Water Heater

Webasto
Feel the Drive

***Thermo Top Evo* Parking Heater**

E1
00 0258

Installation Documentation
Nissan Pathfinder / Navara

Validity

Manufacturer	Model	Type	EG-BE-No. / ABE
Nissan	Pathfinder	R51	e9 * 2001 / 116 * 0051 * ...
Nissan	Navara	D40	L617

Motorisation	Fuel	Transmission type	Output in kW	Displacement in cm³	Engine code
3.0	Diesel	7-speed AG	170	2993	V9X

AG = Automatic transmission

From Model Year 2011
Left-hand drive vehicle

Verified equipment variants: Manual / automatic air-conditioning system

Front fog light
Without / with navigation system
Xenon with headlight washer system
Passenger compartment monitoring

Total installation time: about 10.5 hours

Nissan Pathfinder / Navara

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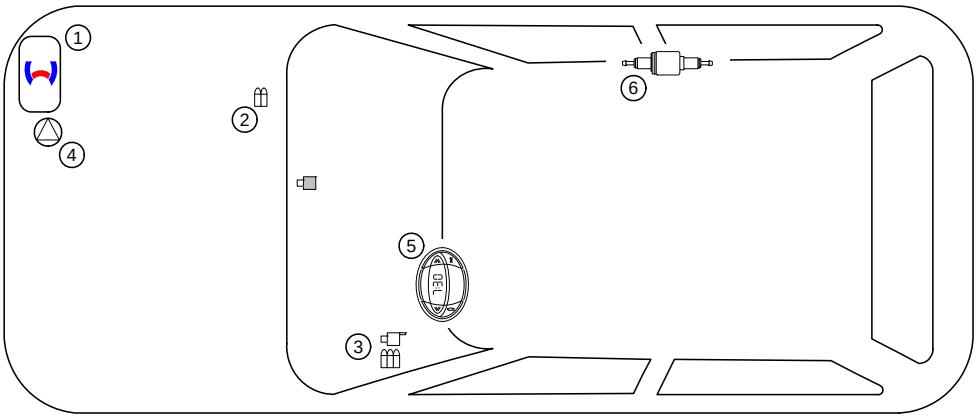
Necessary Components

- Basic delivery scope *Thermo Top Evo*based on price list
- Installation kit for Nissan Pathfinder / Navara 2011 Diesel: **1316896A**
- 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 Overview

Legend:

1. Heater
2. Fuse holder of engine compartment
3. Fuse holder of passenger compartment
4. Circulating pump
5. Digital timer
6. 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 227).

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 an IPCU, the corresponding settings must be checked or adjusted before the installation.

2 Statutory regulations governing installation

Guidelines	Thermo Top Evo
Heating Directive ECE R122	E1 00 0258
EMC Directive ECE R10	E1 03 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

For vehicles with an EU permit, no entry in accordance with § 19 Sub-Section 4 of Annex VIII b to the Road Traffic Act is required.

2.1 Excerpt from the directive 2001/56/EC Appendix VII 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 Pathfinder / Navara

Notes on Validity

This installation documentation applies to the Nissan Pathfinder / Navara Diesel vehicles - for validity, see page 1 - from model year 2011 and later, assuming technical modifications to the vehicle do not affect installation, any liability claims excluded. Depending on the vehicle version and equipment, modifications may be necessary during installation with respect to this installation documentation.

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

Technical 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 M4 and M6
- Webasto Thermo Test Diagnosis with current software

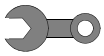
Dimensions
- All dimensions are in mm

Tightening torque values
- Tightening torques of 5x13 heater bolts = 8Nm.
- Tightening torque of the bolt of 5x15 water connection piece retaining plate = 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 injury or fatal accidents

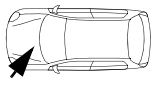
Specific risk of damage to components

Specific risk of fire and explosion

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

Reference to a special technical feature

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



Nissan Pathfinder / Navara

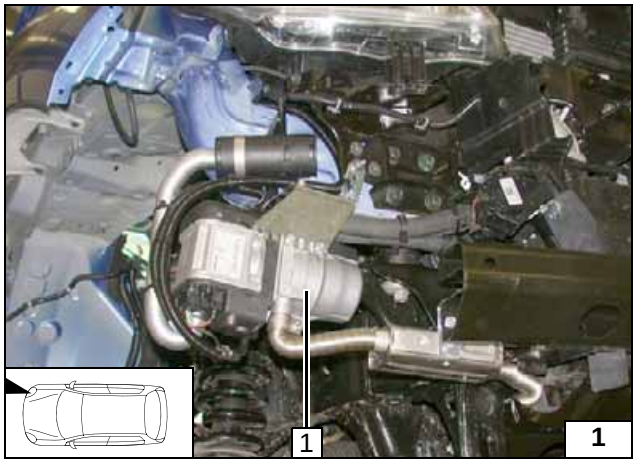
Preliminary Work

Vehicle

- Open the fuel tank cap.
- Ventilate the fuel tank.
- Close the fuel tank cap again.
- Depressurise the cooling system.
- Remove the engine cover.
- Disconnect and remove the battery.
- Detach the fuel filter in the engine compartment.
- Remove the right front wheel.
- Remove the wheel well trim in front on the right.
- Remove the bumper trim.
- Remove the front underride protection.
- Remove the splash guard (rubber) in the front on the right.
- Remove the lower glove compartment.
- Remove the lower instrument panel trim on the driver's side.
- Remove the drink holder between the front seats.
- Remove the trim of the shift lever.
- Remove the trim of the centre console, one M6 bolt each laterally [audio unit].
- Remove the display of the navigation system, if present.
- Remove the A/C control panel (4 bolts), A/C control unit or A/C booster according to 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

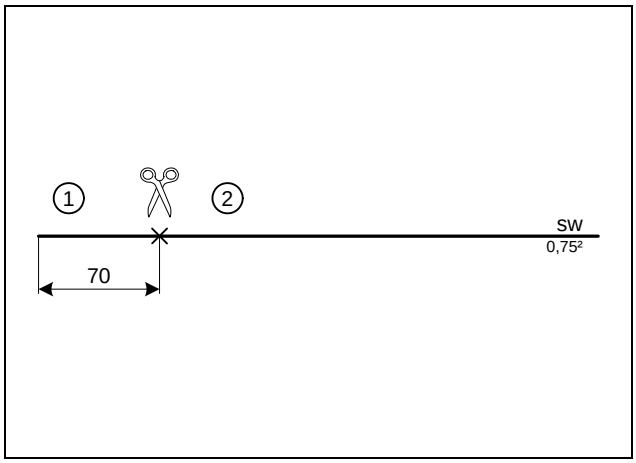
Installation location

Preparing Electrical System

All vehicles

The wire sections retain their numbering in the entire document.

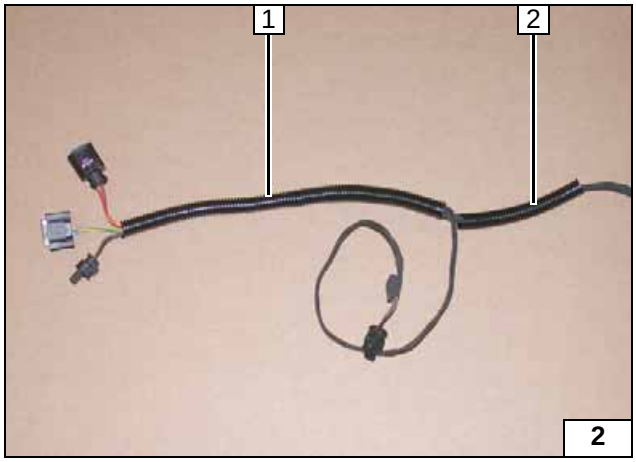
Cutting wires to length



Cut off one end of 300mm and one end of 100mm from the 1130mm corrugated tube.

1 Wiring harness of heater and wiring harness of circulating pump in the 300mm corrugated tube
2 Wiring harness of heater in 100 mm corrugated tube

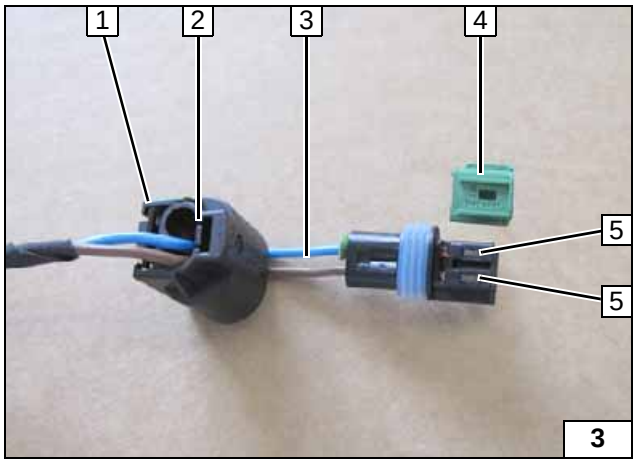
Preparing wiring harnesses



Complete connector of metering pump again after routing. Pin assignment is not relevant.

1 Connector housing
2 Lock
3 Blue/brown (bl / br) wires
4 Coding
5 Timer lock

Dismantling connector

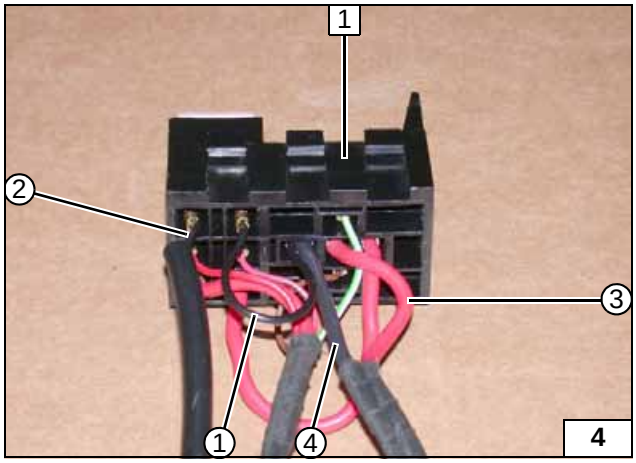


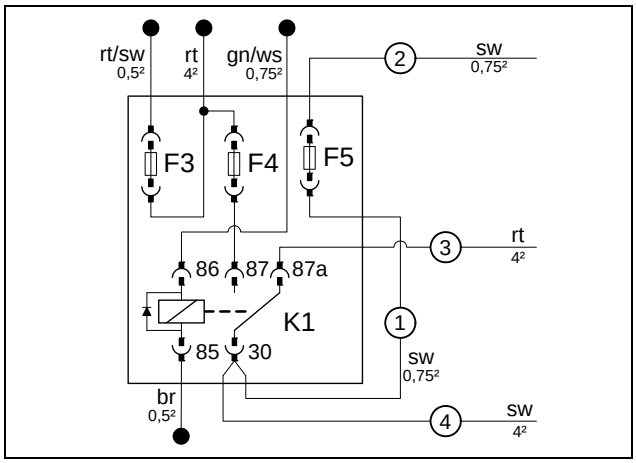
Vehicle without passenger compartment monitoring

Make the connections as shown. Install wire section ② in provided protective sleeving.

1 Fuse holder of passenger compartment
① Black (sw) wire from Fuse F5 and socket K1/30
② Black (sw) wire from fuse F5
③ Red (rt) wire from socket K1/87a
④ Black (sw) wire from socket K1/30

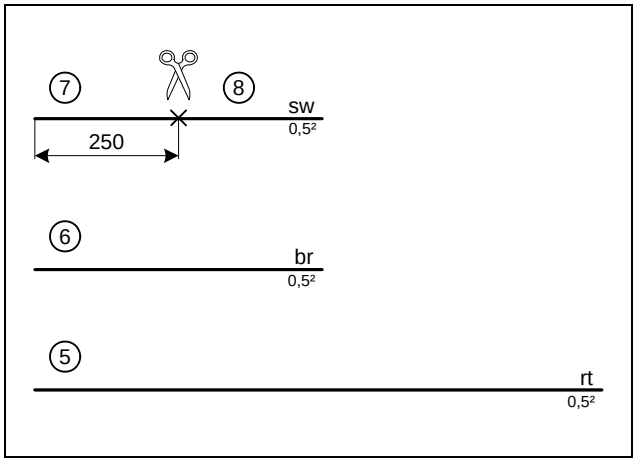
Preparing fuse holder of passenger compartment





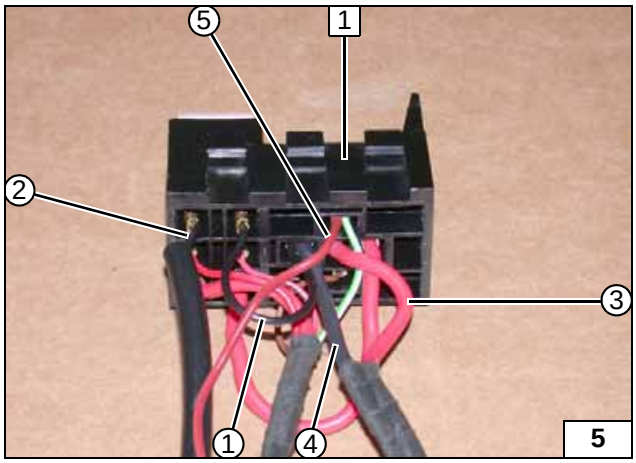
Plug in Fuse F4 25A and F5 3A.
Insert K1 relay only after installation.

Inserting F4 and F5, preparing K1 relay



Vehicle with passenger compartment monitoring

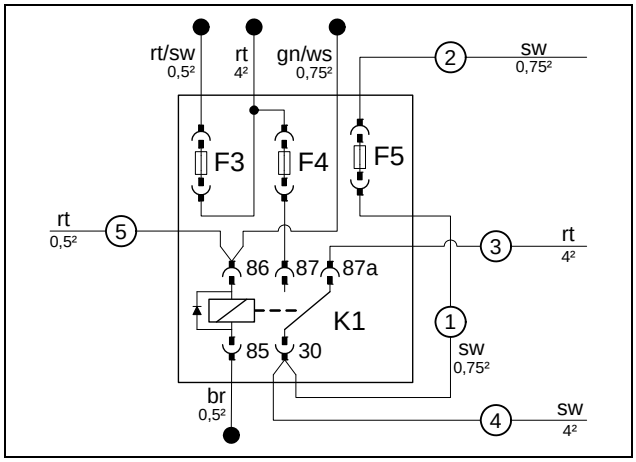
Cutting wires to length



Make the connections as shown. Install wire section ② in provided protective sleeving.

- **1** Fuse holder of passenger compartment
- ① Black (sw) wire from Fuse F5 and socket K1/30
- ② Black (sw) wire from fuse F5
- ③ Red (rt) wire from socket K1/87a
- ④ Black (sw) wire from socket K1/30
- ⑤ Red (rt) wire from socket K1/86

Preparing fuse holder of passenger compartment



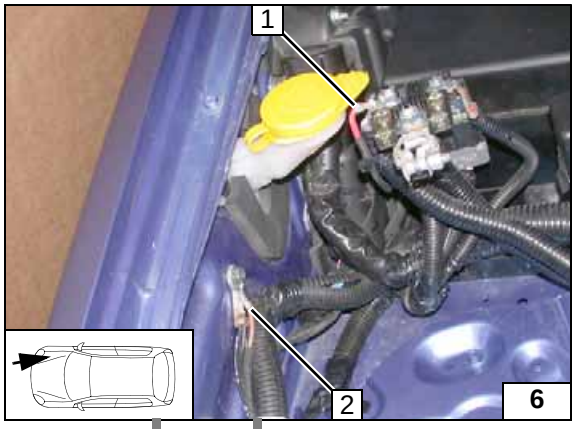
Plug in Fuse F4 25A and F5 3A. Insert K1 relay only after installation.

Inserting F4 and F5, preparing K1 relay

Electrical System

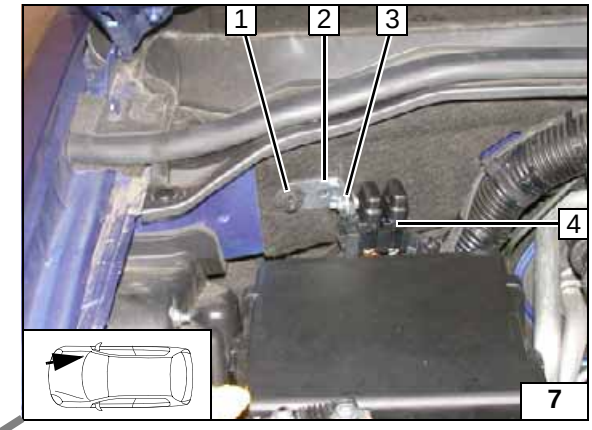
Positive and earth wire

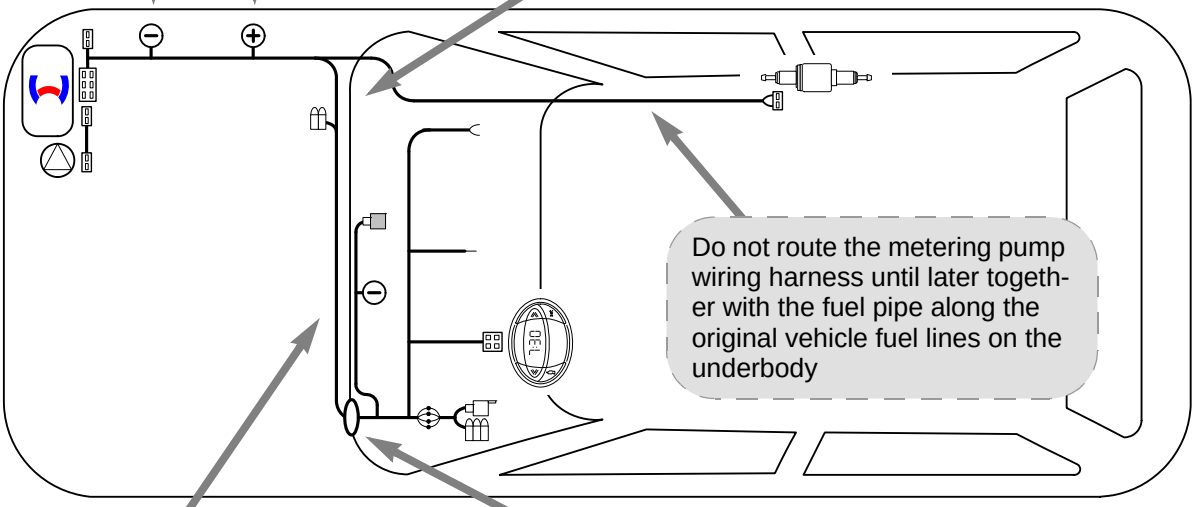
1 Positive wire to positive battery distributor
2 Earth wire on original vehicle earth support point



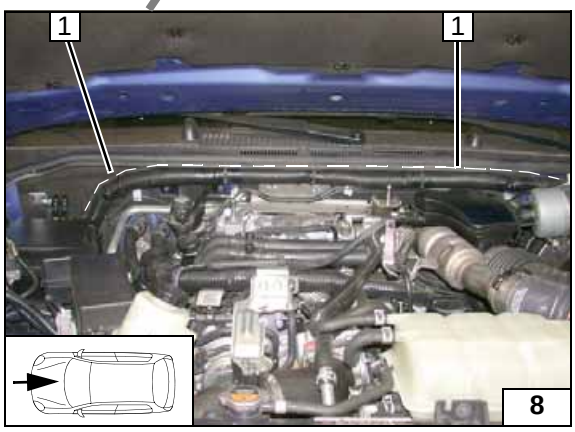
Fuse holder of engine compartment

1 Original vehicle stud bolt, plastic nut
2 Angle bracket
3 M5x16 bolt, large diameter washer [2x], retaining plate of fuse holder, nut
4 F1-2 fuses mounted



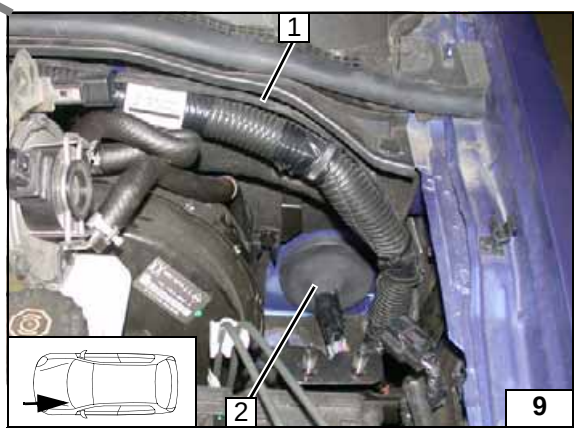


Wiring harness routing installation diagram



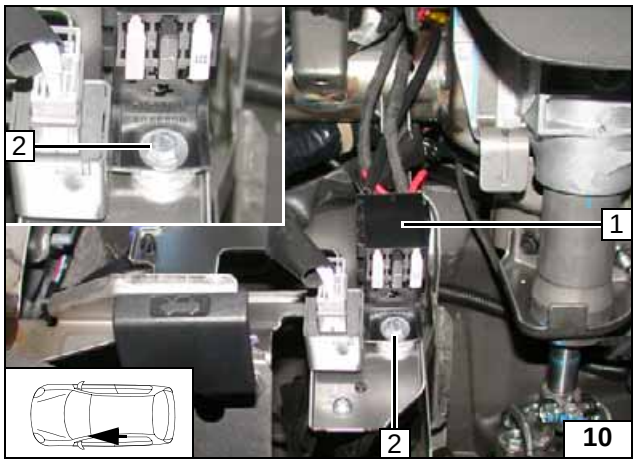
Wiring harness routing

1 Wiring harness of heater, heater control



Wiring harness pass through

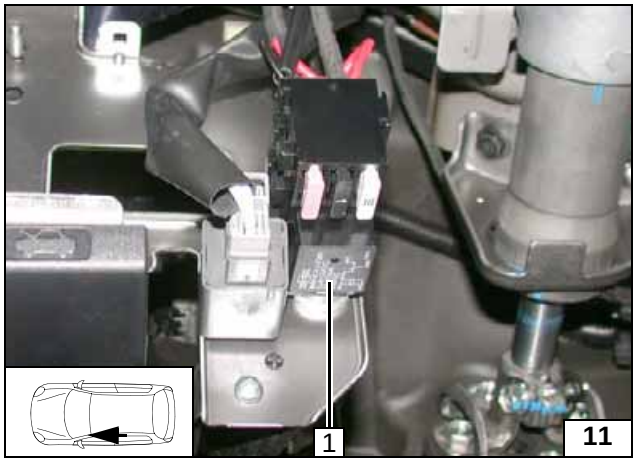
1 Wiring harness of heater, heater control
2 Protective rubber plug



Fuse Holder of Passenger Compartment

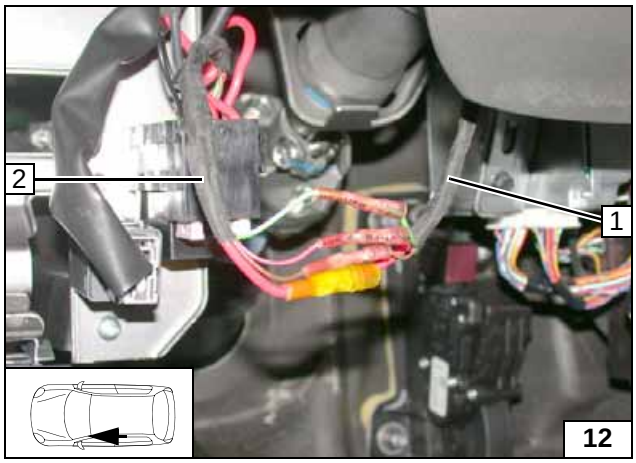
1 Fuse holder of passenger compartment
2 M6x20 bolt, large diameter washer, 5 mm shim, flanged nut, existing hole

Installing fuse holder of passenger compartment



1 K1 relay

Inserting K1 relay

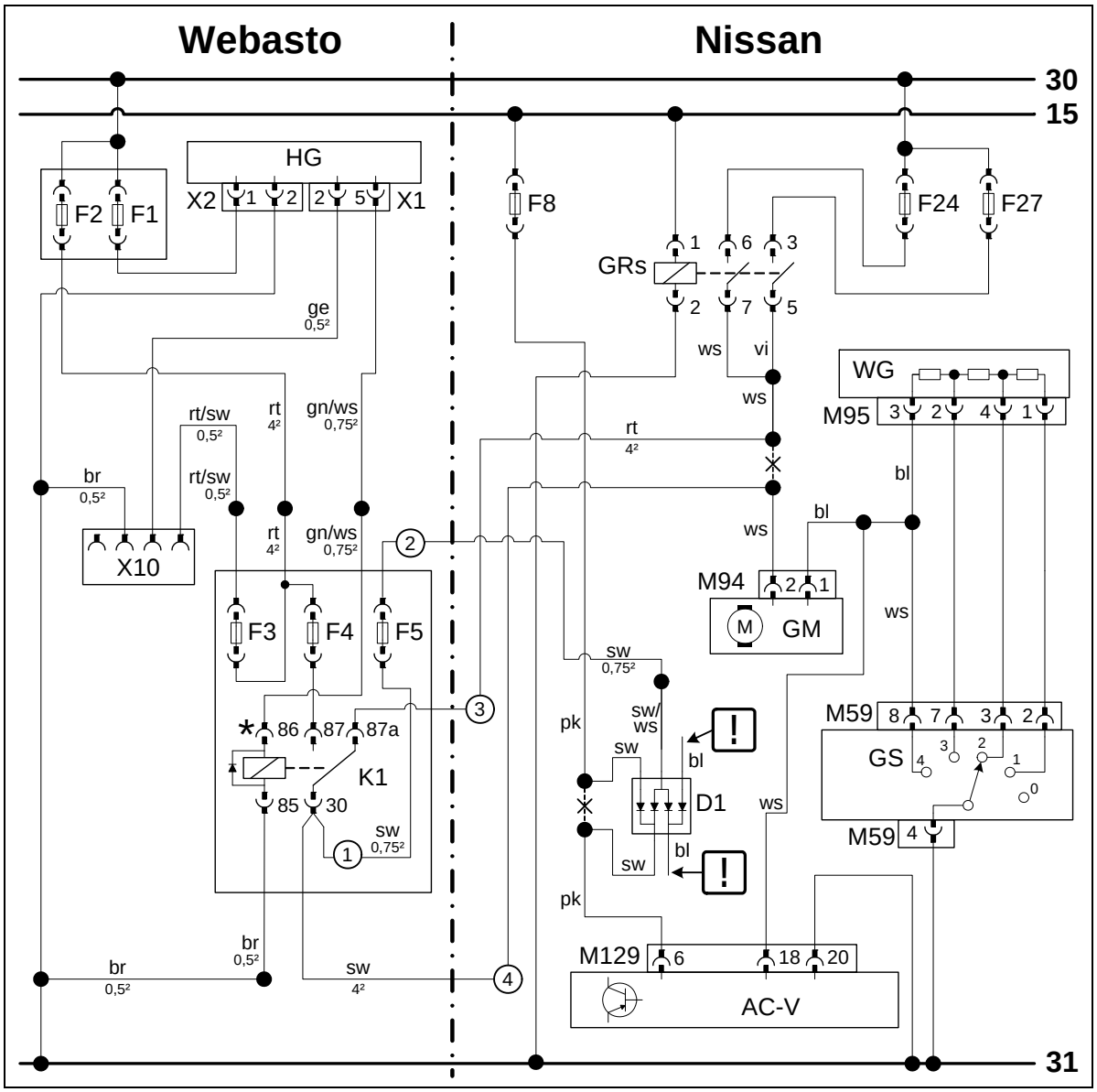


Connect fuse holder of passenger compartment **2** to wiring harness of heater **1** according to wiring diagram, with same colour wires connected to each other.

Connecting wiring harnesses

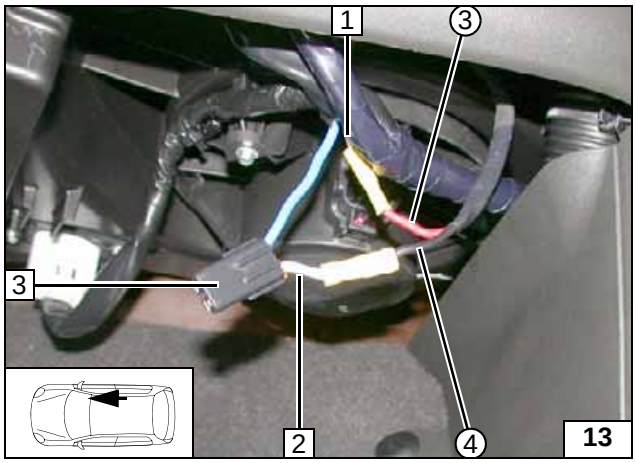
Fan Controller
Manual Air-Conditioning

Wiring diagram



Webasto components		Vehicle components		Colours and symbols	
HG	TT-Evo heater	F8	10A fuse	rt	red
X1	6-pin heater connector	F24	15A fuse	sw	black
X2	2-pin heater connector	F27	15A fuse	ge	yellow
X10	4-pin connector Heater control	GRs	Fan relay	gn	green
		WG	Resistor group	vi	violet
K1	Fan relay	M95	4-pin connector WG	ws	white
F1	20A fuse	M94	2-pin connector GM	br	brown
F2	30A fuse	GM	Fan motor	pk	pink
F3	1A fuse	M59	8-pin connector GS	bl	blue
F4	25 A fuse	GS	Fan switch	*	In case of passenger compartment monitoring, also connect red (rt) wire for K2 relay ⑤ .
F5	3A fuse	M129	26-pin AC-V connector		
D1	Diode group	AC-V	A/C control unit		
				!	Insulate wire end and tie back
				X	Cutting point
				Wiring colours may vary.	

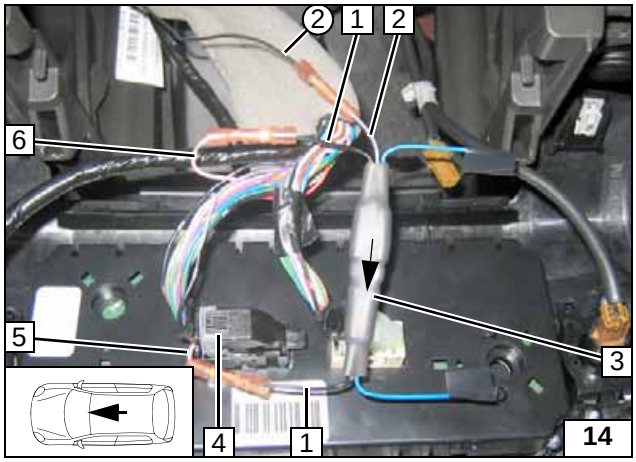
Legend



Connection before the 2-pin connector M94 **3** from fan motor.
Produce connections as shown in wiring diagram.

1 White (ws) wire GRs
2 White (ws) wire M94 connector
③ Red (rt) wire from K1/87a
④ Black (sw) wire from K1/30

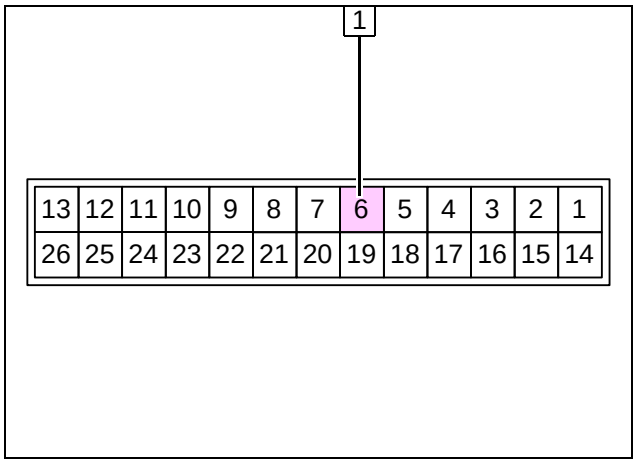
Connecting fan motor



Connection to 26-pin connector M129 **4** from A/C control unit. Pay attention to the flow direction of the diode group **3**. Insulate and tie back blue (bl) wire [2x] of diode group **3**. Produce connections as shown in wiring diagram.

1 Black (sw) wire of diode group [2x]
2 Black/white (sw/ws) wire of diode group
5 Pink (pk) wire of connector M129, Pin 6
6 Pink (pk) wire from Fuse F8
② Black (sw) wire from K1/30

Connection to A/C control unit

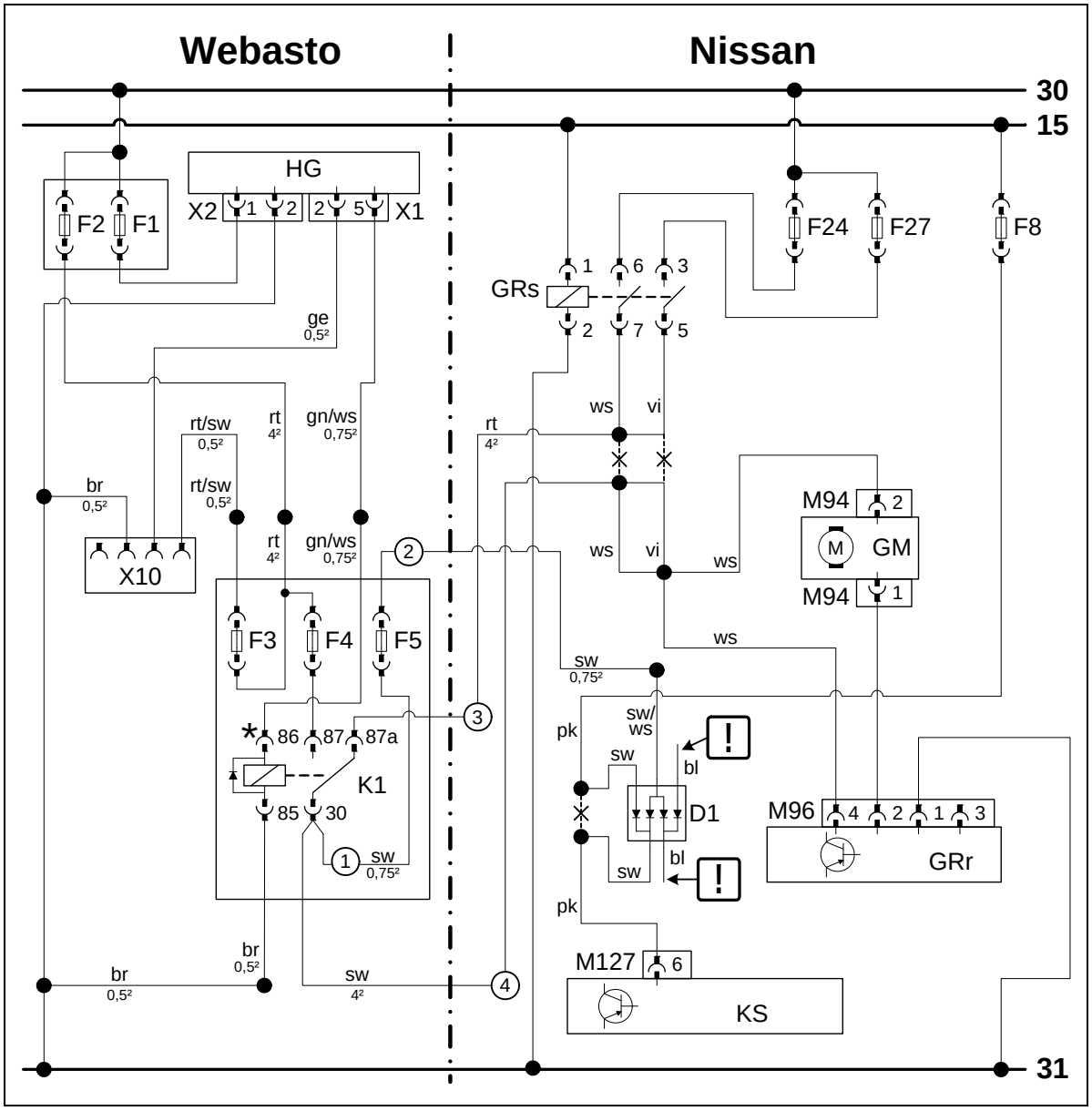


1 M129 connector on wire-side, Pin 6

M129 connector

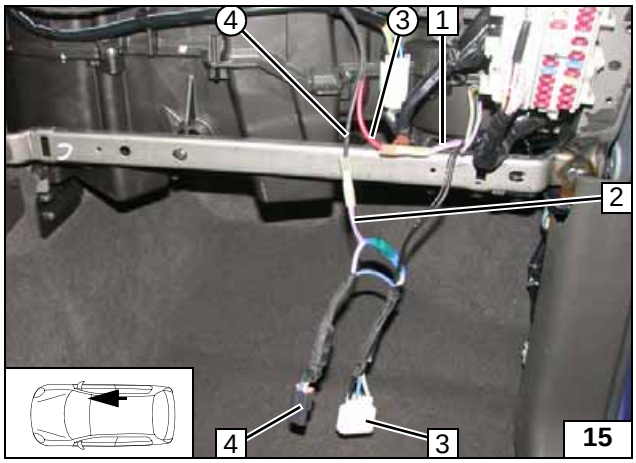
Automatic A/C without Navigation System

Wiring diagram



Webasto components		Vehicle components		Colours and symbols	
HG	TT-Evo heater	F24	15A fuse	rt	red
X1	6-pin heater connector	F27	15A fuse	sw	black
X2	2-pin heater connector	F8	10A fuse	ge	yellow
X10	4-pin connector Heater control	GRs	Fan relay	gn	green
		M94	2-pin connector GM	vi	violet
K1	Fan relay	GM	Fan motor front	ws	white
F1	20A fuse	M96	4-pin connector, GRr	br	brown
F2	30A fuse	GRr	Fan controller	pk	pink
F3	1A fuse	M127	26-pin connector KS	bl	blue
F4	25 A fuse	KS	A/C control unit	*	In case of passenger compartment monitoring, also connect red (rt) wire for K2 relay ⑤ .
F5	3A fuse				
D1	Diode group				
				!	Insulate wire end and tie back
				X	Cutting point
				Wiring colours may vary.	

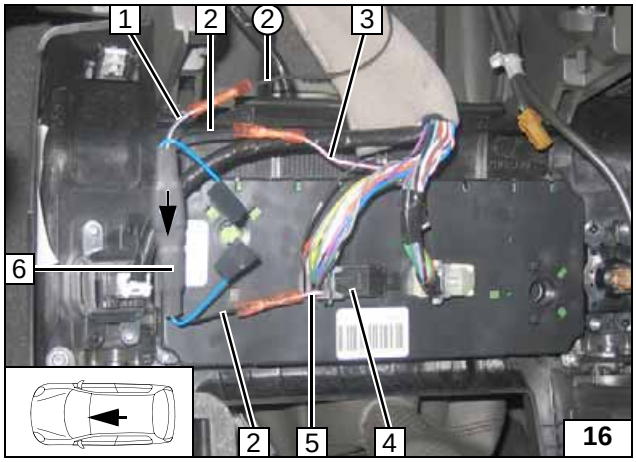
Legend



Connection before the 4-pin connector M96 **3** from fan controller and before the 2-pin connector M94 **4** from fan motor.
Produce connections as shown in wiring diagram.

1 White (ws) wire GRs Pin 7 and violet (vi) wire GRs Pin 5
2 White (ws) and violet wire (vi) GM / GRr
③ Red (rt) wire from K1/87a
④ Black (sw) wire from K1/30

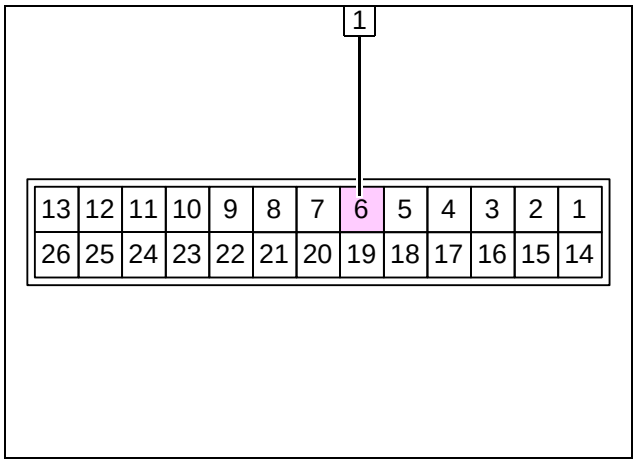
Connecting fan motor / controller



Connection to 26-pin connector M127 **4** from A/C control unit. Pay attention to the flow direction of the diode group **6**. Insulate and tie back blue (bl) wire [2x] of diode group **6**. Produce connections as shown in wiring diagram.

1 Black/white (sw/ws) wire of diode group
2 Black (sw) wire of diode group [2x]
3 Pink (pk) wire from Fuse F8
5 Pink (pk) wire to connector M127, Pin 6
② Black (sw) wire from K1/30

Connection to A/C control unit

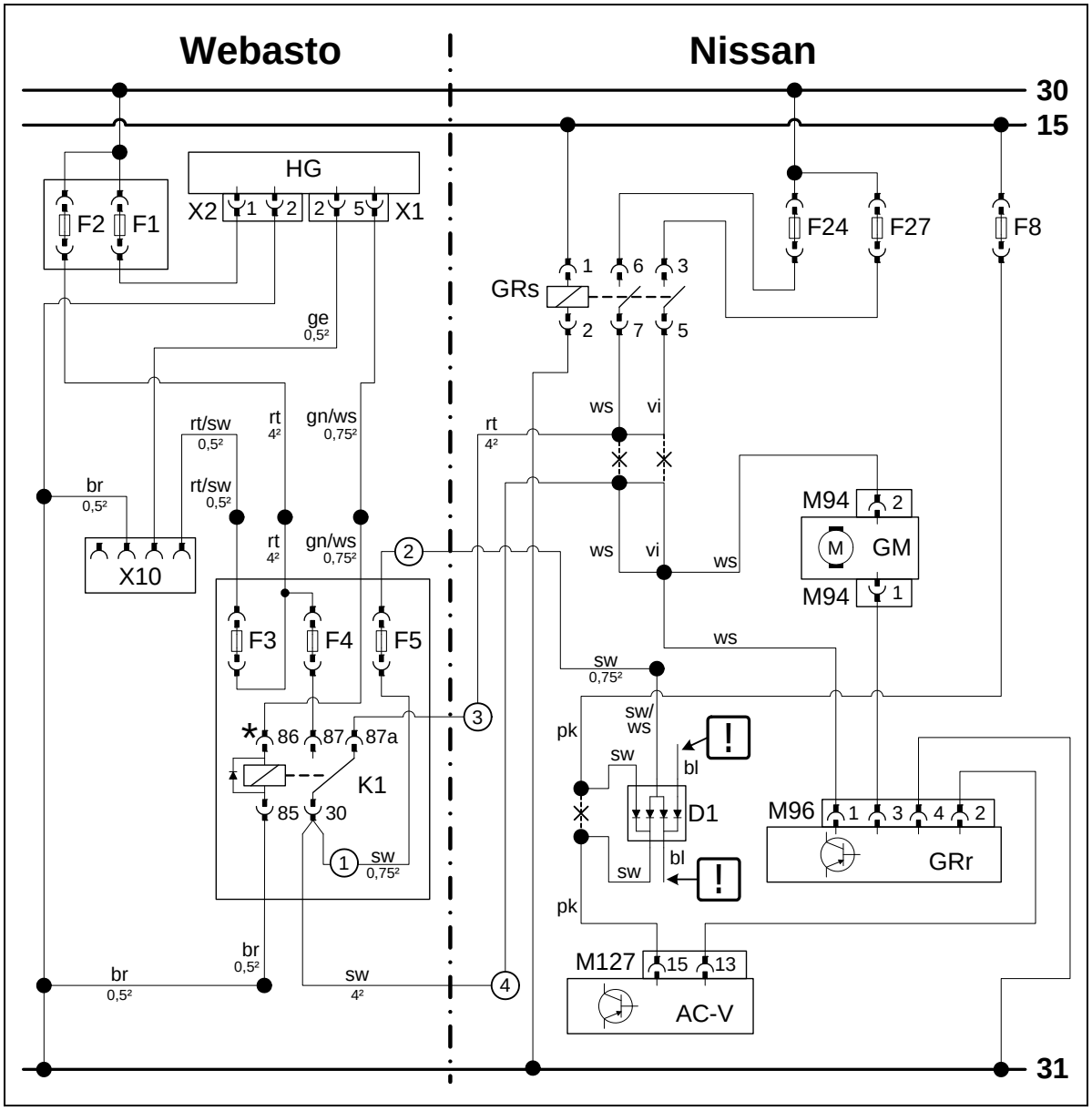


1 M127 connector on wire-side, Pin 6

M127 connector

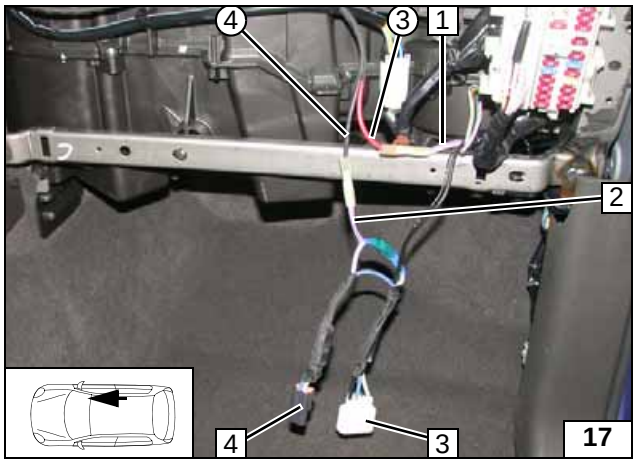
Automatic A/C with Navigation System

Wiring diagram



Webasto components		Vehicle components		Colours and symbols	
HG	TT-Evo heater	F24	15A fuse	rt	red
X1	6-pin heater connector	F27	15A fuse	sw	black
X2	2-pin heater connector	F8	10A fuse	ge	yellow
X10	4-pin connector Heater control	GRs	Fan relay	gn	green
		M94	2-pin connector GM	vi	violet
K1	Fan relay	GM	Fan motor front	ws	white
F1	20A fuse	M96	4-pin connector, GRr	br	brown
F2	30A fuse	GRr	Fan controller	pk	pink
F3	1A fuse	M127	26-pin AC-V connector	bl	blue
F4	25 A fuse	AC-V	A/C control unit	*	In case of passenger compartment monitoring, also connect red (rt) wire for K2 relay ⑤ .
F5	3A fuse				
D1	Diode group				
				!	Insulate wire end and tie back
				X	Cutting point
				Wiring colours may vary.	

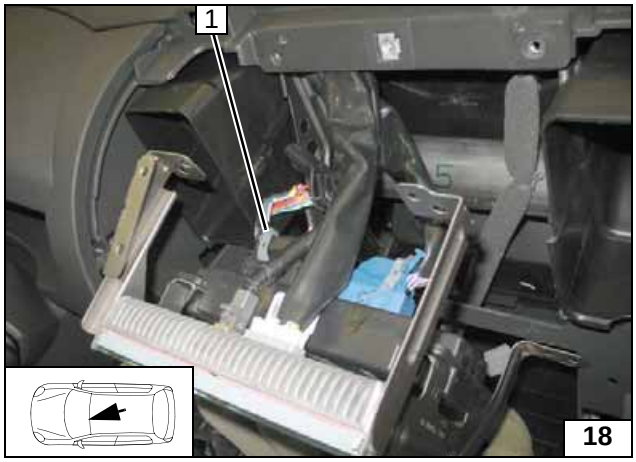
Legend



Connection before the 4-pin connector M96 **3** from fan controller and before the 2-pin connector M94 **4** from fan motor.
Produce connections as shown in wiring diagram.

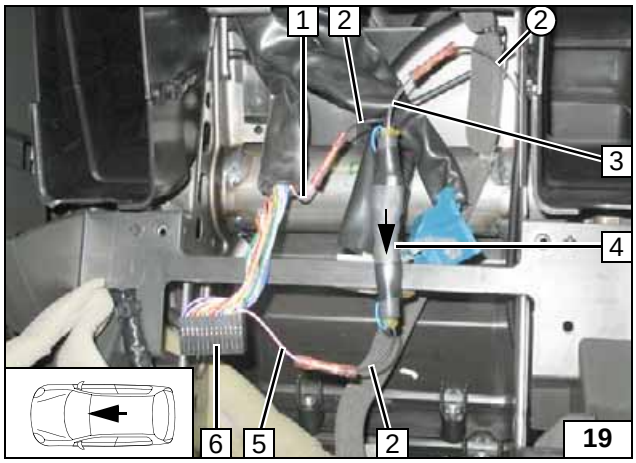
1 White (ws) wire GRs Pin 7 and violet (vi) wire GRs Pin 5
2 White (ws) and violet wire (vi) GM / GRr
③ Red (rt) wire from K1/87a
④ Black (sw) wire from K1/30

Connecting fan motor / controller



Pull out M127 connector **1** from A/C booster.

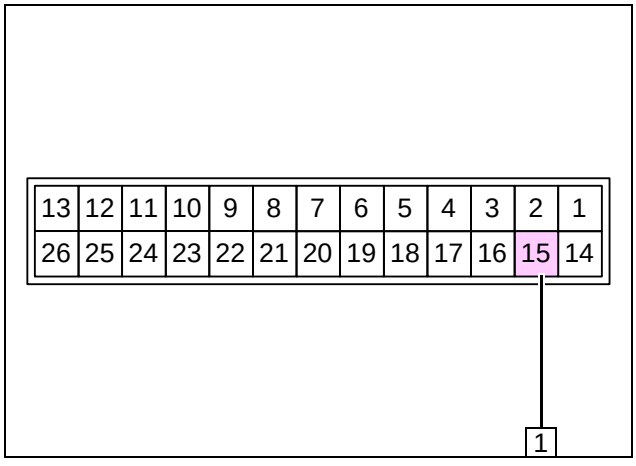
Activation of A/C booster



Connection on 26-pin M127 connector **6** from A/C booster. Pay attention to the flow direction of the diode group **4**. Insulate and tie back blue (bl) wire [2x] of diode group **4**. Produce connections as shown in wiring diagram.

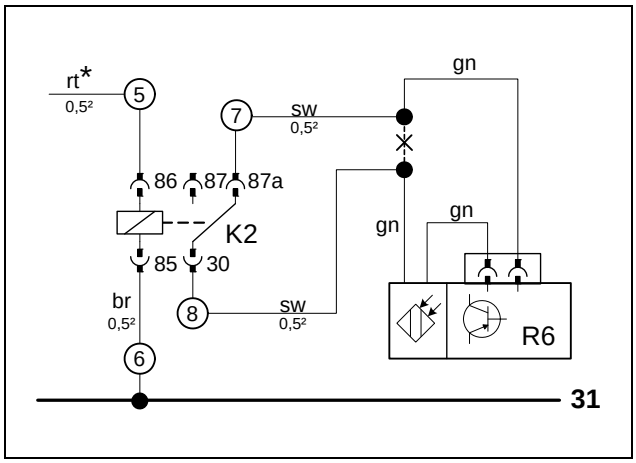
1 Pink (pk) wire from Fuse F8
2 Black (sw) wire of diode group [2x]
3 Black/white (sw/ws) wire of diode group
5 Pink (pk) wire to connector M127, Pin 15
② Black (sw) wire from K1/30

Activation of A/C booster



1 M127 connector on wire-side, Pin 15

M127 connector

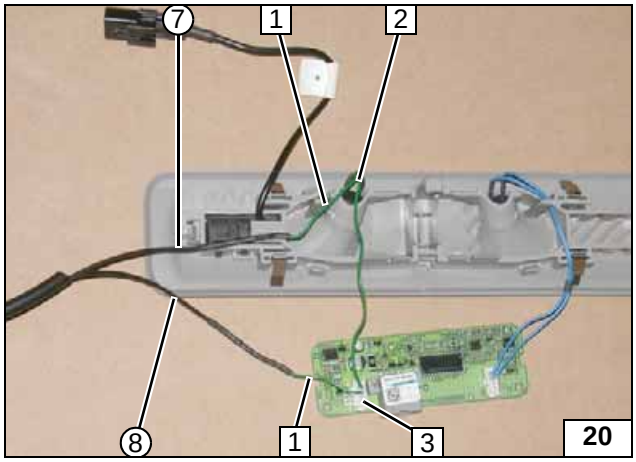


Additionally with Passenger Compartment Monitoring

Webasto components:
K2= K2 relay
⑤ Red (rt) wire from K2/86
⑥ Brown (br) wire of K2/85
⑦ Black (sw) wire from K2/87a
⑧ Black (sw) wire from K2/30

Vehicle components:
R6= Ultrasound sensor
gn= Green wire

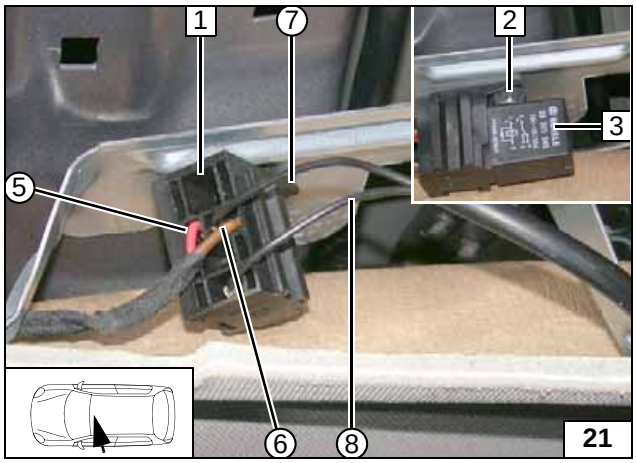
Switch-off function of passenger compartment monitoring wiring diagram



Connection before the 2-pin connector **3** of the ultrasonic sensor control unit. Cut green (gn) wire **1** and connect with included black (sw) wires ⑦ and ⑧ (solder and insulate). Pull wires ⑦ and ⑧ into protective sleeving. Produce connections as shown in wiring diagram.

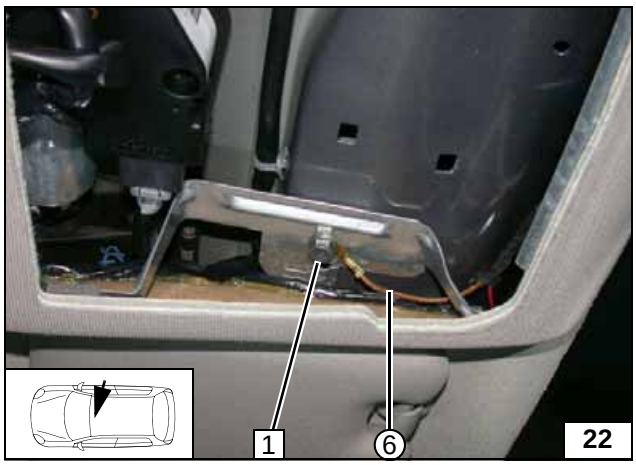
2 Ultrasonic sensor R6
⑦ Black (sw) wire from K2/87a
⑧ Black (sw) wire from K2/30

Connecting ultrasonic sensor



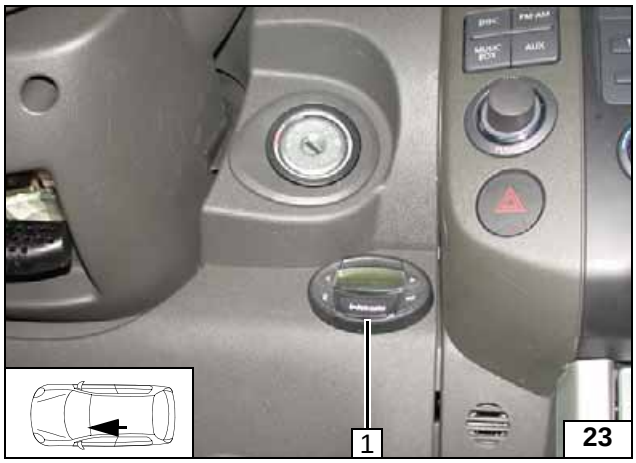
1 Socket K2 relay
2 Original vehicle bolt
3 K2 relay plugged in
⑤ Red (rt) wire from K2/86
⑥ Brown (br) wire of K2/85
⑦ Black (sw) wire from K2/87a
⑧ Black (sw) wire from K2/30

Installing K2 relay



1 Original vehicle bolt
⑥ Brown (br) wire of K2/85

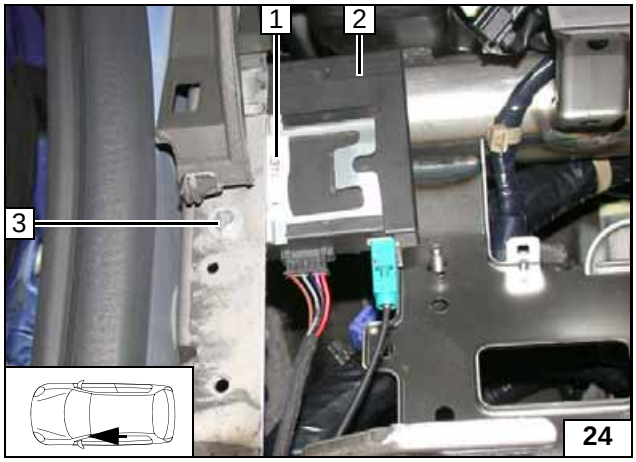
Earth connection K2 relay



Digital Timer

1 Digital timer

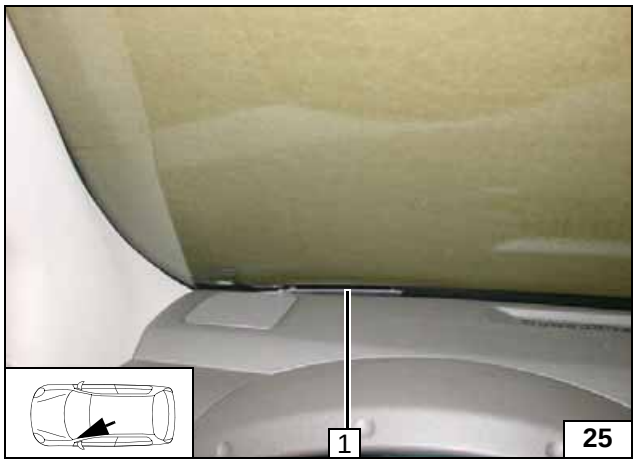
Installing digital timer



Remote Option (Telestart)

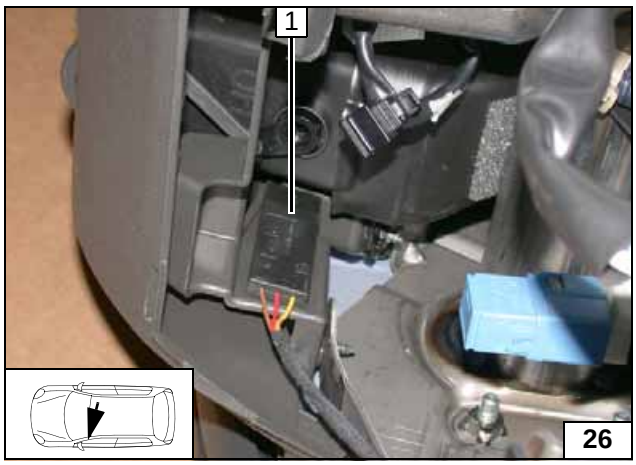
1 Bracket
2 Receiver
3 M5x16 bolt, large diameter washer, flanged nut, existing hole

Mounting receiver



1 Antenna

Mounting antenna

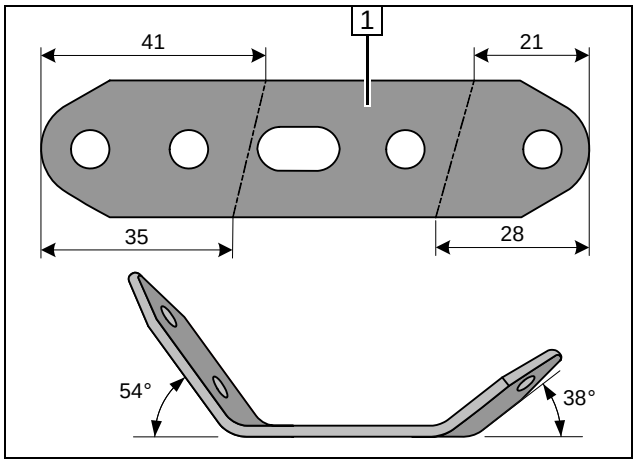


Temperature sensor T100 HTM

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

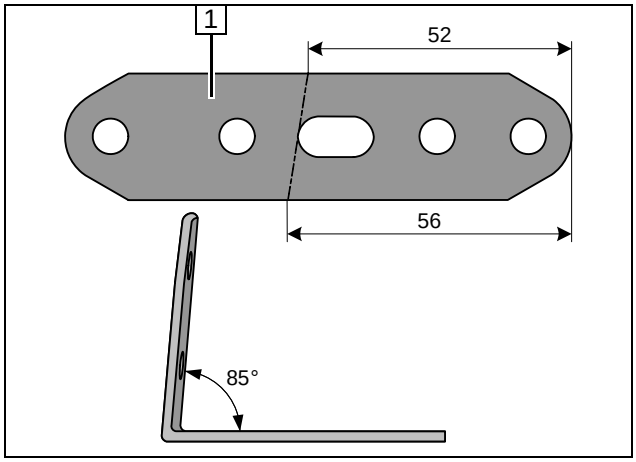
Mounting temperature sensor

Preparing Bracket



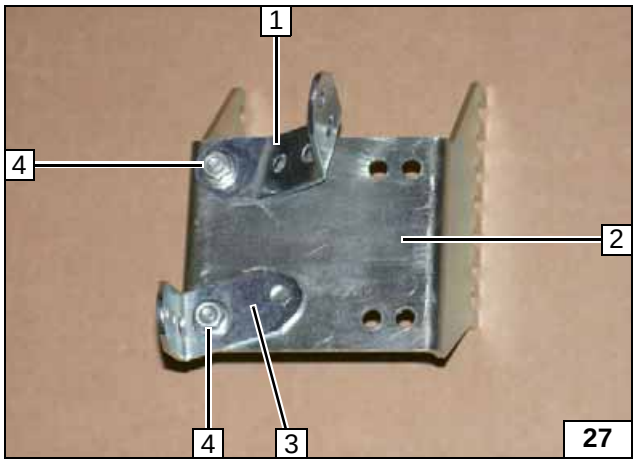
1 Perforated bracket A

Angling down perforated bracket A



1 Perforated bracket B

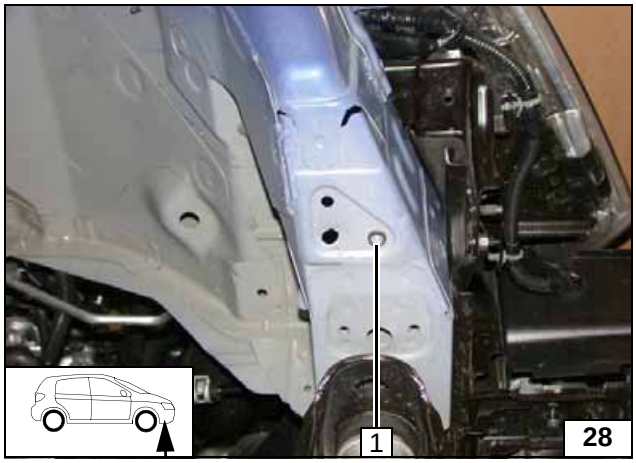
Angling down perforated bracket B



1 Perforated bracket A
2 Bracket
3 Perforated bracket B
4 M6x16 bolt, flanged nut [2x each]

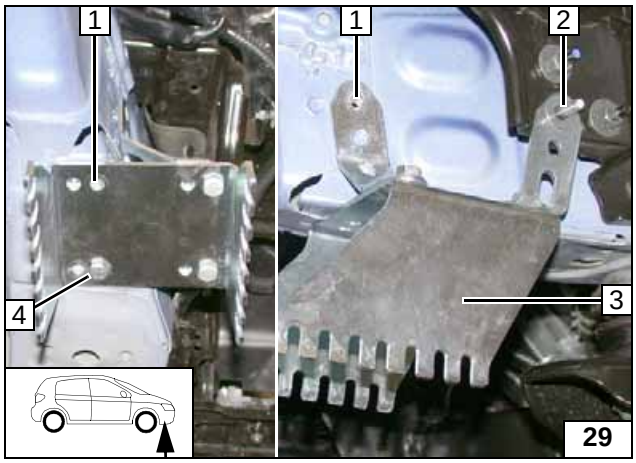
Premounting bracket

Preparing Installation Location



1 Drill out 9.1mm dia. hole, rivet nut

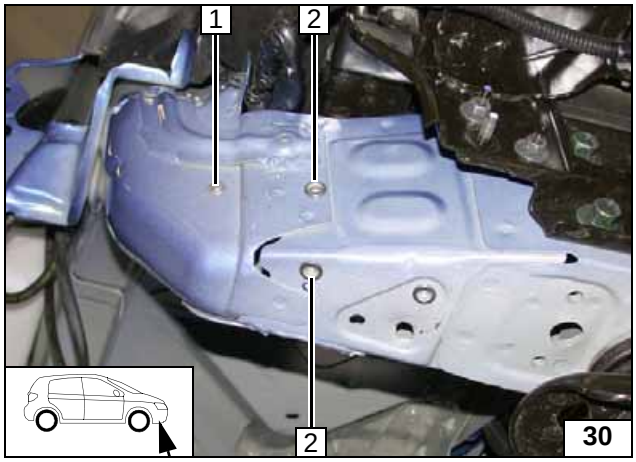
Installing rivet nut



Original vehicle flanged nut at position **2** removed.

1 Copy hole pattern [2x]
3 Loosely mount bracket
4 M6x20 bolt

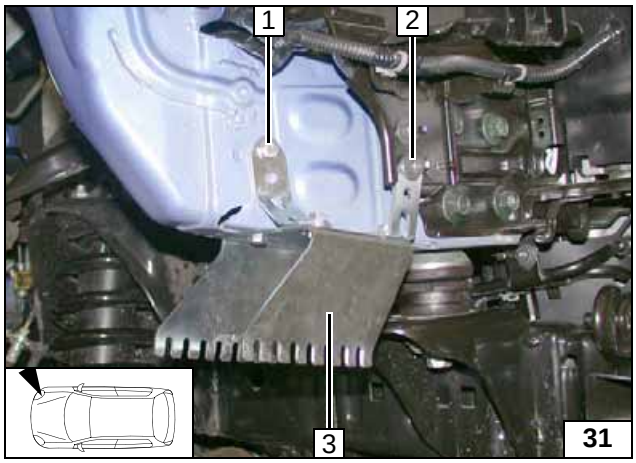
Copying hole pattern



Remove bracket!

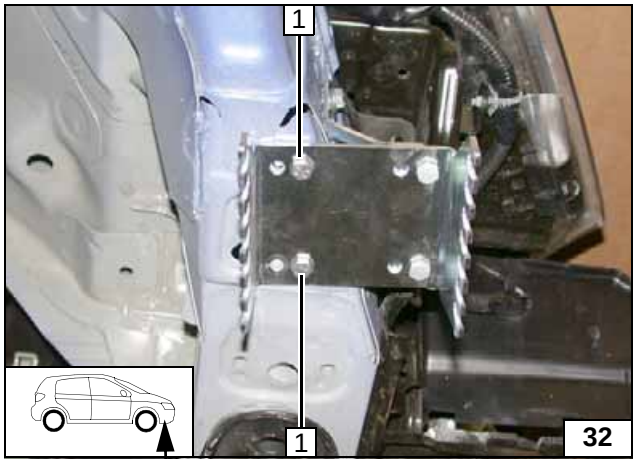
1 Drill out 6.1mm dia. hole, M4 rivet nut
2 9.1 mm dia. hole; M6 Rivet nut [2x each]

Installing rivet nut



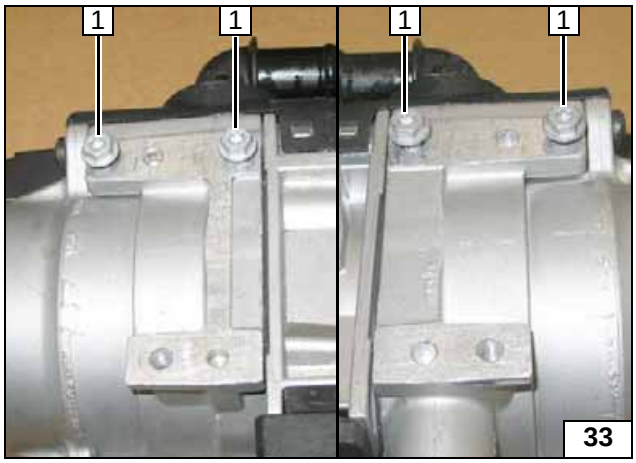
1 M6x20 bolt, spring lockwasher
2 Original vehicle stud bolt, flanged nut
3 Bracket

Installing bracket



1 M6x20 bolt, spring lockwasher [2x each]

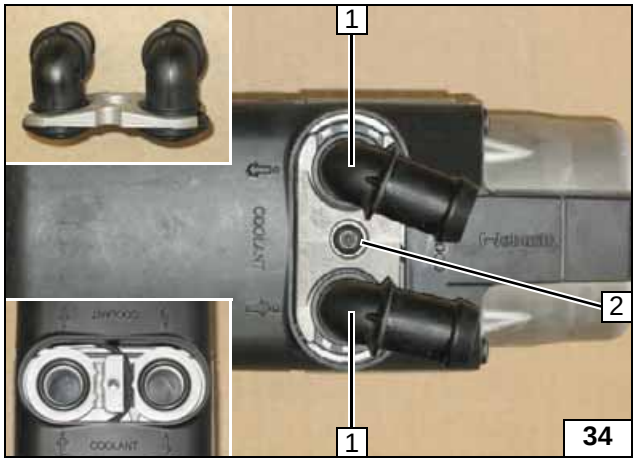
Installing bracket



Preparing Heater

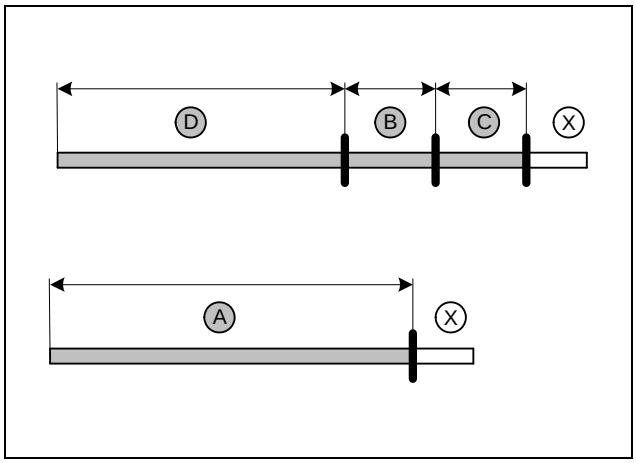
Cut thread with 5x13 self-tapping screw **1** [4x] and install loosely (turn max. 3 threads).

Premounting bolts loosely



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

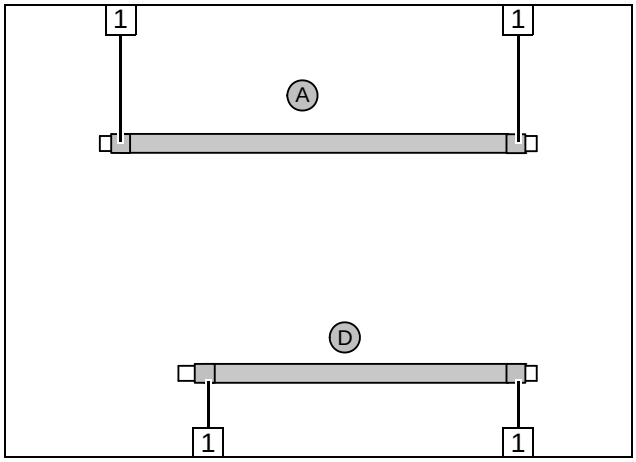
Installing water connection piece



Discard section **X**

A = 1020
B = 220
C = 220
D = 960

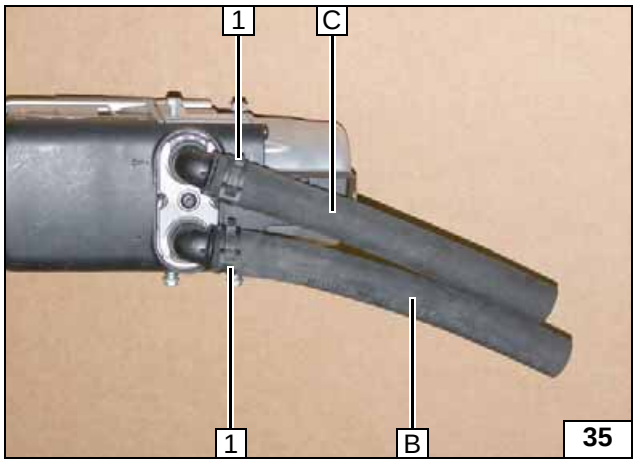
Cutting hoses to length



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

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

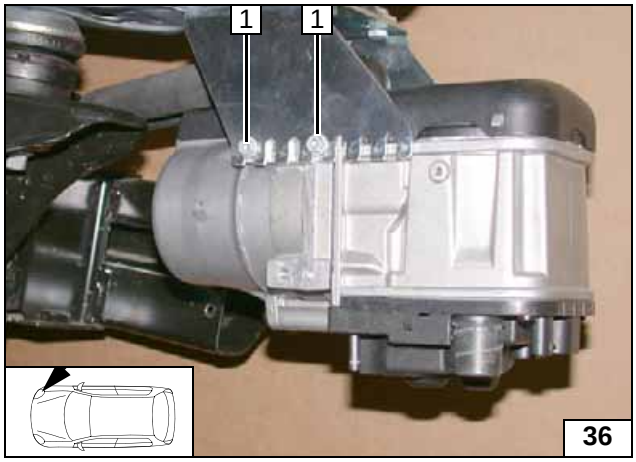
Preparing hoses



1 25 mm dia. spring clip [2x]

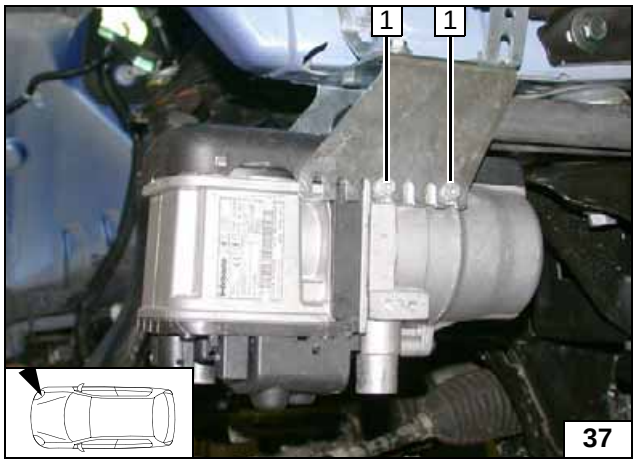
Premounting hoses

Installing Heater



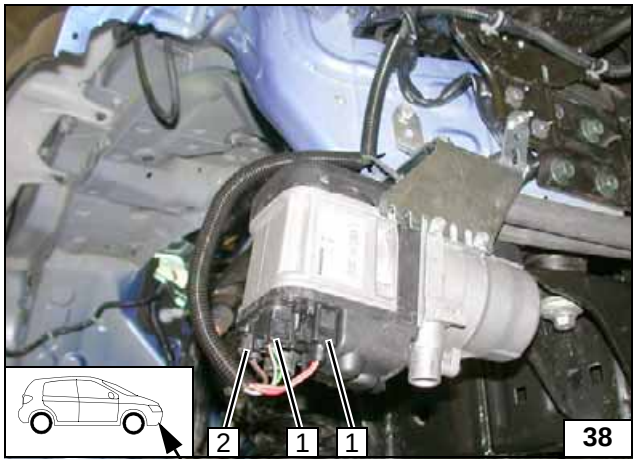
1 Tighten 5x13 self-tapping bolt [2x]

Mounting heater



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

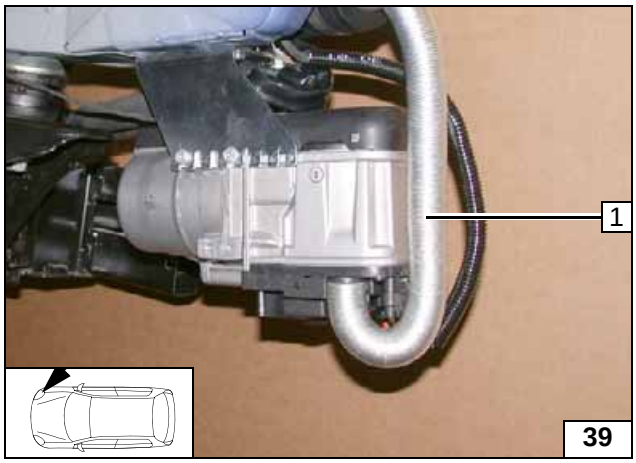
Mounting heater



1 Wiring harness of heater [2x]
2 Wiring harness of circulating pump

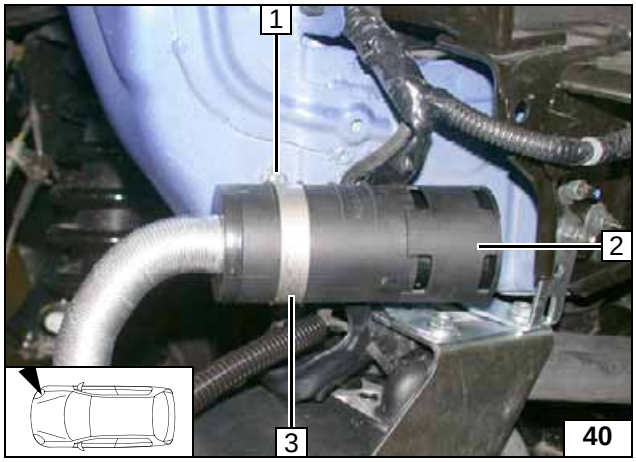
Mounting wiring harnesses

Combustion Air



1 Combustion air pipe

Installing combustion air pipe



1 M4x20 bolt, spring lockwasher, washer
2 Silencer
3 51 mm dia. clamp

Mounting silencer

1 Cable tie [2x]

Fastening wiring harnesses in corrugated tube

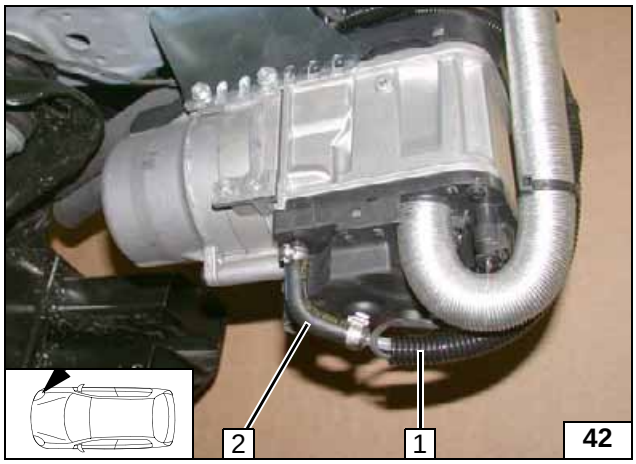
Fuel

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

Catch any fuel running off in an appropriate container.

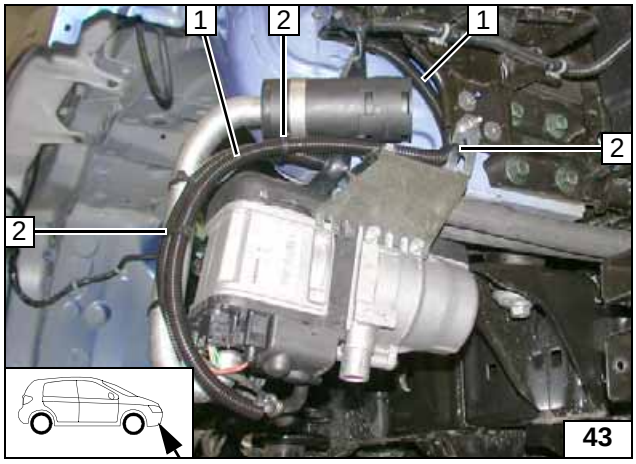
Install fuel line and metering pump wiring harness so that they are protected against stone impact. Unless specified otherwise, always fasten using cable ties.
Mount the fuel line and wiring harness with rub protection on sharp edges.

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



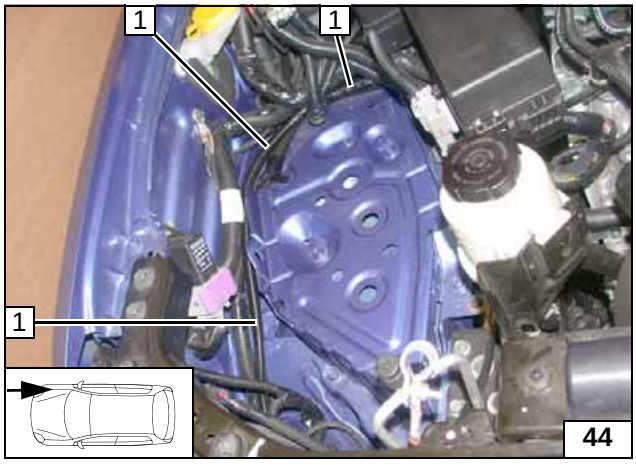
1 Fuel line, wiring harness of metering pump in corrugated tube
2 90° moulded hose, 10mm dia. clamp [2x]

Connecting heater



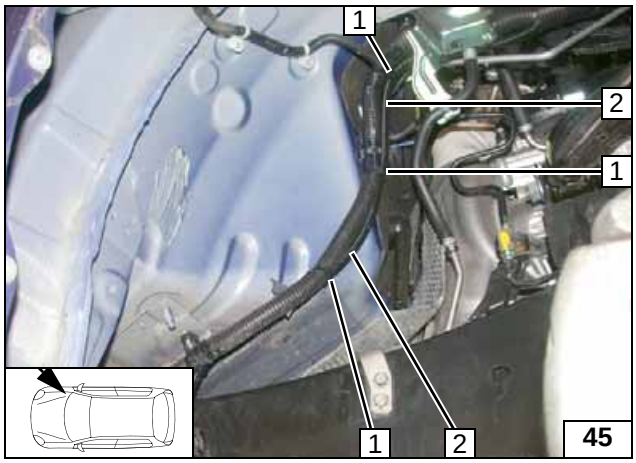
1 Fuel line, wiring harness of metering pump in corrugated tube
2 Cable tie [3x]

Routing lines



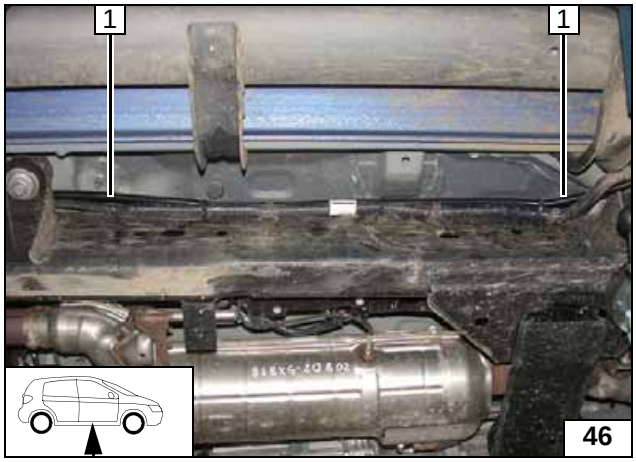
1 Fuel line, wiring harness of metering pump in corrugated tube

Routing lines



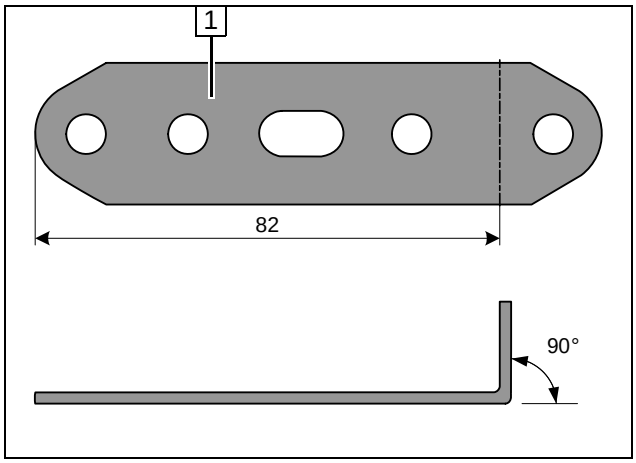
1 Cable tie [3x]
2 Fuel line, wiring harness of metering pump in corrugated tube

Routing lines



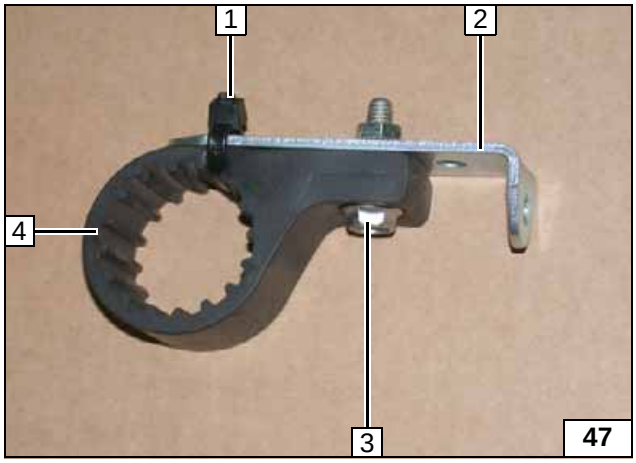
1 Fuel line, wiring harness of metering pump in corrugated tube

Routing lines



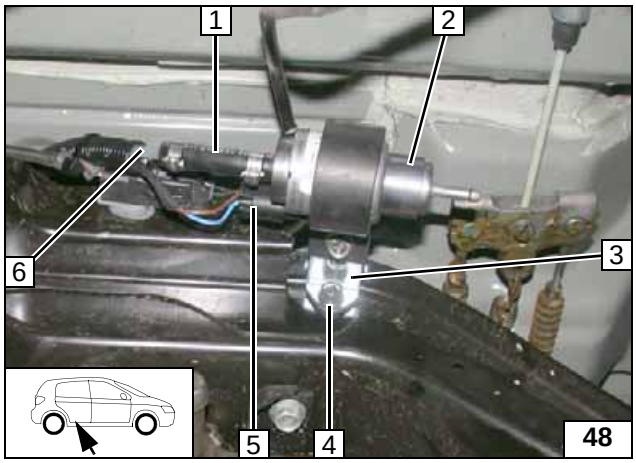
1 Perforated bracket

Angling down perforated bracket by 90°



1 Cable tie
2 Perforated bracket
3 M6x25 bolt, flanged nut
4 Metering pump intake

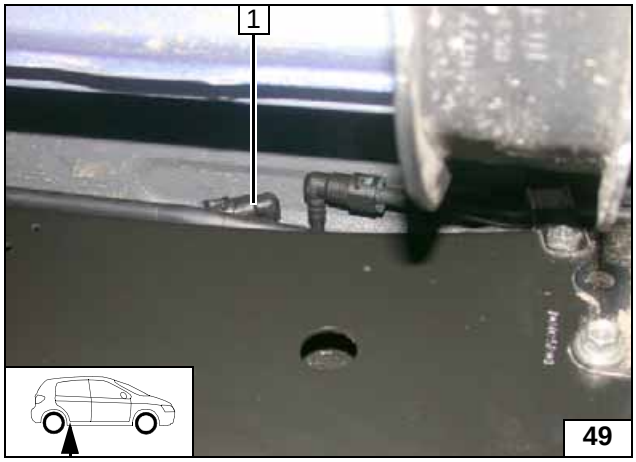
Premounting metering pump intake



Navara

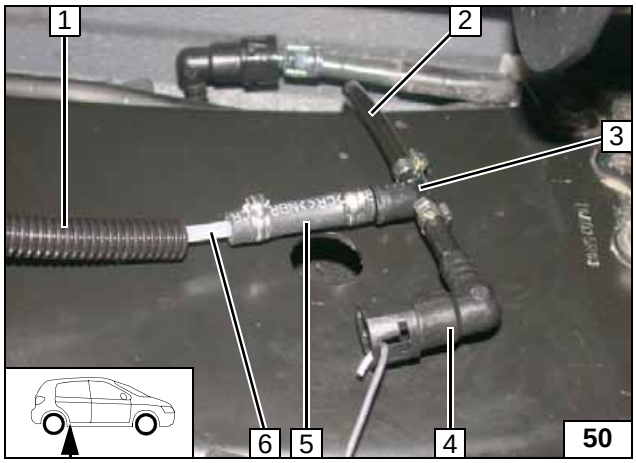
1 Hose section, 10 mm dia. clamp [2x]
2 Metering pump
3 Perforated bracket
4 Original vehicle bolt
5 Wiring harness of metering pump, connector mounted
6 Fuel line of heater

Connecting metering pump



Detach fuel supply line coupling **1** and take out in the downward direction.

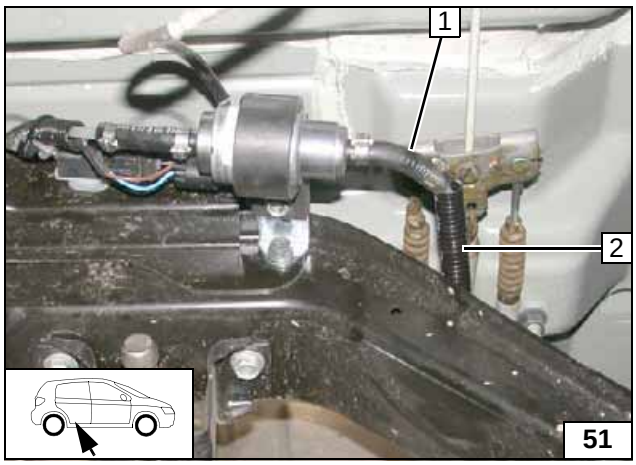
Fuel extraction



Cut fuel supply line **2** approx. 50 mm before coupling. Route fuel line **6** in corrugated tube **1** to the metering pump. Reconnect coupling **4** from the fuel supply line.

3 6x5x6 fuel standpipe, 8 mm dia. clamp [2x]
5 Hose section, 10 mm dia. clamp [2x]

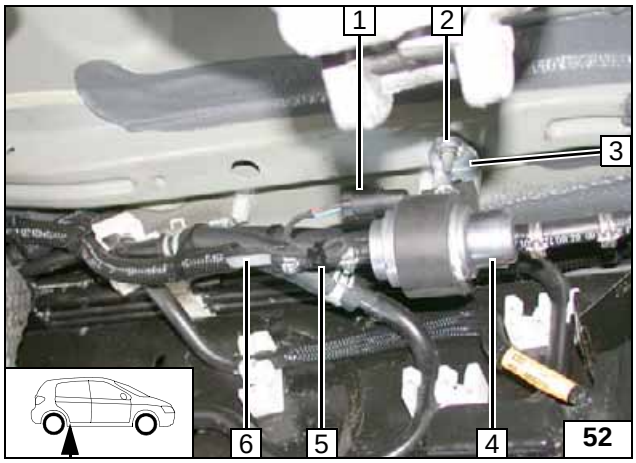
Fuel extraction



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

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

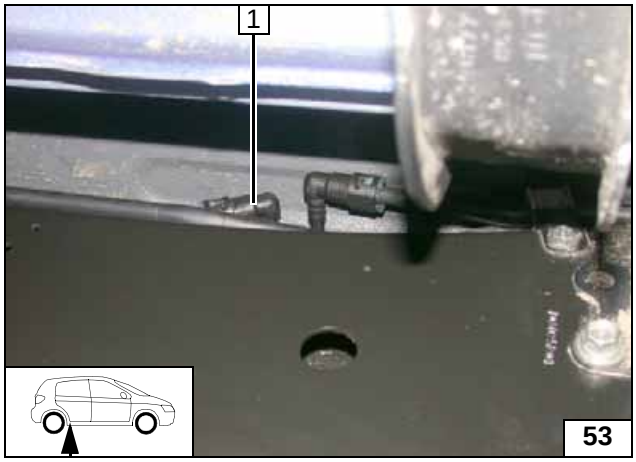
Connecting metering pump



Pathfinder

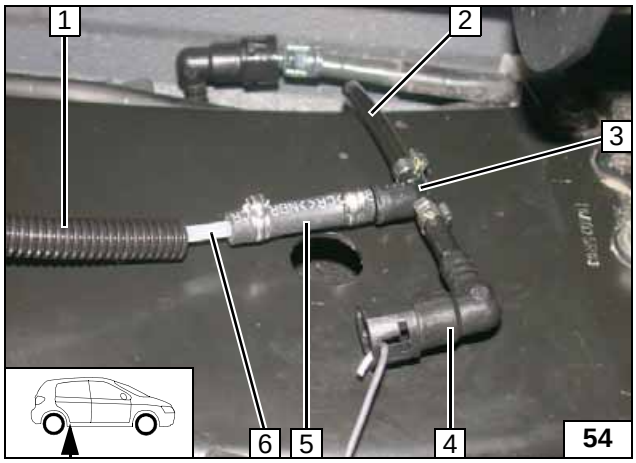
1 Wiring harness of metering pump, connector mounted
2 Original vehicle stud bolt, flanged nut
3 Perforated bracket
4 Metering pump
5 Hose section, 10 mm dia. clamp [2x]
6 Fuel line of heater

Connecting metering pump



Detach fuel supply line coupling **1** and take out in the downward direction.

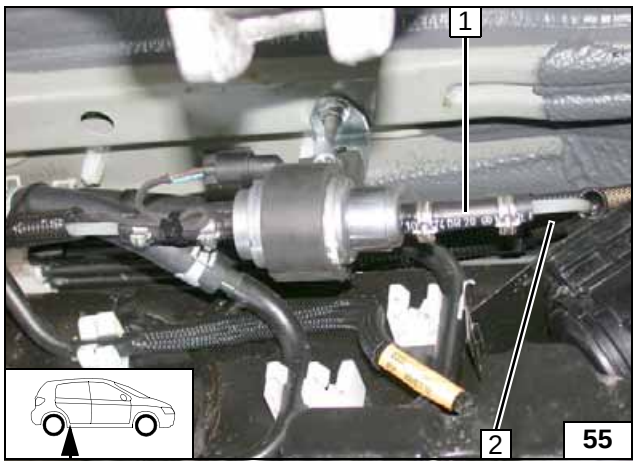
Fuel extraction



Cut fuel supply line **2** approx. 50 mm before coupling. Route fuel line **6** in corrugated tube **1** to the metering pump. Reconnect coupling **4** from the fuel supply line.

3 6x5x6 fuel standpipe, 8 mm dia. clamp [2x]
5 Hose section, 10 mm dia. clamp [2x]

Fuel extraction



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

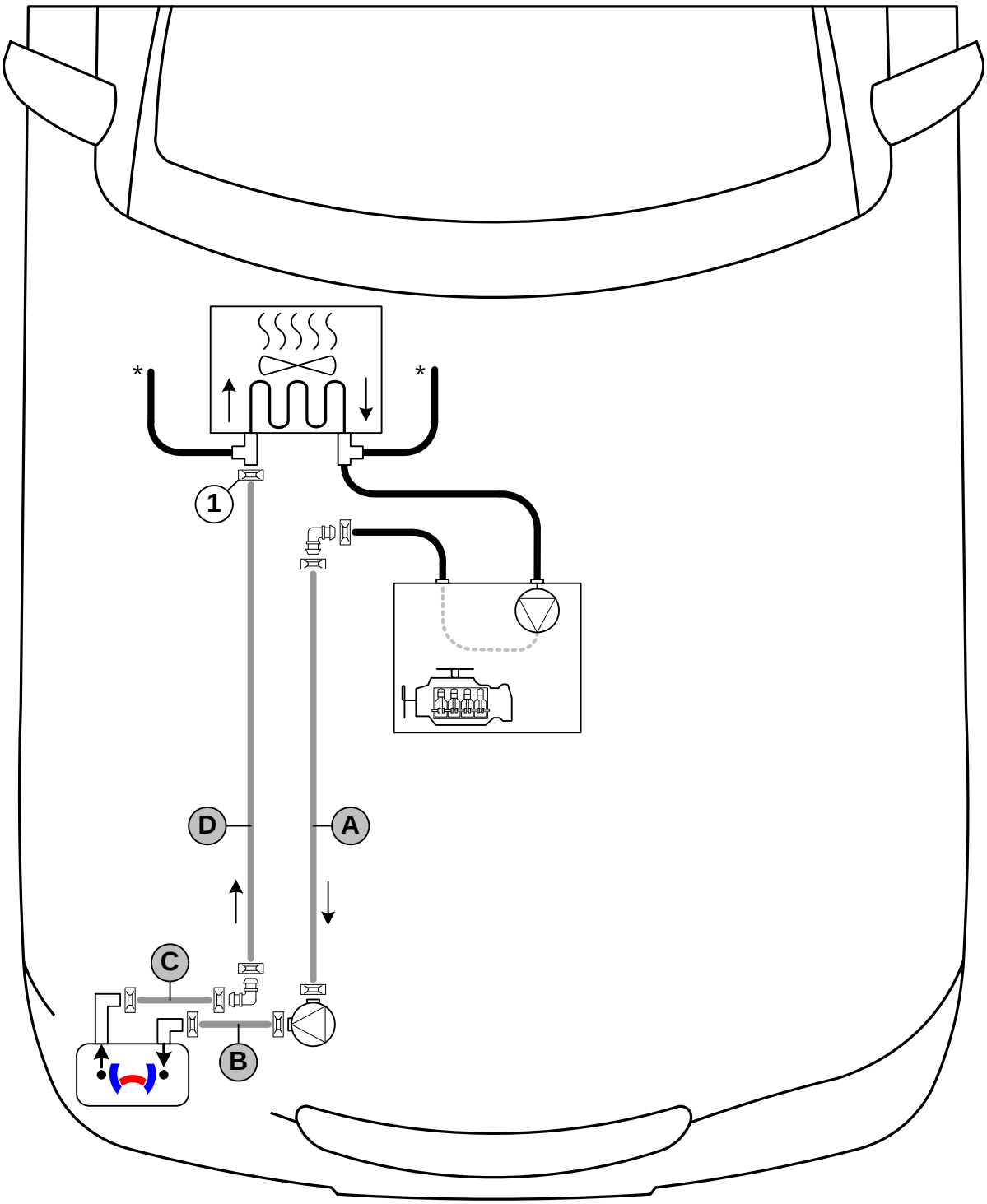
1 Hose section, 10 mm dia. clamp [2x]
2 Fuel line in corrugated tube

Connecting metering pump

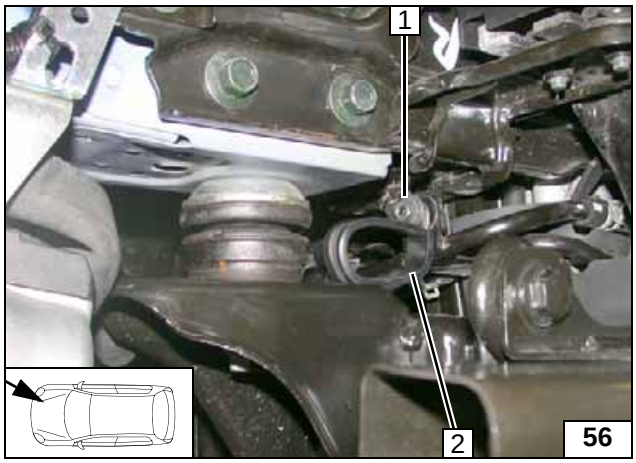
Coolant Circuit

WARNING!
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 other hoses cannot be damaged. The heater must be filled with coolant when installing the coolant hose.
The connection should be "inline" based on the following diagram:

Hose routing diagram

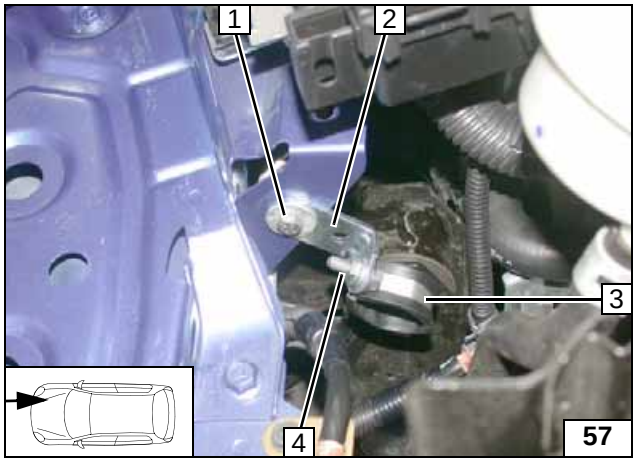


All connecting pipes without a specific designation = 25 mm dia. **1** = Original vehicle spring clip .
***** = Connections rear of heat exchanger (depends on equipment)
All connecting pipes = 18x18mm dia.



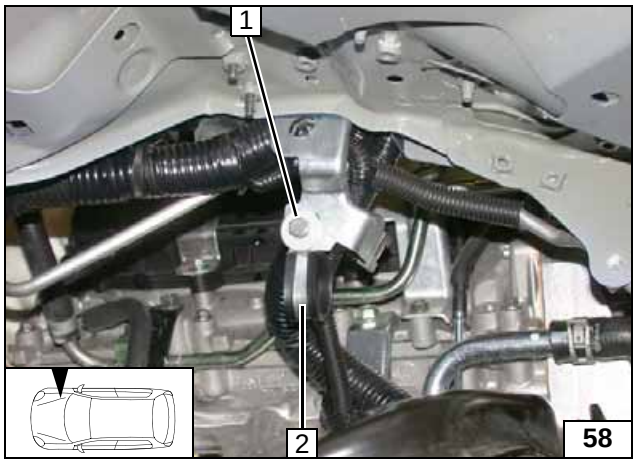
1 Original vehicle stud bolt, original vehicle nut
2 38 mm dia. rubber-coated p-clamp

Premounting rubber-coated p-clamp loosely



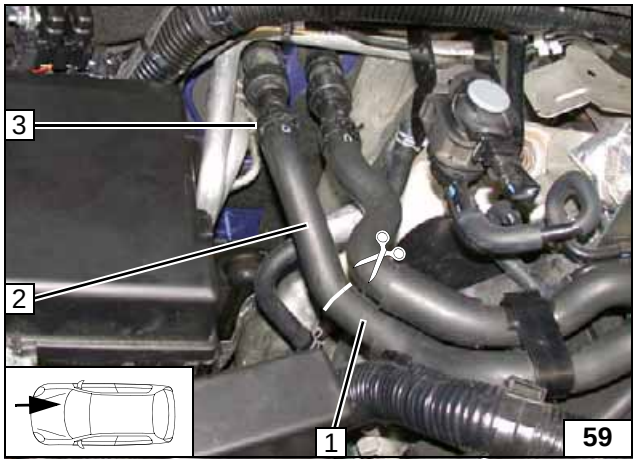
1 M6x20 bolt, large diameter washer, flanged nut, existing hole
2 Angle bracket
3 38 mm dia. rubber-coated p-clamp
4 M6x20 bolt, flanged nut

Premounting rubber-coated p-clamp loosely



1 M6x20 bolt, large diameter washer, flanged nut, existing hole
2 25 mm dia. rubber-coated p-clamp

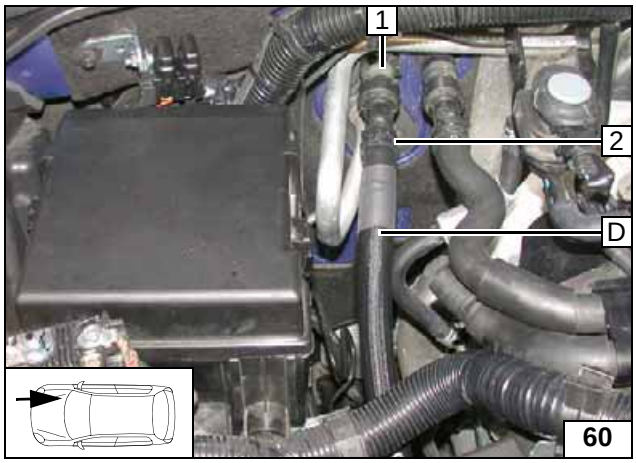
Premounting rubber-coated p-clamp loosely



Separate engine outlet / heat exchanger inlet hose at the marking.

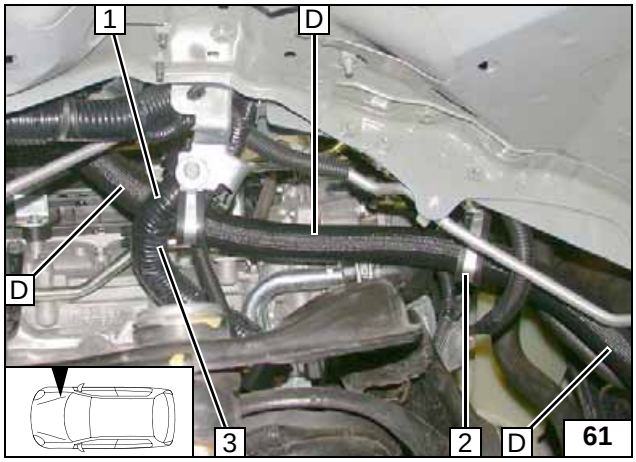
1 Engine outlet hose section
2 Remove and discard heat exchanger inlet hose section
3 Original vehicle spring clip

Cutting point



1 Connection piece of heat exchanger inlet
2 Original vehicle spring clip

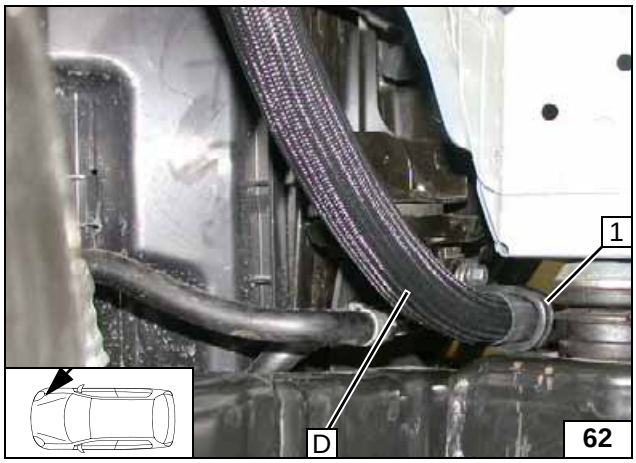
Connecting heat exchanger inlet



Route hose **D** behind original vehicle wiring harness **1** and through rubber-coated p-clamp **2**.

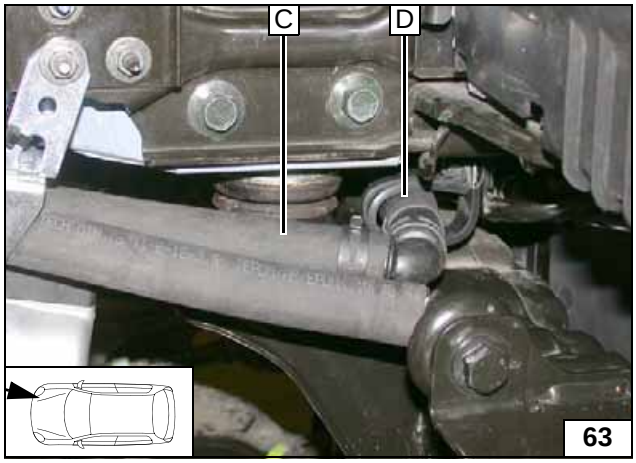
3 Cable tie

Routing in engine compartment

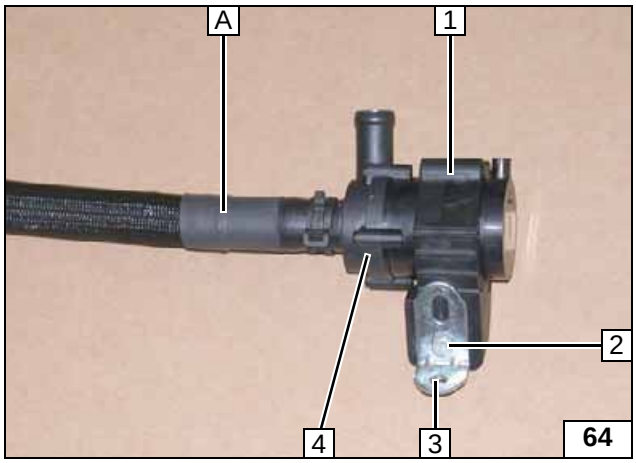


Route hose **D** through rubber-coated pipe clamp **1**.

Routing in engine compartment

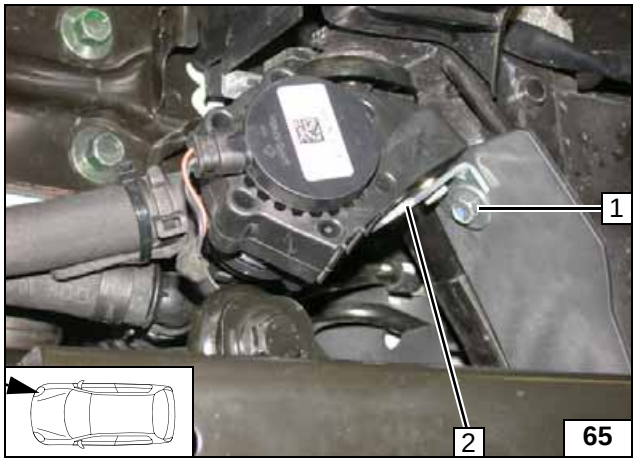


Connecting heater outlet



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

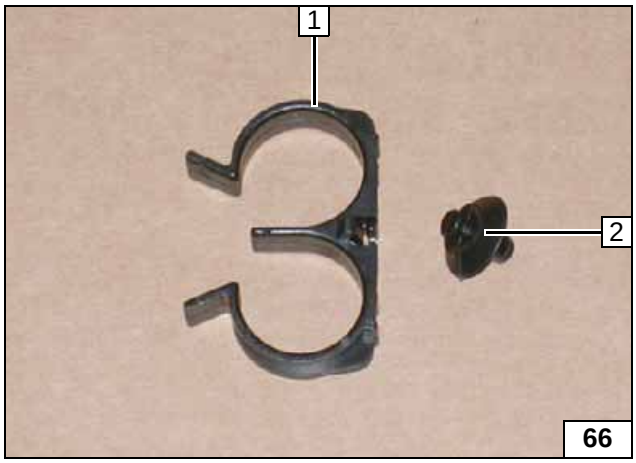
Premounting circulating pump



Before installation, route hose **A** through rubber-coated pipe clamp (see following image).

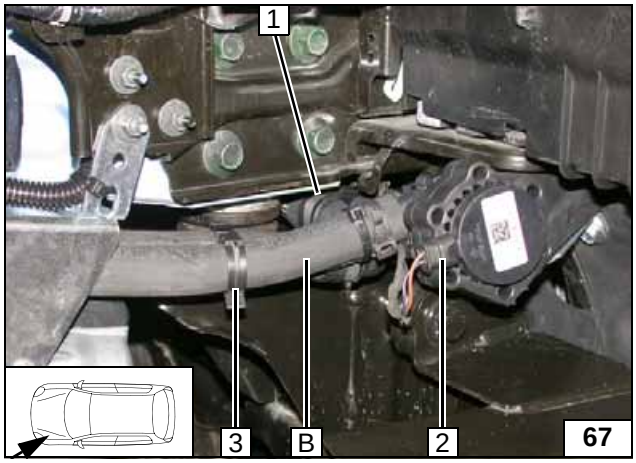
1 Original vehicle bolt
2 Angle bracket

Installing circulating pump



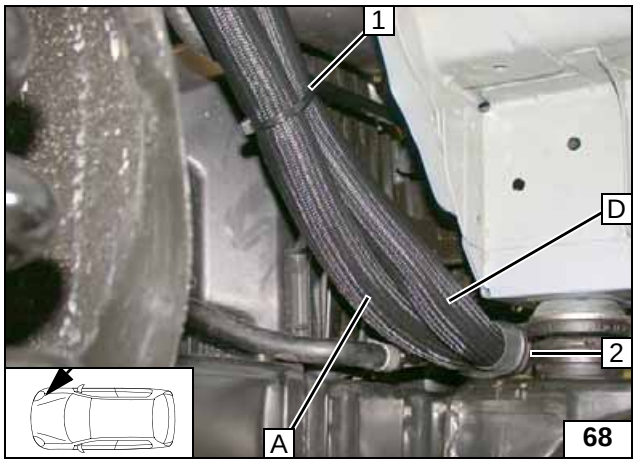
1 Hose bracket
2 Remove and discard clip

Preparing hose bracket



1 Rubber-coated pipe clamp
2 Wiring harness of circulating pump
3 Hose bracket

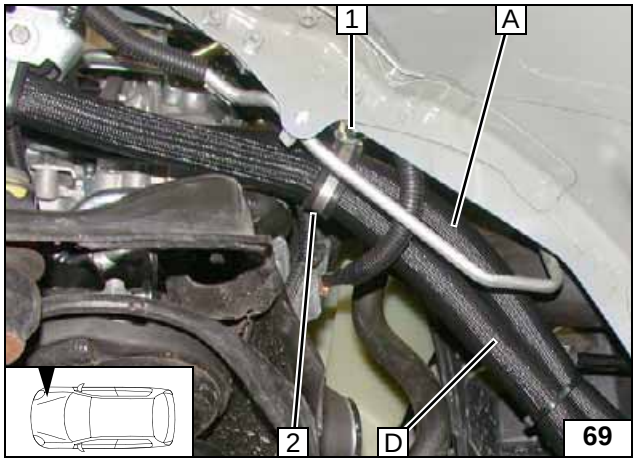
Connecting circulating pump



Route hose **A** through rubber-coated pipe clamp **2**. Tighten bolt of rubber-coated pipe clamp **2**.

1 Cable tie

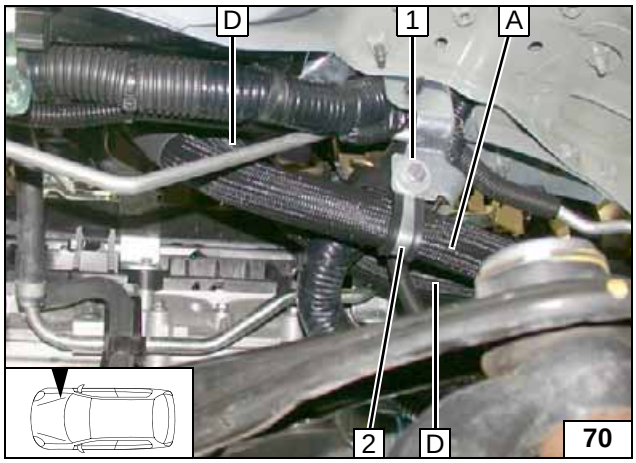
Routing in engine compartment



Route hose **A** through rubber-coated pipe clamp **2**.

1 Tighten bolt

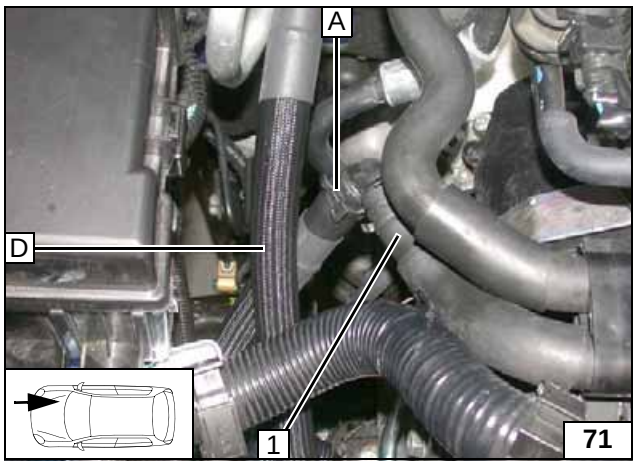
Routing in engine compartment



Route hose **A** through rubber-coated pipe clamp **2**.

1 Tighten bolt

Routing in engine compartment



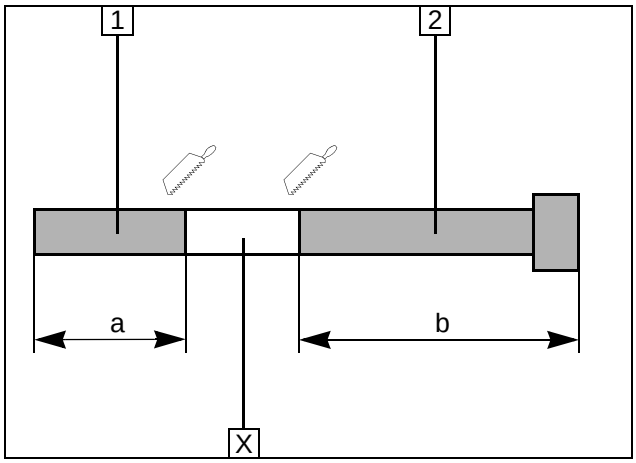
Align hoses. Ensure sufficient distance from neighbouring components, correct if necessary.

1 Hose of engine outlet

Connecting engine outlet

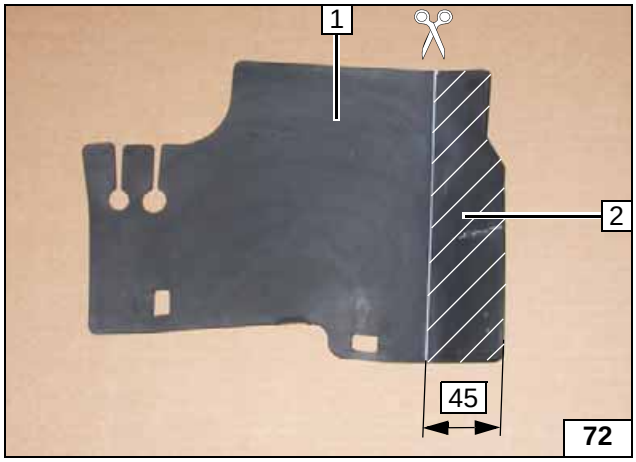
Exhaust Gas

Discard section **X**



1 Exhaust pipe
a = 160
2 Exhaust end section
b = 390

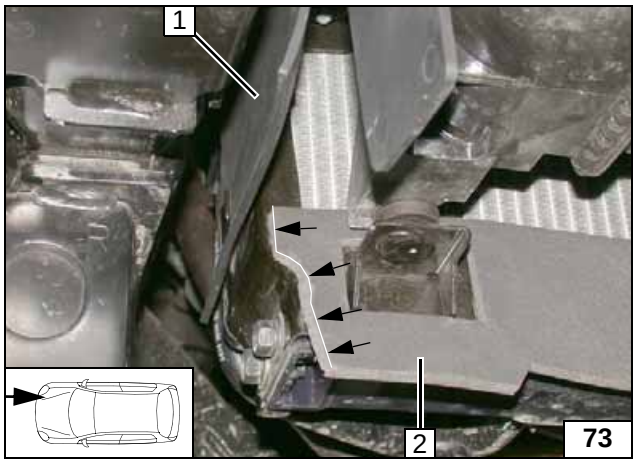
Preparing exhaust pipe



1 Splash guard (rubber)
2 Discard section

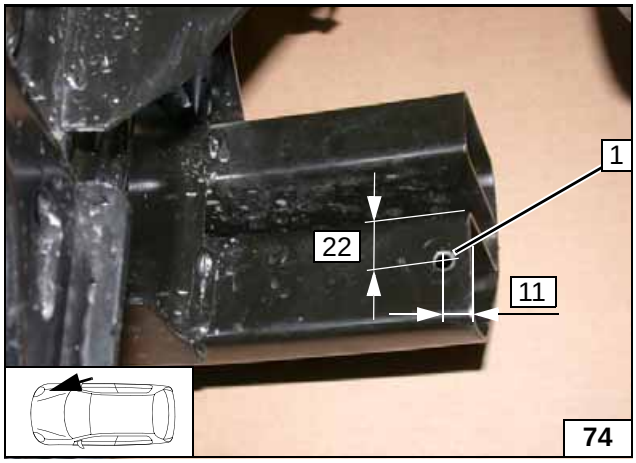
Cutting out splash guard

Cut out foam strip **2** at the marking.



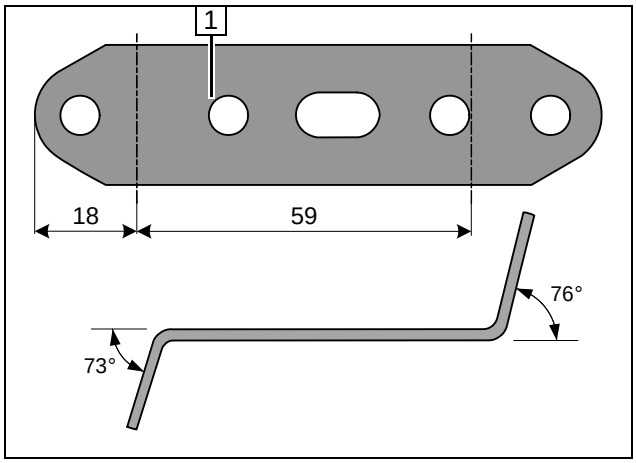
1 Splash guard (rubber) installed

Installing exhaust end section



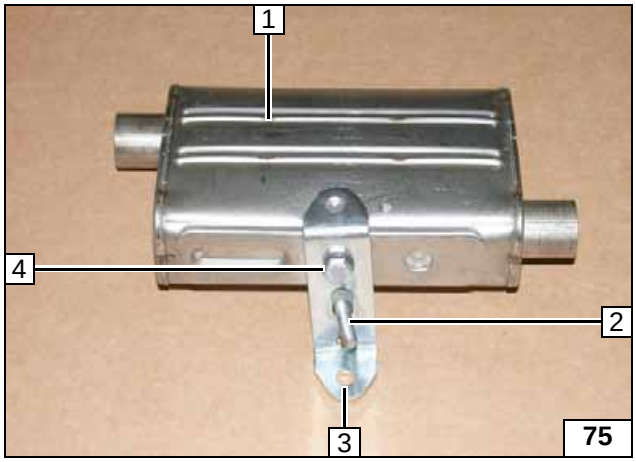
1 7 mm dia. hole

Hole in bumper



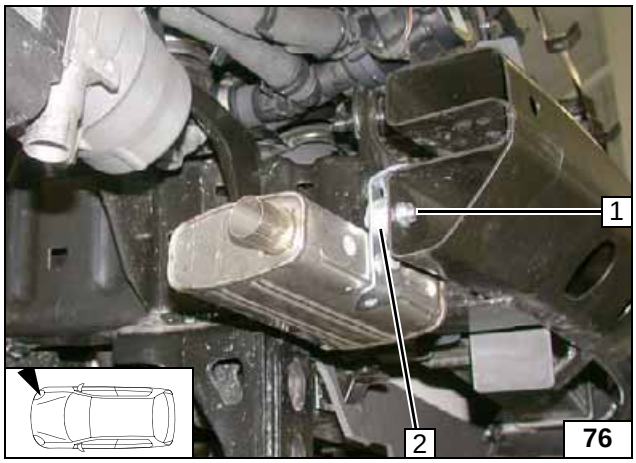
1 Perforated bracket

Preparing perforated bracket



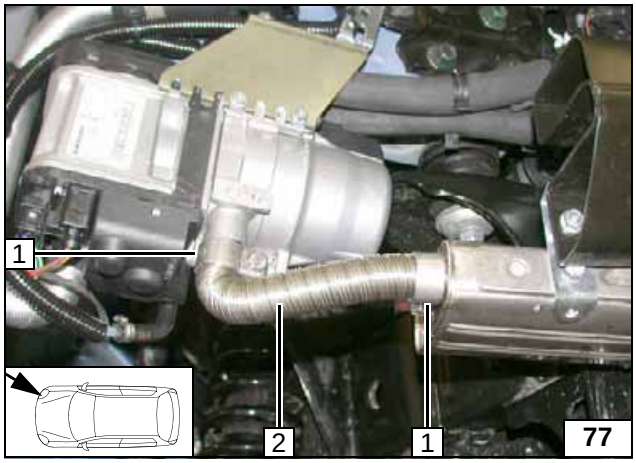
1 Silencer
2 Insert M6x25 bolt
3 Perforated bracket
4 M6x16 bolt, spring lockwasher

Premount-ing silencer



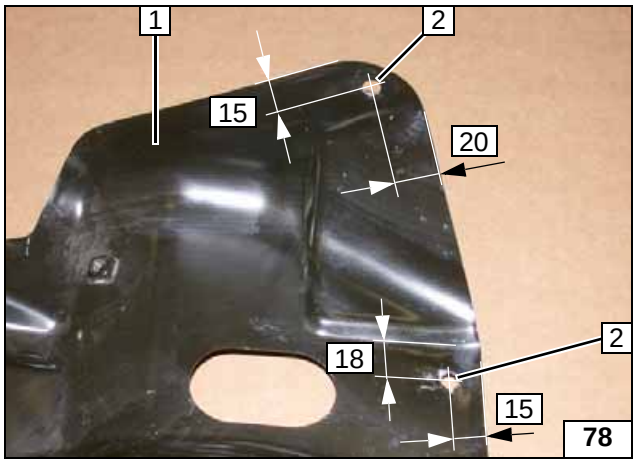
1 Flanged nut
2 10 mm shim

Mounting silencer



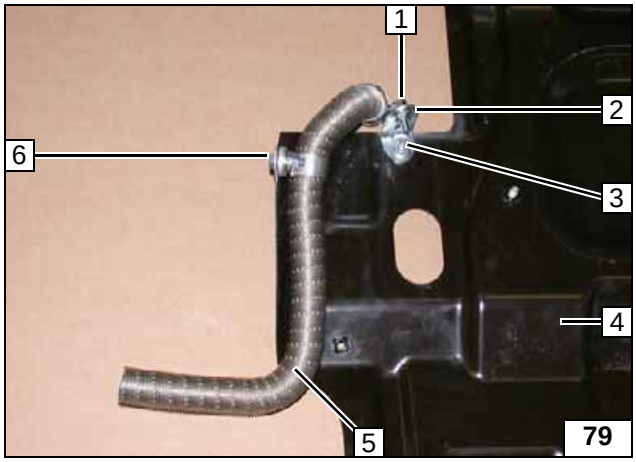
1 Hose clamp [2x]
2 Exhaust pipe

Mounting exhaust pipe



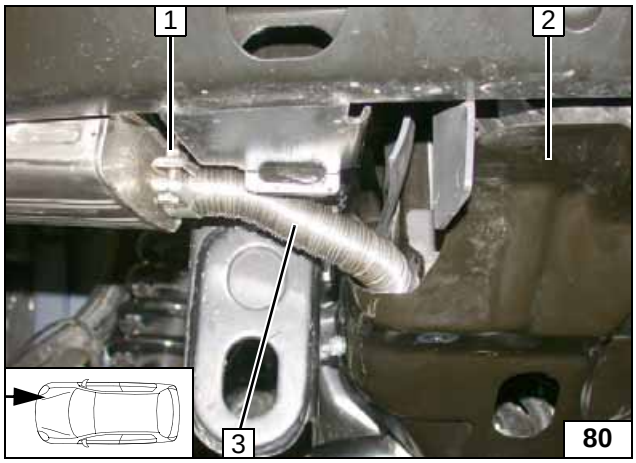
1 Underride protection
2 Drill 7 mm dia. hole [2x]

Preparing underride protection



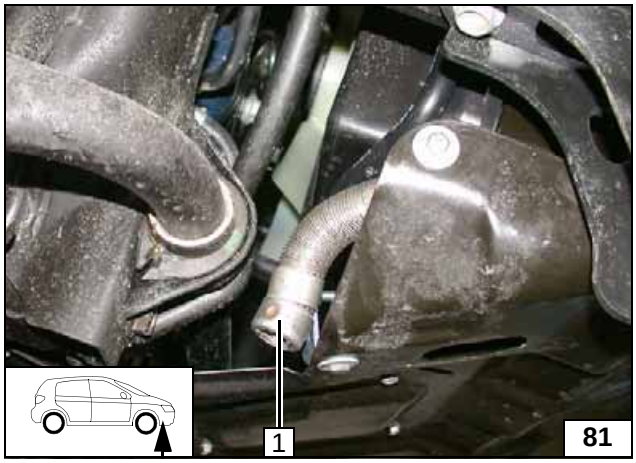
1 M6x20 bolt, pipe clamp, flanged nut
2 Angle bracket
3 M6x20 bolt, flanged nut
4 Underride protection
5 Mould exhaust end section
6 M6x20 bolt, large diameter washer, 5 mm shim, pipe clamp, flanged nut

Premounting exhaust end section



1 Hose clamp
2 Underride protection installed
3 Exhaust end section

Installing exhaust end section



Ensure sufficient distance from neighbouring components, correct if necessary.

1 Exhaust end section

Aligning exhaust end section

Final Work

WARNING!
Mount removed parts 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.**
- **Adjust digital timer, teach Telestart transmitter**
- **Make settings on A/C control panel according to the "Operating Instructions for End Customer".**
- **Apply the signboard "Switch off parking heater before refilling" in the area of the filler neck**
- **See installation instructions for initial start-up and function check**

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

Webasto
Feel the Drive

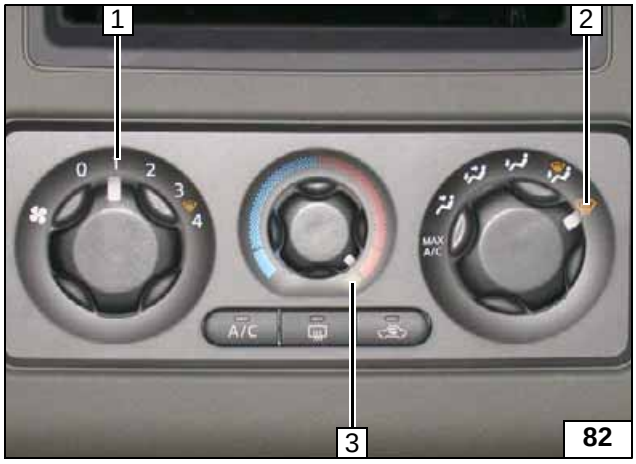
Operating Instructions
In Case of Manual Air-Conditioning

Please remove page in case of manual air-conditioning and add it to the vehicle operating instructions.

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

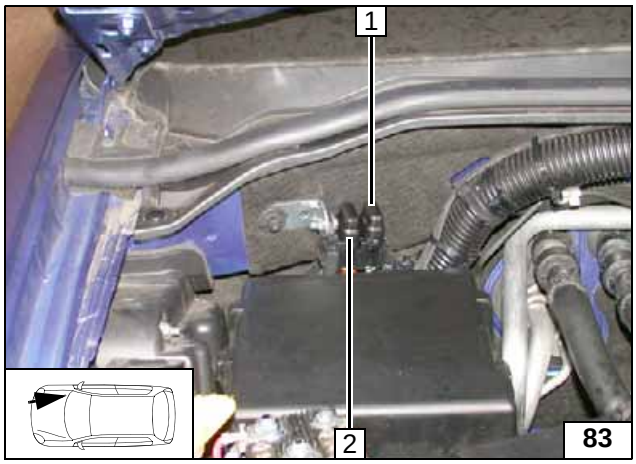
If vehicles have passenger compartment monitoring, the ultrasound passenger compartment monitoring was deactivated simultaneously with the control of the passenger compartment fan to prevent an alarm from being triggered.

Before parking the vehicle, make the following settings:



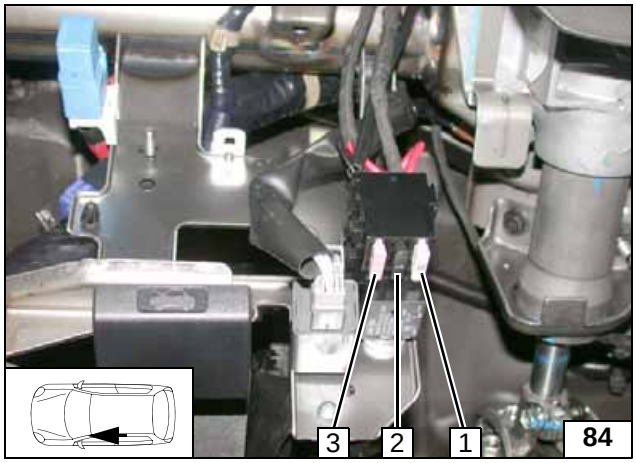
1 Set fan to level "1" or max. "2"
2 Air outlet to windscreen
3 Set temperature to "max."

A/C control panel



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

Fuses of engine compartment



1 25A fan fuse F4
2 1A fuse F3 of heater control
3 3A fan fuse F4

Fuses of passenger compartment

Webasto
Feel the Drive

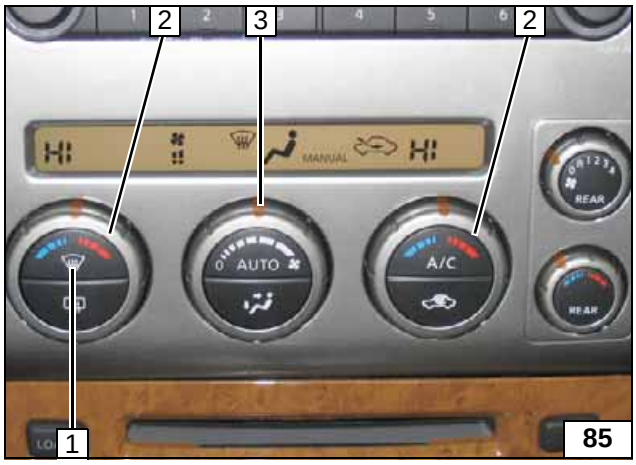
Automatic A/C without Navigation System

Please remove page in case of automatic air-conditioning and add it to the vehicle operating instructions.

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

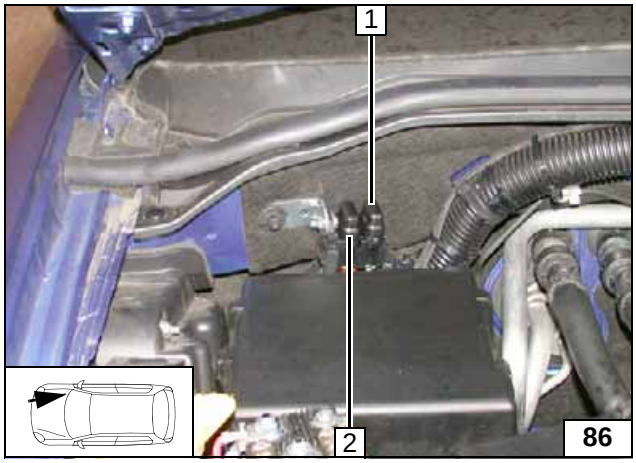
If vehicles have passenger compartment monitoring, the ultrasound passenger compartment monitoring was deactivated simultaneously with the control of the passenger compartment fan to prevent an alarm from being triggered.

Before parking the vehicle, make the following settings:



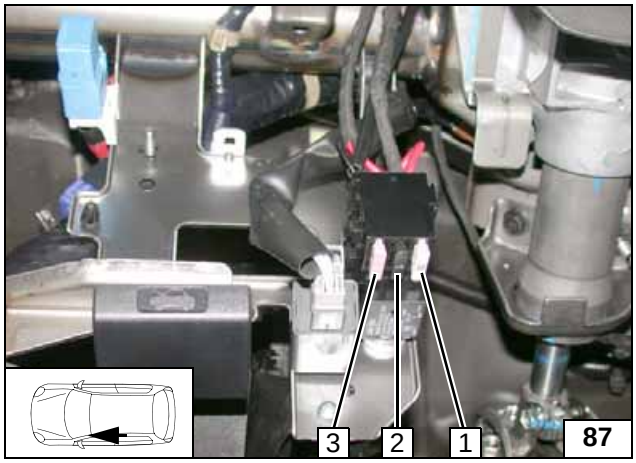
1 Air outlet to windscreen
2 Set temperature on both sides to "HI".
3 Set fan to level "2"

A/C control panel



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

Fuses of engine compartment



1 25A fan fuse F4
2 1A fuse F3 of heater control
3 3A fan fuse F4

Fuses of passenger compartment

Webasto
Feel the Drive

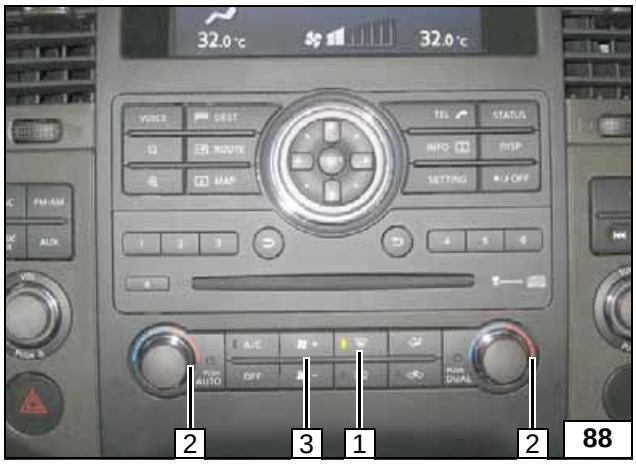
Automatic A/C with Navigation System

Please remove page in case of automatic air-conditioning and add it to the vehicle operating instructions.

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

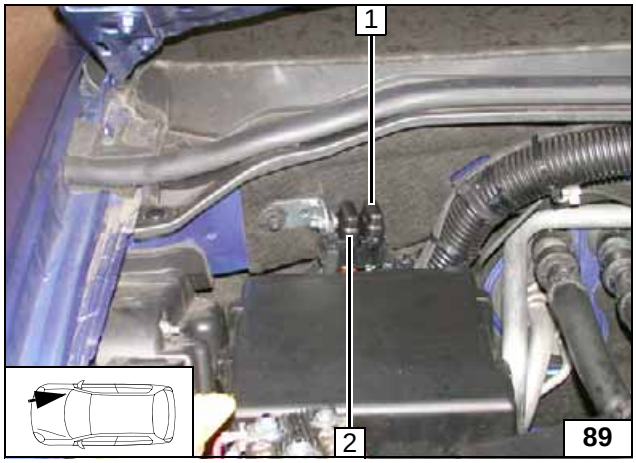
If vehicles have passenger compartment monitoring, the ultrasound passenger compartment monitoring was deactivated simultaneously with the control of the passenger compartment fan to prevent an alarm from being triggered.

Before parking the vehicle, make the following settings:



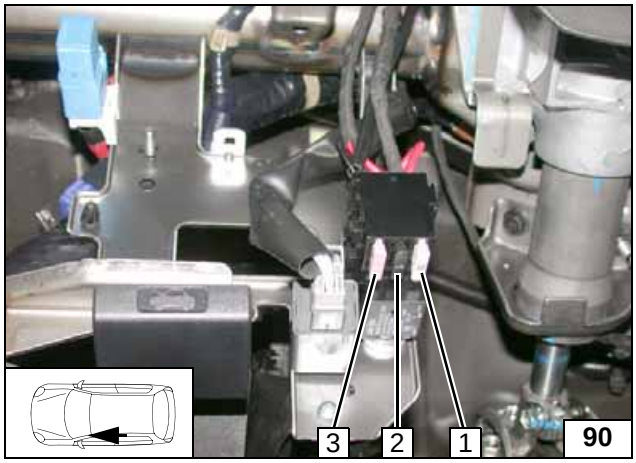
1 Air outlet to windscreen
2 Set temperature on both sides to "32ºC"
3 Set fan to level "2"

Automatic air-conditioning navigation system



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

Fuses of engine compartment



1 25A fan fuse F4
2 1A fuse F3 of heater control
3 3A fan fuse F4

Fuses of passenger compartment