Air Heater

Webasto
Feel the Drive

Air Top Evo 3900 Air Heater

E1
00 0255

Installation Documentation
Ford Transit Custom

Validity

Manufacturer	Model	Type	EG-BE-No. / ABE
Ford Transit	Transit Custom van	FCC	e1 * 2007 / 46 * 1005 * ...
Ford Transit	Transit Custom	FAC	e11 * 2007 / 46 * 0676 * ...

Motorisation	Fuel	Transmission type	Output in kW	Displacement in cm³	Engine code
2.2 TDCi	Diesel	6-speed SG	74	2198	DRFA
2.2 TDCi	Diesel	6-speed SG	74	2198	DRFB
2.2 TDCi	Diesel	6-speed SG	74	2198	DRFC
2.2 TDCi	Diesel	6-speed SG	74	2198	DRFD
2.2 TDCi	Diesel	6-speed SG	74	2198	DRFF
2.2 TDCi	Diesel	6-speed SG	92	2198	CYFA
2.2 TDCi	Diesel	6-speed SG	92	2198	CYFB
2.2 TDCi	Diesel	6-speed SG	92	2198	CYFC
2.2 TDCi	Diesel	6-speed SG	92	2198	CYFD
2.2 TDCi	Diesel	6-speed SG	114	2198	CVR5

from model year 2013
Left-hand drive vehicle

Verified equipment variants: Van with / without partition wall
Manual / automatic air-conditioning system
Passenger double-bench seat

Not verified: Passenger compartment monitoring
Single front passenger's seat

Total installation time: approx. 9 hours

Ford Transit Custom

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Necessary Components

- Basic delivery scope *Air Top Evo 3900* in accordance with price list
- Installation kit Ford Transit Custom 2013 *Air Top Evo 3900* Diesel: **1320546A**
- Additional heater control required, choice of control in consultation with the end customer in accordance with price list :
  - Heater control setpoint encoder : **82819B**
    + wiring harness extension: **1319724A**
  - 12 V heater control combination timer including adapter cable: **9010385A**
  - Mounting plate for combination timer (frame): **474630**
  - Bag for external temperature sensor (for temperature control in cargo space): **93205A**
  - Telestart T91 in accordance with price list
  - Telestart T 100 HTM in accordance with price list
  - Wiring harness only when using combination timer + Telestart: **1311194A**

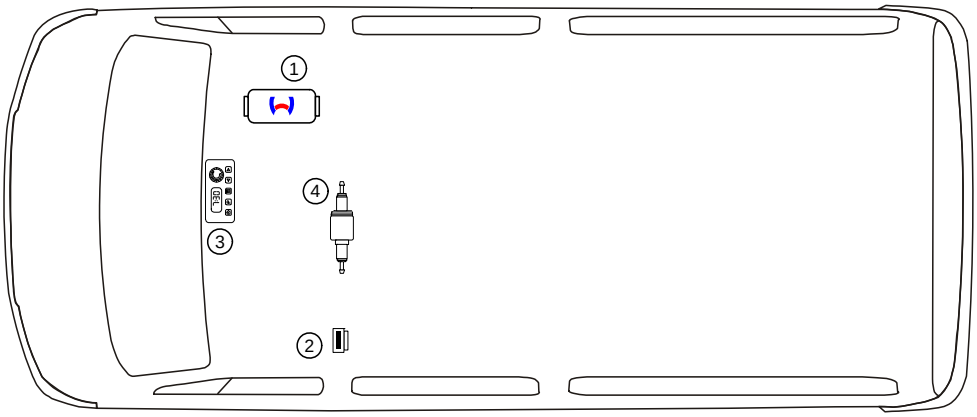
Installation instructions:

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

Installation Overview

Legend:

1. Heater
2. Fuse of passenger compartment
3. Combination timer / setpoint encoder
4. Metering pump



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

11 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 wires and tie them back.

Sharp edges should be fitted with rub protection (cut-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.

2 Statutory regulations governing installation

Guidelines	AT Evo 3900	AT Evo 5500
Heating Directive ECE R122	E1 00 0255	E1 00 0256
EMC Directive ECE R10	E1 03 5529	E1 03 5529

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

STIPULATIONS FOR COMBUSTION HEATERS AND THEIR INSTALLATION

1. GENERAL STIPULATIONS

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.

Ford Transit Custom

Information on Validity

This installation documentation applies to Ford Transit Custom vehicles Diesel - for validity, see page 1 - from model year 2013 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 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
- 92 mm dia. hole circle bit, 95 mm dia. drill core
- 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 are in mm

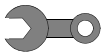
Tightening torque values
- Tightening torque of heater nuts M6 = 6Nm +1Nm!
- Tighten bolt connections in accordance with manufacturer's instructions or in accordance with state-of-the-art- technology.

Assembling Heater
- A gasket must be inserted between the heater and body and replaced prior to every installation.

Explanatory Notes on Document

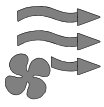
To provide you with a quick overview of the individual working steps, you will find an identification mark on the outside top right corner of the page in question.

Mechanical System



Electrical System

Heating Air



Combustion Air

Fuel

Exhaust Gas

Software

Special features are highlighted using the following symbols:

Specific risk of injury or fatal accidents.

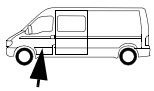
Specific risk of damage to components.

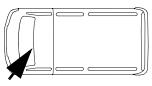
Specific risk of fire or explosion.

Reference to general installation instructions of the 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.





Ford Transit Custom

Preliminary Work

Vehicle

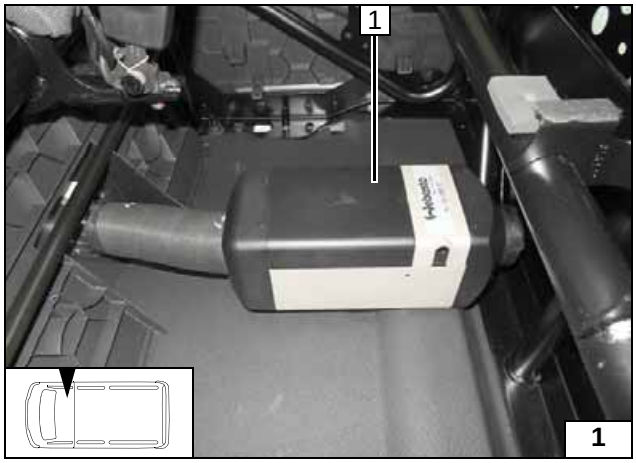
- Open the fuel tank cap, ventilate the tank.
- Close the fuel tank cap again.
- Disconnect the battery.
- Remove the driver's seat.
- Expose the battery.
- Remove the seat surfaces of the front passenger's seats.
- Front passenger's seat trim on the left (only on vehicles with a partition wall).
- Remove the A/C control panel according to the manufacturer's instructions (only with combination timer).
- Remove the heat guard plate of the exhaust system.

The following work should only be performed during the corresponding installation sequence:

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

Heater

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

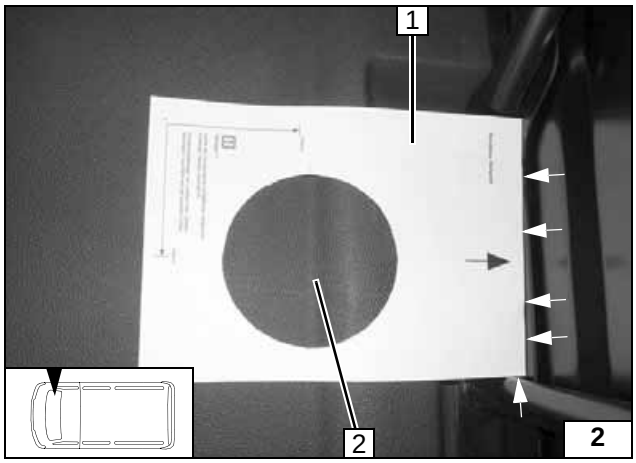


Heater Installation Location

The figure shows a vehicle without a partition wall!

1 Heater

Installation location

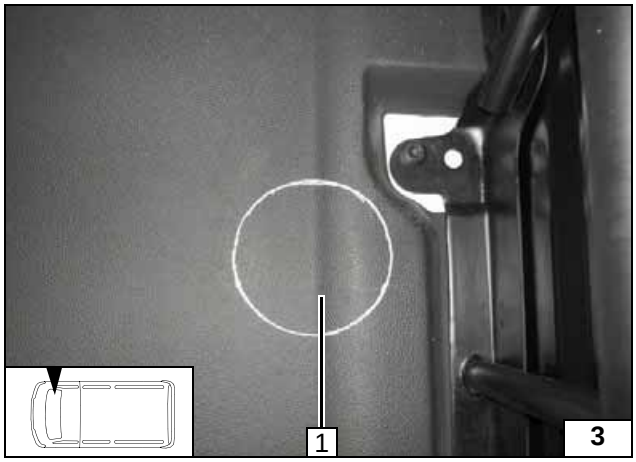


Preparing Installation Location

Cut out heater template **1**, apply and align with the markings.

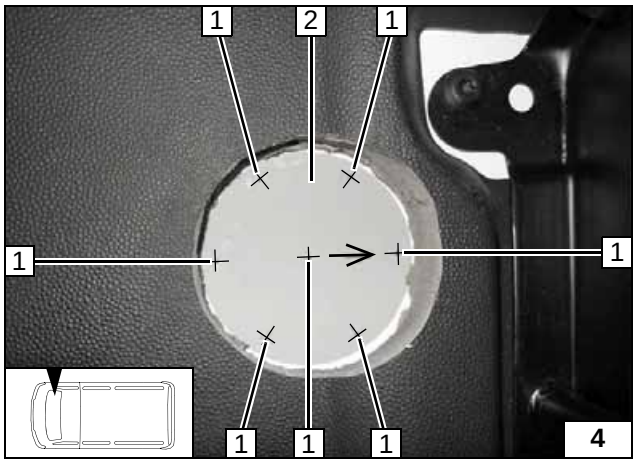
2 Copy hole pattern

Copying hole pattern



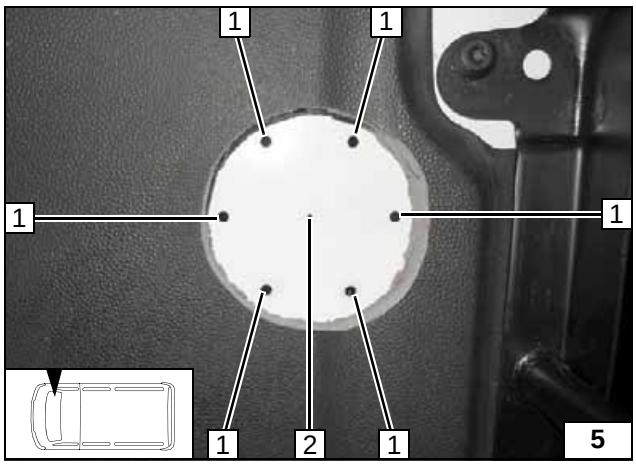
Remove template. Cut out floor covering **1** using a sharp tool.

Cutting out floor covering



Place cut out drilling template **2** in the centre of the hole, align with the front in the direction of the arrow and secure to prevent slipping. Copy hole pattern **1** [7x] with a centre punch on the underbody.

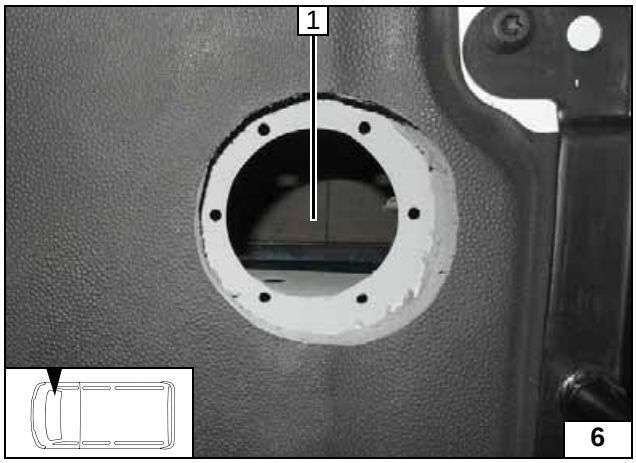
Copying hole pattern



Remove drilling template.

1 7 mm dia. holes [6x]
2 3 mm dia. holes

Holes in underbody

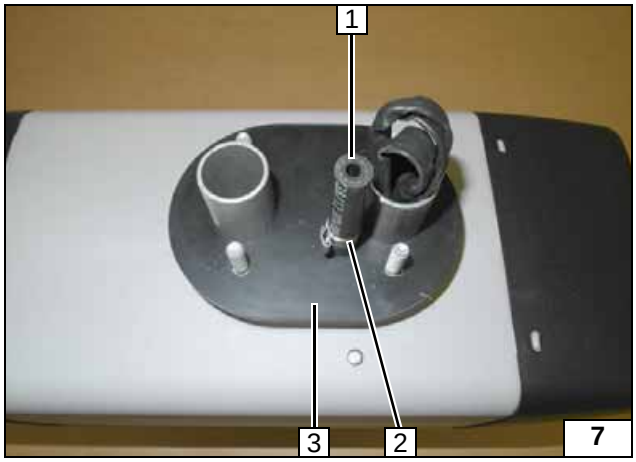


Make a 95 mm dia. hole with the core bit. Apply corrosion protection.

1 Drill out 3 mm hole to 95 mm

Hole in underbody

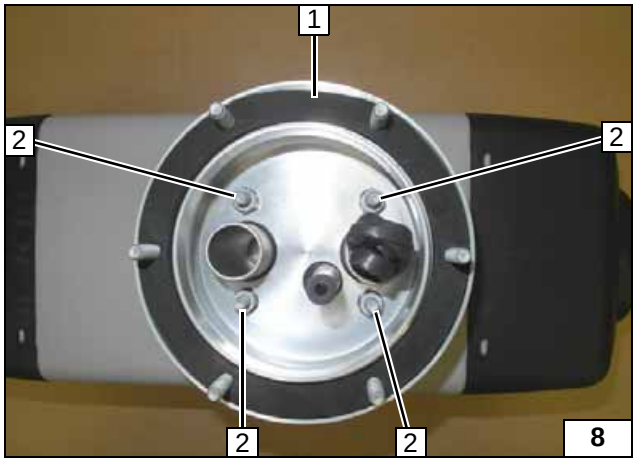
Preparing Heater



Mount base seal **3** onto the stud bolts.

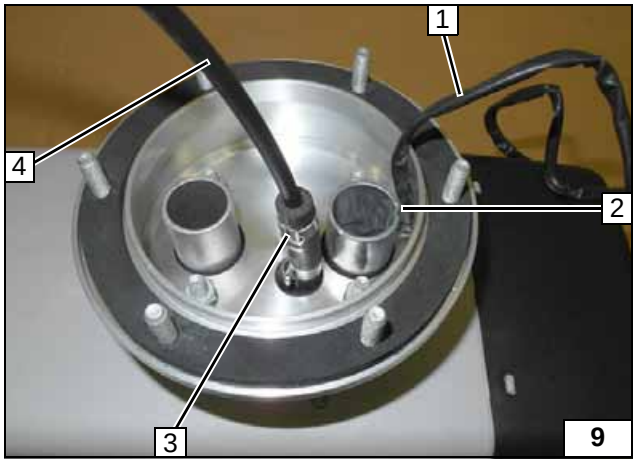
1 Hose section
2 10 mm dia. clamp

Preparing Heater



1 Adapter upper section with sealing ring
2 Spring lockwasher, M6 [4x] flanged nut on stud bolt

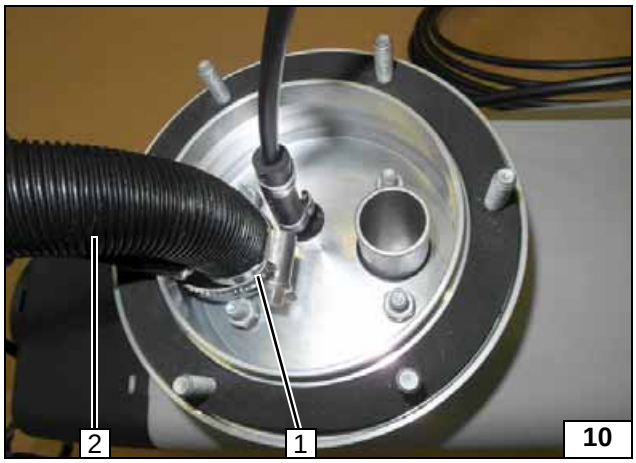
Assembling adapter upper section



Pull wiring harness **1** out of air intake connection piece and position in the slot at position **2**.

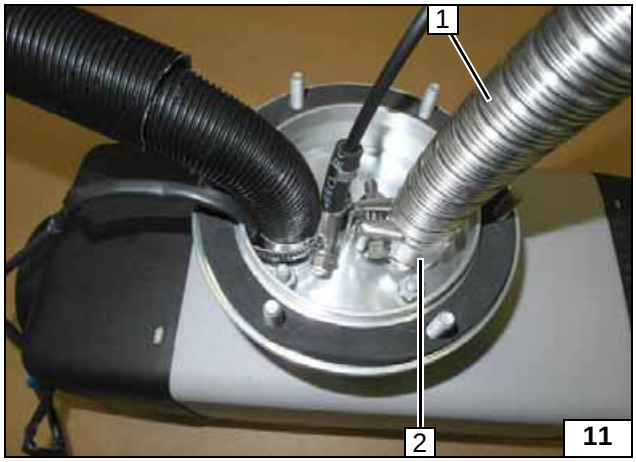
3 10 mm dia. clamp, position lock
4 Fuel line

Installing fuel line



1 Position 24-27 mm dia. clamp and lock
2 Combustion air pipe

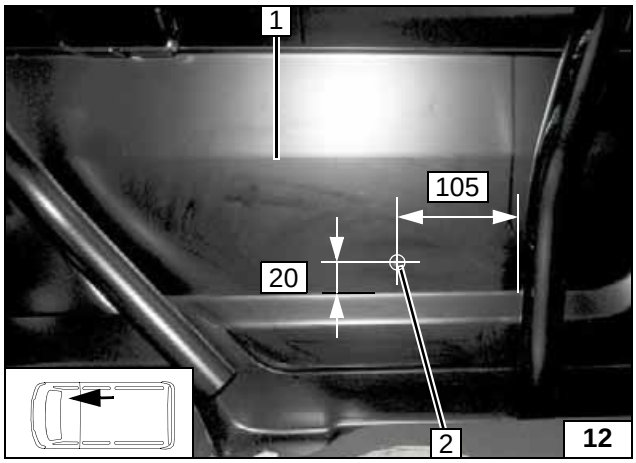
Mounting combustion air pipe



1 Exhaust pipe
2 Position hose clamp and lock

Mounting exhaust pipe

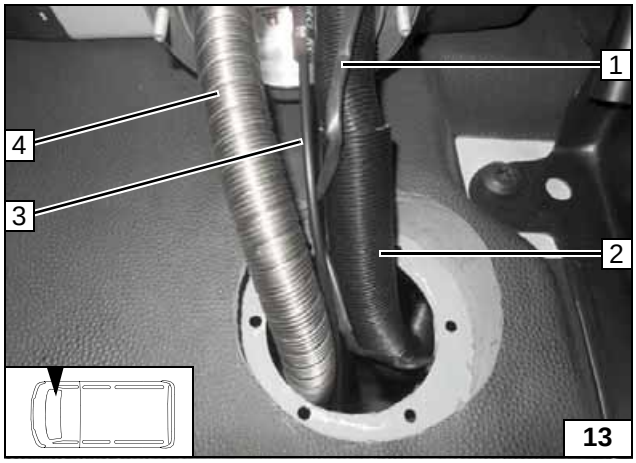
Preparing Air Intake



1 Front passenger's seat trim on the right
2 95 mm dia. hole

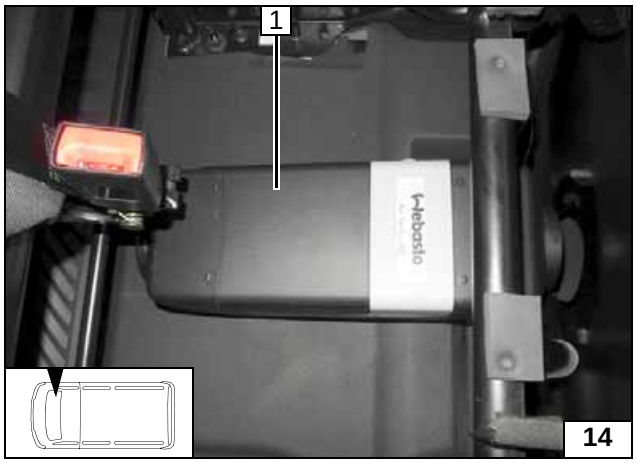
Hole in front passenger's seat trim on the right

Installing Heater



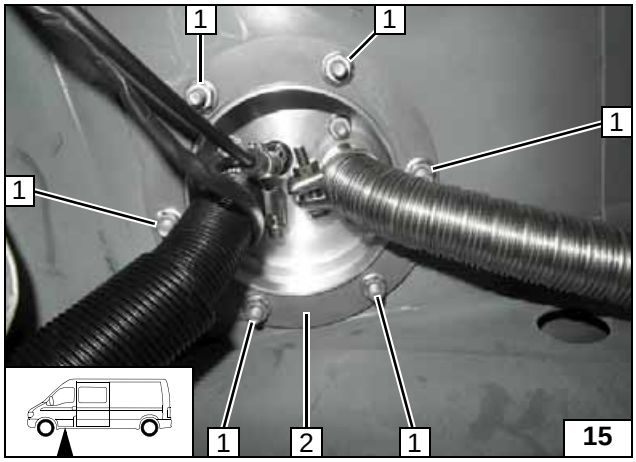
Route wiring harness for metering pump **1**, combustion air pipe **2**, fuel line **3** and exhaust pipe **4** down through 95 mm dia. hole.

Mounting heater



Insert heater **1** with stud bolts in 7 mm dia. holes.

Positioning heater



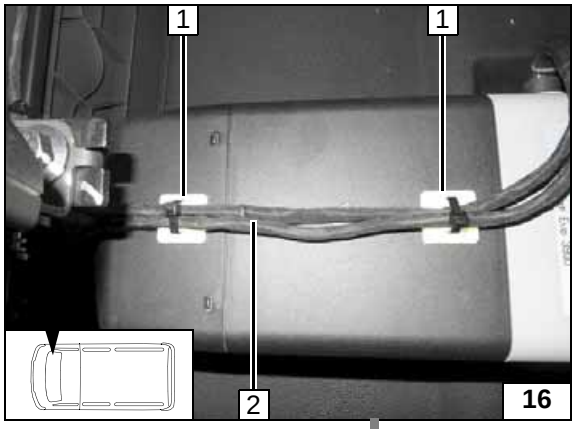
1 M6 [6x] flanged nut on original vehicle stud bolt
2 Adapter lower section

Mounting heater

Electrical System

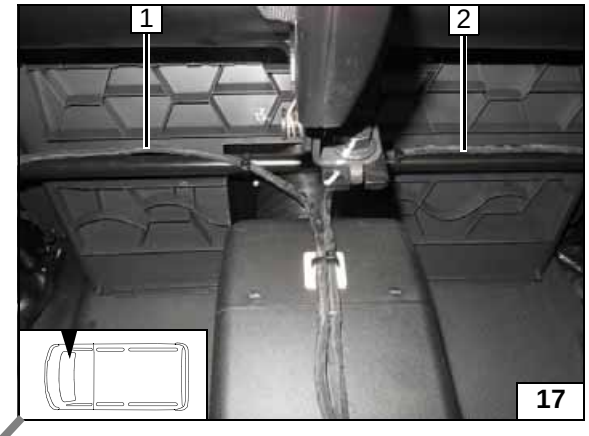
Wiring harness routing

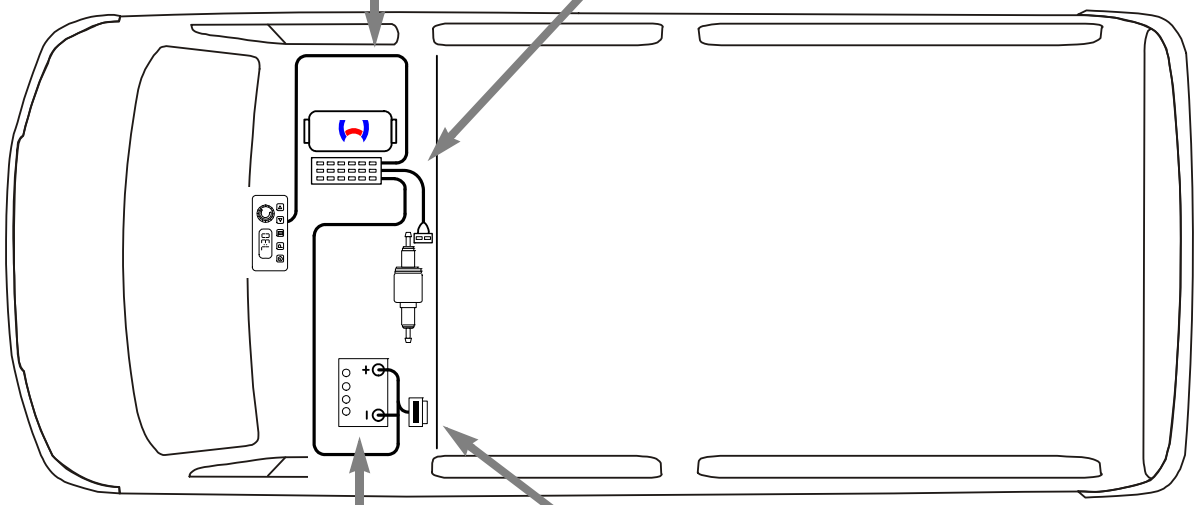
1 Adhesive base, cable tie [2x]
2 Wiring harnesses of heater control and power supply



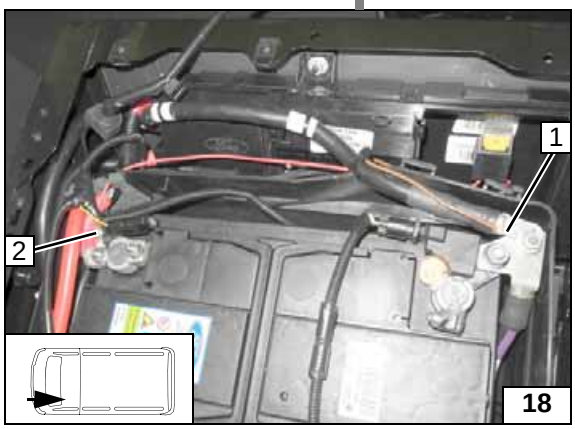
Wiring harness routing

1 Route the wiring harness for the heater control up to the right B-pillar and on to the heater control installation location
2 Route wiring harness of power supply to battery





Wiring harness routing diagram



Plus and earth wire

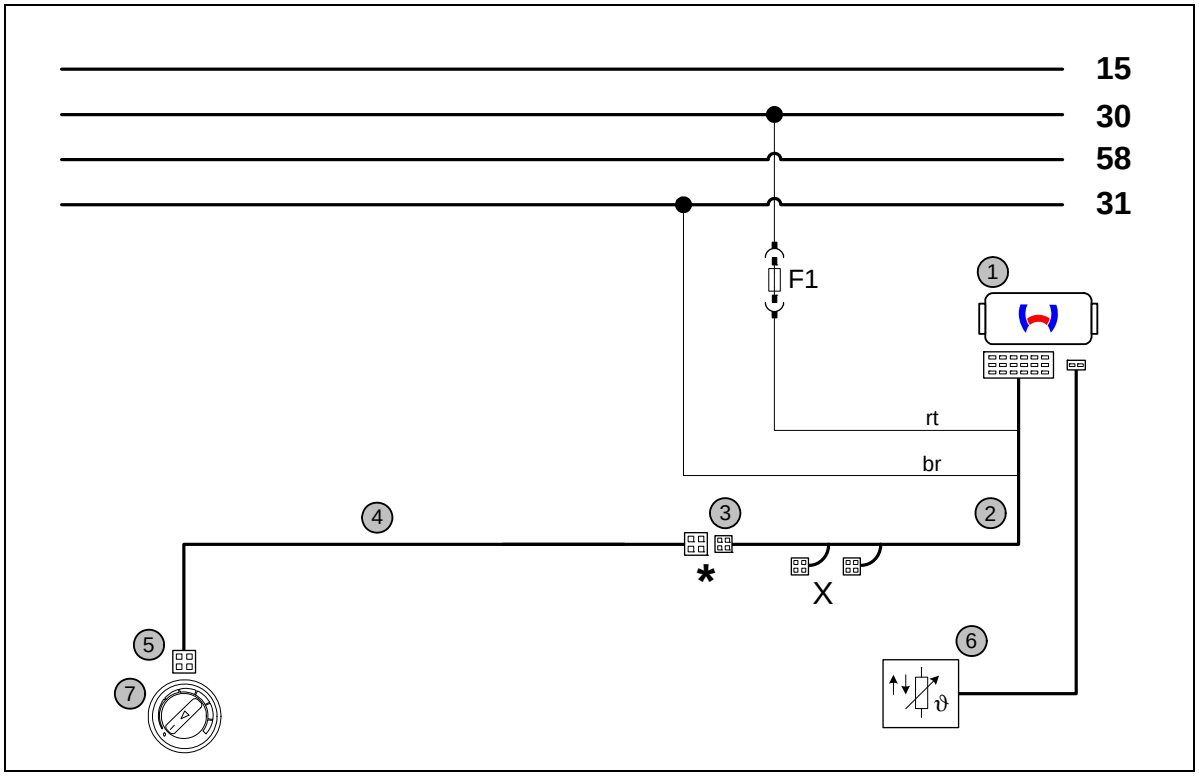
1 Earth wire, cable lug to negative battery terminal
2 Positive wire, cable lug to positive battery terminal

Fuse holder assembly

1 Affix fuse holder retaining plate to the battery box using adhesive tape

Connection Diagram for Setpoint Encoder

Diagram

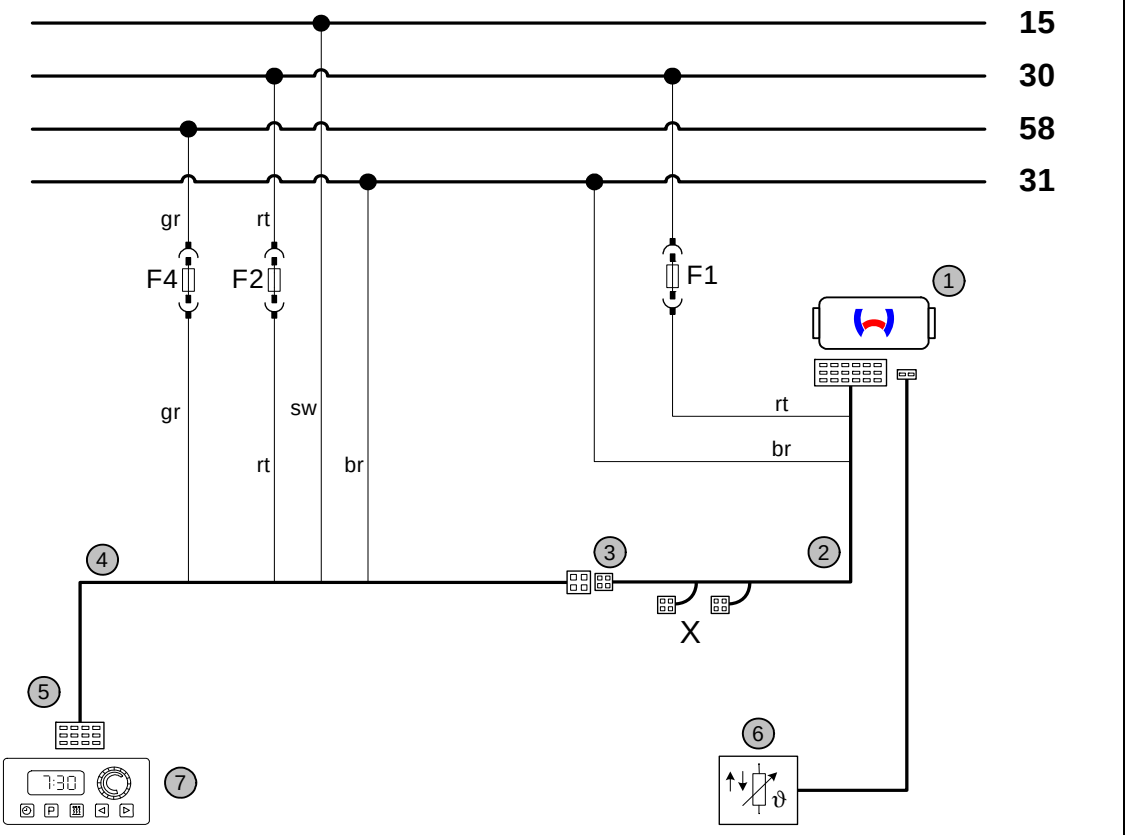


Legend

Parts		Colours and symbols	
F1	15A fuse (included in wiring harness)	rt	red
		br	brown
1	AT-Evo 3900 heater	ws	white
2	Heater wiring harness	vi	violet
3	Potentiometer connector	bl	blue
4	Wiring harness extension (1319724A)	sw	black
5	Heater control connector		
6	Heater temperature sensor		
7	Setpoint encoder		
		X	Connectors not used
		*	Connect connectors alternately white (ws) to vi (violet), blue (bl) to black (sw), red (rt) to brown (br) and black (sw) to red (rt).
		Wiring colours may vary.	

Connection Diagram for Combination Timer

Diagram

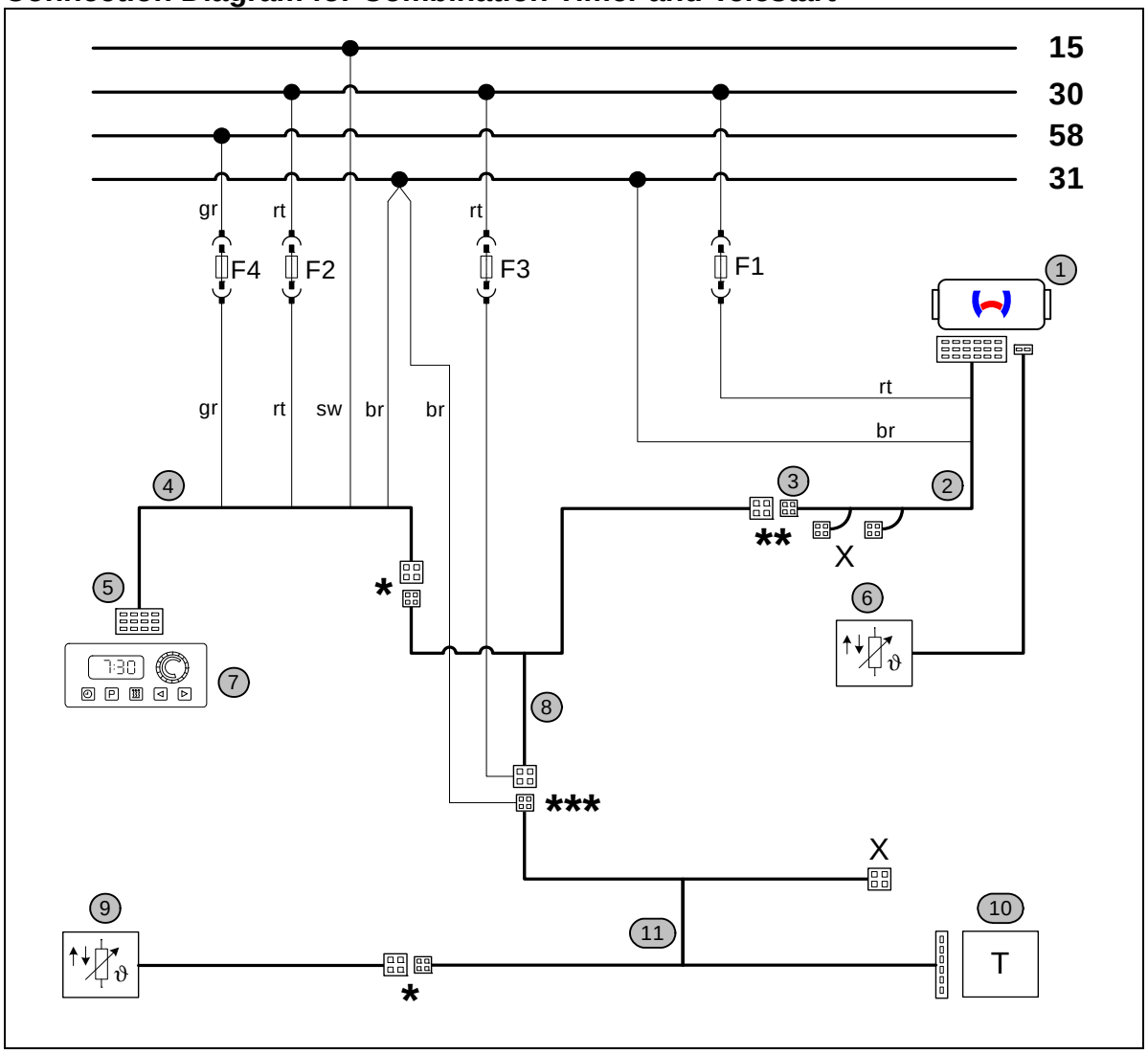


Legend

Parts		Colours and symbols	
F1	15A fuse (included in wiring harness)	rt	red
		sw	black
F2	5A fuse (not included in delivery scope)	gr	grey
		br	brown
F4	5A fuse (not included in delivery scope)		
1	AT-Evo 3900 heater		
2	Heater wiring harness		
3	Potentiometer connector		
4	Combination timer wiring harness (9006887C)		
5	Combination timer connector		
6	Heater temperature sensor		
7	Combination timer	Wiring colours may vary.	

Connection Diagram for Combination Timer and Telestart

Diagram



Legend

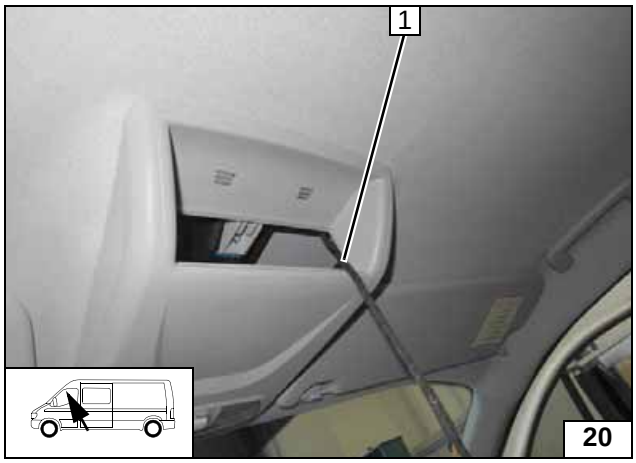
Parts		Colours and symbols	
F1	15A fuse for heater	rt	red
F2	5A fuse (not included in delivery scope)	sw	black
		gr	grey
F4	5A fuse (not included in delivery scope)	br	brown
		vi	violet
F3	1A fuse (not included in delivery scope)	bl	blue
1	AT-Evo 3900 heater		
2	Heater wiring harness		
3	Potentiometer connector		
4	Combination timer wiring harness (9006887C)		
5	Combination timer connector		
6	Heater temperature sensor	*	Connect connectors using same colour wires.
7	Combination timer	**	Connect connectors alternately white (ws) to vi (violet), blue (bl) to black (sw), red (rt) to brown (br) and black (sw) to red (rt).
8	Combination timer / Telestart wiring harness (1311194A)		
9	Telestart temperature sensor (only on T100 HTM)	***	Insert grey (gr) and black (sw) wires in same coloured free sockets. Insulate the yellow (ge) wire again and tie back
10	Telestart receiver	X	Connector not used
11	Telestart wiring harness (9021440B)	Wiring colours may vary.	

Heater Control

Remove storage compartment.

1 Route out wiring harness of heater control

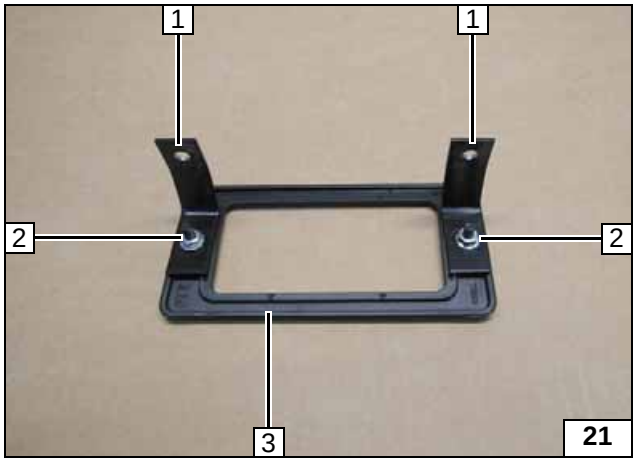
Routing wiring harness



Shape angle bracket **1** [2x] as shown in figure and adapt to the storage compartment.

2 M4 bolt, washer, nut [2x each]
3 Cover frame of heater control

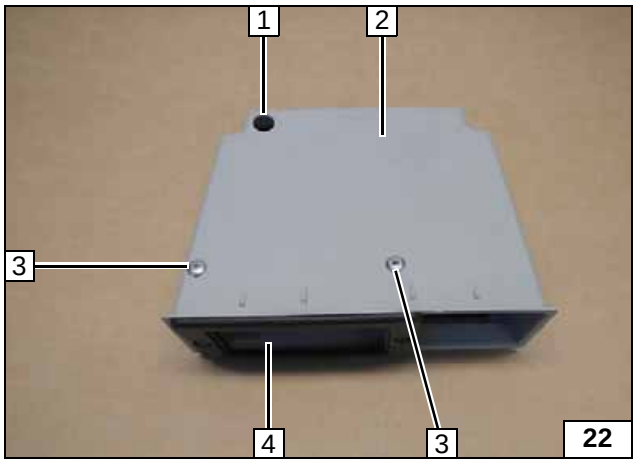
Preparing trim piece



Copy hole pattern at position **3** [2x] onto storage compartment **2**. 5.5 mm dia. hole [2x] at position **3** in storage compartment.

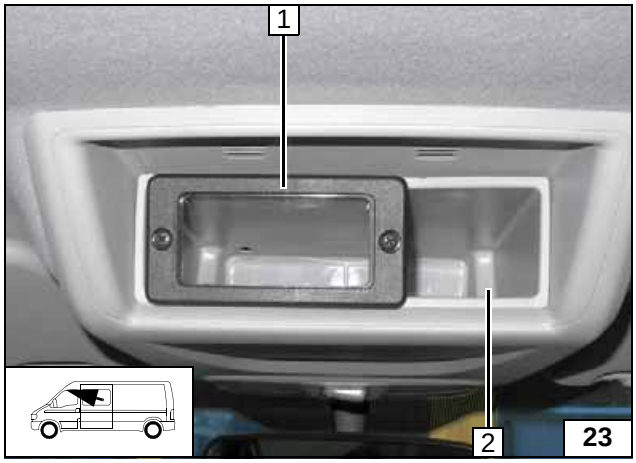
1 10 mm dia. hole
3 Expanding rivet [2x]
4 Cover frame of heater control

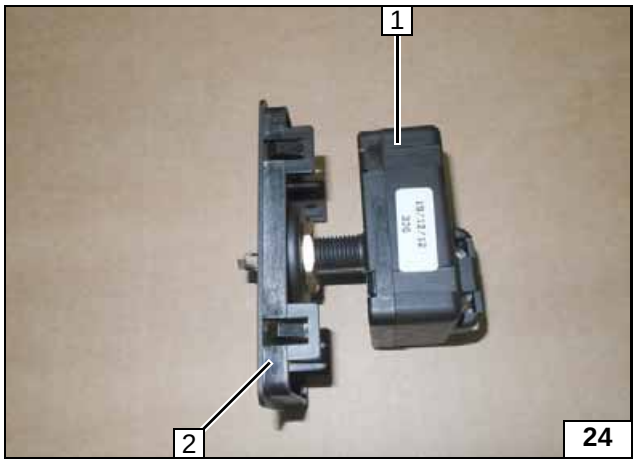
Premounting cover frame of heater control



1 Align cover frame of heater control if necessary
2 Storage compartment mounted

Inserting storage compartment





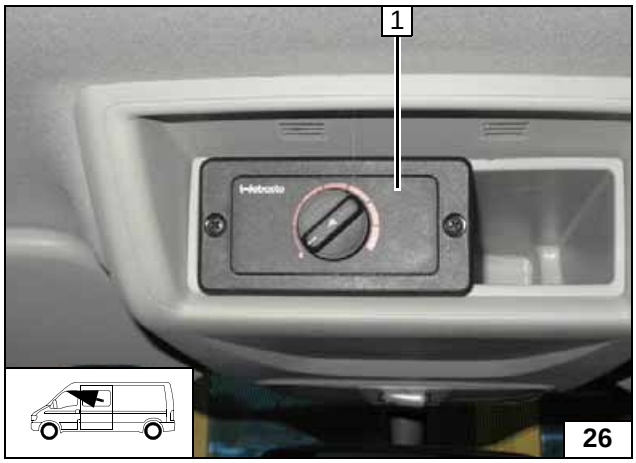
Heater control setpoint encoder

1 Setpoint encoder of heater control
2 Assemble trim piece

Premounting setpoint encoder

1 Push on rotary knob

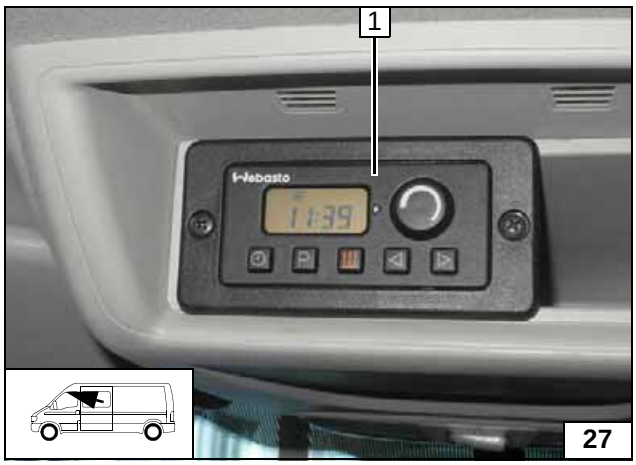
Premounting setpoint encoder



Route wiring harness through 10mm dia. hole. Connect wiring harness connector with "potentiometer" designation.

1 Insert trim piece in cover frame

Assembling setpoint encoder

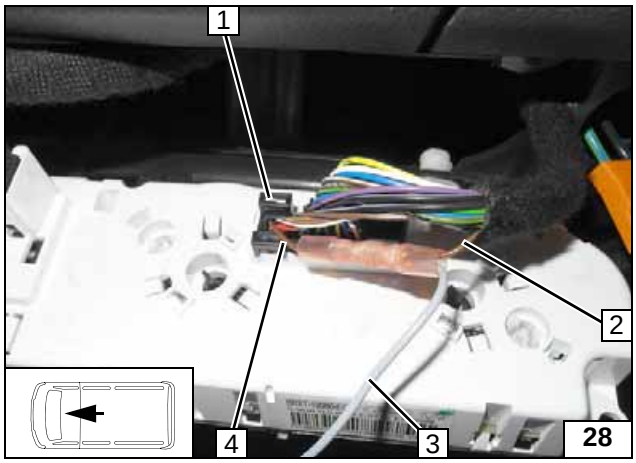


Combination timer heater control option

Route wiring harness through 10mm dia. hole. Connect wiring harness connector.

1 Insert combination timer in cover frame

Installing combination timer

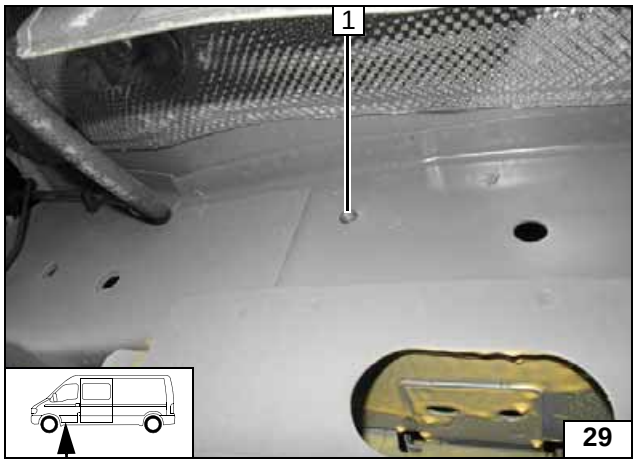


Connection to 4-pin connector **1** from A/C control unit. Produce connections as shown in wiring diagram.

2 Brown (br) wire of terminal 58
3 Grey (gr) wire of combination timer wiring harness
4 Brown (br) wire of 4-pin connector

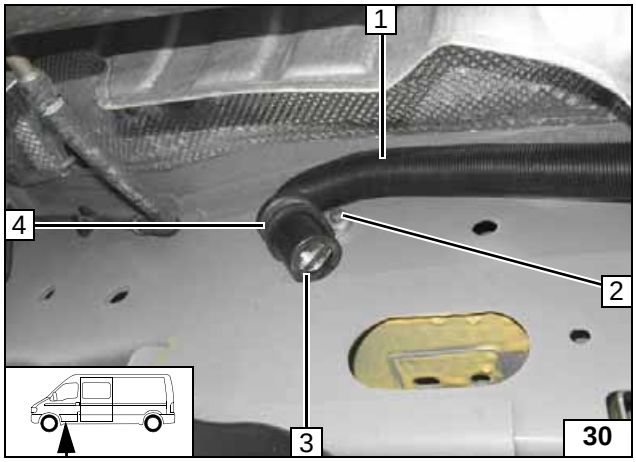
Connecting terminal 58

Combustion Air



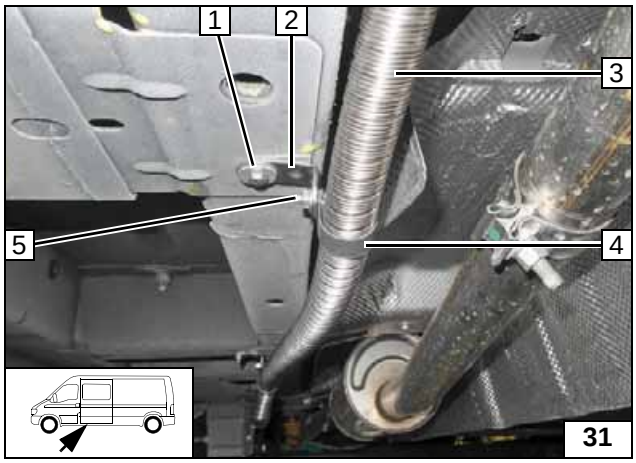
1 Drill out hole to 9.1 mm dia., insert rivet nut

Installing rivet nut



1 Combustion air pipe
2 M6x20 bolt, spring lockwasher
3 Push on end cap
4 35 mm dia. rubber-coated p-clamp

Mounting combus-tion air pipe

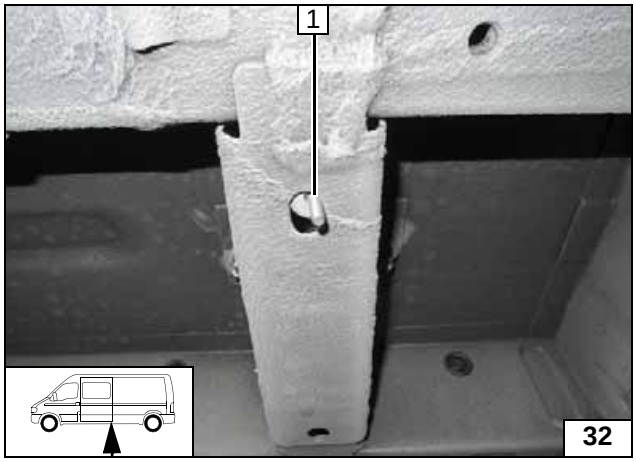


Exhaust Gas

Drill out original vehicle hole at position **1** to 9.1 mm dia. and insert rivet nut.

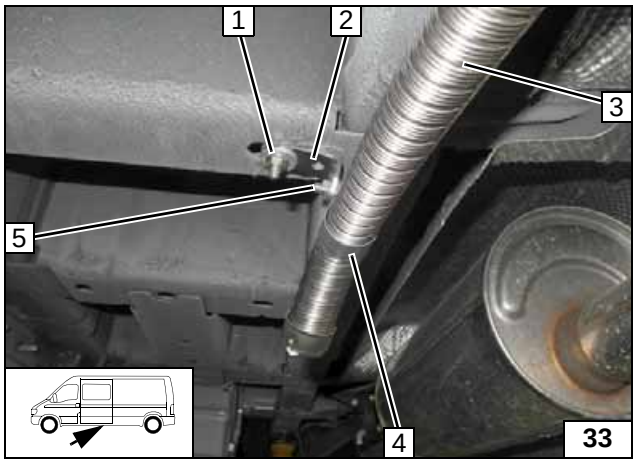
1 M6x20 bolt, spring lockwasher, large diameter washer
2 Angle bracket
3 Exhaust pipe
4 P-clamp
5 M6x16 bolt, flanged nut

Attaching exhaust pipe



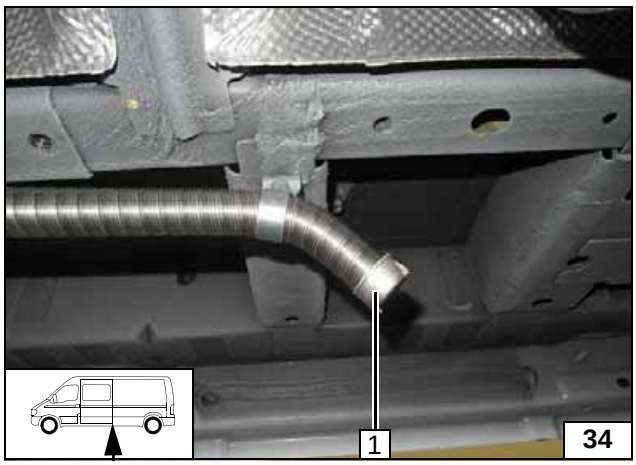
Position M6x20 bolt and large diameter washer **1** in existing oblong hole.

Inserting bolt



1 M6 flanged nut
2 Angle bracket
3 Exhaust pipe
4 P-clamp
5 M6x16 bolt, flanged nut

Mounting exhaust pipe



Ensure sufficient distance from neighbouring components, correct if necessary.

1 Exhaust pipe

Aligning exhaust end section

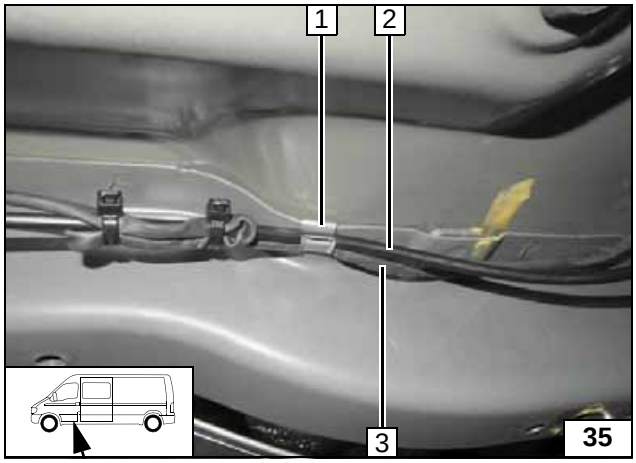
Fuel

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

Any fuel running off should be collected in an appropriate container.

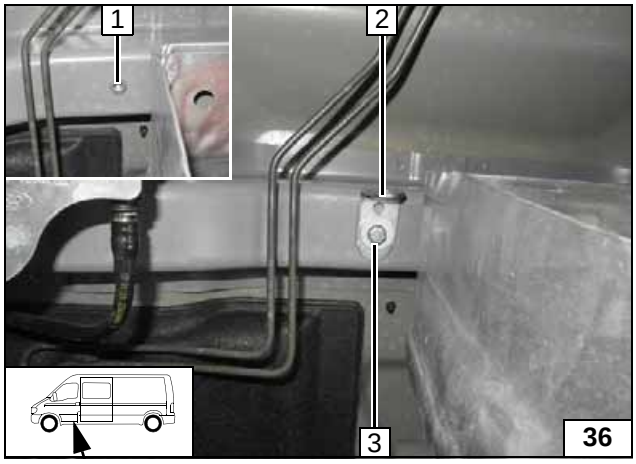
Install fuel line and metering pump wiring harness so that they are protected against stone impact. Unless specified otherwise, always fasten using cable ties.
Provide rub protection for fuel line and wiring harness in areas where there are sharp edges.

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



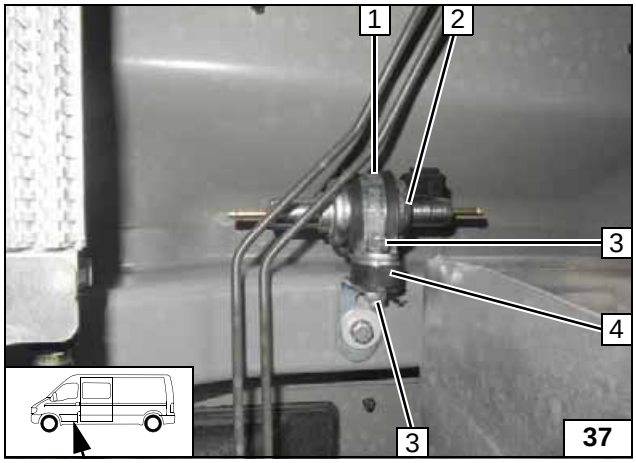
Install retaining clamp **1**. Install wiring harness for metering pump **3** and fuel line **2** into retaining clamp **1**.

Routing lines



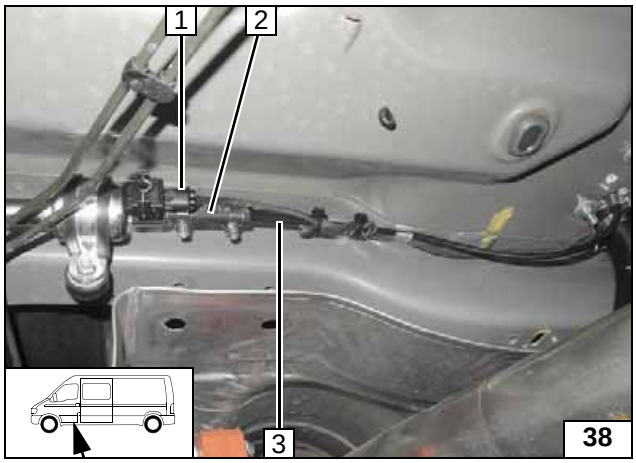
1 Rivet nut, original vehicle hole
2 Angle bracket
3 M6x20 bolt, spring lockwasher, large diameter washer

Installing angle bracket



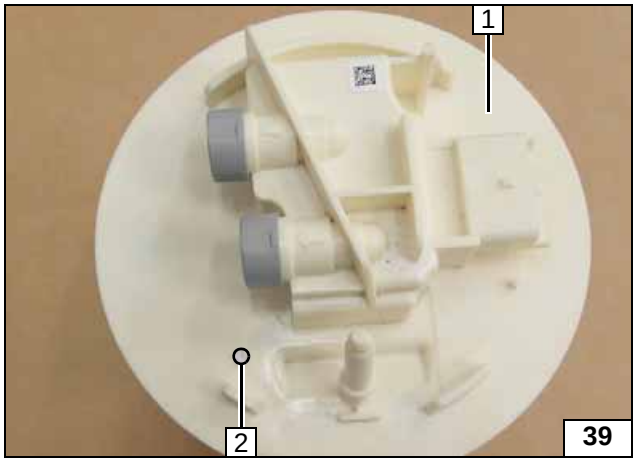
1 35 mm dia. rubber-coated p-clamp
2 Metering pump
3 Spring lockwasher, nut [2x each]
4 Silent block

Mounting metering pump



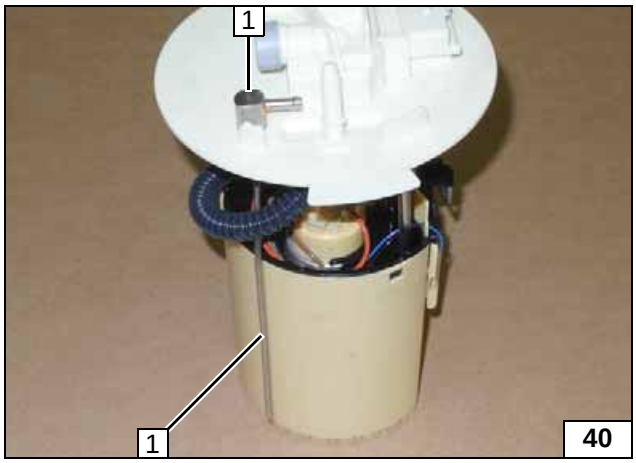
1 Wiring harness of metering pump, connector mounted
2 Hose section, 10mm dia. clamp [2x]
3 Fuel line of heater

Connecting metering pump



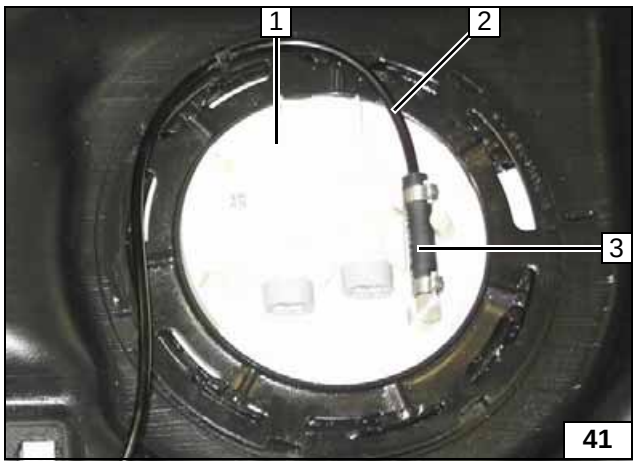
Remove the fuel tank according to the manufacturer's instructions. Remove the fuel-tank sending unit **1** in accordance with manufacturer's instructions. Copy hole pattern **2**, drill a 6 mm dia. hole in the centre of the perforation.

Fuel extraction



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

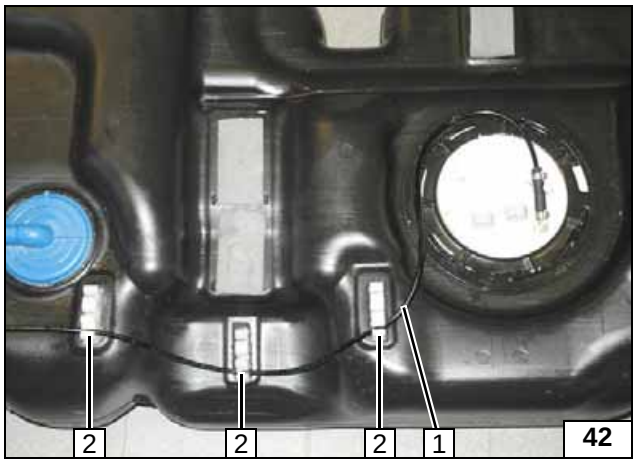
Installing fuel standpipe



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

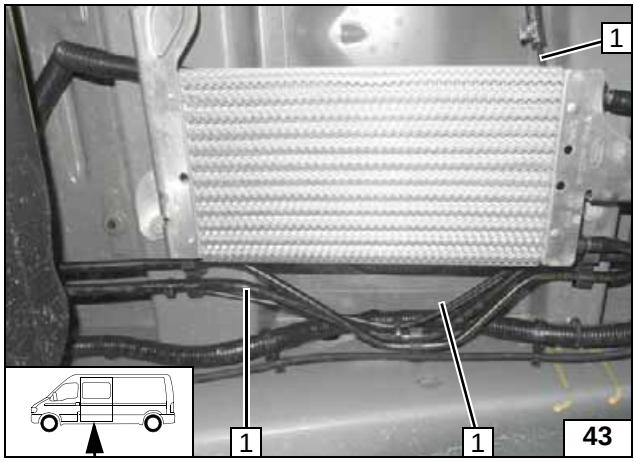
2 Fuel line
3 Hose section, 10mm dia. clamp [2x]

Connecting fuel line



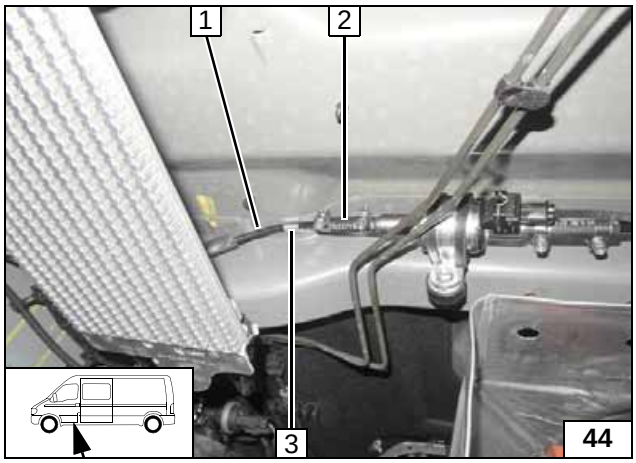
Insert fuel line **1** into retaining clip **2** [3x].
Mount fuel tank according to manufacturer's instructions.

Routing fuel line



1 Fuel line of fuel standpipe

Routing fuel line

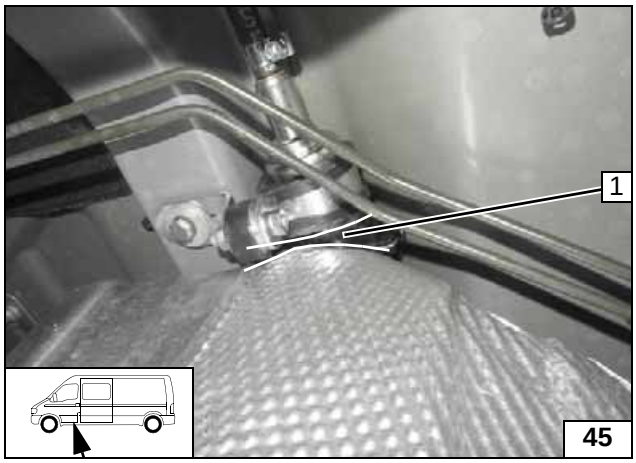


Check the position of the components; adjust if necessary. Check that they have freedom of movement.

1 Fuel line of fuel standpipe
2 Hose section, 10mm dia. clamp [2x]
3 Install retaining clamp

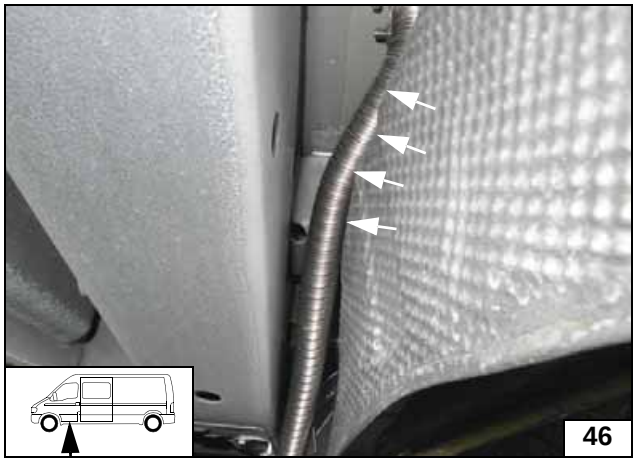
Connecting metering pump

Assembling Heat Guard Plate



Ensure sufficient space between heat guard plate and metering pump at position **1**, correct if necessary.

Aligning metering pump



Ensure sufficient spacing between heat guard plate and exhaust pipe (see marking), correct if necessary.

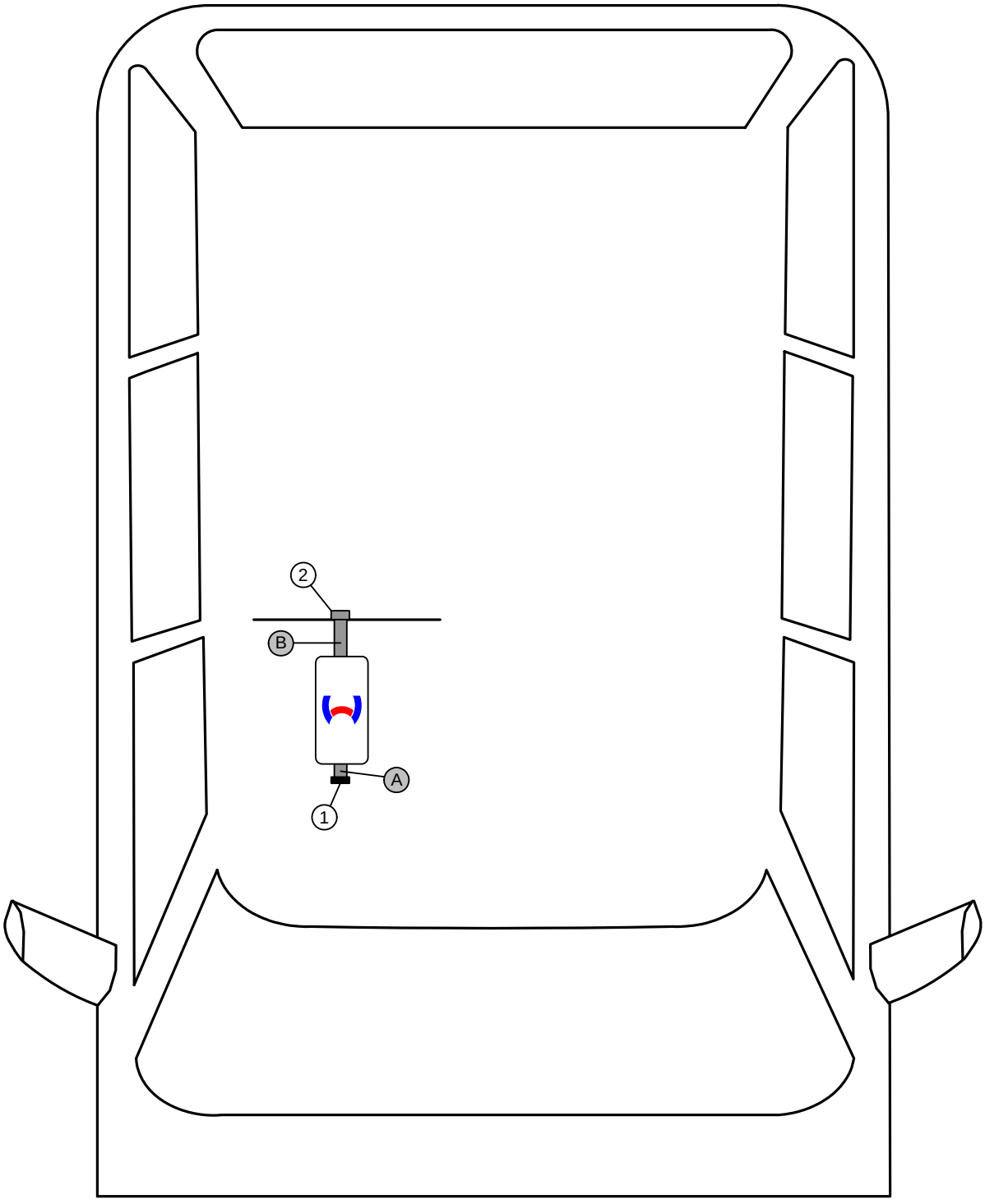
Aligning exhaust pipe

Ensure sufficient spacing between heat guard plate and combustion air pipe (see marking), correct if necessary.

Aligning combustion air pipe

Hot Air in Vehicles without Partition Wall

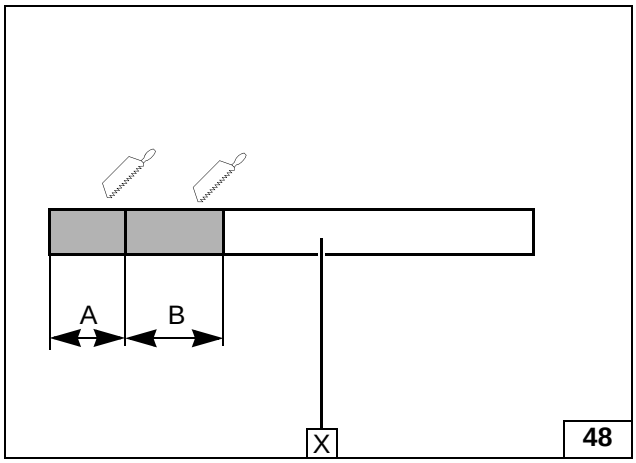
Route flexible tubes kink-free.
The following diagram shows the hot air distribution for the simultaneous heating of the passenger compartment and cargo space.



Flexible tube installation diagram

1 = Protective grille for hot air intake!
2 = Air outlet!

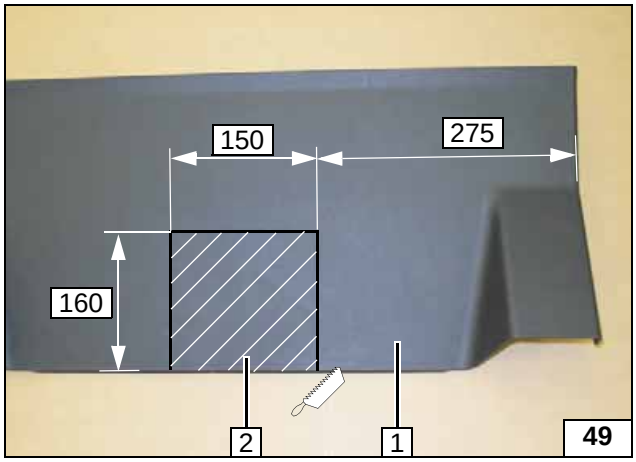
A = 90 mm dia. flexible tube, length 60 mm
B = 90 mm dia. flexible tube, length 90 mm



Discard section **X**.

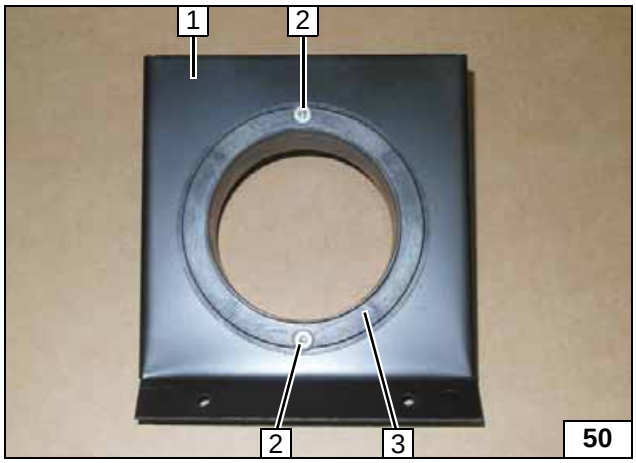
A = 60
B = 90

Cutting flexible tube B to length



1 Rear trim piece on front passenger's side
2 Discard section

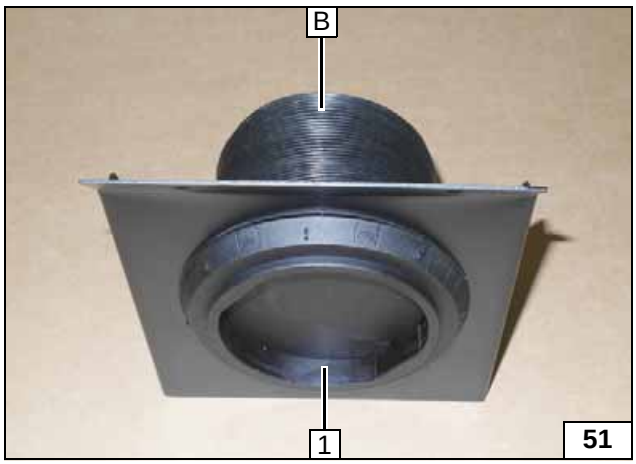
Cutting out trim piece



Insert air outlet housing **3** in bracket cutout **1**.

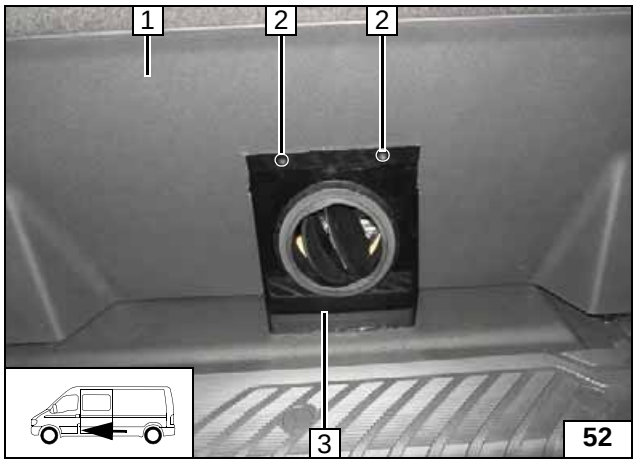
2 5.5 mm dia. hole; 5 mm dia. expanding rivet [2x each]

Preparing bracket



Assemble air outlet **1**, screw flexible tube **B** onto air outlet housing as far as the stop.

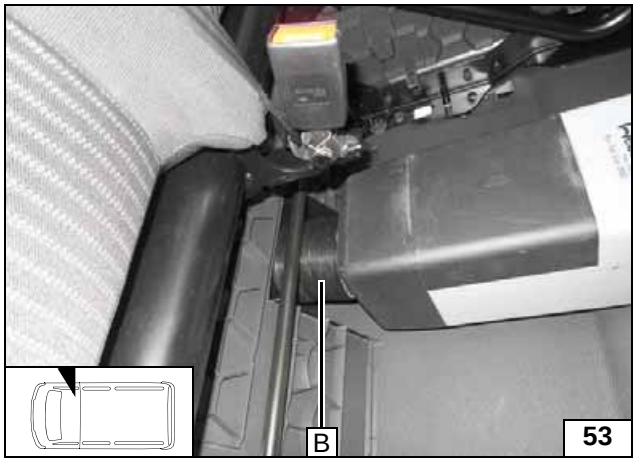
Preparing bracket



Insert air outlet bracket **3** in cutout.

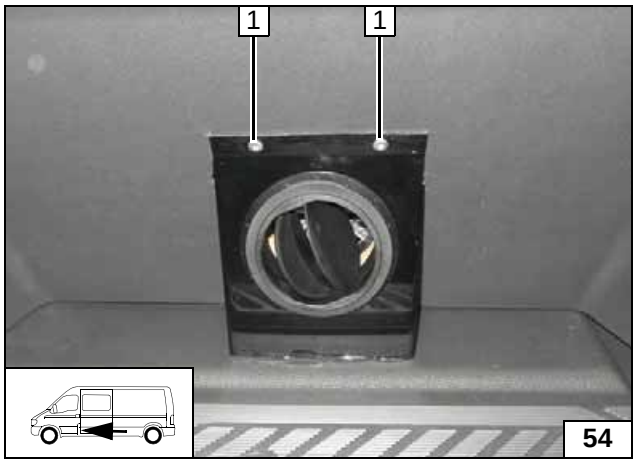
1 Assemble rear trim piece on front passenger's side
2 Copy hole pattern, 5.5 mm dia. hole [2x]

Copying hole pattern



Assemble flexible tube **B** with hot air outlet.

Assembling flexible tube B



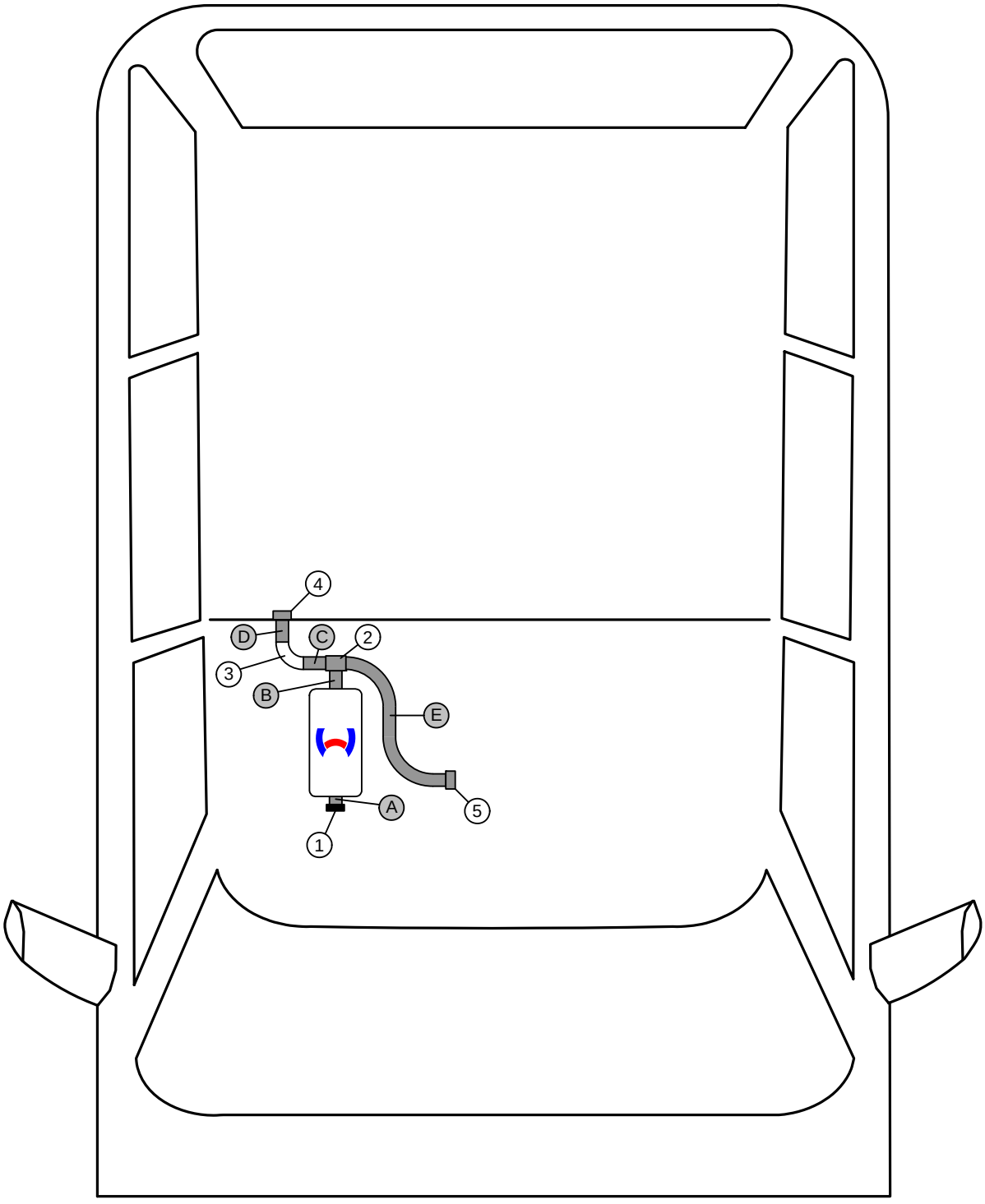
1 5 mm dia. expanding rivet [2x]

Assembling air outlet bracket

Hot Air in Vehicles with Partition Wall

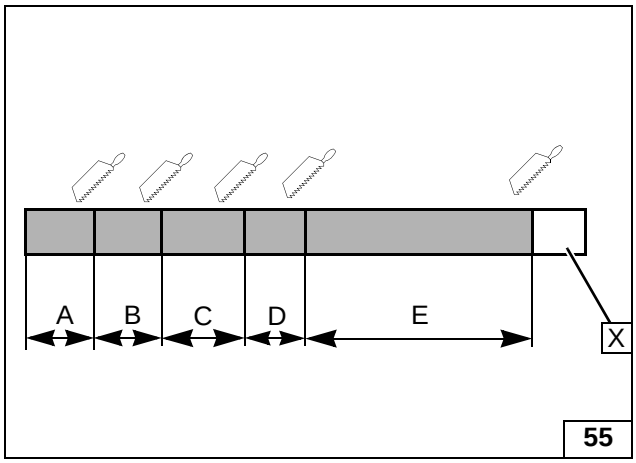
Route flexible tubes kink-free.
The following diagram shows the hot air distribution for the separate heating of the passenger compartment and / or cargo space. By closing or opening the respective air outlet, the hot air flow is regulated in the passenger compartment and / or cargo space.

Flexible tube installation diagram



1 = Protective grille for hot air intake
2 = 90x90x90 T-piece
3 = 90° elbow
4 = Air outlet for cargo space
5 = Air outlet for passenger compartment

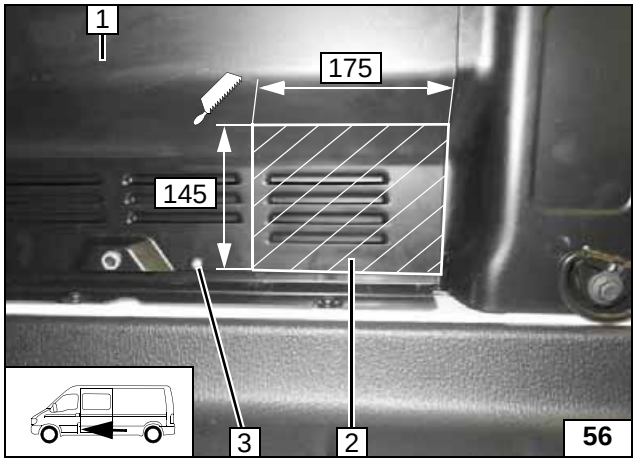
A = 90 mm dia. flexible tube, length 60 mm
B = 90 mm dia. flexible tube, length 60 mm
C = 90 mm dia. flexible tube, length 120 mm
D = 90 mm dia. flexible tube, length 60 mm
E = 90 mm dia. flexible tube, length 600 mm



Discard section **X**.

A = 60
B = 60
C = 120
D = 60
E = 600

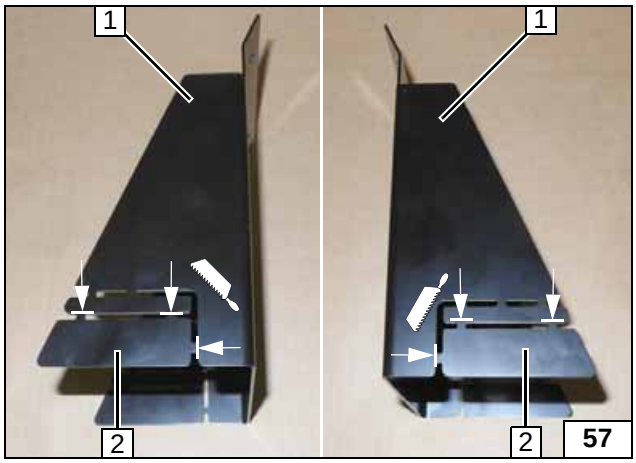
Cutting flexible tube to length



Secure front passenger's side rear flap **1** using self-tapping screw and cut out at marking. Apply corrosion protection to cut edges.

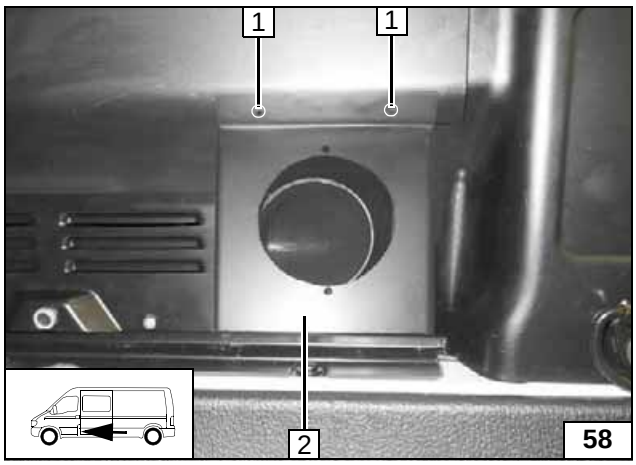
2 Discard section
3 5 mm dia. hole, 5.5x13 mm self-tapping screw

Cutting out flap



Cut out air outlet bracket **1** on both sides at the perforation. Discard sections **2**. Apply corrosion protection to cut edges.

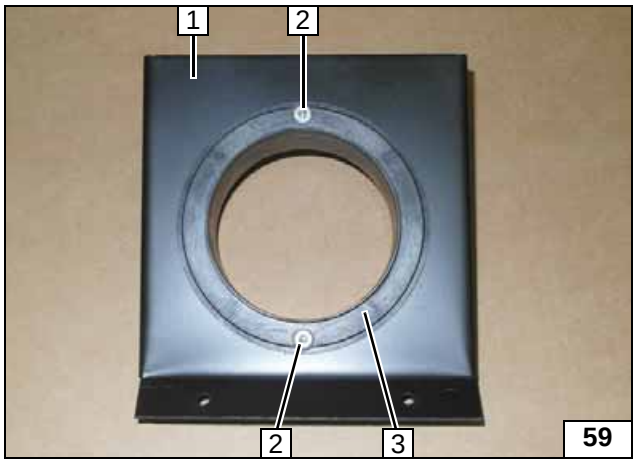
Preparing bracket



Insert air outlet bracket **2** in cutout.

1 Copy hole pattern, 5.5 mm dia. hole [2x]

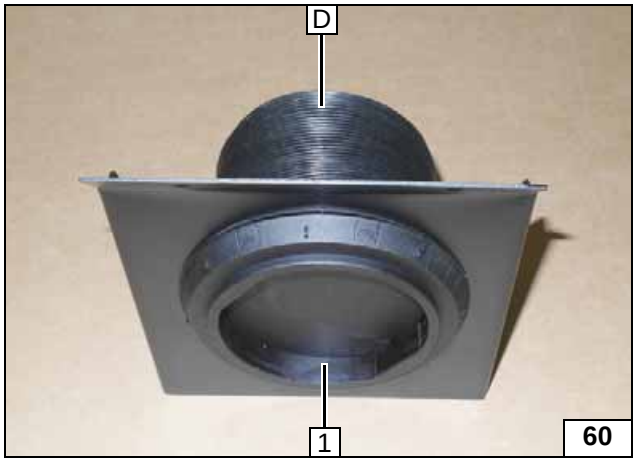
Copying hole pattern



Insert air outlet housing **3** in bracket cutout **1** .

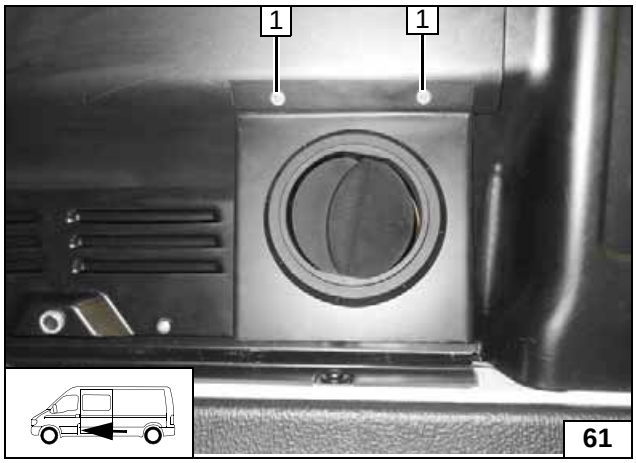
2 5.5 mm dia. hole; 5 mm dia. expanding rivet [2x each]

Preparing bracket



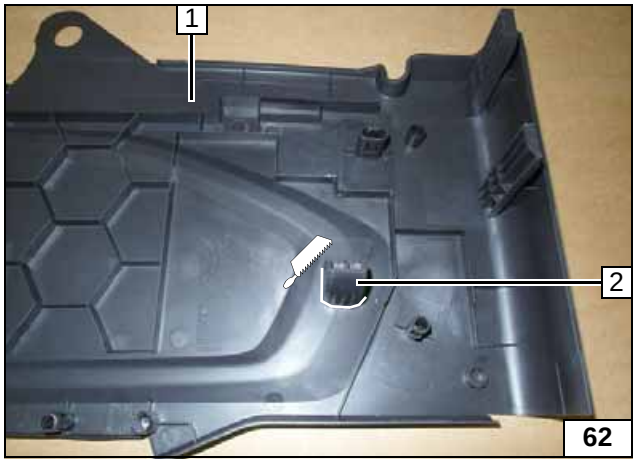
Assemble air outlet **1**, screw flexible tube **D** onto air outlet housing as far as the stop.

Preparing bracket



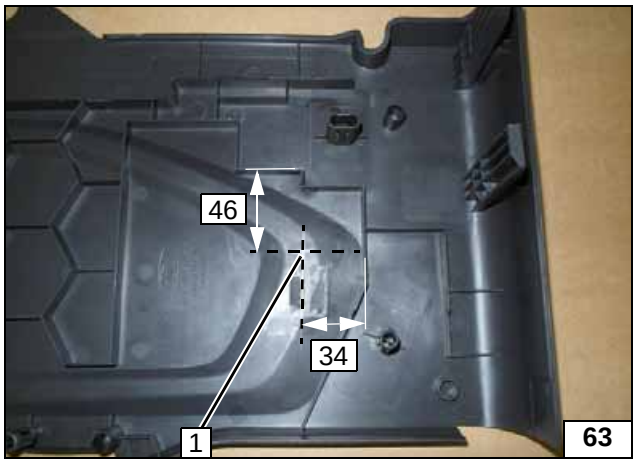
1 5 mm dia. expanding rivet [2x]

Assembling air outlet bracket



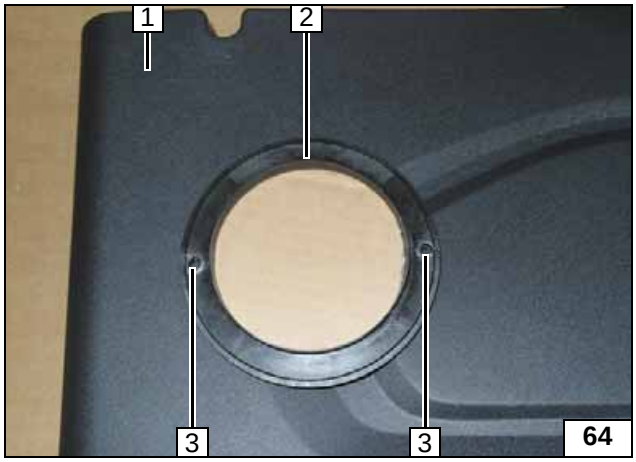
1 Front passenger's seat trim on the left
2 Cut off plastic piece flush with the marking

Preparing trim



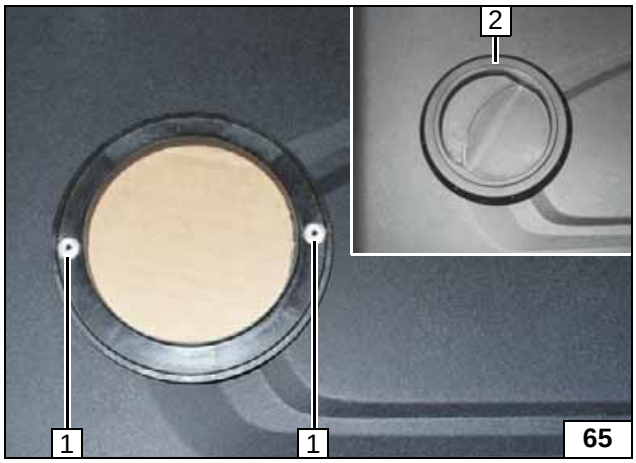
1 92 mm dia. hole

Hole in trim



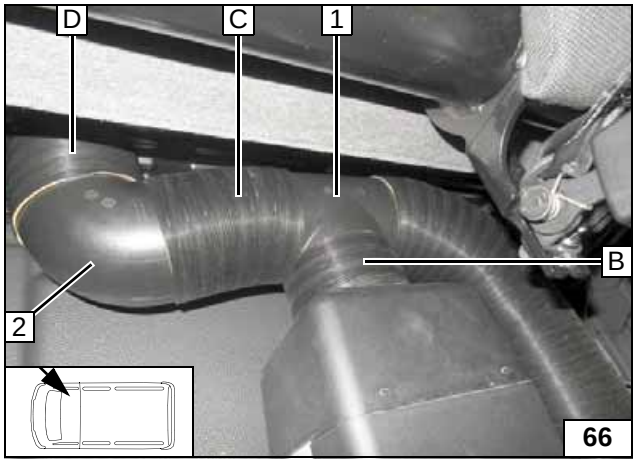
1 Trim
2 Air outlet inserted in hole
3 Copy hole pattern, 5.5 mm dia. hole [2x]

Assembling air outlet



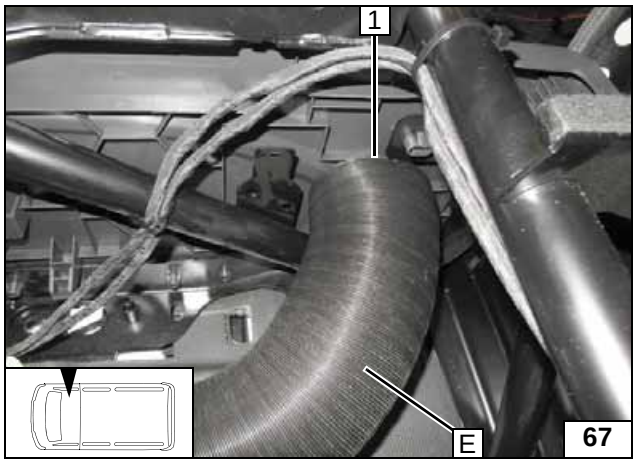
1 5 mm dia. expanding rivet [2x]
2 Completed air outlet

Assembling air outlet



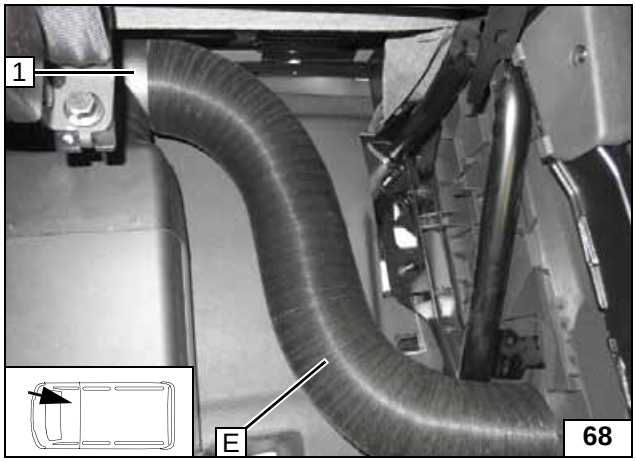
1 = 90x90x90 T-piece
2 = 90° elbow

Assembling flexible tubes B, C and D



First screw flexible tube **E** onto air outlet **1** and then assemble on T-piece.

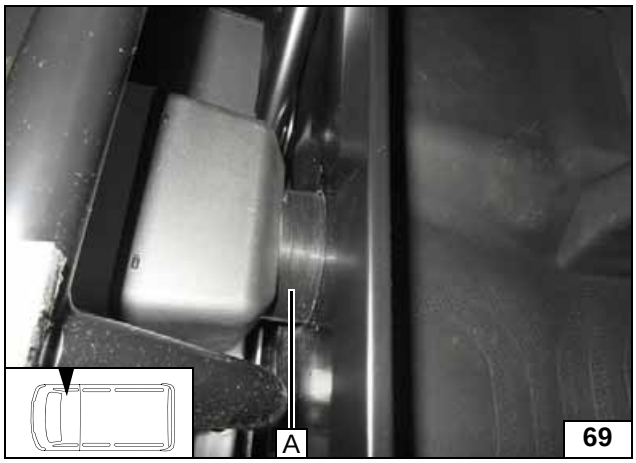
Assembling flexible tube E



1 = 90x90x90 T-piece

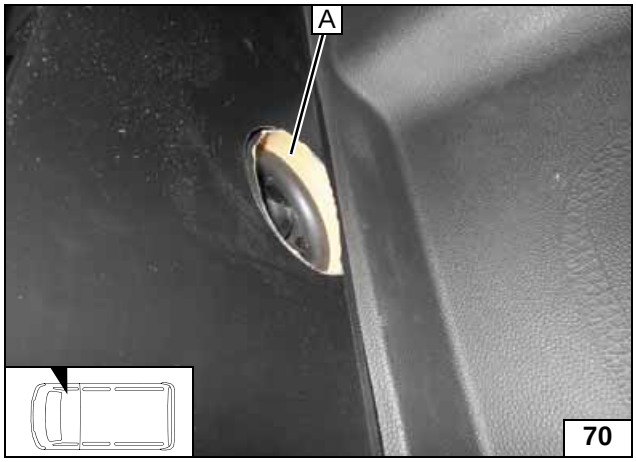
Assembling flexible tube E

Assembling Air Intake Pipe



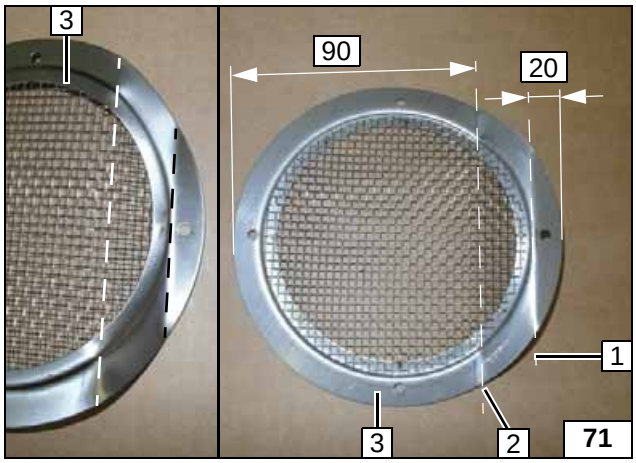
Assemble flexible tube **A** through the hole on the heater.

Assembling intake manifold



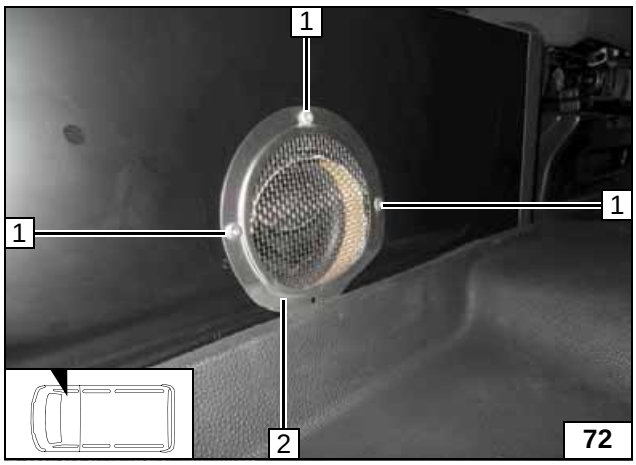
Cut off flexible tube **A** flush with front passenger's seat trim on the right.

Assembling intake hose



Angle protective grille **3** downwards at bending line **2** to approx. 145° and angle upwards at bending line **1** to approx. 145°.

Preparing protective grille



Insert protective grille **2**, align and copy hole pattern at position **1** [3x].

1 5.5 mm dia. hole; 5 mm dia. expanding rivet [3x each]

Mounting protective grille

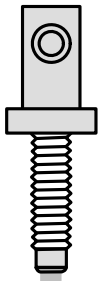
Final Work

WARNING!
Mount removed parts in reverse order. Check all clamps and all electrical connections for firm seating. Insulate and tie back all loose wires.
Spray the heater components with anti-corrosion wax (Tectyl 100K, Order No. 111329).

- **Connect the battery.**
- **Set the heater control.**
- **Place the "Switch off parking heater before refuelling" caution label in the area of the filler neck.**
- **See installation instructions for initial startup and function check.**

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

Fuel Standpipe Template



100mm

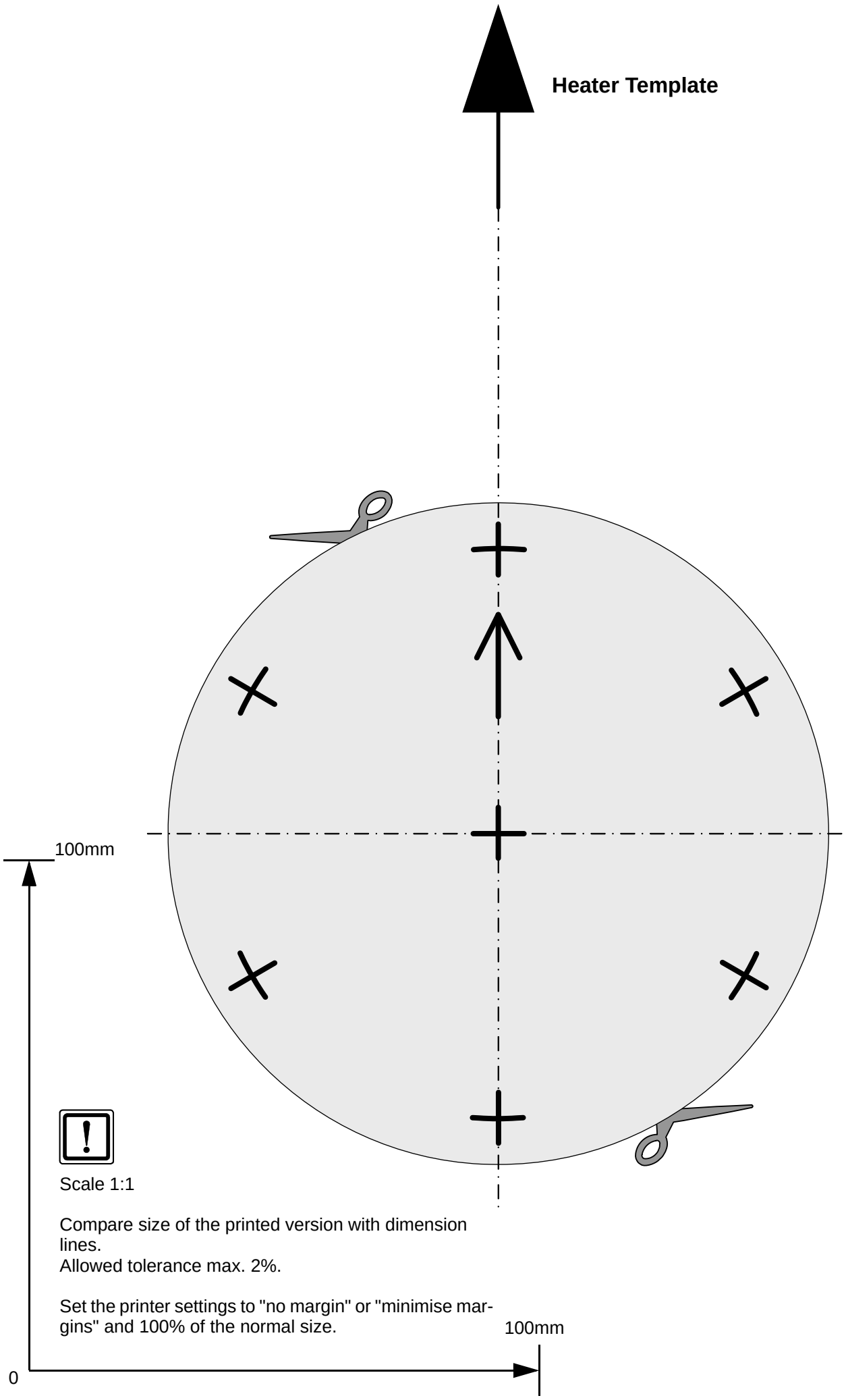
Scale 1:1

Compare size of the printed version with dimension lines.
Allowed tolerance max. 2%.

Set the printer settings to "no margin" or "minimise margins" and 100% of the normal size.

100mm

0



Scale 1:1

Compare size of the printed version with dimension lines.
Allowed tolerance max. 2%.

Set the printer settings to "no margin" or "minimise margins" and 100% of the normal size.

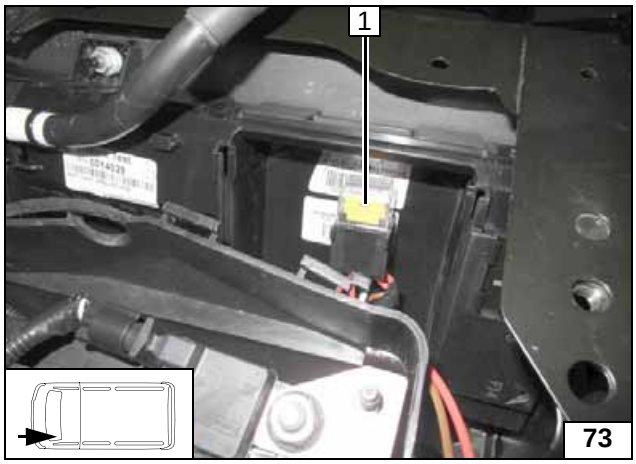
Operating Instructions

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
Example:
For a driving time of approx. 20 min. (in one direction), we recommend not exceeding a switch-on time of 20 min.

Passenger compartment monitoring , if installed, must be deactivated in addition to the vehicle settings for the heating operation.
Instructions for deactivation can be taken from the operating instructions manual of the vehicle.

Please observe the operating instructions for the *Air Top Evo 3900*.



1 15A heater fuse F1

Fuse