

# Water Heater Unit



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

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

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

## Installation Instructions

### 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, specialized tools and equipment are required to install and repair Webasto heating and cooling systems.

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.

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

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**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 cm <sup>3</sup>
M9R	Diesel	110	1995
M9R	Diesel	127	1995

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

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

**Heater Unit/Installation Kit**

Quantity	Description	Order No.:
1	Nissan-specific delivery scope	See Nissan price list
1	Installation kit for Nissan X-Trail Diesel	1312668A

**Also required:**

Quantity	Description	Order No.:
1	Heater control according to Nissan price list	See Nissan price list

**Heater unit recommended for the respective vehicle class:**

Vehicle	Heater unit
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 unit is based on the passenger compartment size of the vehicle and the level of comfort required by the customer!

**Foreword**

These installation instructions apply 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 these installation instructions.

However, the stipulations in the "installation instructions" and "operating and maintenance instructions" for the *Thermo Top C/P/E* must always be observed.

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 should be fitted with edge protectors (split-open plastic hose).

Spray unfinished body areas, e.g. drilled holes, with anti-corrosion wax (Tectyl 100K, Order No. 111329).

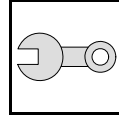
**Special Tools**

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

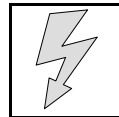
**Explanatory Notes on Document**

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.

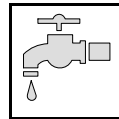
**Mechanical system**



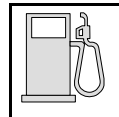
**Electrical system**



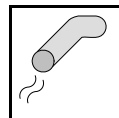
**Water**



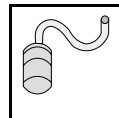
**Fuel**



**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 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.

**All dimensions are in mm!**

**Tightening torque of hose clamps = 2.0 + 0.5 Nm!**

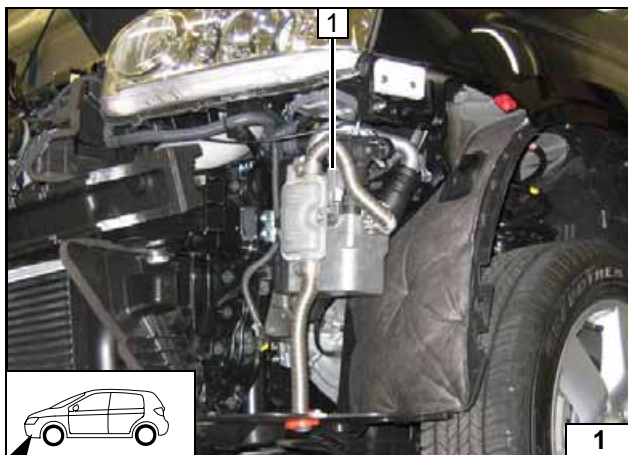
**Tightening torque of Ejet screws, Ejet studs = 10 Nm!**

## 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.
- Completely remove the battery.
- 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 the bumper.
- Remove the underride protection
- Open the right-hand fuel sender service lid.

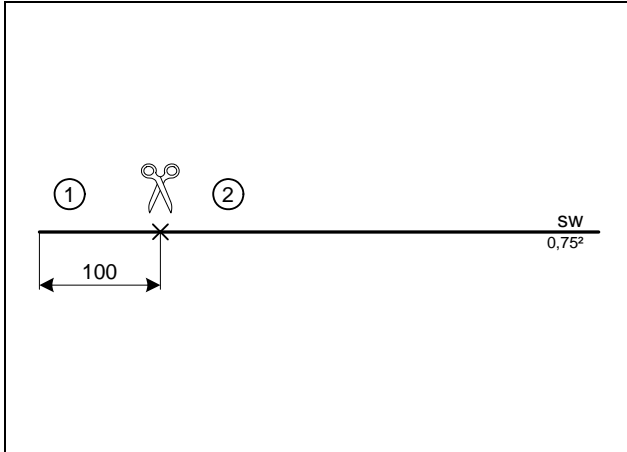
Remove page 23 "Operating Instructions for End Customer" and insert with vehicle operating instructions.



### Heater unit installation location

- 1 Heater unit

Installation  
location



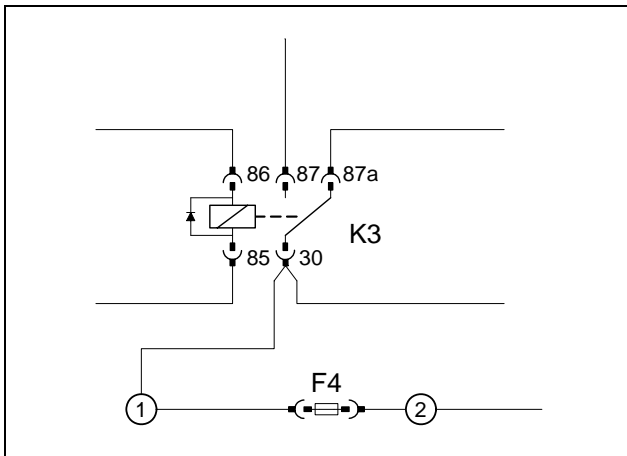
**Preparing electrical system**

**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.



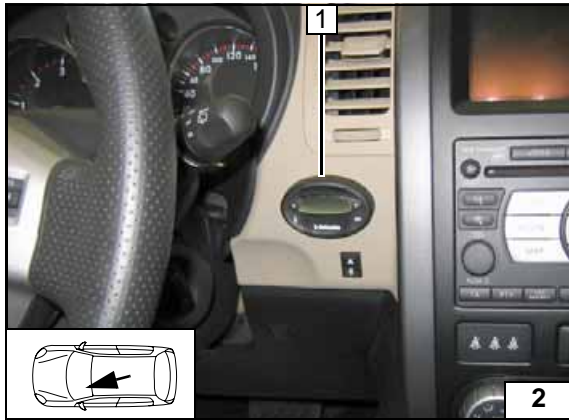
**Preparing fuse F4**



**Electrical system**

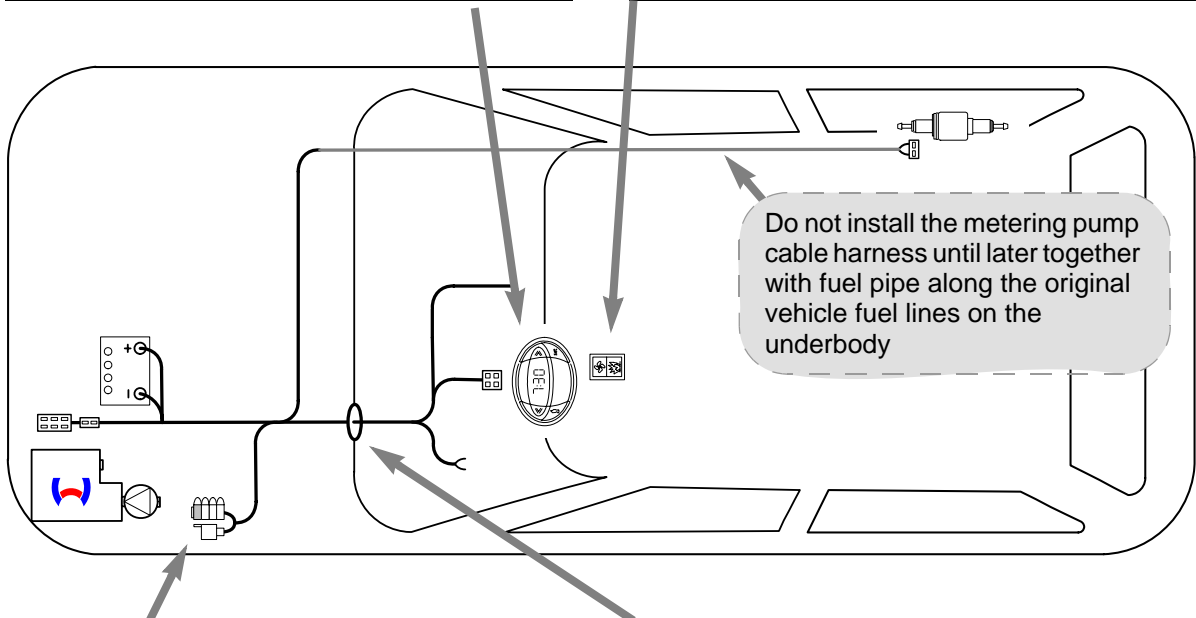
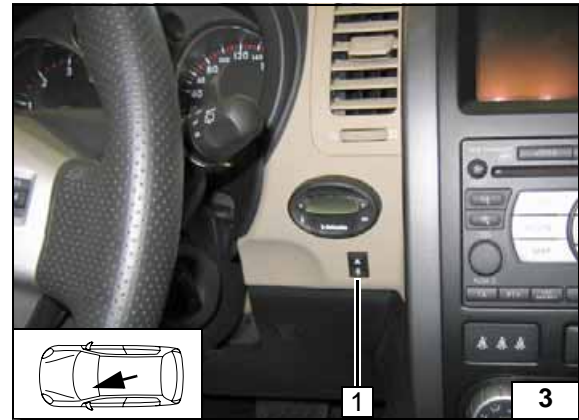
**Digital timer**

1 Digital timer

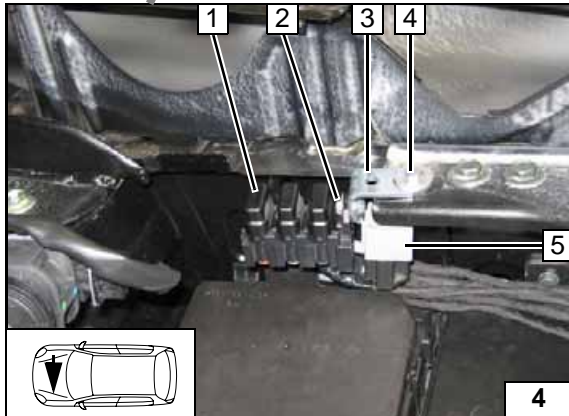


**Summer/winter switch option**

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

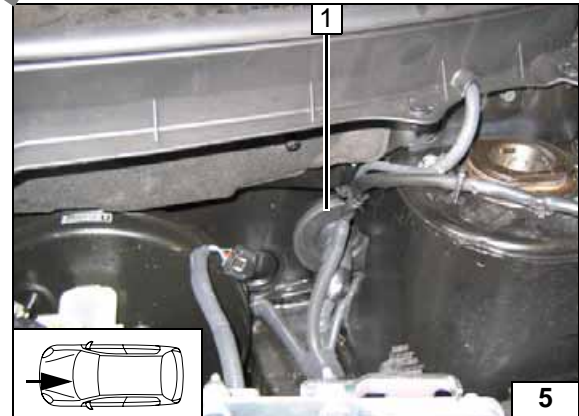


**Wiring harness installation diagram**



**Fuse holder, relay K3**

- 1 Fuse holder
- 2 Retaining plate of fuse holder, M5x12 bolt, washer, angle bracket
- 3, K3 relay
- 5, M5 flanged nut
- 4 M6x20 bolt, large diameter washer, existing hole, M6 flanged nut



**Wiring harness pass through**

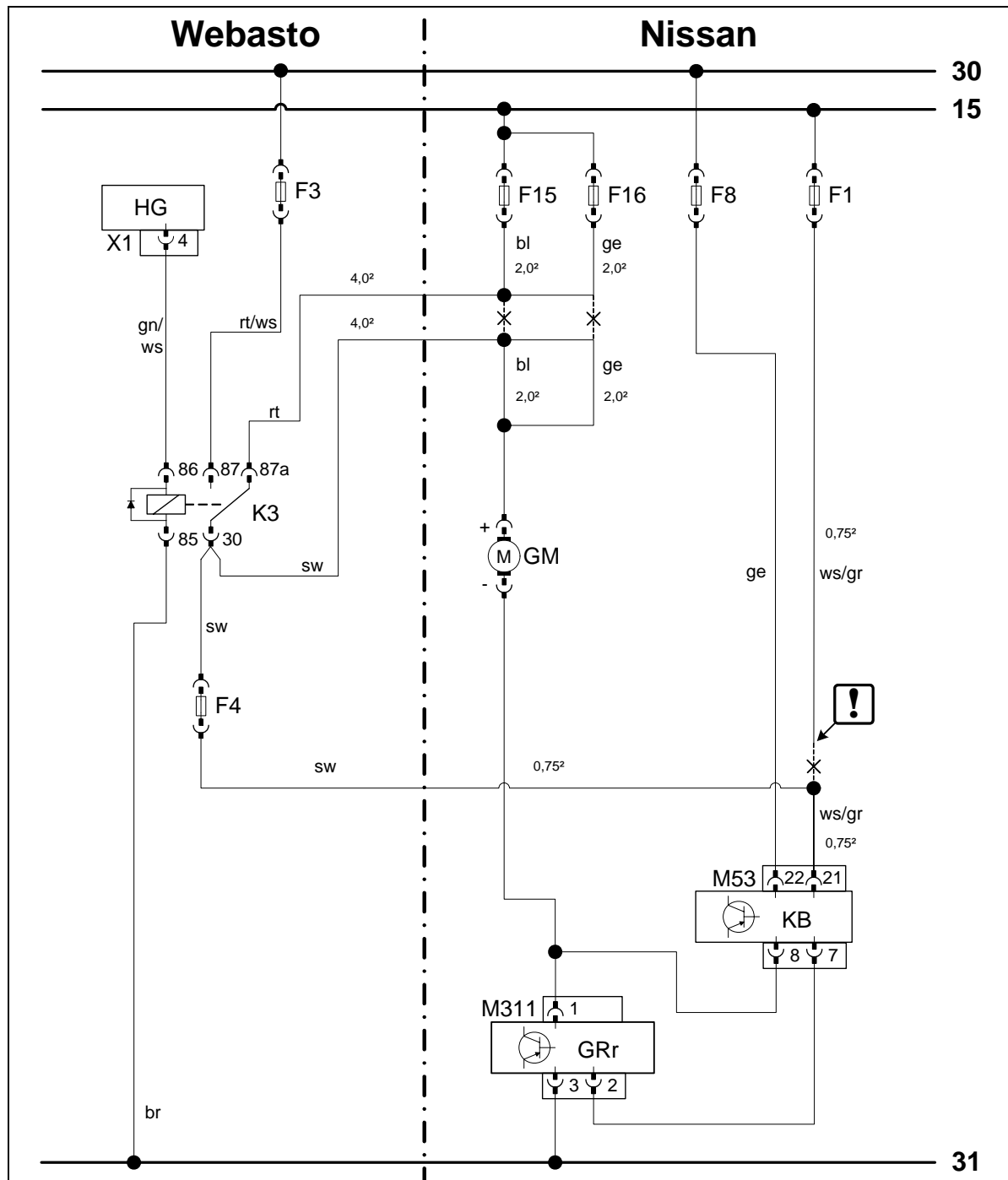
- 1 Protective rubber plug



Automatic air-conditioning fan controller



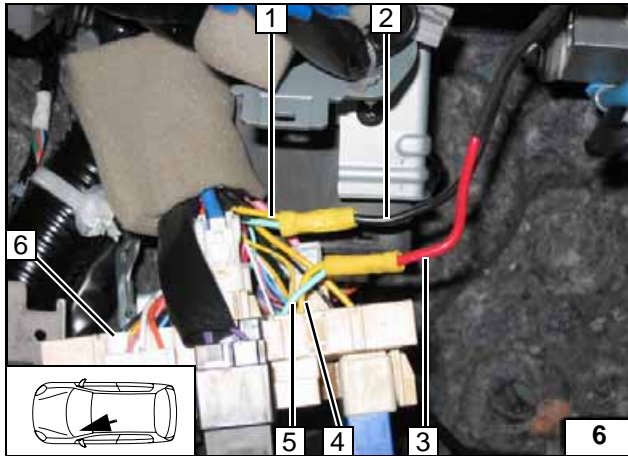
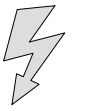
Wiring diagram



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

Legend



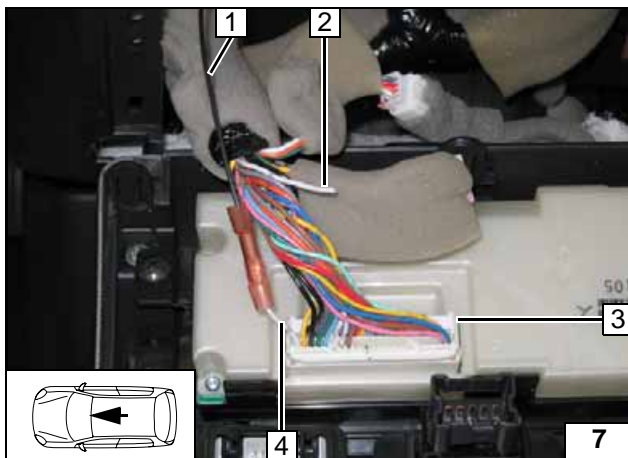


Produce connection on fuse carrier **6** behind fuses F15 and F16 according to wiring diagram.

- 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



**Connect-  
ing fan-mo-  
tor**



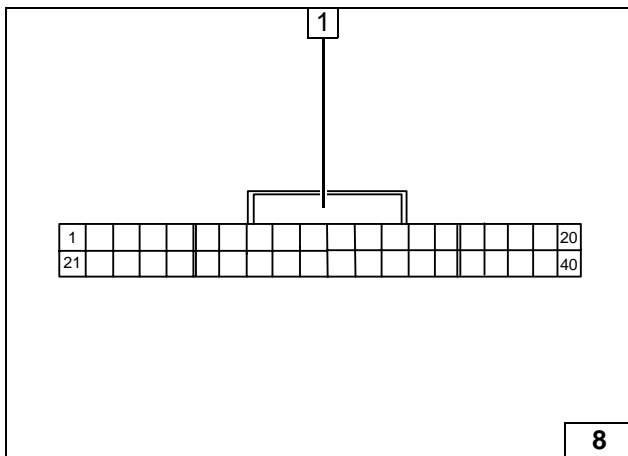
Connection to 40-pin connector **3** from A/C control element.

Produce connections as shown in wiring diagram.

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



**Connect-  
ing A/C  
control  
panel**



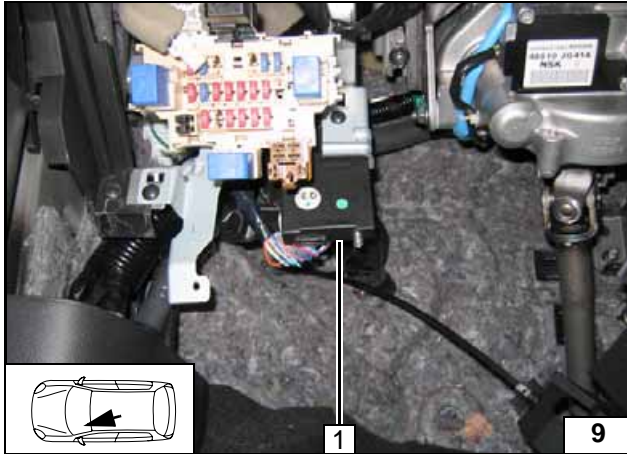
**Connector imprint may differ from wiring diagram!**

- 1 Connector M53 on line side



**View of  
connector  
M53**

8

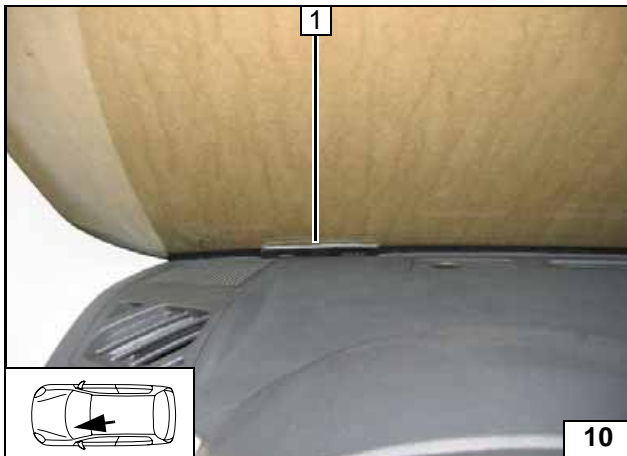


**Remote option (Telestart)**

1 Fasten receiver with double-sided adhesive tape

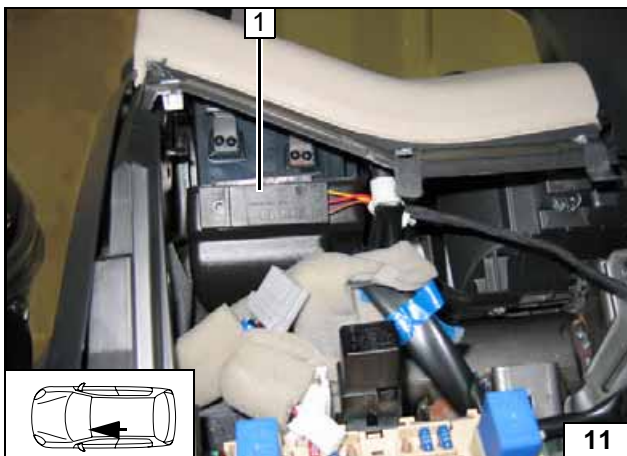


**Installing receiver**



1 Antenna

**Installing antenna**

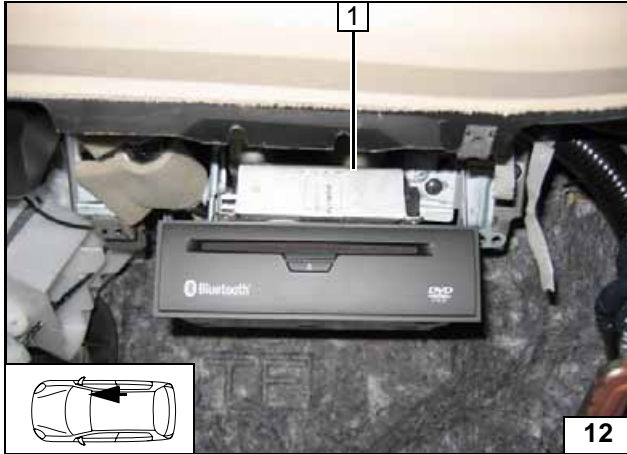


**Temperature sensor for HTM100 only**

1 Fasten temperature sensor with double-sided adhesive tape



**Installing temperature sensor**

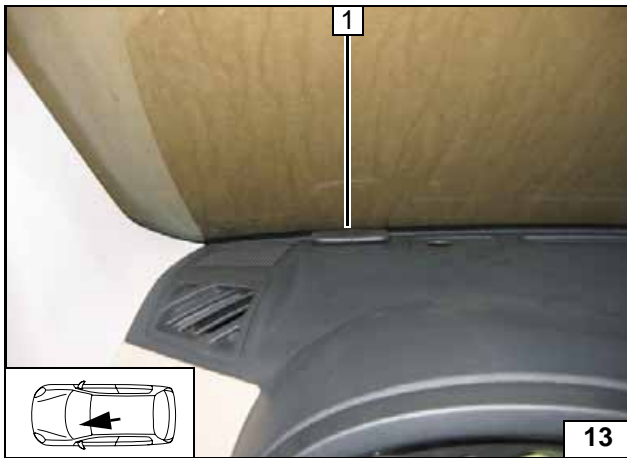


**Remote option (Thermo Call)**

1 Fasten receiver with double-sided adhesive tape



**Installing receiver**



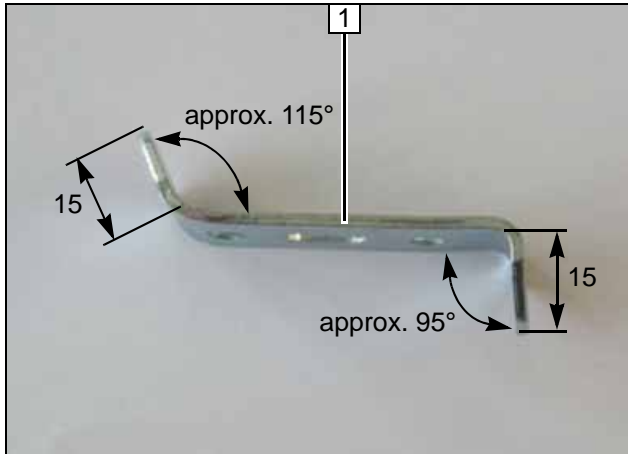
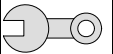
1 Antenna

**Installing antenna**



1 Pushbutton

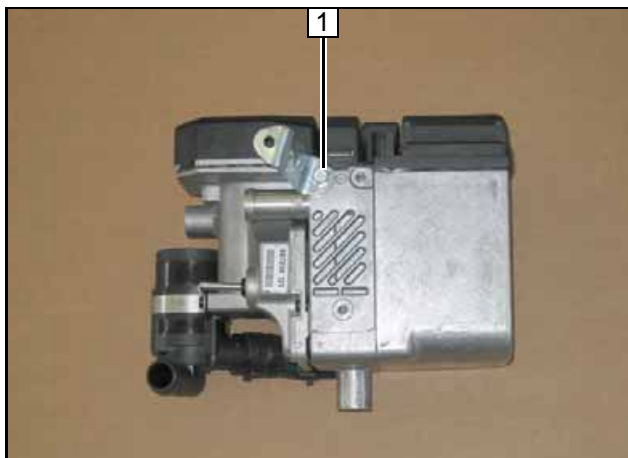
**Installing push button**



**Preparing heater unit**

- 1 Perforated bracket

**Bending perforated bracket**

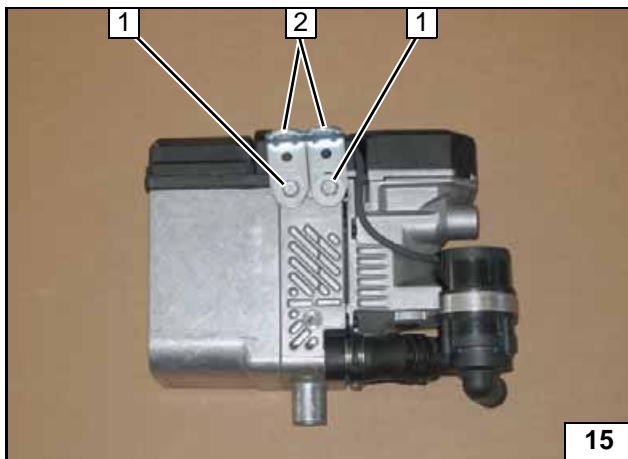


Loosely mount perforated bracket with 90° angle bracket on heater unit.



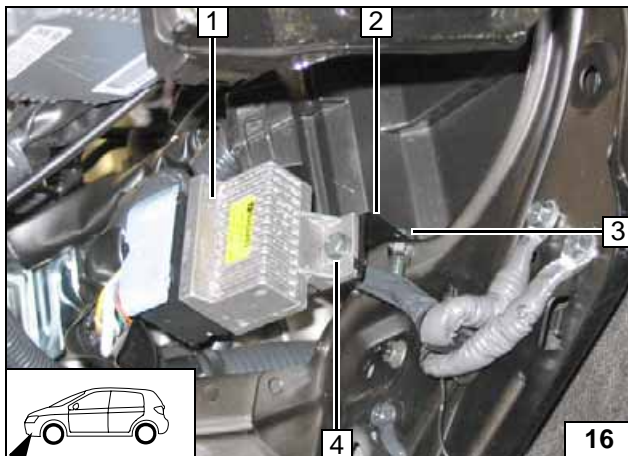
- 1 Eject screw

**Installing perforated bracket**



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

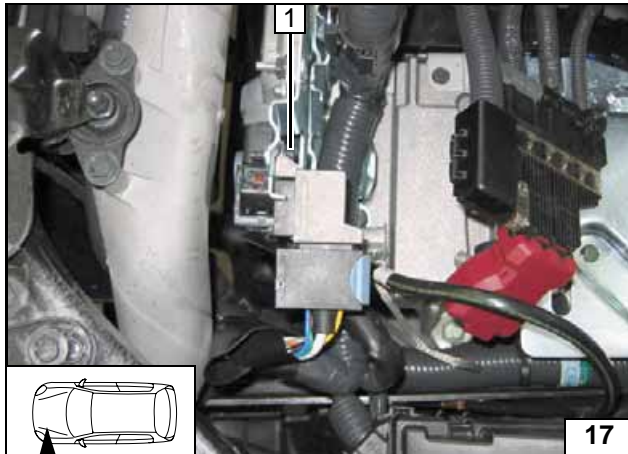
**Installing angle bracket**



**Preparing installation location**

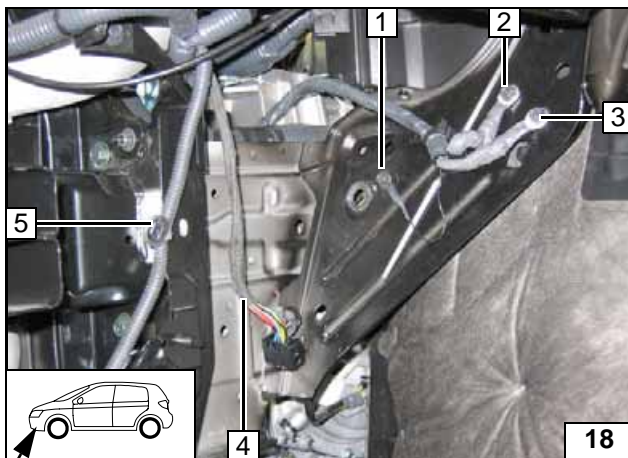
- 1 Resistor
- 2 Discard bracket
- 3 Discard original vehicle bolt
- 4 Original vehicle bolt will be reused

**Moving resistor**



- 1 Original vehicle bolt on existing threaded hole

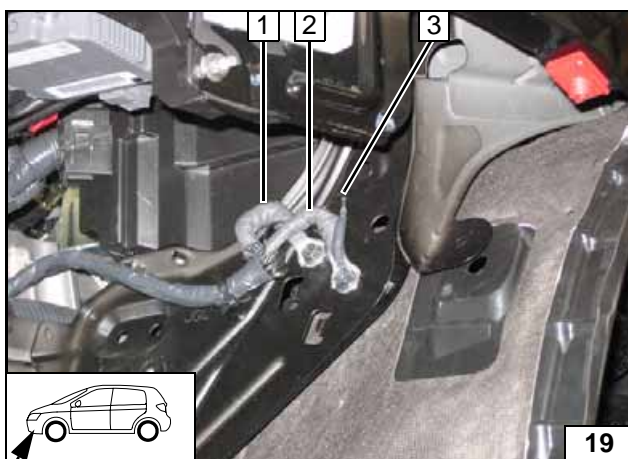
Moving resistor



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

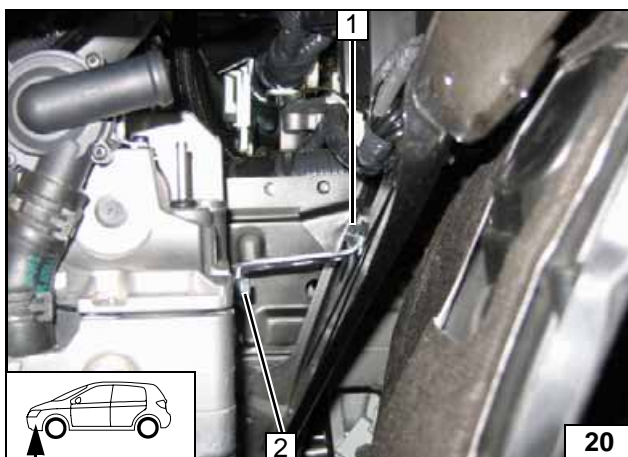


Moving ground wires



- 1 Ground wire
- 2 Ground wire
- 3 Ground wire

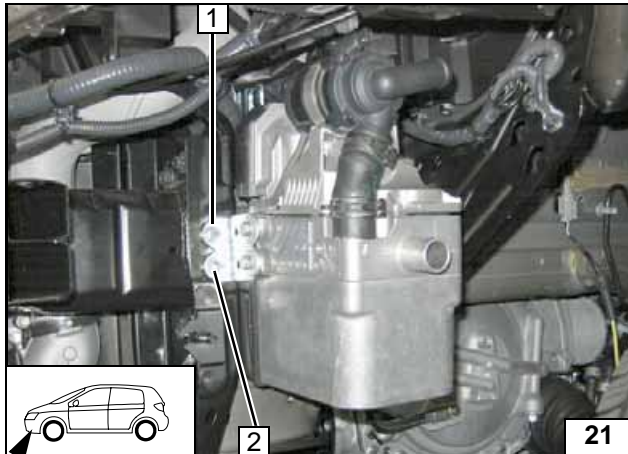
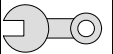
Moving ground wires



**Installing heater unit**

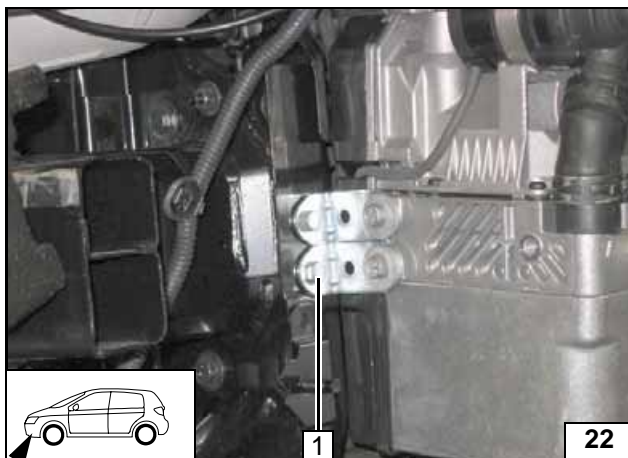
- 1 Original vehicle bolt on existing threaded hole
- 2 Tighten Eject screw

Installing heater unit



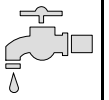
- 1 M6x20 bolt, M6 flanged nut
- 2 Copy hole pattern, drill 6,5 mm dia. hole in cross member

Installing heater unit



- 1 M6x20 bolt, M6 flanged nut

Installing heater unit



**Coolant**

**WARNING!**

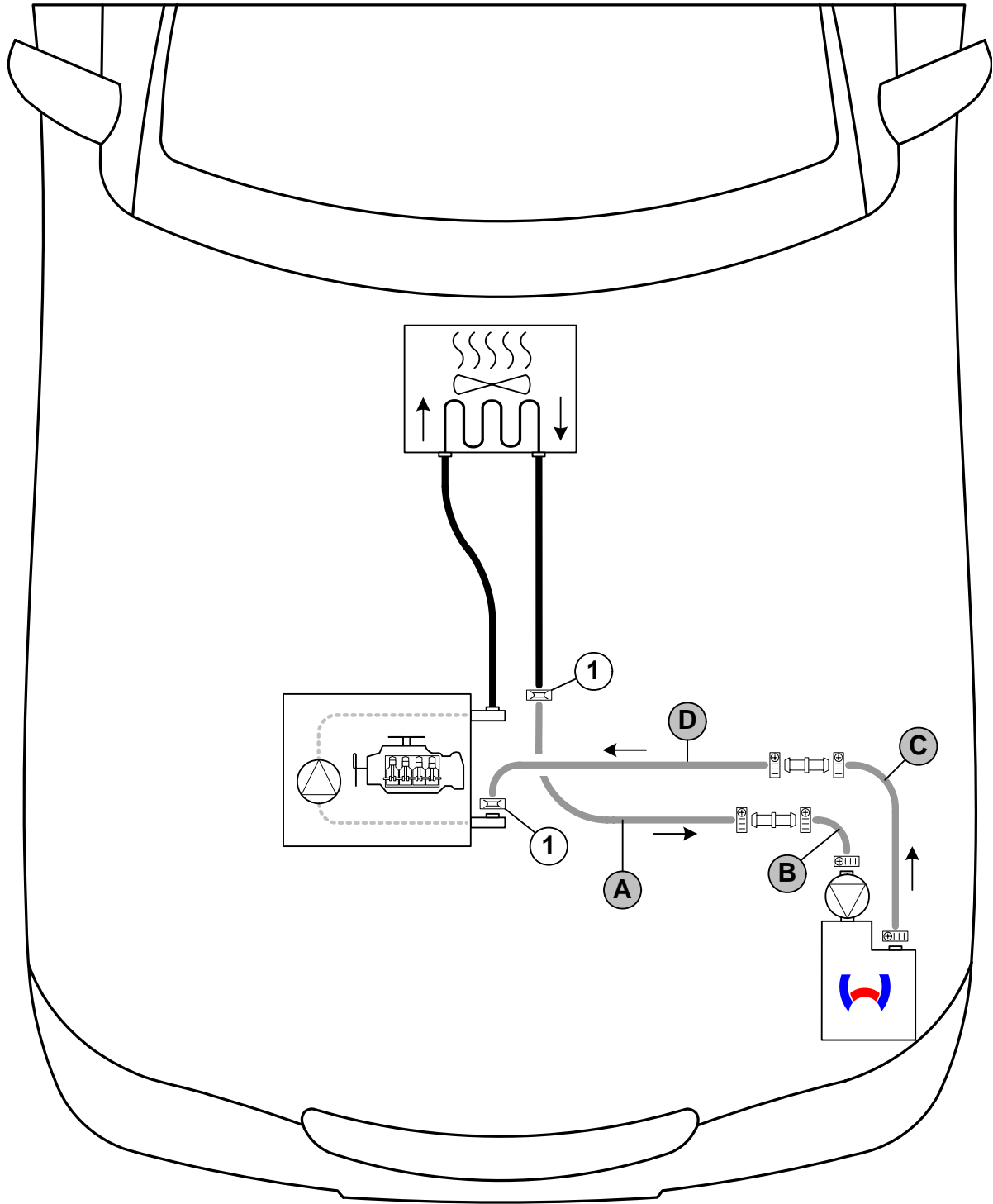
Any coolant running off should be collected using an appropriate container. Install hoses so that they are kink-free. Unless specified otherwise, always fasten using cable ties. Position clamps so that no other hose can be damaged! When installing the coolant hose, the heater unit must be filled with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

The connection should be "inline" based on the following diagram:

The coolant connection which differs from the standard for routing-related reasons!

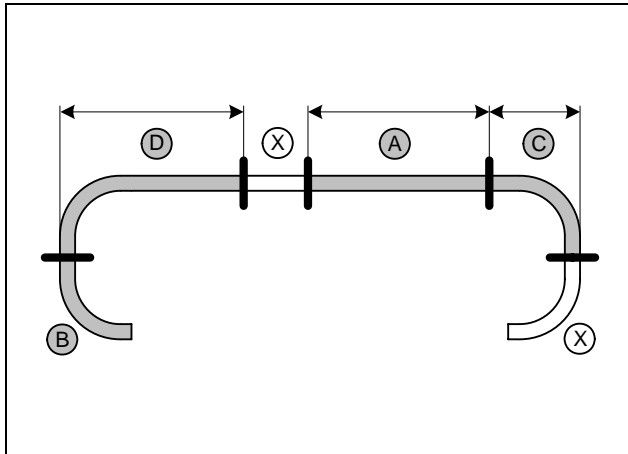


Coolant routing diagram



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

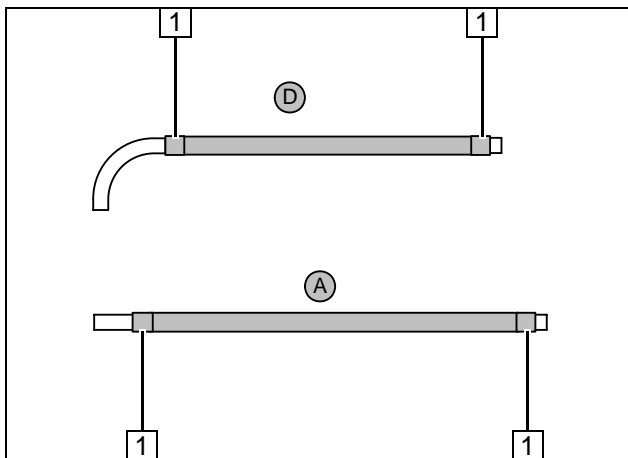




a = 680  
c = 110  
d = 520

Discard section X

Cutting coolant hoses to length

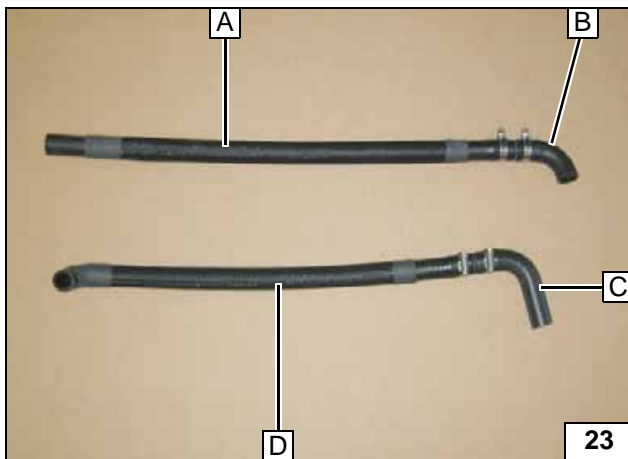


Push braided protection hoses onto hose A and D and cut to length.  
Cut heat shrink plastic tubing to size and shrink.



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

Preparing coolant hoses



Premounting hoses

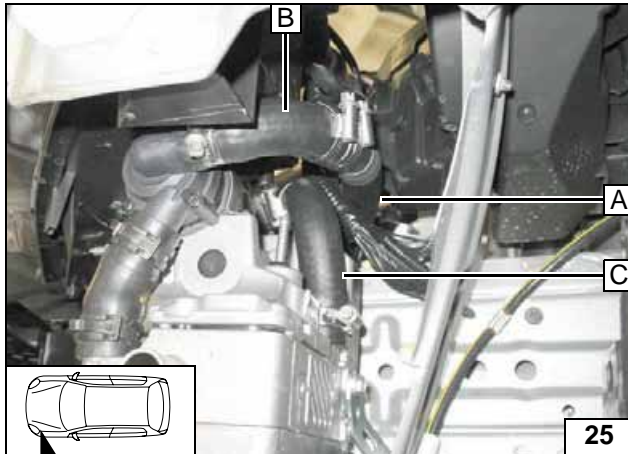


Remove original vehicle hose on heat exchanger outlet/engine inlet 1 and discard. Spring clip will be reused!

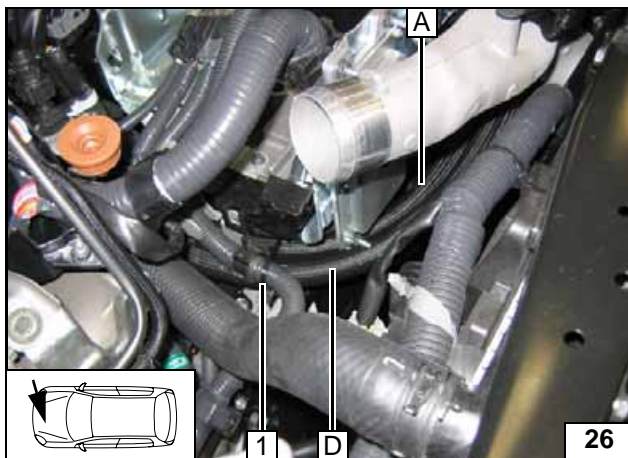


Cutting point



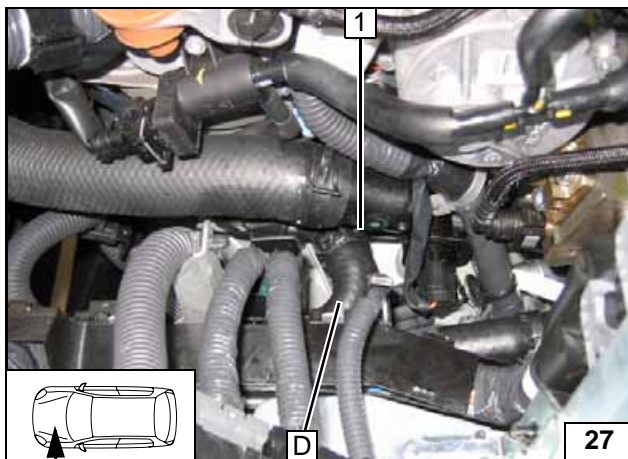


Conne-  
ction to  
heater unit



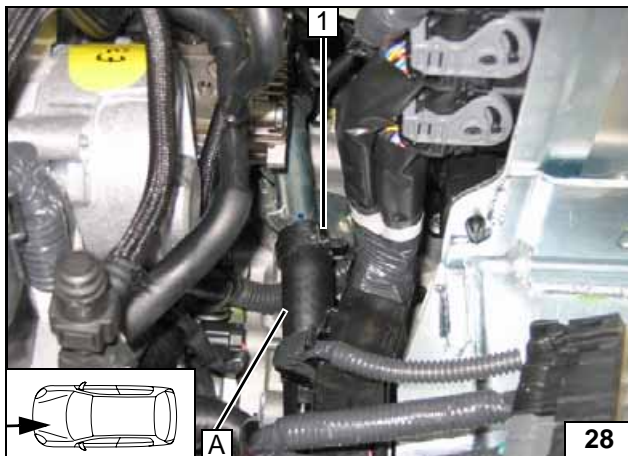
1 Cable tie

Routing in  
engine  
compart-  
ment



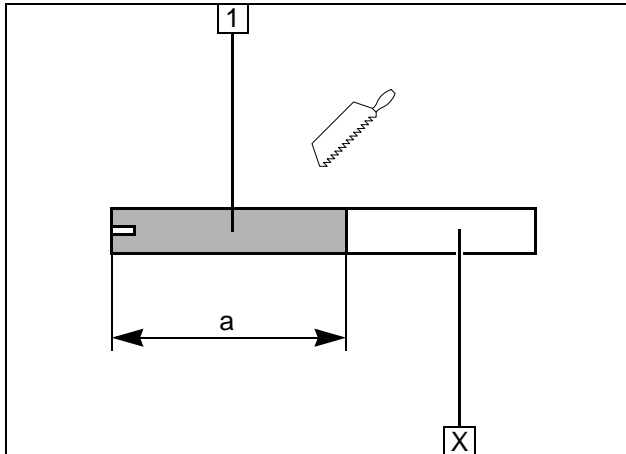
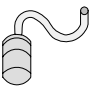
1 Original vehicle clamp

Conne-  
ction on en-  
gine inlet



1 Original vehicle clamp

Conne-  
ction on  
heat ex-  
changer  
outlet

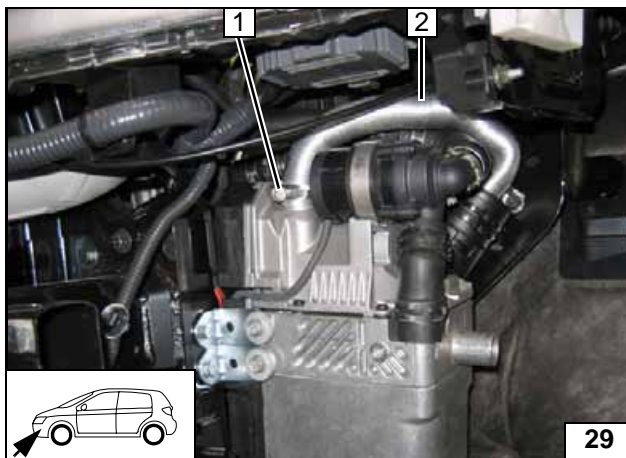


**Combustion air**

- 1 Combustion air pipe  
a = 280

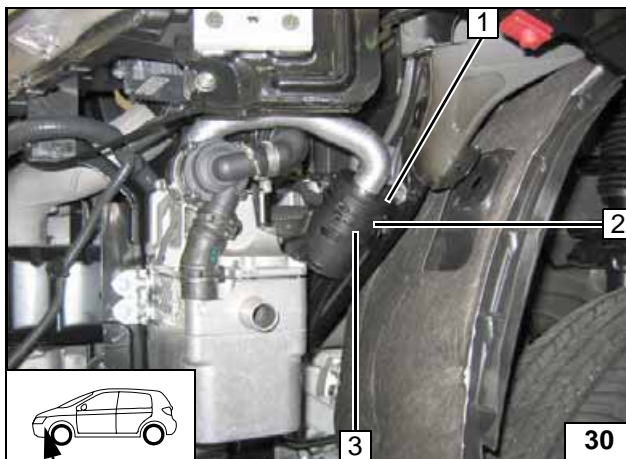
Discard section X

**Cutting combustion air pipe to length**



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

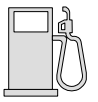
**Installing intake pipe**



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



**Installing muffler**



**Fuel**

**CAUTION!**

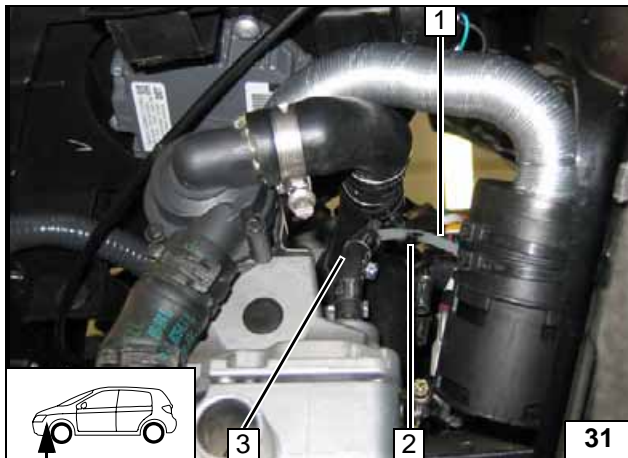
Open the vehicle's fuel tank cap, ventilate the tank and then re-close the tank lock.

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.

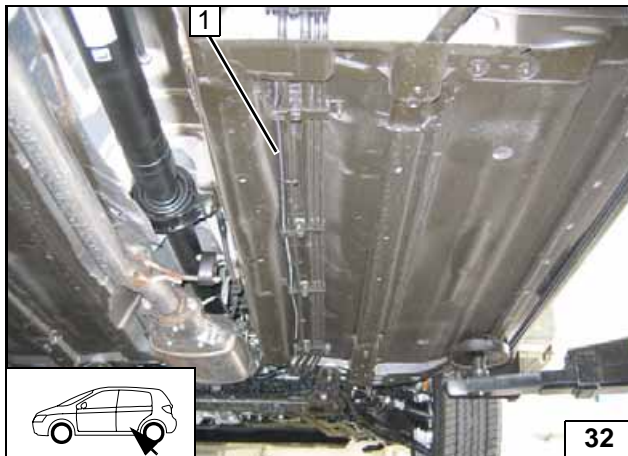
**WARNING!**

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]

Con-  
nection to  
heater unit

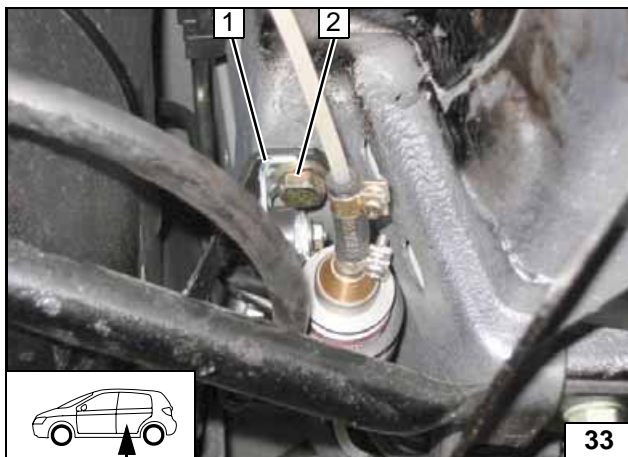


Route fuel line to right-hand side of vehicle, slide into 2x corrugated tube together with wiring harness of metering pump and route along original vehicle fuel line to installation location of metering pump.

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



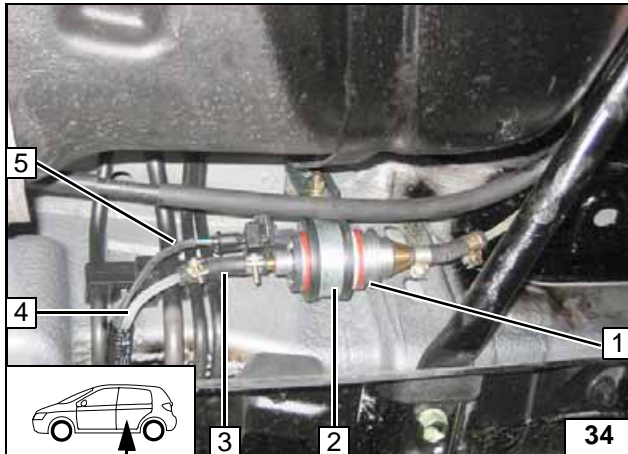
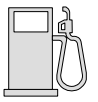
Install-  
ing  
lines



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



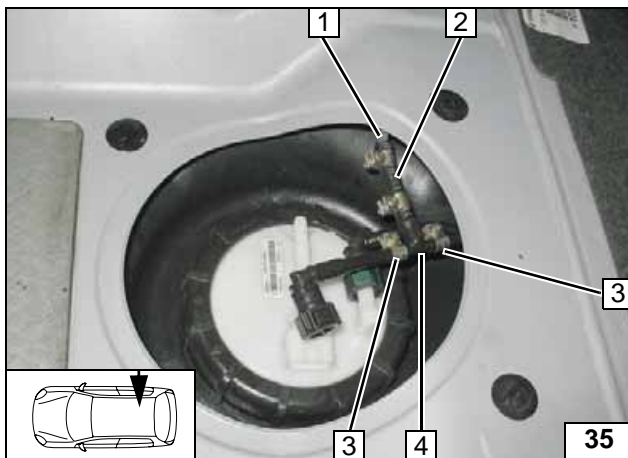
Installation  
location of  
metering  
pump



- 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**

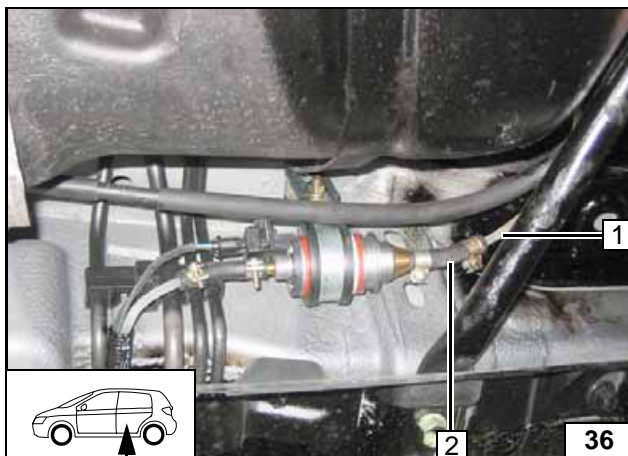


Separate fuel return line 1 approx. 50 mm before coupling.

- 1 Fuel line
- 2 Hose section, 10 mm dia. clamp [2x]
- 3 8 mm dia. clamp [2x]
- 4 6x5x6 fuel standpipe



**Removing fuel**

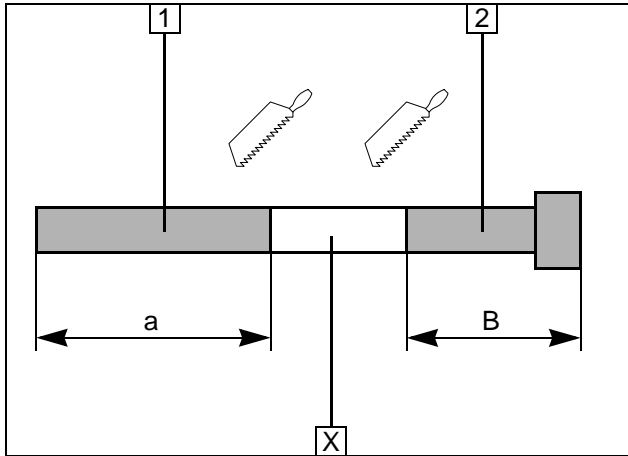


Check the position of the components; adjust if necessary. Check that they have free clearance.

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



**Connecting to metering pump**

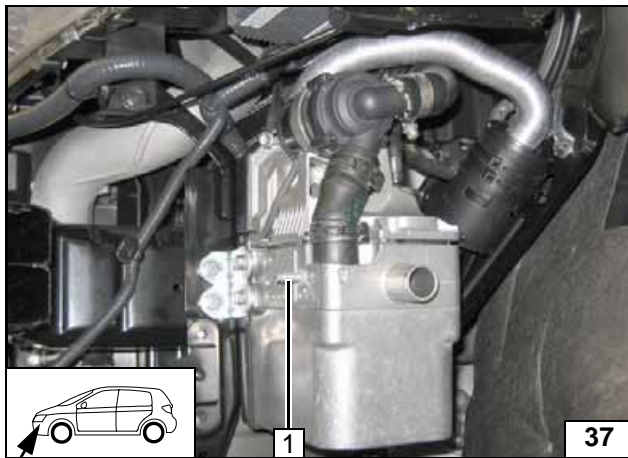


**Exhaust gas**

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

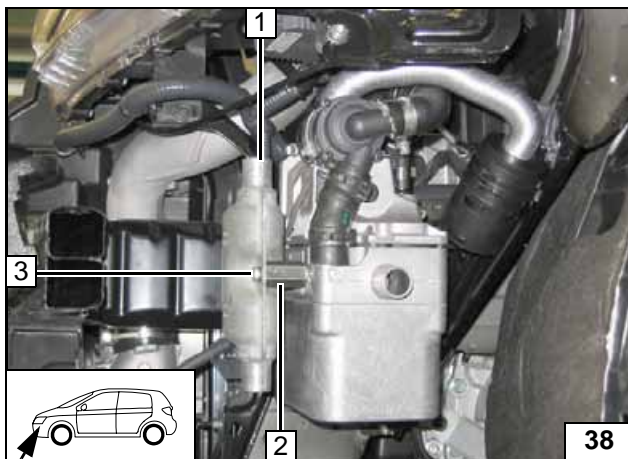
Discard section X

**Preparing exhaust pipe**



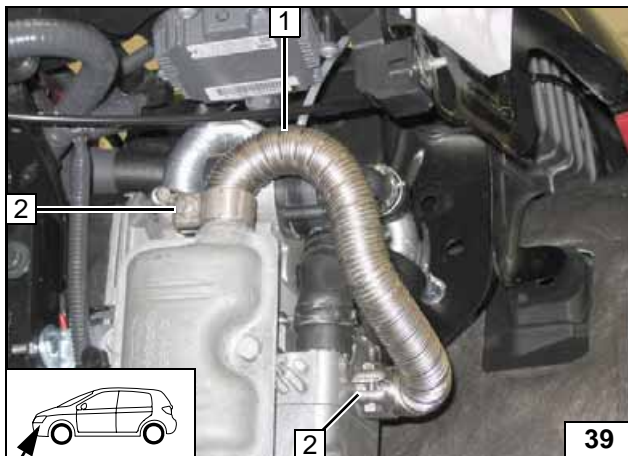
- 1 Ejet stud

**Installing muffler**



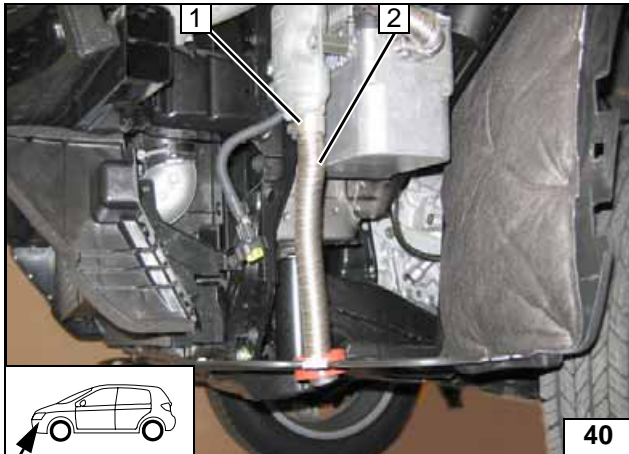
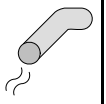
- 1 Exhaust muffler
- 2 M6x30 spacer nut
- 3 M6x12 bolt, spring lockwasher

**Installing muffler**



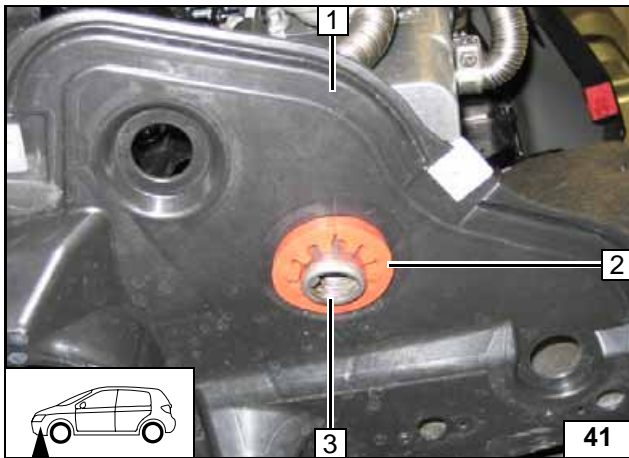
- 1 Exhaust pipe
- 2 Hose clamp [2x]

**Installing exhaust pipe**



- 1 Hose clamp
- 2 Exhaust end section

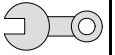
**Installing exhaust end section**



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**



## 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

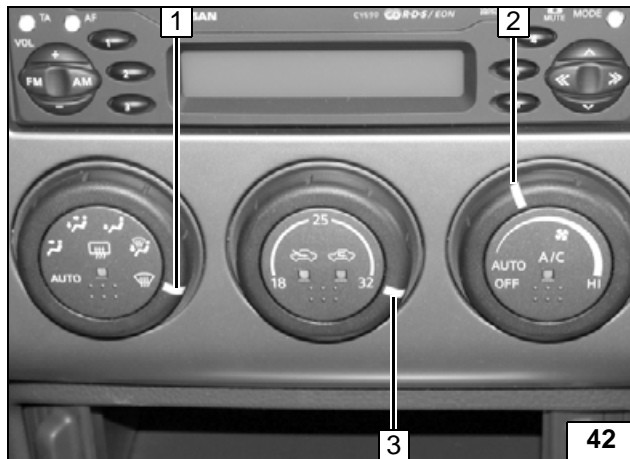
### Example:

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 unit 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:



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

**Automatic  
air-condi-  
tioning**

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