

Air Heater

Air Top 2000 STC Air Heater



Installation Documentation VW T5 / T6

Validity

Manufacturer	Model	Type	EG-BE No. / ABE
VW	T5 Transporter	7H	L 148
VW	T5 Bus	7H	e1 * 2007 / 46 * 0130
VW	T6 Bus	7HC	e1 * 2001 / 116 * 0220

T5 from model year 2004

T6 from model year 2016

Left-hand drive vehicle

Verified equipment variants: Transporter
Bus

Not verified: Passenger compartment monitoring

Total installation time: approx. 6.5 hours

Necessary Components

- Basic delivery scope of *Air Top 2000 STC* according to price list
- Installation kit for VW T5 / T6 2004 Diesel: **1324279A**
The installation kit only contains the bracket with fastening parts.
The required air ducting parts must be ordered as an option from the Webasto Accessories Catalogue in accordance with the customer order.
- Required heater control, indicator lamp and push button optional on consultation with end customer:
 - MultiControl HD: **See price list**
 - Telestart: **See Price List**
 - For Telestart indicator lamp: **See price list**
 - Rotary selector (setpoint encoder): **82819_**
 - Wiring harness extension: **70813_**

The air ducting parts used for the application example in this installation documentation are contained in the following list:

- 1 x PAK flexible tube, inside dia. Di= 55mm (cut to length): **441376**
- 4 x clamp, 50-70 mm dia.: **1312548_**
- 1 x air outlet, front, D1a = 60 mm; D2a = 92 mm; L = 65 mm **87389_**
- 1x air outlet, back, D1a= 55mm; D2a=87mm; 45°: **107836**
- 1 x distributor with butterfly valve, outside dia. Da = 55 mm; L = 95 mm: **101374**

Optional requirement for fuel extraction:

- For vehicles without auxiliary heater and parking heater: Fuel standpipe: **1300823_**
- For vehicles with auxiliary heater and parking heater: 6x5x6 mm fuel standpipe: **66944_**

Optional requirement for fresh air operation:

- Temperature control of cargo space - external temperature sensor: **93205_**
- Underride protection: **VW original part**
Check if present in vehicle before accepting order. See figure 51!

Note:

- Arrange for the vehicle to be delivered with the tank only about ¼ full.

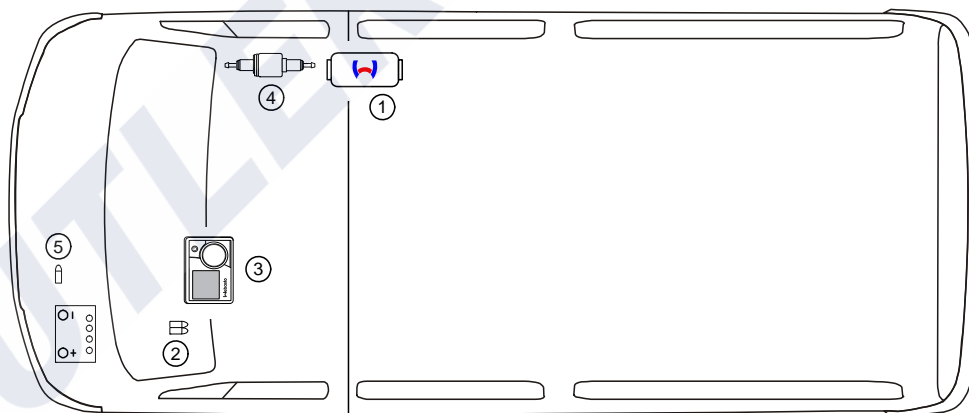
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Installation Overview

Legend:

1. Heater
2. Fuse holder of passenger compartment
3. MultiControl HD
4. Metering pump
5. Fuse holder of engine compartment positive wire



Notes on Total Installation Time

The total installation time includes the time needed for mounting and demounting 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 228).

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. Connectors on electronic components must audibly snap into place during assembly.

Sharp edges should be fitted with rub protection. 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.

When installing a programmable control module (e.g. a PWM Gateway), the corresponding settings must be checked or adjusted.

2 Statutory regulations governing installation

Guidelines	AT 2000 ST
Heating Directive ECE R122	E1 00 0216
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**.

Note

The heater is licensed in accordance with paragraph 19, section 3, No. 2b of the StVZO (German Road Traffic Licensing Authority).

2.1 Excerpt from ECE regulation 122 (heating system) paragraph 5 for the installation of the heater

Beginning of excerpt.

ANNEX VII

REQUIREMENTS FOR COMBUSTION HEATERS AND THEIR INSTALLATION

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 / paragraph 5.3.2.2. (Part I) may be used.

2.2.4. / 5.3.2.4. (Part I) The label as per section 1.4. / Annex 7 Subsection 1.4 The label referred to in paragraph 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. / 5.3.5.1. (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 VW T5 Diesel vehicles from model year 2004 and later as well as T6 Diesel vehicles from model year 2016 and later - for validity, see page 1 - 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
- Hose clamp pliers for Clic hose clamps of type W
- Webasto special insertion tool, Ident. No.: 82229_
- Hole circle bit dia. 60mm, dia. 81mm, dia. 84mm
- Automatic wire stripper 0.2 - 6mm²
- Crimping pliers for cable lug / tab connector 0.5 - 6mm²
- Metric thread-setter kit
- Deep-hole marker
- Webasto Thermo Test Diagnosis with current software

Dimensions

- All dimensions are in mm.

Tightening torque values

- Tightening torque of M6 heater nuts = 6 Nm +1 Nm!
- Tighten bolt connections in accordance with manufacturer's instructions or in accordance with state-of-the-art-technology.

Installing heater

- A seal must be fitted between heater and body and replaced prior to every installation.

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:

Mechanical System



Specific risk of injury or fatal accidents.



Electrical System



Specific risk due to electrical voltage.



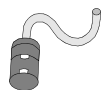
Heating Air



Specific risk of damage to components.



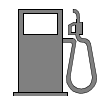
Combustion Air



Specific risk of fire and explosion.



Fuel



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



Exhaust Gas



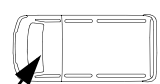
Reference to a special technical feature.



Software



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



Tightening torque according to the manufacturer's vehicle-specific documents.



VW T5 / T6

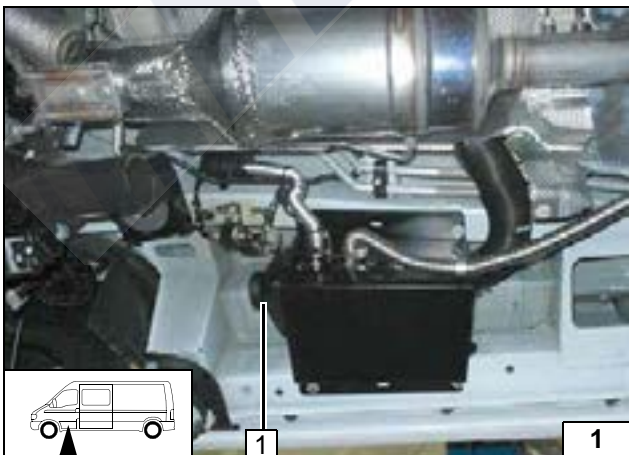
Preliminary Work

Vehicle

- Open the fuel tank cap, ventilate the fuel tank.
- Close the fuel tank cap again.
- Remove the battery cover.
- Disconnect the battery!
- Remove the underbody protection on the right and left (if present).
- Remove the fuel tank (only on vehicles without installed auxiliary or parking heater).
- Remove the fuel tank sending unit in accordance with the manufacturer's instructions (only on vehicles without installed auxiliary or parking heater).
- Remove the trim on the front passenger's side entrance (only with recirculating air mode).
- Remove the lower instrument panel trim on the driver's side.

Heater

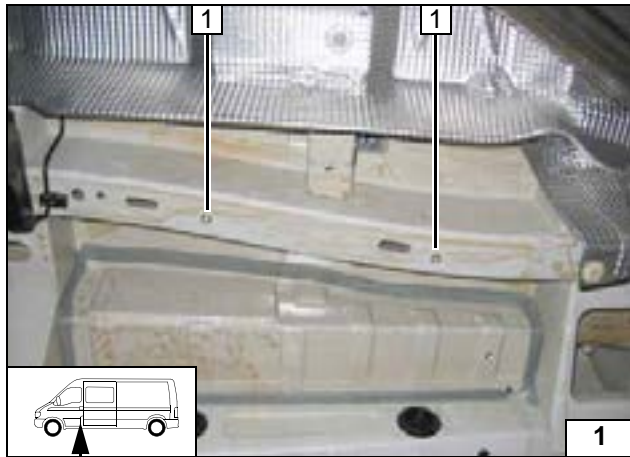
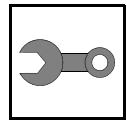
- Remove years that do not apply from the type and duplicate label.
- Attach the duplicate label (type label) visibly in the appropriate place in the engine compartment.



Heater installation location

1 Heater

Installation
location

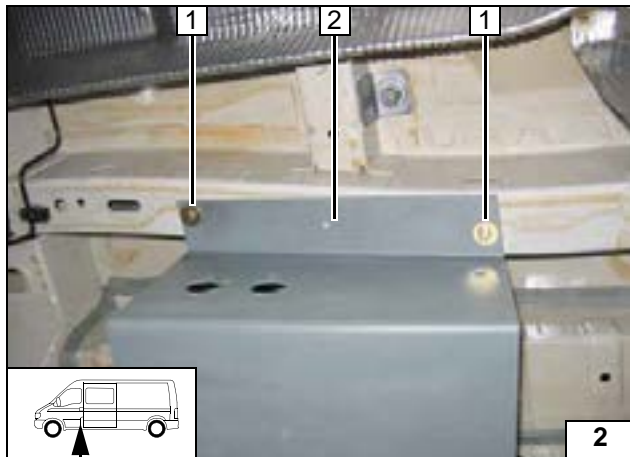


Preparing Installation Location

- 1 Rivet nut, existing holes [2x each]

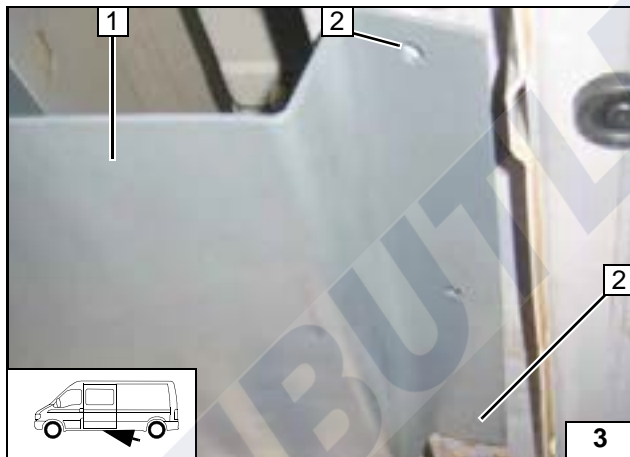


Installing rivet nuts



- 1 M6x20 bolt, large diameter washer, [2x each]
- 2 Bracket

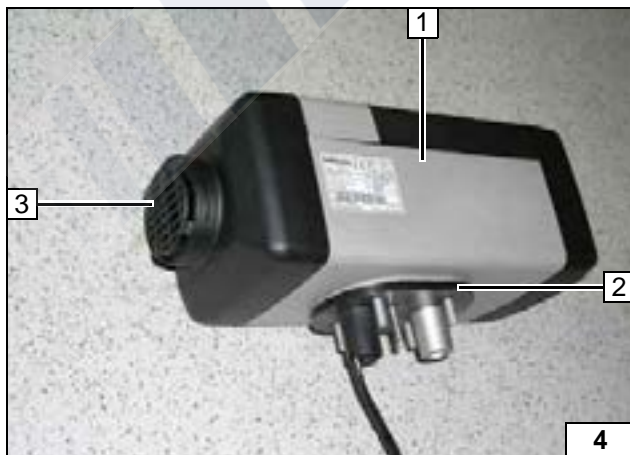
Installing bracket loosely



Copy hole pattern [2x] at position 2 on door sill. Remove bracket 1. 9.1 mm hole [2x] at position 1, insert rivet nuts [2x]



Copying hole pattern



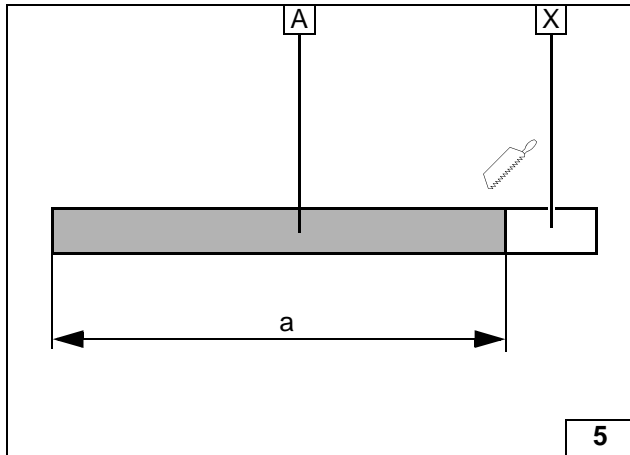
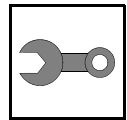
Preparing Heater

- 1 Heater
- 2 Attach base seal
- 3 Protective grille (for fresh air operation)

For fresh air mode, underride protection must be installed (if not present, see required components).

Preparing Heater



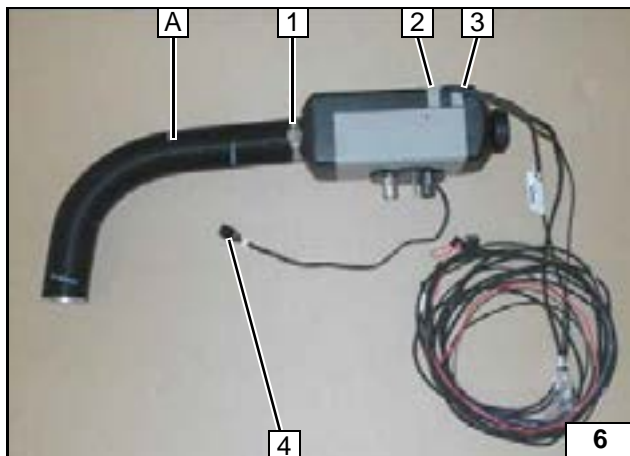


Discard section **X**.

A = 450



Cutting 60 mm dia. flexible tube to length

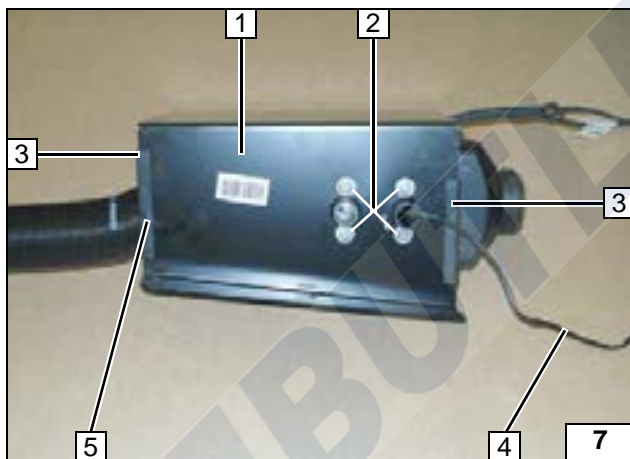


Assemble flexible tube **A** on heater.

- 1 50-70 mm dia. hose clamp
- 2 Cover cap
- 3 Heater wiring harness
- 4 Install metering pump cable connector housing



Premounting heater

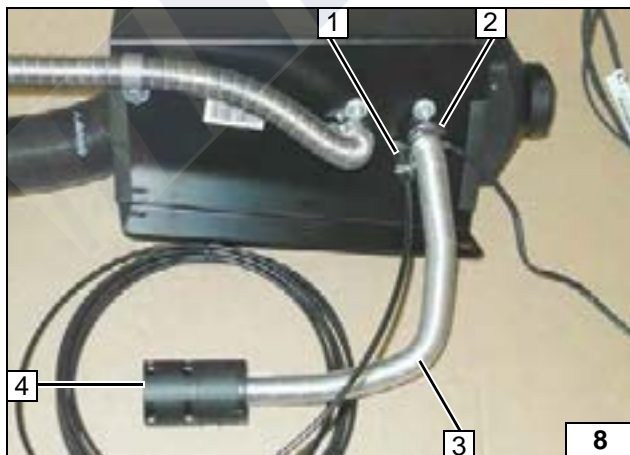


Route through wire of metering pump **4** downward. Fasten hot-air flexible tube on bracket with cable tie.

- 1 Bracket
- 2 Large diameter washer, flanged nut [4x each]
- 3 70 mm edge protection [2x]
- 5 Cable tie

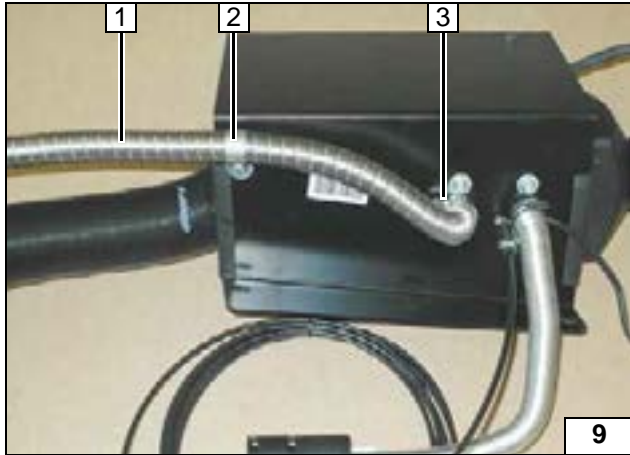
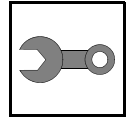


Installing bracket



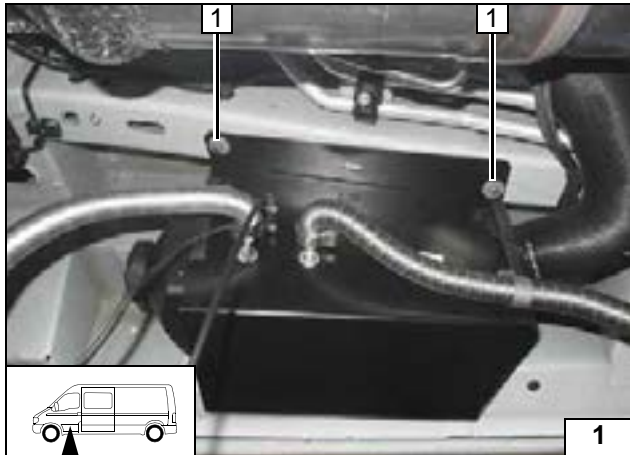
- 1 Fuel line, hose section, 10 mm dia. hose clamp [2x]
- 2 25 mm dia. spring clip
- 3 Combustion air pipe
- 4 Combustion air silencer

Installing lines



- 1 Exhaust pipe
- 2 P-clamp, 10mm spacer sleeve, M6x20 bolt, flanged nut
- 3 Hose clamp

Installing lines

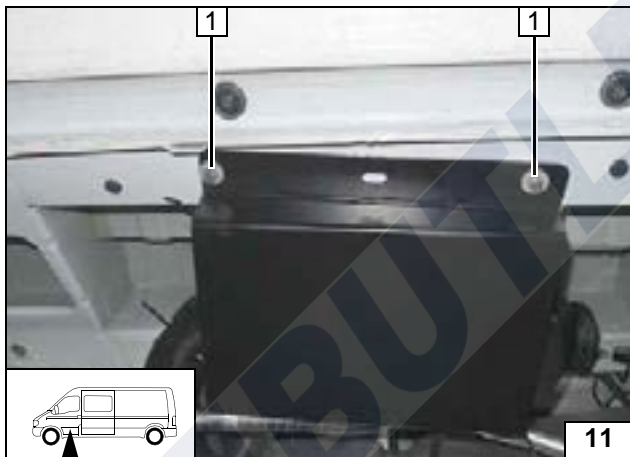


Installing Heater

- 1 M6x20 bolt, spring lockwasher, large diameter washer [2x each]

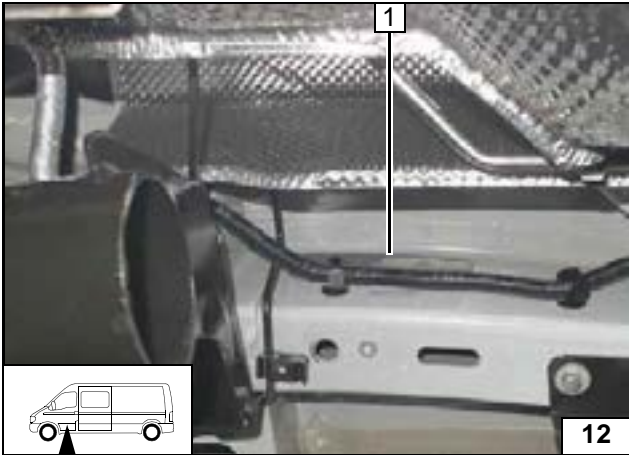
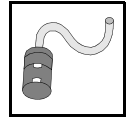


Installing heater



- 1 M6x20 bolt, spring lockwasher, large diameter washer [2x each]

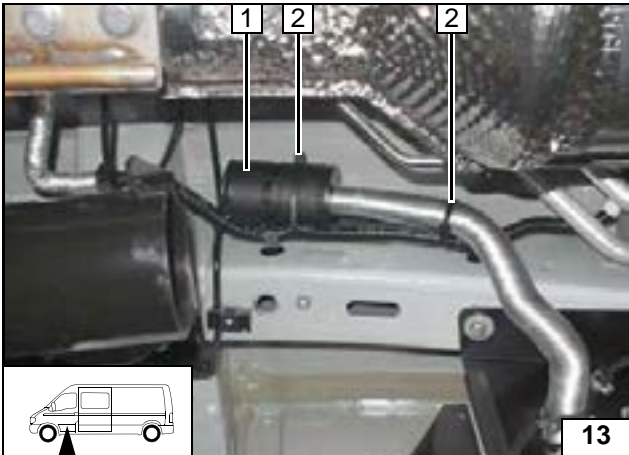
Copying hole pattern



Combustion Air

- 1 Affix foam underlay as rattle protection

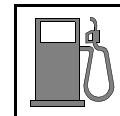
Preparing installation location



- 1 Combustion air silencer
- 2 Cable tie [2x]



Installing combustion air silencer



Fuel

CAUTION!

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

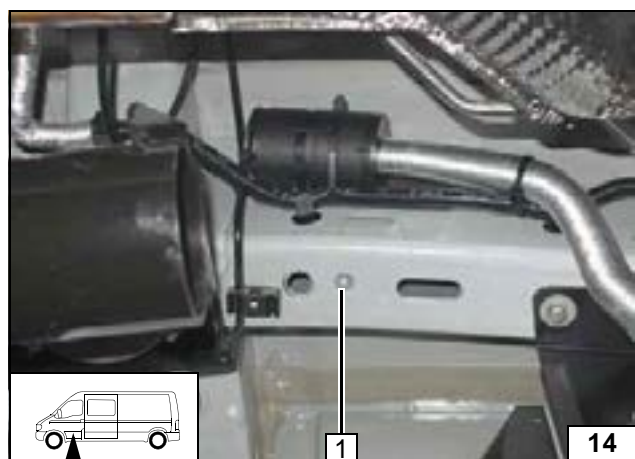
Catch any fuel running off in an appropriate container.

Route fuel line and metering pump wiring harness so that they are protected against stone impact. Unless specified otherwise, always fasten using cable ties.

Provide rub protection for fuel line and wiring harness in areas where there are sharp edges.

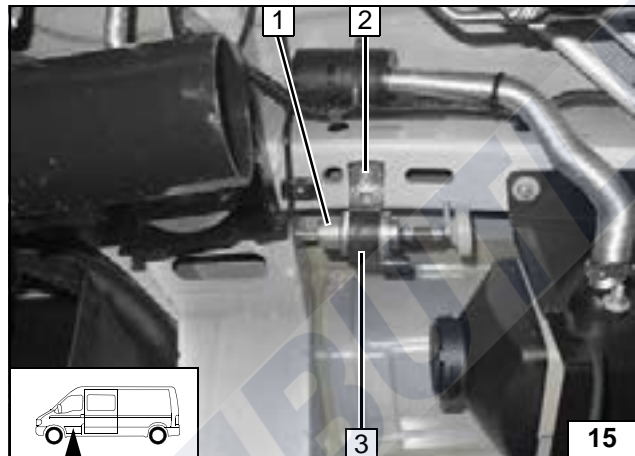
WARNING!

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



1 Rivet nut, original vehicle hole

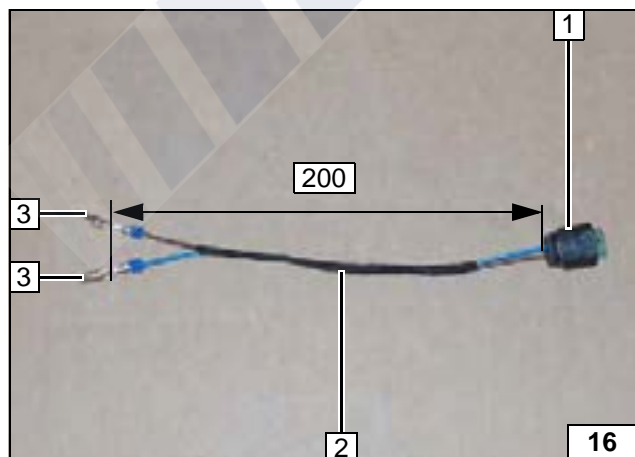
Installing rivet nut



1 Metering pump
2 M6x25 bolt, support angle bracket
3 Metering pump mount



Installing metering pump

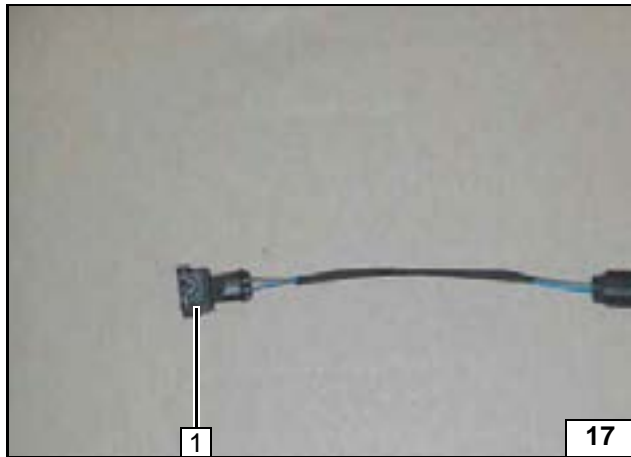
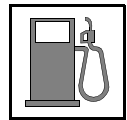


Cut wiring harness of metering pump 2 with connector 1 to length.

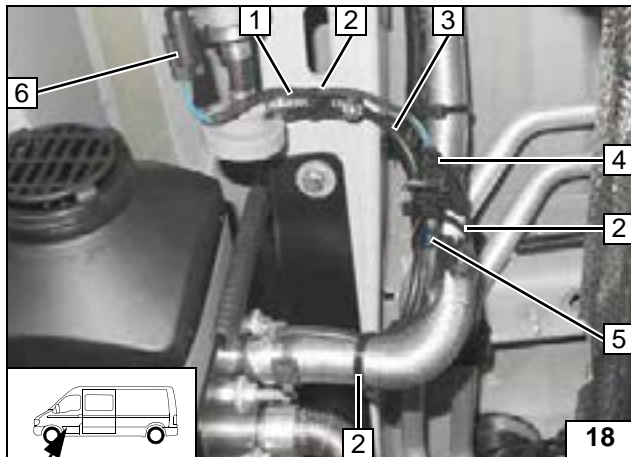
3 Receptacle with single wire sealing [2x each]



Preparing metering pump cable



1 Install receptacle housing



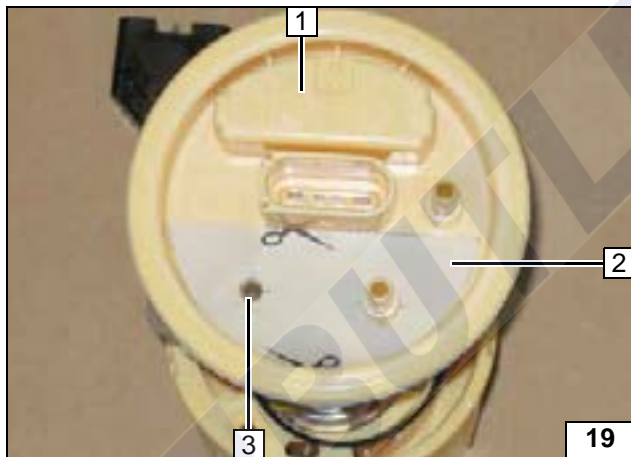
Check the position of the components; adjust if necessary. Check that they have freedom of movement.

- 1 Hose section, 10 mm dia. clamp [2x]
- 2 Cable tie [3x]
- 3 Fuel line
- 4 Receptacle housing
- 5 Connector housing
- 6 Connector of metering pump wiring harness

Preparing metering pump cable



Connecting metering pump



Vehicles without auxiliary heater or parking heater

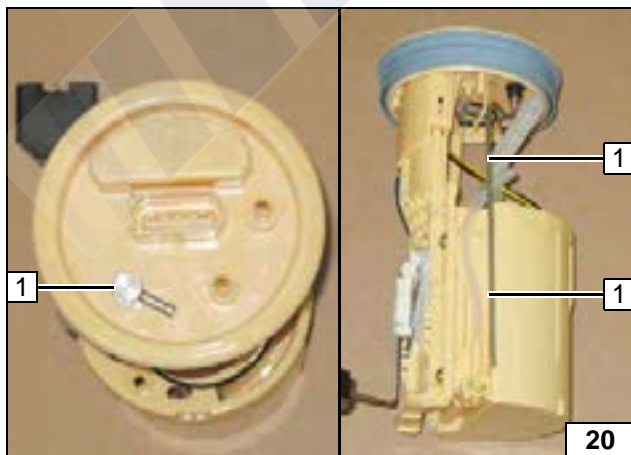
T5

Remove fuel tank and fuel tank sending unit 1 in accordance with manufacturer's instructions. Cut out template 2 and lay on.

- 3 Copy hole pattern, 6mm dia. hole



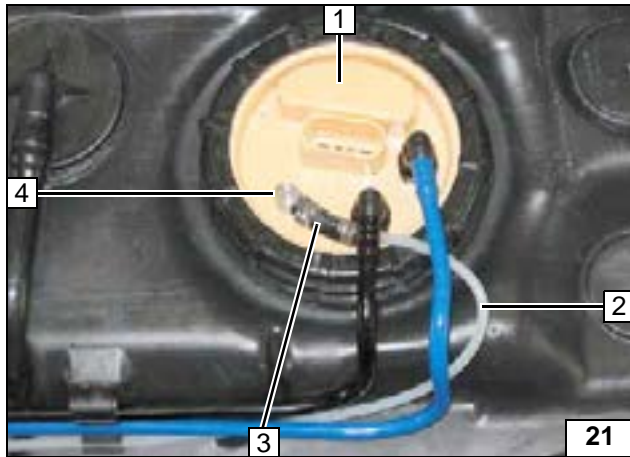
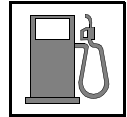
Fuel extraction



Bend fuel standpipe 1 according to template and cut to length.



Installing fuel standpipe



Install fuel tank sending unit **1** according to manufacturer's instructions.

- 2** Fuel line
- 3** Hose section, 10mm dia. clamp [2x]
- 4** Fuel standpipe



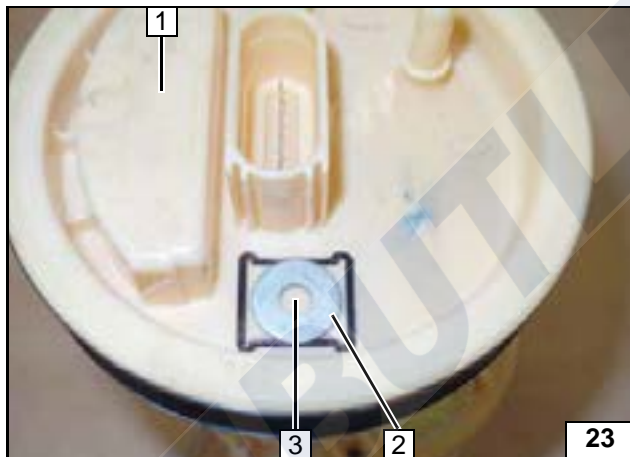
**Connect-
ing fuel line**



Insert fuel line from fuel standpipe **2** into existing fastening points **1** [3x]. Reinstall fuel tank.



**Routing
fuel line**



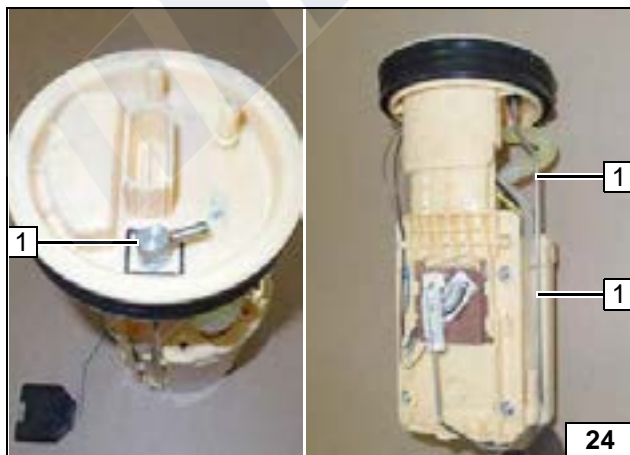
T6

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

- 2** Position washer with outer dia. $d_a = 21.6$ mm as a template at the marked contour
- 3** Copy hole pattern, 6mm dia. hole



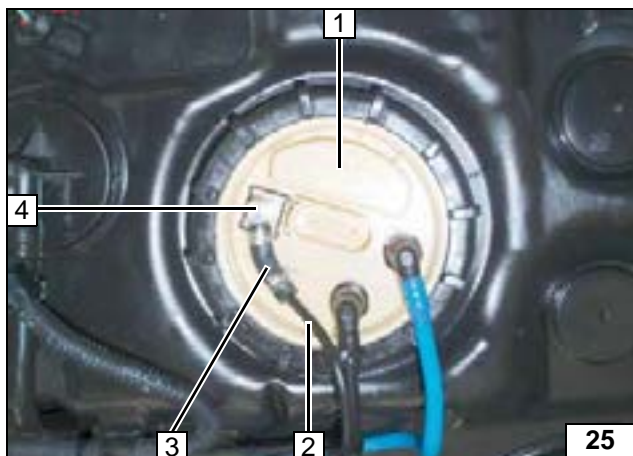
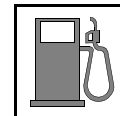
**Fuel ex-
traction**



Bend fuel standpipe **1** according to template and cut to length.



**Installing
fuel stand-
pipe**

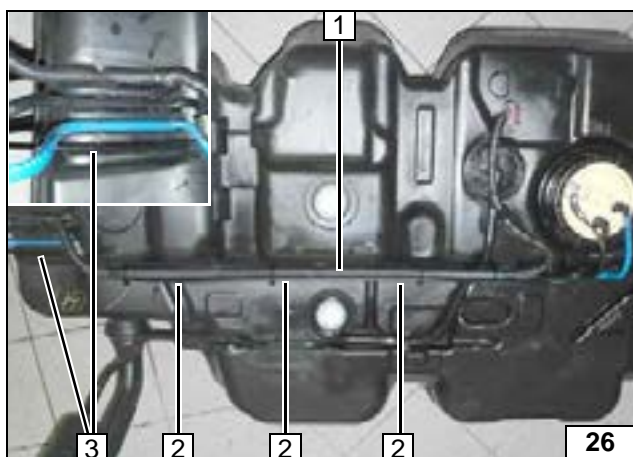


Install fuel tank sending unit **1** according to manufacturer's instructions.

- 2** Fuel line
- 3** Hose section, 10mm dia. clamp [2x]
- 4** Fuel standpipe



**Connect-
ing fuel line**

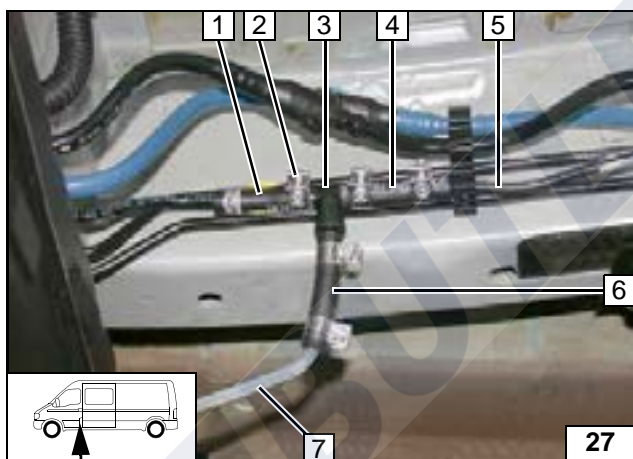


Secure fuel line from fuel standpipe **1** to original vehicle line **2** with a cable tie. Assemble fuel tank in accordance with manufacturer's instructions.

- 3** Existing mounting points



**Routing
fuel line**



Vehicles with auxiliary heater or parking heater

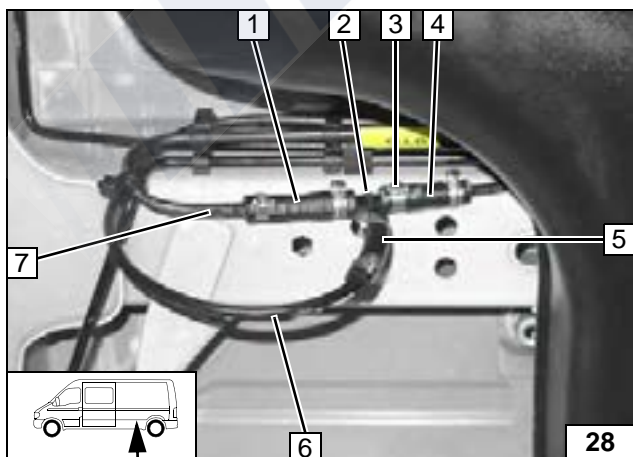
T5

Cut fuel line to parking heater or auxiliary heater **5** at original connecting point **1**. Remove one-ear clamp at position **2**. Install fuel standpipe 6x5x6 **3** in cutting point.

- 2** 10 mm dia. clamp
- 4** Hose section, 10mm dia. clamp [2x]
- 6** Hose section, 10mm dia. clamp [2x]
- 7** Fuel line



**Fuel ex-
traction**



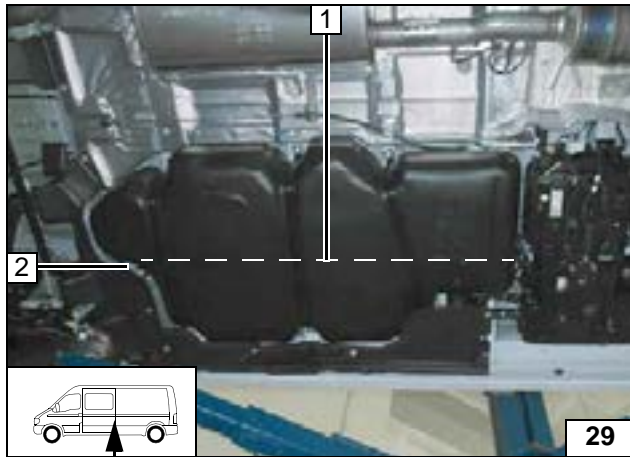
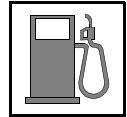
T6

Cut fuel line to parking heater or auxiliary heater **7** at original connecting point **4**. Remove clamp at position **3**. Install fuel standpipe 6x5x6 **2** in cutting point.

- 1** Hose section, 10 mm dia. clamp [2x]
- 3** 10 mm dia. clamp
- 5** Hose section, 10mm dia. clamps [2x]
- 6** Fuel line



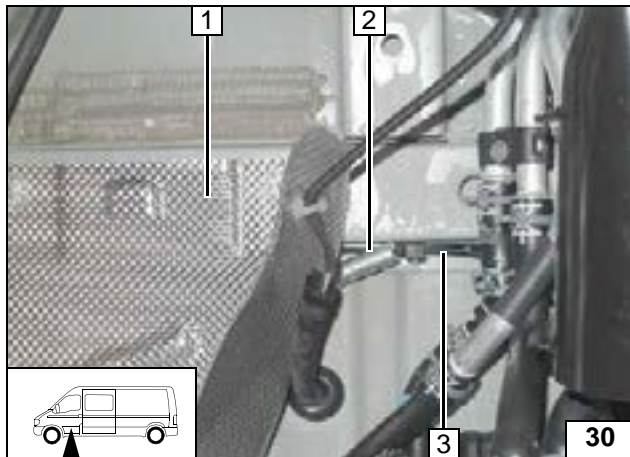
**Fuel ex-
traction**



Route fuel line **1** (not shown) from fuel standpipe **2** via the tank to the front.



Routing fuel line

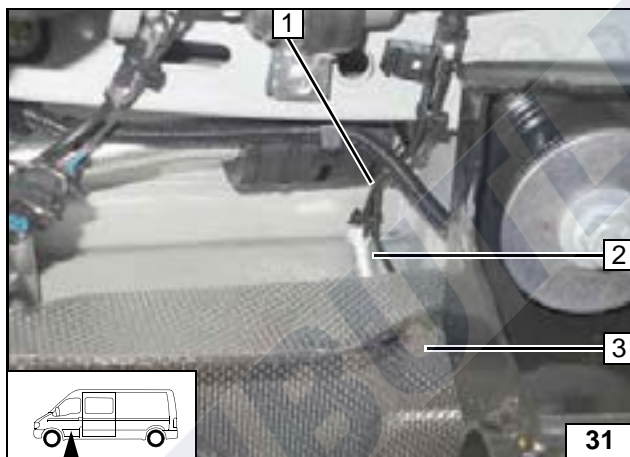


All vehicles

Pull fuel line **3** into heat protection hose **2** and route via heat shield plate **1** to the right vehicle side.

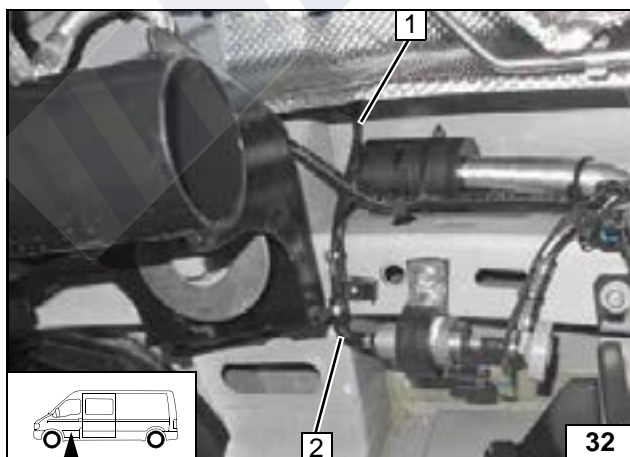


Routing fuel line



- 1 Fuel line of fuel standpipe
- 2 Heat protection hose
- 3 Heat shield plate

Routing fuel line

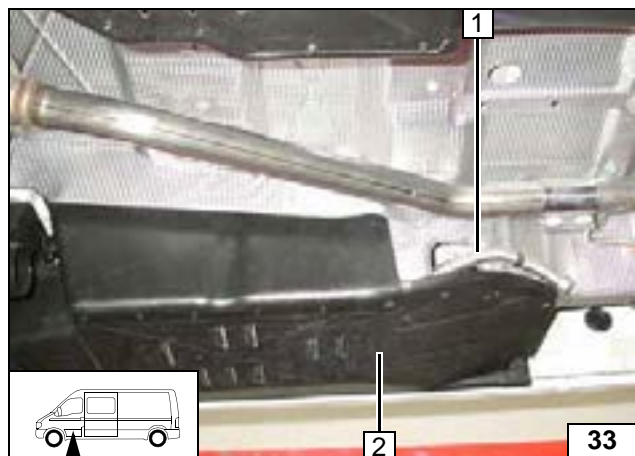
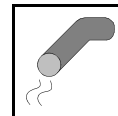


Check the position of the components; adjust if necessary. Check that they have freedom of movement.

- 1 Fuel line of fuel standpipe
- 2 90° moulded hose, 10mm dia. clamp [2x]



Connecting metering pump



Exhaust Gas

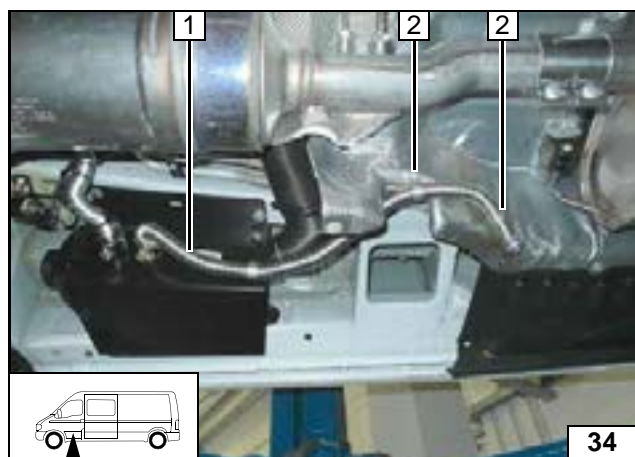
Vehicles with underide protection

The installation of the exhaust silencer as shown is not available in a vehicle equipped with underide protection.

- 1 Exhaust pipe
- 2 Underide protection



Installing exhaust pipe



Vehicles without underide protection

Align exhaust pipe 1 as shown. Drill 2 mm dia. condensed-water drain hole at lowest point in exhaust pipe 1. Ensure sufficient distance from neighbouring components.

- 2 M6x25 bolt, pipe clamp, 10mm spacer sleeve, flanged nut [2x each]



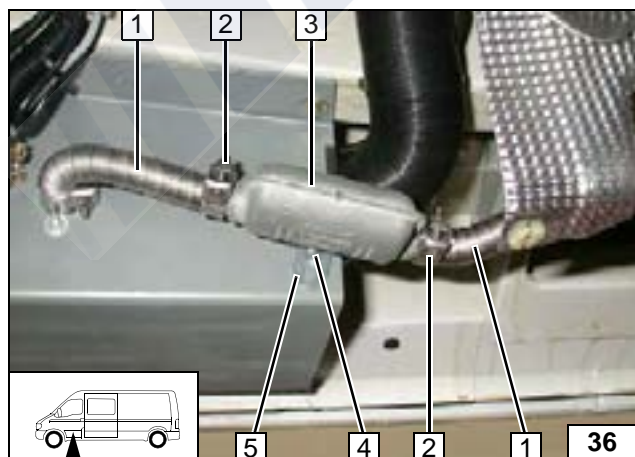
Installing exhaust pipe



To install silencer, remove p-clamp 1.



Removing p-clamp

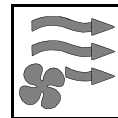


Disconnect exhaust pipe 1 and install silencer 3.

- 2 Hose clamp [2x]
- 4 M6x20 bolt, flanged nut
- 5 Angle bracket, M6x20 bolt, flanged nut

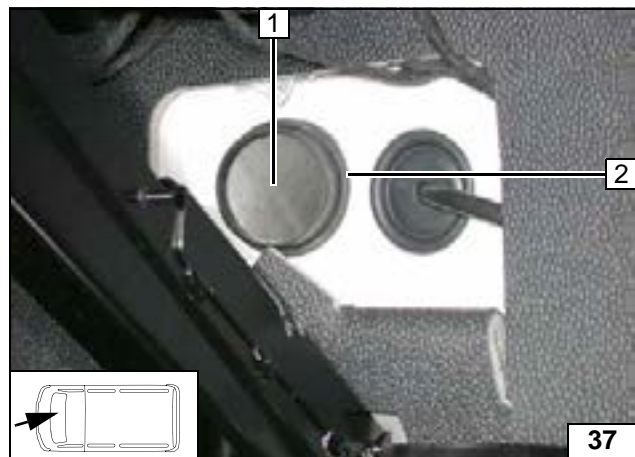


Installing silencer



Heating Air

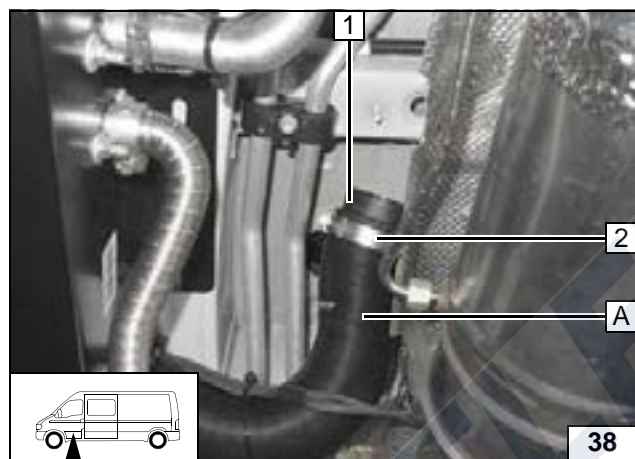
Before installation, the routing of the air ducting parts must be coordinated with the end customer!
Route flexible tubes so that they are kink-free.
The following diagrams show the heating air distribution for the heating of the passenger compartment and cargo space.



Warning!

Fold back cover under front passenger's seat. Position 55x60mm dia. adapter 2, copy hole pattern 1 and drill 55 mm dia. hole.

Hole under front passenger's seat

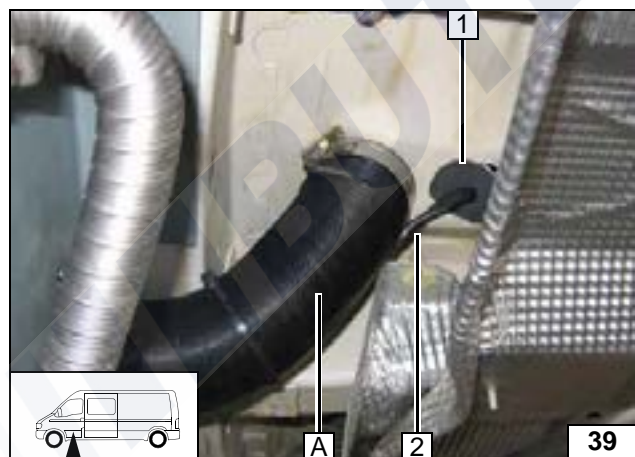


Connect 60mm dia. adapter 1 to flexible tube A and secure.

2 50-70 mm dia. hose clamp



Installing adapter



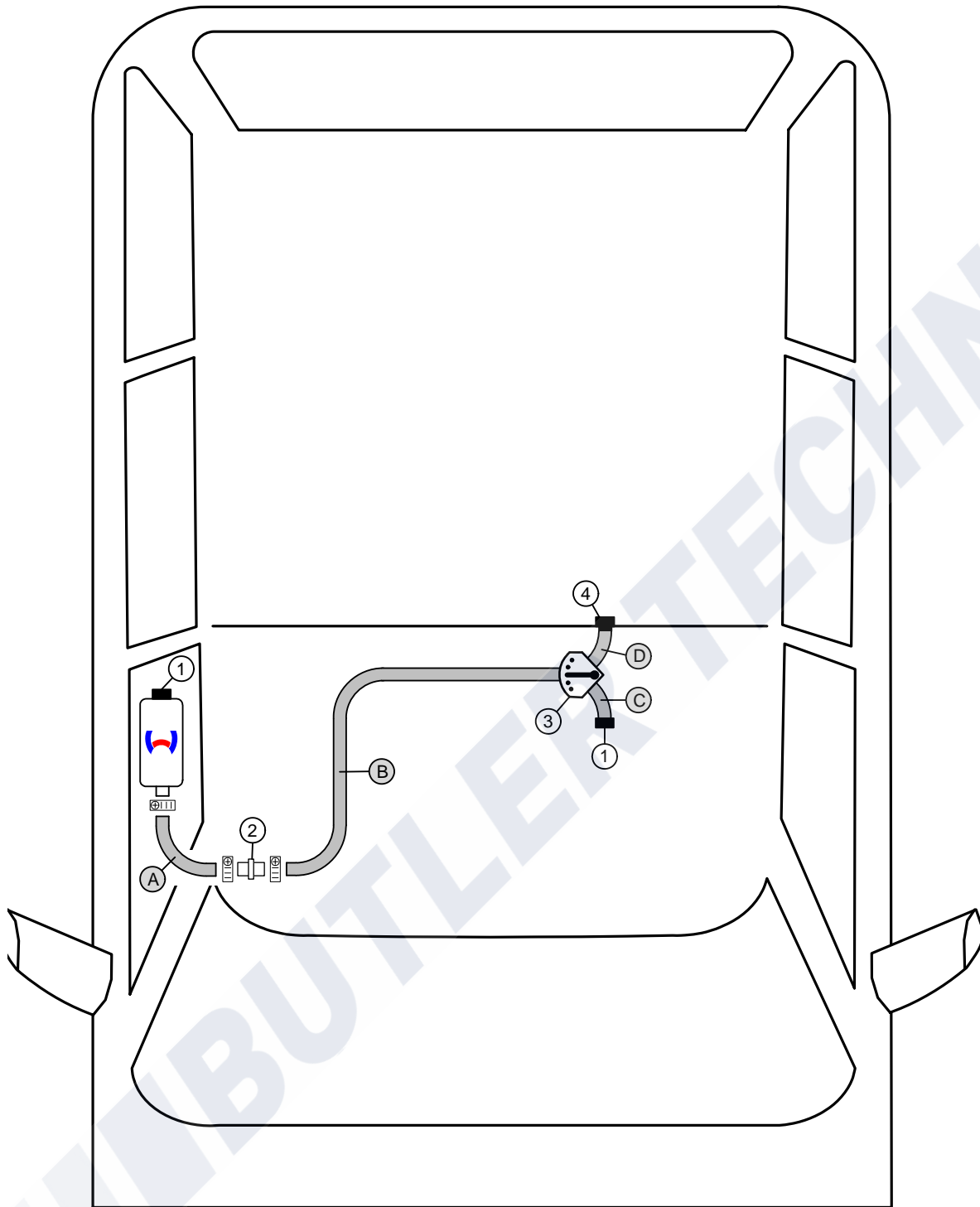
Insert adapter in hole and glue in with Si-caflex.
Route wiring harnesses of heater and heater control 2 through protective rubber plug 1 into the passenger compartment.




Pass through into passenger compartment



Twin Seat and Partition Wall



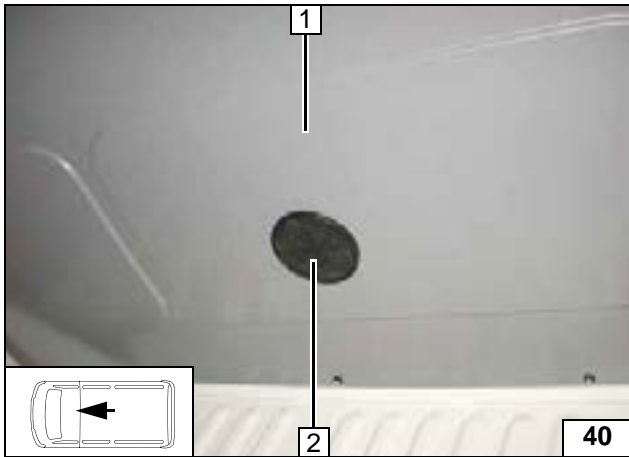
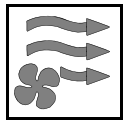
Flexible tube routing diagram

All hose clamps  = 50-70 mm dia.

- 1 = Cover grille [2x]
- 2 = 55x60 mm dia. adapter

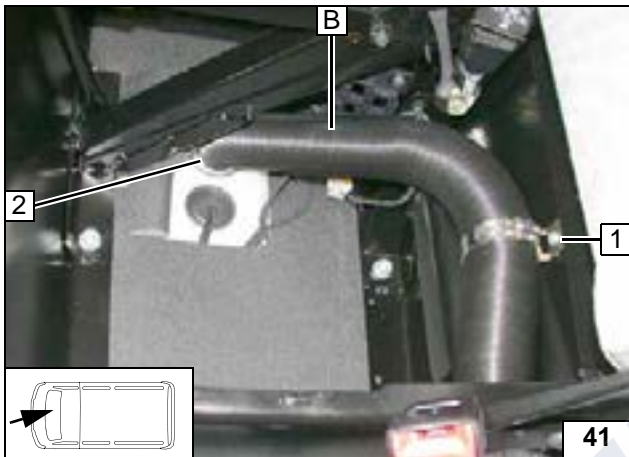
- 3 = Air distribution flap
- 4 = Air outlet





55 mm dia. hole at position **2** in partition wall
1. Affix air grille **2** and secure with blind rivets.

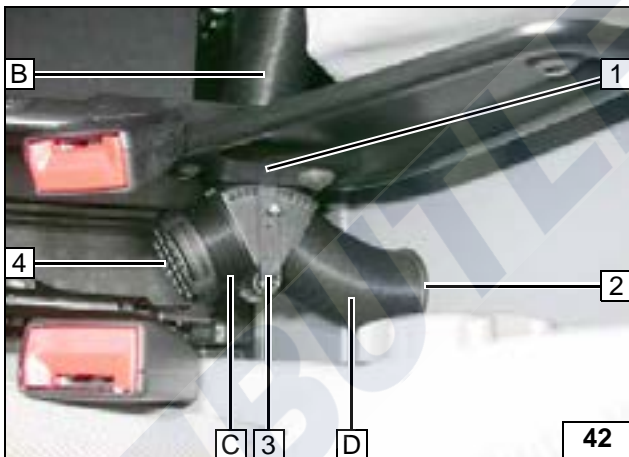
**Connect-
ing meter-
ing pump**



Install 55 mm dia. flexible tube **B** on adapter at position **2**.

- 1** Console with hose clamp, self-tapping screw [2x]

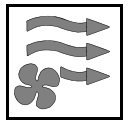
**Connect-
ing and
routing
flexible
tube B**



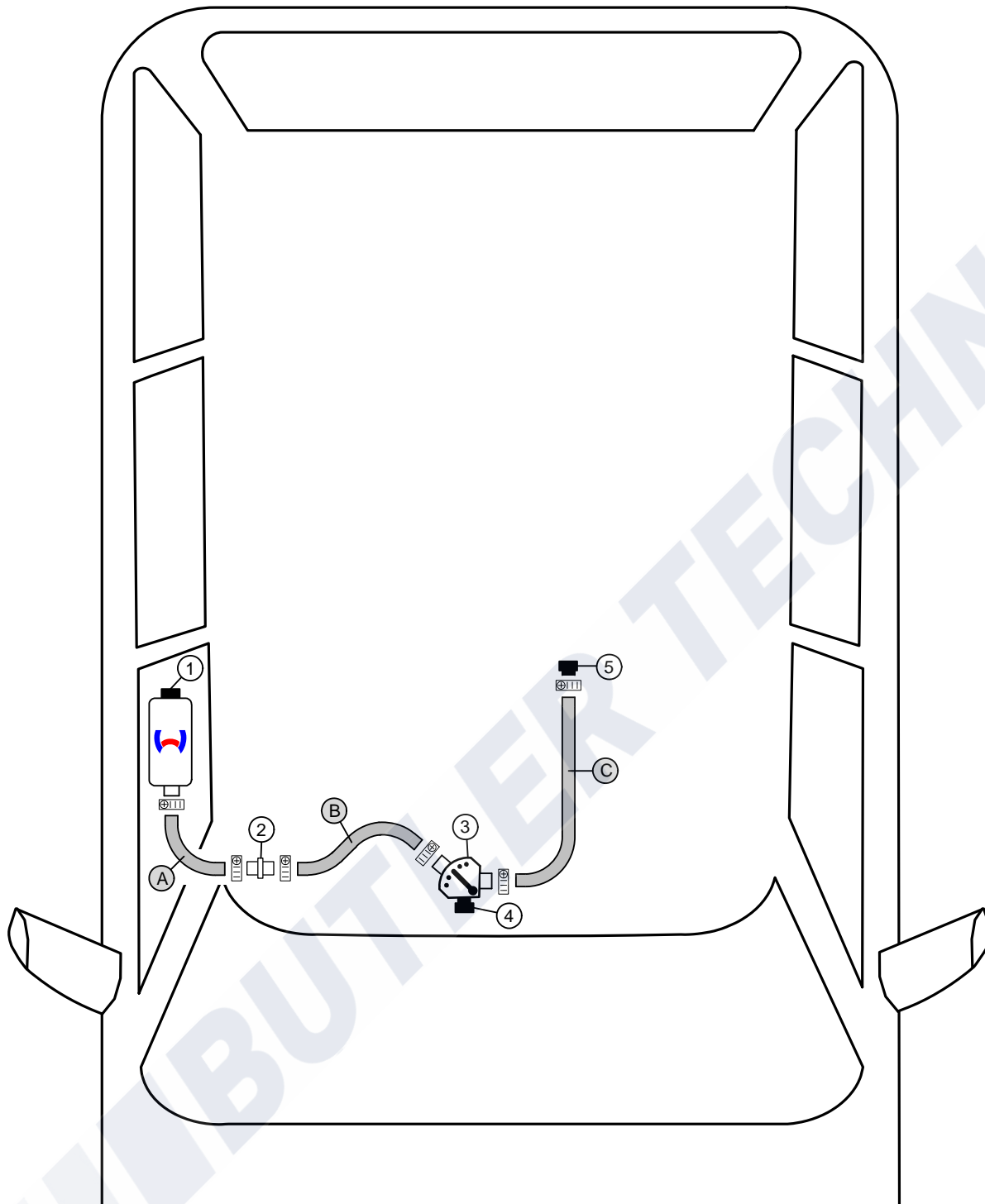
55 mm dia. hole in pass through at position **1**. Cut 55mm dia. flexible tubes **B**, **C** and **D** to length as shown. Insert air distributor **3**
 Air outlet must be aligned so that hot air is not directed at controls (e.g. handbrake lever)!

- 2** Air outlet
- 4** End cap


**Connect-
ing and
routing
flexible
tubes B
and C**



Twin Seat Without Partition Wall



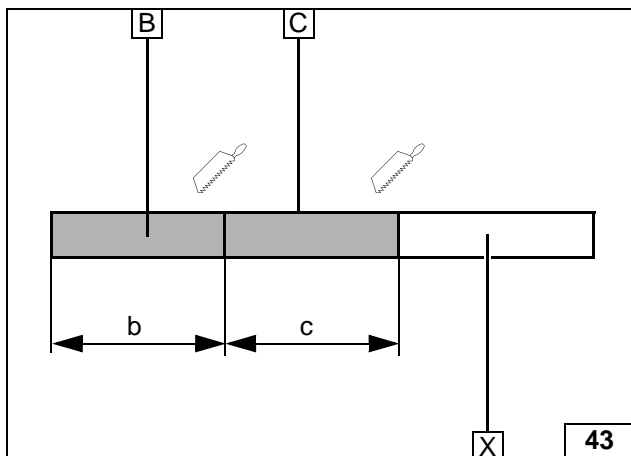
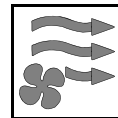
Flexible tube routing diagram

All hose clamps  = 50-70 mm dia.

- 1 = Cover grille
- 2 = 55x60 mm dia. adapter
- 3 = Air distribution flap

- 4 = 60 mm dia. air outlet
- 5 = 55 mm dia. air outlet



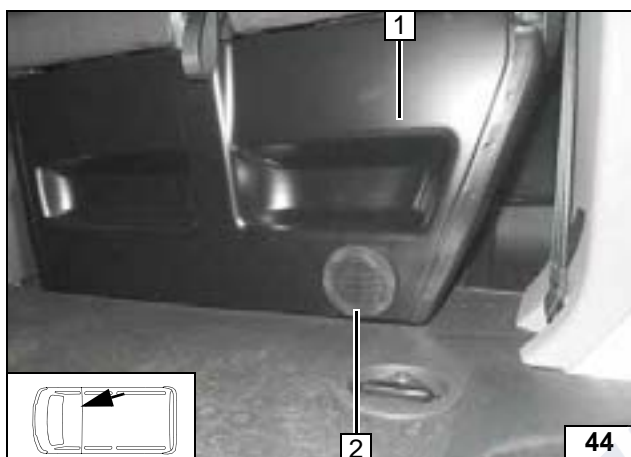


Discard section X.

- B = 280
- C = 350

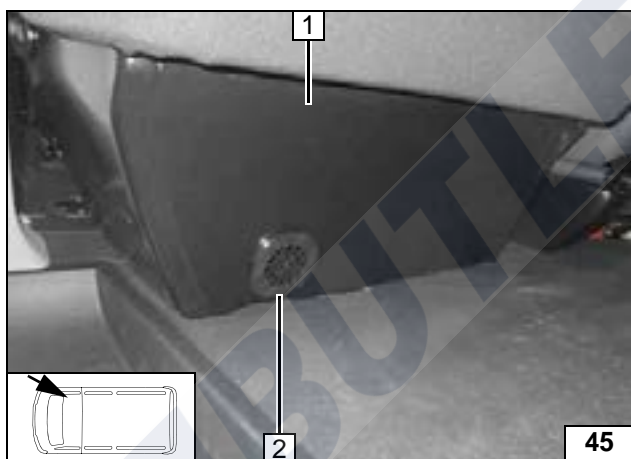


Cutting 55 mm dia. flexible tube to length



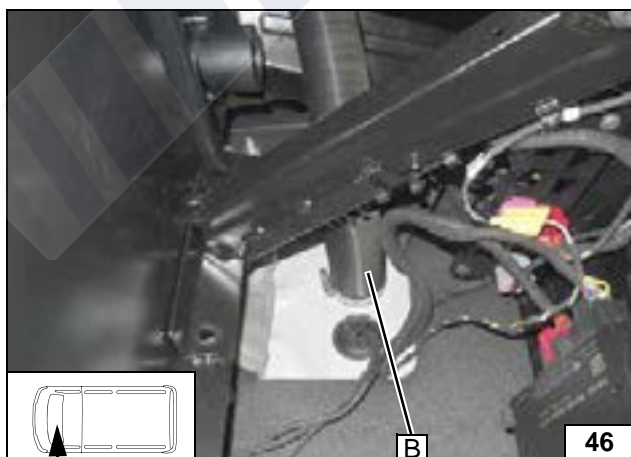
- 1 Twin seat frame
- 2 55 mm dia. hole, install air outlet

Installing air outlet in passenger compartment

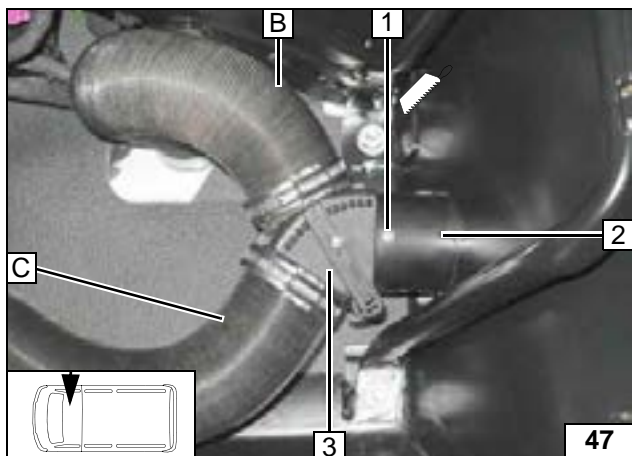
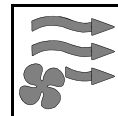


- 1 Twin seat frame
- 2 60 mm dia. hole, install air outlet

Installing air outlet in driver's compartment



Installing flexible hose B



- 1 3.5 mm dia. hole; self-tapping screw as twist protection
- 2 Driver's compartment air outlet
- 3 Air distribution flap

Installing air distribution flap



- 1 Passenger compartment air outlet

Connecting flexible tube C

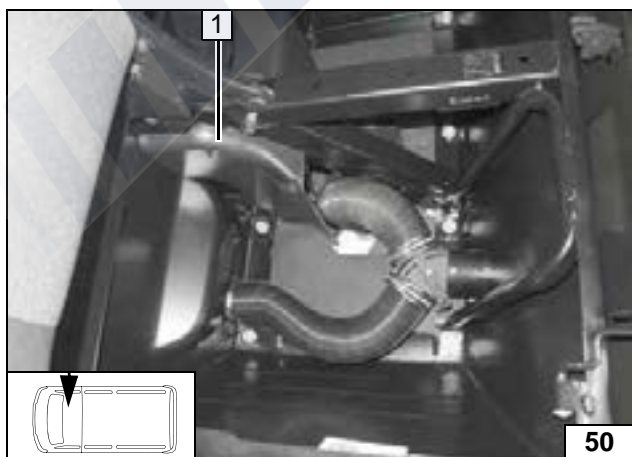


Discard section X.

- 1 Connector cover

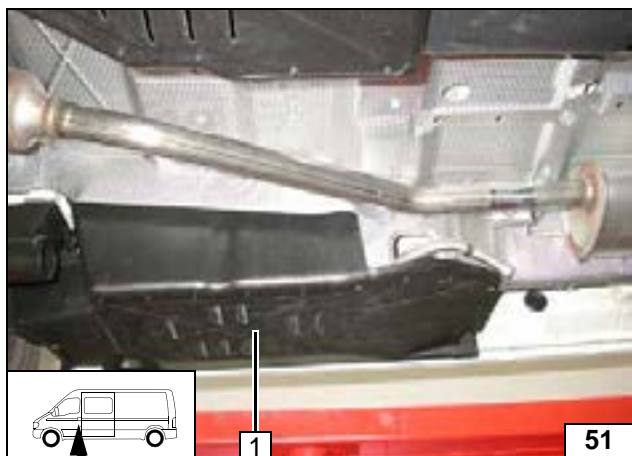
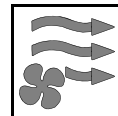


Adapting connector cover



- 1 Connector cover

Installing connector cover

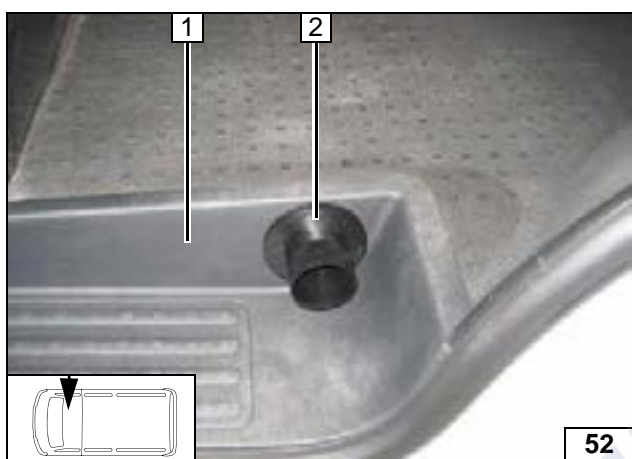


Recirculating Air Option

No underride protection 1 is required for the recirculating air mode option



Underride protection



Place air outlet 2 on entrance trim of front passenger's side 1 and copy inside diameter and hole pattern for fastening [3x] onto trim. Remove air outlet 2 and drill 60mm dia. hole in trim and entrance of front passenger's side.



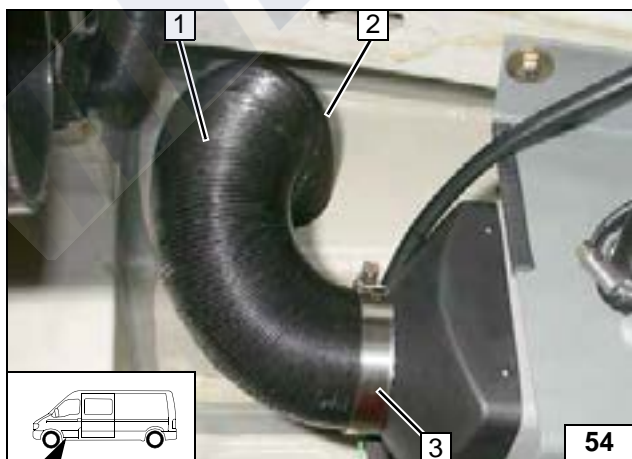
Copying hole pattern



Hole for fastening air outlet [3x] in trim. Affix air grille 1 in trim and secure with blind rivets.



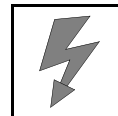
Installing air outlet



Remove protective grille at position 3. Cut 60mm dia. flexible tube 1 to length as shown and connect to air outlet 3. Following installation, seal off pass through at position 2 with Sicaflex.



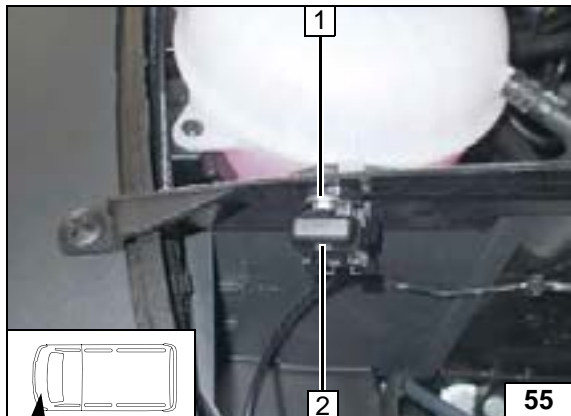
Installing intake hose



Electrical System

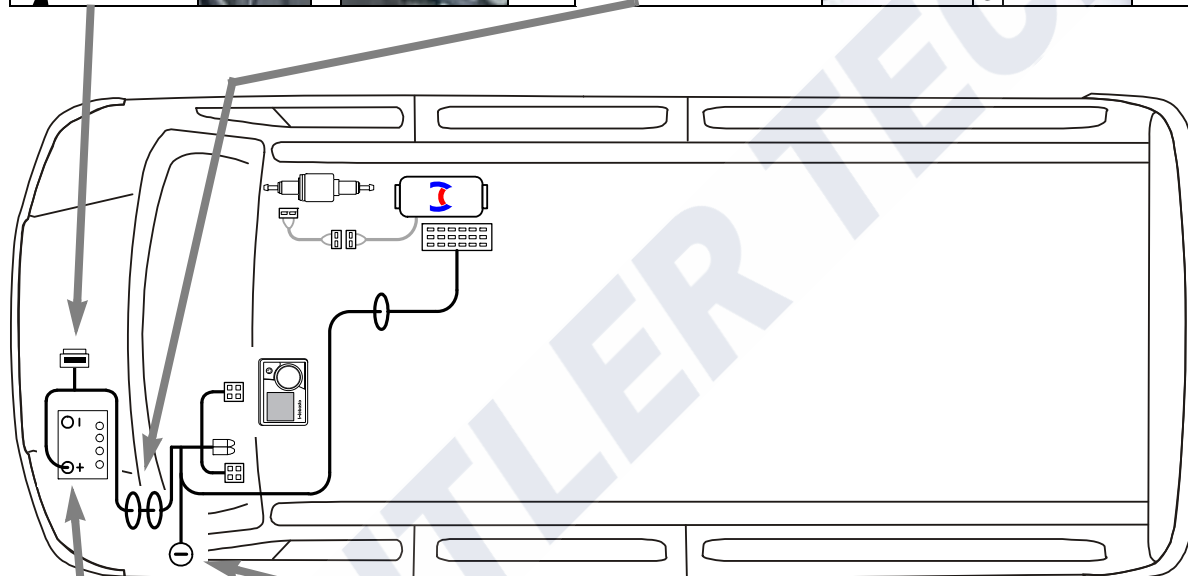
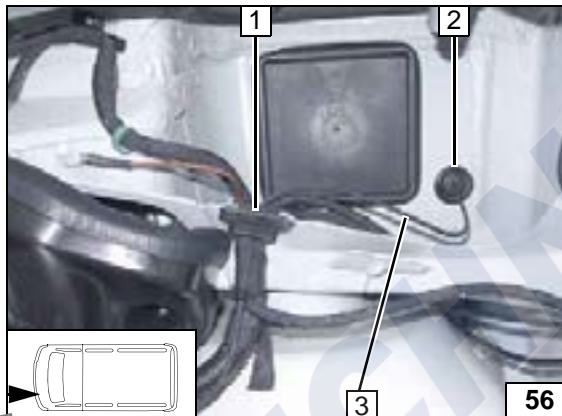
Main fuse

- 1 M5x16 bolt, large diameter washer [2x], retaining plate of fuse holder, nut
- 2 Main fuse (wiring harness positive extension) F0

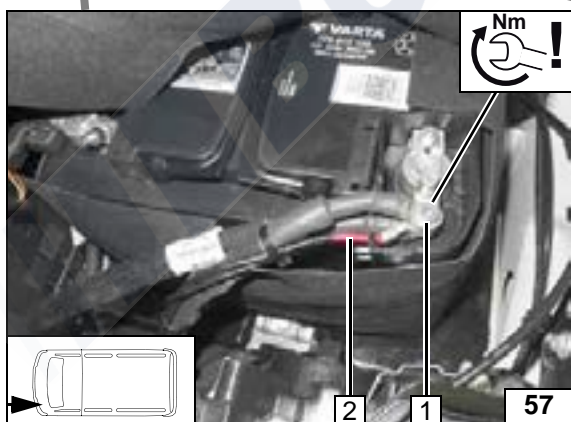


Wiring harness pass through

- 1 Protective rubber plug of coolant reservoir
- 2 Passenger compartment protective rubber plug
- 3 Positive wire of main fuse F0

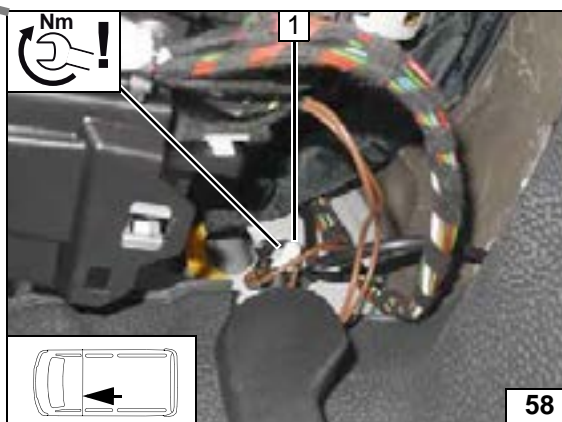


Wiring harness routing diagram



Positive wire

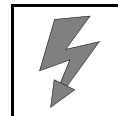
- 1 Positive wire on positive battery terminal
- 2 Positive wire to main fuse F0



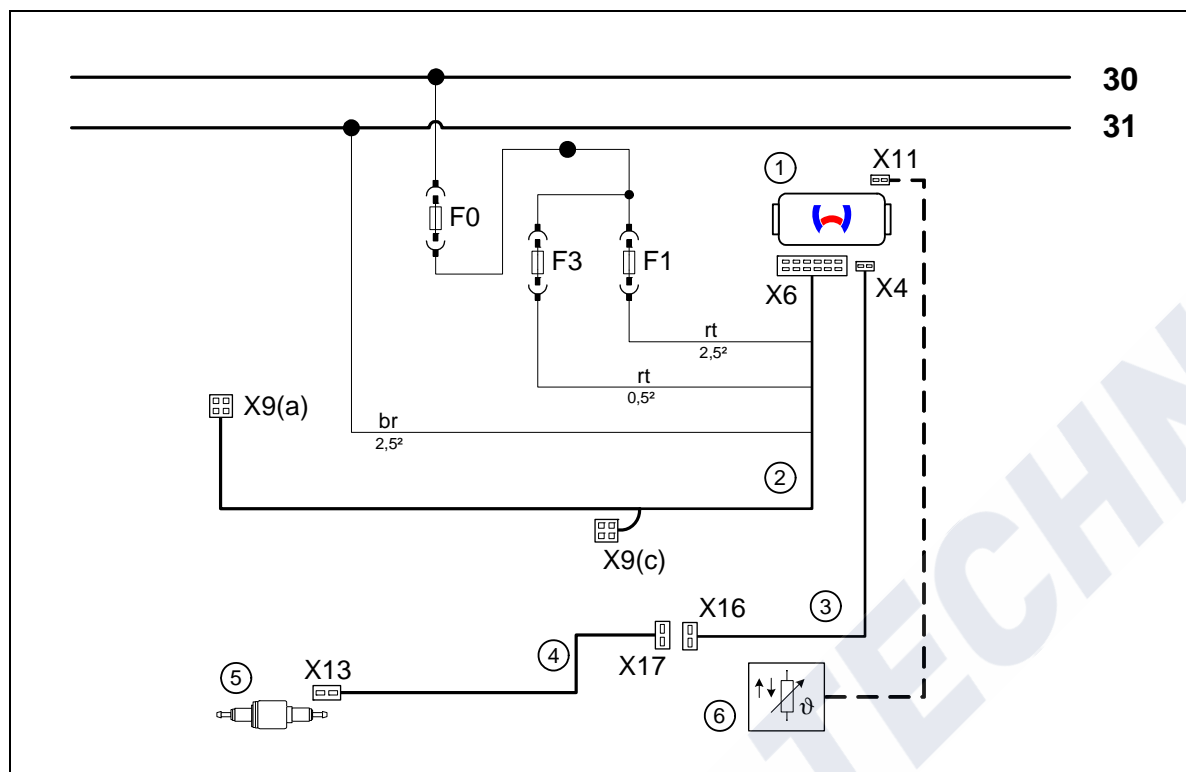
Earth wire

- 1 Earth support point





Heater Control Connection Diagram

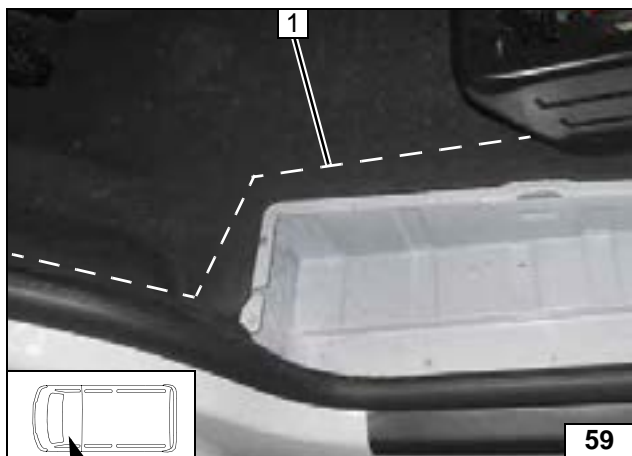
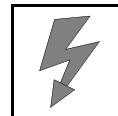


Diagram

Components		Colours and symbols	
①	AT 2000 STC Heater	rt	red
F0	30A main fuse	br	brown
F1	20A heater fuse (included in wiring harness)		
F3	1A heater control fuse (included in wiring harness)		
②	Heater wiring harness		
X6	18-pin heater connector		
X9(a)	4-pin connector of heater control rotary selector		
X9(c)	4-pin connector of W-Bus, MultiControl, Telearstart, TC4		
③	Connecting wire of metering pump		
④	Wiring harness of metering pump		
⑤	Metering pump		
X4	2-pin connector of metering pump connecting wire		
X16	2-pin connector of metering pump connecting wire		
X17	2-pin connector of metering pump wiring harness		
X13	2-pin connector of metering pump		
⑥	B4 external room temperature sensor		
X11	2-pin connector of B4 external room temperature sensor	Wiring colours may vary.	



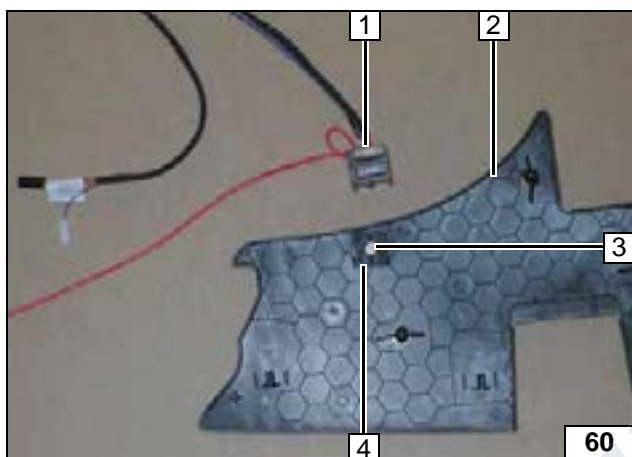
Legend



Route wiring harness of heater and control panel 1 (under floor mat) to fuse holder installation location in passenger compartment



Routing wiring harness



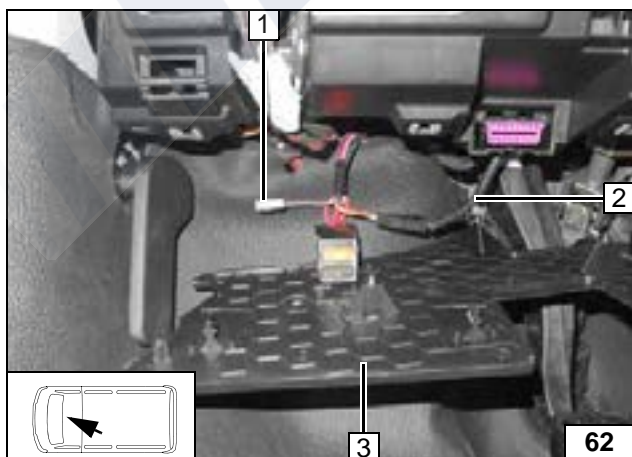
- 1 Passenger compartment fuse holder
- 2 Footwell trim on the driver's side
- 3 5 mm dia. hole; M4x10 bolt, large diameter washer, nut
- 4 Socket of passenger compartment fuse holder

Premounting fuse holder of passenger compartment



- 1 Install passenger compartment fuse holder
- 2 Positive wire

Premounting fuse holder of passenger compartment

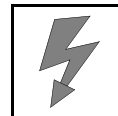


Connect positive wire of passenger compartment fuse holder to positive wire of main fuse.



- 1 Diagnostic connector
- 2 W-Bus connector of wiring harness extension
- 3 Position the footwell trim under the instrument panel

Positioning footwell trim



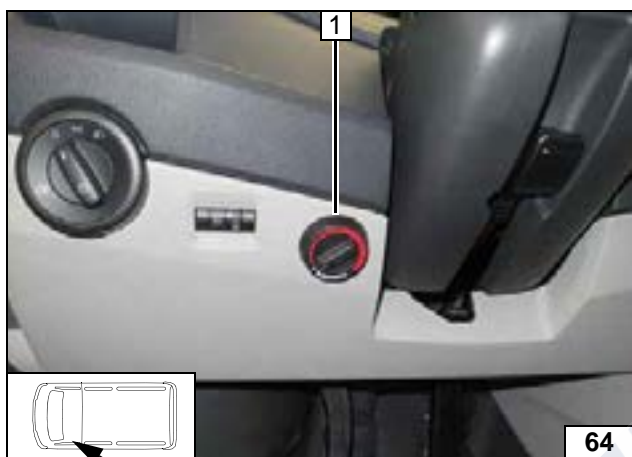
Rotary Selector Option

T5

- 1 Rotary selector



Installing rotary selector



T6

- 1 Rotary selector



Installing rotary selector



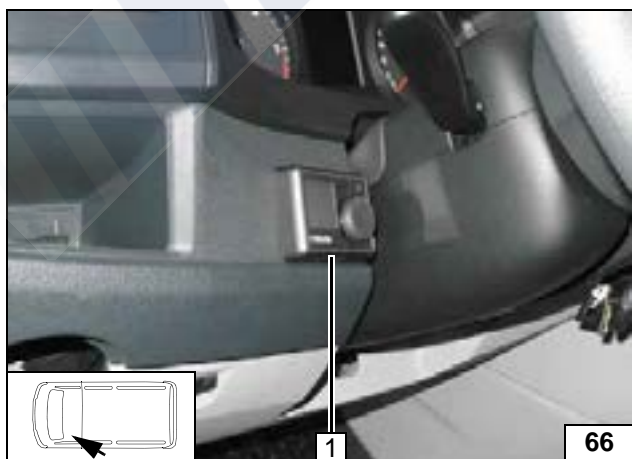
MultiControl HD Option

T5

- 1 MultiControl HD with installation frame



Installing MultiControl HD

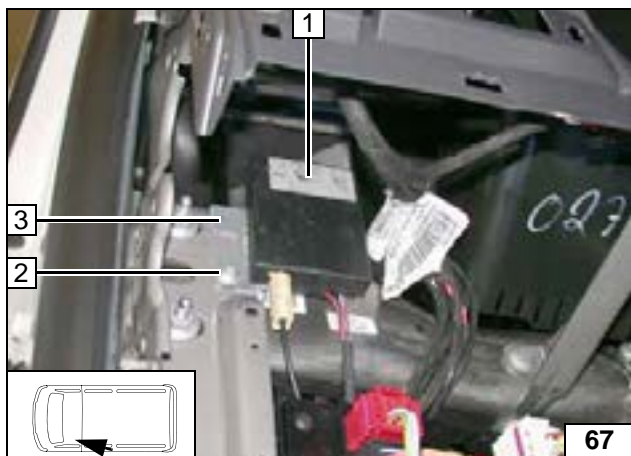
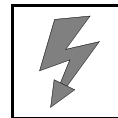


T6

- 1 MultiControl HD with installation frame



Installing MultiControl HD



Remote Option (Telestart)

T5

Drill out bracket 3 to 6.5 mm dia. at position 2.

- 1 Receiver
- 2 Original vehicle bolt

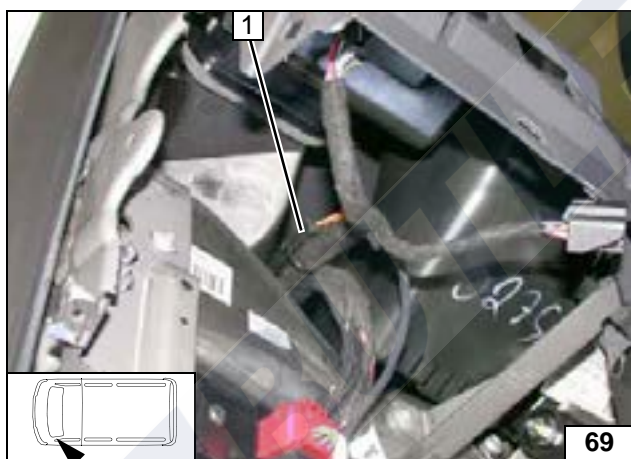


Installing receiver



- 1 Aerial

Installing aerial

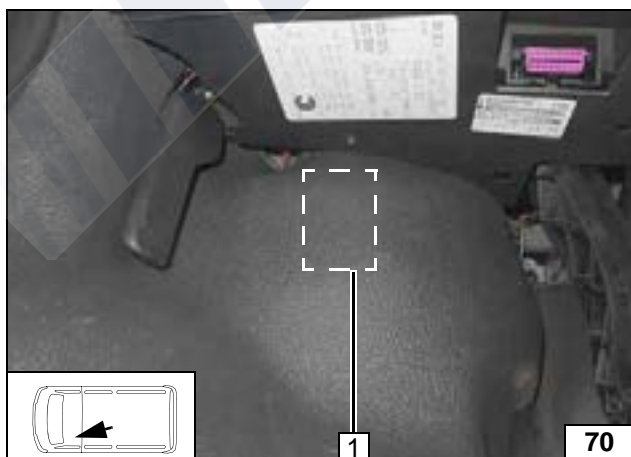


Temperature sensor T100 HTM

Fasten temperature sensor 1 with cable tie on original vehicle wiring harness.



Installing temperature sensor

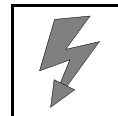


T6

Fasten receiver 1 with adhesive tape behind the footwell mat.

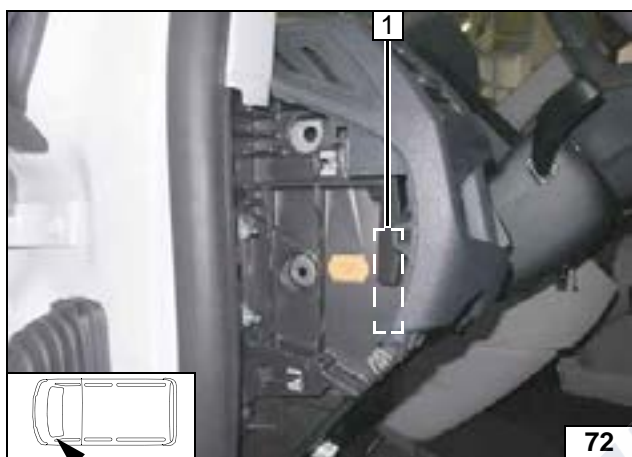


Installing receiver



1 Aerial

Installing aerial

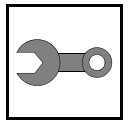


Temperature sensor T100 HTM

Fasten temperature sensor 1 with adhesive tape.



Installing temperature sensor



Final Work

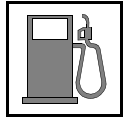
WARNING!

Install removed parts in reverse order. Check all clamps and all electrical connections for firm seating. Insulate and tie back all loose lines.

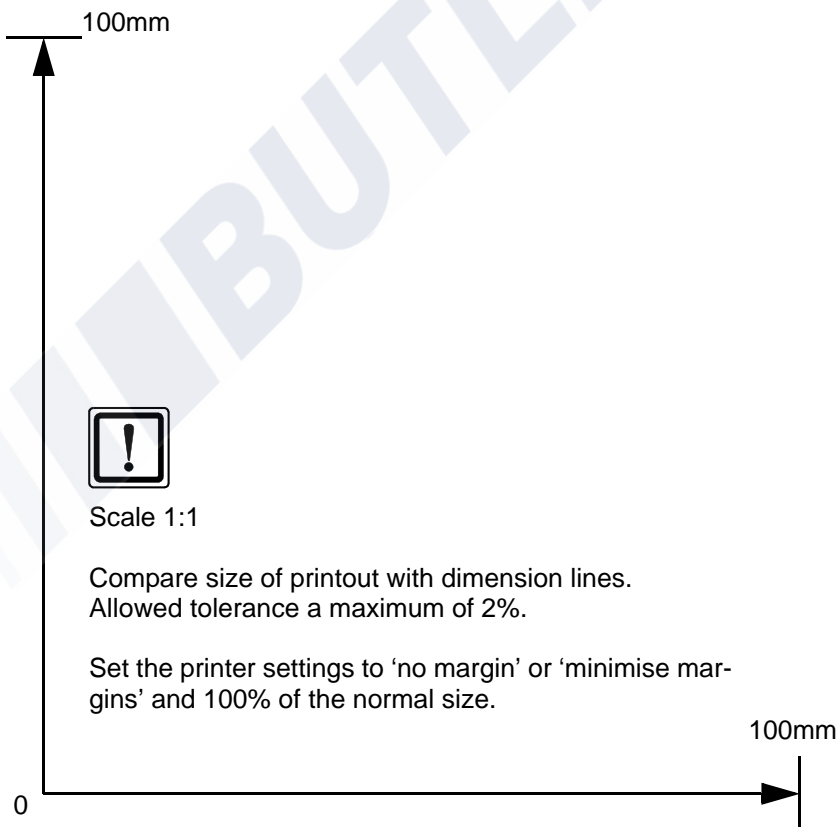
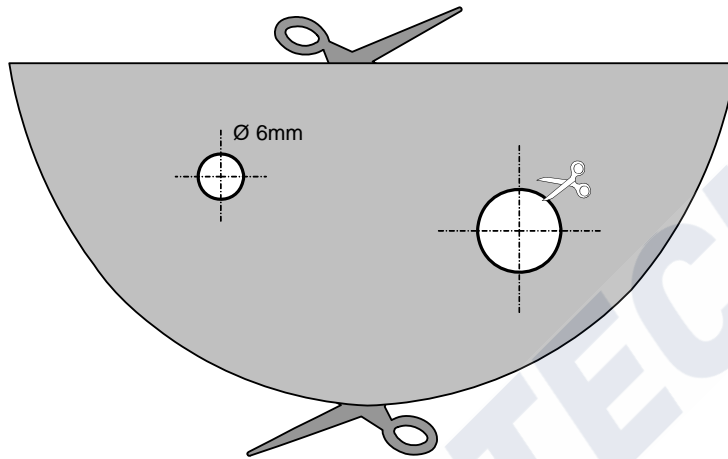
Spray the heater components with anti-corrosion wax (Tectyl 100K, Order No. 111329).

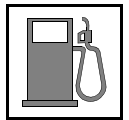
- **Connect the battery.**
- **Program MultiControl HD, teach Telestart transmitter.**
- **Place the 'Switch off parking heater before refuelling' caution label near the filler neck.**
- **Place the 'Switch off parking heater before refuelling' caution label near the filler neck.**
- **For initial startup and function check, please see installation instructions.**





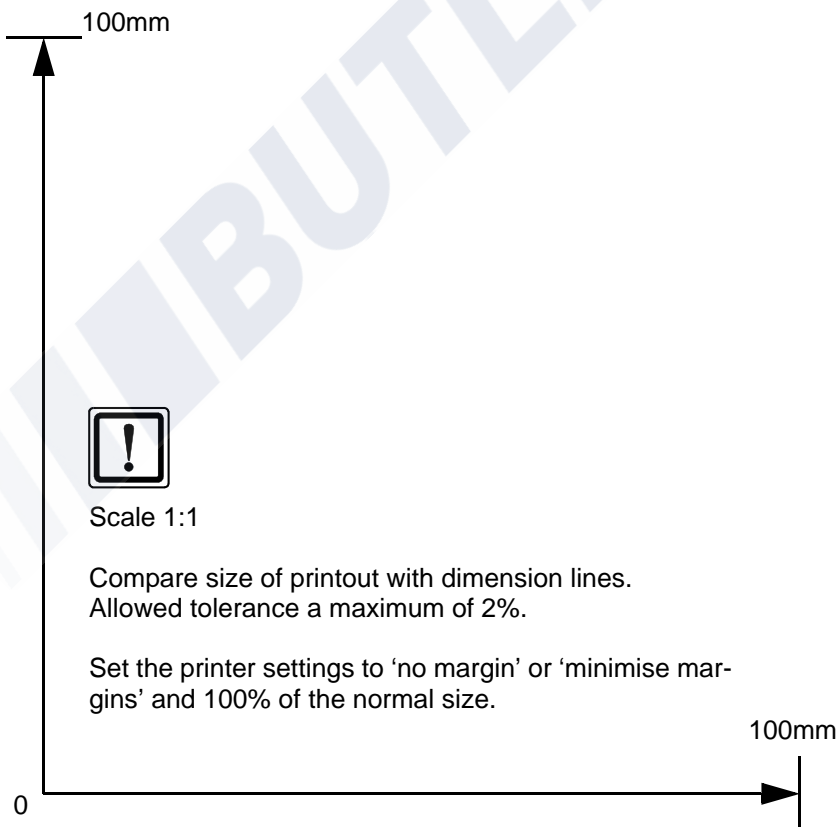
Template for Fuel Tank Sending Unit T5

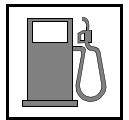




Template for Fuel Standpipe T5

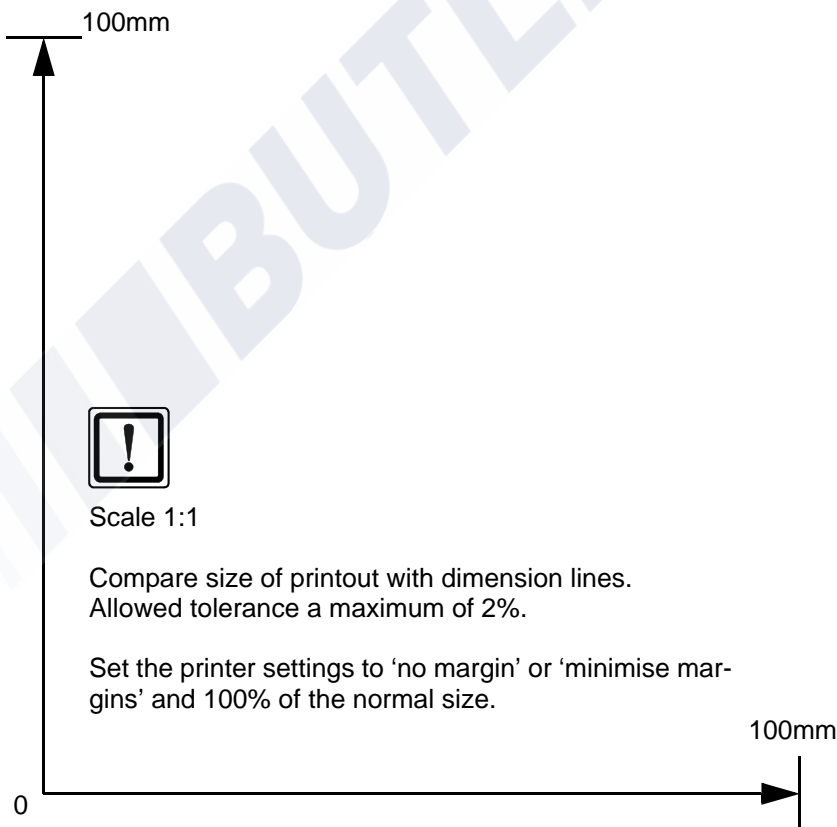
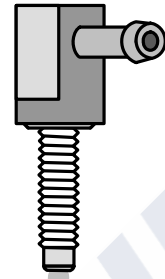
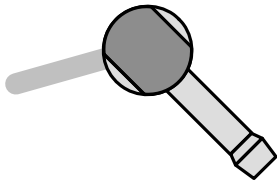
Top view





Template for Fuel Standpipe T6

Top view



Operating Instructions for End Customer

Please remove page and add to the vehicle operating instructions.

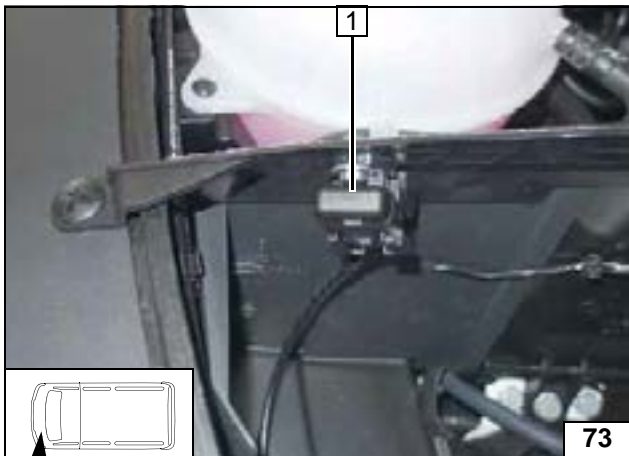
Note:

We recommend matching the heating time to the driving time.
Heating time = driving time

Passenger compartment monitoring, if installed, must be deactivated in addition to vehicle settings for the heating operation .

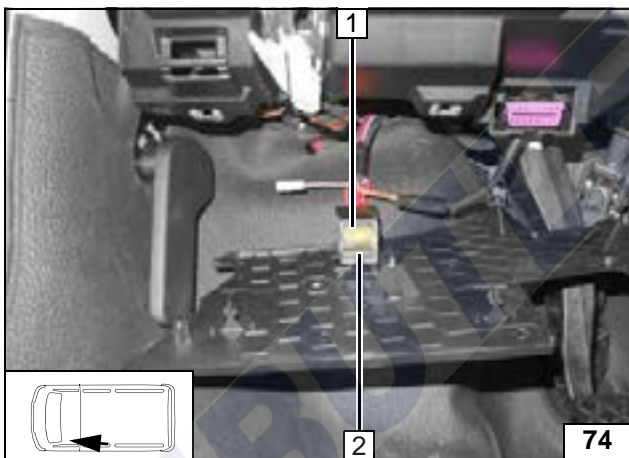
For instructions on deactivation, please refer to the operating instructions of the vehicle.

Observe the Air Top 2000 ST operating instructions



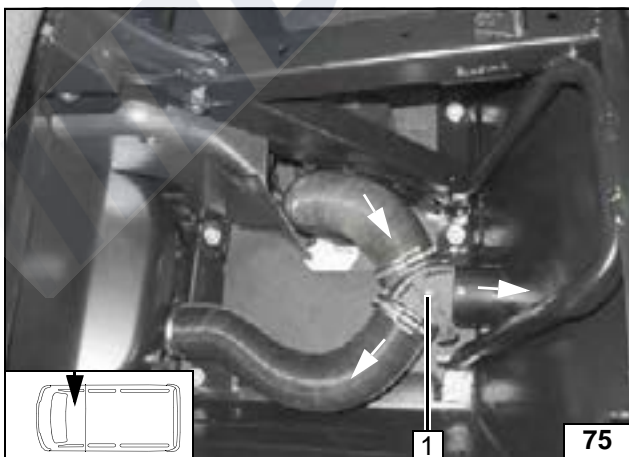
1 30A main fuse F0

Main fuse



1 20A heater fuse F1
2 1A heater control fuse F3

Passenger compartment fuses



Position 'A' = cargo space heating only
Position 'B' = cab heating only

1 Bolt from bell crank of butterfly valve

Heating air control

