

# Air Heater Unit



**Air Top 3500 ST Air Heater**



## Installation Instructions

### Renault Master/Nissan Interstar

Diesel  
from Model Year 2004  
For left-hand drive vehicles only  
Only van with partition wall



#### **WARNING!**

Hazard warning:

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

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

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

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

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

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## Validity

Manufacturer	Model	Type	EG-BE No./ABE
Nissan	Interstar	J3	e2* 2001 / 116* 273
		F3	ABE L223
		U3	ABE L414
		E3	ABE N004
		N3	ABE L226

Manufacturer	Model	Type	EG-BE No./ABE
Renault	Master	JD	e2 * 98 / 14 * 0129
		ED	H914
		FD	H912
		GD	K150
		HD	K149
		UD	H913

Engine type	Engine model	Output in kW	Displacement in cm <sup>3</sup>
F9Q	Diesel	60	1870
G9T	Diesel	66	2188
G9U	Diesel	73	2463
G9T	Diesel	84	2463
G9U	Diesel	74	2463
G9U	Diesel	88	2463
G9U	Diesel	107	2463
ZD3	Diesel	100	2953

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

The installation location of the heater control/digital timer and the external temperature sensor must be coordinated with the end customer prior to installation!

## Heater Unit/Installation Kit

Quantity	Description	Order No.:
1	Delivery scope of AT 3500 ST D 12V with heater control	9008944A
1	Installation kit for Renault Master/Nissan Interstar Diesel AT3500ST	1311959A

### Optional heater control either:

Quantity	Description	Order No.:
1	Digital timer (combination 12 V)	9010385A
1	Mounting plate for digital timer (frame)	474630
1	Telestart (only in conjunction with combination timer)	See price list
1	Y-cable for combination timer - Telestart	1311194A



### Also required when using exhaust muffler:

Quantity	Description	Order No.:
1	Putty for muffler AT3500ST	1311960A

## Foreword

These installation instructions apply to Renault Master/Nissan Interstar vehicles with a Diesel engine - for validity, see page 2 - from model year 2004 and later, assuming technical modifications to the vehicle do not affect installation, any liability claims excluded. Depending on the vehicle version and equipment, modifications may be necessary during installation with respect to these installation instructions.

However, where this is the case the stipulations in the "installation instructions" and "operating and maintenance instructions" for the *Air Top 3500 ST* should be observed. The corresponding rules of technology and any information from the vehicle manufacturer should be observed during the installation work.

## General Instructions

Installation should be carried out according to the general, standard rules of technology. Unless specified otherwise, fasten hoses, lines and wiring harnesses to original vehicle lines and wiring harnesses using cable ties.

Sharp edges should be fitted with edge protectors (split-open plastic hose).

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

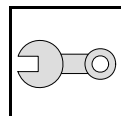
## Special Tools

- Metric thread-setter kit
- Hollow punch, 13 mm dia.
- Hole circle bit, 83 mm dia.
- Hole circle bit, 90 mm dia.
- Flexible socket wrench, 7 mm

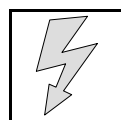
## Explanatory Notes on Document

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

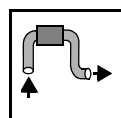
### Mechanical system



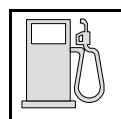
### Electrical system



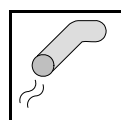
### Hot air ducting



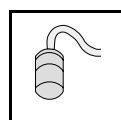
### Fuel connection



### Exhaust system



### Combustion air



Special features are highlighted using the following symbols:



Specific risk of injury or fatal accidents.



Specific risk of damage to components.



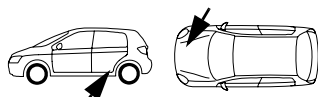
Specific risk of fire or explosion.



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



Reference to a special technical feature.

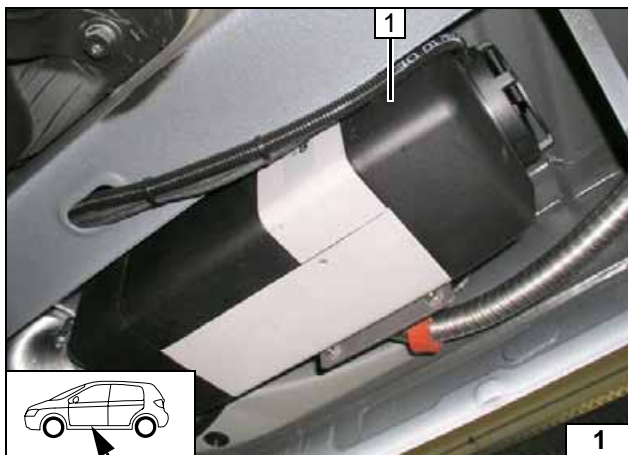


The arrow in the vehicle icon indicates the position on the vehicle and the viewing angle.

**Preliminary Work**

**WARNING!**

- Open the fuel tank cap, ventilate the tank.
- Close the tank cap again.
- Remove the battery cover in the cab footwell
- Disconnect the battery "earth" or "ground" connection.
- Copy the factory number from the original type label to the duplicate type label.
- Remove years that do not apply from the duplicate label.
- Attach the duplicate label (type label) in the appropriate place.
- Detach/fold open the cover below the steering column
- Remove the floor covering and floor panel in the cargo space if present



**Heater unit installation location**

- 1 Heater unit

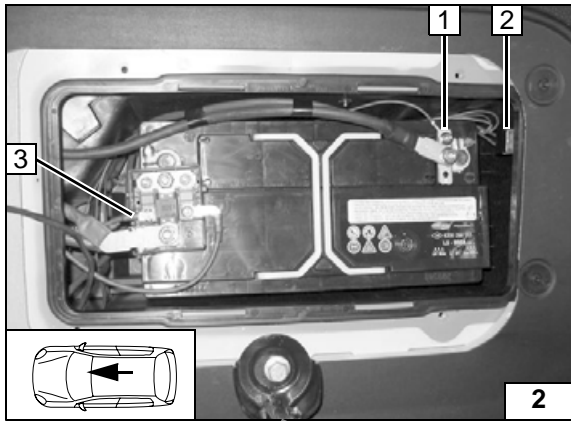
**Installation location**



**Electrical Connections**

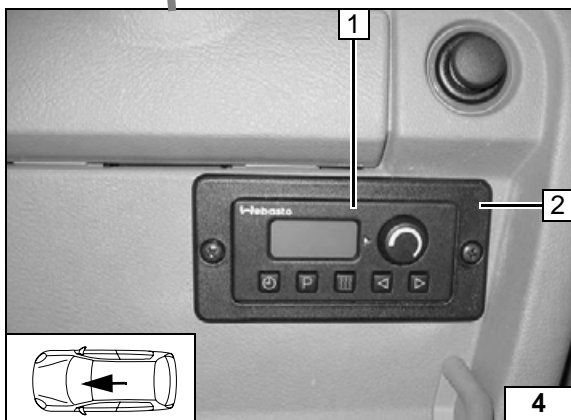
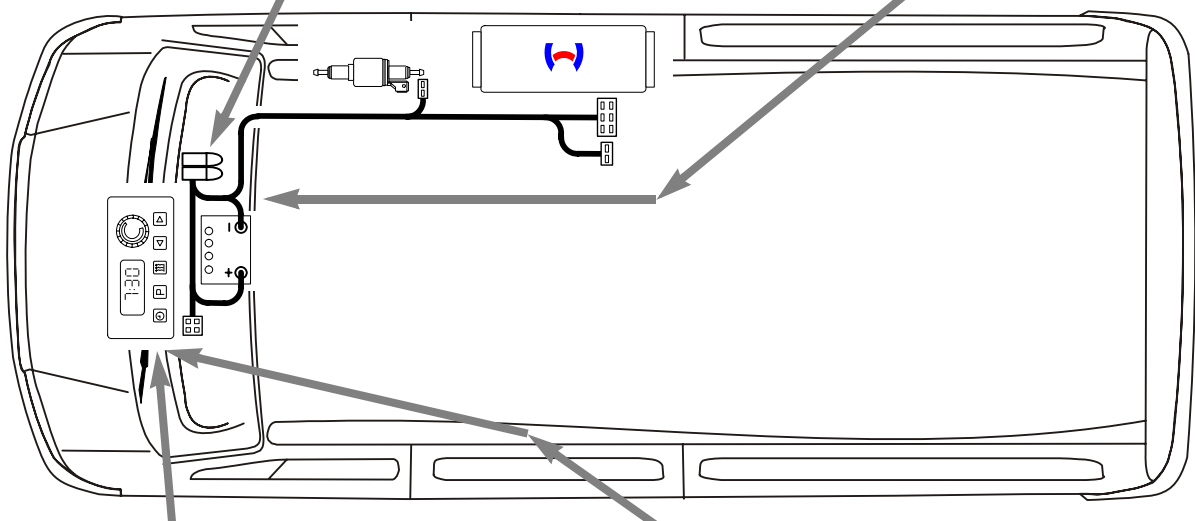
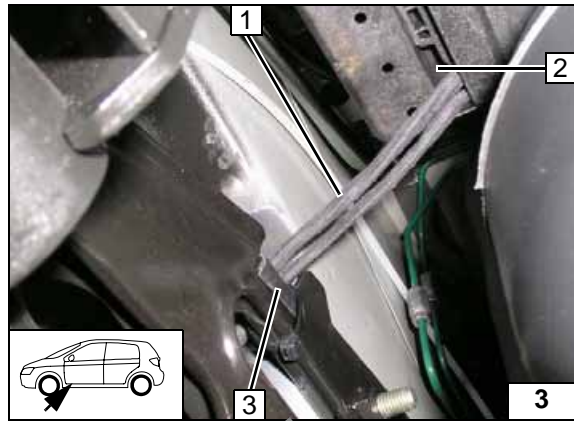
**Fuse holder**

- 1 Ground wire on negative battery terminal
- 2 2.5 mm dia. hole, retaining plate for fuse holder, 3.5x13 self-tapping screw
- 3 Positive wire on positive battery terminal



**Wiring harness routing in battery box**

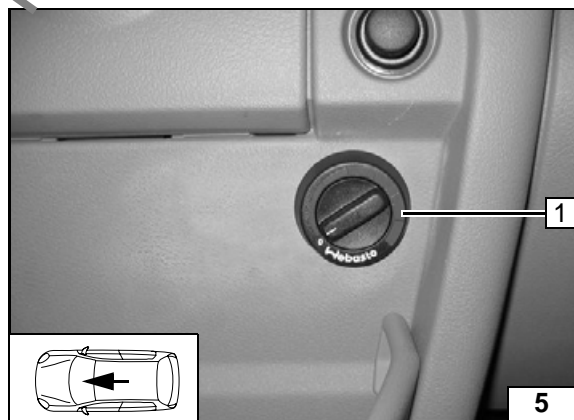
- 1 Wiring harness of heater unit
- 2 Opening in battery box at rear right
- 3 Edge protection



**Combination timer option**

Route wiring harness of combination timer under floor cover to center console.

- 1 Combination timer
- 2 Installation frame



**Heater control option**

Route wiring harness of heater control under floor cover to center console.

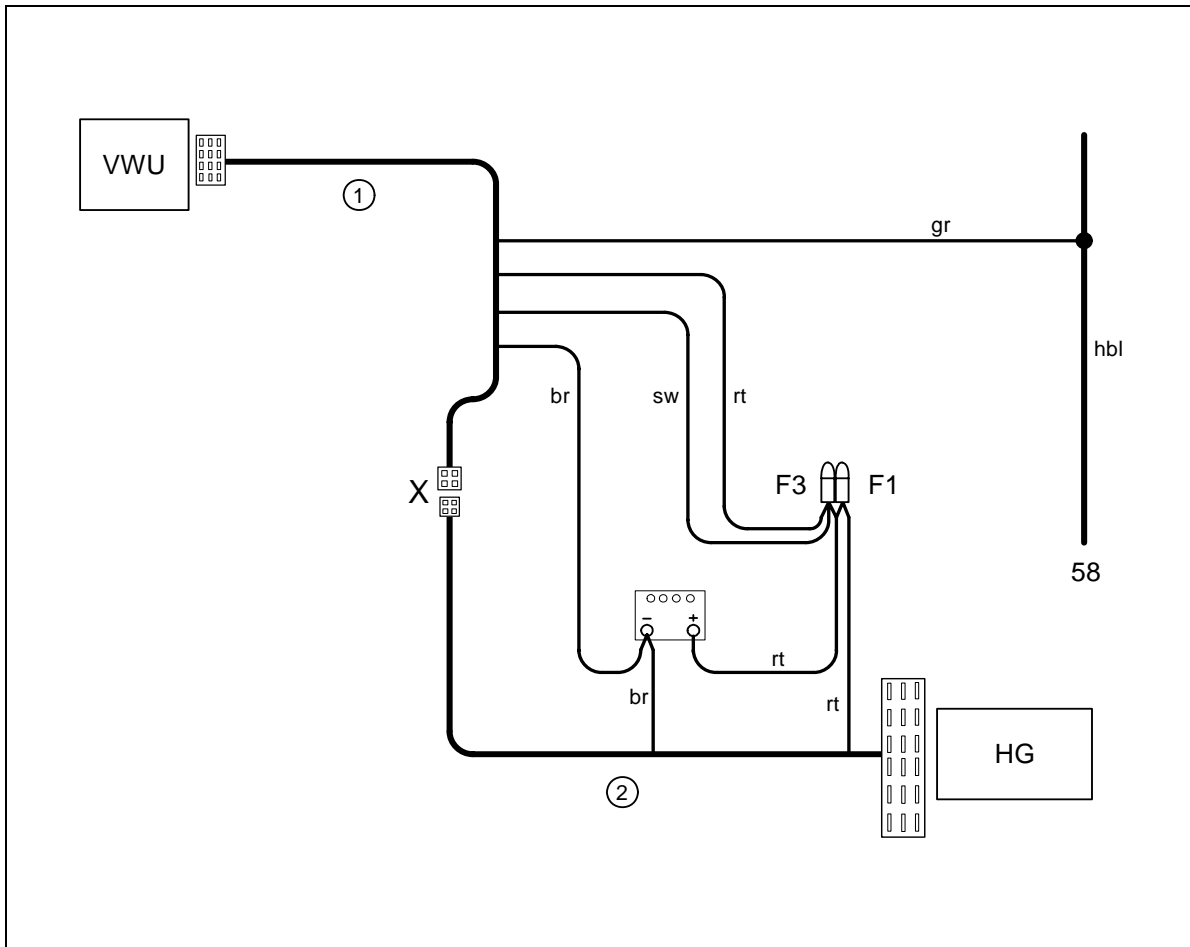
- 1 Heater control



**Wiring harness installation diagram**



Connection Diagram for Combination Timer Only



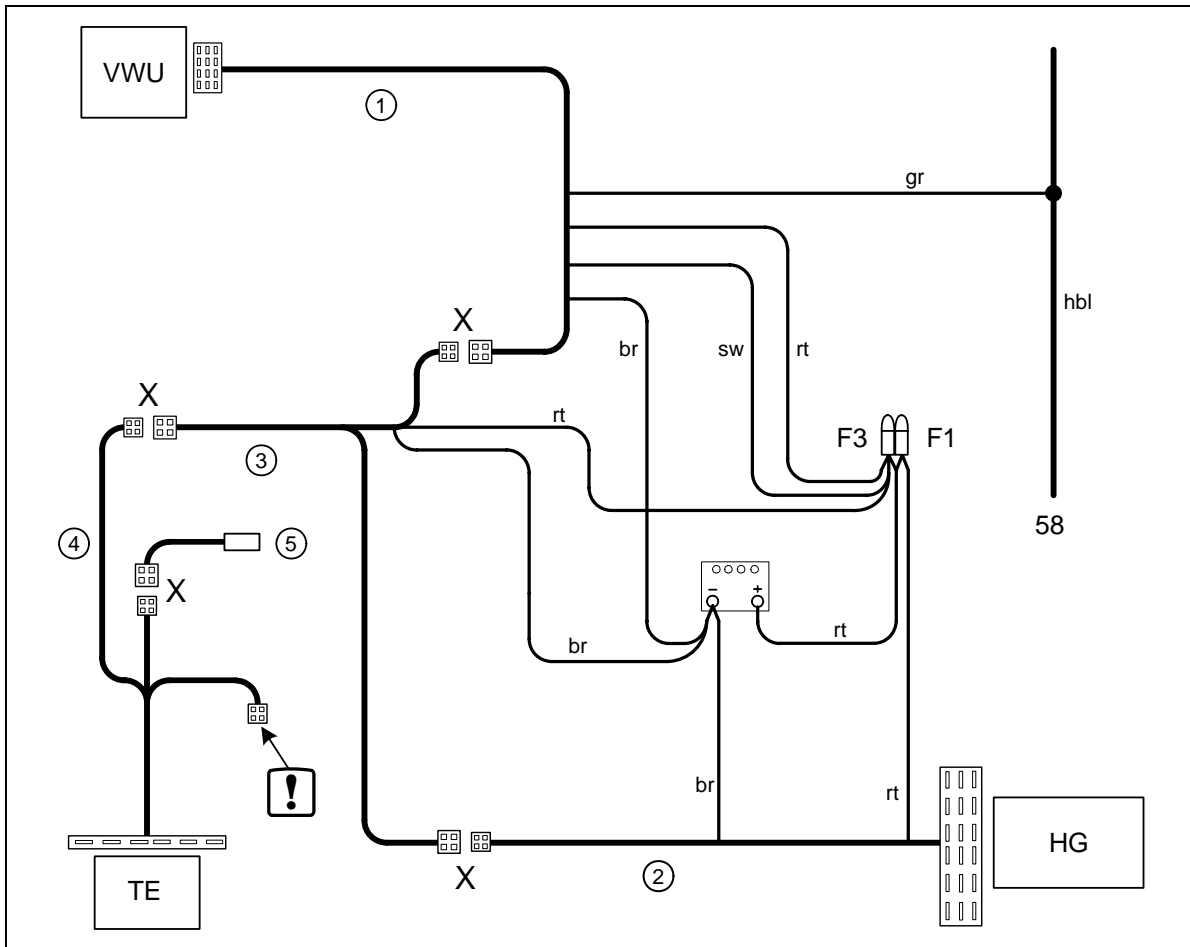
Wiring diagram

Webasto components		Vehicle components		Colors and symbols	
HG	Heater unit AT3500 ST	58	Parking light	rt	red
TE	Telestart			sw	black
VWU	Combination timer			GR	gray
F1	Fuse, 20 A			br	brown
F3	Fuse, 15 A max			hbl	light blue
1	Wiring harness of heater unit 9004312B				
2	Wiring harness of combination timer 9006887C				
				X	Connect identical colors of connectors
					Wiring colors may vary.

Legend



Connection Diagram for Combination Timer with Telestart

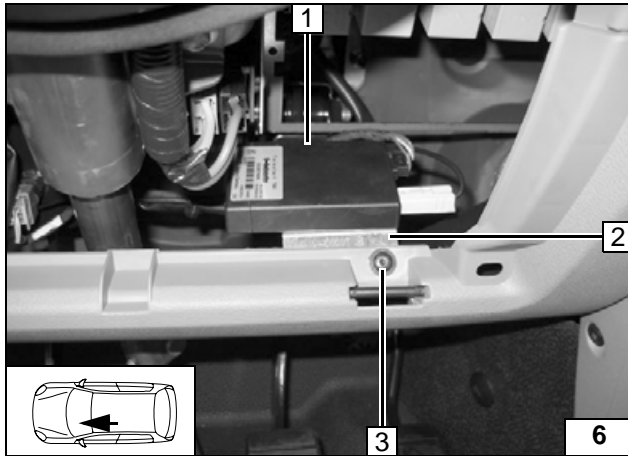


Wiring diagram

Webasto components		Vehicle components		Colors and symbols	
HG	heater unit AT3500 ST	58	Parking light	rt	red
TE	Telestart			sw	black
VWU	Combination timer			GR	gray
F1	Fuse 20A			br	brown
F3	Fuse, 15 A max			hbl	light blue
1	Wiring harness of combination timer 9006887C			X	Connect identical colors of connectors
2	Wiring harness of heater unit 9004312B				
3	Y-cable for Telestart combination timer 1311194A			!	Connector not used!
4	Y-adapter 67089A (T90/91) or adapter 9010951A (T100 HTM)	X-			
5	Temperature sensor (only with T100 HTM)				Wiring colors may vary.

Legend



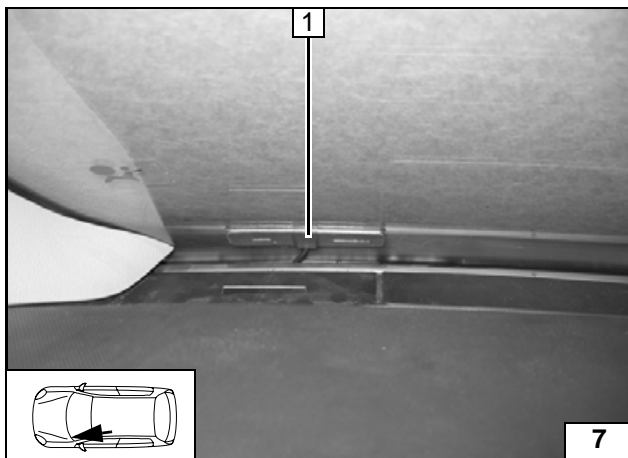


**Remote option (Telestart)**  
(Only in conjunction with combination timer)

- 1 Receiver
- 2 Bracket bent
- 3 Original vehicle bolt

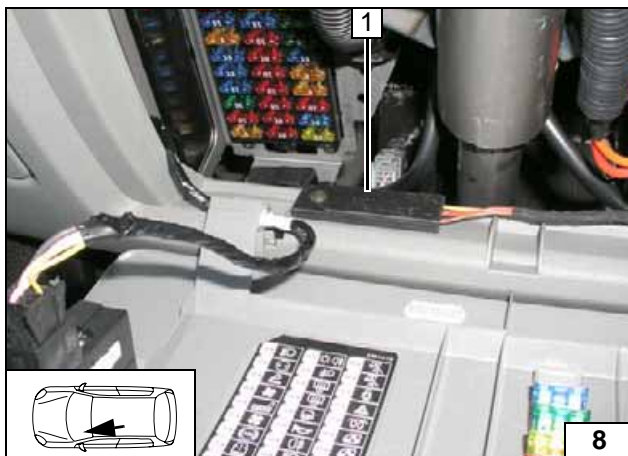


**Installing receiver**



- 1 Antenna

**Installing antenna**



**Temperature sensor for HTM100 only**

- 1 Fasten temperature sensor with suitable means

**Installing temperature sensor**



**External temperature sensor**

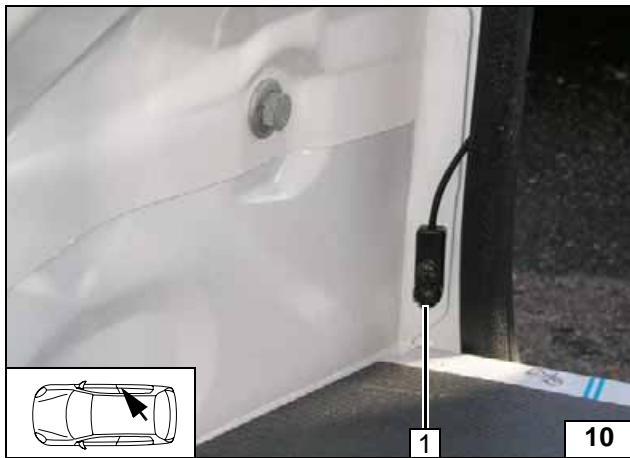
It must be coordinated with the customer whether temperature monitoring is to be carried out for the cargo space or the driver's cab!

Coordinate installation location of external temperature sensor with end customer.

- 1 Fasten temperature sensor with suitable means



**Optional temperature monitoring of driver's cab**

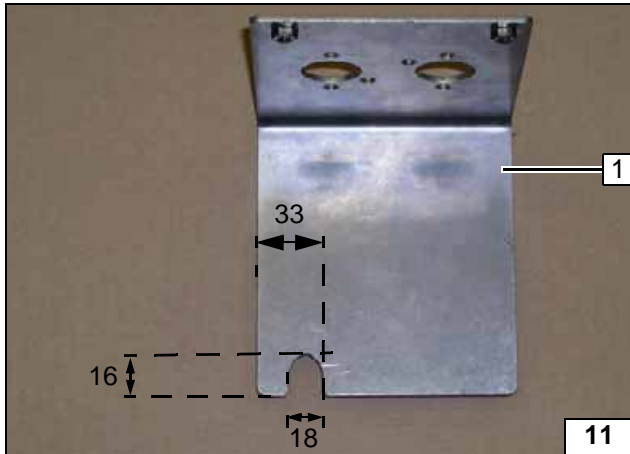
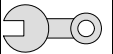


Coordinate installation location of external temperature sensor with end customer.

- 1 Fasten temperature sensor with suitable means



**Optional temperature monitoring of cargo space**

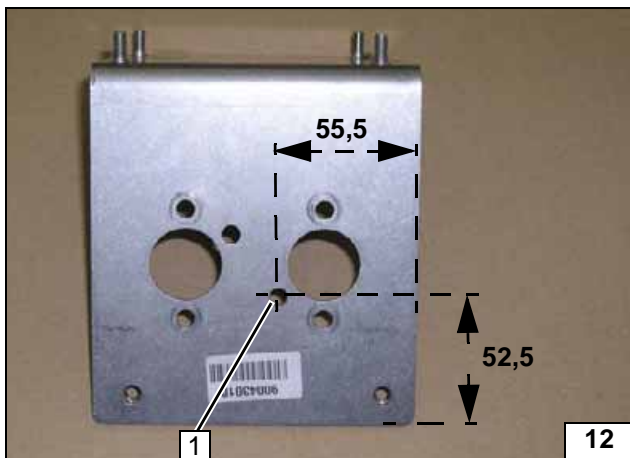


**Preparing heater unit**

- 1 Bracket

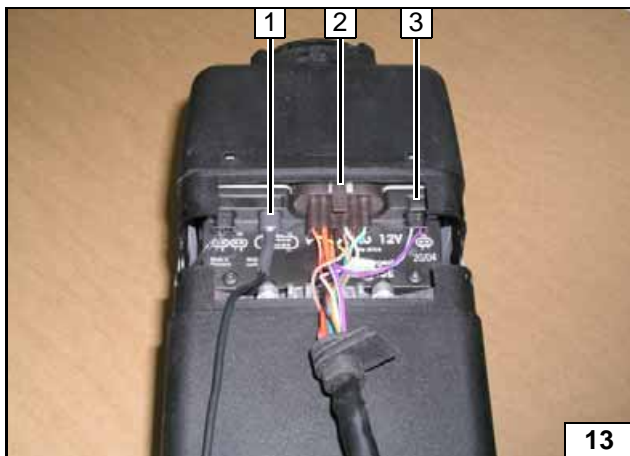


**Cutting out bracket**



- 1 7.5 mm dia. hole

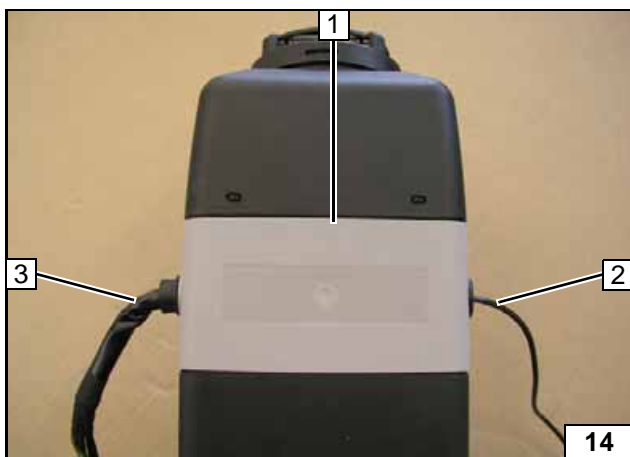
**Copying hole pattern**



- 1 Connector of external temperature sensor (X5)
- 2 Connector of heater unit (X7)
- 3 Connector (X6) [Only with ADR]



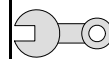
**Connecting wiring harness**



- 1 Cover
- 2 Wiring harness of external temperature sensor
- 3 Wiring harness of heater unit



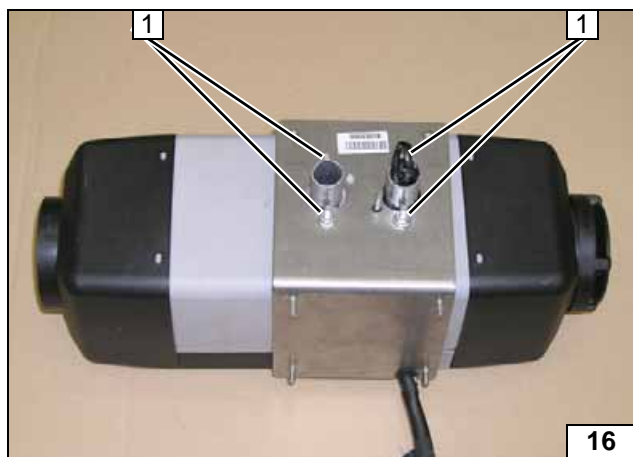
**Mounting cover**



1 Protective grill on intake side

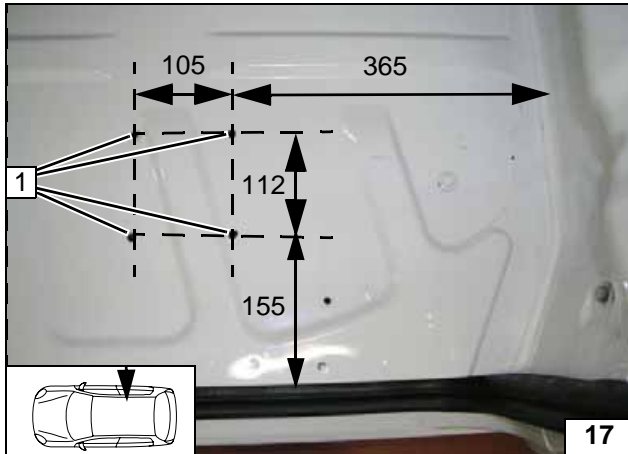
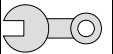


Installing protective grill



1 M6 flanged nut [4x]

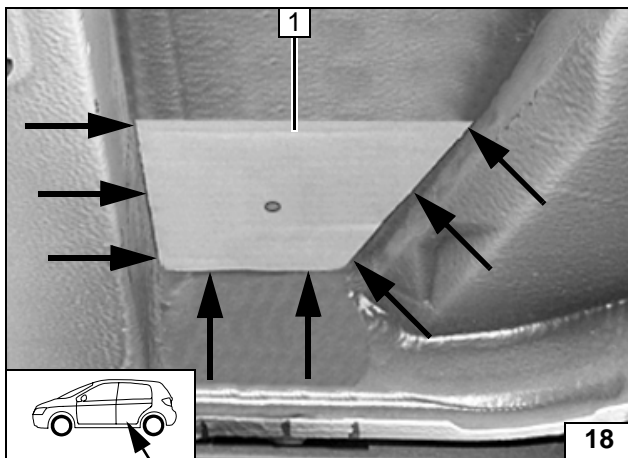
Installing bracket



**Preparing installation location**

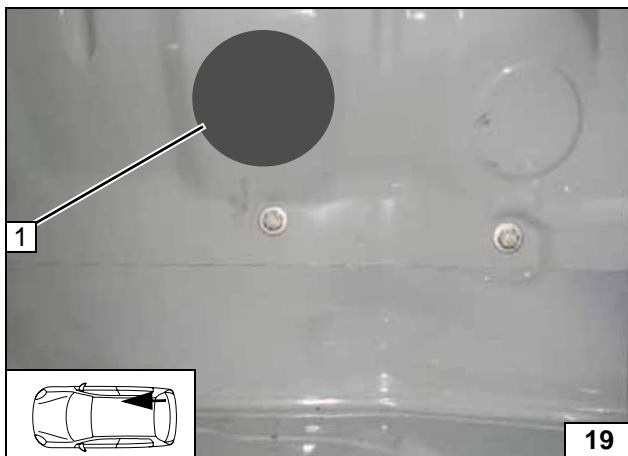
1 Drill 7 mm dia. hole [4x]

Copying hole pattern for bracket



Lay template 1 on underbody between frame side member, door sill and partition wall. Predrill 5 mm dia. hole, 83 mm dia. hole with hole circle bit.

Copying hole pattern for underbody pass through

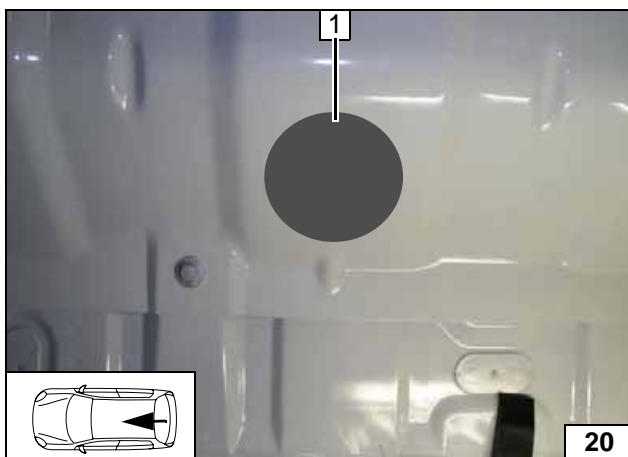


Determine hole in height and side between beads.

1 90 mm dia. hole



Hole pattern for hose pass through in partition wall



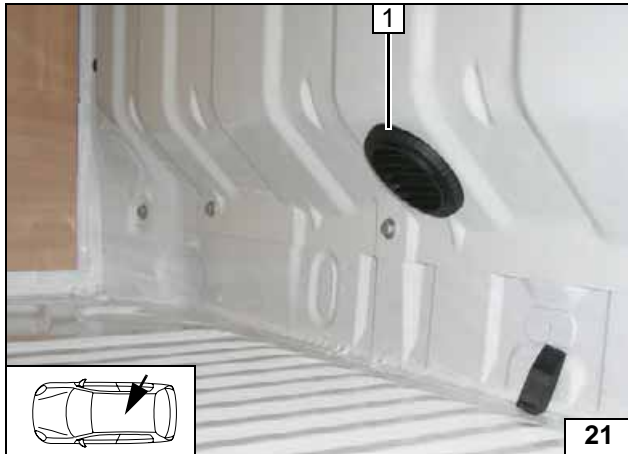
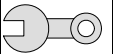
Determine hole in height and side between beads.

1 83 mm dia. hole



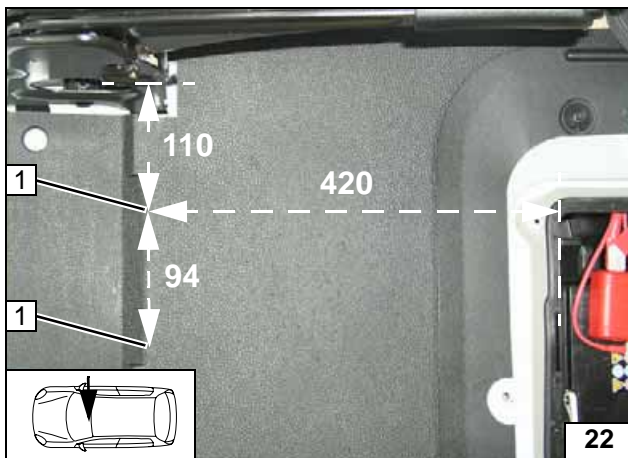
Hole pattern for air outlet in cargo space





1 45° air outlet, M5x12 countersunk head screw, flanged nut [3x each]

**Installing air outlet in cargo space**

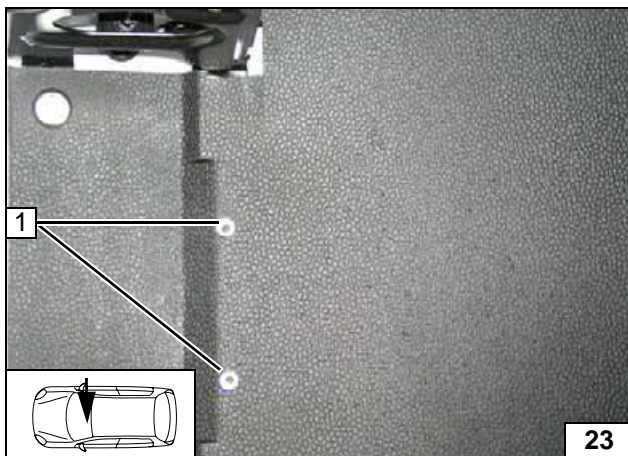


When drilling, watch lines located behind!

1 9 mm dia. hole [2x]



**Copying hole pattern for hot air distributor**

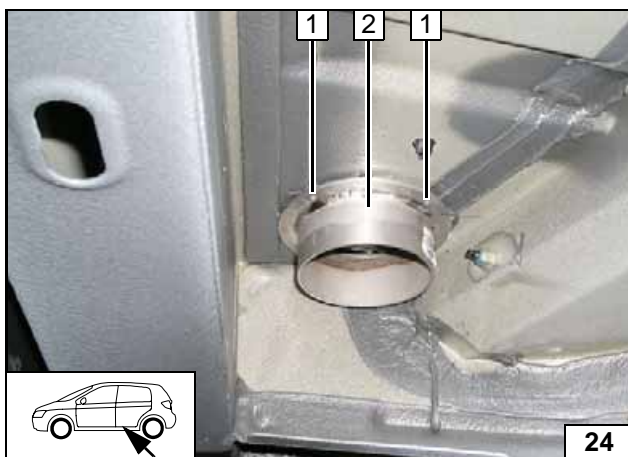


Cut out floor covering with hollow punch.

1 M6 rivet nut [2x]



**Installing rivet nut**

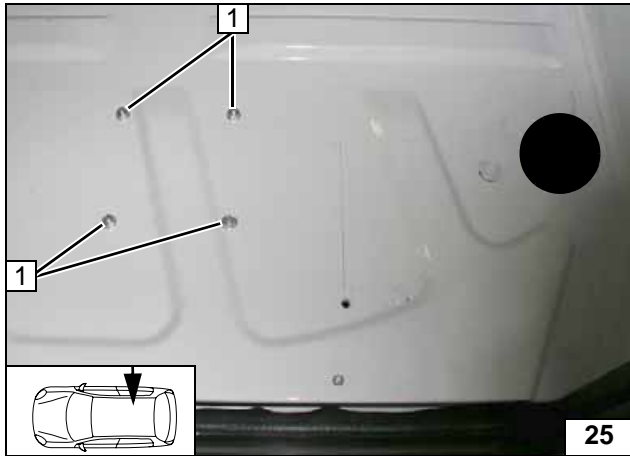
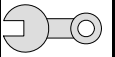


Mount with sealing compound, long shoulder facing upward.

1 5.5 mm dia. hole, M5x20 bolt, M5 flanged nut [4x each]  
2 Pass through



**Installing pass through**

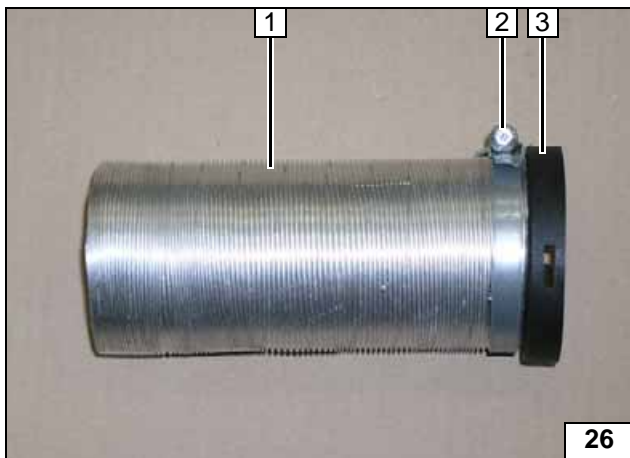


**Installing heater unit**

- 1 M6 flanged nut [4x]



**Fastening bracket**

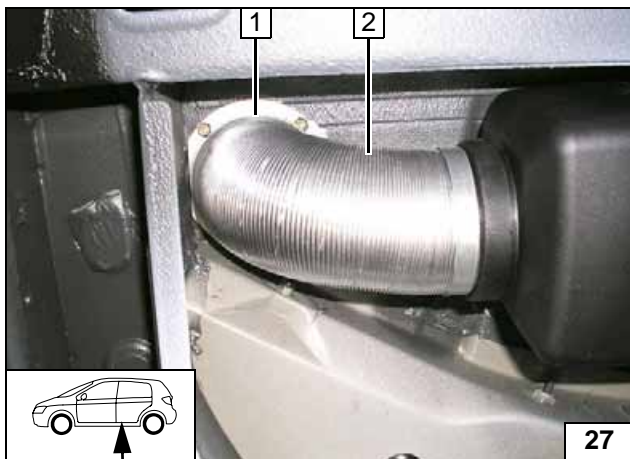


**Hot air ducting**

- 1 Flexible tube l = 200 mm
- 2 70-90 mm dia. hose clamp
- 3 Adapter ring

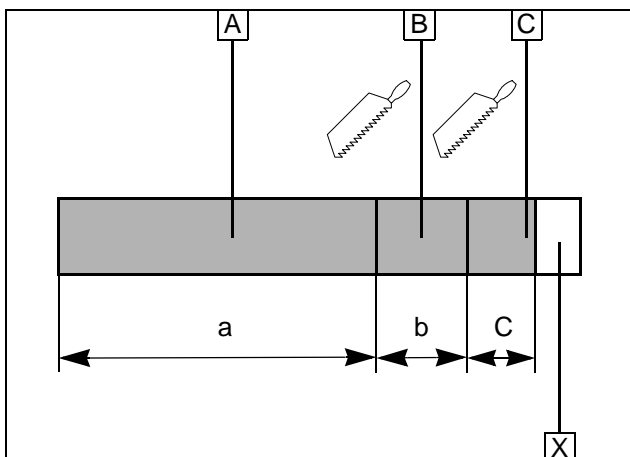


**Preassembling hot air tube**



- 1 70 -90 mm dia. hose clamp
- 2 Preassembled hot air tube

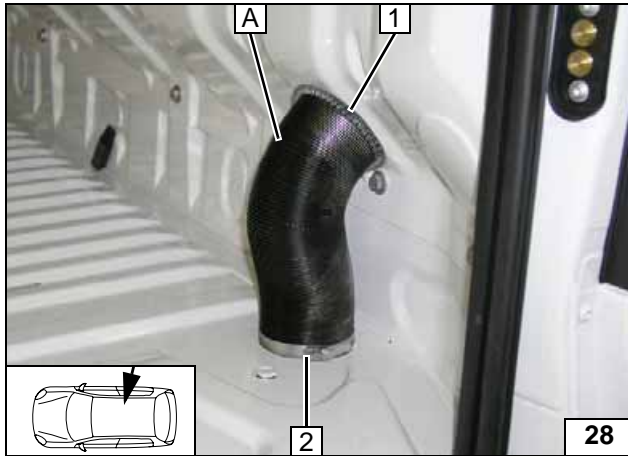
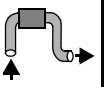
**Installing hot air tube on underbody**



- a = 950 mm
- b = 190 mm
- c = 100 mm

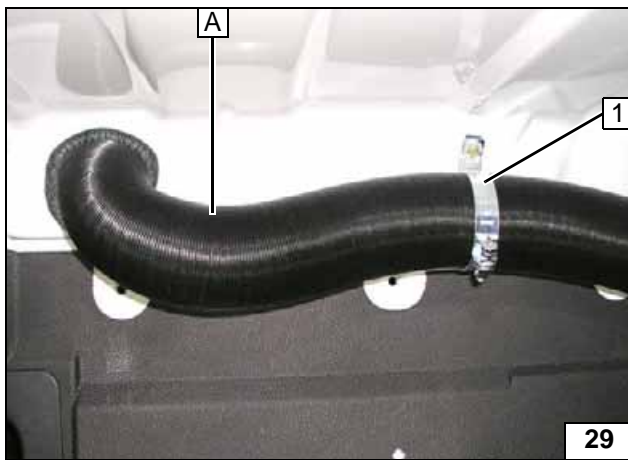
Discard section X

**Cutting hot air tube to length**



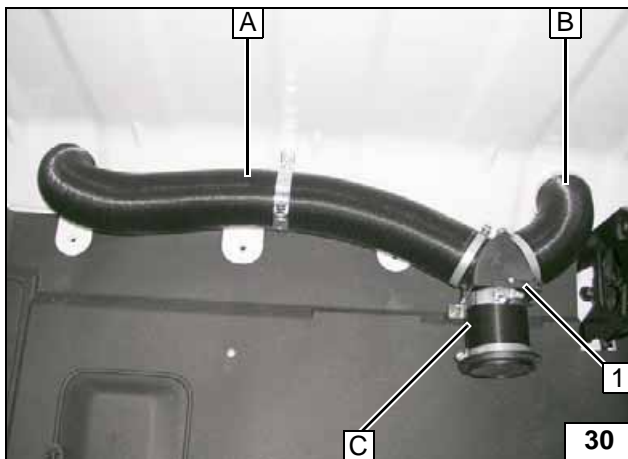
- 1 Edge protection tape in hole
- 2 70 -90 mm dia. hose clamp

**Installing hot air tube**



- 1 7 mm dia. hole, M6x16 bolt, large diameter washer, flanged nut [2x each], fastening clip

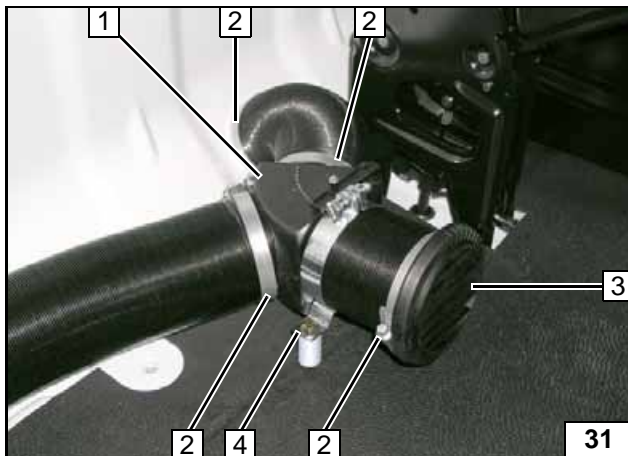
**Installing fastening clip**



Air distribution between cargo space and driver's cab through adjusting lever 1 on air distributor



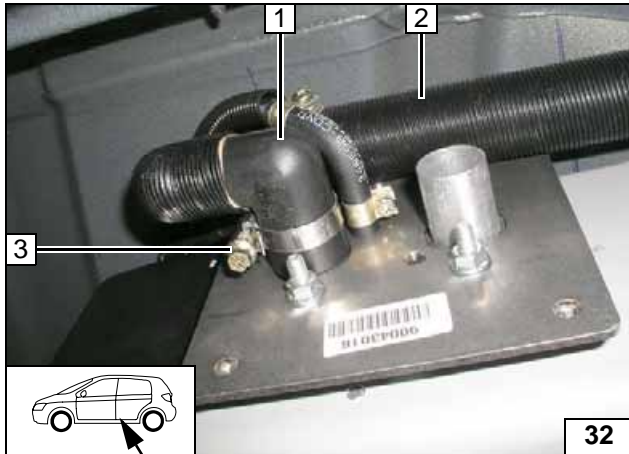
**Hoses for air ducting**



- 1 Air distributor with butterfly valve
- 2 70-90 mm dia. hose clamp [4x]
- 3 90° air outlet
- 4 M6x50 bolt, large diameter washer, serrated lock washer [2x each], fastening clip

**Installing air distribution**



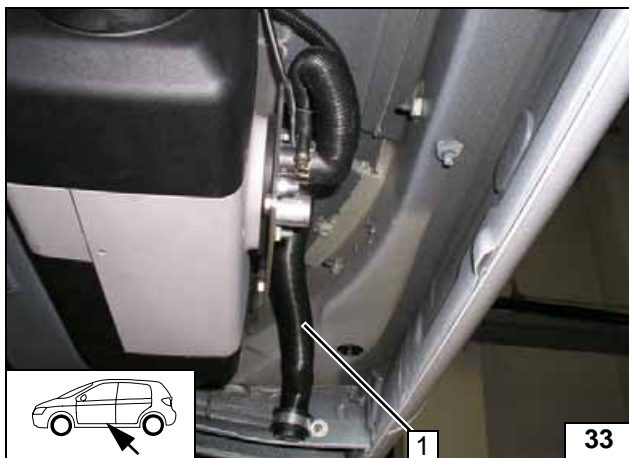


## Combustion air

- 1 Combustion air manifold
- 2 Combustion-air intake pipe
- 3 23 - 35 mm dia. hose clamp



Connecting combustion-air intake pipe



- 1 Combustion-air intake pipe

Installing combustion-air intake pipe



- 1 7 mm dia. hole, M6x20 bolt, flanged nut, 35 mm dia. p-clamp

Fastening combustion-air intake pipe



**Fuel Connection**

**CAUTION!**

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

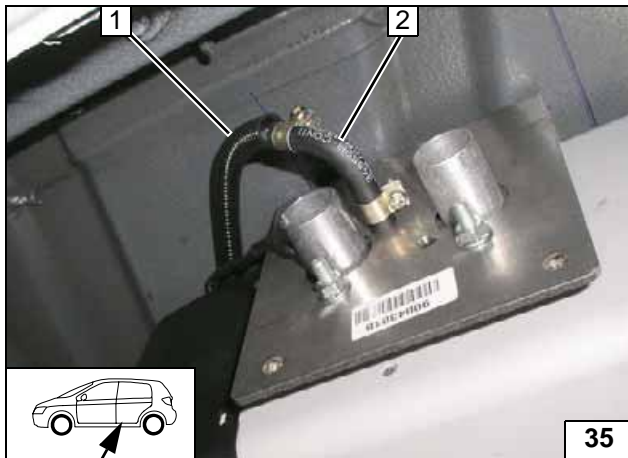
Catch any fuel running off with an appropriate container.

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

Mount the fuel line and wiring harness with rub protection on sharp edges.

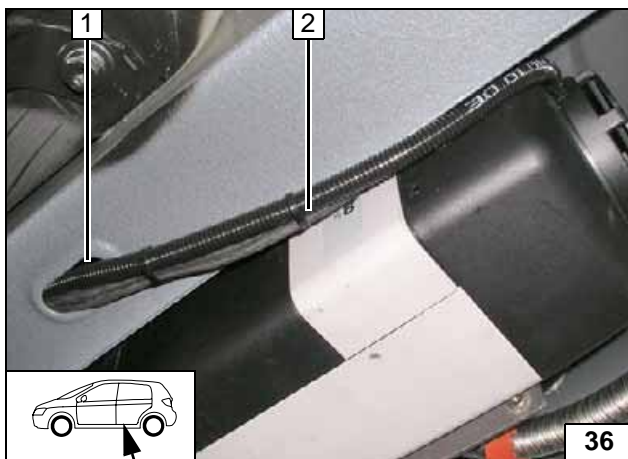
**WARNING!**

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



- 1 Mecanyl fuel line pulled into protective pipe
- 2 Molded hose, 10 mm dia. hose clamp [2x]

**Con-  
nection to  
heater unit**



- 1 Opening in frame side member
- 2 Wiring harness, protective pipe for fuel line

**Installing  
lines in  
frame side  
member**

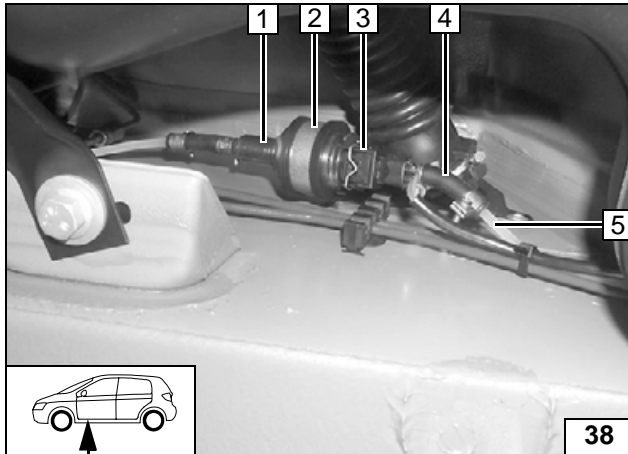
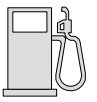


Route out wiring harness of heater unit at front end of frame side member and route wiring harness of metering pump with fuel line to installation location of metering pump.

- 1 Wiring harness of metering pump, protective pipe of fuel line

**Installing  
lines**



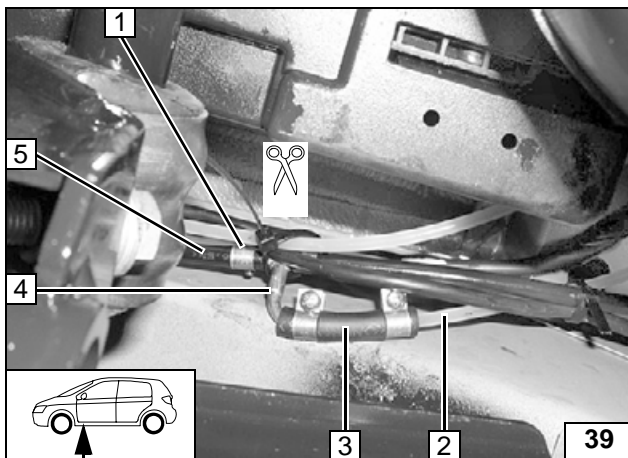


Ensure proper installation position of metering pump, see "Installation Instructions". Installation location on right next to vehicle fuel tank. Fuel line from heater unit on pressure side of metering pump [side with connector]. Replace front lower bolt of bracket for tank line with silentblock!

- 1 Metering pump
- 2 Rubber-coated p-clamp, flanged nut
- 3 Wiring harness of metering pump completed with connector
- 4 Hose section, 10 mm dia. hose clamps [2x]
- 5 Fuel line from heater unit



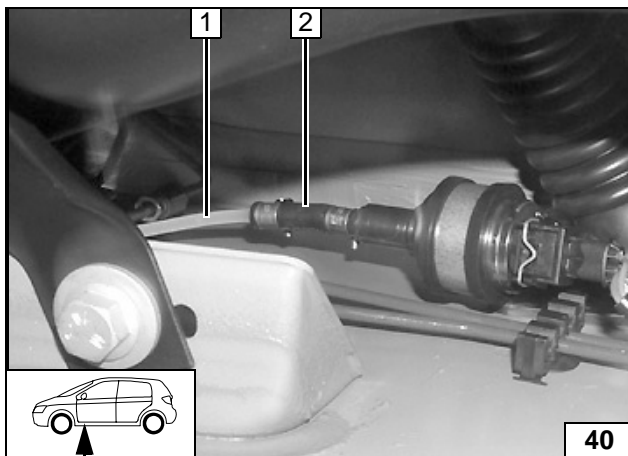
**Installation location of metering pump**



- 1 8 mm dia. hose clamps [2x]
- 2 Fuel line to metering pump
- 3 Hose section, 10 mm dia. hose clamps [2x]
- 4 Fuel standpipe
- 5 Fuel return line separated



**Mounting fuel standpipe**

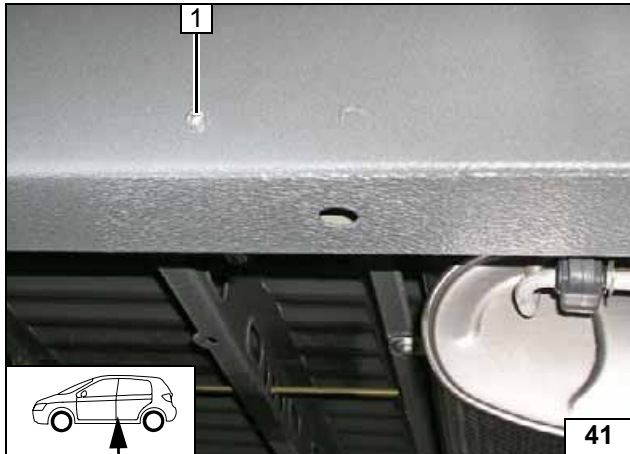
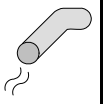


Fuel line from fuel standpipe on intake side of metering pump [side without connector]. Check the position of the components; adjust if necessary. Check that they have free clearance.

- 1 Fuel line from fuel standpipe
- 2 Hose section, 10 mm dia. hose clamps [2x].

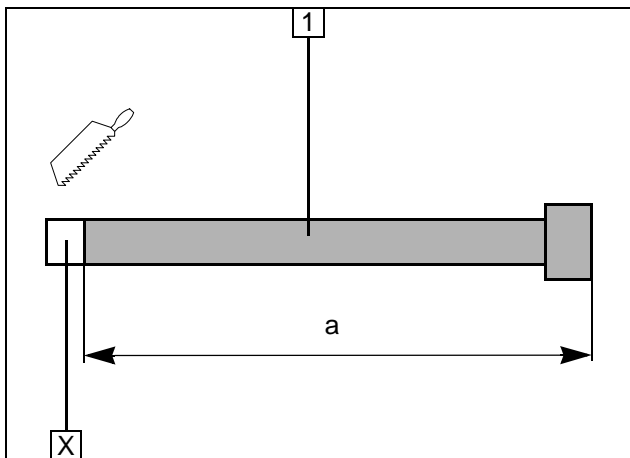


**Connecting to metering pump**



1 9 mm dia. hole, rivet nut

Drilling out hole for fastening exhaust pipe

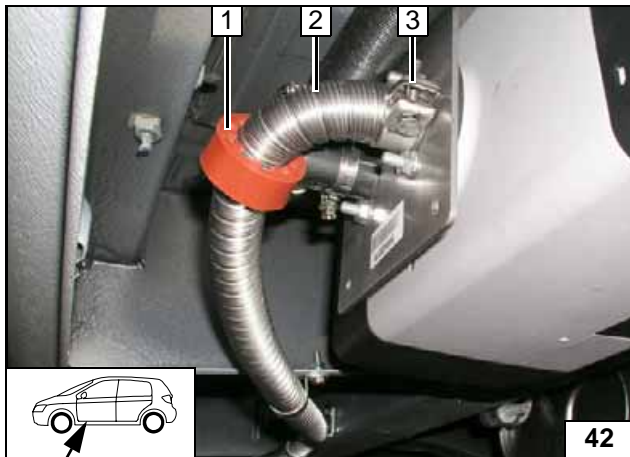


**Exhaust system without exhaust muffler**

1 Exhaust pipe  
a = 1,050

Discard section X

Preparing exhaust pipe



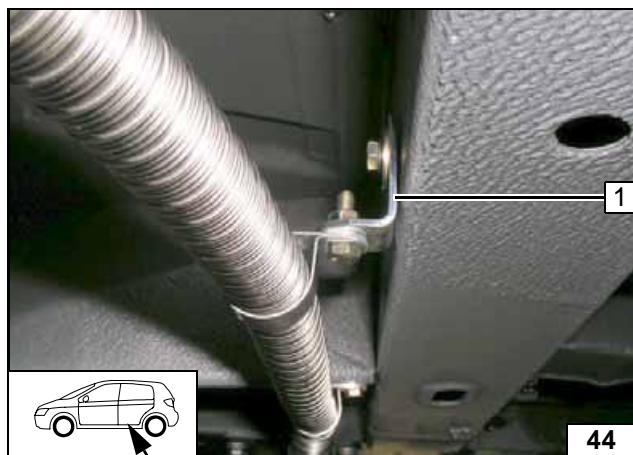
1 Red (rt) rubber isolator  
2 Exhaust pipe  
3 Hose clamp

Con-  
nection on  
exhaust  
socket



1 7 mm dia. hole, 28 mm dia. p-clamp,  
M6x20 bolt, flanged nut

Installing  
exhaust  
pipe



- 1 angle bracket, 28 mm dia. p-clamp, M6x20 bolt [2x], large diameter washer, spring lockwasher, flanged nut

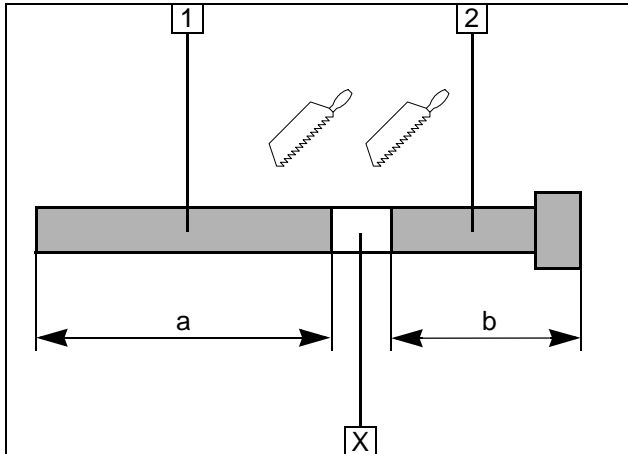
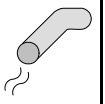
**Exhaust pipe on rivet nut**



- 1 7 mm dia. hole, 28 mm dia. p-clamp, M6x20 bolt, flanged nut

**Installing exhaust pipe**

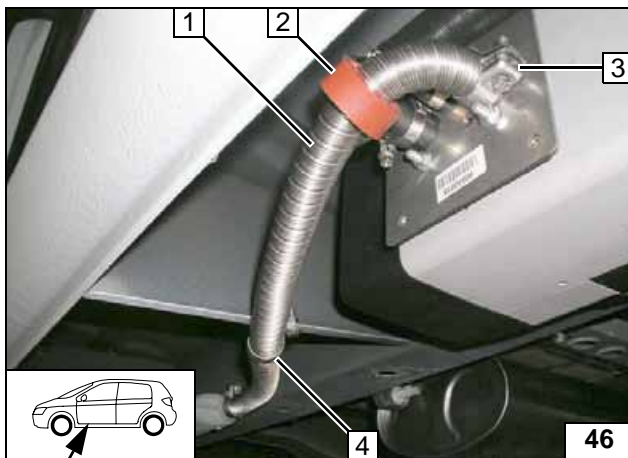




**Exhaust system with exhaust muffler (option)**

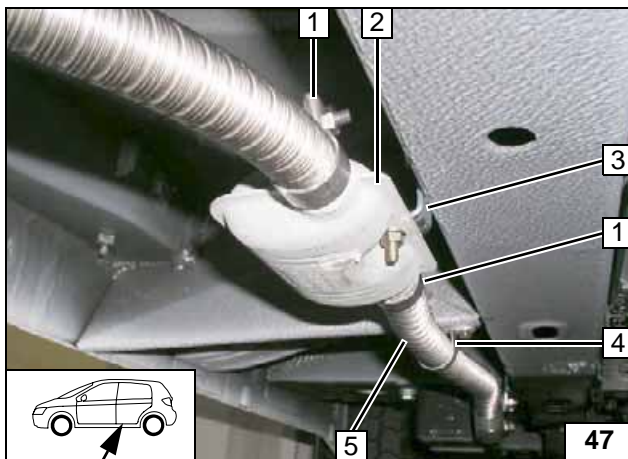
- 1 Exhaust pipe  
a = 620 mm
  - 2 Exhaust end section  
b = 430 mm
- Discard section X

**Preparing exhaust pipe**



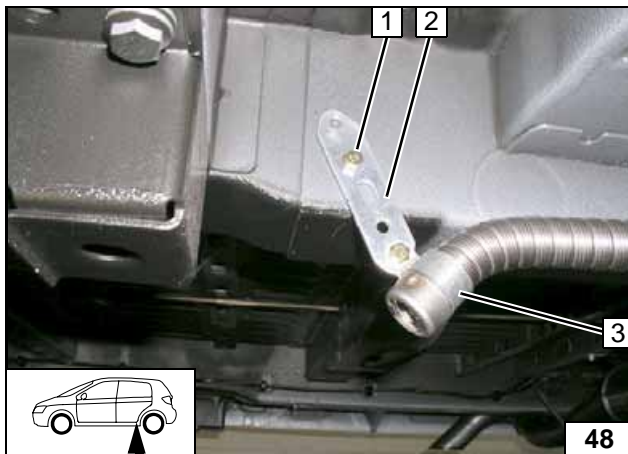
- 1 Exhaust pipe
- 2 Red (rt) rubber isolator
- 3 Hose clamp
- 4 7 mm dia. hole, 28 mm dia. p-clamp, M6x20 bolt, flanged nut

**Con-  
nection on  
exhaust  
socket**



- 1 Hose clamp [2x]
- 2 Exhaust muffler
- 3 Angle bracket, M6x20 bolt [2x], large diameter washer, spring lockwasher, flanged nut
- 4 7 mm dia. hole, 28 mm dia. p-clamp, M6x20 bolt, flanged nut
- 5 Exhaust end section

**Installing  
exhaust  
muffler**



- 1 Hole drilled out to 9 mm dia., rivet nut, M6x20 bolt, spring lockwasher
- 2 Perforated bracket
- 3 28 mm dia. p-clamp, M6x20 bolt, flanged nut

**Installing  
exhaust  
end  
section**

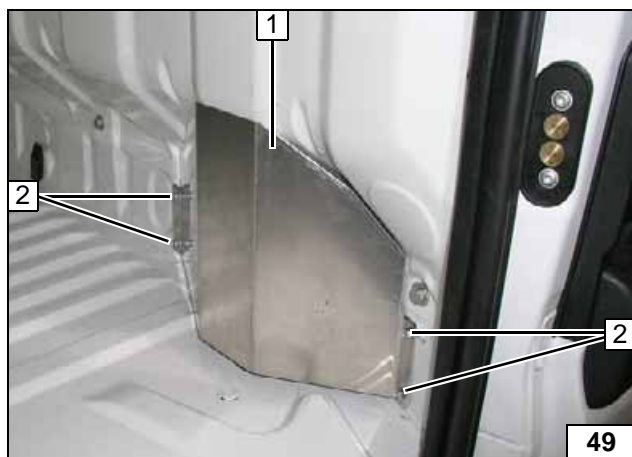


## Final Work

### WARNING!

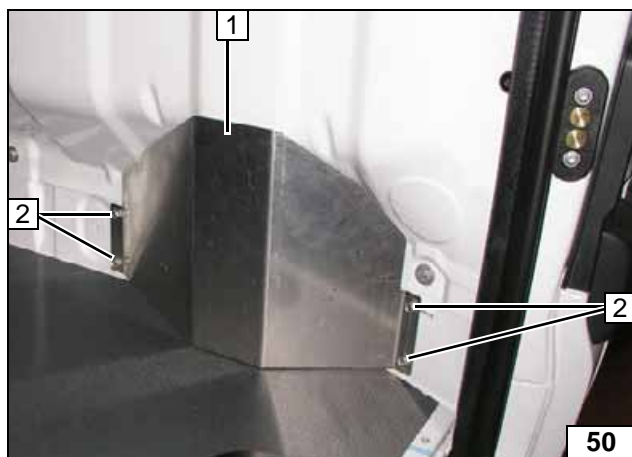
Reassemble the disassembled components in reverse order.  
 Check all hoses, clamps and all electrical connections for firm seating.  
 Secure all loose cables using cable ties.  
 Spray the heater unit components with anti-corrosion wax (Tectyl 100K, Order No. 111329).

- Connect the battery
- If present: Set the digital timer, teach the Telestart
- Check the proper operation of the air heater, see the operating instructions/installation instructions.
- Attach the "Switch off additional heater before refueling" sticker to the left-hand B-pillar.



- 1 Cover
- 2 4.5 mm dia. hole, 6.3x19 self-tapping screw [4x each]

For vehicles without cargo floor

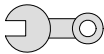


- 1 Cover
- 2 4.5 mm dia. hole, 6.3x19 self-tapping screw [4x each]

For vehicles with cargo floor



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Drilling Template for Underbody

