

Installation documentation

Mazda 5

Petrol

from Model Year 2005

Left-hand drive vehicle



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	Mazda 5	CR1	e13 * 2001 / 116 * 0156 * ...

Engine type	Engine model	Output in kW	Displacement in cm ³
L8	Petrol	85	1798
LF	Petrol	107	1999

Vehicle and engine types, equipment variants 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	Delivery scope Mazda 5 Petrol	1310089A
	Mazda Order No.:	4100-78-748
1	Heater control	See price list

Foreword

This installation documentation applies to the Mazda 5 with Petrol engine vehicles - for validity, see page 2 - from model year 2005 and later, assuming technical modifications to the vehicle do not affect installation, any liability claims excluded. Depending on the vehicle version and equipment, modifications may be necessary during installation with respect to this installation documentation.

However, the stipulations in this "installation documentation" and the "operating and maintenance instructions" for the *Thermo Top 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.

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

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



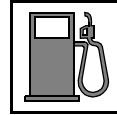
Electrical system



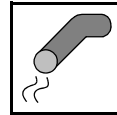
Coolant circuit



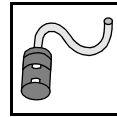
Fuel



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.



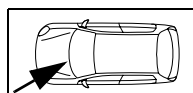
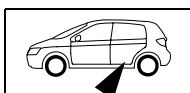
Specific risk of fire or explosion.



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



Reference to a special technical feature.



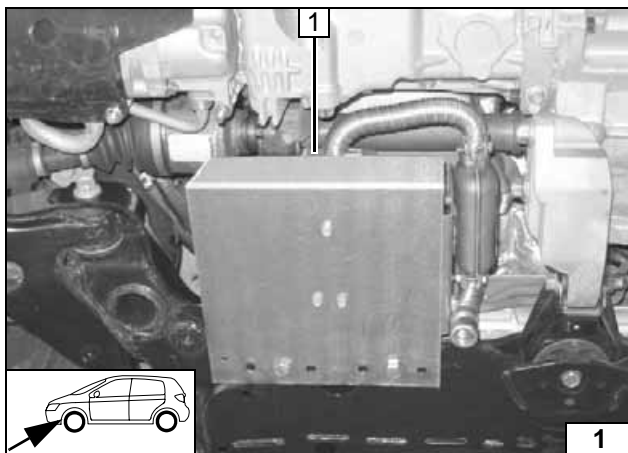
The arrow in the vehicle icon indicates the position on the vehicle and the viewing angle.

Preliminary work

Warning!

- Open the fuel tank cap and vent the fuel tank.
- Close the 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.
- Remove the engine cover.
- Remove the underdrive protection
- Remove right underbody trim
- Remove trim of centre console
- Remove footwell trim on the front passenger side
- Remove glove compartment

Take out Page 21 „Operating instructions for End customer“ and attach it to the operating instructions.



Heater installation location

1 Heater

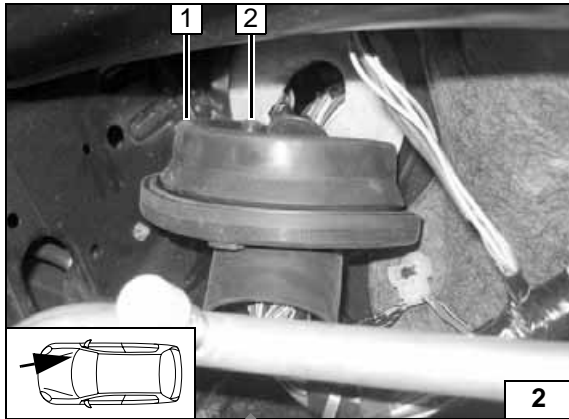
Installation location



Electrical system

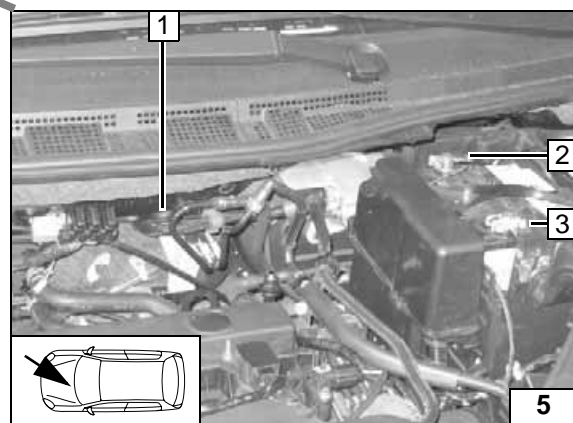
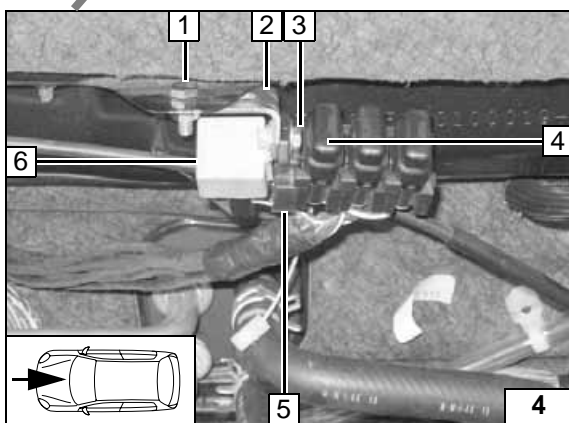
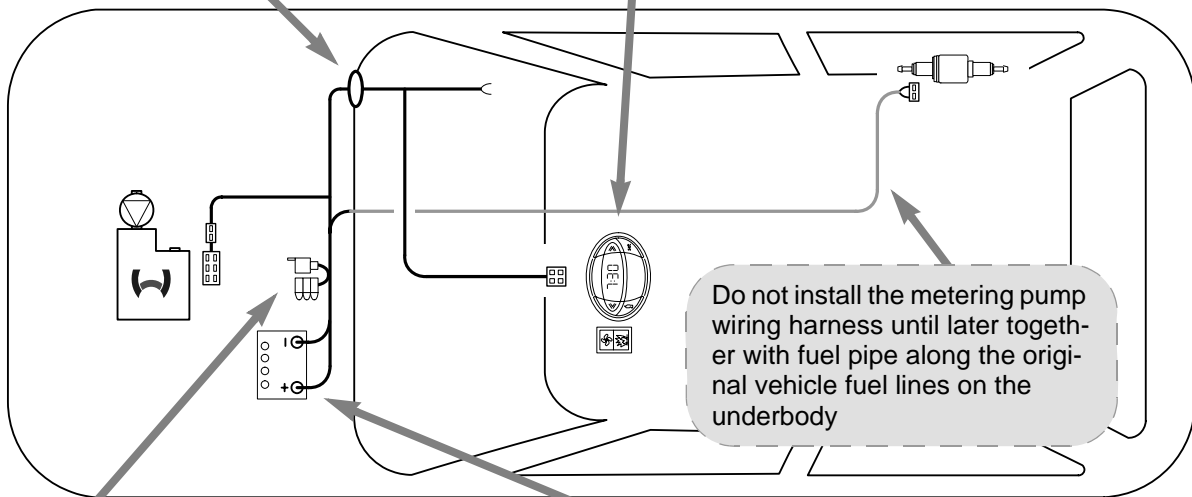
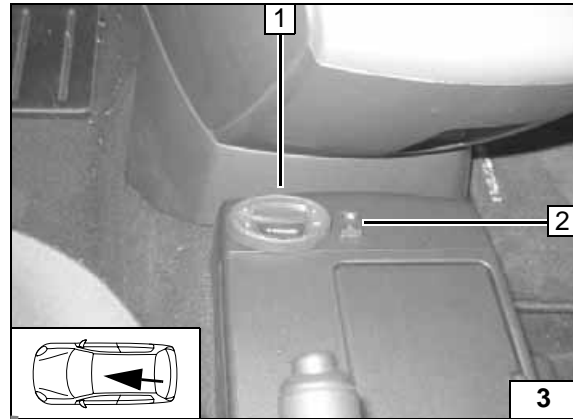
Wiring harness pass through

- 1 Protective rubber plug detached
- 2 Free pass through



Digital timer

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



Fuse holder, K3 relay

- 1 M6x12 bolt, flanged nut
- 2 Angle bracket
- 3 M5x16 bolt, large diameter washer, flanged nut
- 4 Replace fuse F3 with 10A!
- 5 Retaining plate for fuse holder
- 6 K3 relay

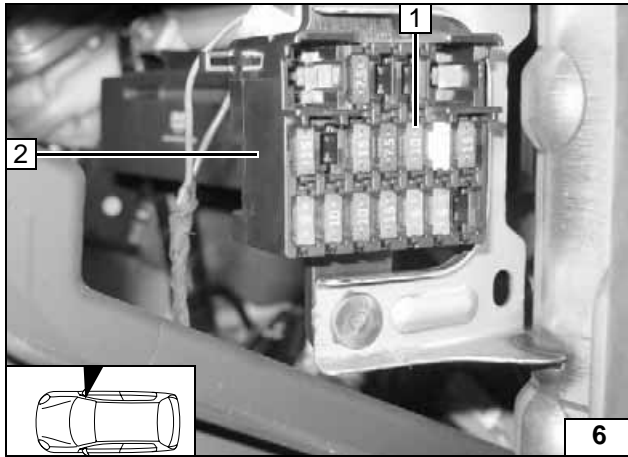
Connecting to battery

- Route wires 1 to the left and fasten with cable ties.
- 2 Earth line to negative terminal of battery
 - 3 Positive wire on positive terminal of battery



Wiring harness routing diagram



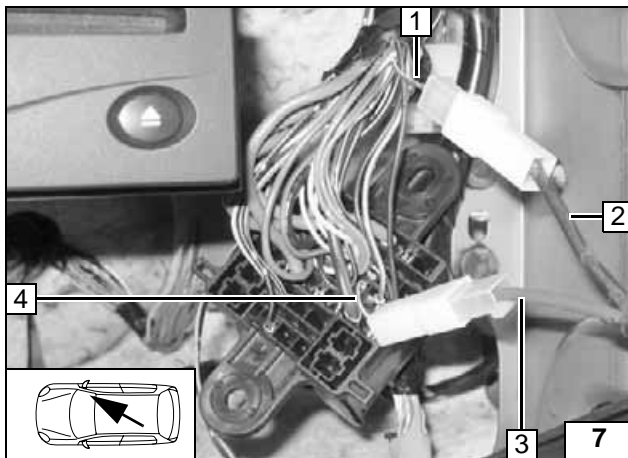


Fan control

Connection takes place at outlet of original vehicle AC fuse 1!
Detach fuse carrier 2.



Fan control

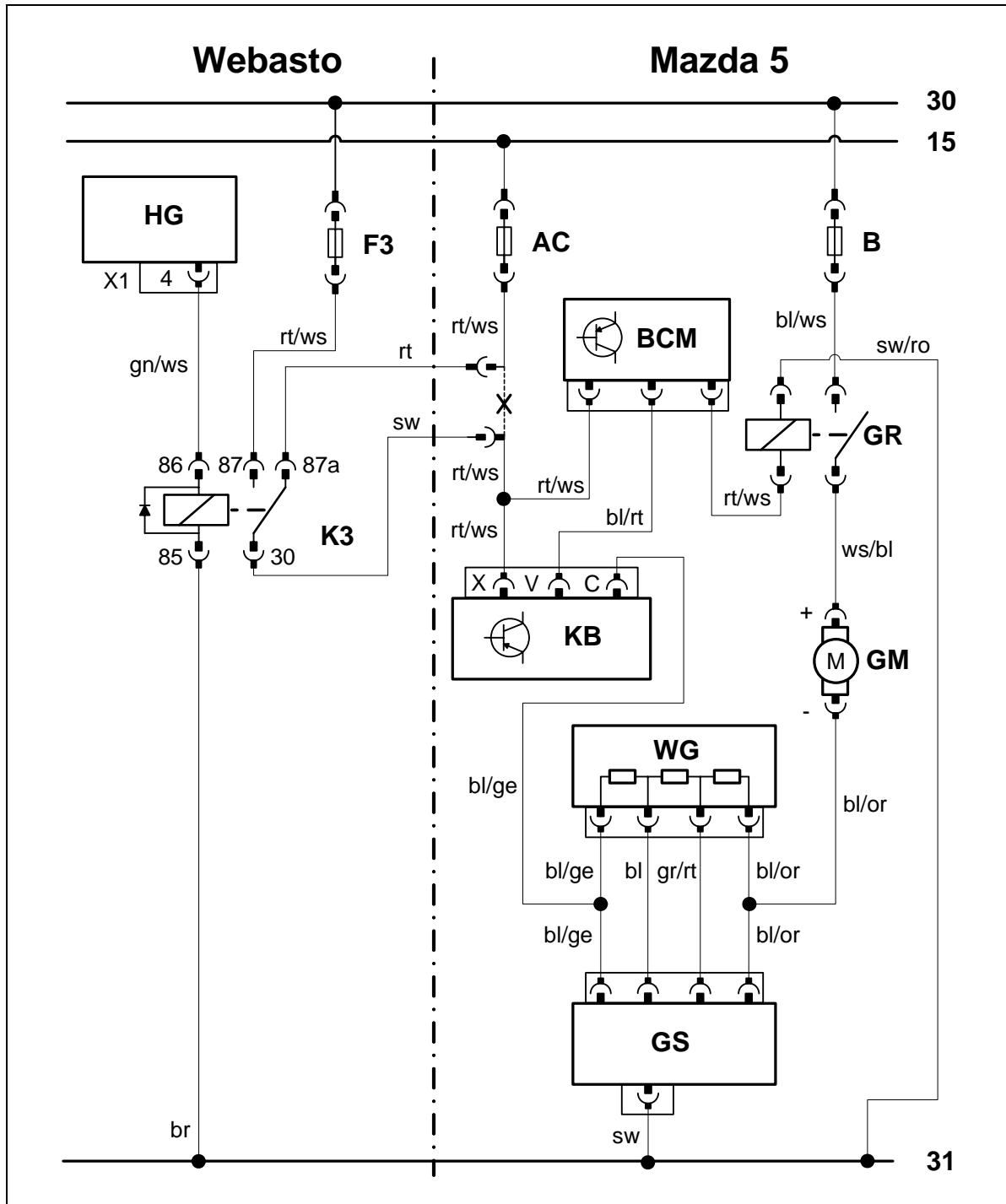


Establish connections according to wiring diagram Page 8 or Page 9 with the attached flat connectors.

- 1 Red/white (rt/ws) wire to A/C control unit
- 2 Black (sw) wire from K3/30
- 3 Red (rt) wire to K3/87a
- 4 Red/white (rt/ws) wire from AC fuse



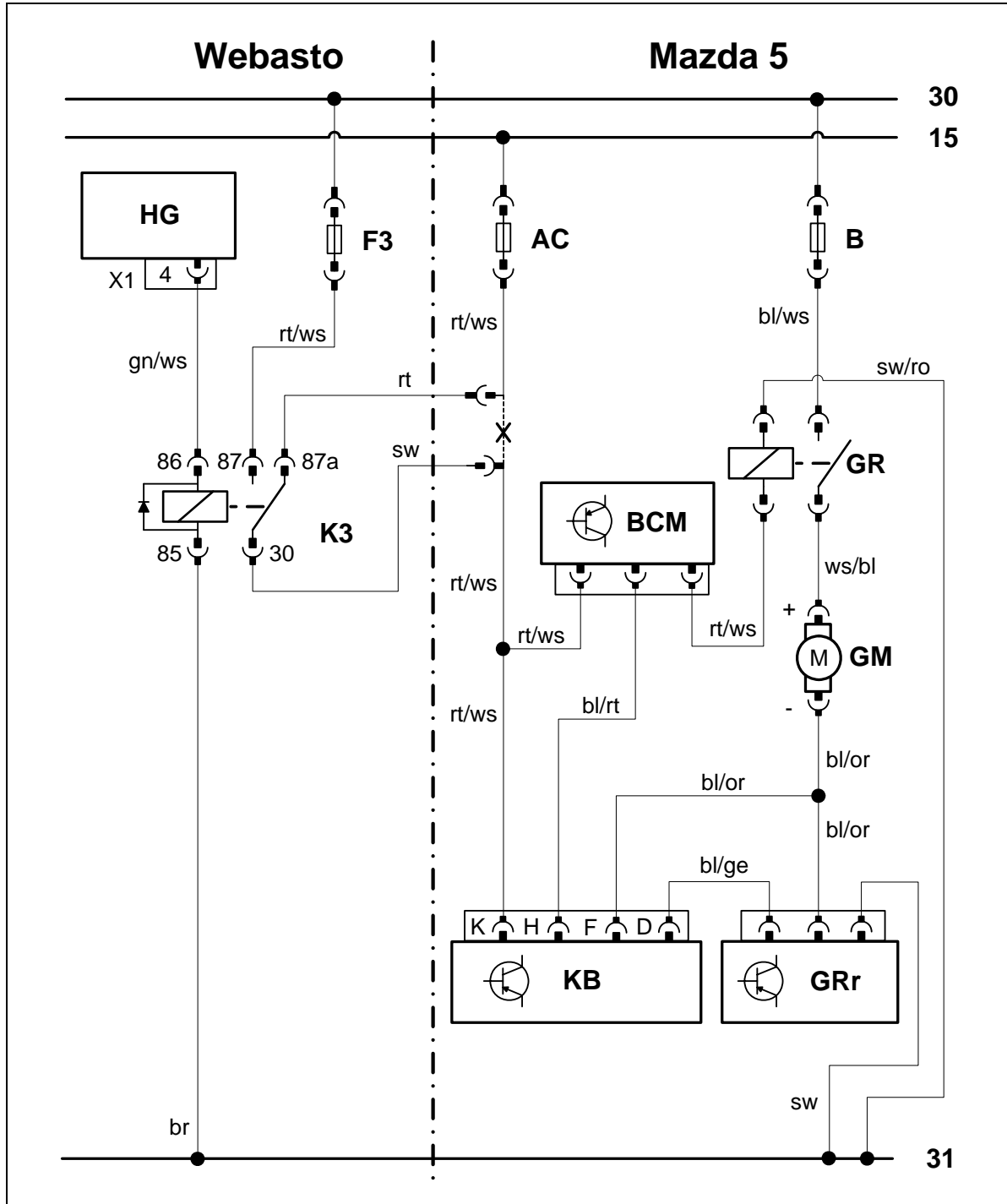
Fan control



Wiring diagram for manual air conditioning

Webasto components		Mazda components		Colours and symbols	
HG	Heater TT-C/E	AC	"AC" 10 A fuse	rt	red
X1	6-pin heater connector	B	40 A blower fuse	ws	white
F3	Replace 25 A with 10 A fuse.	BCM	"Body Control Module"	sw	black
K3	Fan relay	KB	A/C control unit	br	brown
		GR	Fan relay	gn	green
		WG	Resistor group	bl	blue
		GS	Fan switch	or	orange
		GM	Fan motor	ge	yellow
				ro	pink
				X	Cutting point
Wiring colours may vary.					

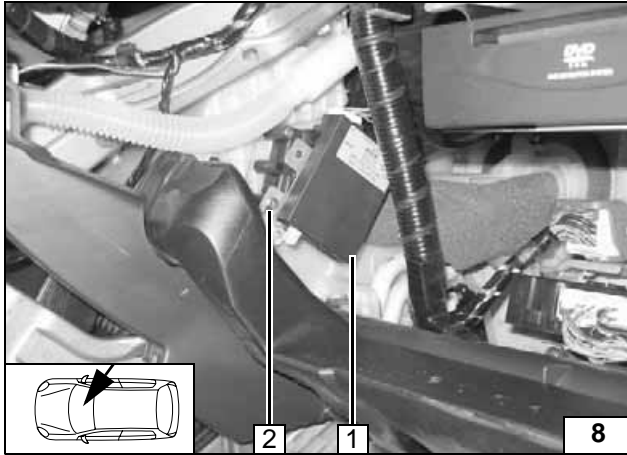
Legends



Wiring diagram of automatic A/C

Webasto components		Mazda components		Colours and symbols	
HG	Heater TT-C/E	AC	"AC" 10 A fuse	rt	red
X1	6-pin heater connector	B	40 A blower fuse	ws	white
F3	Replace 25 A with 10 A fuse.	BCM	"Body Control Module"	sw	black
K3	Fan relay	KB	A/C control unit	br	brown
		GR	Fan relay	gn	green
		GRr	Fan controller	bl	blue
		GM	Fan motor	or	orange
				ge	yellow
				ro	pink
				X	Cutting point
				Wiring colours may vary.	

Legends



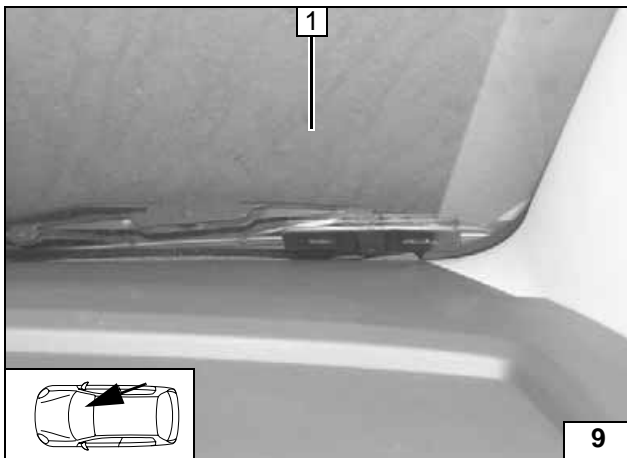
Remote option (Telestart)

The receiver is installed on the existing bolt at the left next to the glove compartment.

- 1 Receiver
- 2 Original vehicle bolt

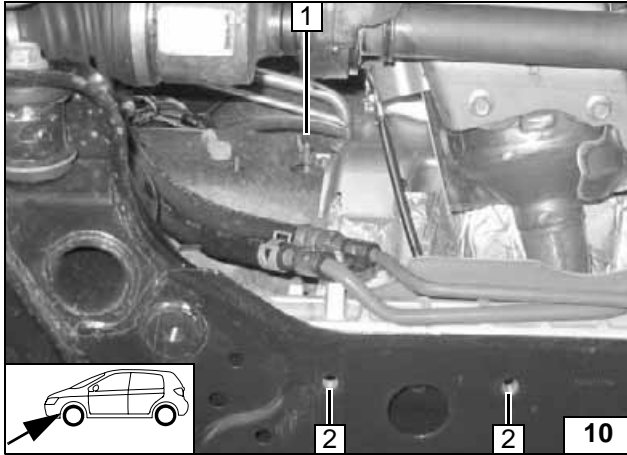
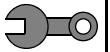


Installing receiver



- 1 Antenna

Installing antenna

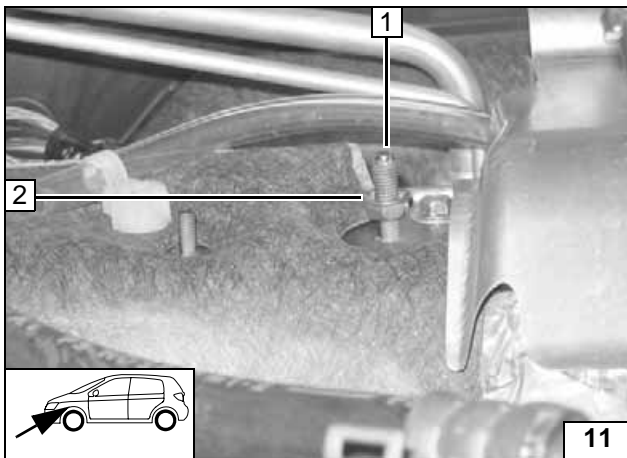


Preparing installation location

- 1 Original vehicle M8 stud bolt
- 2 Original vehicle M10x1.25 threaded inserts [2x]



Installation location

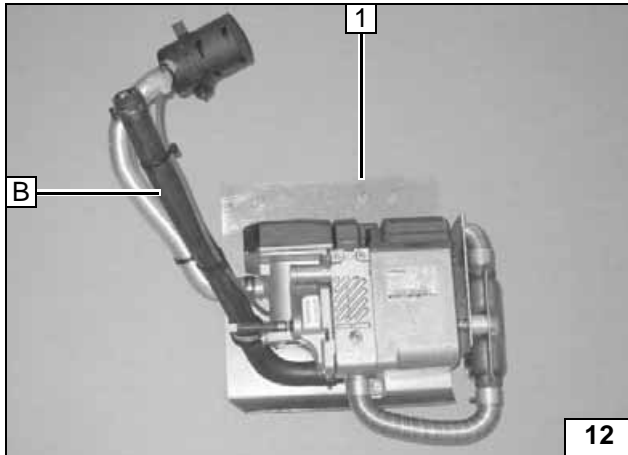
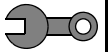


Flanged nut with flange to be screwed on at front.

- 1 Original vehicle stud bolt
- 2 M8 flanged nut



Preparing installation location

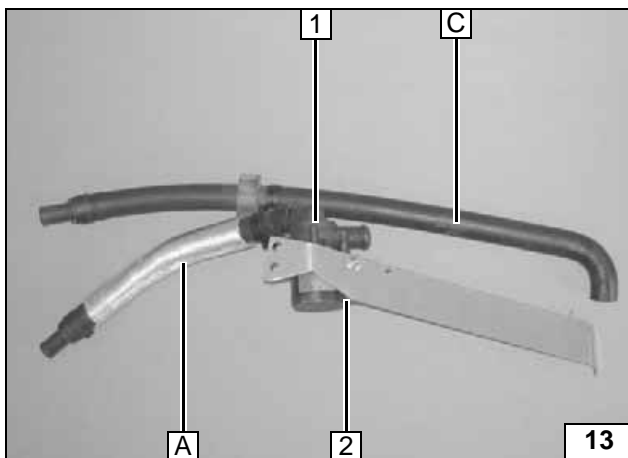


Premounting heater

- 1 Delivered heater assembly

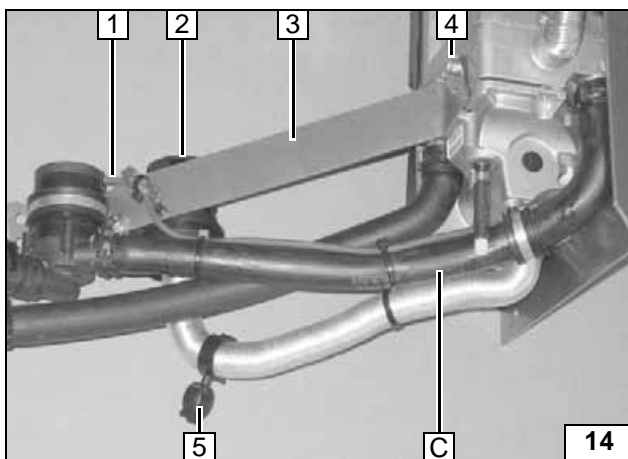


Heater assembly



- 1 Delivered water assembly
- 2 Remove connecting cable of circulating pump and discard

Water assembly

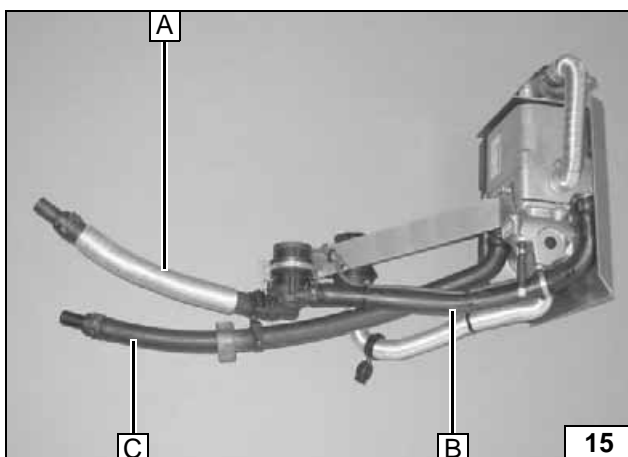


At position 4, use the hole in the corner of the strut. Install Ejet screw4 loosely so that the strut 3 can be aligned during installation. Connect wiring harness1 to circulating pump.

- 2 Retaining clip with intake silencer latched in hole
- 4 Ejet screw
- 5 25x25 double clip



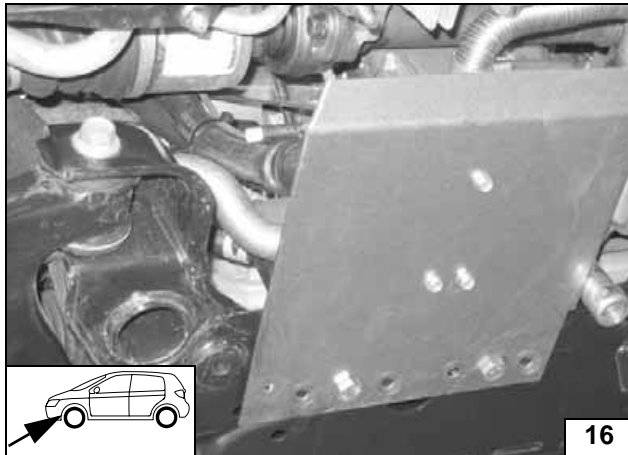
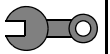
Connecting assemblies



Total view
Fix hoses B and C, combustion air pipe and wiring harness of circulating pump with cable ties!



Connecting assemblies

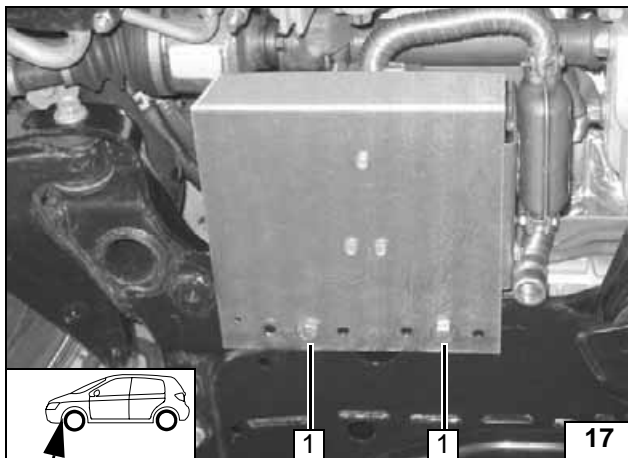


Installing heater

Move heater to the installation location as shown and mount wiring harness



Installing heater

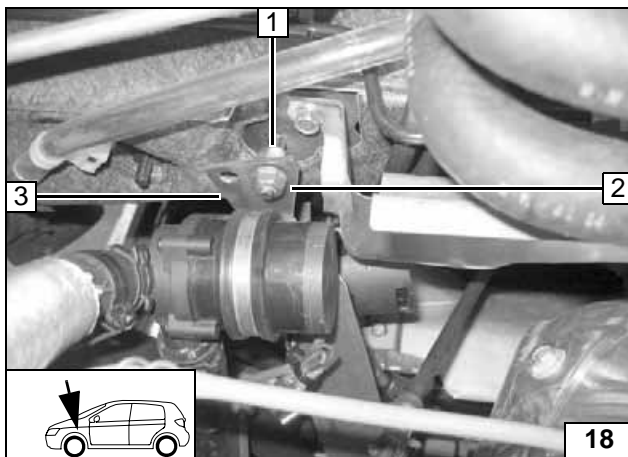


Use holes in bracket as shown. Check the position of all the components; adjust if necessary. Check that they have freedom of movement.

- 1 M10x1.25x25 bolt; spring lockwasher [2x]



Installing heater



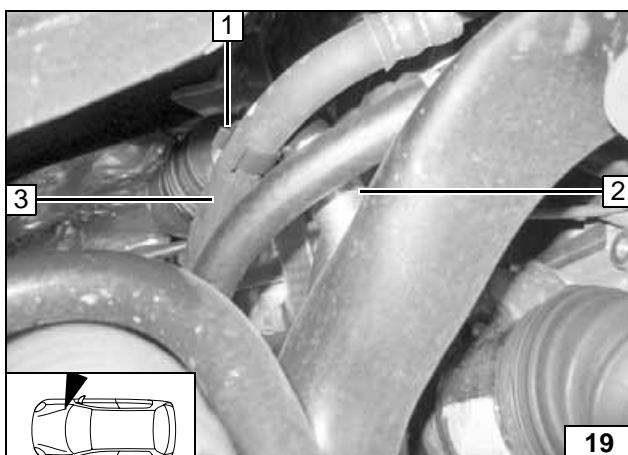
Use hole in strut as shown. Check the position of all the components; adjust if necessary. Check that they have freedom of movement.

Tighten Ejet screw (10Nm)!

- 1 M8 flanged nut (premounted)
- 2 M8 flanged nut
- 3 Strut



Installing heater



- 1 Double clip premounted
- 2 Combustion air pipe
- 3 Steering line

Aligning combustion air pipe

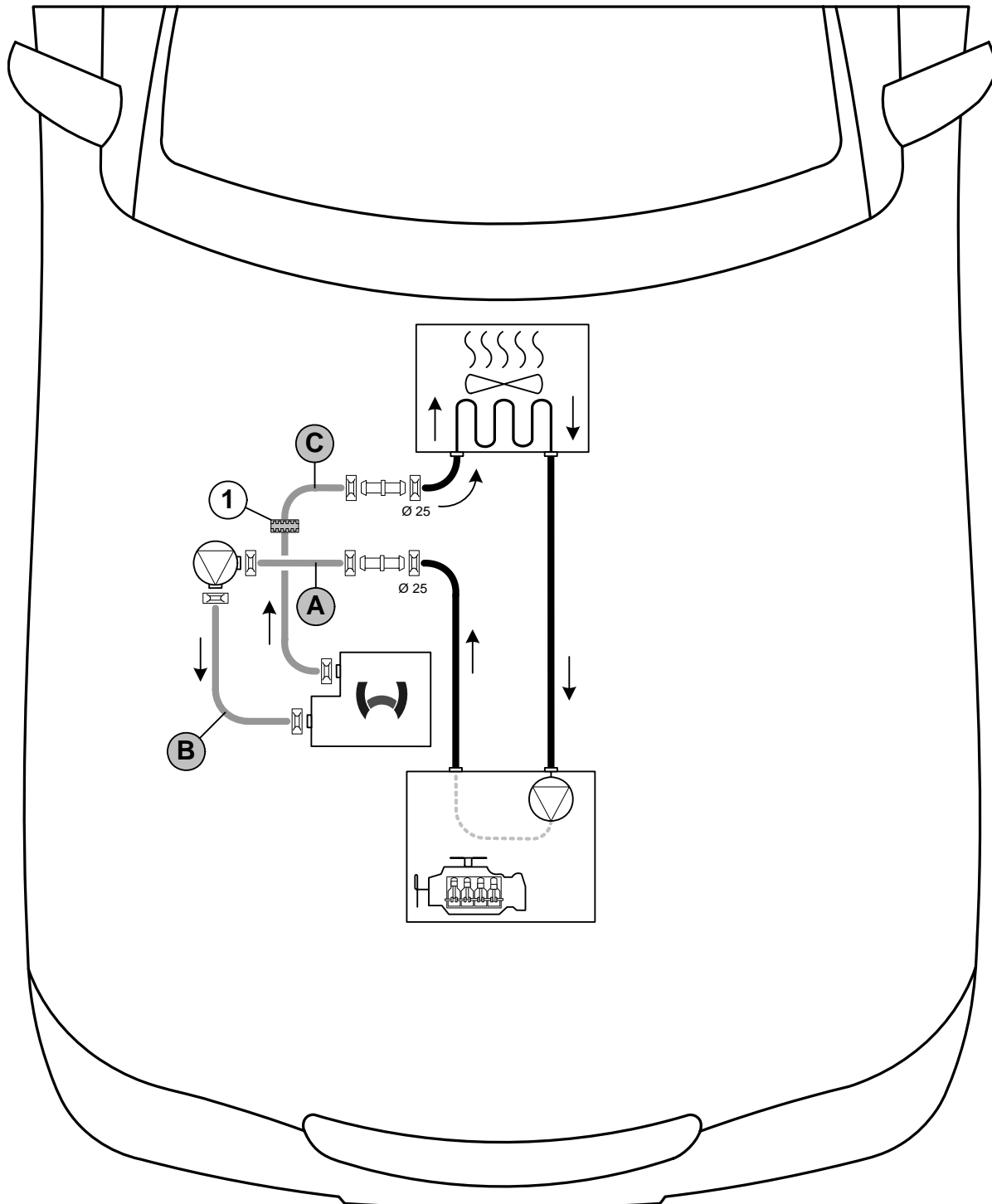


Coolant circuit






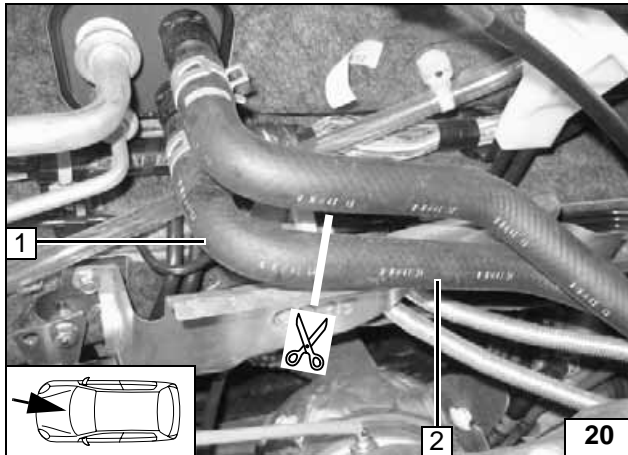
WARNING!

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

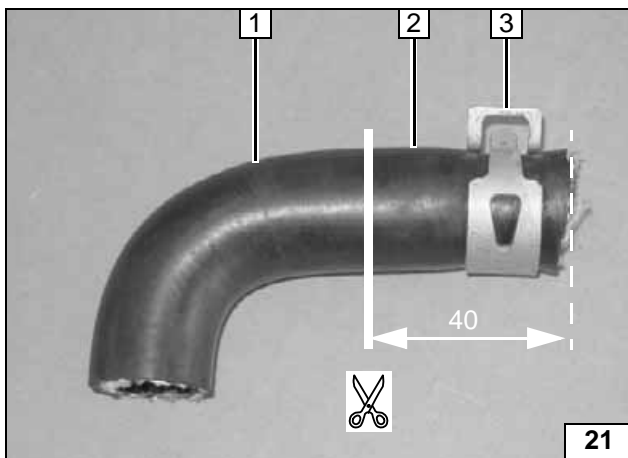
All spring clips without a specific designation  = 27 mm dia. 1 = Black (sw) rubber isolator . All connecting pipes  = 17x20 dia.



- 1 Remove hose section of heat exchanger inlet
- 2 Engine outlet hose section



Cutting point

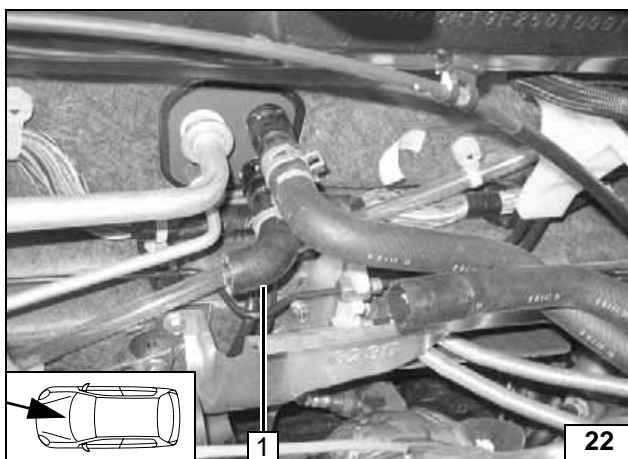


Spring clip **3** will be reused.
Discard section **2**



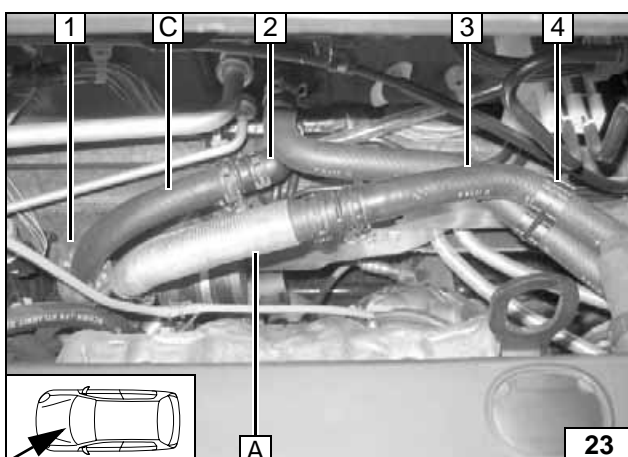
- 1 Hose section of heat exchanger inlet

Shortening hose



- 1 Hose section of heat exchanger inlet reinstalled

Cutting point



Fill the coolant hoses with cooling water before connecting.
Check routing of hoses and correct if necessary. Fasten wiring harness of heater to the coolant hoses with cable ties!



- 1 Position rubber isolator
- 2 Hose section of heat exchanger inlet
- 3 Engine outlet hose section
- 4 25x25 double clip (can be locked)

Connecting hoses



Fuel

CAUTION!

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

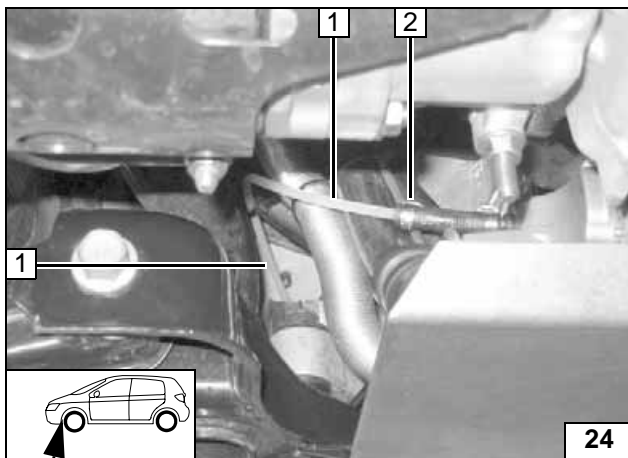
Catch any fuel running off with an appropriate container.

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.

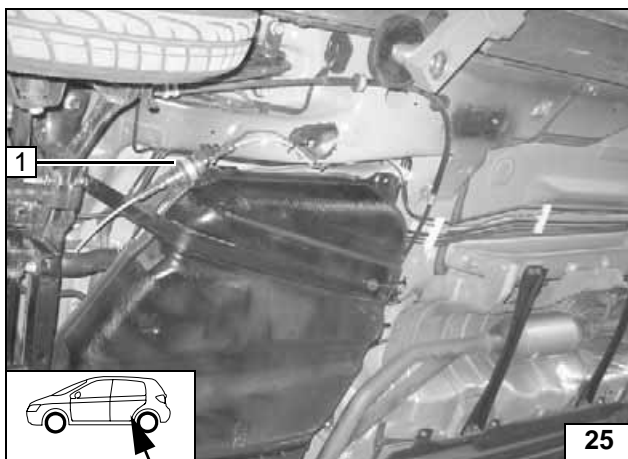
CAUTION!

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



Route Mecanyl fuel line 1 as shown in figure to firewall and fasten with cable tie. Ensure sufficient distance from the cardan shaft in particular.

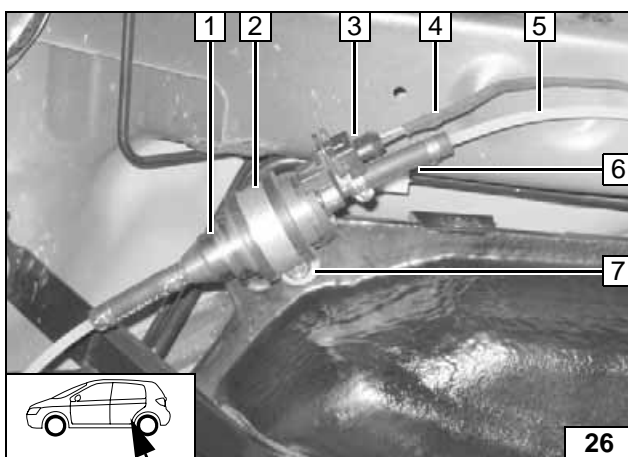
2 10 mm dia. Caillau clamp



Installation location at right on vehicle fuel tank.

Route Mecanyl fuel line and wiring harness of metering pump along the original vehicle fuel lines to the fuel tank!

1 Metering pump



Fuel line to heater 5 on pressure side of metering pump [side with connector].

- 1 Metering pump
- 2 Rubber-coated pipe clamp
- 3 Connector housing completed
- 4 Wiring harness of metering pump
- 6 4.5mm dia. hose section, 2 10mm dia. Caillau clamps
- 7 Silent block, large diameter washer (from top), flanged nut [2x]



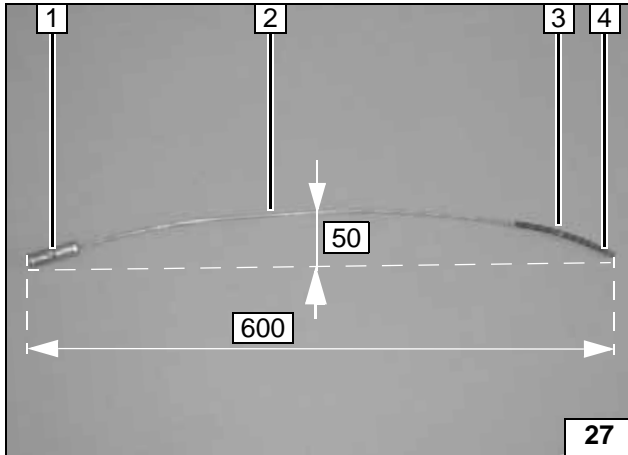
Connect-
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heater



Installa-
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metering
pump



Installing
metering
pump



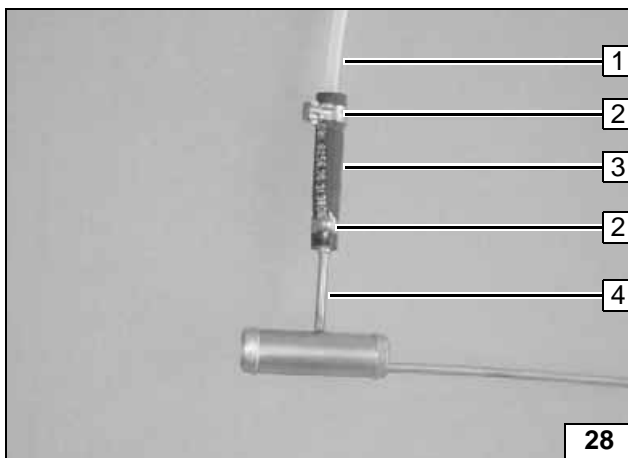
Removing fuel

Standpipe 1 points upward.
Shape 15 mm dia. fuel standpipe 2 as shown in figure

- 3 6.2mm dia. one-ear clamp
- 4 fuel hose dia. $d_a = 6\text{mm}$, cut to size

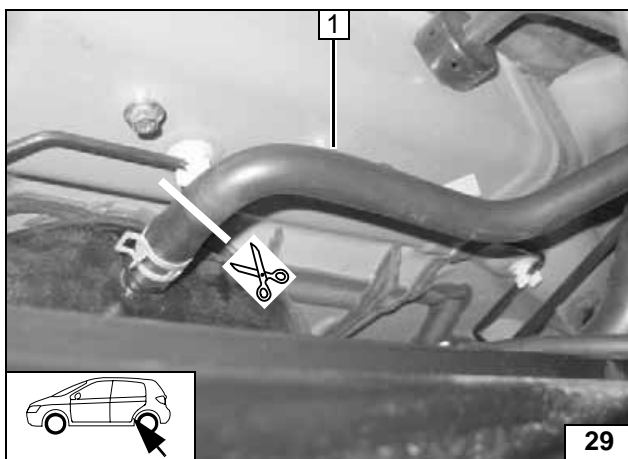


Preparing fuel standpipe



- 1 Mecanyl fuel line
- 2 10 mm dia. clamp [2x]
- 3 Hose section
- 4 Standpipe

Premounting fuel standpipe

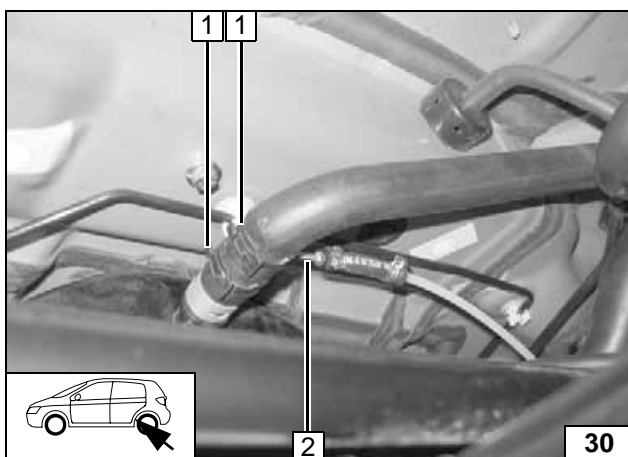


Detach activated charcoal filter fully with bracket and put it aside.

- 1 Fuel tank venting line

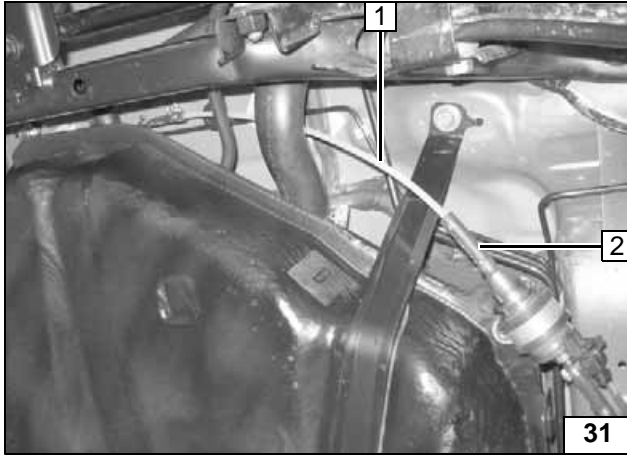


Detaching fuel tank venting line



- 1 22mm dia. spring clip [2x]
- 2 Fuel standpipe (premounted)

Installing fuel standpipe



Fuel line from fuel standpipe on intake side of metering pump [side without connector].

- 1 Mecanyl fuel line
- 2 4.5mm dia. hose section, 10mm dia. Cail-lau clamp [2x]

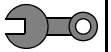
Reinstall activated charcoal filter. Check the position of the components; adjust if necessary. Check that they have freedom of movement.

Align fuel lines and wiring harness of metering pump along the entire length and fasten with cable ties.



**Connect-
ing to me-
tering
pump**





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**

Webasto
Feel the drive

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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.

In vehicles with passenger compartment monitoring it is to be deactivated additionally, over and above the vehicle settings for the heating operation .

For information on deactivation, please see the vehicle owner's manual.

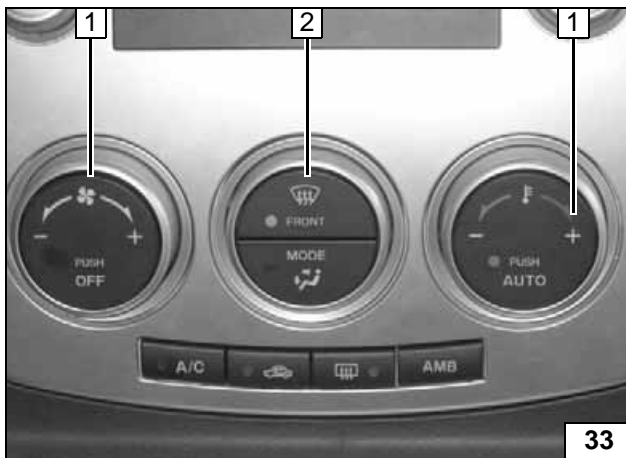
If the summer/winter switch option has been installed, this must be switched in accordance with the time of year. The heater will then heat in the position Winter and in the position Summer it will only switch on the vehicle fan to ventilate the vehicle interior.

Before parking the vehicle, make the following settings:



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

Manual air conditioning



Before parking the vehicle, make the following settings in the defined sequence:

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

Automatic A/C