Water Heater

***Thermo Top E* Parking Heater** e1 00 0003

***Thermo Top C* Parking Heater** e1 00 0002

***Thermo Top P* Parking Heater** e1 00 0104

Installation documentation

Mazda 6

Gasoline
from Model Year 2008
Left-hand drive vehicle
Automatic gears

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.

Ident. No.: 1313440D_EN Fee Euro 10.00

Table of Contents

Validity

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

Engine type	Engine model	Output in kW	Displacement in cm³
LF	Gasoline	108	1999
LF	Gasoline	114	1999

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 *Thermo Top E / C / P*	See Mazda price list
1	Installation Kit for Mazda 6 Gasoline Automatic	1313439B
	Mazda Order No.:	4100-78-763A
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 vehicles Mazda 6 Gasoline - 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).

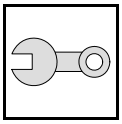
Special Tools

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

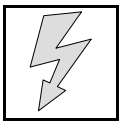
Explanatory Notes on Document

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

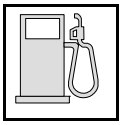


Electrical system



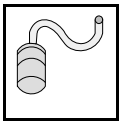
Coolant circuit

Fuel



Exhaust gas

Combustion air



Special features are highlighted using the following symbols:

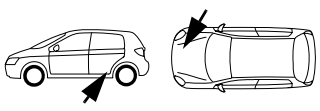
Specific risk of injury or fatal accidents.

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.

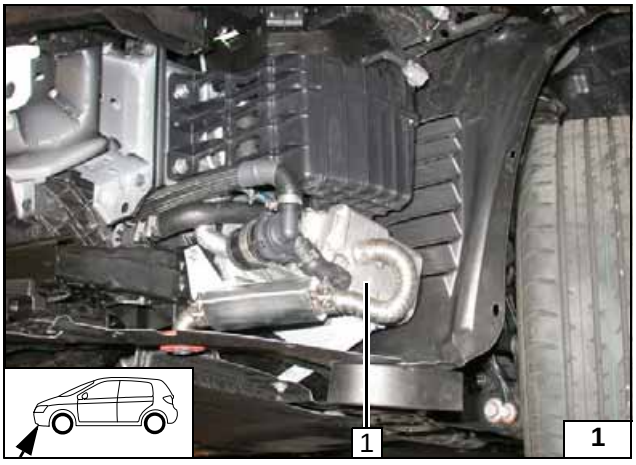
All dimensions are in mm!
Tightening torque of hose clamps = 2.0 + 0.5 Nm!
Tightening torque of Ejot screws, Ejot studs = 10 Nm!

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 lower engine cover.
- Remove the vehicle underbody trim.
- Detach the wheel well trim on the right and left.
- Remove the bumper.
- 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 25 "Operating Instructions for End Customer" and attach to vehicle operating instructions.



Heater installation location

1 Heater

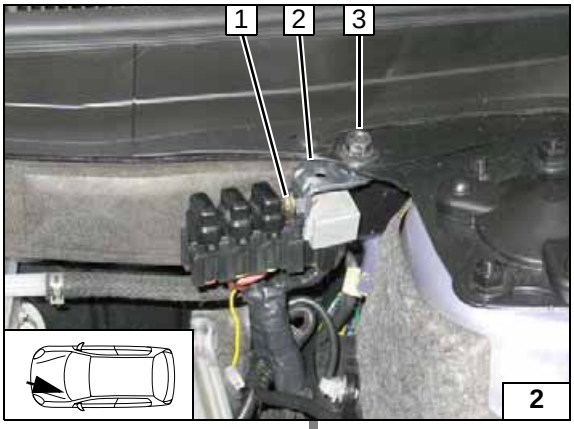
Installation location

Electrical system

Fuse holder, K3 relay

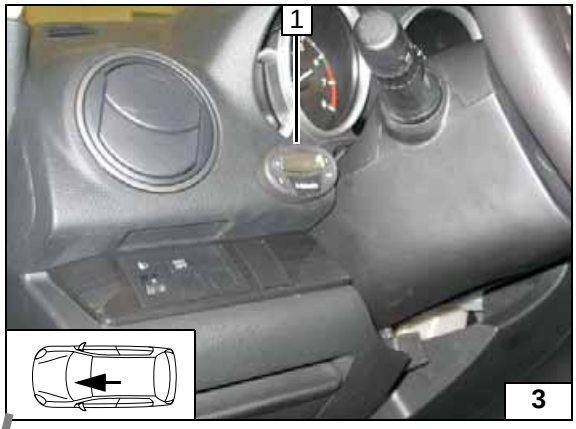
Replace 25 A fuse F3 with 10 A fuse.

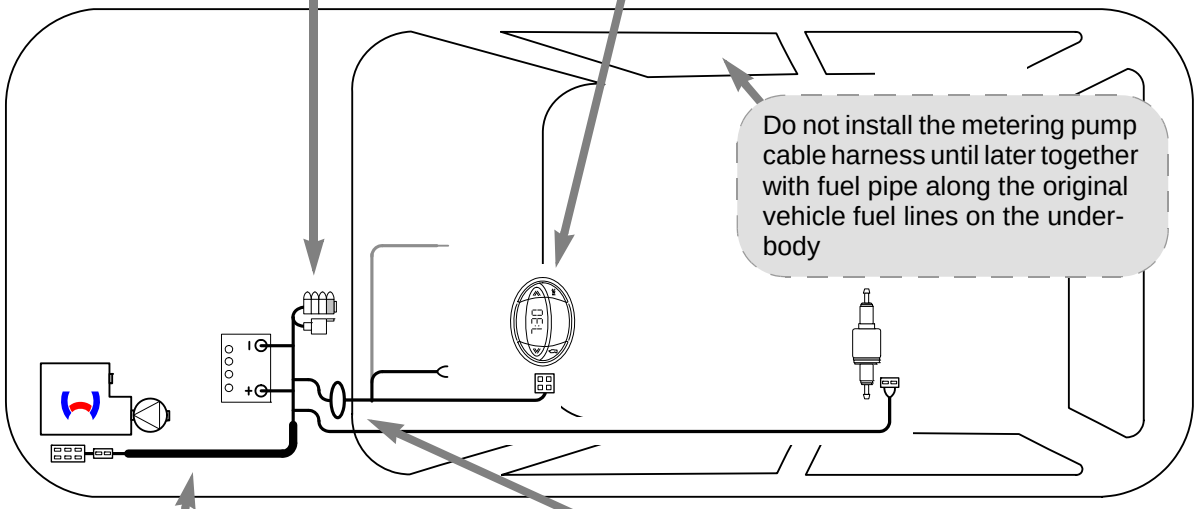
1 M5x16 bolt, washer, fuse holder, K3 relay, flanged nut on angle bracket
2 Angle bracket
3 Original vehicle bolt



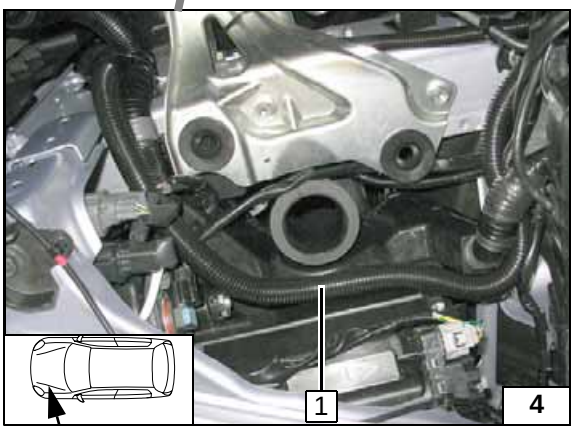
Digital timer

1 Digital timer



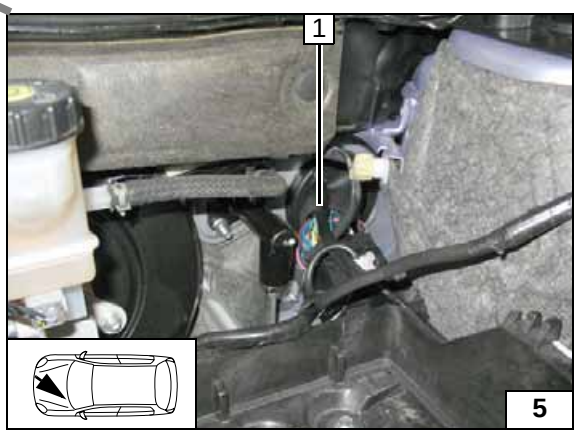


Wiring harness installation diagram



Installing wiring harness of heater in corrugated tube

Slit 17 mm dia. corrugated tube **1**, pull in wiring harness of heater and route to installation location of heater.

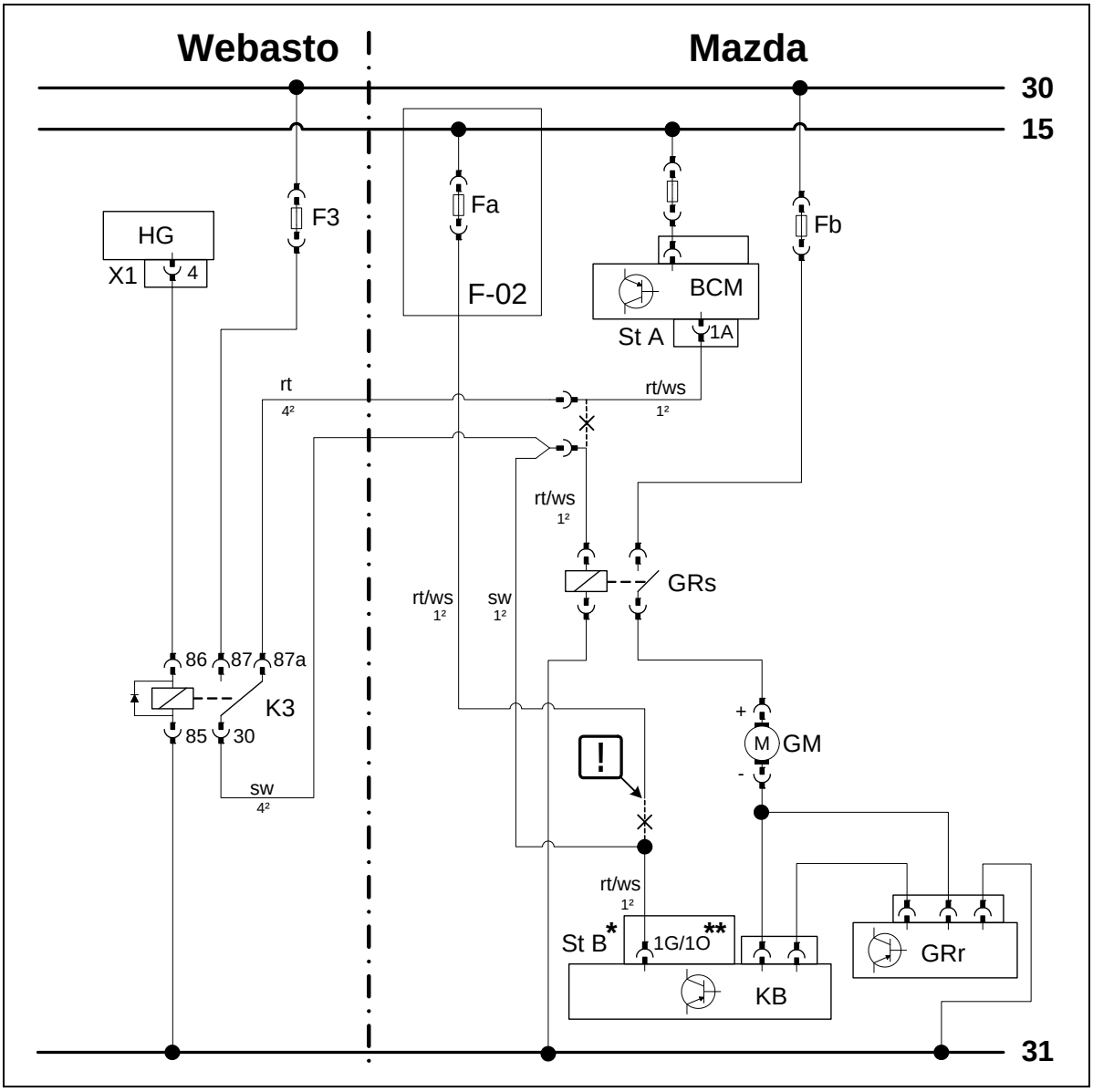


Wiring harness pass through

1 Protective rubber plug

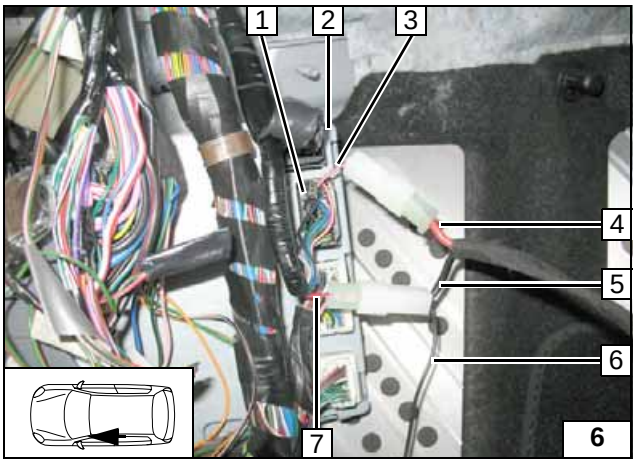
Fan controller

Wiring diagram



Legends

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
		Fb	40 A heater fuse		
K3	Fan relay	BCM	Body Control Module		
		STA	24-pin connector of BCM (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.	



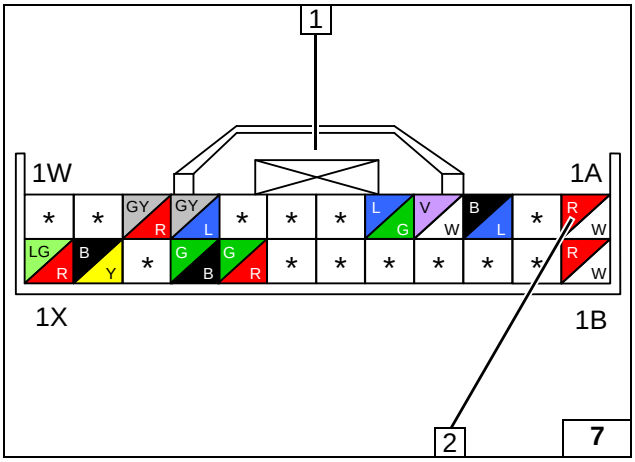
All vehicles

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

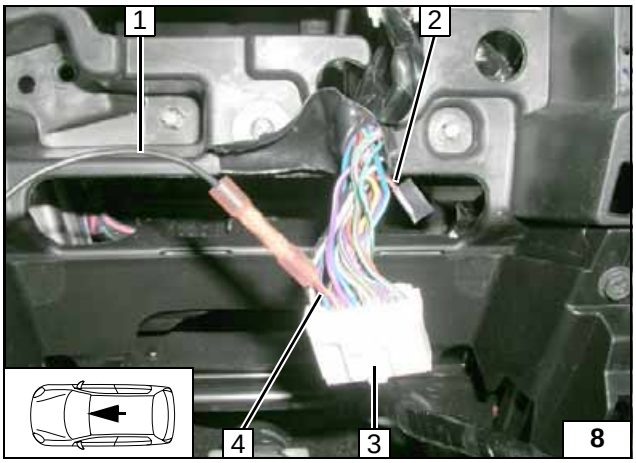
Connection of fan relay on BCM



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

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

BCM connector

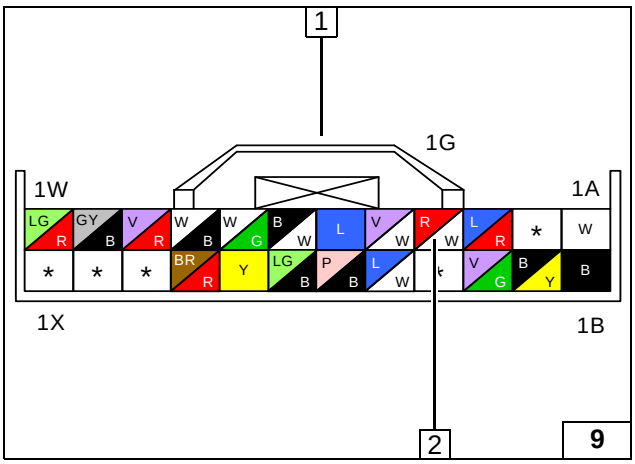


Automatic air-conditioning

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

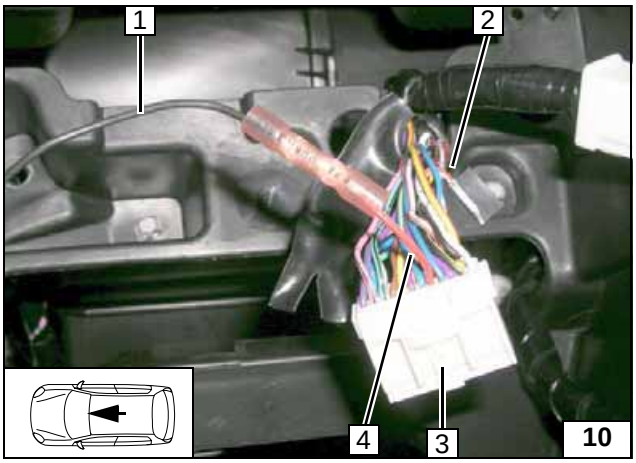
Connecting A/C control panel



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

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

Connector KB

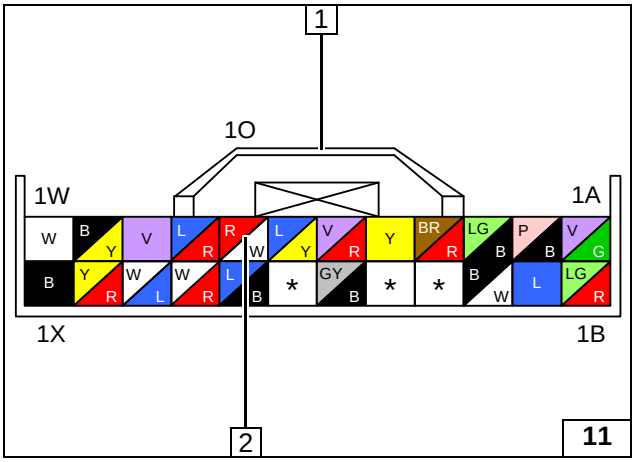


Manual air conditioner

Connection on connector B **3** of A/C control panel, Pin 1O.
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 1O

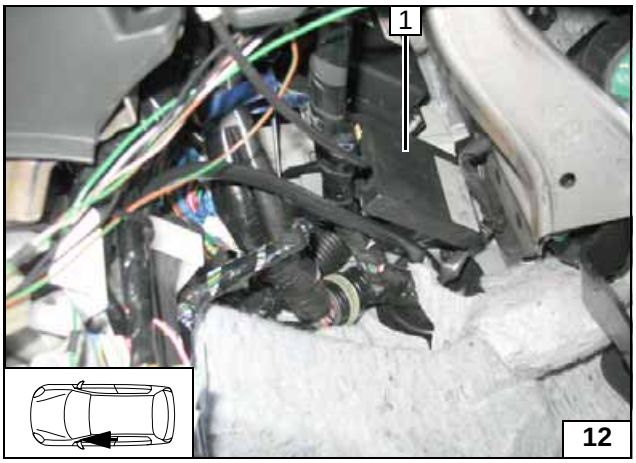
Connecting A/C control panel



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

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

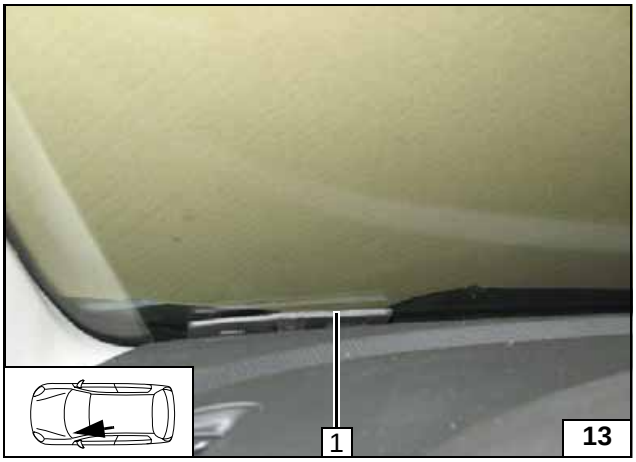
Connector KB



Remote option (Telestart)

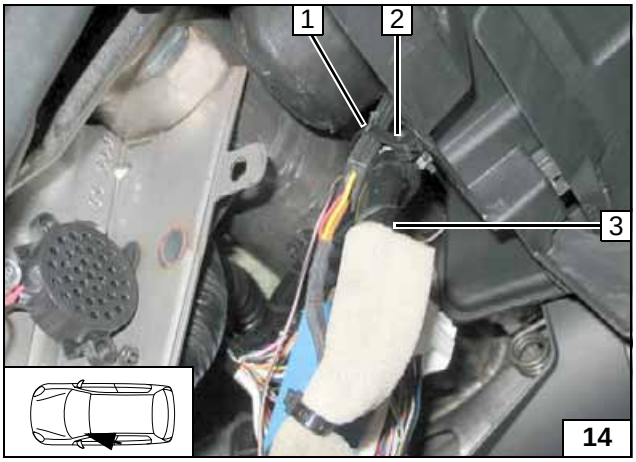
1 Receiver, original vehicle stud bolt, original vehicle flanged nut

Installing receiver



1 Antenna

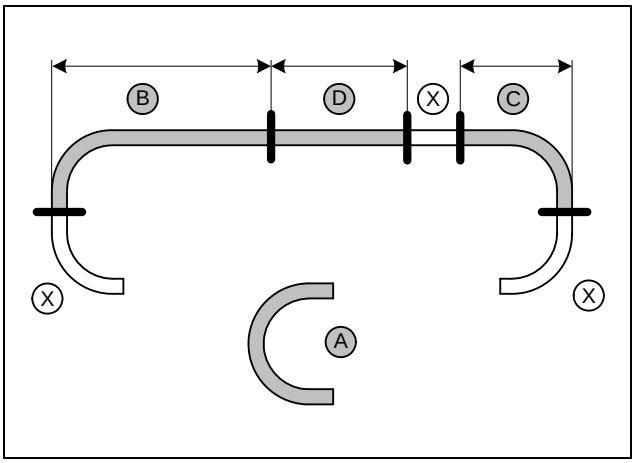
Installing antenna



Temperature sensor T100 HTM

1 Temperature sensor
2 Cable tie
3 Original vehicle wiring harness

Installing temperature sensor

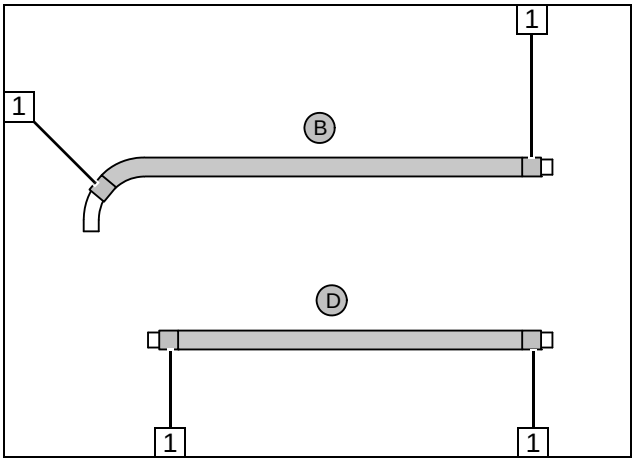


Preparing heater

Hose **A** = 180° elbow, 18x18
Discard section **X**

108kW	114kW
B = 910	**B** = 870
C = 160	**C** = 160
D = 750	**D** = 740

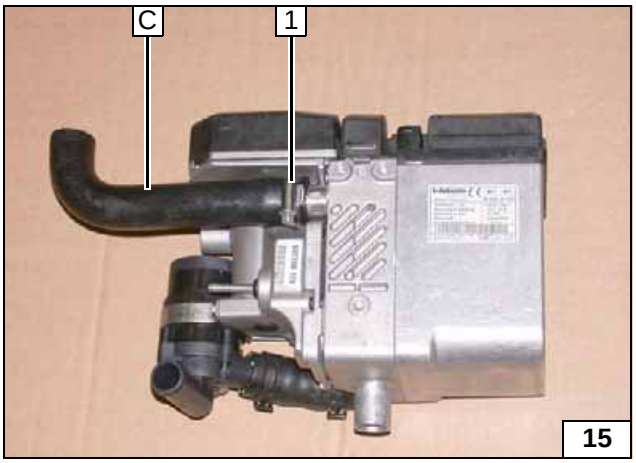
Cutting coolant hoses to length



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

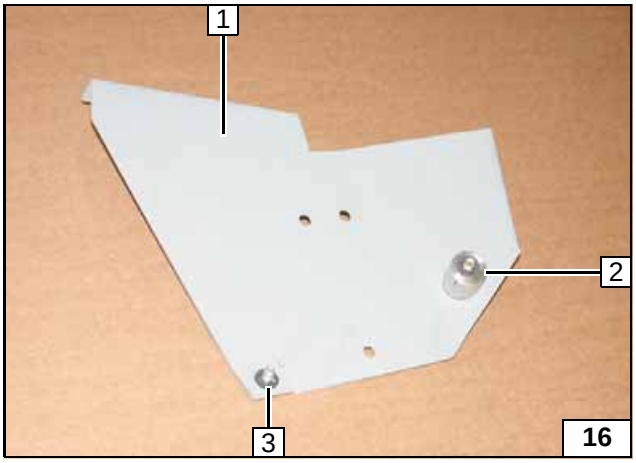
1 25 mm long heat shrink plastic tubing [4x]

Preparing coolant hoses



1 27 mm dia. clamp

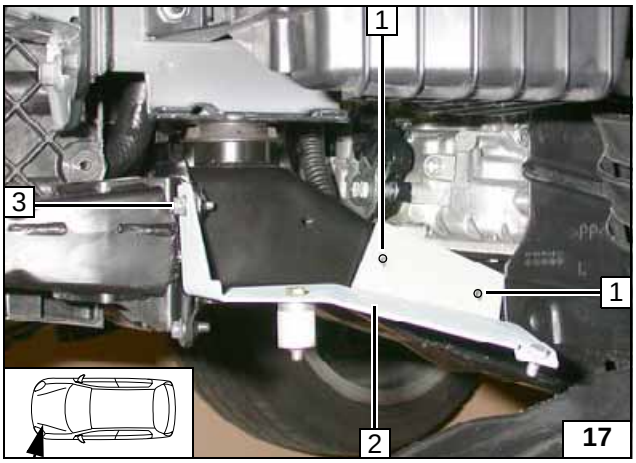
Premounting hose C



Preparing bracket

1 Bracket
2 M6x40 bolt, 5 mm spacer sleeve, 20 mm spacer sleeve, pin lock
3 M6x12 bolt, pin lock

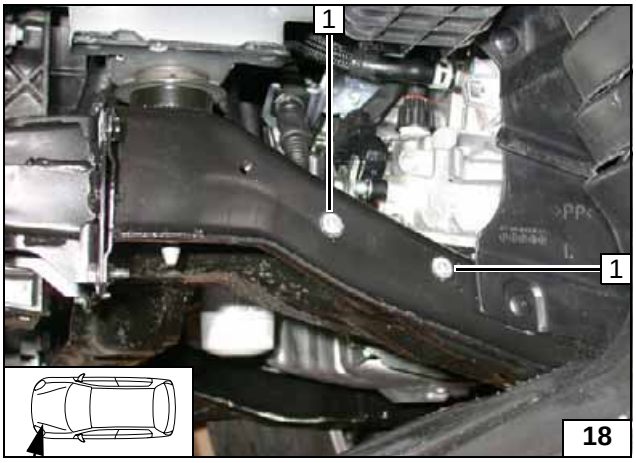
Preparing bracket



If original vehicle bolt at position **3** does not exist, use M6x20 bolt, spring lockwasher and large diameter washer.

1 Copy hole pattern [2x]
2 Bracket

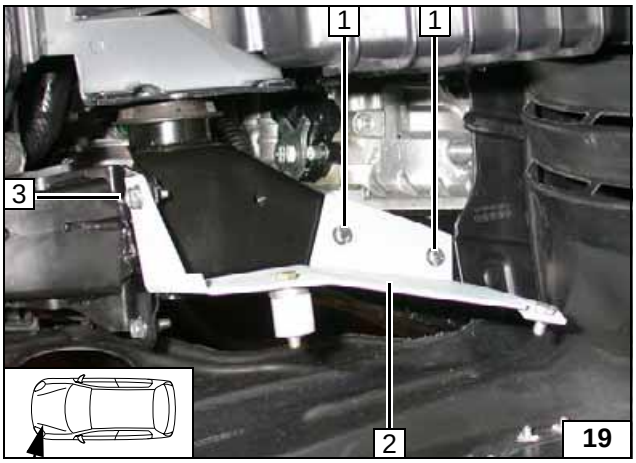
Copying hole pattern



Remove bracket

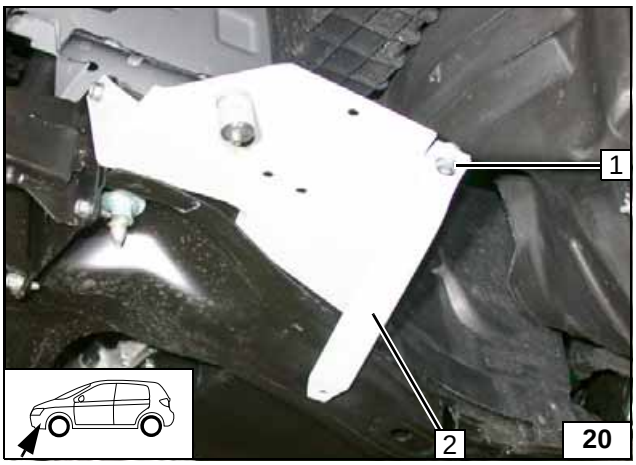
1 9.1 mm dia. hole; M6 rivet nut [2x each]

Installing rivet nut



1 M6x20 bolt, spring lockwasher [2x each] on rivet nut
2 Bracket
3 Original vehicle bolt

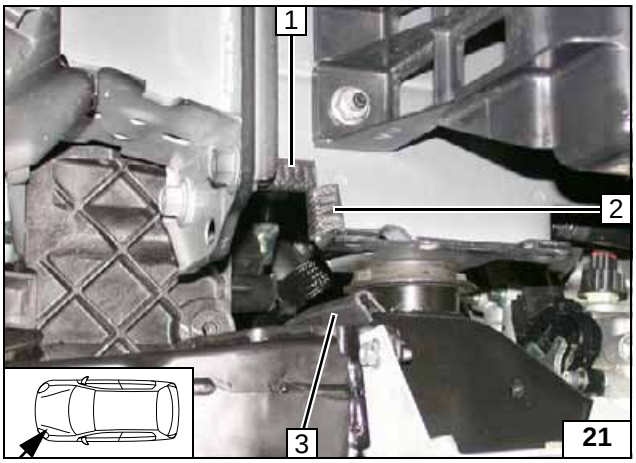
Installing bracket



Strut **2** will be mounted on engine support later

1 Flanged nut

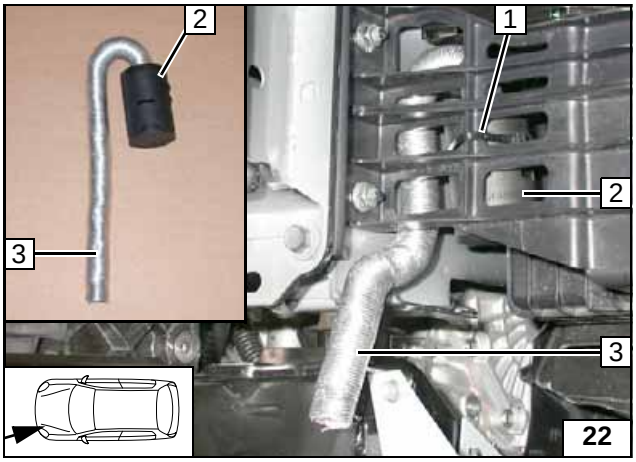
Loosely mounting strut



Cut edge protection to length accordingly and mount.

1 Edge protection 30
2 25 mm edge protection
3 100 mm edge protection

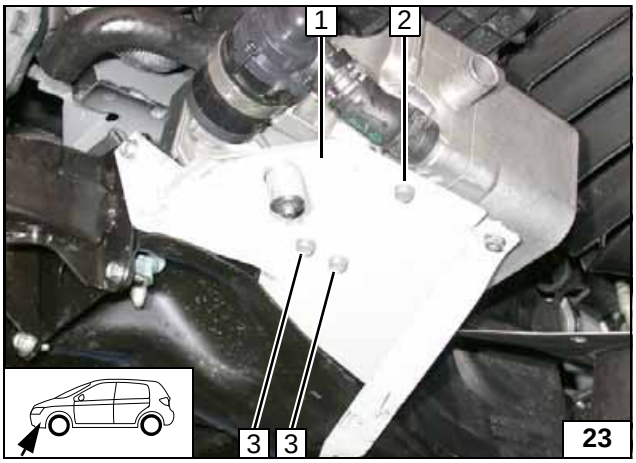
Installing edge protection



Secure muffler **2** with cable tie **1**.

3 Shape combustion air pipe

Preassembling muffler

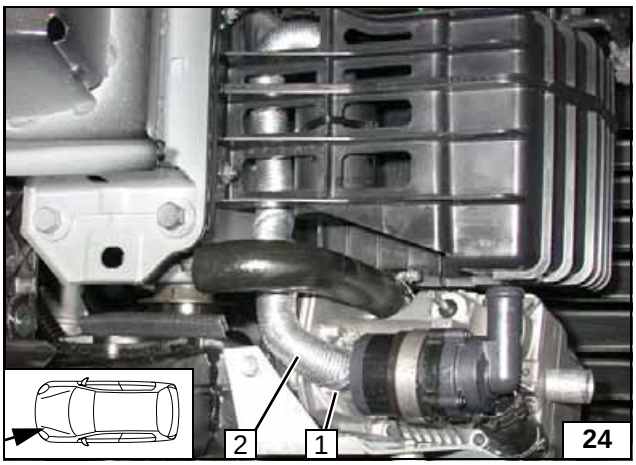


Installing heater

Mount wiring harness before installing heater. Insert two washers between heater and bracket **1** at Position **2**.

1 Bracket
2 Ejot screw, washer [2x]
3 Ejot screw [2x]

Installing heater



1 24-27 mm dia. clamp
2 Combustion air pipe

Installing combustion air pipe

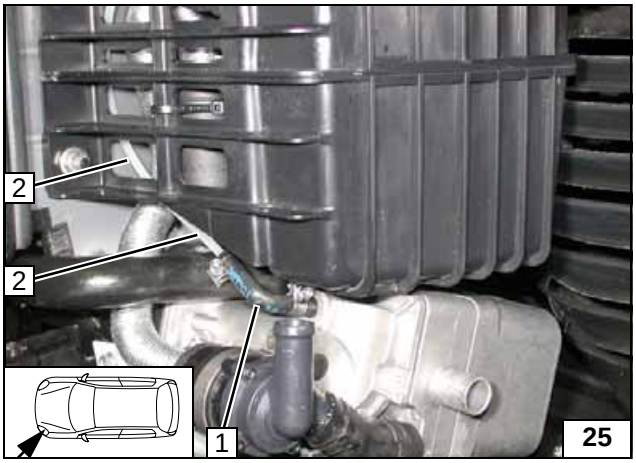
Fuel

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.

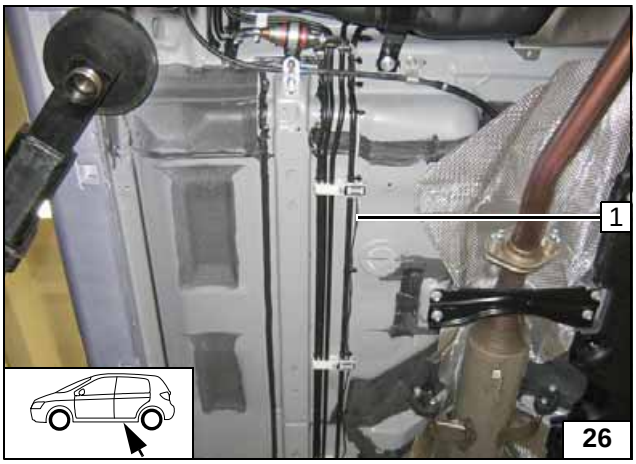
Install fuel line and metering-pump wiring harness so that they are protected against stone impact. Unless specified otherwise, always fasten using cable ties.
Mount the fuel line and wiring harness with rub protection on sharp edges.

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



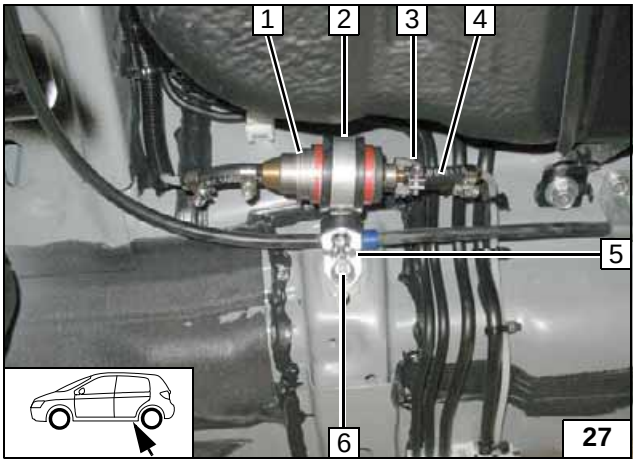
1 90° moulded hose, 10 mm dia. clamp [2x]
2 Fuel line

Connecting heater



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

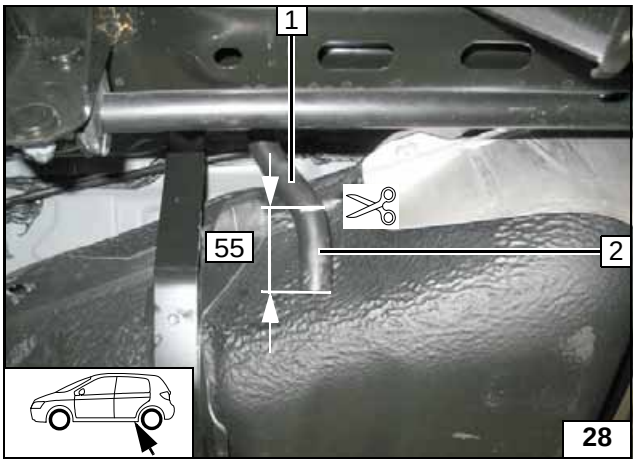
Wiring routing



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

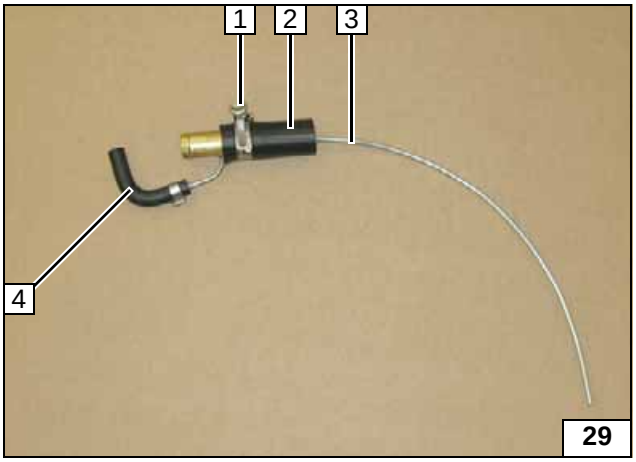
1 Metering pump
2 Rubber-coated p-clamp, silent block, flanged nut [2x]
3 Wiring harness of metering pump, connector mounted
4 Hose section, 10 mm dia. clamp [2x], fuel line

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.

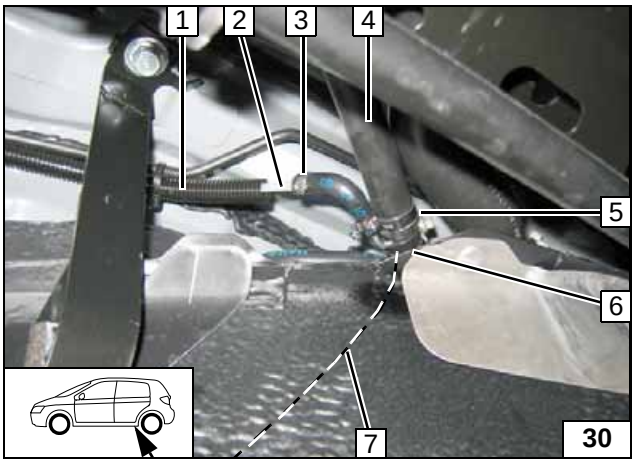
Removing fuel



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

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

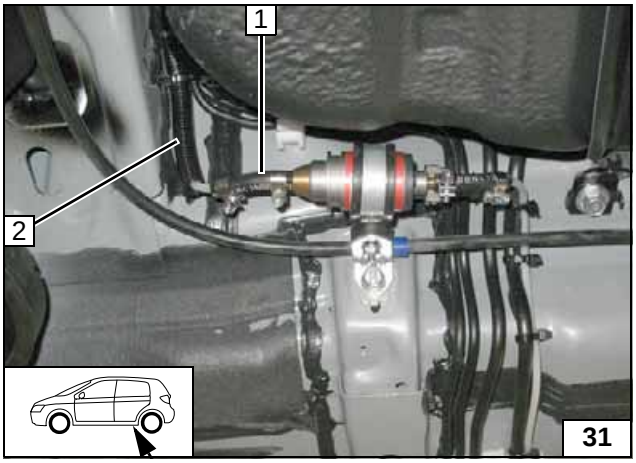
Premounting fuel standpipe



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.

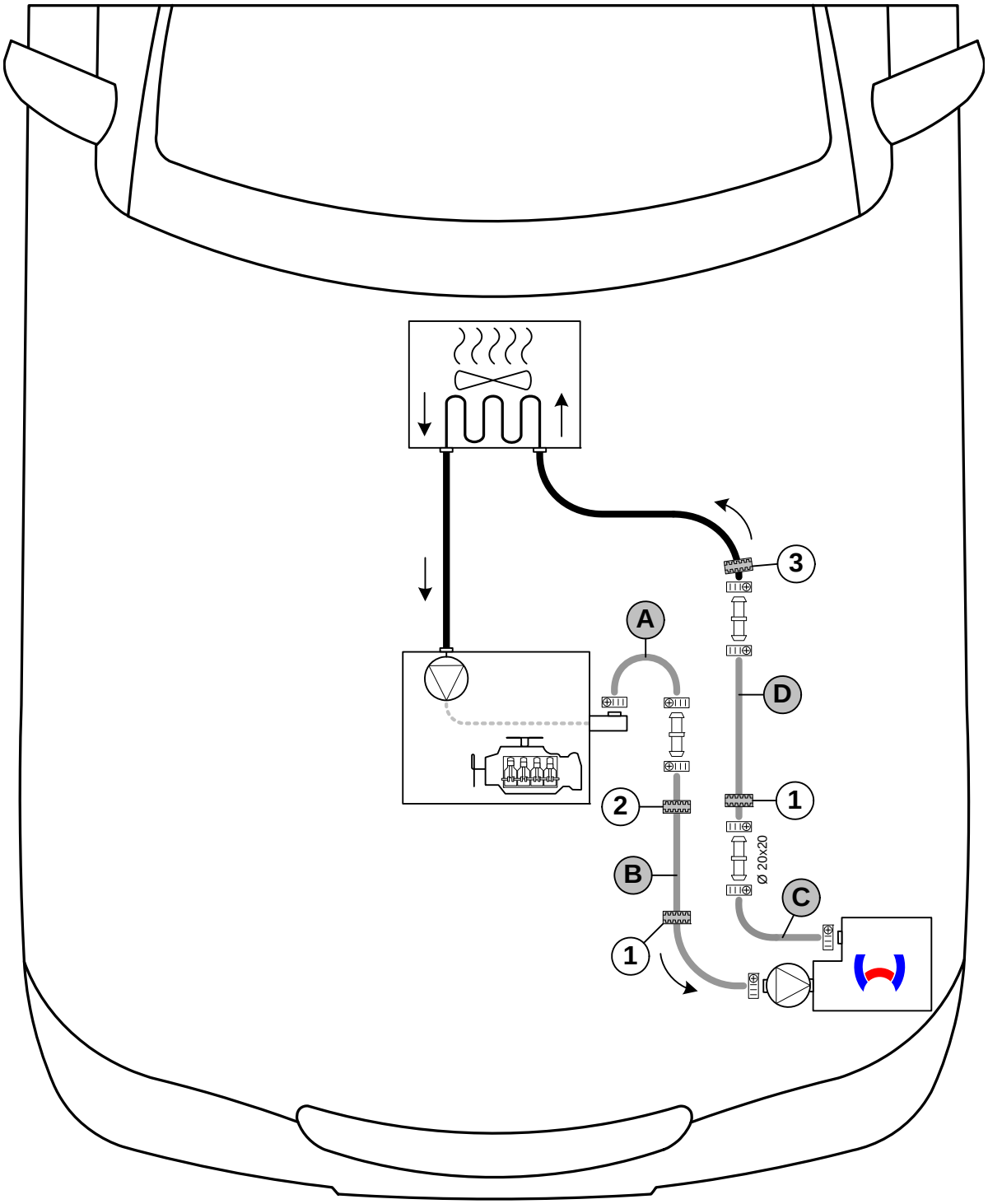
1 Hose section, 10 mm dia. clamp [2x]
2 Fuel line in 10 mm dia. corrugated tube

Connecting metering pump

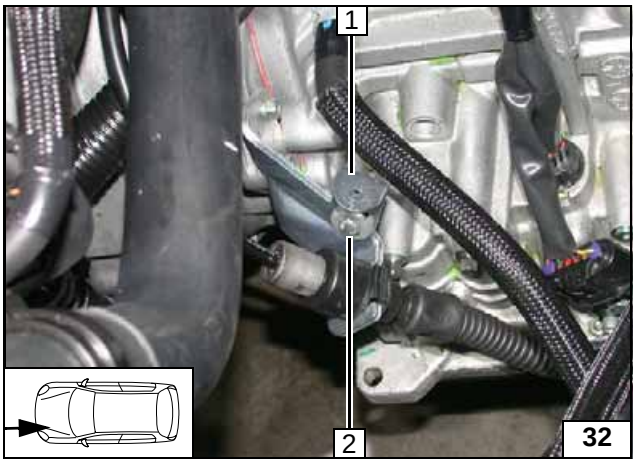
Coolant circuit

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



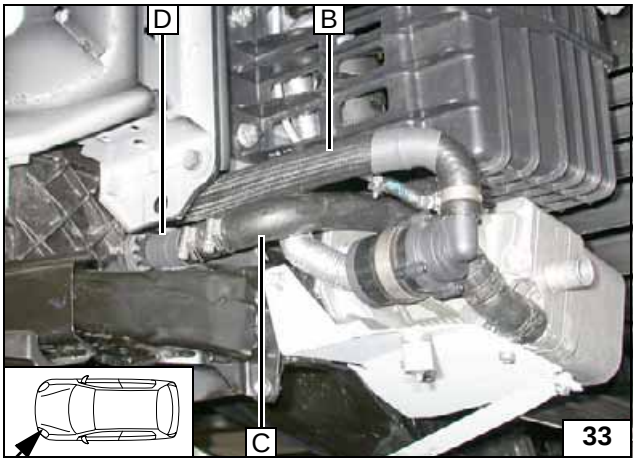
All connecting pipes without a specific designation = dia. 18x20. All hose clamps = 20-27 mm dia.
1 = Rubber isolator black (sw), 20mm dia. [2x] **108kW**.
1+**2** Rubber isolator black (sw) [3x], 20mm dia. and **3** rubber isolator black (sw), 18mm dia. **114kW**.



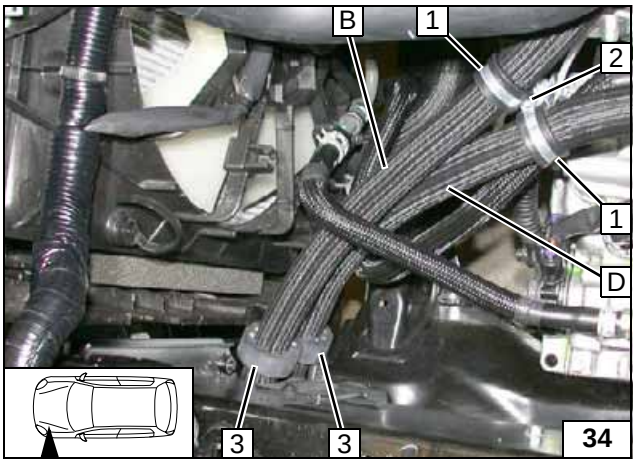
108kW

1 Angle bracket
2 Mount M6x20 bolt, large diameter washer, flanged nut in existing hole

Installing angle bracket

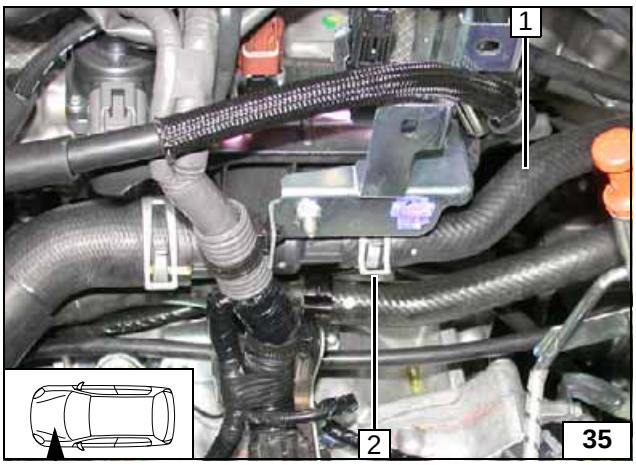


Connecting heater



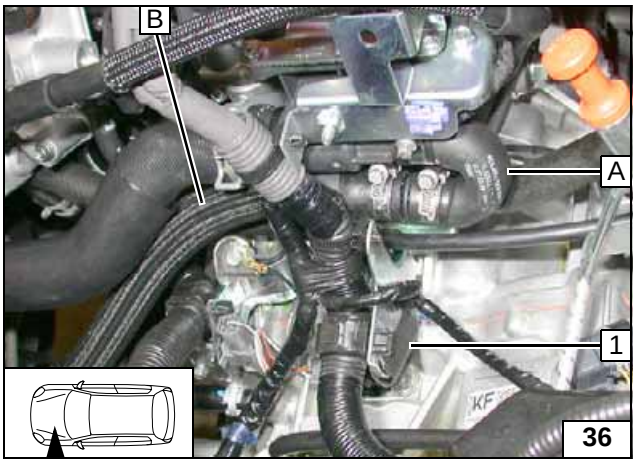
1 29 mm dia. rubber-coated p-clamp [2x]
2 M6x20 bolt, flanged nut on angle bracket
3 Align black (sw) rubber isolator [2x]

Routing in engine compartment



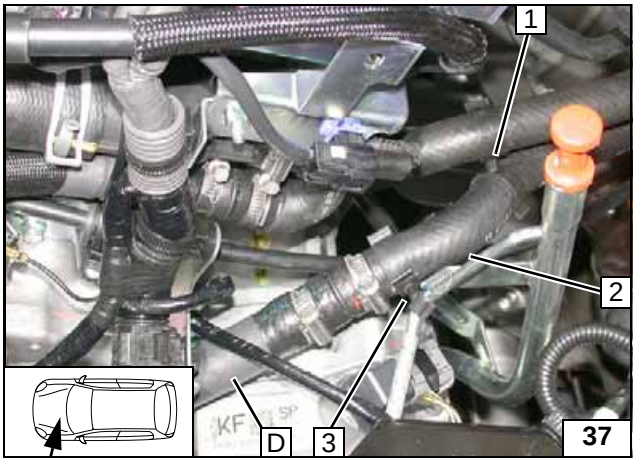
Disconnect hose to engine outlet/heat exchanger inlet **1** at connection piece of engine outlet. Discard original vehicle spring clip **2**.

Cutting point



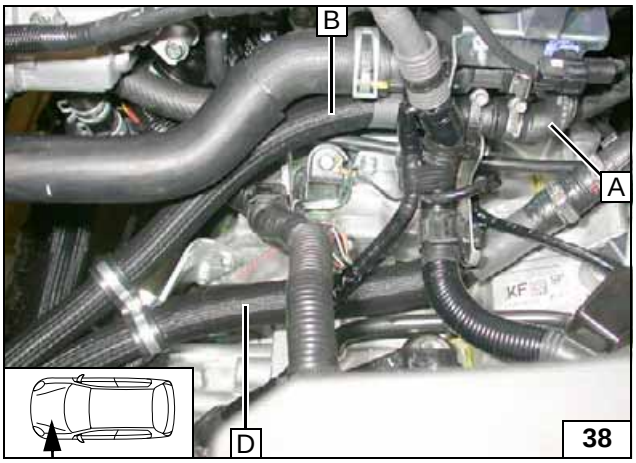
1 Edge protection 60

Connecting engine outlet



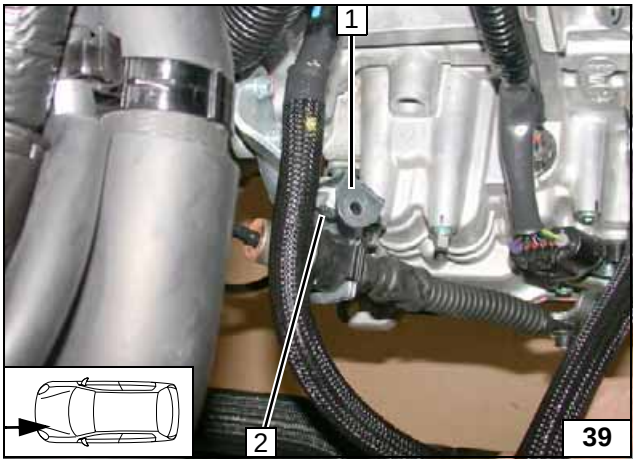
1 4x20 mm spacer bracket
2 Hose on heat exchanger inlet
3 20x22 mm spacer bracket

Connecting heat exchanger inlet



Ensure sufficient distance to adjacent components; correct if necessary.

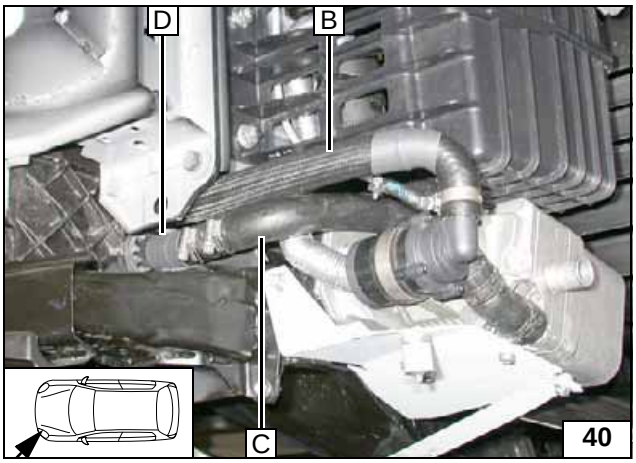
Aligning coolant hoses



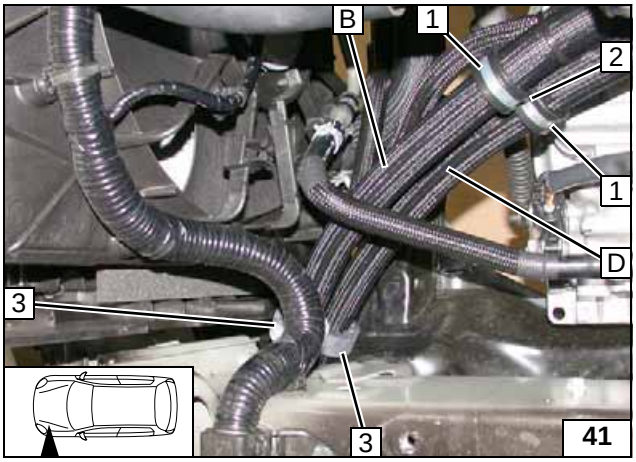
114kW

1 Angle bracket
2 Mount M6x20 bolt, large diameter washer, flanged nut in existing hole

Installing angle bracket

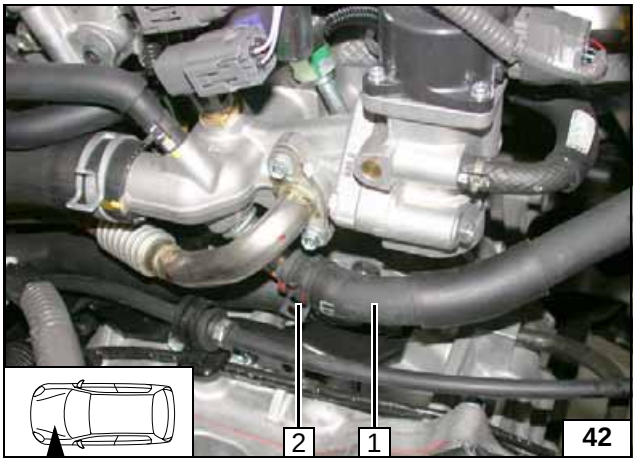


Connecting heater



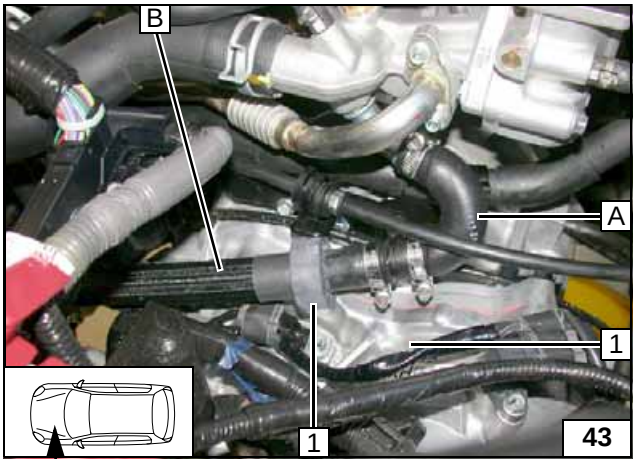
1 29 mm dia. rubber-coated p-clamp [2x]
2 M6x20 bolt, flanged nut, angle bracket
3 Slide on and align black (sw) rubber isolator [2x]

Routing in engine compartment



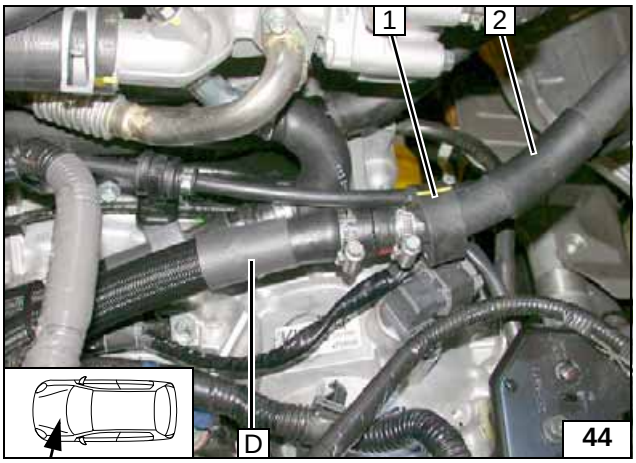
Disconnect hose to engine outlet/heat exchanger inlet **1** at connection piece of engine outlet. Discard original vehicle spring clip **2**.

Cutting point



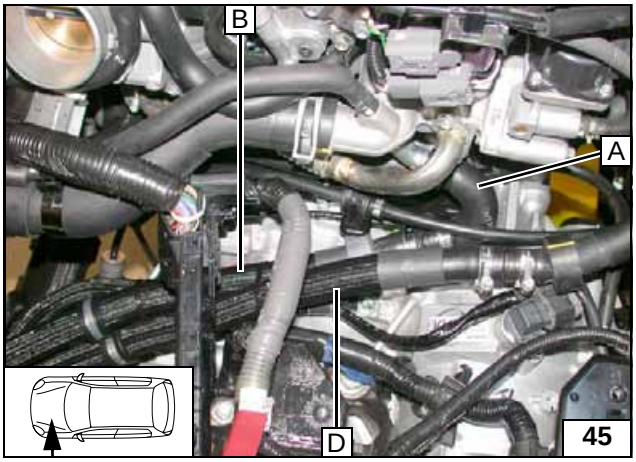
1 Slide on and align black (sw) rubber isolator

Connecting engine outlet



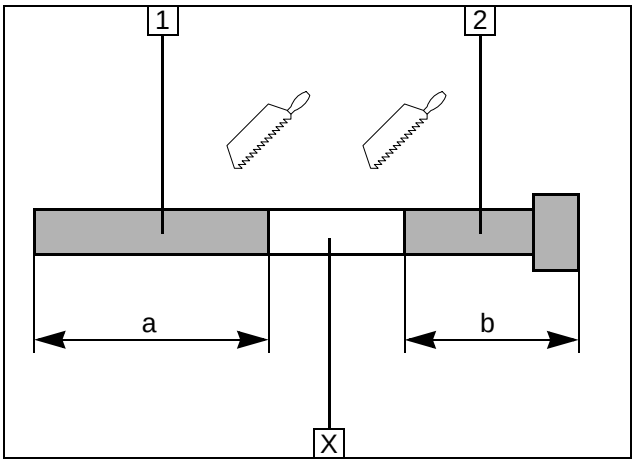
1 Slide on and align black (sw) rubber isolator
2 Hose on heat exchanger inlet

Connecting heat exchanger inlet



Ensure sufficient distance to adjacent components; correct if necessary.

Aligning coolant hoses

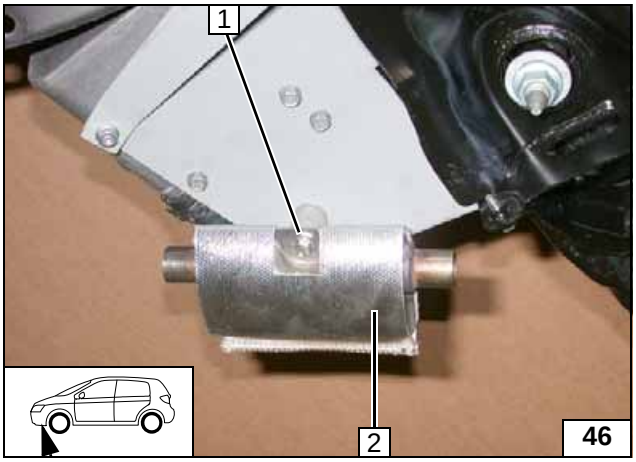


Exhaust gas

1 Exhaust pipe
a = 220
2 Exhaust end section
b = 75

Discard section **X**

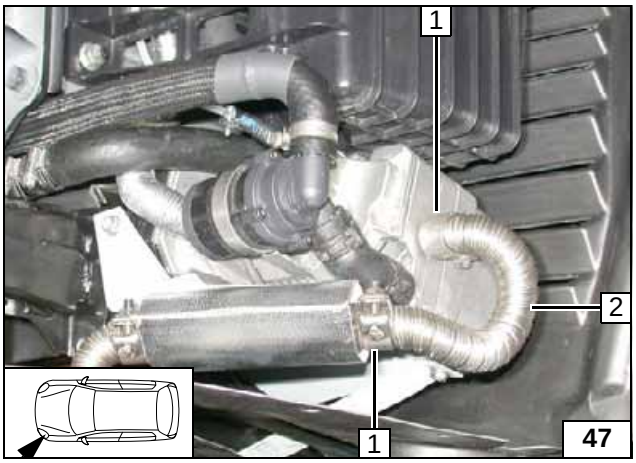
Preparing exhaust pipe



Slide exhaust-gas insulation **2** onto muffler.

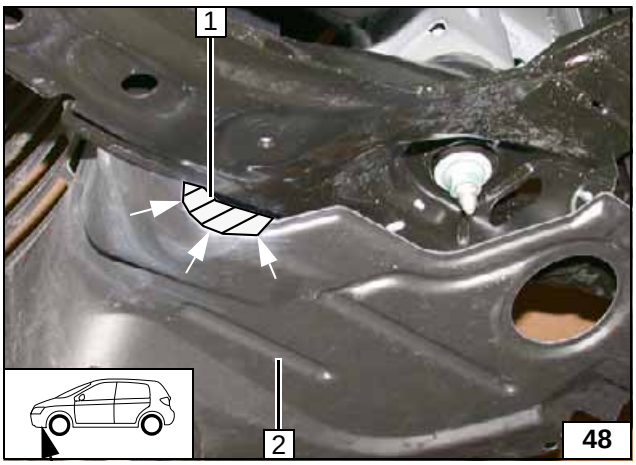
1 Flanged nut on preassembled bolt

Installing muffler



1 Hose clamp [2x]
2 Exhaust pipe

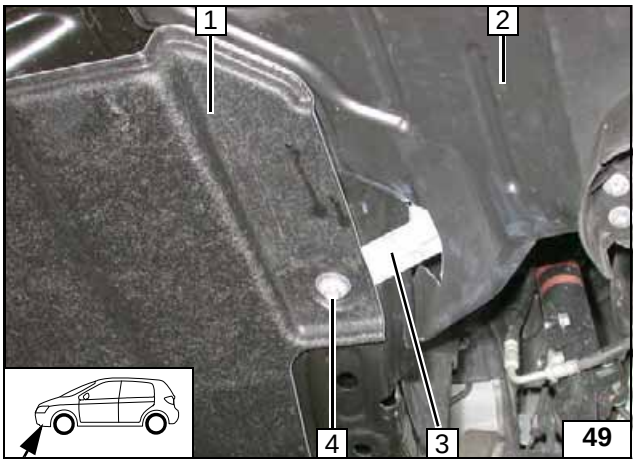
Installing exhaust pipe



Hold on wheel well trim **2** and cut out along marking.

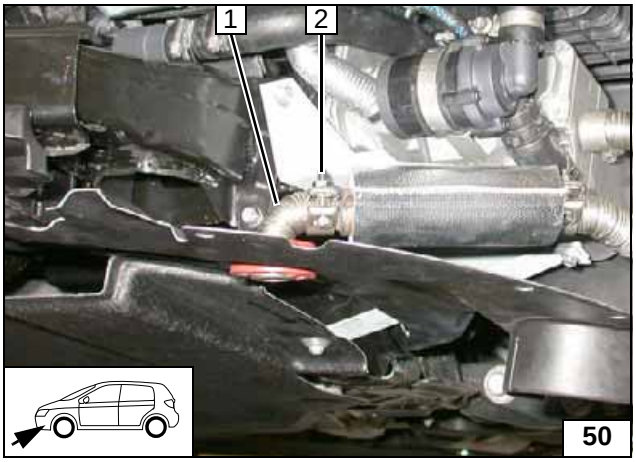
1 Discard section

Cutting out wheel well trim



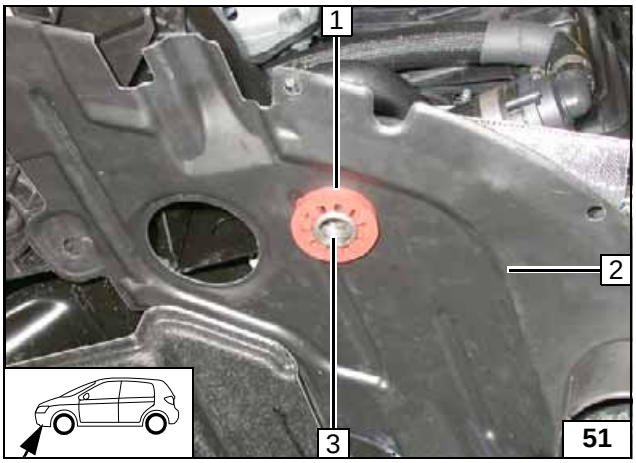
1 Underride protection
2 Wheel well trim
3 Strut
4 Original vehicle bolt

Mounting underride protection



1 Exhaust end section
2 Hose clamp

Installing exhaust end section



42 mm dia. hole at Position 3 in wheel well trim **2**. Align exhaust end section **3** flush on red rubber isolator **1**.

Mounting rubber isolator

Final Work

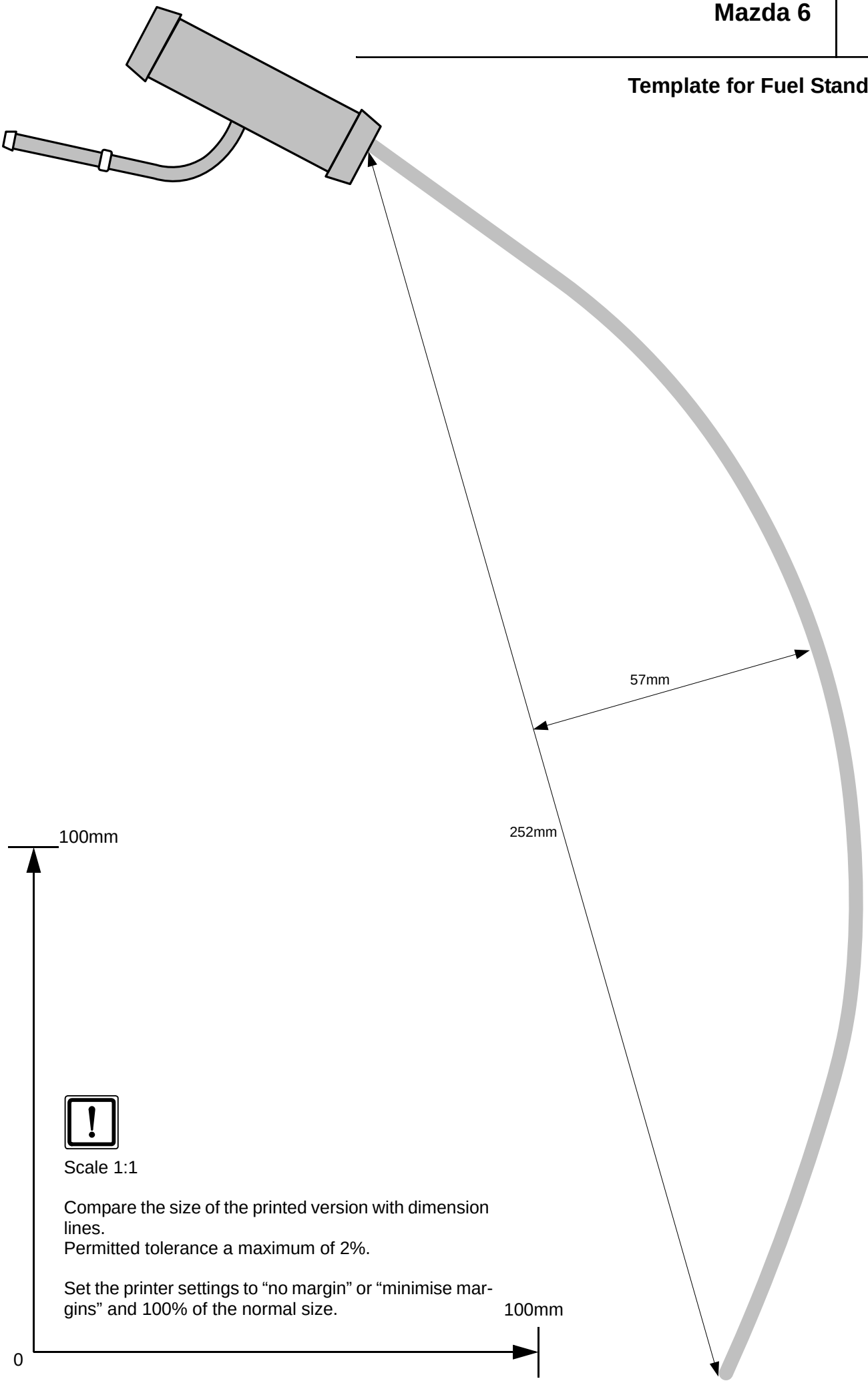
WARNING!
Mount removed parts in reverse order.
Check all hoses, clamps and all electrical connections for firm seating.
Secure all loose cables using cable ties.
Only use manufacturer-approved coolant.
Spray heater components with anti-corrosion wax (Tectyl 100K, Order No. 111329).

- 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

Webasto
Feel the drive

Webasto AG
Postfach 80
D-82131 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

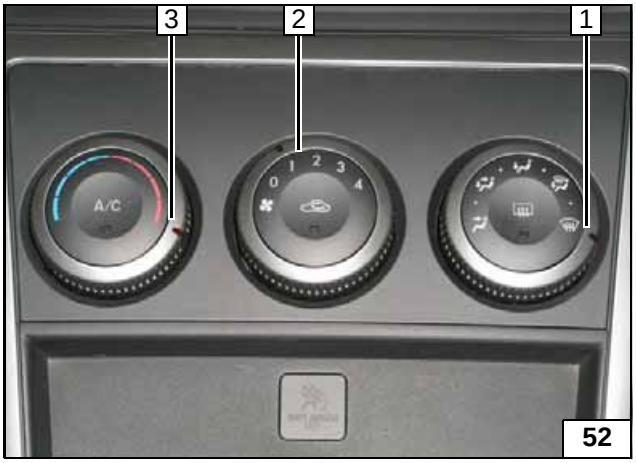
Please remove page and add to the vehicle operating instructions.

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:

Manual air conditioning



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

Automatic air-conditioning

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