

Water Heater



Thermo Top E Parking Heater


00 0003

Thermo Top C Parking Heater


00 0002

Installation documentation

Mazda 3

1.6 Petrol

from Model Year 2009

Left-hand drive vehicle

Manual transmission



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.

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Validity

Manufacturer	Model	Type	EG-BE No./ ABE
Mazda	3	BL	e11 * 2001/116 * 0262 * ...

Engine type	Engine model	Output in kW	Displacement in cm ³
Z6	Petrol	77	1598

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/installation kit

Quantity	Description	Order No.:
1	Retail accessories <i>Thermo Top E / C</i>	See Mazda price list
1	Installation kit for Mazda 3 2009 1.6 Petrol	1314977A
	Mazda Order No.:	4100-78-771
1	Heater control	See price list

Heater recommended for the respective vehicle class:

Vehicle	Heater
Compact car	Thermo Top E
Mid-size car, station wagon	Thermo Top C

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**

These installation instructions apply to vehicles Mazda 3 1.6 Petrol - for validity, see page 2 - from model year 2009 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/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 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).

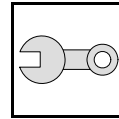
Special tools

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

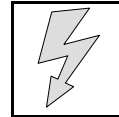
Explanatory notes on document

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.

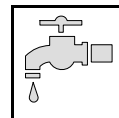
Mechanical system



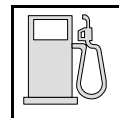
Electrical system



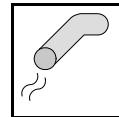
Coolant circuit



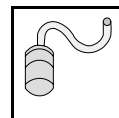
Fuel



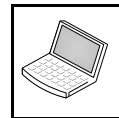
Exhaust gas



Combustion air



Software



Special features are highlighted using the following symbols:



Specific risk of injury or fatal accidents.



Specific risk of damage to components.



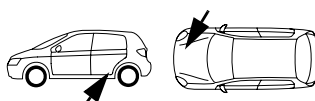
Specific risk of fire or explosion.



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!

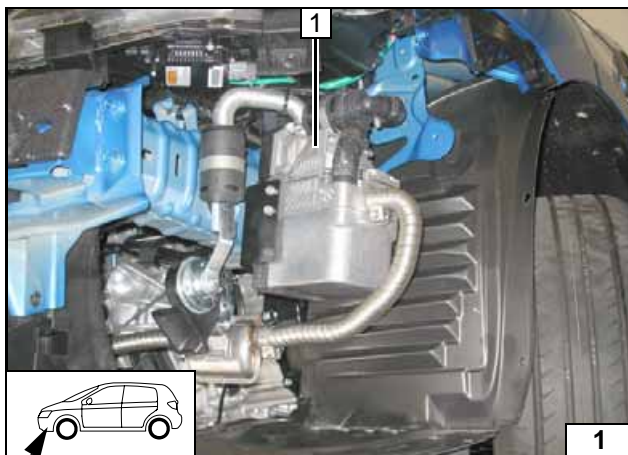
Tightening torque of Ejet screws, Ejet studs = 10 Nm!

Preliminary work

WARNING!

- Open the fuel tank cap and vent the fuel tank.
- Close the tank cap again.
- Disconnect the battery "earth" or "ground" connection.
- Depressurise 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 together with the carrier.
- Remove the windscreen wiper.
- Remove the cover of the coolant reservoir cap at the upper left.
- Remove the windscreen wiper motor.
- Remove the engine underride protection.
- Remove the bumper.
- Remove the rear seat cushion.
- Open the fuel sender service lid and pull off the fuel line and the connector.
- Remove the fuel tank.
- Remove fuel-tank sending unit.
- Remove the lower instrument panel trim on the driver's side.
- Remove the A-pillar trim in the driver's side footwell.
- Remove the centre outlet vents above the radio (only with automatic air-conditioning).
- Remove the radio (only with automatic air-conditioning).

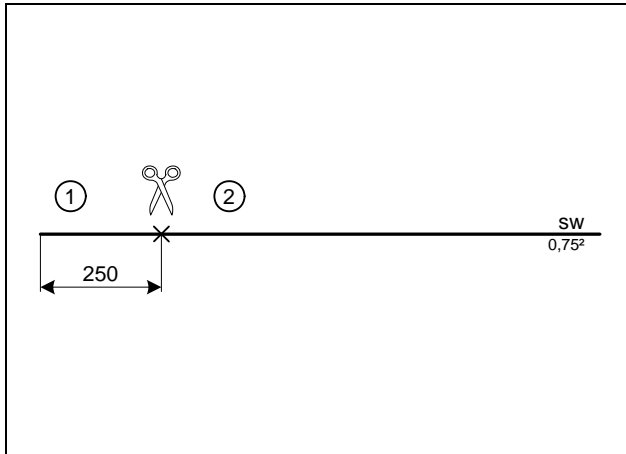
Remove page 26 "Operating Instructions for End Customer" and attach to vehicle operating instructions.



Heater installation location

1 Heater

Installation location



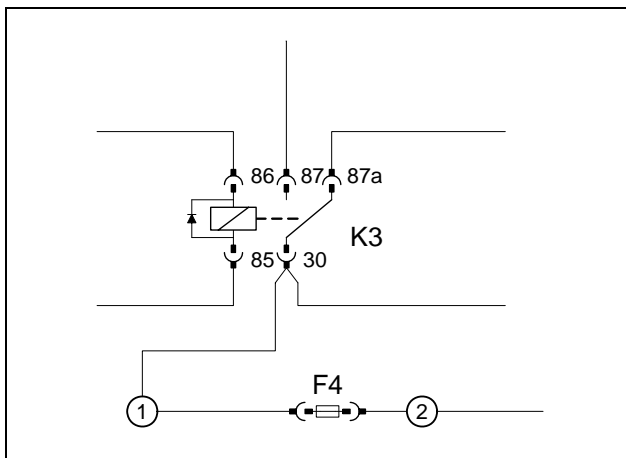
Preparing electrical system

Only with automatic air-conditioning

Install wire section 2 in protective sleeving provided.



Cutting wires to length



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



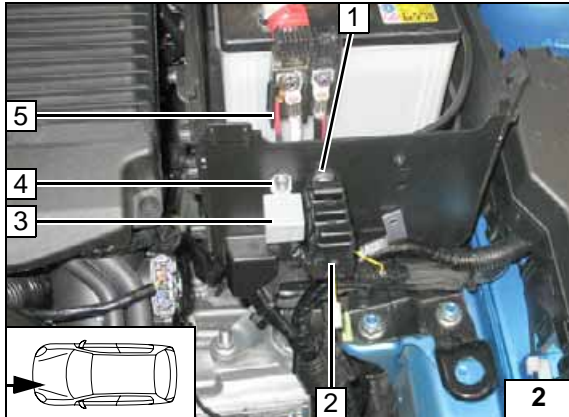
Preparing fuse F4



Electrical system

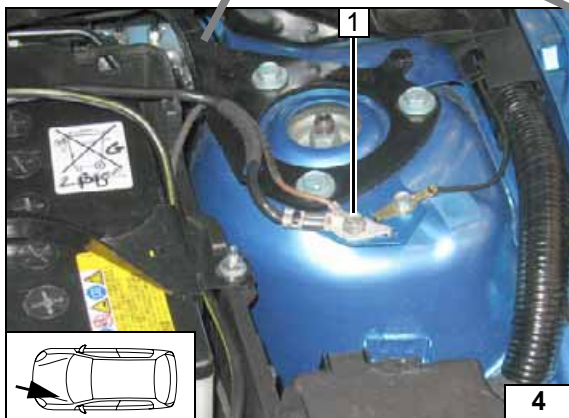
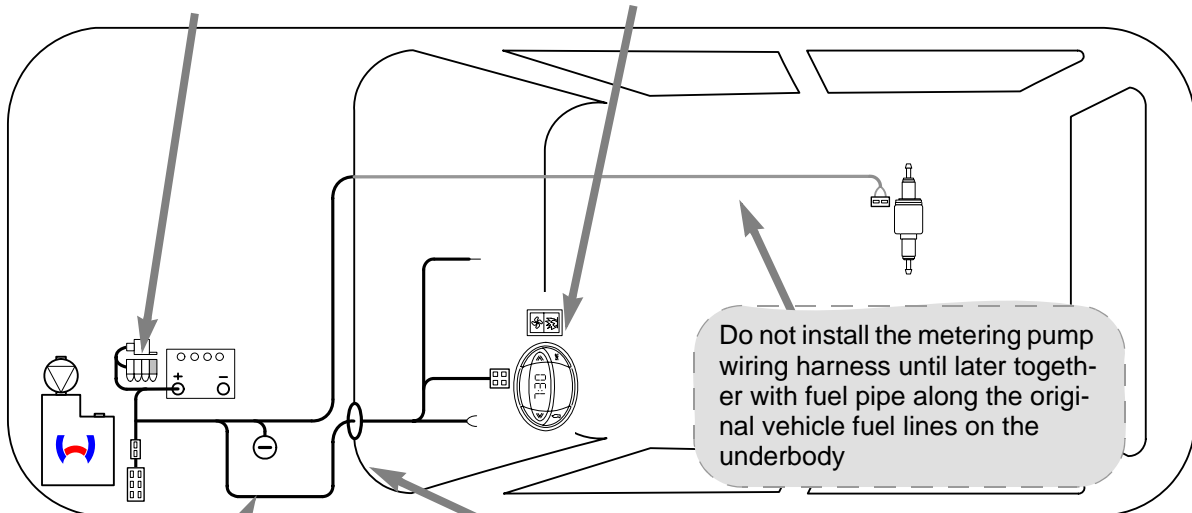
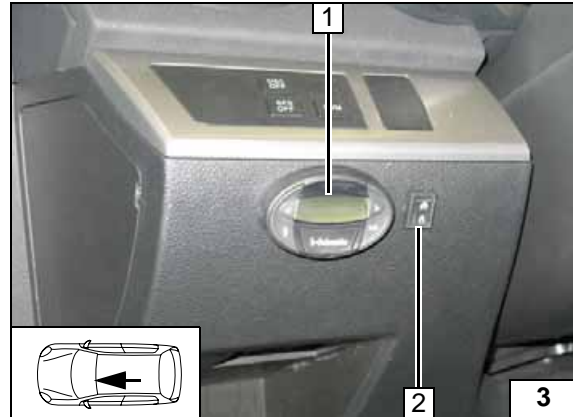
Fuse holder, K3 relay

- 1 5.5 mm dia. hole; retaining plate fuse holder, M5x16 bolt, washer, flanged nut
- 2 Fuses
- 3 K3 relay
- 4 Existing hole, M5x16 bolt, washer, flanged nut
- 5 Positive wire on positive terminal of battery



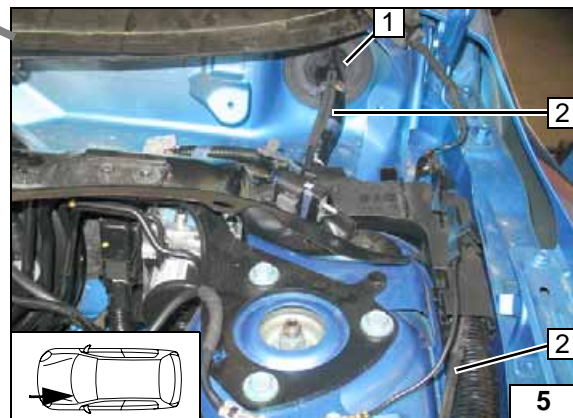
Digital timer and summer/winter switch option

- 1 Digital timer
- 2 Summer/winter switch, drilled hole 12 mm dia.



Earth connection

- 1 Earth wire on original vehicle earth support point



Wiring harness pass through

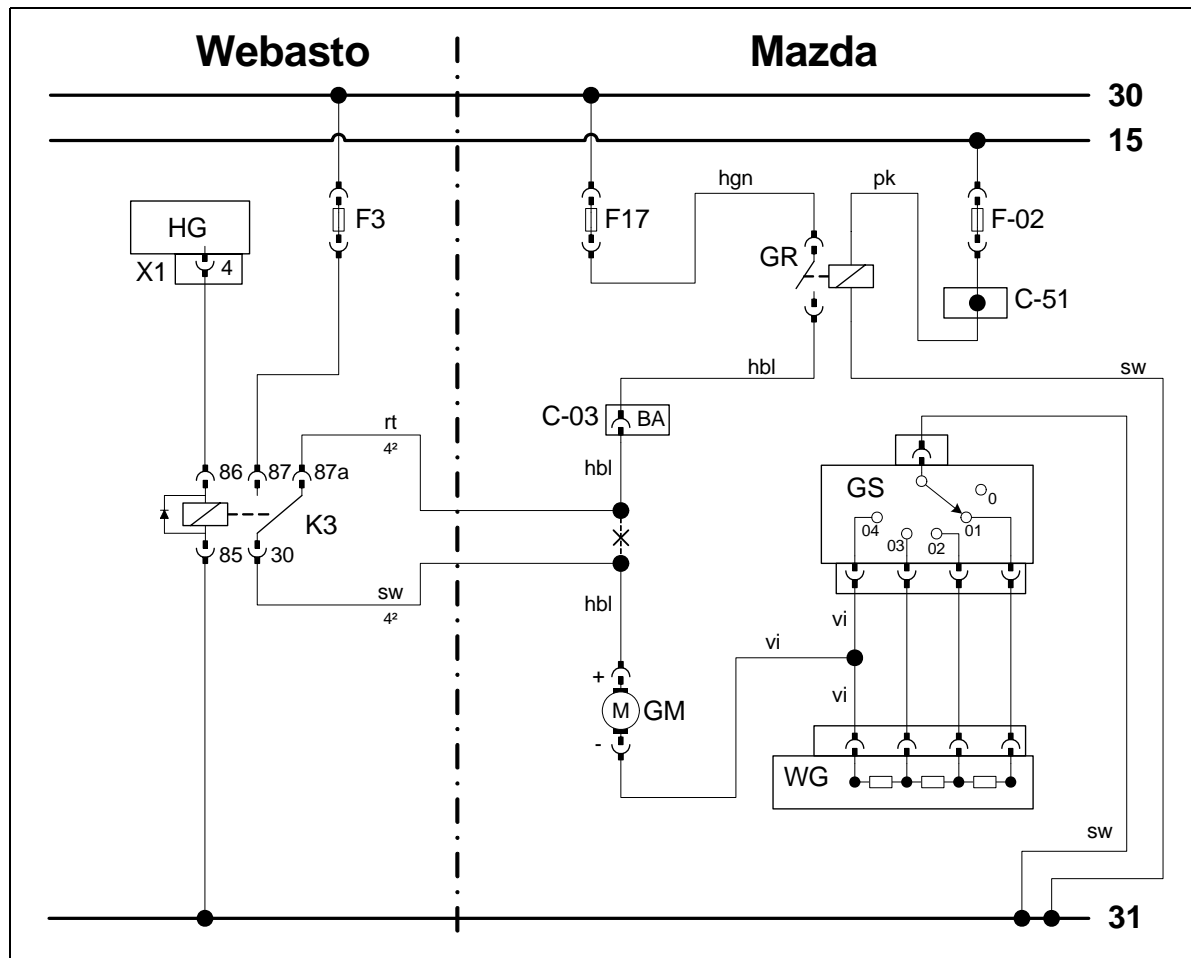
- 1 Protective rubber plug
- 2 Wiring harnesses of fan control, controls



Wiring harness routing diagram



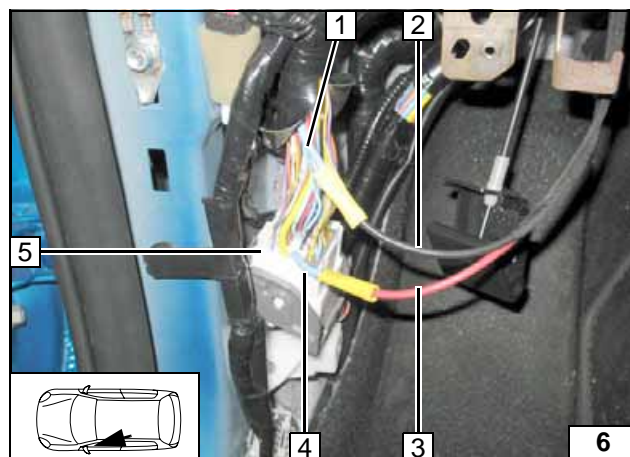
Fan control for manual air conditioning



Wiring diagram

Webasto components		Vehicle components		Colours and symbols	
HG	Heater TT-C/E	GM	Fan motor	rt	red
X1	6-pin heater connector	GR	Fan relay	sw	black
F3	25A fuse	GS	Fan switch	pk	pink
K3	Fan relay	WG	Resistor group	hgn	light green
		F-02	10A fuse	vi	violet
		F17	40A fuse	hbl	light blue
		C-03	A-pillar connector		
		C-51	Distributor		
				X	Cutting point
				Wiring colours may vary.	

Legends



Connection on connector C-03 5 A-pillar. Produce connections as shown in wiring diagram.

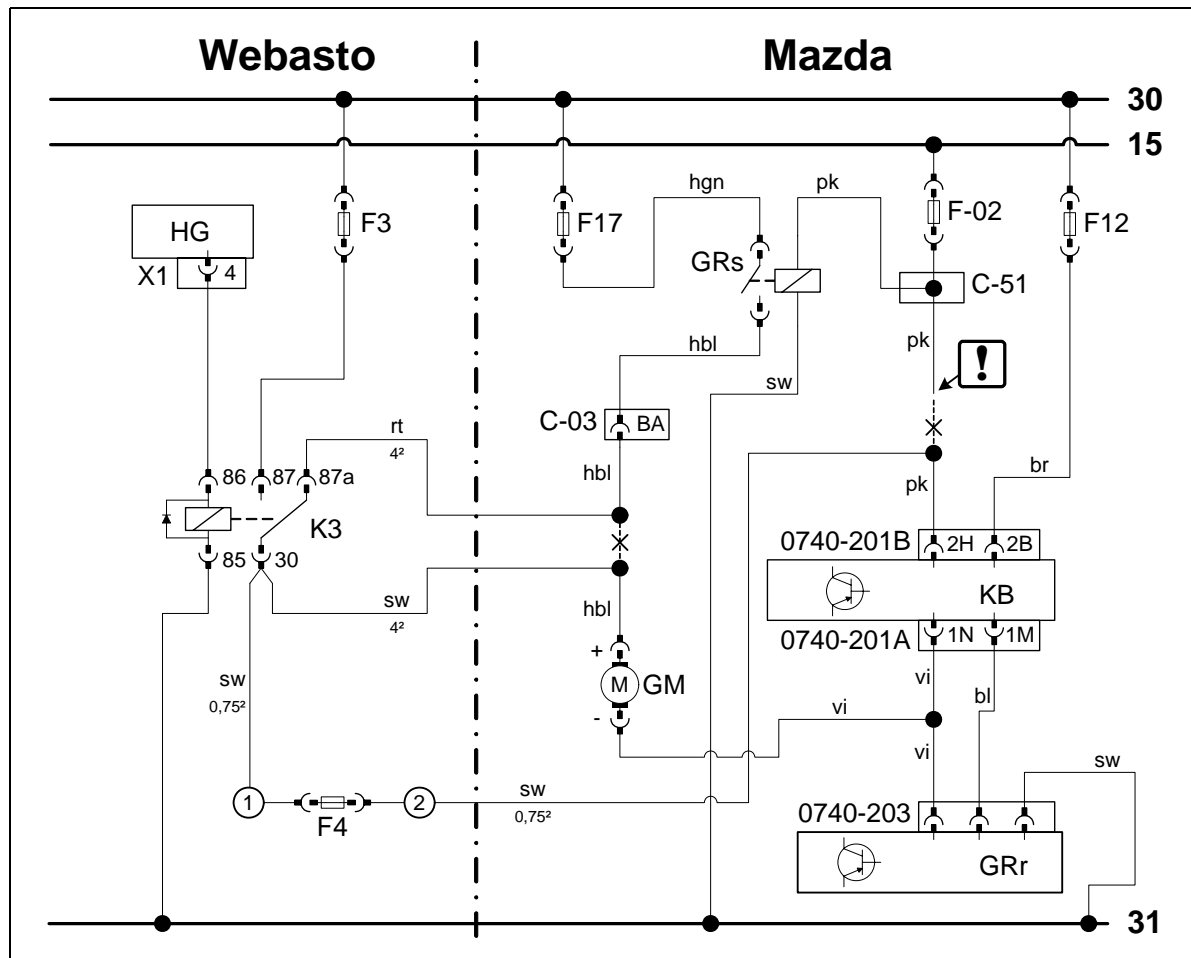
- 1 Light blue (hbl) wire of fan motor
- 2 Black (sw) wire of K3/30
- 3 Red (rt) wire of K3/87a
- 4 Light blue (hbl) wire of connector C-03



Connecting fan-motor



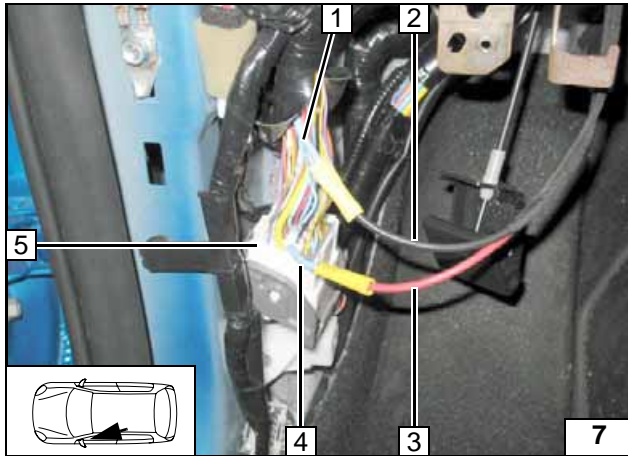
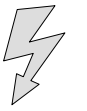
Automatic air-conditioning fan control



Wiring diagram

Webasto components		Vehicle components		Colours and symbols	
HG	Heater TT-C/E	GM	Fan motor	rt	red
X1	6-pin heater connector	GRs	Fan relay	sw	black
F3	25A fuse	GRr	Fan controller	pk	pink
K3	Fan relay	0740-203	Connector GRr	hgn	light green
F4	10A fuse	KB	A/C control panel	vi	violet
		0740-201A	Connector KB	hbl	light blue
		0740-201B	Connector KB	br	brown
		F-02	10A fuse	bl	blue
		F17	40A fuse	!	Insulate wire end and tie back
		F12	15 A fuse		
		C-03	A-pillar connector	X	Cutting point
		C-51	Distributor	Wiring colours may vary.	

Legends

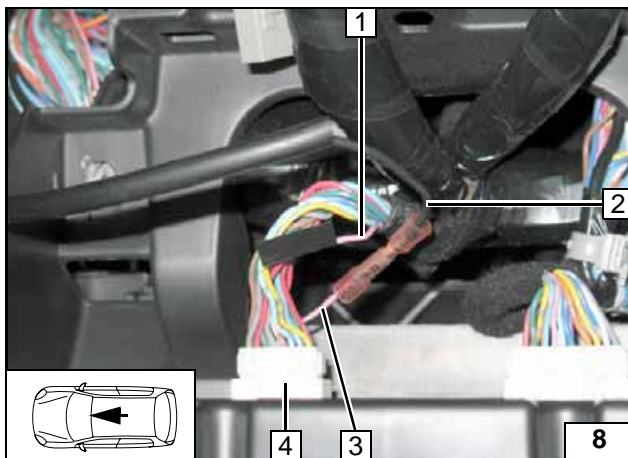


Connection on connector C-03 5 A-pillar. Produce connections as shown in wiring diagram.

- 1 Light blue (hbl) wire of fan motor
- 2 Black (sw) wire of K3/30
- 3 Red (rt) wire of K3/87a
- 4 Light blue (hbl) wire of connector C-03



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

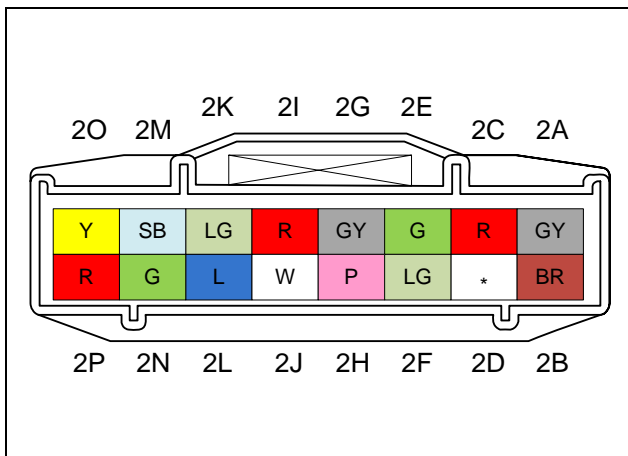


Connection on 16-pin connector 0740-201B 4 from A/C control panel. Insulate pink (pk) wire 1 from fuse F02 and tie back. Produce connections as shown in wiring diagram.

- 2 Black (sw) wire of F4 fuse
- 3 Pink (pk) wire of 16-pin connector, Pin 2H



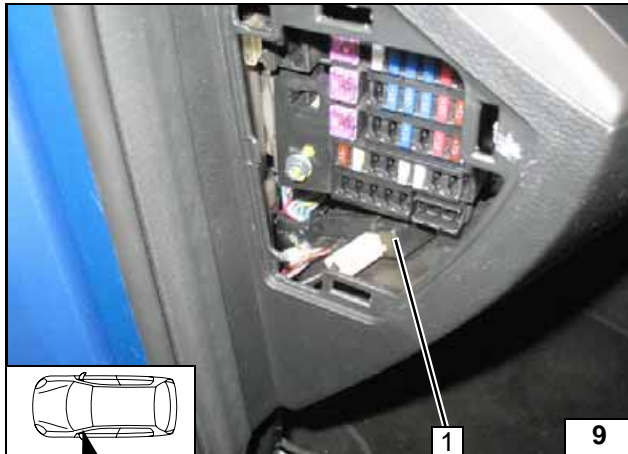
**Connect-
ing A/C
control
panel**



Connector 0740-201B on wire side



**View of
connector
0740-201B**

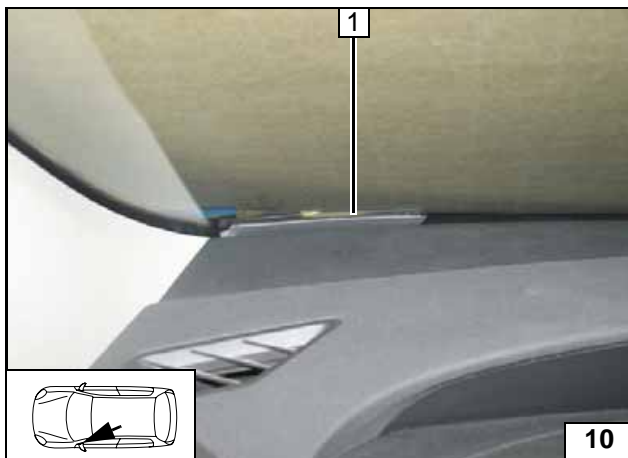


Remote option (Telestart)

Fasten receiver 1 with adhesive tape.

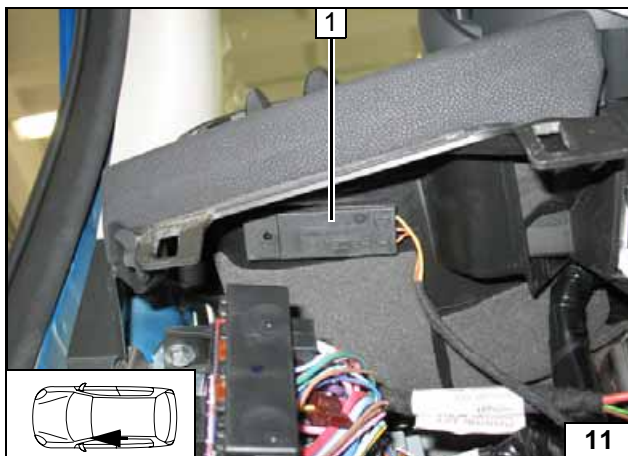


Installing receiver



1 Antenna

Installing antenna

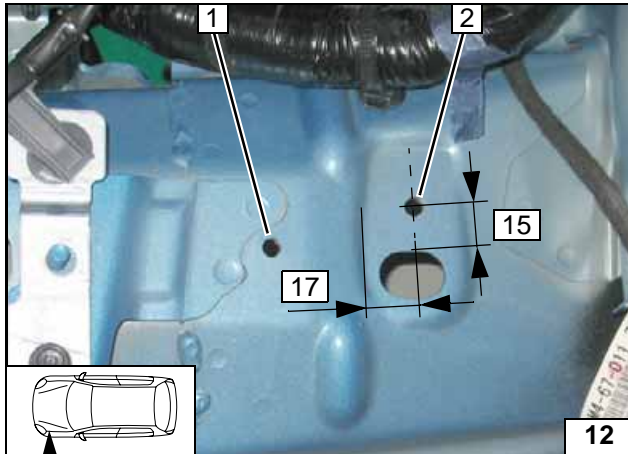
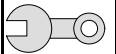


Temperature sensor T100 HTM

Fasten temperature sensor 1 with adhesive tape.



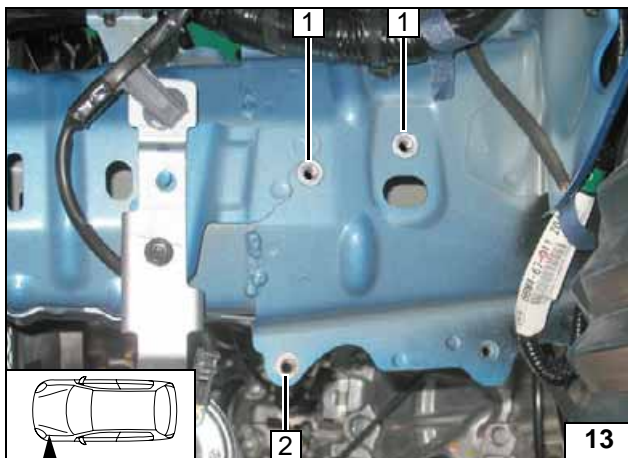
Installing temperature sensor



Preparing installation location

- 1 Drill out 9.1 mm dia. hole
- 2 9.1 mm dia. hole

Preparing installation location

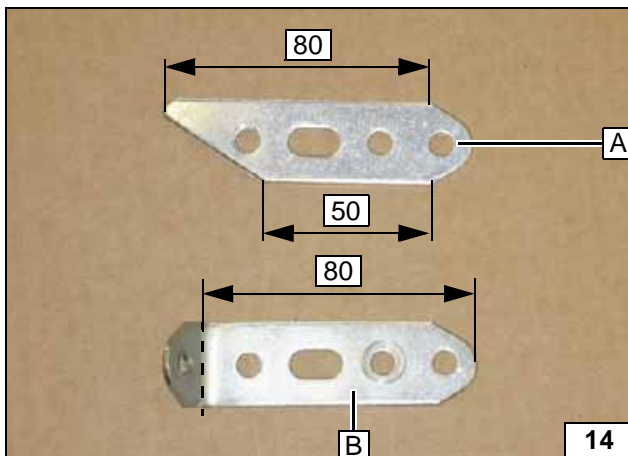


Original vehicle bolt removed at position 2.

- 1 Rivet nut [2x]



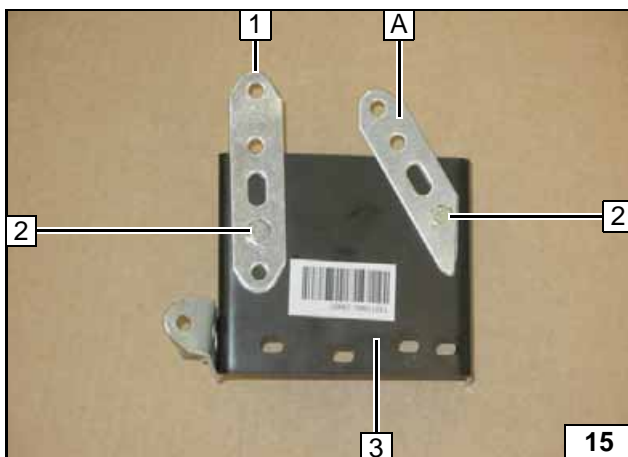
Installing rivet nut



Cut perforated bracket **A** to size.
Angle down perforated bracket **B** by approx. 70°.

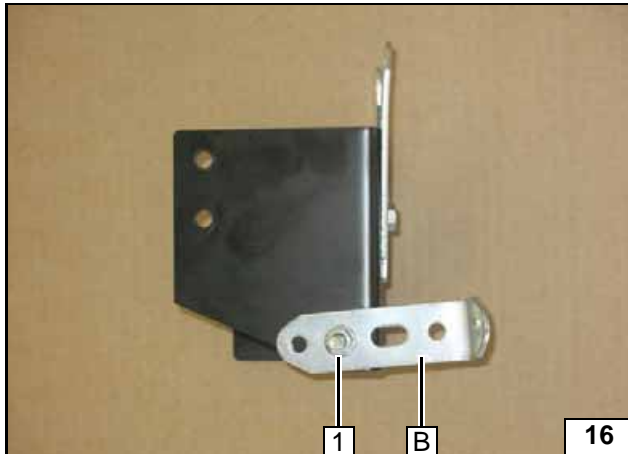
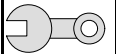


Preparing perforated brackets



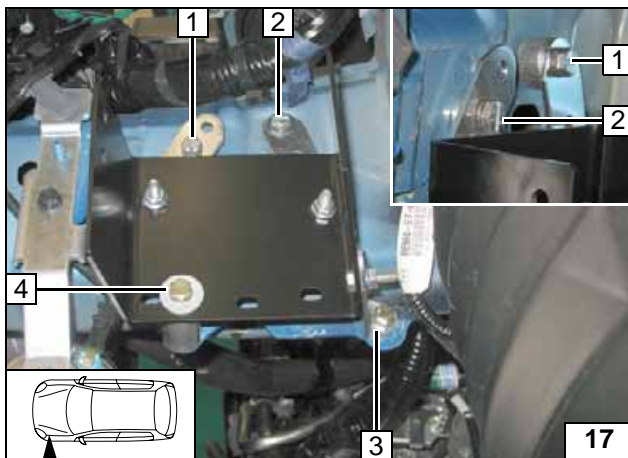
- 1 Perforated bracket **C**
- 2 Loosely mount M6x20 bolt, flanged nut [2x each]
- 3 Bracket

Preparing bracket



1 Loosely mount M6x20 bolt, flanged nut

Preparing bracket

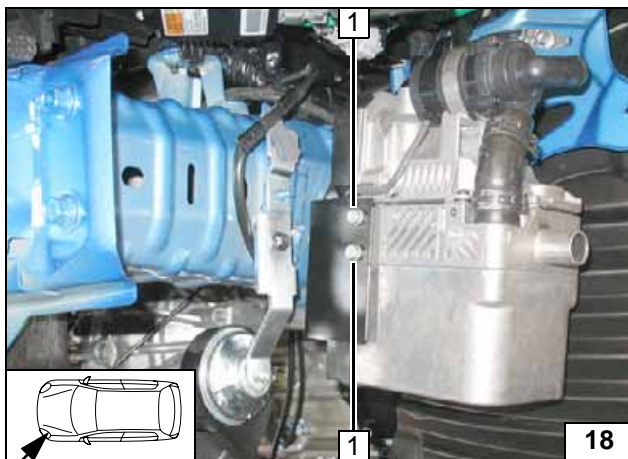


Insert 5 mm shim at position 1, 10 mm shim at position 2 and 40 mm shim at position 4 between bracket and frame side member. Tighten all loose mounting hardware.



- 1 M6x30 bolt, spring lockwasher, 5 mm shim
- 2 M6x30 bolt, spring lockwasher, 10 mm shim
- 3 M6x20 bolt, spring lockwasher
- 4 M6x60 bolt, spring lockwasher, large diameter washer, 40 mm shim

Installing bracket



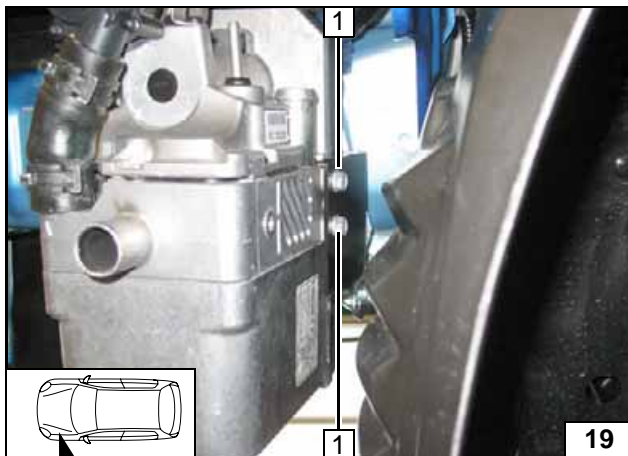
Installing heater

Mount wiring harness on heater before installing



- 1 E-jot screw [2x]

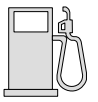
Installing heater



- 1 E-jot screw [2x]



Installing heater



Fuel

CAUTION!

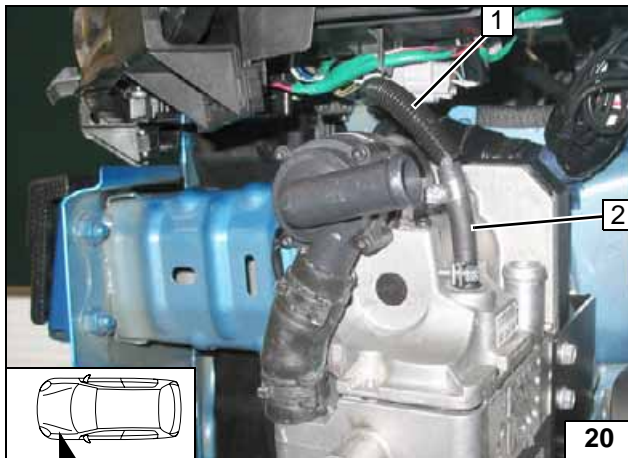
Open the vehicle's fuel tank cap, ventilate the tank and then re-close the tank lock.

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!

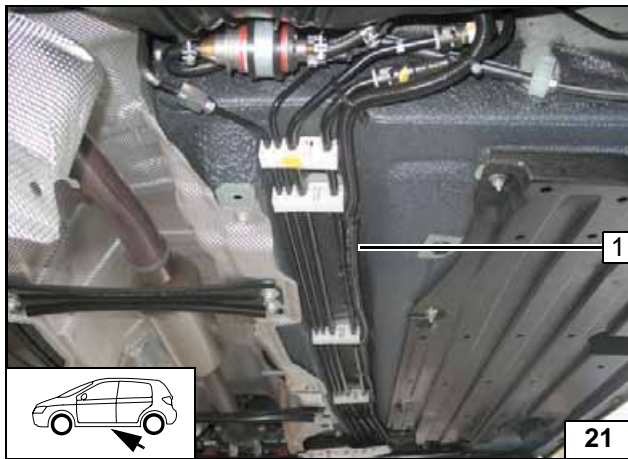
The fuel line and wiring harness are routed to the metering pump in as shown in the wiring harness routing diagram.



Route fuel line in corrugated tube 1 along fire-wall to underbody.

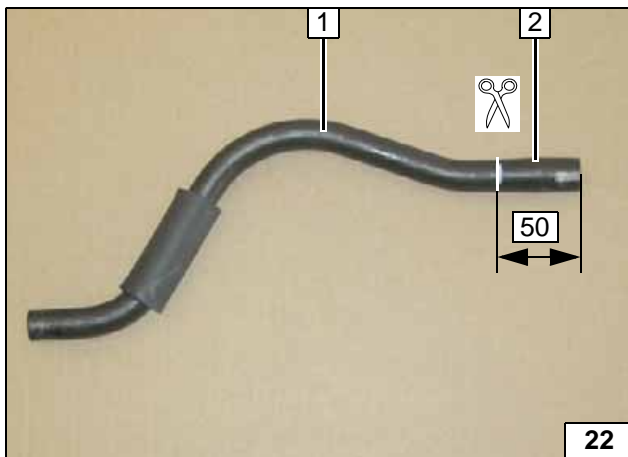
2 Hose section, 10 mm dia. clamp [2x]

**Conne-
ction of
heater**



Route fuel line and wiring harness of metering pump in corrugated tube 1 along original vehicle lines to installation location of metering pump. Cut 1,000 mm off fuel line (for connection to fuel standpipe).

**Installing
lines**

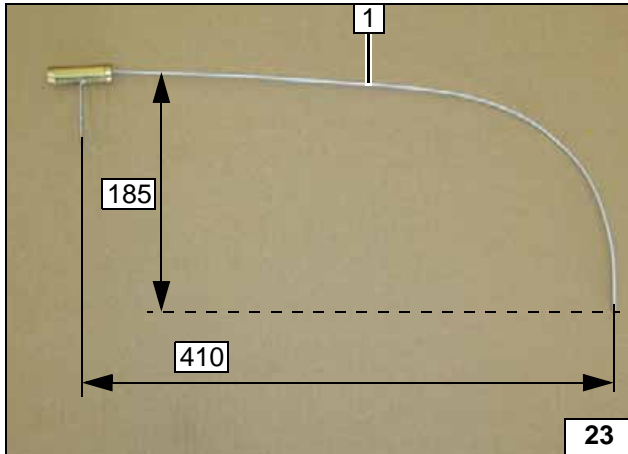
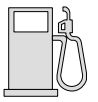


Remove fuel tank according to manufacturer's instructions. Remove fuel-tank sending unit according to manufacturer's instructions. Remove fuel-tank vent line 1 and shorten by approx. 50 mm.

Slide section 2 onto fuel tank connection piece



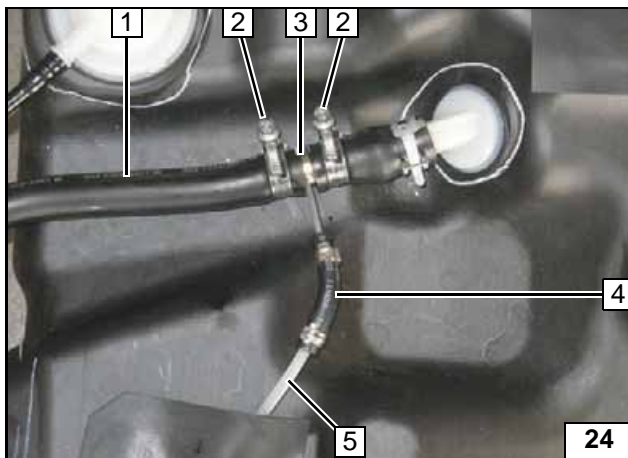
**Removing
fuel**



Shape fuel standpipe 1 as shown.

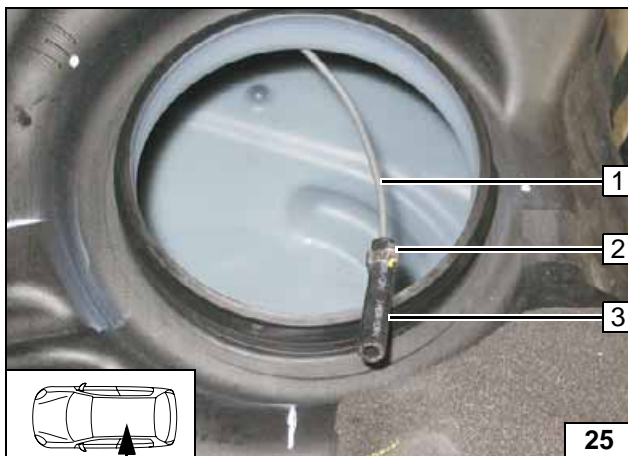


Preparing fuel standpipe



- 1 Fuel-tank vent line
- 2 24 mm dia. clamp [2x]
- 3 Fuel standpipe
- 4 Hose section, 10 mm dia. clamp [2x]
- 5 Fuel line

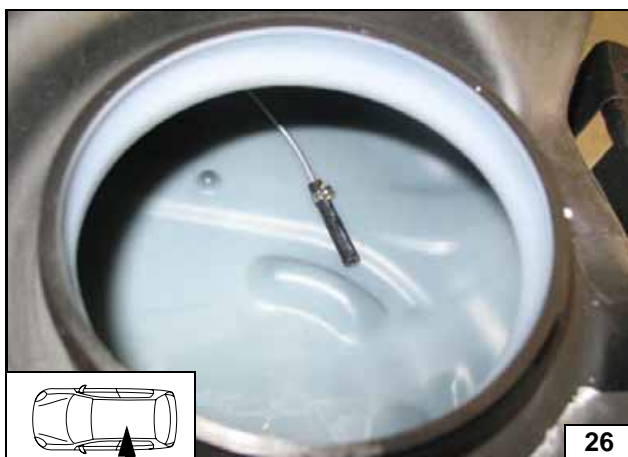
Installing fuel standpipe



Insert fuel standpipe 1 through ventilation connecting piece. Slide hose section 3 with 3.2 mm dia. onto fuel standpipe 1 and fasten with 8 mm dia. clamp 2.



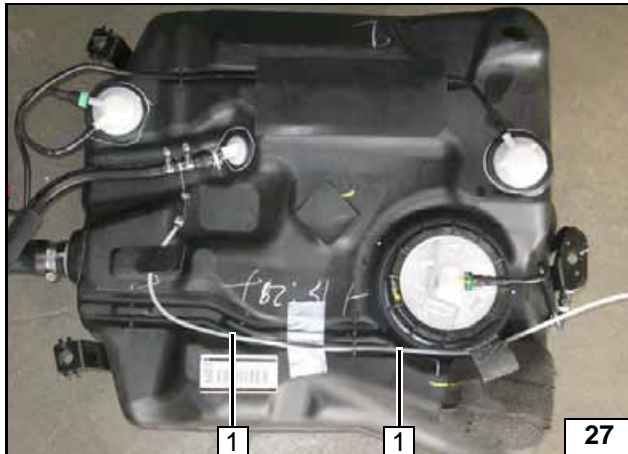
Removing fuel



Align removal pipe of fuel standpipe to fuel tank bottom.



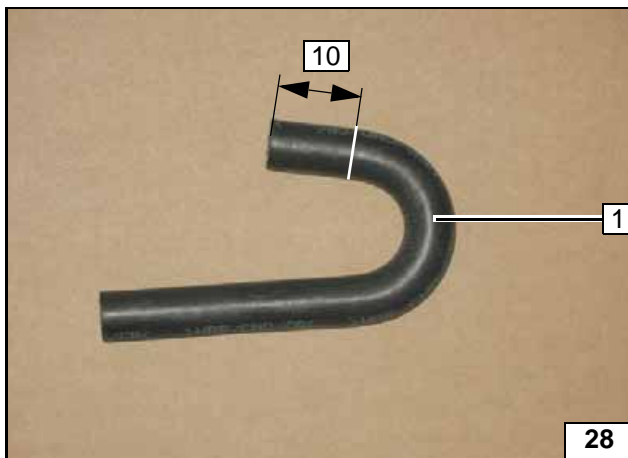
Installing fuel standpipe



Fix fuel line 1 in place on fuel tank with adhesive tape. Install fuel tank in accordance with manufacturer's instructions



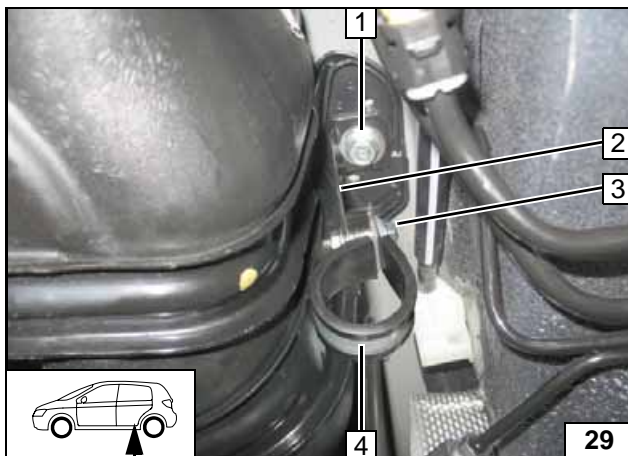
Fastening fuel line



Shorten 180° moulded hose 1.

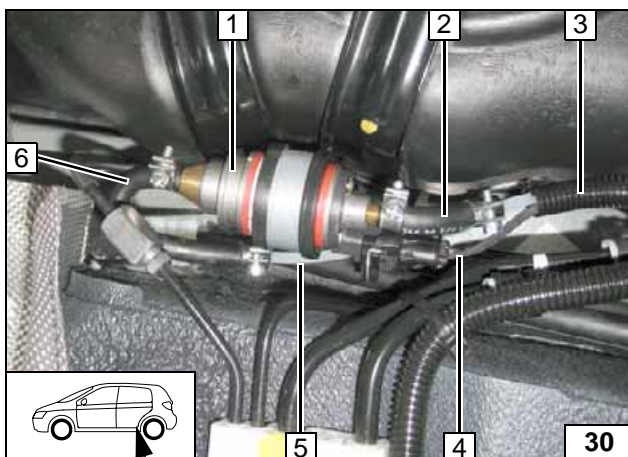


Cutting moulded hose to length



- 1 Original vehicle bolt
- 2 Bracket of metering pump
- 3 Silent block, flanged nut [2x]
- 4 Loosely install rubber-coated p-clamp

Installing metering pump bracket

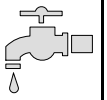


Tighten flanged nuts on silent block. Check the position of the components; adjust if necessary. Check that they have freedom of movement.



Installing and connecting metering pump

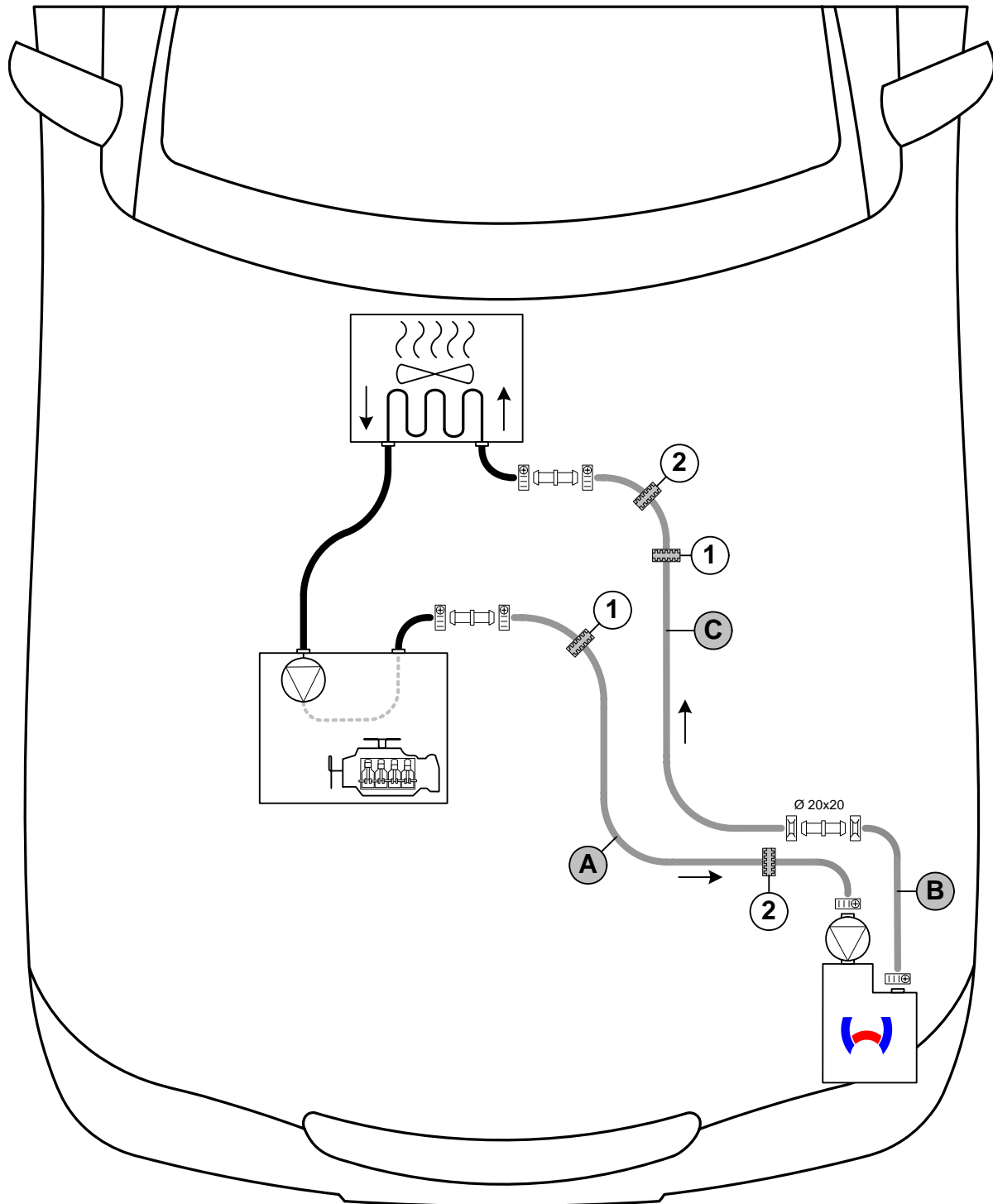
- 1 Metering pump
- 2 Fuel line, hose section, 10 mm dia. clamp [2x]
- 3 Fuel line of heater, wiring harness of metering pump in corrugated tube
- 4 Wiring harness of metering pump, connector mounted
- 5 Fuel line of fuel standpipe
- 6 180° moulded hose, 10 mm dia. clamp [2x]



Coolant circuit

WARNING!

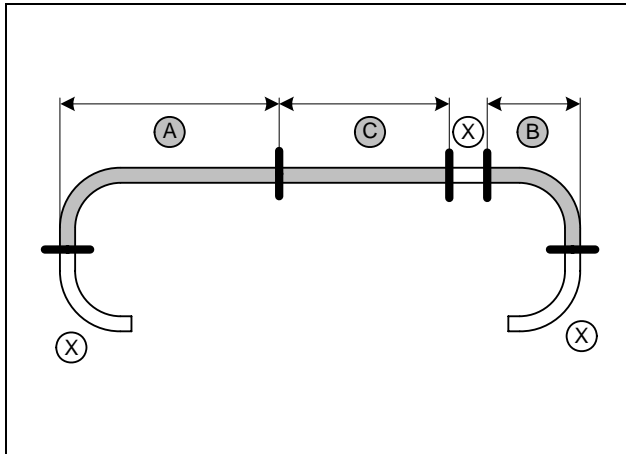
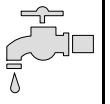
Any coolant running off should be collected using an appropriate container! Route hoses kink-free! Unless specified otherwise, always fasten using cable ties. Position clamps so that no other hose can be damaged! When installing the hoses, the heater must be filled with coolant. The connection should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



Hose routing diagram

All connecting pipes without a specific designation (□□) = dia. 18x20.
 All hose clamps (⊕||) = 20-27 mm dia. All spring clips (≡) = 27 mm dia.
 1 = Red (rt) rubber isolator (≡≡≡). 2 = Black (sw) rubber isolator (≡≡≡).



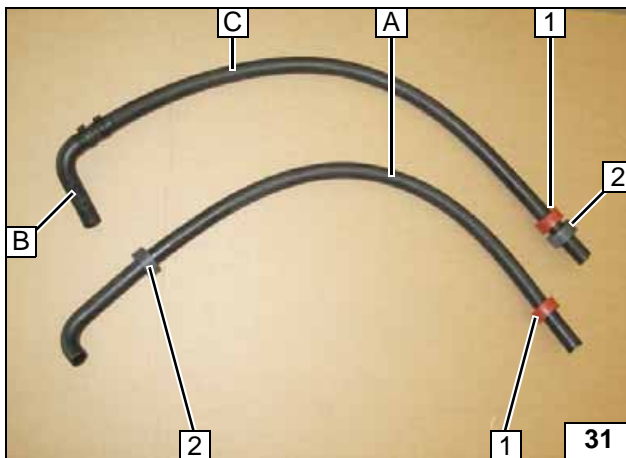


Discard section X.

- A = 1000
- B = 135
- C = 920



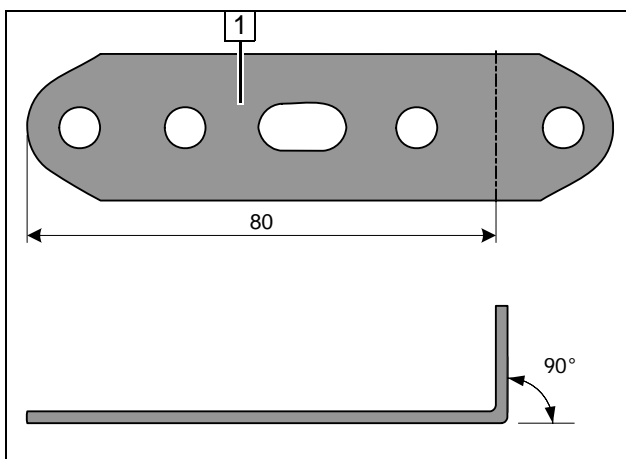
Cutting hoses to length



Connect hose B and C. Slide on red (rt) rubber isolator 1 [2x] and black (sw) rubber isolator 2 [2x].

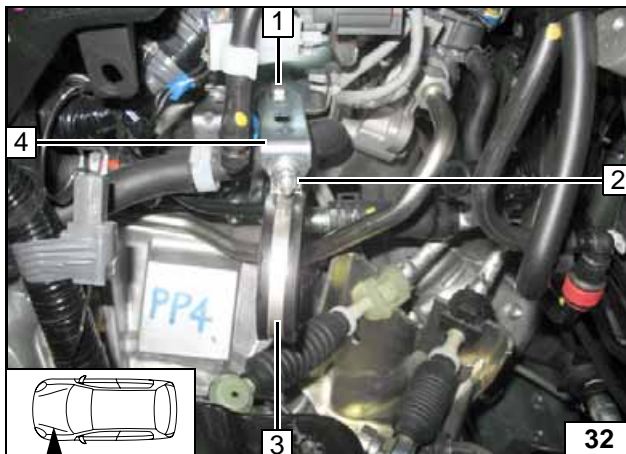


Premounting hoses



1 Perforated bracket

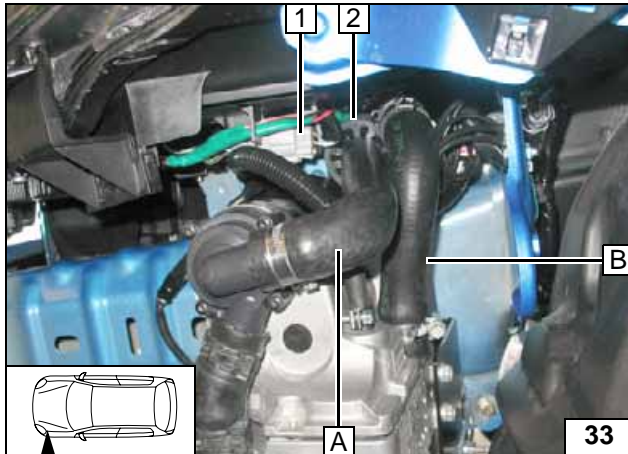
Angling down perforated bracket



- 1 M6x20 bolt, flanged nut, existing hole
- 2 M6x20 bolt, flanged nut
- 3 48 mm dia. rubber-coated p-clamp
- 4 Perforated bracket



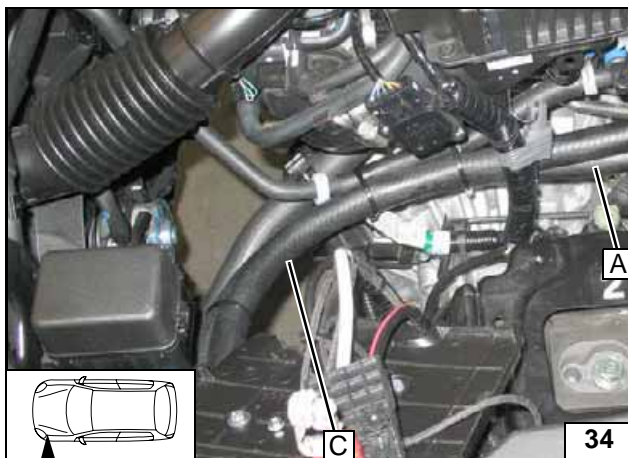
Installing perforated bracket



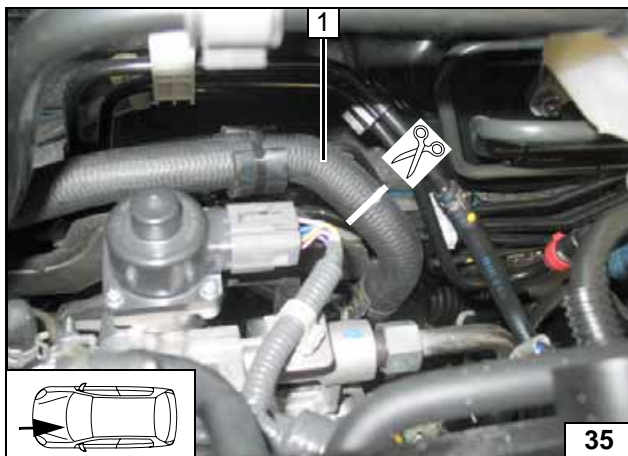
Align black (sw) rubber isolator 2 to connector 1.



Conne-
ction of
heater



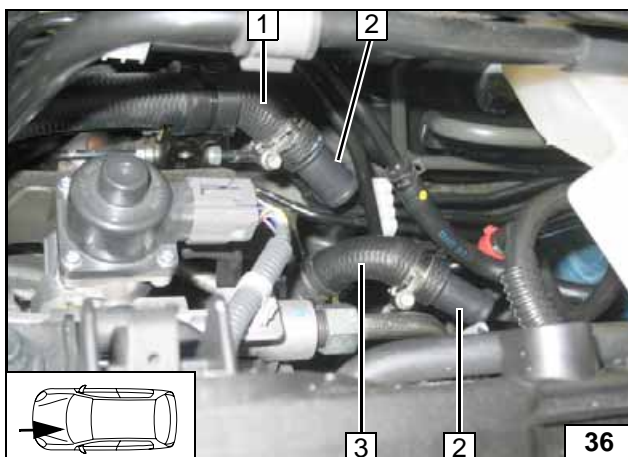
Routing in
engine
compart-
ment



Cut off original vehicle hose on engine out-
let/heat exchanger inlet 1 at marking.



Cutting
point

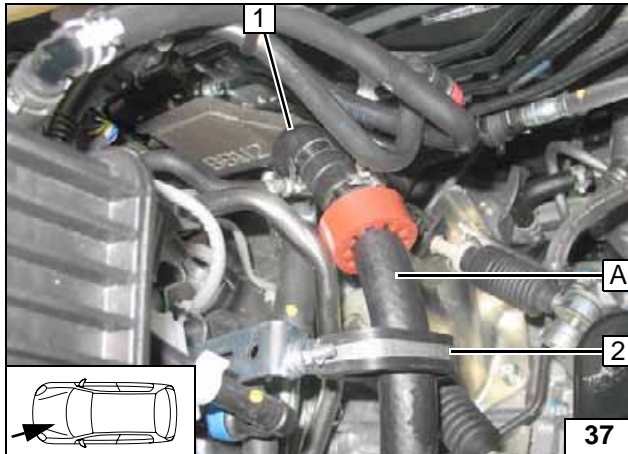


Hose section on engine outlet 3 on connec-
tion piece turned by approx. 180°. Install
18x20 mm connecting pipe 2 [2x].



1 Hose section of heat exchanger inlet

Turning
hose on
engine out-
let

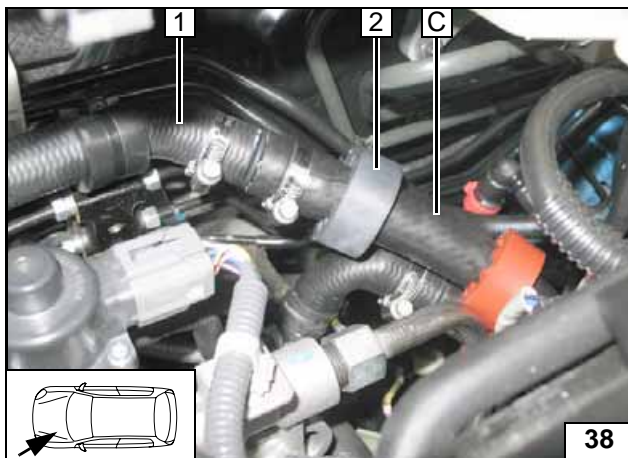


Route hose **A** through rubber-coated p-clamp **2**.

1 Engine outlet hose section



**Connect-
ing engine
outlet**

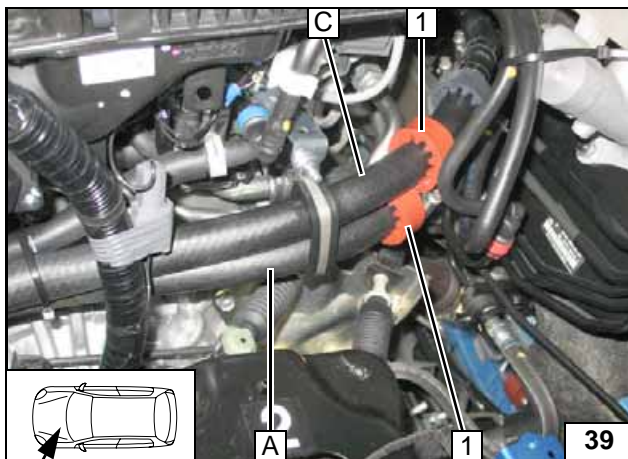


Route hose **C** through rubber-coated p-clamp. Align black (sw) rubber isolator **2** to brake line. Ensure sufficient distance to neighbouring components.

1 Hose on heat exchanger inlet



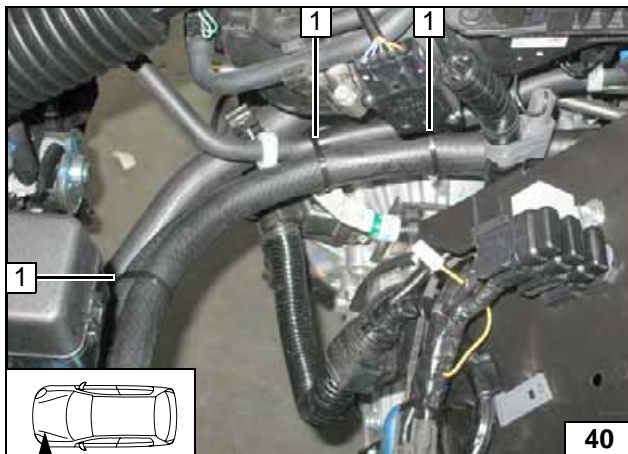
**Connect-
ing heat
exchanger
inlet**



Align and position red (rt) rubber isolator **1** [2x] on oil return line.

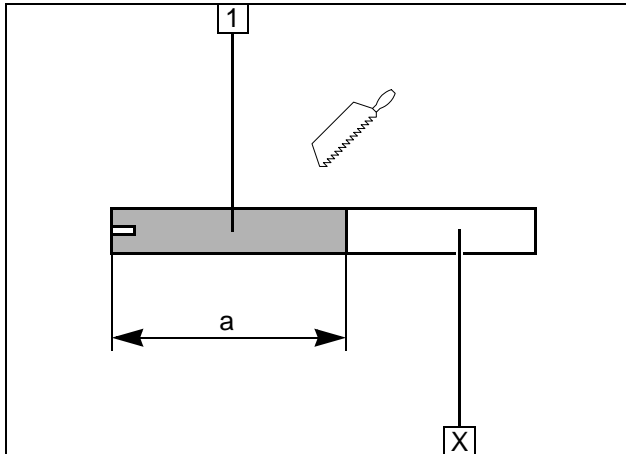
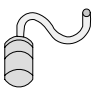


**Aligning
hoses**



1 Cable tie [3x]

**Fastening
hoses**



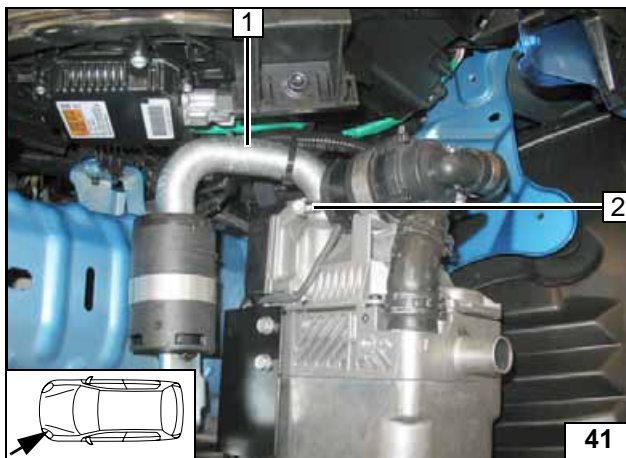
Combustion air

Discard section **X**.

- 1 Combustion air pipe
a = 180



Cutting combustion air pipe to length



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

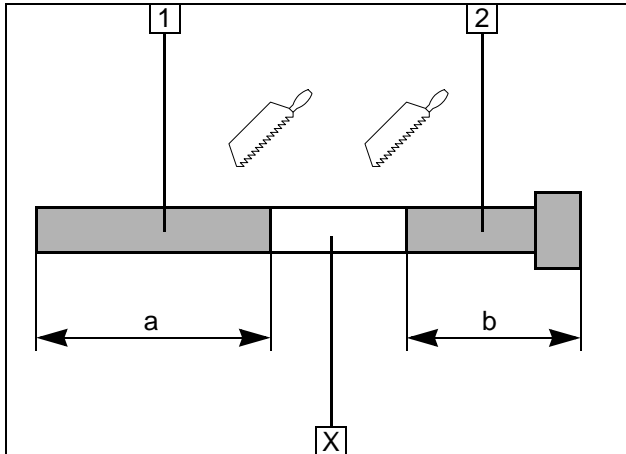
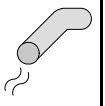
Installing combustion air pipe



- 1 Original vehicle stud bolt, flanged nut
- 2 Silencer
- 3 52 mm dia. clamp



Installing silencer



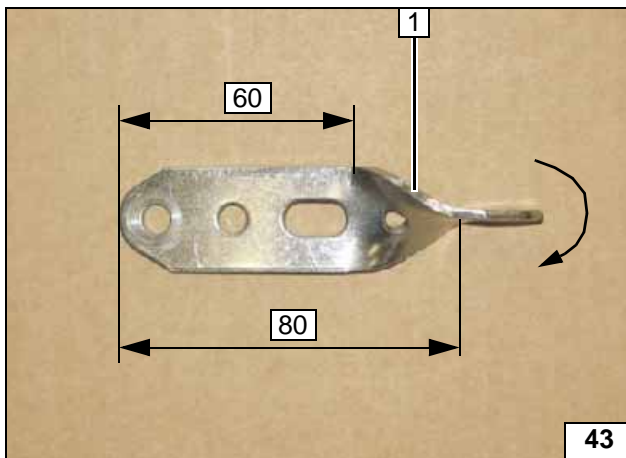
Exhaust gas

Discard section X.

- 1 Exhaust pipe
a = 380
- 2 Exhaust end section
b = 380



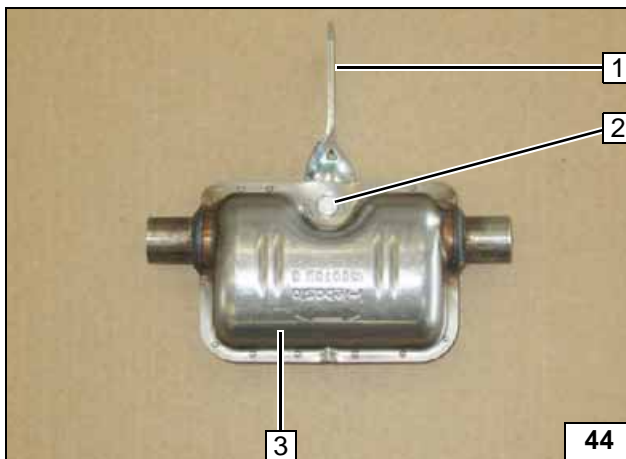
Preparing exhaust pipe



Turn perforated bracket 1 by 90° in longitudinal axis

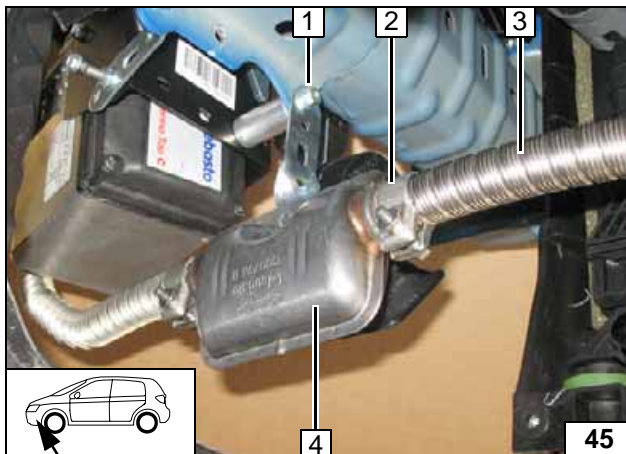


Preparing perforated bracket



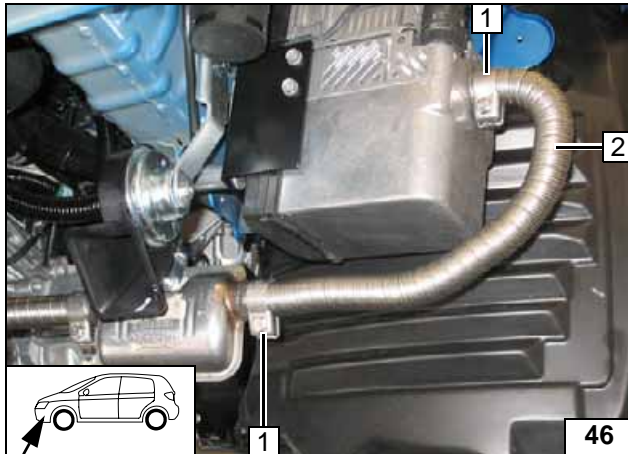
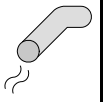
- 1 Perforated bracket
- 2 M6x20 bolt, flanged nut
- 3 Silencer

Premounting silencer



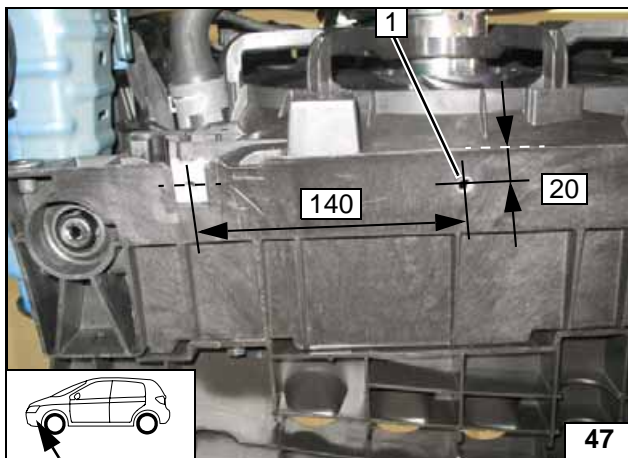
- 1 Flanged nut
- 2 Hose clamp
- 3 Exhaust end section
- 4 Silencer premounted

Installing silencer and end section



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

Installing exhaust pipe

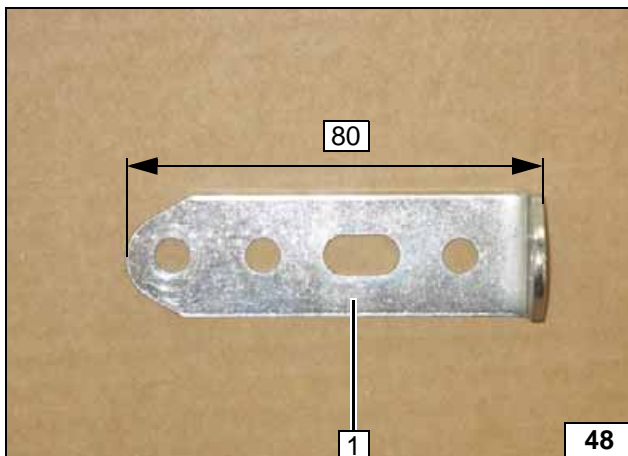


When drilling, watch components located behind!



- 1 6.5 mm dia. hole

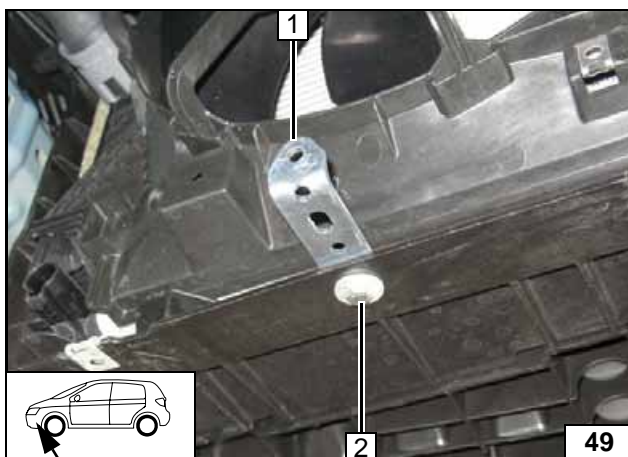
Drilling hole in cross member



Angle down perforated bracket1 by 90°

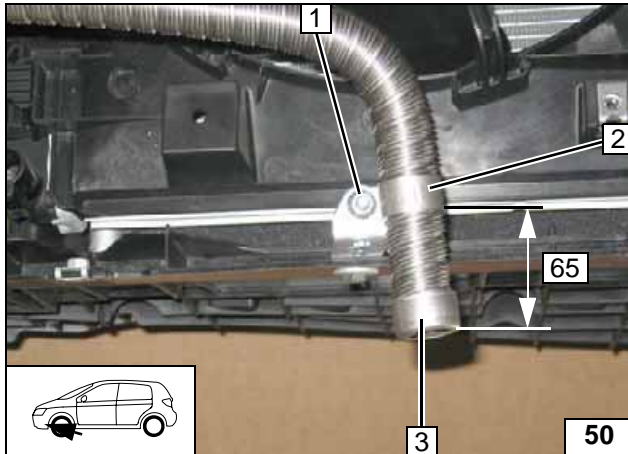
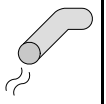


Preparing perforated bracket



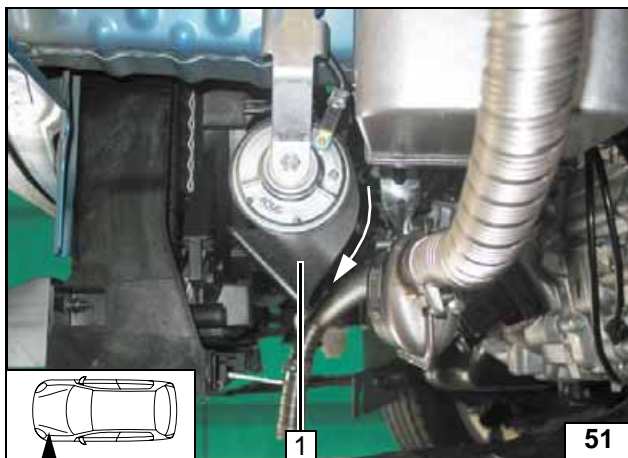
- 1 Perforated bracket
- 2 M6x20 bolt, large diameter washer, flanged nut

Installing perforated bracket



- 1 M6x20 bolt, M6 flanged nut
- 2 25 mm dia. p-clamp
- 3 Exhaust end section

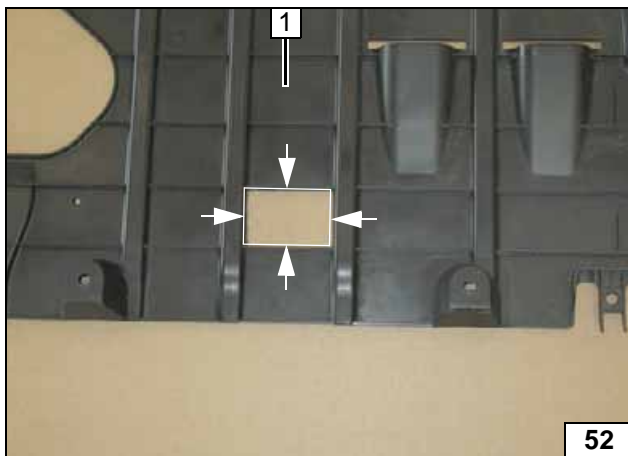
Fastening exhaust end section



Detach horn 1 and twist. Ensure sufficient distance to adjacent components, especially to the silencer!



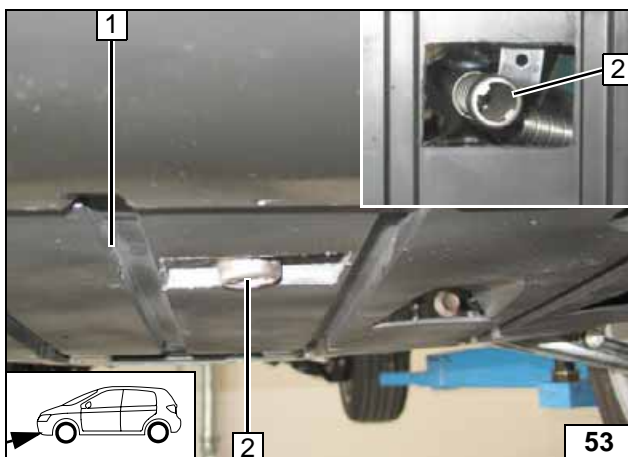
Twisting horn



Cut out underide protection 1 on marking.



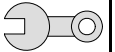
Cutting out underide protection



Mount underide protection 1. Position exhaust end section 2 in centre of cut-out with minimum overhang and correct if necessary.



Cutting out underide protection



Final Work

WARNING!

Mount removed parts in reverse order. Check all hoses, clamps and all electrical connections for firm seating. Insulate and tie back all loose wires.

Only use manufacturer-approved coolant. Spray 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 remote option**
- **Make settings on A/C control panel according to the "Operating Instructions for End Customer".**
- **Place the sticker "Switch off parking heater before re-fuelling" in the area of the filler neck**
- **For initial startup and function test, 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

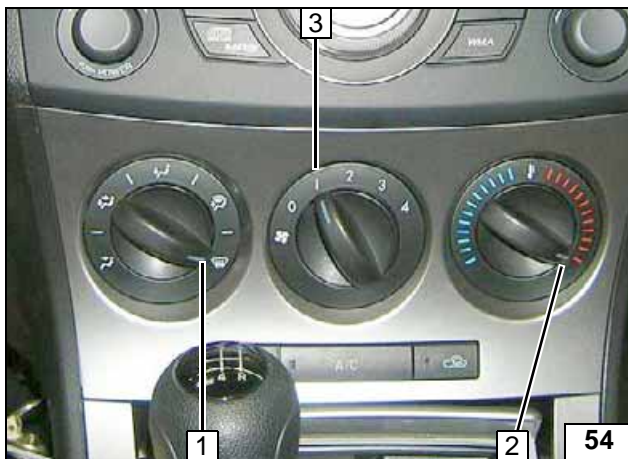
Example:

For a driving time of approx. 20 min. (in one direction), we recommend not exceeding a switch-on time of 20 min.

On vehicles with anti-theft alarm, the passenger compartment monitoring system must be deactivated. For information on deactivation, please see the vehicle owner's manual.

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

Before parking the vehicle, make the following settings:



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

Manual air conditioning



- 1 Air outlet to windscreen
- 2 Set temperature on both sides to "29°C"
- 3 Set fan to level "1" or max. "2"

Automatic air-conditioning



Automatic air-conditioning