

Thermo Top C Motorcaravan Additional Heater  00 0002

Installation Instructions

Mercedes Sprinter

Diesel

from Model Year 2006

For left-hand drive vehicles only

Vehicles without air conditioning not tested



WARNING!

Hazard warning:

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

Specialist company training, technical documentation, specialized tools and equipment are required to install and repair Webasto heating and cooling systems.

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

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

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

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Validity

Manufacturer	Model
Mercedes	Sprinter

Engine type	Engine model	Output in kW	Displacement in cm ³
2.2 cDi	Diesel	80	2148
2.2 cDi	Diesel	95	2148
2.2 cDi	Diesel	110	2148
3.0 cDi	Diesel	135	2987

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 changeover switch should be confirmed with the end customer before installation.

Heater Unit/Installation Kit

Quantity	Description	Order No.:
1	Basic delivery scope of Thermo Top C Motorcaravan	9015824A
1	Installation kit for Mercedes Sprinter Diesel 2006 Motorcaravan	9016207A

Foreword

The installation instructions apply to the Mercedes Sprinter vehicles with a Diesel engine
- For the 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, where this is the case the stipulations in the "installation instructions" and "operating and maintenance instructions" for the *Thermo Top C* Motorcaravan should 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
- Riveting pliers

Explanatory Notes on Document

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

Mechanical system



Electrical system



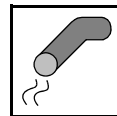
Coolant connection



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.



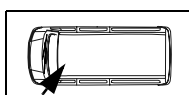
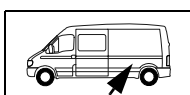
Specific risk of fire or explosion.



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



Reference to a special technical feature.

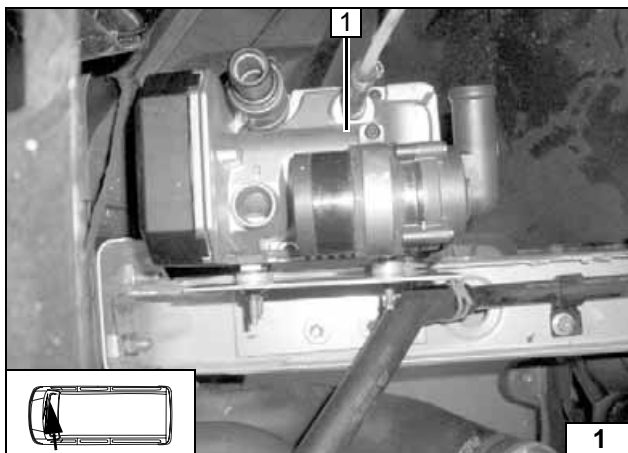


The arrow in the vehicle icon indicates the position on the vehicle and the viewing angle.

Preliminary Work

WARNING!

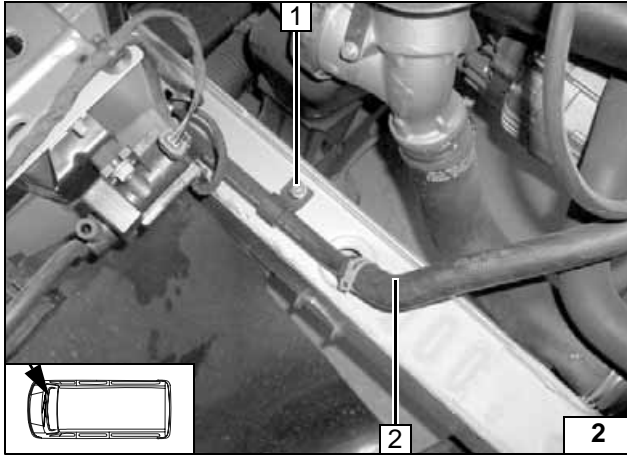
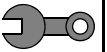
- Disconnect the battery "earth" or "ground" connection.
- Depressurize the cooling system.
- Copy the factory number from the original type label to the duplicate type label.
- Remove years that do not apply from the duplicate label.
- Attach the duplicate label (type label) in the appropriate place.
- Remove the entire air filter
- Open the fuel tank cap, ventilate the tank.
- Close the tank cap again.
- Remove the fuel tank
- Remove the fuel-tank sending unit in accordance with the manufacturers specifications
- Remove the glove compartment and remove the service door for the onboard toolkit
- Unclip the jump-starting positive connection point
- Disconnect the radiator expansion tank and set it aside
- Remove the instrument panel trim at the lower left and between the lighting switch and the steering column



Heater unit installation location

- 1 Heater unit

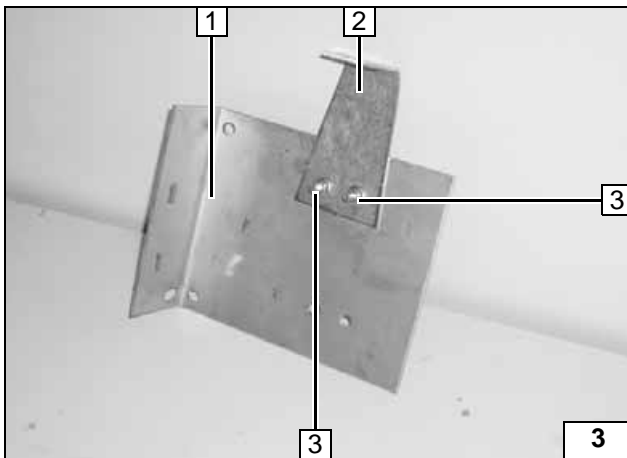
Installation
location



Preparing installation location

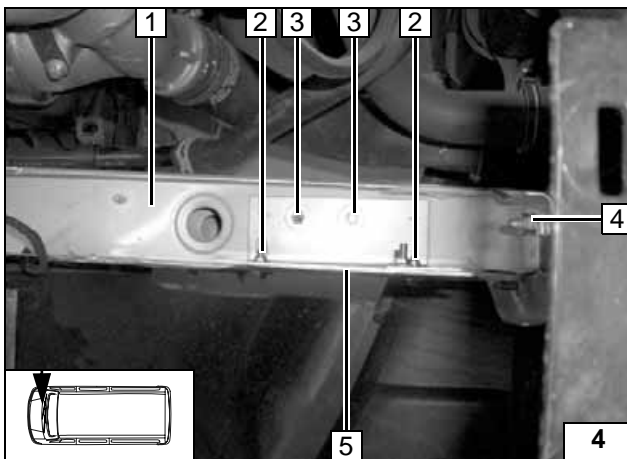
- 1 Unscrew original vehicle nut
- 2 Lay aside original vehicle return line

Preparing installation location



- 1 Bracket
- 2 Angle bracket
- 3 M6x20 bolt, flanged nut [2x]

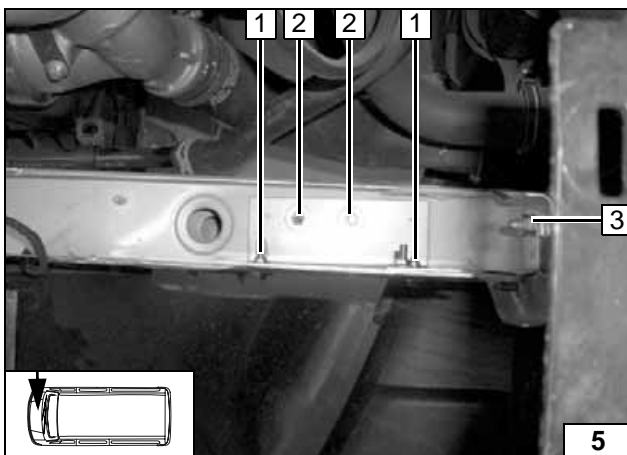
Preassembling bracket



Loosely fasten bracket 5 with nut 4 and align, copy hole patterns 2 and 3 to frame side member 1.

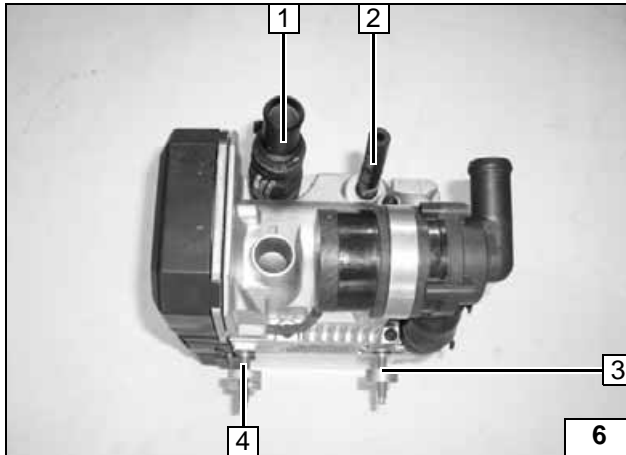
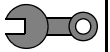
- 2 7.0 mm dia. hole [2x] in frame side member
- 3 4.5 mm dia. hole [2x] in frame side member

Copying hole pattern



- 1 M6x20 bolt, washer, flanged nut [2x]
- 2 6.3x19 self-tapping screw, large diameter washer [2x]
- 3 M8 nut, washer, spring lockwasher

Installing bracket

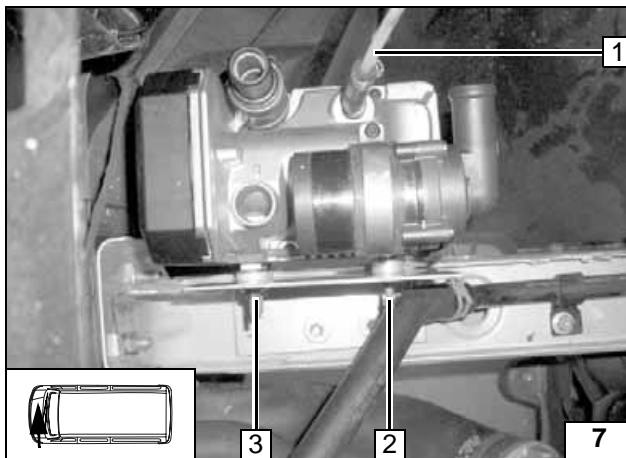


Installing heater unit

Tighten EJOT screws to 10 Nm!

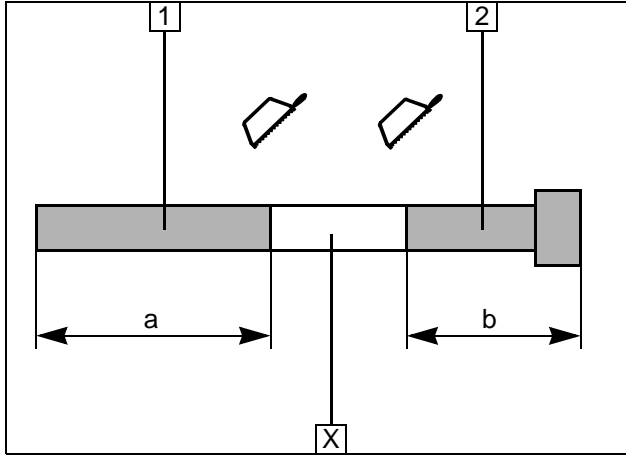
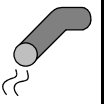
- 1 Hose **D**, 20 mm dia., l=100 mm, connecting pipe 18/20, 27 mm dia. spring clip [2x]
- 2 Hose section, 10 mm dia. Caillau clamp
- 3 E-jot stud, long, 8 mm washer
- 4 E-jot stud, long, 5 mm washer [2x]

Preassembling heater unit



- 1 Fuel line, 10 mm dia. Caillau clamp
- 2 Flanged nut, washer
- 3 Flanged nut, washer [2x]

Installing heater unit

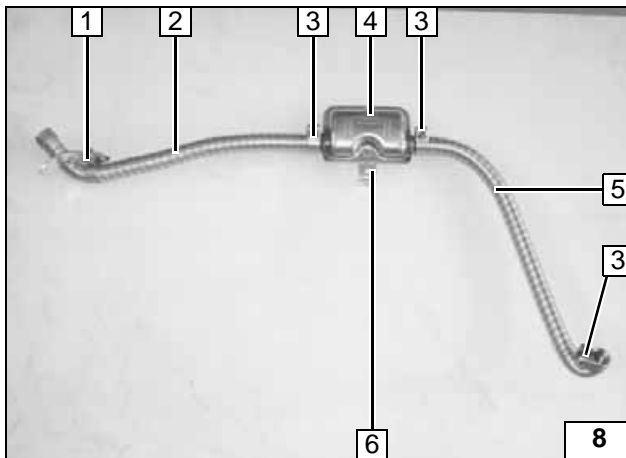


Exhaust system

- 1 Exhaust pipe
a = 460 mm
- 2 Exhaust end section
b = 410 mm

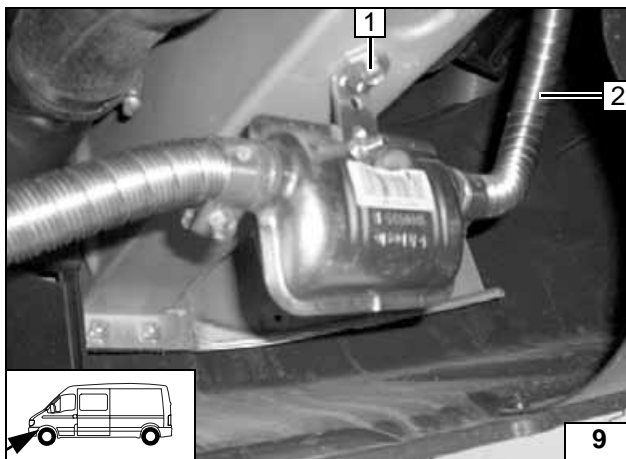
Discard section X

Preparing
exhaust
pipe



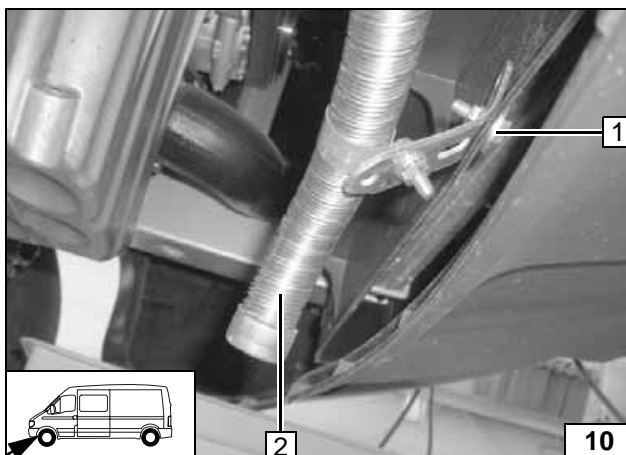
- 1 Bend perforated bracket as shown, p-clamp, M6x20 bolt, flanged nut
- 2 Exhaust end section
- 3 Hose clamp [3x]
- 4 Muffer
- 5 Exhaust pipe
- 6 Angle bracket, M6x20 bolt, flanged nut

Preassem-
bling
exhaust
pipe



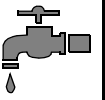
- 1 4.5 mm dia. hole, 6.3x13 self-tapping screw, large diameter washer
- 2 Exhaust pipe

Installing
exhaust
pipe



- 1 7.0 mm dia. hole, M6x20 bolt, flanged nut, large diameter washer [2x]
- 2 Exhaust end section

Installing
end
section



Coolant connection

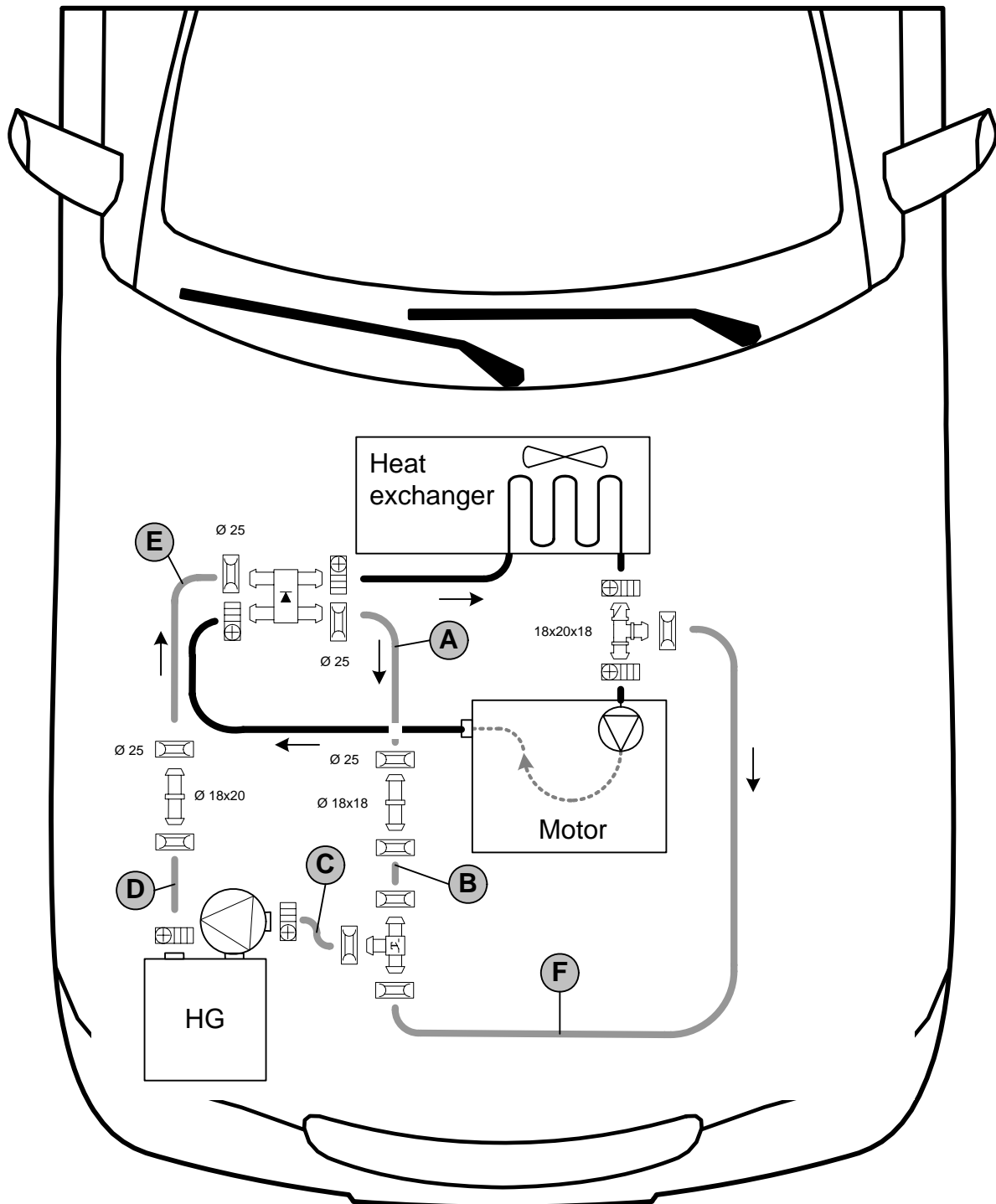
WARNING!

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.

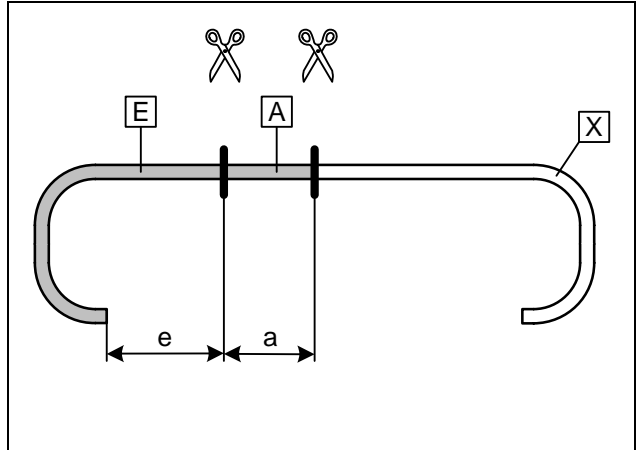
Position hose clamps and spring band clamps so that no other hose can be damaged.



Coolant routing diagram

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

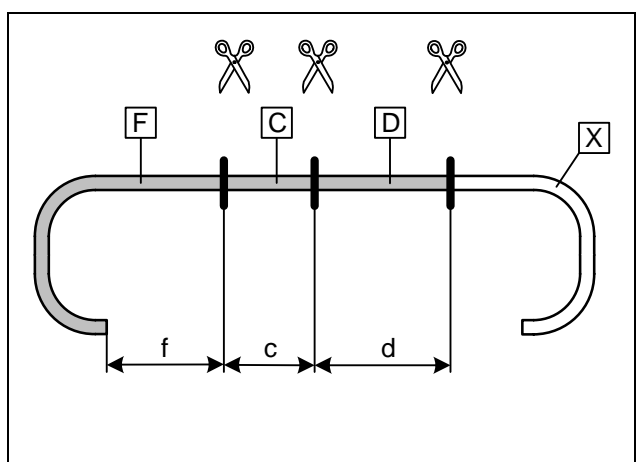




a = 800 mm
e = 1,020 mm

Discard section X

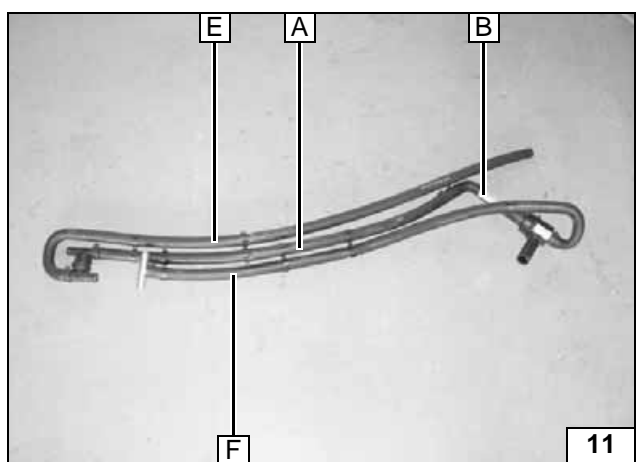
Cutting 18 mm coolant hose to length



c = 80 mm
d = 100 mm
f = 850 mm

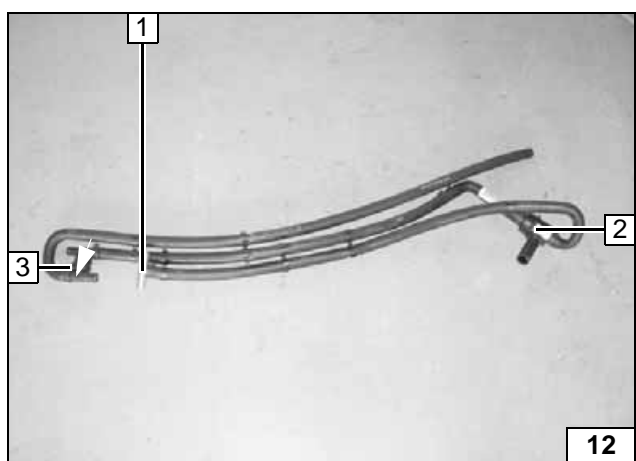
Discard section X

Cutting 20 mm coolant hose to length



B Molded hose 9007982A

Preassembling hose group

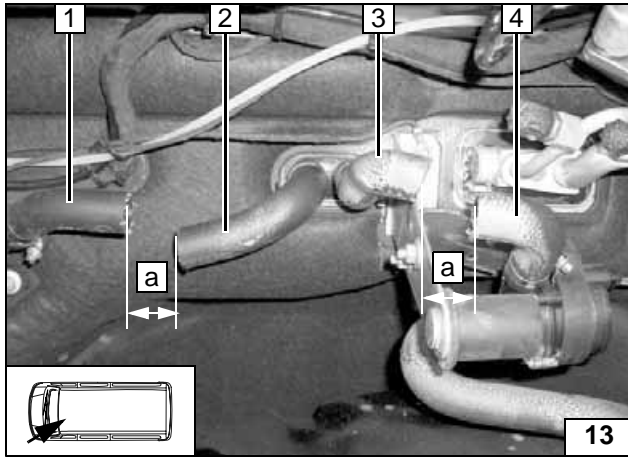


Secure hose group with spacer brackets.

- 1 T-piece, 18x20x18
- 2 Thermostat
- 3 Check valve (watch direction of flow)



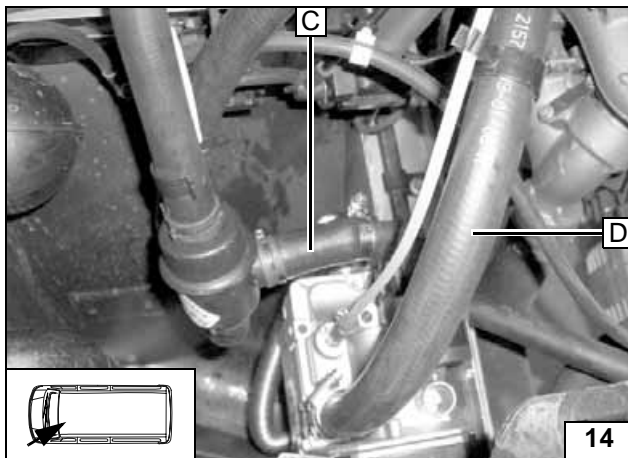
Preassembling hose group



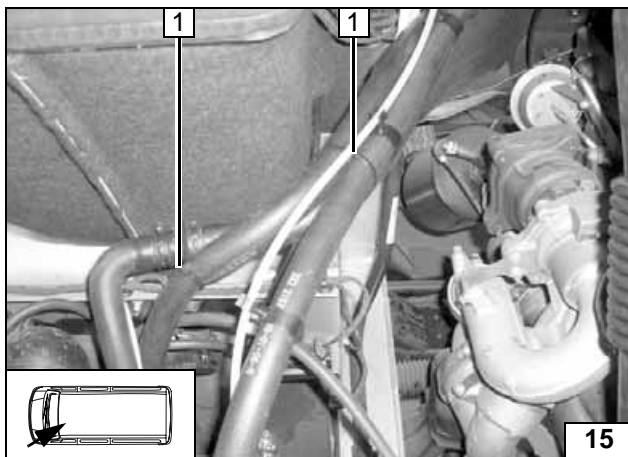
a = 25 mm

- 1 Original vehicle hose to engine inlet
- 2 Original vehicle hose to heater exchanger outlet
- 3 Original vehicle hose to heater exchanger inlet
- 4 Original vehicle hose from engine outlet; if clip present, remove and discard

Cutting points



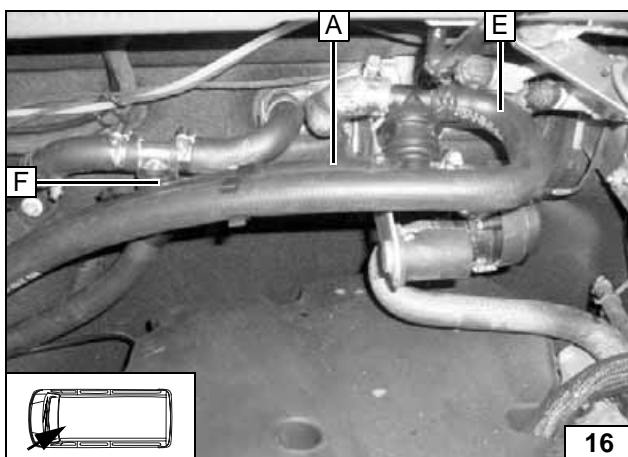
**Con-
nection on
heater unit**



Secure hose group 1 on coolant reservoir with cable ties.



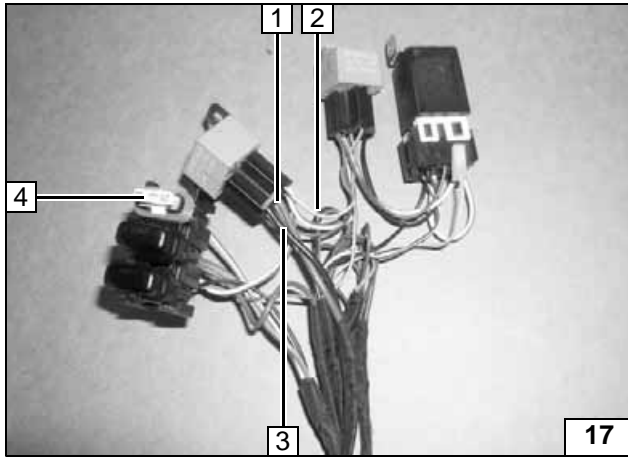
**Routing in
engine
compartment**



Before connecting, fill the coolant hoses with coolant.



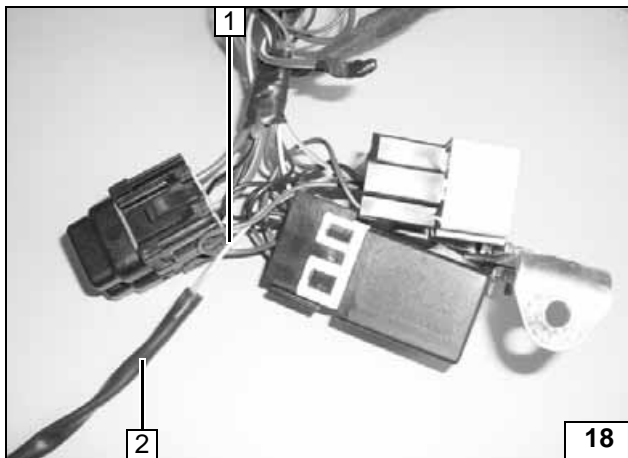
**Con-
nection on
heat
exchanger**



Preparing electrical system

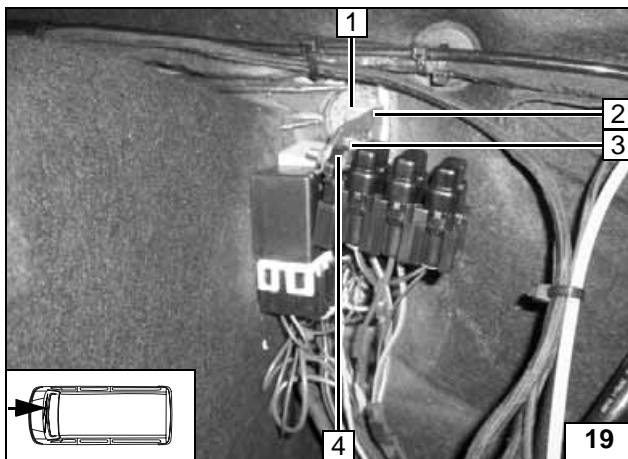
- 1 Uncrimp red (rt) wire and remove
- 2 Uncrimp green/white (gn/ws) wire and remove connector
- 3 Uncrimp black (sw) wire and remove
- 4 Replace 25 A fuse with 3 A fuse

Preparing wiring harness



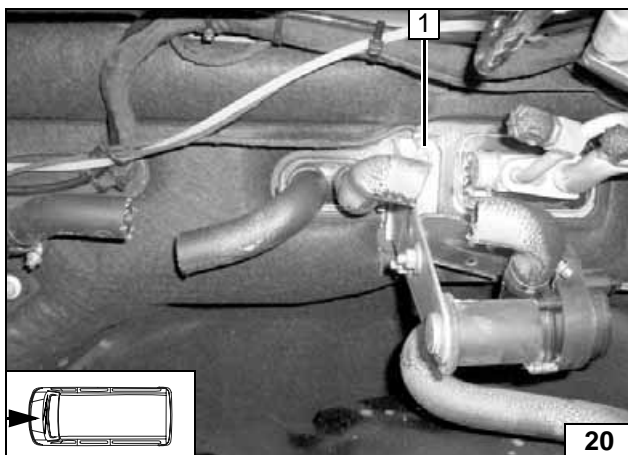
- 1 Extend green/white (gn/ws) wire green/white (gn/ws) wire provided
- 2 Green/white (gn/ws) wire in protective sleeving

Preparing wiring harness



- 1 Original vehicle stud bolt and flanged nut
- 2 Perforated bracket angled down
- 3 Relay, M5x16 bolt, washers, nut
- 4 Fuse holder retaining plate, relay, M5x6 bolt, washers, nut

Fuse holder, relay



- 1 Original vehicle stud bolt and flanged nut

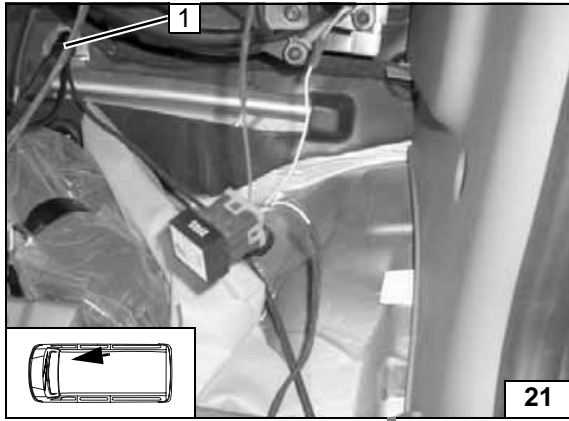
Ground connection for heater unit



Electrical Connections

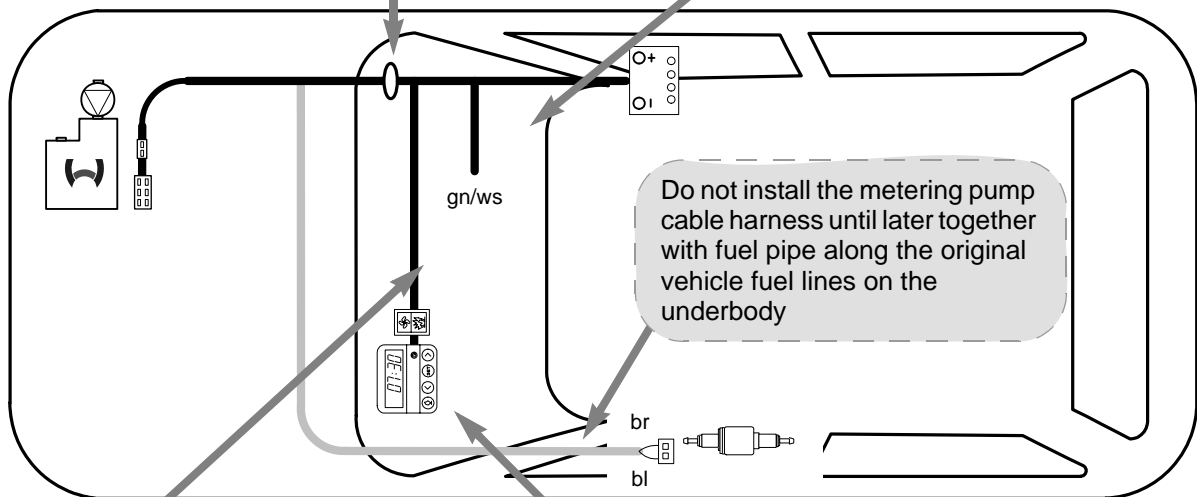
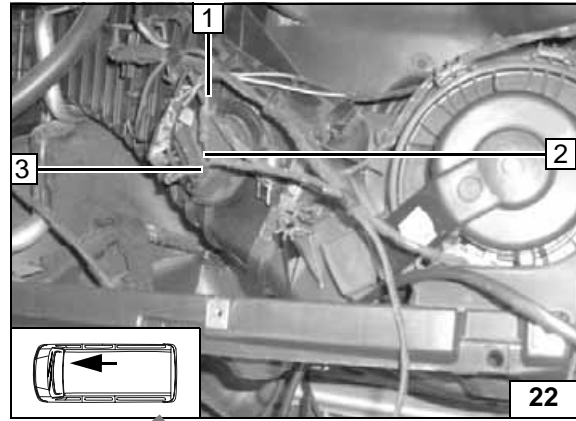
Wiring harness pass through

- 1 Protective rubber plug, hole from inside

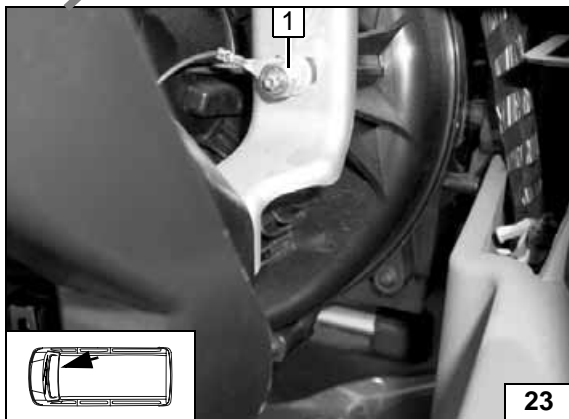


Connection for IPCU

- 1 Original green (gn) vehicle wire
- 2 Red (rt) wire from IPCU
- 3 Black (sw) wire from IPCU

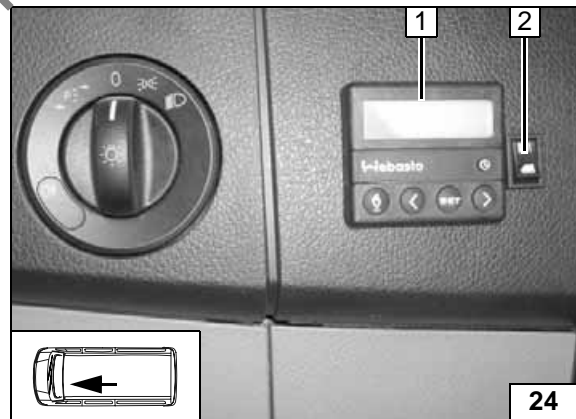


Wiring harness installation diagram



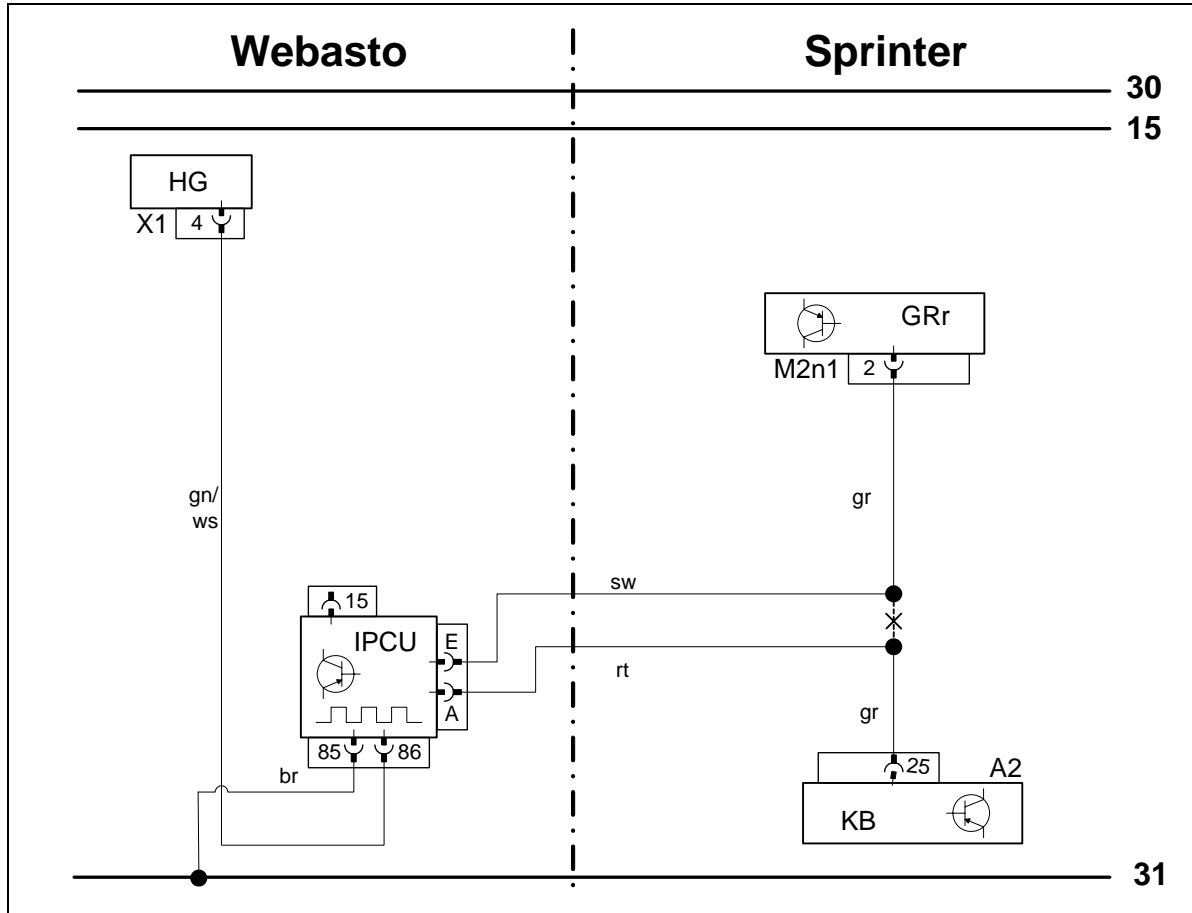
Ground connection for IPCU

- 1 Original vehicle stud bolt, flanged nut



Digital timer, changeover switch

- 1 Digital timer
- 2 Changeover switch



Wiring diagram for automatic air-conditioning and manual air-conditioning

Webasto components		Components of Mercedes Sprinter		Colors and symbols	
HG	Heater unit TT-C	KB	Air-conditioning control element	rt	red
X1	6-pin connector	GRr	Fan controller	ws	white
IPCU	IPCU module	M2n1	4-pin connector	sw	black
		A2	27-pin connector	br	brown
				gn	green
				GR	gray
				X	Cutting point
				Wiring colors may vary.	

Legend



Fuel Connection

CAUTION!

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

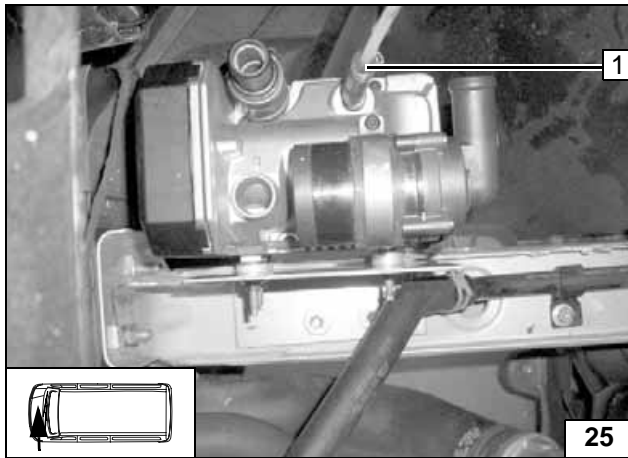
Catch any fuel running off with an appropriate container.

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.

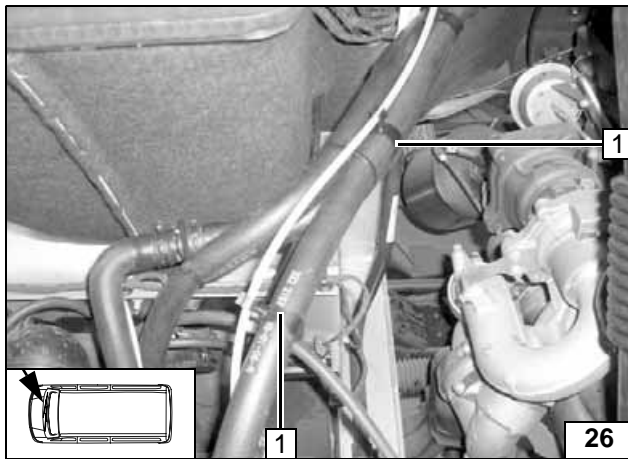
WARNING!

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



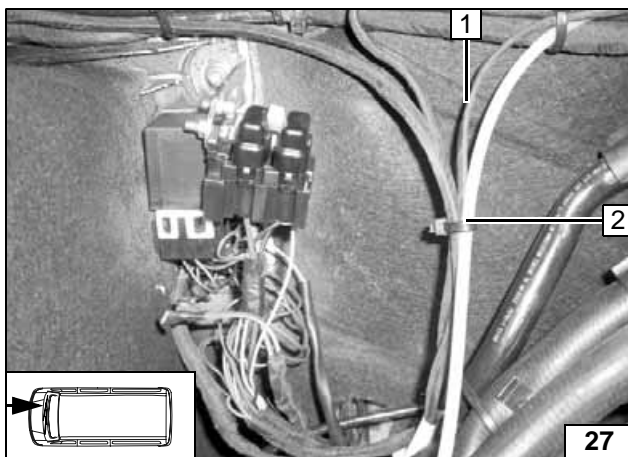
1 Fuel line, 10 mm dia. Caillau clamp

Con-
nection on
heater unit



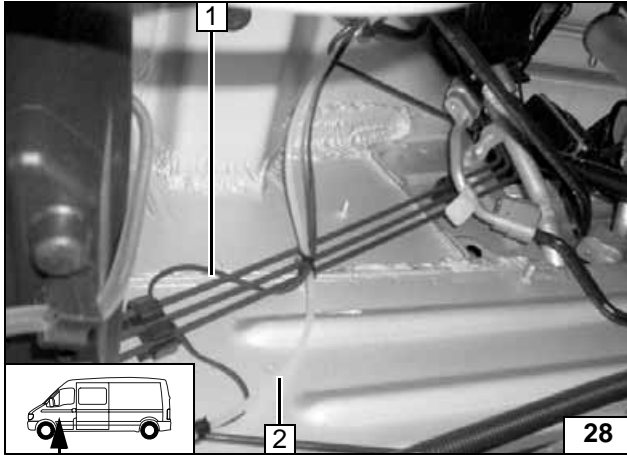
1 Spacer bracket

Installing
lines



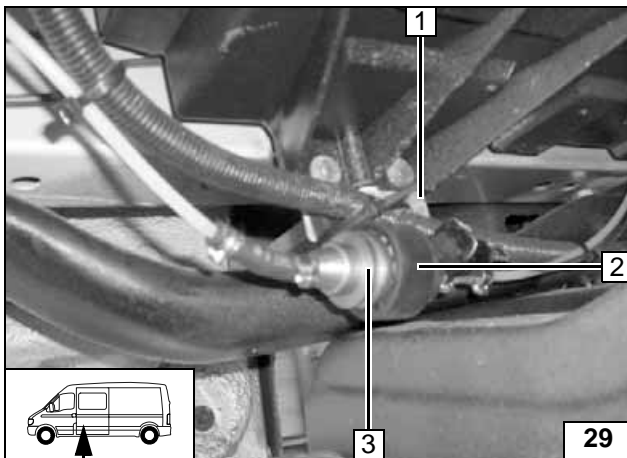
1 Metering pump wiring harness
2 Cable tie

Installing
lines



- 1 Metering pump wiring harness
- 2 Fuel line

Installing lines

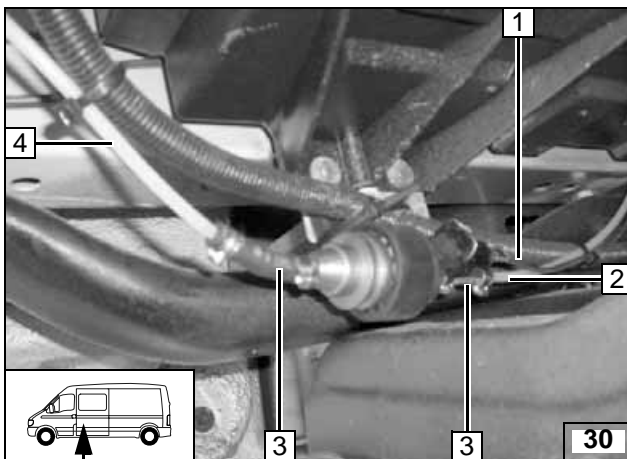


Unclip original vehicle positive wiring harness

- 1 M6x20 bolt, washer, flanged nut
- 2 Metering pump mounting
- 3 Metering pump



Installing metering pump

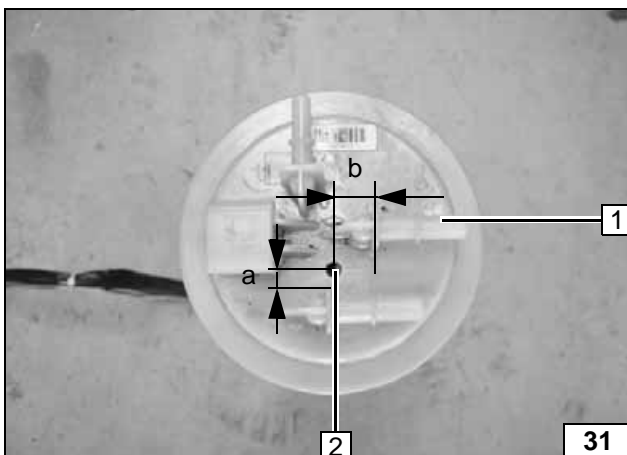


Fuel line from fuel standpipe on intake side of metering pump [side without connector]. Check the position of the components; adjust if necessary. Check that they have free clearance.

- 1 Metering pump wiring harness
- 2 Fuel line to heater unit
- 3 Hose section, 10 mm dia. hose clamps [2x].
- 4 Fuel line from fuel standpipe



Connection to metering pump



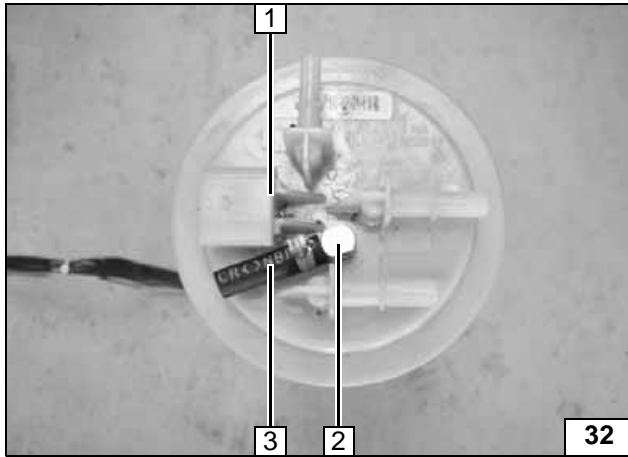
Remove fuel-tank sending unit in accordance with manufacturer's instructions.

- a = 8 mm
- b = 15 mm

- 1 Fuel-tank sending unit
- 2 Copy hole pattern, 6 mm dia. hole



Removing fuel

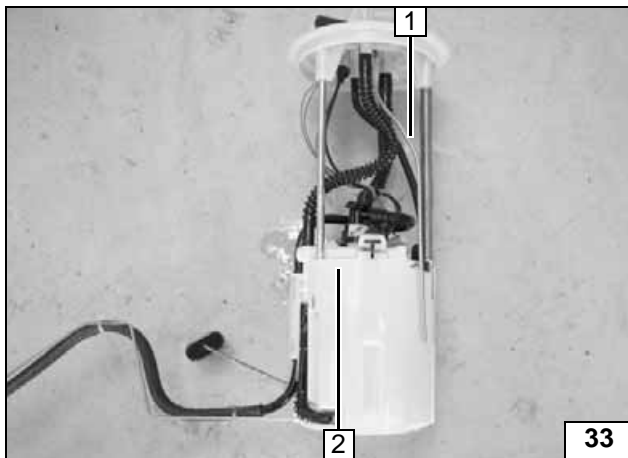


Shape fuel standpipe according to template, cut to length, preassemble and install, see "installation instructions".

- 1 Fuel-tank sending unit
- 2 Fuel standpipe
- 3 Hose section, 10 mm dia. Caillau clamp



Installing fuel standpipe

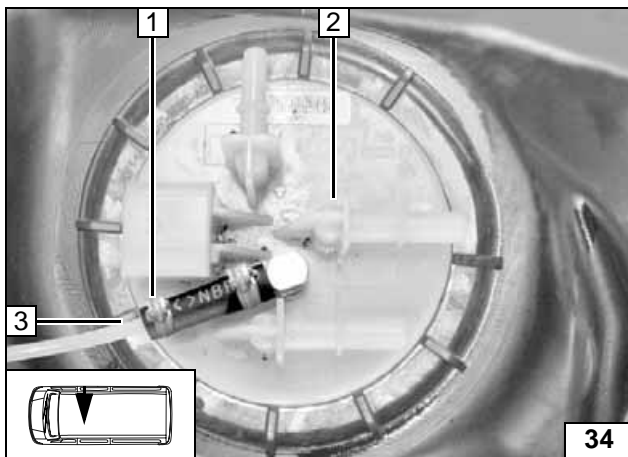


Shape fuel standpipe according to template, cut to length and install, see "installation instructions".

- 1 Fuel standpipe
- 2 Fuel-tank sending unit



Installing fuel standpipe

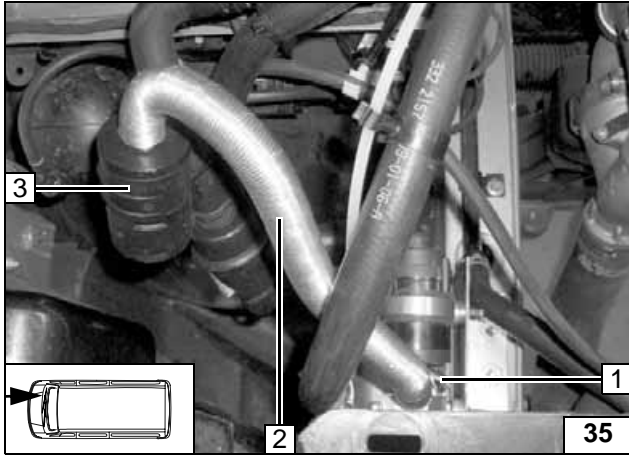
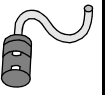


Install fuel-tank sending unit in accordance with manufacturer's specifications.

- 1 10 mm dia. Caillau clamp
- 2 Fuel-tank sending unit
- 3 Remaining end of Mecanyl fuel line



Connecting fuel line

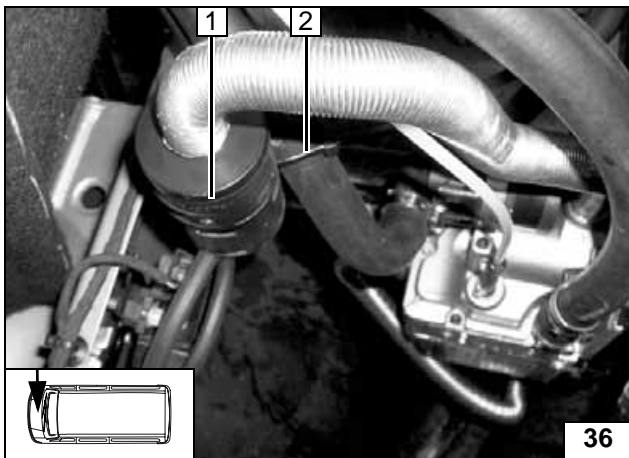


Combustion air

- 1 27 mm dia. hose clamp
- 2 Combustion-air intake pipe
- 3 Combustion-air intake muffler

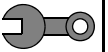


Installing intake pipe



Fasten combustion-air intake muffler 1 on coolant hose with cable tie 2.

Fastening muffler



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.

Only use manufacturer-approved coolant.

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

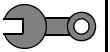
- Connect the battery
- Start the engine, bleed the coolant circuit according to the vehicle manufacturer's instructions and top up coolant
- Set the digital timer.
- Set the manual air conditioning or automatic air conditioning according to the "operating instructions for the end customer".
- Check 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

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Template for Fuel Standpipe

View A

