Air Heater



Air Top 2000 ST Air Heater



Installation Documentation Fiat Ducato / Peugeot Boxer / Citroen Jumper

Validity

Fiat

Manufacturer	Model	Туре	EG-BE No./ABE
Fiat	Ducato	Multijet	e3 * 2007 / 46 * 0044 *
Fiat	Ducato	250	e3 * 2001 / 116 * 0232 *
Fiat	Ducato	250	L778
Fiat	Ducato	250 L	L779

Motorisation	Fuel	Transmission type	Output in kW	Displacement in cm ³	Engine code
2.0 D	Diesel	Manual transmission	85	1956	4HV
2.3 D	Diesel	Manual transmission	96	2287	F1AE3481D
2.3 D	Diesel	Manual transmission	109	2287	F1AE3481E

Peugeot

Manufacturer	Manufacturer Model		Туре	EG-BE No./ABE	
Peugeot	E	Boxer	100 / 130	e3 * 2007 / 46 * 0045 *	
Peugeot	E	Boxer	X2/50	L772	
Peugeot Boxer		Boxer	X2/50	L773	
Motorisation	Fuel	Transmission type	Output in kW	Displacement in cm ³	Engine code
2.2 HDI	Diesel	Manual transmission		2198	4HY
2.2 HDI	Diesel	Manual transmission	96	2198	4HH

Citroen

Manufacturer Model		Туре	EG-BE No./ABE			
Citroen Jumper		110 / 130 / 150	e3 * 2007 / 46 * 0046 *			
Citroen Jumper		ber	X2/50	L773		
Motorisation	Fuel		Transmission type	Output in kW	Displacement in cm ³	Engine code
2.2 HDI	Diesel		Manual transmission		2198	4H03/4HG
2.2 HDI	Diesel		Manual transmission	96	2198	4H03/4HH
2.2 HDI	Diesel		Manual transmission	110	2198	4H03/4HJ

from Model Year 2009 Left-hand drive vehicle

Total installation time: approx. 6 hours

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Necessary Components

- Basic delivery scope Airtop 2000 ST based on price list
- Installation kit for Fiat Ducato / Peugeot Boxer / Citroen Jumper Diesel: 1315904A
- Installation kit for Air Top 2000 Standard: 9022050B
- additionally required heater control, optionally:
 - Rotary selector (setpoint generator): 82819B
 - 12V combination timer including adapter cable: 9010385A
 - Mounting plate for combination timer (frame): 474630
 - Telestart (only in conjunction with combination timer): see price list
 - Y-adapter cable of combination timer- Telestart: 1311194A
 - Bag of external temperature sensor (in case of cargo space temperature regulation): 93205A
- In case of Telestart, indicator lamp in accordance with price list and in consultation with end customer

Installation Overview

Legend:		
 Heater Fuse holder of passenger compartment Heater control Metering pump 	3	

Information on Total Installation Time

The total installation time includes the time needed for mounting and demounting of the vehicle-specific components, the heater specific installation time and all other times required for the system integration and initial start-up of the heater.

The total installation time may vary for vehicle equipment other than provided.

Information on Operating and Installation Instructions

1 Important Information (not complete)

1.1 Installation and Repair

The improper installation or repair of Webasto heating and cooling systems can cause fire or the leakage of deadly carbon monoxide, leading to serious injury or death.



To install and repair Webasto heating and cooling systems you need to have completed a special company training course and have the appropriate technical documentation, special tools and special equipment.

Installation and repair may ONLY be carried out by persons trained and certified in a Webasto training course. NEVER try to install or repair Webasto heating or cooling systems if you have not completed a Webasto training course, you do not have the necessary technical skills and you do not have the technical documentation, tools and equipment available to ensure that you can complete the installation and repair work properly.

Only use genuine Webasto parts. See the Webasto air and water heaters accessories catalogue for this purpose.

1.2 Operation

To ensure safe operation, we recommend having the heater checked every two years by an authorised Webasto dealer, especially when used over a long period and/or under extreme environmental conditions.

Do not operate the heater in closed rooms due to the danger of poisoning and suffocation.

Always switch off the heater before refuelling

The heater may only be used with the prescribed fuel Diesel (DIN EN 590) or petrol (DIN EN 227).

The heater may not be cleaned with a high-pressure cleaner.

1.3 Please note

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

To become familiar with and understand all functions and properties of the heater, the operating instructions must be read carefully and observed at all times.

For proper, safe installation and repair work, the installation instructions with all warnings and safety information must be carefully read and observed at all times. Please always contact a workshop authorised by Webasto for all installation and repair work.

IMPORTANT

Webasto shall assume no liability for defects, damage and injuries resulting from a failure to observe the installation, repair and operating instructions of the information contained in them.

This liability exclusion particularly applies to improper installations and repairs, installations and repairs by untrained persons or in the case of a failure to use genuine spare parts.

The liability due to culpable disregard to life, limb or health and due to damage or injuries caused by a wilful or reckless breach of duty remain unaffected, as does the obligatory product liability.

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. Insulate loose wire ends and tie back.

Sharp edges should be fitted with rub protection (split-open fuel hose)! Spray unfinished body areas, e.g. drilled holes, with anti-corrosion wax (Tectyl 100K, Order No. 111329).

Observe the instructions and guidelines of the respective vehicle manufacturer for demounting and mounting vehicle specific components!

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

Statutory regulations governing installation

Guidelines	AT 2000 ST
Heating Directive ECE R122	E1 00 0216
Heating Directive 2001/56/EG	E1 00 0022
EMC Directive ECE R10	E1 03 1085

NOTE

The regulations of these guidelines are binding in the scope of the Directive 70/156/EEC and/or 2007/46/EC (for new vehicle models from 29/04/2009) and should also be observed in countries in which there are no special regulations. For vehicles with an EU permit, no entry in accordance with § 19 Sub-Section 4 of Annex VIII b to the Road Traffic Act is required.

IMPORTANT

Failure to follow the installation instructions will result in the invalidation of the type approval for the heater and therefore invalidation of the general **homologation of the vehicle**.

2.1 Excerpt from the directives 2001/56/EC Appendix VII and ECE R122 part I and Annex 7

Beginning of excerpt.

2

ANNEX VII

REQUIREMENTS FOR COMBUSTION HEATERS AND THEIR IN-STALLATION

1. GENERAL REQUIREMENTS

1.7.1./ 7.1. (Annex 7) A clearly visible tell-tale in the operator's field of view shall inform when the combustion heater is switched on or off.

2. / 5.3. VEHICLE INSTALLATION REQUIREMENTS

2.1. / 5.3.1. (Part I) Scope

2.1.1. / 5.3.1.1 (Part I) Subject to paragraph 2.1.2. combustion heaters shall be installed according to the requirements of this Annex.

2.1.2. / 5.3.1.2 (Part I) Vehicles of category O having liquid fuel heaters are deemed to comply with the requirements of this Annex.

2.2. / 5.3.2. (Part I) Positioning of heater

- 2.2.1. / 5.3.2.1. (Part I) Body sections and any other components in the vicinity of the heater must be protected from excessive heat and the possibility of fuel or oil contamination.
- 2.2.2. / 5.3.2.2. (Part I) The combustion heater shall not constitute a risk of fire, even in the case of overheating. This requirement shall be deemed to be fulfilled if the installation ensures an adequate distance to all parts and suitable ventilation, by the use of fire resistant materials or by the use of heat shields.
- 2.2.3. / 5.3.2.3. (Part I) In the case of M2 and M3 vehicles, the heater must not be positioned in the passenger compartment. However, an installation in an effectively sealed envelope which also complies with the conditions in paragraph 2.2.2 / Subsection 5.3.2.2. (Part I) may be used.
- 2.2.4. / 5.3.2.4. (Part I) The label referred to in paragraph 1.4 / Annex 7 Subsection 1.4 or a duplicate, must be positioned so that it can be easily read when the heater is installed in the vehicle.
- 2.2.5. / 5.3.2.5. (Part I) Every reasonable precaution should be taken in positioning the heater to minimise the risk of injury and damage to personal property.

2.3. / 5.3.3. (Part I) Fuel supply

- 2.3.1. / 5.3.3.1. (Part I) The fuel filler must not be situated in the passenger compartment and must be provided with an effective cap to prevent fuel spillage.
- 2.3.2. / 5.3.3.2. (Part I) In the case of liquid fuel heaters, where a supply separate to that of the vehicle is provided, the type of fuel and its filler point must be clearly labelled.
- 2.3.3. / 5.3.3.3. (Part I) A notice, indicating that the heater must be shut down before refuelling, must be affixed to the fuelling point. In addition a suitable instruction must be included in the manufacturer's operating manual.

2.4. / 5.3.4. (Part I) Exhaust system

2.4.1. / 5.3.4.1. (Part I) The exhaust outlet must be located so as to prevent emissions from entering the vehicle through ventilators, heated air inlets or opening windows.

2.5. / 5.3.5. (Part I) Combustion air inlet

- 2.5.1. / 5.3.4.1. (Part I) The air for the combustion chamber of the heater must not be drawn from the passenger compartment of the vehicle.
- 2.5.2. / 5.3.5.2. (Part I) The air inlet must be so positioned or guarded that blocking by rubbish or luggage is unlikely.

2.6. / 5.3.6. (Part I) Heating air inlet

- 2.6.1. / 5.3.6.1. (Part I) The heating air supply may be fresh or recirculated air and must be drawn from a clean area not likely to be contaminated by exhaust fumes emitted either by the propulsion engine, the combustion heater or any other vehicle source.
- 2.6.2. / 5.3.6.2. (Part I) The inlet duct must be protected by mesh or other suitable means.

2.7. / 5.3.7. (Part I) Heating air outlet

- 2.7.1. / 5.3.7.1. (Part I) Any ducting used to route the hot air through the vehicle must be so positioned or protected that no injury or damage could be caused if it were to be touched.
- 2.7.2. / 5.3.7.2. (Part I) The air outlet must be so positioned or guarded that blocking by rubbish or luggage is unlikely.

End of excerpt.

In multilingual versions the German language is binding.

Information on Validity

This installation documentation applies to Fiat Ducato / Peugeot Boxer / Citroen Jumper Diesel vehicles - for validity, see page 1 - from model year 2009 and later, assuming technical modifications to the vehicle do not affect installation, any liability claims excluded. Depending on the vehicle version and equipment, modifications may be necessary during installation with respect to this installation documentation.

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

Technical Information

Special tools

- Torque wrench for 2.0 10 Nm
- Webasto flattening tool, Ident No.: 82229A
- Hole circle bit 60mm dia., 55mm dia.
- Automatic wire stripper 0.2 6mm²
- Crimping pliers for cable lug / tab connector 0.5 6mm²
- Metric thread-setter kit
- Webasto Thermo Test Diagnosis with current software

Dimensions

All dimensions in mm

Tightening torque values

• Tighten bolt connections in accordance with manufacturer's instructions or in accordance with state-of-the-art-technology.

Explanatory Notes on Document

You will find an identification mark on the outside top right corner of the page in question to provide you with a quick overview of the individual working steps. Special features are highlighted using the following symbols:

Step5.			
Mechanical system)	Specific risk of injury or fatal accidents	
Electrical system	4	Specific risk of damage to components	!
Hot air		Specific risk of fire and explosion	
Combustion air		Reference to general installation instruction of the Webasto components or to the manufacturer's vehicle-specific documents.	
Fuel		Reference to a special technical feature	
Exhaust gas		The arrow in the vehicle icon indicates the position on the vehicle and the viewing angle	
Software			

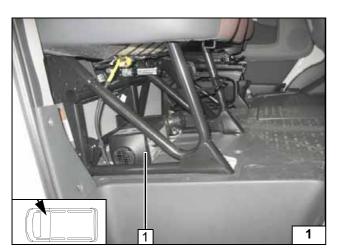
Preliminary Work

Vehicle

- Open the fuel tank cap and vent the fuel tank.
- Close the fuel tank cap again.
- Disconnect the battery "earth" or "ground" connection.
- Depressurise 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 driver and front passenger seats.
- Remove the left and right side trim of the front passenger seat (if existing).
- Remove the radio and A/C control panel in accordance with manufacturer's instructions.
- Remove the instrument panel trim on the driver's side (only with Telestart).

Heater

- Remove years that do not apply from the type and duplicate label.
- Attach the duplicate label (type label) in the appropriate place in the engine compartment.



Heater Installation Location

1 Heater

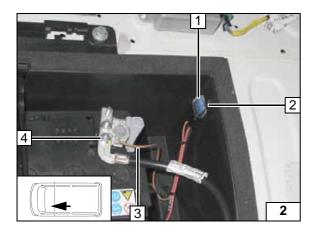
Installation location

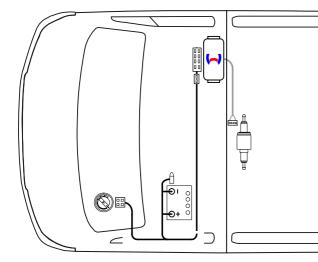


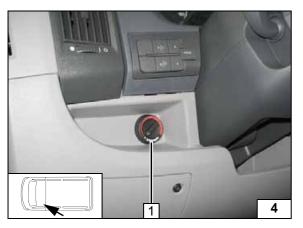
Electrical System

Fuse holder, earth wire

- 1 Fuse holder
- **2** 4 mm dia. hole; 5.5x9x5 self-tapping screw; retaining plate of fuse holder
- 3 Earth wire
- 4 Negative terminal of battery





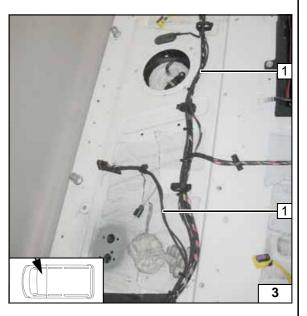


Heater control

1 12mm dia. hole; thermostat

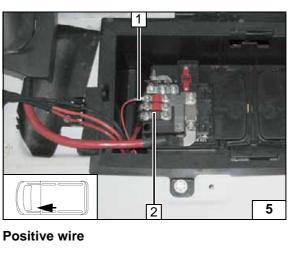
Wiring harness routing

1 Wiring harness of heater



Wiring harness routing diagram

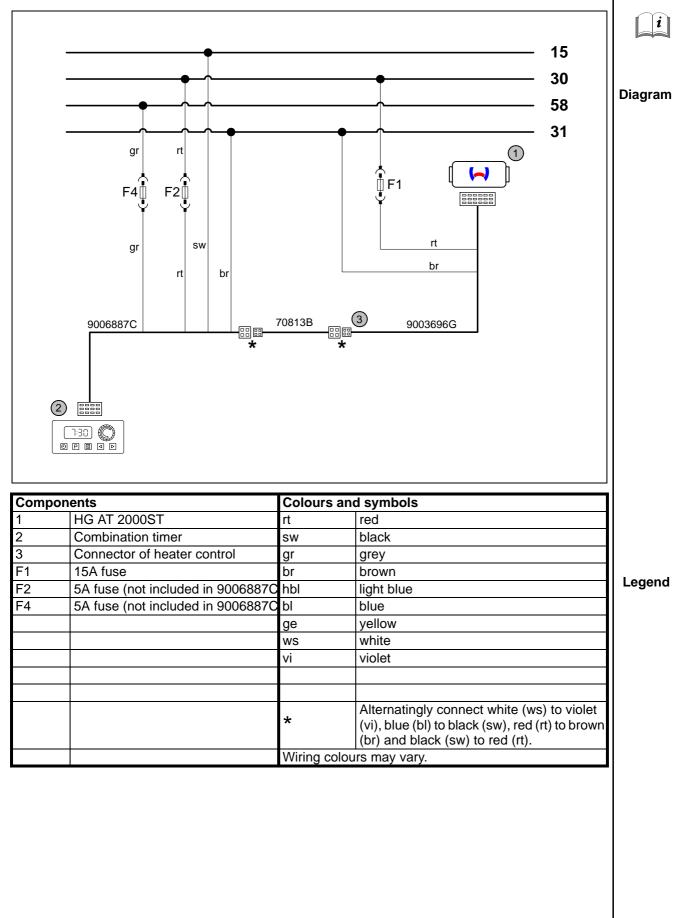
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- 1 Positive wire
- 2 Positive distributor of battery



Combination Timer Connection Diagram

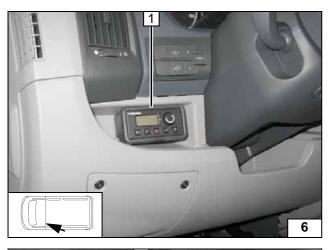


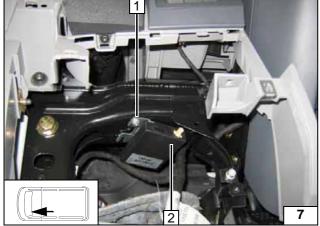


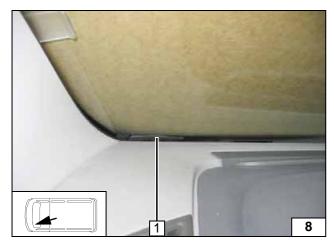
Connection Diagram of Combination Timer and Telestart i 15 ge 30 rt 58 hbl Diagram 31 gr sw rt F4 rt F1 🖞 F2 () || F3 gr rt rt br br br 9006887C (6)70813B 9003696G * ** ** 2 90821A 1:30 311194A 0 P II 0 P * $\overline{7}$ (5) (4)Т ∜ΰ * Components **Colours and symbols** AT 2000 ST Heater rt red 2 Combination timer sw black 3 Temperature sensor of heater (HG) gr grey 4 Temperature sensor of Telestart br brown Legend (only for T100 HTM) hbl light blue Receiver of Telestart 5 yellow ge 6 Connector of heater control 7 Wiring harness of Telestart F1 15A fuse Connectors [2x] remain free Х * F2 5A fuse (not included in 9006887C Connect the connectors using the same colours. F3 ** Max. 5A fuse (not included in Alternatingly connect white (ws) to violet (vi), blue (bl) to black (sw), red (rt) to brown 1311194A) (br) and black (sw) to red (rt). Insulate wire end and tie back. Wiring colours may vary



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Remote Option of Combination Timer

Use installation frame as template.

1 Combination timer

Remote Option (Telestart)

- 1 M5x15 bolt, large diameter washer, origi-nal vehicle hole, bracket, flanged nut 2 Telestart receiver

Installing combina-

tion timer

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Antenna

1 Antenna

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Installing antenna



Copying hole pat-

Holes in

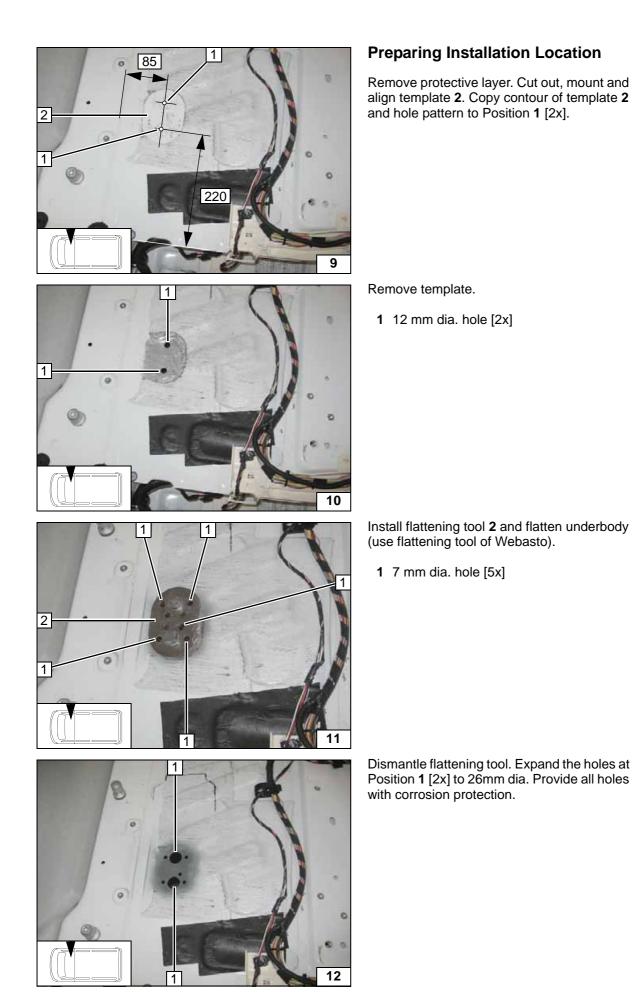
underbody

Flattening

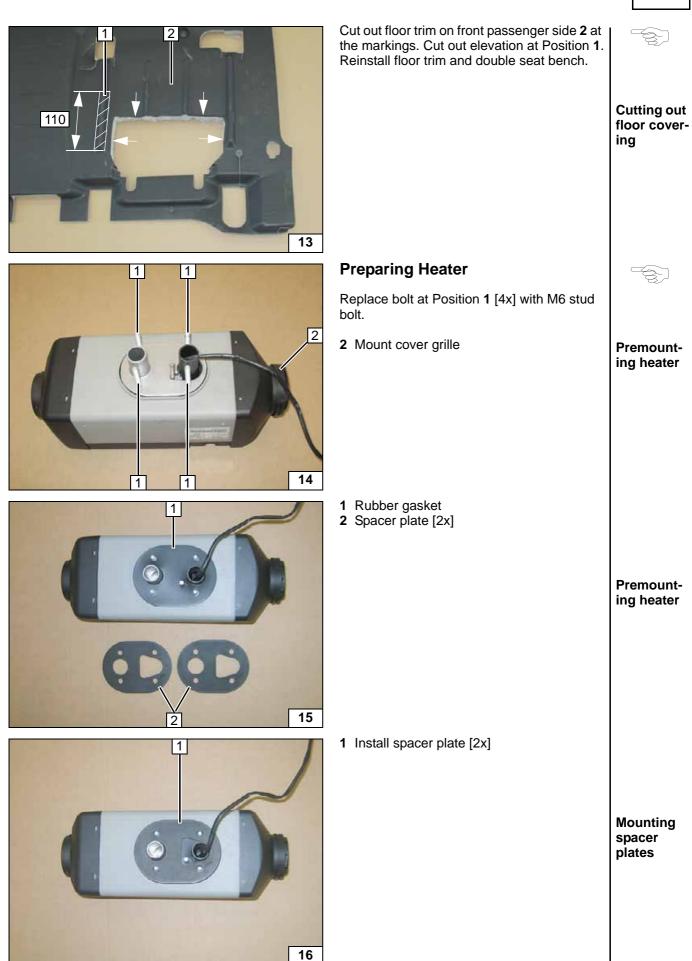
underbody

Holes in underbody

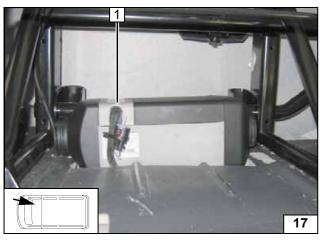
tern

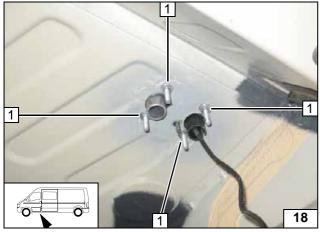












Installing Heater

Insert heater. Mount wiring harness **1** on heater, shut the cover again. Secure connector with cable tie.

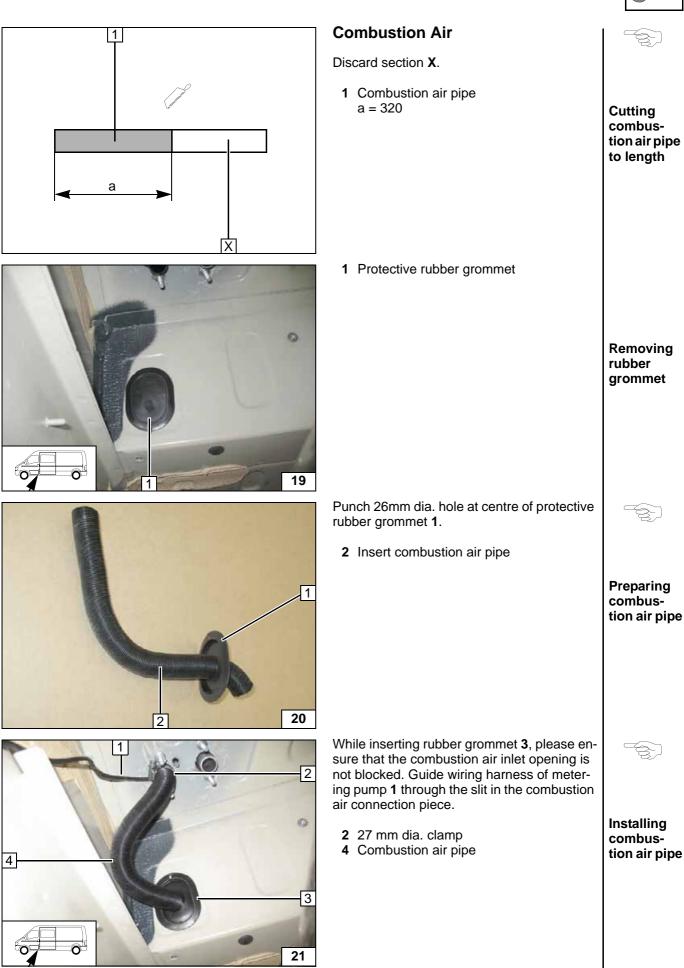


Installing heater

1 Spring lock washer, nut [4x each]

Installing heater





Fuel

CAUTION!

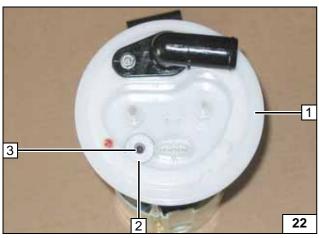
Open the vehicle's fuel tank cap, ventilate the tank and then re-close the tank lock.

Catch any fuel running off in 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.

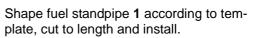
WARNING!

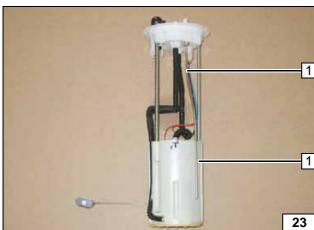
The fuel line and wiring harness are routed to the metering pump as shown in the wiring harness routing diagram.



Remove fuel-tank sending unit **1** in accordance with manufacturer's instructions.

2 Large diameter washer3 Copy hole pattern, 6 mm dia. hole





Install fuel-tank sending unit according to manufacturer's instructions.

- 1 Fuel standpipe
- 2 9 mm dia. Caillau clamp
- **3** 90° moulded hose, 3.5 mm dia. x 4.5 mm
- 4 10 mm dia. Caillau clamp
- 5 Fuel line









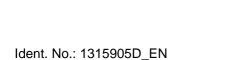
Fuel extraction

\bigcap	
	1





Connecting fuel line



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2

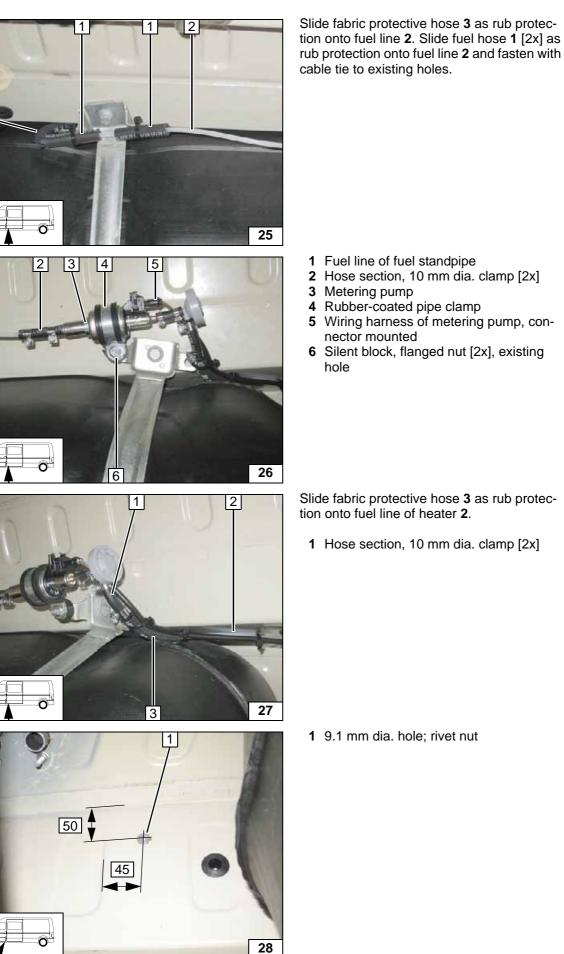
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3



Routing

wire



Ident. No.: 1315905D_EN



Mounting

metering

pump

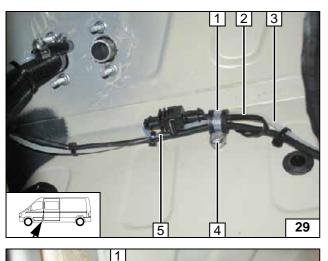
Connecting metering pump

Installing

rivet nut

1 9.1 mm dia. hole; rivet nut







Cut wiring harness of metering pump **5** to length, install connector and connect to wiring harness of heater **2**.

- 1 15 mm dia. rubber-coated p-clamp
- 3 Fuel line 4 M6x20 bolt

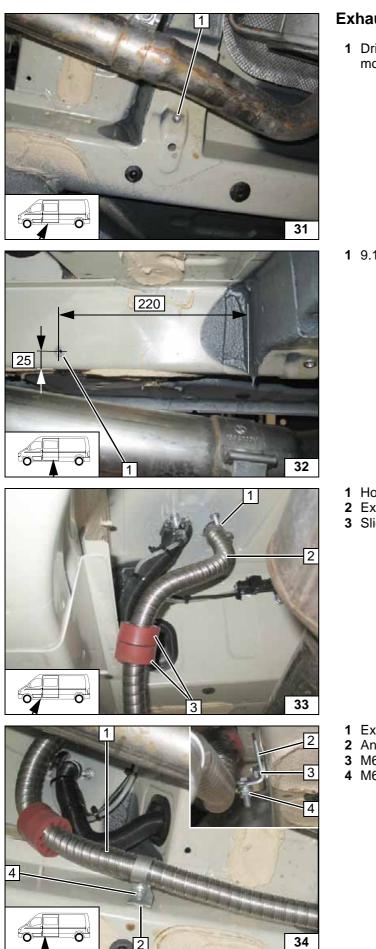


Installing lines

- 1 Fuel line
- 2 Hose section, 10 mm dia. clamp [2x]3 Metering pump wiring harness

Connecting heater



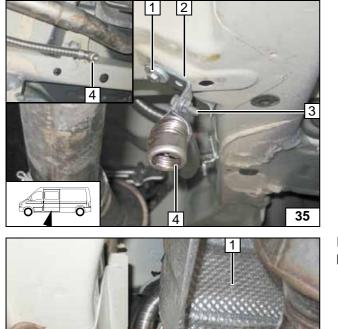


Exhaust Gas

1 Drill out existing hole to 9.1 mm dia. and mount rivet nut

mount rivet nut	Installing rivet nut
9.1 mm dia. hole; rivet nut	Installing
	rivet nut
Hose clamp Exhaust pipe Slide on black (sw) rubber isolator [2x]	Installing exhaust pipe
Exhaust pipe	
Angle bracket M6x20 bolt, spring lockwasher M6x20 bolt, p-clamp, flanged nut	Installing exhaust pipe





- 1 M6x20 bolt, spring lockwasher, large diameter washer
- 2 Angle bracket
- 3 M6x20 bolt, p-clamp, flanged nut
- 4 Align exhaust pipe



Ensure sufficient distance from adjacent components; correct if necessary.

1 Heat shield plate

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2 Position red (rt) rubber isolator [2x]



Installing heat shield plate

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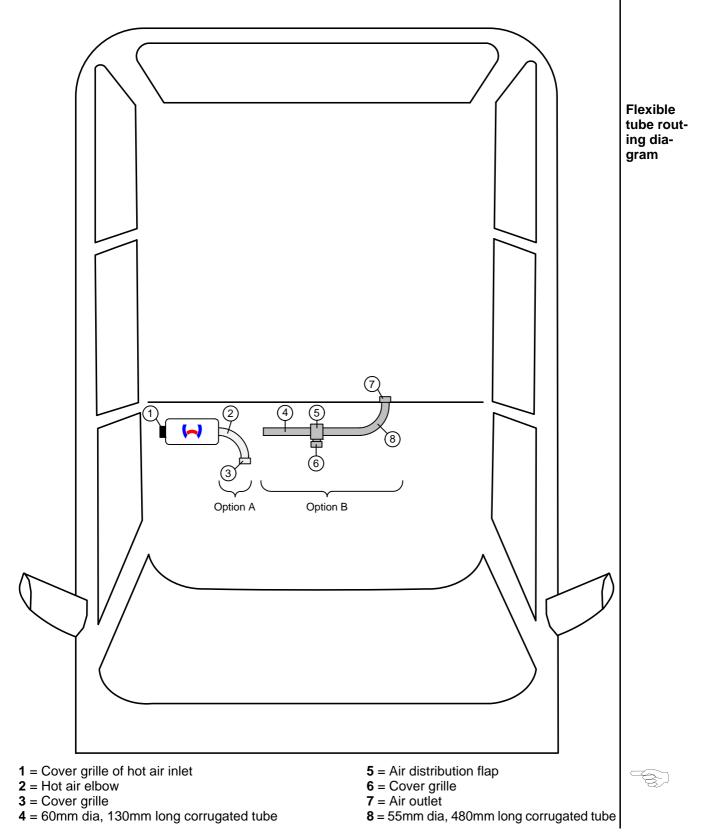


Hot Air

Route flexible tubes so that they are kink-free. The following diagram shows the hot air distribution for heating the passenger compartment and cargo space.

WARNING!

In case of vehicles without front passenger seat trim, attach the air intake grille directly onto the heater. Hose **A**, pass through and cover grille are omitted in this case.





Premounting perfo-

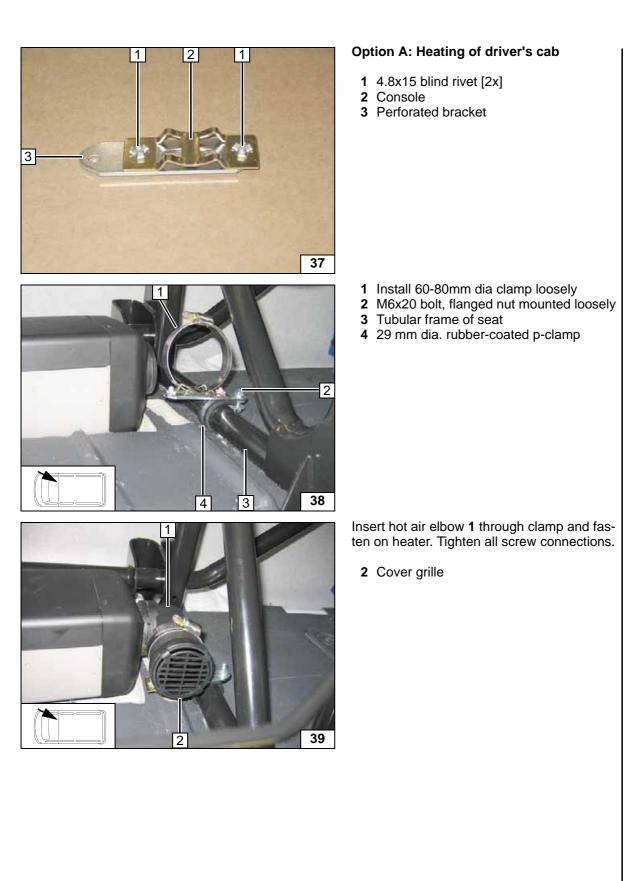
Premounting perfo-

Fastening hot air el-

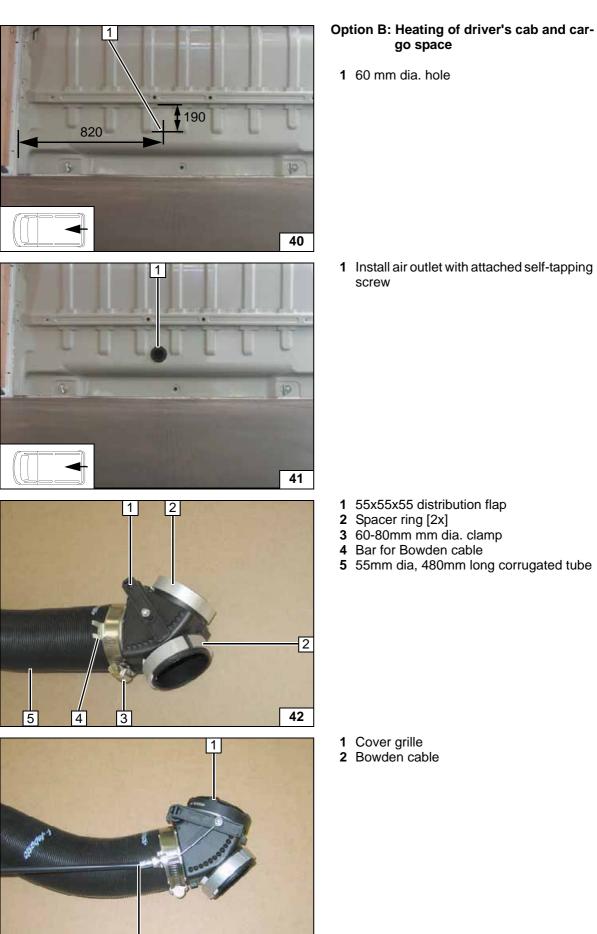
bow

rated bracket

rated bracket







Hole for cargo space 1 Install air outlet with attached self-tapping Installing air outlet 5 55mm dia, 480mm long corrugated tube Premounting air distribution flap Premounting air distribution flap

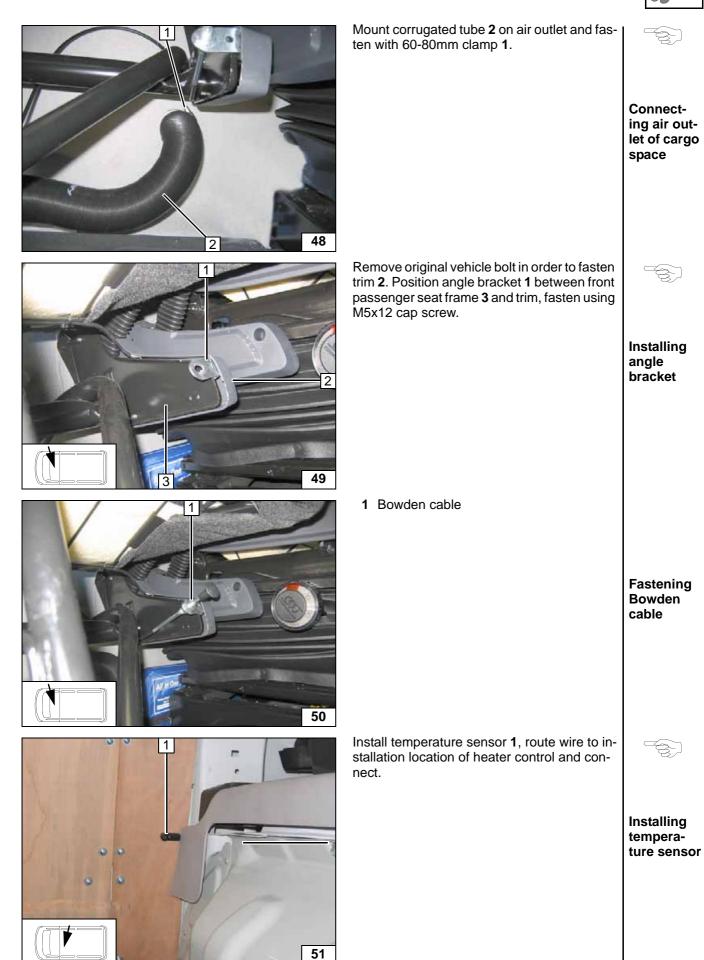
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2 44	 Angle bracket Drill hole to 11mm dia 	Drilling an- gle bracket
	 Before tightening, align console 4 to heater outlet 1 2 29 mm dia. rubber-coated p-clamp [2x] 3 M6x20 bolt, flanged nut [2x each] 5 Tubular frame of seat 	Premount- ing console
	 60-80mm dia. clamp loosely mounted on console 60mm dia, 130mm long corrugated tube 	Installing corrugated tube
	Insert air distribution flap 1 in corrugated tube and tighten clamp 2.	Installing air distribu- tion flap



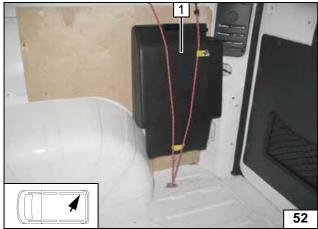




WARNING!

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

- · Connect the battery.
- Adjust the heater control.
- Check the proper function of the parking heater, see the operating instructions/installation instruc-٠ tions.
- Place the "Switch off parking heater before refuelling" signboard in the area of the filler neck.
 Place the "Risk of fire and injury" signboard on the right B pillar.



The installation location depends on the equipment, and must be coordinated with the end customer!	
Variant 1	
Copy hole pattern for bracket of toolkit 1 and fasten with original vehicle bolts and nuts. Tighten additionally with tension belt.	Installing toolkit
Variant 2	
Fasten toolkit 1 with tension belt on storage.	
	Installing toolkit
	equipment, and must be coordinated with the end customer! Variant 1 Copy hole pattern for bracket of toolkit 1 and fasten with original vehicle bolts and nuts. Tighten additionally with tension belt.

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> Webasto Thermo & Comfort SE Postfach 1410 82199 Gilching Germany Internet: www.webasto.com Technical Extranet: http://dealers.webasto.com



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Template for Fuel Standpipe

Watch length!

100

