

Air Heater



Air Top 2000 ST Air Heater



Installation documentation

Opel Vivaro Combi / Tour / Life

Diesel

from model year 2009

From Vehicle Chassis No.: VIN WOLJ7EHB69B620464

Left-hand drive vehicle

Not for vehicle with a 2nd heat exchanger



WARNING!

Hazard warning:

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



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

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

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

The initial startup is to be executed with the Webasto Thermo Test Diagnosis.

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	Type	EG-BE-No. / ABE
Opel	Vivaro	X83	e1 * 98 / 14 * 0170 * ...

Engine type	Engine model	Output in kW	Displacement in cm ³
M9R	Diesel	66	1995
M9R	Diesel	84	1995
G9U	Diesel	107	2463

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

The installation location of heater controls and the routing of the air ducting parts must be coordinated with the final customer prior to installation!

WARNING!

Original load-bearing components of the vehicle and/or component used for crash safety may not be modified for the hot air and recirculating air ducting.

Heaters / Delivery Scope

Quantity	Designation	Order No.:
1	Specific Opel delivery scope AT2000 ST 12V D	1311064A

Quantity	Designation	Order No.:
1	Installation kit for Opel Vivaro AT2000ST from Model Year 2007	1311322C

To be ordered as an option:

Quantity	Designation	Order No.:
1	Telestart T100 HTM Opel Vivaro (Opel-OSV; Westfalia)	1311328A
or		
1	Telestart T100 HTM (Opel aftersales)	1303704C
1	Y-cable for Telestart for Air Top devices (Opel aftersales)	1311677A
1	Extension cable for temperature sensor T100 HTM (Opel aftersales)	1311816A

Quantity	Designation	Order No.:
1	Installation frame for combination timer (can be ordered via Opel)	09 267 211
1	Air outlet trim piece (can be ordered via Opel)	09 267 212

Foreword

This installation documentation applies to the Opel Vivaro Combi / Tour / Life Diesel vehicles - for validity, see page 2 - from model year 2009 and later, assuming technical modifications to the vehicle do not affect installation, any liability claims excluded. Depending on the version and the equipment of the vehicle, changes may be necessary relative to this "installation documentation" during installation and must be adjusted accordingly.

However, where this is the case the stipulations in this "installation documentation" and "operating instructions" and the "installation instructions" for the *Thermo Top 2000 ST* 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 must be provided with rub protection (cut-open fuel hose)!

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

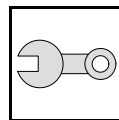
Special Tools

- Torque wrench for 2.0 - 10 Nm
- Metric thread-setter kit
- Blind rivet tool
- 65mm dia. hole saw

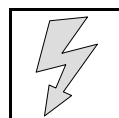
Explanatory Notes on Document

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.

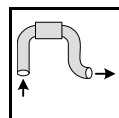
Mechanical system



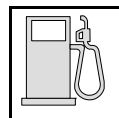
Electrical system



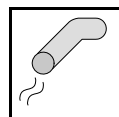
Hot air



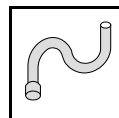
Fuel



Exhaust gas



Combustion air



Special features are highlighted using the following symbols:



Specific risk of injury or fatal accidents.



Specific risk of damage to components.



Specific risk of fire or explosion.



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



Reference to a special technical feature.



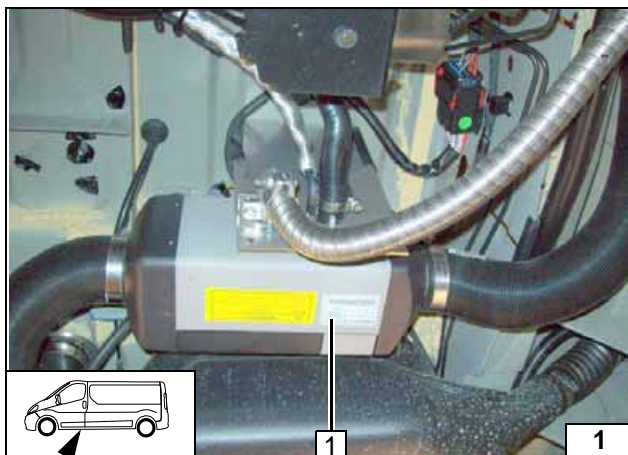
The arrow in the vehicle icon indicates the position on the vehicle and the viewing angle.

All dimensions are in mm!
Tightening torque of hose clamps = 2.0 + 0.5 Nm!

Preliminary Work

WARNING!

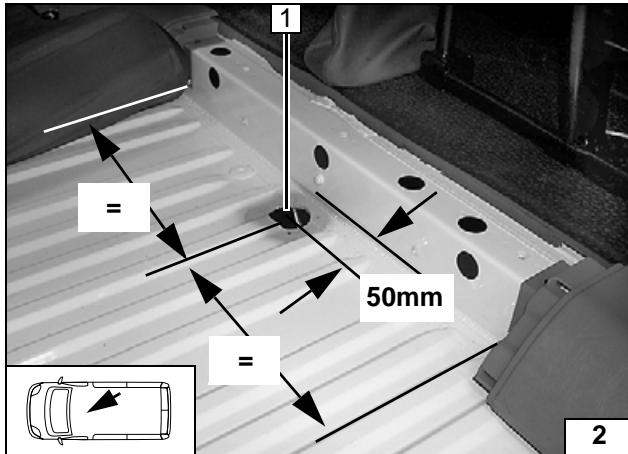
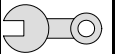
- Copy the factory number from the original type label to the duplicate type label.
- Remove years that do not apply from the duplicate label.
- Attach the duplicate label (type label) in the appropriate place.
- If installed, remove the seat row behind the driver's seat
- If installed, remove the floor covering of the entrance strips for the sliding door
- Remove the floor covering behind the driver's seat
- Remove the driver's seat
- Remove the floor covering on the battery service cover
- Remove the battery cover in the driver's side footwell
- Disconnect the battery earth connection.
- Remove the cover of the air ducting behind the driver's/front passenger seat
- Remove the entrance trim pieces on the driver's side
- Unclip the interior light above the driver's seat
- Remove the A-pillar trim on the driver's side
- Remove the sun vizer on the driver's side
- Open the fuel tank cap and vent the fuel tank.
- Close the fuel tank cap again.



Installation location

1 Heater

**Heater in-
stallation
location**

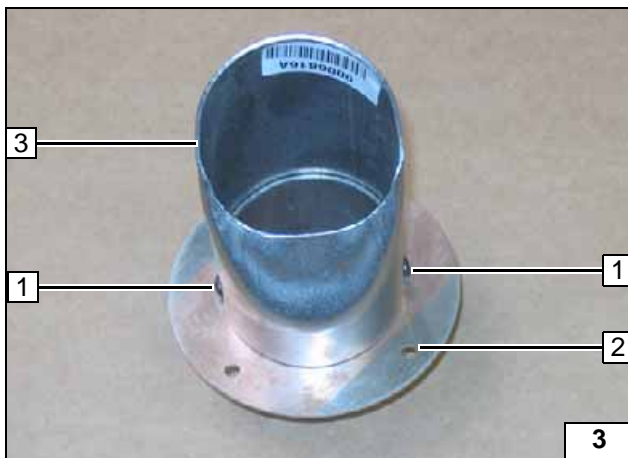


Preparing air ducting

Drill 65 mm dia. hole 1 in centre of floor panel.



Copying hole pattern



Position air outlet 3 on wall fitting 2 and align as shown.

3 mm dia. holes [2x] 1 for self-tapping screws

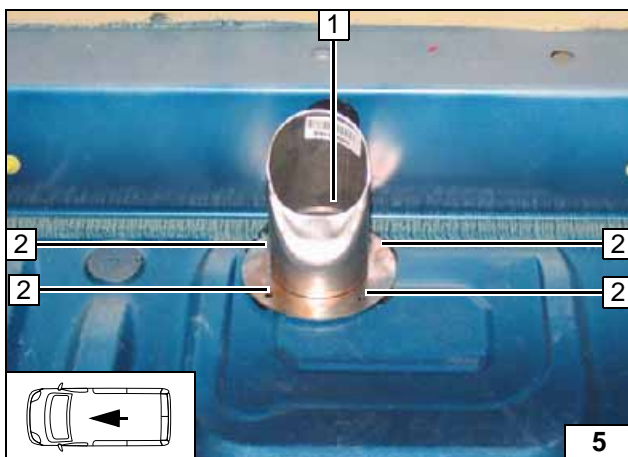


Premounting air outlet



1 Self-tapping screw [2x]

Premounting air outlet

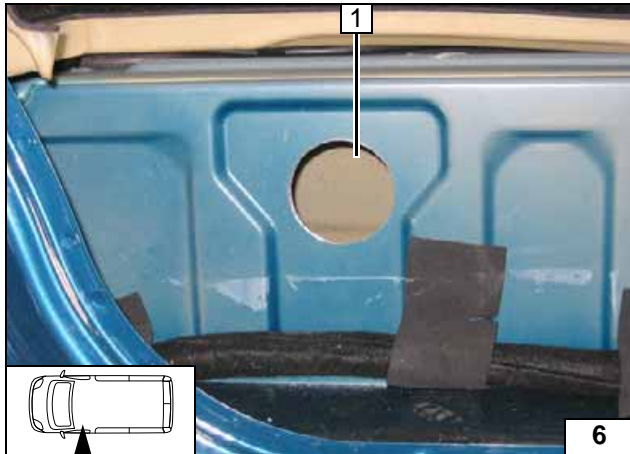
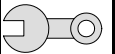


Insert premounted air outlet 1 in 65 mm dia. hole, align and copy hole pattern 2 for 5 mm dia. hole [4x].

Apply corrosion protection to holes.
Air outlet will be mounted later.



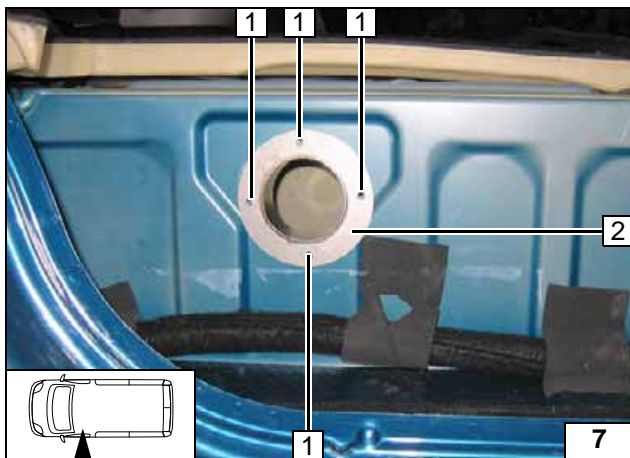
Copying hole pattern



Drill 65 mm dia. hole 1 in centre of bead on driver's entrance.



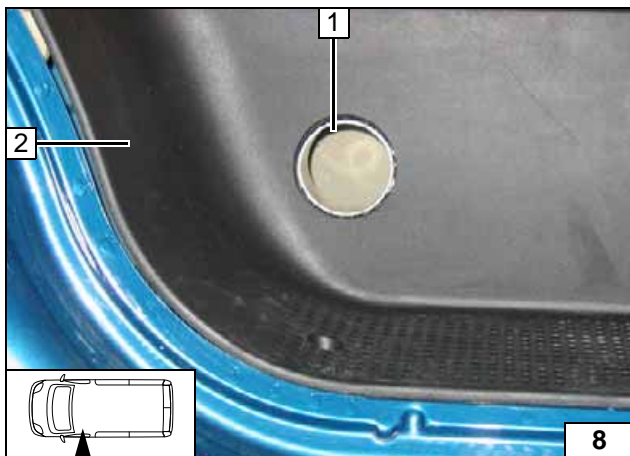
Copying hole pattern



Insert 60/60 wall fitting 2 in hole, align and copy hole pattern for hole 1 of 5mm dia.[4x]. Apply corrosion protection to holes.



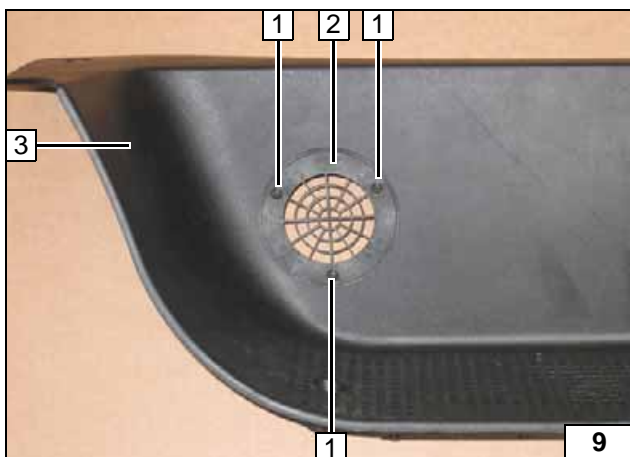
Copying hole pattern



Mount trim on driver's entrance 2 and copy hole pattern 1 for 65 mm dia. hole in trim 2 from behind.



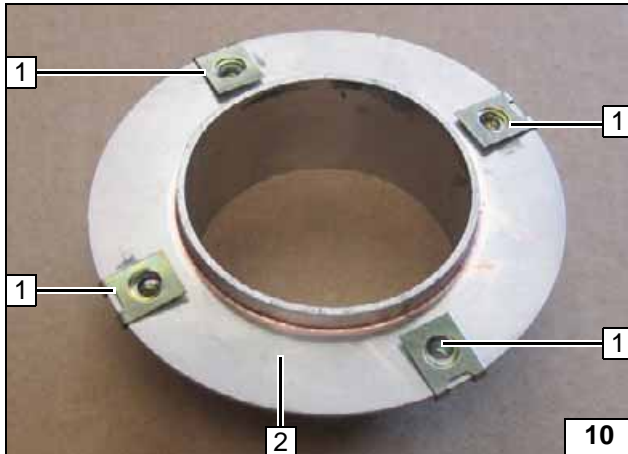
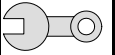
Copying hole pattern



Align air outlet 2 as shown and copy hole pattern 1 for 2.5 mm dia. hole. Fasten air outlet 2 to trim 3 with self-tapping screws [3x]. Trim will be mounted later.



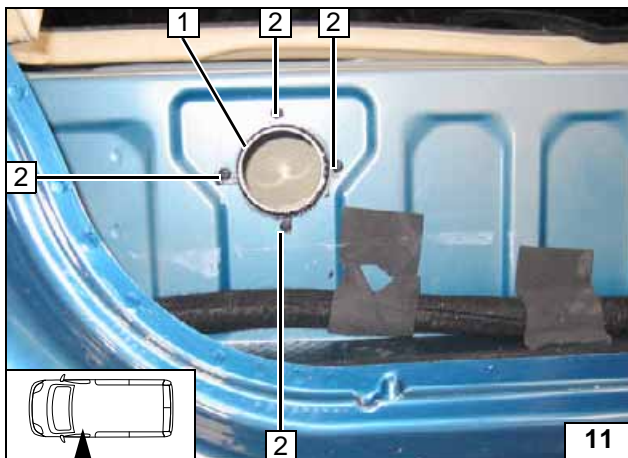
Mounting air outlet



Push plate nuts 1 [4x] onto wall fitting 2.



Premounting wall fitting

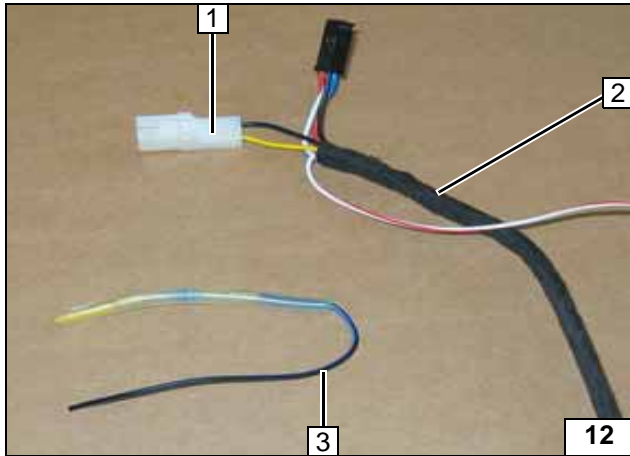


Provide wall fitting 1 with sealing compound and insert into 65 mm dia. hole from behind.

2 Self-tapping screw [4x]



Mounting wall fitting

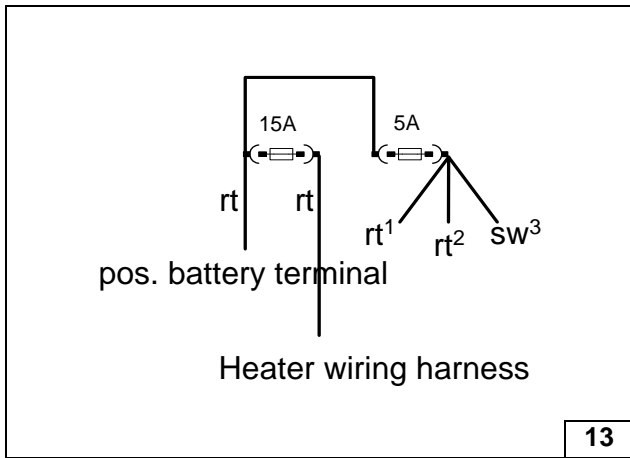


Preparing heater wiring harness

Cut internal resistor **3** off wiring harness **2** and install connector **1** provided.



**Connec-
tion of
AT2000ST
tempera-
ture sensor**



Connect 5 A and 15 A fuse accordingly with accessories provided.



Legend:

- rt¹ Combination timer
- rt² Telestart (if present)
- sw Permanent heating option

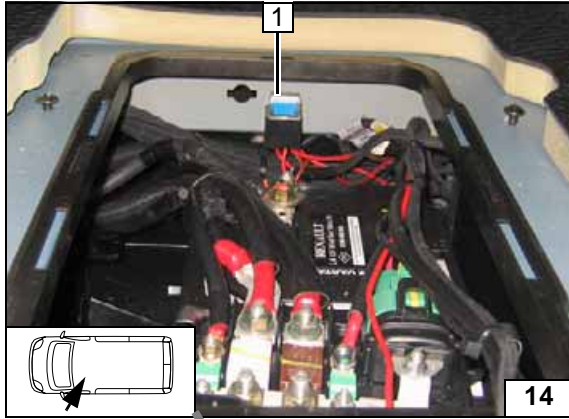
**Connec-
tion of fuse**



Electrical system

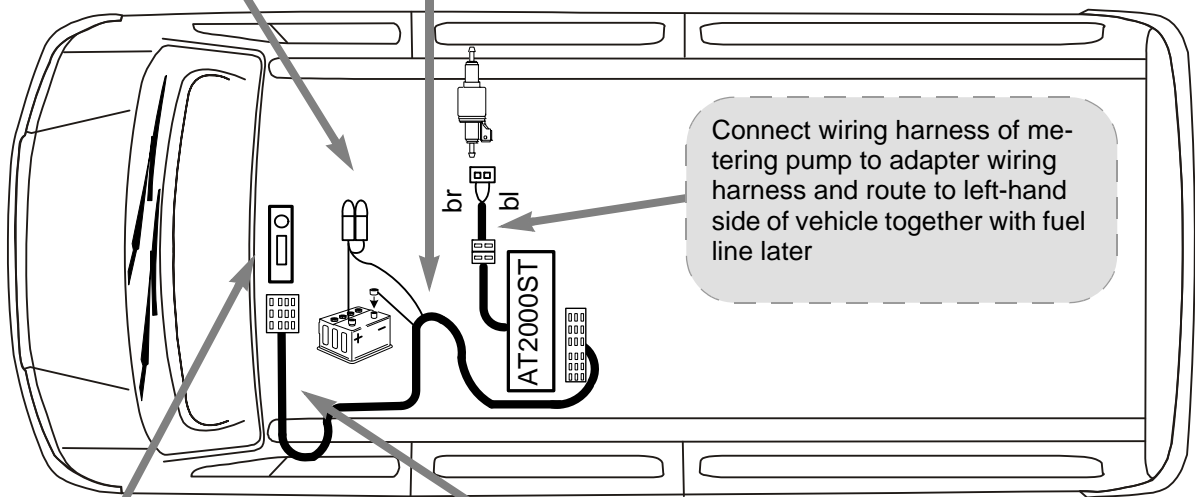
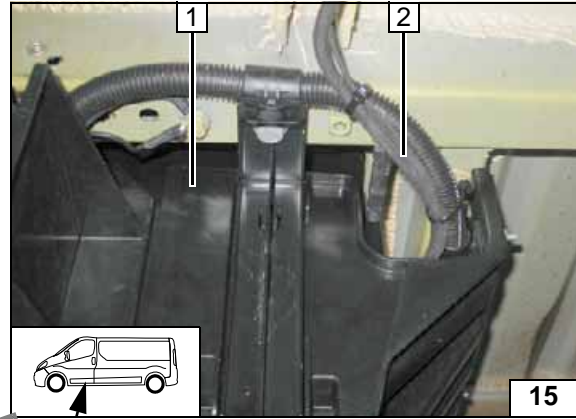
Fuse holder

- 1 2.5 mm dia. hole, fuse holder

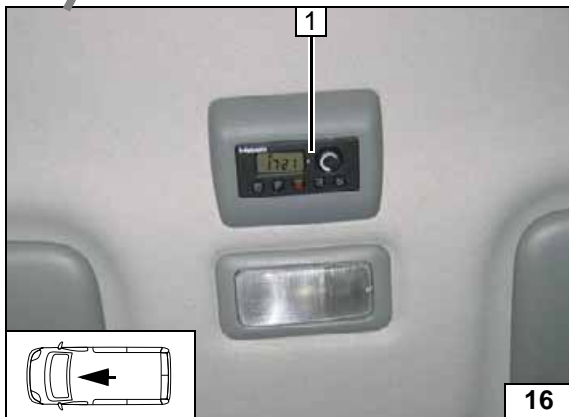


Wiring harness pass through

Route wiring harness of heater 2 from the battery box 1 to underbody

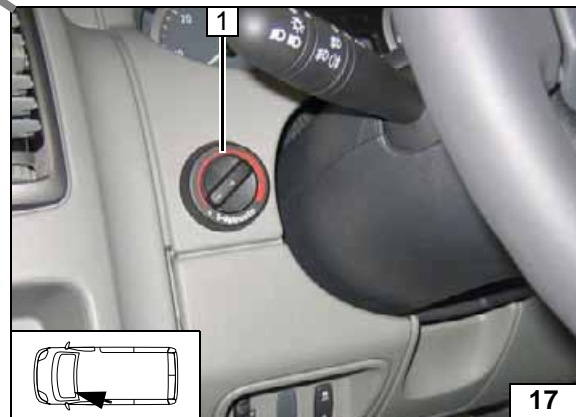


Wiring harness routing diagram



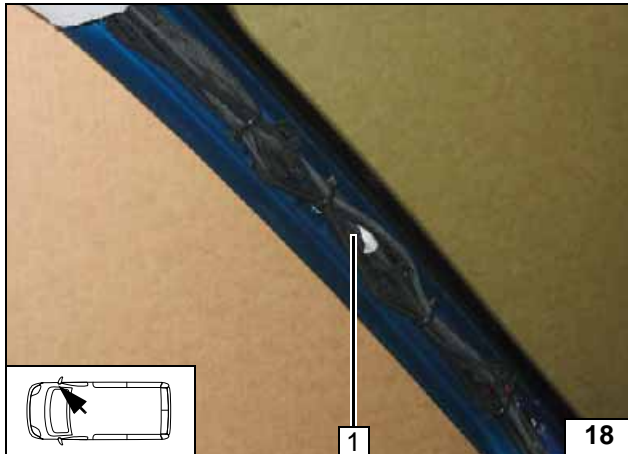
Heater control

- 1 Combination timer, installation frame



Heater control

- 1 Switch



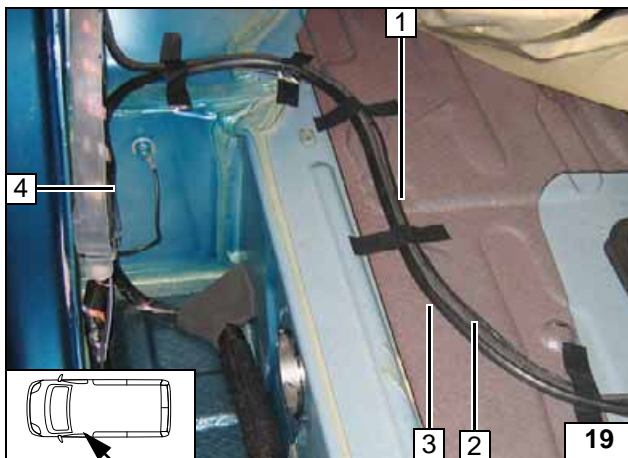
Routing wiring harnesses

Only with digital timer.

Observe connection diagram on page 13 and 15. Route wiring harness from heater control along original vehicle wiring harnesses on left-hand A-pillar to entrance.



Routing wiring harness

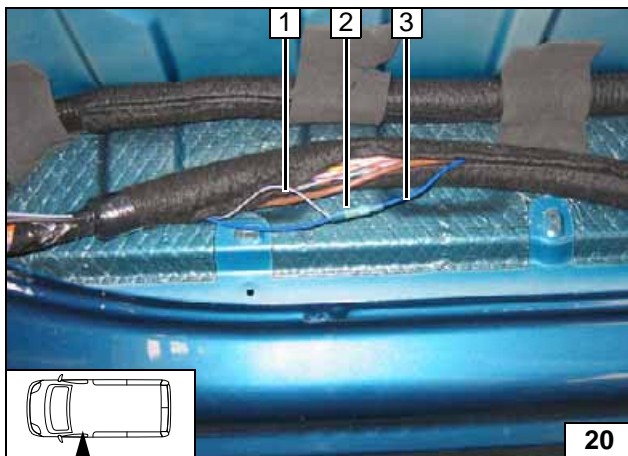


Secure wiring harnesses with installation strap.

- 1 Power supply cable only with Telearstart T100 option
- 2 Wiring harness of heater
- 3 Wiring harness of combination timer, protective sleeving
- 4 Grey (gr) wire from combination timer, wiring harness of AT2000ST temperature sensor



Routing wiring harness

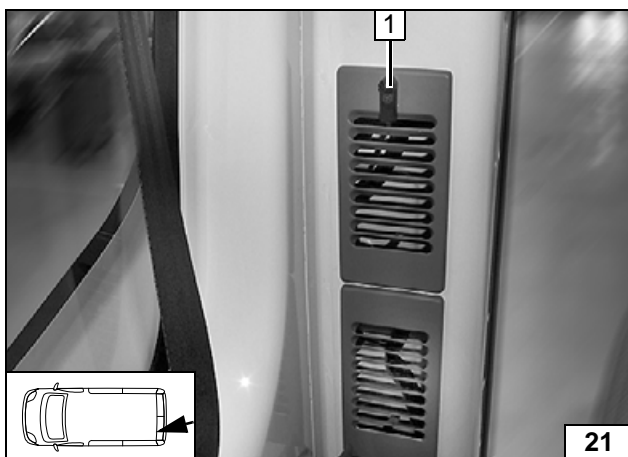


Check blue (bl) original vehicle wire Ter. 58 before connection.

- 1 Grey (gr) wire from combination timer
- 1 Blue (bl) connector
- 1 Blue (bl) wire Ter. 58



Connection of Ter 58 for combination timer

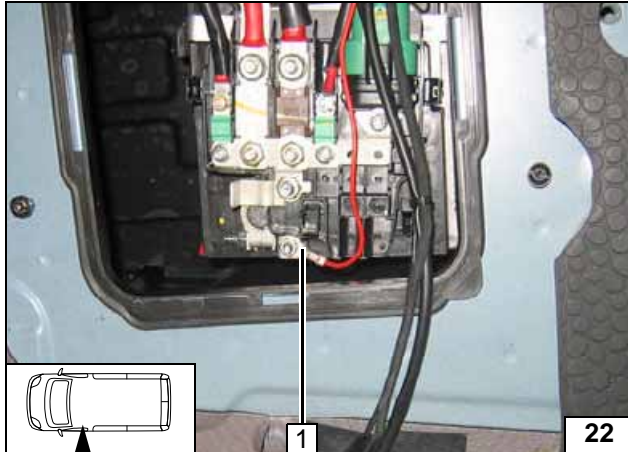


Route wire from temperature sensor from installation location of digital timer via original vehicle headliner to installation location of temperature sensor.

Installation location of temperature sensor 1 is a recommendation. Please coordinate installation location with customer prior to installation.

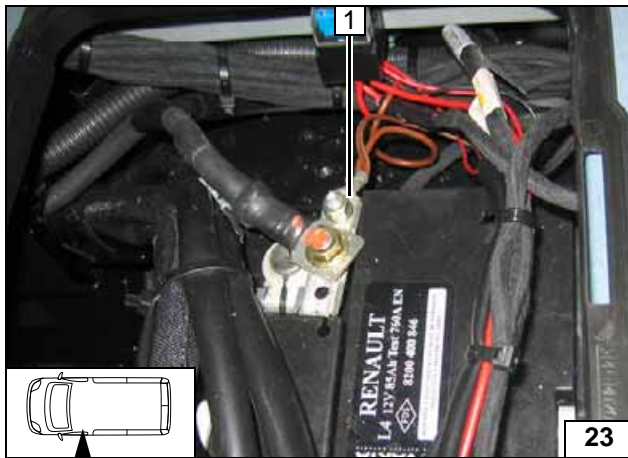


Mounting temperature sensor



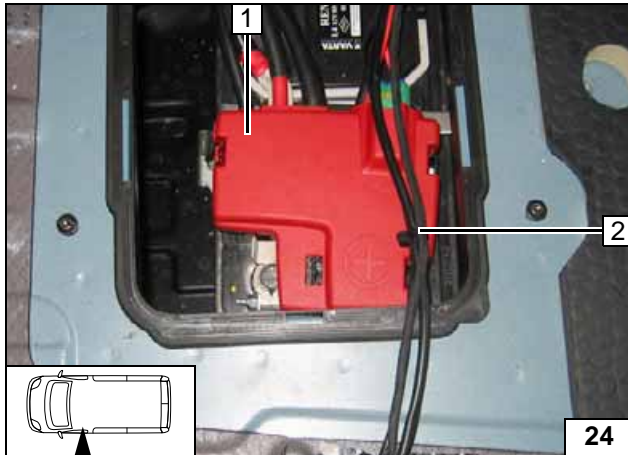
1 Red (rt) wire, claw cable lug, M6 flanged nut

Con-
nec-
tion to pos-
itive
battery ter-
minal



1 Brown (br) wire, claw cable lug, M6 flanged nut

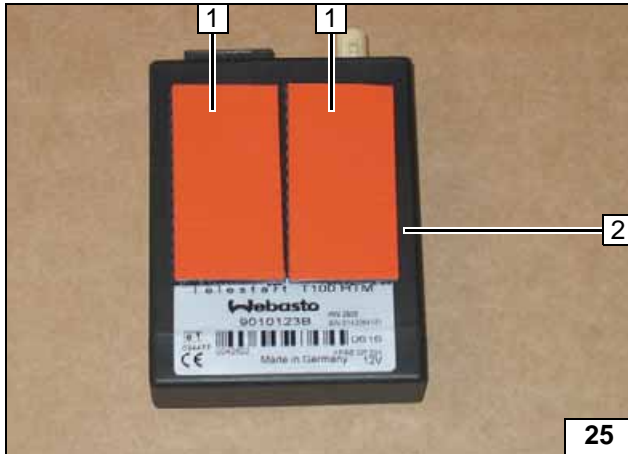
Con-
nec-
tion to neg-
ative
battery ter-
minal



Remount cover 1, route cable 2 as shown and secure with cable ties.



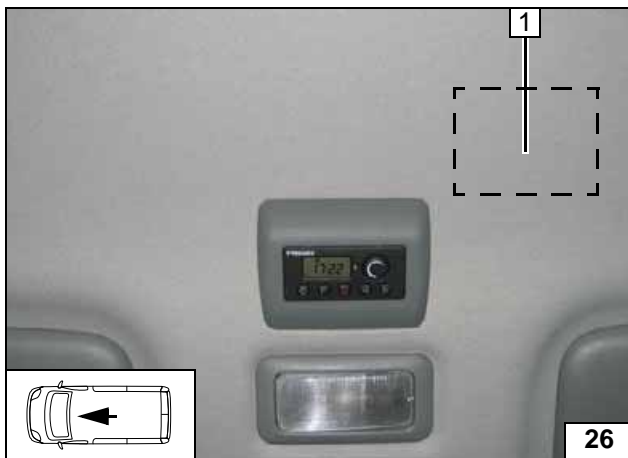
Mounting
positive
terminal
cover



Telestart T100 HTM option

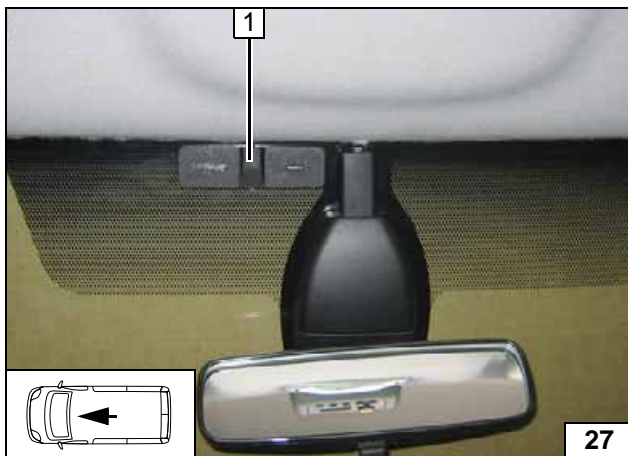
- 1 Self-adhesive Velcro strip [2x]
- 2 T100 HTM receiver

Mounting receiver



Receiver 1 fastened on inside of headliner with Velcro strip [2x]

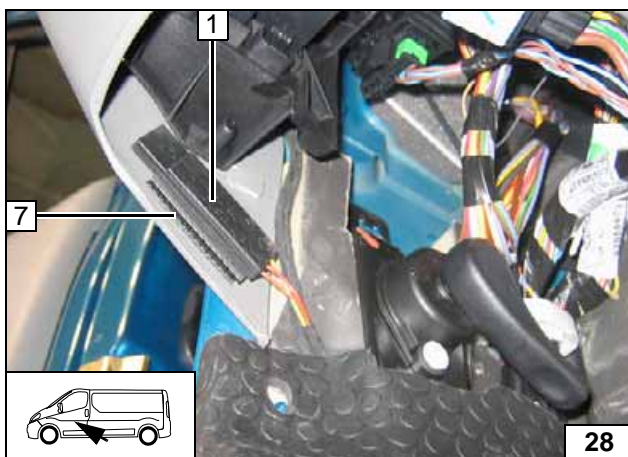
Mounting receiver



1 Antenna



Mounting antenna



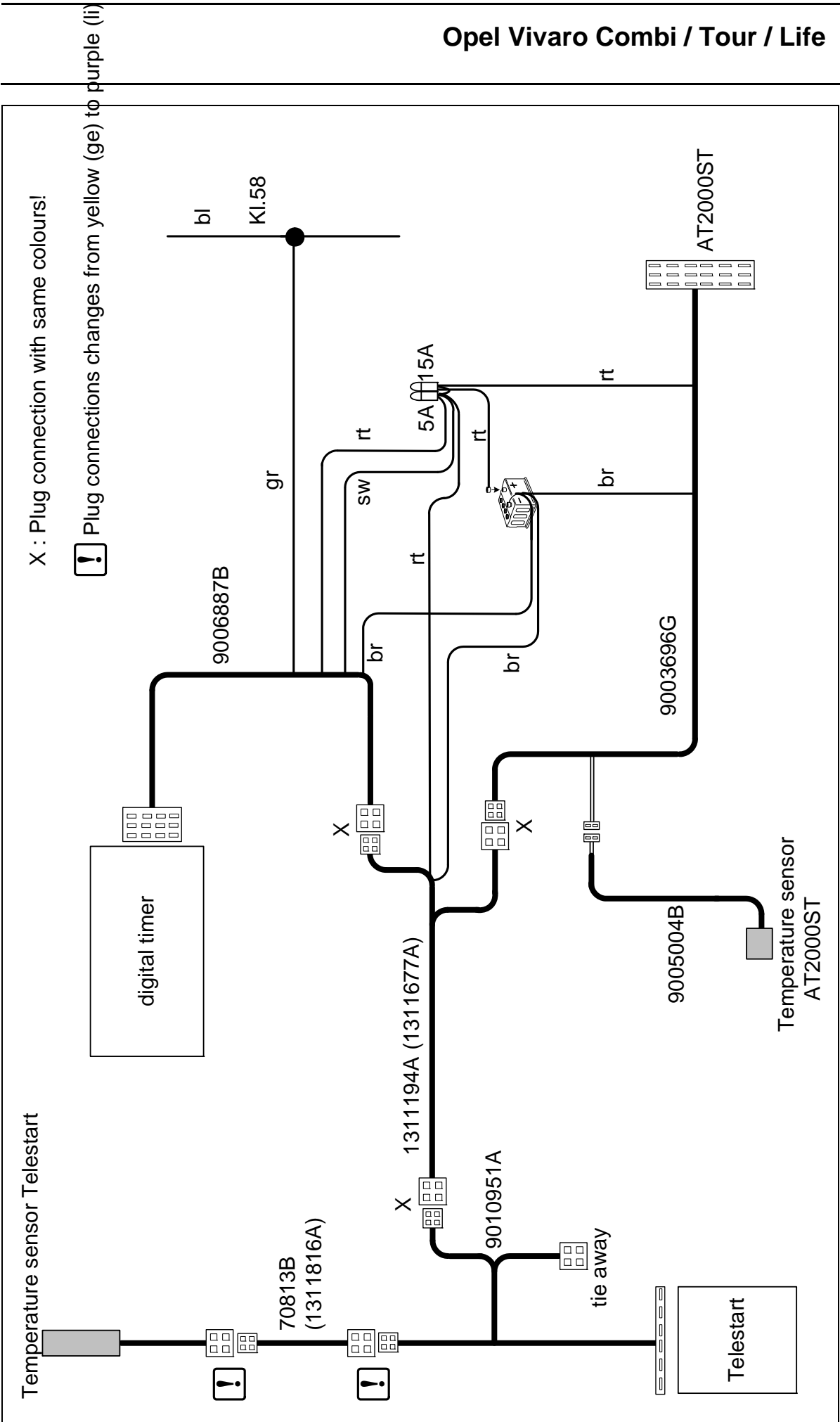
- 1 Temperature sensor
- 2 Self-adhesive Velcro strip

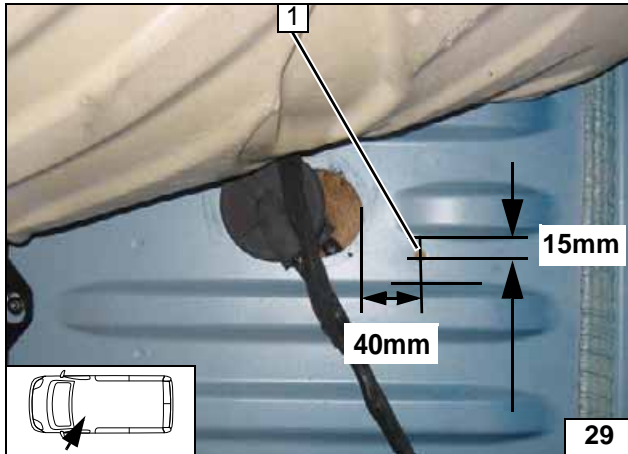
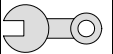


Mounting T100 temperature sensor



Connection diagram for combination timer and Telestart T100



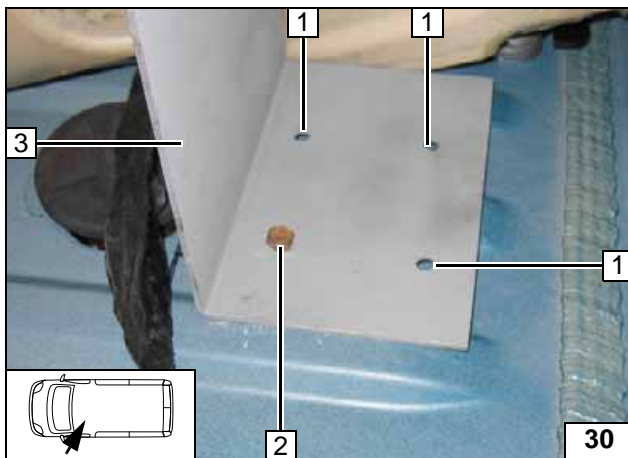


Mounting bracket

Hole pattern 1 for 6.5 mm dia. hole



Hole pattern for heating bracket

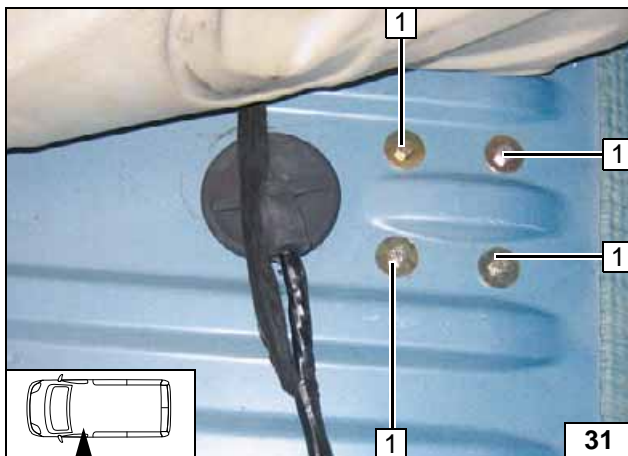


Align heating bracket 3 with bolt 2 as shown and fasten with M6x20 2 bolt
Apply corrosion protection to holes.



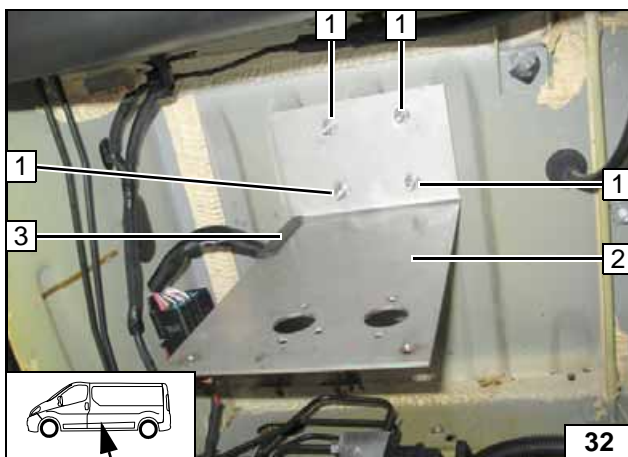
Hole pattern for heating bracket

1 6.5 mm dia. hole [3x]



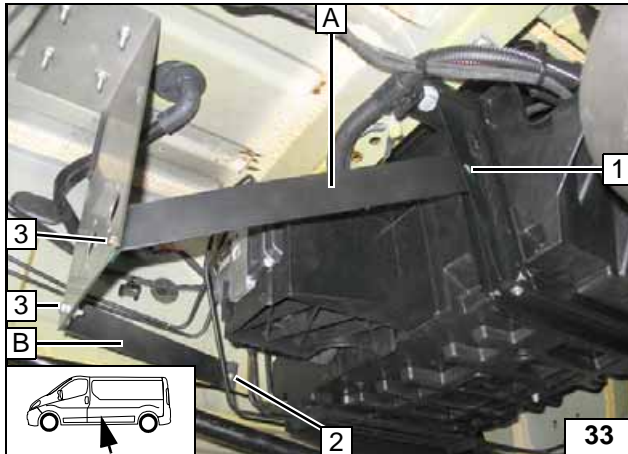
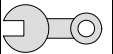
1 M6x20 bolts [4x], large diameter washers [4x]

Mounting bracket



1 M6 flanged nut [4x]
2 Bracket
3 100 mm edge protection

Mounting bracket

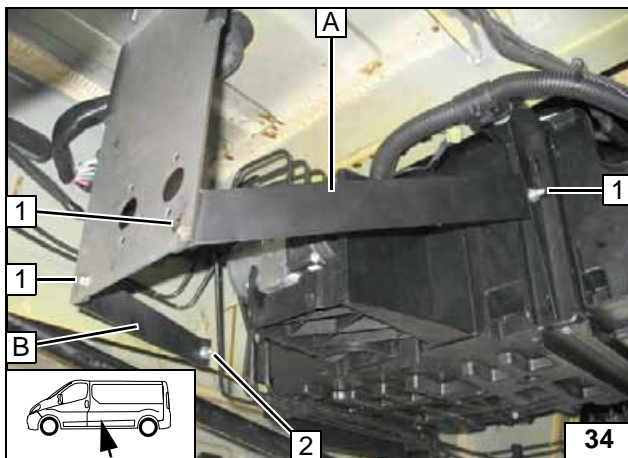


Mount strut **A** and **B** on the bracket loosely. Copy hole pattern at position **1** on battery carrier and at position **2** on frame side member. Dismantling struts. 7 mm dia. holes [2x]

3 Mount M6x20 bolt, M6 flanged nut [2x each] loosely



Mounting struts loosely

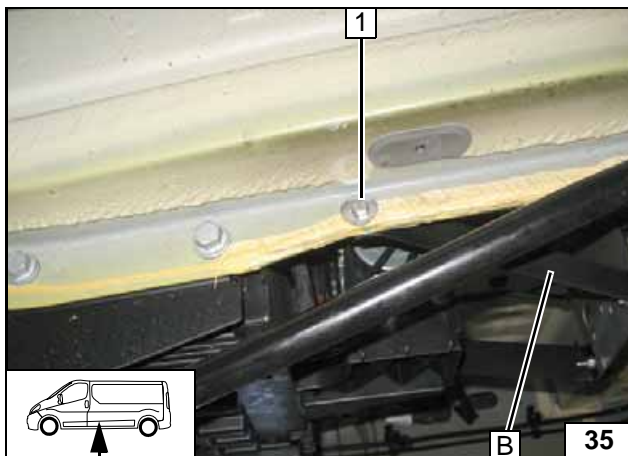


Bolt at position **2** see following figure.

1 M6x20 bolt, M6 flanged nut [3x each]



Mounting struts A and B



Remove sealing compound in the area of the hole in the frame side member.

1 M6x20 bolt, large diameter washer, M6 flanged nut



Fastening strut B

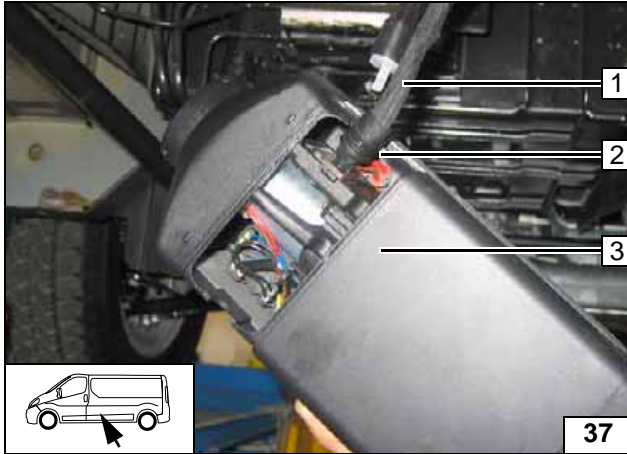
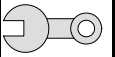


Mounting heater

Mount rubber gasket **1** on heater **2** as shown.



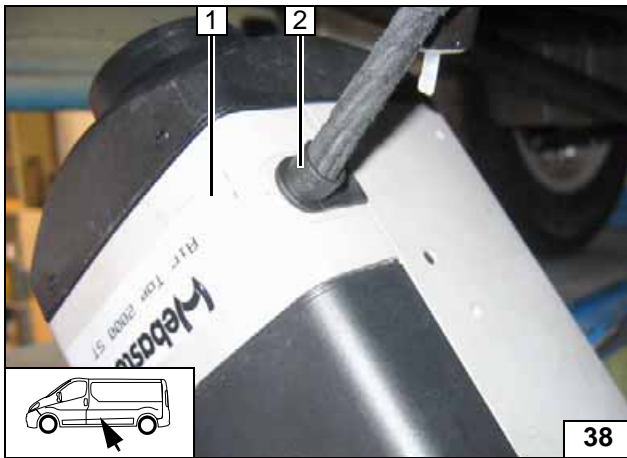
Mounting heater



Connect heater connector from wiring harness 1 to heater 3 and align grommet 2.



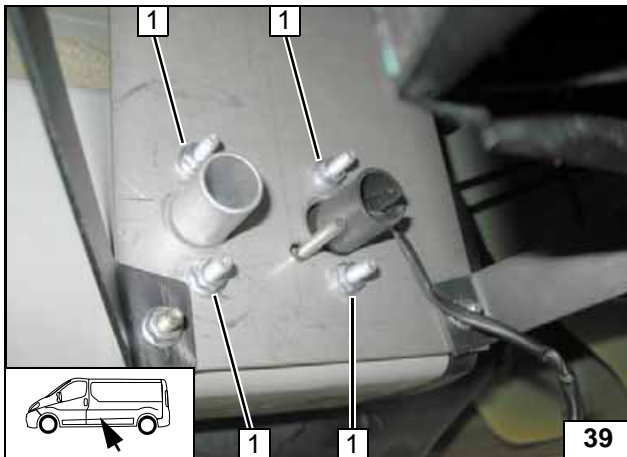
Mounting heater



Mount wiring harness grommet 2 in cover 1.

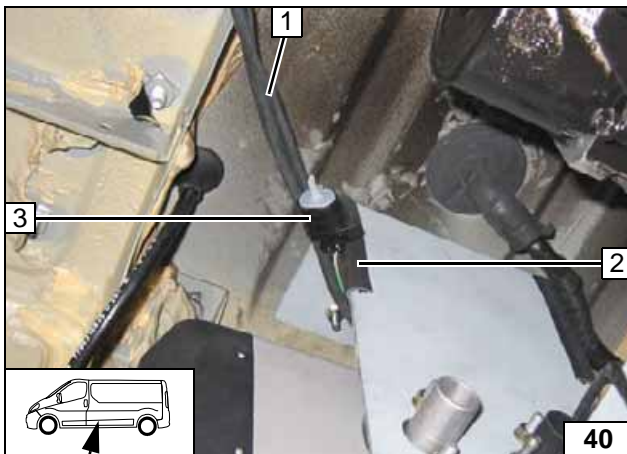


Mounting heater



1 M6 flanged nut [4x]

Mounting heater

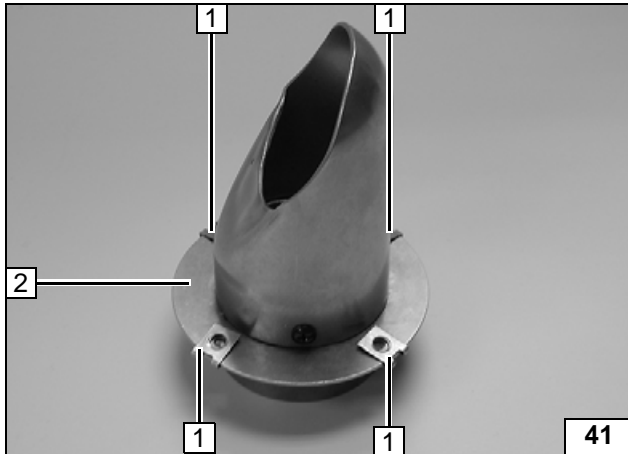
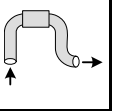


Secure diagnosis connector 3 with cable tie on wiring harness 1 of heater.



2 100 mm edge protection

Installing edge protection



Hot air system

- 1 Plate nut [4x]
- 2 Wall fitting

Premounting wall fitting

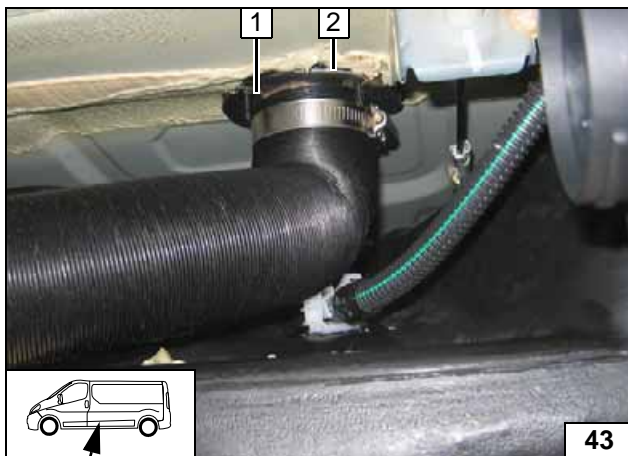


Provide wall fitting 1 with sealing compound.

- 2 50mm dia. 70mm long hose clamp
- 3 60 mm dia. flexible tube, 400 mm long



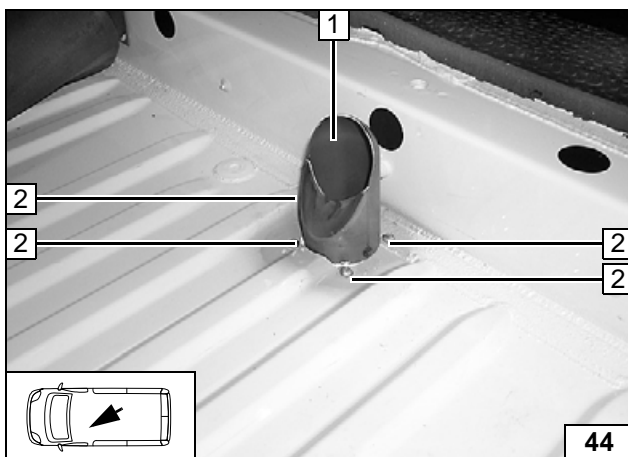
Premounting hot air hose



Route premounted wall fitting 1 through 65 mm dia. hole 2 into passenger compartment.

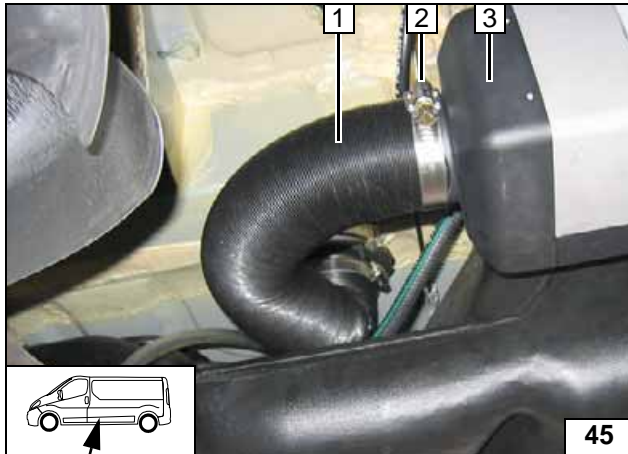
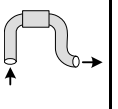


Routing pass through into passenger compartment



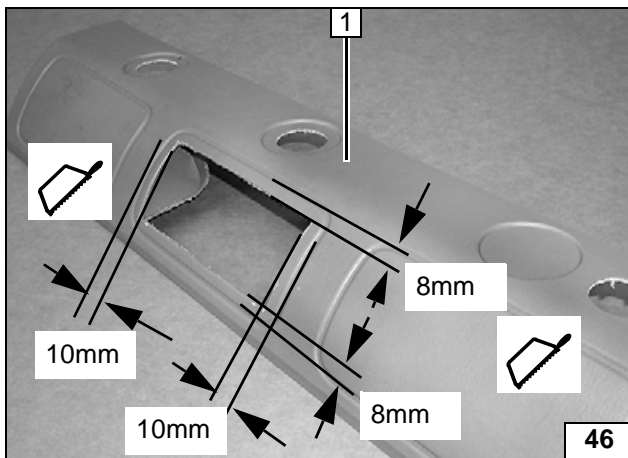
Mount wall fitting 1 with hot air outlet toward rear and align to the 5 mm dia. holes [4x] and install with self-tapping screws 2 [4x].

Mounting wall fitting



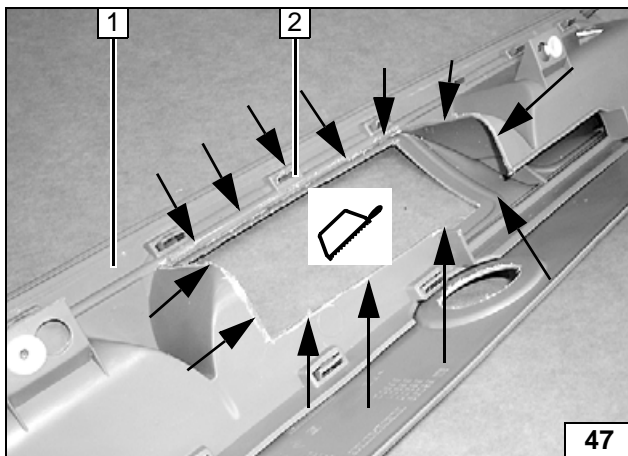
- 1 60 mm dia. flexible tube, 400 mm long
- 2 50mm dia. 70mm long hose clamp
- 3 Heater (hot air outlet)

Conne-
ction to
heater



Cut out cover of air duct 1 as shown.

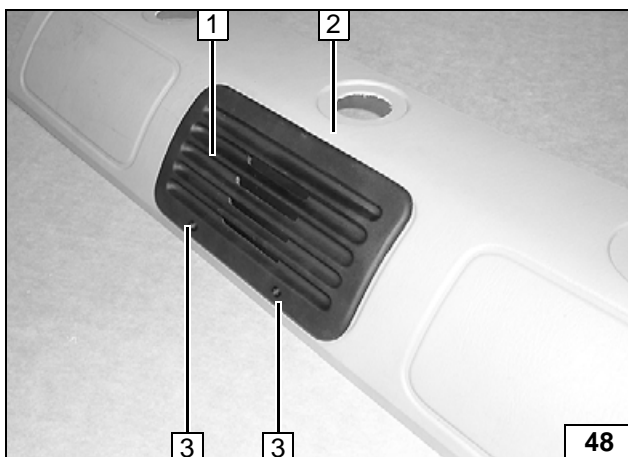
Preparing
air duct



Cut out rear side of air duct 1 cover as shown and cut off fastening clip 2.



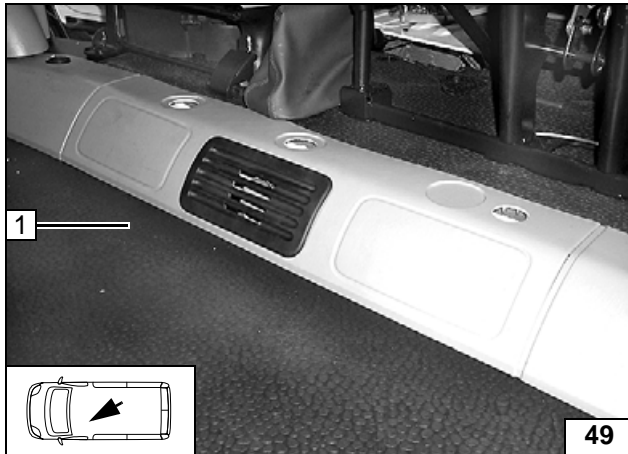
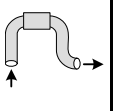
Preparing
air duct



Insert outlet plate 1 with retaining claws up-ward into cover 2 and centre.
Copy hole pattern 3 [2x] for 2.5 mm dia. hole [2x].



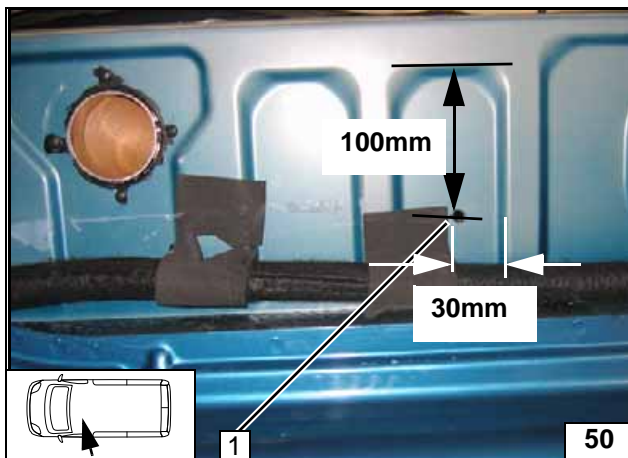
Mounting
outlet plate



If floor covering **2** is installed in area of hot air ducting, cut out in area of hot air ducting.

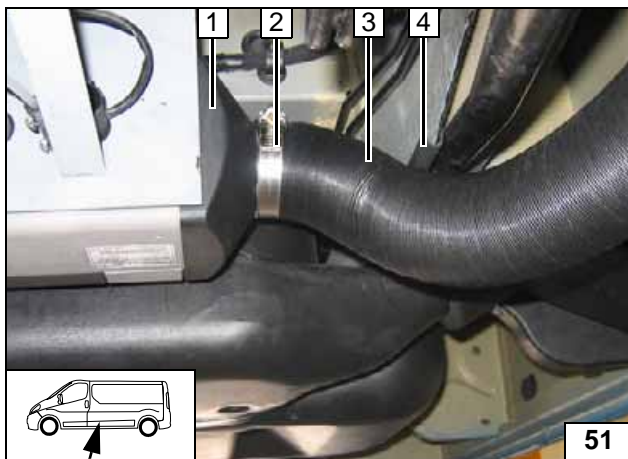


Mounting
air duct



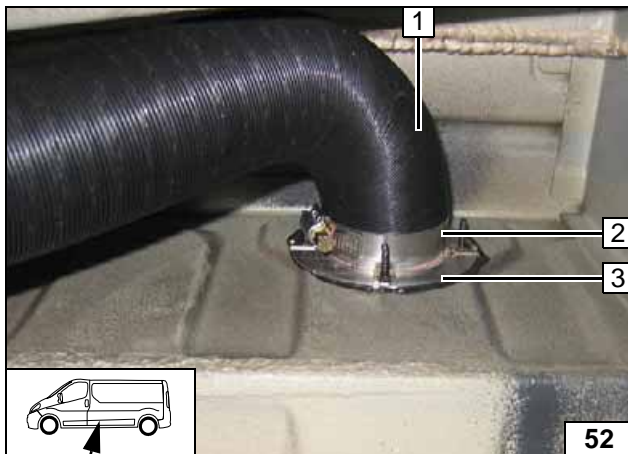
1 5 mm dia. hole

Preparing
routing of
hot-air in-
take hose



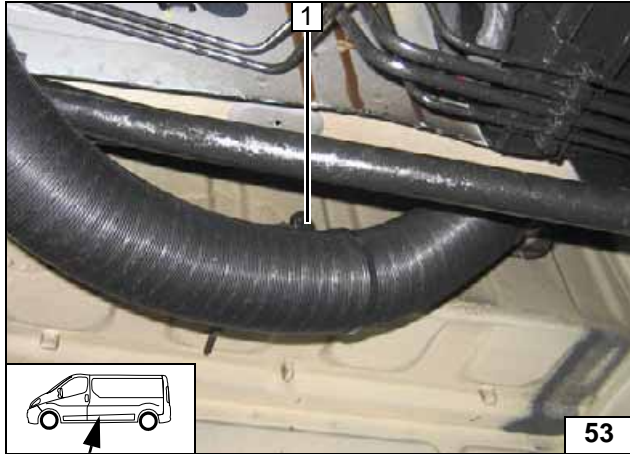
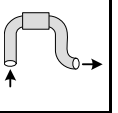
- 1 Heater (intake side)
- 2 50mm dia. 70mm long hose clamp
- 3 60 mm dia. flexible tube, 830 mm long
- 4 100 mm edge protection

Connec-
tion to
heater



- 1 60 mm dia. flexible tube, 830 mm long
- 2 50mm dia. 70mm long hose clamp
- 3 Wall fitting

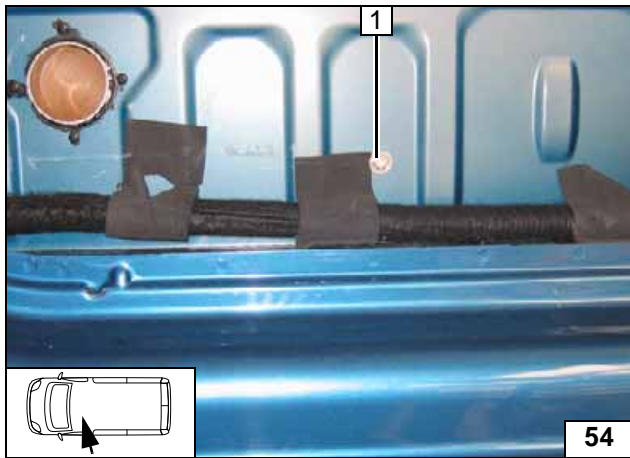
Connec-
tion to wall
fitting



Premount cable tie (screwable) 1 as shown



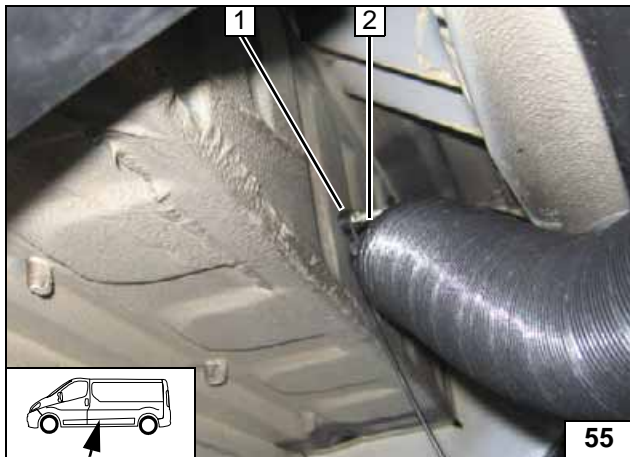
**Routing
hot-air in-
take hose**



Insert M5x20 bolt 1, large diameter washer through hole.



**Fastening
hot-air in-
take hose**



1 Cable tie (screwable)
2 M5x20 bolt, M5 flanged nut

**Routing to
pass
through
into pas-
senger
compart-
ment**



Fuel

CAUTION!

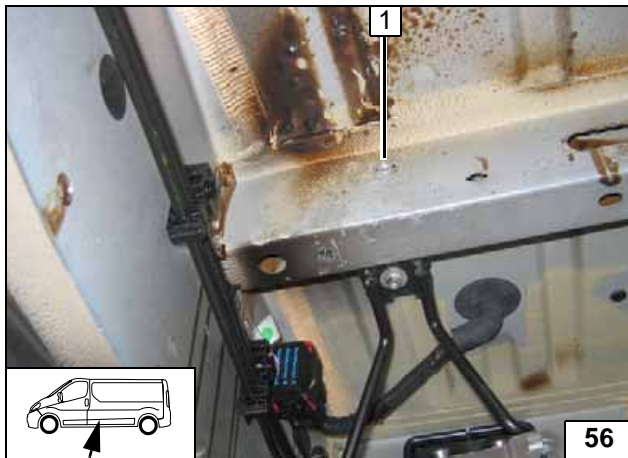
Open the vehicle's fuel tank cap, ventilate the tank and then re-close the tank lock.

Catch any fuel running off with an appropriate container.

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

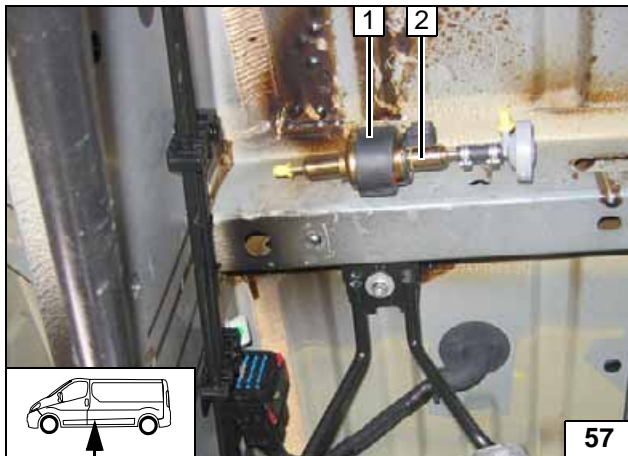
WARNING!

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



1 M6 rivet nut, existing hole

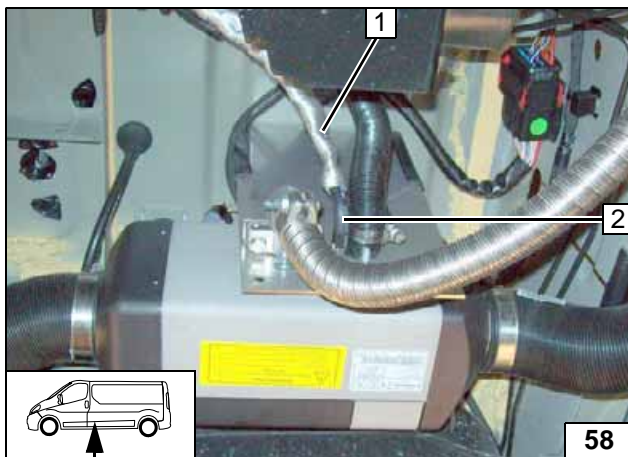
Mounting metering pump



1 Metering pump bracket, spring lockwasher, washer, M6x30 bolt
2 Metering pump

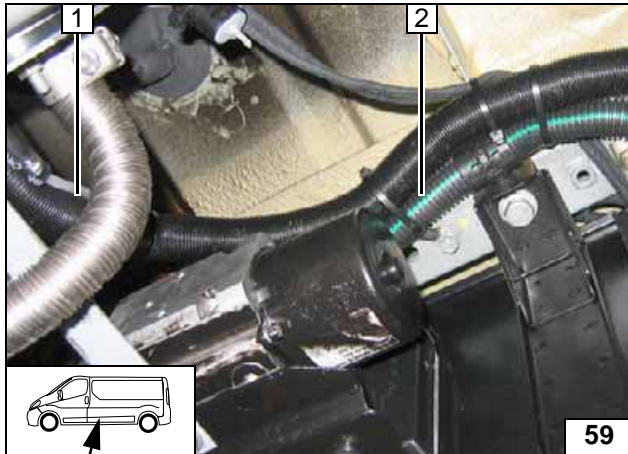


Mounting metering pump



1 Mecanyl fuel line in protective hose
2 Hose section, 10 mm dia. hose clamp [2x]

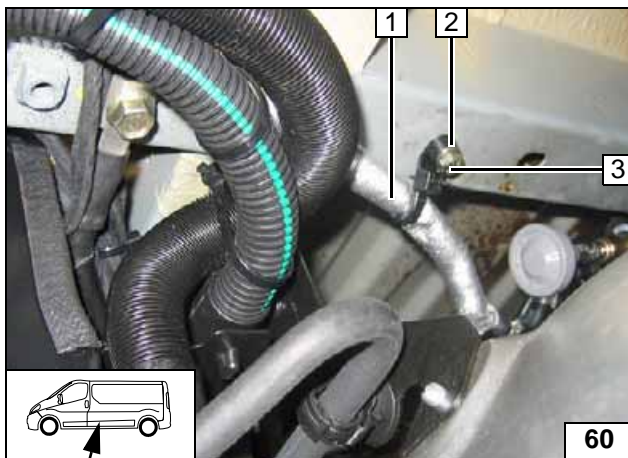
Connecting heater



Route fuel line 1 and metering-pump adapter line along original vehicle line 2 and secure with cable ties



Routing lines

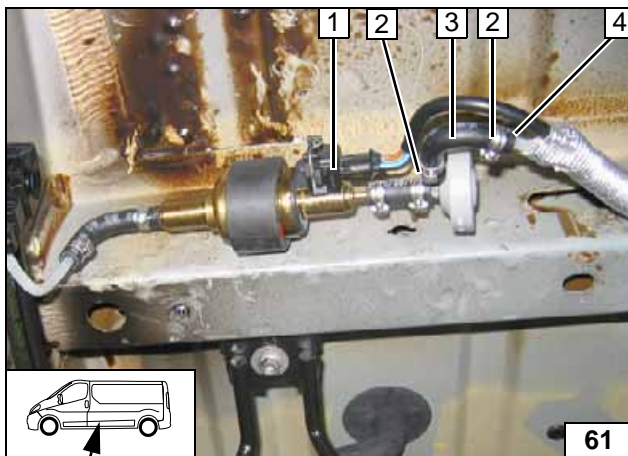


Pull fuel line and metering pump line into 14.5 mm dia. flexible tube 1 and route to metering pump.



Routing lines

- 2 Cable tie (screwable)
- 3 M6x35 bolt, spring lockwasher, washer

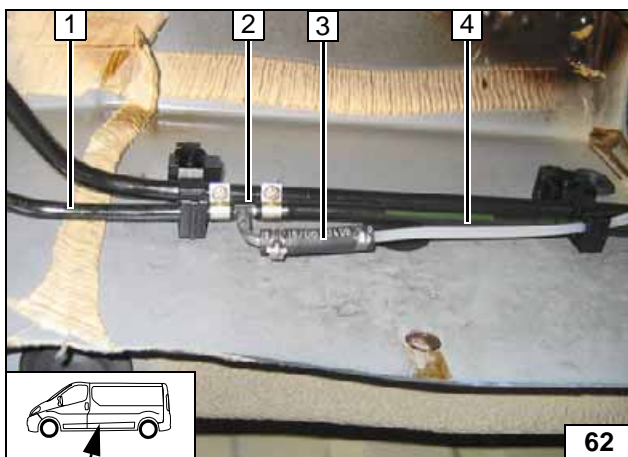


Fuel line from heater on pressure side of metering pump [side with connector]. Check the position of the components; adjust if necessary. Check that they have freedom of movement.



Connection of metering pump

- 1 Connector of metering-pump wiring harness
- 2 10 mm dia. hose clamp [2x]
- 3 90° moulded hose
- 4 Fuel line, cut to length

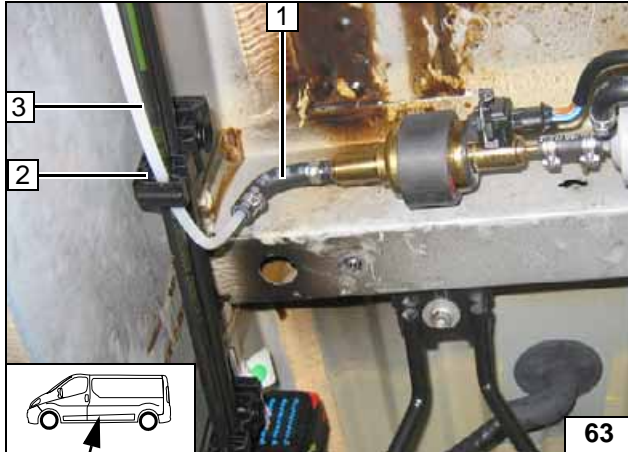


Fuel extraction is carried out via original vehicle fuel return line 1.



Fuel extraction

- 2 6x5x6 fuel standpipe, 8 mm dia. hose clamp [2x]
- 3 Hose section, 10 mm dia. hose clamp [2x]
- 4 Fuel line



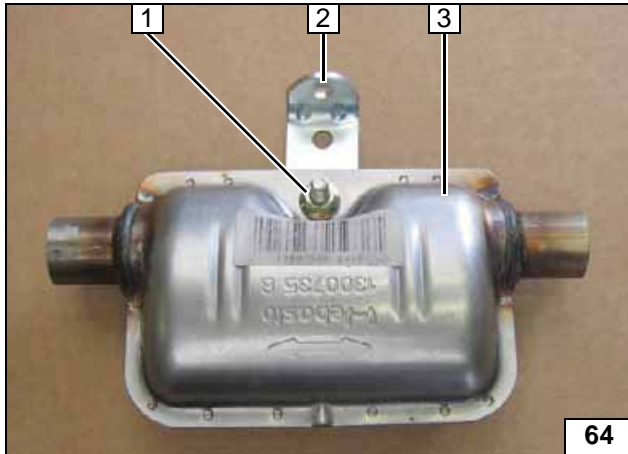
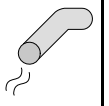
Fuel line from heater on intake side of metering pump [side without connector].
 Check the position of the components; adjust if necessary. Check that they have freedom of movement.

Insert fuel line in line holder 2.

- 1 90° moulded hose, 10 mm dia. hose clamp [2x]
- 3 Fuel line from fuel standpipe, cut to length



**Connec-
tion of me-
tering
pump**

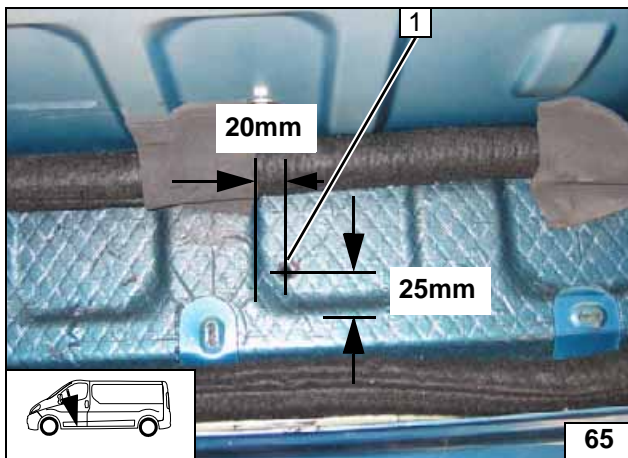


Exhaust gas

- 1 M6x20 bolt, M6 flanged nut
- 2 Angle bracket
- 3 Exhaust silencer



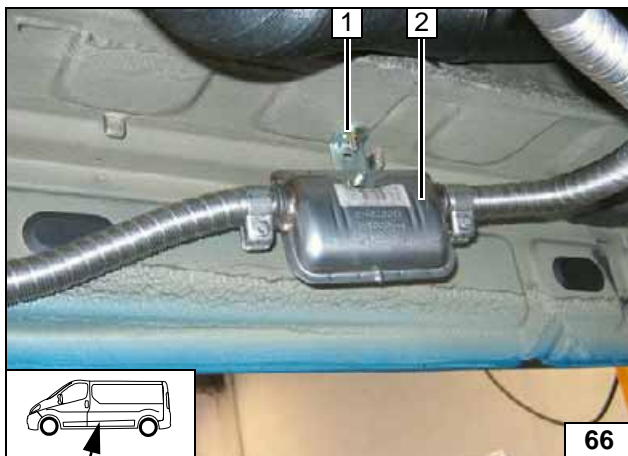
Premounting exhaust silencer



Drill 6 mm dia. hole 1 in driver's entrance as shown.



Preparing hole

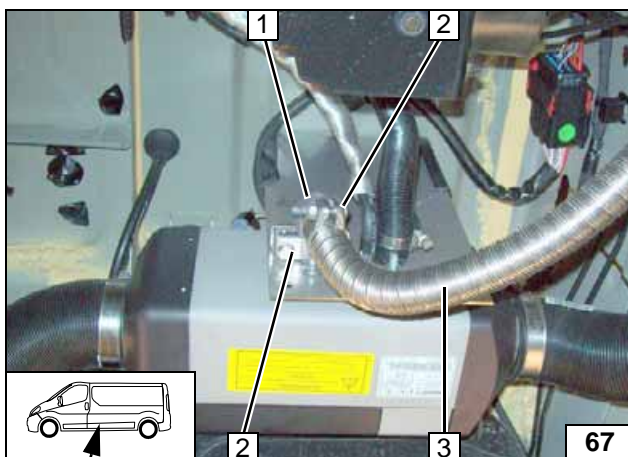


M6x20 bolt, large diameter washer is inserted through hole from above.

- 1 M6 flanged nut
- 2 Exhaust silencer, premounted



Mounting exhaust silencer

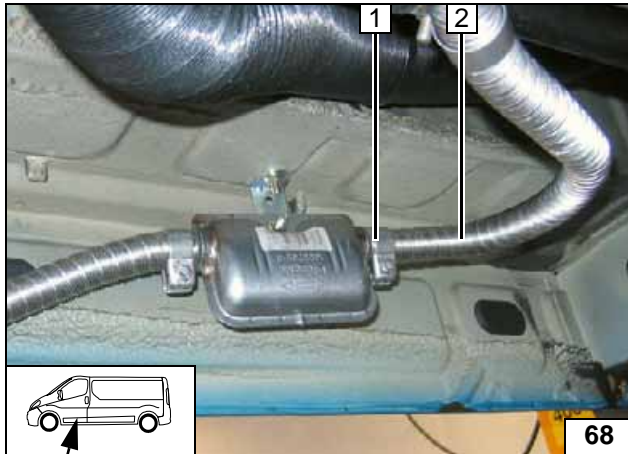
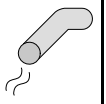


Ensure sufficient distance from neighbouring components.

- 1 Exhaust elbow
- 2 Hose clamp [2x]
- 3 750mm exhaust pipe

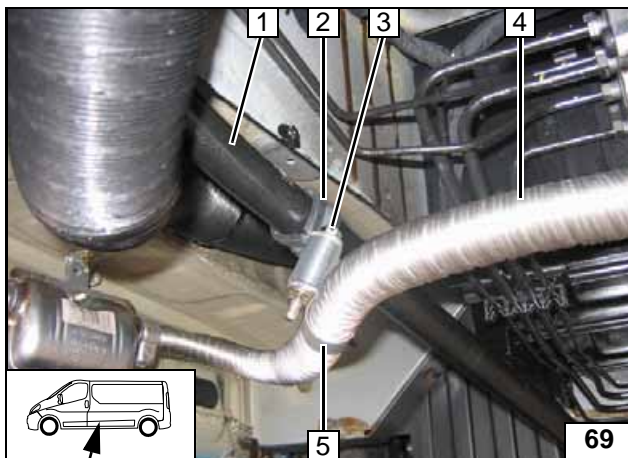


Mounting exhaust pipe



- 1 Hose clamp
- 2 Exhaust pipe from heater

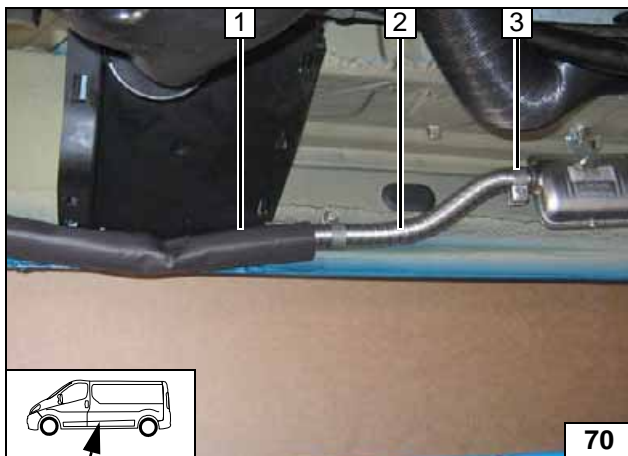
Mounting
exhaust
pipe



Ensure adequate distance from neighbouring components - at least 30mm from the brake lines

- 1 Original vehicle strut
- 2 25 mm dia. rubber-coated p-clamp
- 3 M6x50 bolt, 30 mm long spacer sleeve, M6 flanged nut
- 4 Exhaust pipe
- 5 P-clamp

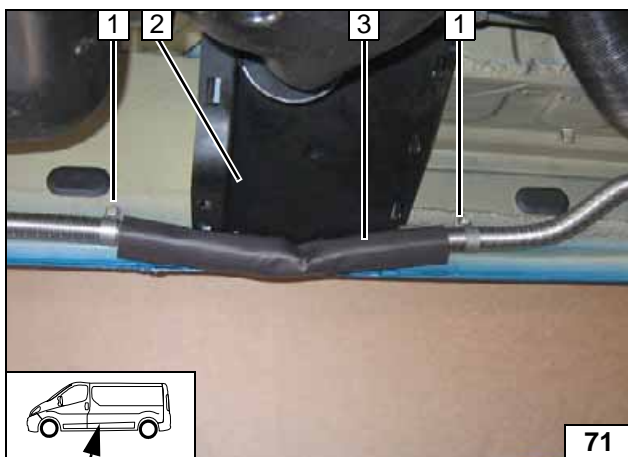
Mounting
exhaust
pipe



Slide exhaust-gas insulation 1 onto 1500mm exhaust end section 2.

- 3 Hose clamp

Mounting
exhaust
pipe

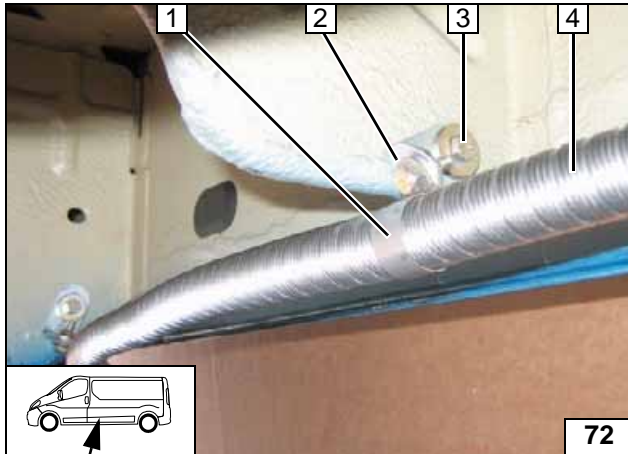
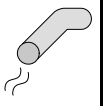


Align exhaust-gas insulation 3 to plastic trim 2 (if available) as shown.

Before mounting, drill 9.1 mm dia. hole; M6 rivet nuts at position 1 [2x each]

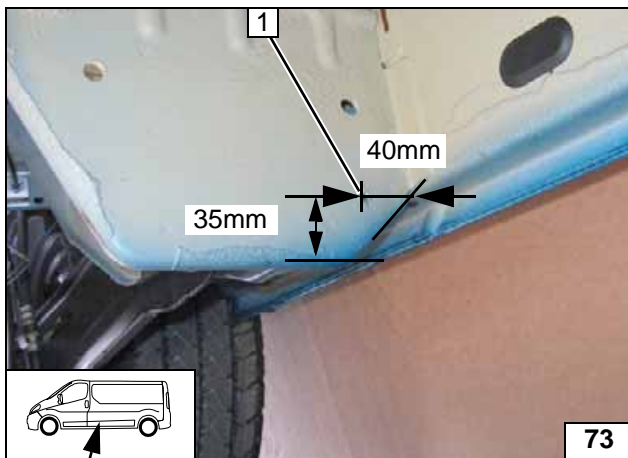
- 1 M6x30 bolt, spring lockwasher, p-clamp, 10 mm shim [2x each] on rivet nut

Mounting
exhaust
pipe



- 1 P-clamp
- 2 M6x20 bolt, angle bracket, M6 flanged nut
- 3 M6x20 bolt, washer, M6 flanged nut on original vehicle hole
- 4 Exhaust end section

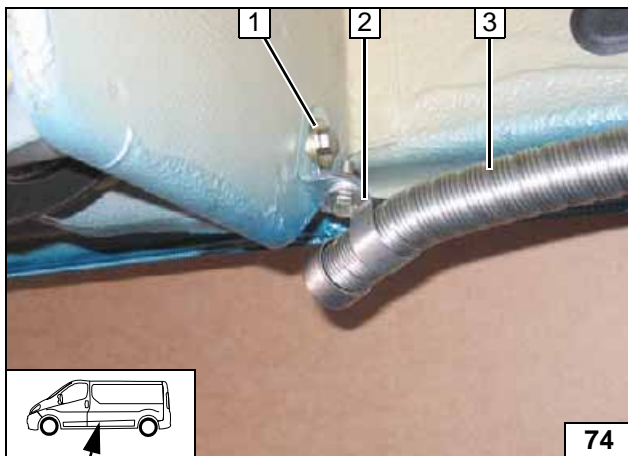
Mounting exhaust pipe



Drill 6.5 mm dia. hole 1 as shown.

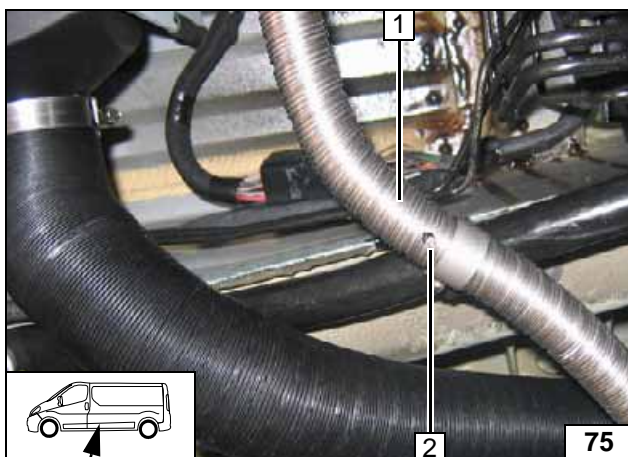


Mounting exhaust pipe



- 1 M6x20 bolt, washer, angle bracket, M6 flanged nut
- 2 M6x20 bolt, p-clamp, M6 flanged nut
- 3 Exhaust end section

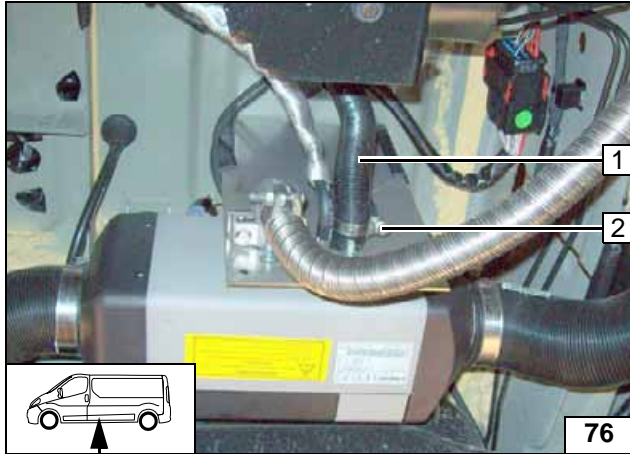
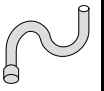
Mounting exhaust pipe



Drill 2.5 mm dia. condensed-water drain hole 2 in exhaust pipe 1.



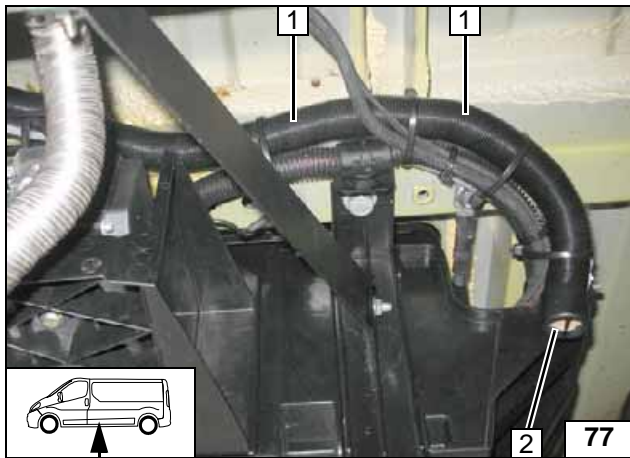
Mounting exhaust pipe



Combustion air

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

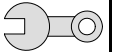
**Mounting
combustion
air
pipe**



Mount protective cap 2 on combustion air pipe 1 and fasten combustion air pipe with cable tie.



**Mounting
combustion
air
pipe**



Final Work

WARNING!

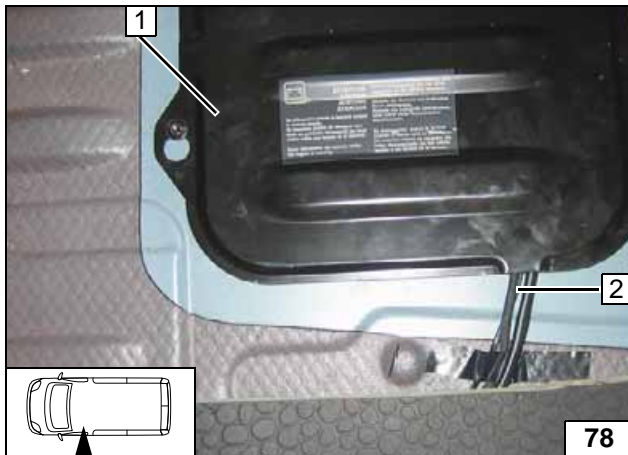
Mount removed parts in reverse order.

Check all hoses, hose, spring and Caillau clamps, as well as all electrical connections for firm seating.

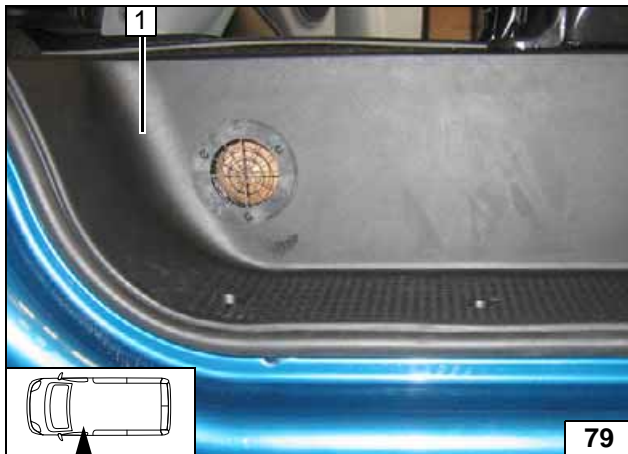
Secure all loose cables using cable ties.

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

- Connect the battery.
- Teach the Telestart (if installed)
- Set the digital timer.
- Place the "Switch off parking heater before refuelling" signboard in the area of the filler neck
- For initial start-up and function check, see installation instructions



Mount service cover of battery **1** and ensure proper positioning of wiring harnesses **2**.



1 Premount trim



**Mounting
battery
cover**

**Mounting
trim on
driver's
side entrance**

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Feel the drive

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