Water Heater Unit

Webasto
Feel the drive

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

Installation suggestion

Fiat Grande Punto

1.9 JTD from 2005 model year
1.3 JTD from 2007 model year
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.

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Table of Contents

Validity

Manufacturer	Model	Type	EG-BE No./ABE
Fiat	Punto	199A	e3 * 2001/116 * 0217 * ...

Engine type	Engine model	Output in kW	Displacement in cm³
199A2000	Diesel	55	1248
199A3000	Diesel	66	1248
199A5000	Diesel	96	1910

Vehicle and engine types, equipment variants and national specifications not listed in this installation suggestion 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.

Foreword

This installation suggestion applies to Fiat Grande Punto vehicles with a Diesel engine - for validity, see above - 1.9 JTD from model year 2005 and 1.3 JTD from model year 2007 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

The individual parts required for proper installation are contained in the price calculation aid (price calculation aid program available at **www.webasto.de**)

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).

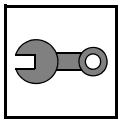
Special Tools

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

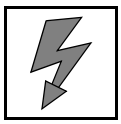
Explanatory Notes on Document

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

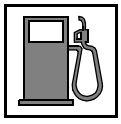


Electrical system

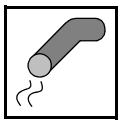


Coolant connection

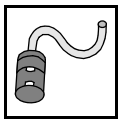
Fuel connection



Exhaust system



Combustion air



Special features are highlighted using the following symbols:

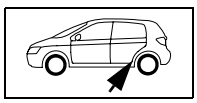
Specific risk of injury or fatal accidents.

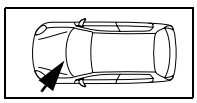
Specific risk of damage to components.

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.



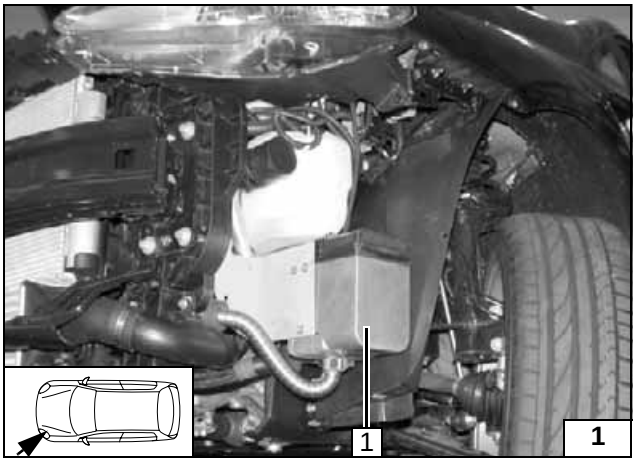


The arrow in the vehicle icon indicates the position on the vehicle and the viewing angle.

Preliminary Work

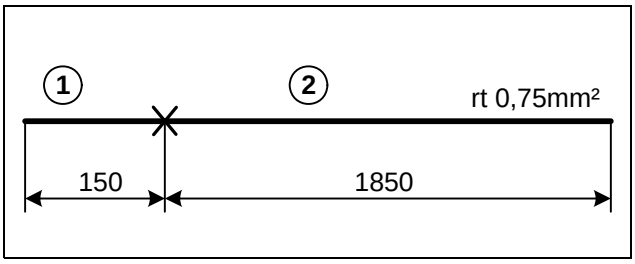
WARNING!

- 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.
- Open fuel tank cap, ventilate tank.
- Close the tank cap again.
- Remove the hand coolant reservoir cap on the left
- Remove the battery.
- Expose the fuse and relay box.
- Detach the wheel well trim on the right and left.
- Remove bumper.
- Remove the washer reservoir (drill out the blind rivets).
- Remove the underride protection
- Fold over the rear bench seat.
- Open the tank-fitting service lid
- Remove the fuel-tank sending unit in accordance with the manufacturers specifications.
- Remove the A/C control panel (only with automatic air-conditioning).



Heater unit installation location

1 Heater unit

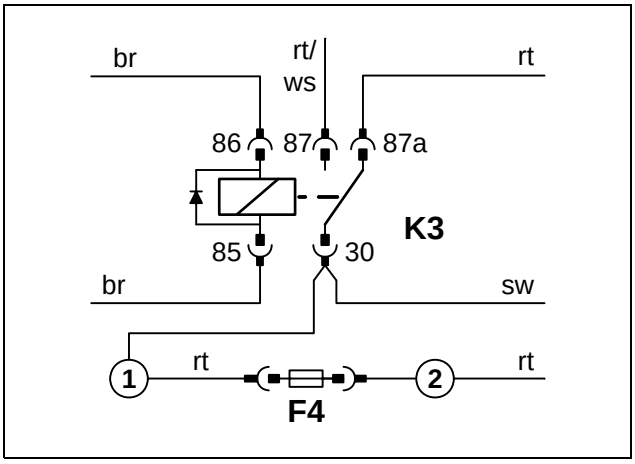


Preparing electrical system

Only with automatic air-conditioning

Wire section **1** and **2** will be required later for connecting A/C control panel.

Cutting wires to length



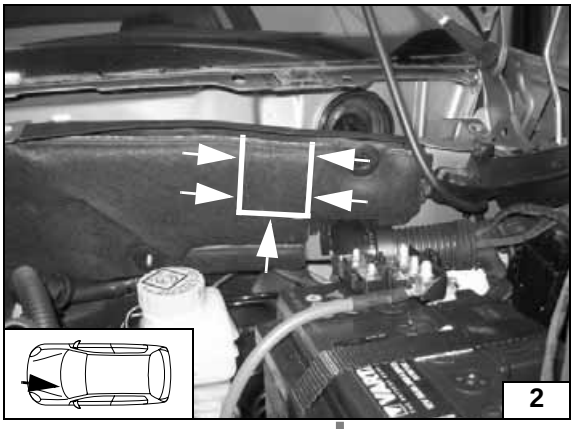
Produce connections as shown in wiring diagram.
Install wire section **2** in protective sleeving.

Premounting K3 relay

Electrical Connections

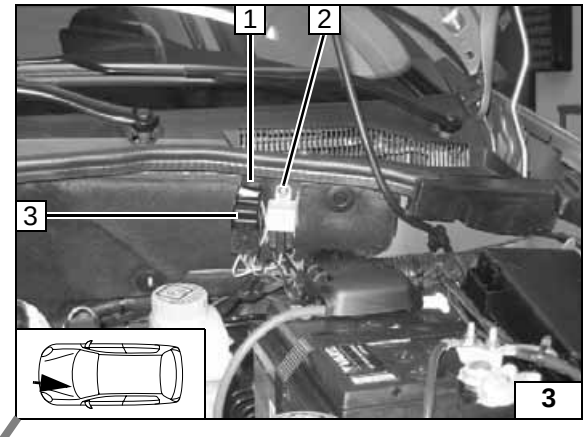
Cutting out insulation mat

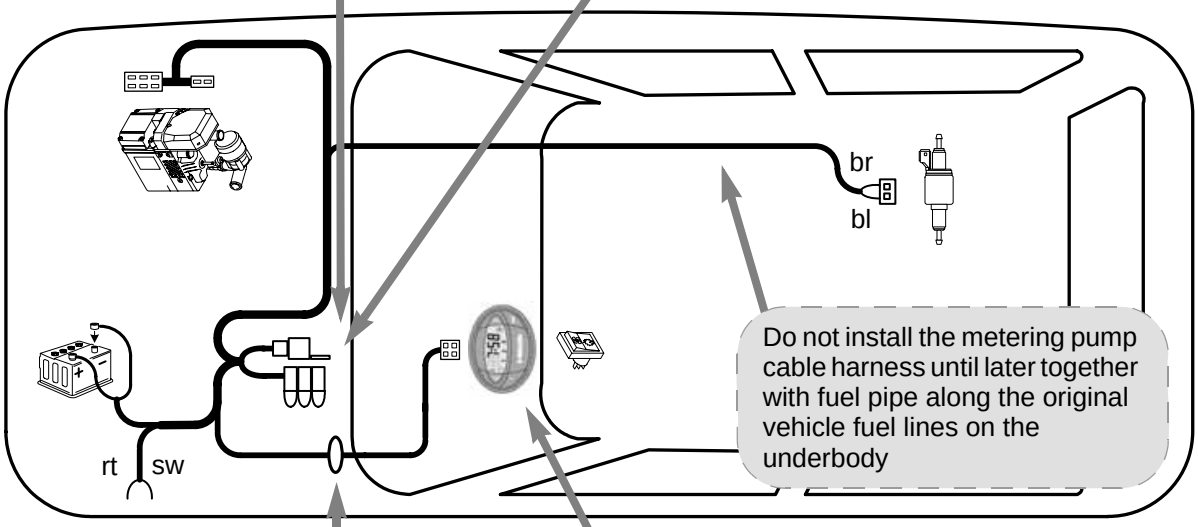
Cut out insulation mat for firewall at marking.



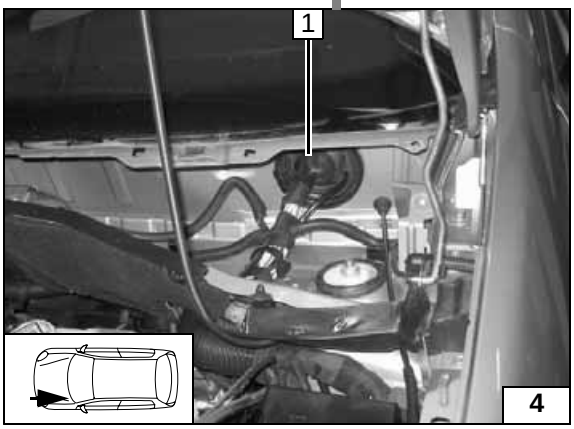
Fuse holder, relay K3

1 Retaining plate of fuse holder, M5.5x9.5 bolt in firewall
3 Fuses pushed on
2 K3 relay, M5.5x9.5 bolt, washer



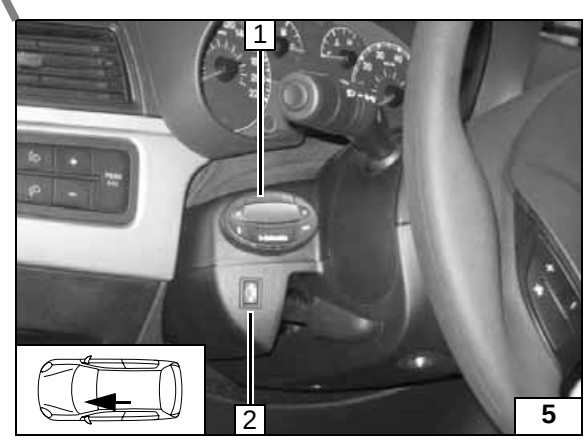


Wiring harness installation diagram



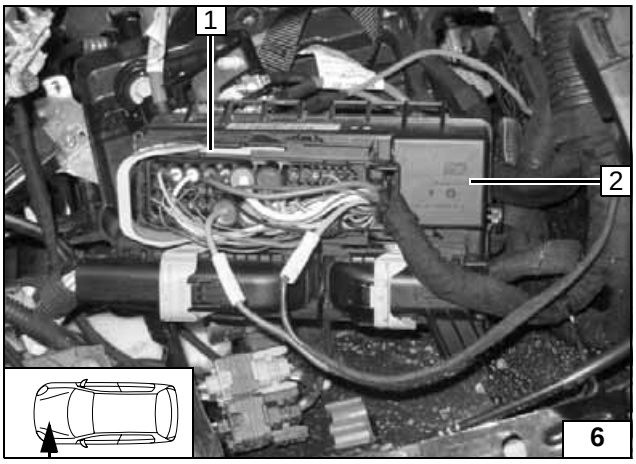
Wiring harness pass through

1 Protective rubber plug



Digital timer and summer/winter switch option

1 Digital timer
2 Summer/winter switch, drilled hole 12 mm dia.

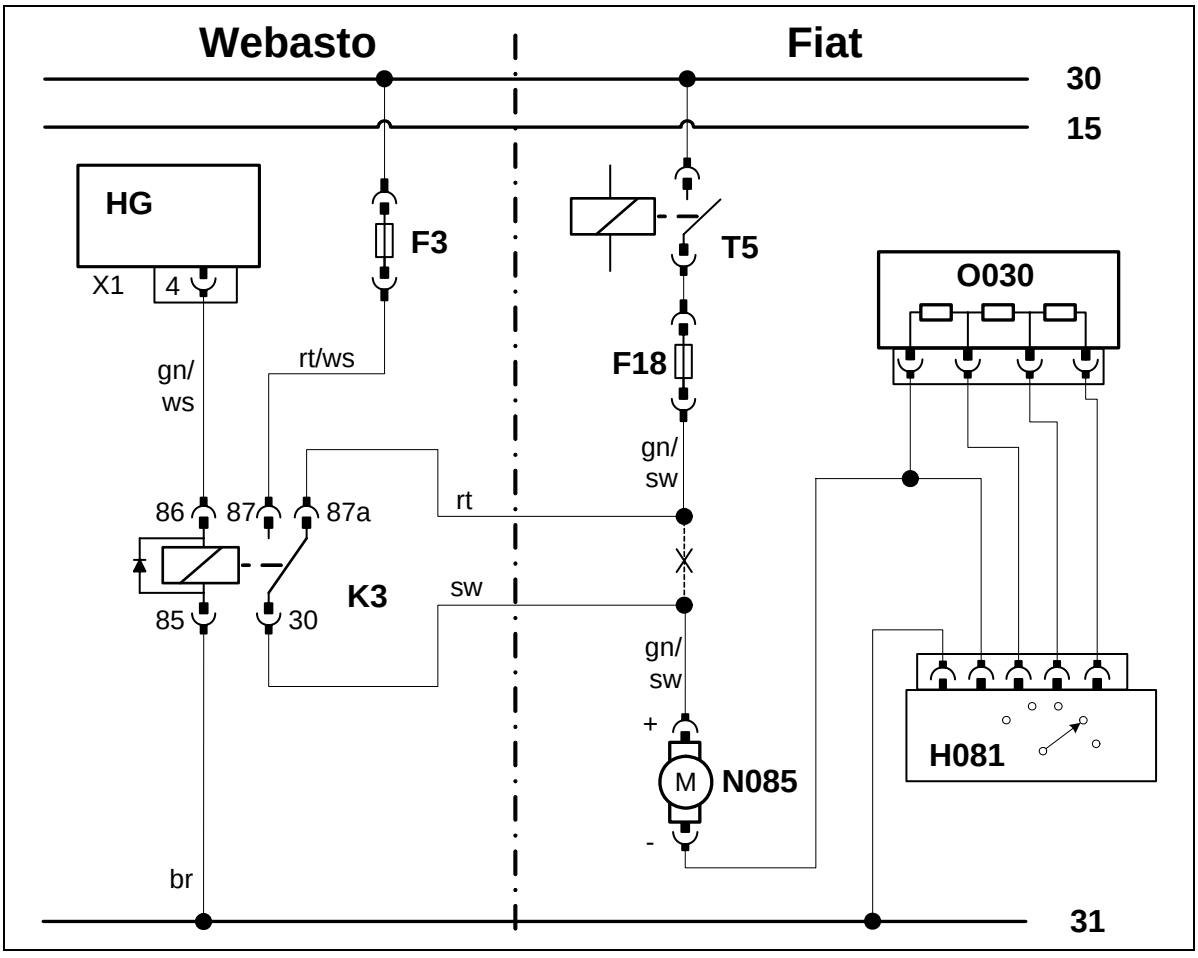


Fan controller for manual air conditioning

Integration on connector of fuse and relay box.
Make connections as shown in the wiring diagram with the connectors provided.

1 Connector
2 Fuse and relay box

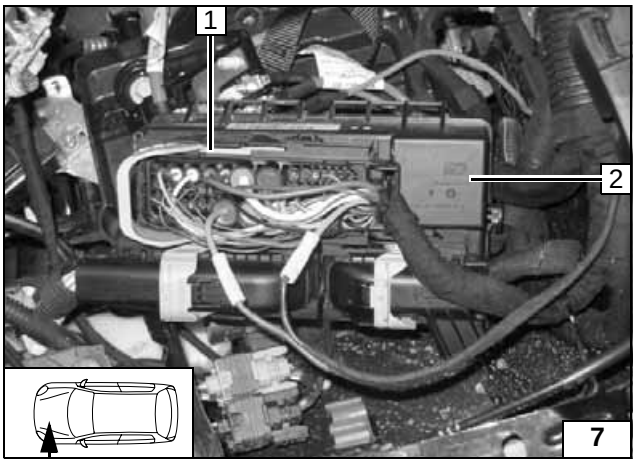
Connecting fan motor



Wiring diagram for manual air conditioning

Webasto components		Fiat components		Colors and symbols	
HG	Heater unit TT-C/E	N085	Fan motor	rt	red
F3	25 A fuse	T5	Fan relay	ws	white
K3	Fan relay	O030	Fan resistor	sw	black
		H081	Fan switch	br	brown
		F18	Fuse 40A	gn	green
				gr	gray
				X	Cutting point

Legend

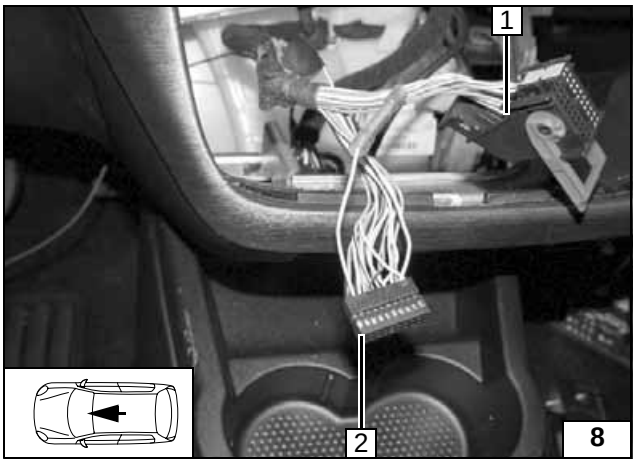


Automatic air-conditioning fan controller

Integration on connector of fuse and relay box.
Make connections as shown in the wiring diagram with the connectors provided.

1 Connector
2 Fuse and relay box

Connecting fan motor

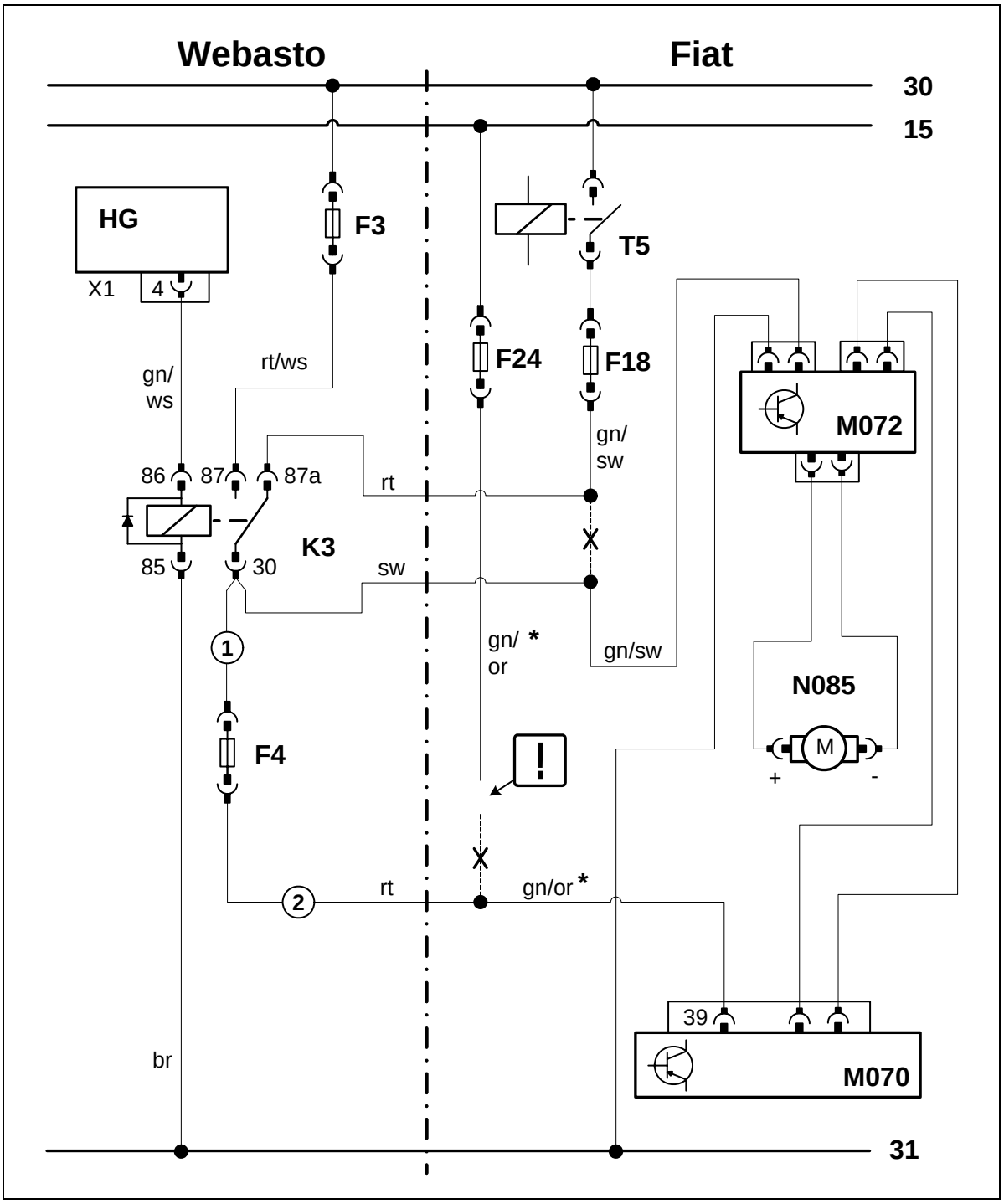


Integration on 40-pin connector, Pin 39 from A/C control panel (wire colors may vary).
Remove connector half **2** from Pin 21 to Pin 40 from connector housing.
Make connections as shown in wiring diagram with connectors provided.

1 40-pin connector (2-piece)

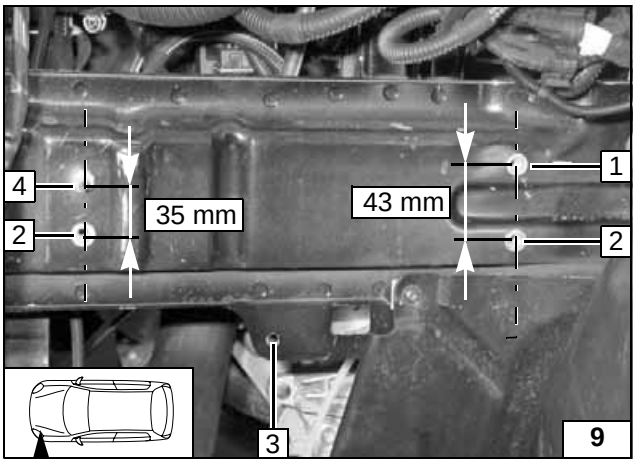
Connecting air-conditioning control element

Automatic air-conditioning circuit diagram



Legend

Webasto components		Fiat components		Colors and symbols	
HG	Heater unit TT-C/E	N085	Fan motor	rt	red
F3	25 A fuse	T5	Fan relay	ws	white
K3	Fan relay	M072	Fan controller	sw	black
F4	Fuse, 7.5 A	M070	Air-conditioning control panel	br	brown
		F24	Fuse, 7.5 A	gn	green
		F18	Fuse 40A	or	orange
				ro	pink
				*	Wiring colors may vary
				!	Insulate wire ends and tie back
				X	Cutting point

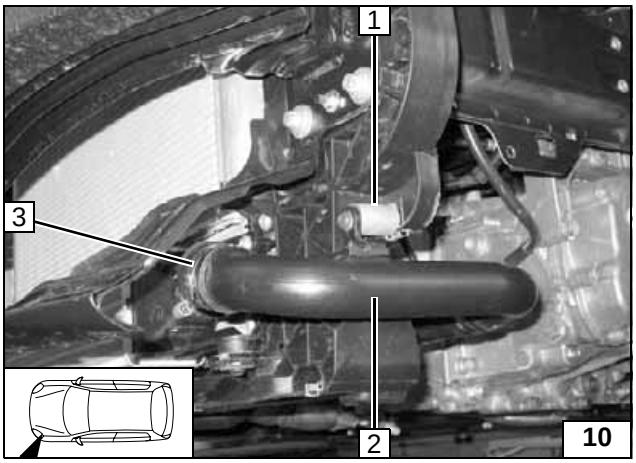


Preparing installation location

Drill out hole of washer reservoir at Position **1** to 9.1 mm dia. and at Position **3** to 7 mm dia. On 1.3 liter JTD, remove ground wire at Position **4**.

4 Original vehicle stud bolt
1 Drill 9.1 mm dia. hole; install rivet nut
2 Drill 9.1 mm hole; install rivet nut [2x each]
3 7 mm dia. hole

Installing rivet nut

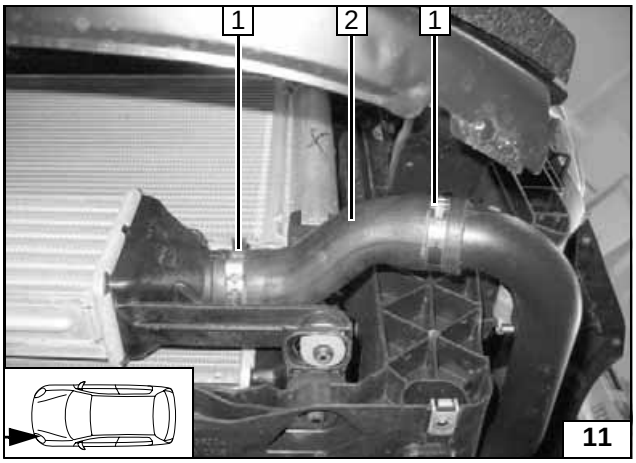


1.3 JTD

Unscrew hose clamps **3** from charge-air hose. Remove original vehicle bolt from charge-air pipe **2** and discard.

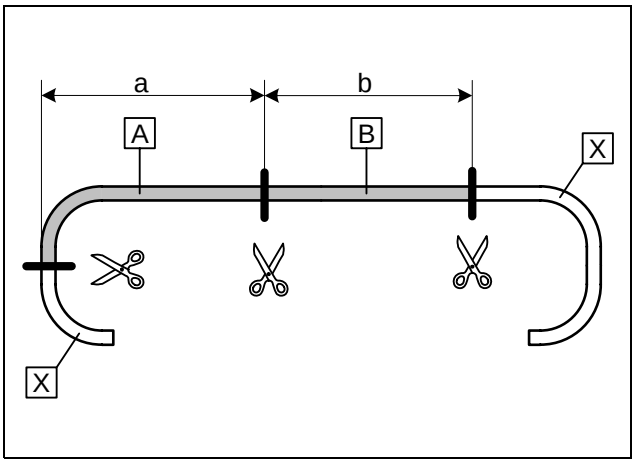
1 M6x50 bolt, 30 mm spacer sleeve, original vehicle nut

Repositioning charge-air tube



Align charge-air hose **2**. Tighten hose clamps **1** [2x].

Aligning charge-air hose



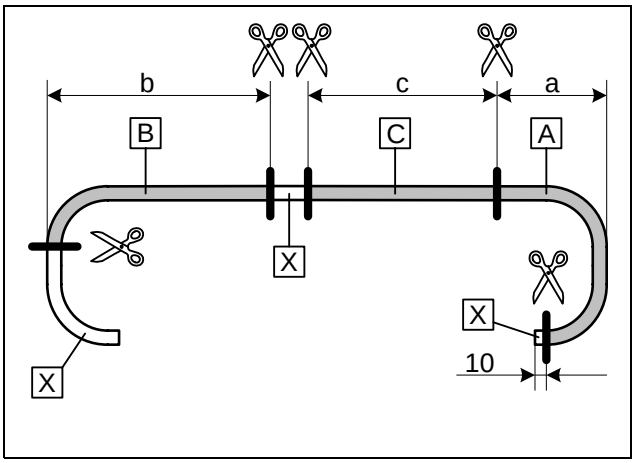
Preparing heater unit

1.9 JTD

a = 740 mm
b = 1,000 mm

Discard section **X**
Push braided protection hoses onto hose **A** and **B**. Push heat shrink plastic tubing onto ends and shrink.

Preparing coolant hoses

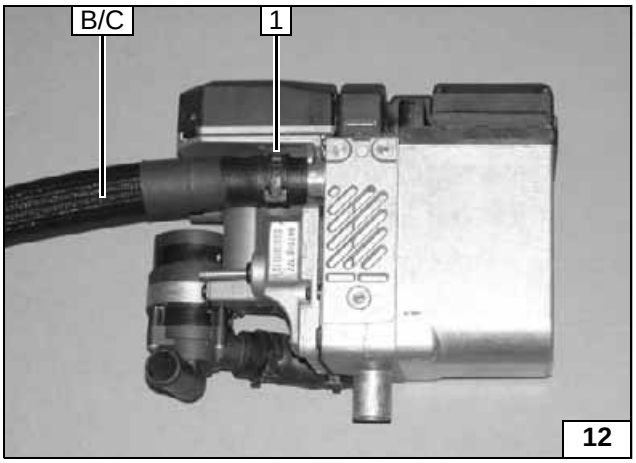


1.3 JTD

a = 125 mm
b = 840 mm
c = 1,020 mm

Discard section **X**
Cut off hose **B** shortly after elbow. Cut hose **A** by 10 mm at short leg. Push braided protection hoses onto hose **B** and **C**. Push heat shrink plastic tubing onto ends and shrink.

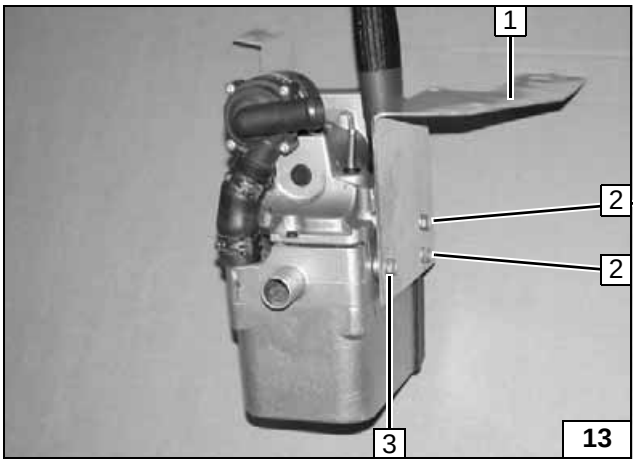
Preparing coolant hoses



Hose **B** =1.9 JTD
Hose **C** =1.3 JTD

1 Spring clip

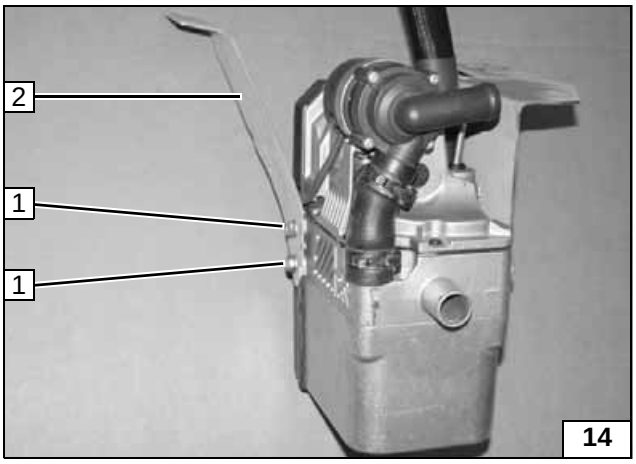
Installing hose B or C



Tighten EJOT screws to 10 Nm!
Cut bracket of Part A to length and bend according to template.
Insert two washers between heater unit and bracket at Position **3**.

1 Bracket of Part A
2 Ejot screw [2x]
3 Ejot screw, washer [2x]

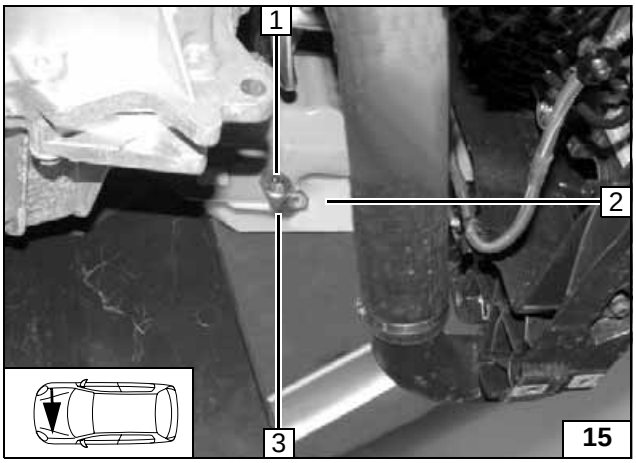
Premounting heater unit



Tighten EJOT screws to 10 Nm!
Cut bracket of Part B to length and bend according to template.

2 Bracket of Part B
1 Ejot screw [2x]

Premounting heater unit

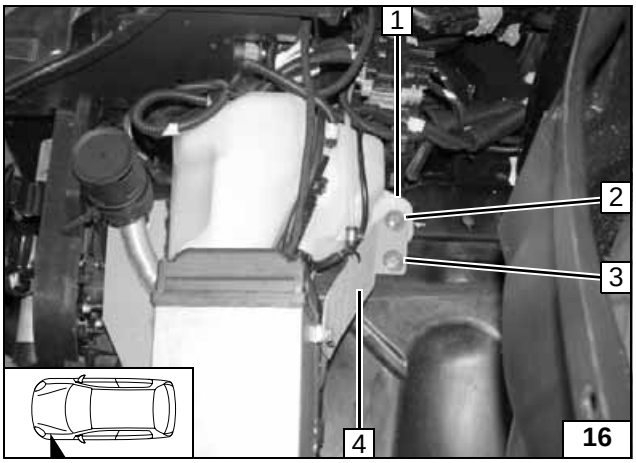


Installing heater unit

Fasten washer reservoir together with angle bracket, large diameter washer, M6x20 bolt and M6 flanged nut on prepared 7 mm dia. hole.

2 Washer reservoir
3 Angle bracket
1 M6x20 bolt, large diameter washer, M6 flanged nut

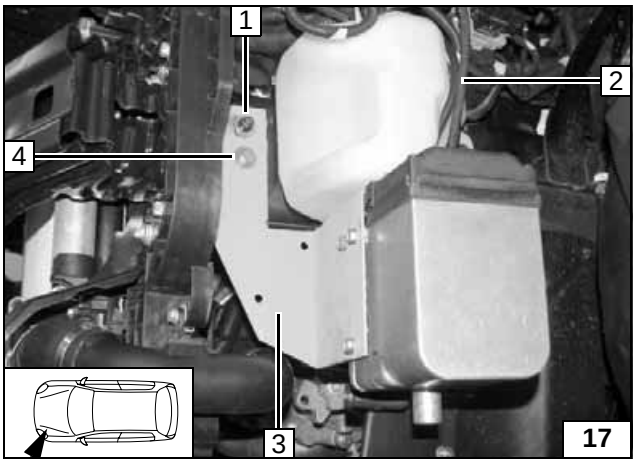
Installing washer reservoir



Fasten bracket of Part B together with washer reservoir, M6x30 bolt and large diameter washer on prepared rivet nut.
Install one 5 mm shim between bracket of Part B and frame side member at Position **3**.

4 Bracket of Part B
1 Washer reservoir
2 M6x30 bolt, large diameter washer, M6 flanged nut
3 M6x30 bolt, large diameter washer, 5 mm shim, M6 flanged nut

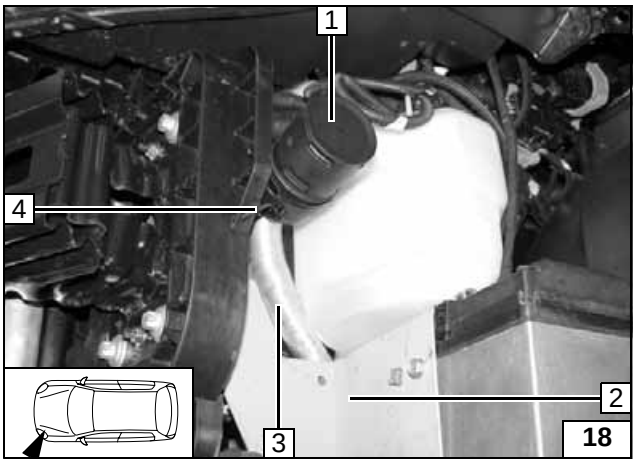
Installing heater unit



On 1.3 JTD, mount ground wire at Position **1**.

3 Bracket of Part A
1 Large diameter washer, M6 flanged nut on existing stud bolt
4 M6x20 bolt, large diameter washer, M6 flanged nut on prepared rivet nut
2 Wiring harness of heater unit mounted

Installing heater unit



Combustion air

Route combustion-air intake pipe inward between bracket and washer reservoir and connect on combustion-air connection piece with hose clamp.

3 Combustion-air intake pipe
2 Bracket of Part A
1 Combustion-air intake muffler
4 Lockable cable tie, in existing hole

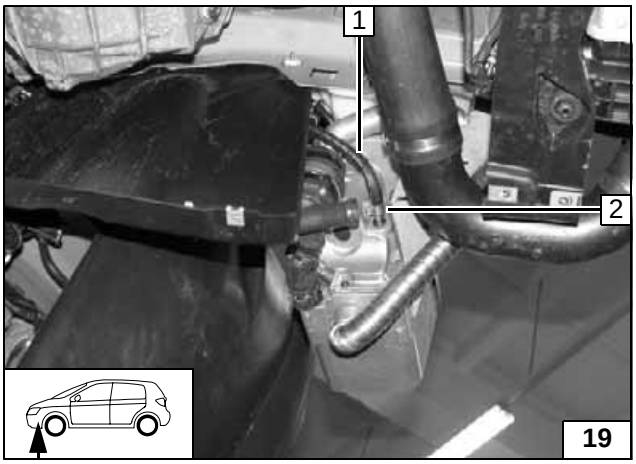
Fuel Connection

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.

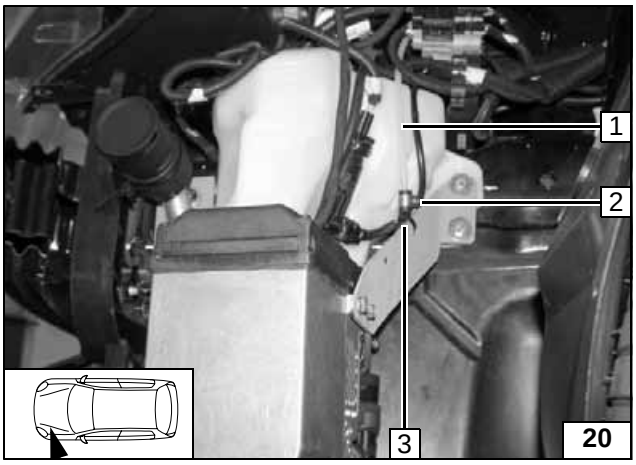
Install fuel line and metering-pump wiring harness so that they are protected against stone impact.
Unless specified otherwise, always fasten using cable ties.
Mount the fuel line and wiring harness with rub protection on sharp edges.

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



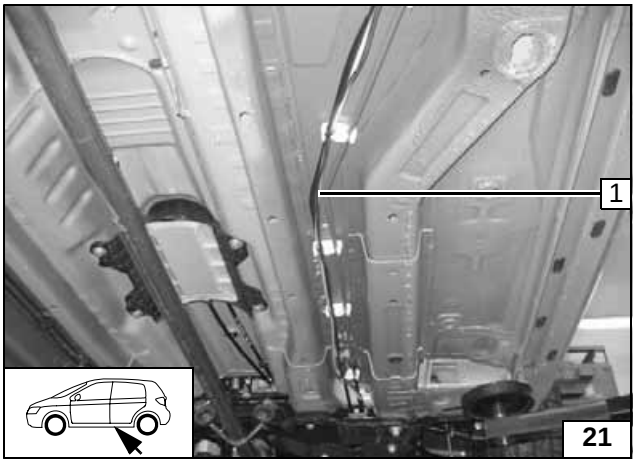
1 Fuel hose, 200 mm long
2 10 mm dia. hose clamp

Connection on heater unit



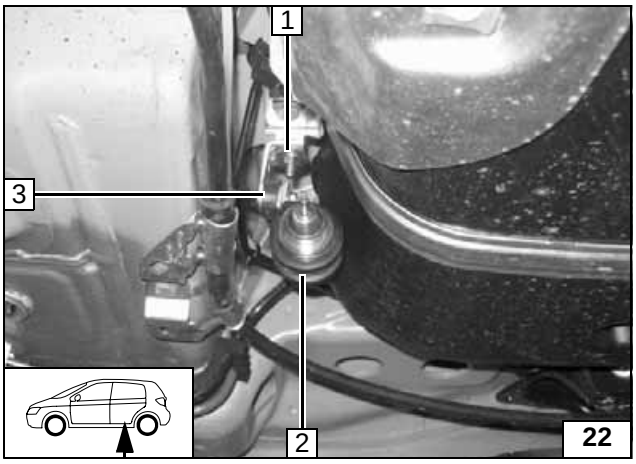
3 Fuel hose, 200 mm long
1 Mecanyl fuel line
2 10 mm dia. hose clamp

Installing lines



1 Mecanyl fuel line, wiring harness of metering pump on original vehicle line

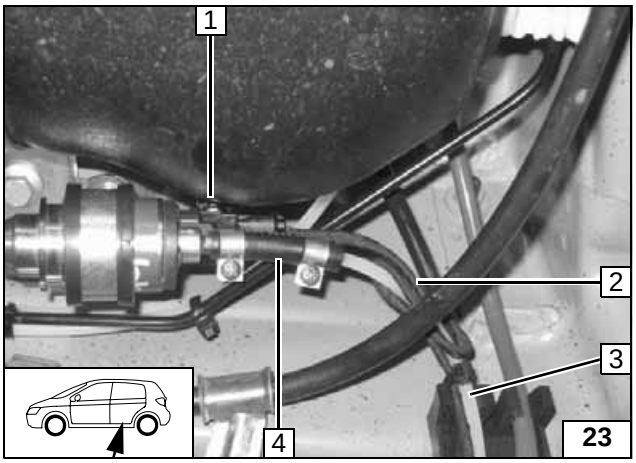
Installing lines



Ensure proper installation position of metering pump, see "Installation Instructions".
Installation location in front of vehicle fuel tank!

1 Angle bracket, M6x20 bolt, large diameter washer, M6 flanged nut on original vehicle hole
2 Metering pump, rubber-coated p-clamp
3 Silent block, flanged nut [2x]

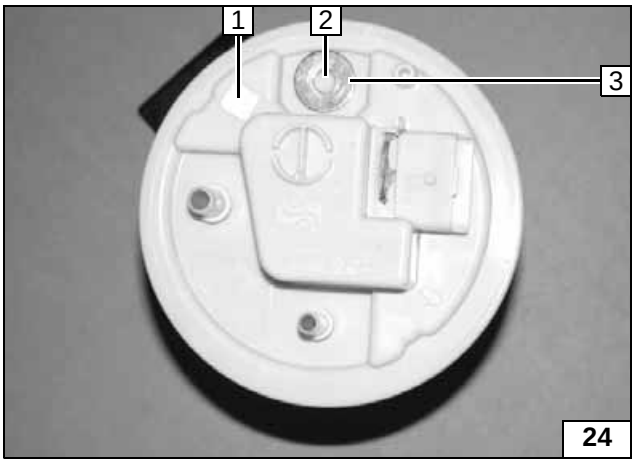
Installing metering pump



Fuel line from heater unit on pressure side of metering pump [side with connector].

1 Single wire seal, tab connector, connector housing
2 Wiring harness of metering pump,
3 Fuel line
4 Hose section, 10 mm dia. hose clamps [2x]

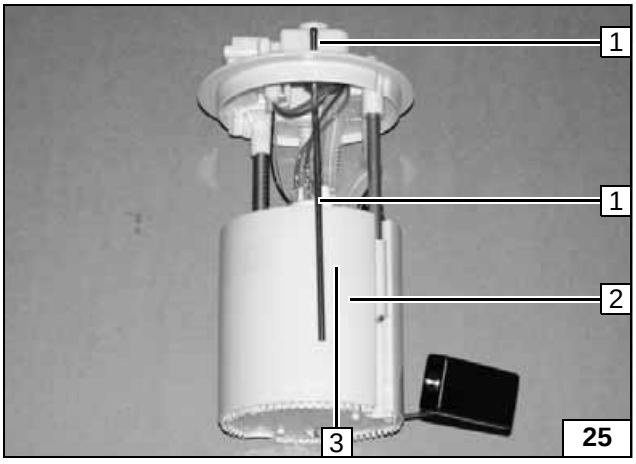
Installing metering pump



Remove fuel-tank sending unit in accordance with manufacturer's instructions.

1 Fuel-tank sending unit
3 Large diameter washer
2 Copy hole pattern, 6 mm dia. hole

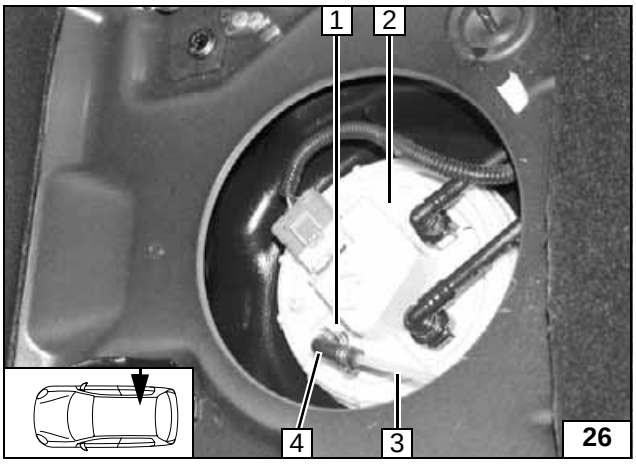
Removing fuel



Shape fuel standpipe according to template, cut to length and install, see "installation instructions".

2 Fuel-tank sending unit
1 Fuel standpipe

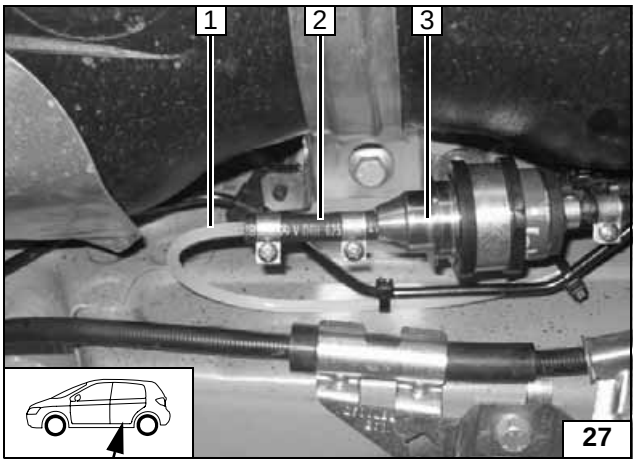
Installing fuel standpipe



Install fuel-tank sending unit **2** in accordance with manufacturer's instructions. Shorten molded hose with 3.5 mm dia. by 10 mm.

1 Fuel standpipe
4 Molded hose, 3.5 mm dia. x 4.5 mm, Caillau clamp, 8 mm dia., Caillau clamp, 10 mm dia.
3 Remaining end of Mecanyl fuel line

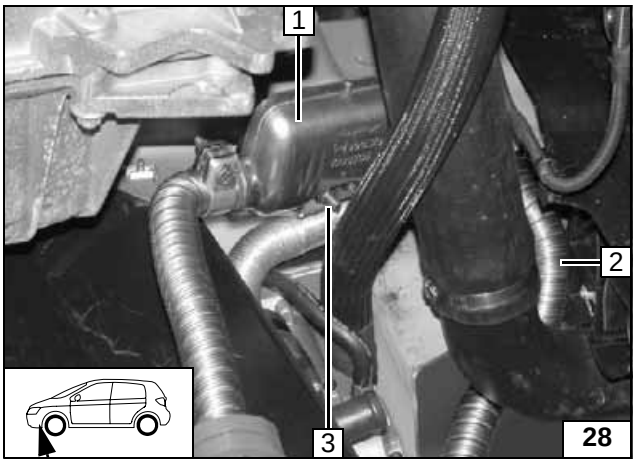
Connecting fuel line



Fuel line from fuel standpipe **1** to intake side of metering pump [side without connector]. Check the position of the components; adjust if necessary. Check that they have free clearance.

3 Metering pump
2 Hose section, 10 mm dia. hose clamp [2x]

Connection to metering pump

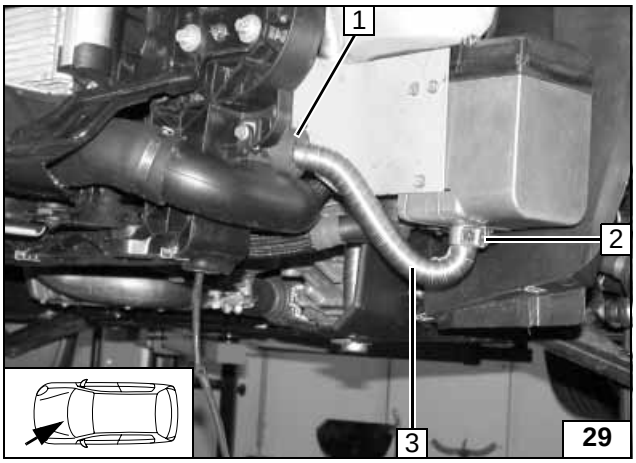


Exhaust system

Fasten muffler with M6x20 bolt, large diameter washer and M6 flanged nut on prepared angle bracket.
Fasten exhaust pipe **2** on muffler with hose clamp and route over charge-air tube to outside.

1 Muffler
3 M6x20 bolt, large diameter washer, M6 flanged nut

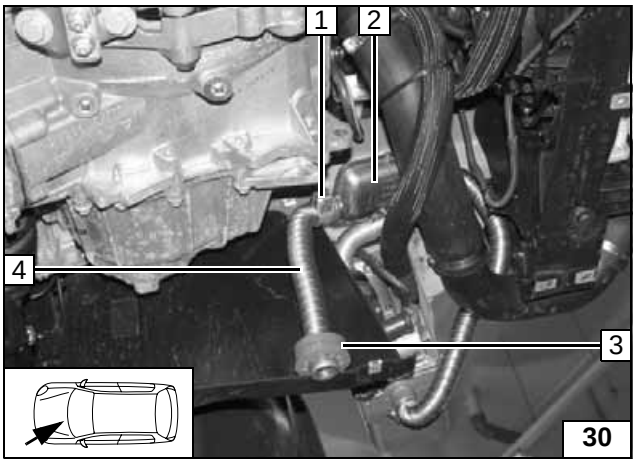
Installing muffler



Slide red (rt) rubber isolator **1** onto exhaust pipe. Cut exhaust pipe **3** on heater unit to length and fasten with hose clamp **2**. Position red (rt) rubber isolator **1** on charge-air tube.

3 Exhaust pipe
2 Hose clamp
1 Red (rt) rubber isolator

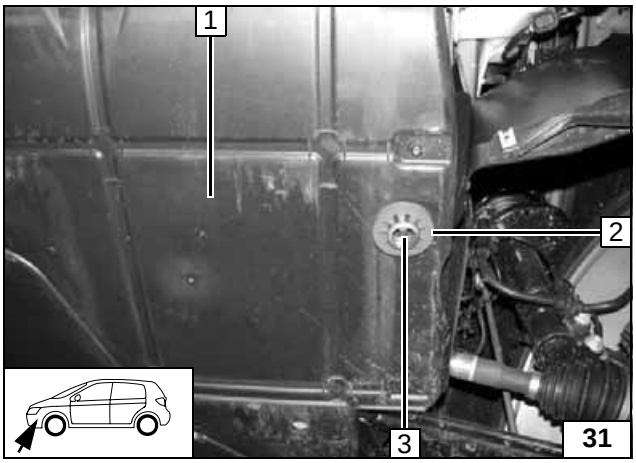
Installing exhaust pipe



1.9 JTD

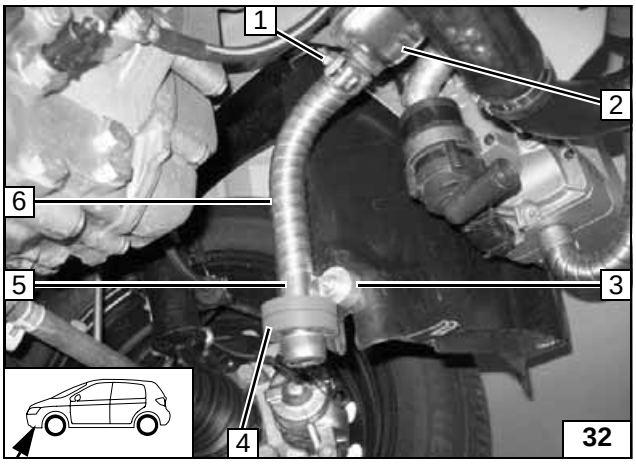
Slide red (rt) rubber isolator with **3** onto exhaust end section **4**. Shape exhaust end section **4** as shown, cut to length on muffler **2** and fasten with hose clamp **1** (red (rt) rubber isolator with groove **3** is mounted in underride protection).

Installing end section



Remove insulation in area of hole. Drill 42 mm dia. hole in underride protection at Position **2**. Mount underride protection. First position red (rt) rubber isolator **2** on exhaust end section **3** from below, then insert with groove in underride protection **1**. Align end cap of exhaust end section **3** flush on red (rt) rubber isolator **2** as shown.

Cutting out underride protection



1.3 JTD

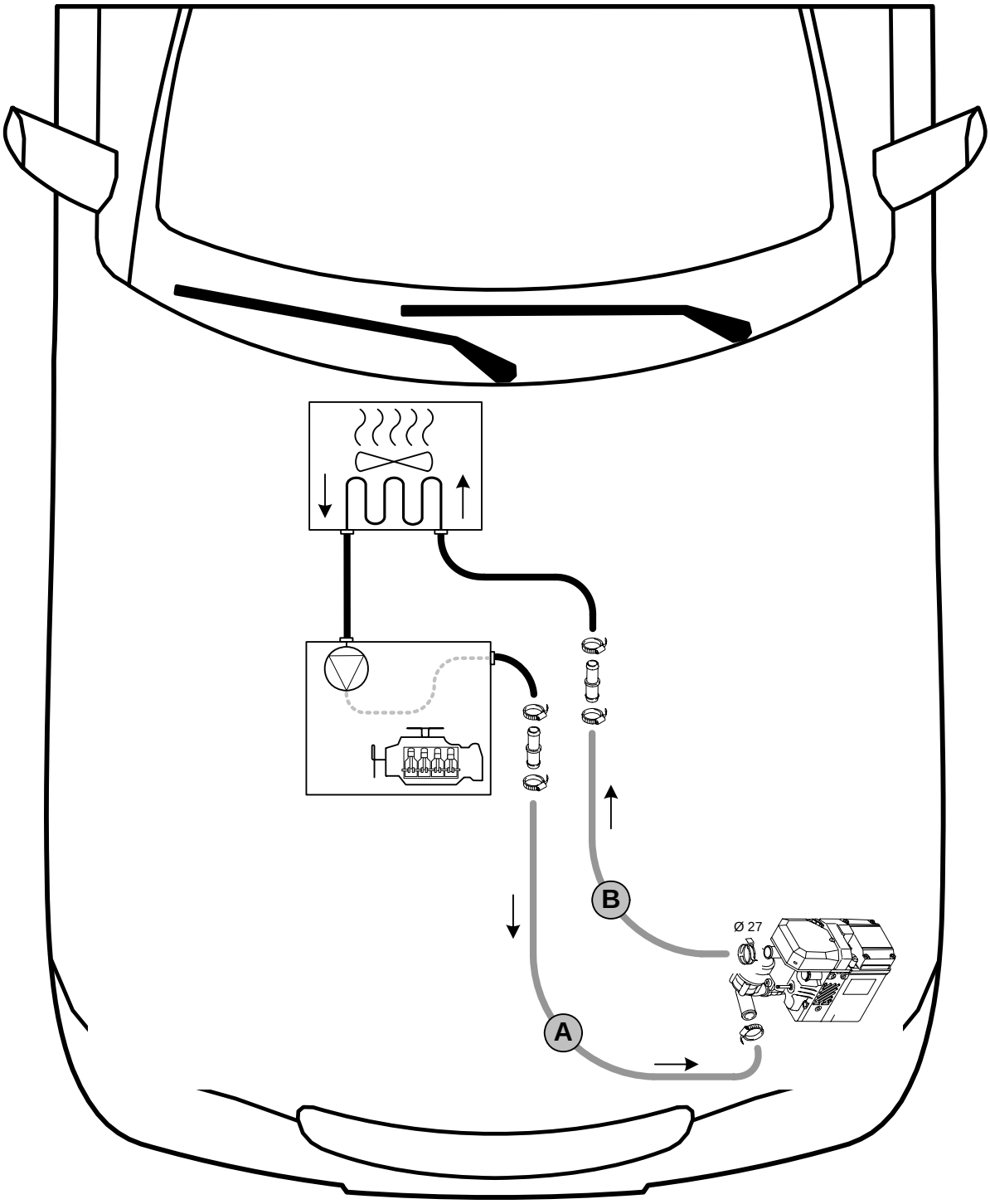
6.5 mm hole in wheel well trim. Mount exhaust end section **6** with p-clamp **5**, M6x30 bolt, 14 mm shim **3**, large diameter washer and flanged nut on wheel well trim (for fixing exhaust end section in place).

2 Exhaust muffler
1 Hose clamp
4 Push on red (rt) rubber isolator with groove

Installing end section

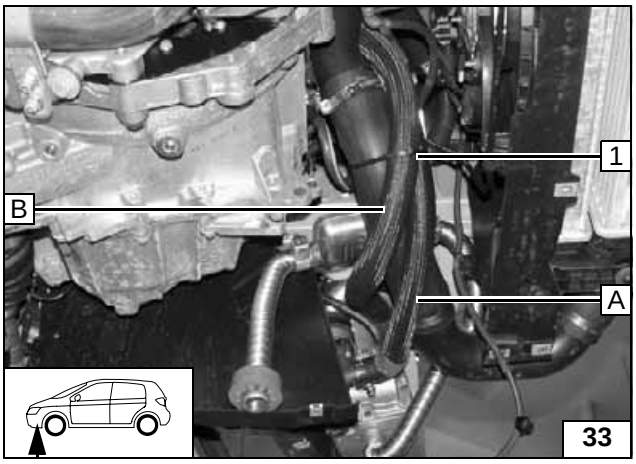
Coolant connection on 1.9 JTD

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

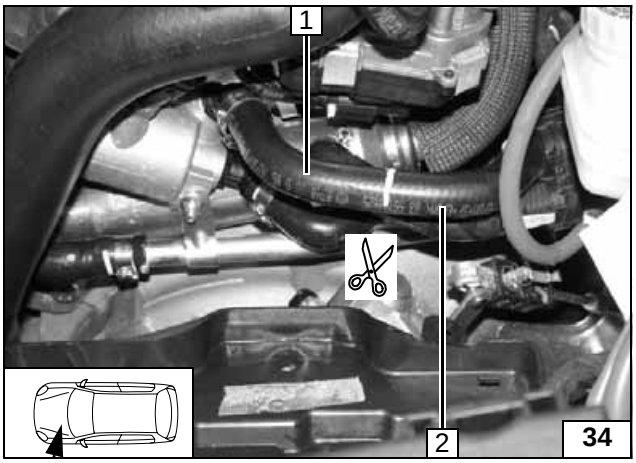
All clamps without a specific designation = 20-27 mm dia. hose clamps!
All connecting pipes = 15x20 dia..



Route hose **A** and hose **B** (already premounted) to cutting point.

1 Cable tie

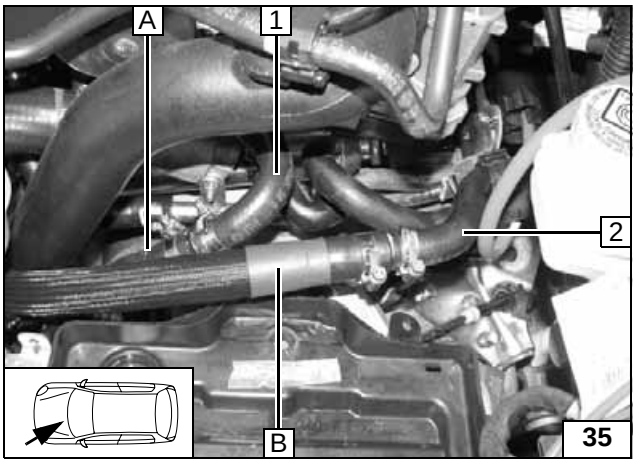
Connection on heater unit



Cut coolant hose from engine outlet to heat exchanger inlet at marking.
Turn hose section 1 on connection piece of engine outlet toward front.

1 Hose of engine outlet
2 Hose on heat exchanger inlet

Cutting point



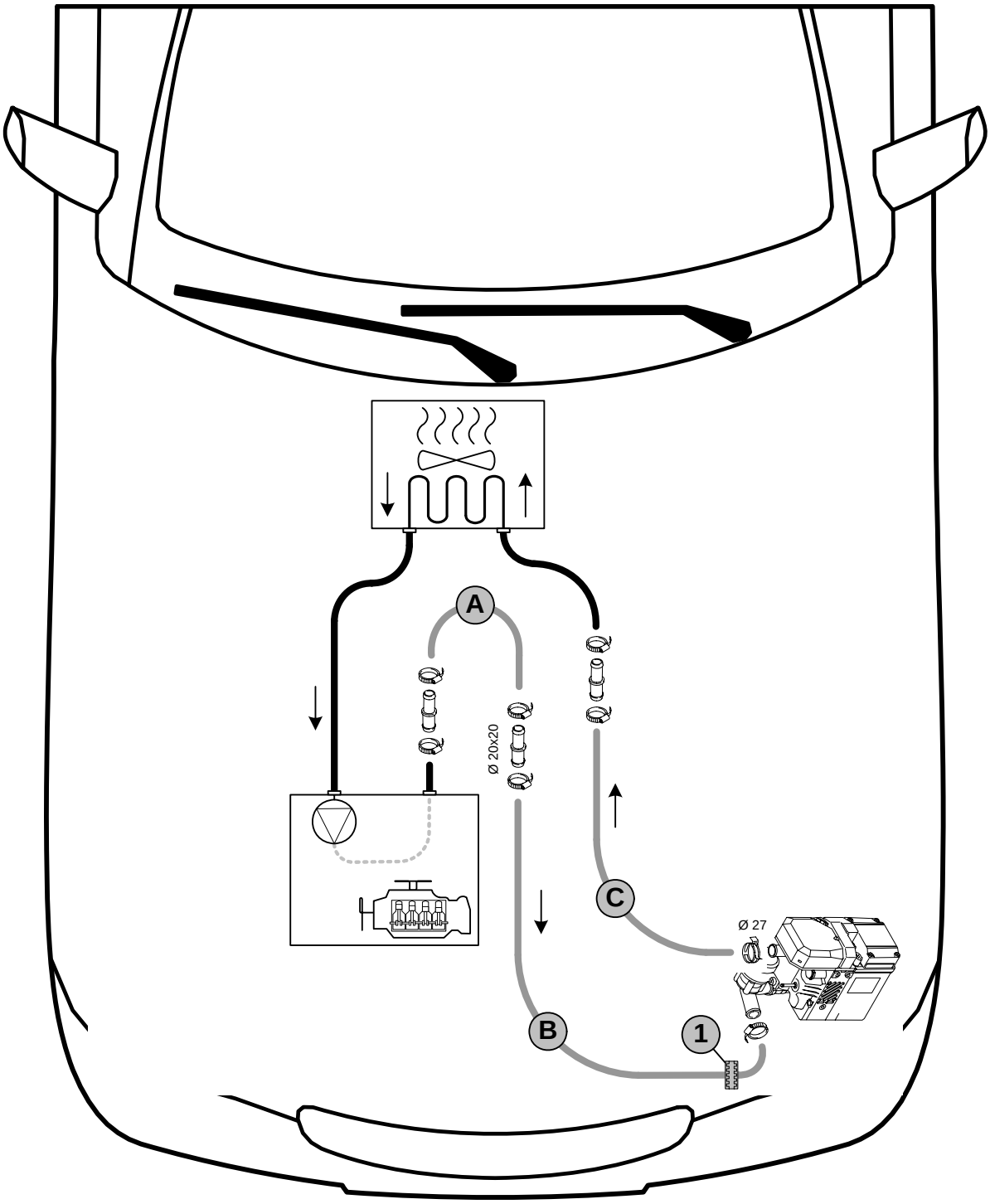
Before connecting, fill the coolant hoses with coolant.

1 Hose section of engine outlet turned
2 Hose section of heat exchanger inlet

Connect hose A and B

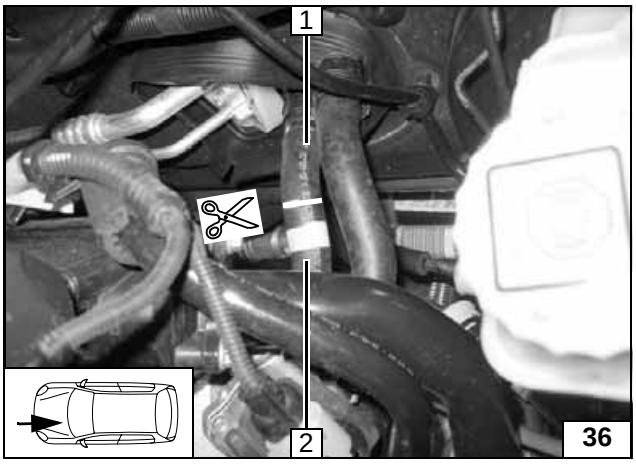
Coolant connection on 1.3 JTD

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

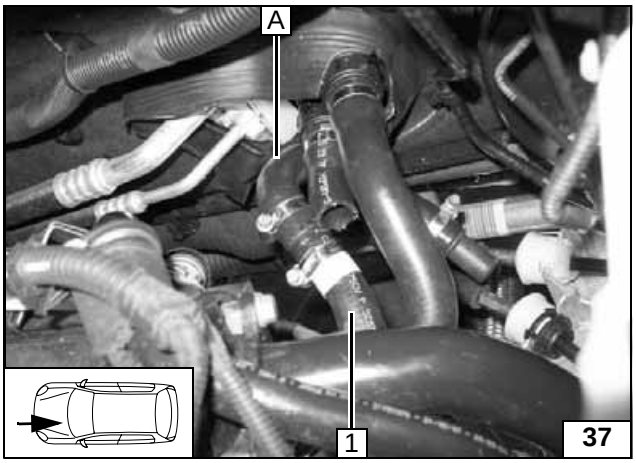
All clamps without a specific designation = 20-27 mm dia. hose clamps!
All connecting pipes without a specific designation = dia. 18x20.
1 = Black (sw) rubber isolator



Cut coolant hose from engine outlet to heat exchanger inlet at marking.

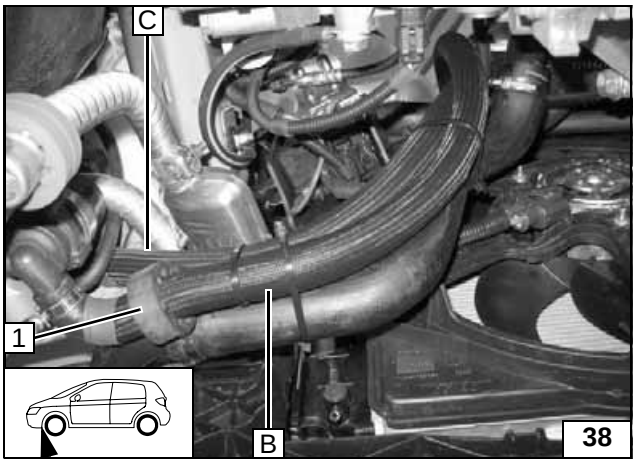
1 Hose on heat exchanger inlet
2 Hose of engine outlet

Cutting point



Hose **A** with short leg on hose section of engine outlet **1**!

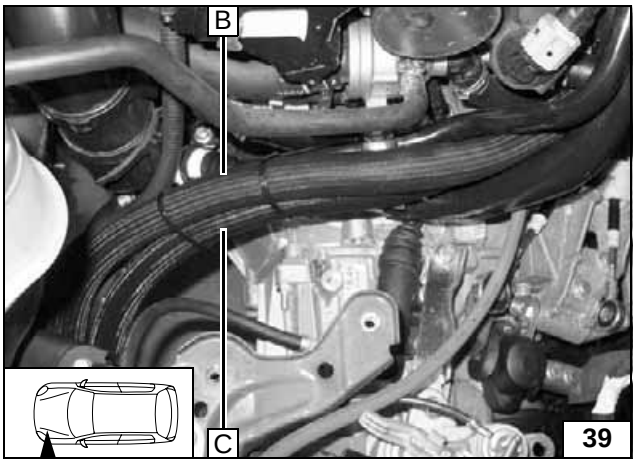
Installing hose A



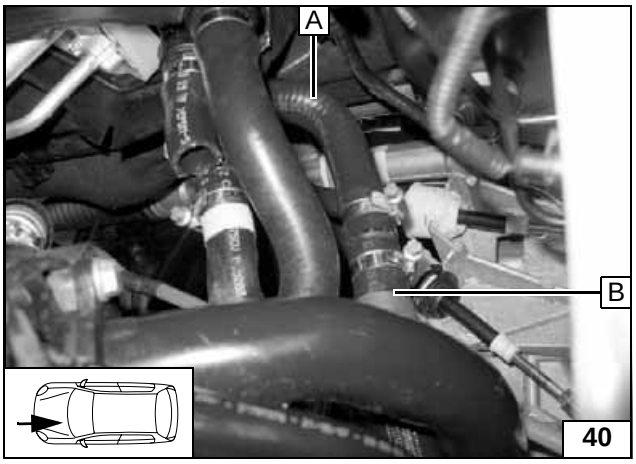
Route hose **B** and hose **C** (already premounted) to cutting point.

1 Slide black (sw) rubber isolator onto hose **B**

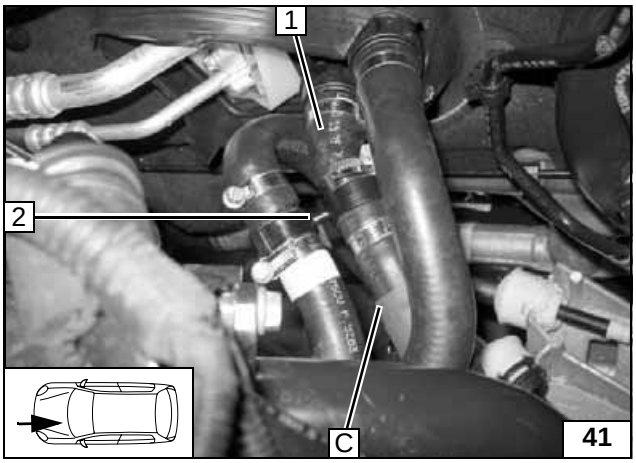
Connection on heater unit



Routing to cutting point



Connecting hose A and B



Before connecting, fill the coolant hoses with coolant.

1 Hose section of heat exchanger inlet
2 Insert spacer bracket

Connecting hose C

Final Work

WARNING!
Reassemble the 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.
Spray the heater unit components with anti-corrosion wax (Tectyl 100K, Order No. 111329).

- Connect the battery
- Start the engine, bleed the coolant circuit according to the vehicle manufacturer's instructions and top up the coolant.
- Set the digital timer.
- Adjust the vehicle heater with automatic air-conditioning or without automatic air-conditioning according to "Operating Instructions for End Customer".
- Check the proper operation of the additional heater, see the operating instructions/installation instructions.
- Attach the "Switch off additional heater before refueling" sticker to the left-hand B-pillar.

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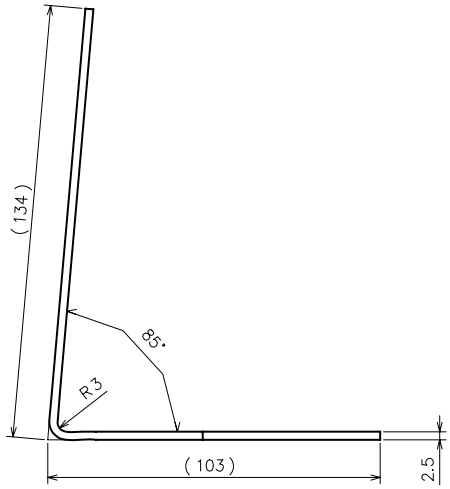
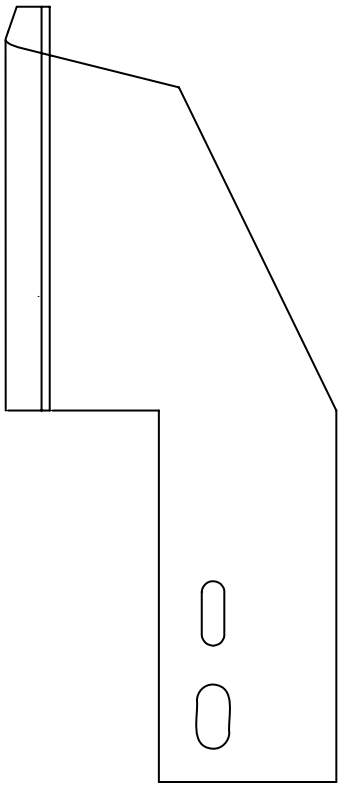
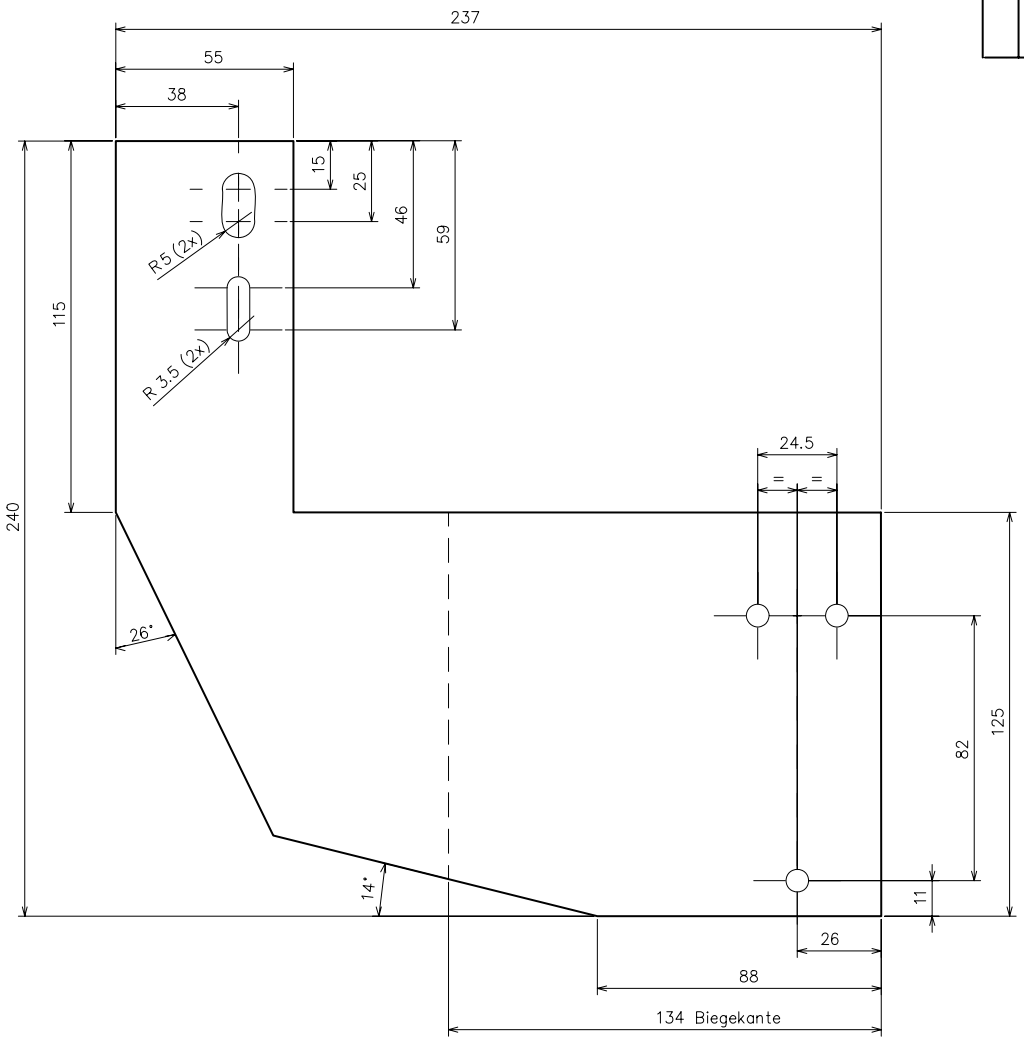
Template for Bracket of Part A

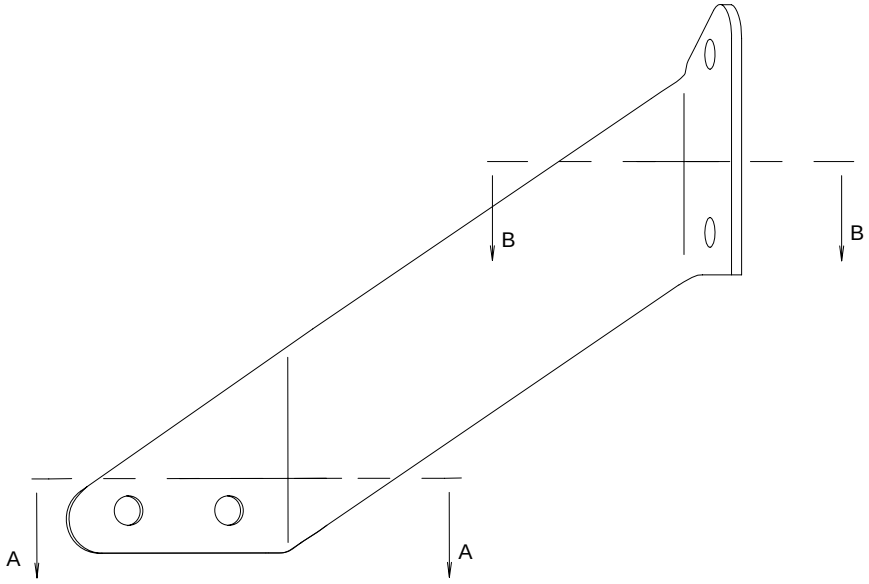


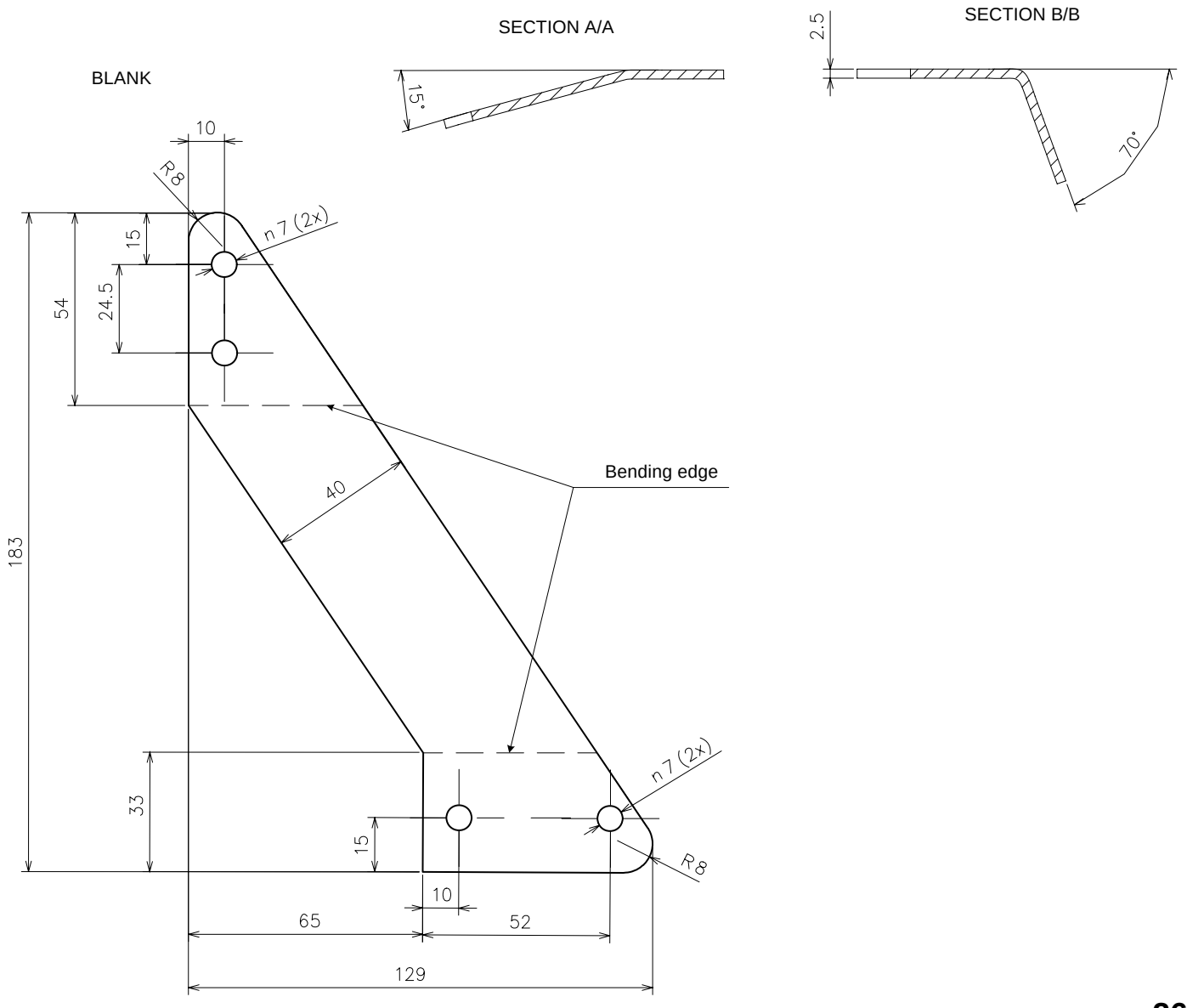


Zuschnitt



Template for Bracket of Part B





Template for Fuel Standpipe