



Self-study programme 329

**Volkswagen Motorhome
California 2004**



Based on the Transporter 2004, the new California fulfils the needs of both leisure and business travellers.

In this generation, the interior layout with the kitchen unit under the window and the linen cupboard at the rear left remains the same.

The new California does, however, feature numerous refinements and even more comfort and flexibility.

Some highlights in the new California:

- Transporter 2004 technology with diesel engines
- electrohydraulic aluminium pop-up roof with a maximum load of 50 kg
- very variable seat bench or bed
- roof bed with slatted frame
- variety of flexible furniture



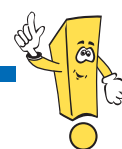
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This book presents the new features in the California. For information on the technology taken from the Transporter 2004, please read:

- SSP 210 "Transporter 2004"
- SSP 211 "Transporter 2004 – Electrical System"

NEW



**Important
Note**



**The self-study programme shows the design and function of new developments.
The contents will not be updated.**

For current testing, adjustment and repair instructions, refer to the relevant service literature.



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Brief overview



Proven technology

The Volkswagen California uses a large part of the technology from the Transporter 2004 Multivan with medium-height roof.

For example, the chassis with the following components has been used:

- McPherson front axle
- anti-roll bars front and rear
- vented disc brakes front and rear
- Conti-Tevs MK 25 with ABS with EDL, TCS and EBD, ESP system with brake assist
- crash-optimised pedal cluster

Further optional equipment taken from the Transporter 2004:

- sliding door and tailgate with power latching system
- anti-theft alarm with interior monitoring sensor
- Park Distance Control
- 3C Climatronic (with ventilation of passenger compartment)
- airbags in driver's cab
- multifunction steering wheel
- radio systems



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Engine/gearbox combinations

The engines and gearboxes listed in the table also originate from the Transporter 2004. They are available in the following combinations.



	5-speed manual	6-speed manual	6-speed automatic with Tiptronic
	 S329_075	 S329_079	 S329_076
1.9 l/77 kW TDI engine with unit injector system  S329_073			
2.5 l/96 kW TDI engine with unit injector system  S329_074			
2.5 l/128 kW TDI engine with unit injector system  S329_074			

Brief overview



Clever details

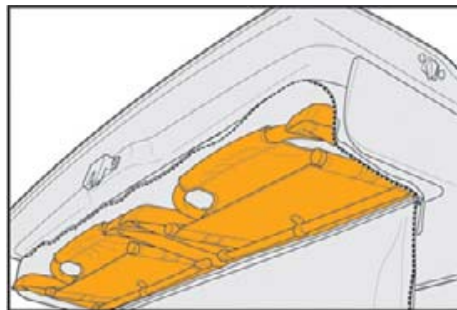
The California 2004 features some clever solutions. Some examples:

- roof load up to 50 kg (e.g. a surfboard)
- gooseneck lamp and safety net on roof bed
- fold-down overhead storage compartment
- drawers and toolbox in the rear bench
- option of adding a fifth seat
- adjustable bed in luggage compartment for easy loading

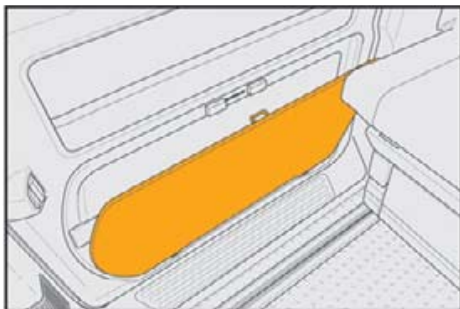
- Electrohydraulic pop-up roof

- Aluminium strip for attaching awning on both sides

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- Two camping chairs in the tailgate



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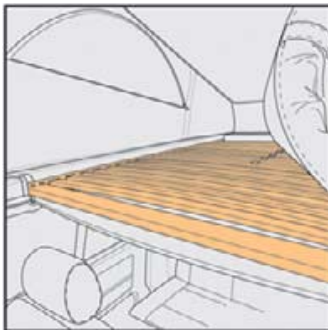
- Camping table with adjustable legs in the sliding door



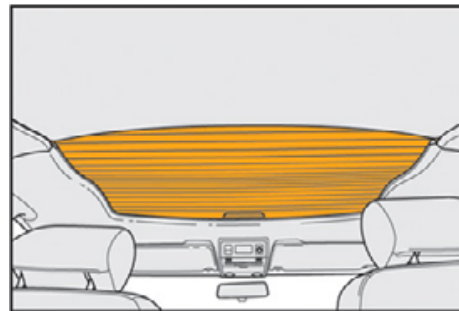
Improvements made to tested technology

Tried and tested technology has basically been improved for the new California. The following should be emphasised in particular:

- the lightweight construction of the cupboard
- the improved feel and appearance through the use of new materials
- further practical features, e.g. the camping table and camping chairs
- increased comfort, e.g. thanks to the roof bed with slatted frame

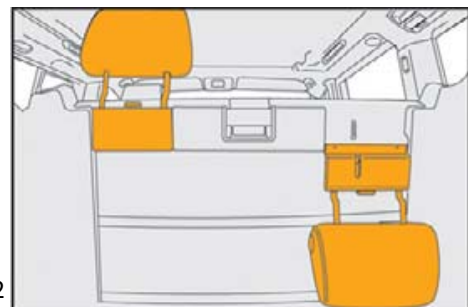


- Roof bed with slatted frame



- Two-room concept with blind used to separate passenger compartment and driver's cab and also to store the roof bellows safely

- Clever darkening possibilities:
blinds on front windscreen, rear windscreen and side windows
screens for the windows in the driver's and front passenger door



- Folding head restraints on the rear bench (Comfortline version)



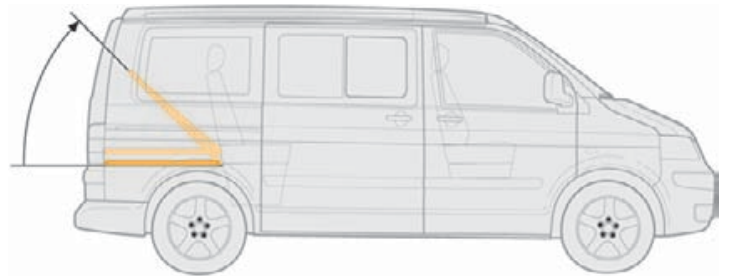
Vehicle concept

Usage of the motorhome

Easy loading



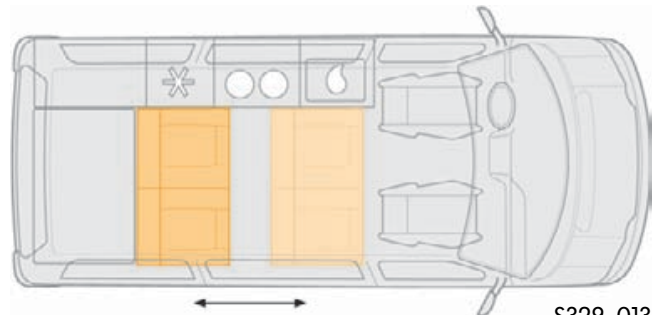
The rear bed base can be fitted on two levels. The bed base can be folded up so that the luggage compartment is easy to access.



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Legroom in the rear

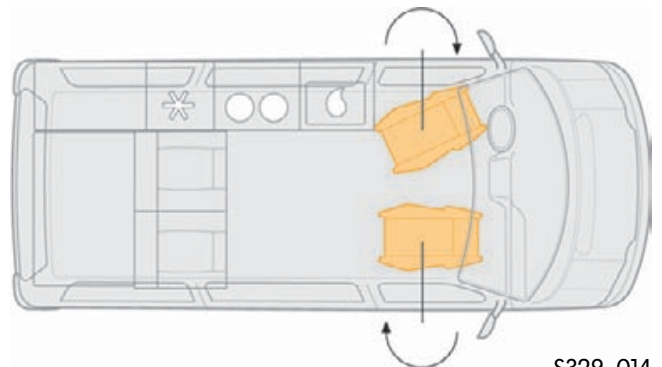
On the road, substantial legroom can be provided for the rear passengers as the rear bench slides back and forth.



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Rotating front seats

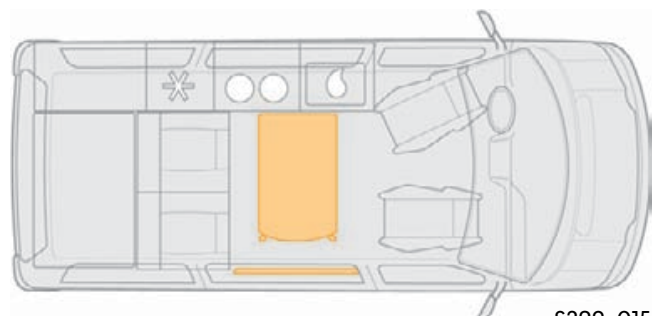
The front seats can be turned approx. 180°. The longitudinal position and the backrest of the seats may need to be adjusted to provide enough space.



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Tables

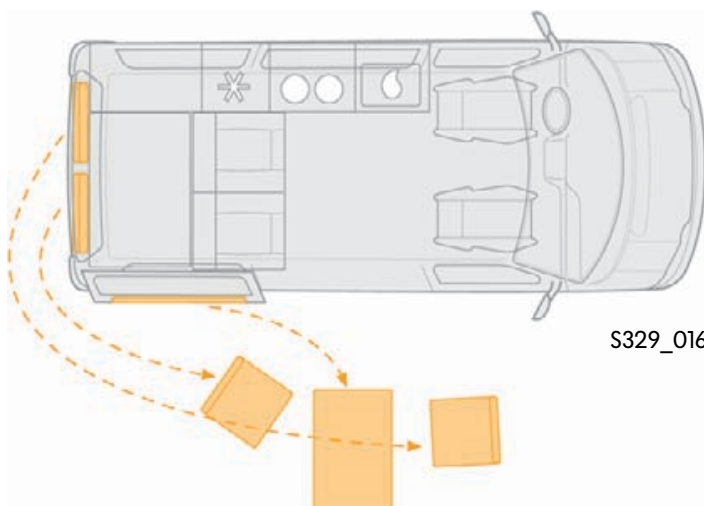
The California comes with up to two tables: a camping table in the sliding door (standard equipment) and a multipurpose table on the kitchen unit (Comfortline version). The camping table can also be attached to the kitchen unit using a hook and thus set up securely inside the vehicle.



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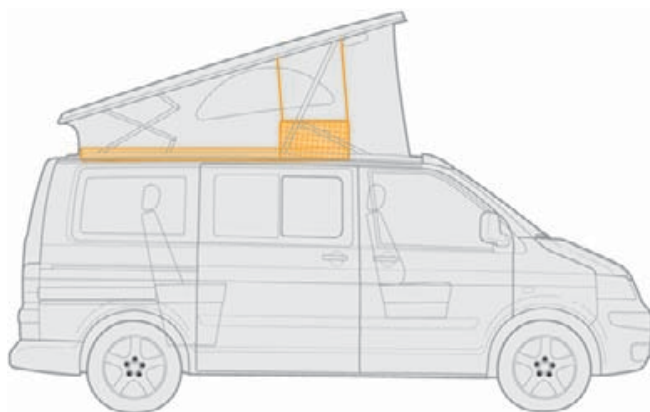
Camping furniture

The camping table in the sliding door and the two camping chairs in the tailgate can be set up quickly outdoors. The camping table has an adjustable leg to compensate uneven ground.



Sleeping places in the roof

The roof bed sleeps two comfortably.
A safety net can be fitted to prevent children falling out.



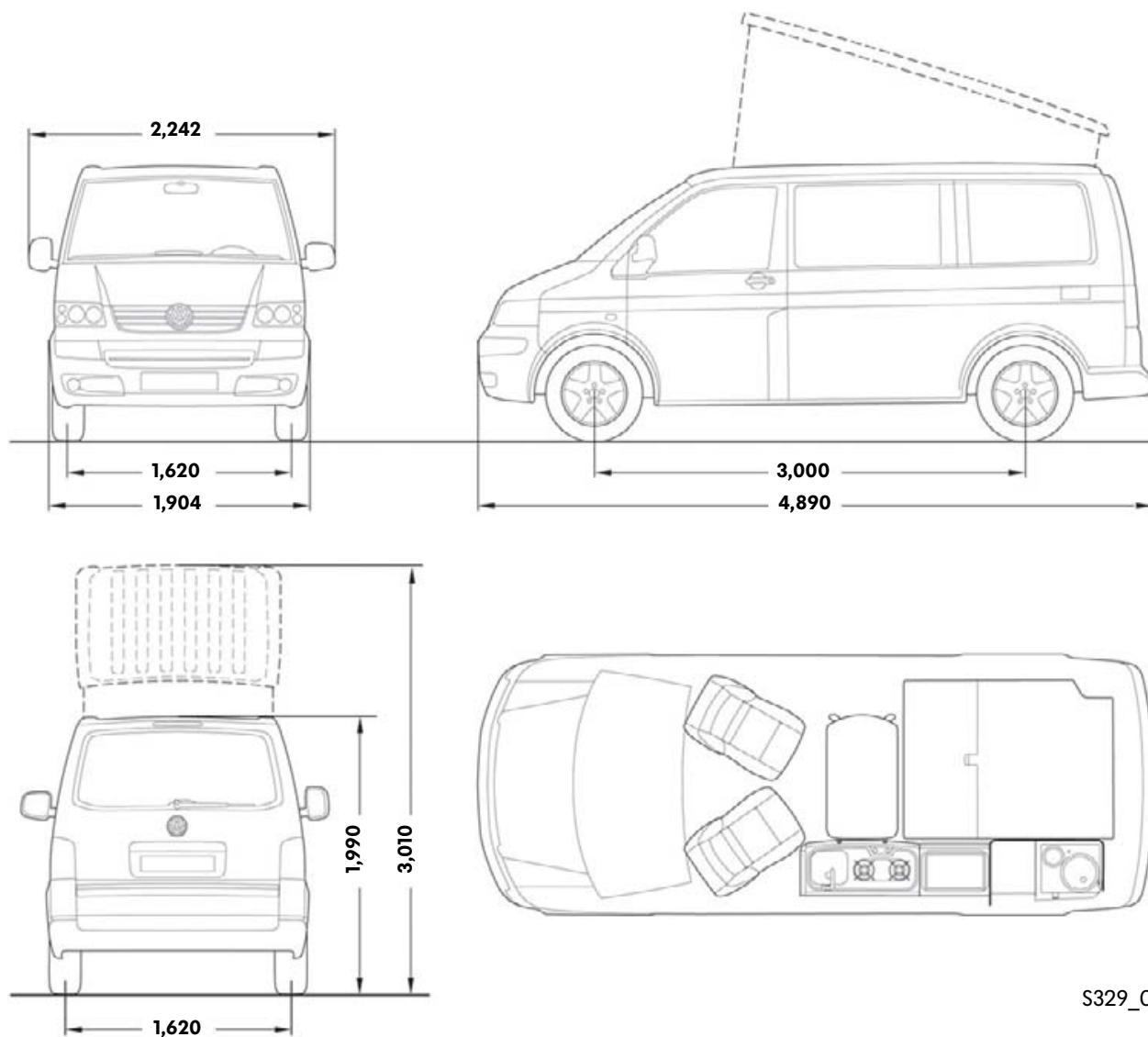
Beds in the rear

Two further beds can be set up in the rear when the rear seat backrest is folded down.



Vehicle concept

Technical data



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Dimensions and weights

Length	4,890 mm
Width	1,904 mm
Height	1,990 mm
Height with elevated roof	3,010 mm
Wheelbase	3,000 mm
Roof load	50 kg
Braked towing capacity	2,220 – 2,500 kg*
Tank capacity	approx. 80 l

Lower bed	200 x 114 cm
Roof bed	200 x 120 cm
Fresh water tank volume	30l
Waste water tank volume	30l
Refrigerator box volume	42l

* Depending on engine

California and California Comfortline*

	California	California Comfortline
Side airbags and head airbags at front	✗	✓
Dual-tone horn	✗	✓
Auxiliary heating with timer switch and remote control	✗	✓
Fog lights integrated in bumper	✗	✓
Heated driver and front passenger seats	✗	✓
Sliding multi-purpose table, mounted on kitchen unit	✗	✓
Power latching sliding door, power latching tailgate	✗	✓
Bumpers and outside mirrors	Not painted	Painted in body colour
Stove and sink cover	Aluminium	Glass
Double-reflector headlights	✗	✓
Head restraints on the rear bench	Removable	Folding
Window regulator	Mechanical	Electrical
Outside mirrors	Mechanical adjusted	Electrically adjusted
All-round trim strip	✗	✓

✗ Not included

✓ Included

* The equipment may vary from country to country.



Body

Body

The Transporter 2004 Multivan with medium roof forms the basis for the California.

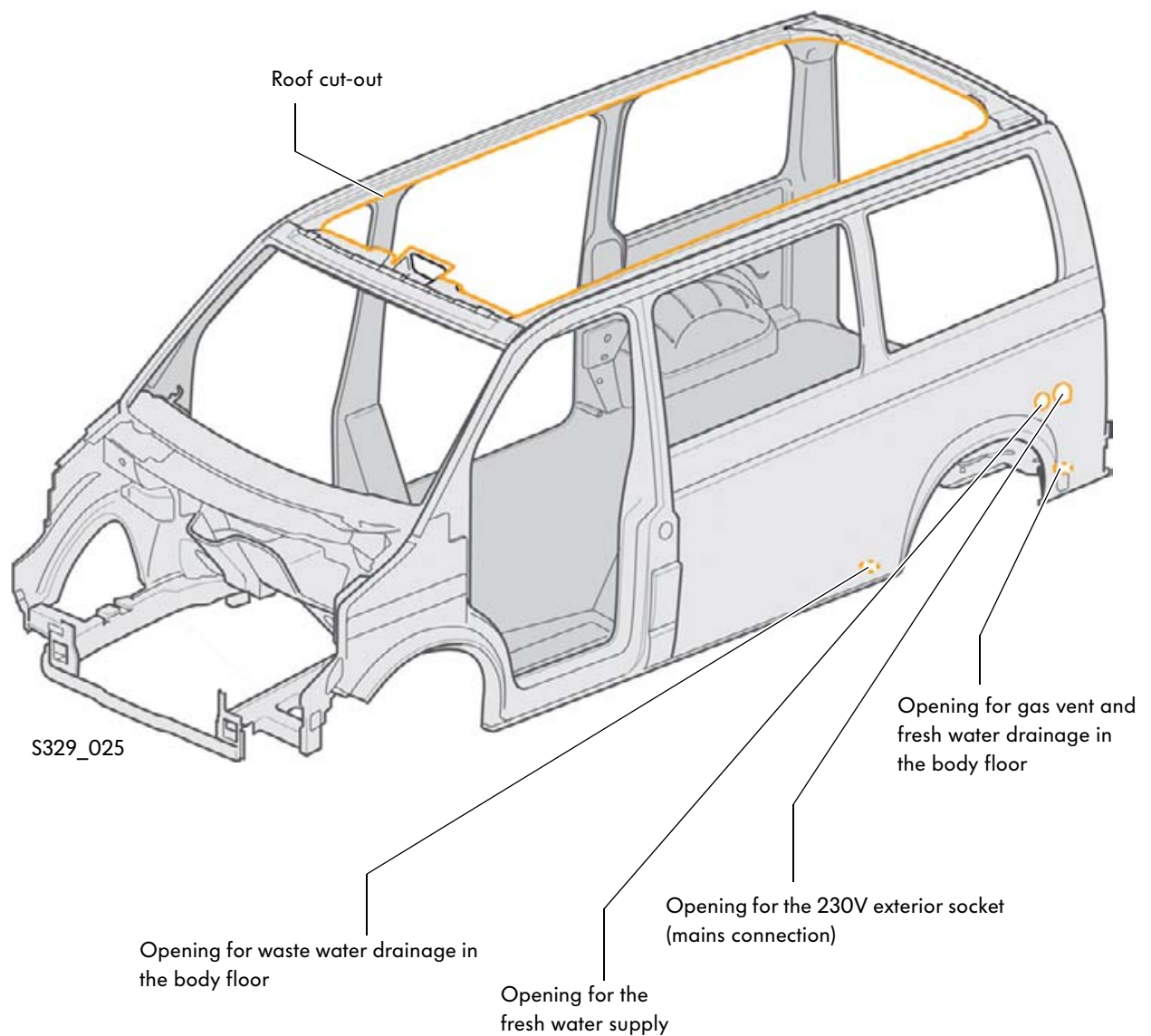
For the electrohydraulic pop-up roof, the roof is removed with the rails.

Furthermore four openings have been cut into the body:

- two openings at the rear left for the fresh water supply and the 230 V exterior socket (mains connection),
- one opening in the body floor for venting gas and draining the fresh water tank
- another opening in the body floor for waste water drainage.



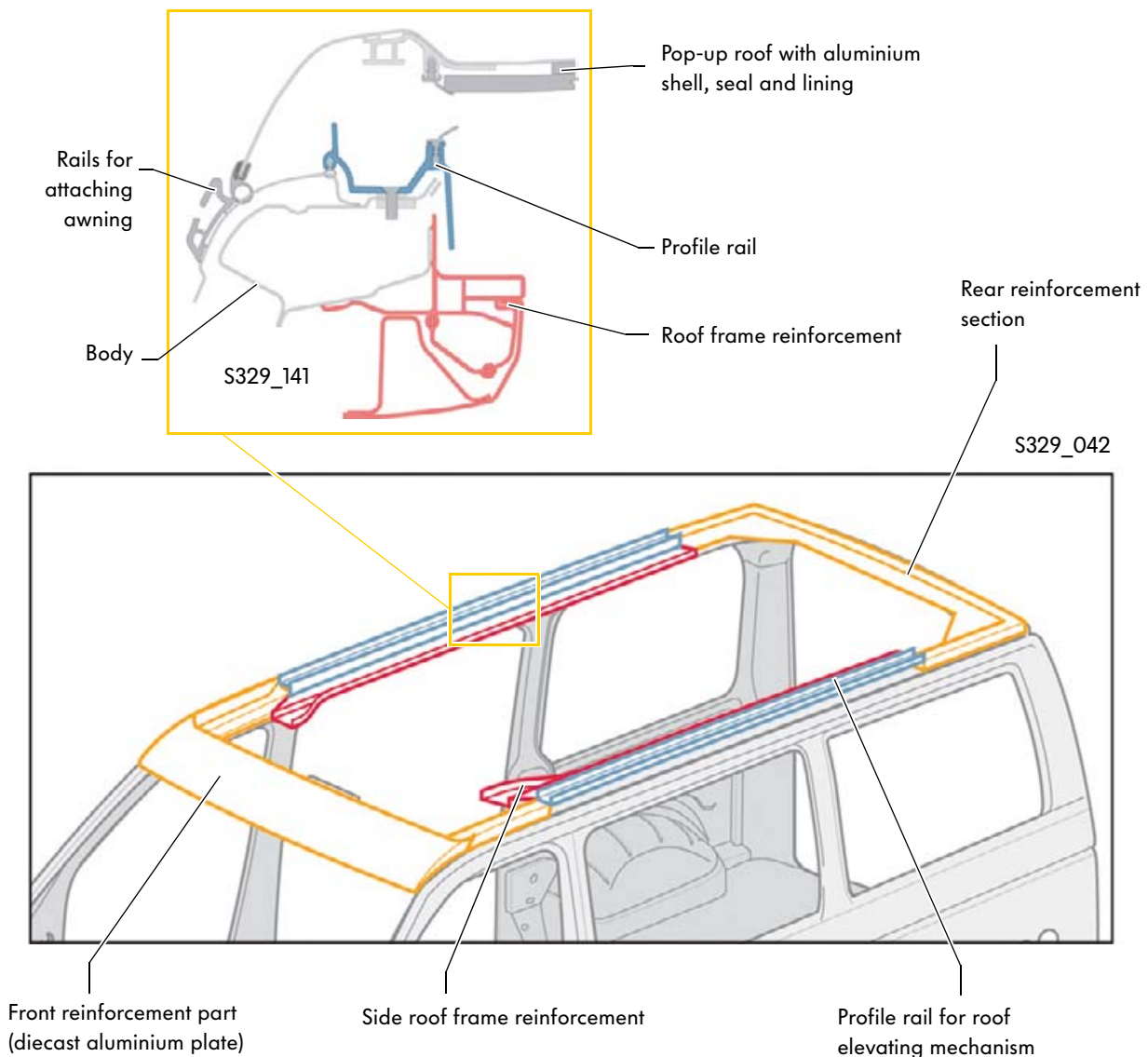
The openings are cut out at the factory in Hanover using the Plasma cutting technique.



Roof opening reinforcement

While the four small cut-outs do not affect the rigidity of the body, the roof opening has been strengthened with reinforcing parts to maintain the crash safety:

For this purpose, there are diecast aluminium plates at the front and rear, roof frame reinforcements at the sides and a profile rail on the roof-elevating mechanism. All of these parts are glued, screwed and riveted.



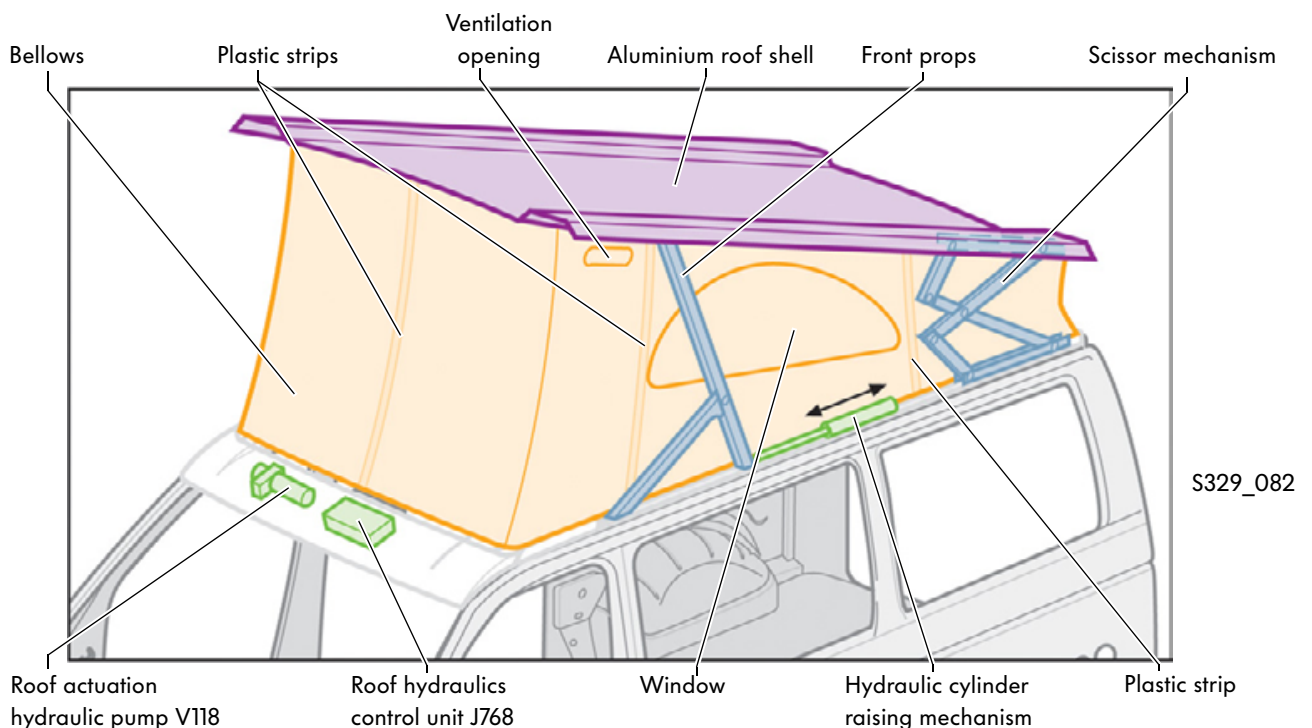
Electrohydraulic pop-up roof

The electrohydraulic pop-up roof consists of the aluminium roof shell, the roof bellows, the front props, the scissor mechanism and the following electrohydraulic components:

- roof actuation hydraulic pump V118
- roof hydraulics control unit J768
- two hydraulic cylinders for the elevating mechanism each with two roof hydraulics senders G491 - G494
- electrical cables and hydraulic lines

The bellows are fitted with plastic strips that ensure that they are not trapped when the electrohydraulic roof is lowered. The bellows therefore stow themselves away automatically. They are fastened along the roof cut-out and the aluminium roof shell. The bellows including the window and ventilation openings are rainproof.

The hydraulic cylinders move the front props. The force is transferred via the aluminium roof shell to the rear scissor mechanism that open and close evenly and steadily thanks to their construction.



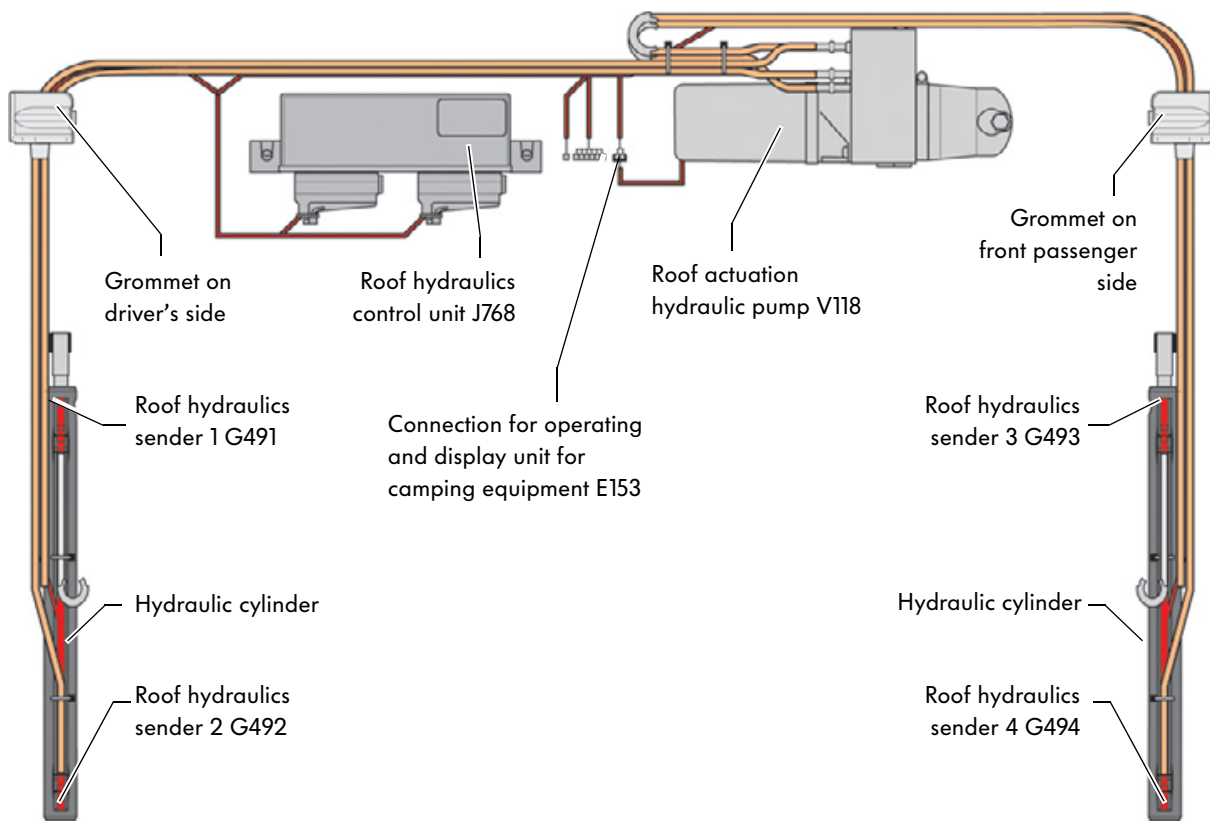
All parts in the roof area are glued, screwed and riveted.

Pop-up roof electrohydraulics

The electrohydraulic pop-up roof is operated by the roof hydraulics control unit J768 that controls the roof actuation hydraulic pump V118. The roof actuation hydraulic pump is connected to two hydraulic cylinders. Each hydraulic cylinder moves the props up on both sides.

Roof hydraulics senders G491 - G494 are fitted at the front and rear end stops.

They indicate to the roof hydraulics control unit whether the electrohydraulic pop-up roof is completely open or closed. Two grommets seal the openings in the front reinforcement section of the roof cut-out.



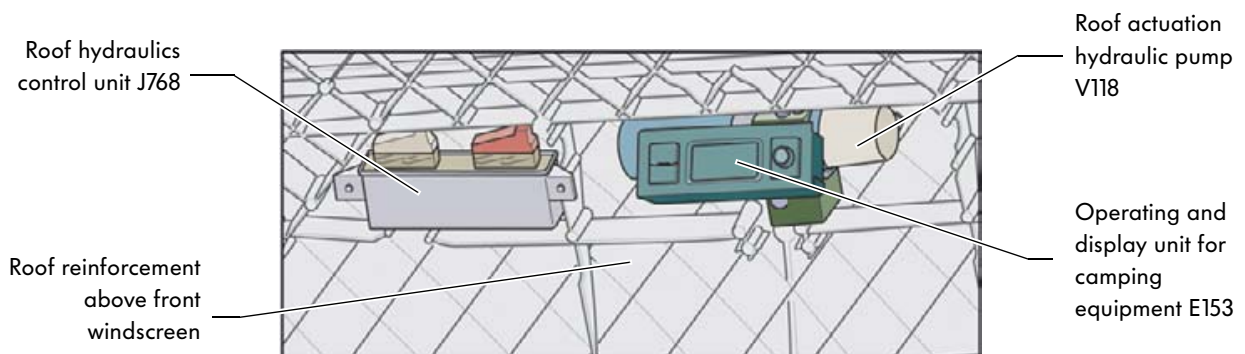
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The electrohydraulic pop-up roof is raised using a menu function with the rotary press knob on the operating and display unit for camping equipment E153. To lower the roof, you need to hold down the rotary press knob on the operating and display unit for camping equipment. Just after the lowering procedure is started the user will be asked whether the roof bed has been lowered, the blind opened and at least one window is open. You then press the knob again to continue the procedure.

Body

Location of the control unit and the pump

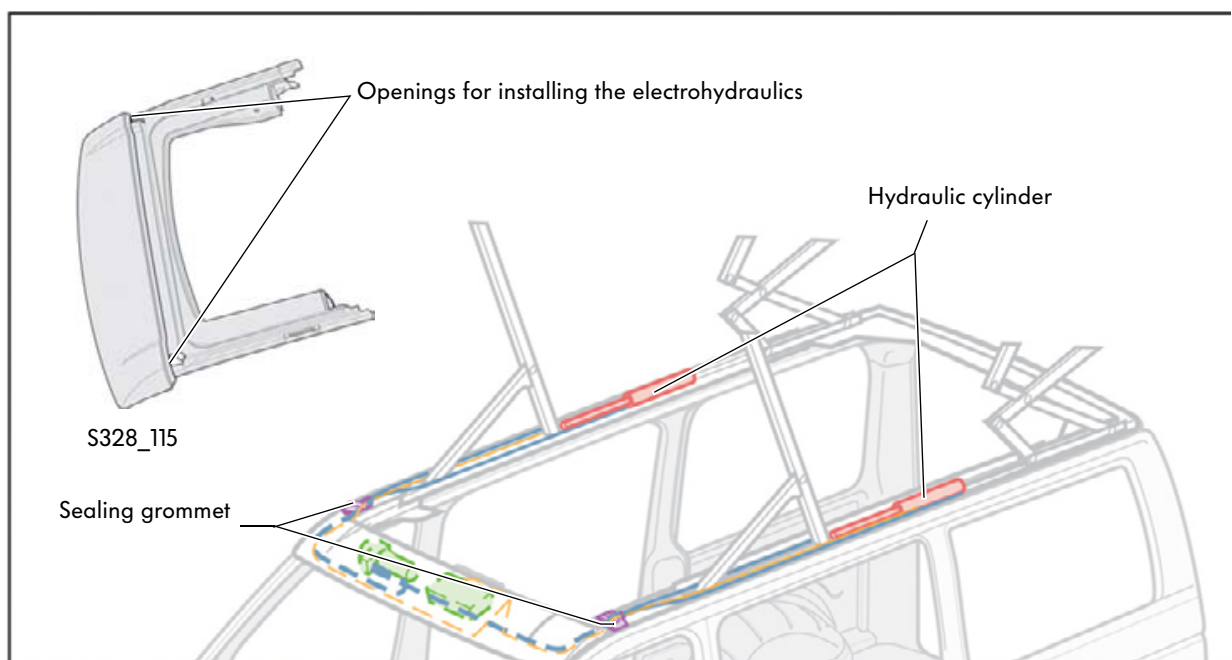
The roof hydraulics control unit J768 as well as the roof actuation hydraulic pump V118 are mounted on the inside of the front reinforcement on the roof cut-out. The pump is embedded in a foam cushion to dampen the noise. The operating and display unit for camping equipment E153 is located in front of the hydraulic pump.



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Installing the electrohydraulics

The electrohydraulic cylinders for the pop-up roof are pushed through the openings on the left and right in the front roof cut-out reinforcement and then fastened. The openings are sealed with grommets.



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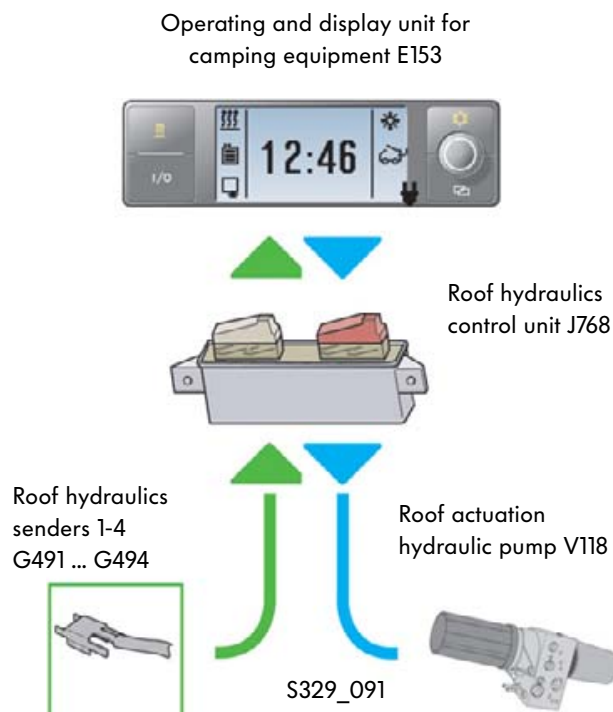
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System overview of the electrohydraulics

The roof hydraulics senders G491 - G494 in the hydraulic cylinders indicate the opening state of the electrohydraulic pop-up roof to the roof hydraulics control unit J768. The "closed" and "open" states are recognised.

The roof hydraulics control unit sends the current state to the operating and display unit for camping equipment E153.

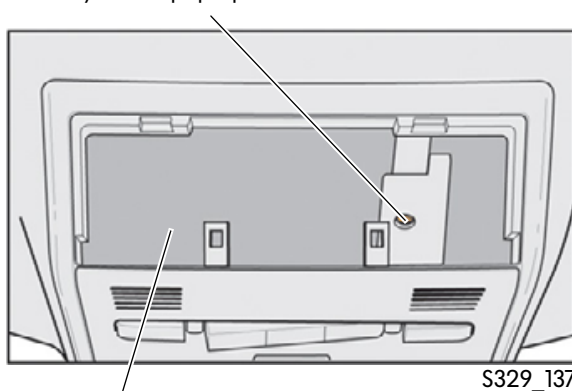
This is used to open and close the electrohydraulic pop-up roof.



Emergency operation of the electrohydraulic pop-up roof

If the roof hydraulics fail, you can close the electrohydraulic pop-up roof using a backup system. There is a screw behind the panel underneath the operating and display unit for camping equipment E153 that releases the pressure on the hydraulics. Once this has been released, the aluminium roof shell can be closed by hand.

Screw for emergency operation of the electrohydraulic pop-up roof



Opening for the operating and display unit for camping equipment E153



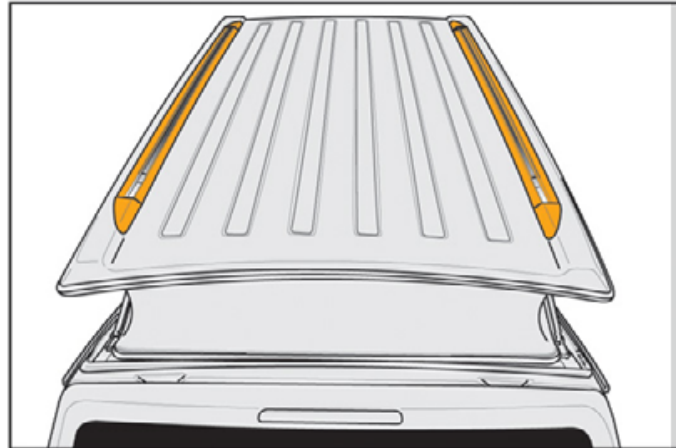
Body

Further special features

Fastening systems

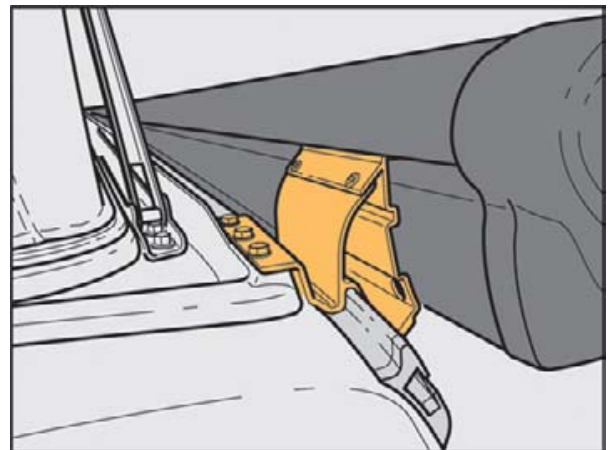
C-rails have been mounted on the body for the roof rack and the awning rails.

Roof-rack rails can be fitted in the C-rails for the roof rack without screws. The roof-elevating mechanism also works when the roof is loaded to maximum of 50 kg.



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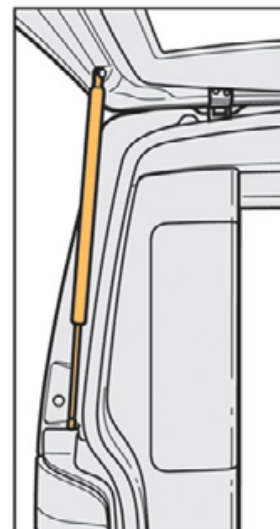
Special fastening adapters are used for the awning that screw into the awning rail and onto the roof frame reinforcements.



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Tailgate

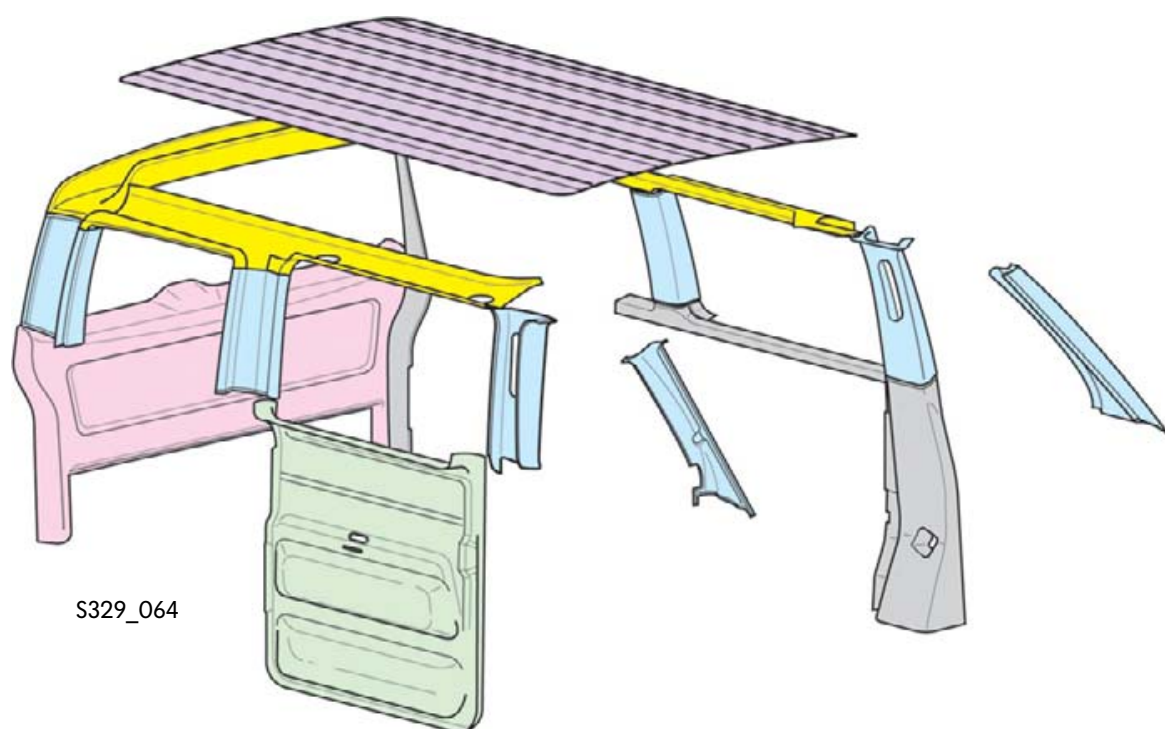
The gas prop on the tailgate is reinforced in comparison with the Transporter basic model to compensate the increased weight of the tailgate due to the camping chairs.



S329_084

Interior panels

The panels are partly taken from the Transporter 2004 Multivan basic model as well as the 1991 California.



Legend

- The lining of the electrohydraulic pop-up roof is glued into the aluminium roof shell.
- The sliding door panel has been redesigned to hold the camping table.
- Two camping chairs are held in the tailgate panel.
- All pillar lining parts have been adapted from the window up to hold and guide the blinds.
The B-pillar lining has been formed from the side wall panel on the middle as the cupboard replaces the panel. Slots for blinds have been added to the right-hand B-pillar lining. The vents in the B-pillar have been omitted to allow the blinds to be fitted.
- The roof lining has been omitted due to the roof bed. Instead there are roof frame panels.

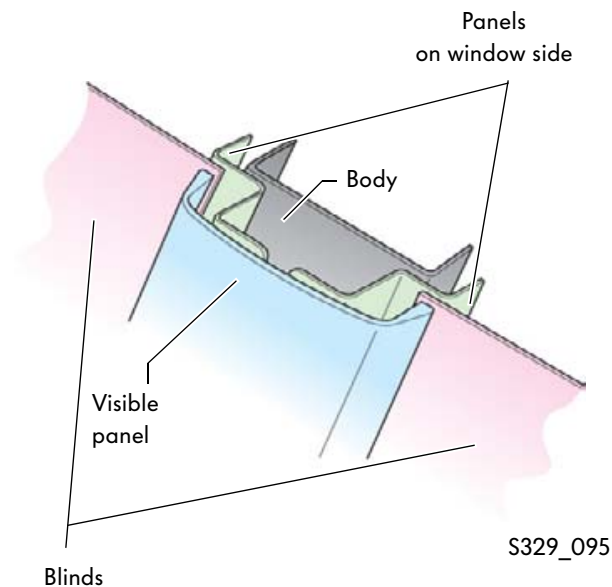


Body

A, B and C-pillar lining

These panels are made up of two shells: Firstly a panel is clipped to the body on the body and then screwed on. The blind is already fitted to this panel on the window side. The visible panel is clipped on top.

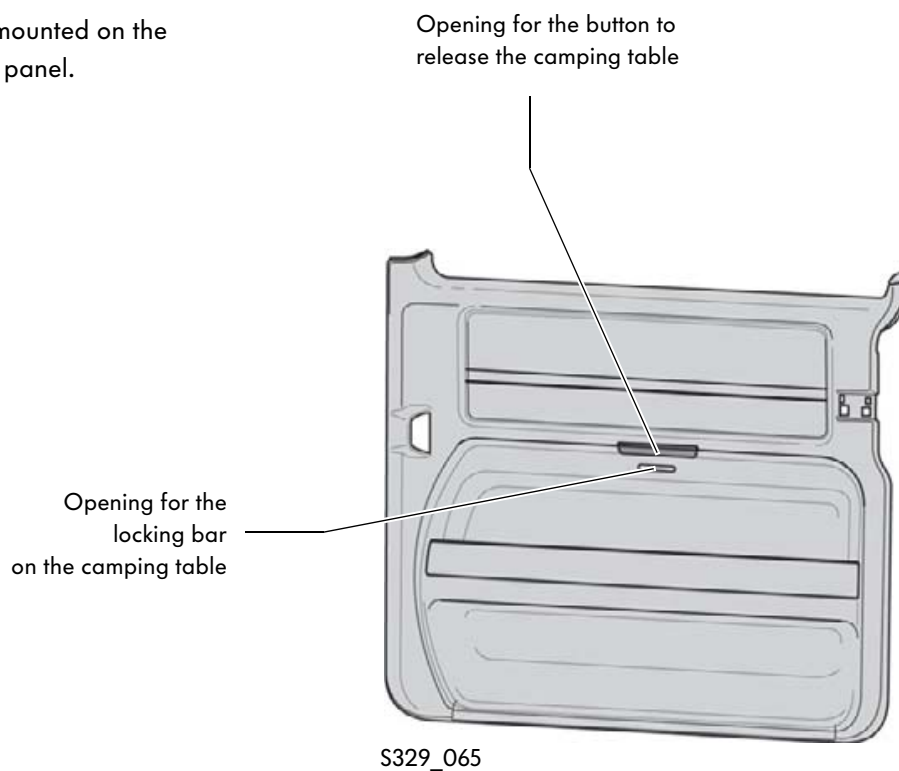
To reach the belt components, the visible panel needs to be removed.



Sliding door panel

The sliding door panel has been designed to hold the camping table.

The lock mechanism is mounted on the sliding door behind the panel.

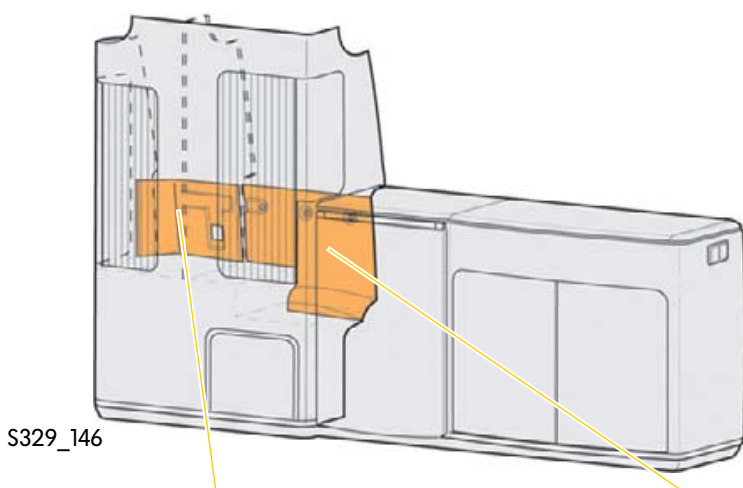


Panels inside the cupboard

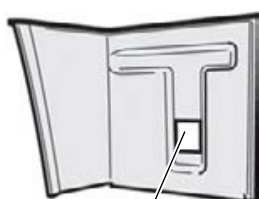
Two panels are fitted inside the cupboard on the body side and are separated by the cupboard partition.

The panel in the washing compartment slots into the cupboard floor. The automatic personal protection circuit-breaker (residual-current-operated circuit-breaker) is screwed to the back of the panel. The panel is fastened to the body-in-white with adhesive.

The second cupboard panel is inside the wardrobe above the battery for special vehicle and clips in.

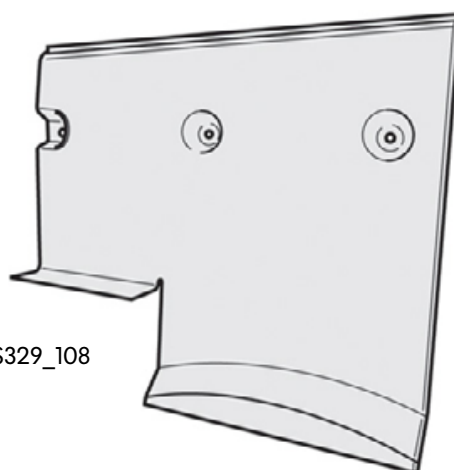


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Opening for inserting
the automatic personal
protection circuit-
breaker

S329_108



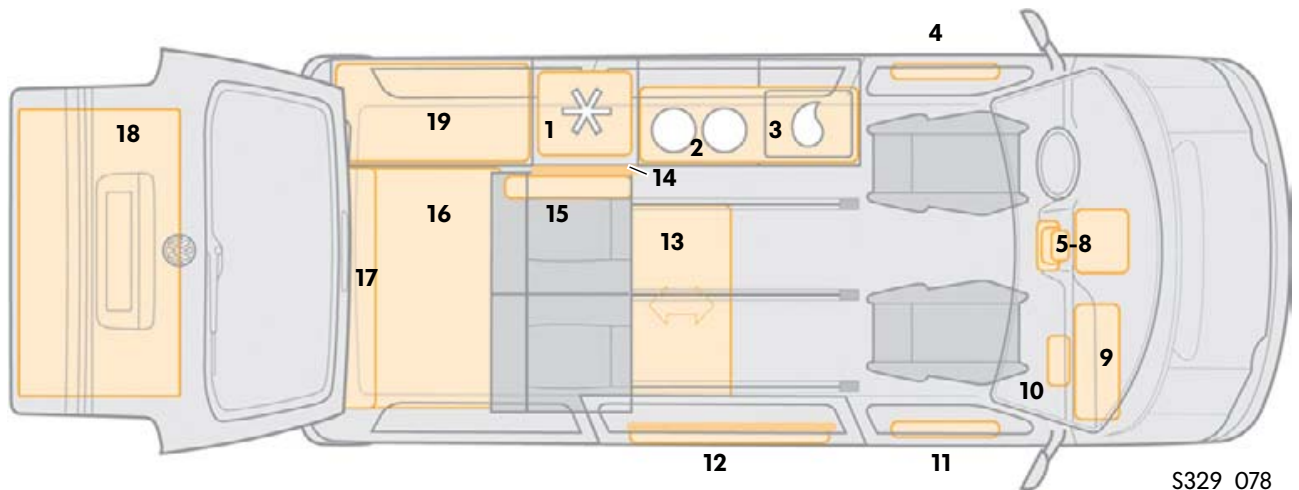
The panels in the cupboard need to be removed before the cupboard can be taken out.

Equipment

Storage compartments in the California

Storage

The California features a wide range of storage facilities.

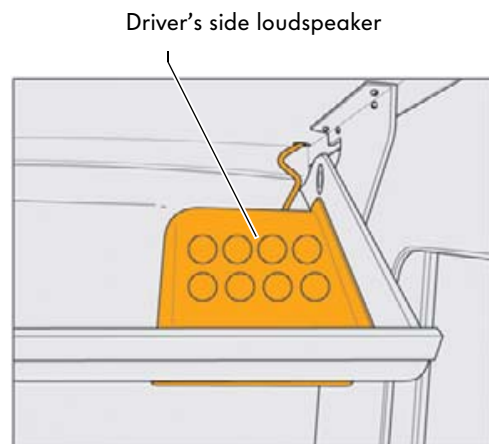


Legend:

- | | |
|--|--|
| 1 Refrigerator box | 11 Storage compartment in front passenger door |
| 2 Stove, storage compartment underneath | 12 Camping table in the sliding door |
| 3 Sink unit, cutlery drawer and shelf underneath | 13 Drawer in seat bench |
| 4 Storage compartment in driver's door | 14 Multiple-purpose table hung on the cupboard (Comfortline version) |
| 5 Storage compartment with coin holder | 15 Through-load aperture in seat bench |
| 6 Storage compartment with tank card holder | 16 Luggage compartment |
| 7 Cup holder, ashtray and coin holder | 17 Overhead storage compartment (with loudspeakers) |
| 8 Bottle holder to 1.5l / rubbish bin | 18 Two camping chairs in the tailgate |
| 9 Glove compartment, cooled and illuminated | 19 Washing cupboards |
| 10 Newspaper holder | |

Loudspeakers in overhead storage compartment

The loudspeakers are inside the overhead storage compartment and are made up of a mid-range and treble speaker and a bass speaker. They are fastened inside the roof storage compartment and are covered with a plastic housing that is glued on.



S329_135