Water Heater

Webasto
Feel the drive

***Thermo Top E* Parking Heater** e1 00 0003

***Thermo Top C* Parking Heater** e1 00 0002

***Thermo Top P* Parking Heater** e1 00 0104

Installation documentation

Nissan X-Trail

Diesel
from Model Year 2008
Left-hand drive vehicle
Automatic air-conditioning

WARNING!

Hazard warning:

Incorrect installation or repair of Webasto heating systems may cause a fire or result in the emission of carbon monoxide, which can be fatal. Serious or fatal injuries can be caused as a result.

Specialist company training, technical documentation, specialised tools and equipment are required to install and repair Webasto heating and cooling systems.
Only original Webasto parts must be used. For this, also see the catalog of air and water heater accessories from Webasto.

NEVER attempt to install or repair Webasto heating or cooling systems if you have not successfully completed the company training and thereby acquired the required technical skills, or if you do not have access to the required technical documentation, tools and equipment needed to carry out correct installation and repairs.

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

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

Webasto does not accept any liability for defects and damage that are attributable to installation by untrained staff.

Ident. No.: 1312754E_EN Fee Euro 10.00

Table of Contents

Validity

Manufacturer	Model	Type	EG-BE No./ABE
Nissan	X-Trail	T31	e1 * 2001/116 * 0432 * ...

Engine type	Engine model	Output in kW	Displacement in cm³
M9R	Diesel	110	1995
M9R	Diesel	127	1995

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

The installation location of a digital timer and summer/winter switch should be confirmed with the end customer before installation.

Heater/Installation Kit

Quantity	Description	Order No.:
1	Retail accessories *Thermo Top E / C / P*	See Nissan price list
1	Installation kit for Nissan X-Trail Diesel	1312668A
1	Heater control	See Nissan price list

Heater recommended for the respective vehicle class:

Vehicle	Heater
Compact car	Thermo Top E
Mid-size car, station wagon	Thermo Top C
Full-size car, van, Offroader	Thermo Top P

The selection of the heater is based on the passenger compartment size of the vehicle and the level of comfort required by the customer!

Foreword

This installation documentation applies to Nissan X-Trail Diesel vehicles - for validity, see page 2 - from model year 2008 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.

However, the stipulations in this "installation documentation", the "operating instructions" and "Installation instructions" for the *Thermo Top E / C / P* should be observed under all circumstances.
The corresponding rules of technology and any information from the vehicle manufacturer should be observed during the installation work.

General Instructions

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.
Sharp edges must be provided with rub protection (cut-open fuel hose)!
Spray unfinished body areas, e.g. drilled holes, with anti-corrosion wax (Tectyl 100K, Order No. 111329).
When installing an IPCU, check or adjust the corresponding settings before installation!

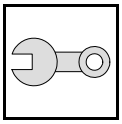
Special Tools

- Torque wrench for 2.0 - 10 Nm
- Hose clamping pliers
- Metric thread-setter kit

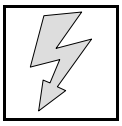
Explanatory Notes on Document

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

Mechanical system

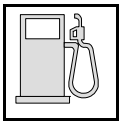


Electrical system



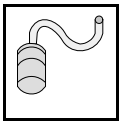
Coolant circuit

Fuel



Exhaust gas

Combustion air



Special features are highlighted using the following symbols:

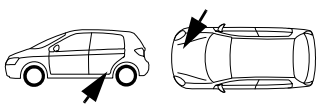
Specific risk of injury or fatal accidents.

Specific risk of damage to components.

Specific risk of fire or explosion.

Reference to general installation instructions of Webas-to 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.

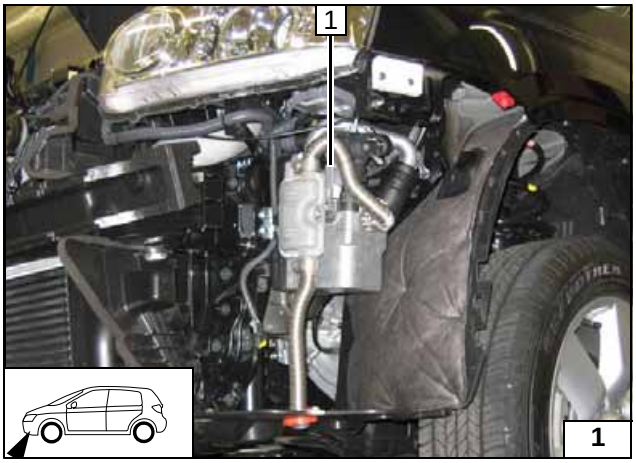
All dimensions are in mm!
Tightening torque of hose clamps = 2.0 + 0.5 Nm!
Tightening torque of Ejot screws, Ejot studs = 10 Nm!

Preliminary Work

WARNING!

- Open fuel tank cap, ventilate tank.
- Close the tank cap again.
- Disconnect the battery "earth" or "ground" connection.
- Depressurize the cooling system!
- Copy the factory number from the original type label to the duplicate type label.
- Remove years that do not apply from the duplicate label.
- Attach the duplicate label (type label) in the appropriate place.
- Remove the battery completely.
- Remove the air filter together with the intake hose
- Remove the trim in the right footwell
- Remove the fuse and relay box.
- Remove the A/C control panel.
- Remove bumper.
- Remove the underride protection.
- Remove right underbody trim
- Open the right-hand fuel sender service lid.

Remove page 24 "Operating Instructions for End Customer" and add to the vehicle operating instructions.



Heater installation location

1 Heater

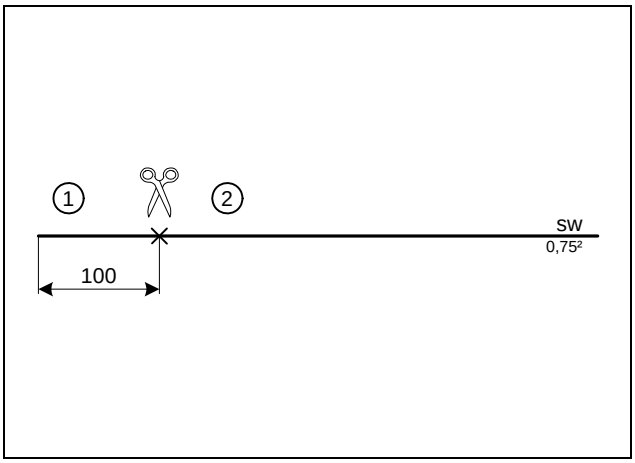
Installation location

Preparing electrical system

Only with automatic air-conditioning

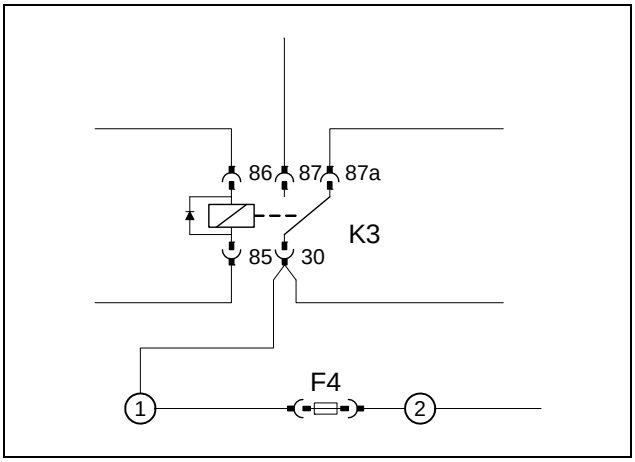
Wire section **1** and **2** will be required later for connecting fuse F4.

Cutting wires to length



Produce connections as shown in wiring diagram. Install wire section **2** in the protective sleeving provided.

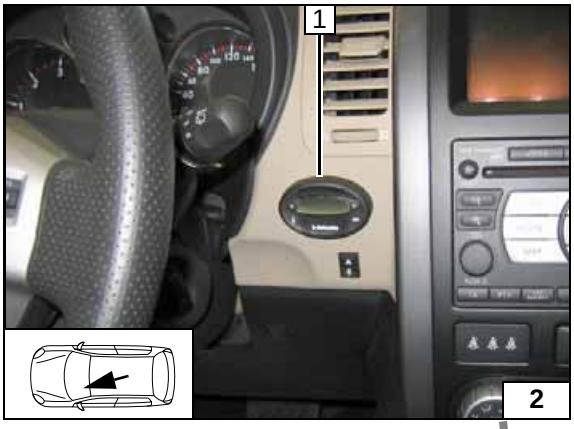
Preparing fuse F4



Electrical system

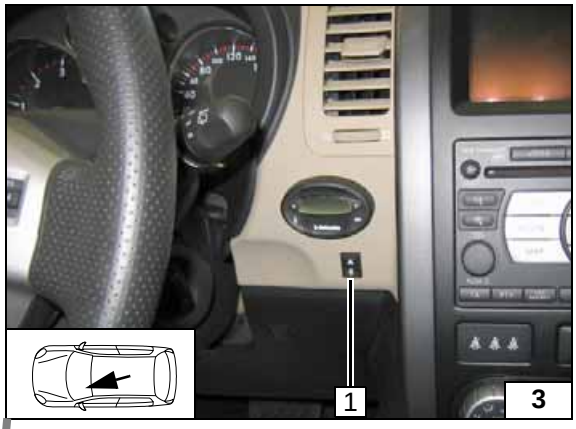
Digital timer

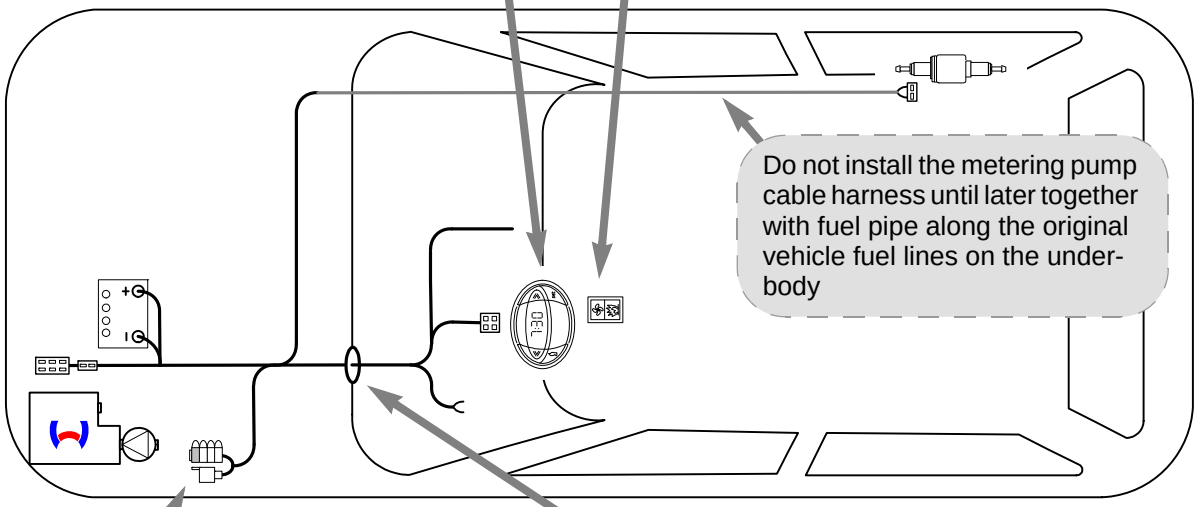
1 Digital timer



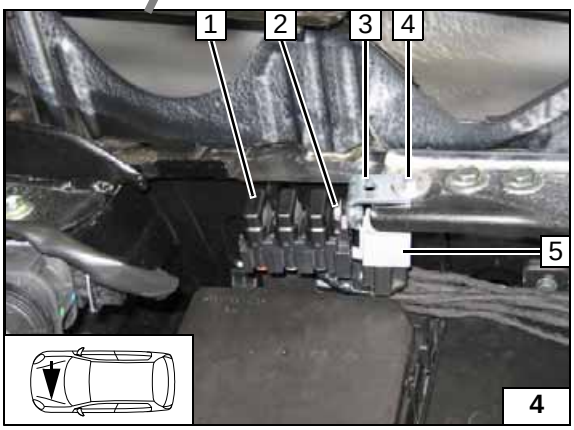
Summer/winter switch option

1 Summer/winter switch, drilled hole 12 mm dia.



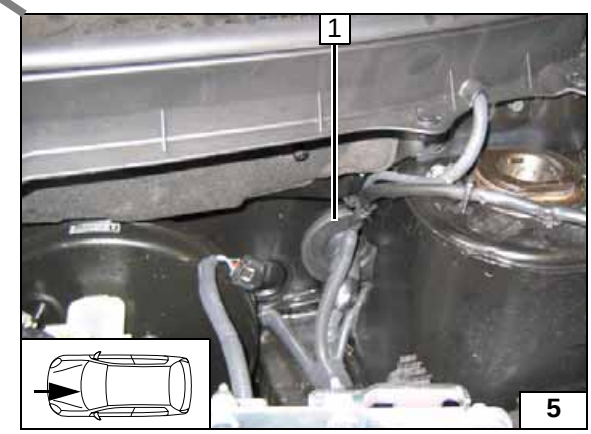


Wiring harness installation diagram



Fuse holder, K3 relay

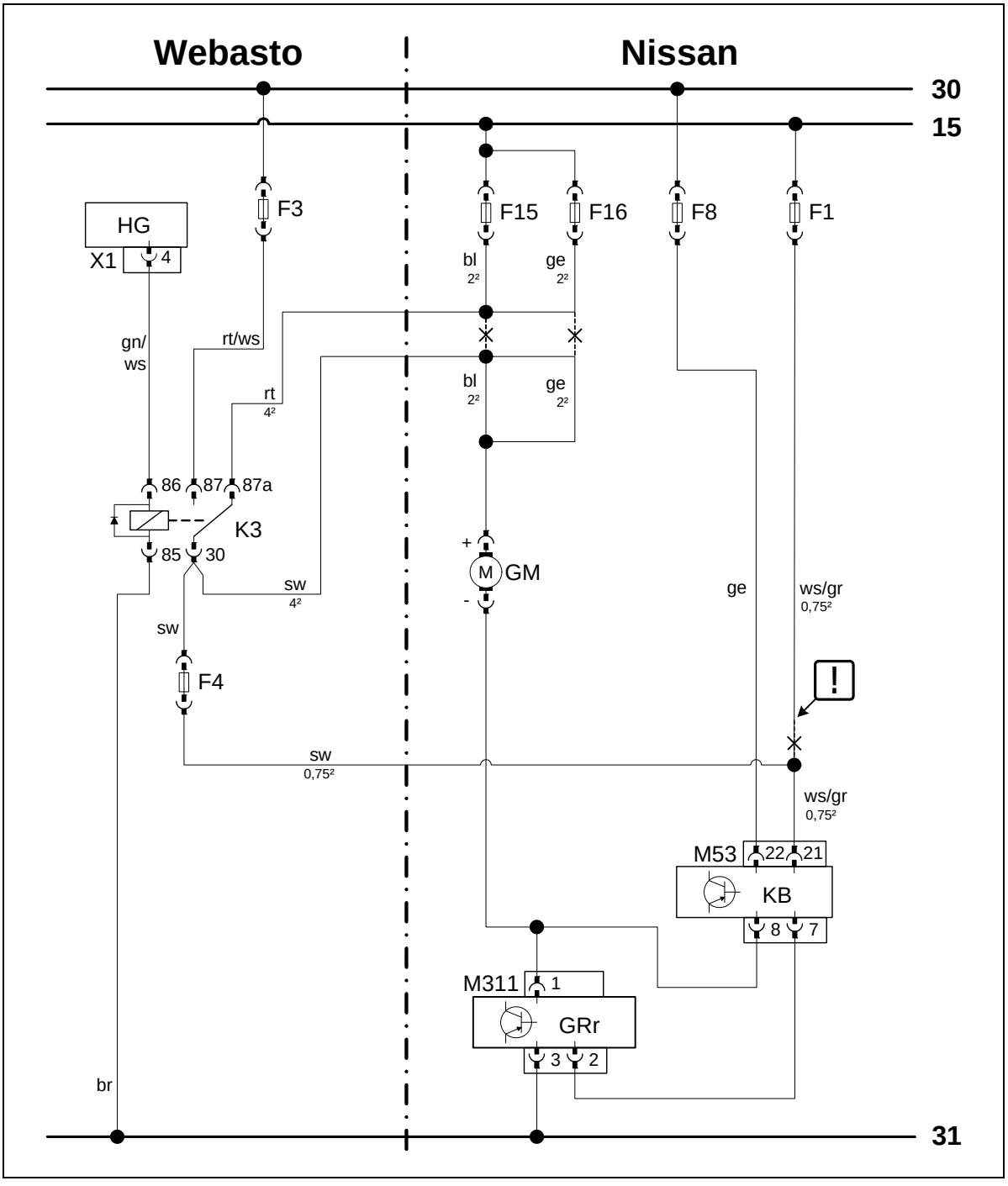
1 Fuse holder
2 M5x12 bolt, washer [2x], retaining plate of fuse holder, nut
3 Angle bracket
4 M6x20 bolt, large diameter washer, existing hole, flanged nut
5 K3 relay



Wiring harness pass through

1 Protective rubber plug

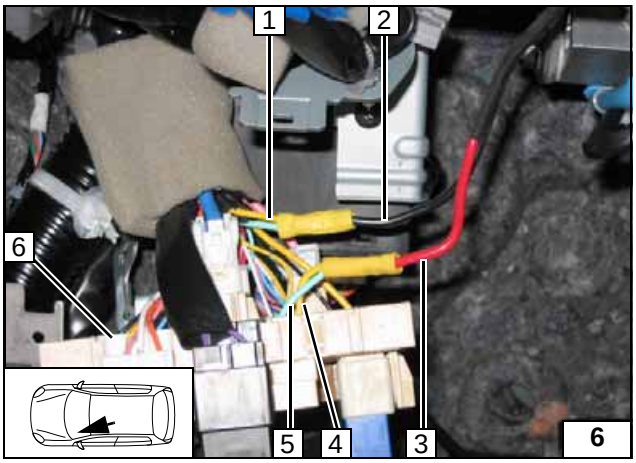
Fan controller



Webasto components		Vehicle components		Colours and symbols	
HG	Heater TT-C/E/P	GM	Fan motor	rt	red
X1	6-pin heater connector	KB	A/C control panel	ws	white
F3	25 A fuse	M53	40-pin connector KB	sw	black
K3	Fan relay	GRr	Fan controller	br	brown
F4	10A fuse	M311	4-pin connector, GRr	gn	green
		F1	10A fuse	bl	blue
		F8	10A fuse	ge	yellow
		F15	15A fuse	!	Insulate wire ends and tie back
		F16	15A fuse		
				X	Cutting point
				Wiring colours may vary.	

Wiring diagram

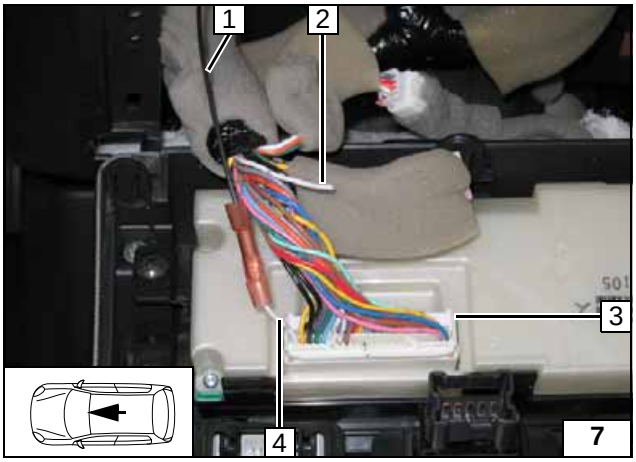
Legend



Connection to fuse box **6** behind fuses F15 and F16. Produce connections as shown in wiring diagram.

1 Yellow and blue (ge/bl) wire of fan motor
2 Black (sw) wire from K3/30
3 Red (rt) wire from K3/87a
4 Yellow (ge) wire from fuse 16
5 Blue (bl) wire of fuse 15

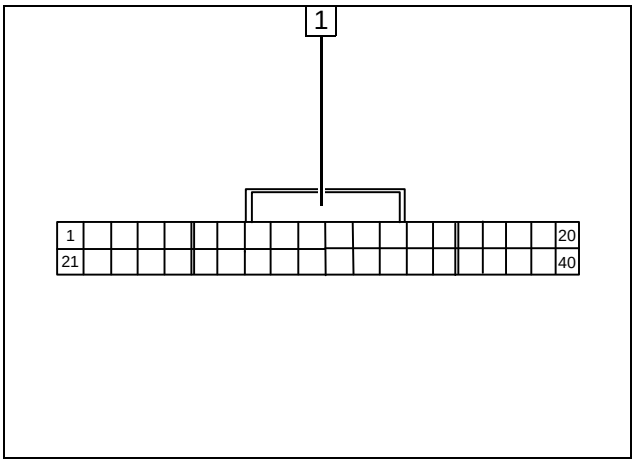
Connecting fan-motor



Connection to 40-pin connector **3** from A/C control element.
Produce connections as shown in wiring diagram.

1 Black (sw) wire from F4
2 Insulate and tie back white/gray (ws/gr) wire
4 White/gray (ws/gr) wire, Pin 21

Connecting A/C control panel



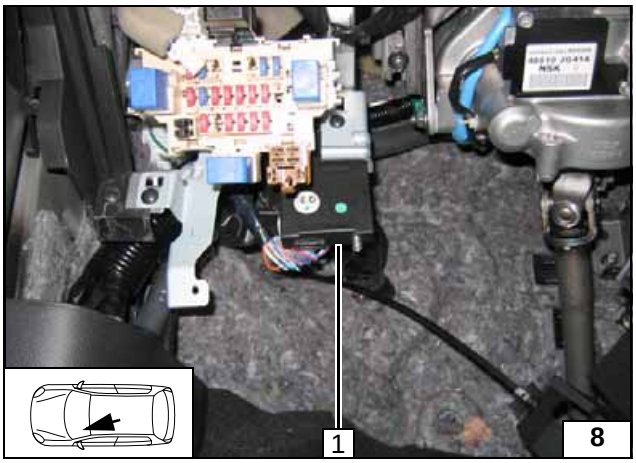
Connector imprint may differ from wiring diagram!

1 Connector M53 on line side

View of connector M53

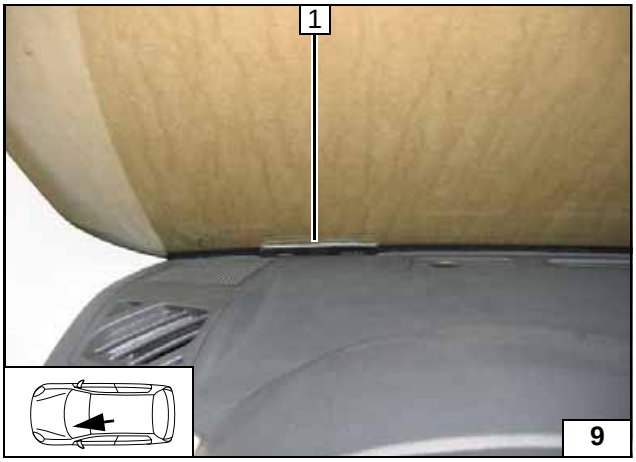
Remote option (Telestart)

Installing receiver



1 Fasten receiver with double-sided adhesive tape

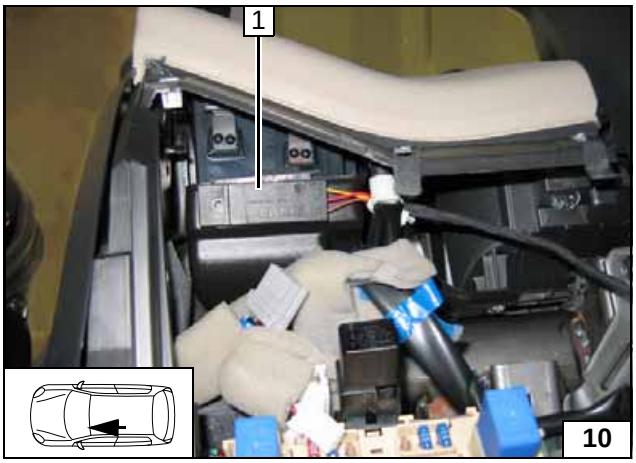
Installing antenna



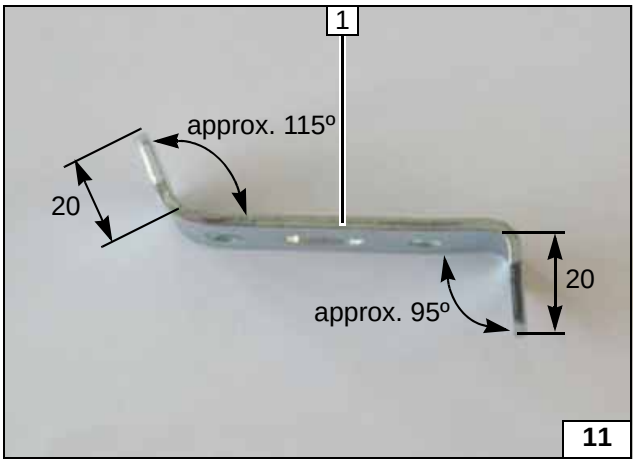
1 Antenna

Installing temperature sensor

Temperature sensor only for T100 HTM



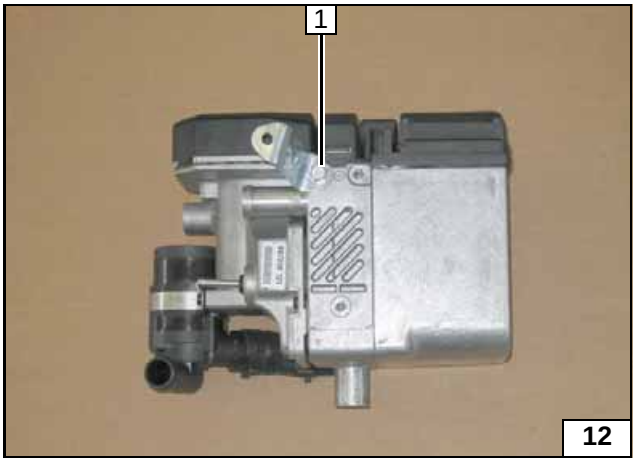
1 Fasten temperature sensor with double-sided adhesive tape



Preparing heater

1 Perforated bracket

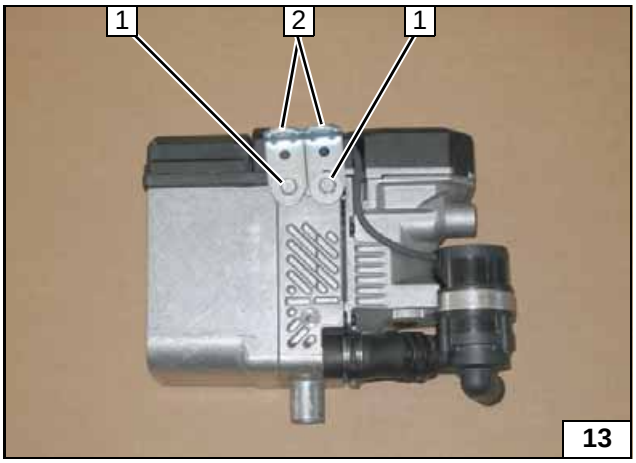
Bending perforated bracket



Loosely mount perforated bracket with 90° angle bracket on heater.

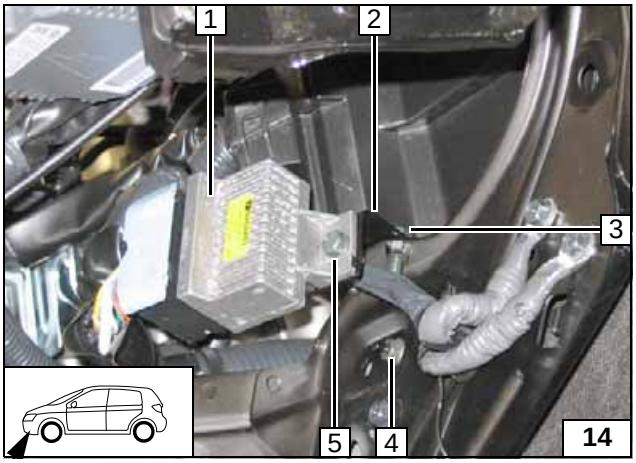
1 Ejot screw

Installing perforated bracket



1 Ejot screw, large diameter washer [2x each]
2 Angle bracket [2x]

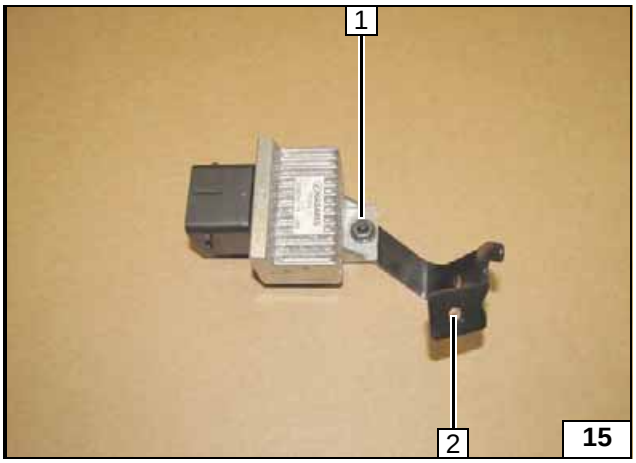
Installing angle bracket



Preparing installation location

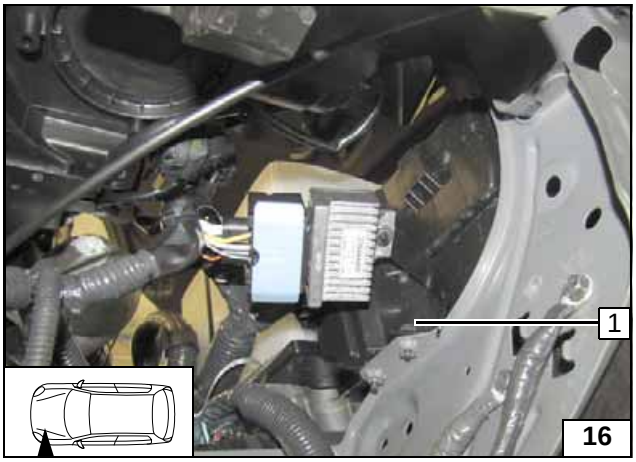
1 Resistor
2 Remove bracket
3 Original vehicle bolt will be reused
4 Original vehicle nut will be reused
5 Original vehicle bolt will be reused

Moving resistor



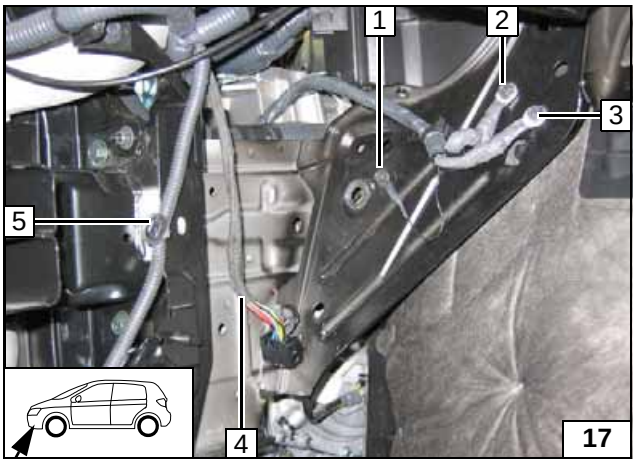
1 Original vehicle nut

Preparing bracket resistence



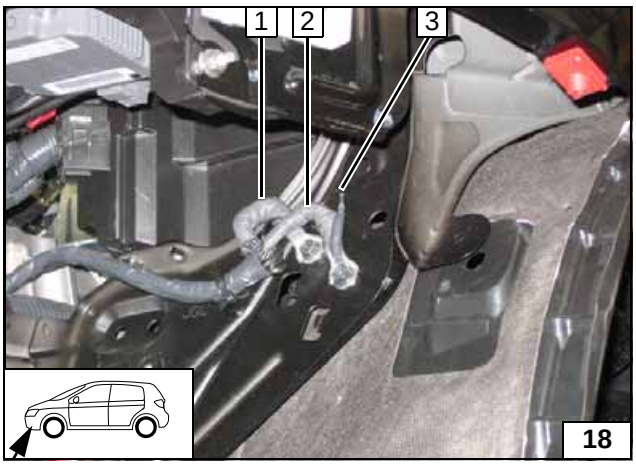
1 Original vehicle bolt on existing threaded hole

Moving resistor



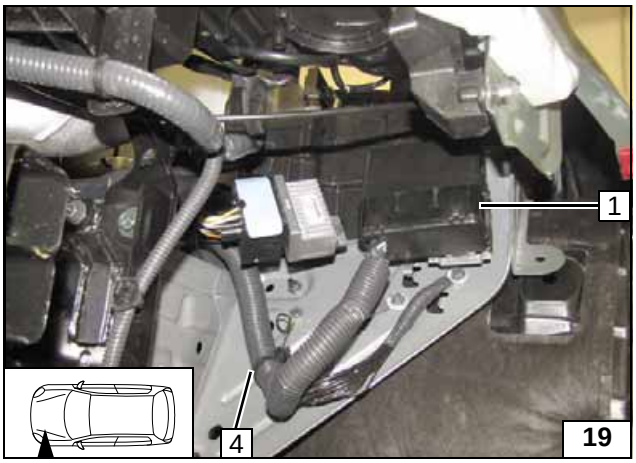
1 Disconnect ground wire, bolt will be reused
2 Disconnect ground wire
3 Disconnect ground wire
4 Wiring harness of heater
5 Remove clip of wiring harness

Moving ground wires



1 Ground wire
2 Ground wire
3 Ground wire

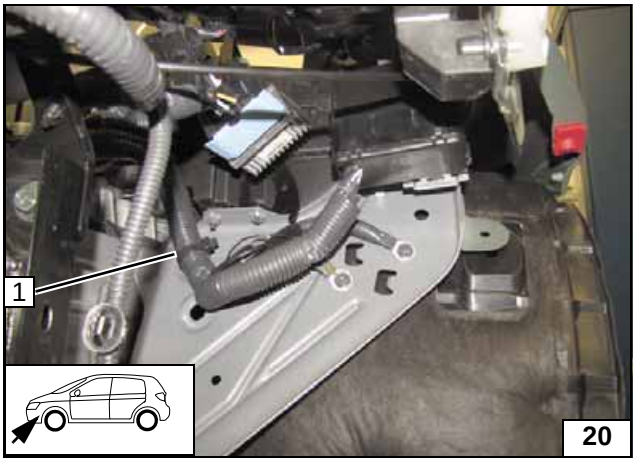
Moving ground wires



If available, remove relay box **1**. Discard original vehicle bolt.

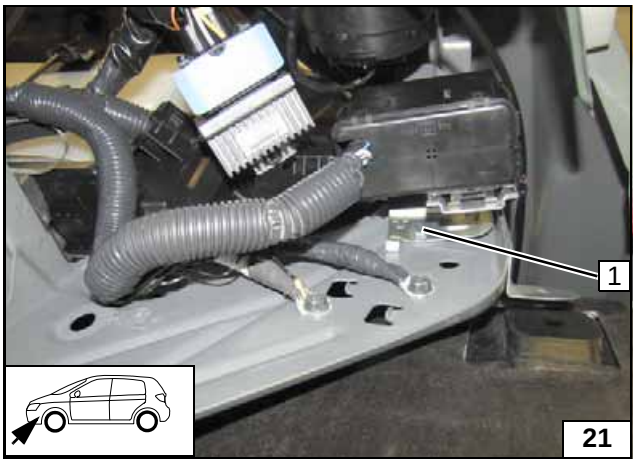
2 Detach clip of wiring harness

Removing relay box



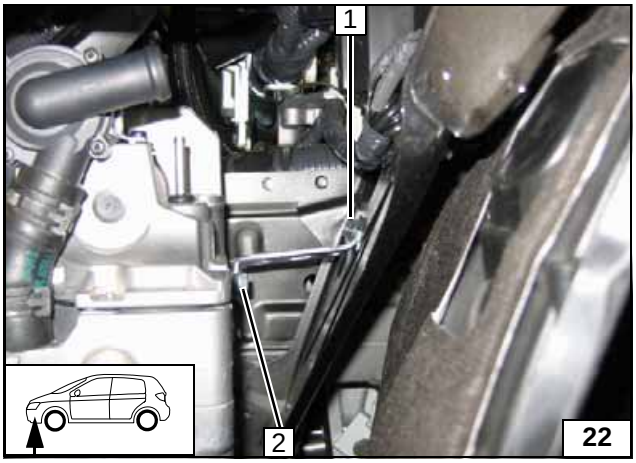
Route wiring harness and install clip **1** in the existing hole.

Fastening wiring harness



1 Original vehicle bolt in existing hole, large diameter washer, M6 flanged nut

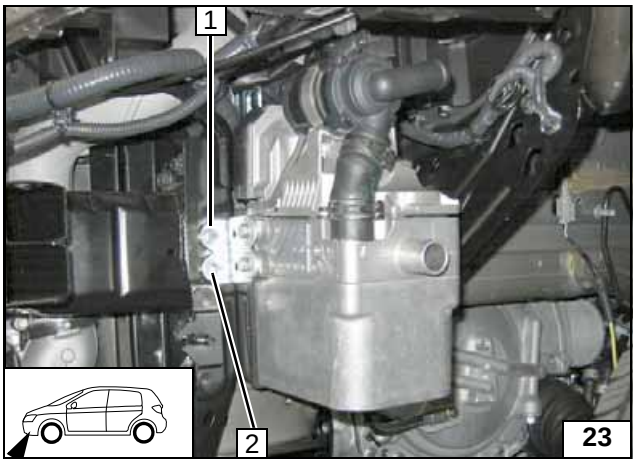
Offsetting relay box



Installing heater

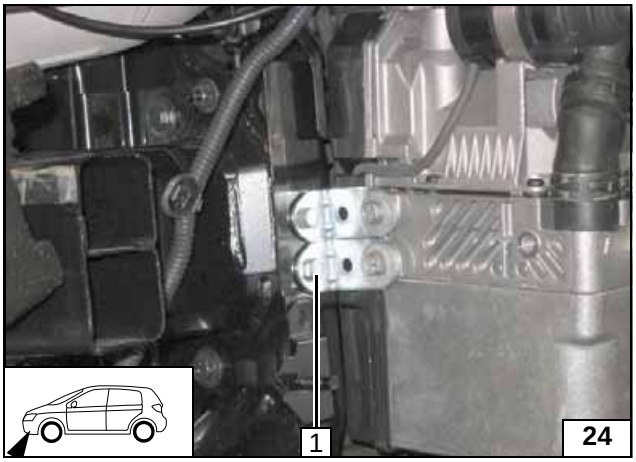
1 Original vehicle bolt on existing threaded hole
2 Tighten Ejot screw

Installing heater



1 M6x20 bolt, M6 flanged nut
2 Copy hole pattern, drill 6.5 mm dia. hole in cross member

Installing heater



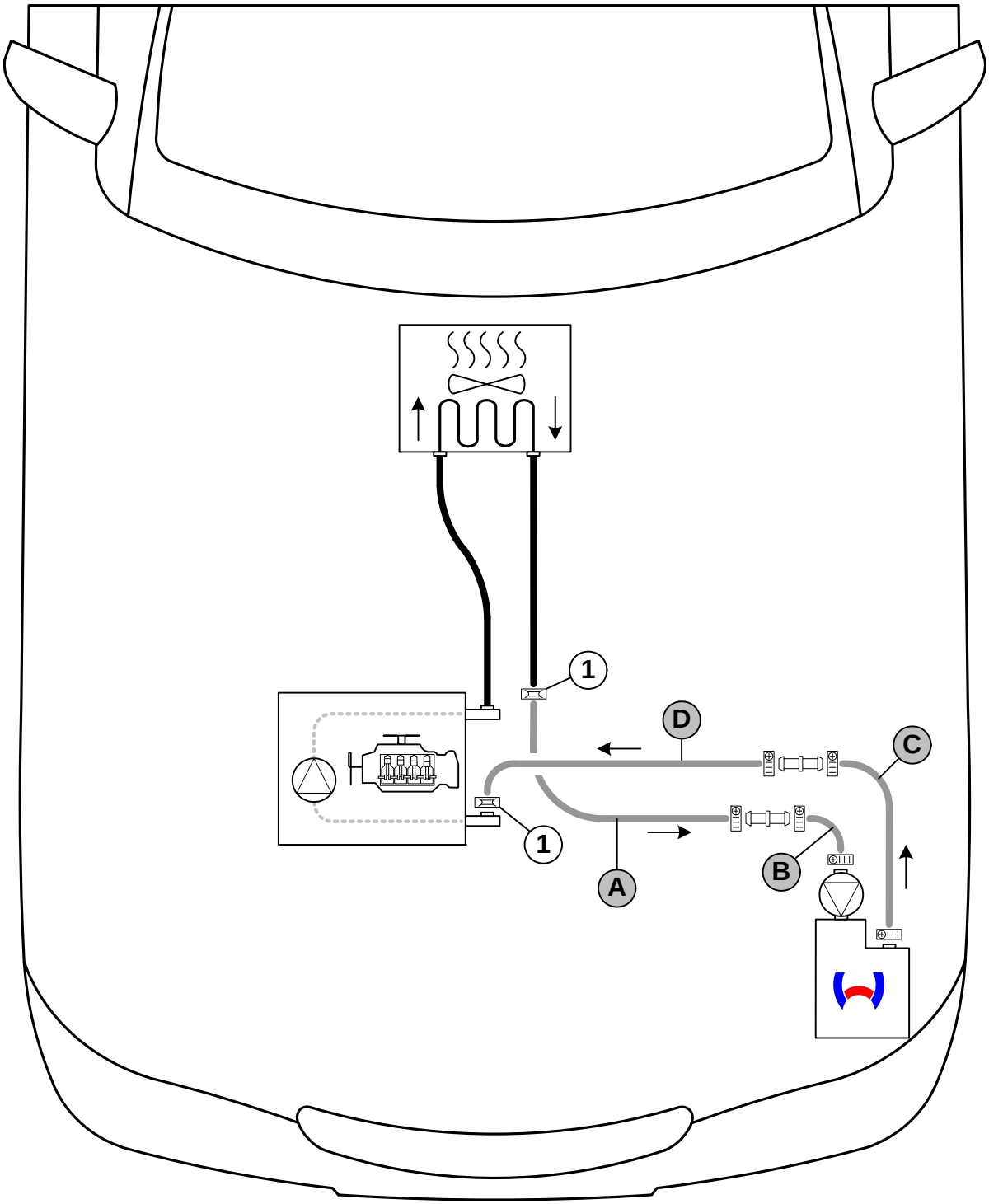
1 M6x20 bolt, M6 flanged nut

Installing heater

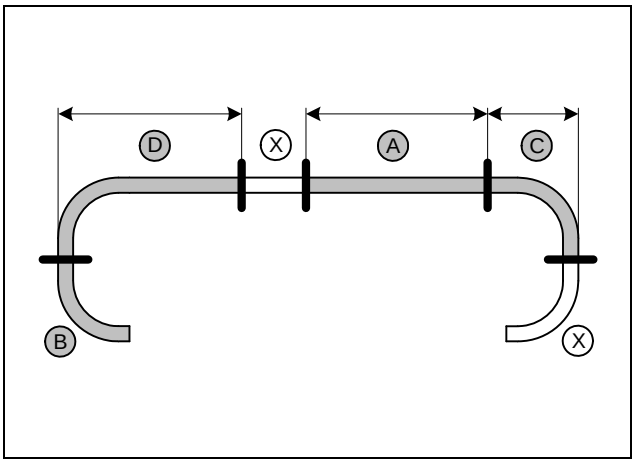
Coolant circuit

WARNING!
Any coolant running off should be collected using an appropriate container! Install hoses so that they are kink-free. Unless specified otherwise, always fasten using cable ties. Position clamps so that no other hose can be damaged! When installing the coolant hose, the heater must be filled with coolant. The connection should be "inline" based on the following diagram:

Hose routing diagram



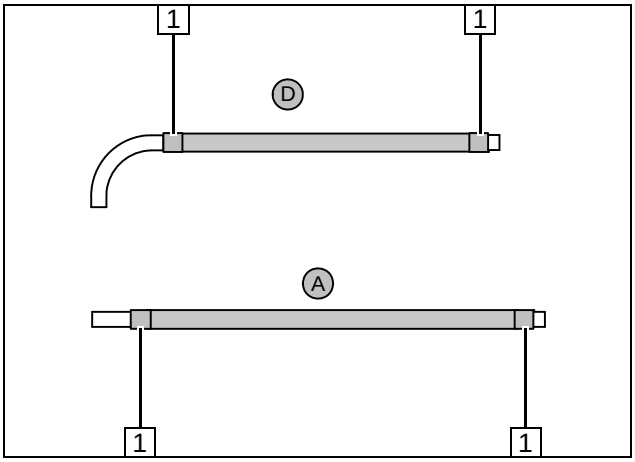
All connecting pipes = dia. 20x20.
All hose clamps = 20-27 mm dia.!
1 = Original vehicle spring clip [2x]!



Discard section **X**

A = 680
C = 110
D = 520

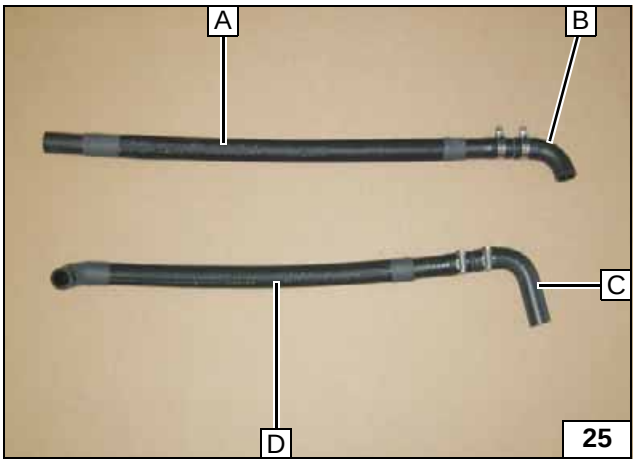
Cutting hoses to length



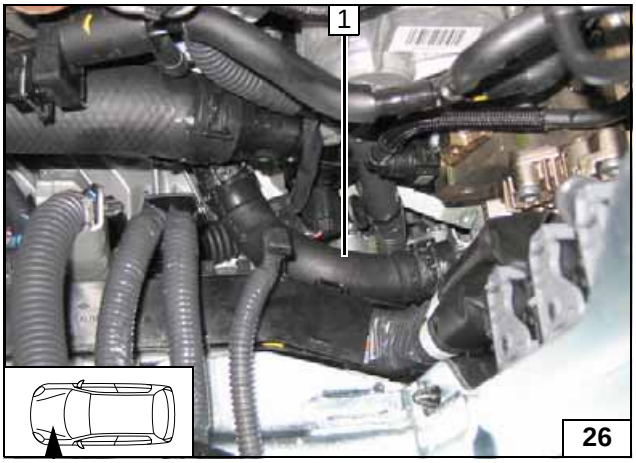
Push braided protection hoses onto hose **A** and **D** and cut to length.
Cut heat shrink plastic tubing to size and shrink.

1 25 mm long heat shrink plastic tubing [4x]

Preparing hoses



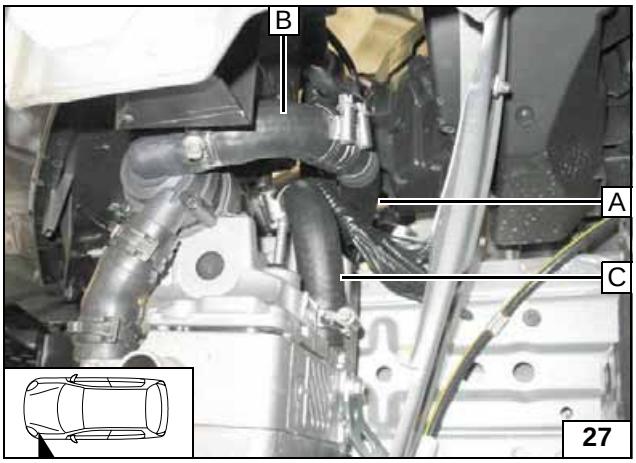
Premounting hoses



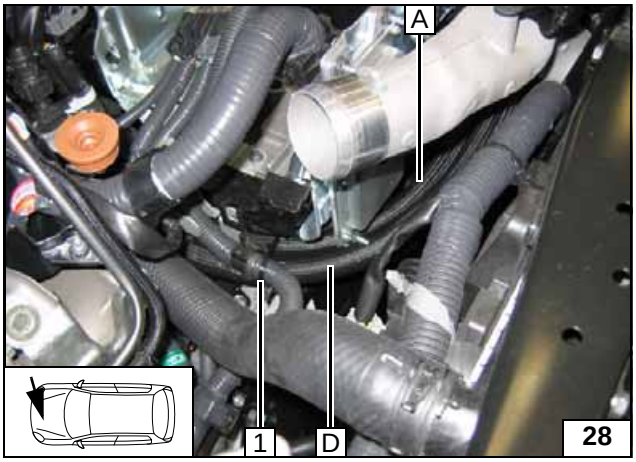
Remove original vehicle hose on heat exchanger outlet/engine inlet **1** and discard. Spring clip will be reused!

Cutting point

Connecting heater

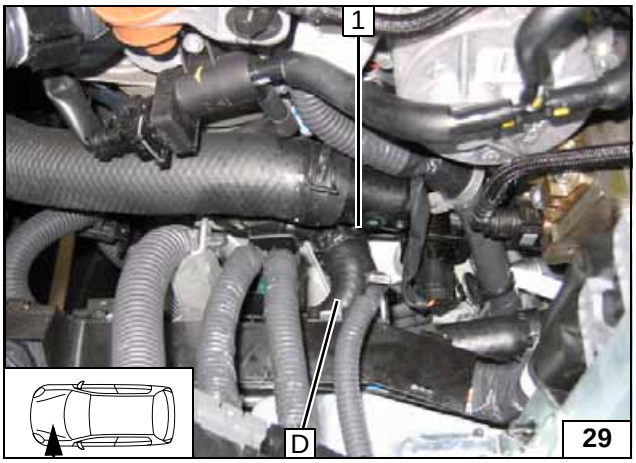


Routing in engine compartment



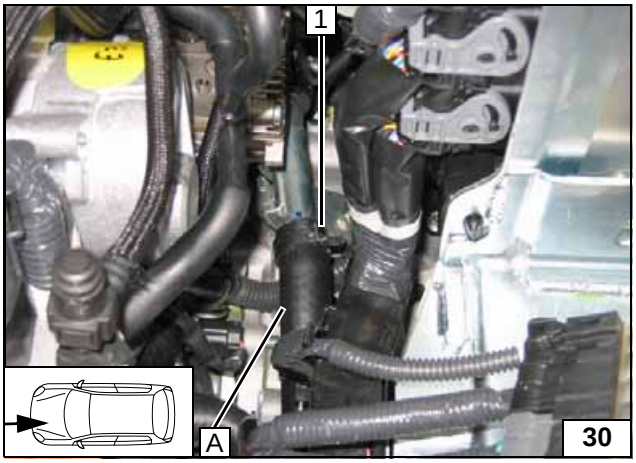
1 Cable tie

Connection on engine inlet

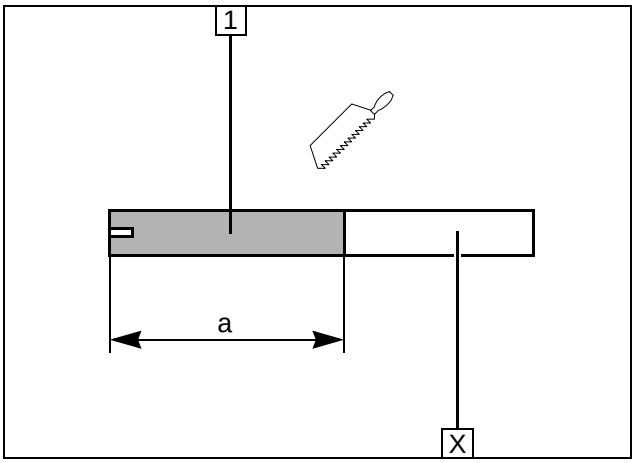


1 Original vehicle clamp

Connection on heat exchanger outlet



1 Original vehicle clamp

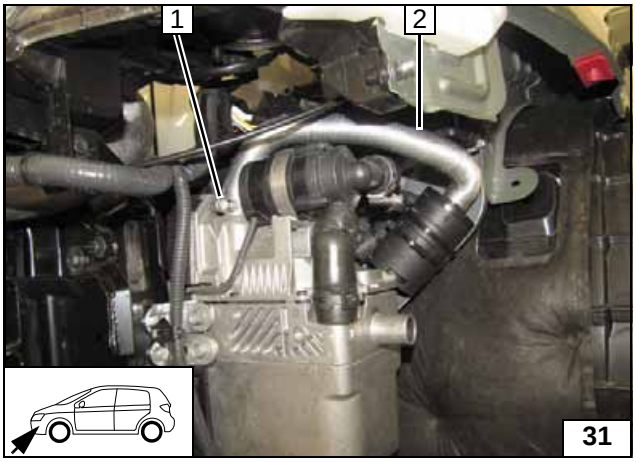


Combustion air

1 Combustion air pipe
a = 280

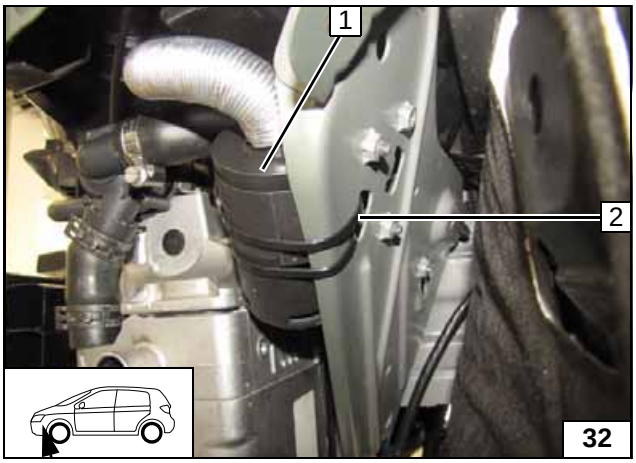
Discard section **X**

Cutting combustion air pipe to length



1 27 mm dia. clamp
2 Combustion-air intake pipe

Installing intake pipe



1 Intake muffler
2 Cable ties [2x] through guide slit

Installing muffler

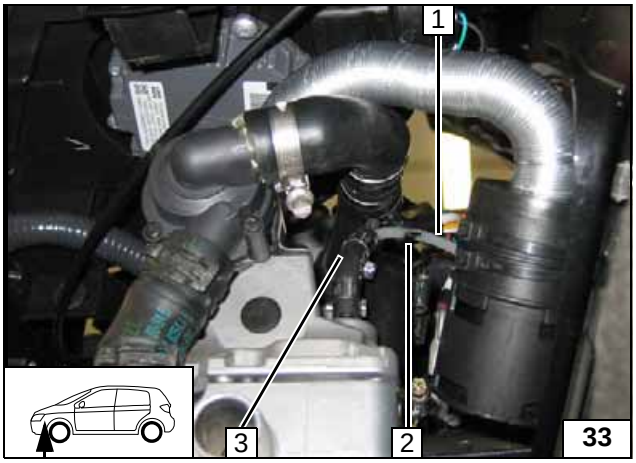
Fuel

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

Catch any fuel running off with an appropriate container.

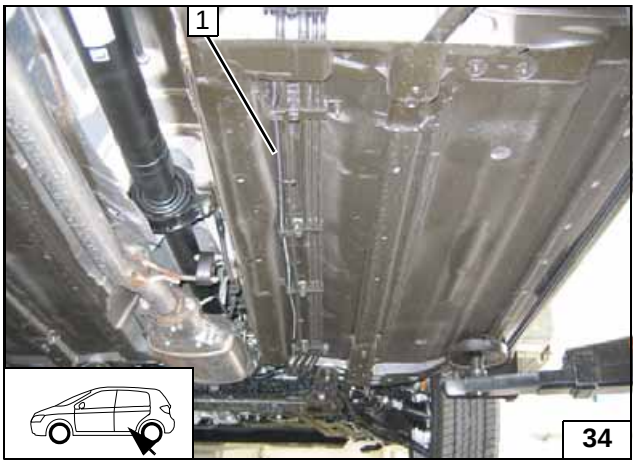
Install fuel line and metering-pump wiring harness so that they are protected against stone impact. Unless specified otherwise, always fasten using cable ties.
Mount the fuel line and wiring harness with rub protection on sharp edges.

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



1 Fuel line
2 Hose bracket between fuel line and hose D
3 Hose section, 10 mm dia. clamp [2x]

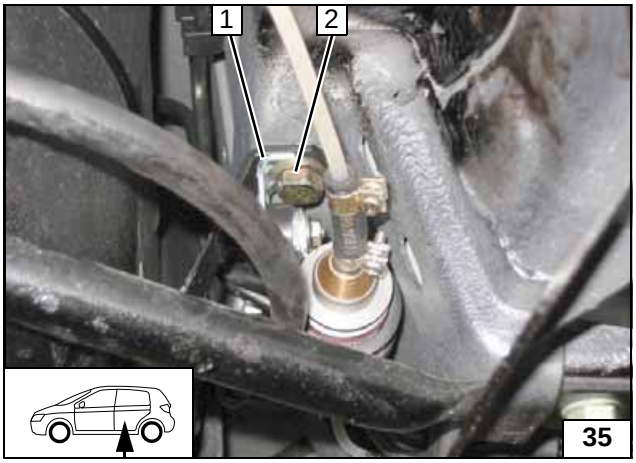
Connection to heater



Route fuel line to right-hand side of vehicle, slide into 2x corrugated tube together with wiring harness of metering pump and route along original vehicle fuel line to installation location of metering pump.

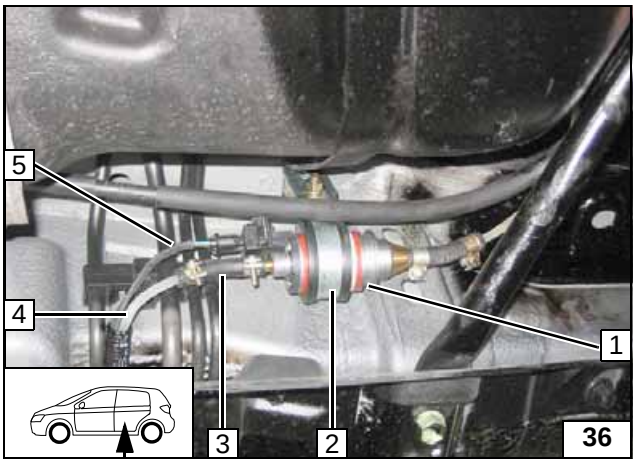
1 Corrugated tube with fuel line and wiring harness for metering pump

Installing lines



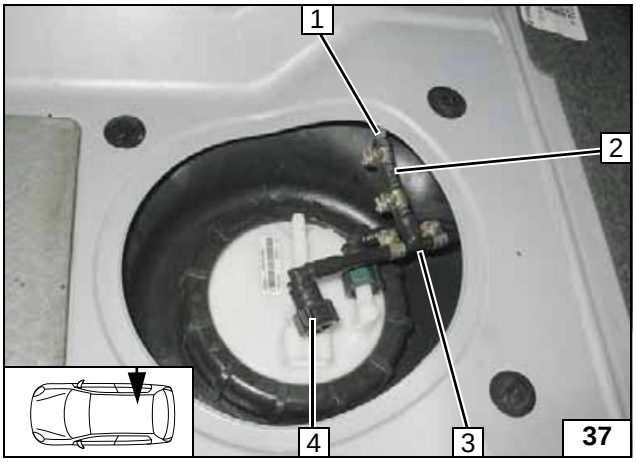
1 Angle bracket, hole drilled out to 10.5 mm dia.
2 Original vehicle bolt

Installation location of metering pump



1 Metering pump
2 Rubber-coated p-clamp, silent block, flanged nut [2x]
3 Hose section, 10 mm dia. clamp [2x]
4 Fuel line
5 Wiring harness of metering pump, connector mounted

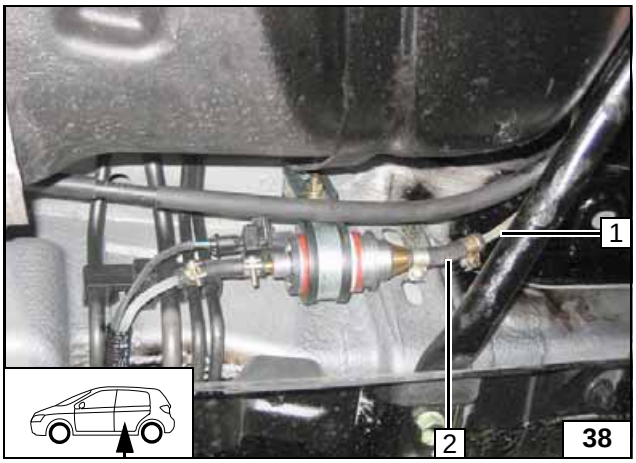
Installing metering pump



Separate fuel return line **4** approx. 50 mm before coupling.

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

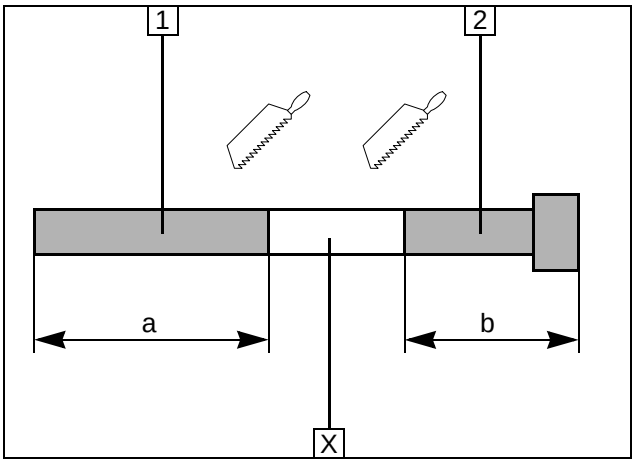
Removing fuel



Check the position of the components; adjust if necessary. Check that they have free clearance.

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

Connecting to metering pump

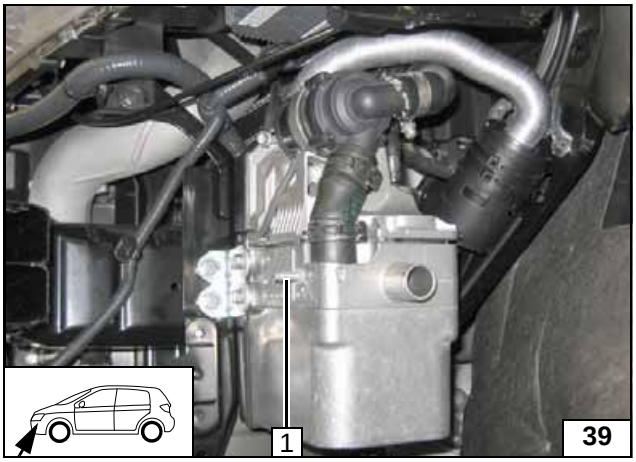


Exhaust gas

1 Exhaust pipe
a = 260
2 Exhaust end section
b = 250

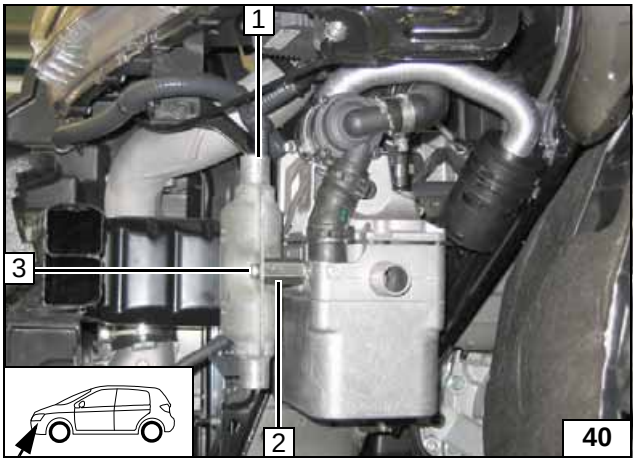
Discard section **X**

Preparing exhaust pipe



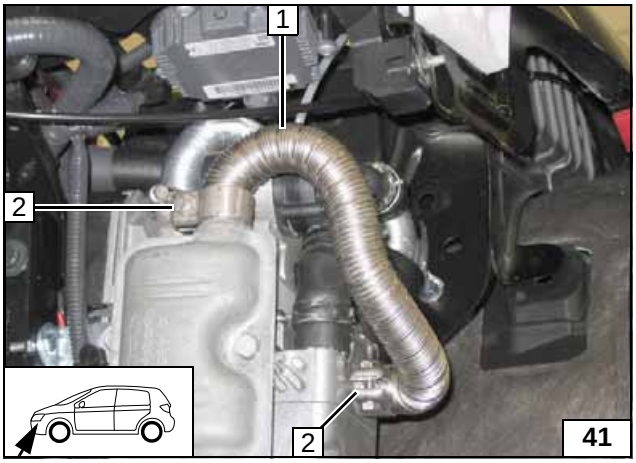
1 Ejot stud

Installing muffler



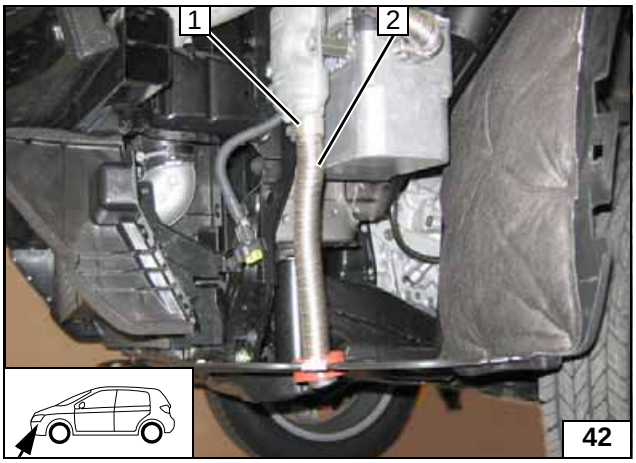
1 Exhaust muffler
2 M6x30 spacer nut
3 M6x12 bolt, spring lockwasher

Installing muffler



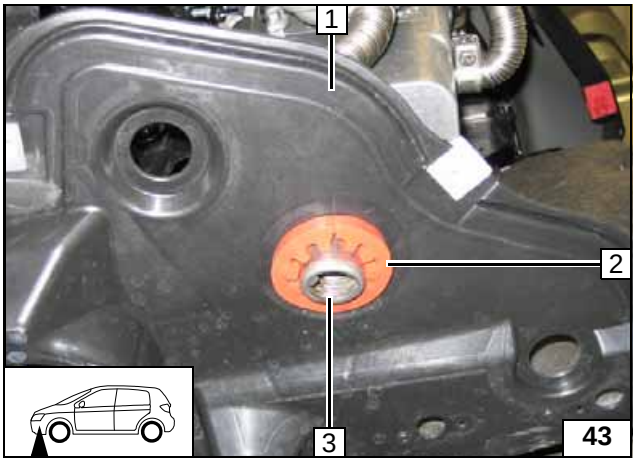
1 Exhaust pipe
2 Hose clamp [2x]

Installing exhaust pipe



1 Hose clamp
2 Exhaust end section

Installing exhaust end section



Drill out existing hole in wheel-well inner panel **1** to 42 mm dia.
Insert exhaust end section **3** and red rubber isolator **2** in hole. Align exhaust end section **3** flush on red rubber isolator **2**.

Mounting rubber isolator

Final Work

WARNING!
Mount removed parts in reverse order. Check all hoses, clamps and all electrical connections for firm seating. Insulate all loose wires 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, try out Telestart transmitter**
- **Make settings on A/C control panel according to the "Operating Instructions for End Customer".**
- **Apply the label "Switch off parking heater before refilling" in the area of the filling neck**
- **For initial start-up and function check, see installation instructions**

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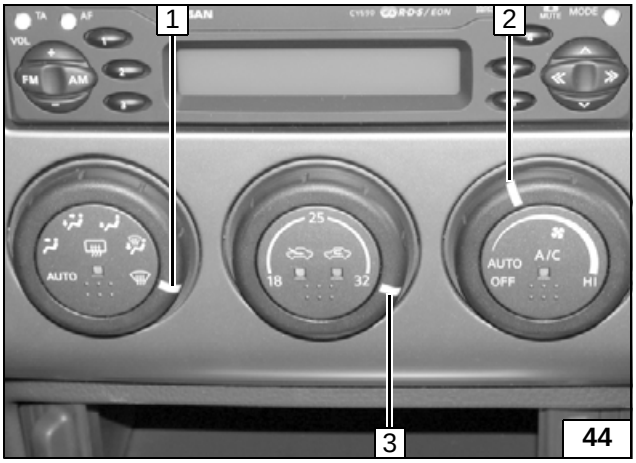
Operating Instructions for End Customer

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.

If the summer/winter switch option has been installed, this must be switched in accordance with the time of year. The heater will then only switch on the vehicle fan to ventilate the vehicle interior in the position Winter heat and in the position Summer .

Before parking the vehicle, make the following settings:



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Version 1

1 Air outlet to windshield
2 Adjust fan as shown
3 Set temperature to "max."

Automatic air-conditioning

45

Version 2

2 Air outlet to windshield
1 Adjust fan as shown
3 Set temperature to "max."

Automatic air-conditioning