Water Heater

Thermo Top Evo Parking Heater

E1
00 0258

Installation Documentation
Nissan Juke

Validity

Manufacturer	Model	Type	EG-BE No. / ABE
Nissan	Juke	F15	e11 * 2007 / 46 * 0132 * ...

Motorisation	Fuel	Transmission type	Output in kW	Displacement in cm³	Engine code
1.2 P	Petrol	6-speed SG	85	1197	HRA2DDT

SG = Manual transmission

From Model Year 2015
Left-hand drive vehicle

Verified equipment variants:
Automatic air-conditioning
Front fog light
Xenon headlight
LED daytime running lights
Start/Stop function
Start button
Euro 5b+ emission standard
2 WD

Not verified:
Passenger compartment monitoring
Manual air-conditioning
Intelligent Key
4 WD

Total installation time: approx. 9 hours

Nissan Juke

Table of Contents

Necessary Components

- Basic delivery scope for Thermo Top Evo based on price list
- Installation kit for Nissan Juke 2014/1.5 Diesel and 2015/1.2 Petrol: **1322269B**
- 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 upon consultation with end customer

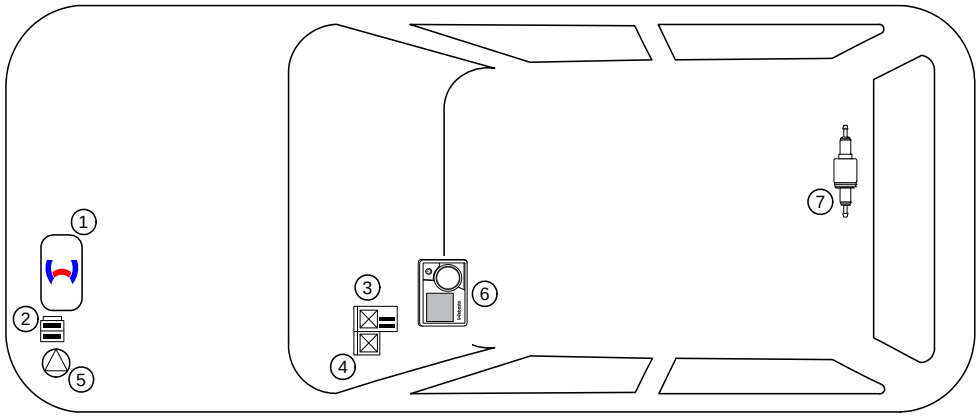
Installation instructions:

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

Installation Overview

Legend:

1. Heater
2. Fuse holder of engine compartment
3. Relay and fuse holder of passenger compartment
4. PWM Gateway
5. Circulating pump
6. MultiControl CAR
7. Metering pump



Notes on Total Installation Time

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

The total installation time may vary for vehicle equipment other than provided.

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, Order No. 111329).

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

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

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

2 Statutory regulations governing installation

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

Note

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

Important

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

Note

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

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

Beginning of excerpt.

ANNEX VII

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 Juke

Notes on Validity

This installation documentation applies to Nissan Juke Petrol vehicles - for validity, see page 1 - from model year 2015 and later, assuming technical modifications to the vehicle do not affect installation, any liability claims excluded. Depending on the vehicle version and equipment, modifications may be necessary during installation with respect to this installation documentation.

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

Technical Instructions

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

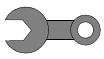
Dimensions
- All dimensions are in mm

Tightening torque values
- Tightening torque values for 5x13 heater bolts and 5x11 heater stud bolts = 8Nm.
- Tightening torque of 5x15 retaining plate of water connection piece 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

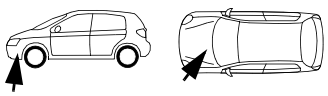
Specific risk of injury or fatal accidents.

Specific risk of fire or explosion

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

Reference to a special technical feature.

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



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

Preliminary Work

Vehicle

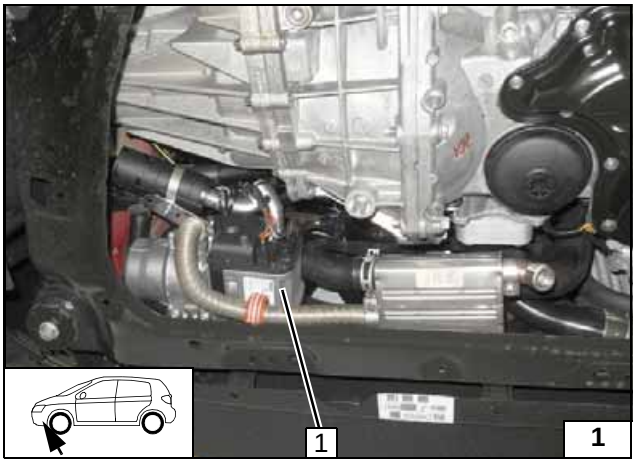
- Open the fuel tank cap.
- Ventilate the fuel tank.
- Close the fuel tank cap again.
- Depressurise the cooling system.
- Disconnect the battery and remove it completely with the battery carrier.
- Remove the engine control unit.
- Remove the air filter together with the intake hose.
- Remove the air filter bracket.
- Remove the rear bench seat.
- Remove the footwell trim on the driver's side.
- Remove the instrument panel trim on the driver's side.
- Remove the A/C control panel.
- Detach the A/C booster.

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

- Open the tank-fitting service lid of fuel-tank sending unit.
- 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) in the appropriate place inside the engine compartment.



Heater Installation Location

1 Heater

Installation location

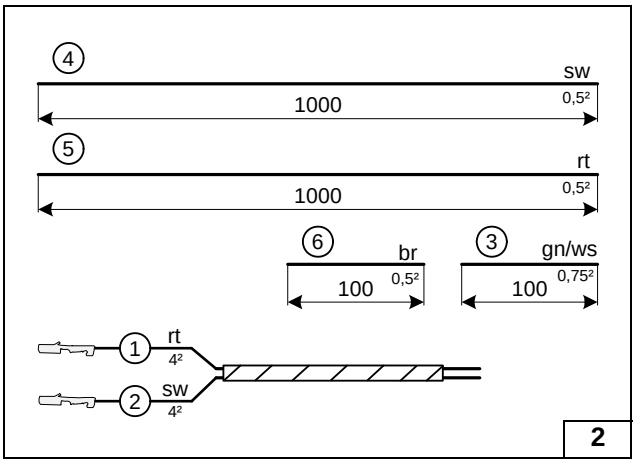
Preparing Electrical System

Wire sections retain their numbering in the entire document.

Assigning wires

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



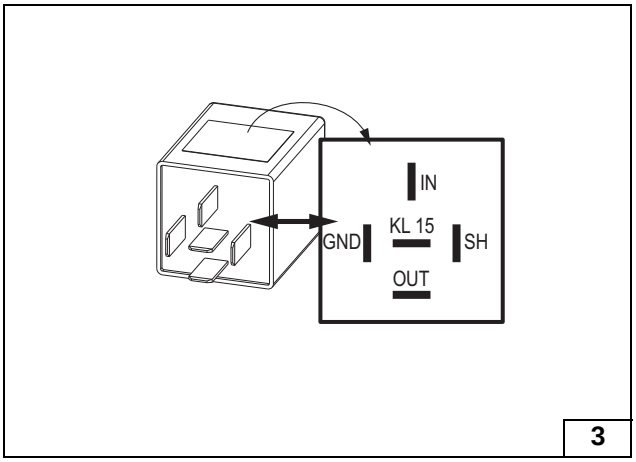
2

Preparing PWM GW

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

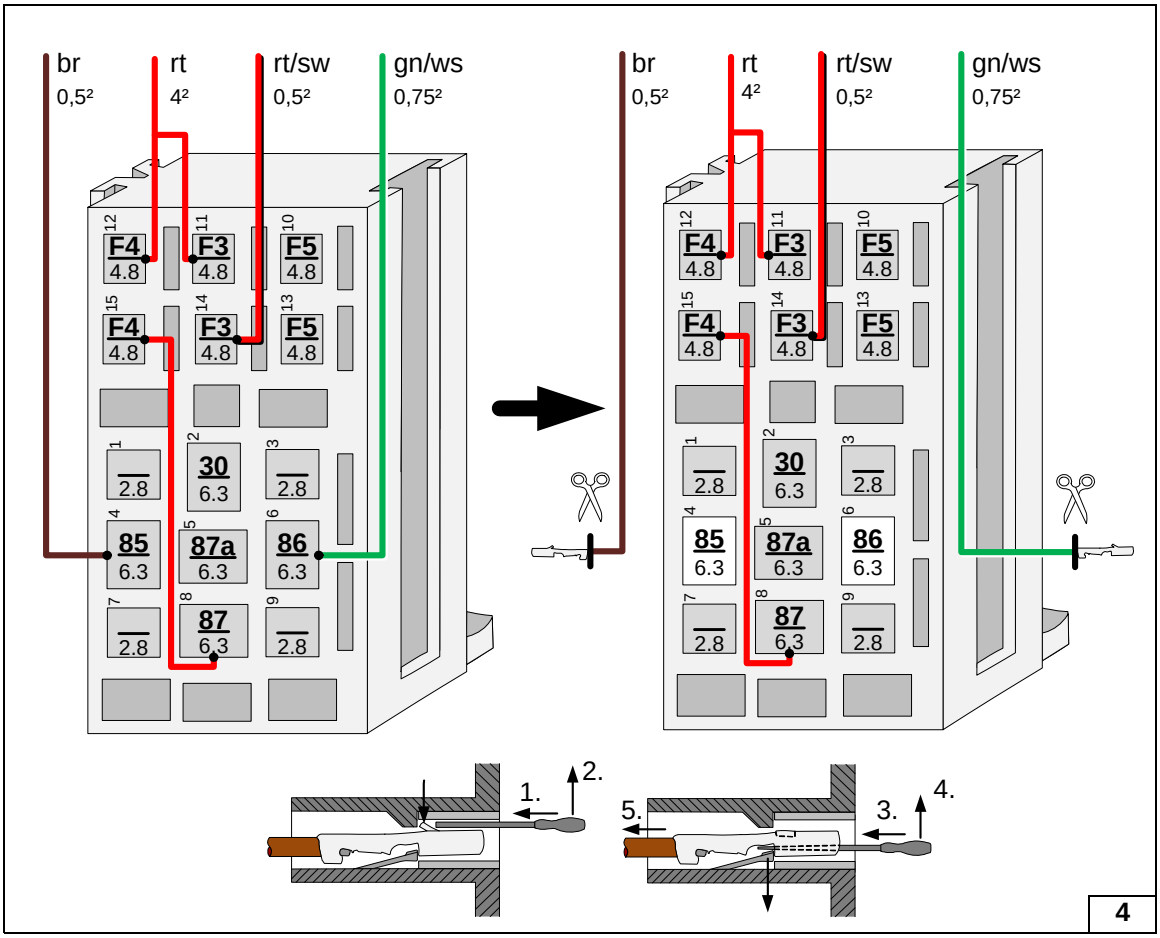
Settings:

Duty cycle: 100% (DC)
Frequency: not relevant
Voltage: 2.7V
Function: High-side



3

Preparing relay and fuse holder of passenger compartment



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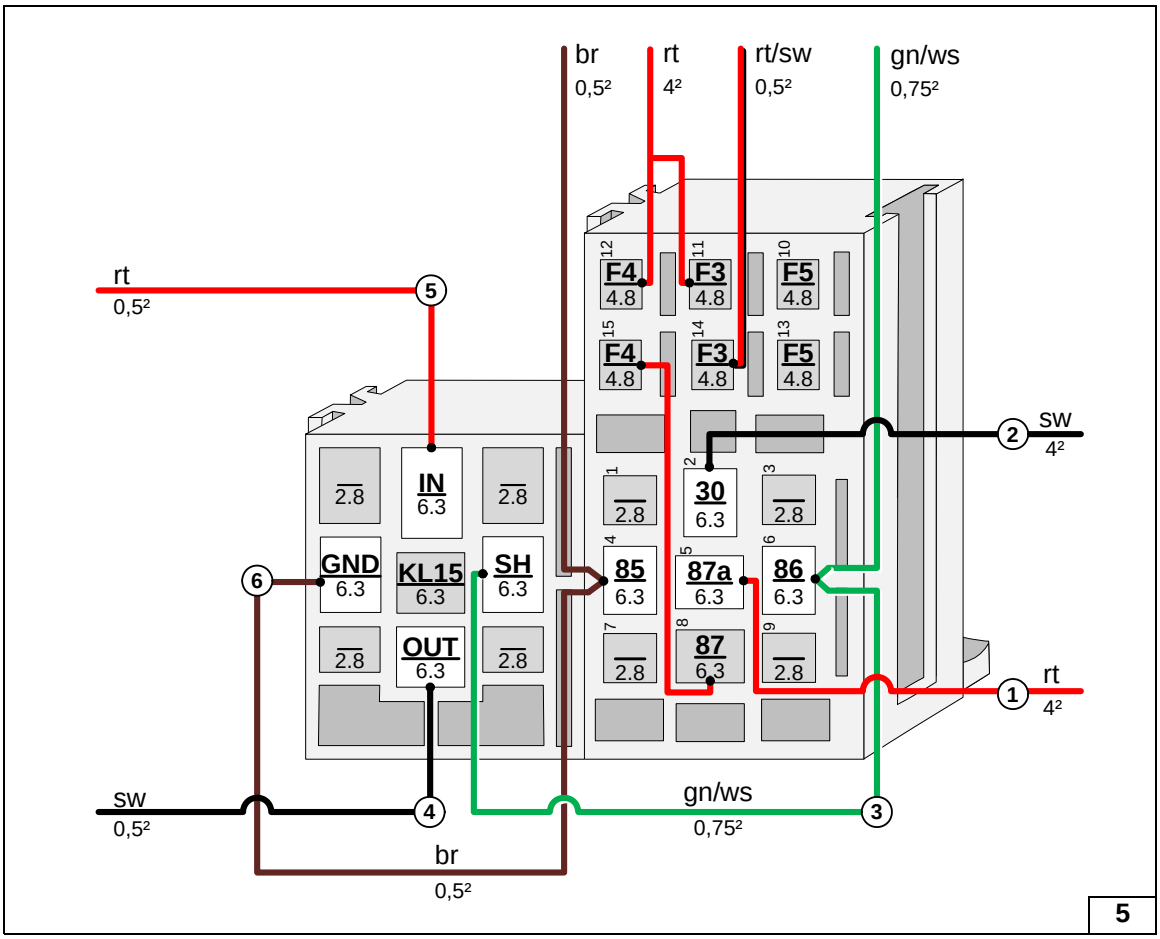
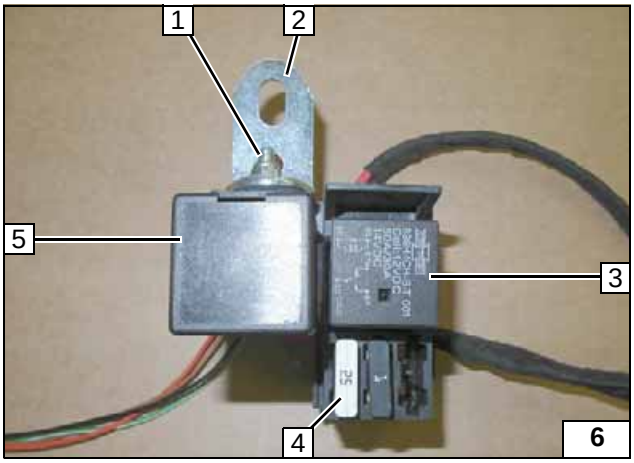
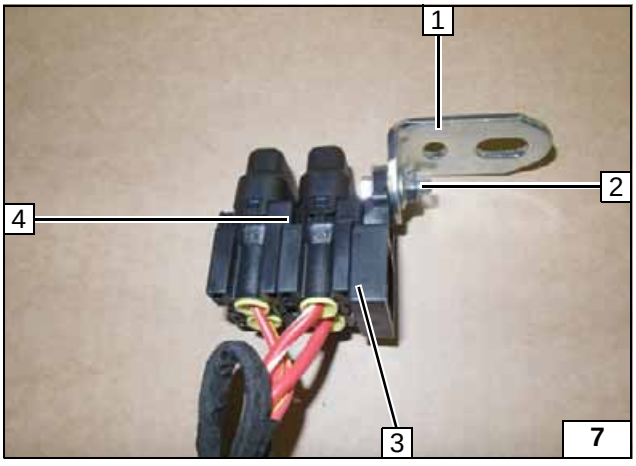


Interlocking socket of PWM GW and passenger compartment relay and fuse holder, connecting wires



1 M5x16 bolt, large diameter washer [2x], nut
2 Angle bracket
3 K1 relay
4 Fuse F4 25A
5 PWM GW

Preparing relay and fuse holder of passenger compartment



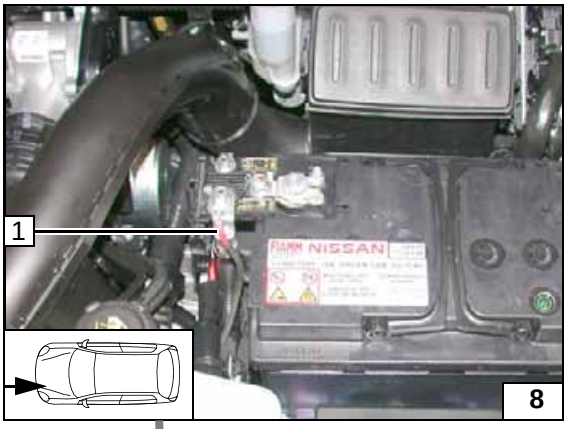
1 Angle bracket
2 M5x16 bolt, large diameter washer [2x], nut
3 Retaining plate of fuse holder
4 Fuse F1-2

Preparing fuse holder of engine compartment

Electrical System

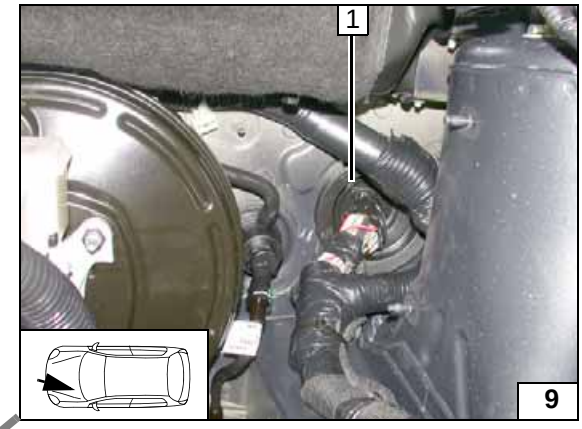
Positive wire

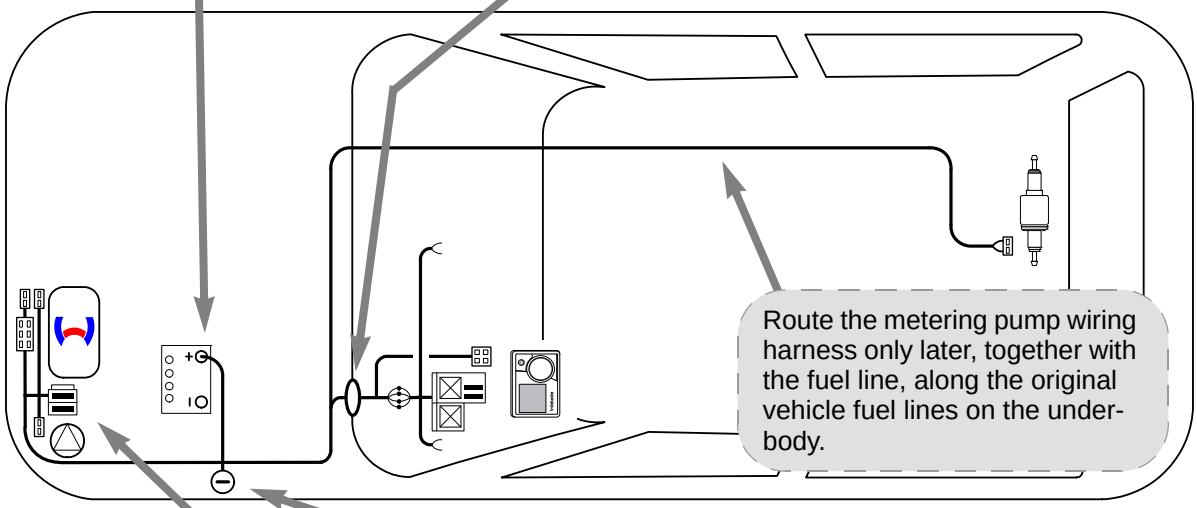
1 Positive wire on positive battery terminal



Wiring harness pass through

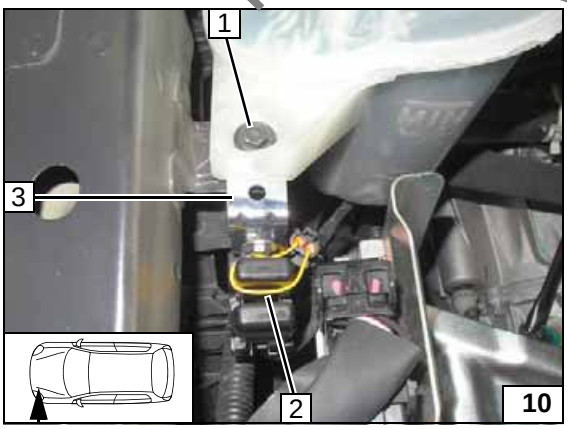
1 Protective rubber plug





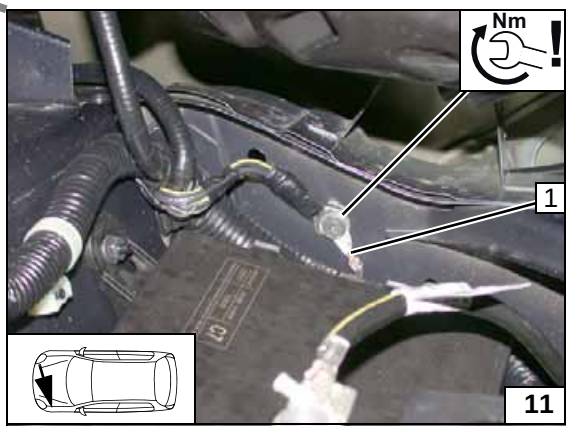
Wiring harness routing diagram

Fuse holder of engine compartment



1 Original vehicle bolt
2 Fuse F1-2
3 Angle bracket

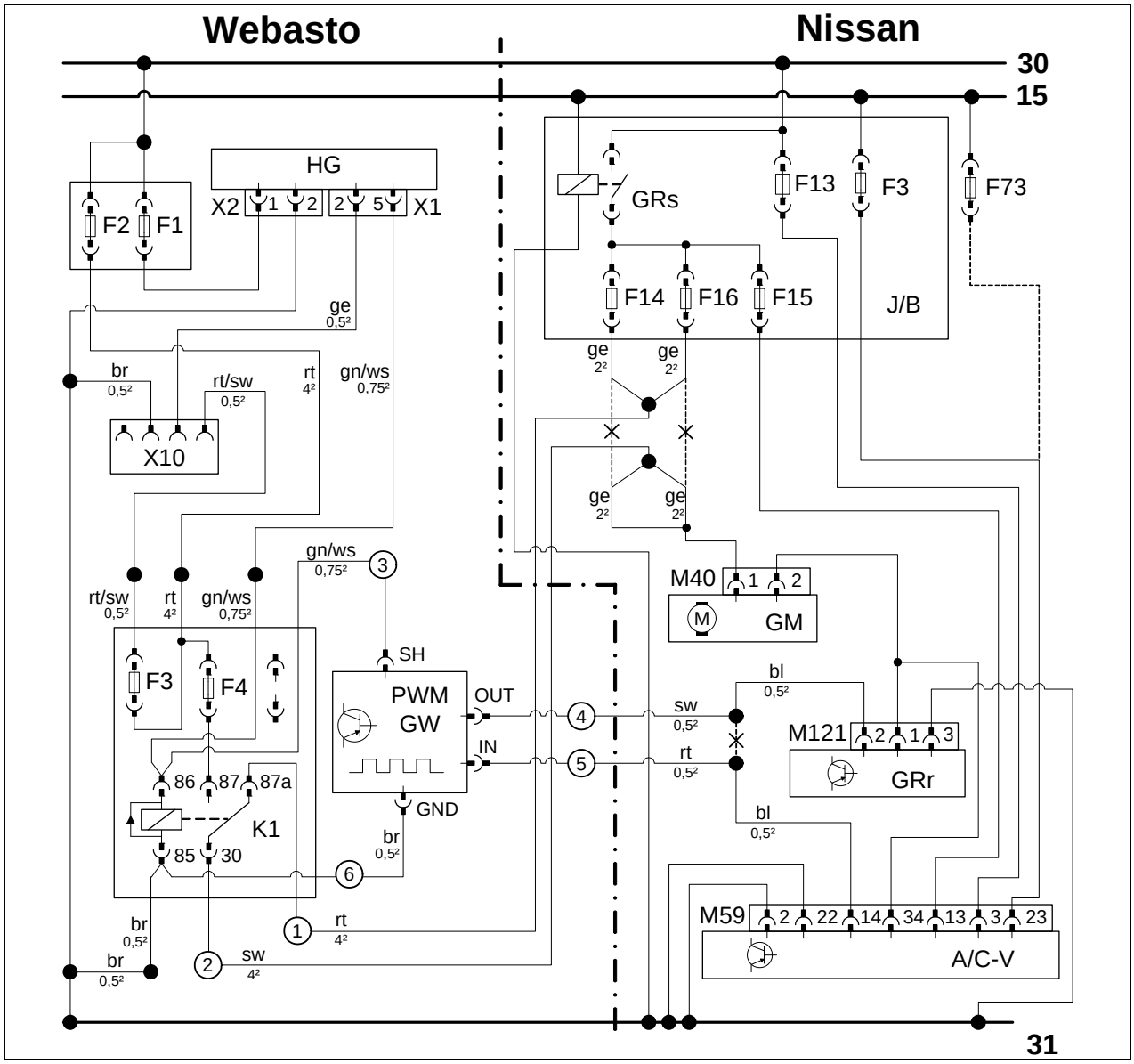
Earth wire



1 Earth wire on original vehicle earth point

Fan Controller

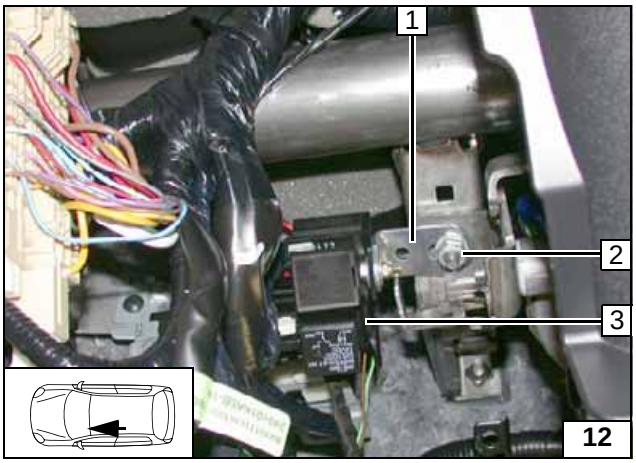
Wiring diagram



Webasto components		Vehicle components		Colours and symbols	
HG	TT-Evo heater	J/B	Fuse and relay box	rt	red
X1	6-pin heater connector	F13	10 A fuse	sw	black
X2	2-pin heater connector	F3	10A fuse (only in case of vehicle without Start/Stop)	ge	yellow
F1	20A fuse			gn	green
F2	30A fuse	GRs	Fan relay	bl	blue
X10	4-pin connector of heater control	F14	15A fuse	ws	white
		F16	15A fuse	br	brown
F3	1A fuse	F15	10 A fuse		
F4	25A fuse	F73	10A fuse (only in case of vehicle with Start/Stop)		
PWM GW	Pulse width modulator				
		GM	Fan motor		
K1	Fan relay	M40	Connector GM		
PWM GW settings:		GRr	Fan controller		
Duty cycle:	100% (DC)	M121	Connector GRr		
Frequency:	not relevant	A/C-V	A/C booster		
Voltage:	2.7V	M59	40-pin AC-V connector	**X**	Cutting point
Function:	High-side			Wiring colours may vary.	

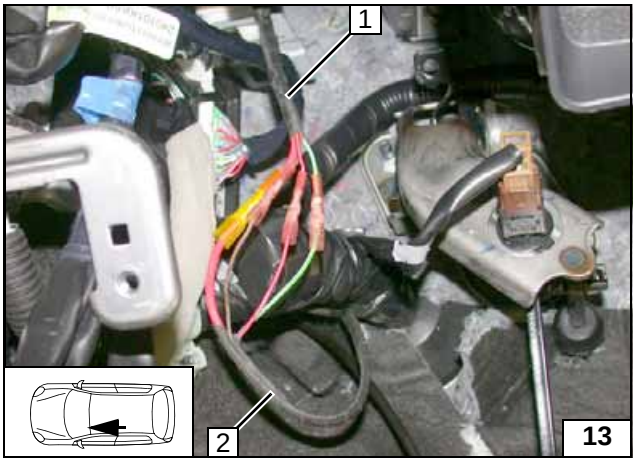
Legend

Installing relay and fuse holder of passenger compartment



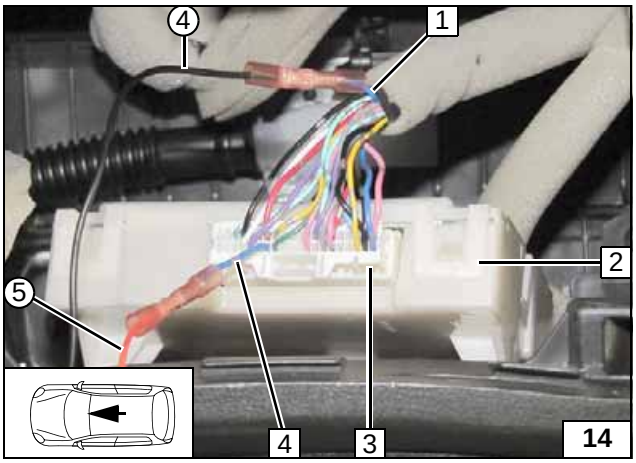
1 Angle bracket
2 Original vehicle stud bolt, M8 flanged nut
3 Relay and fuse holder of passenger compartment

Connecting wiring harnesses using same colour wires



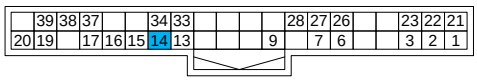
1 Wiring harness of passenger compartment relay and fuse holder
2 Wiring harness of heater

Connecting A/C booster

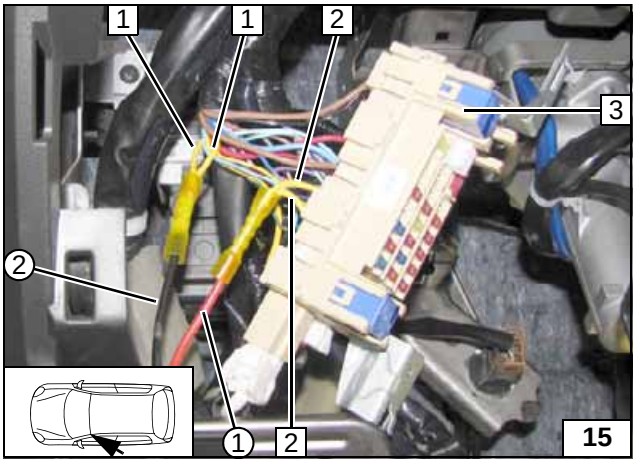


1 Blue (bl) wire of fan controller
2 A/C booster
3 40-pin connector M59
4 Blue (bl) wire of 40-pin M59 connector, Pin 14
④ Black (sw) wire of PWM GW/OUT
⑤ Red (rt) wire of PWM GW/IN

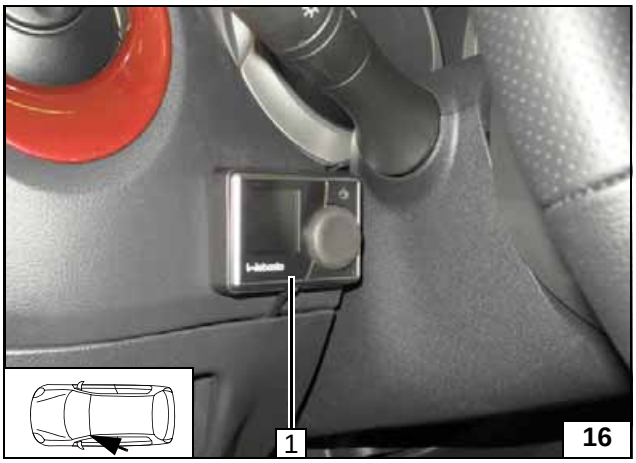
View of M59 connector on wire side:



Connecting fan motor



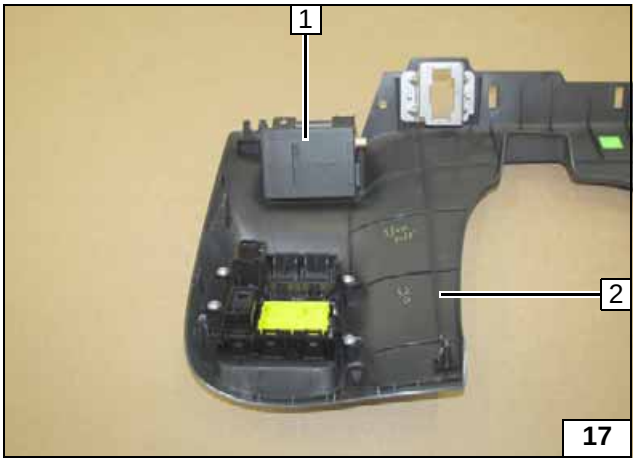
1 Yellow (ge) wire [2x] of fan motor
2 Yellow (ge) wire [2x] for fuses F14 and F16
3 Fuse and relay box
① Red (rt) wire of K1/87a, fan wiring harness
② Black (sw) wire of K1/30, fan wiring harness



MultiControl CAR Option

1 MultiControl CAR

Installing MultiControl CAR

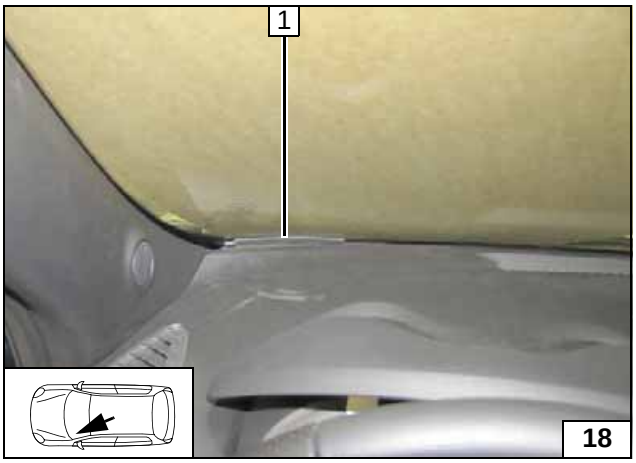


Remote Option (Telestart)

Fasten receiver **1** with adhesive tape.

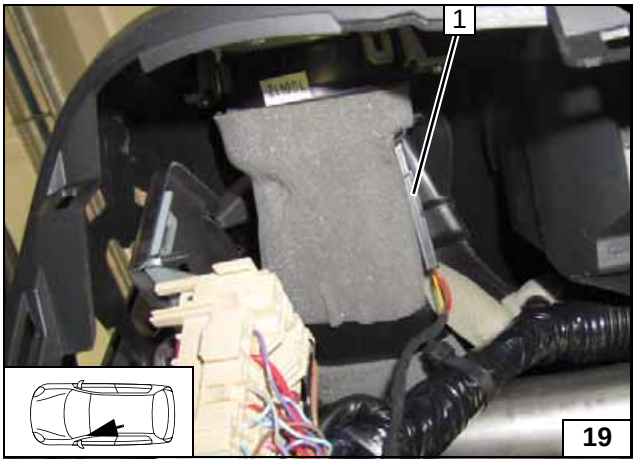
2 Instrument panel trim

Installing receiver



1 Antenna

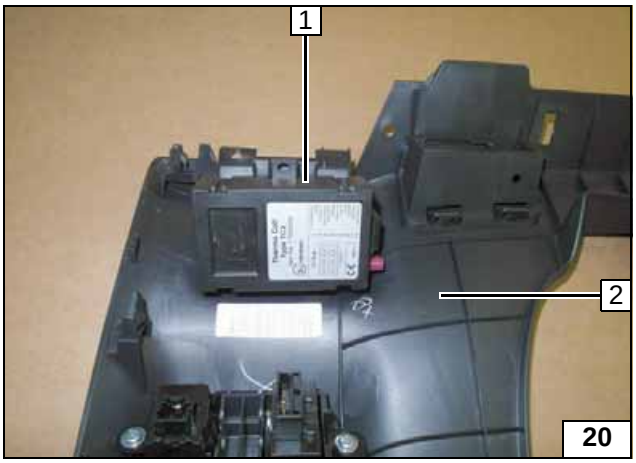
Mounting antenna

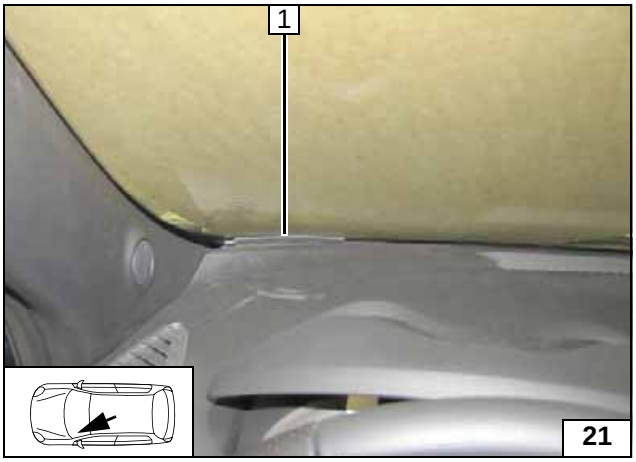


Temperature sensor T100 HTM

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

Mounting temperature sensor





Remote Option Thermo Call

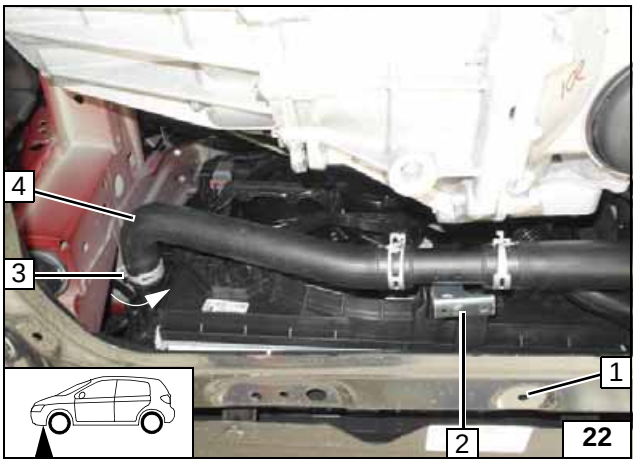
Fasten receiver **1** with adhesive tape.

2 Instrument panel trim

Installing receiver

1 Antenna

Mounting antenna

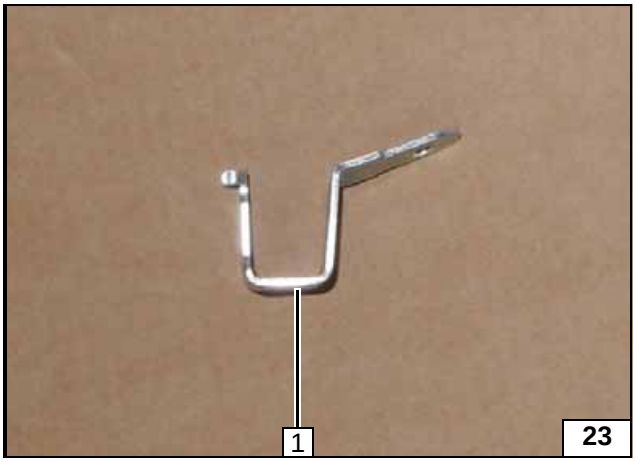


Preparing Installation Location

Remove bracket **2**, align as shown in next figure and install again. Detach clamp **3** and turn radiator hose **4** by approx. 20°.

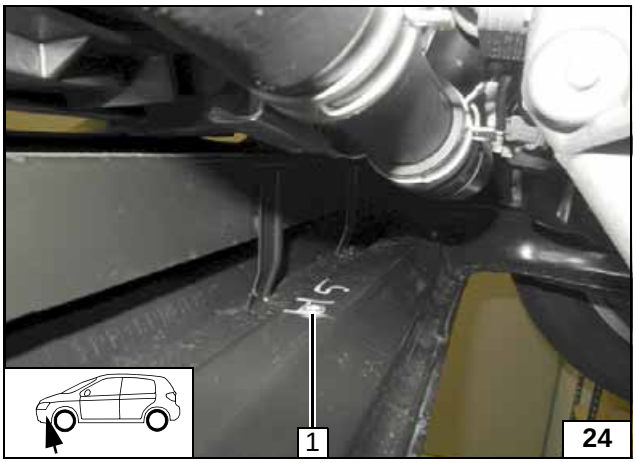
1 7mm hole perpendicularly and in the centre of the bead, through the lower and upper section of the support frame

Preparing installation location



1 Original vehicle bracket

Aligning bracket

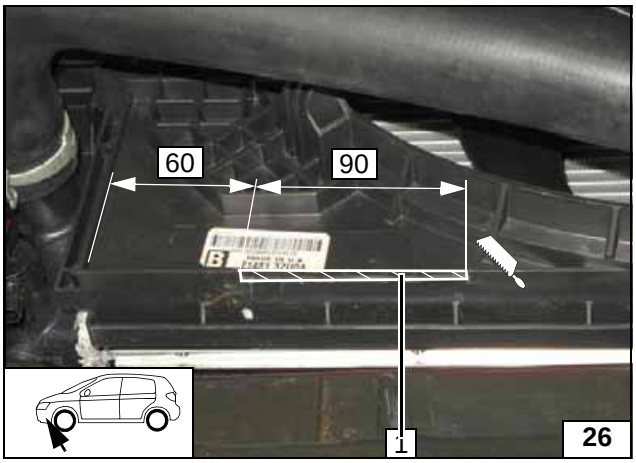


1 Drill out 7mm dia. hole to 9.1mm dia., rivet nut

Installing rivet nut

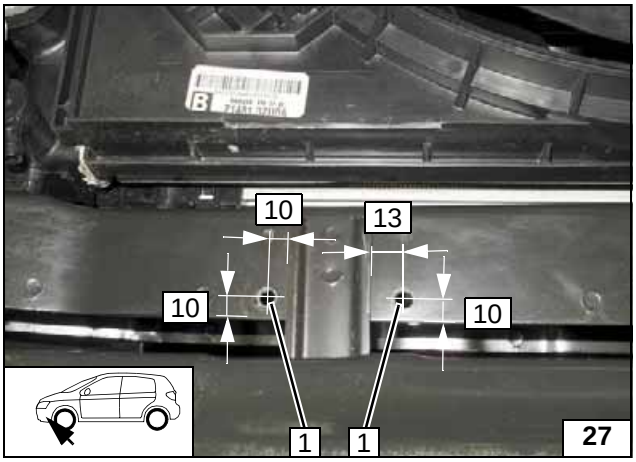
1 Original vehicle earth wire

Aligning earth wire



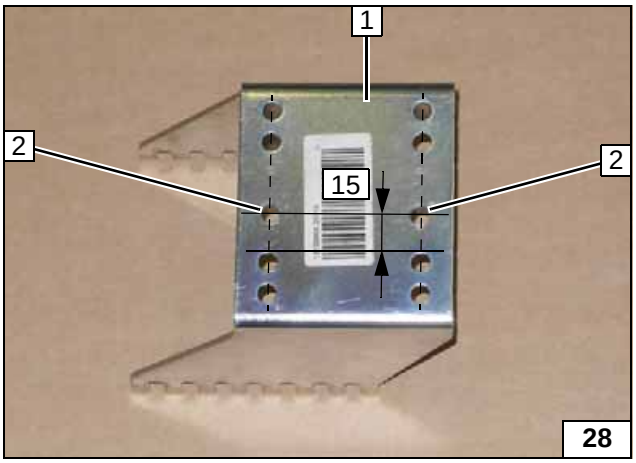
Cut off stiffener of radiator trim flush at position **1**.

Adapting radiator trim



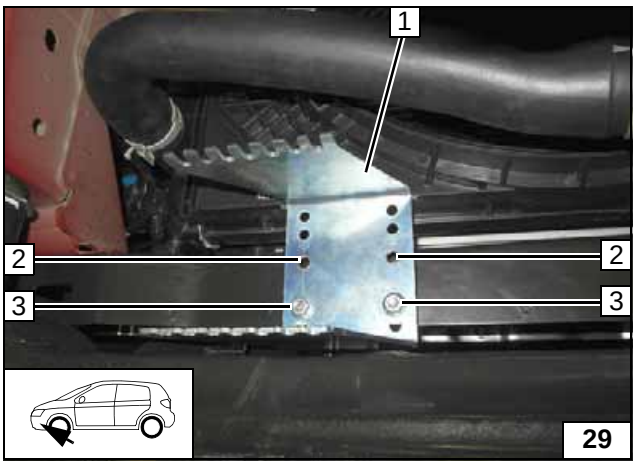
1 Drill 7 mm dia. hole [2x]

Holes in radiator cross member



1 Bracket
2 Drill 7 mm dia. hole [2x]

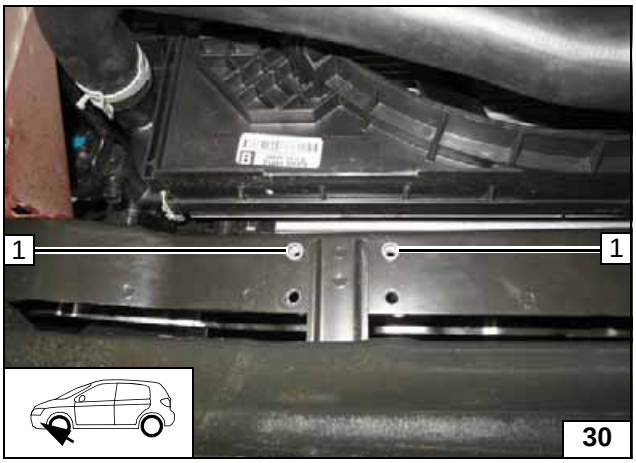
Preparing bracket



Loosely mount bracket **1**. For each position **3** insert one 20mm shim between the radiator cross member and bracket **1**.

2 Copy hole pattern [2x]
3 M6x40 bolt, 20mm shim, flanged nut

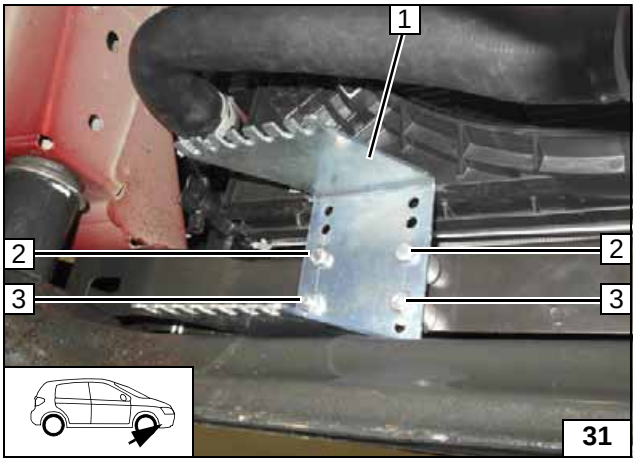
Copying hole pattern



Remove bracket!

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

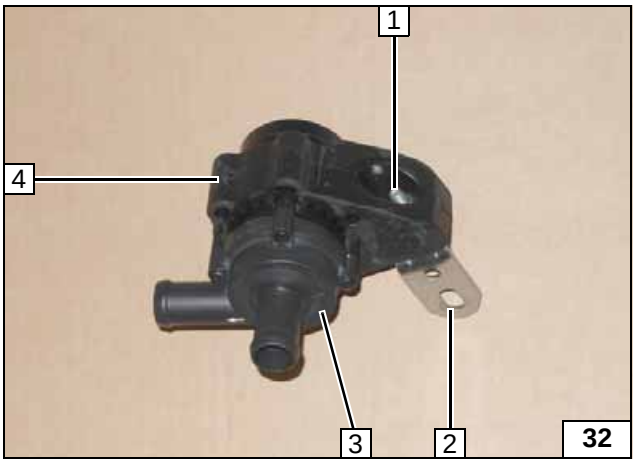
Inserting and tightening rivet nuts



Insert one 20mm shim between the radiator cross member and bracket **1** at position **2** and at position **3**.

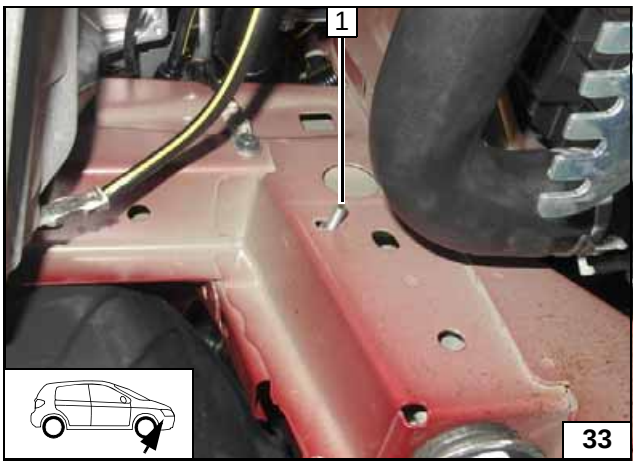
2 M6x40 bolt, spring lockwasher, 20 mm shim [2x each]
3 M6x35 bolt, 20mm shim, flanged nut [2x each]

Installing bracket



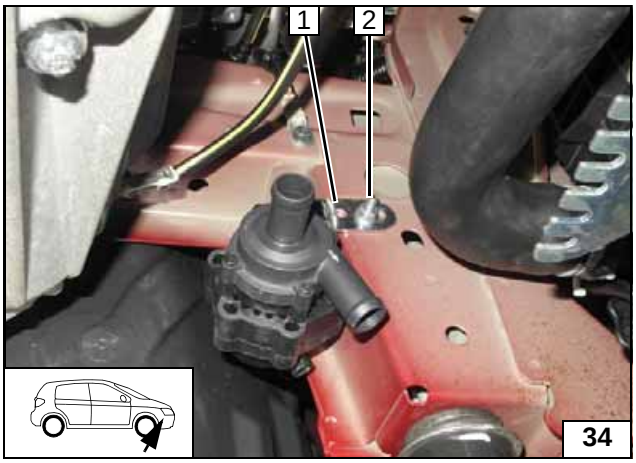
1 M6x25 bolt, flanged nut
2 Angle bracket
3 Circulating pump
4 Circulating pump mounting bracket

Premounting circulating pump



1 Insert a M6x20 bolt through the upper opening in the existing hole

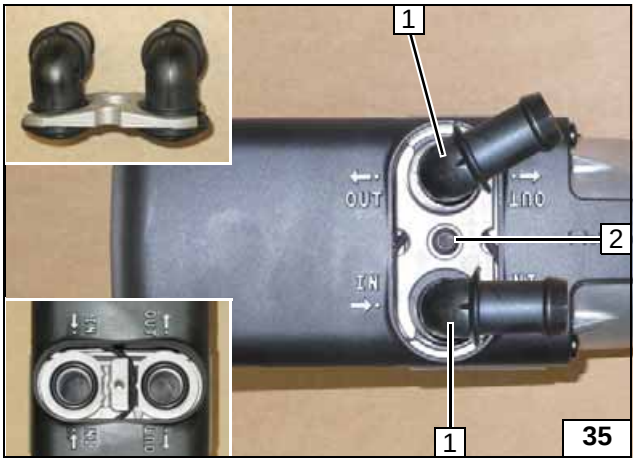
Positionning bolt



1 Angle bracket
2 Flanged nut on M6x20 bolt

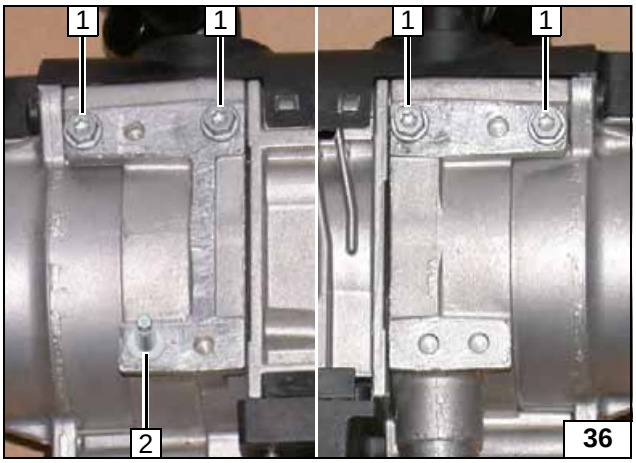
Installing circulating pump

Preparing Heater



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

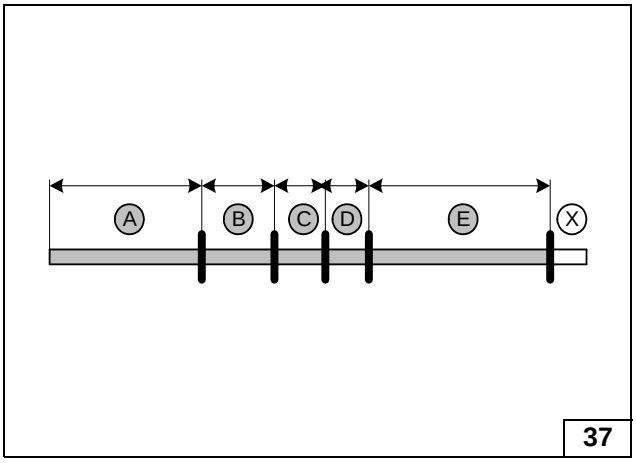
Installing water connection piece



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

2 Self-tapping stud bolt 5x11/M6x25

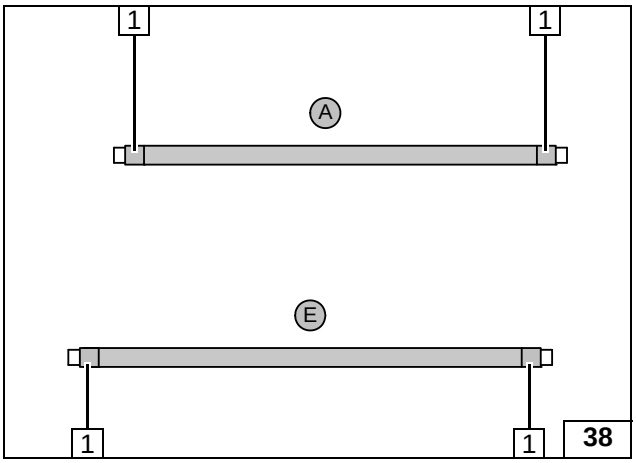
Installing bolts/stud bolts



Discard section **X**.

A = 630
B = 160
C = 90
D = 60
E = 820

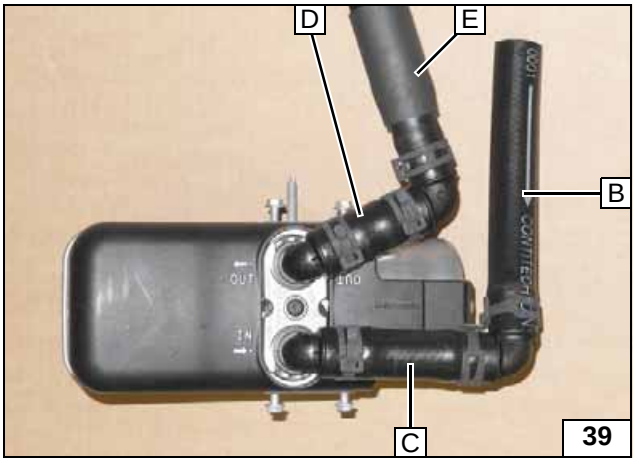
Cutting hoses to length



Push braided protection hoses onto hose **A** and **E** and cut to length. Cut heat shrink plastic tubing to length.

1 50 mm long heat shrink plastic tubing [4x]

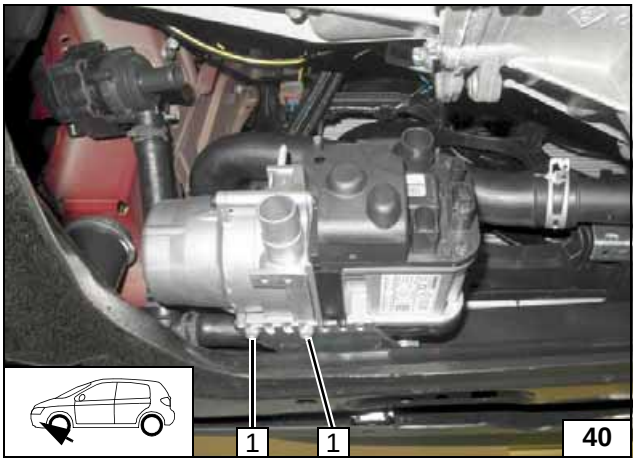
Preparing hoses



All spring clips = 25mm dia.
All connecting pipes = 90°, 18x18mm dia.

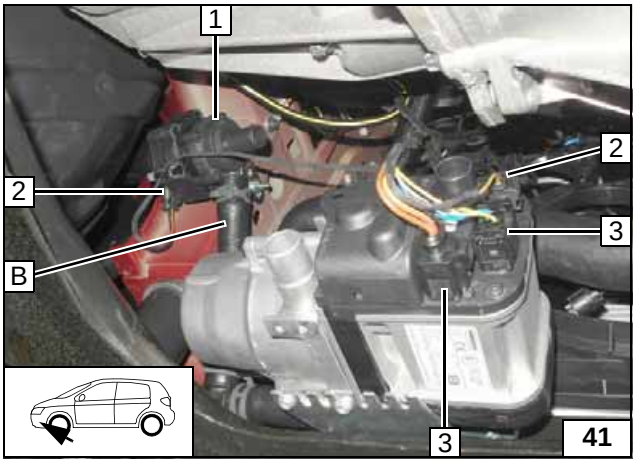
Premounting hoses

Installing Heater



1 5x13 self-tapping bolts [4x] (two bolts on the opposite side are hidden by the heater)

Installing heater



1 Circulating pump
2 Connector for wiring harness of circulating pump [2x]
3 Connector for wiring harness of heater [2x]

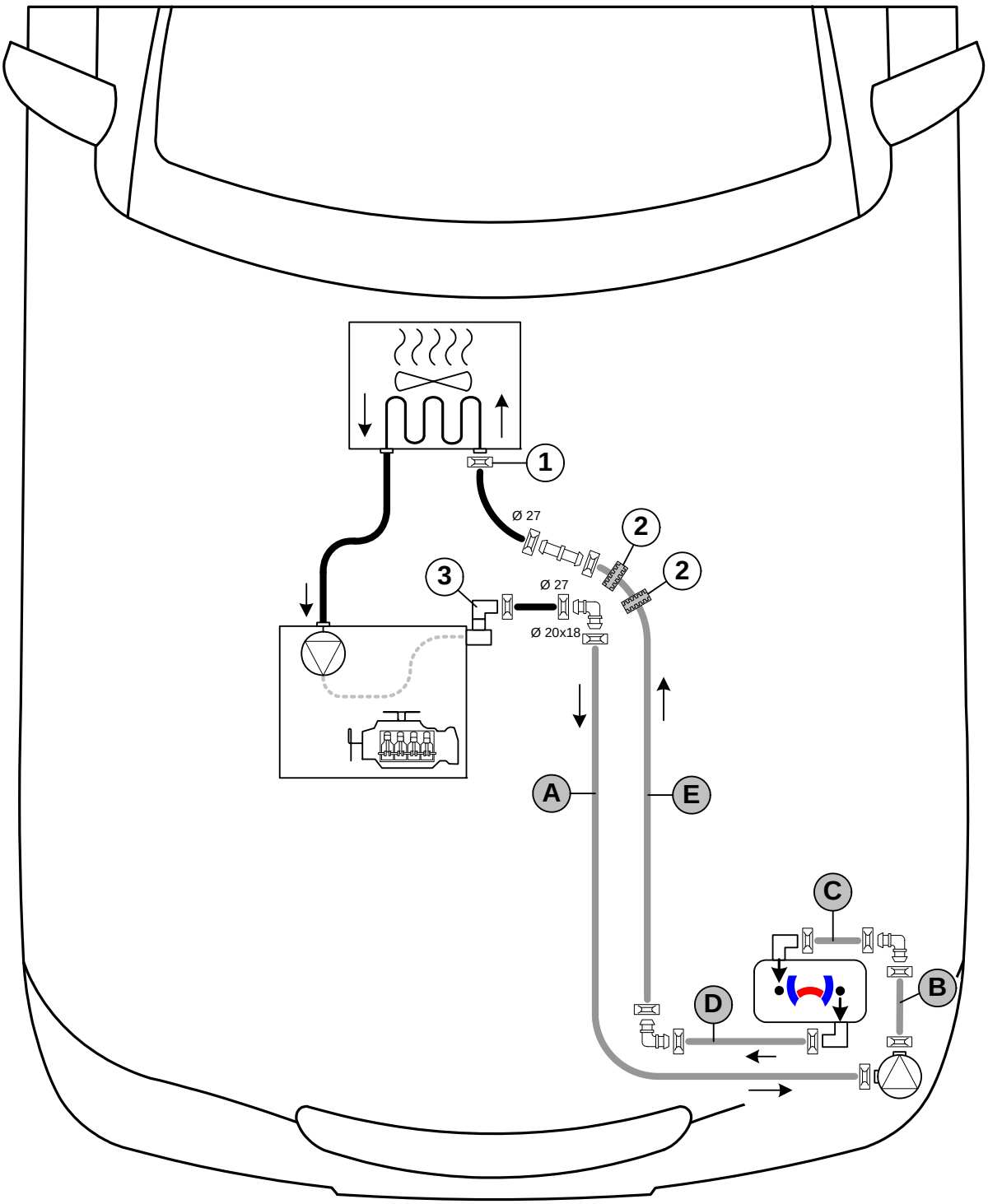
Connecting heater and circulating pump

Coolant Circuit

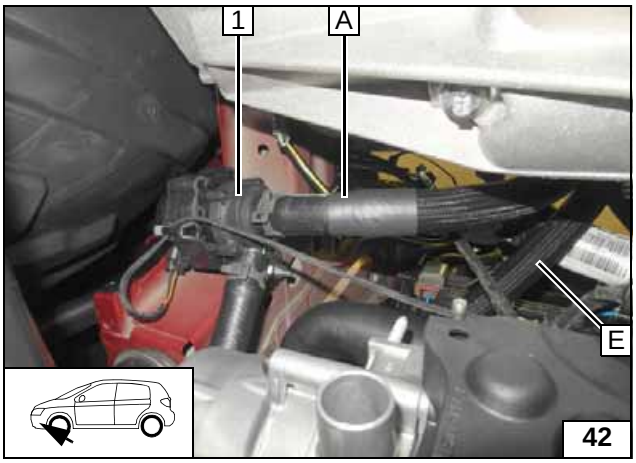
Any coolant running off should be collected in an appropriate container. Route hoses so that they are kink-free. Unless specified otherwise, always fasten using cable ties. Position clamps so that no other hoses can be damaged. When installing the hoses, the heater must be filled with coolant.

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

Hose routing diagram



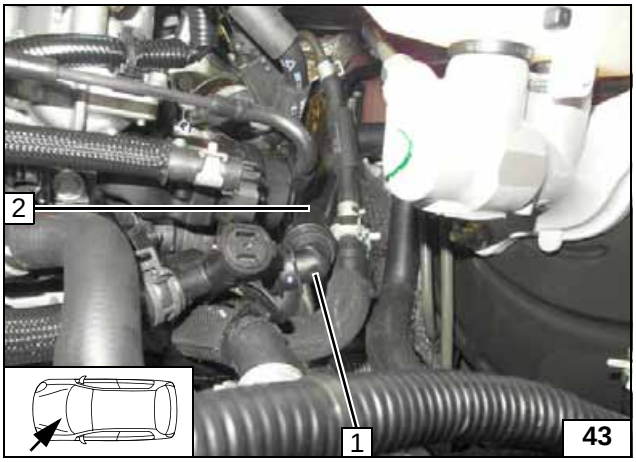
All spring clips without a specific designation = 25mm dia. **1** = Original vehicle spring clip.
2 = Black (sw) rubber isolator. **3** = Coupling piece of engine outlet.
All connecting pipes without a specific designation = 18x18mm dia. Connecting pipe = 20x18mm dia.



Route hoses **A** and **E** in front of the transmission upwards!

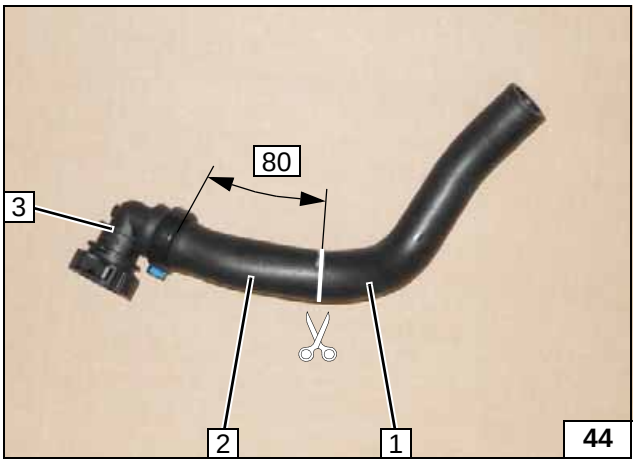
1 Circulating pump

Connecting circulating pump



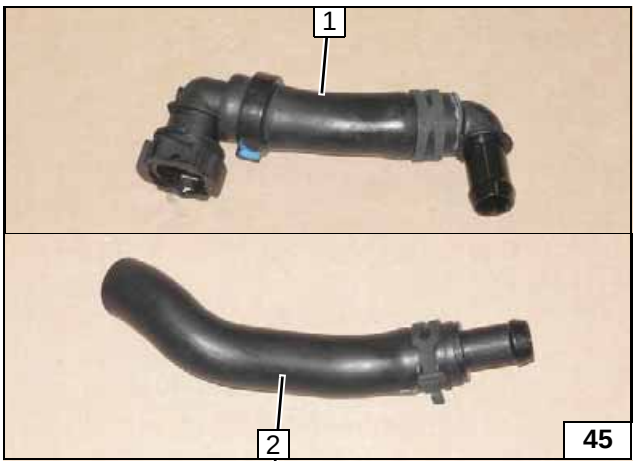
Detach engine outlet/heat exchanger inlet hose **2** with coupling piece of engine outlet **1**. The spring clip of the heat exchanger inlet will be reused.

Cutting point



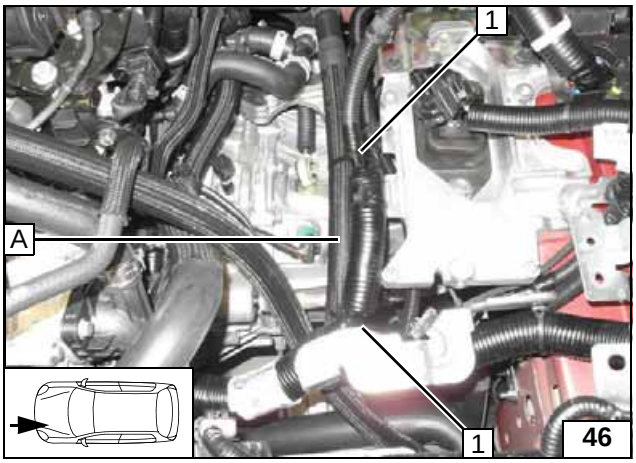
1 Hose section of heat exchanger inlet
2 Engine outlet hose section
3 Coupling piece of engine outlet.

Separating hose



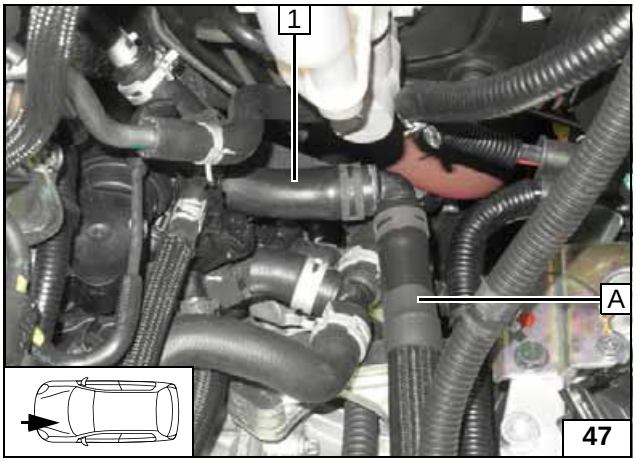
1 Engine outlet hose section
2 Hose section of heat exchanger inlet

Preparing hoses



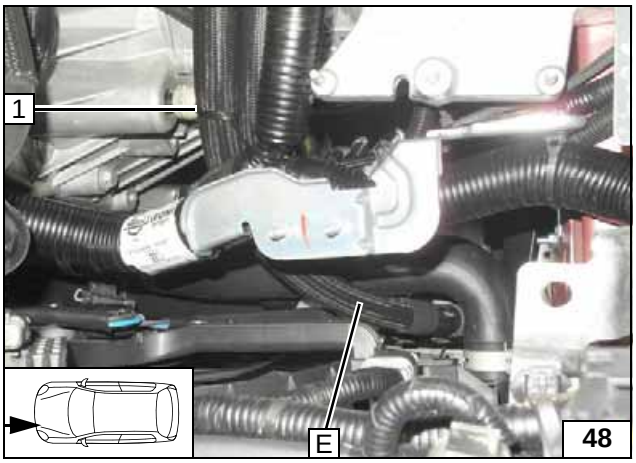
1 Cable tie [2x]

Routing of hose A



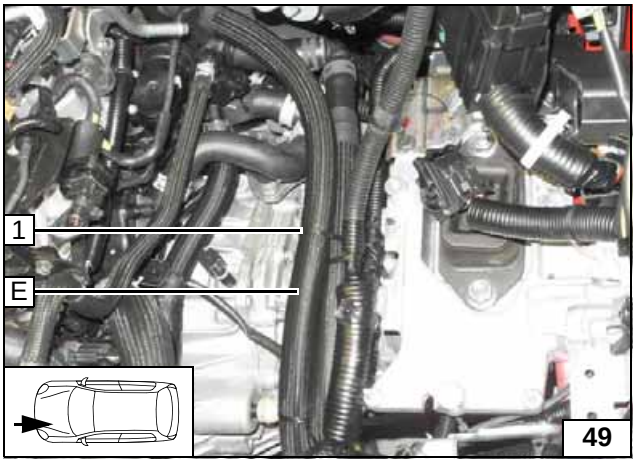
Mount hose of engine outlet **1** with coupling piece on the connection piece of the engine outlet.

Connecting engine outlet



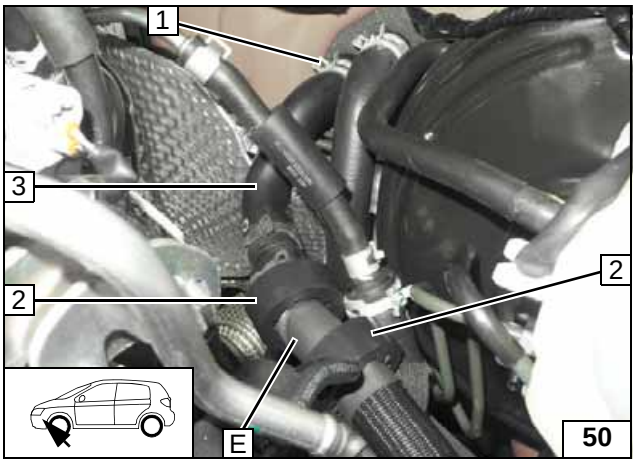
1 Cable tie

Routing hose E



1 Cable tie

Routing hose E



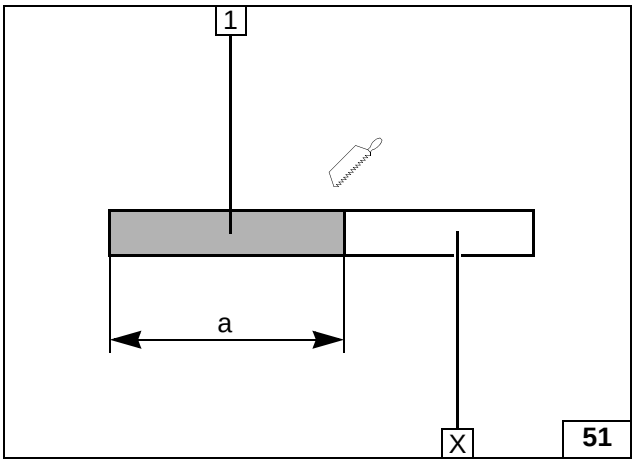
Slide black (sw) rubber isolator **2** [2x] onto hose **E** and align as shown.
Align hoses. Ensure sufficient distance to neighbouring components, adjust if necessary.

1 Original vehicle spring clip
3 Hose on heat exchanger inlet

Connecting heat exchanger inlet

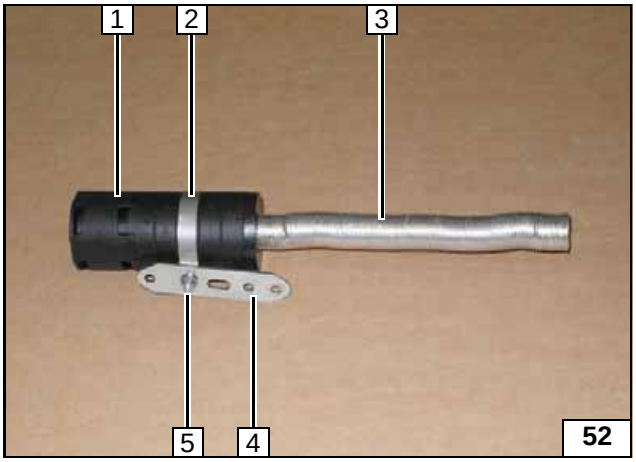
Combustion Air

Discard section **X**.



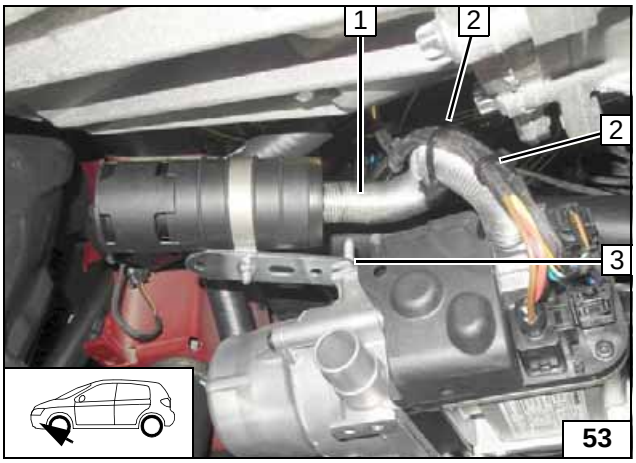
1 Combustion air pipe
a = 250

Cutting combustion air pipe to length



1 Silencer
2 51 mm dia. clamp
3 Combustion air pipe
4 Perforated bracket
5 M5x16 bolt, flanged nut

Premounting silencer



1 Combustion air pipe
2 Cable tie [2x]
3 M6 flanged nut on premounted stud bolt

Installing silencer and combustion air pipe

Fuel

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

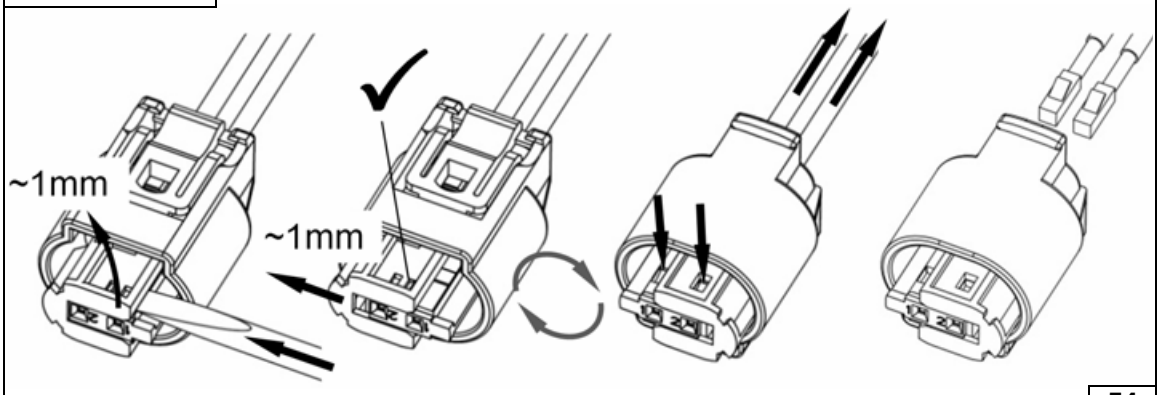
Catch any fuel running off in an appropriate container.

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.

Removing metering pump connector

Connector X7



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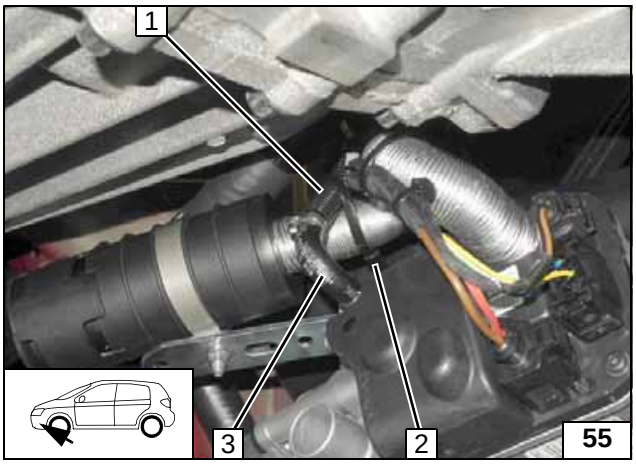

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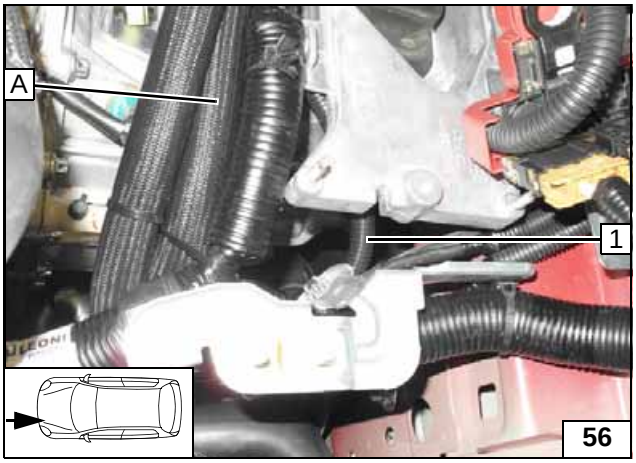
Pull fuel line and wiring harness of metering pump into 10mm dia. corrugated tube **1** and route upwards in front of the transmission.

Connecting heater

- **2** Cable tie
- **3** 90° moulded hose, fuel line, 10mm dia. clamp [2x]



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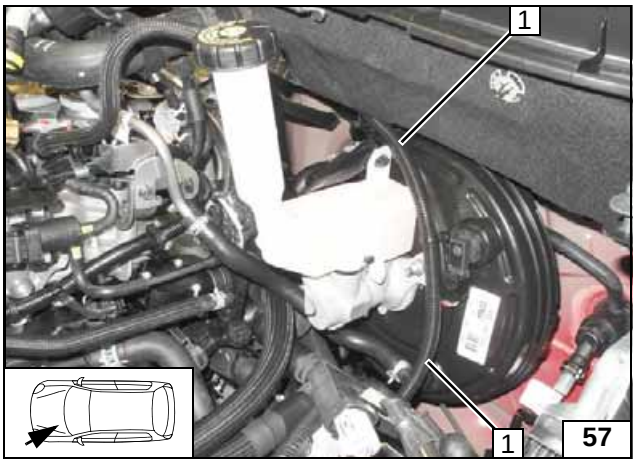
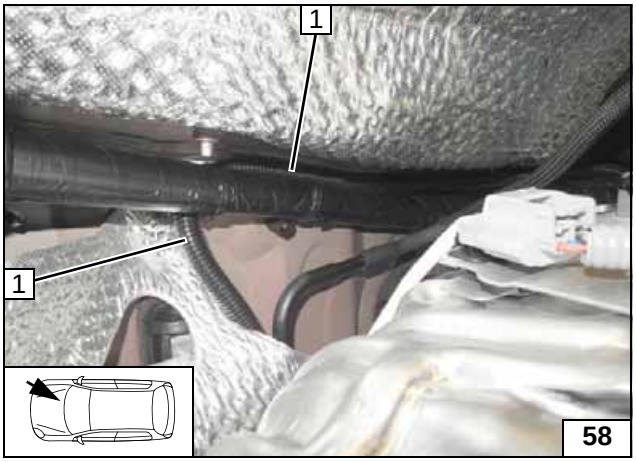
Route fuel line and wiring harness of metering pump in 10mm dia. corrugated tube **1** under hose **A** to the firewall.

Routing lines



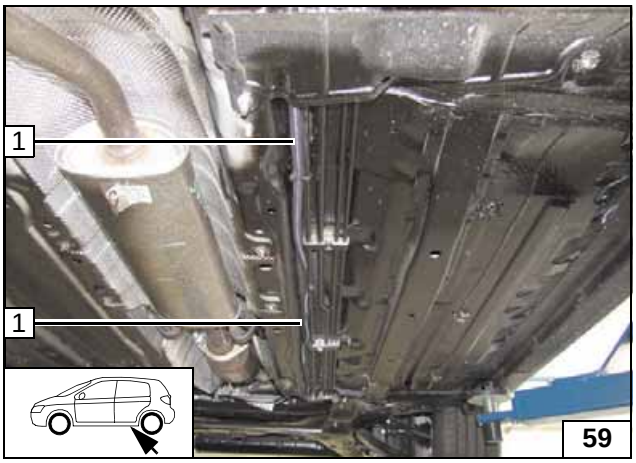
Route fuel line and wiring harness of metering pump in 10 mm dia. corrugated tube **1** along the original vehicle wiring harness to the right side of the vehicle.

Routing lines



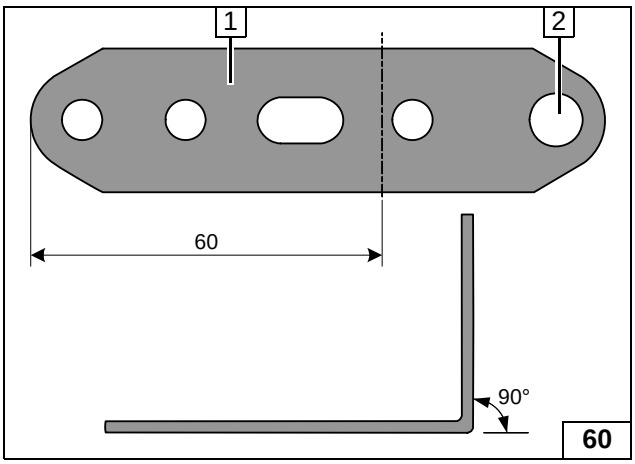
Route fuel line and wiring harness of metering pump in 10 mm dia. corrugated tube **1** along original vehicle lines to underbody.

Routing lines



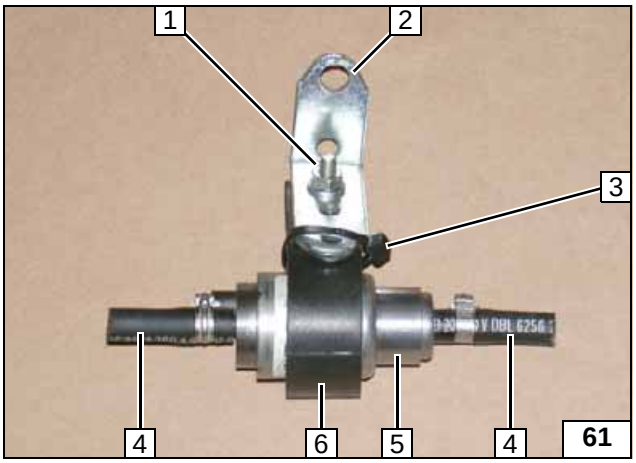
Route fuel line and wiring harness of metering pump in 10mm dia. corrugated tube along original vehicle lines to the installation location of the metering pump!

Routing lines



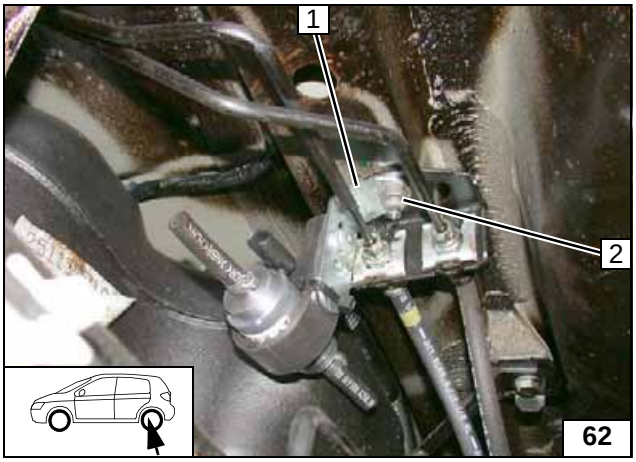
1 Perforated bracket
2 Drill out hole to 8.5mm dia.

Preparing perforated bracket



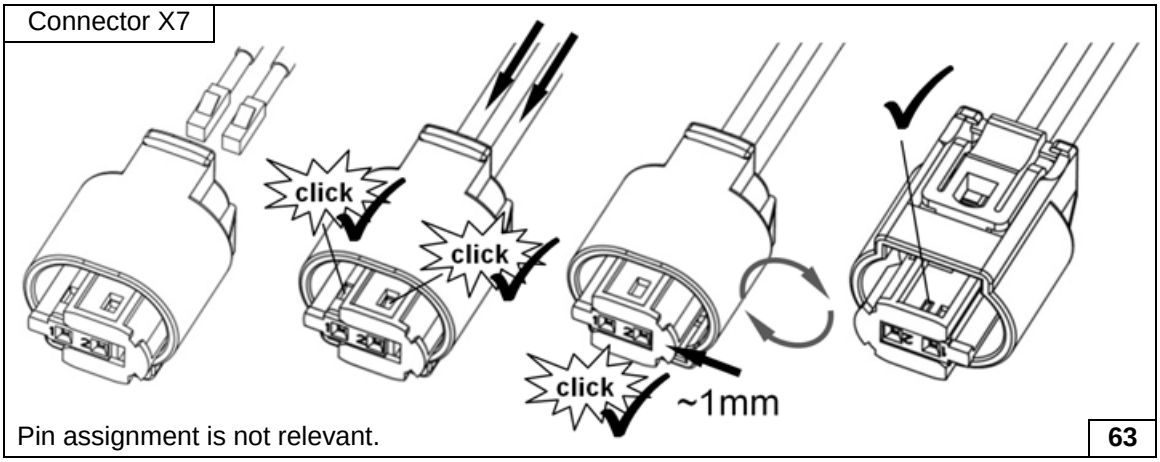
Premounting metering pump

1 M6x25 bolt, support angle bracket, flanged nut
2 Perforated bracket
3 Cable tie
4 Hose section, 10 mm dia. clamp [2x each]
5 Metering pump
6 Metering pump mounting bracket

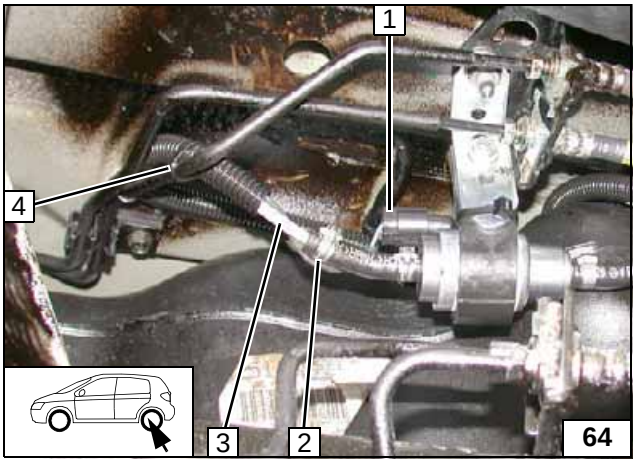


Installing metering pump

1 Perforated bracket
2 Original vehicle nut



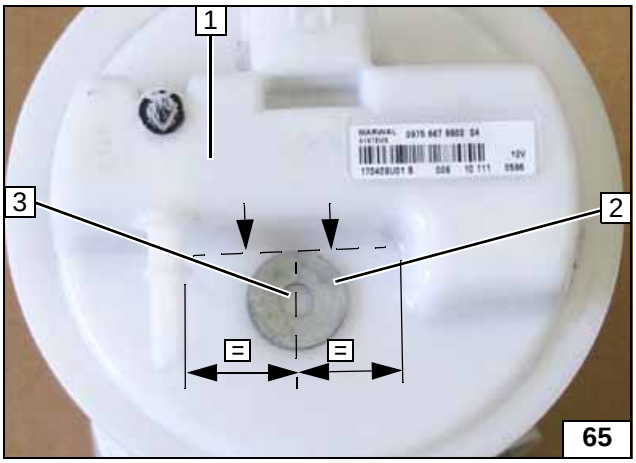
Completing metering pump connector



Check the position of the components; adjust if necessary. Check that they have freedom of movement. Cut corrugated tube to length, section will be reused.

Connecting metering pump

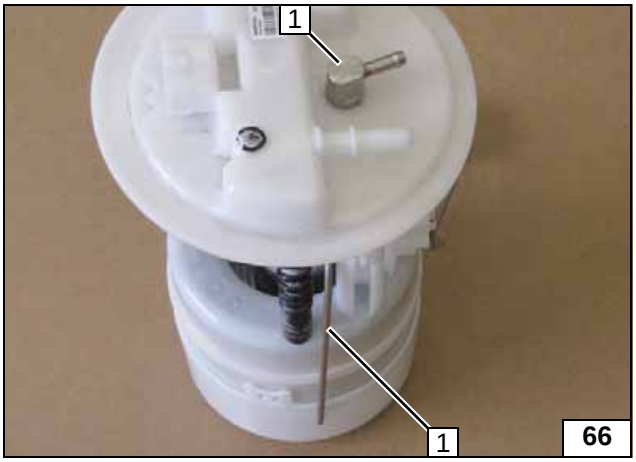
1 Wiring harness of metering pump, connector X7 mounted
2 10 mm dia. clamp
3 Fuel line of Heater
4 Cable tie



Remove fuel-tank sending unit **1** according to manufacturer's instructions. Place large diameter washer with outer dia. d_a = 22mm **2** in the curve and position in the centre.

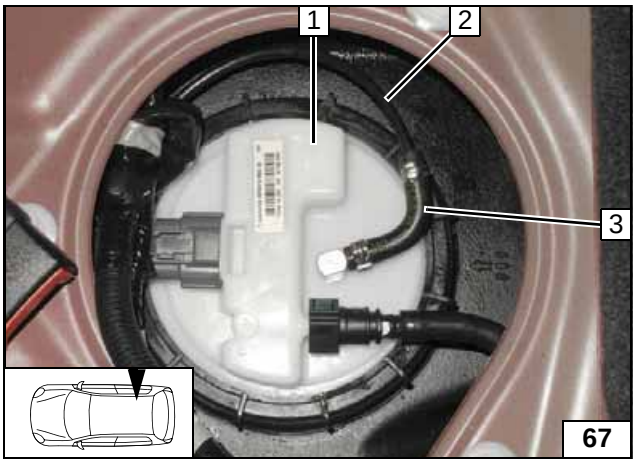
3 Copy hole pattern, 6 mm dia. hole

Fuel extraction



Shape fuel standpipe **1** according to template and cut to length.

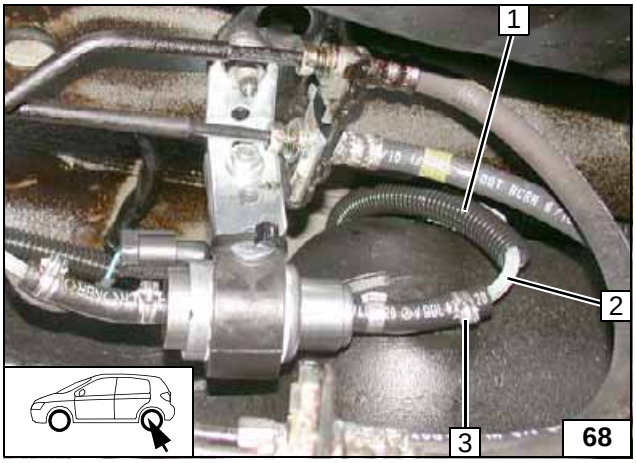
Installing fuel standpipe



Install fuel-tank sending unit **1** in accordance with manufacturer's instructions.

2 90° moulded hose, 10 mm dia. clamp [2x]
3 Fuel line of fuel standpipe

Connecting fuel line



Slide 10mm dia. corrugated tube section **1** onto fuel line of fuel standpipe **2**.
Check the position of the components; adjust if necessary. Check that they have freedom of movement.

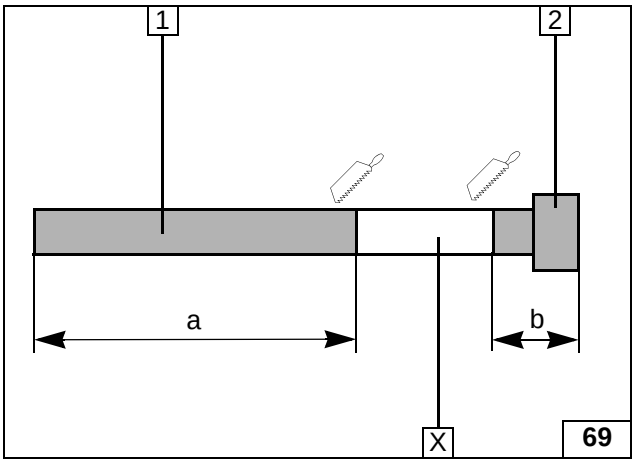
3 10 mm dia. clamp

Connecting metering pump

Exhaust Gas

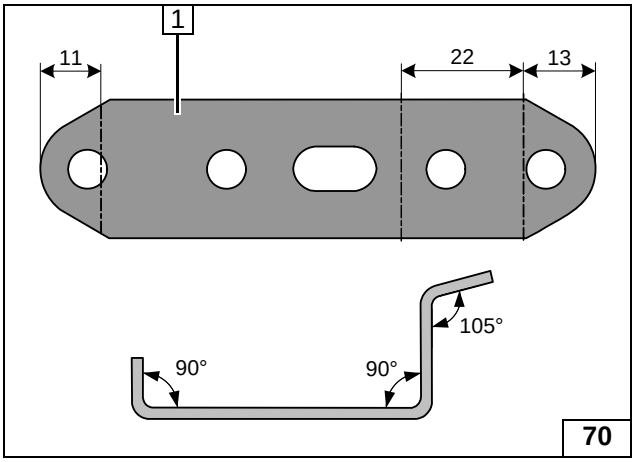
Discard section **X**.

1 Exhaust pipe
a = 350
2 Exhaust end section
b = 50



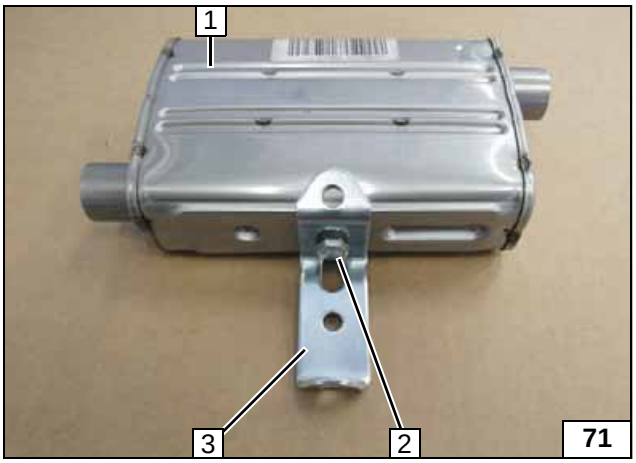
Preparing exhaust pipe

1 Perforated bracket



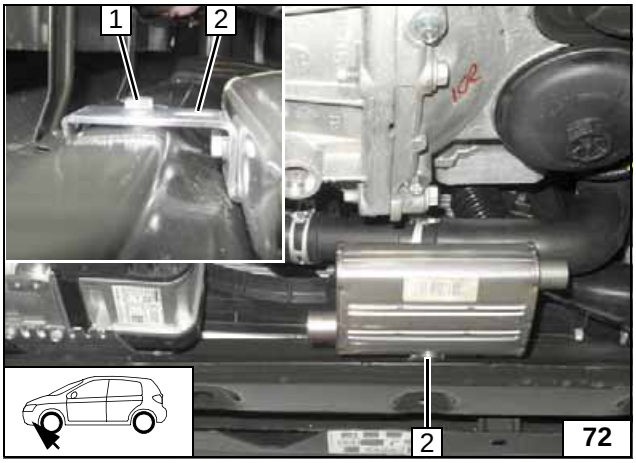
Preparing perforated bracket

1 Silencer
2 M6x16 bolt, spring lockwasher
3 Perforated bracket

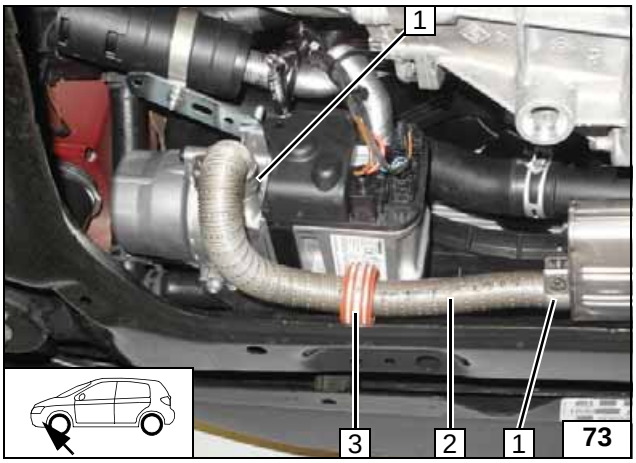


Premounting silencer

1 M6x20 bolt, spring lockwasher on rivet nut
2 Perforated bracket



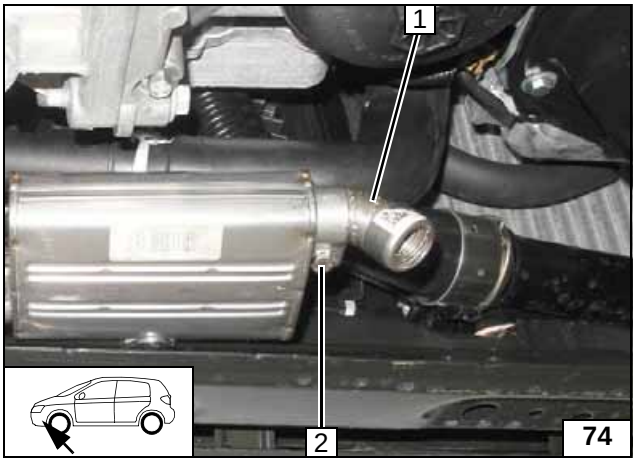
Mounting silencer



Slide spacer bracket **3** onto exhaust pipe **2** and align between the heater and the radiator cross member.

1 Hose clamp [2x]

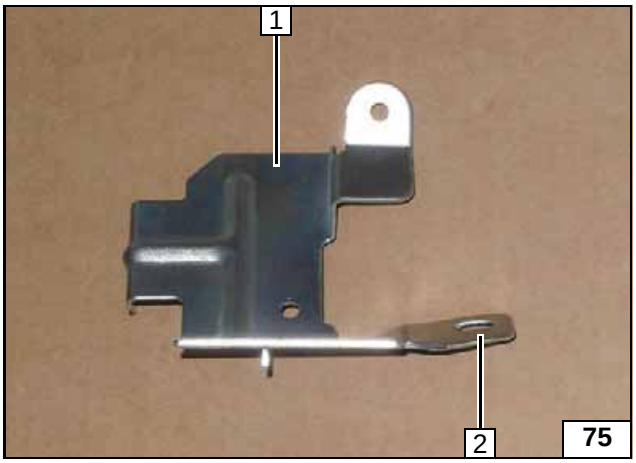
Mounting exhaust pipe



Ensure sufficient distance to neighbouring components, adjust if necessary.

1 Exhaust end section
2 Hose clamp

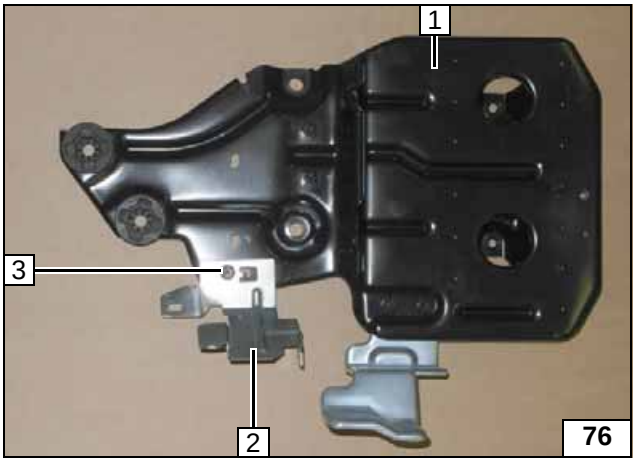
Mounting exhaust end section



Preparing Battery Carrier

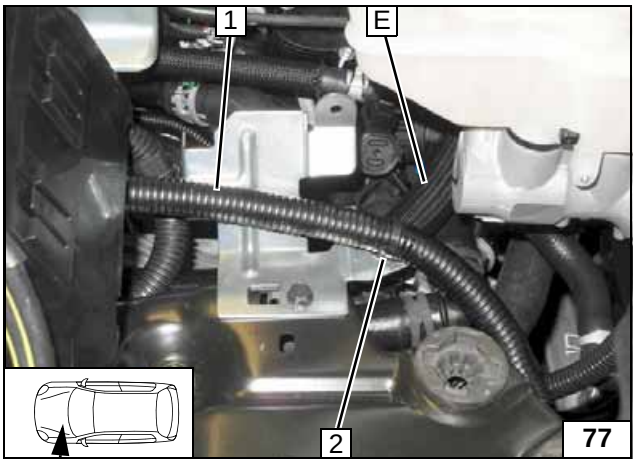
Removed bracket of battery carrier **1**.
Align tab **2** as shown.

Preparing bracket



1 Battery carrier
2 Bracket
3 Original vehicle bolt

Preparing battery carrier



Install retaining clip of original vehicle corrugated tube **1** at position **2** in the existing hole. Ensure sufficient distance to hose **E**, adjust if necessary.

Installing battery carrier

Final Work

Reassemble the disassembled components in reverse order. Check all hoses, clamps and all electrical connections for firm seating. Insulate all loose lines and tie back.
Only use manufacturer-approved coolant. Spray the heater components with anti-corrosion wax (Tectyl 100K, Order No. 111329).

- **Connect the battery.**
- **Fill and bleed the coolant circuit according to the vehicle manufacturer's specifications**
- **Program MultiControl CAR, teach Telestart transmitter**
- **Make settings on A/C control panel according to the "Operating Instructions for End Customer".**
- **Apply the caution label "Switch off parking heater before refilling" in the area of the filler neck**
- **See installation instructions for initial start-up and function check**

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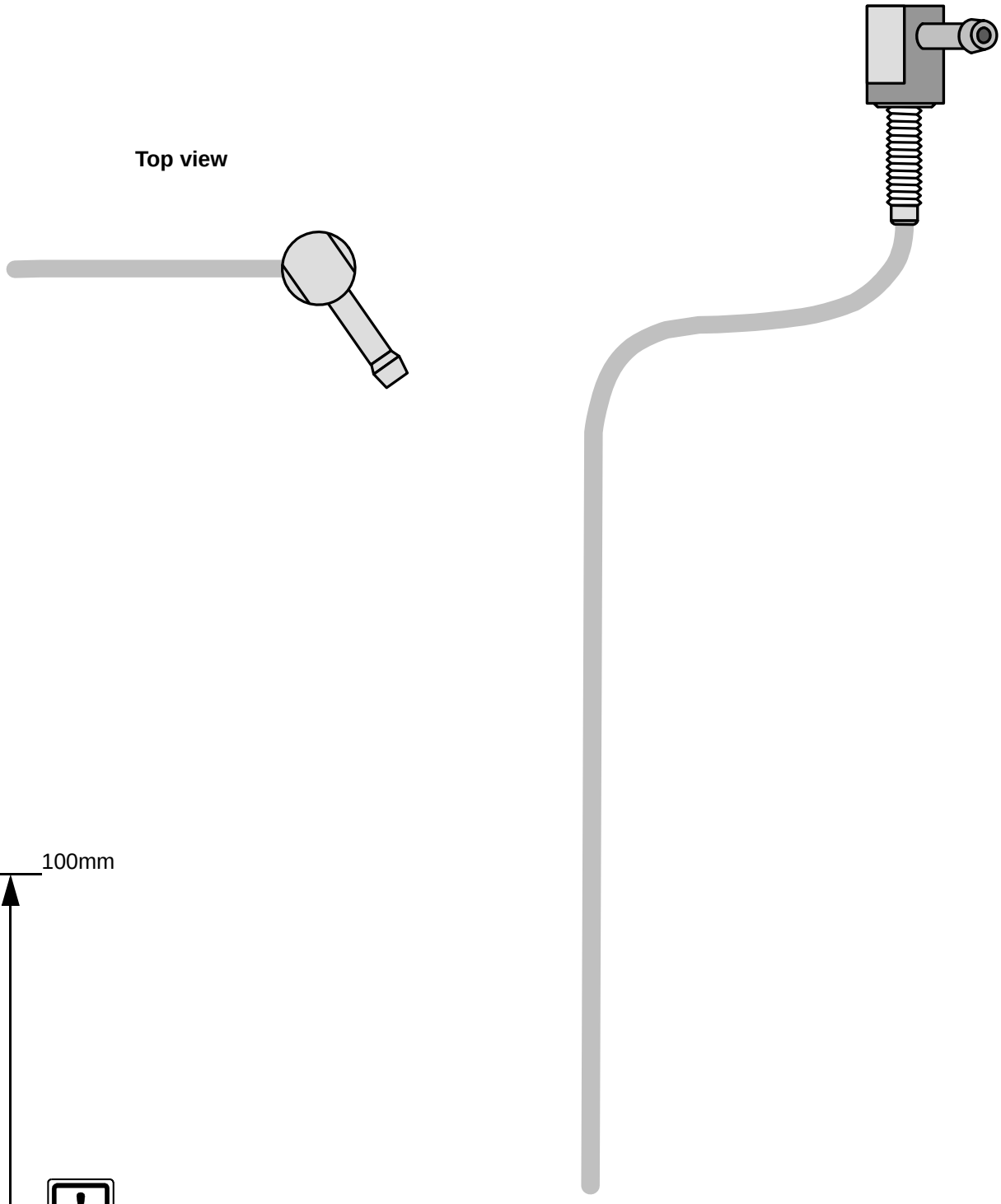
82199 Gilching
Germany
Internet: www.webasto.com
Technical Extranet:
http://dealers.webasto.com

Template for Fuel Standpipe



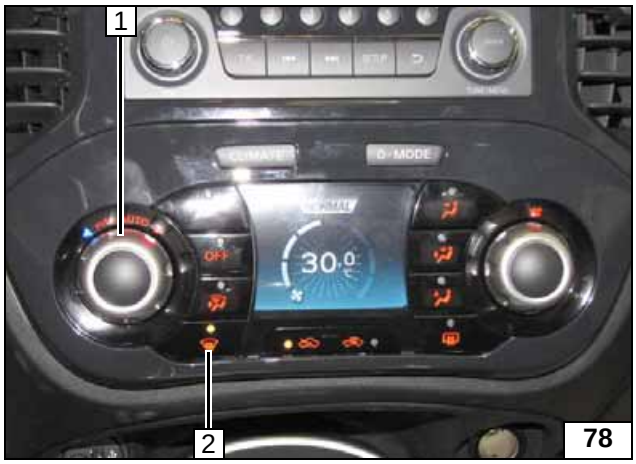
Operating Instructions for End Customer

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 vehicle settings for the heating cycle.
Deactivation instructions can be found in the operating instructions of the vehicle.

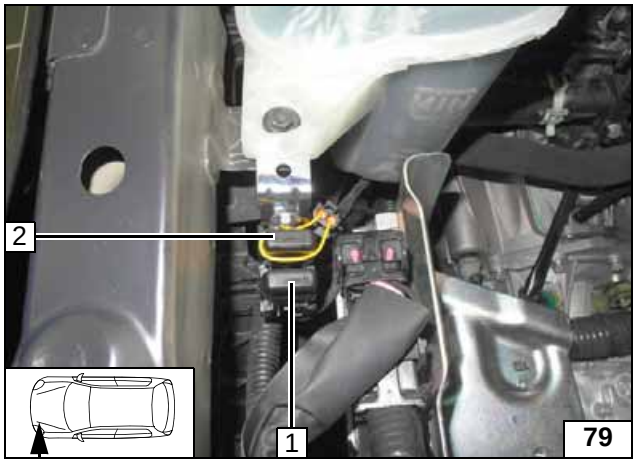
Before parking the vehicle, make the following settings:



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

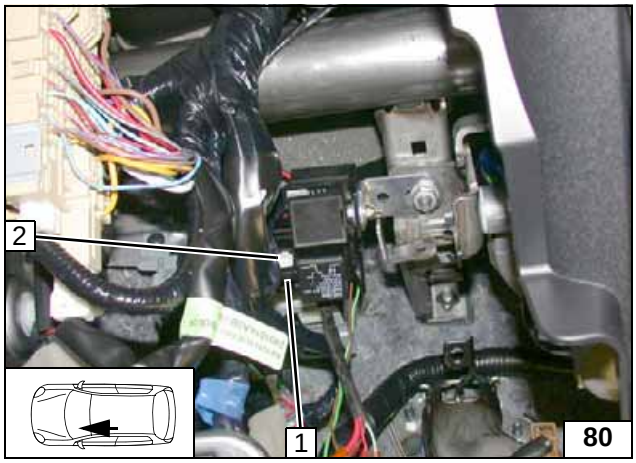
1 Set temperature to "30.0 °C"
2 Air outlet to windscreen

A/C control panel



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

Engine compartment fuses



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

Passenger compartment fuses