

Water Heater



Thermo Top E Parking Heater


00 0003

Thermo Top C Parking Heater


00 0002

Thermo Top P Parking Heater


00 0104

Installation documentation

Mazda 6

Gasoline

from Model Year 2008

Left-hand drive vehicle

Manual transmission



WARNING!

Hazard warning:

Incorrect installation or repair of Webasto heating systems may cause a fire or result in the emission of carbon monoxide, which can be fatal. Serious or fatal injuries can be caused as a result.



Specialist company training, technical documentation, specialised tools and equipment are required to install and repair Webasto heating and cooling systems. Only original Webasto parts must be used. For this, also see the catalog of air and water heater accessories from Webasto.

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

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

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

Table of contents

Validity	2	Preparing installation location	11
Heater/Installation Kit	3	Preassembling bracket	11
Foreword	3	Premounting heater	13
General instructions	3	Installing heater	14
Special tools	3	Fuel	15
Explanatory notes on document	4	Combustion air	17
Preliminary work	5	Exhaust gas	18
Heater installation location	5	Coolant circuit	20
Electrical system	6	All except 2.0 114KW	21
Fan controller	7	2.0 114 KW only	22
All vehicles	8	Final Work	24
Automatic air-conditioning	8	Template for Fuel Standpipe	25
Manual air conditioner	9	Operating Instructions for End Customer	26
Remote option (Telestart)	10		

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 ³
L8	Gasoline	88	1798
L5	Gasoline	108	1999
LF	Gasoline	114	1999
LF	Gasoline	122	2488
L5	Gasoline	125	2488

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

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

Heater/Installation Kit

Quantity	Description	Order No.:
1	Retail accessories <i>Thermo Top E / C / P</i>	See Mazda price list
1	Installation kit for Mazda 6 Gasoline	1313389A
	Mazda Order No.:	4100-78-760
1	Heater control	See Mazda price list

Heater recommended for the respective vehicle class:

Vehicle	Heater
Compact car	Thermo Top E
Mid-size car, station wagon	Thermo Top C
Full-size car, van, offroader	Thermo Top P

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

**Foreword**

This installation document applies to the Mazda 6 Gasoline vehicles - for validity, see page 2 - from model year 2008 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/P/E* must always be observed.

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

General instructions

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

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

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

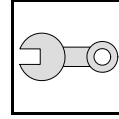
Special tools

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

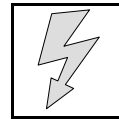
Explanatory notes on document

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

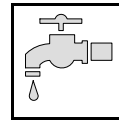
Mechanical system



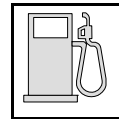
Electrical system



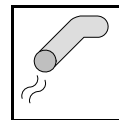
Coolant circuit



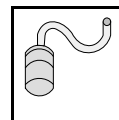
Fuel



Exhaust gas



Combustion air



Special features are highlighted using the following symbols:



Specific risk of injury or fatal accidents.



Specific risk of damage to components.



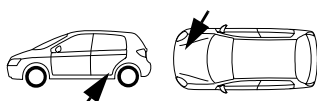
Specific risk of fire or explosion.



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



Reference to a special technical feature.



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

All dimensions are in mm!

Tightening torque of hose clamps = 2.0 + 0.5 Nm!

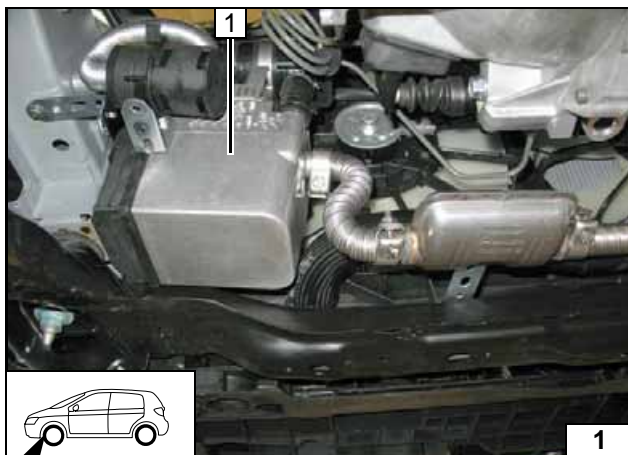
Tightening torque of Ejet screws, Ejet studs = 10 Nm!

Preliminary work

WARNING!

- Open the fuel tank cap and vent the fuel tank.
- Close the tank cap again.
- Disconnect the battery "earth" or "ground" connection.
- 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.
- Completely remove the battery.
- Remove the air filter together with the intake hose
- Remove the left-hand vehicle underbody trim.
- Remove the lower engine cover.
- 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 according to the manufacturer's instructions (only with automatic air-conditioning).

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



Heater installation location

1 Heater

Installation location

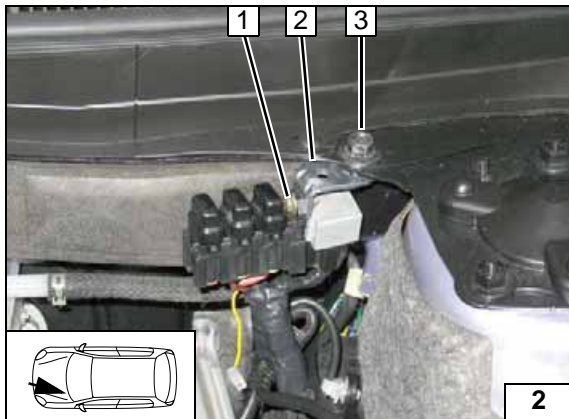


Electrical system

Fuse holder, K3 relay

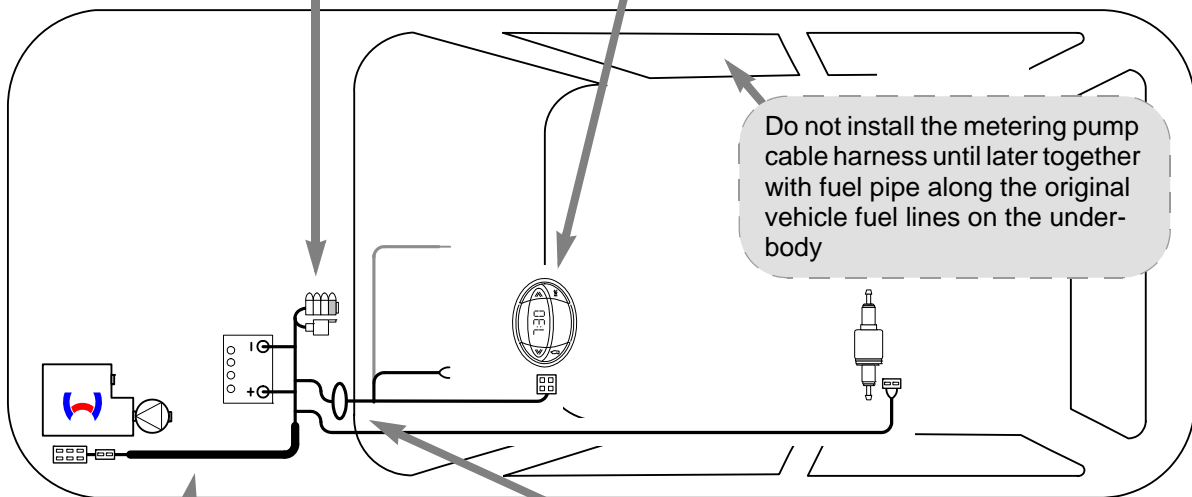
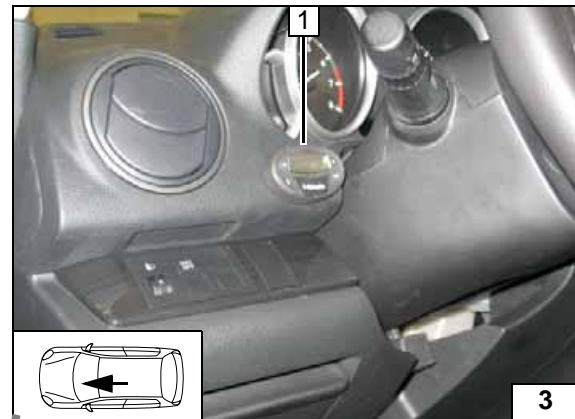
Replace 25 A fuse F3 with 10 A fuse.

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

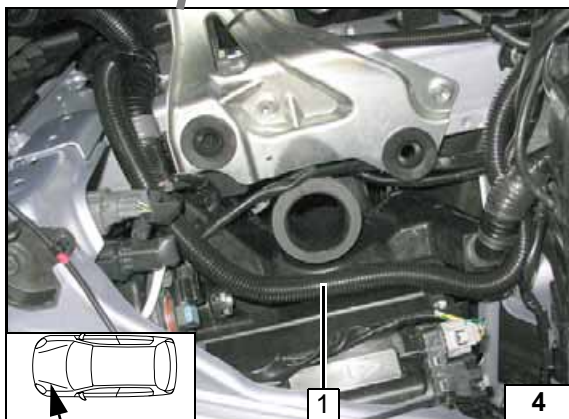


Digital timer

- 1 Digital timer

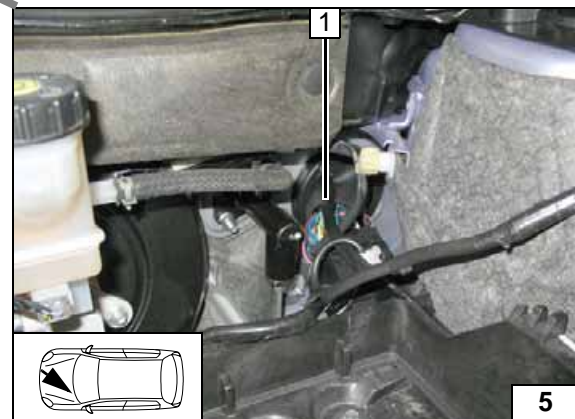


Wiring harness installation diagram



Installing wiring harness of heater in corrugated tube

Slit 17 mm dia. corrugated tube, pull in wiring harness of heater and route to installation location of heater.



Wiring harness pass through

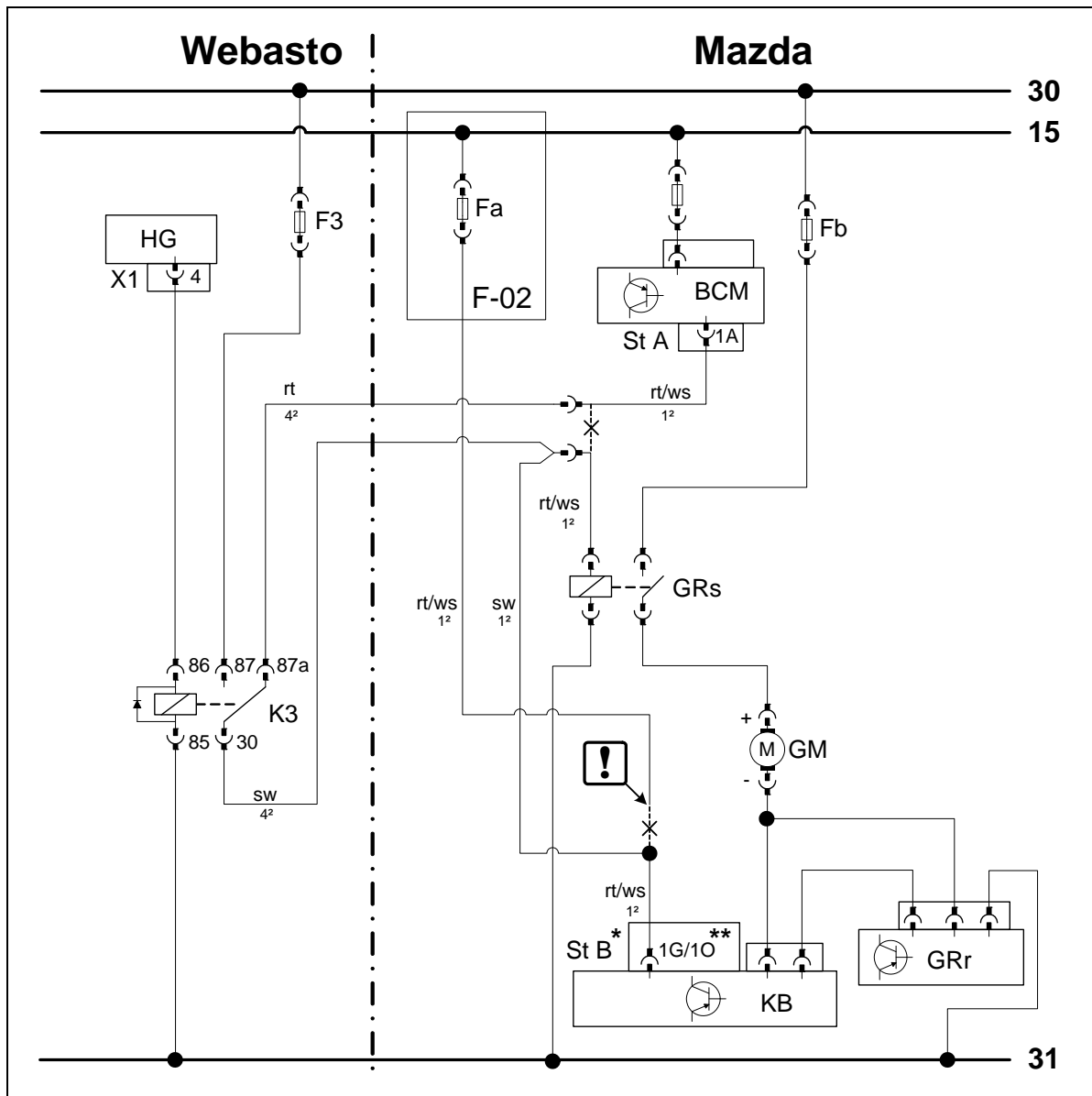
- 1 Protective rubber plug




Fan controller

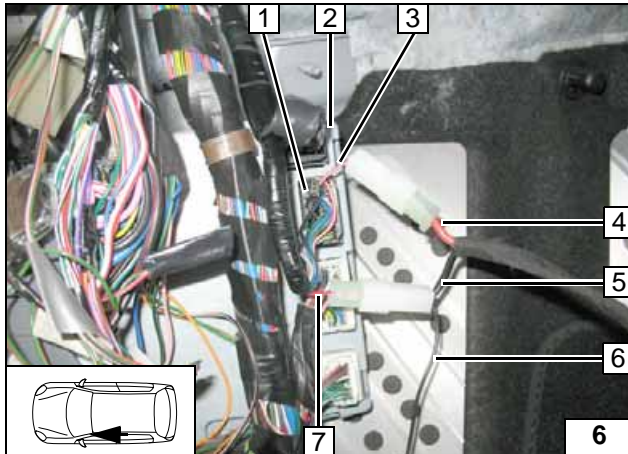


Wiring diagram



Webasto components		Vehicle components		Colours and symbols	
HG	Heater TT-C/E/P	GM	Fan motor	rt	red
X1	6-pin heater connector	GRs	Fan relay	ws	white
F3	Replace 25 A with 10 A fuse.	GRr	Fan controller	sw	black
K3	Fan relay	Fb	40 A heater fuse		
		BCM	Body Control Module		
		STA	24-pin connector of BCM, black (0940-01A)		
		FA	"AC" 10A fuse		
		F 02	Fuse box		
		KB	A/C control panel		
		STB *	24-pin connector of KB with automatic A/C: (0740-201A) Pin 1G **		
		STB *	24-pin connector of KB with manual A/C: (0740-101A) Pin 1O **		
					Insulate wire ends and tie back
				X	Cutting point
					Wiring colours may vary.

Legends

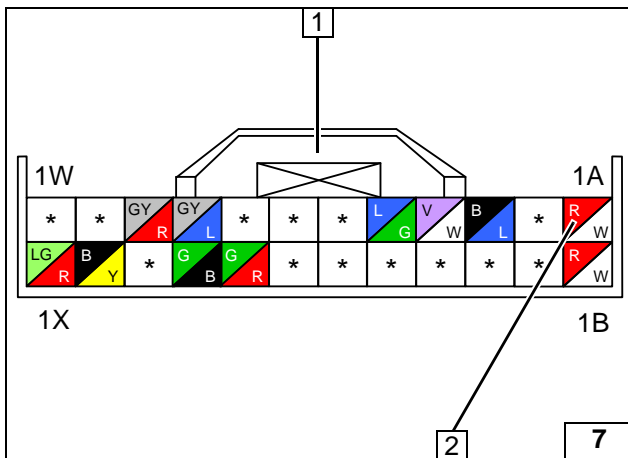


All vehicles

Connection on 24-pin connector 0940-01A 1 from BCM 2.
Produce connections as shown in wiring diagram.
Connector is located on rear side of BCM.

- 3 Red/white (rt/ws) wire of connector
- 4 Red (rt) wire from K3/87a
- 5 Black (sw) wire from K3/30
- 6 Route black (sw) wire 1² to A/C control panel
- 7 Red/white (rt/ws) wire of fan relay

**Connec-
tion of fan
relay on
BCM**



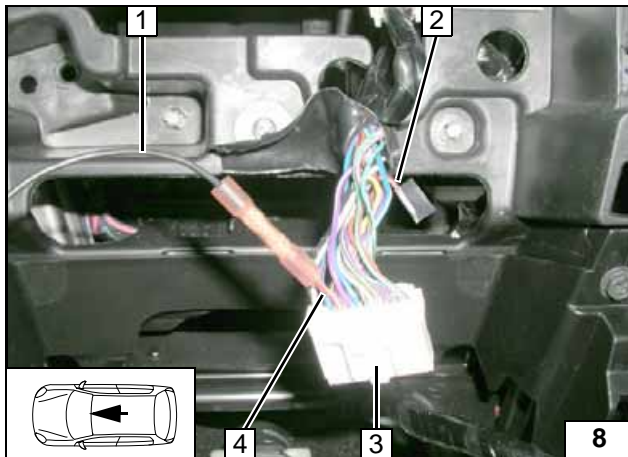
24-pin connector 0940-01A 1 from BCM (on wire side)

2 Socket 1A, red/white (rt/ws) wire

Cable colours:

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

**BCM con-
nector**

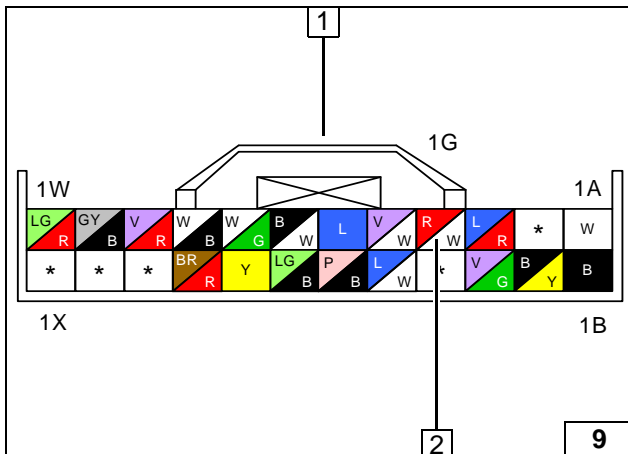


Automatic air-conditioning

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

- 1 Black (sw) wire 1²
- 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

**Connec-
ting A/C
control
panel**



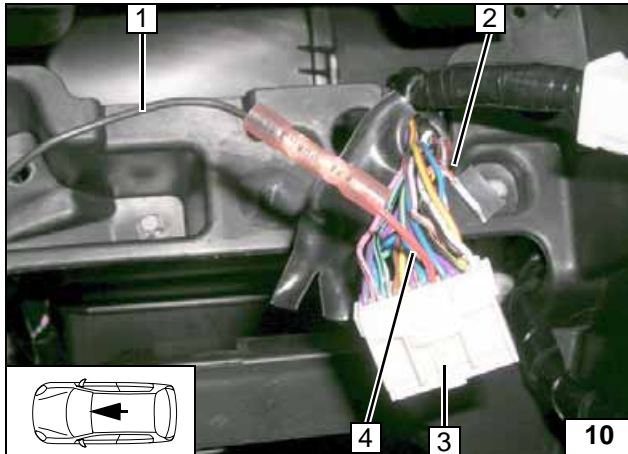
24-pin connector 0740-201A 1 of A/C control panel (on wire side)

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

Cable colours:

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

**Connector
KB**



Manual air conditioner

Connection on connector B 3 of A/C control panel, Pin 10.
Produce connections as shown in wiring diagram.

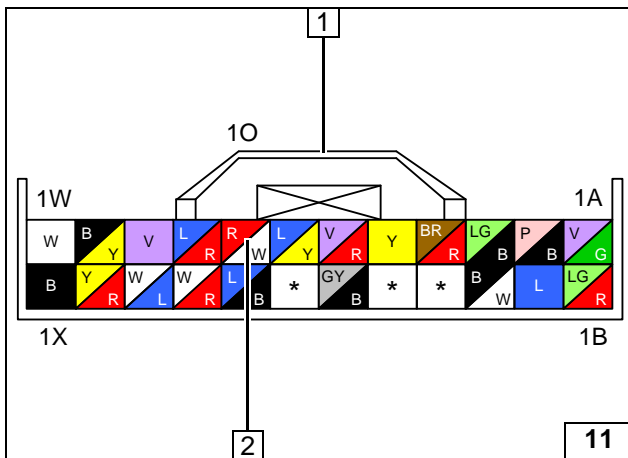
- 1 Black (sw) wire 1²
- 2 Insulate red/white (rt/ws) wire of 10 A air-conditioner fuse and tie back
- 4 Red/white (rt/ws) wire of connector B, Pin 10

24-pin connector 0740-101A 1 of A/C control panel (on wire side)

2 Socket 10, red/white (rt/ws) wire

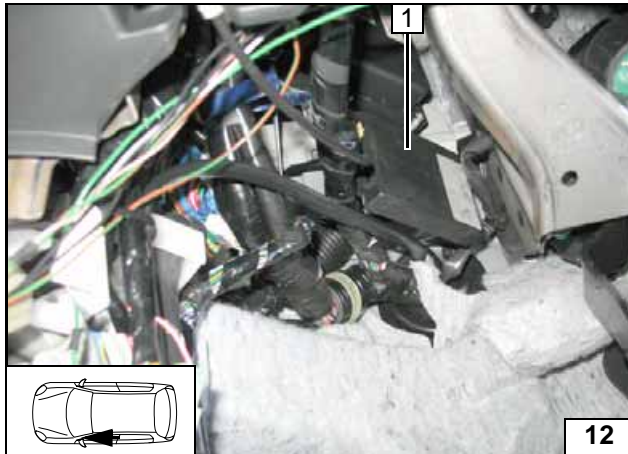
Cable colours:

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



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

**Connector
KB**

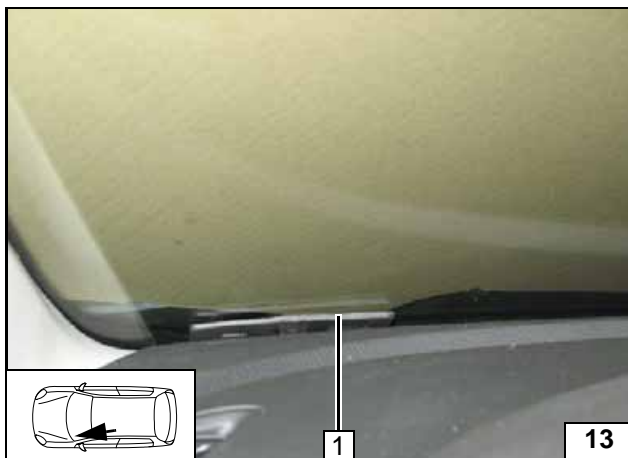


Remote option (Telestart)

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

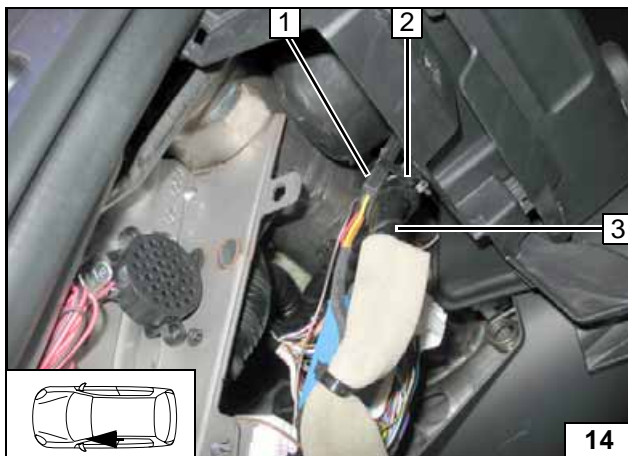


Installing receiver



- 1 Antenna

Installing antenna

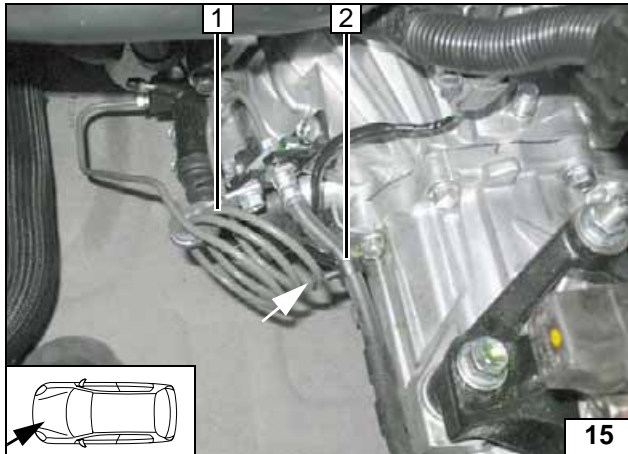
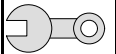


Temperature sensor for T100 HTM only

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



Installing temperature sensor

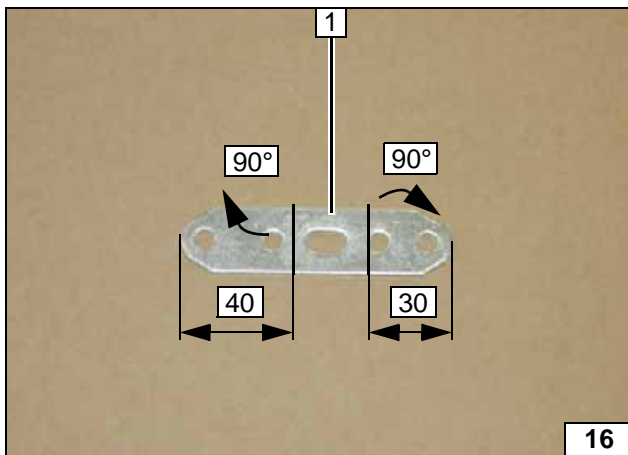


Preparing installation location

Align hydraulic line 1 for clutch actuation approx. 5-7 mm toward transmission and insert 4x7 line holder 2.



Inserting line holder

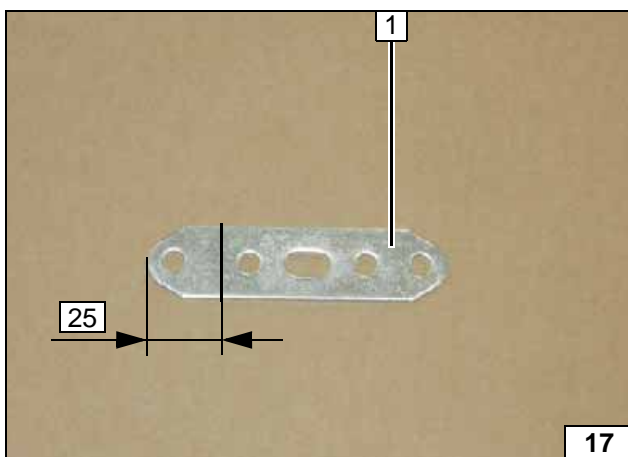


Preassembling bracket

Bend 2 perforated brackets 1.



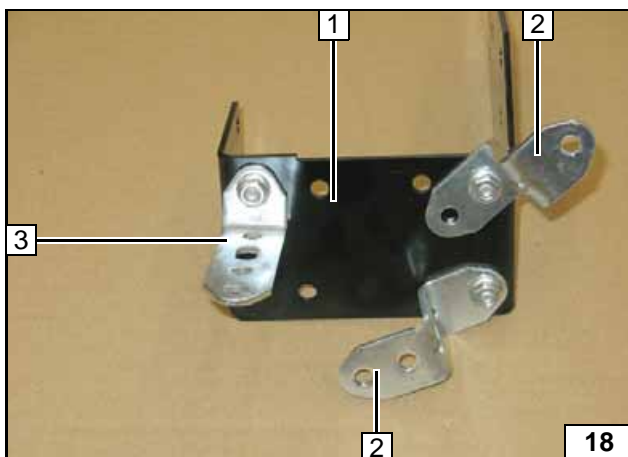
Preparing perforated brackets



Bend perforated bracket 1 by 90°.



Preparing perforated bracket

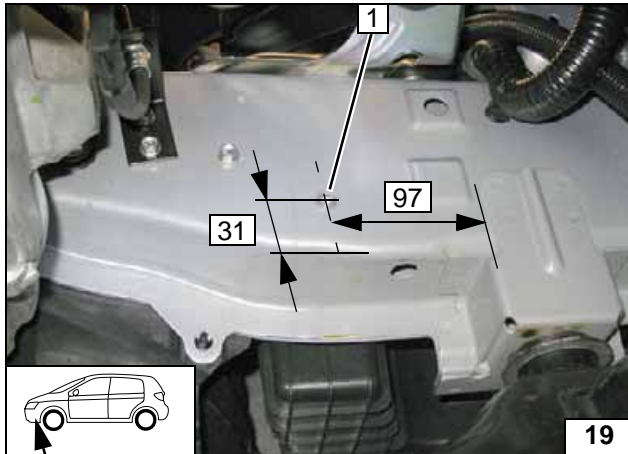
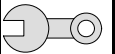


The screw fitting of the perforated brackets 2 [2x] and 3 on bracket 1 must be tightened manually.



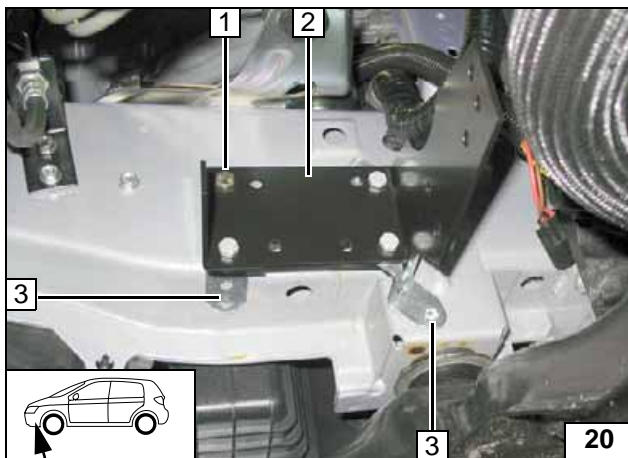
- 2 Perforated bracket [2x], M6x16 bolt [2x], flanged nut [2x]
- 3 Perforated bracket, M6x16 bolt, flanged nut

Preassembling bracket



1 9.1 mm dia. hole; M6 rivet nut

Installing rivet nut

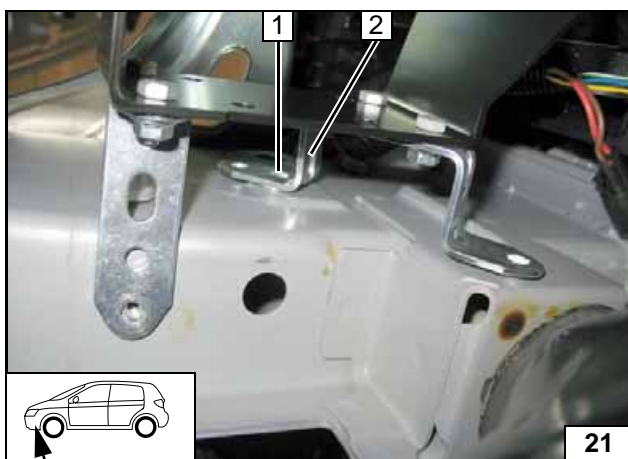


Align bracket 2 and perforated brackets 3 to surfaces.



- 1 M6x60 bolt, spring lockwasher, 40 mm shim
- 3 Hole pattern for 9.1 mm dia. hole [2x]

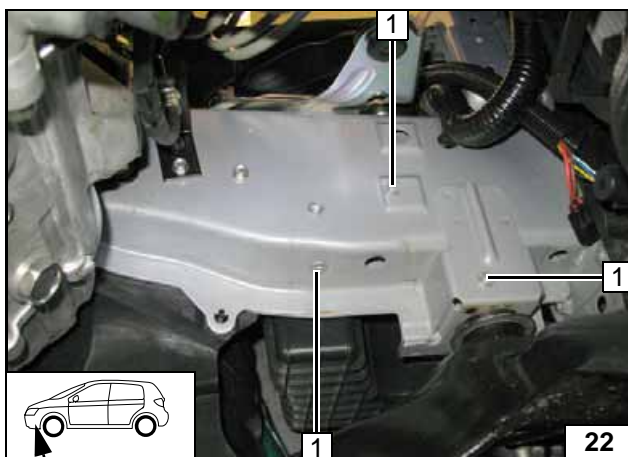
Copying hole pattern



Align perforated bracket 2 relative to surface, copy hole pattern 1 for 9.1 mm dia. hole. Remove bracket.

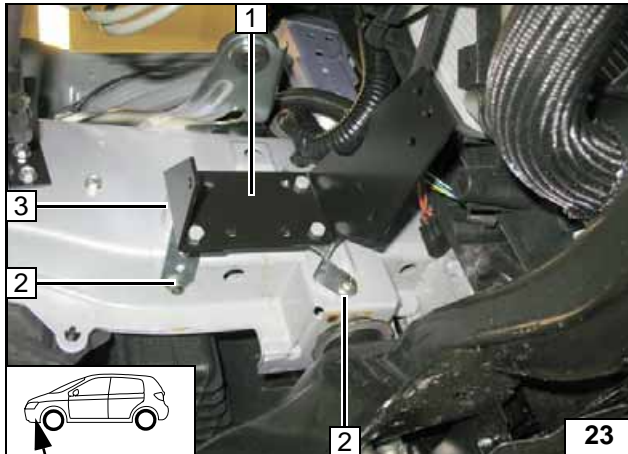
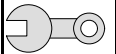


Copying hole pattern



1 M6 rivet nut [3x]

Installing rivet nut

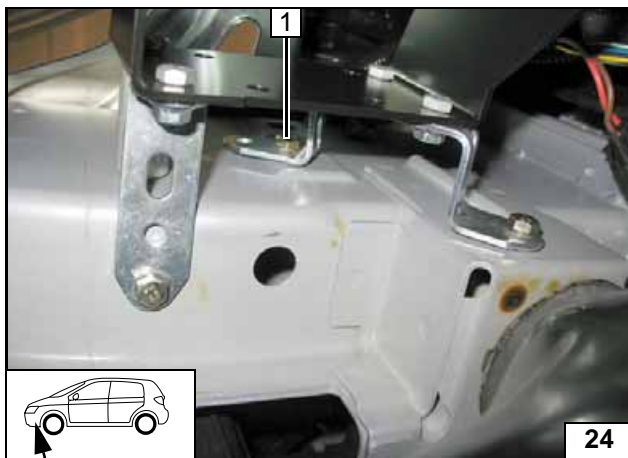


Tighten screw fittings of the perforated brackets [2x] on bracket 1.

- 2 M6x20 bolt [2x], spring lockwasher [2x]
- 3 40 mm spacer, M6x60 bolt, spring lockwasher

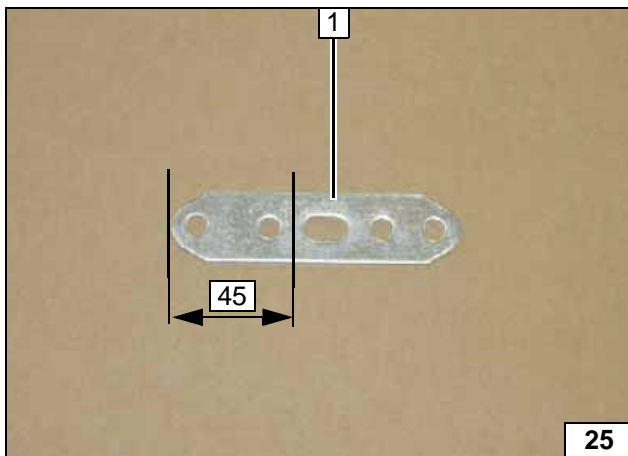


Installing bracket



- 1 M6x20 bolt, spring lockwasher

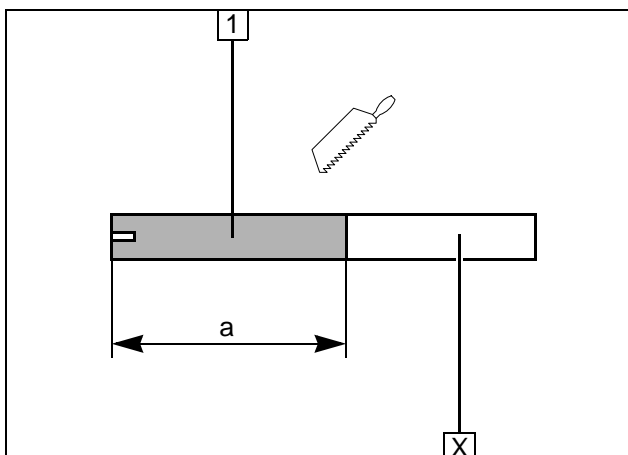
Installing bracket



Premounting heater

Bend perforated bracket 1 by 90°.

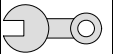
Preparing perforated bracket



- 1 Combustion air pipe
a = 250

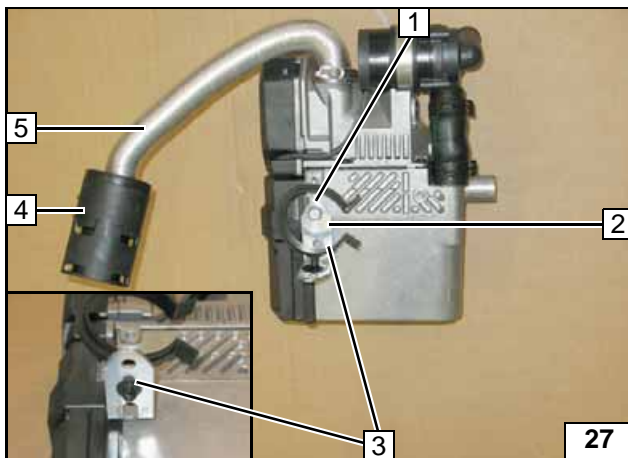
Discard section X

Cutting combustion air pipe to length



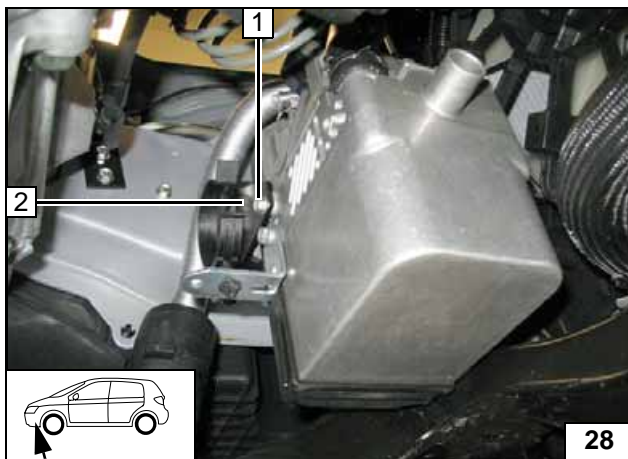
- 1 Hose section, 10 mm dia. clamp [2x]
- 2 Fuel line

Premounting heater



- 1 E-jot screw
- 2 Perforated bracket
- 3 Retaining clip, pin lock
- 4 Muffler
- 5 Combustion air pipe, 27mm dia. clamp

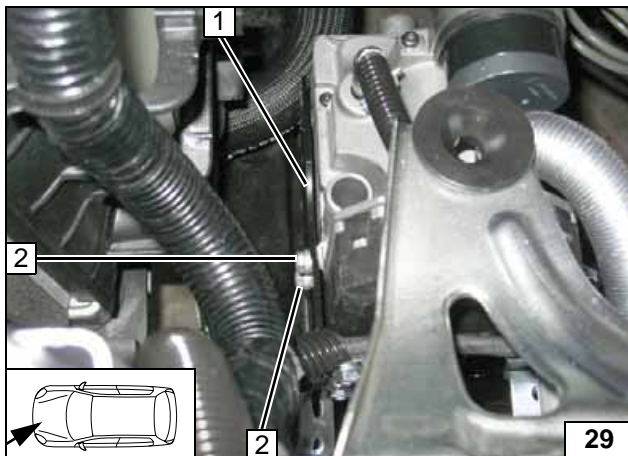
Premounting heater



Installing heater

- 1 E-jot screw
- 2 Bracket

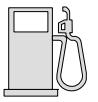
Installing heater



- 1 Bracket
- 2 E-jot screw [2x]



Installing heater



Fuel

CAUTION!

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

Catch any fuel running off with an appropriate container.

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

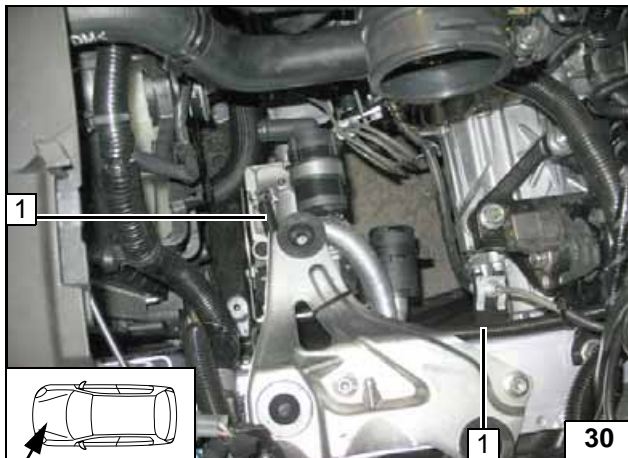
Mount the fuel line and wiring harness with rub protection on sharp edges.

WARNING!

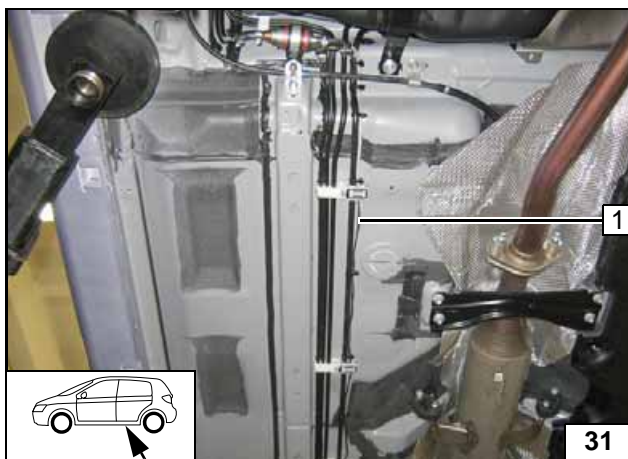
The fuel line and wiring harness are routed to the metering pump in as shown in the wiring harness routing diagram.



Installing lines



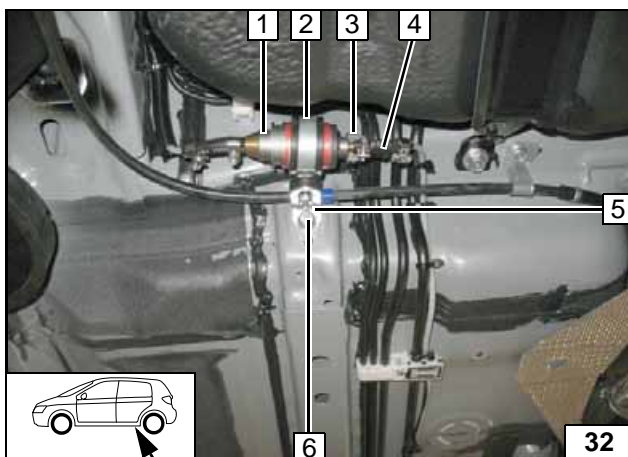
Mount 10 mm dia., 1,100 mm long corrugated tube **1** on fuel line and route to underbody.



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



Wiring routing

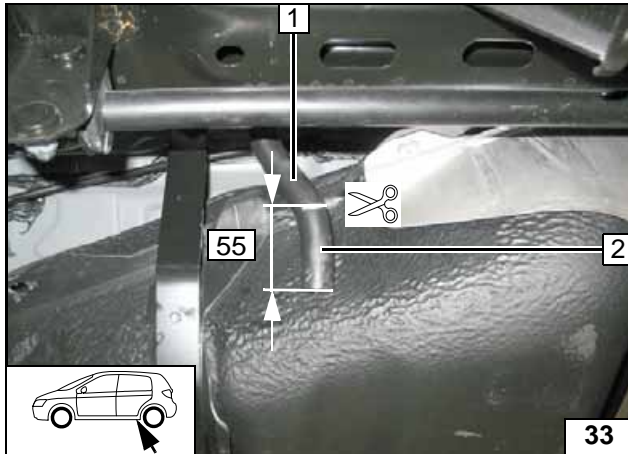


Drill out hole in angle bracket **5** on short leg to 8.5 mm dia. and install with original vehicle bolt **6**.

- 1** Metering pump
- 2** Rubber-coated p-clamp, silent block, flanged nut [2x]
- 3** Wiring harness of metering pump, connector mounted
- 4** Hose section, 10 mm dia. clamp [2x], fuel line



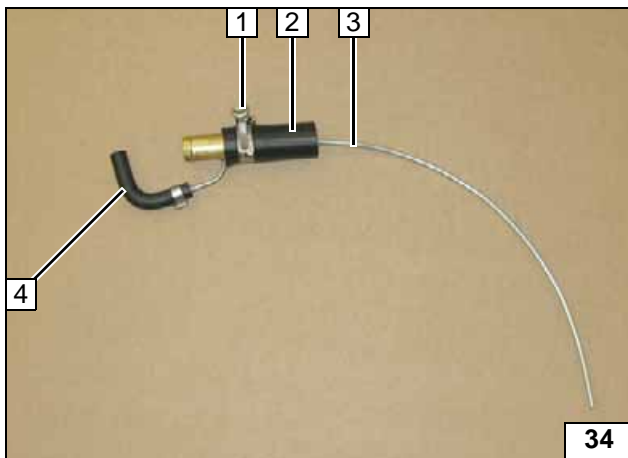
Installing metering pump



Disconnect fuel tank venting wire 1 from fuel tank and cut to size. Original vehicle spring clip as well as hose sections 1 and 2 will be reused.



Removing fuel

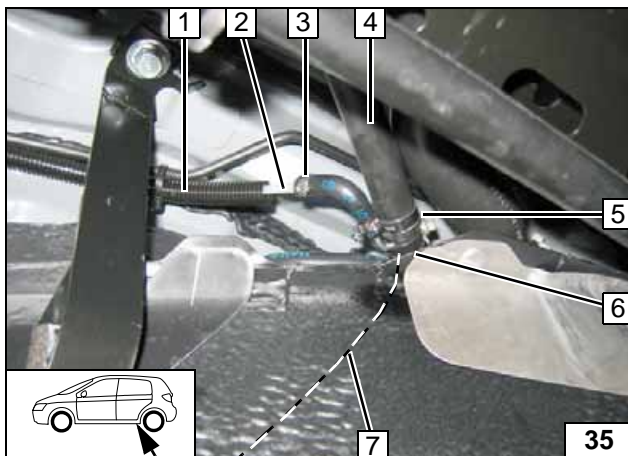


Shape fuel standpipe 3 according to template and cut to length.

- 1 16-24 mm dia. clamp
- 2 Hose section of 55 mm ventilation line
- 4 90° moulded hose, 10 mm dia. clamp



Premounting fuel standpipe

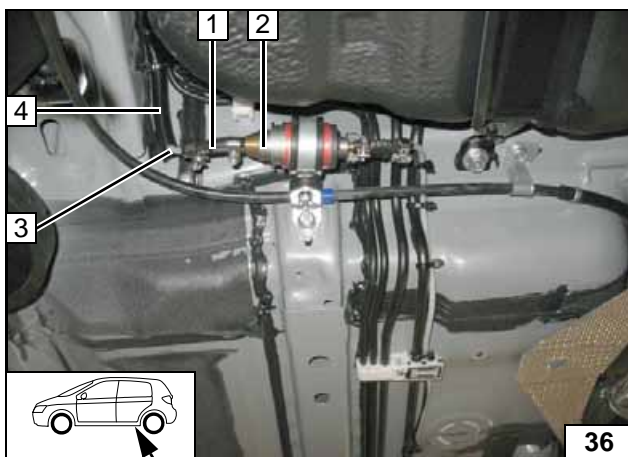


Insert fuel standpipe while aligning standpipe 7 relative to bottom of fuel tank. Secure hose section 6 of ventilation line on fuel tank again with original vehicle clamp.

- 1 10 mm dia. corrugated tube
- 2 Fuel line
- 3 10 mm dia. clamp
- 4 Fuel-tank vent line
- 5 16-24 mm dia. clamp



Installing fuel standpipe

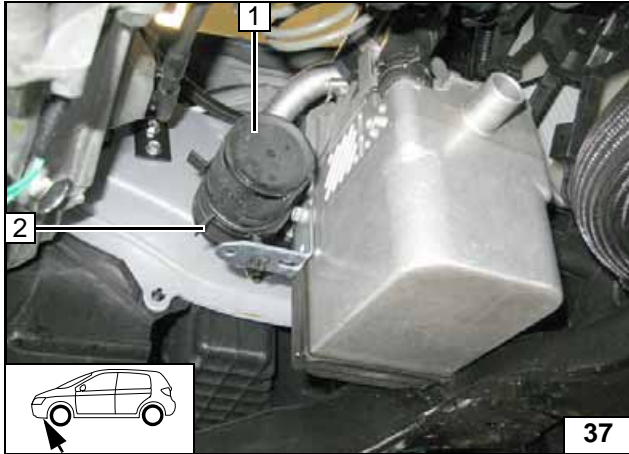
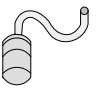


Check the position of the components; adjust if necessary. Check that they have free clearance.

- 1 Hose section, 10 mm dia. clamp [2x]
- 2 Metering pump
- 3 Fuel line
- 4 10 mm dia. corrugated tube



Connecting metering pump

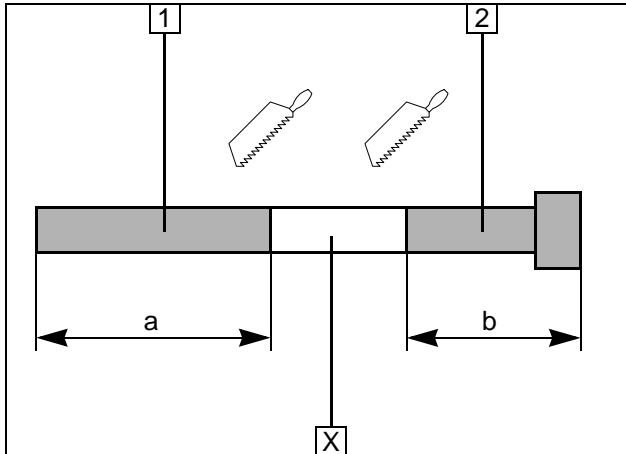
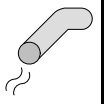


Combustion air

Insert muffer 1 in retaining clip 2.



**Inserting
muffler**

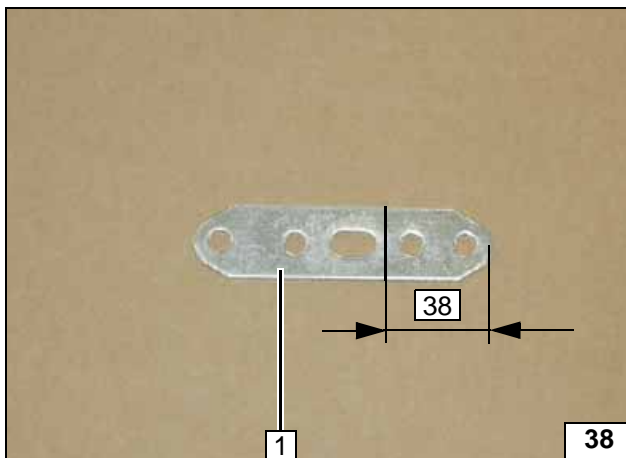


Exhaust gas

- 1 Exhaust pipe
a = 190
- 2 Exhaust end section
b = 380

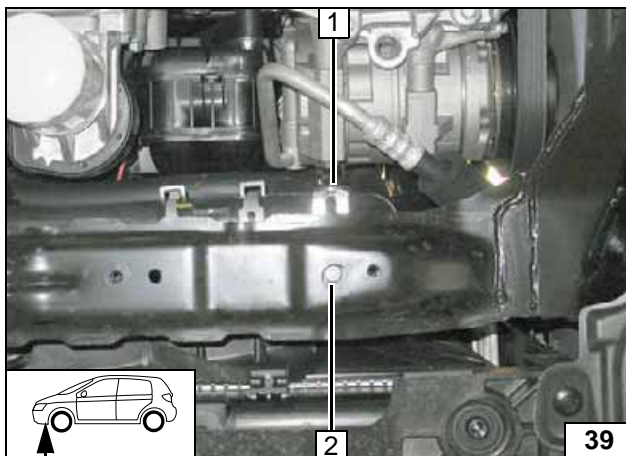
Discard section X

Preparing exhaust pipe



Bend perforated bracket 1 by 90°.

Preparing perforated bracket

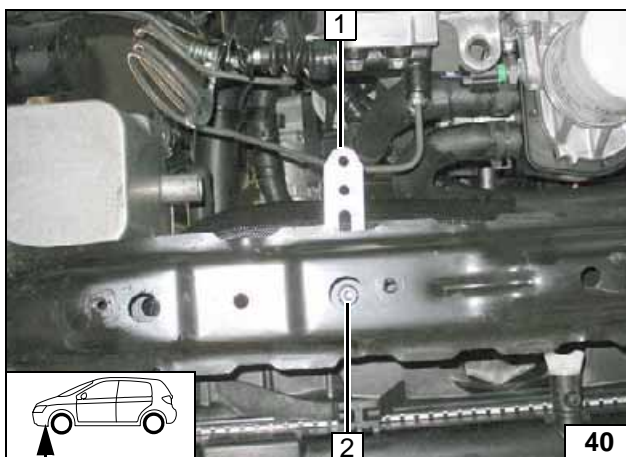


Fasten angled down perforated bracket 1 at position 2 in the middle through the existing hole.

- 2 M6x20 bolt, flanged nut



Preparing installation of exhaust system

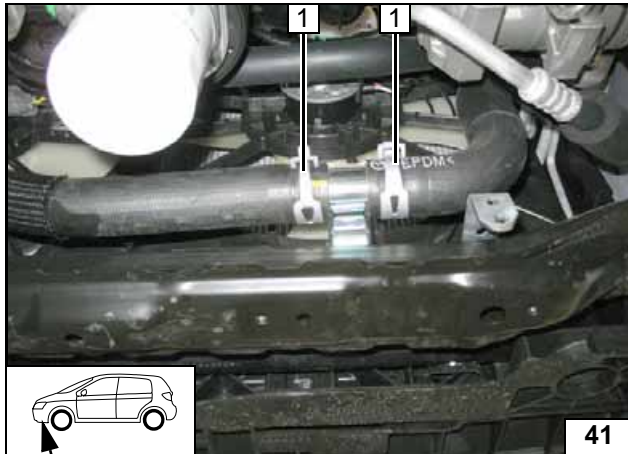
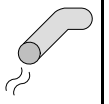


Fasten angled down perforated bracket 1 at position 2 in the middle through the existing hole.

- 2 M6x20 bolt, flanged nut



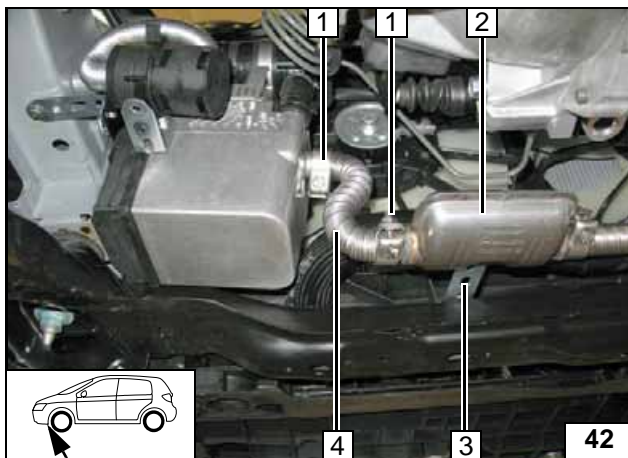
Preparing installation of exhaust system



Turn original vehicle spring clips 1 [2x] upward.



Preparing installation of exhaust system

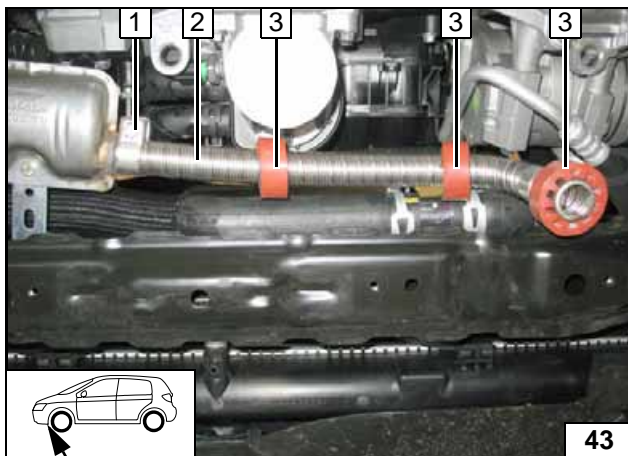


Ensure sufficient distance to neighbouring components.



Installing exhaust muffer

- 1 Hose clamp [2x]
- 2 Exhaust muffer, M6x20 bolt, flanged nut
- 3 Perforated bracket
- 4 Exhaust pipe

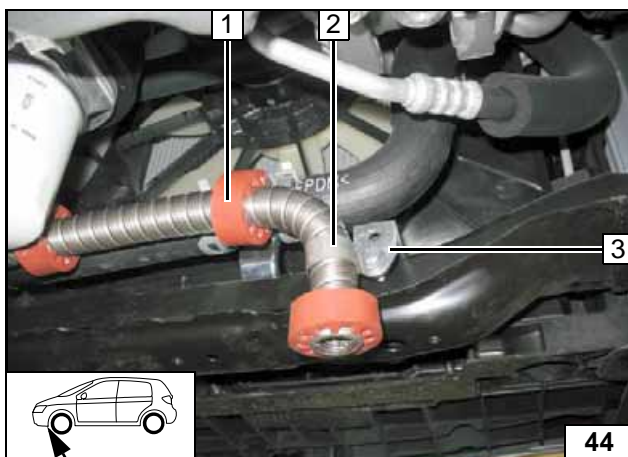


Ensure sufficient distance to neighbouring components.



Installing exhaust end section

- 1 Hose clamp
- 2 Exhaust end section
- 3 Red (rt) rubber profile [3x]

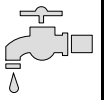


Ensure sufficient distance to neighbouring components.



Installing exhaust end section

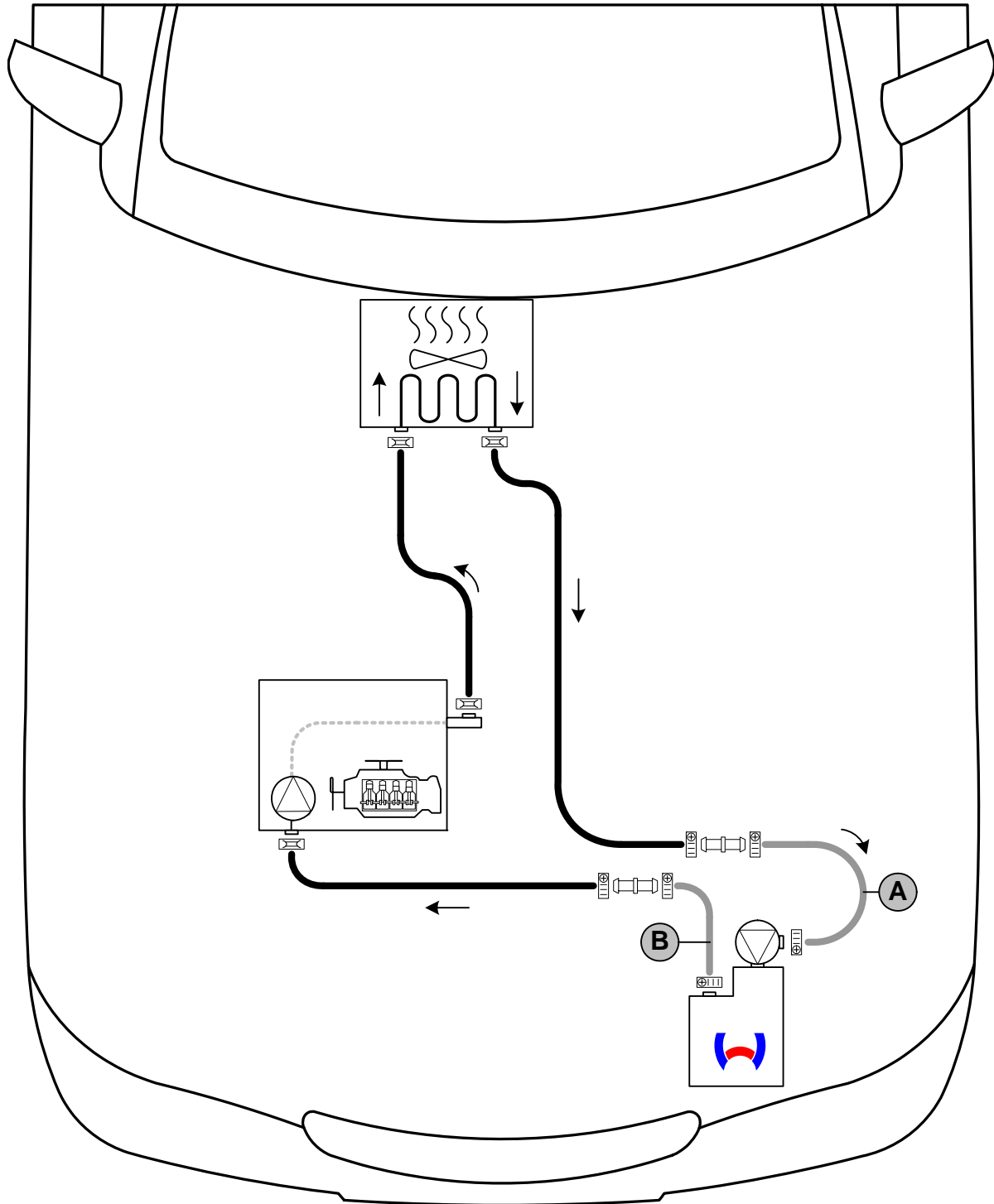
- Aligning red (rt) rubber isolator 1.
- 2 Pipe clamp, M6x20 bolt, flanged nut
 - 3 Perforated bracket, angled down




Coolant circuit


WARNING!

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

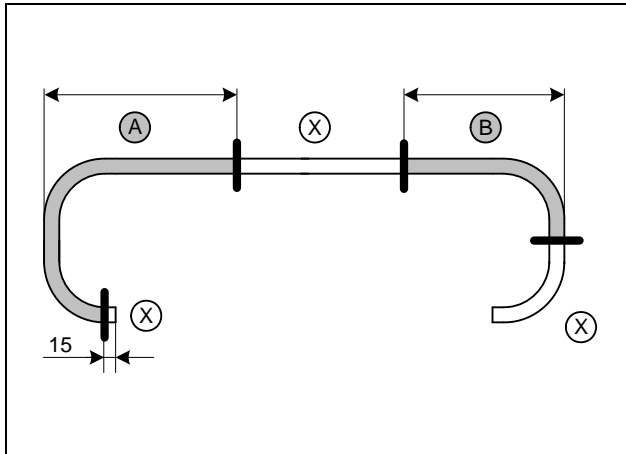


Hose routing diagram

All connecting pipes  = 17x20 dia.

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



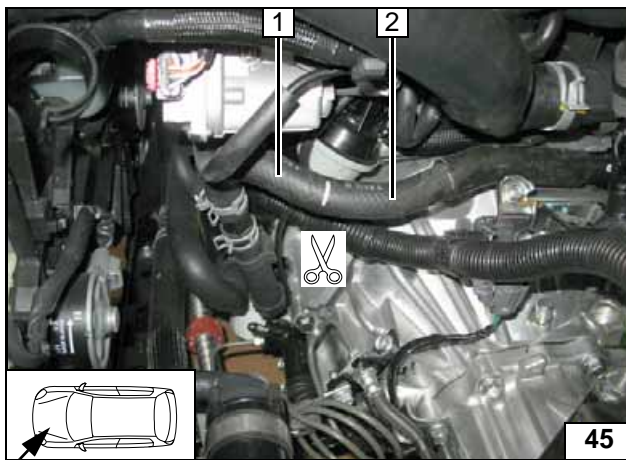


All except 2.0 114KW

Discard section X.
Shorten hose A.

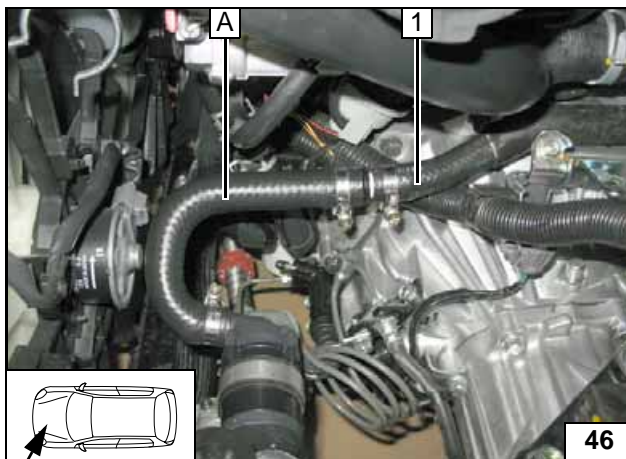
A = 150
B = 190

Cutting coolant hoses to length



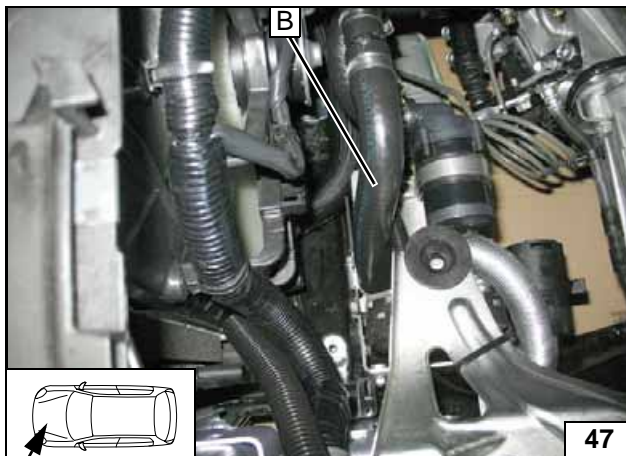
- 1 Hose section on engine inlet
- 2 Hose section on heat exchanger outlet

Cutting point

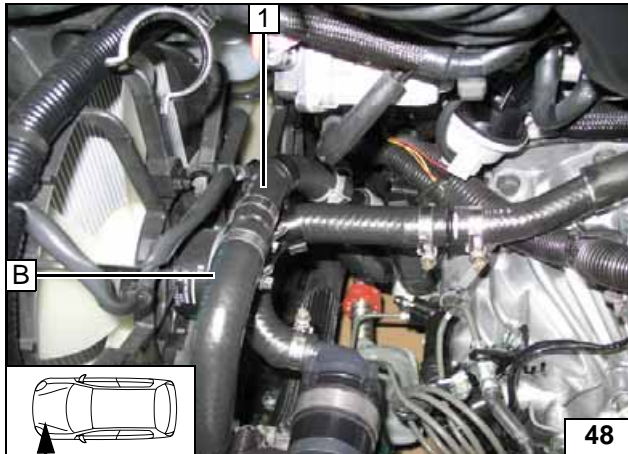


- 1 Hose on heat exchanger outlet

Connecting heat exchanger outlet

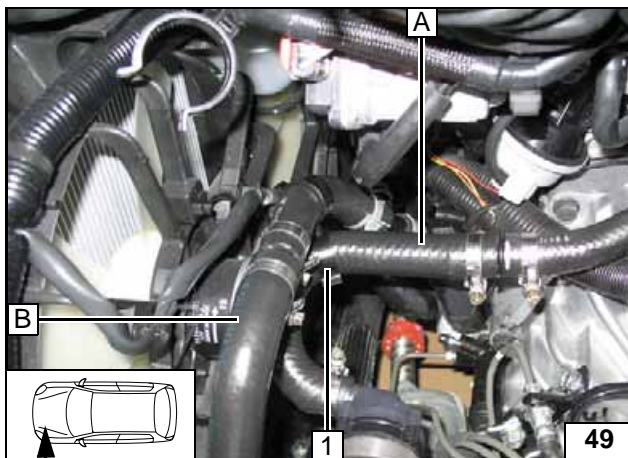


Connection of heater



1 Hose section on engine inlet, turned toward heater

Connec-
tion of en-
gine inlet

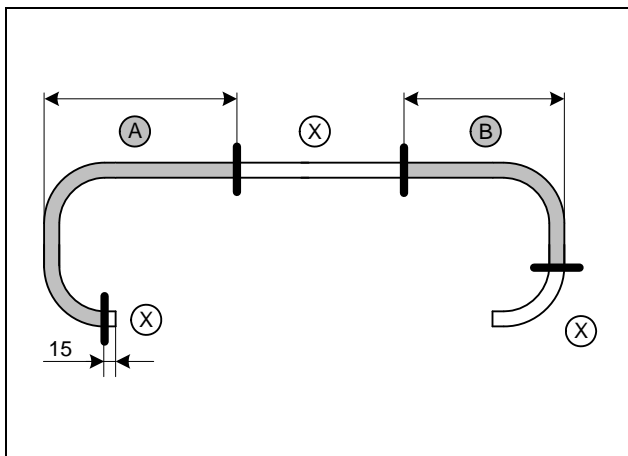


Align coolant hose. Ensure sufficient distance to neighbouring components.



1 Spacer bracket

Installing
spacer
bracket



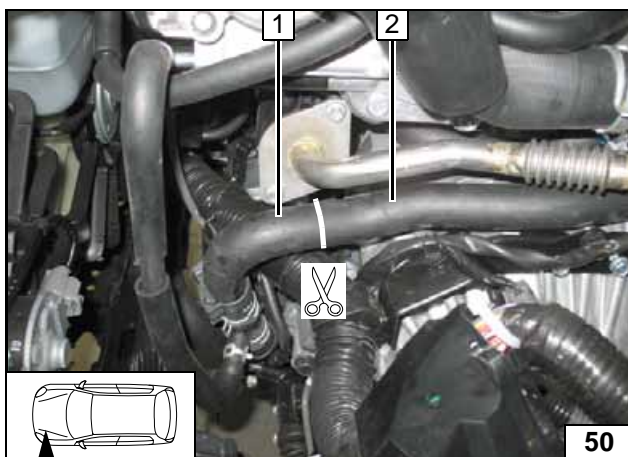
2.0 114 KW only

Discard section X.
Shorten hose A.
Hose B with long 90° elbow

A = 160
B = 190

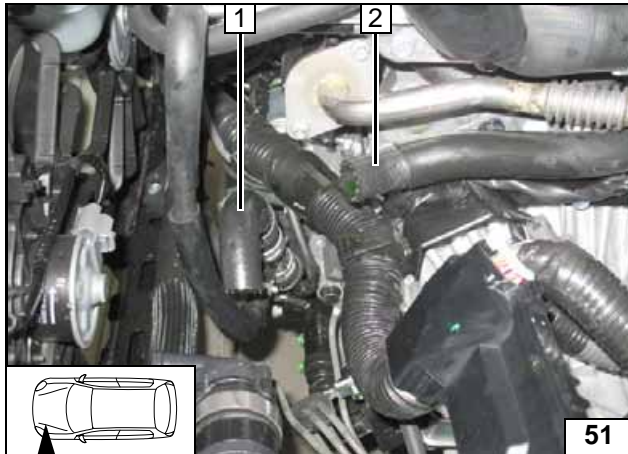


Cutting
coolant
hoses to
length



1 Hose section on engine inlet
2 Hose section on heat exchanger outlet

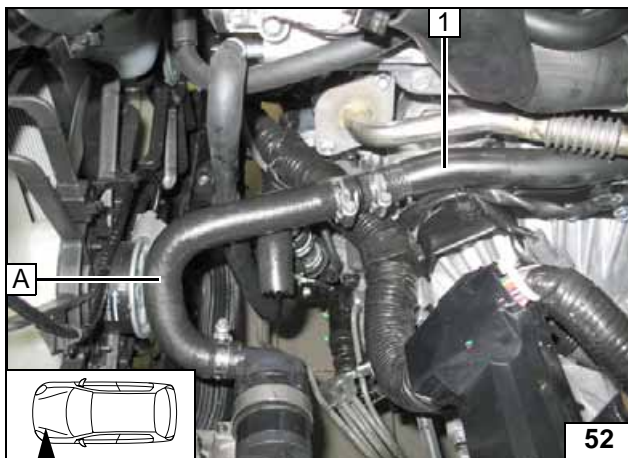
Cutting
point



Turn hose on engine inlet **1** by about 90° to the left. Remove insulation of hose on heat exchanger outlet as shown.

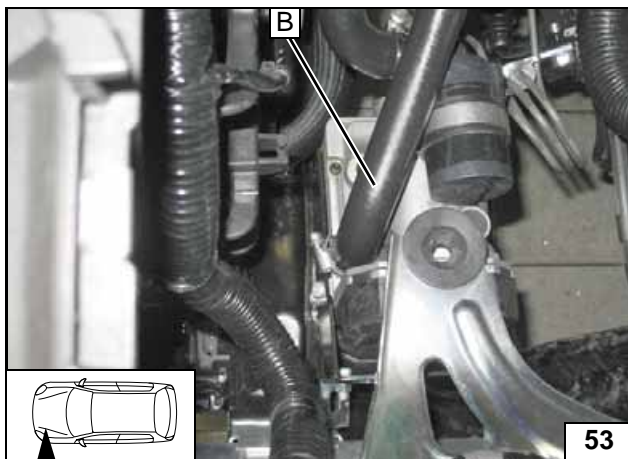


Cutting point

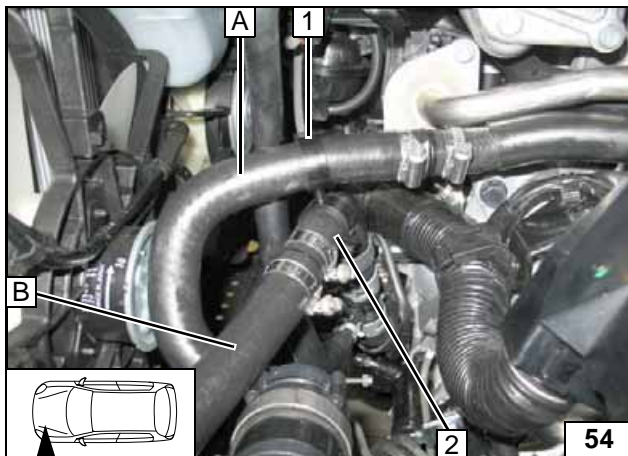


1 Hose on heat exchanger outlet

**Connect-
ing heat
exchanger
outlet**



**Conne-
ction of
heater**

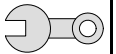


Aligning hoses Ensure sufficient distance to adjacent components; correct if necessary.



- 1** Spacer bracket
- 2** Hose section on engine inlet, turned toward heater

**Conne-
ction of en-
gine inlet**



Final Work

WARNING!

Mount removed parts in reverse order.

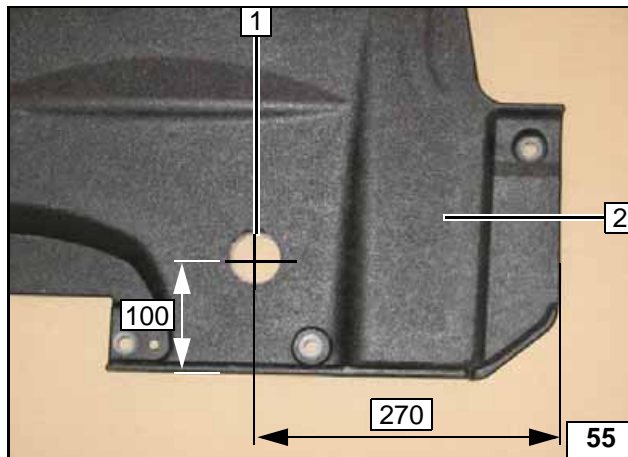
Check all hoses, clamps and all electrical connections for firm seating.

Secure all loose cables using cable ties.

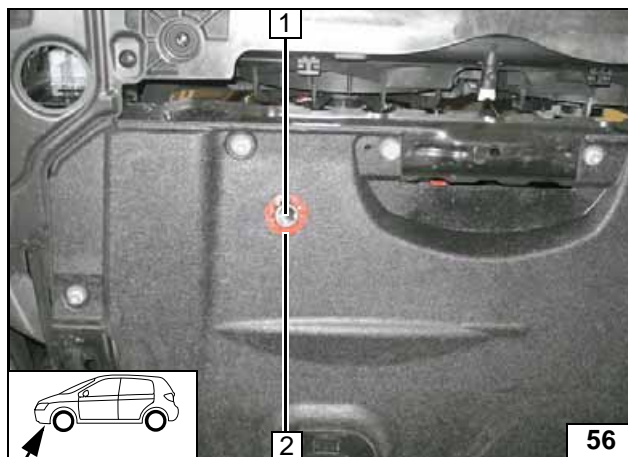
Only use manufacturer-approved coolant.

Spray heater 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, learn telestart remote option
- Make settings on A/C control panel according to the "Operating Instructions for End Customer".
- Check the proper operation of the parking heater, see the operating instructions/installation instructions.
- Place the instruction label "Switch off parking heater before re-fuelling" in the area of the filling necks



- 1 42 mm dia. hole
- 2 Override protection



Align exhaust end section 1 flush on red rubber isolator 2.



Preparing
override
protection

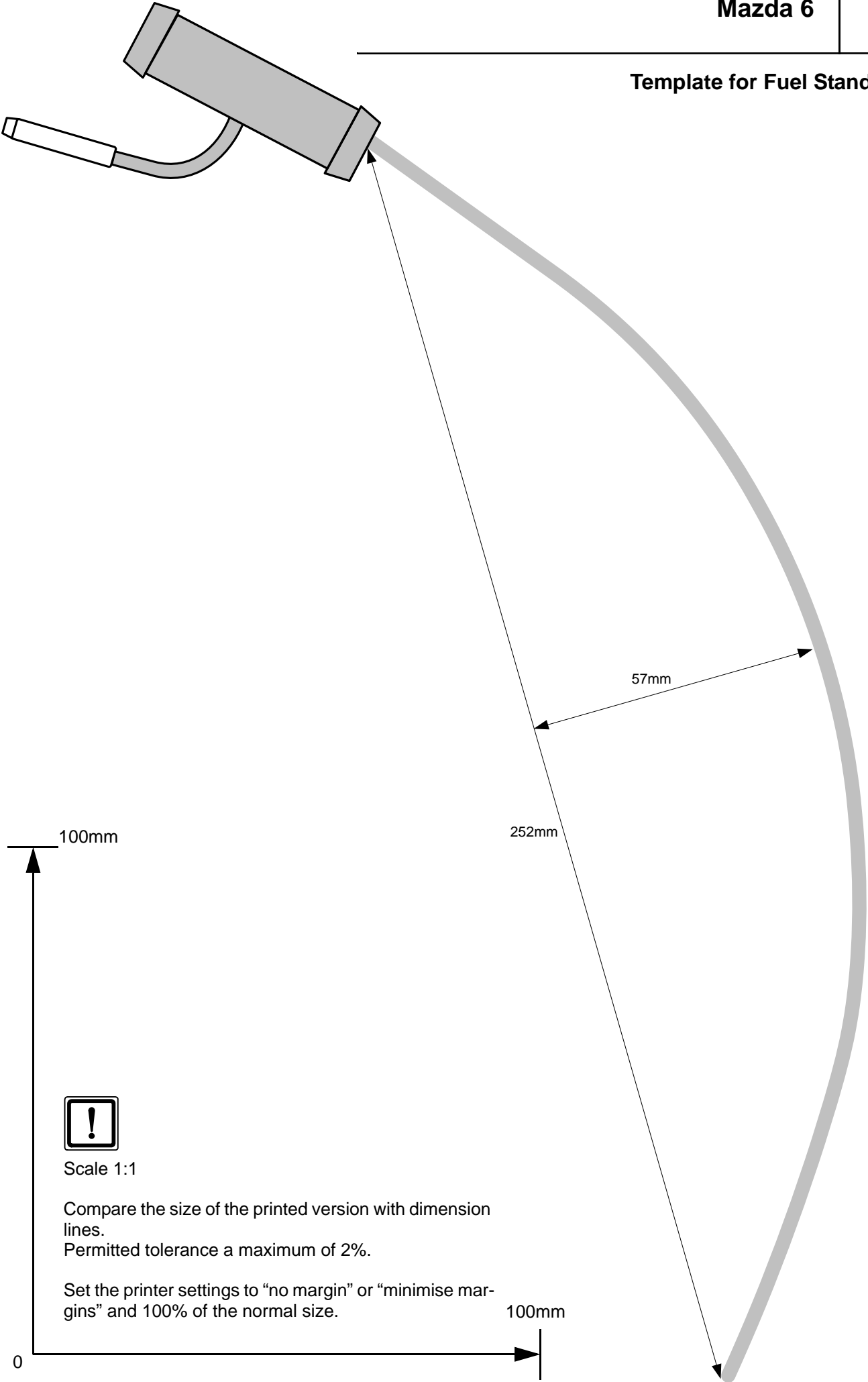


Mounting
rubber iso-
lator

Webasto
Feel the drive

Webasto AG
Postfach 80
D-82132 Stockdorf / Germany
National Hotline: 01805 93 22 78
(14 Cent aus dem deutschen Festnetz)
Hotfax: 0395 5592 353
Hotmail: hotline@webasto.de
<http://www.webasto.de>

Template for Fuel Standpipe



Scale 1:1

Compare the size of the printed version with dimension lines.
Permitted tolerance a maximum of 2%.

Set the printer settings to "no margin" or "minimise margins" and 100% of the normal size.

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

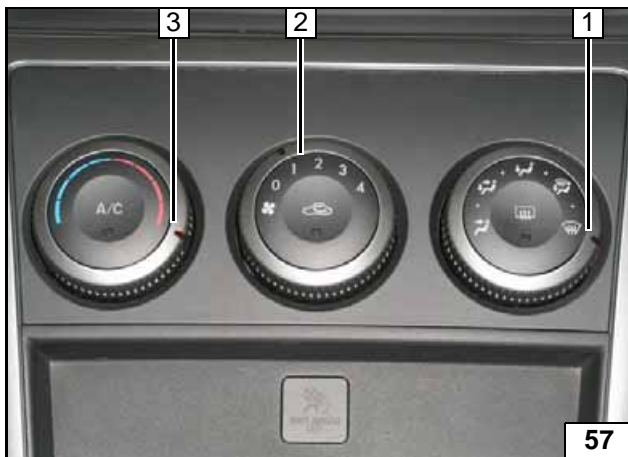
Example:

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.

Before parking the vehicle, make the following settings:



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



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



Manual air conditioning

Automatic air-conditioning