Water Heater

***Thermo Top Evo* Parking Heater** E1 00 0258

Installation Documentation
Mazda 3

Validity

Manufacturer	Model	Type	EG-BE-Nr. / ABE
Mazda	3	BL	e11 * 2001/116 * 0262 * ...

Motorisation	Fuel	Transmission type	Output in kW	Displacement in cm³	Engine code
2.2 D	Diesel	SG	136	2183	R2

SG = Manual transmission

From Model Year 2009
Left-hand drive vehicle

Verified equipment variants:	Manual / automatic air-conditioning system
	Front fog light Headlight washer system
Not verified:	Passenger compartment monitoring
Total installation time:	about 9 hours

Mazda 3

Table of Contents

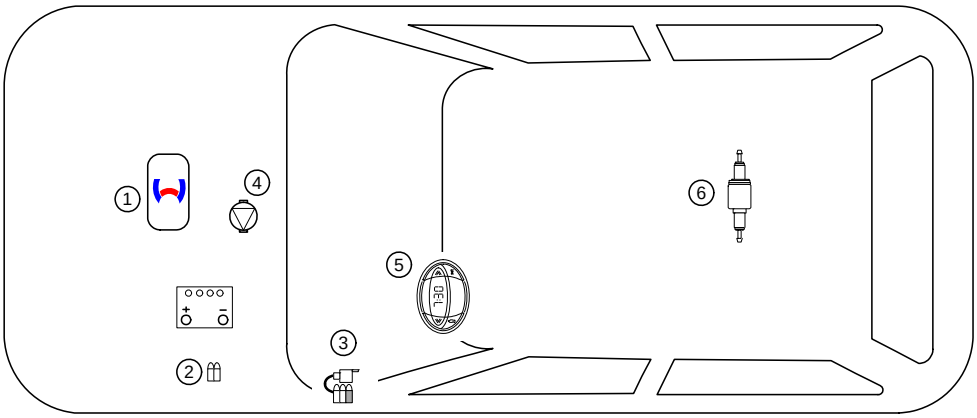
Necessary Components

- Basic delivery scope *Thermo Top Evo* based on price list
- Installation kit for Mazda 3 2009 2.2 Diesel: **1314979B**
  Mazda Order No.: **4100-78-775A**
- Heater control in accordance with price list and upon consultation with end customer
- In case of Telestart, indicator lamp in accordance with price list and in consultation with end customer

Installation Overview

Legend:

1. Heater
2. Fuse holder of engine compartment
3. Fuse holder of passenger compartment
4. Circulating pump
5. Digital timer
6. Metering pump



Notes on Total Installation Time

The total installation time includes the time needed for mounting and demounting of the vehicle-specific components, the heater specific installation time and all other times required for the system integration and initial start-up of the heater.
The total installation time may vary for vehicle equipment other than provided.

Information on Operating and Installation Instructions

1 Important Information (not complete)

1.1 Installation and Repair

The improper installation or repair of Webasto heating and cooling systems can cause fire or the leakage of deadly carbon monoxide, leading to serious injury or death.

To install and repair Webasto heating and cooling systems you need to have completed a special company training course and have the appropriate technical documentation, special tools and special equipment.

Installation and repair may ONLY be carried out by persons trained and certified in a Webasto training course. NEVER try to install or repair Webasto heating or cooling systems if you have not completed a Webasto training course, you do not have the necessary technical skills and you do not have the technical documentation, tools and equipment available to ensure that you can complete the installation and repair work properly.

Only use genuine Webasto parts. See the Webasto air and water heaters accessories catalogue for this purpose.

1.2 Operation

To ensure safe operation, we recommend having the heater checked every two years by an authorised Webasto dealer, especially when used over a long period and/or under extreme environmental conditions.

Do not operate the heater in closed rooms due to the danger of poisoning and suffocation.

Always switch off the heater before refuelling.

The heater may only be used with the prescribed fuel Diesel (DIN EN 590) or petrol (DIN EN 227).

The heater may not be cleaned with a high-pressure cleaner.

1.3 Please note

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

To become familiar with and understand all functions and properties of the heater, the operating instructions must be read carefully and observed at all times.

For proper, safe installation and repair work, the installation instructions with all warnings and safety information must be carefully read and observed at all times. Please always contact a workshop authorised by Webasto for all installation and repair work.

Important

Webasto shall assume no liability for defects, damage and injuries resulting from a failure to observe the installation, repair and operating instructions of the information contained in them.

This liability exclusion particularly applies to improper installations and repairs, installations and repairs by untrained persons or in the case of a failure to use genuine spare parts.

The liability due to culpable disregard to life, limb or health and due to damage or injuries caused by a wilful or reckless breach of duty remain unaffected, as does the obligatory product liability.

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 wire ends and tie back. Connectors on electronic components must audibly snap into place during assembly.

Sharp edges should be fitted with rub protection. Spray unfinished body areas, e.g. drilled holes, with anti-corrosion wax (Tectyl 100K, Order No. 111329).

Observe the instructions and guidelines of the respective vehicle manufacturer for demounting and mounting vehicle specific components!

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

When installing an IPCU, the corresponding settings must be checked or adjusted before the installation.

2 Statutory regulations governing installation

Guidelines	Thermo Top Evo
Heating Directive ECE R122	E1 00 0258
EMC Directive ECE R10	E1 03 5627

Note

The regulations of these guidelines are binding in the scope of the Directive 70/156/EEC and/or 2007/46/EC (for new vehicle models from 29/04/2009) and should also be observed in countries in which there are no special regulations.

Important

Failure to follow the installation instructions will result in the invalidation of the type approval for the heater and therefore invalidation of the general **homologation of the vehicle**.

Note

For vehicles with an EU permit, no entry in accordance with § 19 Sub-Section 4 of Annex VIII b to the Road Traffic Act is required.

2.1 Excerpt from the directive 2001/56/EC Appendix VII for the installation of the heater

Beginning of excerpt.

ANNEX VII

REQUIREMENTS FOR COMBUSTION HEATERS AND THEIR INSTALLATION

1. GENERAL REQUIREMENTS

1.7.1. A clearly visible tell-tale in the operator's field of view shall inform when the combustion heater is switched on or off.

2. VEHICLE INSTALLATION REQUIREMENTS

2.1. Scope

2.1.1. Subject to paragraph 2.1.2. combustion heaters shall be installed according to the requirements of this Annex.

2.1.2. Vehicles of category O having liquid fuel heaters are deemed to comply with the requirements of this Annex.

2.2. Positioning of heater

2.2.1. Body sections and any other components in the vicinity of the heater must be protected from excessive heat and the possibility of fuel or oil contamination.

2.2.2. The combustion heater shall not constitute a risk of fire, even in the case of overheating. This requirement shall be deemed to be fulfilled if the installation ensures an adequate distance to all parts and suitable ventilation, by the use of fire resistant materials or by the use of heat shields.

2.2.3. In the case of M2 and M3 vehicles, the heater must not be positioned in the passenger compartment. However, an installation in an effectively sealed envelope which also complies with the conditions in paragraph 2.2.2 may be used.

2.2.4. The label referred to in paragraph 1.4 or a duplicate, must be positioned so that it can be easily read when the heater is installed in the vehicle.

2.2.5. Every reasonable precaution should be taken in positioning the heater to minimise the risk of injury and damage to personal property.

2.3. Fuel supply

2.3.1. The fuel filler must not be situated in the passenger compartment and must be provided with an effective cap to prevent fuel spillage.

2.3.2. In the case of liquid fuel heaters, where a supply separate to that of the vehicle is provided, the type of fuel and its filler point must be clearly labelled.

2.3.3. A notice, indicating that the heater must be shut down before refuelling, must be affixed to the fuelling point. In addition a suitable instruction must be included in the manufacturer's operating manual.

2.4. Exhaust system

2.4.1. The exhaust outlet must be located so as to prevent emissions from entering the vehicle through ventilators, heated air inlets or opening windows.

2.5. Combustion air inlet

2.5.1. The air for the combustion chamber of the heater must not be drawn from the passenger compartment of the vehicle.

2.5.2. The air inlet must be so positioned or guarded that blocking by rubbish or luggage is unlikely.

2.6. Heating air inlet

2.6.1. The heating air supply may be fresh or recirculated air and must be drawn from a clean area not likely to be contaminated by exhaust fumes emitted either by the propulsion engine, the combustion heater or any other vehicle source.

2.6.2. The inlet duct must be protected by mesh or other suitable means.

2.7. Heating air outlet

2.7.1. Any ducting used to route the hot air through the vehicle must be so positioned or protected that no injury or damage could be caused if it were to be touched.

2.7.2. The air outlet must be so positioned or guarded that blocking by rubbish or luggage is unlikely.

End of excerpt.

In multilingual versions the German language is binding.

Notes on Validity

This installation document applies to the Mazda 3 2.2 Diesel vehicles - for validity, see page 1 - 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 this installation documentation.

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

Technical Instructions

Special Tools
- Hose clamp pliers for auto-tightening hose clamps
- Hose clamp pliers for Clic hose clamps of type W
- Automatic wire stripper 0.2 - 6mm²
- Crimping pliers for cable lug / tab connector 0.5 - 6mm²
- Torque wrench for 2.0 - 10 Nm
- Hose clamping pliers
- Metric thread-setter kit
- Webasto Thermo Test Diagnosis with current software

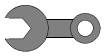
Dimensions
- All dimensions are in mm.

Tightening torque values
- Tightening torque values of 5x13 heater bolts and heater stud bolts = 8Nm.
- Tightening torque values of 5x15 retaining plate of water connection piece bolts = 7Nm.
- Tighten other bolt connections in accordance with manufacturer's instructions or in accordance with state-of-the-art-technology.

Explanatory Notes on Document

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

Mechanical system



Electrical system

Coolant circuit

Combustion air

Fuel

Exhaust gas

Software

Special features are highlighted using the following symbols:

Specific risk of injury or fatal accidents

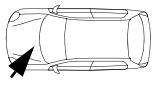
Specific risk of damage to components

Specific risk of fire and explosion

Reference to general installation instructions of the 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



Mazda 3

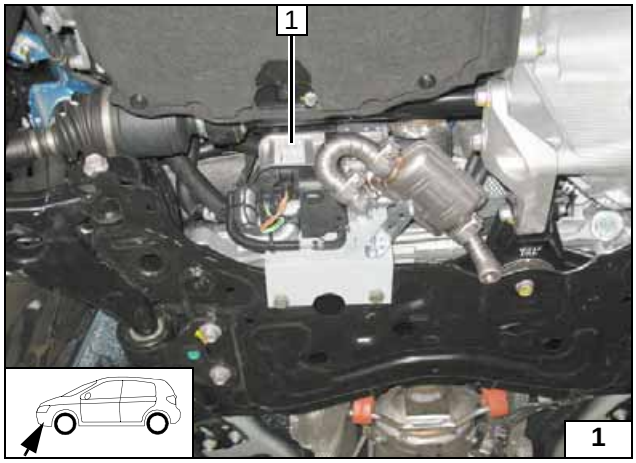
Preliminary Work

Vehicle

- Open the fuel tank cap.
- Ventilate the fuel tank.
- Close the fuel tank cap again.
- Depressurise the cooling system.
- Disconnect the battery and remove it completely along with the carrier.
- Remove the air filter together with the intake hose.
- Remove the coolant reservoir cap.
- Remove the windscreen wiper arms.
- Remove the cover of the coolant reservoir cap at the top left.
- Remove the windscreen wiper motor.
- Remove the underride protection of the engine.
- Remove the rear seat cushion.
- Open the tank-fitting service lid.
- Remove the lower instrument panel trim on the driver's side.
- Remove the A-pillar trim in the footwell on the driver's side.
- Remove the centre outlet vents above the radio (only with automatic air-conditioning).
- Remove the radio (only with automatic air-conditioning).
- Remove the air distribution of the centre console.

Heater

- Remove years that do not apply from the type and duplicate label.
- Attach the duplicate label (type label) in the appropriate place inside the engine compartment.



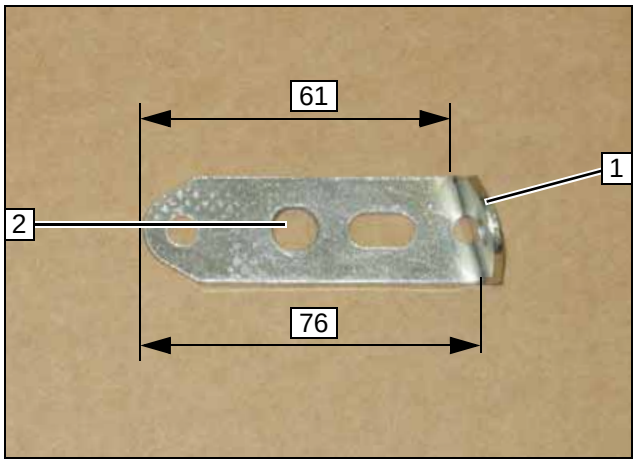
Heater Installation Location

1 Heater

Installation location

Preparing Electrical System

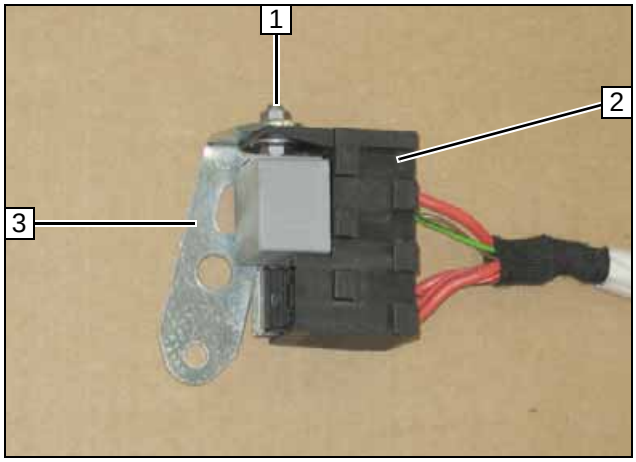
Bend perforated bracket **1** by 90°. Drill out hole at position **2** to 10.5mm dia.



Preparing perforated bracket

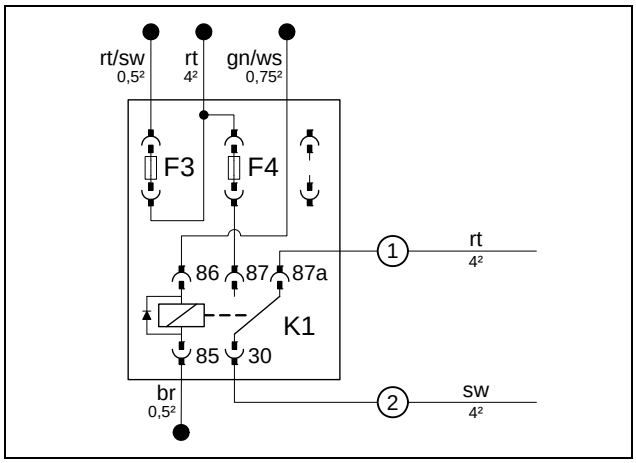
Manual air-conditioning

1 M5x16 bolt, washer [2x], nut
2 Fuse holder
3 Perforated bracket



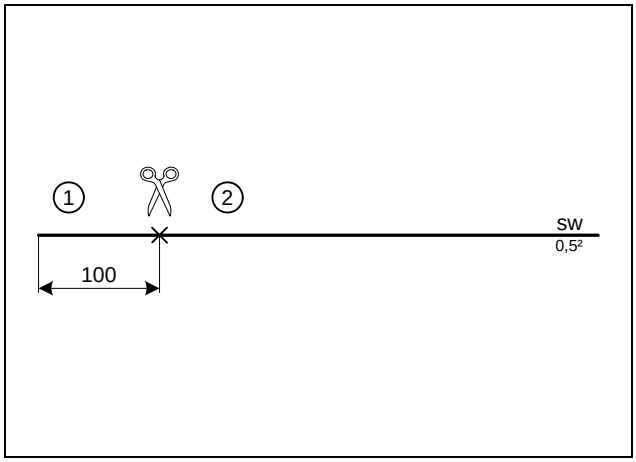
Preparing fuse holder

Insert red (rt) wire **1** in K1/87a and black (sw) wire **2** in K1/30 socket. Insert F4 25A and K1 relay in fuse carrier.

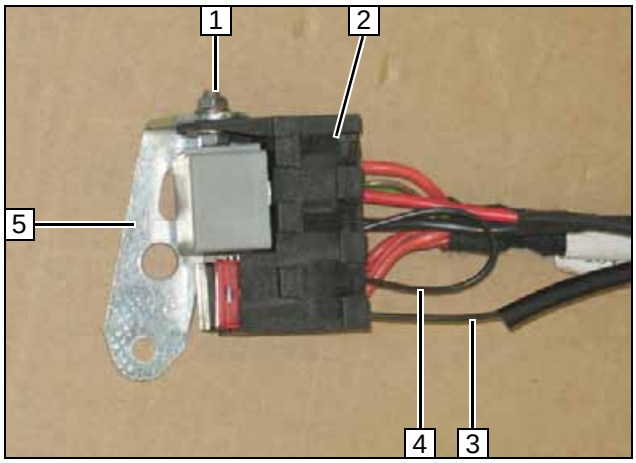


Inserting F4 fuse

Only with automatic air-conditioning



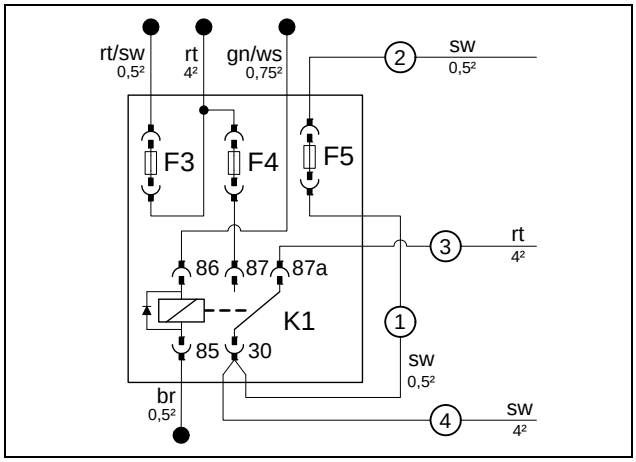
Cutting wire to length



Install wire section ② in protective sleeving provided.

1 M5x16 bolt, washer [2x], nut
2 Fuse holder
3 Black (sw) wire ②
4 Black (sw) wire ①
5 Perforated bracket

Preparing fuse holder



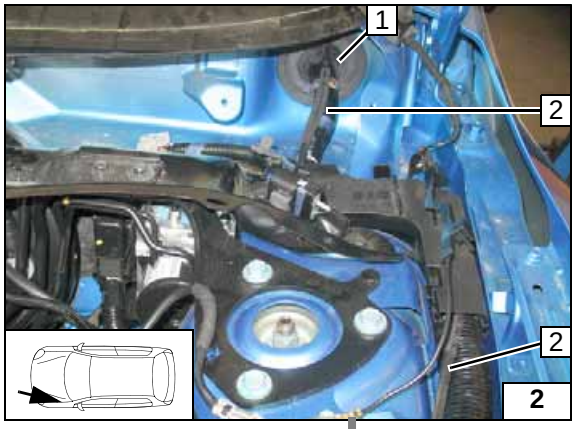
Insert black (sw) wires **1** and **2** in socket of F5 fuse. Insert red (rt) wire **3** in K1/87a and black (sw) wire **4** together with black (sw) wire **1** in K1/30 socket.
Insert F4 25A and F5 10A as well as K1 relay into fuse carrier. Produce connections as shown in wiring diagram.

Preparing K1 relay, F4 and F5 fuses

Electrical System

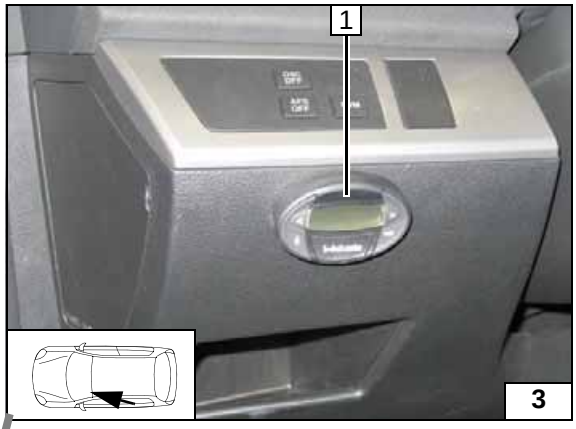
Wiring harness pass through

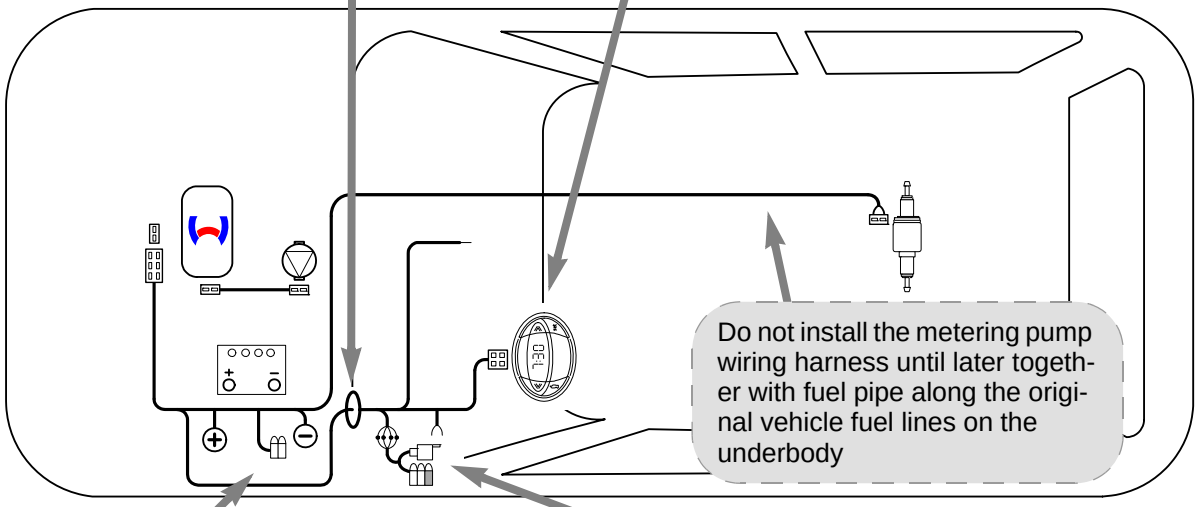
1 Protective rubber plug
2 Wiring harnesses of heater and heater control



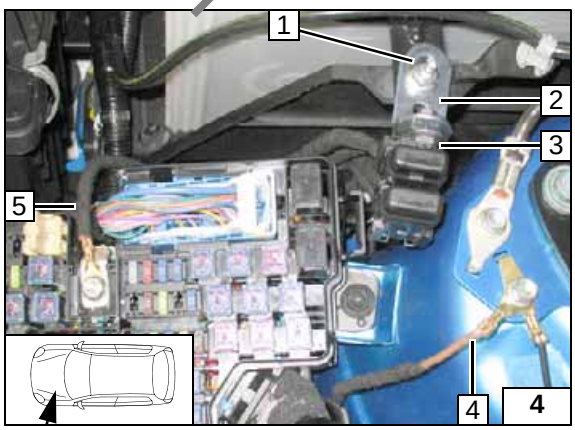
Digital Timer

1 Digital timer





Wiring harness routing diagram



Fuse holder in engine compartment

1 Original vehicle bolt
2 Angle bracket
3 M5x16 bolt, washer [2x], retaining plate of fuse holder, nut
4 Earth wire on original vehicle earth point (Tightening torque 8-12 Nm)
5 Positive wire on original vehicle positive support point (Tightening torque 8-12 Nm)

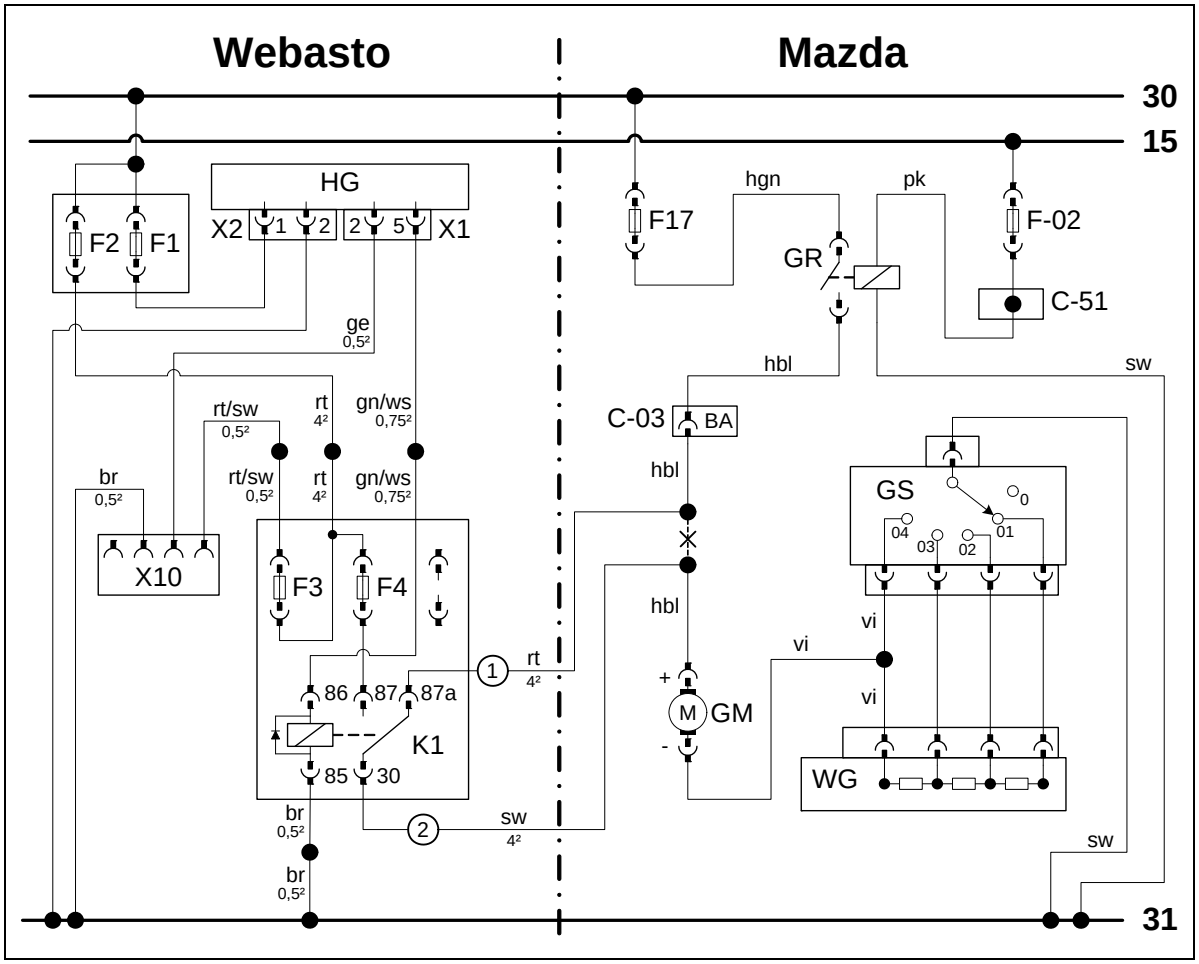
Fuse holder of passenger compartment

Connect same colour wires of heater wiring harness.

1 Original vehicle bolt
2 Perforated bracket, fuse holder F3, F4 and F5 (F5 only for automatic air-conditioning)

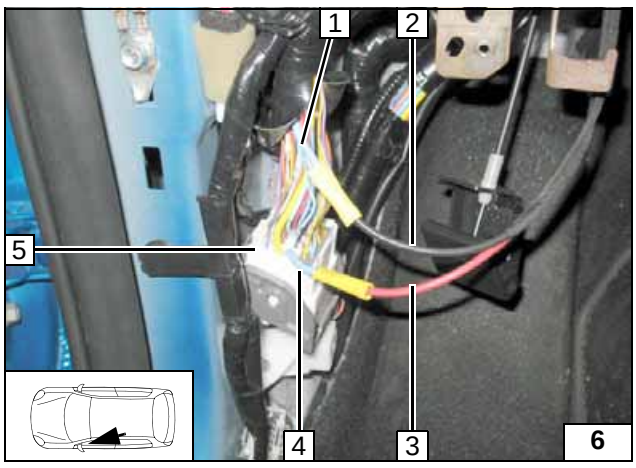
Manual Air-Conditioning Fan Controller

Wiring diagram



Webasto components		Vehicle components		Colours and symbols	
HG	Heater TT-Evo	F17	40A fuse	rt	red
X1	6-pin heater connector	F-02	10A fuse	sw	black
X2	2-pin heater connector	GR	Fan relay	pk	pink
X10	4-pin connector Heater control	C-51	Distributor	hgn	light green
		C-03	A-pillar connector	vi	violet
K1	Fan relay	GS	Fan switch	hbl	light blue
F1	20A fuse	GM	Fan motor		
F2	30A fuse	WG	Resistor group		
F3	1A fuse			**X**	Cutting point
F4	25A fuse			Wiring colours may vary.	

Legend



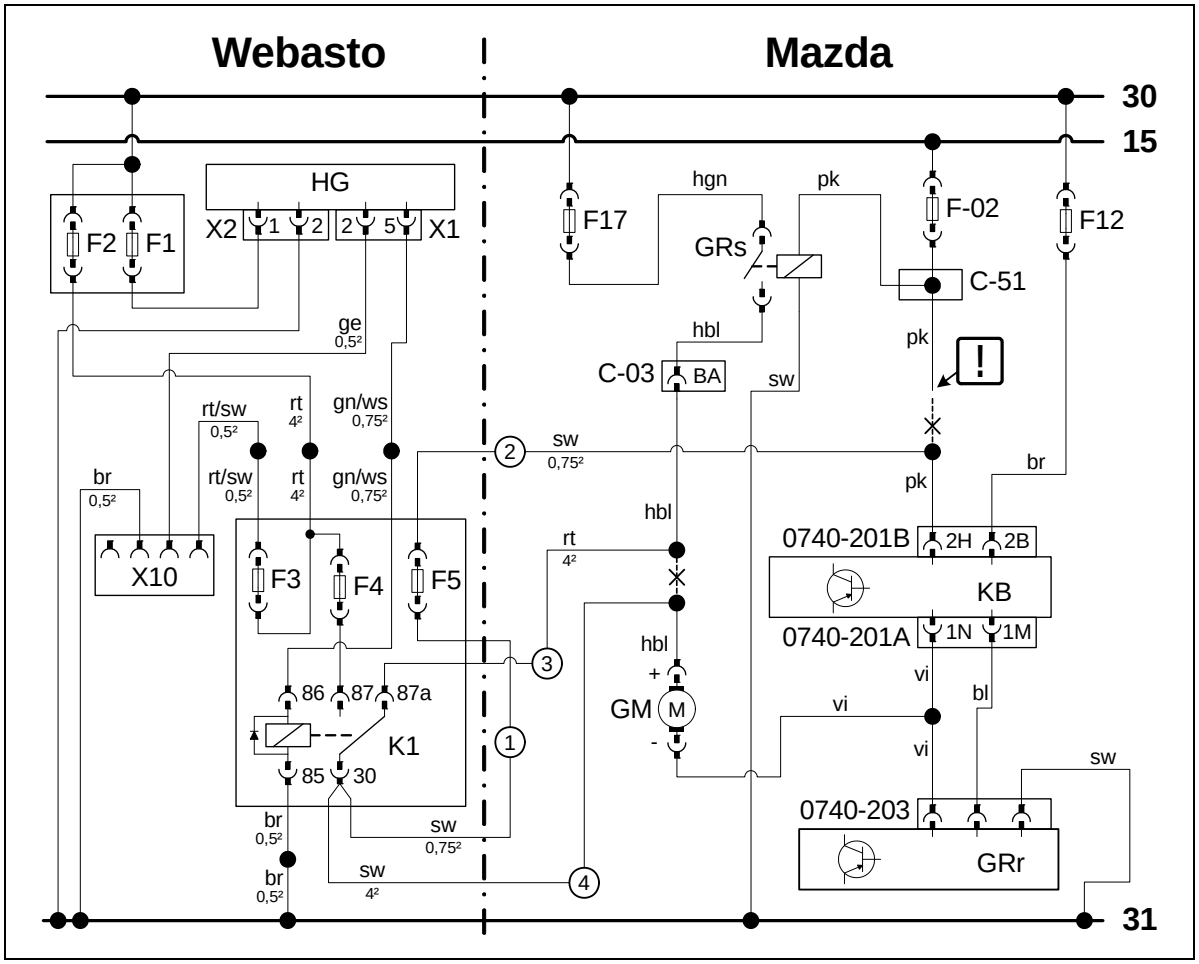
Connection on connector C-03 **5** A-pillar. Produce connections as shown in wiring diagram.

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 Controller

Wiring diagram



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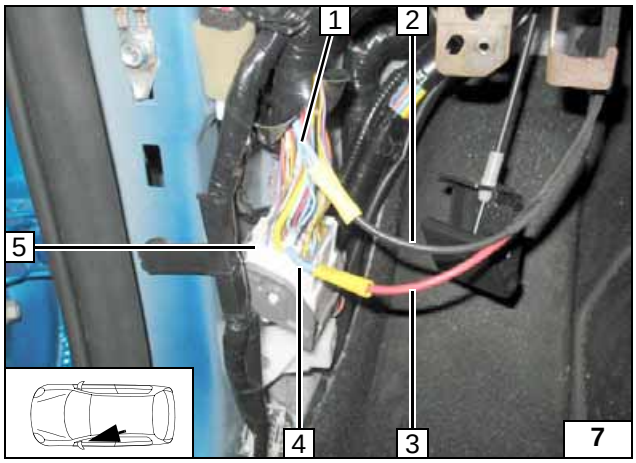
X2	2-pin heater connector	F12	15A fuse	pk	pink
X10	4-pin connector Heater control	GRs	Fan relay	hgn	light green
		C-51	Distributor	vi	violet
K1	Fan relay	C-03	A-pillar connector	hbl	light blue
F1	20A fuse	0740-201B	Connector KB	br	brown
F2	30A fuse	KB	A/C control panel	bl	blue
F3	1A fuse	0740-201A	Connector KB	gn	green
F4	25A fuse	GM	Fan motor	ge	yellow
F5	10A fuse	0740-203	Connector GRr		
		GRr	Fan controller	!	Insulate wire ends and tie back
				X	Cutting point
				Wiring colours may vary.	

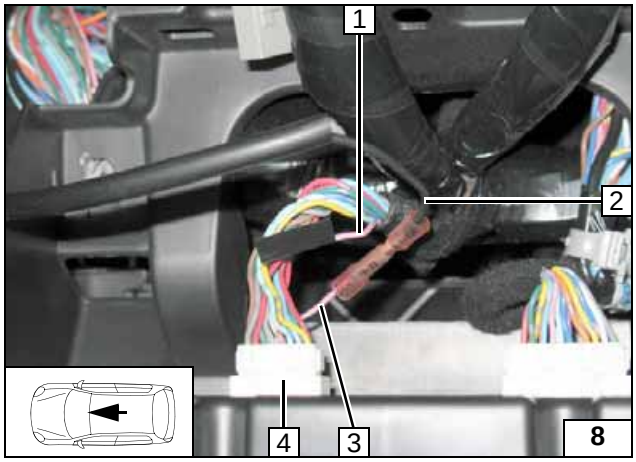
Legend



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

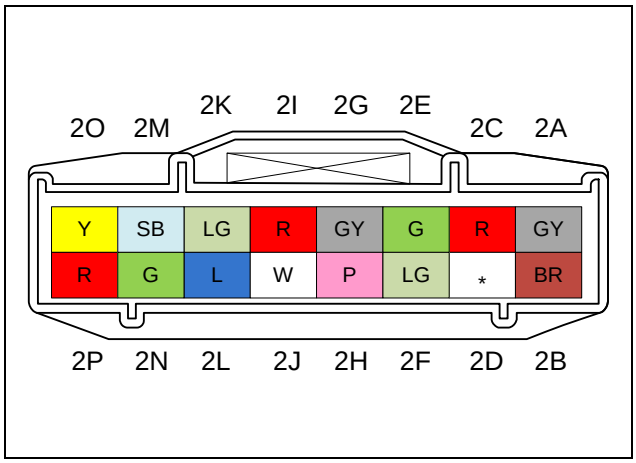
Connecting fan-motor



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

Connecting A/C control panel



Connector 0740-201B on wire side

View of connector 0740-201B

Combination of Heater Controls

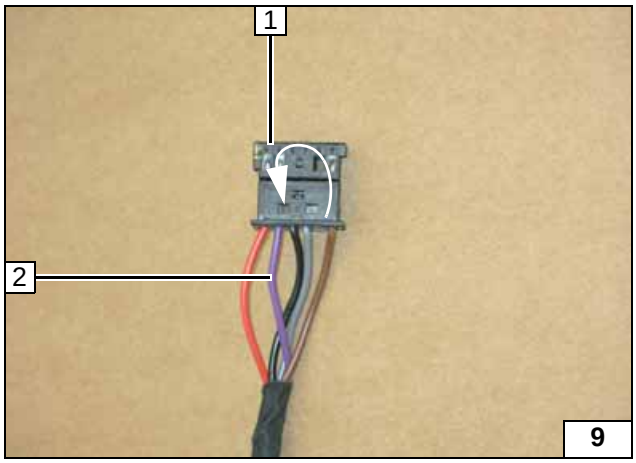
Only for "silver" Telestart
Observe attached installation instructions for "black" Telestart.

Preparing connector

Telestart T91 with and without push button.

Figure 9 (Y-adapter connector)

Detach violet (vi) wire **2** from 6-pin connector **1** Pin 5 and insert it into Pin 2.



Digital timer and Telestart T91.

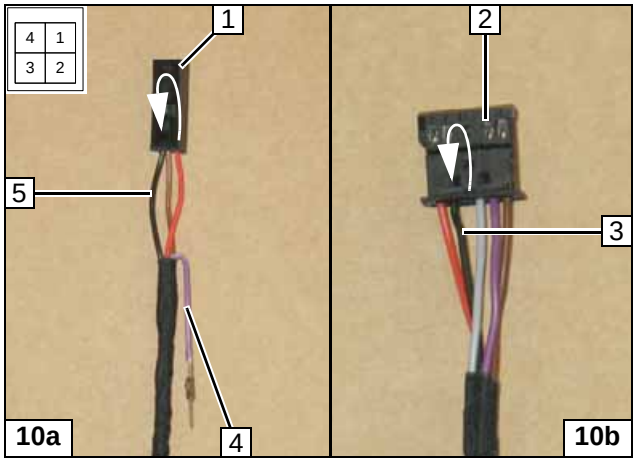
Image 10a (Coupling of Y-adapter, wire-side view)

Preparing connector

Detach violet (vi) wire **4** from 4-pin coupling **1** Pin 1, insulate and tie back.
Detach black (sw) wire **5** from 4-pin coupling **1** Pin 2, and insert into Pin 1.

Figure 10b (Y-adapter connector)

Detach black (sw) wire **3** from 6-pin connector **2** Pin 3 and insert it into Pin 2.

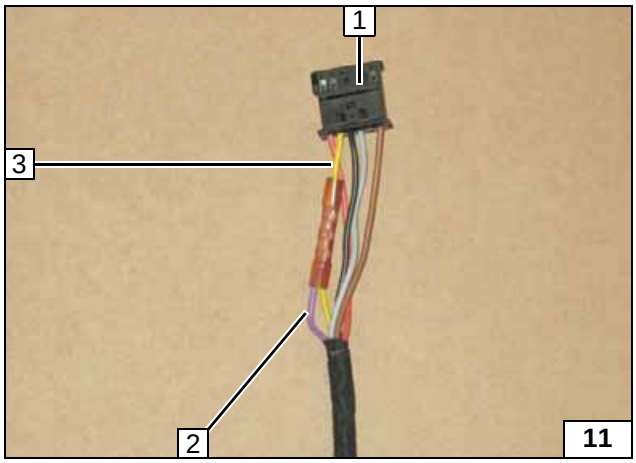


Telestart HTM100 with and without push button.

Figure 11 (Y-adapter connector)

Preparing connector

Detach violet (vi) wire **2** from 6-pin connector **1** Pin 5. Cut yellow (gb) wire **3** approx. 50mm before the connector **1**. Connect violet (vi) wire **2** and yellow (gb) wire **3** to connector.



Digital timer and Telestart T100 HTM!

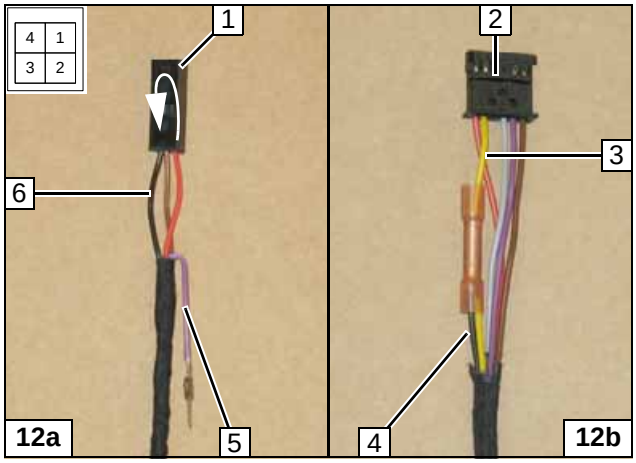
Figure 12a (Coupling of Y-adapter, wire-side view)

Preparing connector

Detach violet (vi) wire **5** from 4-pin coupling **1** Pin 1, insulate and tie back.
Detach black (sw) wire **6** from 4-pin coupling **1** Pin 2, and insert into Pin 1.

Figure 12b (Y-adapter connector)

Detach black (sw) wire **4** from 6-pin connector **2** Pin 3. Cut yellow (gb) wire **3** approx. 50mm before the connector **2**. Connect black (sw) wire **4** and yellow (gb) wire **3** to connector.



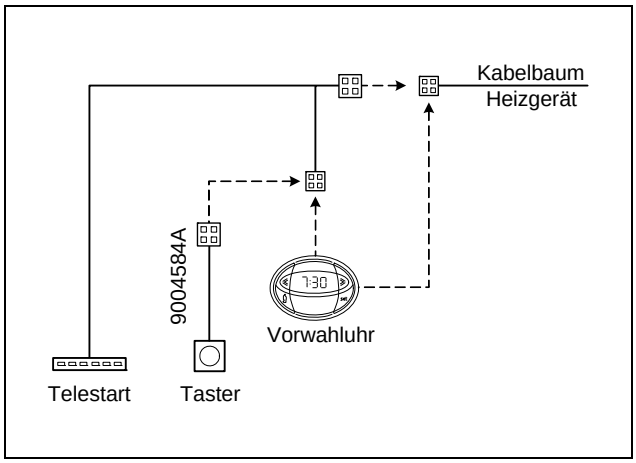
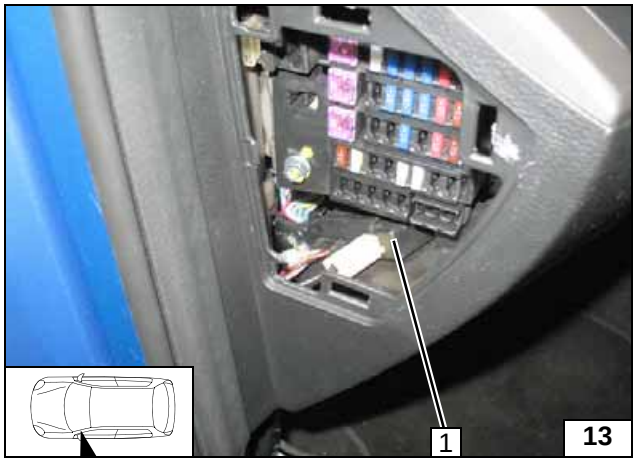


Diagram of heater controls

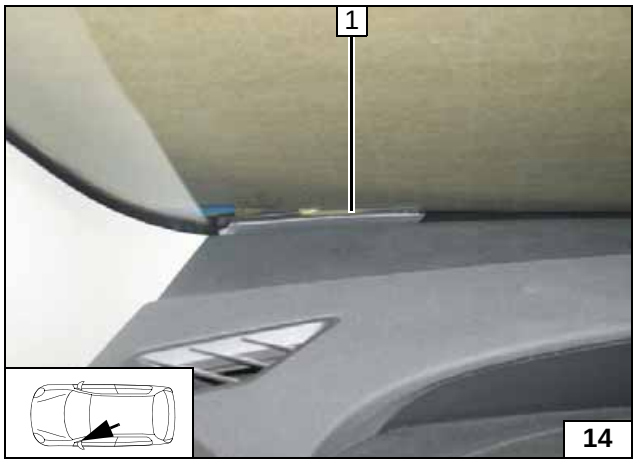
Remote Option (Telestart)



Fasten receiver **1** with adhesive tape.

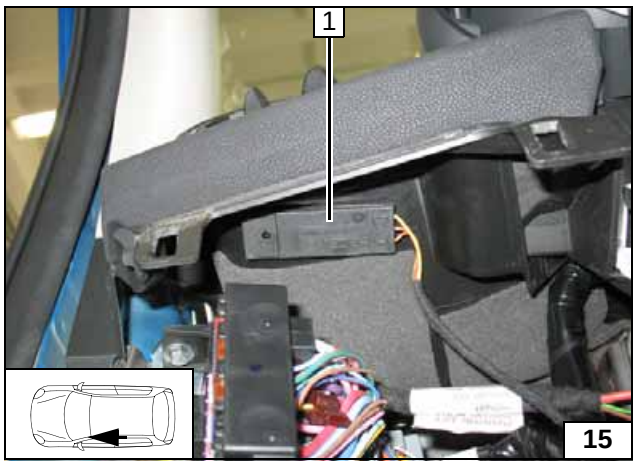
Mounting receiver

1 Antenna



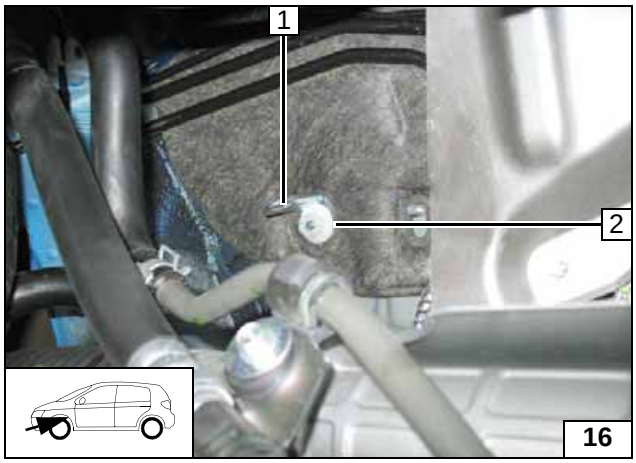
Mounting antenna

Temperature sensor HTM100



Fasten temperature sensor **1** with adhesive tape.

Installing temperature sensor

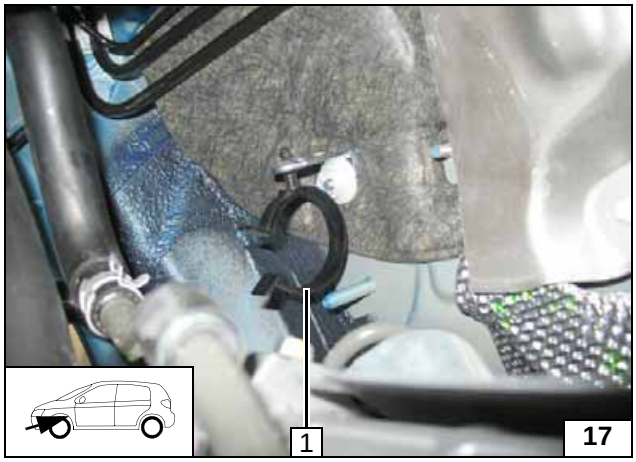


Preparing Installation Location

Remove original vehicle plastic nut at position **2** and discard.

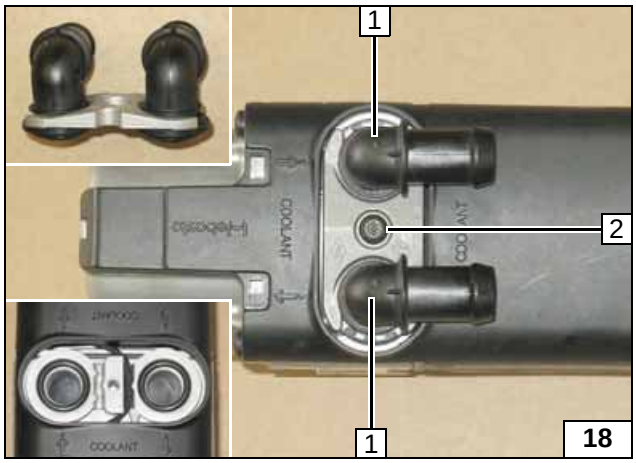
1 Angle bracket
2 Original vehicle stud bolt, M6 flanged nut

Mounting angle bracket



1 Retaining clip, pin lock

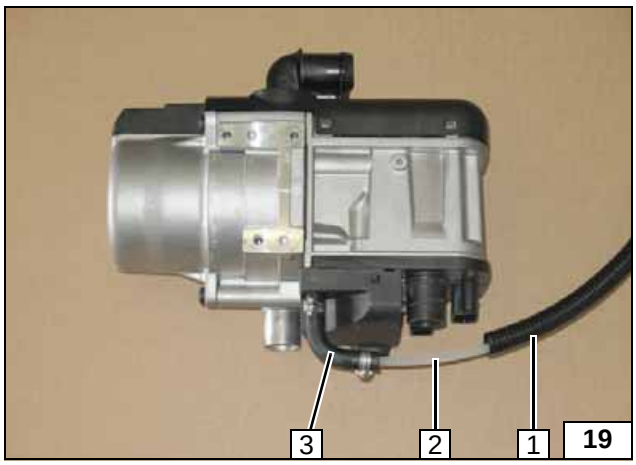
Inserting retaining clip



Preparing Heater

1 Water connection piece, sealing ring [2x each]
2 5x15 self-tapping bolt, retaining plate of water connection piece

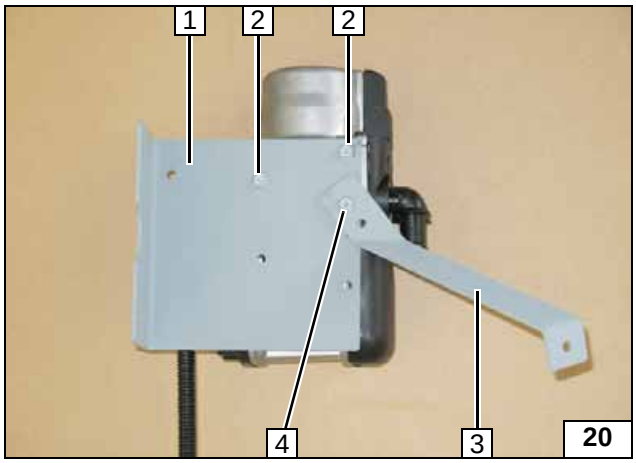
Premounting water connection piece



Slide corrugated tube **1** on to fuel line **2**.

3 90° moulded hose, 10 mm dia. clamp [2x]

Premounting fuel line



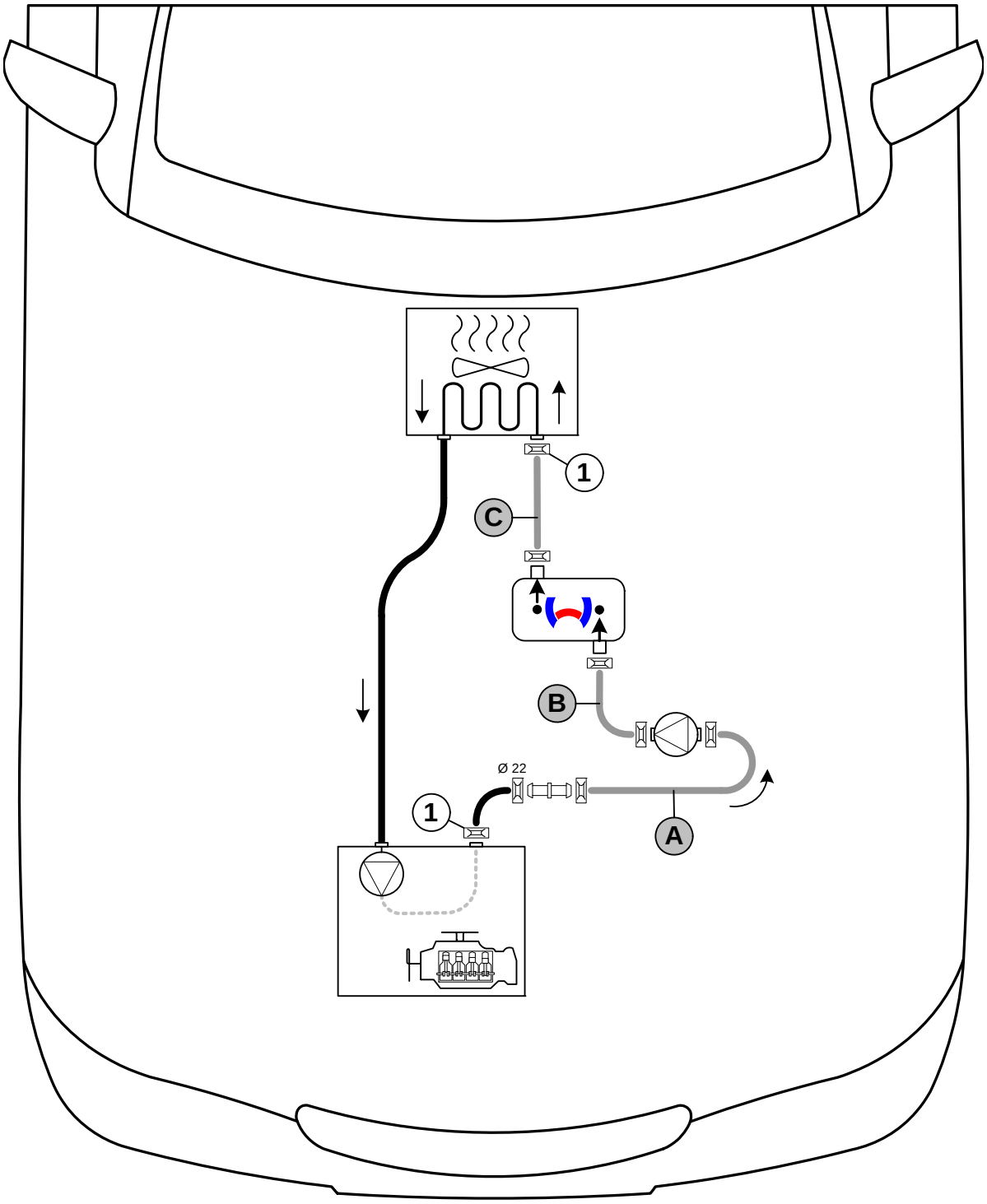
Use hole pattern as shown.

1 Bracket
2 5x13 bolt [2x]
3 Strut
4 Loosely mount 5x13 bolt

Mounting bracket and strut

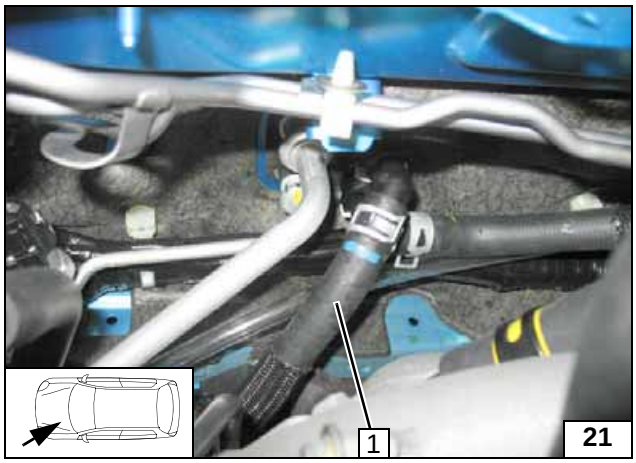
Coolant Circuit

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 other hoses cannot be damaged. The heater must be filled with coolant when installing the hoses.
The connection should be "inline" based on the following diagram:



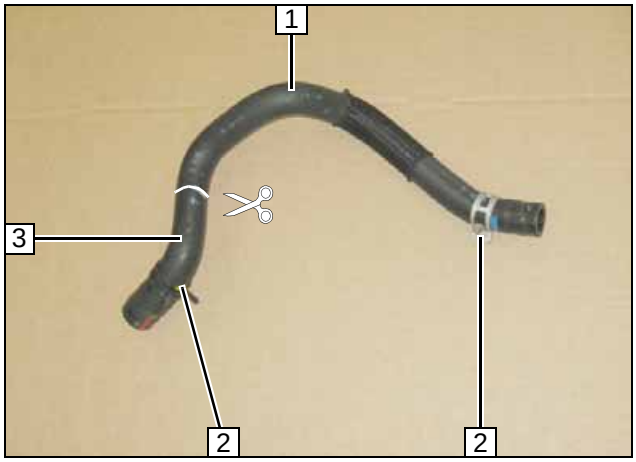
Hose routing diagram

All spring clips without a specific designation = 25 mm dia. **1** = Original vehicle spring clip. Connecting pipe = 15x18mm dia.



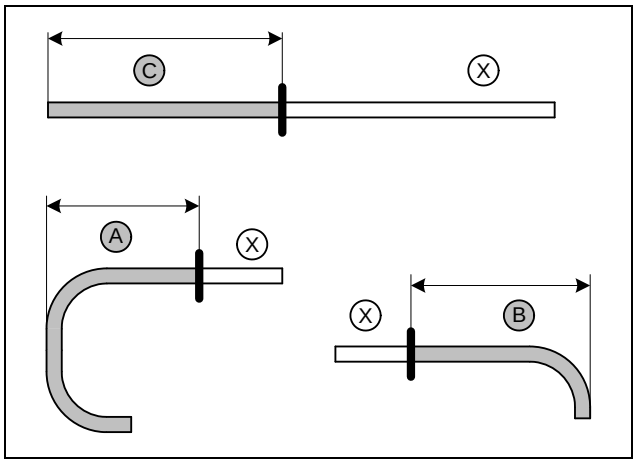
Remove hose from engine outlet/heat exchanger inlet **1**. Original vehicle spring clips will be reused.

Cutting point



1 Discard hose section of heat exchanger inlet
2 Original vehicle spring clip [2x] (will be reused)
3 Engine outlet hose section

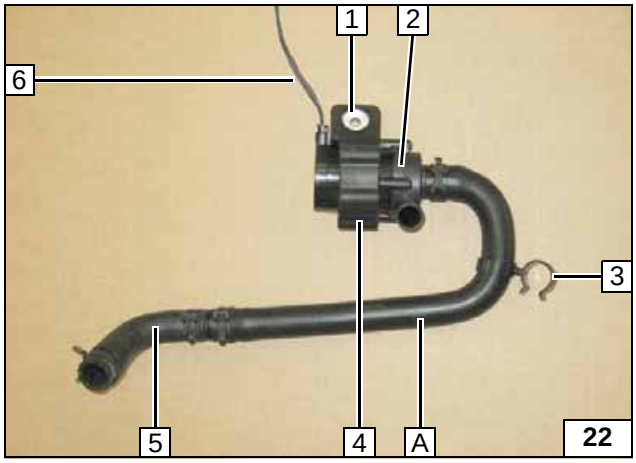
Cutting point



Discard section **X**.

A = 230
B = 300
C = 580

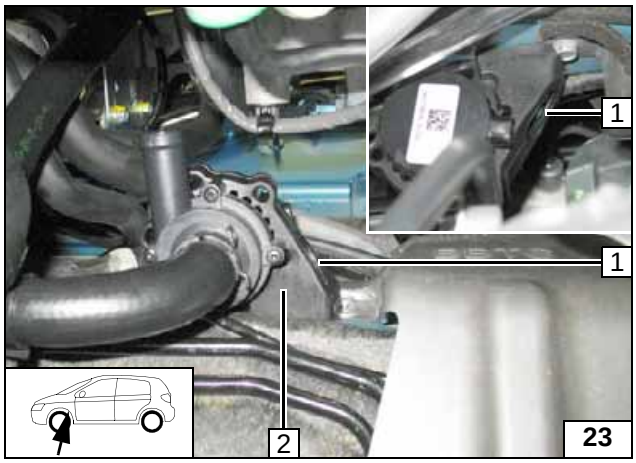
Cutting hoses to length



Remove support sleeve and insert 5mm shim **1** in intake of circulating pump **4**.

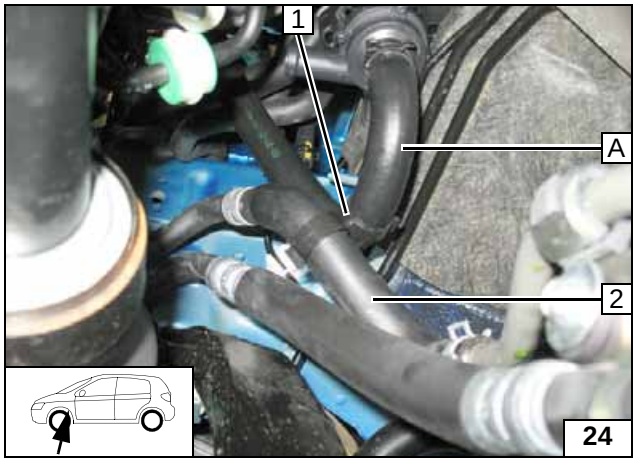
2 Circulating pump
3 Spacer bracket
5 Engine outlet hose section
6 Mount wiring harness of circulating pump

Premounting circulating pump



1 Original vehicle stud bolt, self-locking M8 nut
2 Intake of circulating pump

Mounting circulating pump

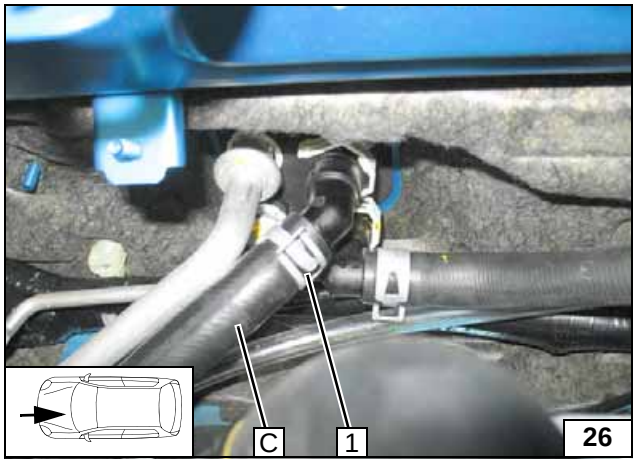


1 Spacer bracket
2 Original vehicle hose (steering aid)

Installing spacer bracket

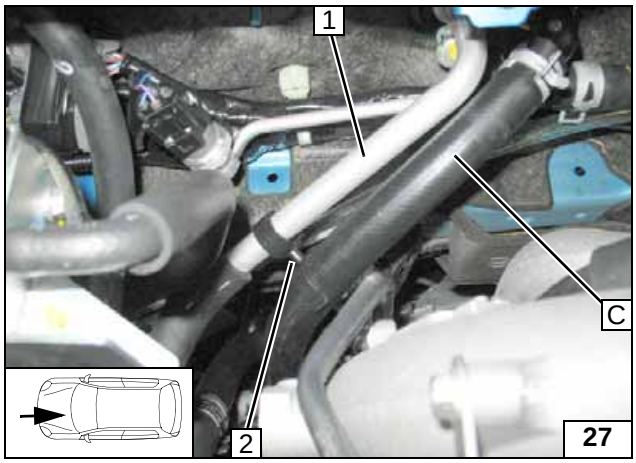
1 Engine outlet hose section
2 Original vehicle spring clip

Connecting engine outlet



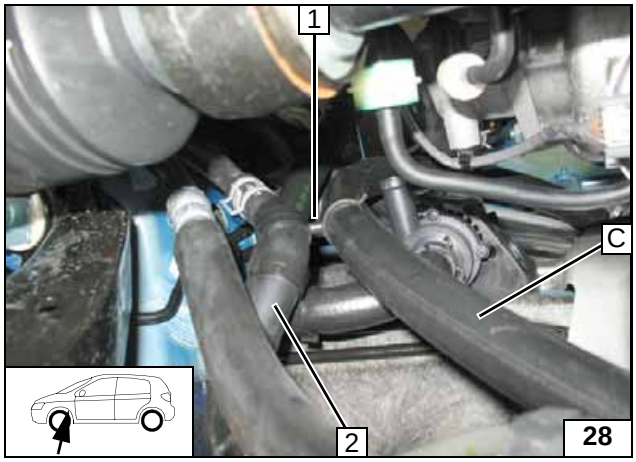
1 Original vehicle spring clip

Connecting heat exchanger inlet



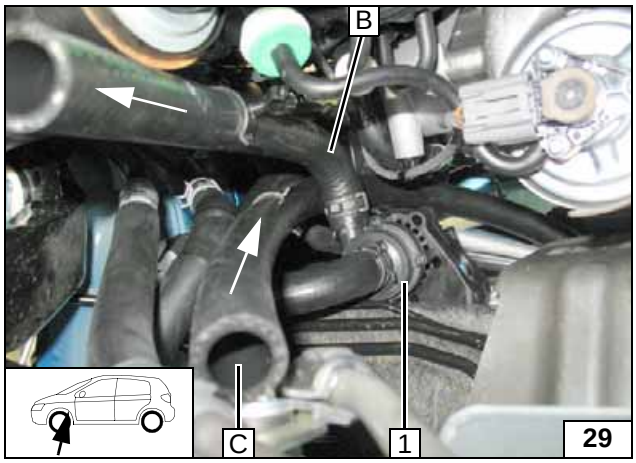
1 A/C line
2 Spacer bracket

Installing spacer bracket



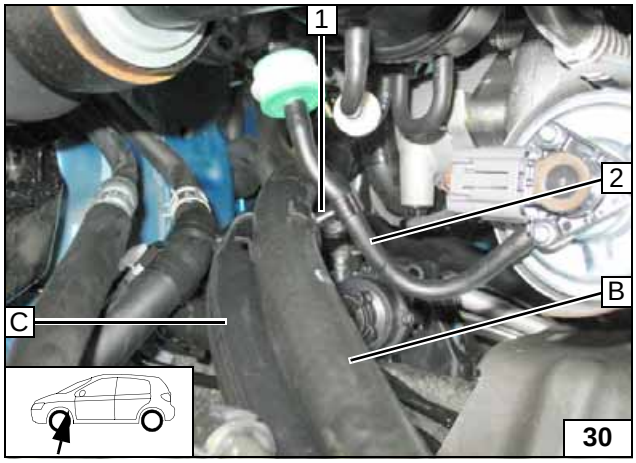
1 Spacer bracket
2 Original vehicle hose (steering aid)

Installing spacer bracket



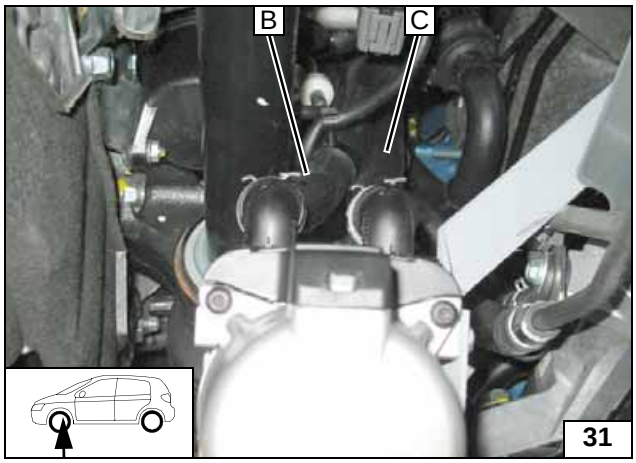
1 Circulating pump

Connecting circulating pump



1 Spacer bracket
2 Vacuum line (Turbocharger)

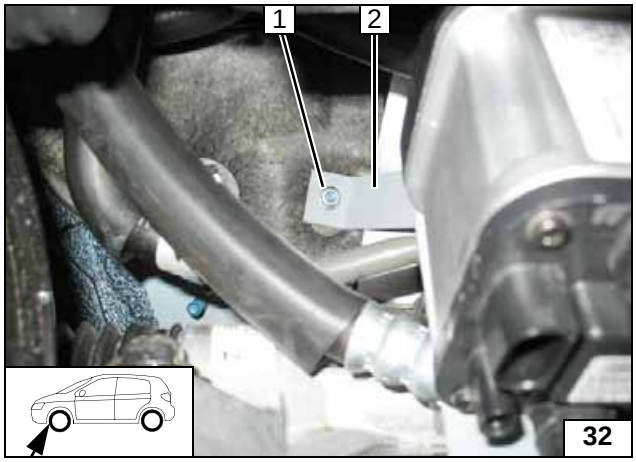
Installing spacer bracket



Installing Heater

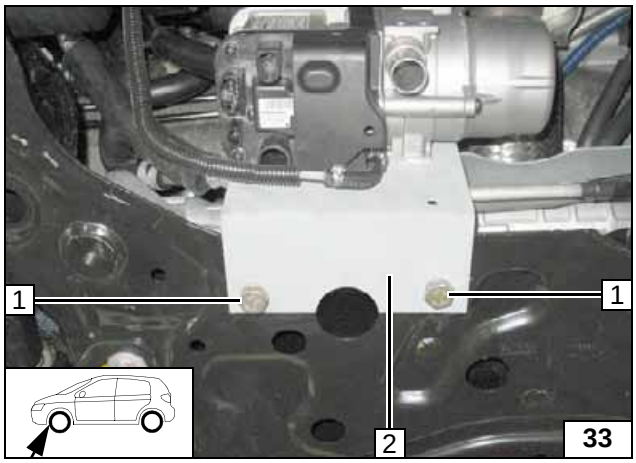
Mount coolant hoses and fasten before installing heater.

Connecting heater



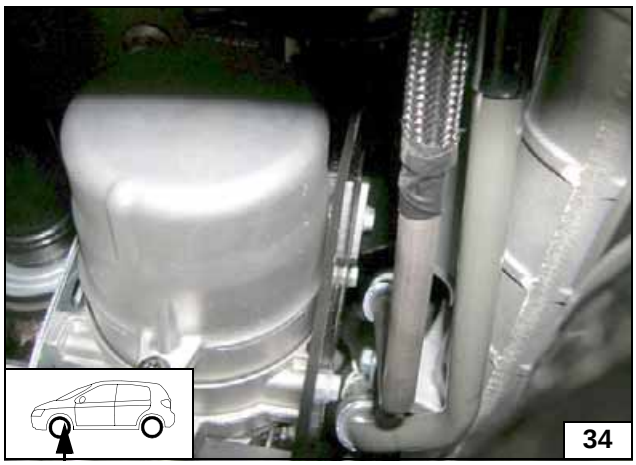
1 Original vehicle stud bolt, M6 flanged nut

Loosely mounting strut



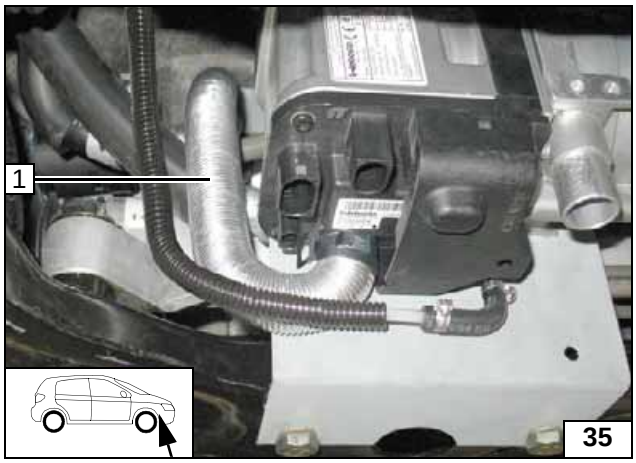
1 M10x25 bolt, spring lockwasher, washer, existing threaded hole [2x each]
2 Loosely mount bracket

Loosely mounting heater



Align heater. Ensure sufficient distance from neighbouring components. Ensure minimum distance of 5 mm > from steering components and > 15mm from transmission, cardan shaft and engine components.
Tighten all loose bolt connections.

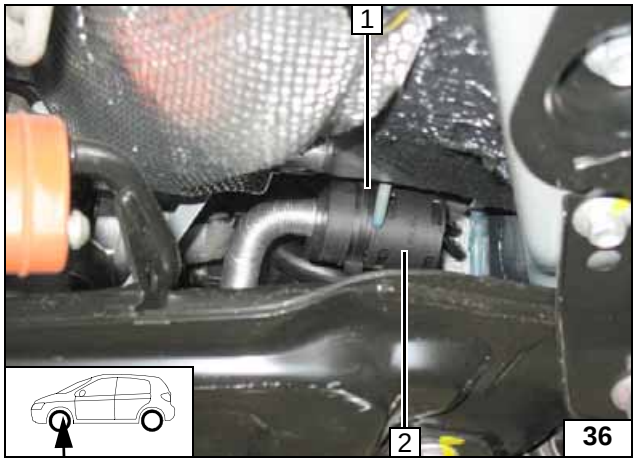
Aligning heater



Combustion Air

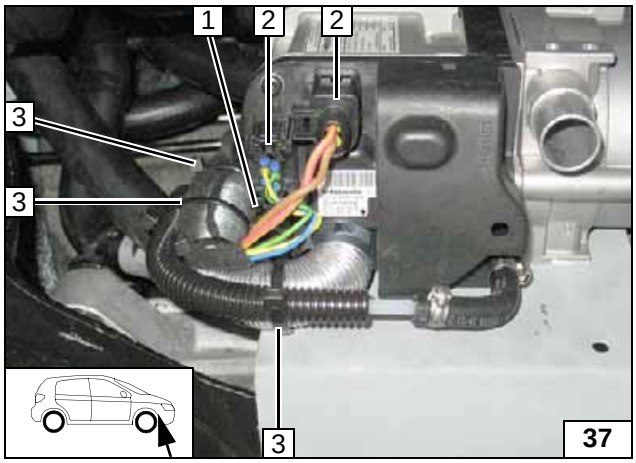
1 Combustion air pipe

Mounting combustion air pipe



Insert silencer **2** in premounted retaining clip **1**.

Mounting silencer



1 Mount wiring harness of circulating pump
2 Mount wiring harness of heater [2x]
3 Cable tie [3x]

Mounting wiring harnesses

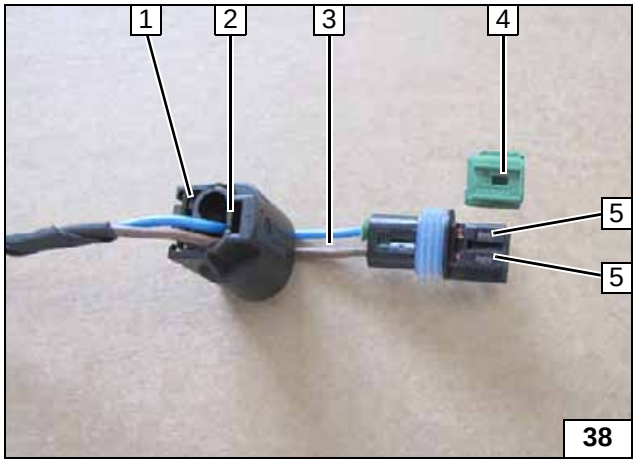
Fuel

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.

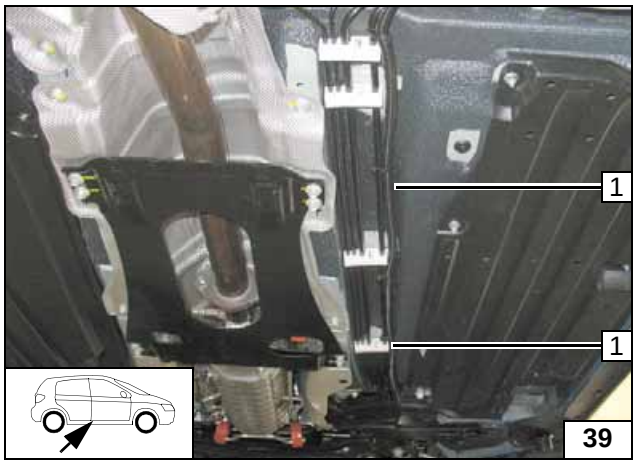
WARNING!
The fuel line and wiring harness are routed to the metering pump as shown in the wiring harness routing diagram.



Complete connector of metering pump again after routing. Pin assignment is not relevant.

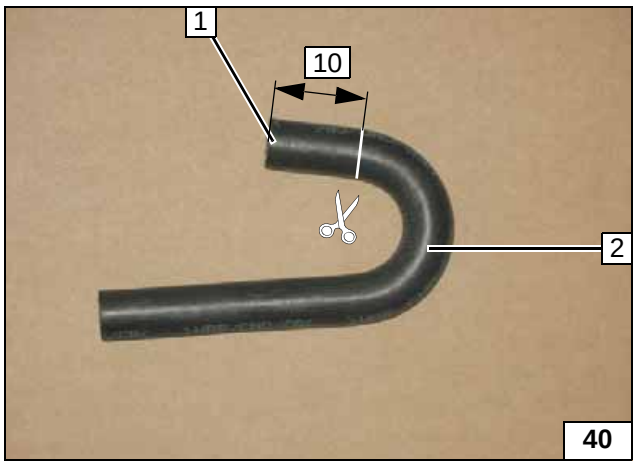
1 Connector housing
2 Lock
3 Blue/brown (bl / br) wires
4 Coding
5 Timer lock

Disassembling connector



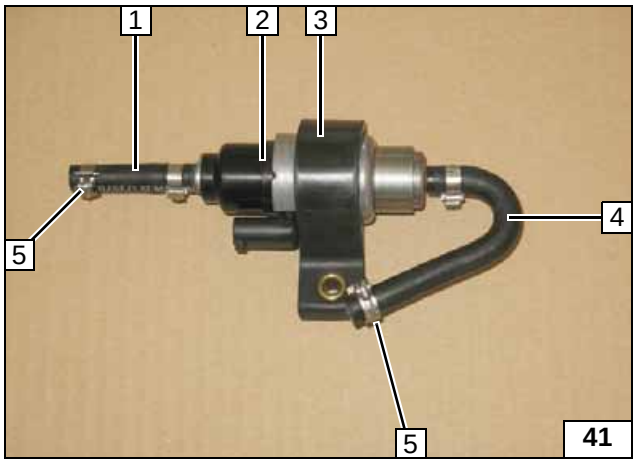
Route fuel line from heater in corrugated tube along frame side member to firewall. Route fuel line from heater and wiring harness of metering pump in corrugated tube **1** along original vehicle fuel lines to underbody and further to installation location of metering pump.

Routing lines



Shorten 180° moulded hose **2**. Discard section **1**.

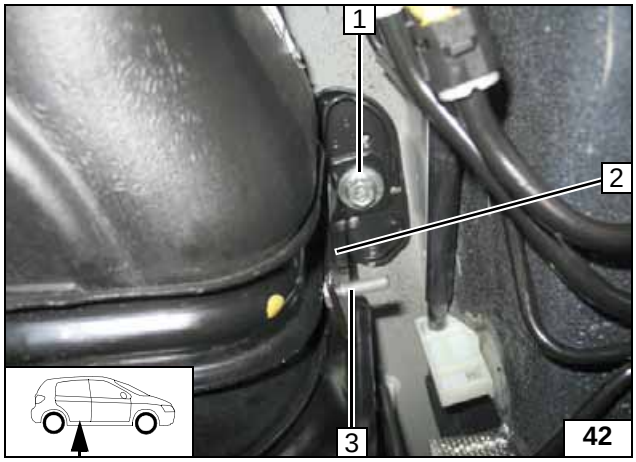
Cutting moulded hose to length



Slide on 10mm dia. clamp [2x] at position **5**.

1 Hose section, 10 mm dia. clamp [2x]
2 Metering pump
3 Intake of metering pump
4 180° moulded hose, 10 mm dia. clamp [2x]

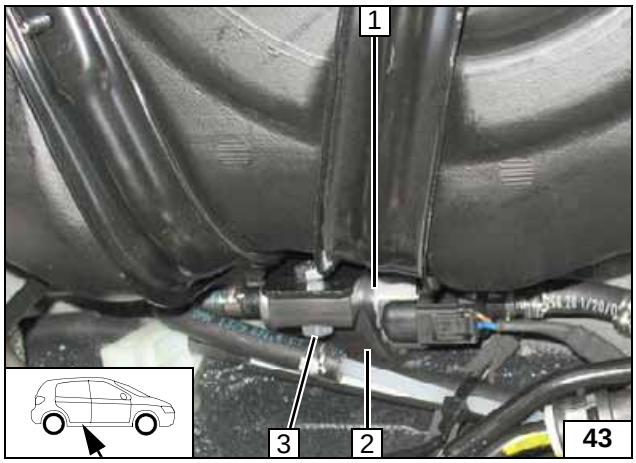
Mounting metering pump



Insert M6x25 bolt **3** into existing hole of metering pump bracket **2**.

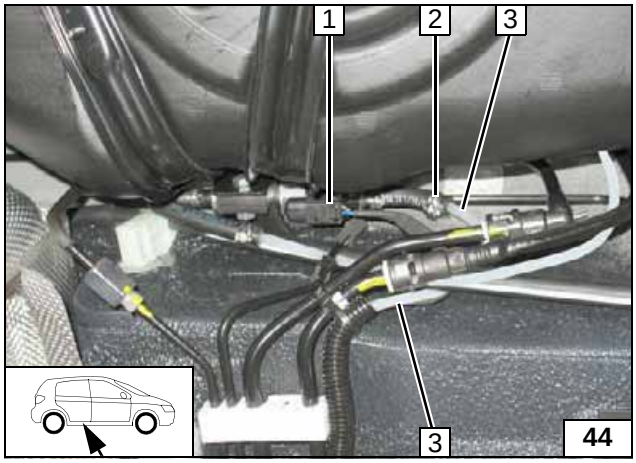
1 Original vehicle bolt

Mounting metering pump bracket



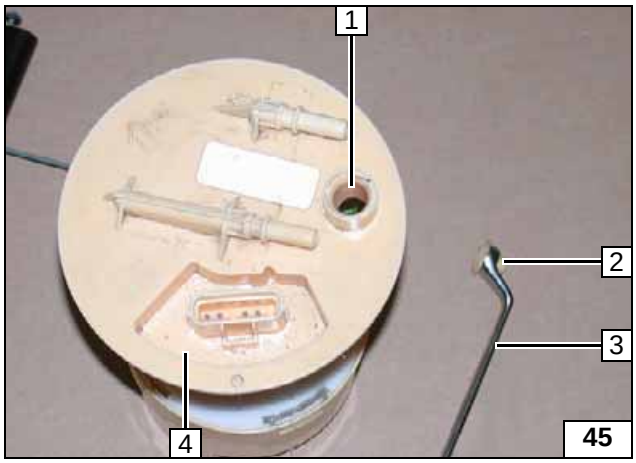
1 Metering pump
2 Intake of metering pump
3 M6x25 bolt, flanged nut

Mounting metering pump



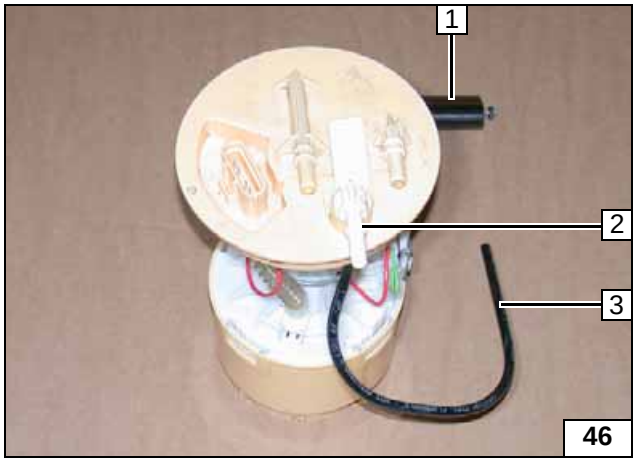
1 Wiring harness of metering pump, connector mounted
2 10 mm dia. clamp
3 Fuel line of heater

Connecting metering pump



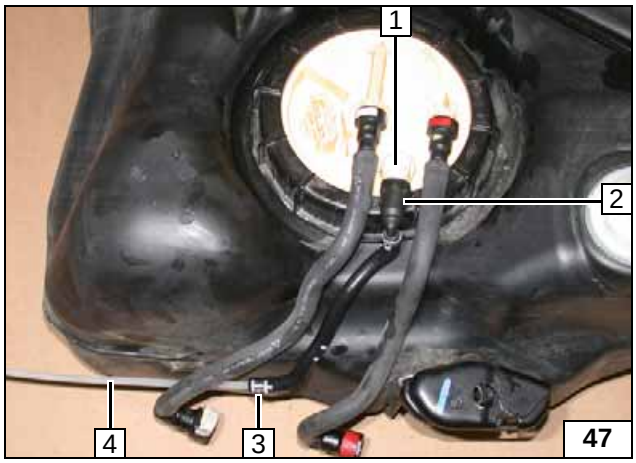
Remove fuel tank according to manufacturer's instructions. Remove fuel-tank sending unit **4** according to manufacturer's instructions. Break out connecting piece **2** at predetermined rupture joint **1** with suitable tool **3** according to manufacturer's specification.

Fuel extraction



Install fuel standpipe **2** (Mazda Order No.: 4100-78-408)! Align removal hose **3** up to fuel tank floor. Pay attention to the freedom of movement of the fuel gauge **1**.

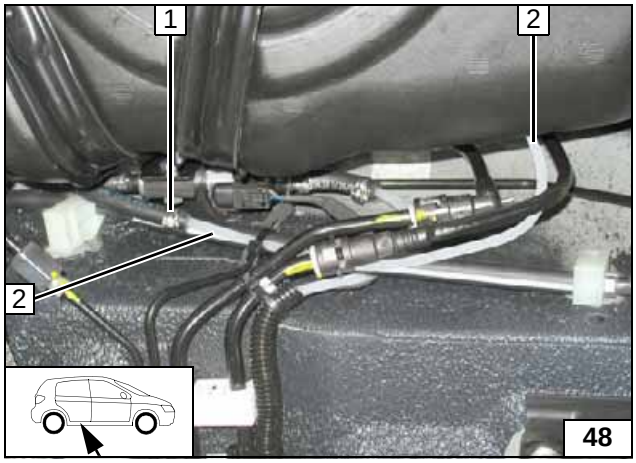
Installing fuel standpipe



Install fuel-tank sending unit according to manufacturer's instructions. Mount coupling **2** on fuel standpipe **1**. Installing fuel tank.

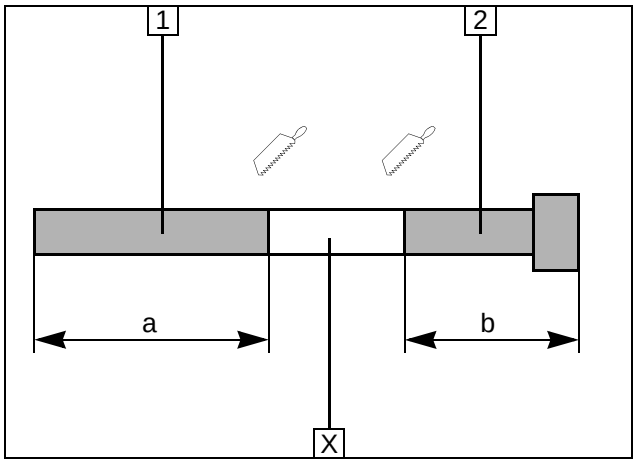
3 10 mm dia. clamp
4 Fuel line

Connecting fuel line



1 10 mm dia. clamp
2 Fuel line of fuel standpipe

Connecting metering pump

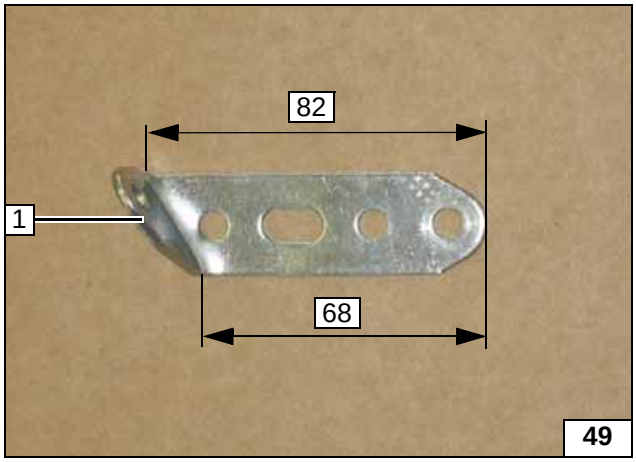


Exhaust Gas

1 Exhaust pipe
a = 150
2 Exhaust end section
b = 90

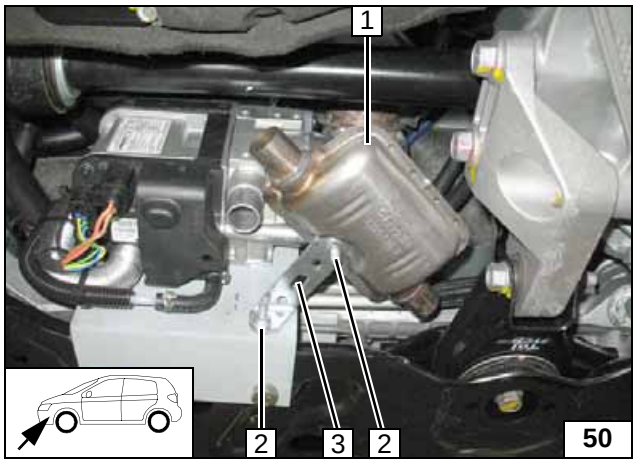
Discard section **X**

Preparing exhaust pipe



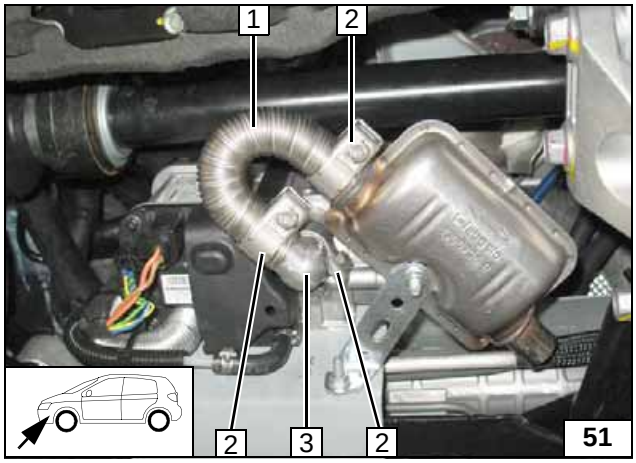
Angle down perforated bracket **1** by 90°

Preparing perforated bracket



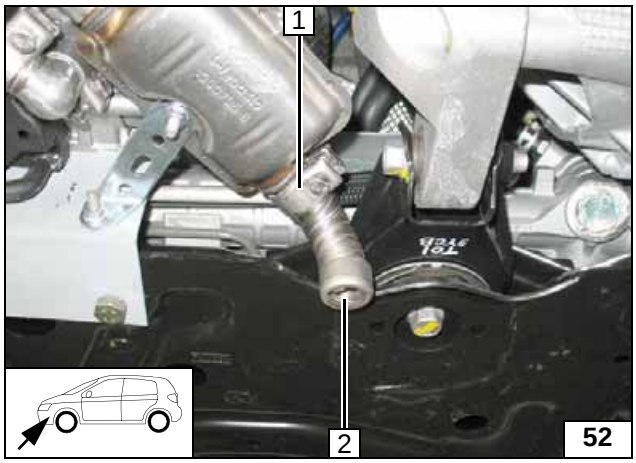
1 Exhaust silencer
2 M6x20 bolt, flanged nut [2x each]
3 Perforated bracket

Mounting silencer



1 Exhaust pipe
2 Hose clamp [3x]
3 Exhaust manifold

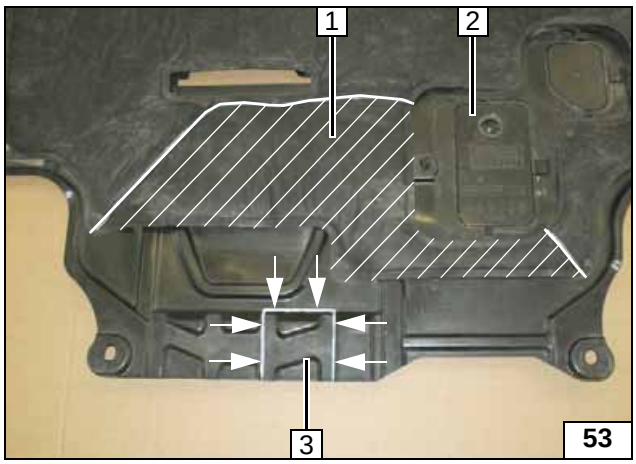
Mounting exhaust pipe



Ensure sufficient distance from neighbouring components.

1 Hose clamp
2 Exhaust end section

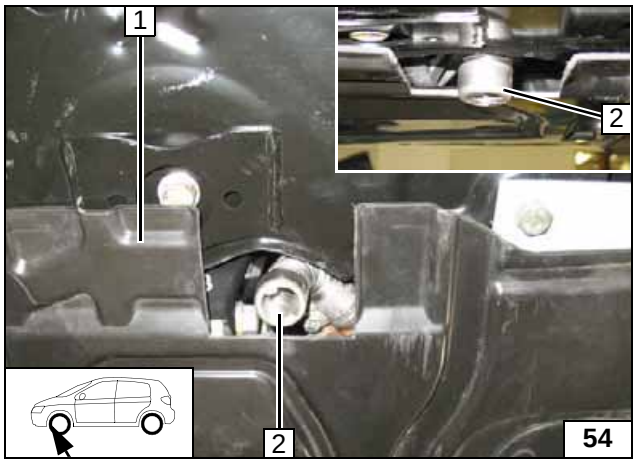
Installing exhaust end section



Remove insulation **1** in the area of the marking.

2 Underride protection
3 Discard section

Cutting out underride protection



Mount underride protection **1**. Position exhaust end section **2** in centre of recess. Ensure sufficient distance from adjacent components; correct if necessary.

Aligning exhaust end section

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 signboard "Switch off parking heater before re-fuelling" in the area of the filler neck**
- **For initial startup and function test, see installation instructions**

Webasto Thermo & Comfort SE
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82199 Gilching
Germany
Internet: www.webasto.com
Technical Extranet:
http://dealers.webasto.com

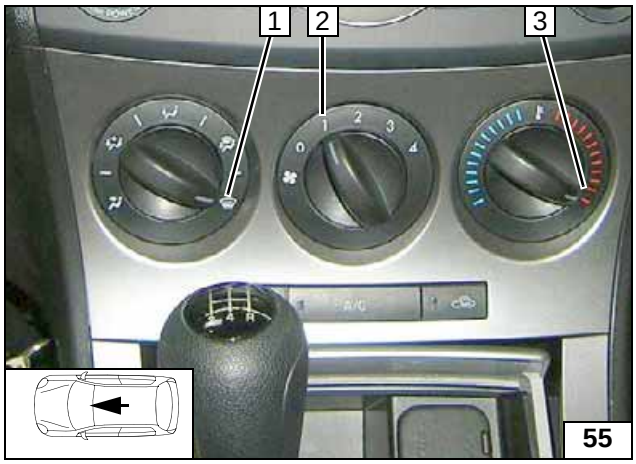
Operating Instructions for Manual Air-Conditioning

Please remove page in case of manual air-conditioning and add it 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.

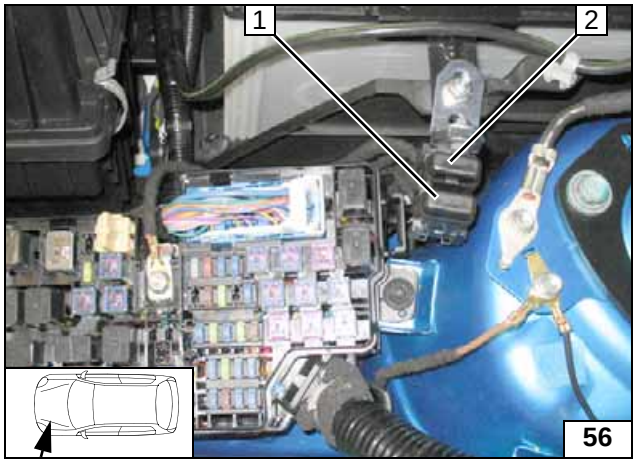
Passenger compartment monitoring, if installed, must be deactivated in addition to the vehicle settings for the heating operation.
For information on deactivation, please see the vehicle owner's manual.

Before parking the vehicle, make the following settings:



A/C control panel

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



Fuses of engine compartment

1 20A heater fuse F2
2 30A main fuse F1 of passenger compartment

Fuses of passenger compartment

1 1A fuse F3 of heater control
2 25A fan fuse F4

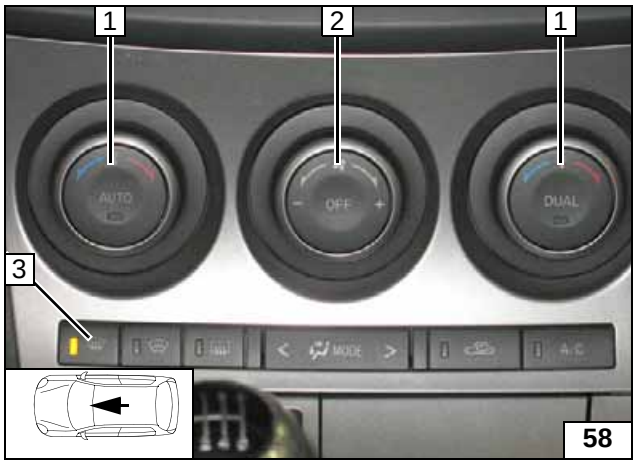
Operating Instructions for Automatic Air-Conditioning

Please remove page in case of automatic air-conditioning and add it 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.

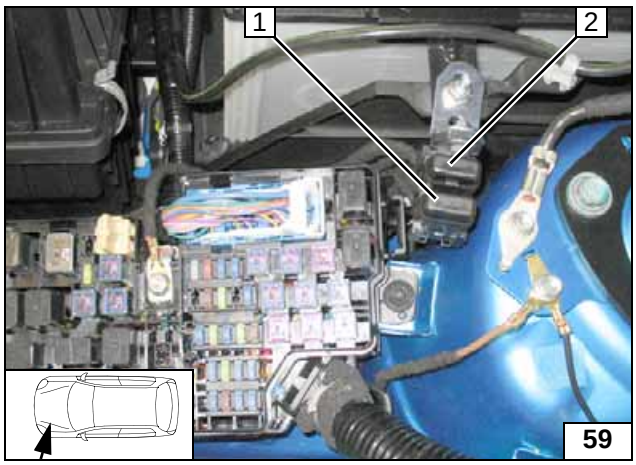
Passenger compartment monitoring, if installed, must be deactivated in addition to the vehicle settings for the heating operation.
For information on deactivation, please see the vehicle owner's manual.

Before parking the vehicle, make the following settings:



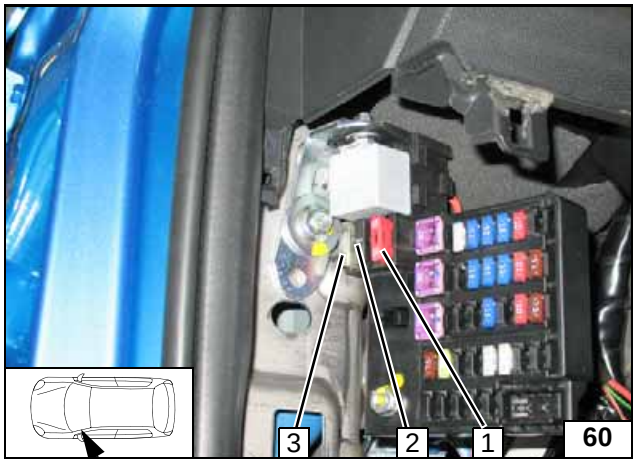
1 Set temperature on both sides to "29ºC"
2 Set fan to level "1" or max. "2"
3 Air outlet to windscreen

A/C control panel



1 20A heater fuse F2
2 30A main fuse F1 of passenger compartment

Fuses of engine compartment



1 10A fuse F5 of A/C control panel
2 1A fuse F3 of heater control
3 25A fan fuse F4

Fuses of passenger compartment