

# Water Heater Unit



**Thermo Top E Additional Heater**  00 0003

**Thermo Top C Additional Heater**  00 0002

## Installation Instructions

### Mazda 6

2.2 liter diesel  
from Model Year 2009  
Left-hand drive vehicle  
Automatic air-conditioning  
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, specialized tools and equipment are required to install and repair Webasto heating and cooling systems.

NEVER attempt to install or repair Webasto heating or cooling systems if you have not successfully completed the company training and thereby acquired the required technical skills, or if you do not have access to the required technical documentation, tools and equipment needed to carry out correct installation and repairs.

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

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

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## Validity

Manufacturer	Model	Type	EG-BE No./ABE
Mazda	6	GH	e1 * 2001/116 * 0448 * ...

Engine type	Engine model	Output in kW	Displacement in cm <sup>3</sup>
R2	Diesel	92	2184
R2	Diesel	120	2184
R2	Diesel	136	2184

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

The installation location of the digital timer should be confirmed with the end customer before installation.

**Heater Unit/Installation Kit**

Quantity	Description	Order No.:
1	Retail accessories with desired heater control	See Mazda price list
1	Installation kit for Mazda62009 2.2 liter diesel	1315000A
		Mazda Order No.: 4100-78-767
1	Bracket	Mazda Order No.: GAM6-61-4E04

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

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

The selection of the heater unit is based on the passenger compartment size of the vehicle and the level of comfort required by the customer!

**Foreword**

These installation instructions apply to Mazda 6 2.2 liter diesel vehicles - for validity, see page 2 - from model year 2009 and later, assuming technical modifications to the vehicle do not affect installation, any liability claims excluded. Depending on the vehicle version and equipment, modifications may be necessary during installation with respect to these installation instructions.

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

The corresponding rules of technology and any information from the vehicle manufacturer should be observed during the installation work.

**General Instructions**

Installation should be carried out according to the general, standard rules of technology. Unless specified otherwise, fasten hoses, lines and wiring harnesses to original vehicle lines and wiring harnesses using cable ties.

Sharp edges must be provided with rub protection (cut-open fuel hose)!

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

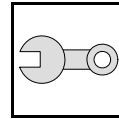
**Special Tools**

- Torque wrench for 2.0 - 10 Nm
- Hose clamping pliers

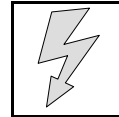
**Explanatory Notes on Document**

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.

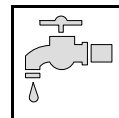
**Mechanical system**



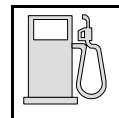
**Electrical system**



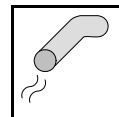
**Coolant**



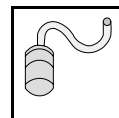
**Fuel**



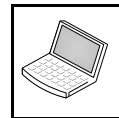
**Exhaust gas**



**Combustion air**



**Software**



Special features are highlighted using the following symbols:



Specific risk of injury or fatal accidents.



Specific risk of damage to components.



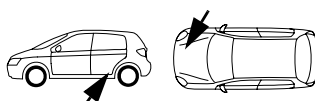
Specific risk of fire or explosion.



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



Reference to a special technical feature.



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

**All dimensions are in mm!**

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

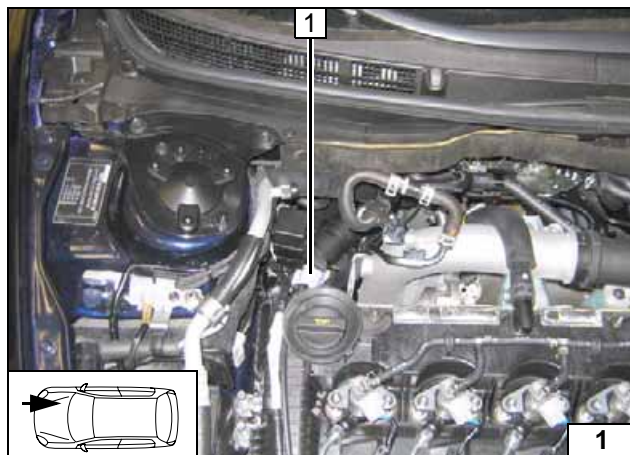
**Tightening torque of Ejet screws, Ejet studs = 10 Nm!**

## Preliminary Work

### WARNING!

- Open the fuel tank cap and vent the fuel tank.
- Close the tank cap again.
- Disconnect and remove the battery.
- Depressurize the cooling system.
- Copy the factory number from the original type label to the duplicate type label.
- Remove years that do not apply from the duplicate label.
- Attach the duplicate label (type label) in the appropriate place.
- Remove the engine cover.
- Remove the air filter together with the intake hose
- Remove the underbody trim on the left.
- Remove the engine underride protection.
- Detach the rear bench seat on the left and fold up.
- Remove the rocker panel trim on the driver's side at the front.
- Remove the lower cover of the A-pillar trim in the driver's side footwell.
- Detach the BCM in the driver's side footwell.
- Remove the instrument panel trim below the steering wheel (only with Telestart T100 HTM).
- Remove the A/C control panel in accordance with the manufacturers specifications.

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



### Heater unit installation location

- 1 Heater unit

Installation location



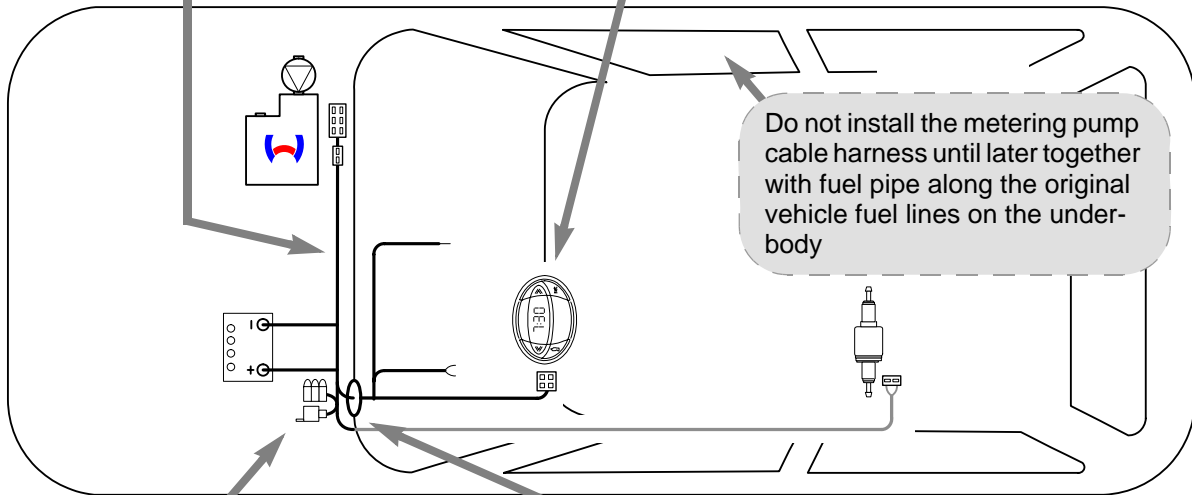
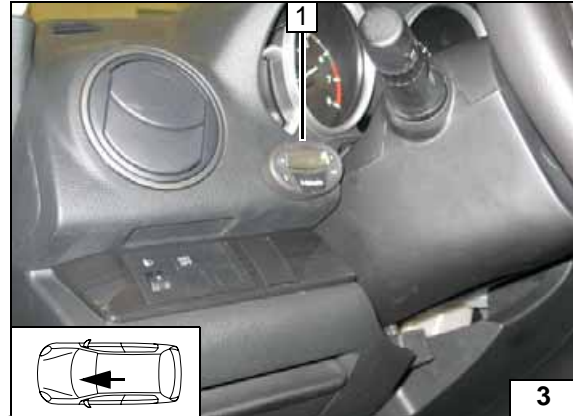
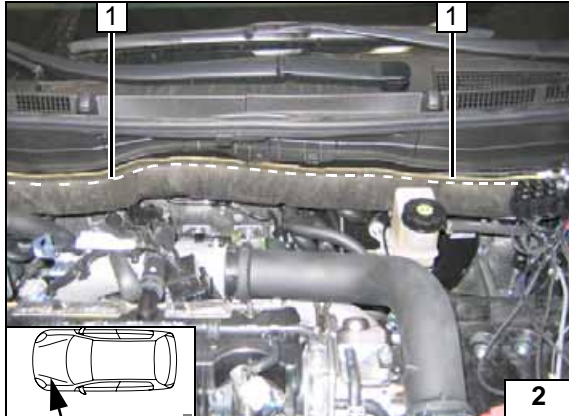
**Electrical system**

**Routing wiring harness**

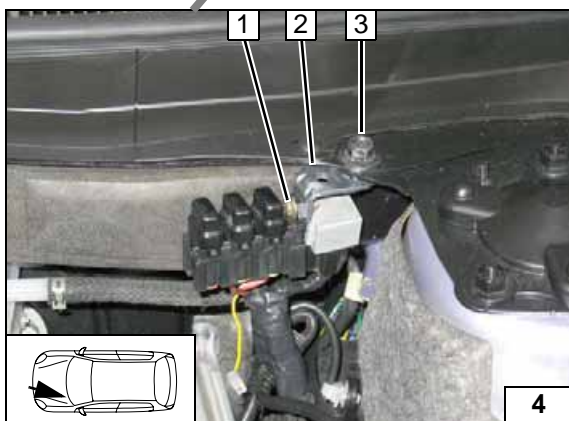
Route wiring harness of heater unit and wiring harness of metering pump behind insulation mat to right-hand side of vehicle.

**Digital timer**

1 Digital timer



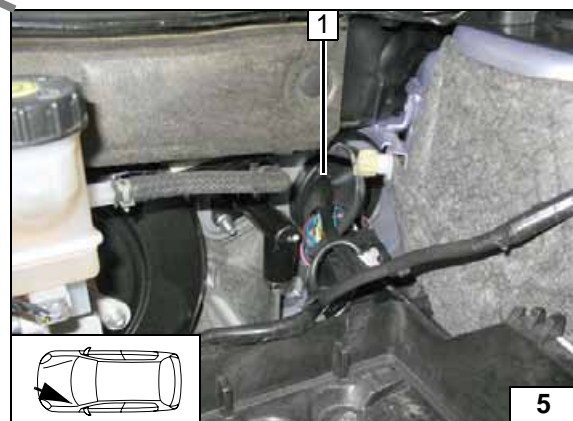
**Wiring harness installation diagram**



**Fuse holder, K3 relay**

Replace 25 A fuse F3 with 10 A fuse.

- 1 M5x16 bolt, washer, fuse holder, K3 relay, flanged nut
- 2 Angle bracket
- 3 Original vehicle bolt

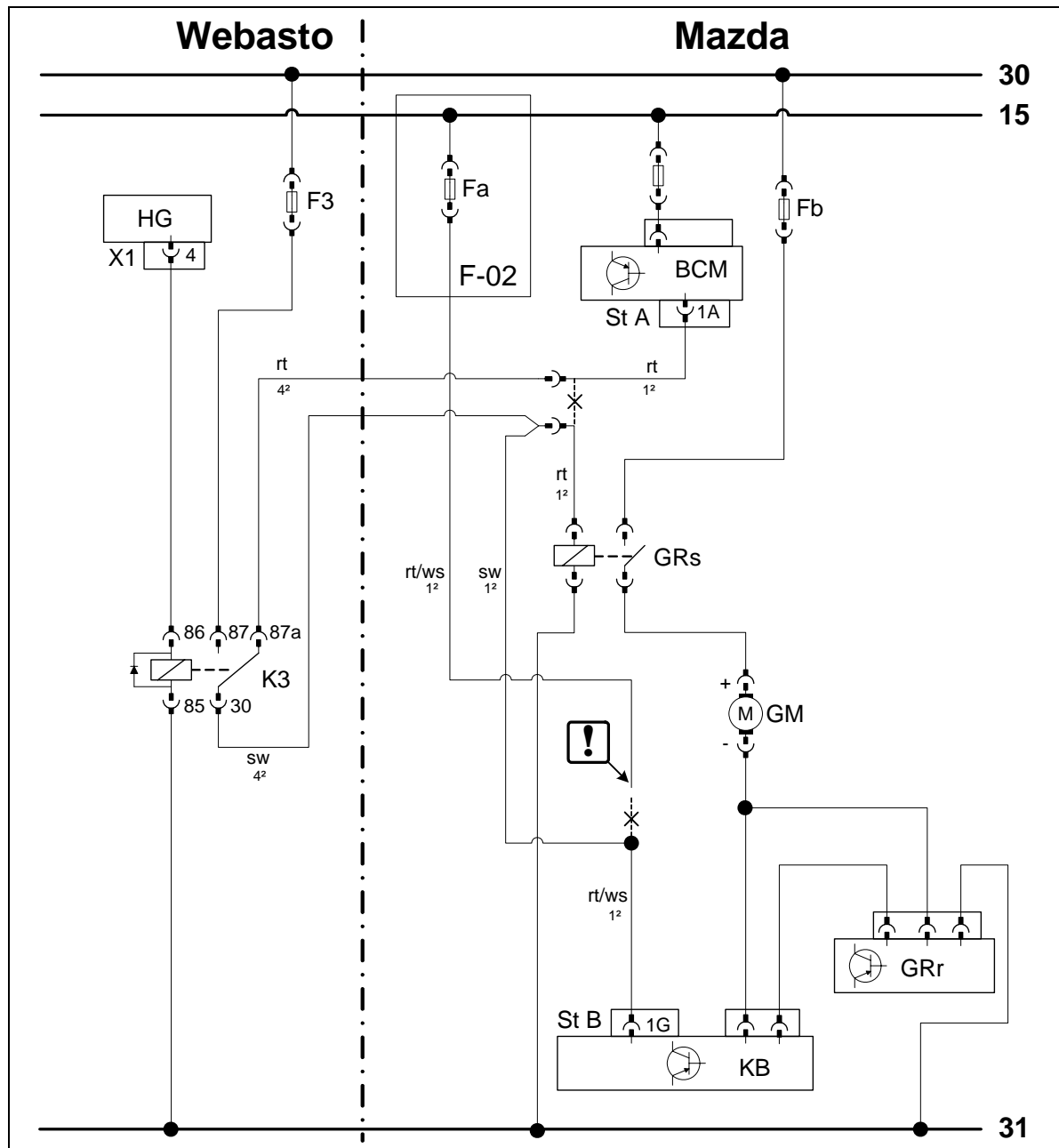


**Wiring harness pass through**

1 Protective rubber plug



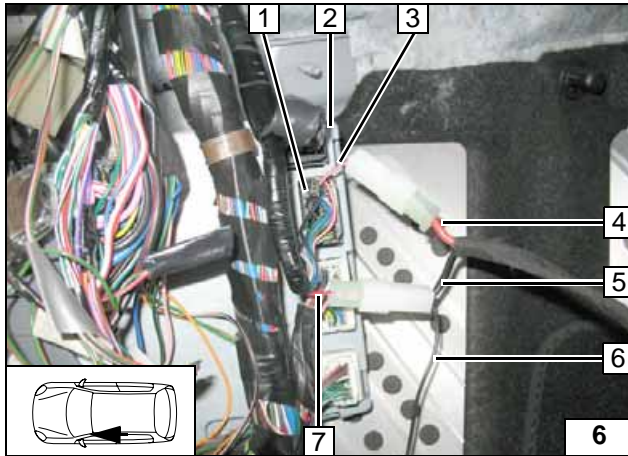
Fan controller



Wiring diagram

Webasto components		Vehicle components		Colors and symbols	
HG	Heater unit TT-C/E	GM	Fan motor	rt	red
X1	6-pin heater unit connector	GRs	Fan relay	ws	white
F3	Replace 25 A with 10 A fuse.	GRr	Fan controller	sw	black
K3	Fan relay	BCM	Body Control Module		
		STA	24-pin connector of BCM, black (0940-01A)		
		KB	A/C control panel		
		St B	24-pin connector KB (0740-201A), Pin 1G		
				X	Cutting point
					Wiring colors may vary.

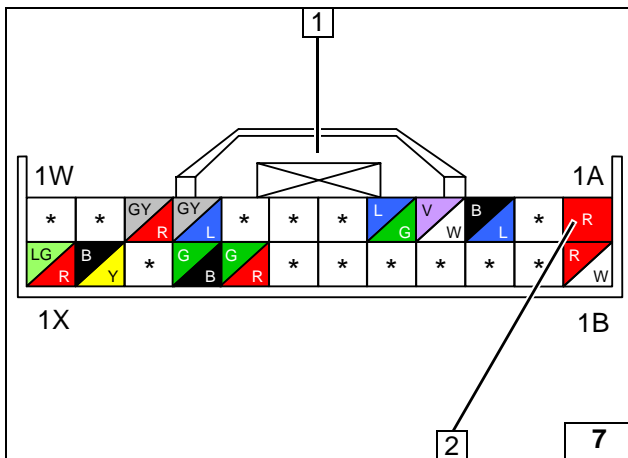
Legend



Connection on 24-pin connector 0940-01A color black (sw) **1** from BCM **2nd** connector is locate on rear side of BCM!  
Produce connections as shown in wiring diagram.  
Wiring colors may vary.

- 3** Red (rt) wire of connector
- 4** Red (rt) wire from K3/87a
- 5** Black (sw) wire from K3/30
- 6** Route black (sw) wire 1<sup>2</sup> to A/C control panel
- 7** Red (rt) wire of fan relay

**Conne-  
ction of fan  
relay on  
BCM**



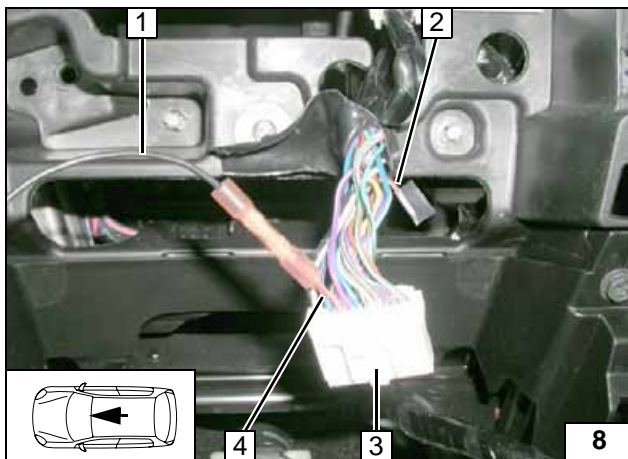
24-pin connector 0940-01A, color black **1** from BCM (on wire side)

- 2** Socket 1A, red (rt) wire

**Cable colors:**

- R - red
- W - white
- B - black
- L - blue
- V - violet
- G - green
- GY - gray
- LG - light green
- Y - yellow

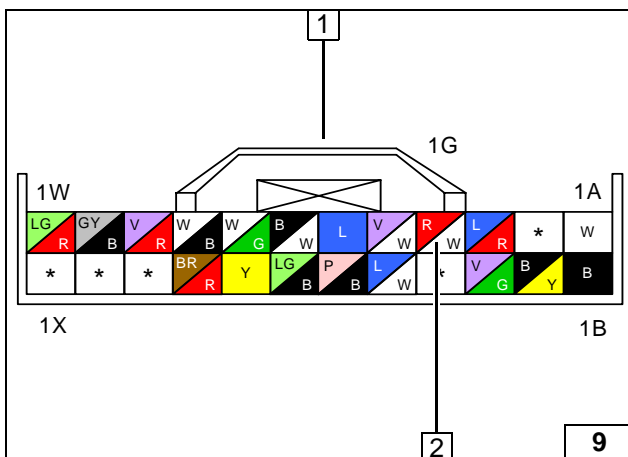
**BCM con-  
nector**



Connection on connector B **3** of A/C control panel, Pin 1G.  
Produce connections as shown in wiring diagram.

- 1** Black (sw) wire 1<sup>2</sup>
- 2** Insulate red/white (rt/ws) wire of 10 A air-conditioner fuse and tie back
- 4** Red/white (rt/ws) wire of connector B, Pin 1G

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



24-pin connector 0740-201A, white **1** of A/C control panel (on wire side)

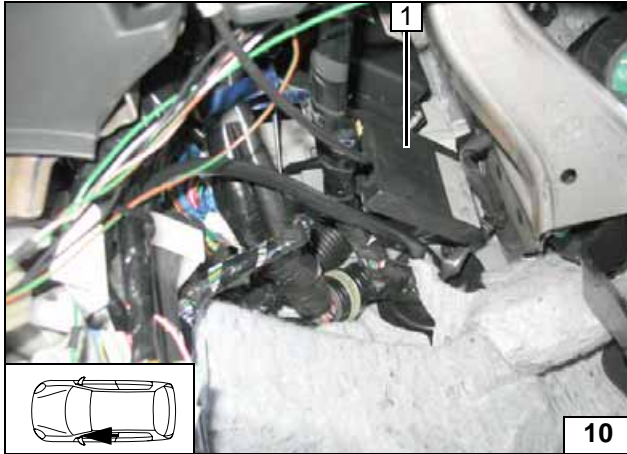
- 2** Socket 1G, red/white (rt/ws) wire

**Cable colors:**

- R - red
- W - white
- B - black
- L - blue
- V - violet
- G - green
- GY - gray
- LG - light green
- Y - yellow
- BR - brown
- P - pink

**Connector  
KB**



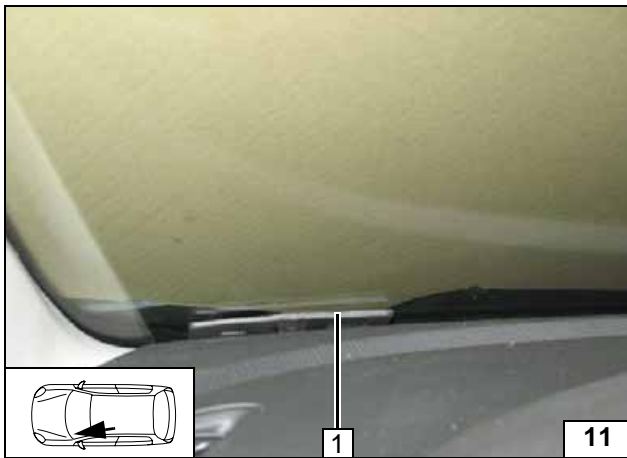


**Remote option (Telestart)**

- 1 Receiver, original vehicle stud bolt, original vehicle flanged nut

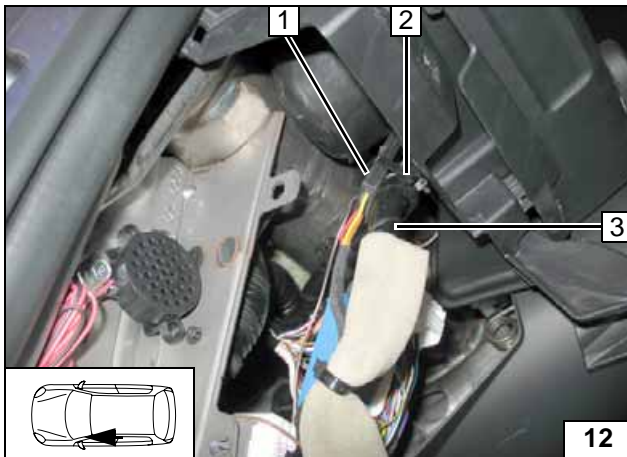


**Installing receiver**



- 1 Antenna

**Installing antenna**

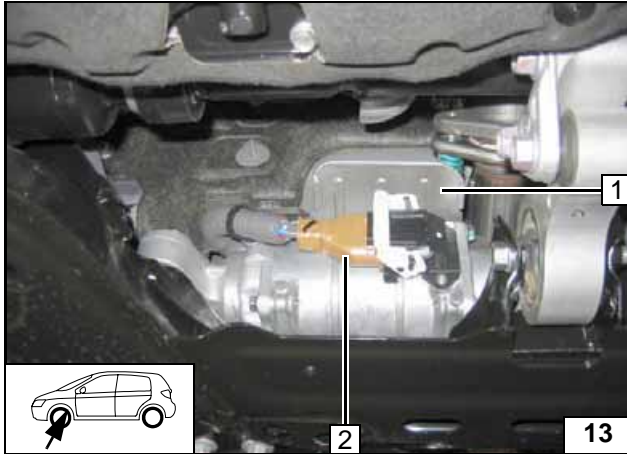


**Temperature sensor for HTM100 only**

- 1 Temperature sensor
- 2 Cable tie
- 3 Original vehicle wiring harness



**Installing temperature sensor**

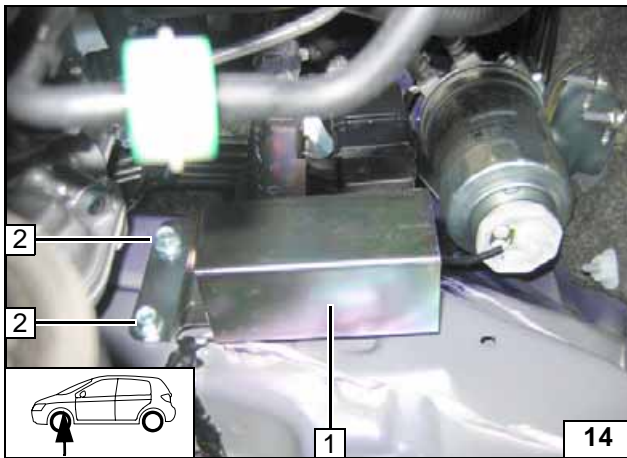


**Preparing installation location**

Remove heat guard plate **1**; will be remounted there later.

**2** Pull off connector

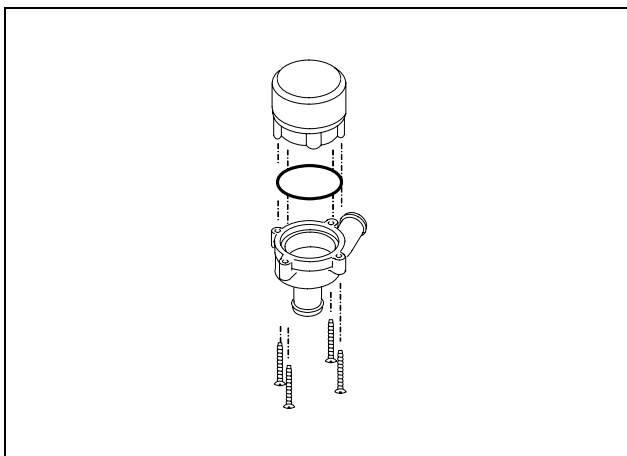
**Disconnecting connector**



Remove bracket **1**. Disconnect original vehicle wiring harness and relay from bracket. Bracket and original vehicle bolts **2** will be re-used!



**Installing bracket**

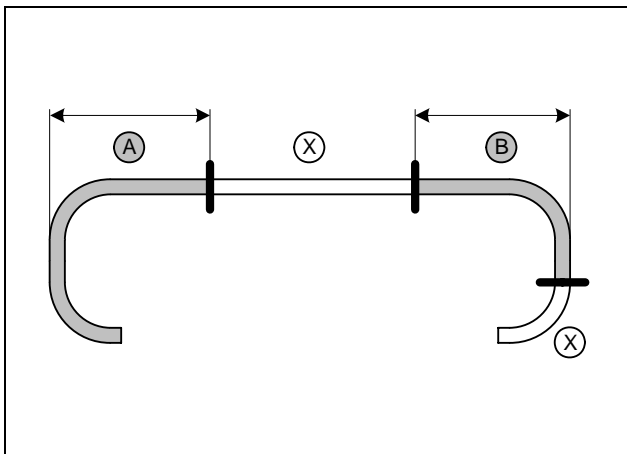


**Preparing heater unit**

Replace cover of circulating pump with cover with axial outlet.



**Replacing cover of circulating pump**

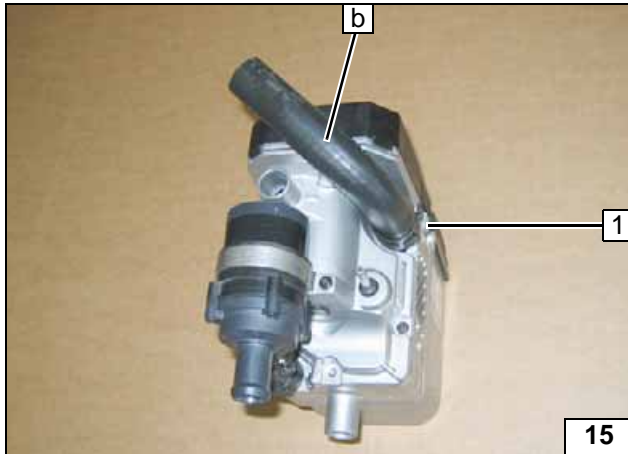
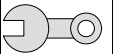


Discard section **X**.  
Cut off hose **B** just before elbow.

a = 200  
b = 120

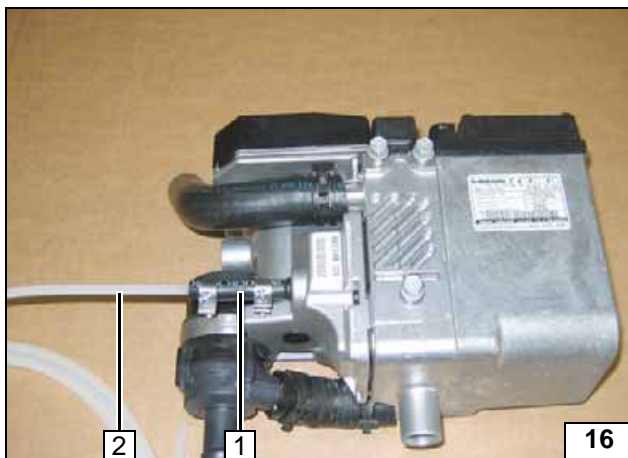


**Cutting coolant hoses to length**



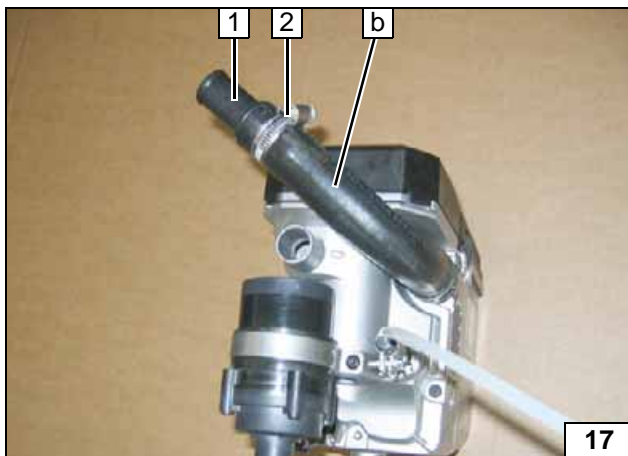
1 27 mm dia. spring clip

Preassembling hose B



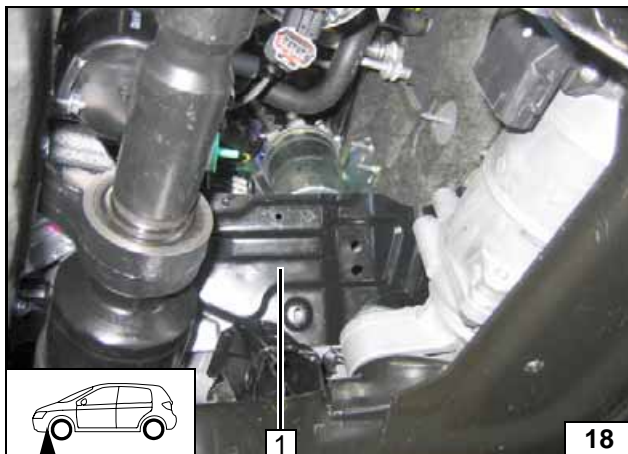
1 Hose section, 10 mm dia. clamp [2x]  
2 Fuel line

Premounting fuel hose on heater unit



1 18x20 connecting pipe  
2 27 mm dia. hose clamp

Installing connecting pipe

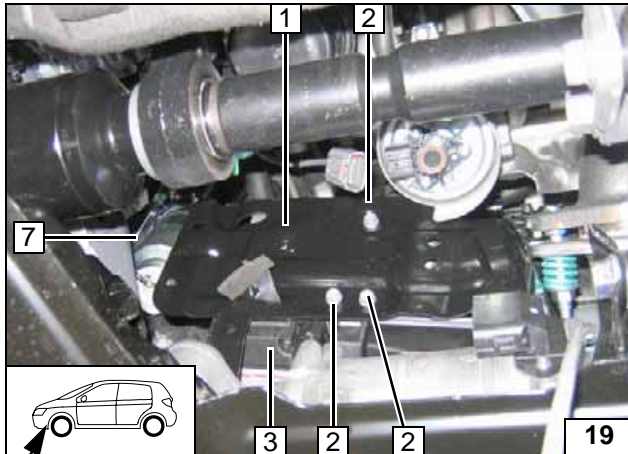
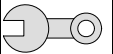


**Installing heater unit**

Guide bracket 1 to installation location.



Installing heater unit

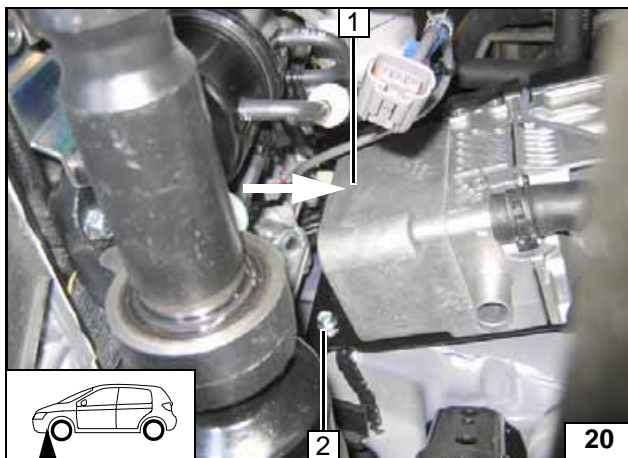


Install heater unit 3 on bracket 1.

- 2 Ejot screw [3x]



**Installing heater unit**

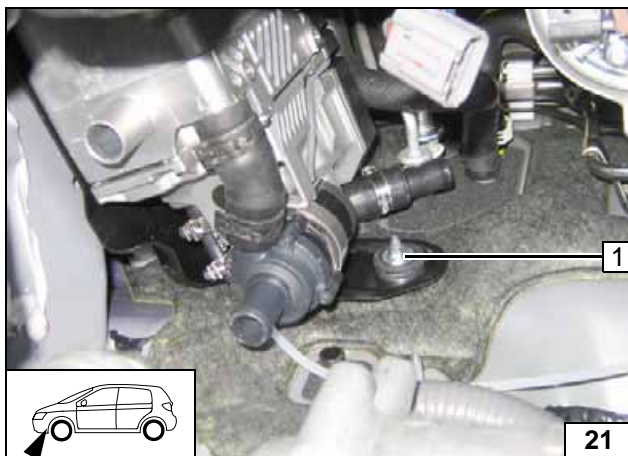


Install bracket on original vehicle threaded holes.

- 1 Original vehicle bolt, covered by heater unit
- 2 Original vehicle bolt



**Installing bracket**

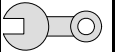


Install bracket on original vehicle stud bolt.

- 1 Flanged nut, large diameter washer, original vehicle stud bolt



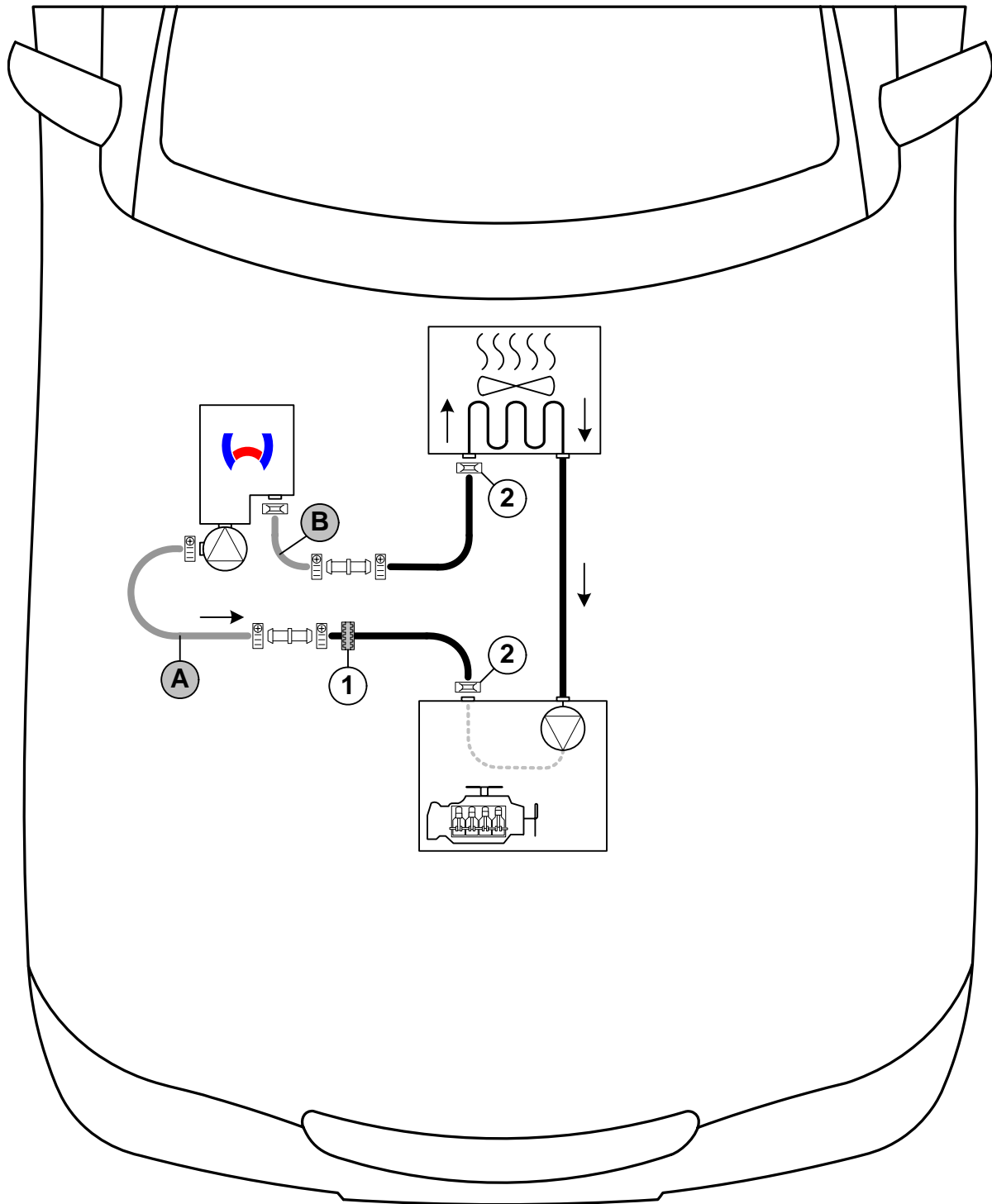
**Installing bracket**





## Coolant


### WARNING!


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




Coolant routing diagram

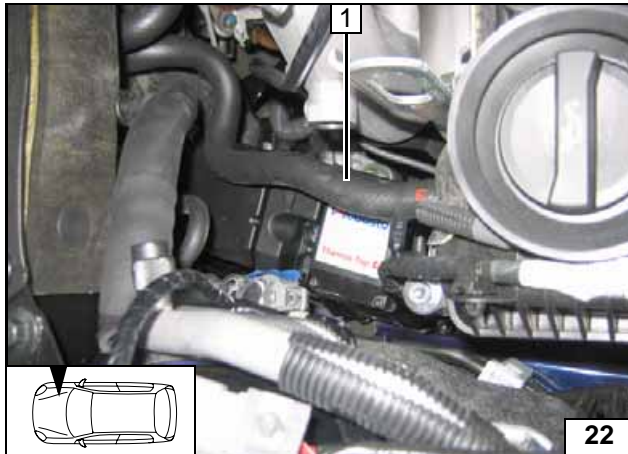
Non-designated spring clip  = 27 mm dia. All connecting pipes  = 18x20 mm dia.

All hose clamps without a specific designation  = 20-27 mm dia.

1 = Black (sw) rubber isolator .

2 = Original vehicle spring clip .

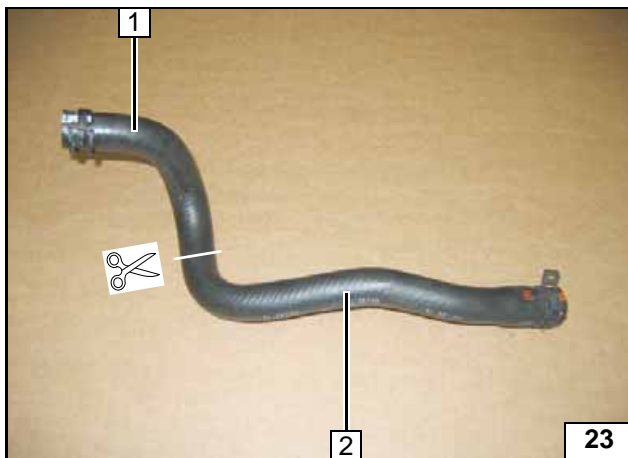




Remove hose from engine outlet/heat exchanger inlet 1. Spring clips will be reused!

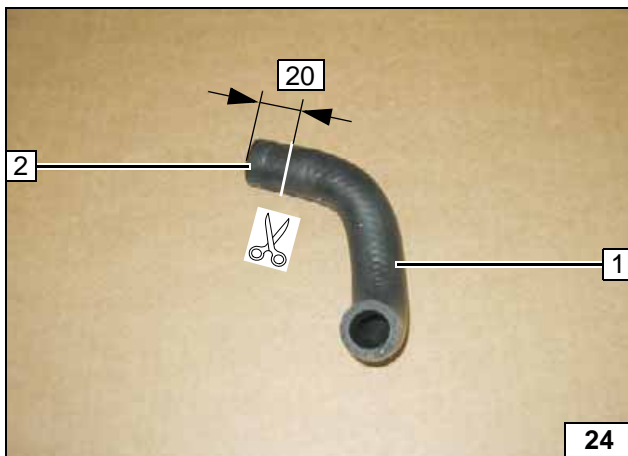


Cutting point



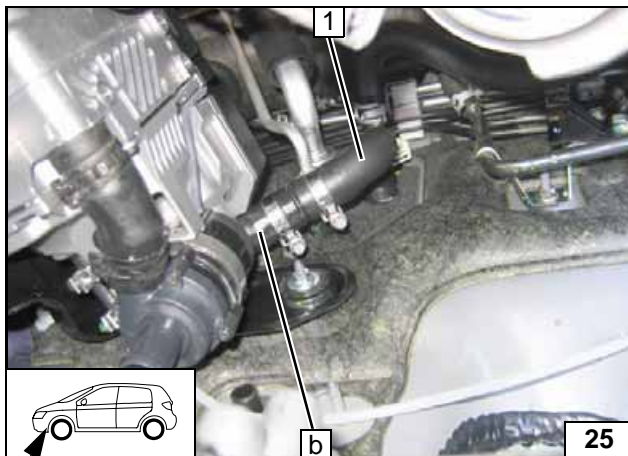
1 Hose section of heat exchanger inlet  
2 Engine outlet hose section

Cutting point



1 Shorten hose section to heat exchanger inlet  
2 Discard section

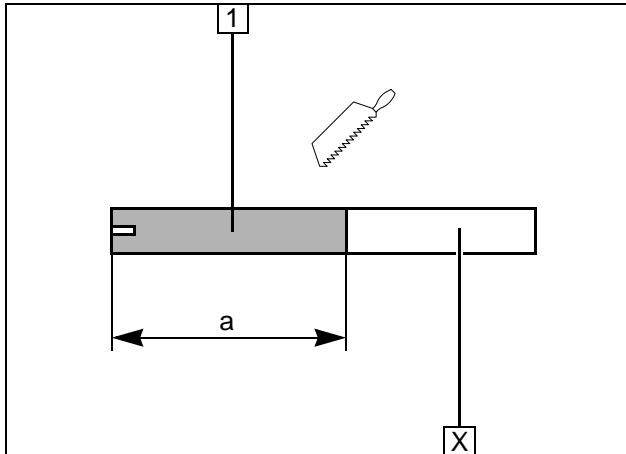
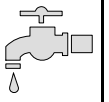
Cutting point



Mount hose on heat exchanger inlet 1 with original vehicle spring clip and connect to hose B.



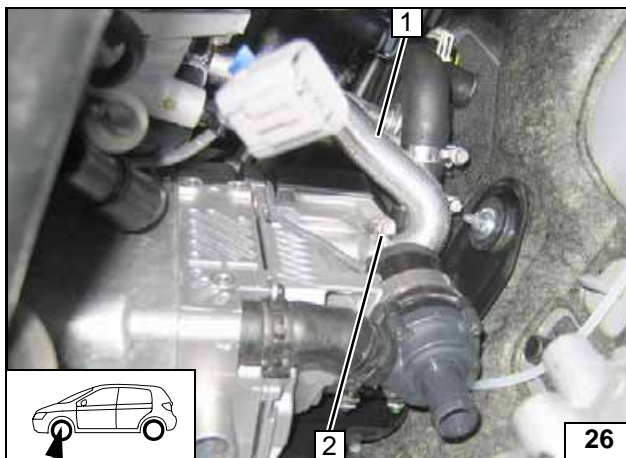
Connecting heat exchanger inlet



Discard section **X**.

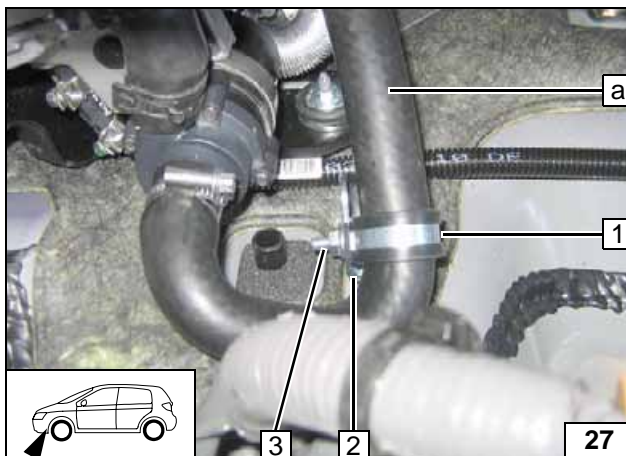
- 1 Combustion air pipe  
a = 250

Cutting combustion air pipe to length



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

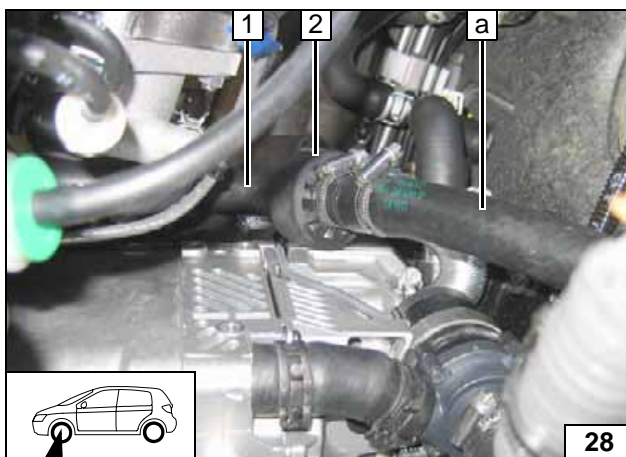
Installing combustion air pipe



Install angle bracket **2** with flanged nut on original vehicle stud bolt.

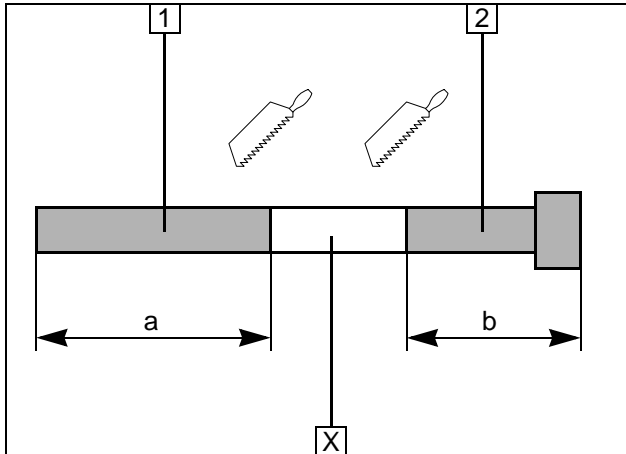
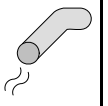
- 1 29 mm dia. rubber-coated p-clamp
- 3 M6x20 bolt, flanged nut

Connecting heater unit inlet



Install hose on engine outlet **1** with original vehicle spring clip. Slide black (sw) rubber isolator **2** onto hose on engine outlet **1**. Connect hose on engine outlet **1** and hose **A**. Ensure sufficient distance to neighboring components.

Connecting engine outlet



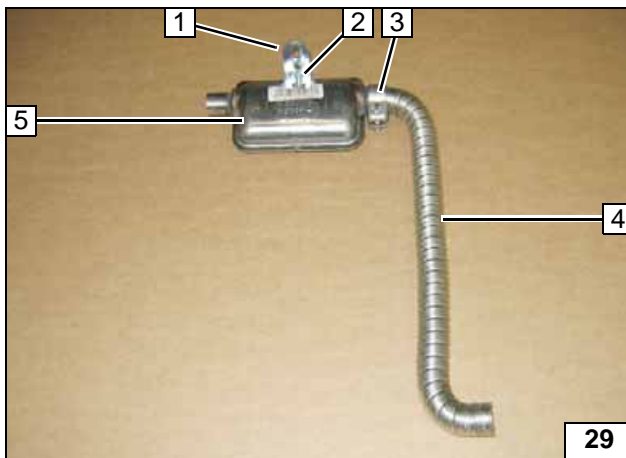
**Exhaust gas**

Discard section X.

- 1 Exhaust pipe  
a = 380
- 2 Exhaust end section  
b = 400

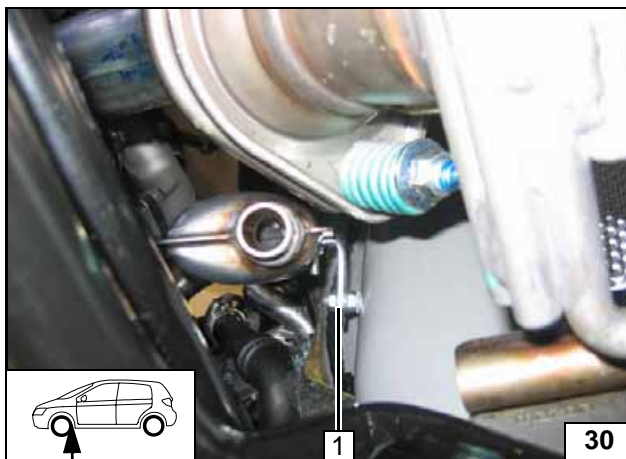


**Preparing exhaust pipe**



- 1 Angle bracket
- 2 M6x20 bolt, flanged nut
- 3 Hose clamp
- 4 Exhaust pipe
- 5 Muffler

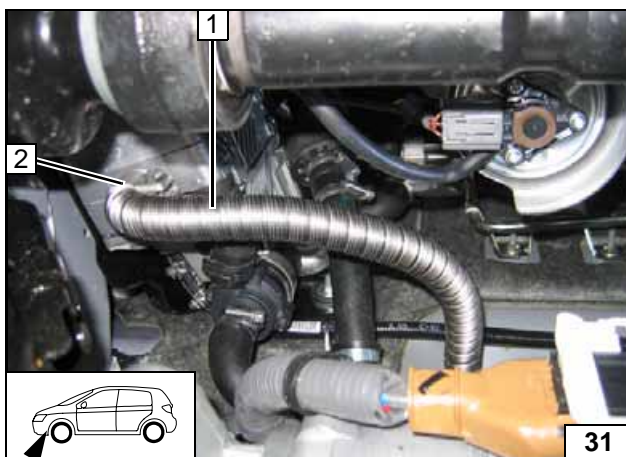
**Preassembling muffler**



Install angle bracket on original vehicle stud bolt 1 with 2 flanged nuts.



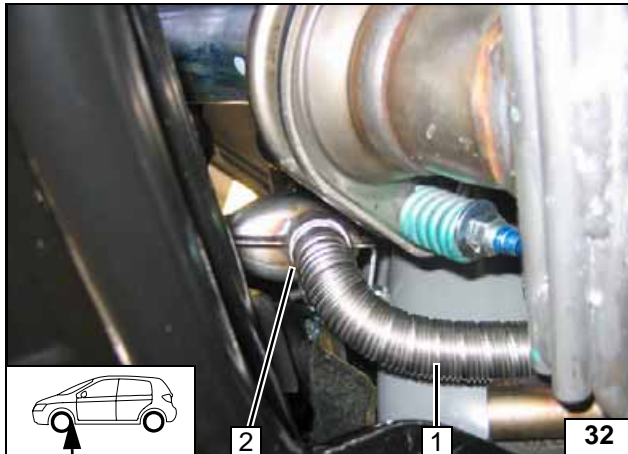
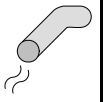
**Installing muffler**



- 1 Exhaust pipe
- 2 Hose clamp

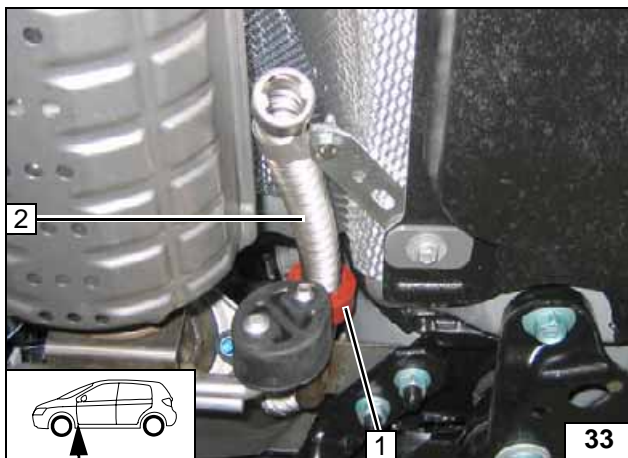
**Installing exhaust pipe**





- 1 Exhaust end section
- 2 Hose clamp

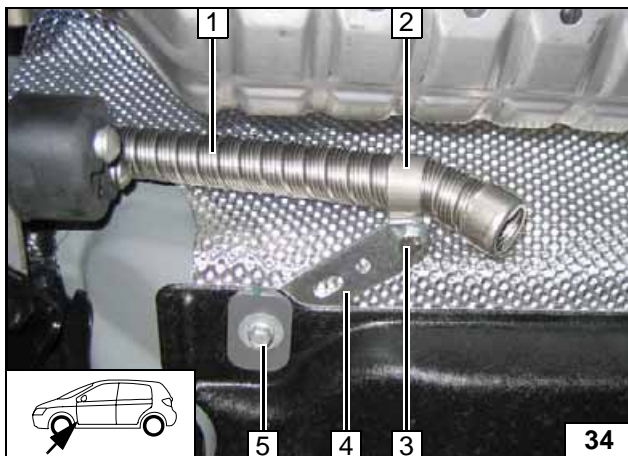
**Installing  
end sec-  
tion**



Slide red (rt) rubber isolator 1 onto exhaust end section 2.



**Routing  
exhaust  
end sec-  
tion**



Ensure sufficient distance to neighboring components.



- 1 Exhaust end section
- 2 P-clamp
- 3 M6x20 bolt, flanged nut
- 4 Perforated bracket
- 5 Original vehicle bolt

**Fastening  
exhaust  
end sec-  
tion**



**Fuel**

**CAUTION!**

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

Catch any fuel running off with an appropriate container.

Install fuel line and metering-pump wiring harness so that they are protected against stone impact. Unless specified otherwise, always fasten using cable ties. Mount the fuel line and wiring harness with rub protection on sharp edges.

**WARNING!**

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



Route fuel line and wiring harness of metering pump in corrugated tube 1 to left-hand side of vehicle

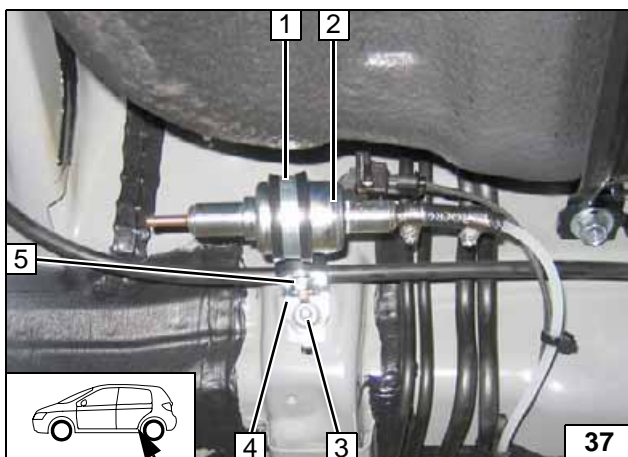
Installing lines



Route fuel line and wiring harness of metering pump 1 along original vehicle lines and secure with cable ties.



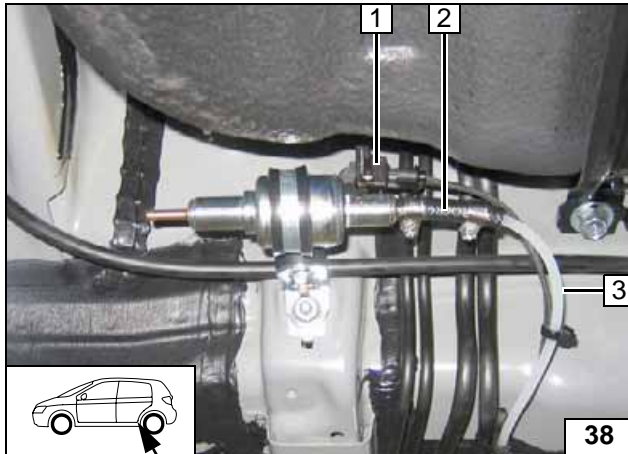
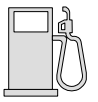
Wiring routing



- 1 Rubber-coated pipe clamp
- 2 Metering pump
- 3 Original vehicle bolt
- 4 Angle bracket
- 5 Silent block, flanged nut [2x]



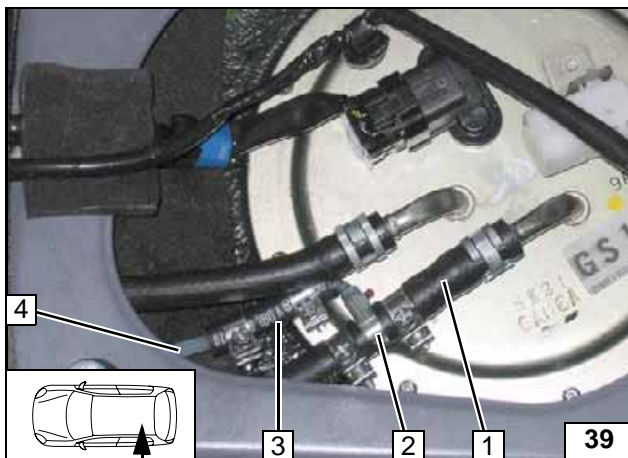
Installing metering pump



- 1 Wiring harness of metering pump, connector mounted
- 2 Hose section, 10 mm dia. clamp [2x]
- 3 Fuel line



Connect-  
ing meter-  
ing pump

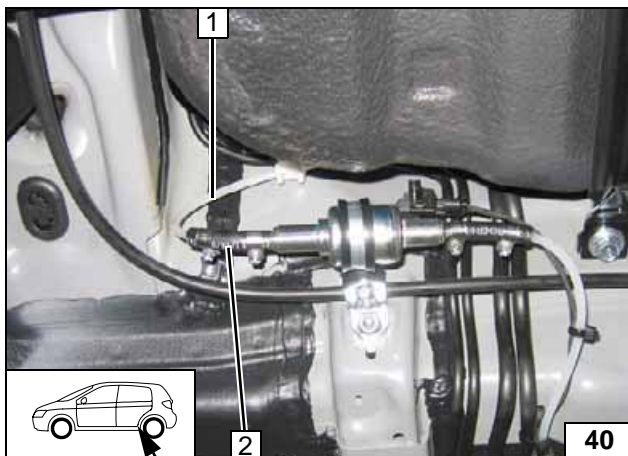


Cut off fuel supply line 1 approx. 50 mm before connection piece.

- 2 8x5x8 fuel standpipe, 12 mm dia. clamp [2x]
- 3 Hose section, 10 mm dia. clamp [2x]
- 4 Fuel line



Removing  
fuel

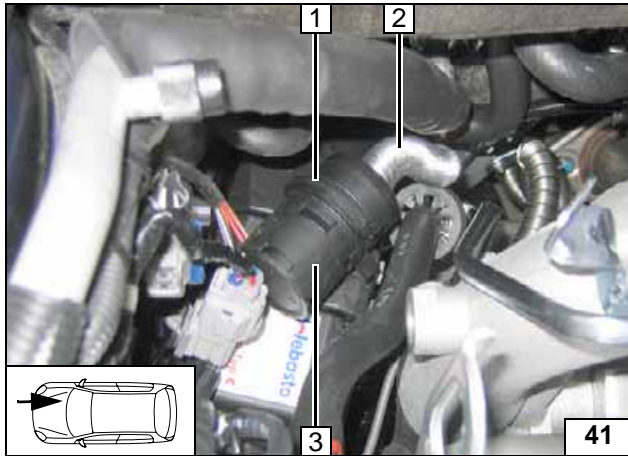
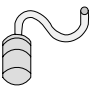


Check the position of the components; adjust if necessary. Check that they have free clearance.

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



Connect-  
ing meter-  
ing pump



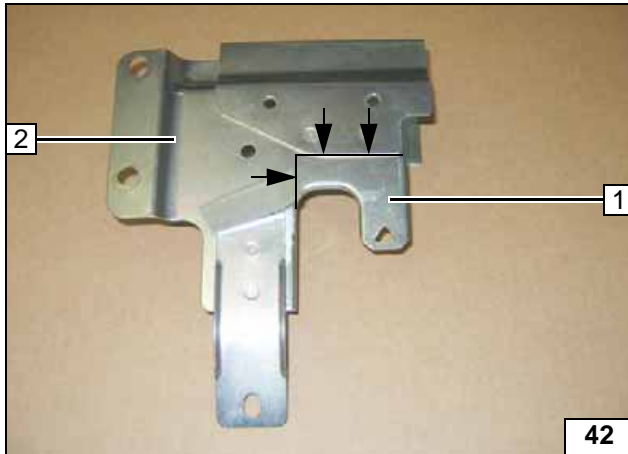
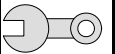
**Combustion air**

Break through perforation in center heater unit cover and mount retaining clip 1.

- 2 Combustion air pipe
- 3 Muffler



**Installing  
muffler**

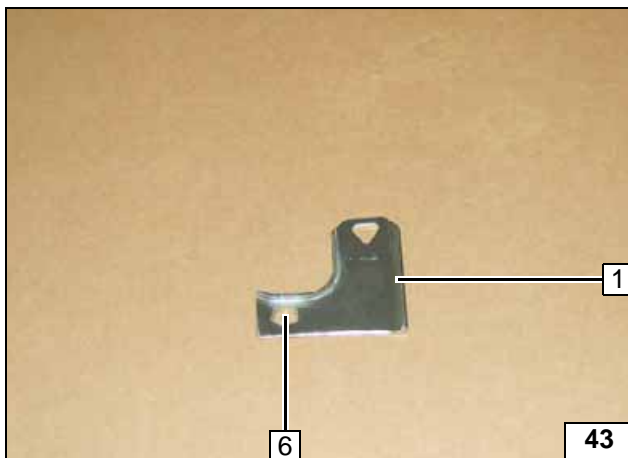


**Installing relay**

Cut out relay bracket 1 at marking. Discard section 2

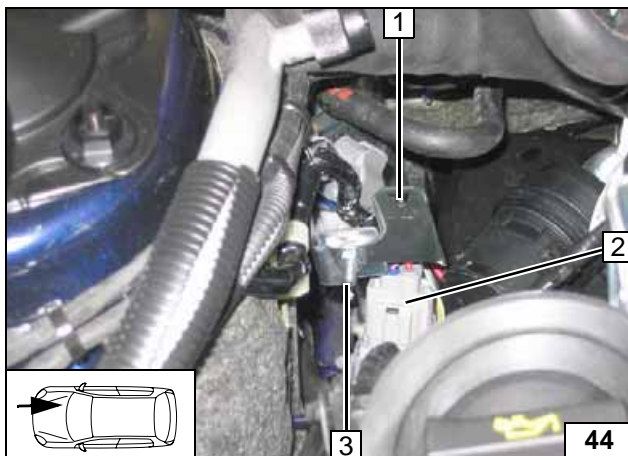


**Preparing bracket**



- 1 Relay bracket
- 2 6.5 mm dia. hole

**Hole in bracket**

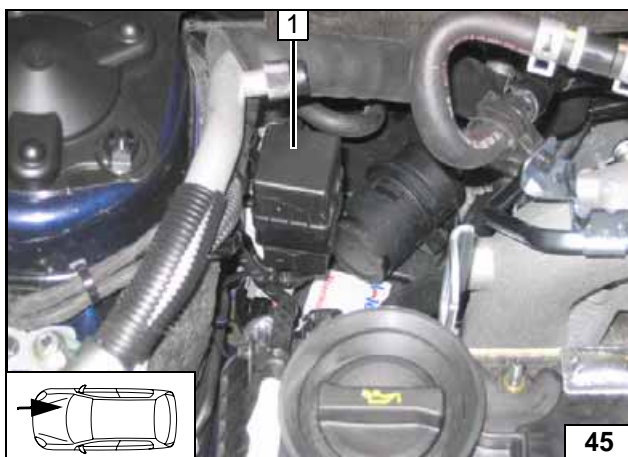


Remove connector 2 from position 3 and fasten on original vehicle wiring harness with cable tie.

- 1 Relay bracket
- 3 M6x20 bolt, flanged nut, existing hole

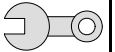


**Installing bracket**



- 1 Relay mounted

**Installing relay**



## Final Work

### WARNING!

Mount removed parts in reverse order.

Check all hoses, clamps and all electrical connections for firm seating.

Secure all loose cables using cable ties.

Only use manufacturer-approved coolant.

Spray heater unit 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.
- Make settings on A/C control panel according to the "Operating Instructions for End Customer".
- Check the proper operation of the additional heater, see the operating instructions/installation instructions.
- Attach the "Switch off additional heater before refueling" sticker to the left-hand B-pillar.



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## Operating Instructions for End Customer

Please remove page and add to the vehicle operating instructions.

### Note:

We recommend matching the heating time to the driving time.

Heating time = driving time

### Example:

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

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

Before parking the vehicle, make the following settings:



- 1 Air outlet to windshield
- 2 Set temperature on both sides to "29"
- 3 Set fan to level "1", or possibly "2"

Automatic  
air-conditioning