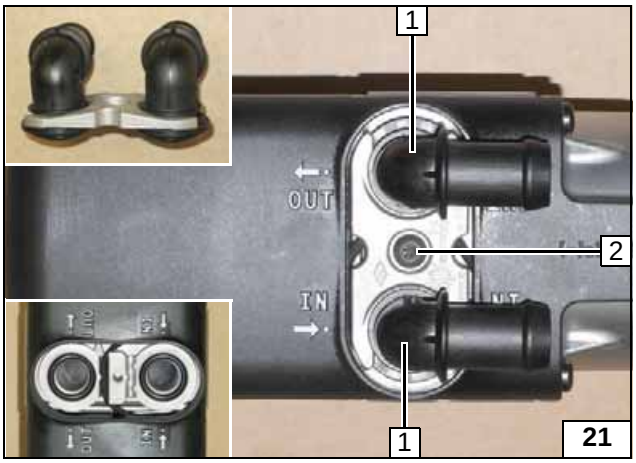
1 M6x60 bolt, spring lockwasher, 30mm shim, 5mm shim, pin lock
2 Bracket
3 M6x50 bolt, spring lockwasher, 30mm shim, pin lock

Premounting bracket



1 M6x16 bolt, spring lockwasher, large diameter washer
2 Bracket
3 M6x60 bolt on rivet nut
4 M6x50 bolt on rivet nut
5 M6x16 bolt, spring lockwasher

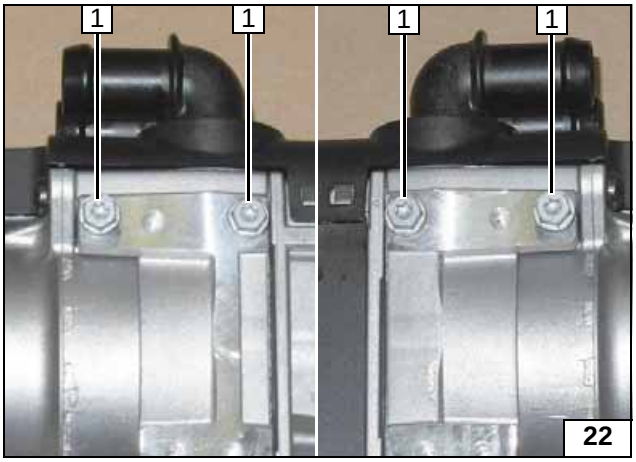
Installing bracket



Preparing Heater

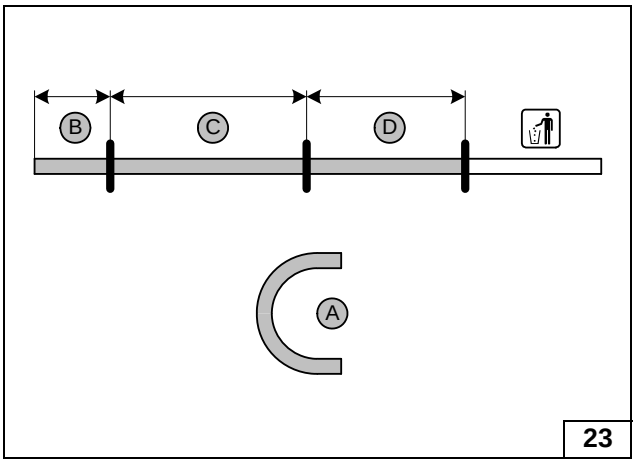
1 Water connection piece, sealing ring [2x each]
2 5x15 self-tapping bolt, retaining plate of water connection piece

Installing water connection piece



Screw 5x13 self-tapping bolts **1** [4x] into existing holes by a maximum of 3 thread turns.

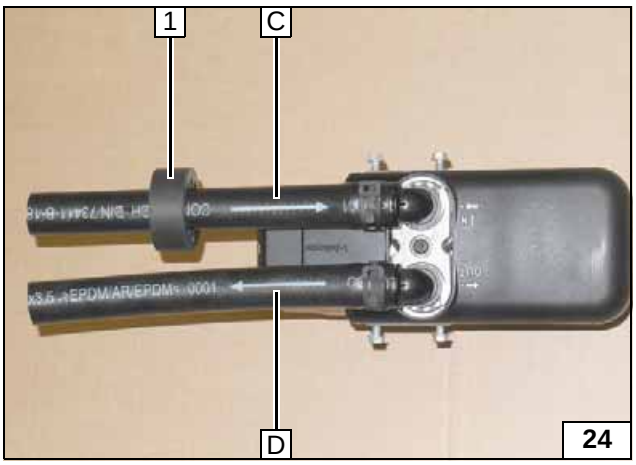
Loosely premounting bolts



Hose **A** = 18mm dia. 180° moulded hose

B = 60
C = 210
D = 170

Cutting hoses to length

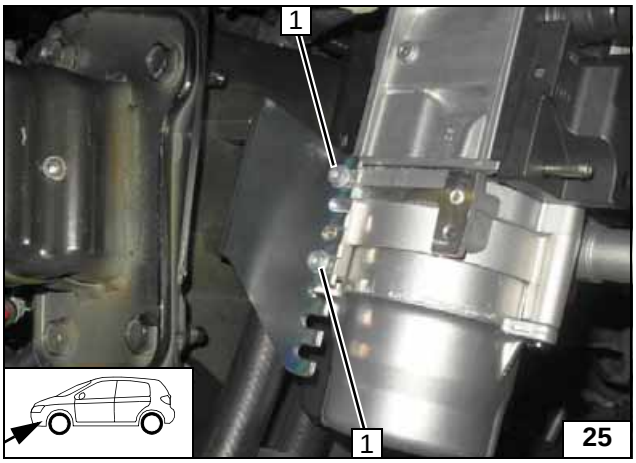


All spring clips = 25mm dia.

1 Black (sw) rubber isolator

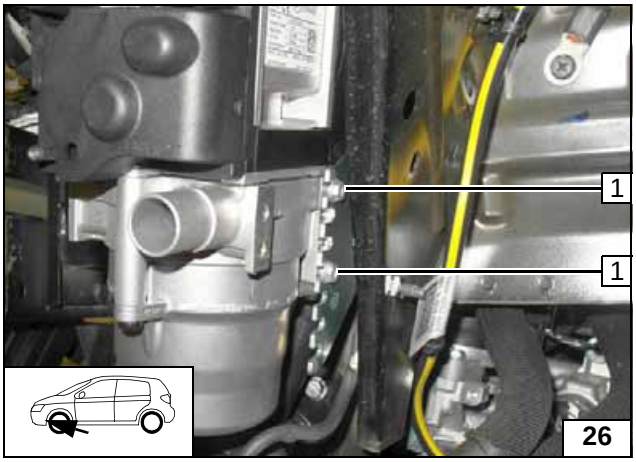
Premounting hoses

Installing Heater



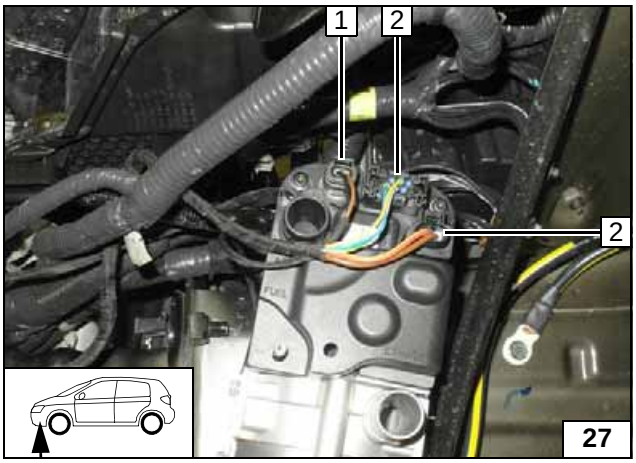
1 Tighten 5x13 self-tapping bolt [2x]

Installing heater



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

Installing heater



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

Installing wiring harnesses

Fuel

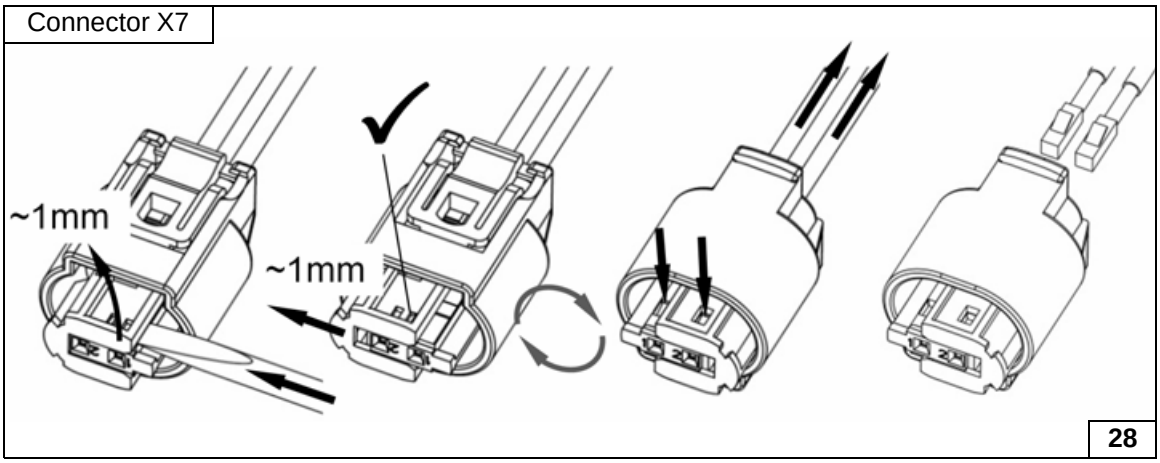
Open the vehicle's fuel tank cap, ventilate the tank and then re-close the tank lock.

Catch any fuel running off in an appropriate container.

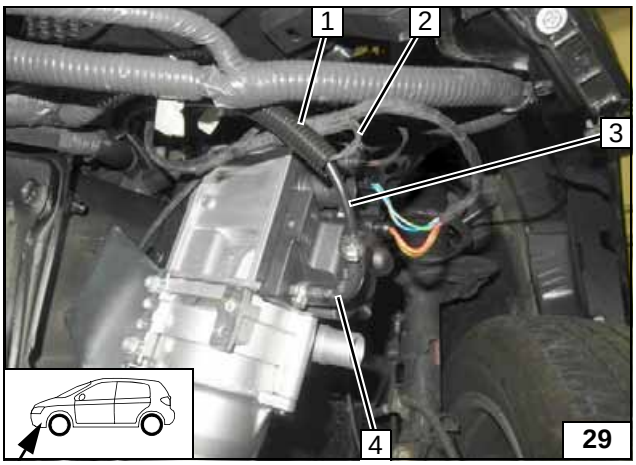
Route fuel line and metering pump wiring harness so that they are protected against stone impact.
Unless specified otherwise, always fasten using cable ties.
Provide rub protection for fuel line and wiring harness in areas where there are sharp edges.

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

Dismantling metering pump connector



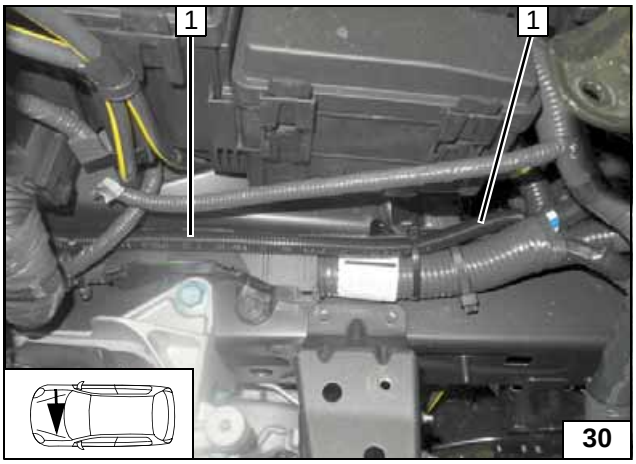
Connecting heater



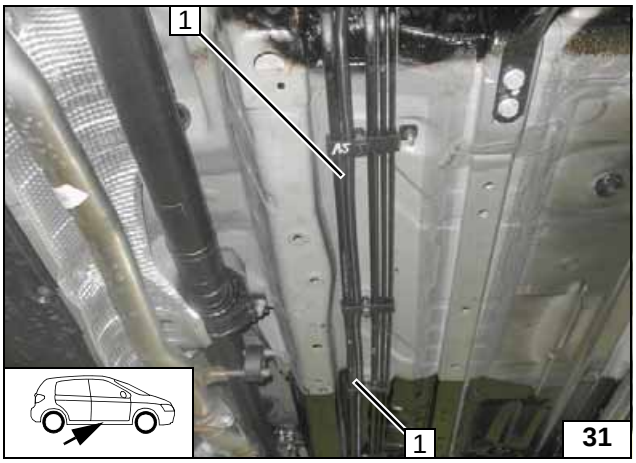
Route fuel line **3** and metering pump wiring harness **2** in 10mm dia. corrugated tube **1** in the engine compartment.

4 90° moulded hose, 10 mm dia. clamp [2x]

Routing lines

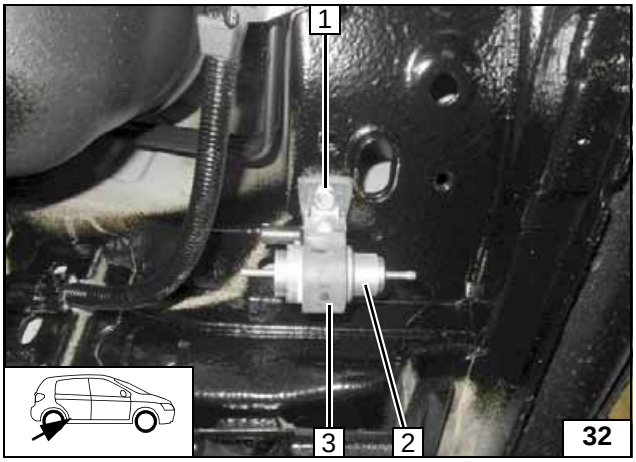


Pull fuel line and wiring harness of metering pump into 10mm dia. corrugated tube **1**, route towards the firewall and further along the original vehicle lines to the underbody.



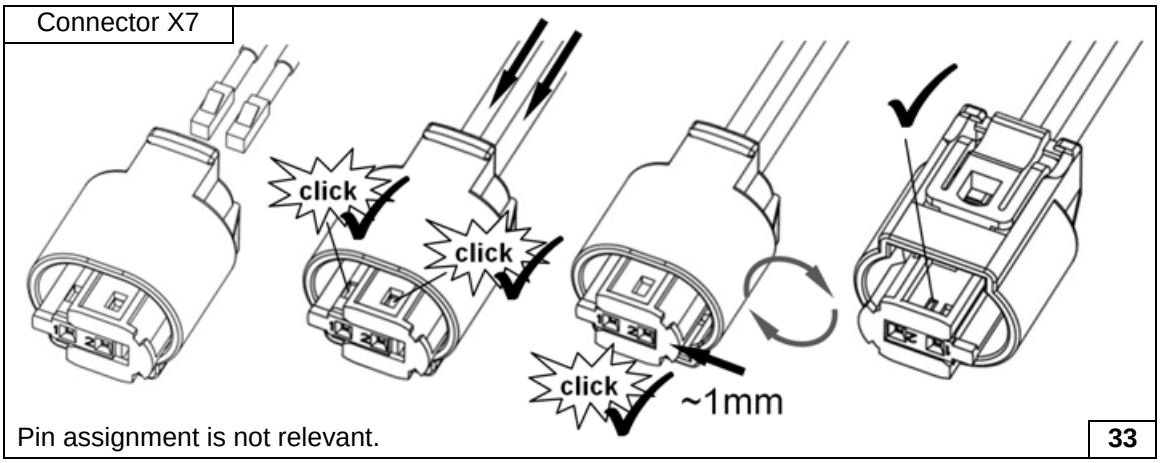
Route fuel line and metering pump wiring harness in 10 mm dia. corrugated tube **1** on original vehicle lines to the installation location of the metering pump.

Routing lines

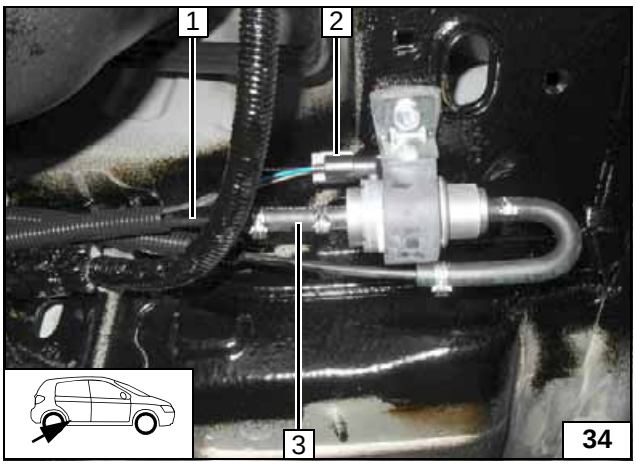


1 M6x25 bolt, support angle bracket, original vehicle threaded hole
2 Metering pump
3 Metering pump mount

Installing metering pump

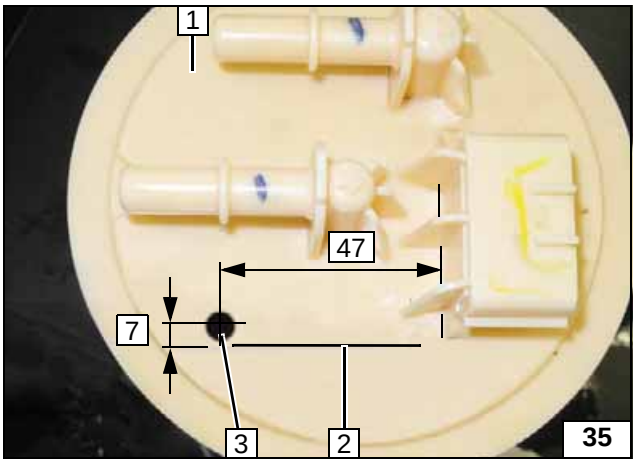


Completing metering pump connector



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

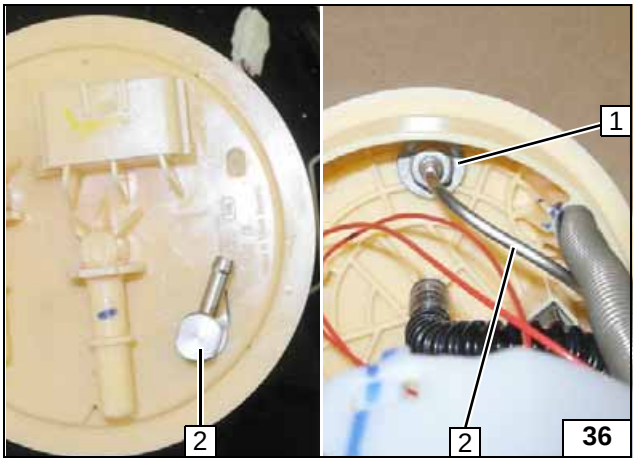
Connecting metering pump



Remove fuel tank sending unit **1** according to manufacturer's instructions.

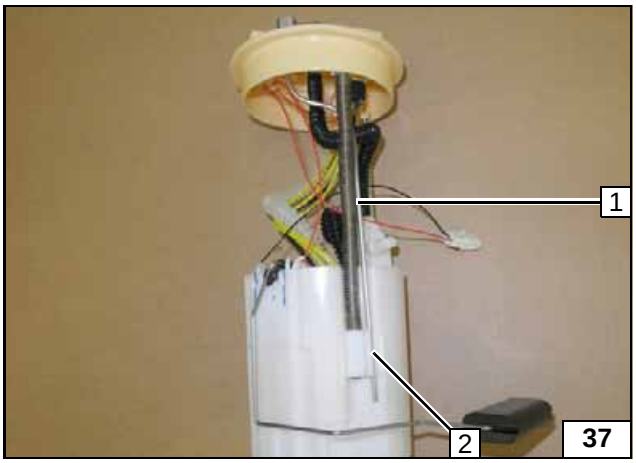
2 Existing ridge
3 Copy hole pattern, 6mm dia. hole

Fuel extraction



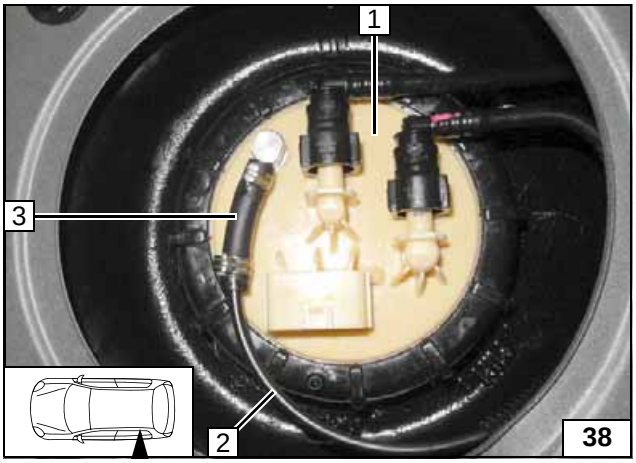
Bend fuel standpipe **2** according to template and cut to length.
Insert large diameter washer with outer dia. d_a = 17.6mm **1** between fuel tank sending unit and fuel standpipe **2**.

Installing fuel standpipe



Insert fuel standpipe **1** into existing groove at position **2**.

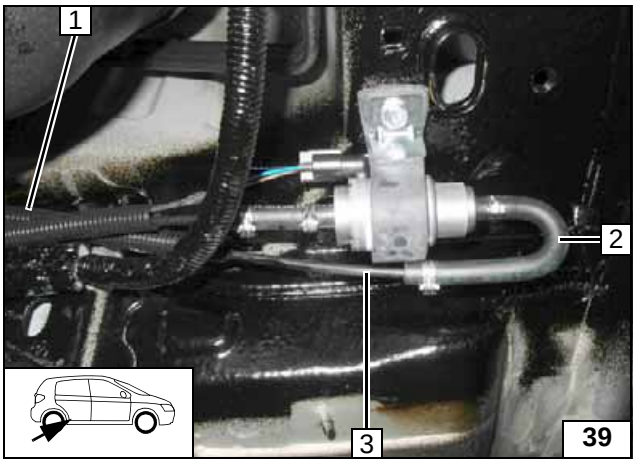
Installing fuel standpipe



Install and connect fuel tank sending unit **1** according to manufacturer's instructions.

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

Connecting fuel line



Slide 10mm dia. corrugated tube **1** onto fuel line of fuel standpipe **3**.
Ensure sufficient distance from neighbouring components, correct if necessary.

2 180° moulded hose, 10mm dia. clamp [2x]

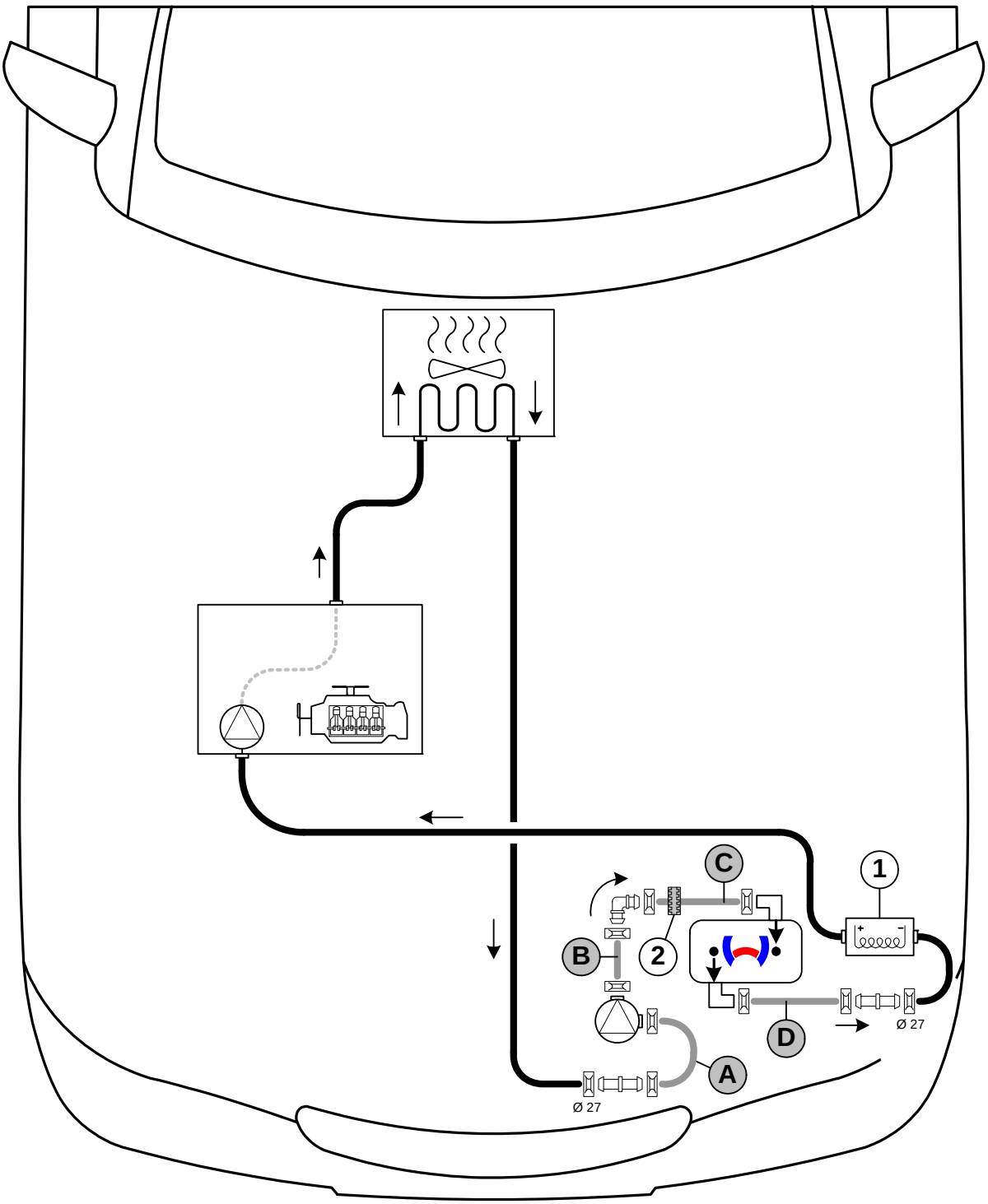
Connecting metering pump

Coolant Circuit

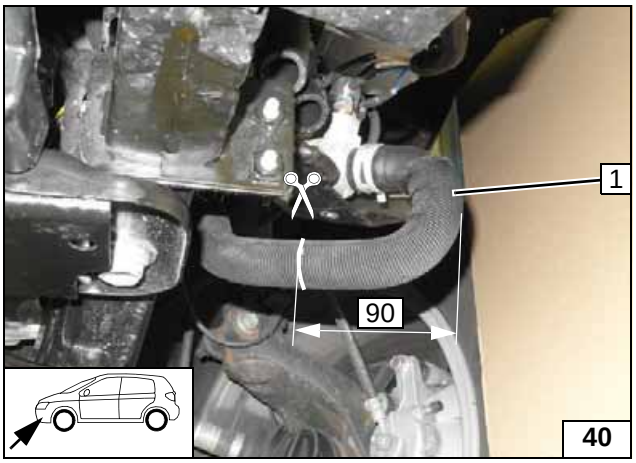
Any coolant running off should be collected in an appropriate container. Route hoses kink-free. Unless specified otherwise, always fasten using cable ties. Position clamps so that other hoses cannot be damaged. The heater must be filled with coolant when installing the hoses.

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

Hose routing diagram

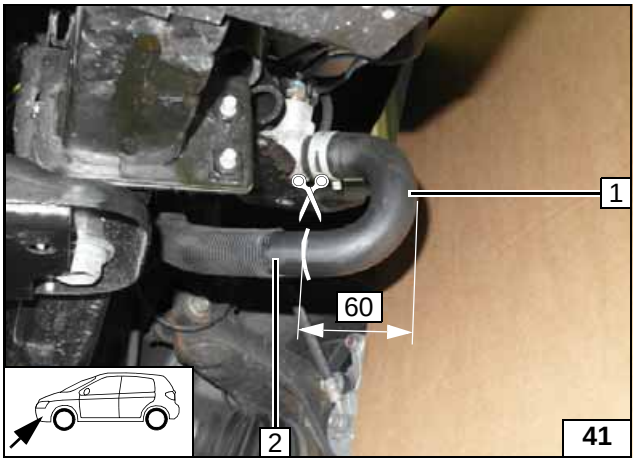


All spring clips without a specific designation = 25 mm dia. Connecting pipe = 18x18 mm dia.
All connecting pipes = 18x20 mm dia.
1 = Electric auxiliary heater. **2** = Black (sw) rubber isolator



Remove fabric protective hose **1** from original vehicle hose up to the marking.

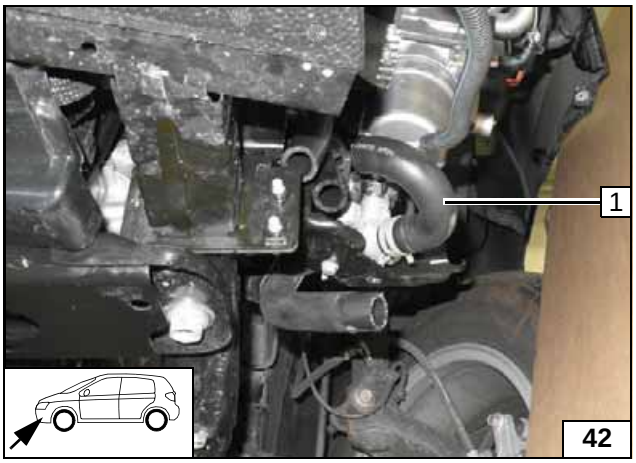
Removing protective hose



Cut original vehicle hose at the marking.

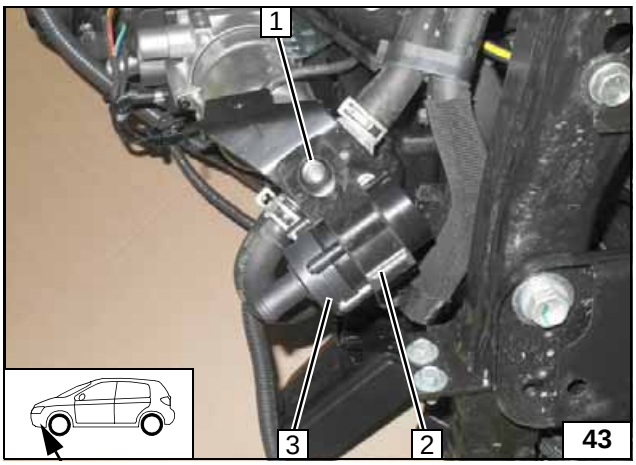
1 Hose of electric auxiliary heater inlet
2 Hose of heat exchanger outlet

Cutting point



Turn hose section of electric auxiliary heater inlet **1** on connection piece of electric auxiliary heater by approx. 90° upwards.

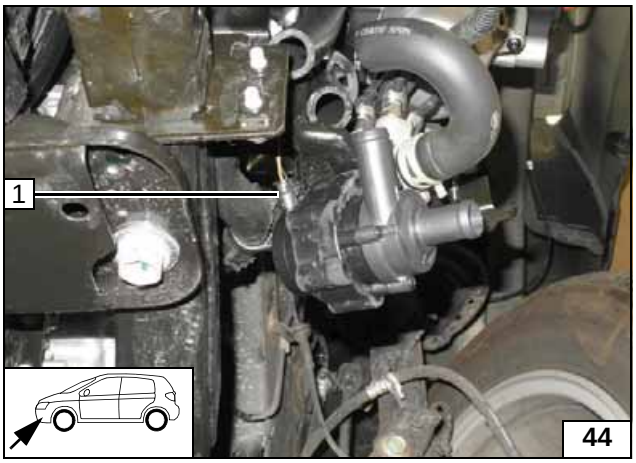
Turning hose



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

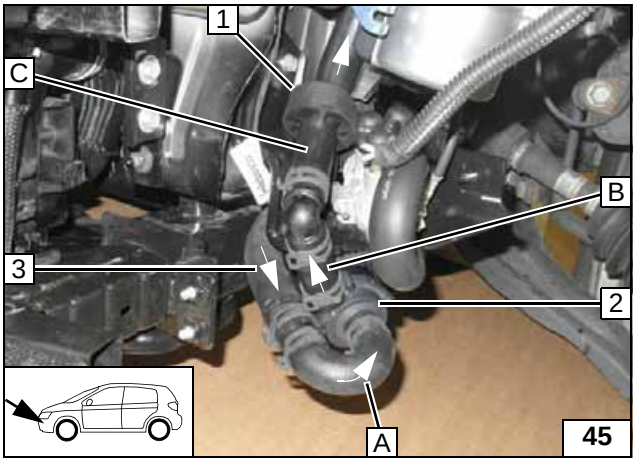
1 M6x25 bolt, original vehicle threaded hole
2 Circulating pump mount
3 Circulating pump

Installing circulating pump



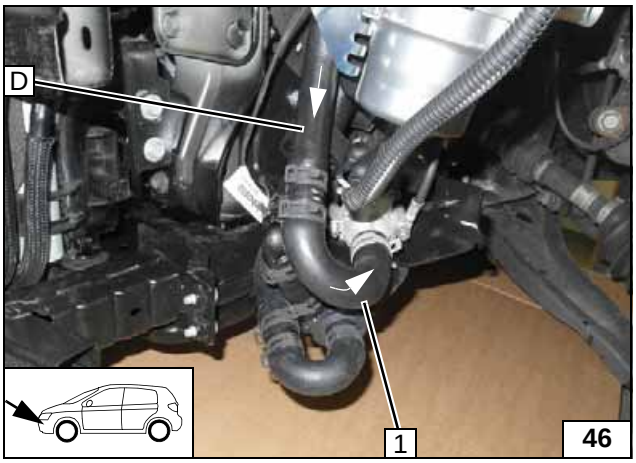
1 Connector of circulating pump wiring harness

Installing wiring harness



1 Align black (sw) rubber isolator with electric auxiliary heater
2 Circulating pump
3 Heat exchanger outlet hose section

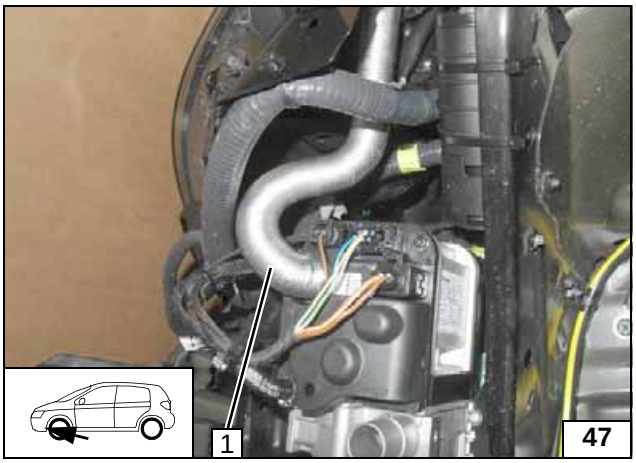
Connecting circulating pump



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

1 Hose section of electric auxiliary heater inlet

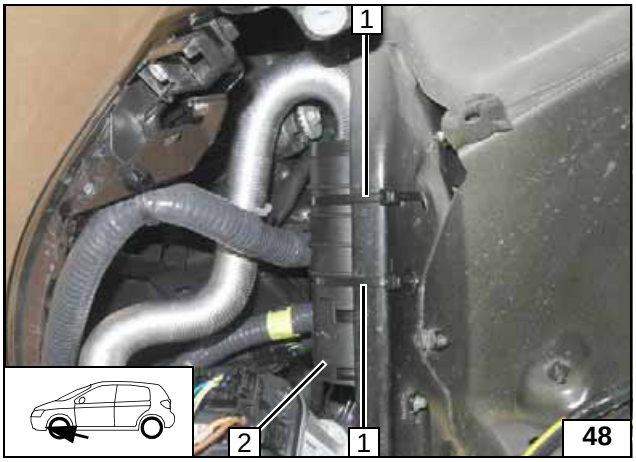
Heater outlet



Combustion Air

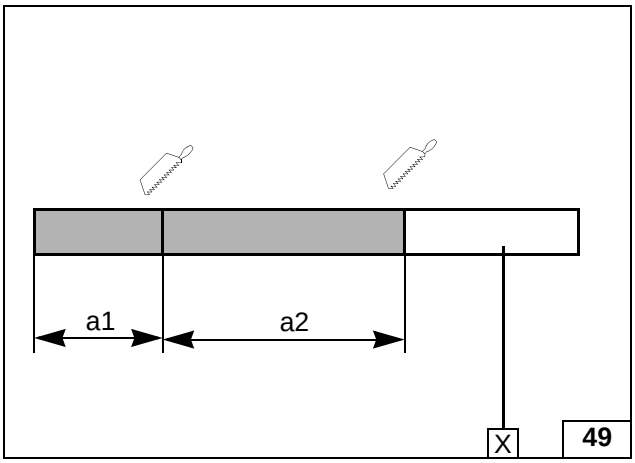
Route combustion air pipe **1** upwards as shown.

Installing combustion air pipe



1 Cable ties [2x] through original vehicle holes
2 Silencer

Installing silencer

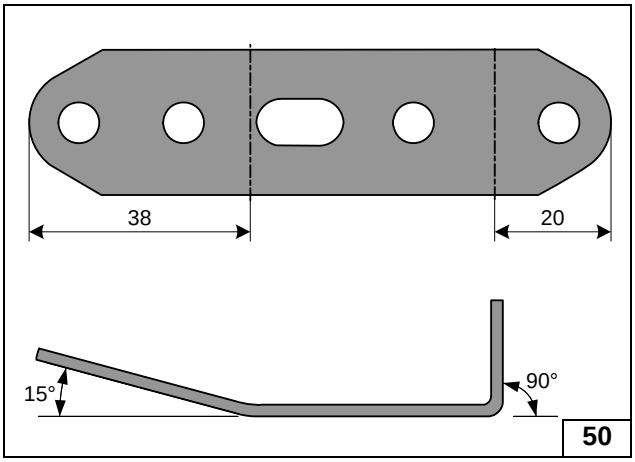


Exhaust Gas

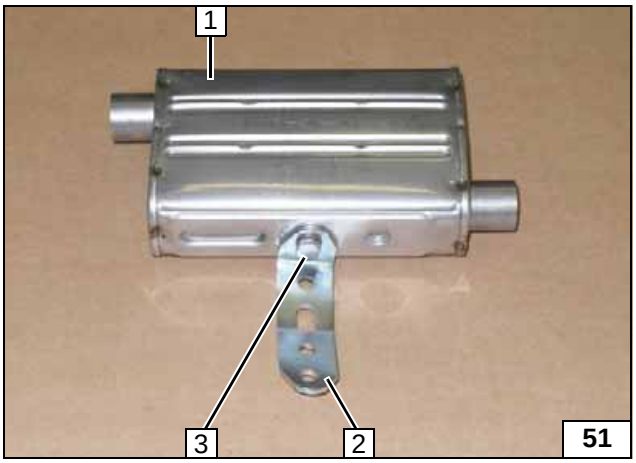
a1 = 130
a2 = 320

X =

Preparing exhaust pipe

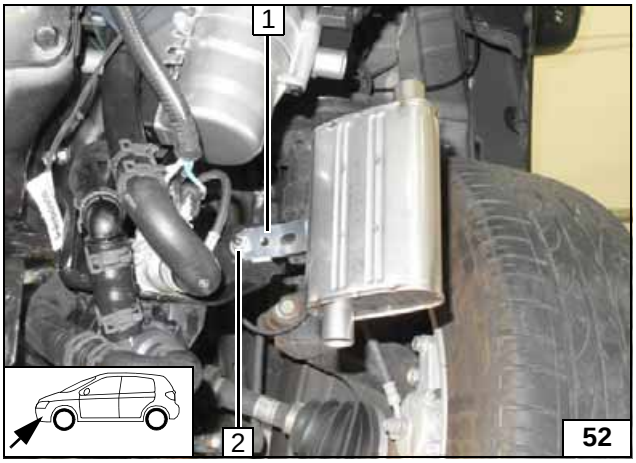


Preparing perforated bracket



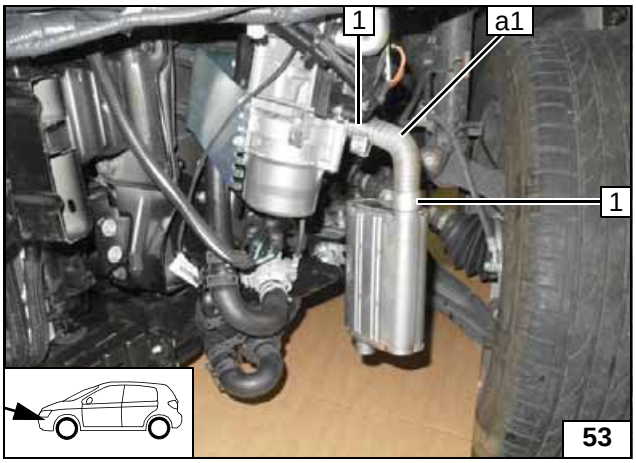
1 Silencer
2 Perforated bracket
3 M6x16 bolt, spring lockwasher

Premounting silencer



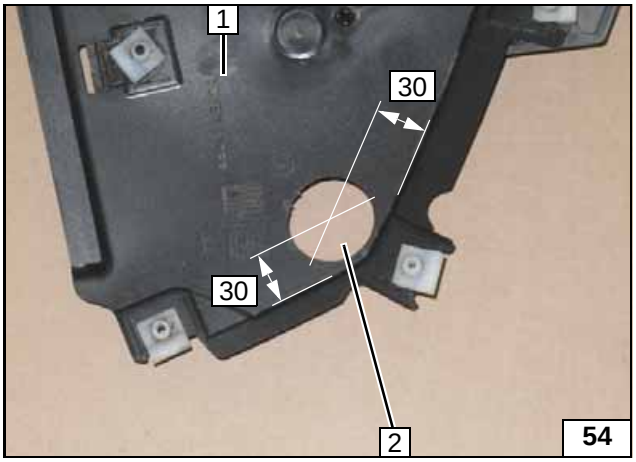
1 Perforated bracket
2 M6 flanged nut on original vehicle stud bolt

Installing silencer



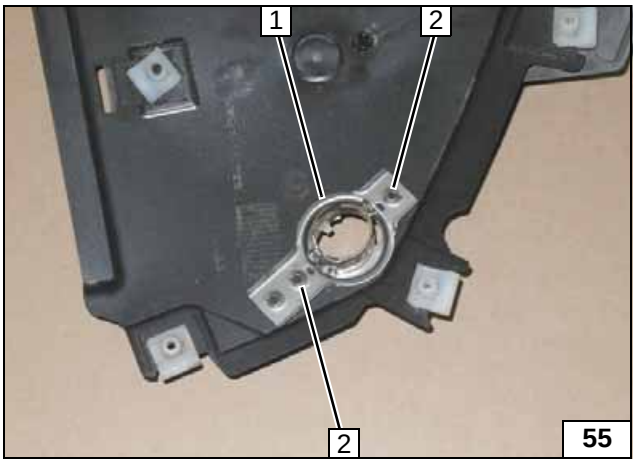
1 Hose clamp [2x]

Installing exhaust pipe a1



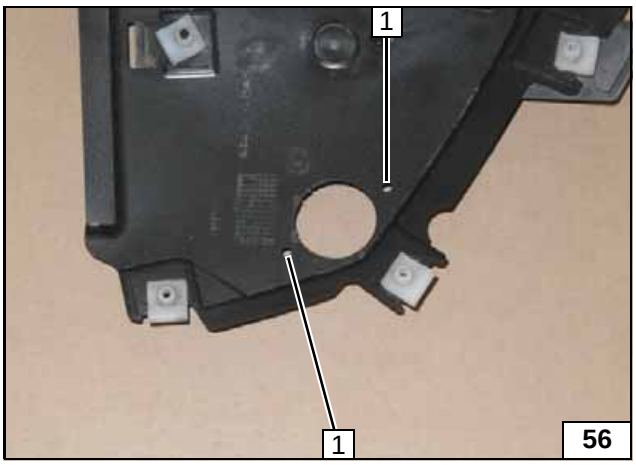
1 Wheel well trim
2 Hole (as per work step 1 of the installation instructions)

Hole in wheel well trim



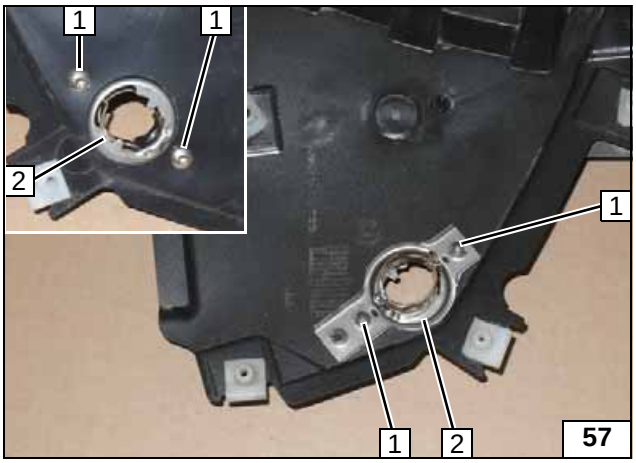
Position exhaust end fastener **1** as per work step 3 of the installation instructions and copy hole pattern **2** [2x].

Copying hole pattern



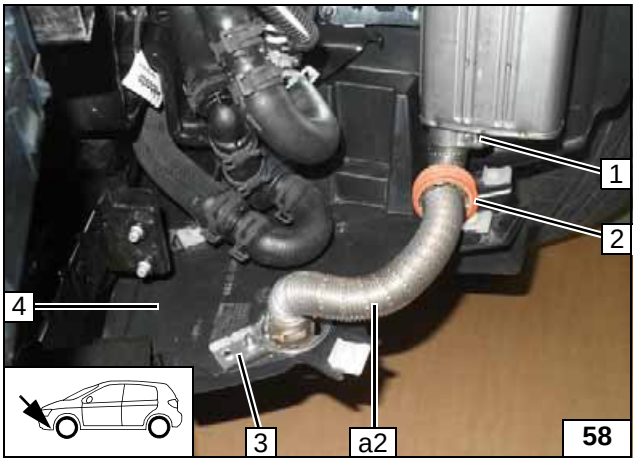
Hole **1** [2x] as per work step 4 of the installation instructions.

Hole in wheel well trim



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

Installing exhaust end fastener

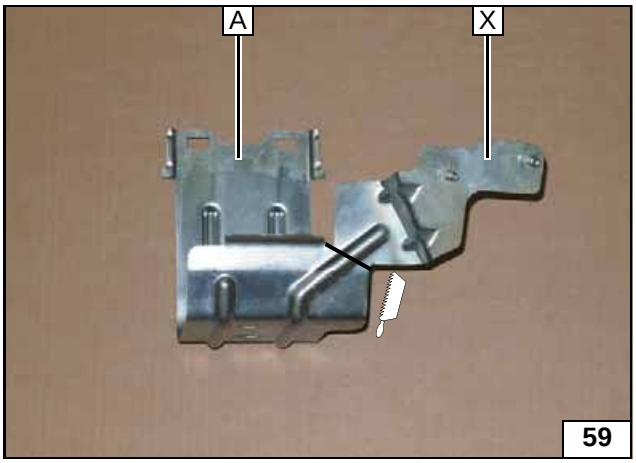


Install wheel well trim **4**. Slide spacer bracket **2** onto exhaust pipe **a2** and align. Install exhaust pipe **a2** as per work steps 6 - 8 of the installation instructions. Ensure sufficient distance from 180° moulded hose and wheel well trim, correct if necessary.

1 Hose clamp
3 Exhaust end fastener

Installing exhaust pipe a2

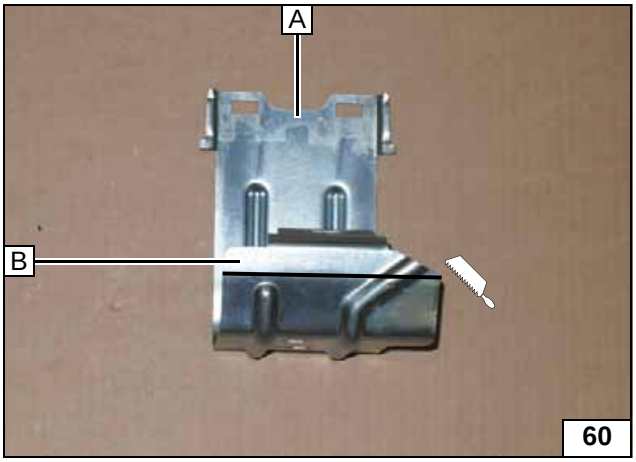
Installing Control Unit, Fuse and Relay Box



A Fuse and relay box bracket

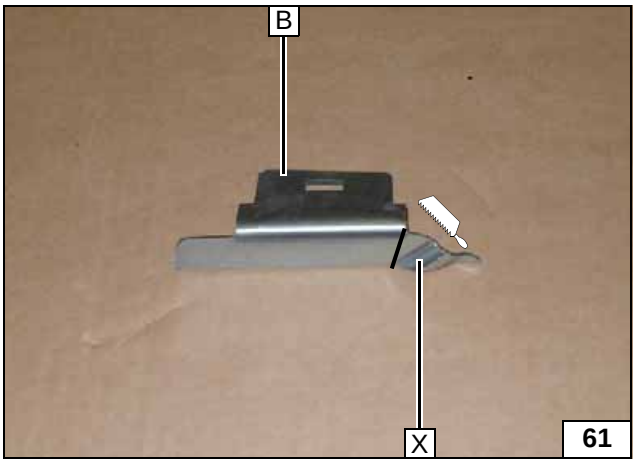
X = 

Preparing bracket of relay box



A Fuse and relay box bracket
B Bracket section will be reused (see next figure)

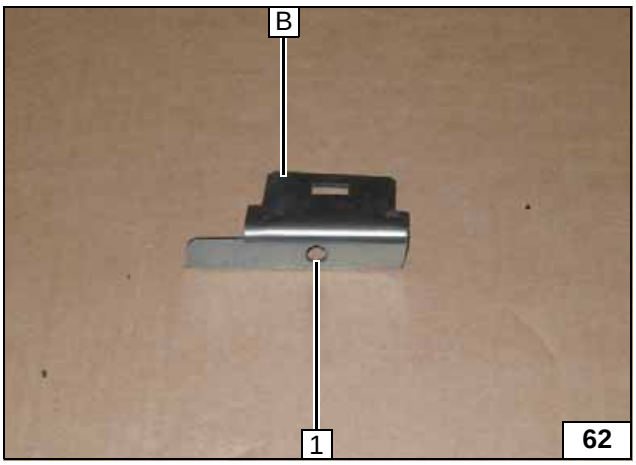
Cutting bracket



B Bracket section

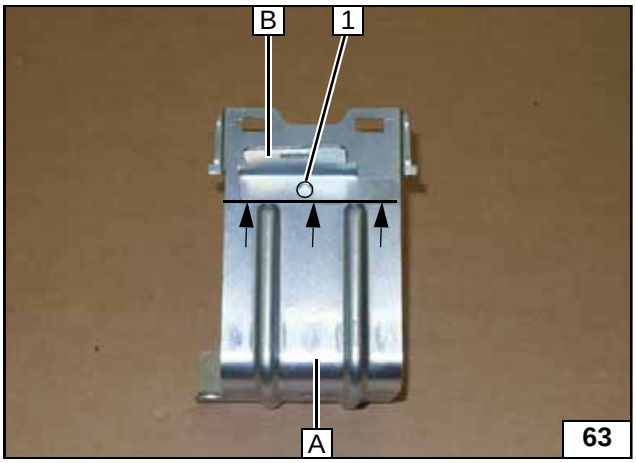
X = 

Cutting bracket section to length



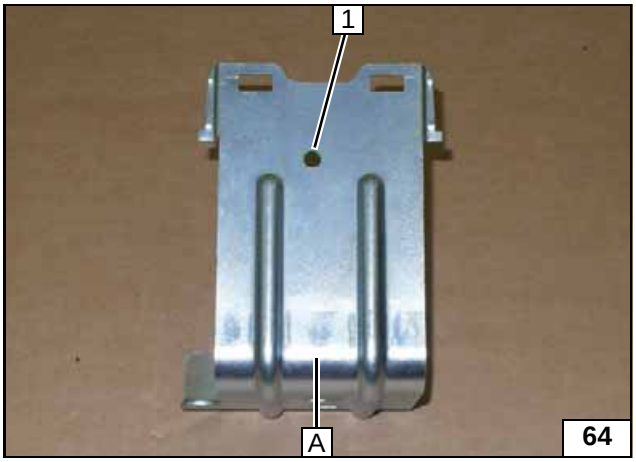
B Bracket section
1 7 mm dia. hole as shown

Hole in bracket section



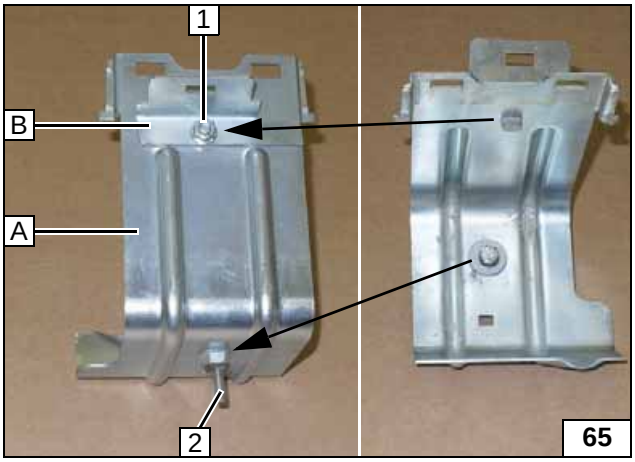
Position bracket section **B** at the bead of fuse and relay box bracket **A** as shown and copy hole pattern **1**.

Copying hole pattern



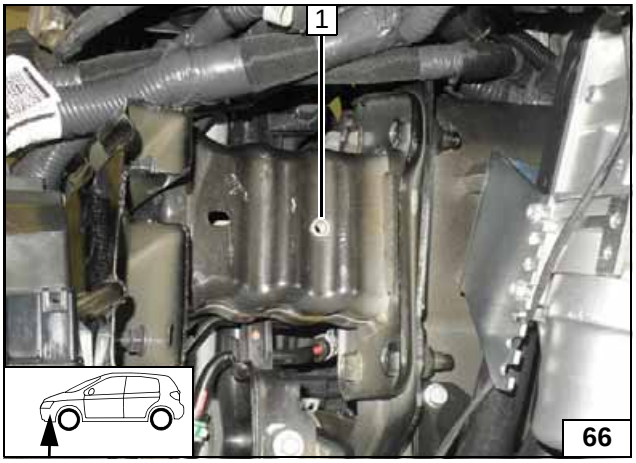
1 7mm dia. hole in bracket **A**

Hole in bracket A



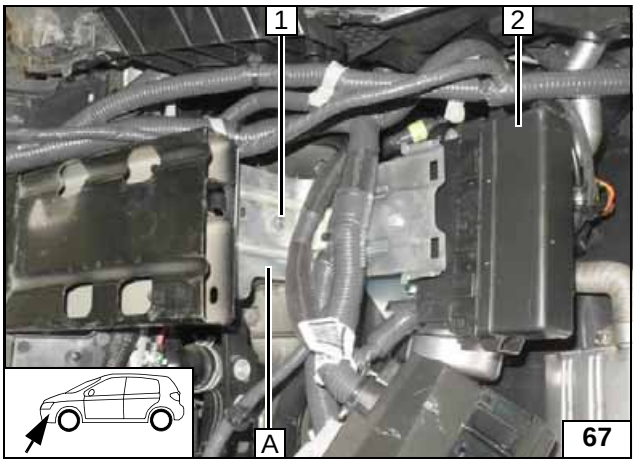
1 M6x12 bolt, flanged nut
2 M6x30 bolt, spring lockwasher, large diameter washer, M8 flanged nut (with flanged nut on bracket **A**), pin lock, original vehicle hole
A Fuse and relay box bracket
B Bracket section

Completing bracket of relay box



1 Drill out original vehicle hole to 9.1 mm dia., rivet nut

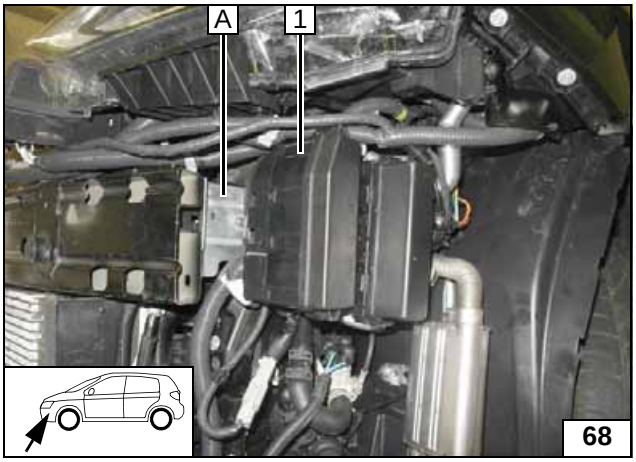
Installing rivet nut



Install rear relay box **2** first onto bracket section **B** (hidden)!

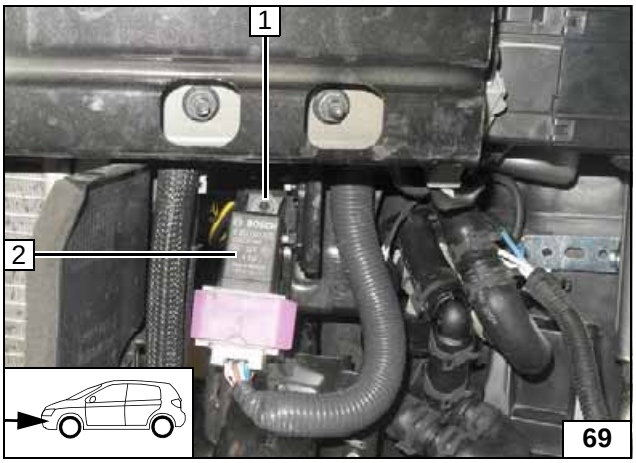
1 M6x30 bolt on rivet nut
A Relay box bracket

Installing rear relay box



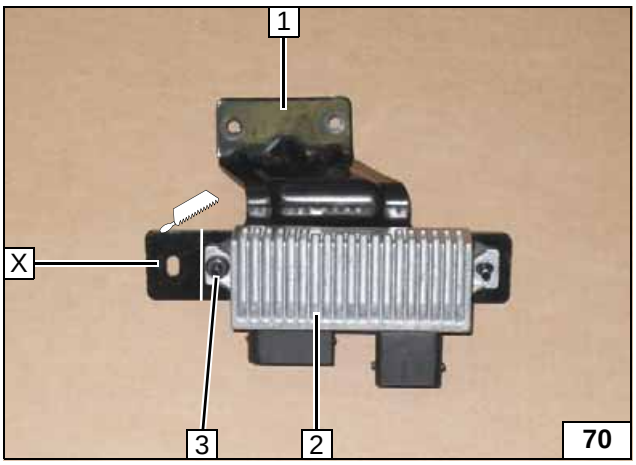
Install front relay box **1** onto bracket **A**.

Installing front relay box



1 Original vehicle flanged nut on original vehicle stud bolt
2 Original vehicle relay

Installing relay

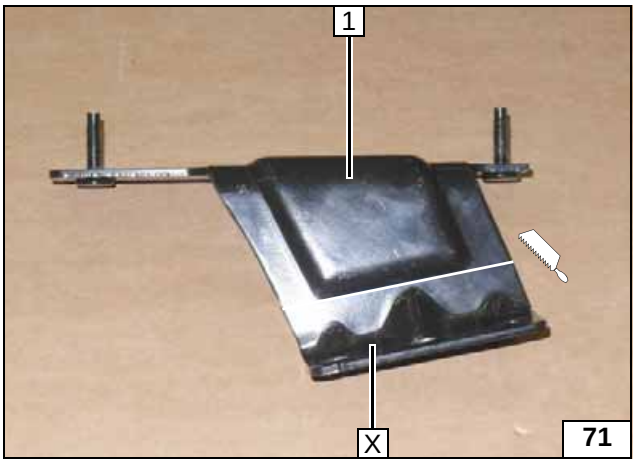


Install control unit of electric auxiliary heater **2** on stud bolt and install loosely at position **3** using original vehicle flanged nut.

1 Control unit bracket

X =

Preparing bracket of control unit

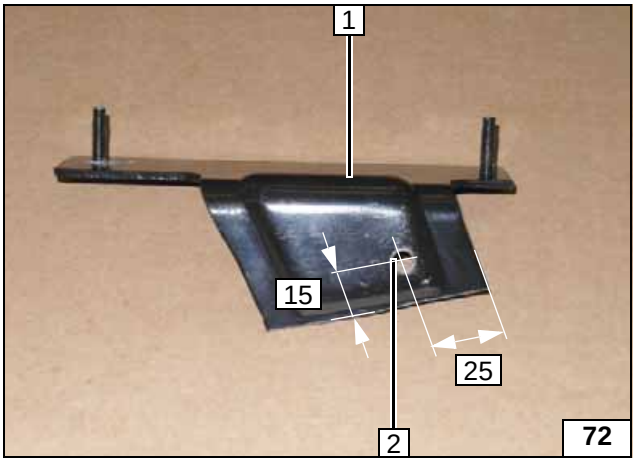


Remove control unit .

1 Bracket for control unit of electric auxiliary heater

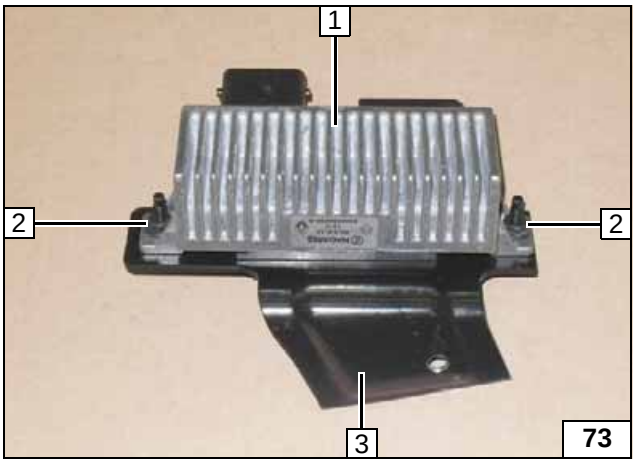
X = 

Cutting bracket of control unit to length



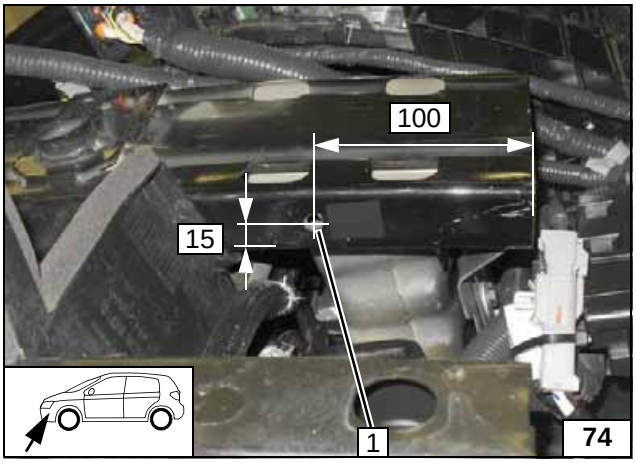
1 Bracket for control unit of electric auxiliary heater
2 7 mm dia. hole

Hole in bracket



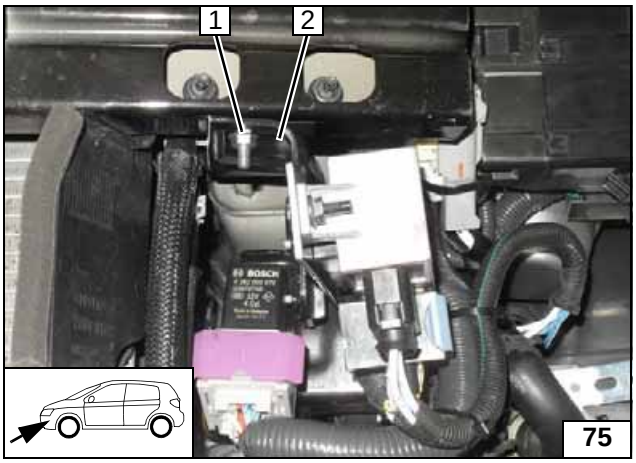
1 Control unit of electric auxiliary heater
2 Original vehicle flanged nuts [2x] on stud bolts
3 Control unit bracket

Premounting control unit



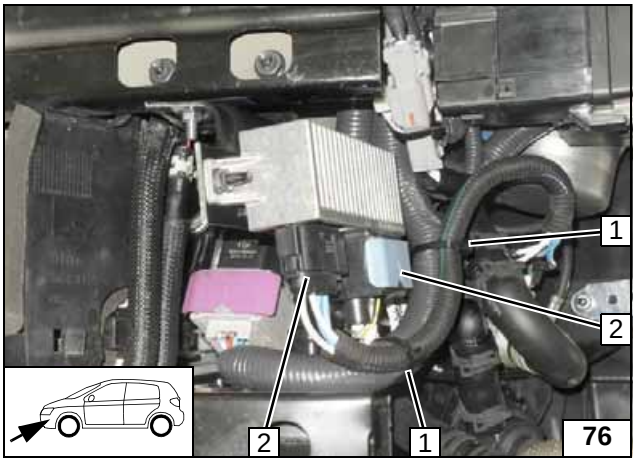
1 7 mm dia. hole

Hole for control unit



1 M6x20 bolt, flanged nut
2 Control unit bracket

Installing control unit



Align wiring harnesses and secure using cable ties **1** [2x].

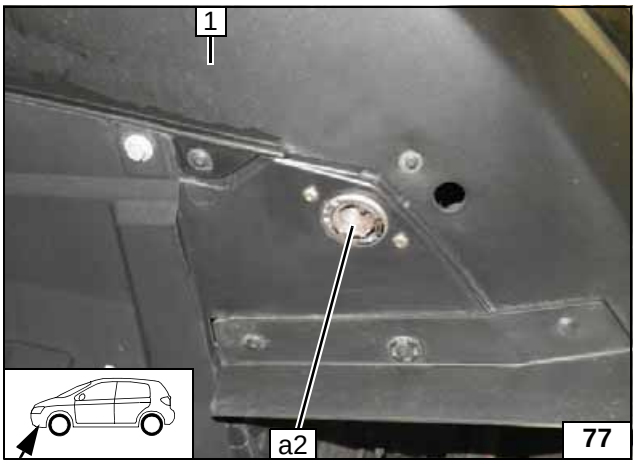
2 Connectors of electric auxiliary heater wiring harness [2x]

Installing wiring harnesses

Final Work

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**
- **Program MultiControl CAR, teach Telestart transmitter**
- **For initial startup and function check, please see installation instructions.**
- **If the fan function or A/C control panel settings need to be checked, see the installation documentation in the additional kit A/C control 'Standard' or 'Comfort', section 'Final Work'**
- **Place the 'Switch off parking heater before refuelling' caution label near the filler neck.**



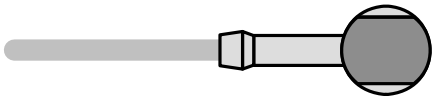
Install bumper **1**. Check the correct seating of exhaust pipe **a2** in exhaust end fastener.

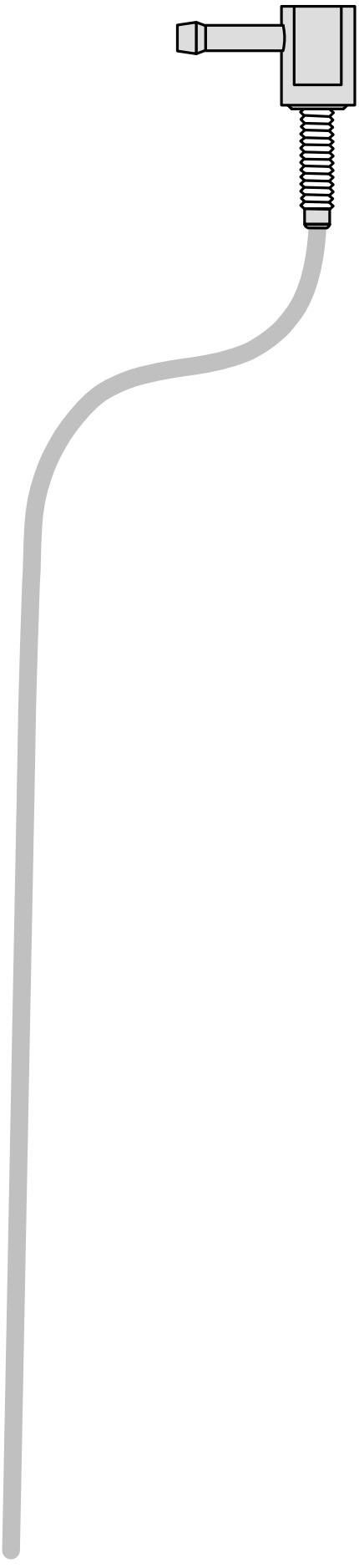
Checking exhaust pipe a2

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

Fuel Standpipe Template

Top view





100mm

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.

100mm

0

