

Water Heater



Thermo Top E Parking Heater



Thermo Top C Parking Heater



Installation documentation

Kia Magentis

Petrol and Diesel
from Model Year 2006
For left-hand drive vehicles only
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
Kia	Magentis	GE	e4 * 2001 / 116 * 0100 *...

Engine type	Engine model	Output in kW	Displacement in cm ³
G4KA	Petrol	106	1998
D4EA	Diesel	103	1991

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 of <i>Thermo Top E / C</i>	See price list
1	Installation kit for Kia Magentis Petrol and Diesel	9016060A
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

This installation documentation applies to vehicles Manufacturer Model Petrol and Diesel - for validity, see page 2 - from model year 2006 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 the "installation documentation", the "operating instructions" and "installation instructions" for the *Thermo Top E / C* 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. Insulate loose wires and tie back.

Sharp edges should be fitted with rub protection (split-open plastic hose).

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

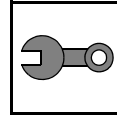
Special Tools

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

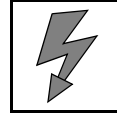
Explanatory notes on document

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.

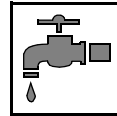
Mechanical system



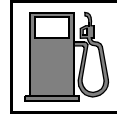
Electrical system



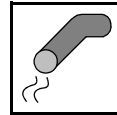
Coolant circuit



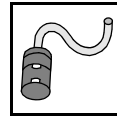
Fuel



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.



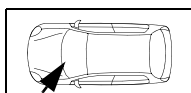
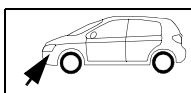
Specific risk of fire or explosion.



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



Reference to a special technical feature.



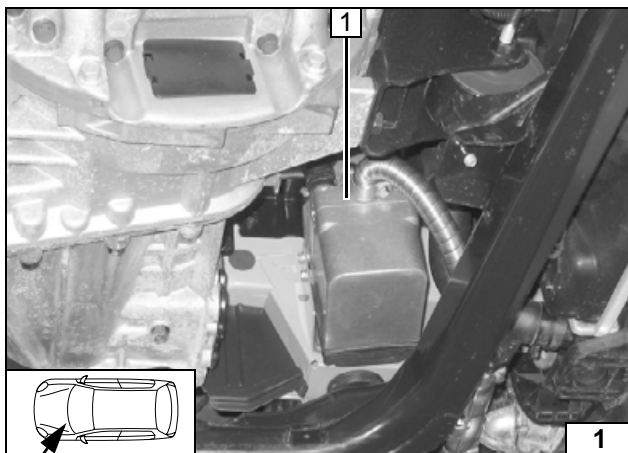
The arrow in the vehicle icon indicates the position on the vehicle and the viewing angle.

Preliminary Work

WARNING!

- Open the fuel tank cap and vent the fuel tank.
- Close the fuel tank cap again.
- Disconnect the battery "earth" or "ground" connection.
- Remove engine cover
- Depressurise the cooling system.
- Completely remove the battery.
- Remove the battery carrier.
- Remove the air filter together with the intake hose.
- Remove left wheel well trim
- Remove lower engine cover
- Remove lower cover of fuel line
- Open the right-hand tank-fitting service lid.
- Remove the fuel-tank sending unit in accordance with the manufacturer's instructions.
- Remove radio
- Remove A/C control panel
- Remove lower cover of instrument panel on the driver's side
- Detach central electrical box in the footwell on the driver's side
- Remove years that do not apply from the duplicate label.
- Attach the duplicate label (type label) in the appropriate place.

Please remove page 32 of the "Operating instructions for the end customer" and add it to the operating instructions of the vehicle.



Heater installation location

- 1 Heater

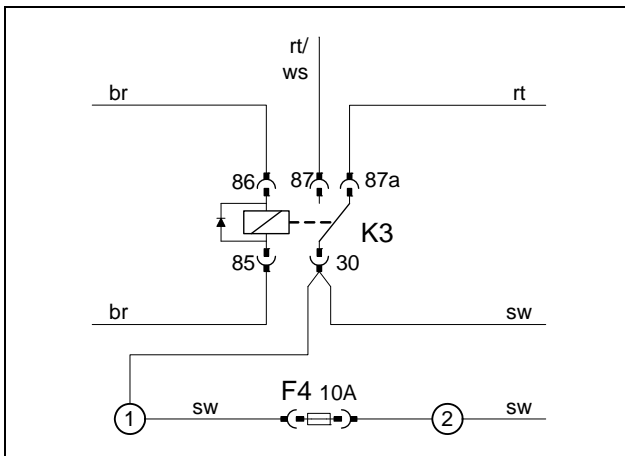
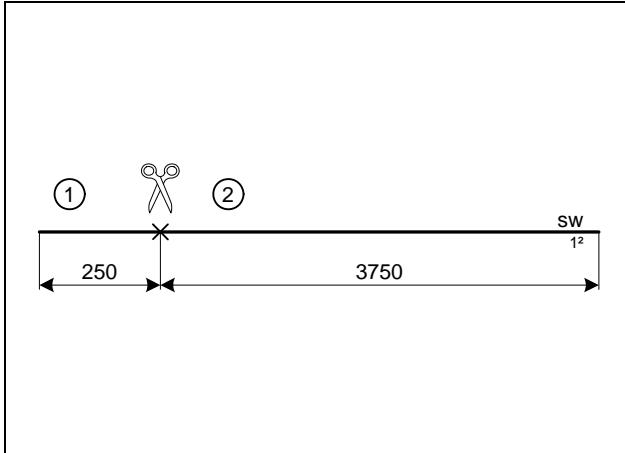
Installation location



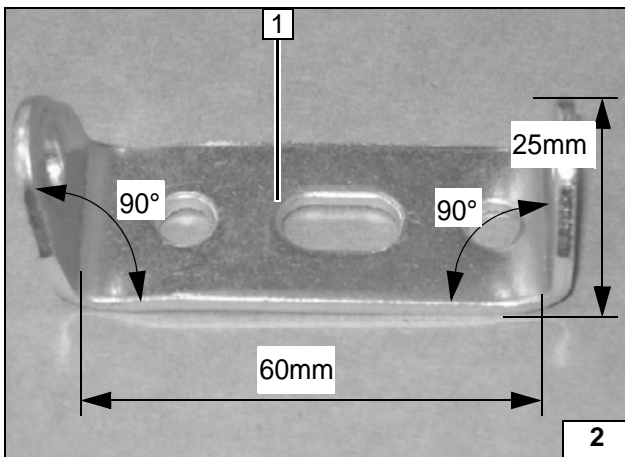
Preparing electrical system

All vehicles

Draw wire section 2 into 7mm dia. protective sleeving.



Connect wire section 1 and 2 according to wiring diagram.



Bend perforated bracket 1 as shown.



Cutting wires to length

Premounting fuse F4



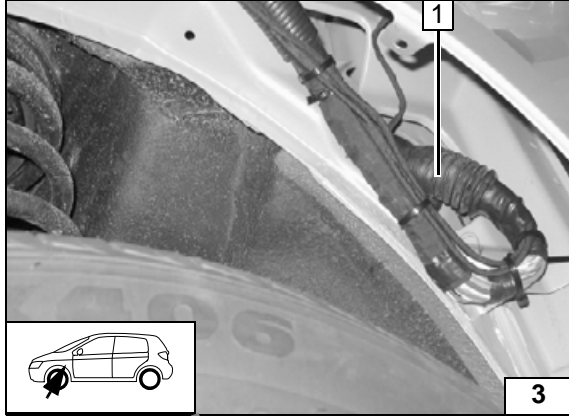
Preparing perforated bracket



Electrical system

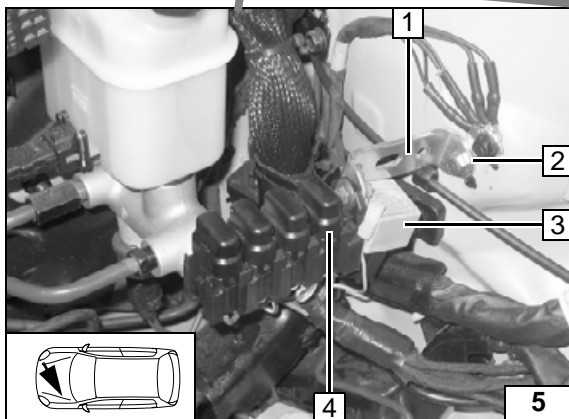
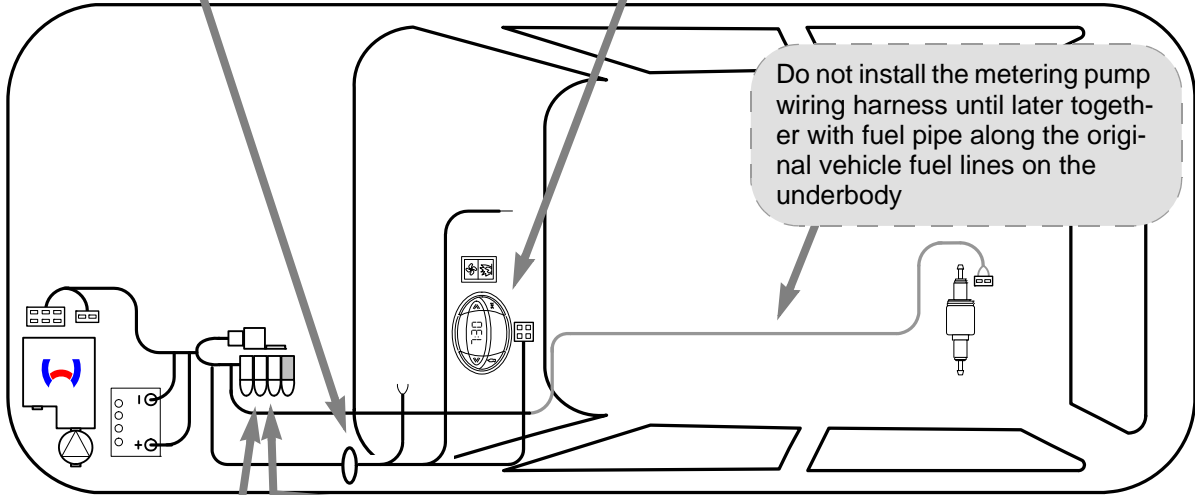
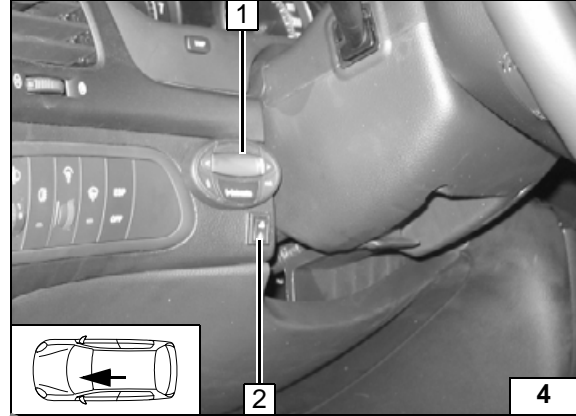
Wiring harness pass through

- 1 Protective rubber plug



Heater controls

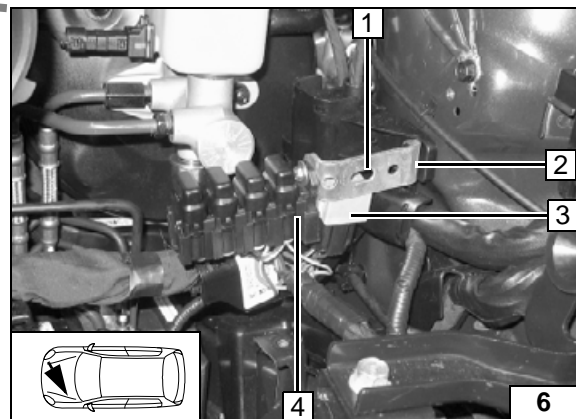
- 1 Digital timer
- 2 Summer/winter switch, drilled hole 12 mm dia.



Petrol only

Fuse holder, K3 relay

- 1 Perforated bracket
- 2 Threaded insert, M6x20 bolt, spring lockwasher
- 3 K3 relay
- 4 Fuse holder, M5x16 bolt, washer, M5 flanged nut



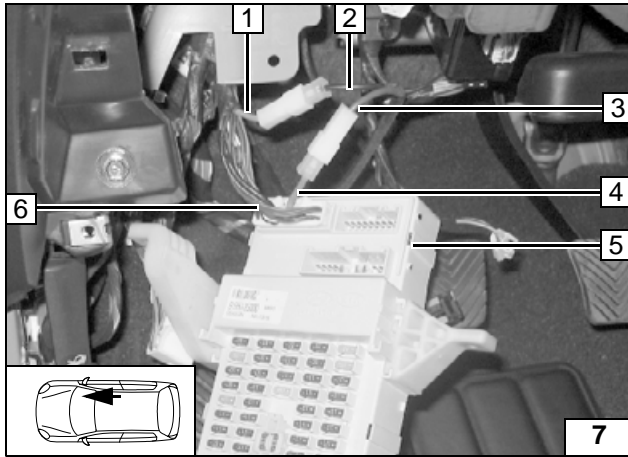
Diesel only

Fuse holder, K3 relay

- 1 Perforated bracket
- 2 Original vehicle stud bolt, original vehicle nut
- 3 K3 relay
- 4 Fuse holder, M5x16 bolt, washer, M5 flanged nut



Wiring harness routing diagram



Fan controller for manual air conditioning

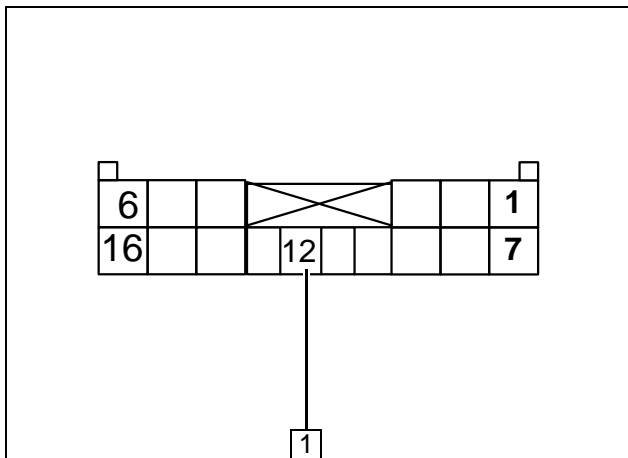
Connection to 16-pin connector 6 I/P-C to the central electrical box 5.
Make connections as shown in the wiring diagram with the tab receptacles provided.

- 1 Orange (or) wire from fan motor
- 2 Black (sw) wire from K3/30
- 3 Red (rt) wire from K3/87a
- 4 Orange (or) wire from connector I/P-C/12

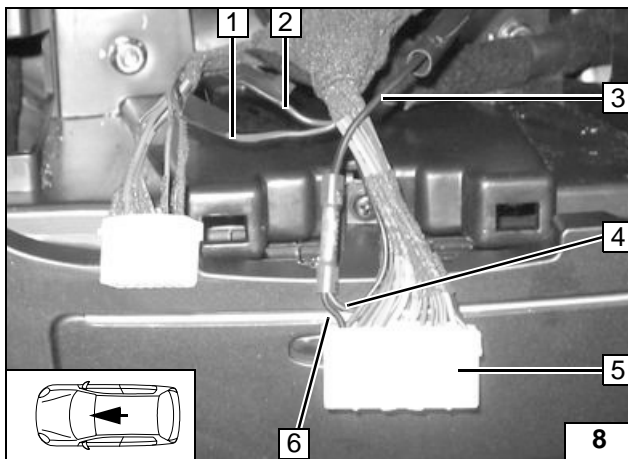
Connect-
ing fan mo-
tor

Connector displayed from contact side

- 1 Connector I/P-C Pin 12 of central electrical box



View of
connector
of central
electrical
box



Connection to 26-pin connector 5 M09-1!
Make connections as shown in wiring diagram with connectors provided.

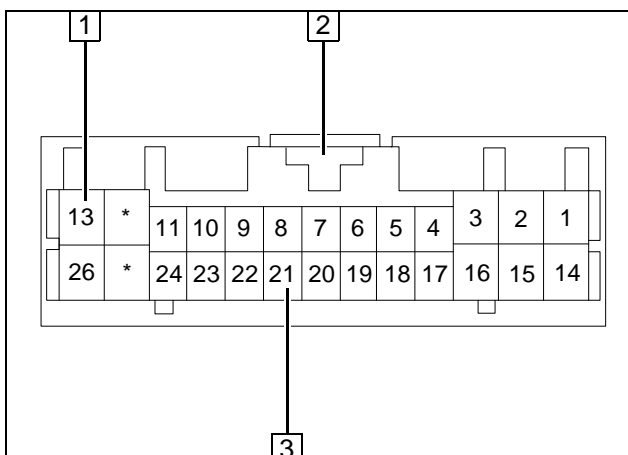
- 1 Insulate red/orange (rt/or) wire from A/CON SW 10A and tie back
- 2 Insulate red/orange (rt/or) wire from A/CON 10A fuse and tie back
- 3 Black (sw) wire from fuse F4
- 4 Red/orange (rt/or) wire from connector M09-1, Pin 21
- 6 Red/orange (rt/or) wire from connector M09-1, Pin 13

Connect-
ing to con-
trol panel

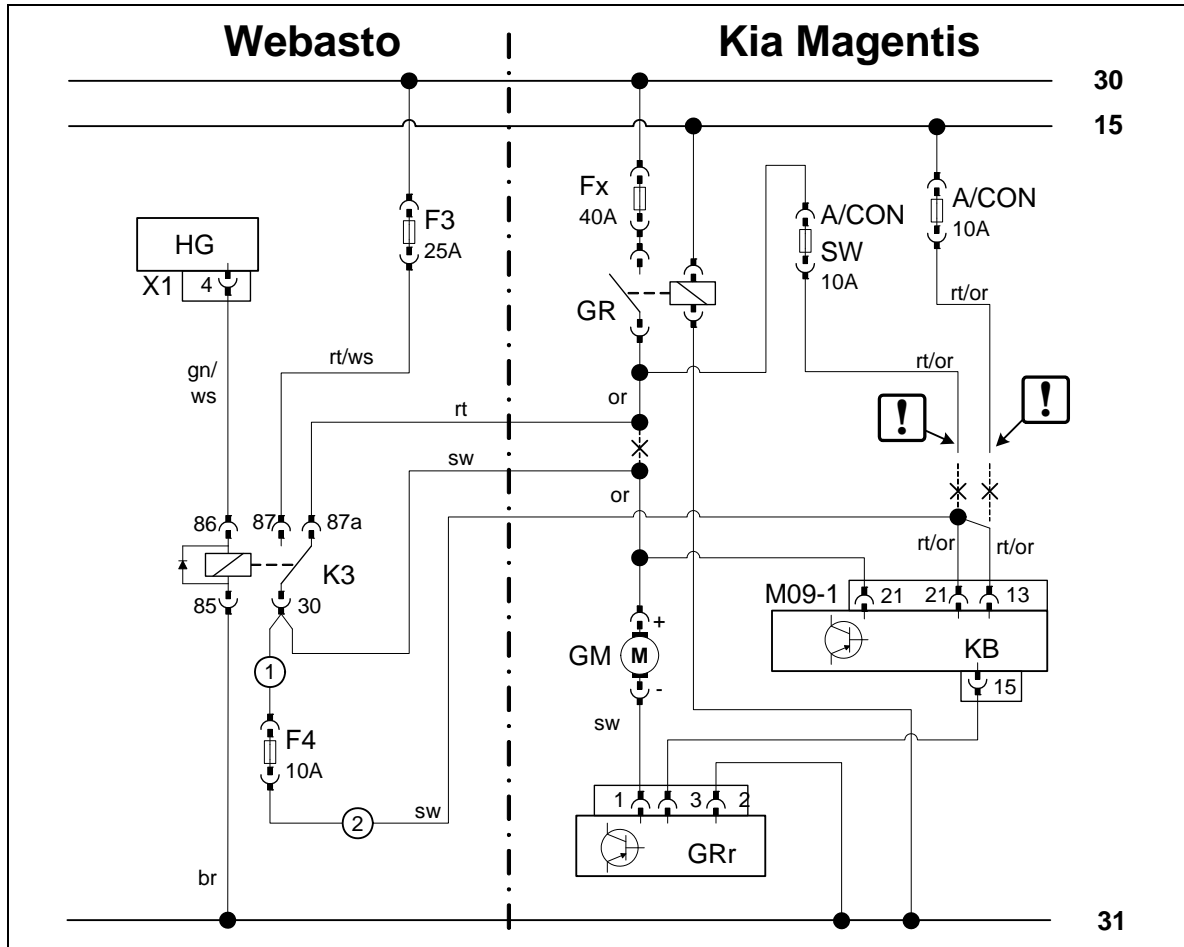
Connector label does not match the pin denotation of original wiring diagram of manufacturer.

Connector 2 M09-1 of A/C control panel displayed on contact side

- 1 Pin 13 Cable colour red/orange (rt/or)
- 3 Pin 21 Cable colour red/orange (rt/or)



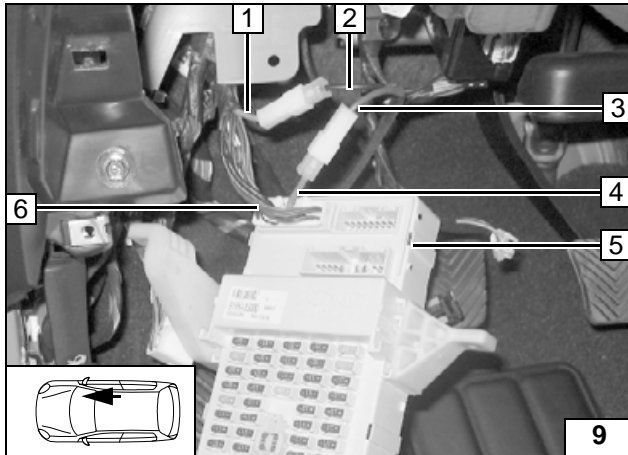
View of A/C
control
panel con-
nector



Wiring diagram of manual air-conditioning

Webasto components		Components Kia Magentis		Colours and symbols	
HG	TT-C/E Heater	GM	Fan motor	rt	red
X1	6-pin connector	GR	Fan relay	ws	white
F3	Fuse	GRr	Fan controller	sw	black
K3	Fan relay	KB	A/C control panel	br	brown
F4	Fuse, 10A	A/CON SW	Fuse, 10A	gn	green
		A/CON	Fuse, 10A	or	orange
		Fx	40 A fan fuse		
		M09-1	Connector for A/C control panel		
				!	Insulate wire ends and tie back
				X	Cutting point
					Wiring colours may vary.

Legend



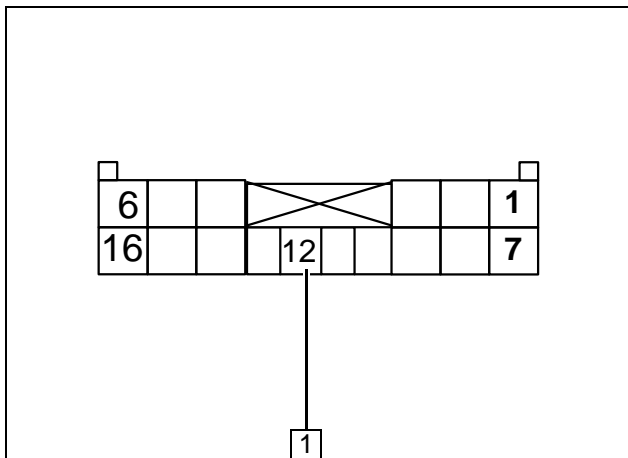
Automatic air-conditioning fan controller

Connection to 16-pin connector **6** I/P-C in the central electrical box **5**.
Make connections as shown in the wiring diagram with the tab receptacles provided.

- 1 Orange (or) wire from fan motor
- 2 Black (sw) wire from K3/30
- 3 Red (rt) wire from K3/87a
- 4 Orange (or) wire from connector I/P-C/12



**Connect-
ing fan mo-
tor**

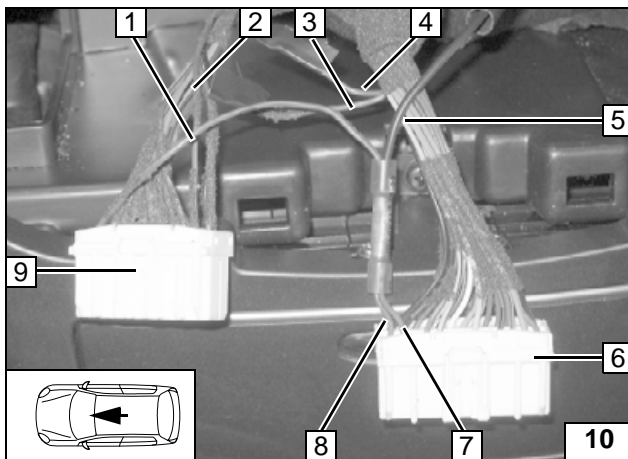


Connector displayed from contact side

- 1 Connector I/P-C Pin 12 of central electrical box



**View of
connector
of central
electrical
box**

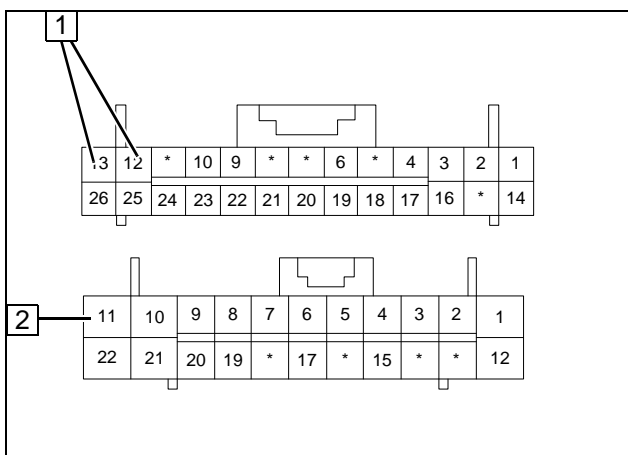


Connection to 22-pin connector **9** M08-2 and to 26-pin connector **6** M08-1.
Make connections as shown in wiring diagram with connectors provided.

- 1 Red/orange (rt/or) wire from M08-1, Pin 11
- 2 Insulate red/orange (rt/or) wire from A/CON SW 10A and tie back
- 3 Insulate red (rt) wire from A/CON 10A fuse and tie back
- 4 Insulate red (rt) wire from A/CON 10A fuse and tie back
- 5 White (ws) wire from fuse F4
- 7 Red (rt) wire from connector M081, Pin 12
- 8 Red (rt) wire from connector M081, Pin 13



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



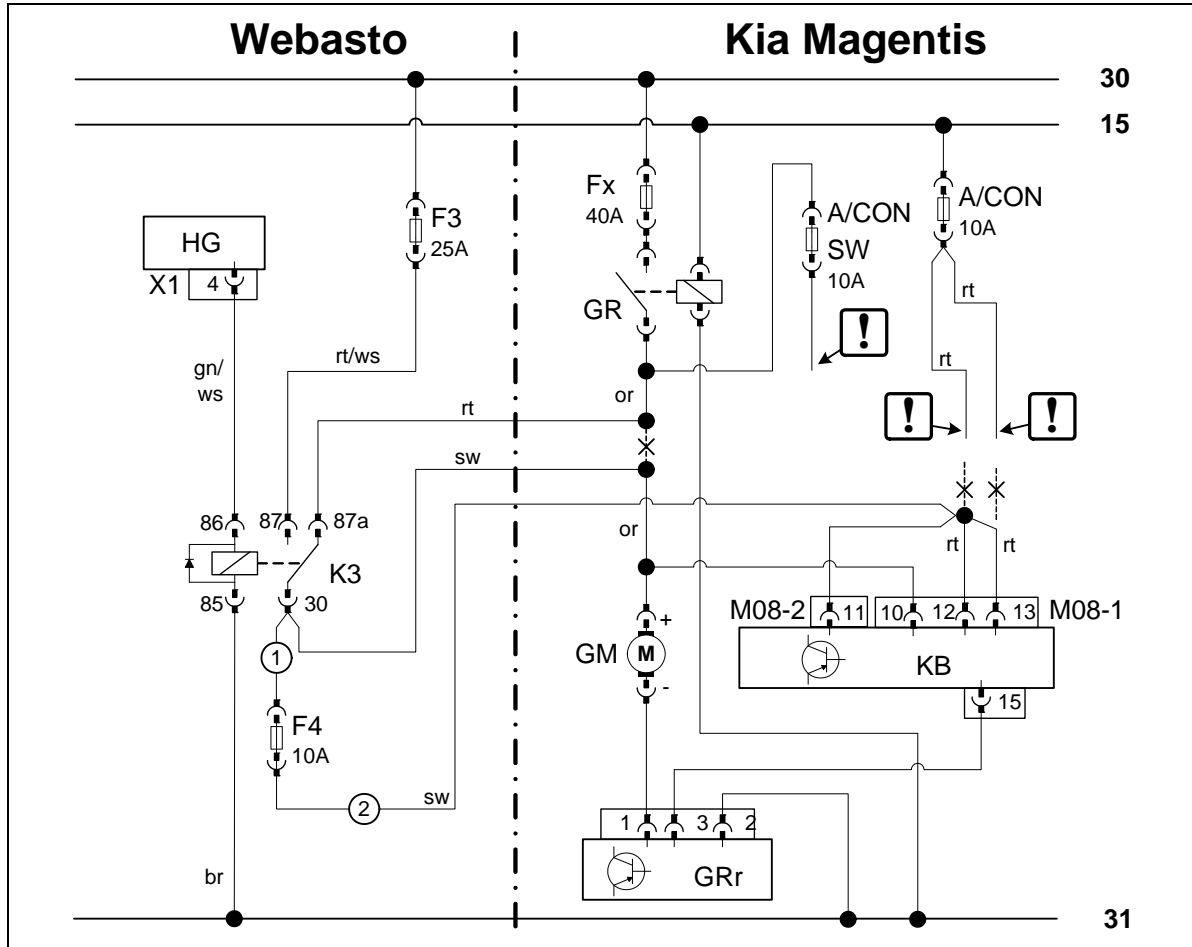
Connector label does not match the pin denotation of original wiring diagram of manufacturer.

Contact-side connector.

- 1 Connector M08-1 PIN 12 and 13
- 2 Connector M08-2, Pin 11



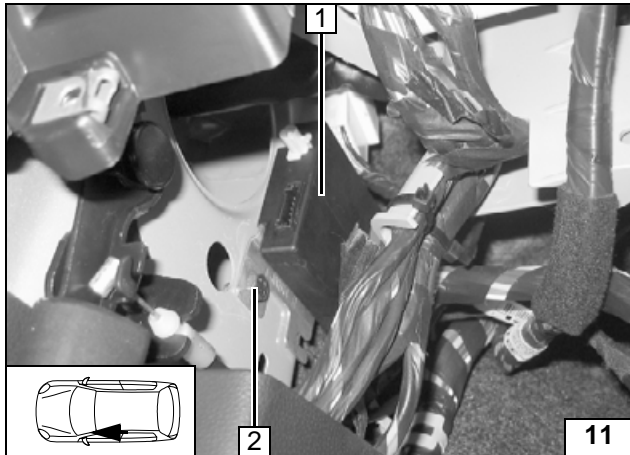
**View of A/C
control
panel con-
nector**



Automatic air-conditioning wiring diagram

Webasto components		Components Kia Magentis		Colours and symbols	
HG	TT-C/E Heater	GM	Fan motor	rt	red
X1	6-pin connector	GR	Fan relay	ws	white
F3	Fuse	GRr	Fan controller	sw	black
K3	Fan relay	KB	A/C control panel	br	brown
F4	Fuse, 10A	M08-1	26-pin connector of control panel	gn	green
		M08-2	22-pin connector of control panel	or	orange
		Fx	Fan fuse		
		A/CON SW	Fuse, 10A		
		A/CON	Fuse, 10A		
				!	Insulate wire ends and tie back
				X	Cutting point
					Wiring colours may vary.

Legend



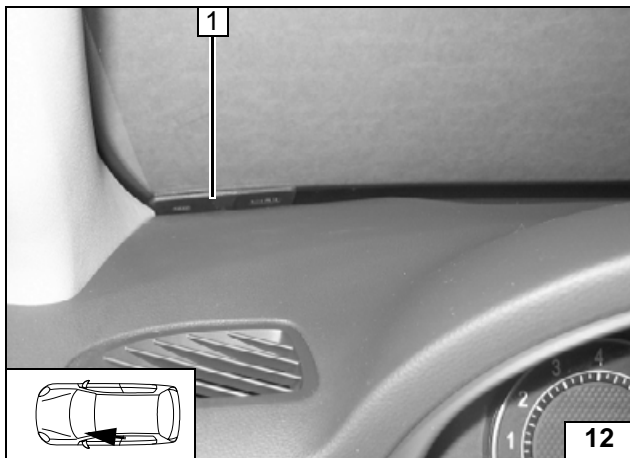
Remote option (Telestart)

Drill hole in bracket at position 2 to 6.5 mm dia.

- 1 Receiver, bracket
- 2 Original vehicle threaded insert, M6x20 bolt

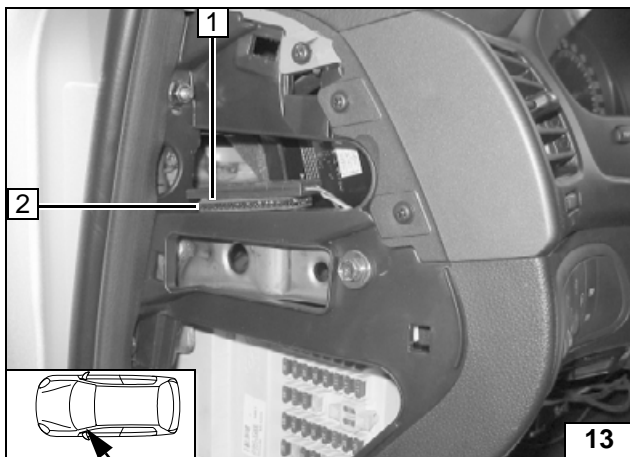


Installing receiver



- 1 Antenna

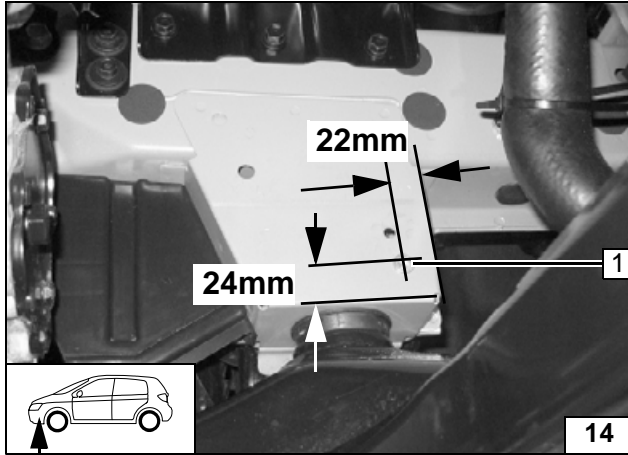
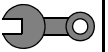
Installing antenna



Temperature sensor only for T100 HTM

- 1 Temperature sensor
- 2 Double-sided Velcro strip (self-adhesive)

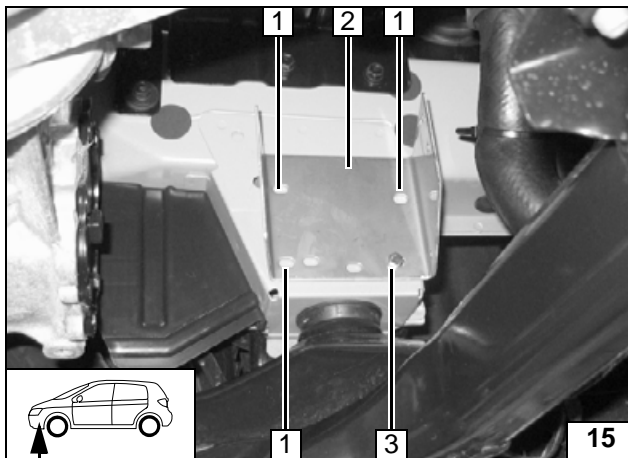
Installing temperature sensor



Preparing installation location

- 1 Drill 9.1mm dia. hole; M6 rivet nut

Copying hole pattern of bracket

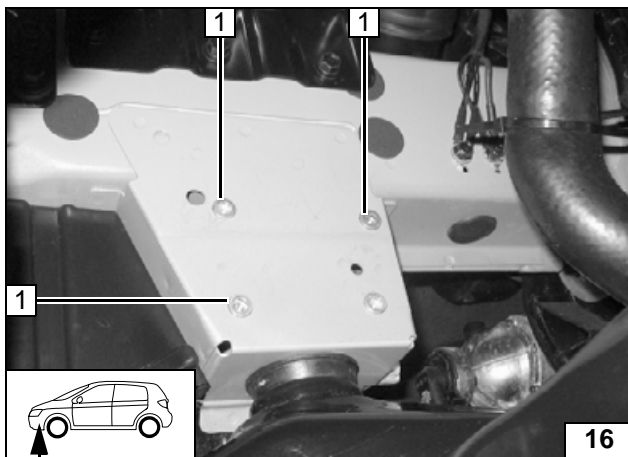


Install bracket 2 with M6x20 bolt 3 and align, copy hole pattern, remove bracket.



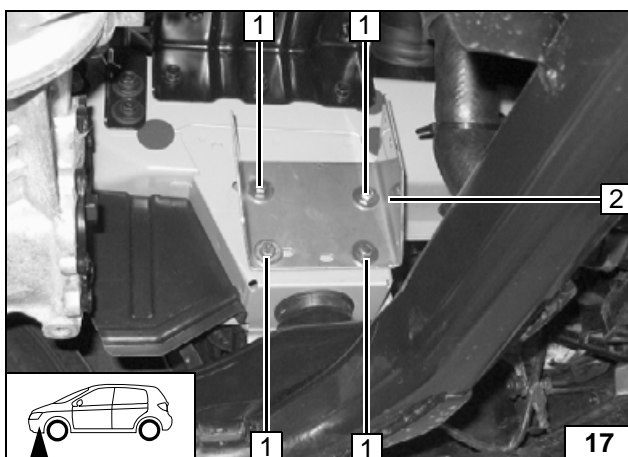
- 1 Copy hole pattern of 9.1mm dia. hole [3x]

Copying hole pattern of bracket



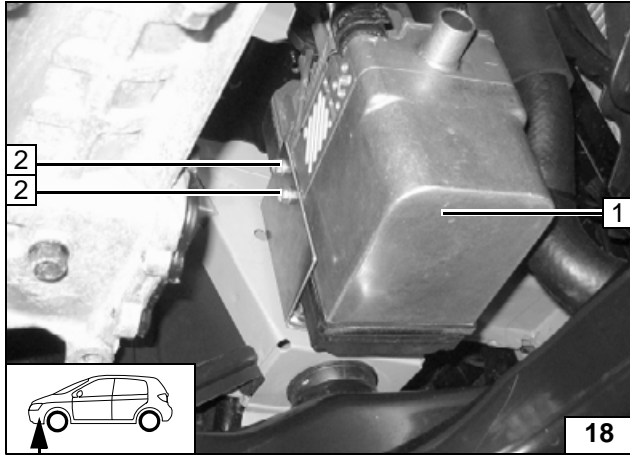
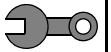
- 1 M6 rivet nut [3x]

Installing rivet nuts



- 1 M6x20 bolt [4x], spring lockwasher [4x], washer [4x]
- 2 Bracket

Installing bracket



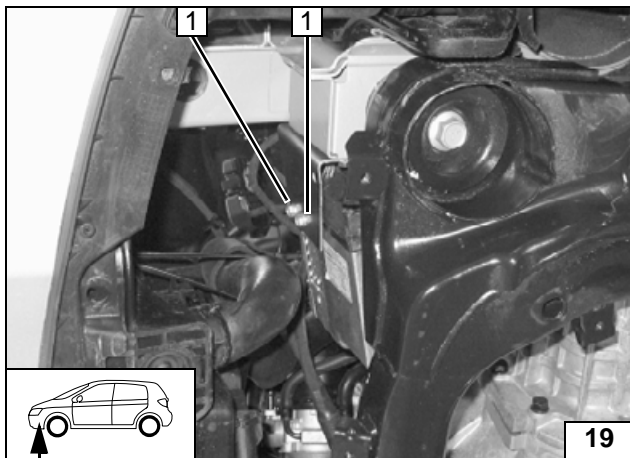
Installing heater

Before installing heater, plug the connector of the heater wiring harness.
Ejot screws, tightening torque 10 Nm.

- 1 Heater
- 2 Ejot screw [2x]



Installing heater



Ejot screws, tightening torque 10 Nm.

- 1 Ejot screw [2x]



Installing heater



Fuel

CAUTION!

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

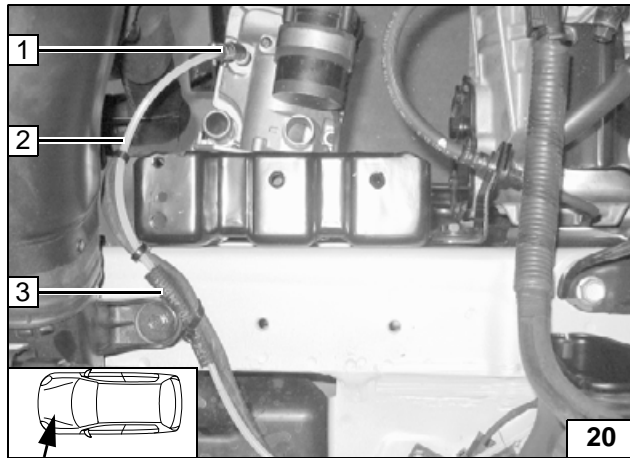
Catch any fuel running off in a suitable container.

Install fuel line and metering pump wiring harness so that they are protected against stone impact. Unless specified otherwise, always fasten using cable ties.

Mount the fuel line and wiring harness with rub protection on sharp edges.

WARNING!

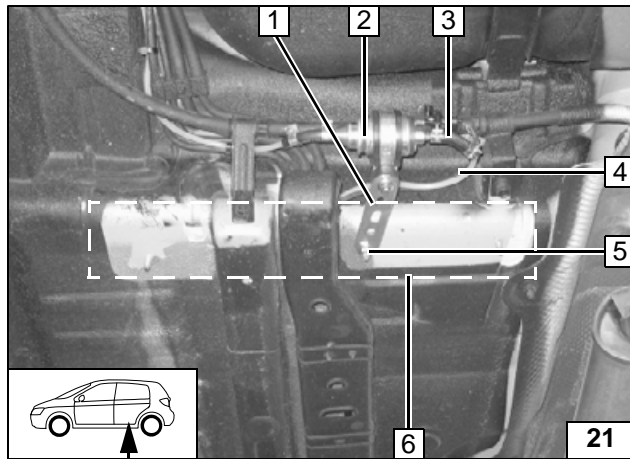
The fuel line and wiring harness are routed to the metering pump as shown in the wiring harness routing diagram.



- 1 Hose section, 10mm dia. hose clamp [2x]
- 2 Mecanyl fuel line
- 2 7x11 hose section as edge protection, cable tie



Con-
nection to
heater

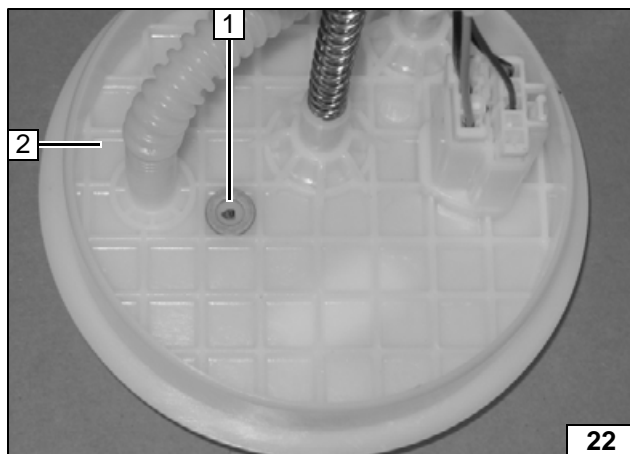


Ensure proper installation position of metering pump, see "Installation Instructions". Fuel line from heater on pressure side of metering pump [side with connector]. Trim 6 will be reinstalled later.

- 1 Perforated bracket
- 2 Metering pump, rubber-coated pipe clamp, silent block, flanged nut [2x]
- 3 Hose section, 10 mm dia. hose clamp [2x]
- 4 Mecanyl fuel line
- 5 Original vehicle stud bolt, flanged nut



Installa-
tion loca-
tion of
metering
pump

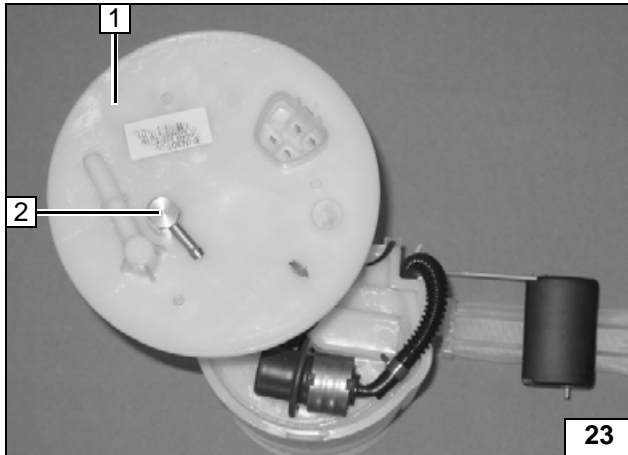


Petrol

Remove fuel-tank sending unit 2 in accordance with manufacturer's instructions. Insert 6mm dia. washer 1 as shown, copy hole pattern for 6mm dia. hole. Drill at absolute centre.



Removing
fuel

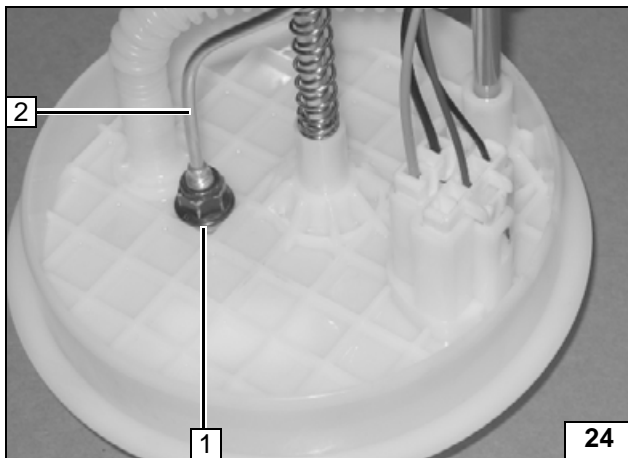


Mould fuel standpipe according to template, cut to length and install, see "installation instructions".

- 1 Fuel tank sending unit
- 2 Fuel standpipe



Installing fuel standpipe

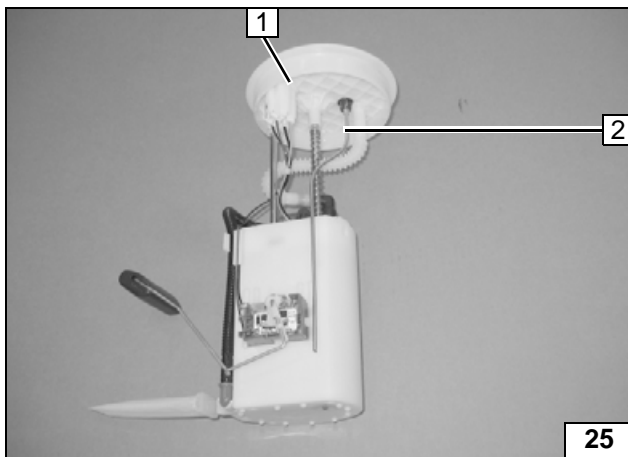


Note!

Place 6mm washer [2x] as height adjustment in position 1 on fuel standpipe 2

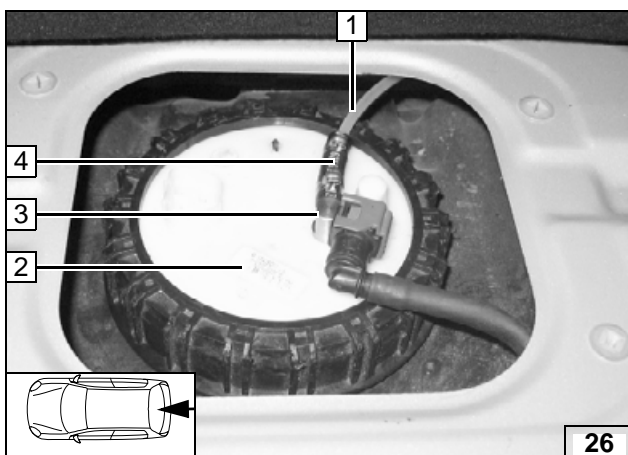


Installing fuel standpipe



- 1 Fuel tank sending unit
- 2 Fuel standpipe

Installing fuel standpipe

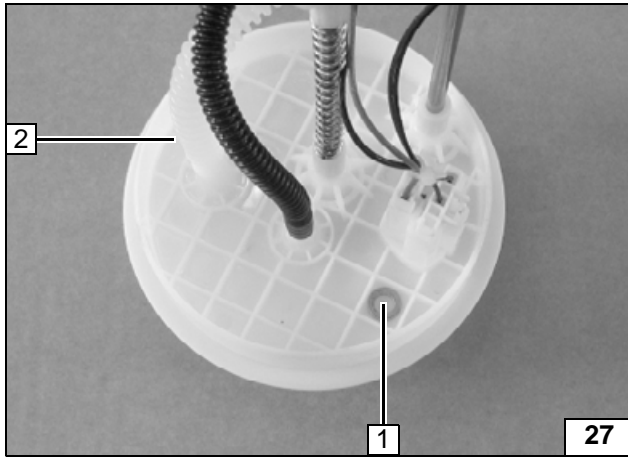


Install fuel-tank sending unit 2 in accordance with manufacturer's instructions.

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



Connecting fuel line

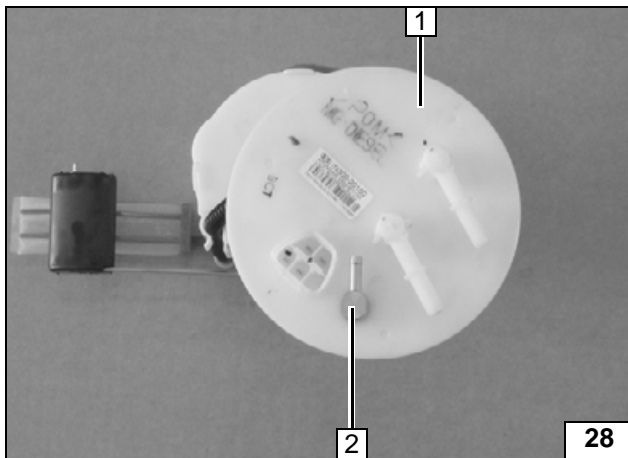


Diesel

Remove fuel-tank sending unit **2** in accordance with manufacturer's instructions. Insert 6mm dia. washer **1** as shown, copy hole pattern for 6mm dia. hole. Drill at absolute centre.



Removing fuel

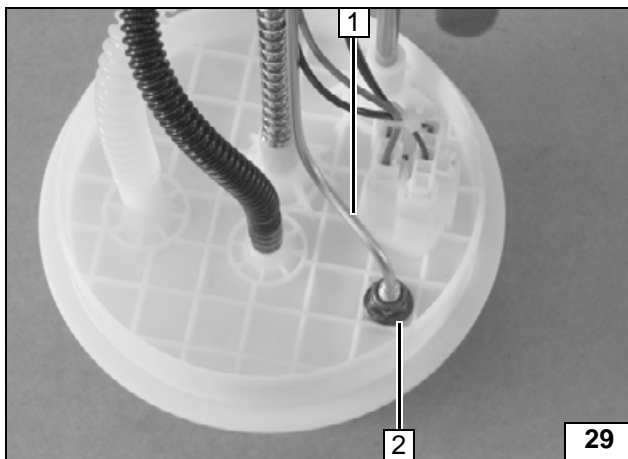


Mould fuel standpipe according to template, cut to length and install, see "installation instructions".

- 1 Fuel tank sending unit
- 2 Fuel standpipe



Installing fuel standpipe

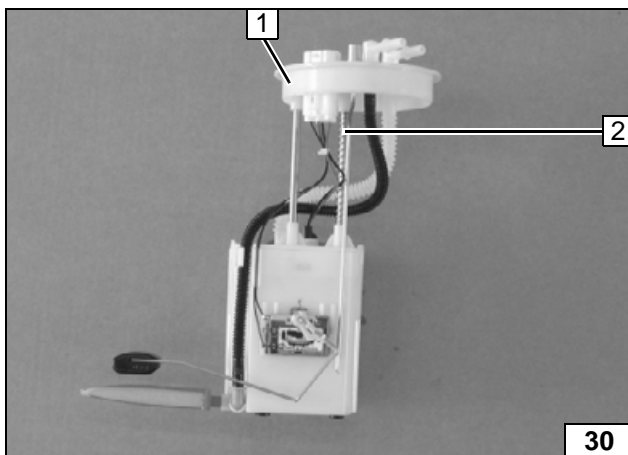


Note!

Place 6mm washer [2x] as height adjustment in position **2** on fuel standpipe **1**

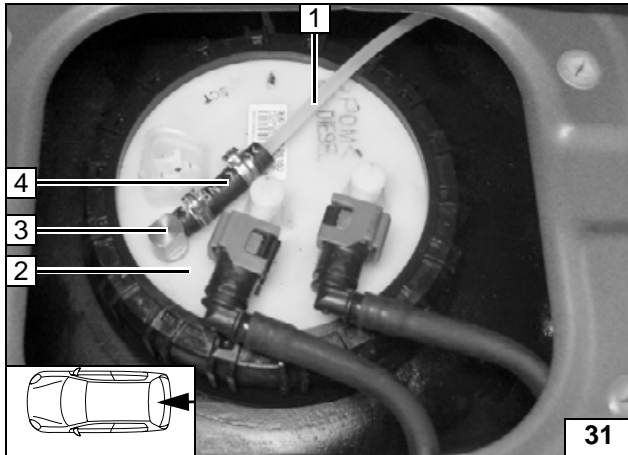


Installing fuel standpipe



- 1 Fuel tank sending unit
- 2 Fuel standpipe

Installing fuel standpipe

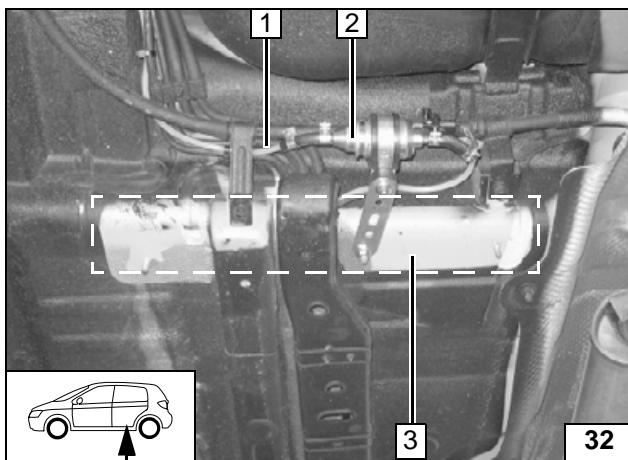


Install fuel-tank sending unit **2** in accordance with manufacturer's instructions.

- 1** Mecanyl fuel line
- 3** Fuel standpipe
- 4** Hose section, 10 mm dia. hose clamp [2x]



**Connect-
ing fuel
line**



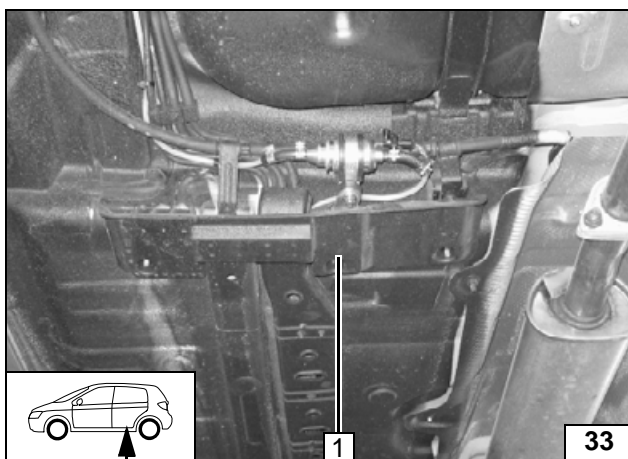
All vehicles

Ensure proper installation position of metering pump, see "Installation Instructions". Fuel line from heater on intake side of metering pump [side without connector]. Trim **3** will be reinstalled later.

- 1** Mecanyl fuel line
- 2** Hose section, 10 mm dia. hose clamp [2x]

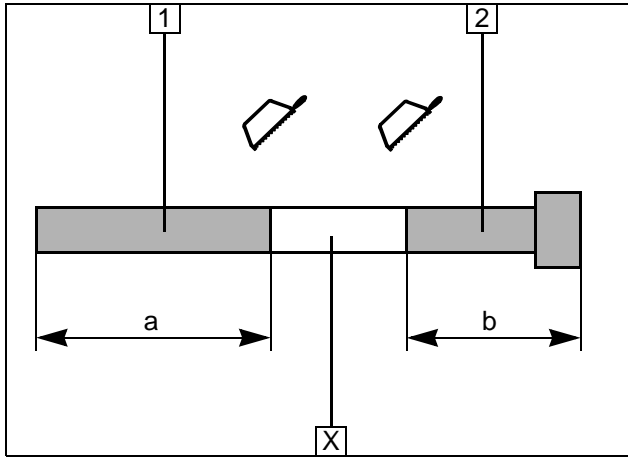
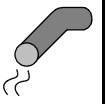


**Connect-
ing meter-
ing pump**



- 1** Trim

**Installing
trim**

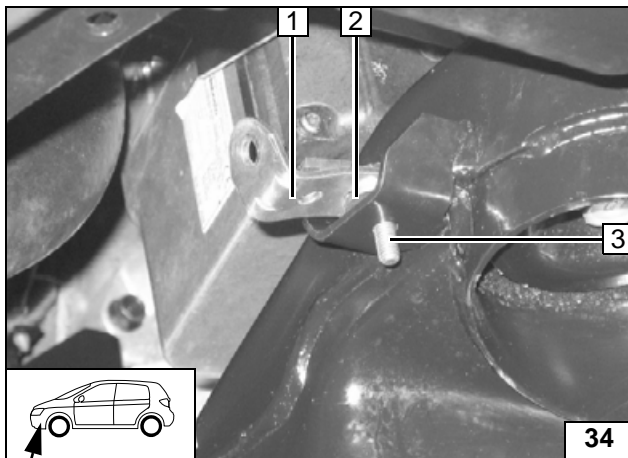


Exhaust gas

- 1 Exhaust pipe
a = 330mm
- 2 Exhaust end section
b = 120mm

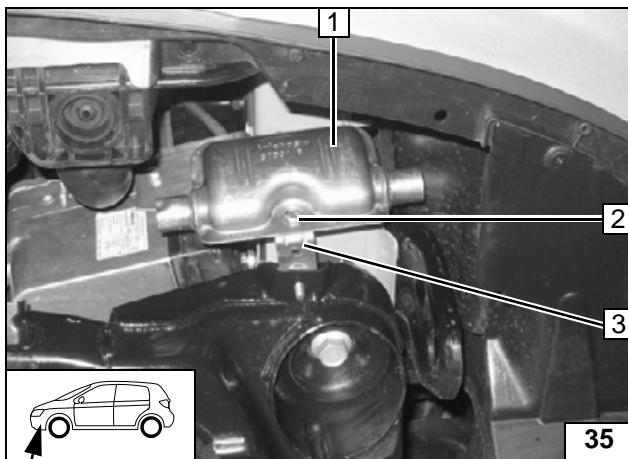
Discard section X

Preparing
exhaust
pipe



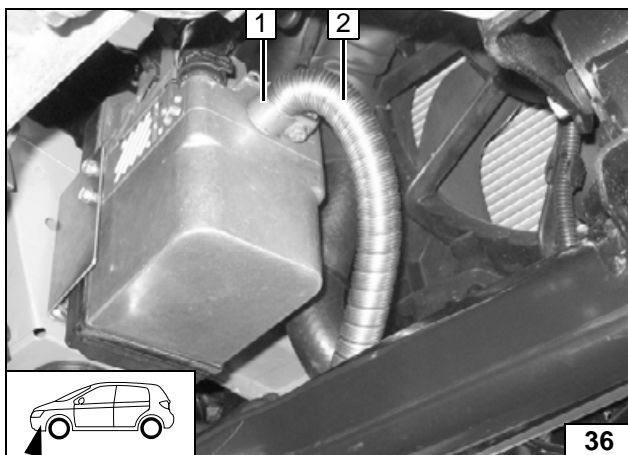
- 1 Angle bracket
- 2 Large diameter washer
- 3 M6x25 bolt, spring lockwasher

Installing
silencer



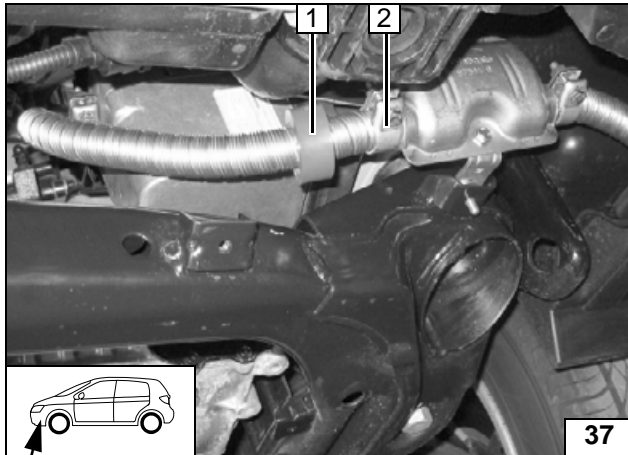
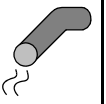
- 1 Exhaust silencer
- 2 M6x20 bolt, flanged nut
- 3 Angle bracket

Installing
silencer



- 1 Hose clamp
- 2 330mm exhaust pipe

Installing
exhaust
pipe

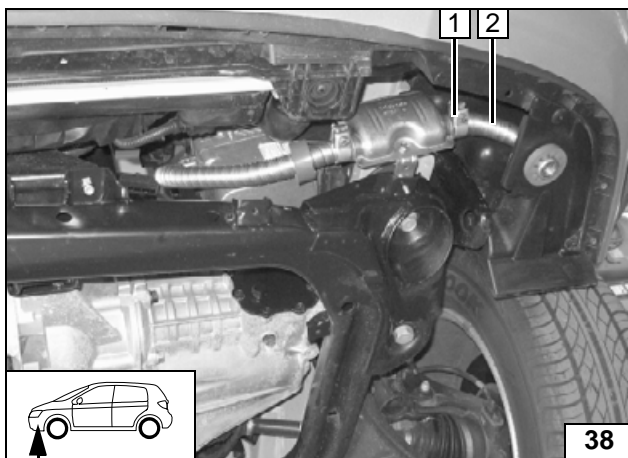


Ensure sufficient distance from neighbouring components.

- 1 Position red (rt) rubber isolator
- 2 Hose clamp



Installing exhaust pipe

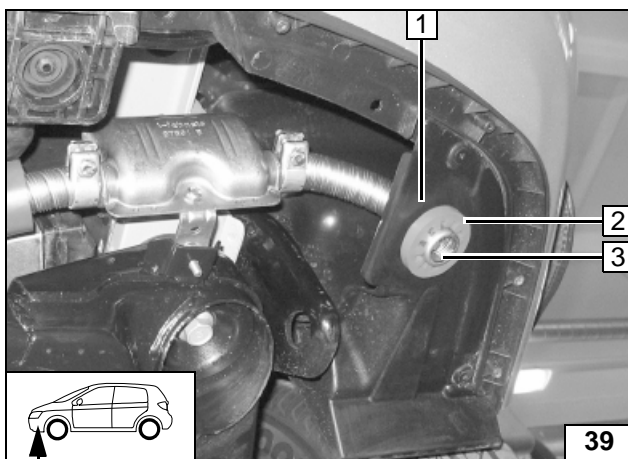


Ensure sufficient distance from neighbouring components.

- 1 Hose clamp
- 2 120mm exhaust pipe end section



Installing exhaust pipe

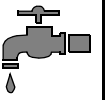


Ensure sufficient distance from neighbouring components.
Align exhaust end section **3** flush on red rubber isolator **3** as shown.

- 1 Wheel well trim
- 2 Drill 42mm dia. hole, red rubber isolator with groove
- 3



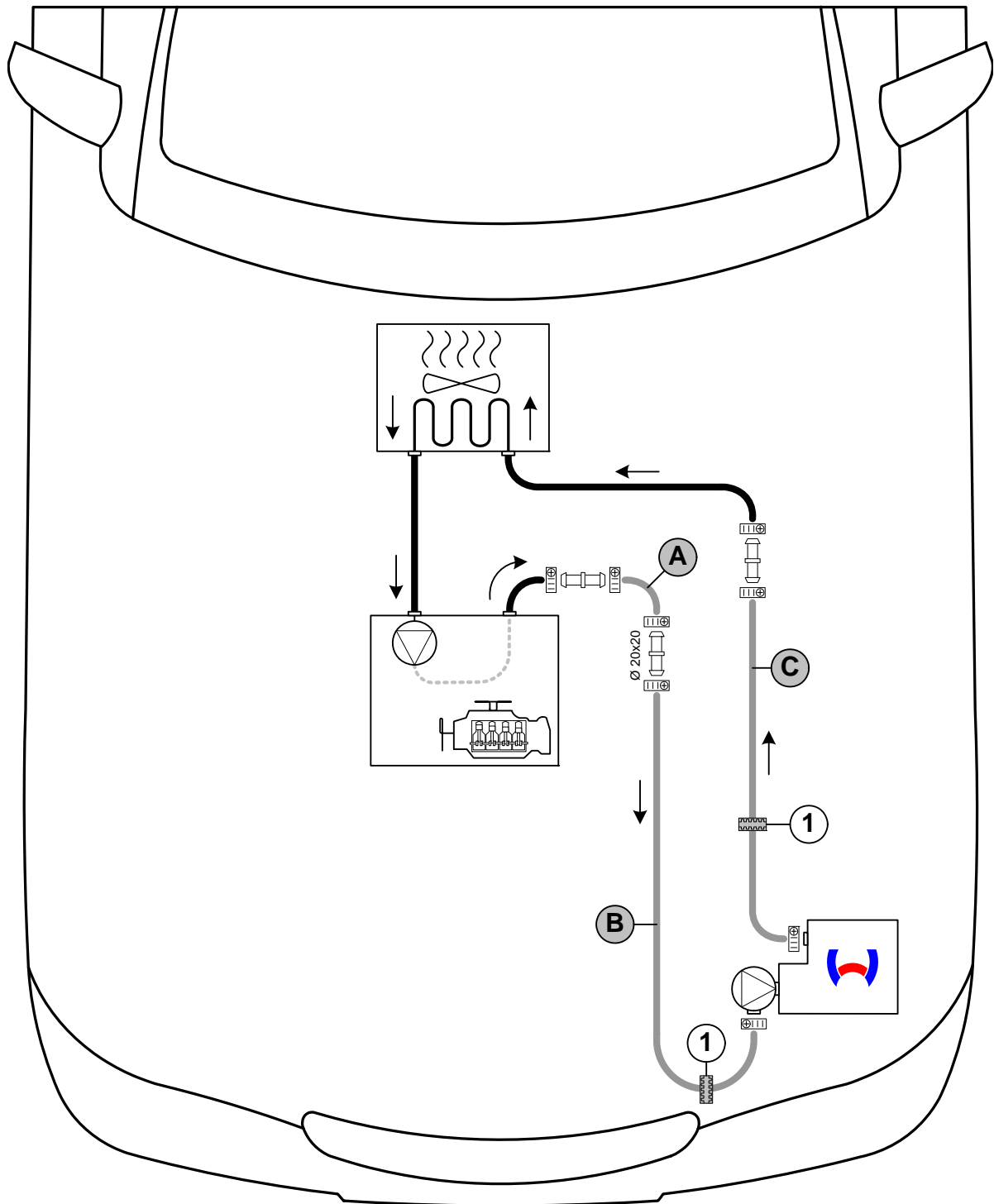
Cutting out underide protection






Petrol coolant circuit

WARNING!

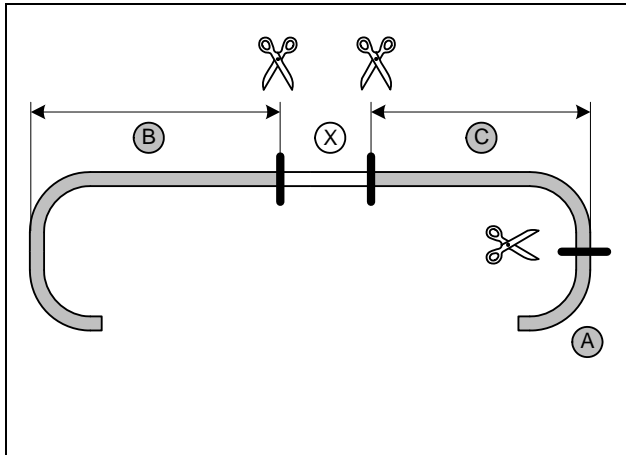
Any coolant running off should be collected in a suitable container. Install hoses so that they are kink-free. Unless specified otherwise, always fasten using cable ties. Position clamps so that other hoses cannot be damaged. When installing the hoses, the heater must be filled with coolant. The connection should be "inline" based on the following diagram:



Hose installation diagram

All hose clamps  = 20-27 mm dia. 1 = Black (sw) rubber isolator 
 All connecting pipes without a specific designation  = 18x20mm dia.



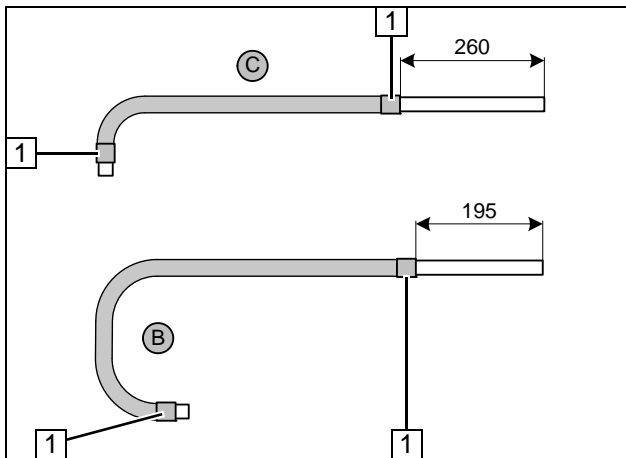


Discard section **X**

B = 780mm
C = 530mm



Cutting hoses to length

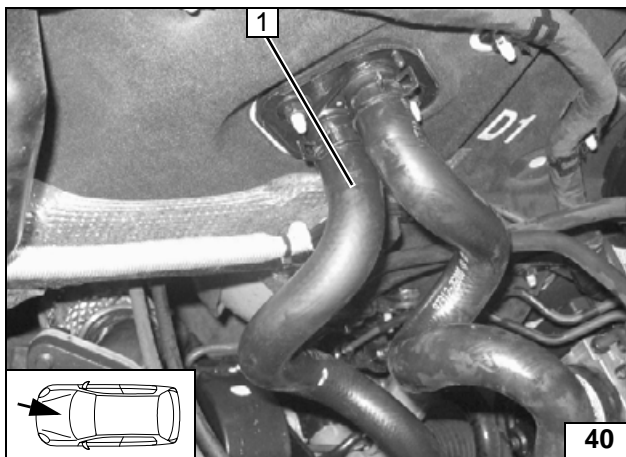


Push braided protection hose onto hose **B** and **C** and cut to length.
Cut heat shrink plastic tubing to length.

1 25 mm heat shrink plastic tubing [4x]



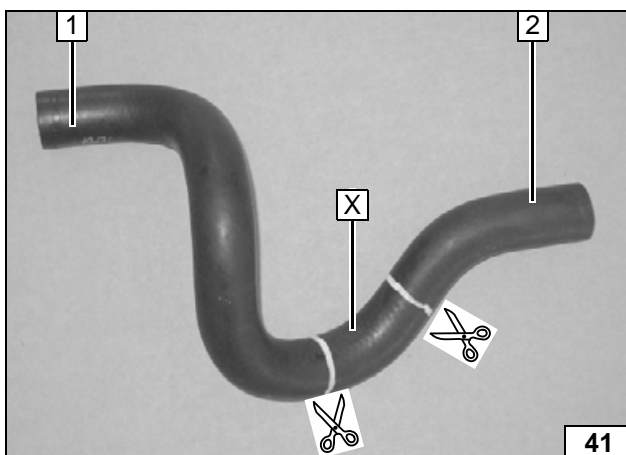
Preparing hoses



Remove moulded hose **1** of heat exchanger inlet from engine outlet. Spring clips will be re-used.



Cutting point

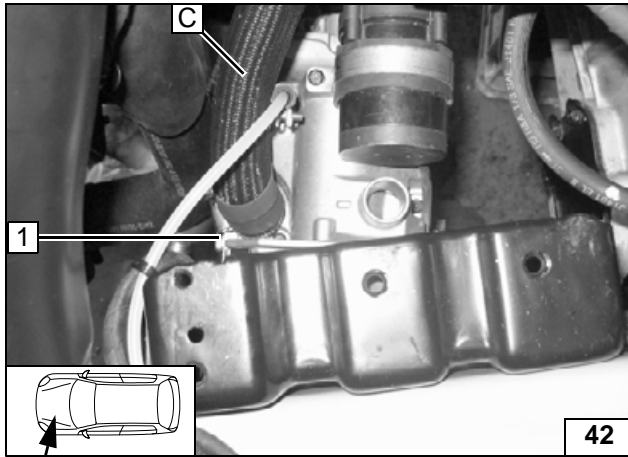


Discard section **X**

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

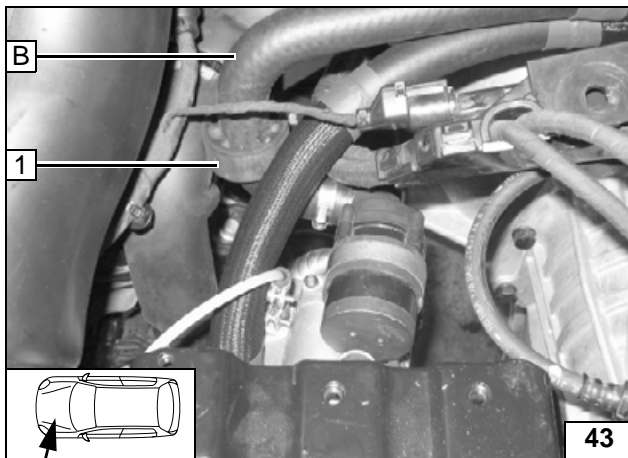


Cutting point



1 27 mm dia. hose clamp

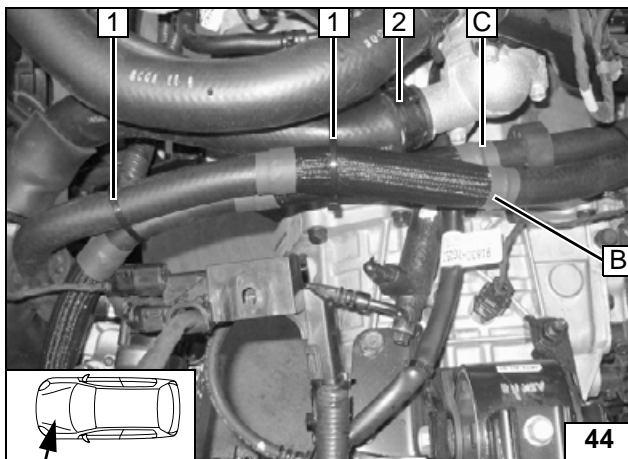
Conne-
ction to
heater



Slide on black (sw) rubber isolator 1 as shown and align.



Conne-
ction to
heater

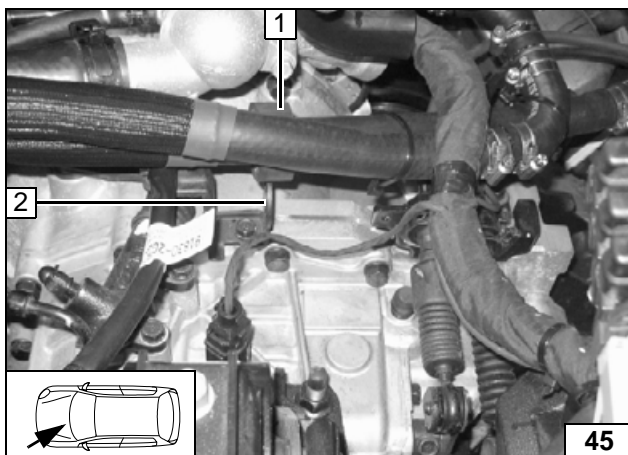


Turn hose clamp 2 so that contact with hoses B and C is ruled out completely.



1 Cable tie

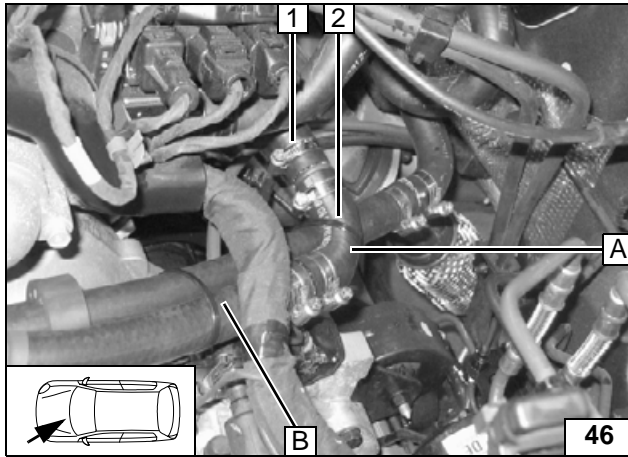
Hose in-
stallation



Align black (sw) rubber isolator 1 with engine bracket 2.



Aligning
rubber iso-
lator

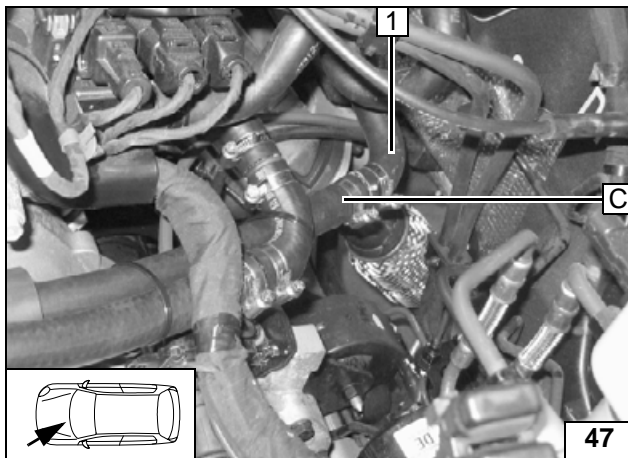


Hose section of engine outlet **1** turned, fastened with original vehicle clamp.

2 Cable tie



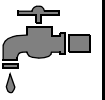
**Conne-
ction to en-
gine outlet**



Hose section of heat exchanger inlet **1** turned, fastened with original vehicle clamp. Before connecting, fill the coolant hoses with coolant.



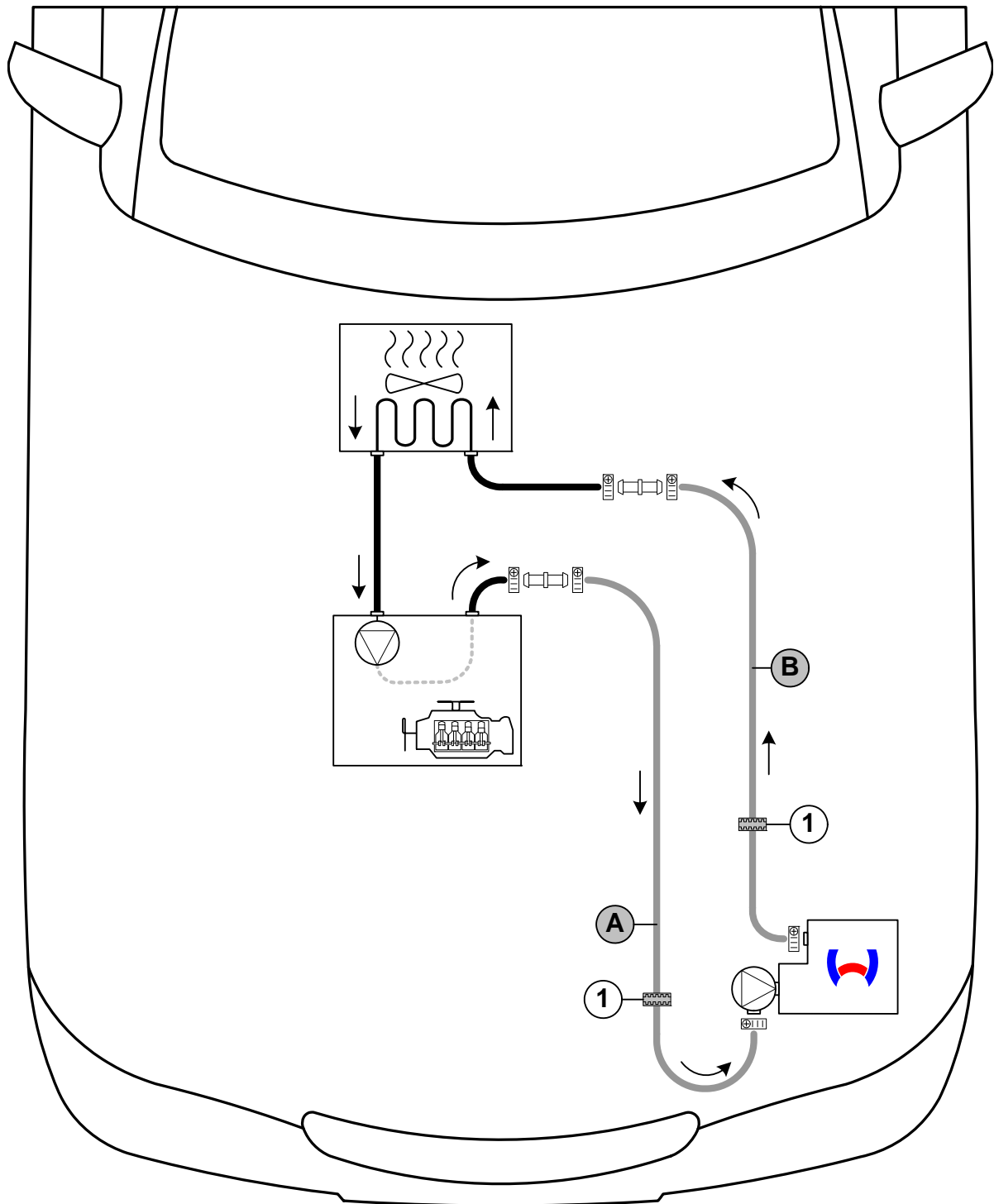
**Conne-
ction to heat
exchanger
inlet**






Diesel coolant circuit

WARNING!

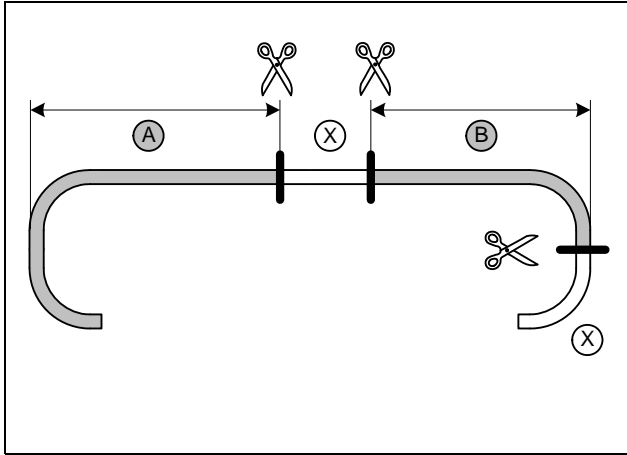
Any coolant running off should be collected in a suitable container. Install hoses so that they are kink-free. Unless specified otherwise, always fasten using cable ties. Position clamps so that other hoses cannot be damaged. When installing the hoses, the heater must be filled with coolant. The connection should be "inline" based on the following diagram:



Hose installation diagram

All hose clamps  = 20-27 mm dia. **1** = Black (sw) rubber isolator 
 All connecting pipes  = 18x20mm dia.



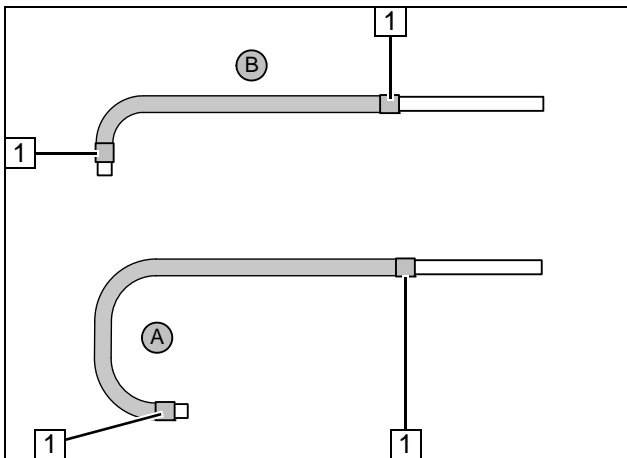


Discard section **X**

A = 805mm
B = 900mm



Cutting hoses to length

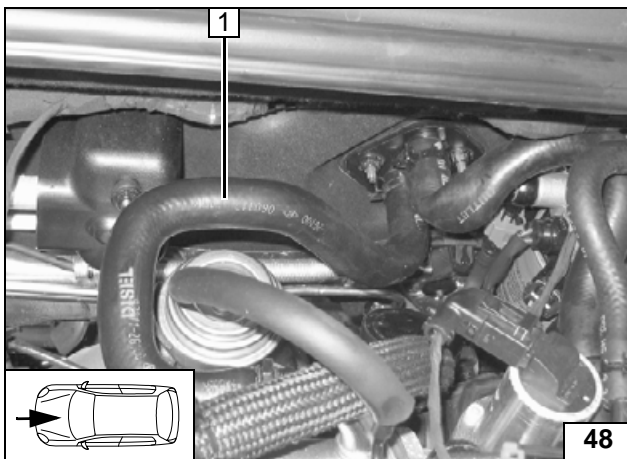


Push braided protection hoses onto hose **A** and **B** and cut to length. Cut heat shrink plastic tubing to length.

1 25 mm heat shrink plastic tubing [4x]

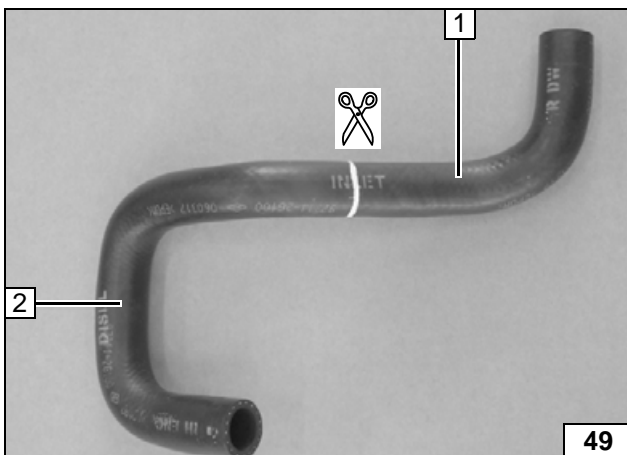


Preparing hoses



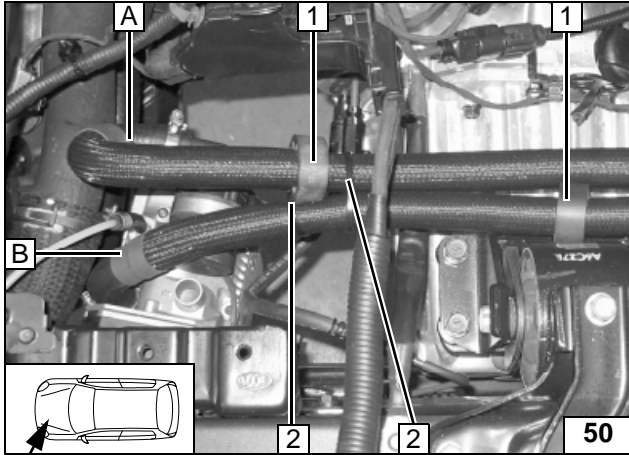
Remove moulded hose **1**. Spring clips will be reused.

Cutting point



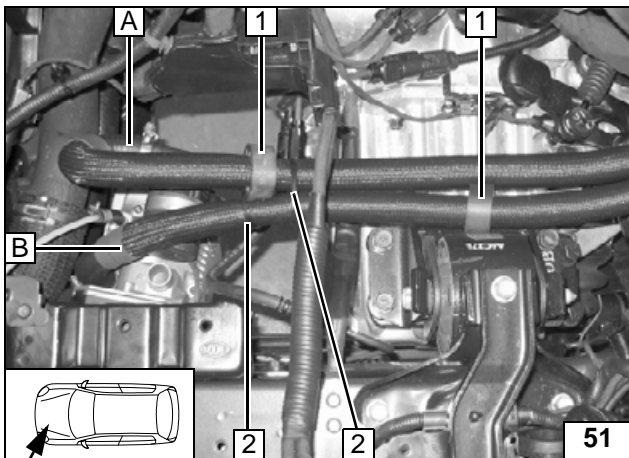
1 Hose section of heat exchanger inlet
2 Engine outlet hose section

Cutting point



- 1 Slide on black (sw) rubber isolator [2x]
- 2 Cable tie

Conne-
ction to
heater

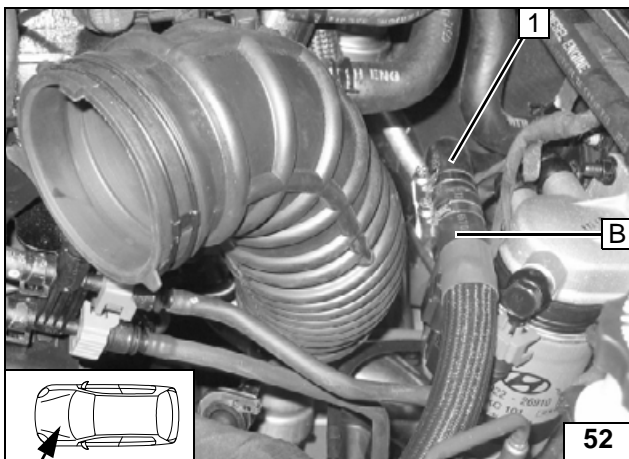


Align black (sw) rubber isolator 1 [2x] as shown.

- 2 Cable tie



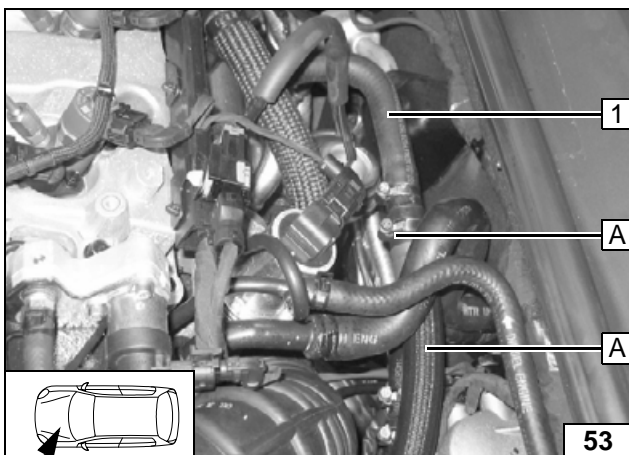
Hose in-
stallation



Hose section of heat exchanger inlet 1 turned, fastened with original vehicle clamp. Before connecting, fill the coolant hoses with coolant.

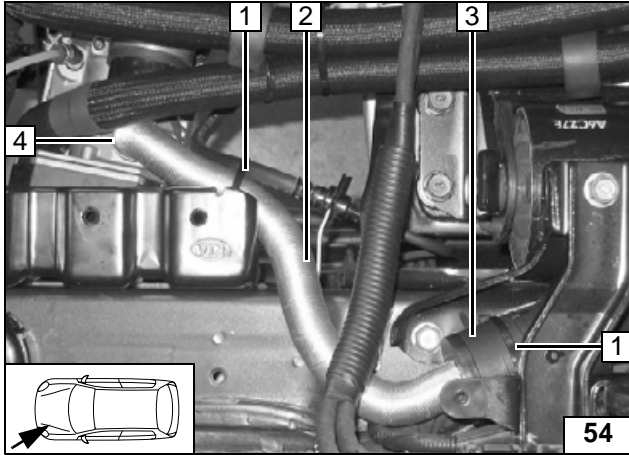
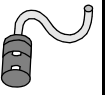


Conne-
ction to heat
exchanger
inlet



- 1 Engine outlet hose section

Conne-
ction to en-
gine outlet

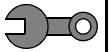


Combustion air

- 1 Cable tie
- 2 Combustion air pipe
- 3 Silencer
- 4 27 mm dia. hose clamp



Installing combustion air pipe and silencer



Final Work

WARNING!

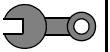
Reassemble the disassembled components in reverse order. Check all hoses, clamps and all electrical connections for firm seating. Insulate all loose lines and tie back.

Only use manufacturer-approved coolant. Spray the heater components with anti-corrosion wax (Tectyl 100K, Order No. 111329).

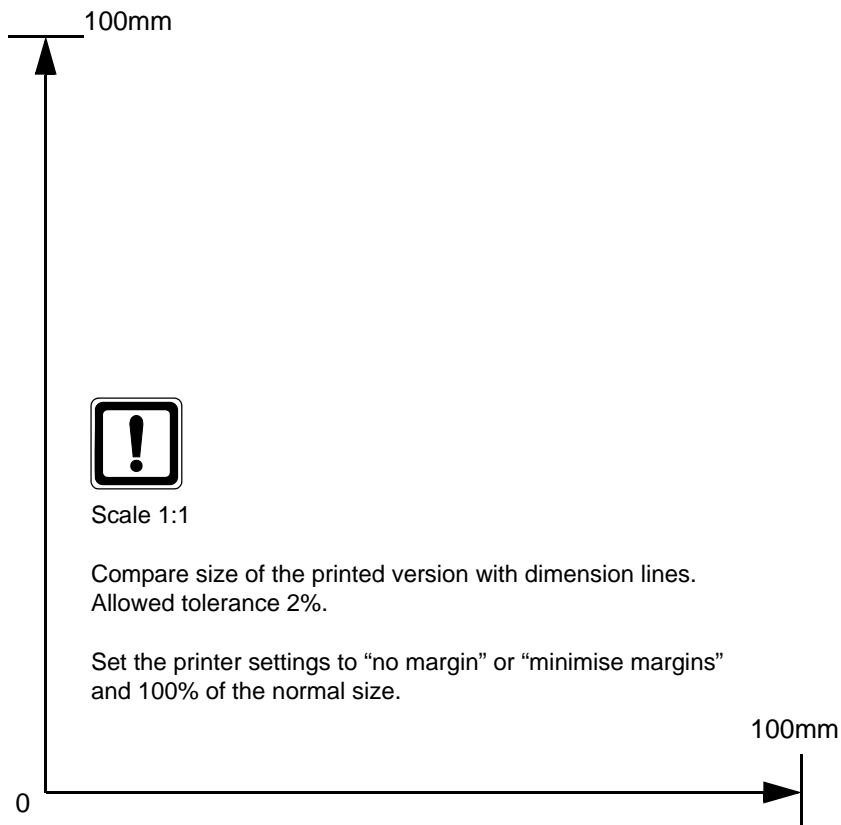
- **Connect the battery**
- **Fill and bleed the coolant circuit according to the vehicle manufacturer's specifications.**
- **Set the digital timer, teach telestart transmitter**
- **Make settings on A/C control panel according to the "Operating Instructions for End Customer".**
- **Place signboard "Switch off parking heater before refuelling" in the area of the filler neck**
- **See installation instructions for initial start-up and function test**

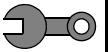


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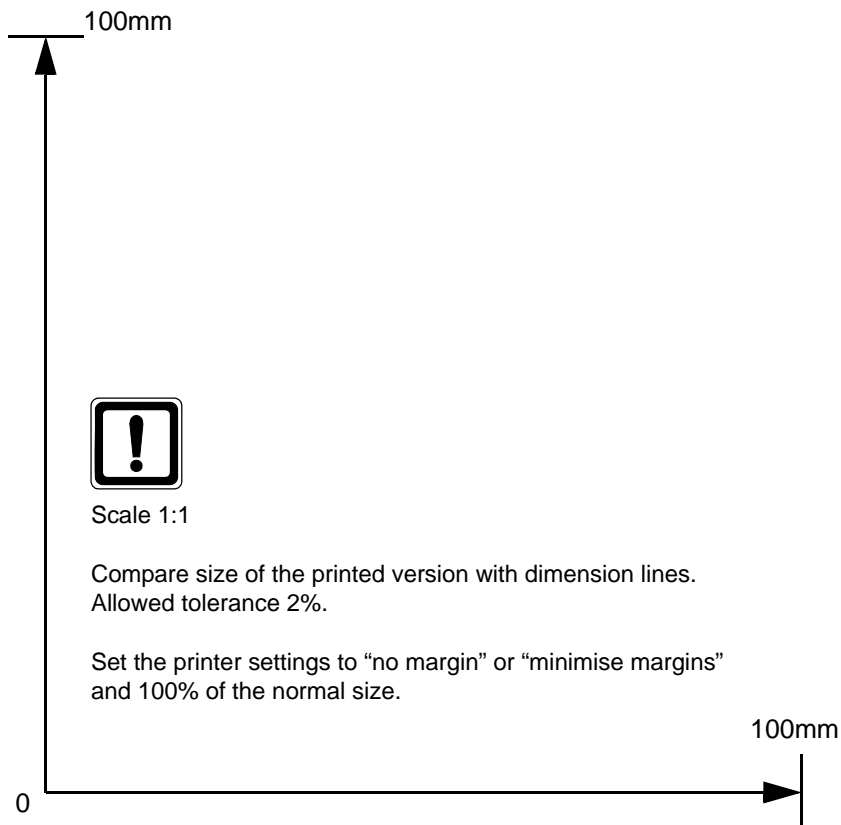
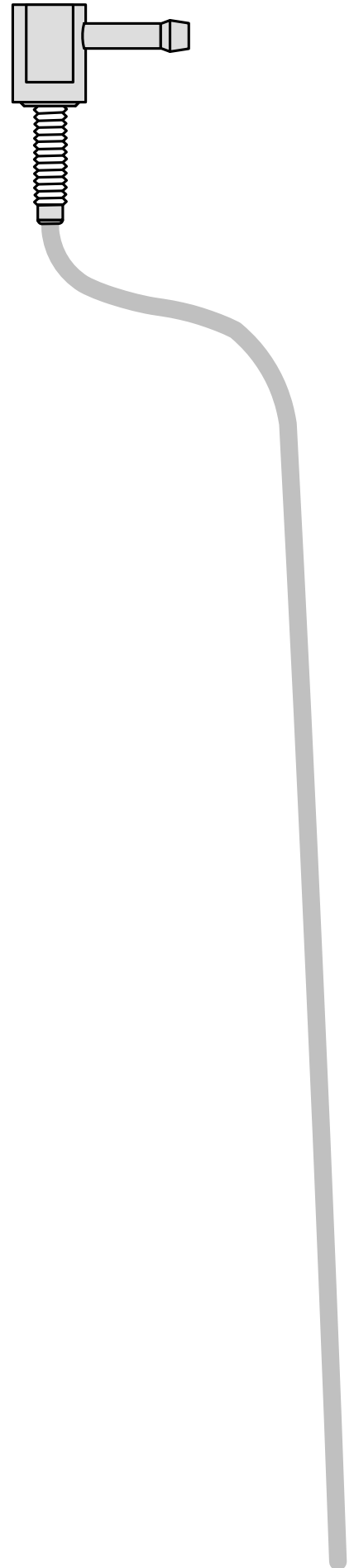


Template for petrol fuel standpipe





Template for diesel fuel standpipe



Operating Instructions for the End Customer



Please remove page and add to the vehicle operating instructions.



Note:

We recommend matching the heating time to the driving time.

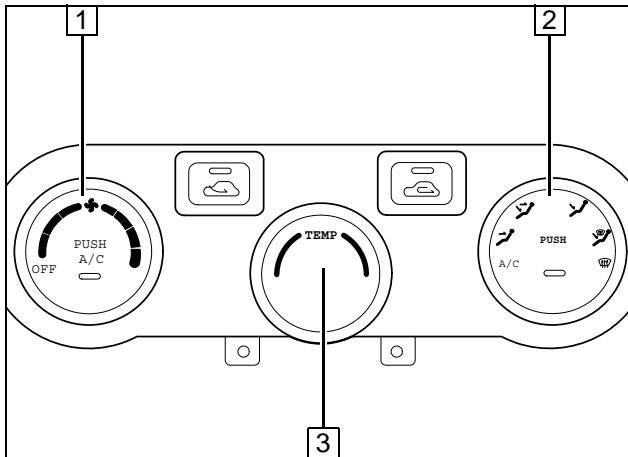
Heating time = driving time

Example:

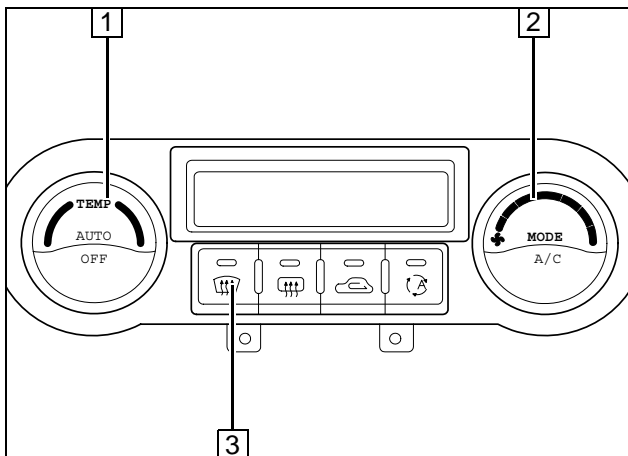
For a driving time of approx. 20 min. (in one direction), we recommend not exceeding a switch-on time of 20 min.

If the summer/winter switch option has been installed, this must be switched in accordance with the time of year. The heater will then 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 Set fan to level "1", or possibly "2"
- 2 Air outlet to windscreen
- 3 Set temperature to "max."



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

For vehicles with manual air-conditioning

For vehicles with automatic air-conditioning