

Water Heater Unit



Feel the drive

Thermo Top E Additional Heater


00 0003

Thermo Top C Additional Heater


00 0002

Installation Instructions



SUBARU Impreza 1.5R; 2.0R

Gasoline

Impreza 2.0R from Model Year 2006

Impreza 1.5R from Model Year 2007

For left-hand drive vehicles only



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.

SUBARU Impreza 1.5R; 2.0R

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Validity

Manufacturer	Model	Type	EG-BE No./ABE
SUBARU	Impreza	GD/GG	e1*98/14*0145...
SUBARU	Impreza	GD/GGS	e1*98/14*0163...

Engine type	Engine model	Output in kW	Displacement in cm ³
EL15	Gasoline	77	1498
EJ20	Gasoline	118	1994

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 a digital timer and summer/winter switch should be confirmed with the end customer before installation.

SUBARU Impreza 1.5R; 2.0R

Heater Unit/Installation Kit

Quantity	Description	Order No.:
1	Retail accessories with desired heater control	See price list
1	Installation kit for SUBARU Impreza 1.5R; 2.0R	1310983A

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 SUBARU Impreza 1.5R; 2.0R vehicles with a Gasoline engine - for validity, see page 2 - from model year 2006 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/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 should be fitted with edge protectors (split open plastic 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



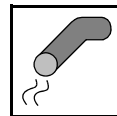
Coolant connection



Fuel connection



Exhaust system



Combustion air



Special features are highlighted using the following symbols:



Specific risk of injury or fatal accidents.



Specific risk of damage to components.



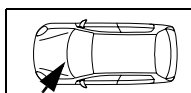
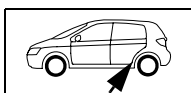
Specific risk of fire or explosion.



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



Reference to a special technical feature.



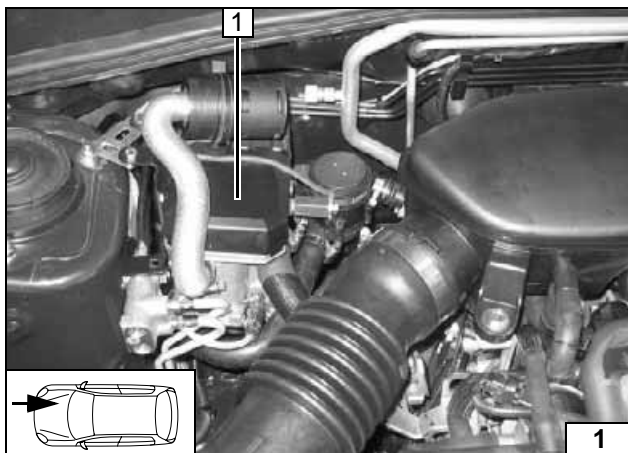
The arrow in the vehicle icon indicates the position on the vehicle and the viewing angle.

Preliminary Work

WARNING!

- 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.
- Copy the vehicle data from the type label on the right-hand spring strut dome to the EC homologation for the heater unit.
- Remove the air filter together with the intake hose.
- Remove the coolant reservoir cap.
- Remove the A/C control panel.
- Remove the lower instrument panel trim on the driver's side.
- Remove the lower left-hand A-pillar trim and fold back the floor trim above the pedals.
- Remove the left-hand front and rear door sill cover.
- Remove the rear seat cushion.
- Remove the lower luggage compartment cover and take out the Styrofoam molded parts.
- Open the fuel tank cap, ventilate the tank.
- Close the tank cap again.
- Open the right-hand fuel sender service lid

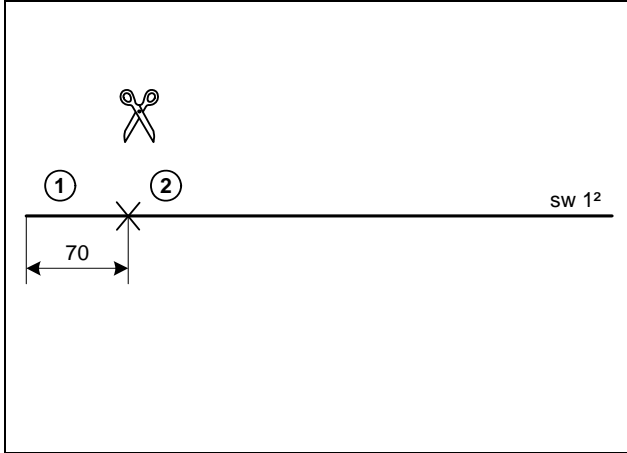
Please remove page 29 of the "Operating instructions for the end customer" and add it to the vehicle operating instructions.



Heater unit installation location

1 Heater unit

Installation location

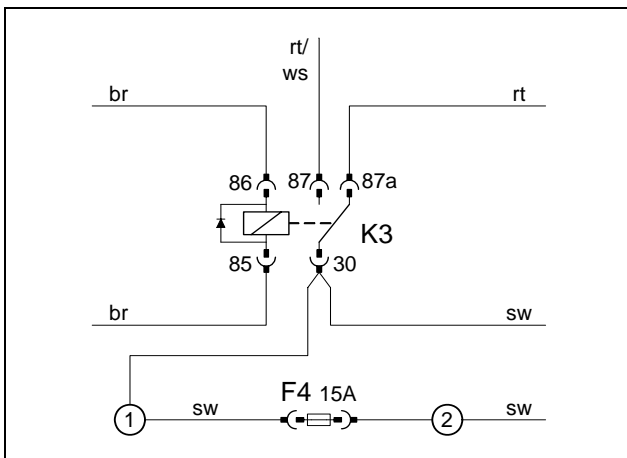


Preparing electrical system

Install wire section 2 in the protective sleeving provided.



Cutting wires to length



Make connections as shown in the wiring diagram with the tab receptacles provided.



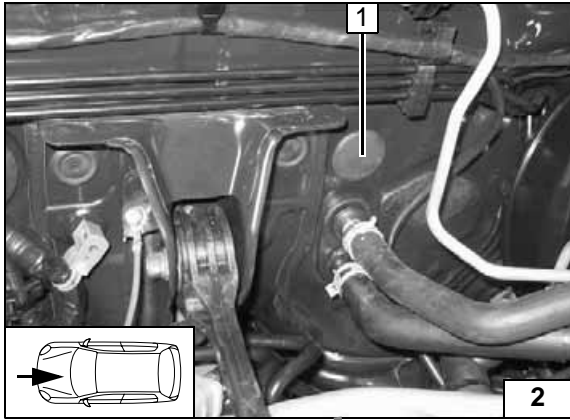
Preparing fuse F4



Electrical Connections

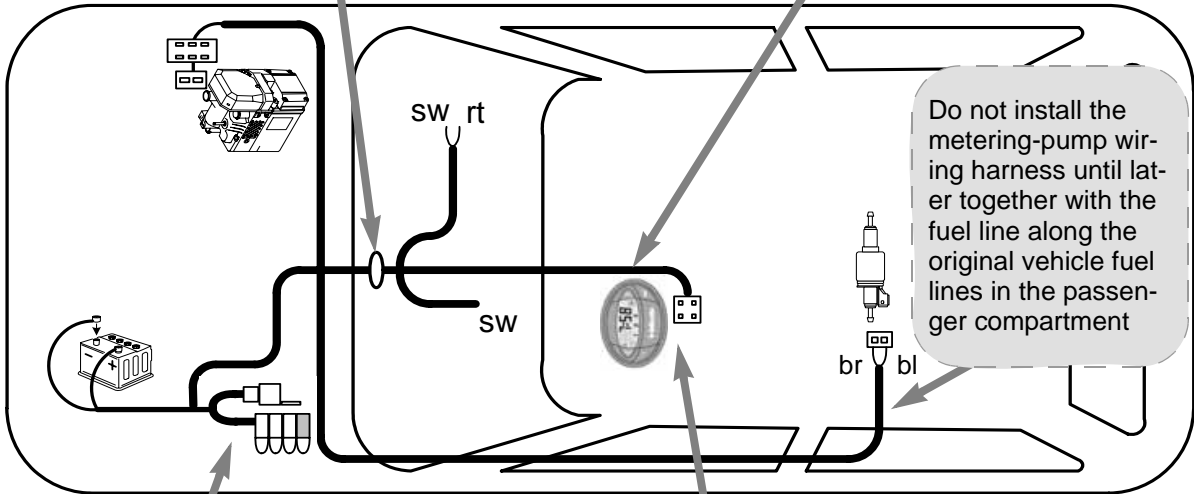
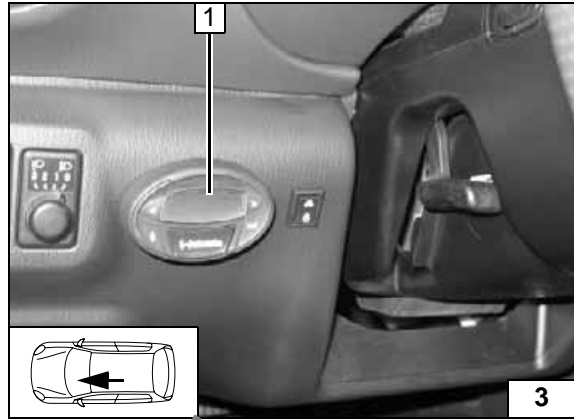
Wiring harness pass through

- 1 Protective rubber sleeve

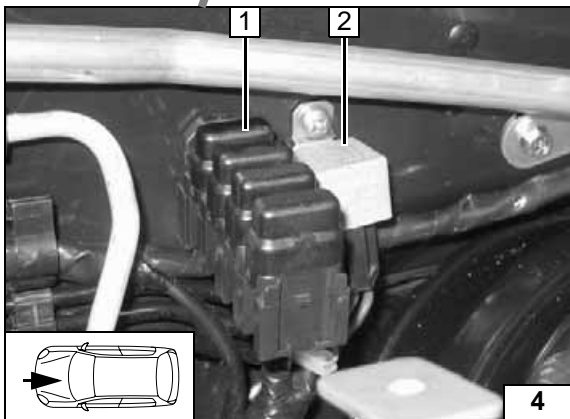


Digital timer

- 1 Digital timer (match installation location)



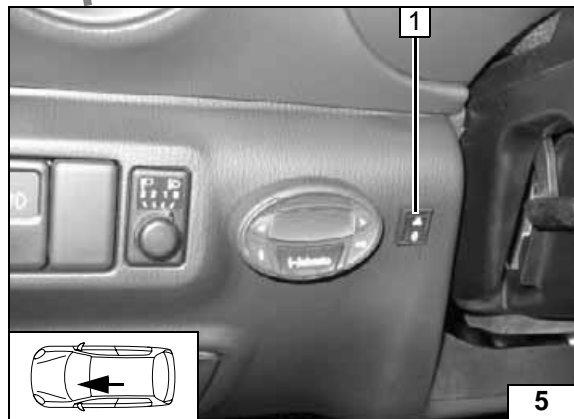
Wiring harness installation diagram



Fuse holder, K3 relay

See wiring diagram on page 9 !

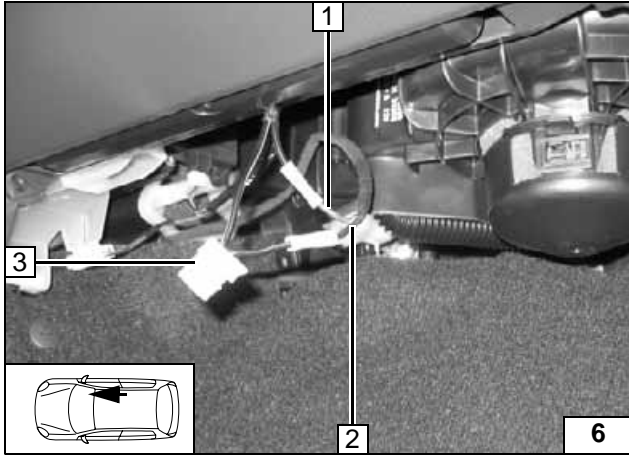
- 1 Fuse holder retaining plate, self-tapping screw
- 2 Fan relay K3, self-tapping screw



Summer/winter switch option

(match installation location)

- 1 Summer/winter switch, drilled hole 12 mm dia.



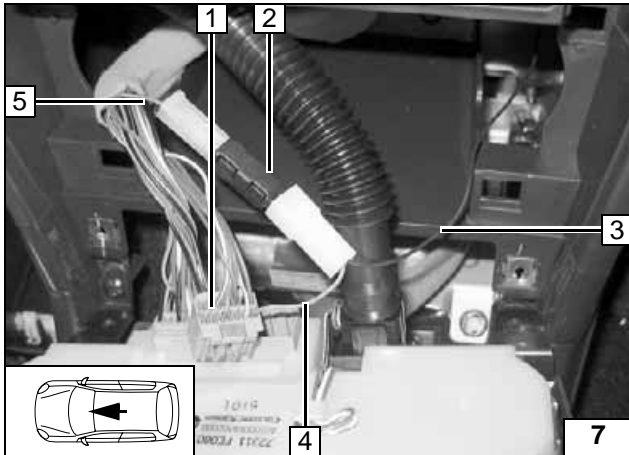
Automatic air-conditioning fan controller

Connection to the 2-pin connector **3** from the fan motor.
Make connections as shown in the wiring diagram with the wire connectors provided.

- 1** Red (rt) wire from K3/87a
- 2** Black (sw) wire from K3/30
- 3** 2-pin connector of B87 fan motor



**Connect-
ing fan mo-
tor**



Connection to the 16-pin connector **1** from the A/C control panel.
Make connections as shown in the wiring diagram with the tab connectors provided.

- 1** 16-pin connector of B282, Pin 8
- 2** Blocking diode
- 3** Black (sw) wire from fuse F4
- 4** Green/yellow (gn/ge) wire to connector
- 5** Green/yellow (gn/ge) wire from fuse No. 17(IG) 15 A

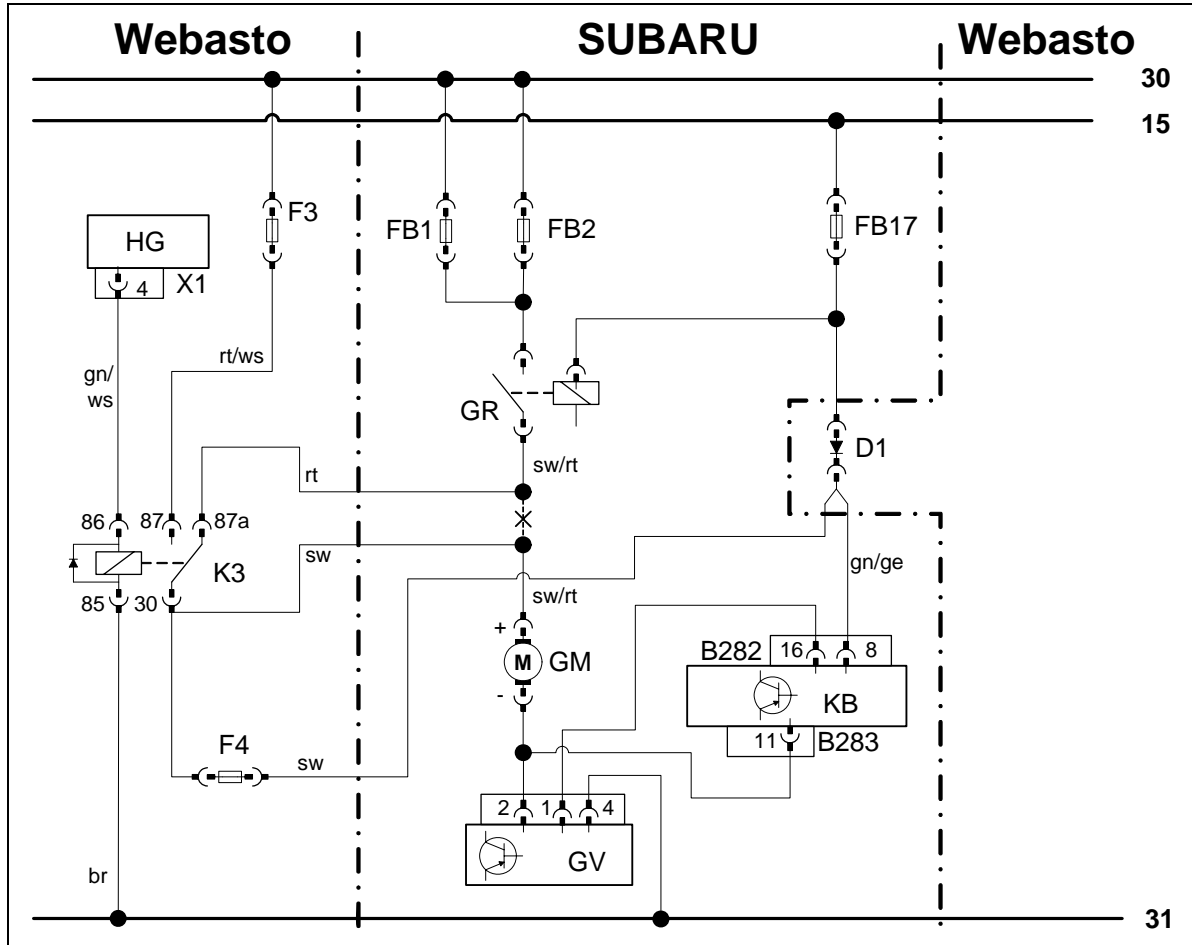


**Connect-
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control ele-
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Note:

Wire color green/yellow (gn/ge) is shown as green/orange (gn/or) in workshop manual!

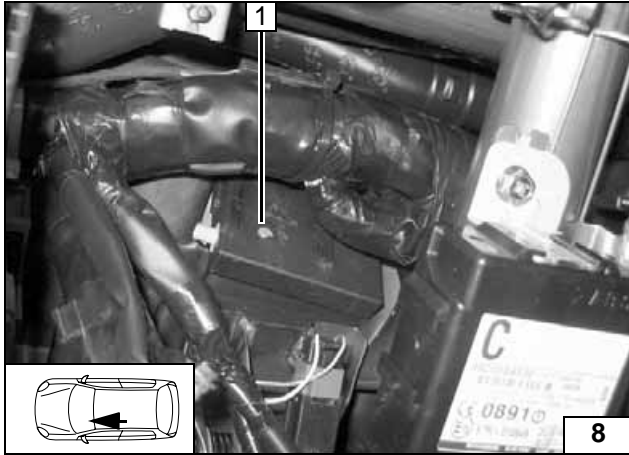




Automatic air-conditioning circuit diagram

Webasto components		Components of SUBARU Impreza 1.5R; 2.0R		Colors and symbols	
HG	Heater unit TT-C/E	GM	Fan motor	rt	red
X1	6-pin connector	GV	Fan amplifier	ws	white
F4	Fuse, 15 A	GR	Fan relay	ge	yellow
F3	Fuse, 25 A	KB	Air-conditioning control element	sw	black
K3	Fan relay	FB1	Fuse, 15 A	br	brown
D1	Diode 1	FB2	Fuse, 15 A	gn	green
		FB17	Fuse, 15 A (IG)		
				X	Cutting point
				Wiring colors may vary.	

Legend

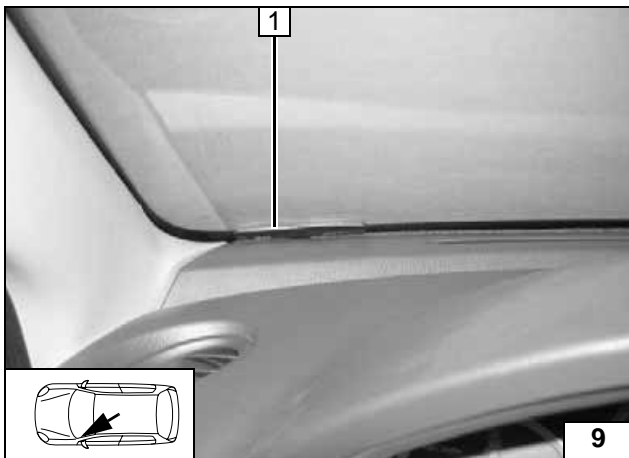


Remote option (Telestart)

1 Receiver, Dual Lock, self-adhesive



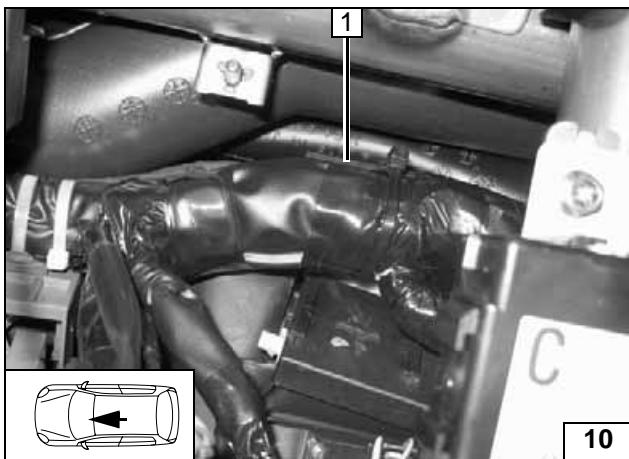
Installing receiver



1 Antenna



Installing antenna

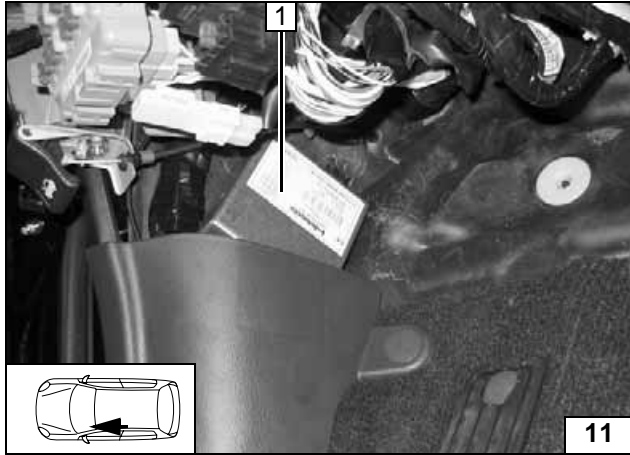


Temperature sensor for HTM100 only

1 Temperature sensor, cable tie



Installing temperature sensor

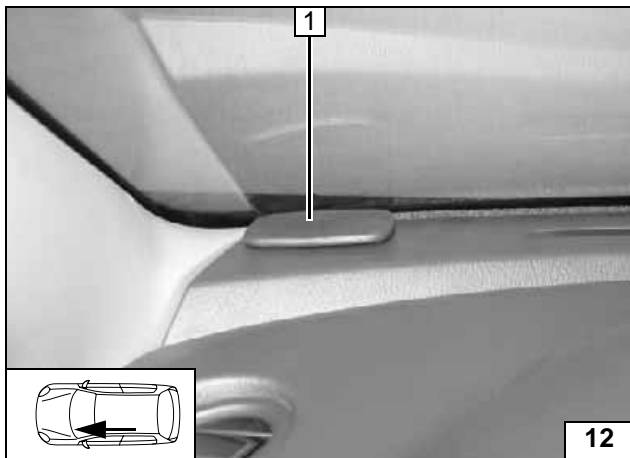


Remote option (Thermo Call)

1 Receiver, Dual Lock, self-adhesive



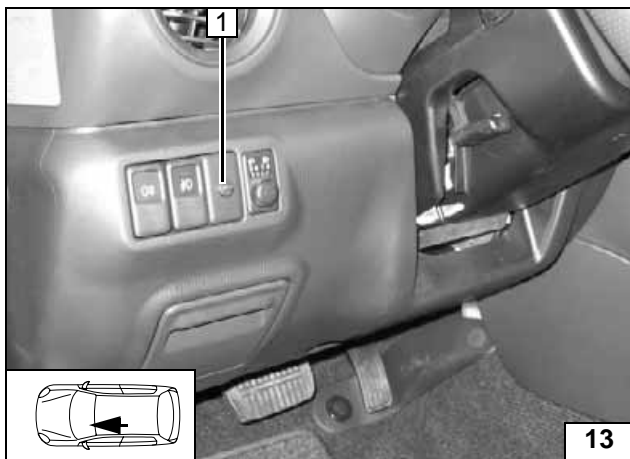
Installing receiver



1 Antenna



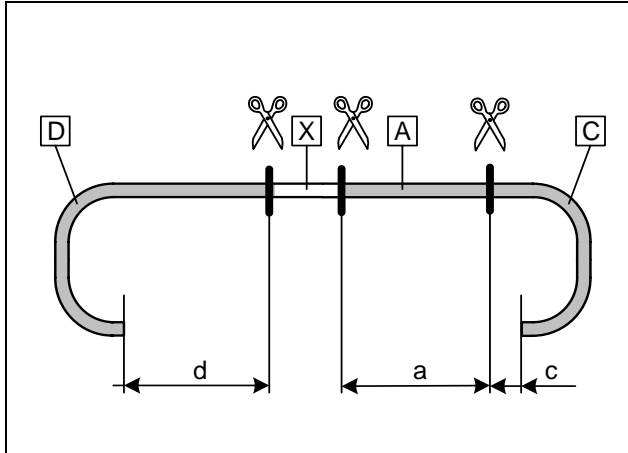
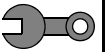
Installing antenna



1 Pushbutton



Installing push button



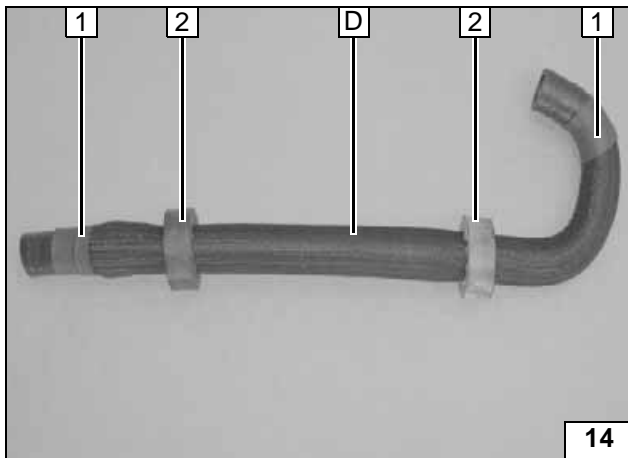
Preparing heater unit

d = 360 mm
a = 450 mm
c = 90

Discard section X



Cutting coolant hoses to length

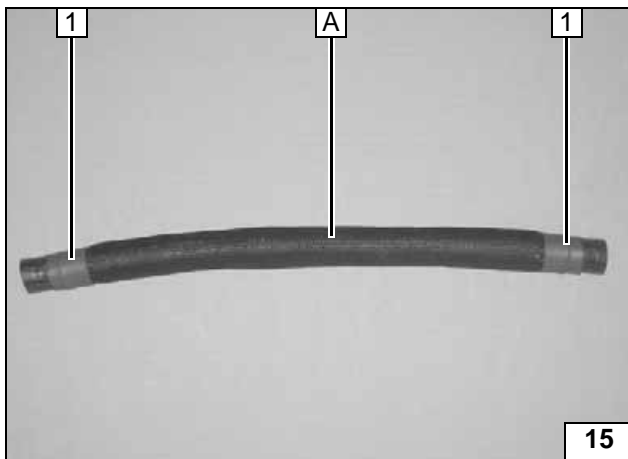


Slide braided protection hose onto hose **D** and cut to length.
Cut shrinkdown plastic tubing to length.

- 1 Shrinkdown plastic tubing, 25 mm
- 2 Rubber isolator, black



Preparing coolant hoses

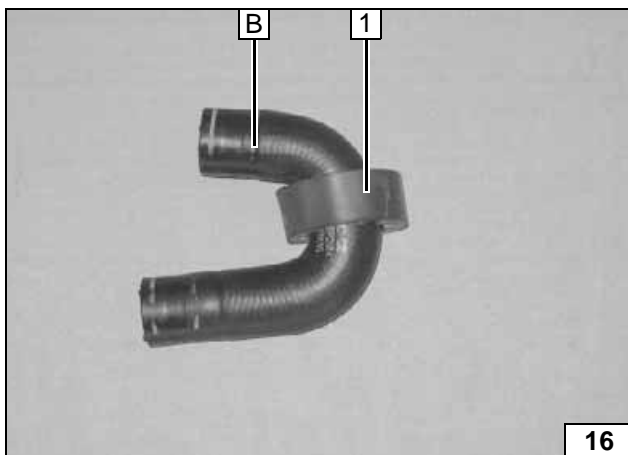


Slide braided protection hose onto hose **A** and cut to length.
Cut shrinkdown plastic tubing to length.

- 1 Shrinkdown plastic tubing, 25 mm



Preparing coolant hoses

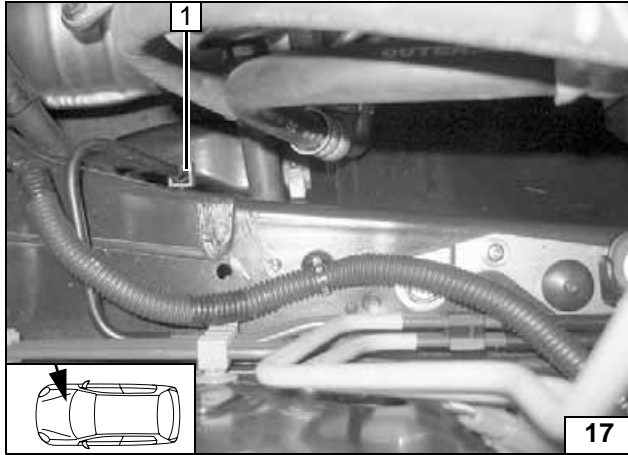
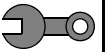


Included 180° molded hose 20 mm dia.

- 1 Rubber isolator, black



Preparing molded hose



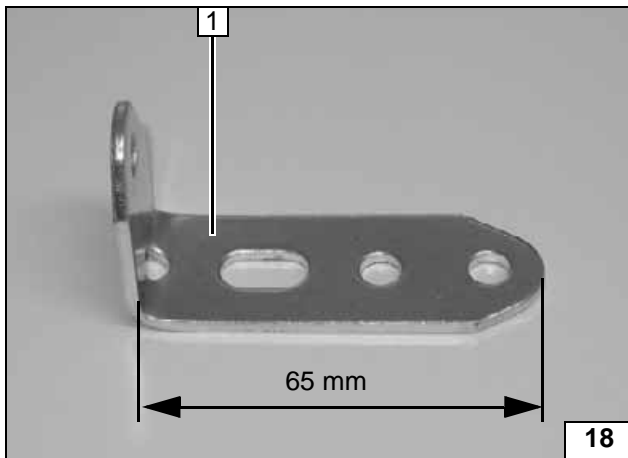
Preparing installation location

Remove retaining clip for brake line, drill out hole, 9.1 mm dia., install M6 rivet nut

- 1 Retaining clip



Preparing installation location

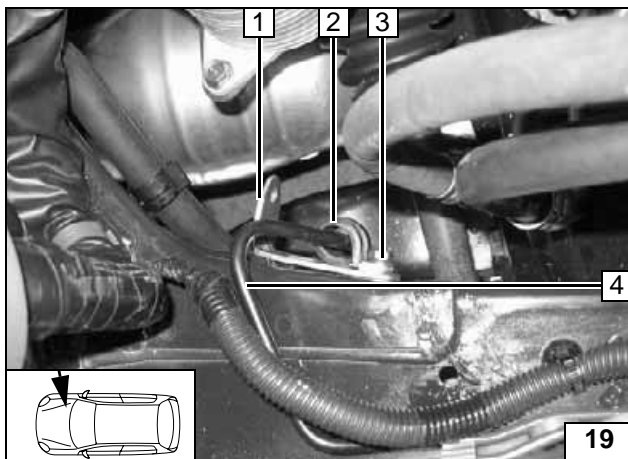


Bend perforated bracket as shown!

- 1 Perforated bracket



Preparing perforated bracket

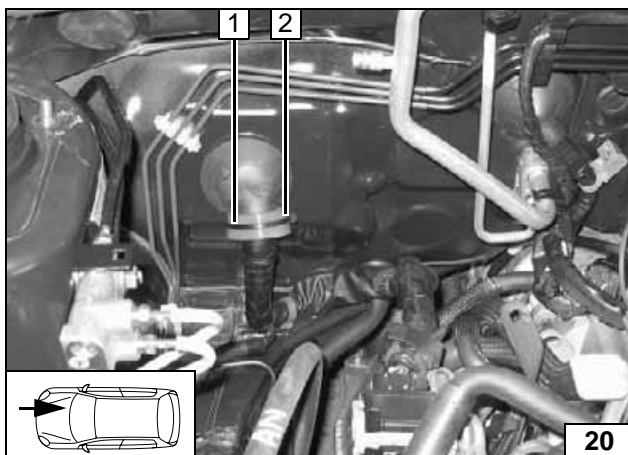


Cut open 8x12 fuel hose and slide onto brake line 4, secure to rubber-coated pipe clamp 2 with cable ties.

- 1 Perforated bracket
- 2 Rubber-coated pipe clamp, 15 mm dia.
- 3 M6x20 screw, spring lockwasher, rivet nut
- 4 Brake line



Installing perforated bracket

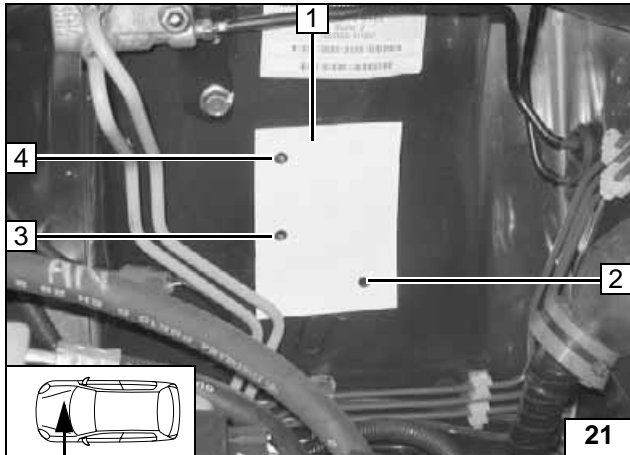
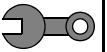


Cut open red rubber isolator with groove and secure on wiring harness with cable tie as shown!

- 1 Red (rt) rubber isolator with groove
- 2 Green (gn) cable tie, 3.5x290



Installing rubber isolator

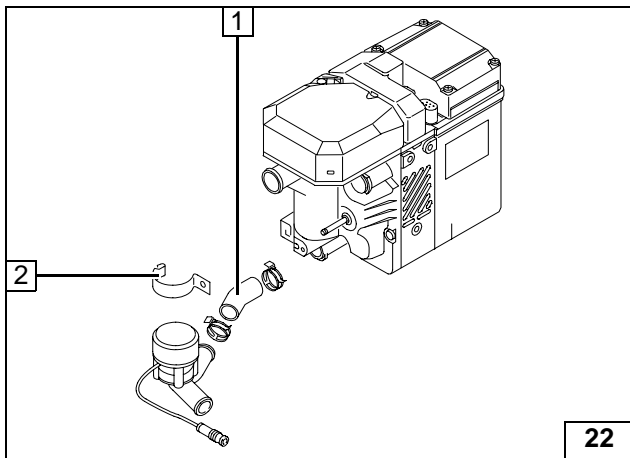


Position drilling template as shown and copy hole pattern

- 1 Drilling template
- 2 Copy hole pattern, 7 mm dia. drilled hole
- 3 Threaded insert on vehicle
- 4 Threaded insert on vehicle



Copying hole pattern

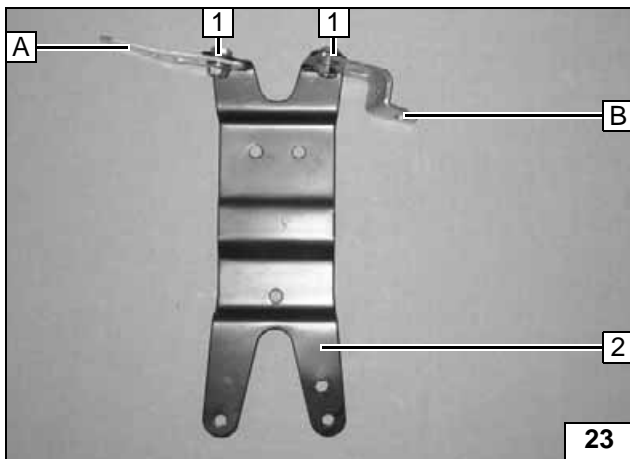


Preassembling heater unit

Discard retaining clip 2 and molded hose 1



Removing circulating pump

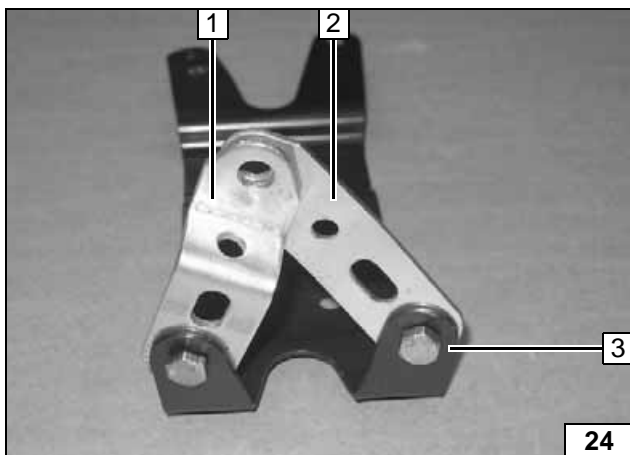


Machine bracket 2 and perforated bracket A and B in accordance with template.

- 1 M6x12 bolt, flanged nut M6



Preassembling bracket

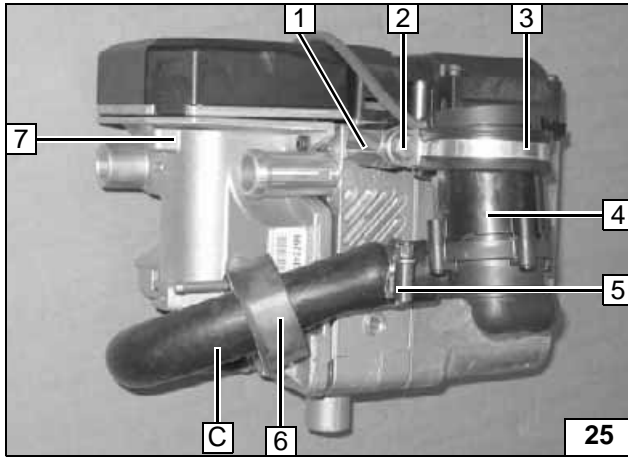
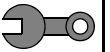


Assemble perforated brackets as shown.

- 1 Perforated bracket B
- 2 Perforated bracket A
- 3 Bracket



Preassembling bracket

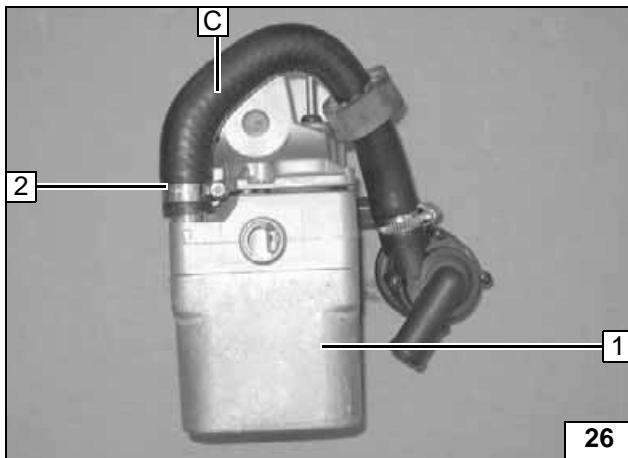


Tighten EJT screws to 10 Nm!
Connect circulating pump harness and ensure freedom of movement.

- 1 Ejt bolt, spacer nut, M6x30
- 4 Circulating pump
- 3 Rubber-coated pipe clamp, 48 mm dia.
- 2 M6x12 bolt, spring lockwasher
- 5 Hose clamp
- 6 Black (sw) rubber isolator
- 7 Heater unit

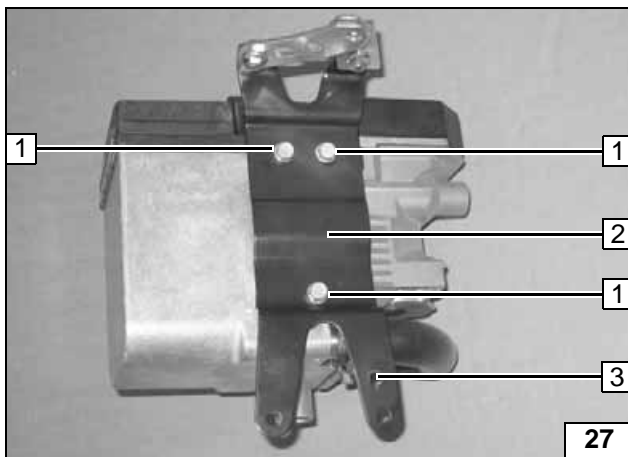


Preassembling heater unit



- 1 Heater unit
- 2 Hose clamp

Preassembling heater unit

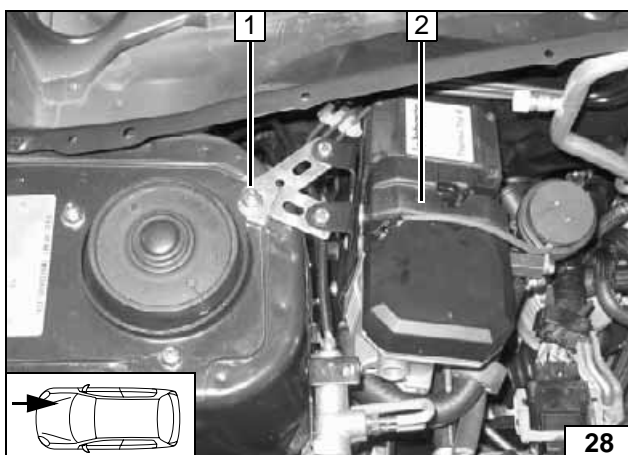


Tighten EJT screws to 10 Nm!

- 2 Bracket
- 3 7 mm dia. hole
- 1 Ejt screw [3x]



Installing bracket

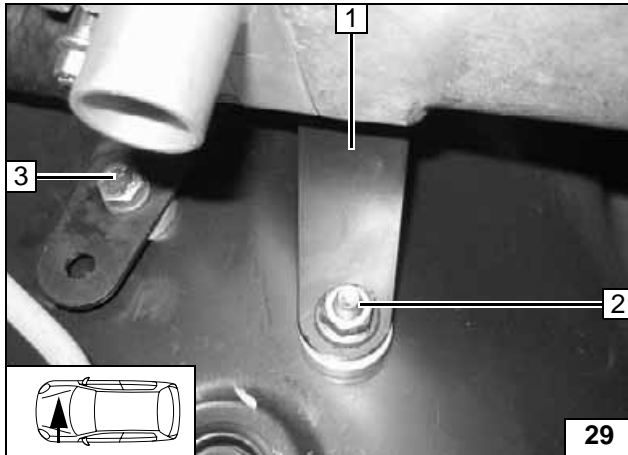
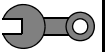


Installing heater unit

Loosely mount heater unit with bracket on stud of strut tower with flanged nut already on vehicle.

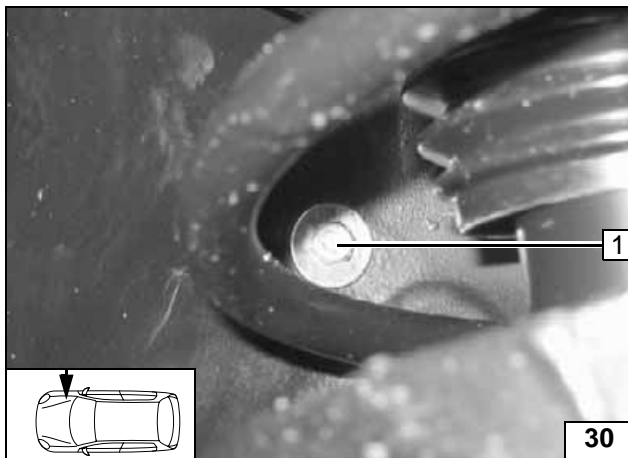
- 1 Stud bolt, flanged nut already on vehicle
- 2 Heater unit





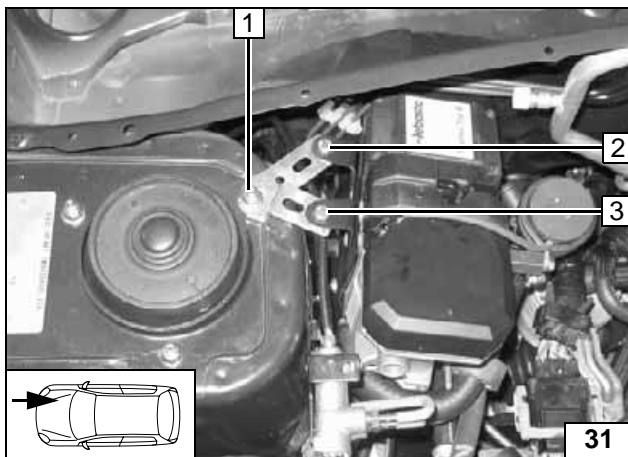
- 1 Bracket
- 2 7 mm dia. hole, M6x20 bolt, 5 mm shim, M6 flanged nut
- 3 M6x20 bolt, spring lockwasher, 5 mm shim, M6 threaded insert already on vehicle

Installing heater unit



- 1 M6x20 bolt, large diameter washer

Installing heater unit

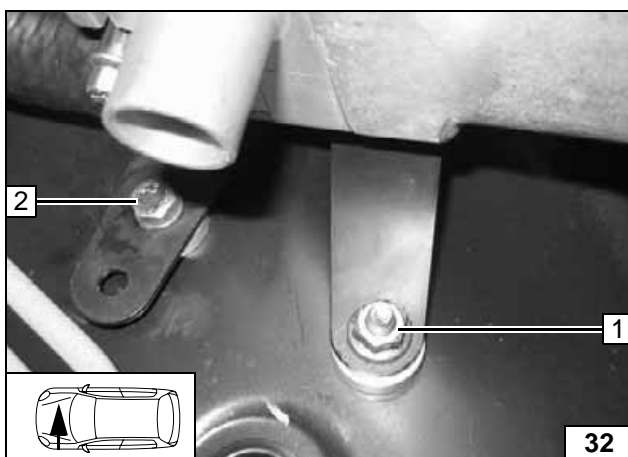


Tighten all loose mounting hardware. Be sure to apply specified torque at Position 1.

- 1 Stud bolt, flanged nut already on vehicle
- 2 M6x12 bolt, flanged nut
- 3 M6x12 bolt, flanged nut



Installing heater unit

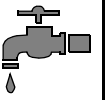


Tighten all loose mounting hardware.

- 1 7 mm dia. hole, M6x20 bolt, 5 mm shim, M6 flanged nut
- 2 M6x20 bolt, spring lockwasher, 5 mm shim, M6 threaded insert already on vehicle



Installing heater unit



Coolant connection

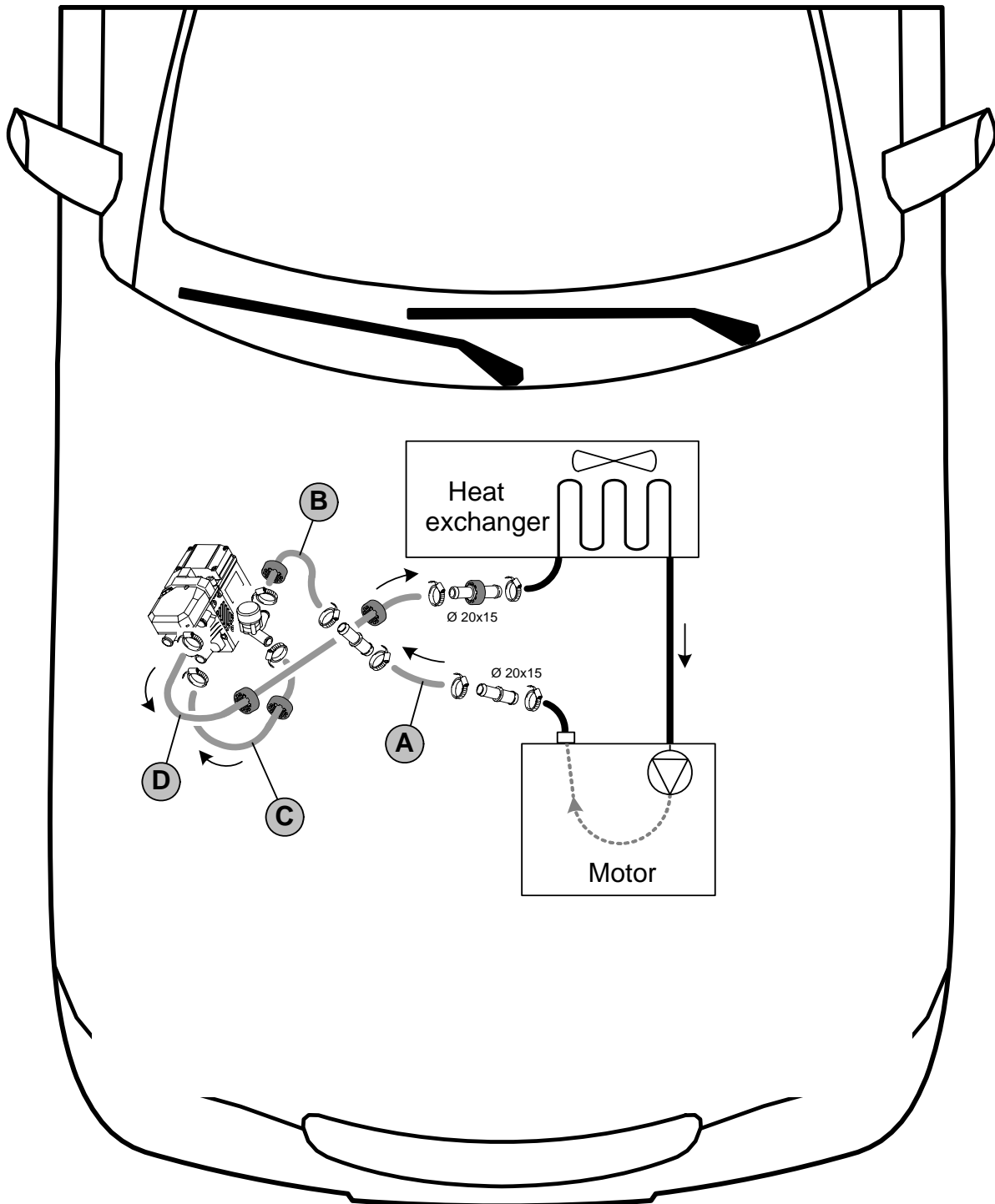
WARNING!

Tighten all hose clamps to 2.0 + 0.5 Nm.

Any coolant running off should be collected using an appropriate container!

Install hoses so that they are kink-free! Unless specified otherwise, always fasten using cable ties. Position hose clamps and spring band clamps so that no other hose can be damaged!

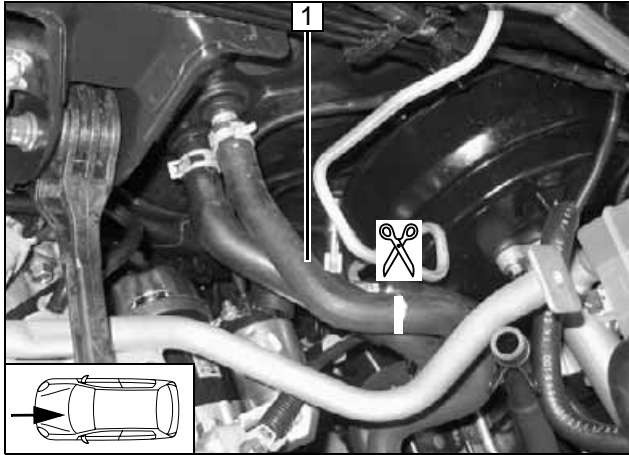
The connection should be "inline" based on the following diagram:



Coolant routing diagram

All clamps without a specific designation = 20-27 mm dia. hose clamps!
 All connecting pipes without a specific designation = dia. 20x20!



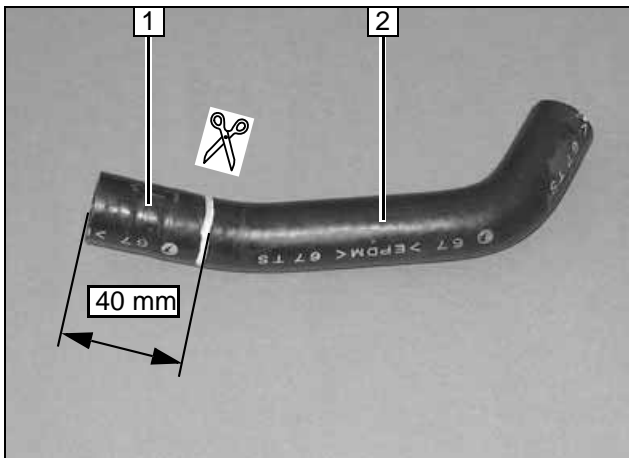


For all vehicles

Remove existing spacer from coolant hose and retain for later use..

- 1 Turn hose section of engine outlet to right-hand side of vehicle

Cutting point

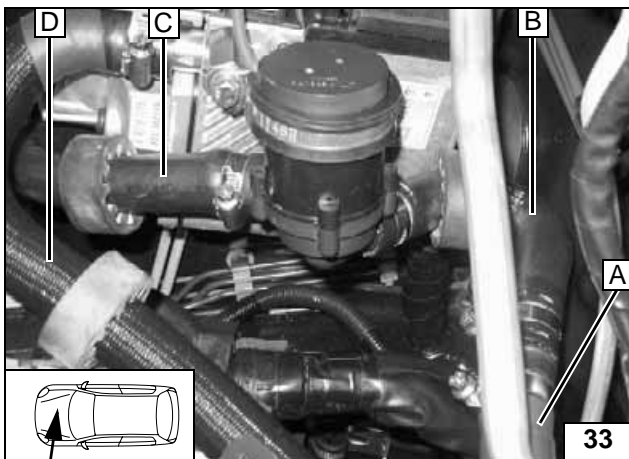


Only for 1.5R

Shorten hose section of engine outlet 2 on connection piece for heat exchanger inlet by 40 mm and remount.

- 1 Discard hose section

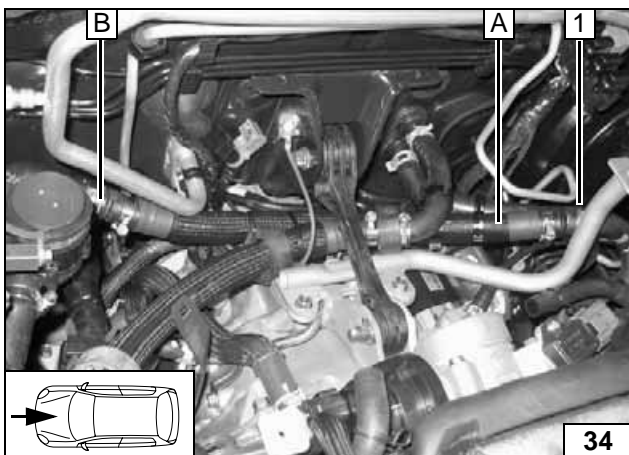
Cutting point



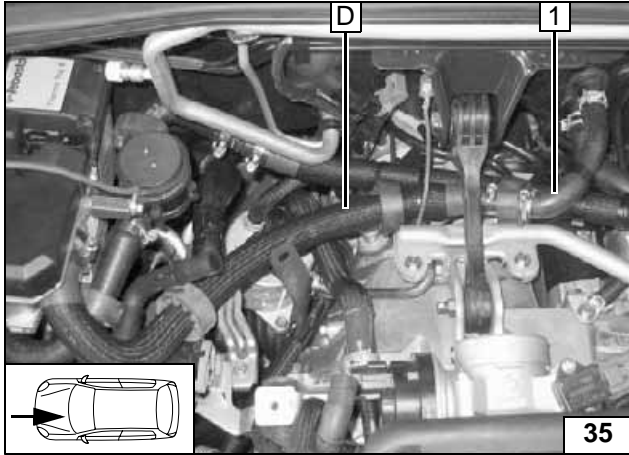
For all vehicles

Conne-
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culating
pump

- 1 Engine-outlet hose section



Conne-
ction to en-
gine outlet

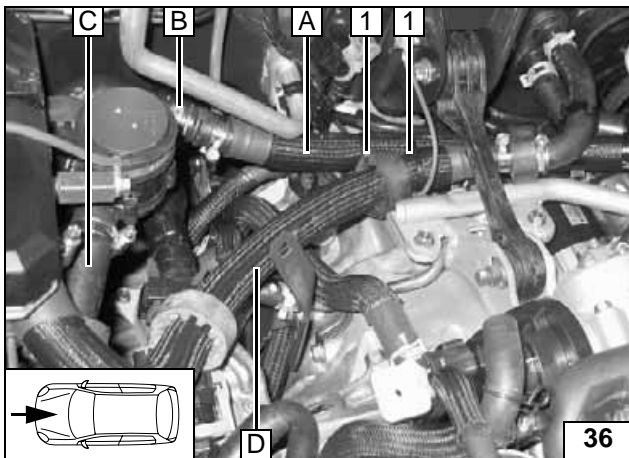


Before connecting, fill the coolant hoses with coolant.



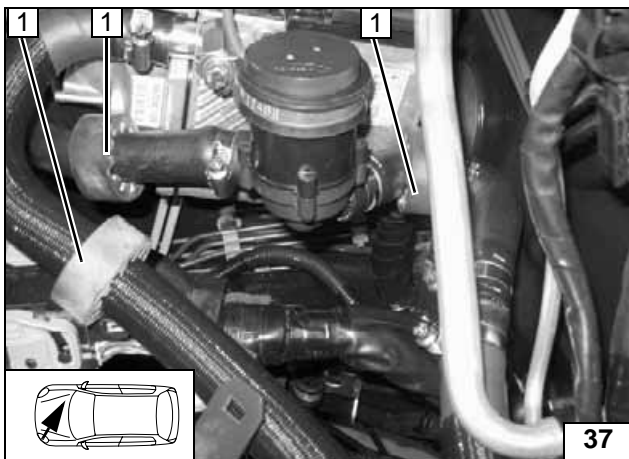
1 Hose section on heat exchanger inlet

Connec-
tion to heat
exchanger
inlet



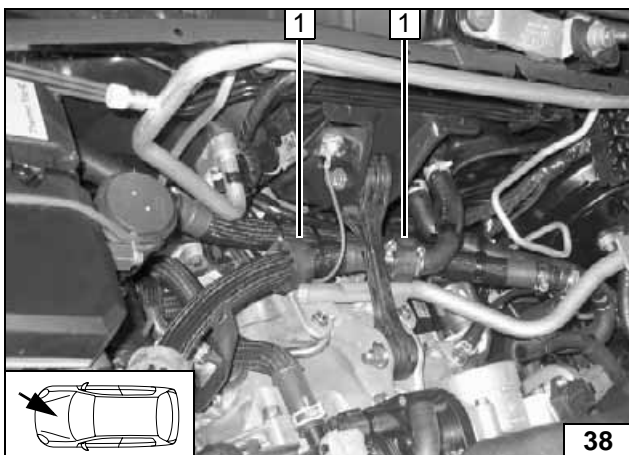
1 Cable tie

Routing of
coolant
hoses



1 Black (sw) rubber isolator [3x]

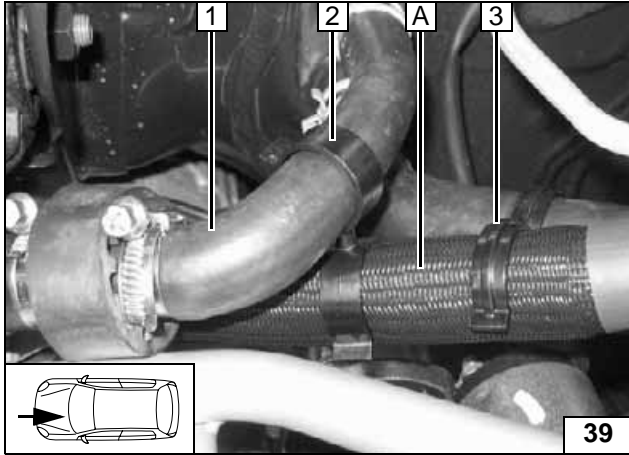
Aligning
rubber iso-
lator



Only for 2.0R

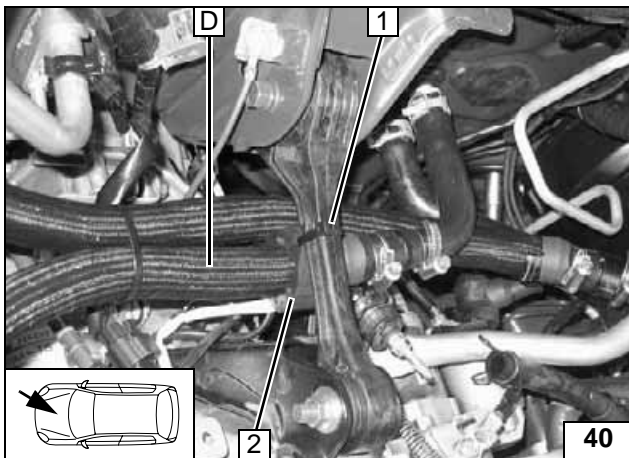
1 Black (sw) rubber isolator [2x]

Aligning
rubber iso-
lator



- 1 Hose on heat exchanger inlet
- 2 Spacer bracket
- 3 Spacer bracket already on vehicle

Installing spacer bracket



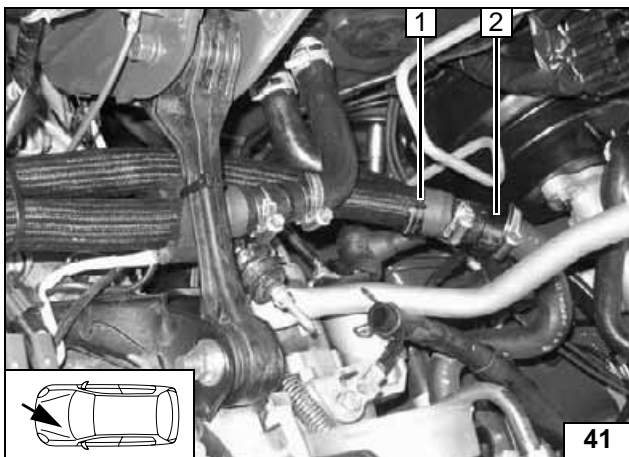
Only for 1.5R

Ensure sufficient distance for clutch actuation!

- 2 Black (sw) rubber isolator
- 1 Cable tie

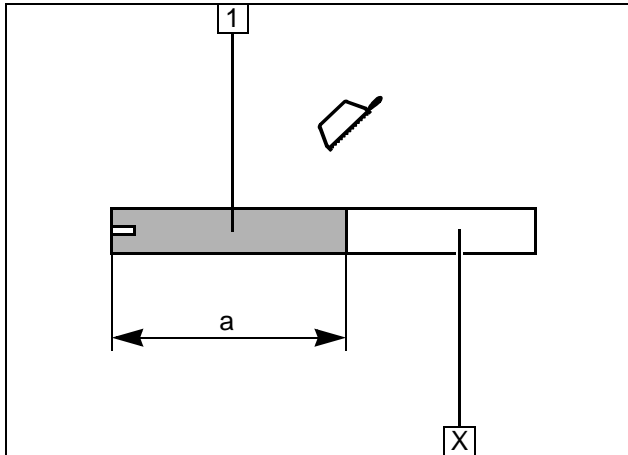
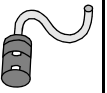


Aligning rubber isolator



- 1 Spacer bracket already on vehicle
- 2 Spacer bracket

Installing spacer bracket

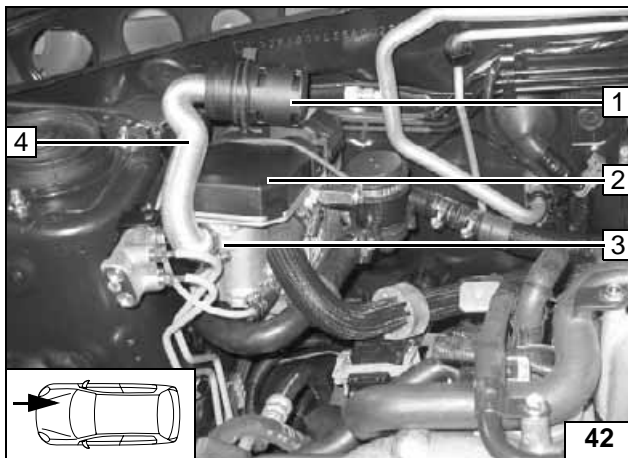


Combustion air

- 1 Combustion air pipe
a = 235 mm

Discard section X

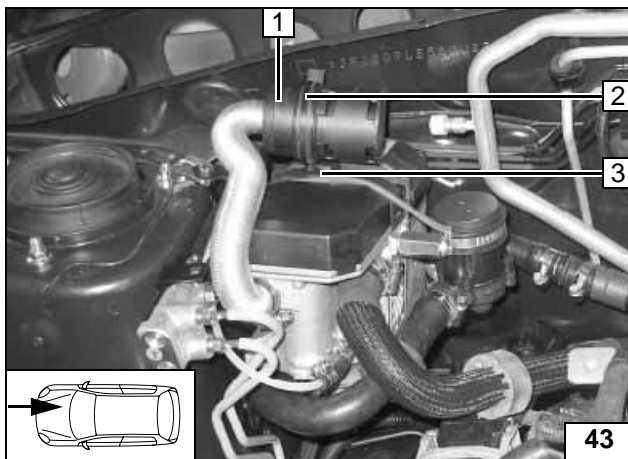
Cutting combustion air pipe to length



- 2 Heater unit
- 4 Combustion-air intake pipe
- 1 Combustion-air intake silencer
- 3 27 mm dia. hose clamp



Installing intake pipe



Punch through pre-punched hole in cover.

- 1 Combustion-air intake silencer
- 2 Retaining clip in hole
- 3 Hole



Installing silencer



Fuel Connection

CAUTION!

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

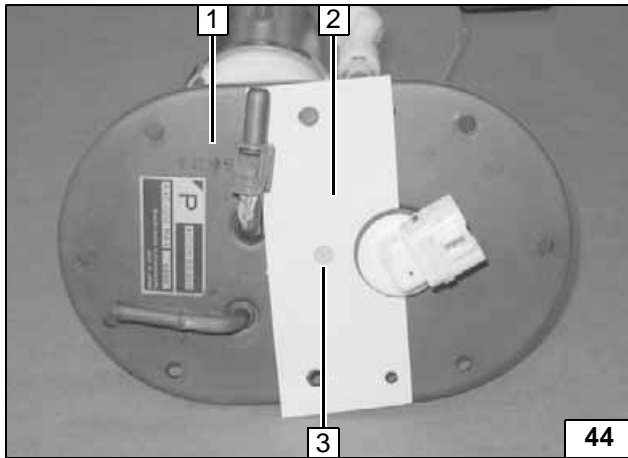
Catch any fuel running off with an appropriate container.

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.

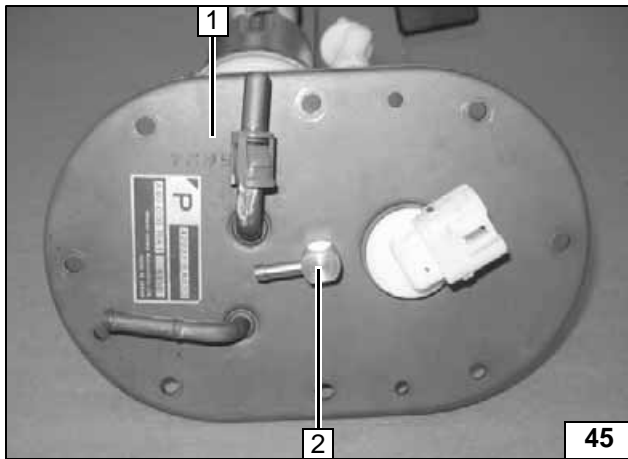
WARNING!

The fuel line and wiring harness are routed to the metering pump in the vehicle interior in accordance with the wiring harness installation diagram.



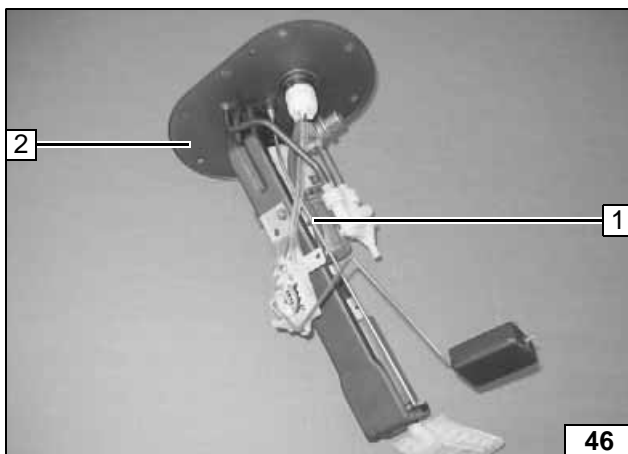
Remove fuel sender according to manufacturer's specifications. Lay on drilling template as shown and copy hole pattern for 6.0 mm dia. drilled hole.

- 1 Fuel sender
- 2 Drilling template
- 3 Hole pattern for 6 mm dia. drilled hole



Cut fuel standpipe to length and shape in accordance with template. Mount fuel standpipe as shown.

- 1 Fuel sender
- 2 Fuel standpipe



- 1 Fuel standpipe
- 2 Fuel sender



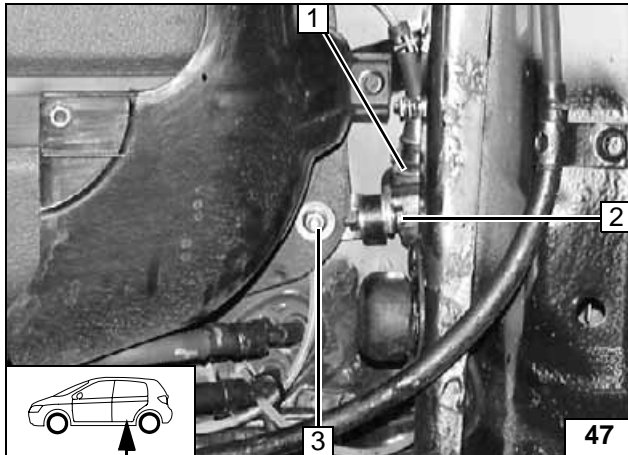
Removing fuel



Installing fuel standpipe



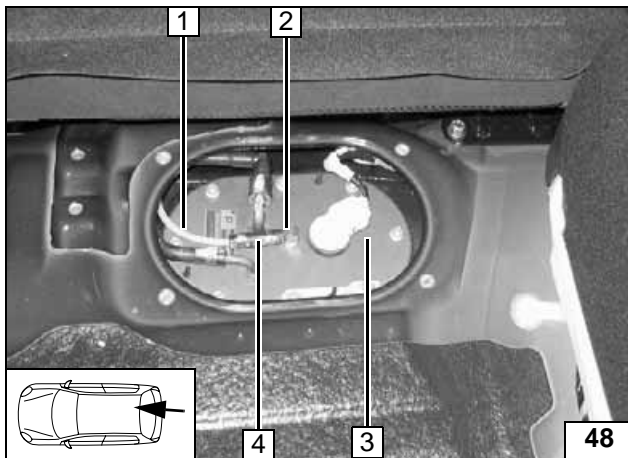
Installing fuel standpipe



- 1 Metering pump, rubber-coated clamp
- 2 Noise isolation mounts, flanged nut M6 [2x]
- 3 Hole, angle bracket, large diameter washer, M6x20 bolt, existing M6x20 flanged nut



Installing metering pump

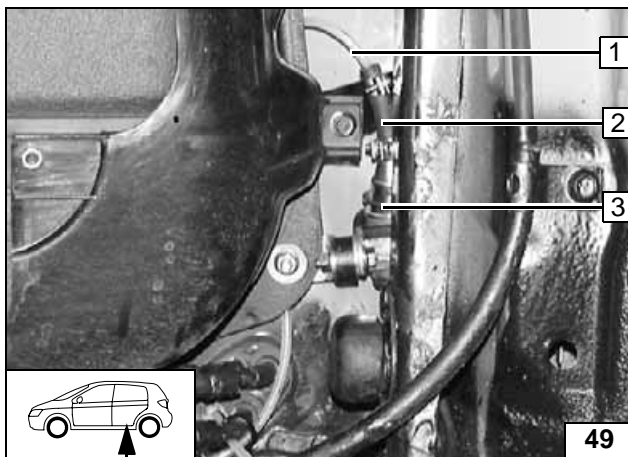


Install fuel sender according to manufacturer's instructions. Route fuel line along fuel lines already present in vehicle to vehicle floor.

- 3 Fuel sender
- 2 Fuel standpipe
- 1 Mecanyl fuel line
- 4 Molded hose, 10 mm dia. Caillau clamp [2x]



Connecting fuel line

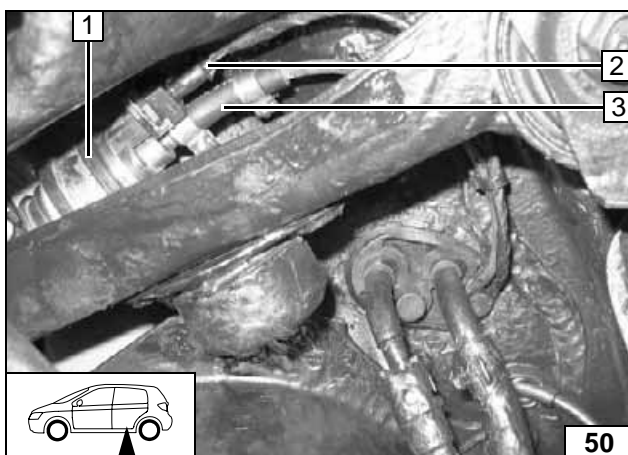


Fuel line from fuel standpipe on intake side of metering pump [side without connector]. Check the position of the components; adjust if necessary. Check that they have free clearance.

- 1 Mecanyl fuel line
- 2 Hose section, 10 mm dia. hose clamps [2x].
- 3 Metering pump



Connection to metering pump



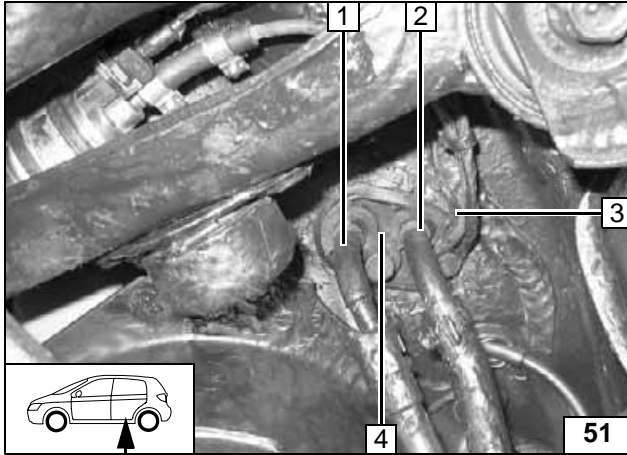
Fuel line to heater unit on pressure side of metering pump [side with connector]. Check the position of the components; adjust if necessary. Check that they have free clearance.

Wiring harness of metering pump is routed together with Mecanyl fuel line from engine compartment into passenger compartment (see page 23).

- 1 Metering pump
- 2 Metering pump connector
- 3 T Hose section, 10 mm dia. hose clamp [2x], Mecanyl fuel line

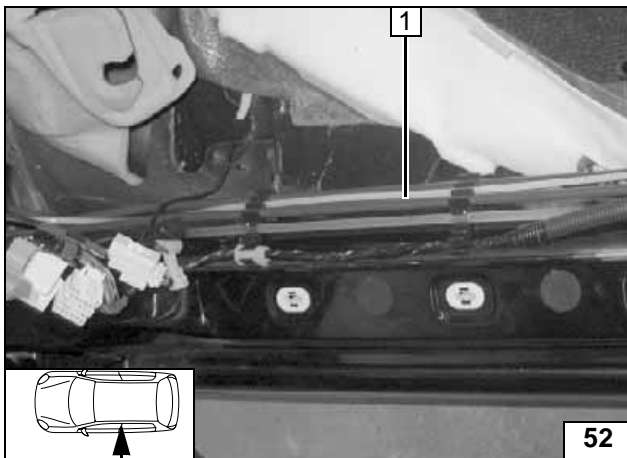


Connection to metering pump



- 1 fuel line already present in vehicle
- 2 fuel line already present in vehicle
- 4 Grommet
- 3 Mecanyl fuel line, metering-pump wiring harness

Routing through into passenger compartment

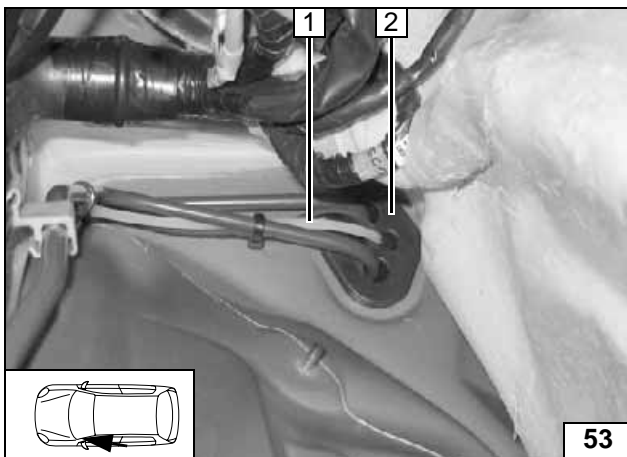


Route Mecanyl fuel line and wiring harness along fuel lines already present in vehicle.

- 1 Mecanyl fuel line, metering-pump wiring harness



Routing in passenger compartment

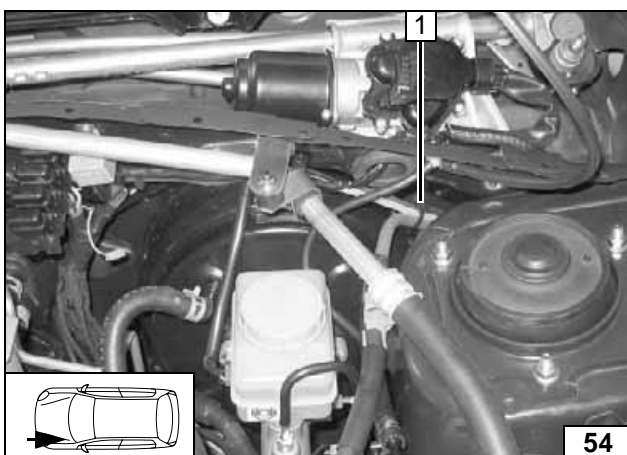


Bushing grommet is hard to reach from engine compartment!

- 1 Mecanyl fuel line, metering-pump wiring harness
- 2 Grommet



Routing through into engine compartment

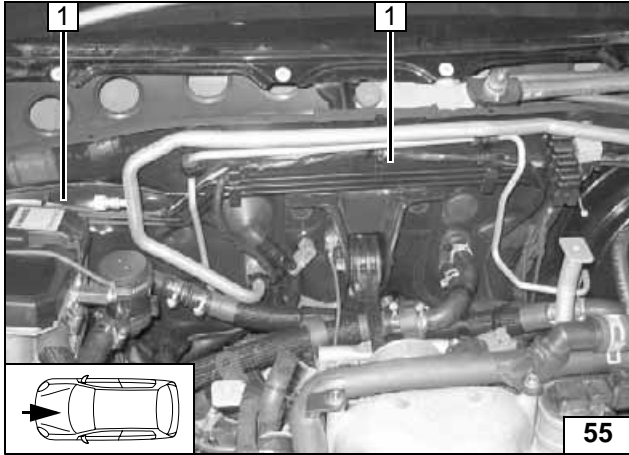


Route Mecanyl fuel line and metering-pump wiring harness along existing lines and secure with cable ties.

- 1 Mecanyl fuel line, metering-pump wiring harness



Routing in engine compartment

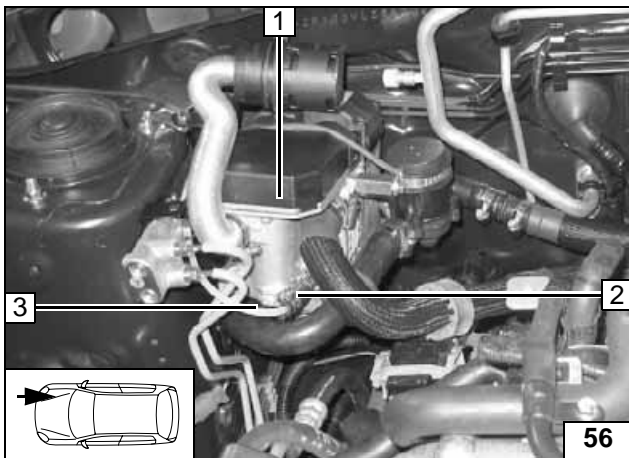


Route Mecanyl fuel line along existing lines and secure with cable ties!

- 1 Mecanyl fuel line

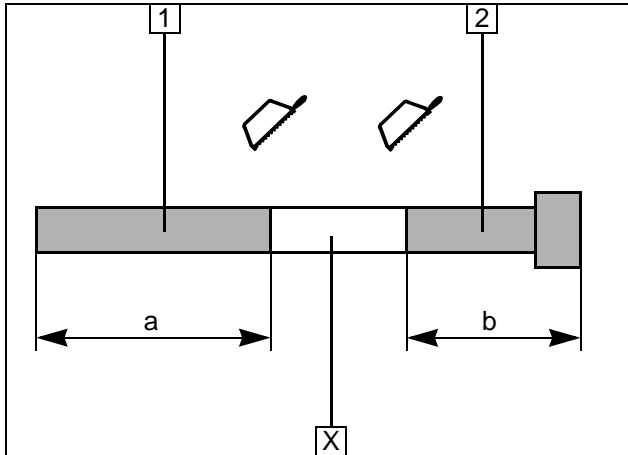


Routing in engine compartment to heater unit



- 1 Heater unit
- 2 Hose section, 10 mm dia. hose clamp [2x]
- 3 Mecanyl fuel line

Connection on heater unit

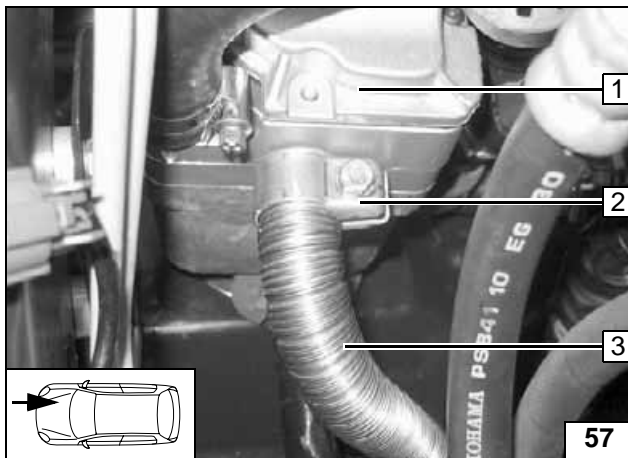


Exhaust system

- 1 Exhaust pipe
a = 650 mm
- 2 Exhaust end section
b = 85 mm

Discard section X

Preparing exhaust pipe

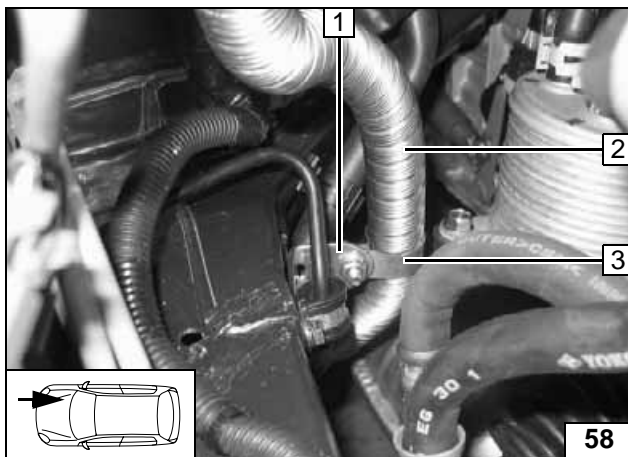


Ensure sufficient distance to neighboring components.

- 1 Heater unit
- 3 Exhaust pipe, 650 mm long
- 2 Hose clamp



Installing exhaust pipe

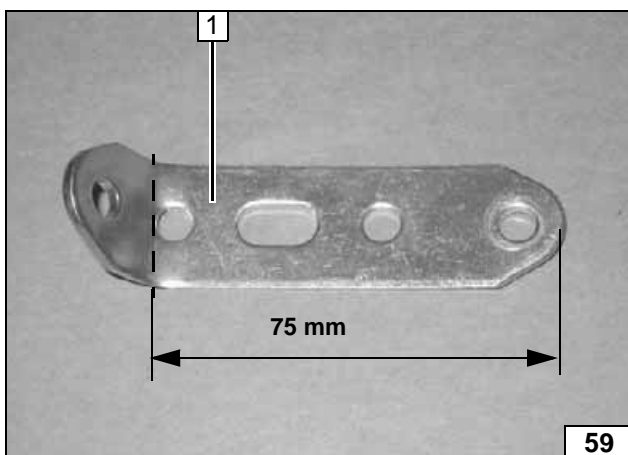


Shape exhaust pipe as shown and ensure sufficient distance to neighboring components.

- 1 Perforated bracket preinstalled
- 2 Exhaust pipe
- 3 Pipe clamp, M6x20 bolt, M6 flanged nut



Installing exhaust pipe

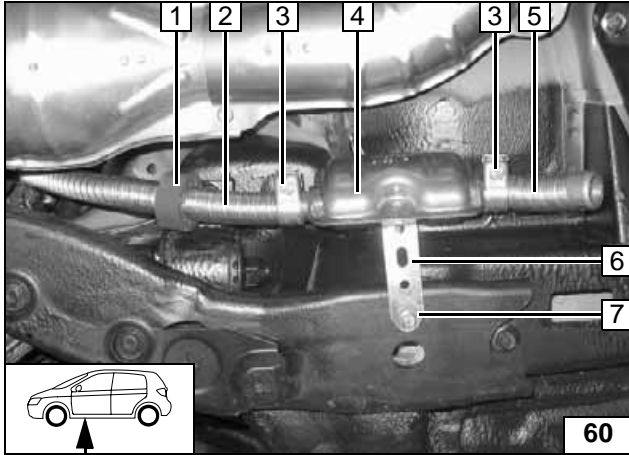


Bend perforated bracket as shown, bend approx. 45°.

- 1 Perforated bracket



Preparing perforated bracket

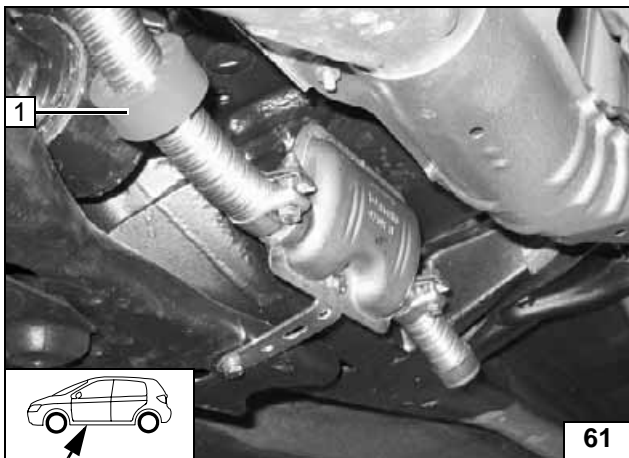


Ensure sufficient distance to neighboring components.

- 2 Exhaust pipe
- 1 Red (rt) rubber isolator
- 7 Hole, M6 rivet nut, M6x20 bolt, spring lock-washer already present in vehicle
- 6 Perforated bracket
- 4 Exhaust silencer, M6x20 bolt, M6 flanged nut
- 3 Hose clamp [2x]
- 5 Exhaust end section



Installing exhaust silencer

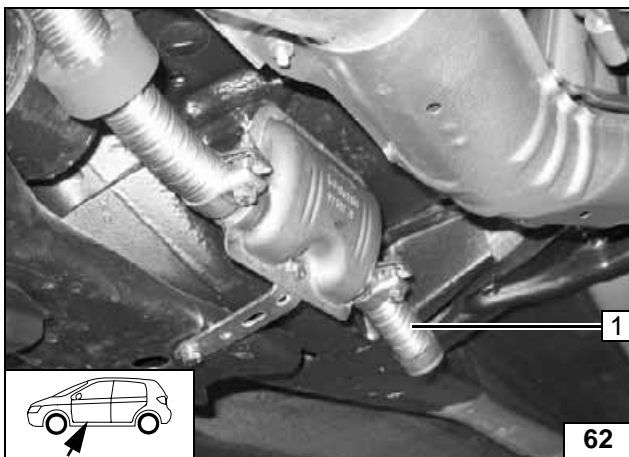


Ensure sufficient distance to neighboring components.

- 1 Red (rt) rubber isolator



Aligning rubber isolator

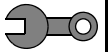


Align exhaust end section as shown. Ensure sufficient distance to neighboring components.

- 1 Exhaust end section



Aligning exhaust end section



Final Work

WARNING!

Reassemble disassembled components in reverse order.

Check all hoses, hose, spring and Caillau clamps, as well as 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 battery
- Bleed and fill the coolant circuit according to the vehicle manufacturer's specifications.
- Set the digital timer.
- Set the manual air conditioning or automatic air conditioning according to the "operating instructions for the 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.



Webasto

Feel the drive

Webasto AG
Postfach 80 - 82132 Stockdorf, Germany - Hotline +49-
(0)1805-932278
Hotfax +49-(0)395-5592-353 - <http://www.webasto.de>

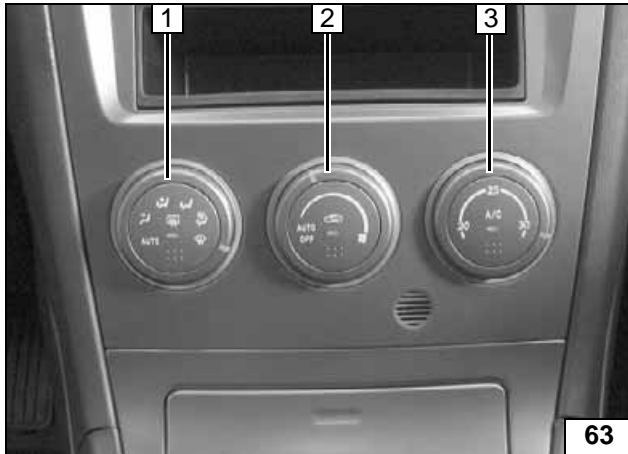
Operating Instructions for End Customer

Please remove page and add to the vehicle operating instructions.



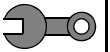
Rule of thumb for operating additional heater: driving time = heating time!

Before parking the vehicle, make the following settings:

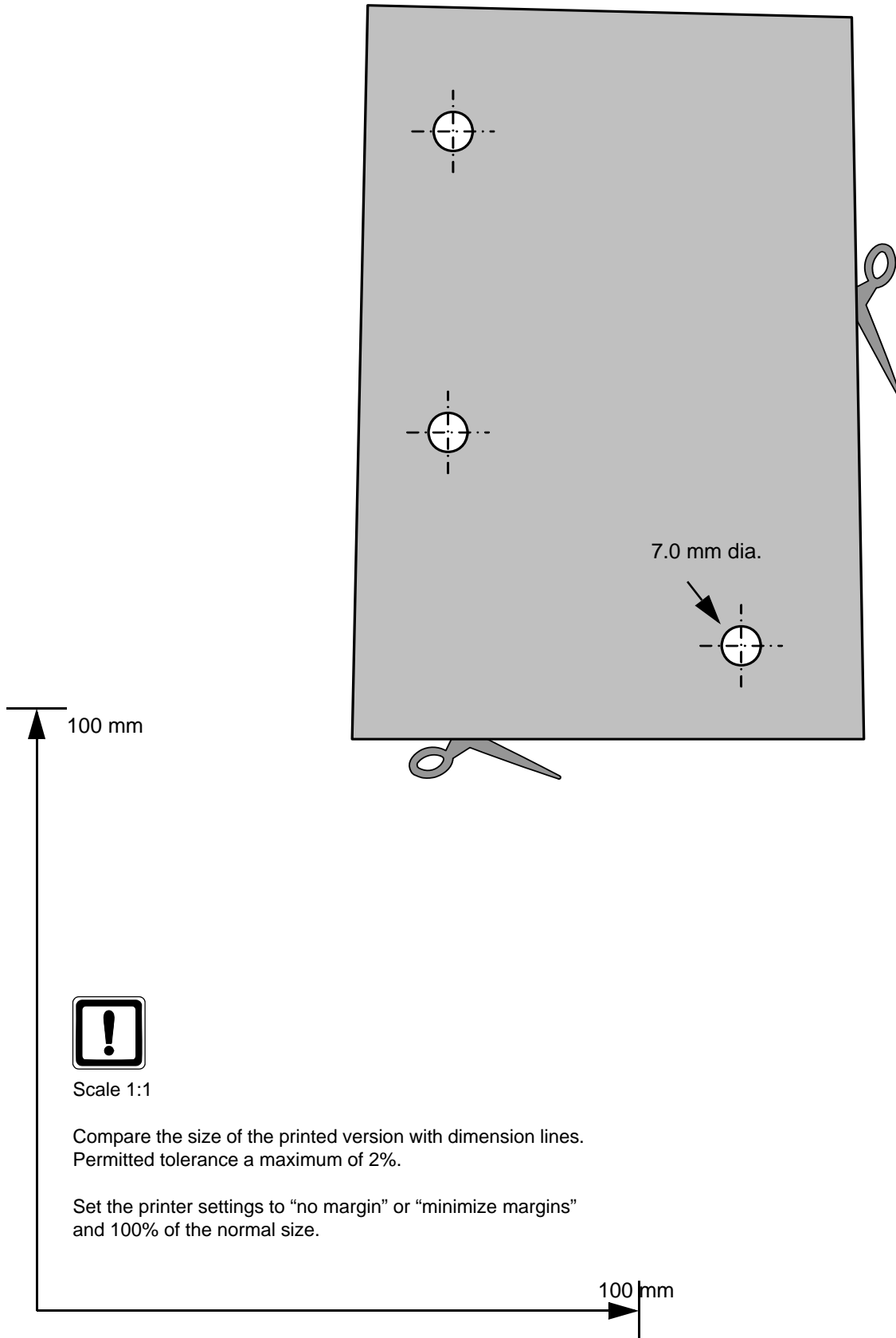


- 1 Air outlet to windshield
- 2 Set fan to approx. 1/3 fan output
- 3 Set temperature to 30°

For vehicles with automatic air conditioning



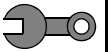
Template with Hole Pattern for Spring Strut Dome



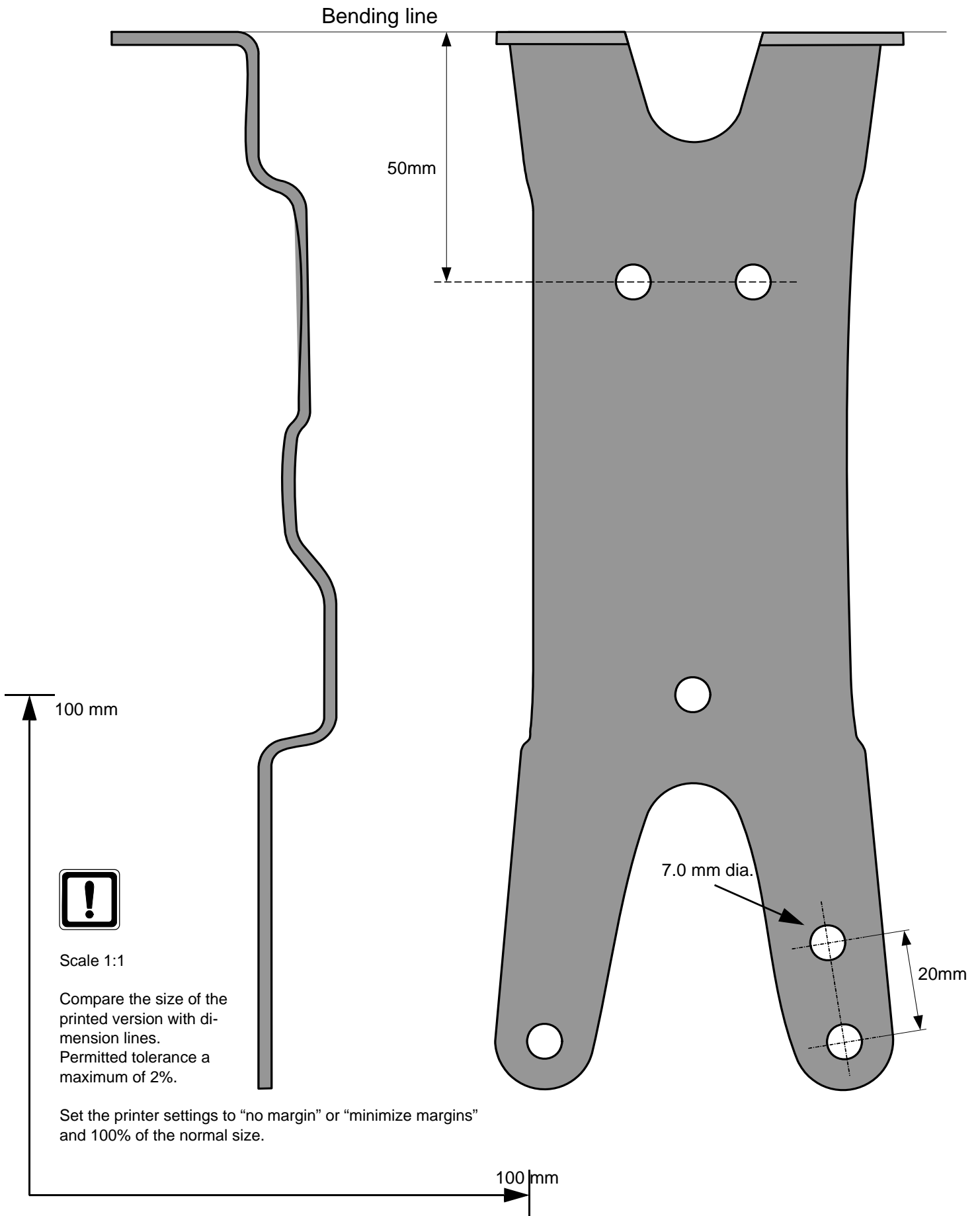
Scale 1:1

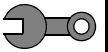
Compare the size of the printed version with dimension lines.
Permitted tolerance a maximum of 2%.

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

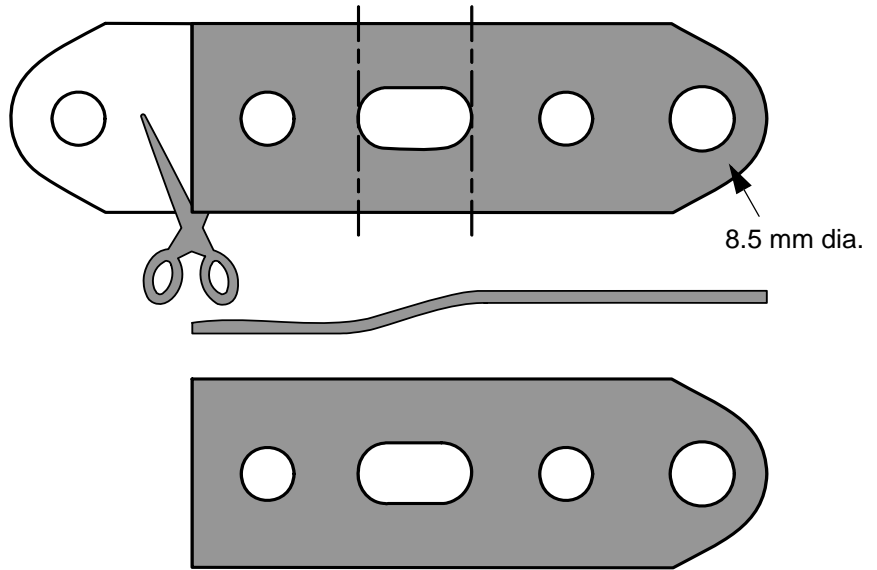


Template for Bracket

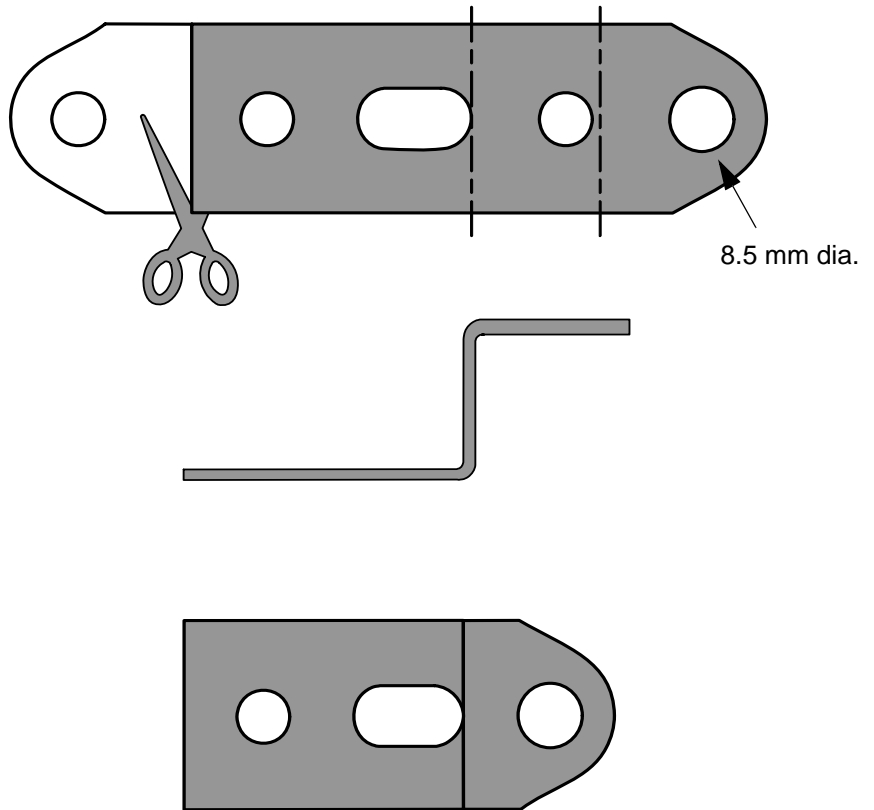




**Template for
Perforated bracket A**



**Template for
Perforated bracket B**



100 mm

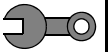


Scale 1:1


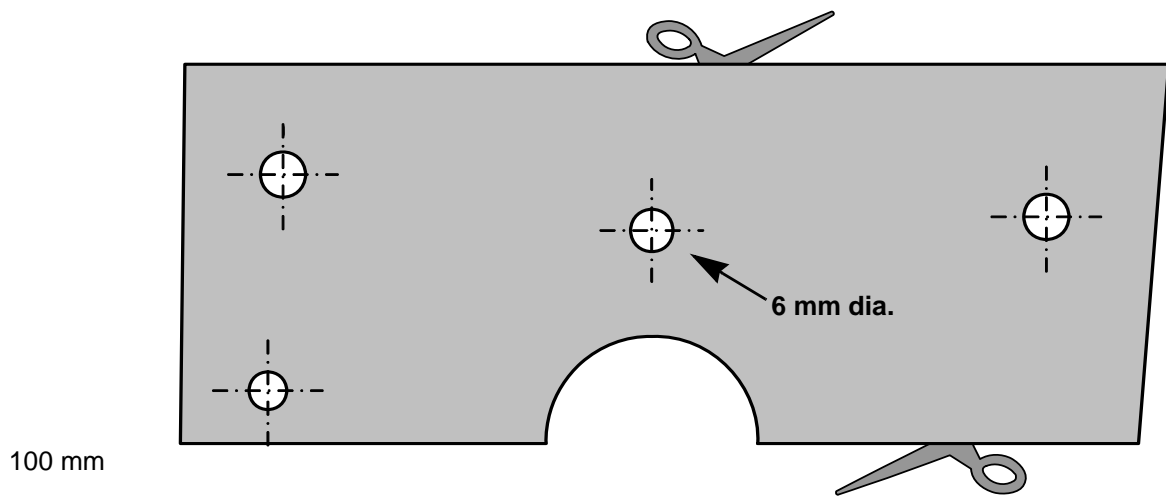
Compare the size of the printed version with dimension lines.
Permitted tolerance a maximum of 2%.

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

100 mm



Template for Fuel sender



Scale 1:1

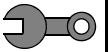
Compare the size of the printed version with dimension lines.
Permitted tolerance a maximum of 2%.

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

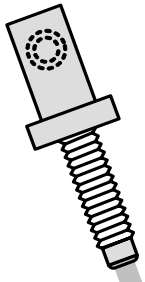
100 mm

0

The diagram shows a coordinate system with a vertical axis and a horizontal axis. The origin is labeled "0". A dimension line on the vertical axis is labeled "100 mm".



Template for Fuel Standpipe



100 mm



Scale 1:1

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

100 mm

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

0

