SUNLIVING

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1 Introduction

You want to get to know new horizons? Count on us to help you!

Congratulations on your new ***SUN LIVING*** motorhome.
We have designed and built your vehicle so that travelling with your “home away from home” will be very enjoyable.

We wish you boundless enjoyment in your leisure time and holiday activities with your new ***SUN LIVING*** motorhome.

The Management

1.1 Before the trip

- Take your time and read this instruction manual on one of the comfortable seats of your vehicle.
  - This instruction manual also contains surprising new information for experienced users because the ***SUN LIVING*** design team does not tolerate technical standstill.
- Please pay particular attention to the “Safety chapter” (chapter 2).
  - Your own health and that of your passengers can depend on your familiarisation with the safety regulations and your adequate reaction to critical situations.
- Please also pay attention to the separate instruction manuals for optional equipment and appliances as well as accessories.
- If your ***SUN LIVING*** vehicle has optional equipment (such as light-metal rims, air suspension, etc.), please observe the enclosed special approvals and the associated regulations.

1.2 Information on this instruction manual

- Please understand that we reserve the right to alter the technical system, the form and the equipment. Our vehicles are being continuously developed. Therefore, no claims can be made against ***SUN LIVING*** on the basis of the contents of this instruction manual. The equipment which was known and included at the time of going to press is described in this manual. This instruction manual is valid only insofar as the vehicle corresponds to the state of the equipment described therein.
- The equipment fitted on the vehicle may differ from model to model (standard equipment, optional equipment and accessories). The standard equipment is described in this instruction manual. This instruction manual also includes descriptions of optional equipment and accessories, where these require explanation. Please also pay attention to the enclosed separate instruction manuals provided by the manufacturers of the optional equipment or accessory.

- For instructions on the operation and use of the basic vehicle, always refer to the basic vehicle instruction manual.
- Reproduction, copying and translation, including any extracts, are not permitted without the explicit approval of ***SUN LIVING***.
- ***SUN LIVING*** will not be held responsible for damage to the vehicle resulting from the non-observance of the instruction manual.

Date of issue: 10 April 2025

1.3 Warranty, service and repair

- For maintenance and repair work and for specific questions, please contact your local ***SUN LIVING*** dealer.
  - The staff at your ***SUN LIVING*** dealer will be happy to advise you.
  - Only original parts ensure the quality and operational readiness of your vehicle.
  - If service work is neglected or performed incorrectly, we will be unable to meet our warranty obligations according to our warranty conditions.
- Please fill in the following data of your vehicle:
  - These are of special significance when you have questions concerning ordering original parts.
- Check the nameplates for the data of your vehicle.

Vehicle data	
Model:	
Year of manufacture:	
Vehicle identification number:	
Bodywork key number:	

Tab. 1 Vehicle data

1.4 Structural modifications to the vehicle

The vehicle's operating licence, the vehicle's insurance cover and the ***SUN LIVING*** warranty may be invalidated if:

- You install parts in the vehicle whose use has not been authorised by ***SUN LIVING***.
- You have structural modifications made to or in the vehicle that have not been approved by ***SUN LIVING***, or you make unauthorised structural modifications to or in the vehicle yourself.

If add-on parts (e.g. motorbike carrier, trailer coupling) are not correctly fitted to the vehicle, damage may occur to the chassis or other structural elements of the vehicle. Repairing such damage is often difficult and can be very expensive for the customer. Furthermore, improperly fitted add-on parts can pose a considerable danger to other road users. The installation and use of add-on parts is only permitted if all road safety requirements are fully complied with.

We strongly recommend that such conversions and installations are only carried out by authorised specialists. Only they have the necessary training and can guarantee the quality of their work.

Information on authorised structural modifications to the vehicle can be obtained from your ***SUN LIVING*** dealer or from ***SUN LIVING*** customer service.

2 Safety

2.1 Safety information

This section contains safety instructions that must be followed when operating the vehicle.

Note!

We point out explicitly that we will not assume any liability for damage and malfunctions resulting from the non-observance of this instruction manual.

2.1.1 Explanation of symbols

Danger!

Type of danger

➔ Avoidance

This type of safety warning warns of an **imminently pending danger** that could jeopardise the life and health of persons. Non-observance of these safety instructions can cause severe damage to health up to life-threatening or fatal injuries.

Warning!

Type of danger

➔ Avoidance

This type of safety warning warns of a **possible danger for persons**. This type of warning must be exactly followed to prevent hazards to persons or severe material damage.

Caution!

Type of danger

➔ Avoidance

This type of safety warning warns of **possible material damage**. This type of warning must be exactly followed to prevent material damage.

Note!

Note

Notes of this kind provide additional information with respect to **technical requirements**. This type of information facilitates the handling of the vehicle for the user.

2.2 General safety instructions

- Safely store all objects before starting to drive. Securely close all flaps, doors, windows and hatches. Keep liquids in leak-proof containers.
- When staying in the vehicle, always keep the forced ventilation and the mushroom ventilator open and never covered, as there is a risk of suffocation by increased carbon monoxide.
- Always keep the instruction manuals for the vehicle and all built-in units (e.g. gas cooker, refrigerator, toilet) and additional equipment (e.g. bicycle rack) in the vehicle, within easy reach, and follow them.
- Never leave children in the vehicle unattended.
- Pay attention to the vehicle height while driving.
- When leaving the vehicle, securely close all windows, doors and roof hoods.
- Pay attention to the clearance height of the entrance door.

2.3 Safety instructions for driving on public roads

- The vehicle must be officially registered.
- The driver of the vehicle must have the required driving license.
- If accessories are fitted, this will alter the dimensions, the total weight and the handling of the vehicle. Some of this equipment is subject to entry in the vehicle documents.
- When loading the vehicle, pay attention to the gross weight rating and the gross axle weight rating (see motor vehicle registration certificate, part I)
- Distribute the additional load evenly within the vehicle (chapter 5.1).
- Check the tyre pressure and tighten the wheel nuts before starting to drive. Check the tight seat of the wheel nuts after 50 km and then at regular intervals.
- Check the function of the brakes and the signal and lighting system.
- Empty the waste water tank.
- Close all doors, cabinet doors, drawers and flaps, as well as all windows and roof hoods. Snap the refrigerator door securing device into place.
- Safely stow away the sink board (optional), the loft bed ladder (optional), the table and/or other loose pieces of equipment.
- Retract or fold down antennas (optional).
- Switch off the awning light (optional).
- Retract the entrance step.
- Close and lock all outer doors and flaps.
- In winter, clear the roof from snow and ice before starting the journey.
- Persons as well as pets must be seated on seats equipped with suitable restraining devices while travelling in the vehicle.
- Vehicles from 3.5 t to 7.5 t are designed for a maximum speed of 100 kph. This maximum speed must not be exceeded, not even when a higher speed is allowed in the country being visited.

- When parking the vehicle, apply the parking brake up to the maximum possible end position.
- Place wheel chocks (optional) under the wheels when parking the vehicle on inclines or slopes.
- Have the vehicle brake system checked and repaired by an authorised workshop only.
- When the vehicle is transported by rail or on a lorry, it must be loaded in the driving direction.

2.3.1 Driving your motorhome

- Drive according to your abilities taking the larger dimensions and the higher weight of the vehicle into consideration. You need time for familiarisation.
- Always take corners in a large radius and slowly. The cornering behaviour as compared with a passenger car changes because of the length of the vehicle and its weight.
- At driveways and crossings, the vehicle acceleration is significantly lower than that of a passenger car.
- Due to the higher weight, the vehicle braking distance is much longer than that of a passenger car.
- Pay attention to the greater height of the vehicle at gateways and trees on the side of the road.
- When driving in reverse, always have a second person assist you.
- Due to the vehicle height, the vehicle is more sensitive to crosswind.

2.4 Official technical inspections

2.4.1 Motorhome - general inspections

Note!

Please observe the regulations for the applicable country of registration.

2.4.2 Checking the gas system

The liquefied gas system was inspected at the factory by a technical expert. The gas system must be inspected again every two years and after making any modifications and repairs. Always have a gas leak test performed on this occasion. The vehicle operator is responsible for initiating the inspection. When the vehicle is handed over to the operator, she/he must be informed in writing of her/his duty to have the gas system inspected. The correct condition of the gas system is confirmed with a gas inspection certificate and possibly, depending on national regulations, an associated gas inspection sticker.

2.4.3 Mandatory emergency accessories

The following emergency equipment (optional) must be carried in the vehicles at all times:

- First-aid kit
- Hazard warning triangle
- A warning light must also be carried in vehicles above 3.5 t.
- A wheel chock must also be carried in vehicles above 4.0 t.
- It is recommended to carry along a warning vest for every passenger in the vehicles.

The regulations of the respective country must be observed. Contact the automobile association of the respective country for information.

2.5 Safety instructions for the gas system

Danger!

Poisoning by gas

If it smells of gas or you suspect that gas is escaping, perform the following:

➔ Clear the danger area!
➔ Close the shut-off valve on the gas cylinder!
➔ Avoid ignition sources and open flames and do not smoke!
➔ Provide ventilation through the rooms!
➔ Inform the camping site superintendent and the fire service if necessary!

Danger!

Risk of explosion

When refuelling the vehicle, inside multi-storey car parks, in garages or on ferries, none of the gas-powered or fuel-powered appliances of the vehicle must be operated.

➔ Close all quick-action stop valves and the gas cylinder valve.
➔ Switch off all gas-powered and fuel-powered appliances using the control panel before refuelling the vehicle and when entering multi-storey car parks, garages or ferries.
➔ Make sure that the gas- or fuel-powered appliances cannot be switched on by a remote control (e.g. Truma App).

Danger!

Risk of suffocation

➔ Never cover the forced ventilation in the roof hoods and in the floor area nor the mushroom ventilators in order to ensure continuous exchange of air in the vehicle. Attention: Snowfall in winter!

Warning!

Injuries or material damage

- ➔ Subsequently installed, gas-operated additional appliances must be designed for an operating pressure of 30 mbar.
- ➔ The liquefied gas system was inspected at the factory by a technical expert.
- ➔ The gas system must be inspected again every two years and after making any modifications and repairs (chapter 2.4.2).
- ➔ Installations and modifications to the gas system may be performed only by an authorised workshop.

Note!

- ➔ The gas system may be put into service again only after inspection by a technical expert!

2.5.1 Gas cooker

Danger!

Risk of suffocation

Under normal operating conditions, using the gas cooker poses an acute danger to life caused by a lack of oxygen and the odourless and toxic carbon monoxide (CO) which may be produced!

- ➔ Always ensure good ventilation when the gas cooker is in operation. Always keep a window, a roof hood or the doors open.
- ➔ Never use the gas cooker for heating.

Danger!

Risk of poisoning

If a flame of the gas cooker extinguishes, unburned gas flows out for a short time until the flame failure device reacts. Combined with oxygen, this gas produces an explosive atmosphere inside the vehicle!

- ➔ Watch the flames while using the gas cooker!
- ➔ When finished, shut the respective quick-action stop valve.

2.5.2 Gas locker

Check each time before using the gas:

- ➔ Store the gas cylinders exclusively in the gas locker. They must stand upright and be fastened so that they are unable to turn or tilt.
- ➔ The gas locker must be sealed against the interior of the vehicle and must have a vent hole in or directly above the floor plate. This vent hole must have a minimum cross-section of 100 cm² and must not be covered.
- ➔ Use only pressure regulators with safety valves! Other regulators are not permitted!
- ➔ Carefully connect the regulator on the gas cylinder by hand. The screw connections on the gas regulator have left-hand threads. Do not use tools such as wrenches or pliers.
  Exception: Tighten the high-pressure hoses on the Truma MonoControl CS or the gas regulator using the wrench provided.
- ➔ Use a de-icing system (such as the accessory EisEx) for the regulator when temperatures are below 5 °C.
- ➔ Do not operate or store any current-carrying devices (e.g. batteries) or devices that could be a source of ignition in the gas locker.
- ➔ Electric lines routed through the gas locker have to be insulated and must not be connected with terminals; have the work performed by an authorised workshop.
- ➔ Do not use the gas locker as storage space.
- ➔ Secure the gas locker against unauthorized access.

2.5.3 Gas appliances in general

Pay attention to the following when operating the gas system:

- ➔ The regulators and exhaust gas ducts must be checked every 2 years! The inspection must be confirmed on the inspection certificate according to the DVGW [German Technical and Scientific Association on Gas and Water] worksheet G 607. The operator has to initiate the inspection.
- ➔ The exhaust gas pipe must be fitted tightly to both the gas heating and the cowl, and must be sealed. It may not show any evidence of damage.
- ➔ The exhaust gas routing of the gas heating must be installed ascending over its complete length and fitted tightly with clamps. If required, install exhaust gas pipe supports.
- ➔ Before putting the gas heating into service, always clear dirt and snow from the cowl and the combustion air inlets. This prevents increased, unacceptable carbon monoxide content in the exhaust gas.
- ➔ Radiant heaters and appliances drawing combustion air from the interior of the vehicle are not to be used for heating the vehicle!
- ➔ When switching on gas appliances which require the control knob to be pressed for lighting (e.g. gas cooker), make sure that it springs back automatically immediately after releasing it.
- ➔ If no gas is being consumed during the journey, the valve on the gas cylinders must be closed.
- ➔ Close the respective quick-action stop valve when gas-operated appliances are not used.

- ➔ Close the valve on the gas cylinder when the vehicle will not be used for a longer period.
- ➔ Operate the gas system only with propane gas, butane gas or a mixture of both. Propane gas is capable of gasification down to -42°C, whereas butane gas gasifies only to approx. 0°C.
- ➔ Gas appliances are not to be operated during refuelling, in multi-storey car parks, in a garage or on a ferry.
- ➔ Observe the relevant regulations in foreign countries!

2.6 Safety instructions for the electrical system

Pay attention to the following when operating the electrical system:

- ➔ Additional installations and modifications to the electrical system may only be carried out by specialist personnel from an authorised ***SUN LIVING*** workshop.
- ➔ Before working on the electrical system, switch off all appliances and lights, disconnect the battery and disconnect the 230V power supply from the mains.
- ➔ Replace defective fuses only when the cause of the defect is known and has been remedied. Only use original fuses with the rating specified in the respective manufacturer's instruction manual.
- ➔ Do not bridge or repair fuses.
- ➔ Only using the battery disconnect switch to isolate the circuits may cause damage to the electrical devices.
- ➔ Only use the battery disconnect switch in case of emergency (e.g. accident) to disconnect the living area battery from the electrical circuits.
- ➔ If you want to disconnect the living area battery from the electrical circuits while the vehicle is out of service, first turn off the main button on the control panel and then use the battery disconnect switch.

2.6.1 Safety instructions for the emergency power generator (optional)

Observe the following when operating emergency power generators:

- ➔ Voltage fluctuations during operation with an emergency power generator must be avoided to prevent damage to the electrical system and the electrical appliances.
- ➔ We recommend installing a voltage monitor.

For further information, please refer to the manufacturer's separate operating instructions.

2.7 Fire safety

2.7.1 General fire safety

Danger!

Fire risk

- ➔ Only authorised and qualified personnel may perform service work and modifications to the gas system and the electrical system.
- ➔ Never leave children in the vehicle unattended.
- ➔ Do not use portable heating or cooking appliances.
- ➔ Keep flammable materials clear of cooking and heating appliances.
- ➔ Acquaint yourself with the position and operation of the emergency exits in the vehicle.
- ➔ Always keep escape routes clear.
- ➔ Empty ashtrays into the waste bin only when the ashes are cold.
- ➔ When the lighting elements are switched on, maintain a safety distance of at least 30 cm from combustible objects.

Note!

Always have a dry powder fire extinguisher (optional) filled with at least 1 kg of dry powder on your vehicle.

- ➔ The fire extinguisher must be close at hand.
- ➔ Read the instruction manual carefully and make sure it is readily available when needed on board.
- ➔ Have the fire extinguisher checked at regular intervals by qualified personnel; observe the test seal.

2.7.2 What to do in the case of fire

Correct behaviour:

- ➔ Evacuate all passengers.
- ➔ Close the valve on the gas cylinder!
- ➔ Switch off the electrical power supply; disconnect the vehicle from the mains.
- ➔ Call the fire brigade, sound the alarm.
- ➔ Fight the fire, if possible.

2.8 Safety instructions for the roof

Warning!

Risk of injury and of damage to the vehicle roof

Standing or walking on the elevation of the alcove or the front opening hood of partially integrated vehicles is not allowed! Walking on the roof of the vehicle is permissible only in the rear area.

- ➔ Do not walk on roof structures or roof fittings, e.g.. roof hoods, roof railings etc.
- ➔ Clear snow and ice from the roof and from the roof hoods.
- ➔ Use a ladder which is placed against the roof edge for this purpose.

2.9 Safety instructions for rear carrier systems (optional)

Warning!

Risk of injury and damage to the vehicle

- ➔ Pay attention to the statutory regulations for the installation of a rear carrier.
- ➔ When the rear lighting of the vehicle is covered, a second set of lights must be installed.
- ➔ Do not exceed the permissible carrying weight of the rear carrier.
- ➔ The load must not project by more than 40 cm on the sides. Do not allow sharp or pointed objects to project.
- ➔ The load must be stored safely and specially secured against falling down.
- ➔ When the rear carrier is used, the load distribution of the vehicle as well as its drive and brake behaviour change.

Note!

Have the installation of a rear carrier performed by an authorised workshop only. Ask your ***SUN LIVING*** dealer for advice.

2.10 Safety instructions for modifications to the vehicle

- ➔ Modifications to the vehicle can lead to property damage to the vehicle and can cause accidents.
- ➔ It is not permitted to make any mechanical modifications, e.g. by drilling, sawing, screwing, to the frame, side walls, roof or floor of the vehicle. If you intend to make any mechanical modifications to the vehicle, feel free to contact your local ***SUN LIVING*** dealer.
- ➔ Modifications to the gas system and the electrical system of the vehicle must only be carried out in authorised specialised workshops.

2.11 Environmental notes

For the protection of our environment, always pay attention to the following:

- ➔ Always turn off the engine when the vehicle stands still. The operating temperature is reached most quickly while driving.
- ➔ **Never** dispose of any kind of waste water and waste in the open countryside.
- ➔ Empty the waste water tank and the toilet only at special waste disposal stations. These waste disposal stations are available at camping sites. Request information from local authorities.
- ➔ Use environmentally-friendly chemical additives for the toilet.
- ➔ Separate household waste and dispose of this waste in special waste disposal stations.
- ➔ When staying in towns and communities for longer periods, always stay at special car parks for motorhomes. Obtain information about car parks and camping sites in time before starting the journey.
- ➔ Always collect waste oil, lubricants and cleaning agent in suitable containers and dispose of them properly.

2.12 Disposal / scrapping of the vehicle

Note!

- ➔ The vehicle should only be disposed of by specialist firms authorised to carry out this work.
- ➔ When disposing of the vehicle, observe all national and regional provisions as well as any relevant guidelines/directives.

3 Description & equipment

3.1 Bodywork of the vehicle

The bodywork of the vehicle is made in “sandwich construction”. The “sandwich” structure consists of 3 layers with a total thickness of up to 40 mm:

- Outer skin: Polyester (glass-fibre reinforced plastic) or aluminium
- Insulation: Styrofoam
- Inner wall: Wood panelling

The 3 layers are glued with special adhesive which penetrates in the Styrofoam and ensures the bonding of the layers. This layer structure provides optimum heat insulation of the vehicle.

To improve road safety, a 3rd brake light is installed in the upper rear area.

3.2 Gas locker

The lockable gas cylinder compartment is sealed and insulated with respect to the interior (chapter 11.2).

3.3 Interior fittings

All pieces of furniture are made from high-quality materials and securely attached. Sufficient storage space is available in the living area and in the kitchen unit.

All flaps, cabinet doors and drawers are equipped with secure locks and fittings that prevent unintentional opening.

The furniture surfaces can be easily cleaned with commercially available cleaning agents (chapter 19.2).

Depending on the model, the vehicle has firmly installed beds and/or bench seats that can be easily converted for sleeping (chapter 9).

3.4 Kitchen

The kitchen unit consists of a hob, an oven (optional), a microwave oven (optional), a sink and a refrigerator/freezer (chapter 15).

Adequate storage space is provided.

3.5 Bathroom unit

Each vehicle has a bathroom unit (chapter 8.17) with shower, sink and toilet (chapter 16). The folding door, swinging door or curtain must be closed when taking a shower.

3.6 Heater

The vehicle is equipped either with a heater with hot-air blower or hot water heating (chapter 13).

3.7 Water and waste water

The vehicle is equipped with a fresh water tank and a waste water tank (chapter 12).

4 Preparing for the first use

4.1 Registering the vehicle

Before the first journey, the vehicle must be registered according to national regulations and a license plate fitted. Vehicles may be operated in road traffic only when insurance cover exists. The vehicle has an EU type approval.

4.2 Using the vehicle for first the time

Warning!

Make sure to follow the safety instructions

➔ Carefully read and follow the safety instructions (chapter 2.1) before putting the vehicle into service.

➔ Insurance coverage and warranty claims to the manufacturer become void when the safety instructions are not observed and followed.

Warning!

Risk of accident

➔ After the first 50 km, retighten the wheel nuts and then regularly check the seating of the wheel nuts.

➔ Check the tyre pressure before each journey.

Pay attention to the following when putting the vehicle into service:

➔ Familiarise yourself with your vehicle before the first journey.

➔ Get used to the driving characteristics and dimensions of your vehicle during a short weekend trip.

➔ Drive slowly and carefully in the beginning.

5 Before setting off

5.1 Loading the vehicle

Warning!

Risk of injury and severe damage to the vehicle

When a tyre bursts, the vehicle can get out of control.

➔ Do not exceed the maximum gross vehicle weight.

➔ Check the tyre pressure at regular intervals (chapter 22.2). Tyres can burst when the tyre pressure is too low.

Warning!

Danger of overloading

➔ The maximum gross vehicle weight entered in the vehicle documents must not be exceeded. Tyres can also burst when the vehicle is overloaded.

➔ A warranty claim to the manufacturer and the insurance coverage become void.

Pay attention to the following when loading the vehicle:

- Unladen weight = mass in running condition according to EN 1646-2 (chapter 22.3)
- Additional equipment installed in the factory and options increase the unladen weight and reduce the additional load.
- Determine the maximum additional load according to part 1 of the registration certificate and the list in the “Technical data” (chapter 22.3).
- The additional load covers all other persons and the luggage.
- On vehicles with standard equipment, the outside of the roof and the rear area are not to be loaded.
  - Never exceed a height of 4 m and a width of 2.55 m with additional attachments.
  - Roof and rear loads must be attached and secured so that they do not slip, are unaffected by the wind and are streamlined. Do not use rubber expanders!
- In order not to endanger other road users, objects must not project beyond the vehicle silhouette on the side or rear.
  - Do not overload the vehicle. For weight information and Tables, see chapter 22.3 and the registration certificate, part I.
- Pay attention to the correct axle load distribution. Road holding and tyre wear are directly affected by the axle load. Pay attention to the maximum axle loads (see registration certificate part I).
- Load the vehicle evenly on the right and left. The driving characteristics deteriorate when loading is uneven.
- Store heavy objects (e.g. tinned food, cutlery, dishes) in low-lying storage compartments and secure them against slipping.

- Stack light objects, e.g. clothes, in higher storage compartments or in the compartments below the seats.
- Always keep liquids in leak-proof containers in low-lying storage compartments.
- Load the bike rack (optional) with only 2 to 3 bikes at the most (50 kg maximum).

Note!

Weigh the completely loaded vehicle on public scales before starting your journey.

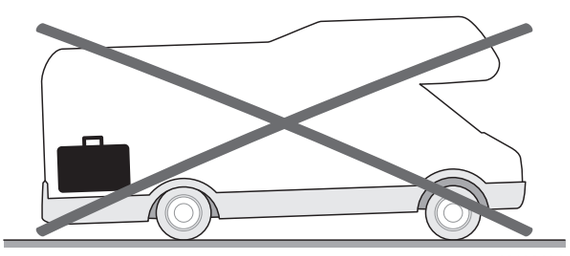

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Fig. 1 Motorhome loaded incorrectly

MOTORHOME LOADED INCORRECTLY!

- Do not stow heavy objects as shown (Fig. 1).
- If the load is spread unevenly, instabilities or loss of control may be the consequence.

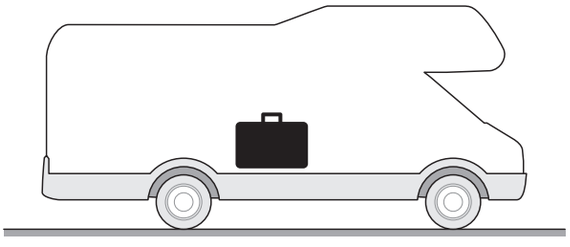

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Fig. 2 Motorhome loaded correctly

MOTORHOME LOADED CORRECTLY!

- Store objects between the axles, if possible.
- Store heavy objects at lower positions.
- Store light objects at upper positions.

Note!

Pay attention to the following when installing rear carriers:

- Attachment and securing of the load as specified
- Allowable load-carrying capacity of the vehicle and axle(s)
- Change of axle load distribution
- Change of driving and braking behaviour of the vehicle
- Change of overall length

5.2 Tyres

Warning!

Risk of injury and severe damage to the vehicle

When a tyre bursts, the vehicle can get out of control.

➔ Check the tyre pressure at regular intervals.

➔ Check the tyres for damage at regular intervals

➔ Comply with minimum tread depth. Observe the regulations of the respective country.

- Regularly check the tyre pressure on cold tyres and correct the tyre pressure as required. Do not forget the spare wheel (optional).
  - If the pressure is too low, the tyre will become very hot. This can cause the tyre to burst at high speed.
- Regularly check the tyres for uneven wear and damages (e.g. penetrated foreign objects, punctures, cuts, cracks and bumps in the tyre sidewalls). Always have the damage repaired by a specialist.
- Regularly check the tread depth.
  - If the tread depth is too small, the risk of aquaplaning rises.
  - Comply with the minimum tread depth. Observe the regulations of the respective country. We recommend to change the tyre as from a tread depth of 4 mm.
- Always use tyres of the same construction, same brand and same type (summer and winter tyres). Do not forget the spare tyre.
- Regularly check that the wheel nuts or bolts are tightened properly.
- When the vehicle is put out of service for a longer period, prevent “flat spots” on the tyres.
  - Relieve the load on the tyres by jacking up the vehicle.
  - Move the vehicle every 4 weeks so that the position of the wheels is changed and the load on the tyres is always at different positions.
  - Increase the tyre pressure by 0.3 bar as compared with the stipulated tyre pressure.
- Drive over kerbs slowly and, if possible, at an obtuse angle. Avoid driving over steep and sharp-edged kerbs.
  - Driving into the kerb at a pointed angle or with too much force and hitting on sharp objects such as stones can cause damages to the tyres.
- Drive over high manhole covers at a slow speed.
- Hidden tyre damage is not eliminated by correcting the tyre pressure.
- Do not use second-hand tyres.
  - Tyres age even when they are not driven or driven only a little.
  - We recommend replacing the tyres of the vehicle, including the spare wheel, after 6 years or earlier when the minimum tread depth is reached.

5.3 Adjusting and rotating the driver and front passenger seats

Danger!

Risk of injury due to vehicle seats not being locked in place

If the driver's seat is adjusted while driving, accidents and injuries can occur.

➔ Only adjust the driver's seat when the vehicle is stationary.

If the driver's seat and passenger seat are not rotated and locked in the direction of travel, the seat belt cannot provide secure restraint during heavy braking or an accident. This may cause serious injuries.

➔ Before starting your journey, make sure that both the driver's seat and passenger seat are rotated in the direction of travel and locked in place.

Danger!

Risk of injury due to incorrectly fastened seat belt

An incorrectly fastened seat belt can lead to serious injury even with minor accidents.

➔ Fasten seat belts correctly before setting off.

➔ Always leave the seat belt fastened while driving.

➔ Ensure that the seat belt is not twisted and does not rub against sharp edges.

➔ When fastening the seat belt, make sure that the lap belt runs below the armrests.

Caution!

Damage to the handbrake lever

On vehicles with a manual handbrake, the handbrake lever can become damaged during rotation of the driver's seat or passenger seat.

➔ When rotating the driver's seat or passenger seat, ensure that the handbrake lever does not collide with the driver's seat or passenger seat.

5.3.1 Driver's seat and passenger seat – Fiat

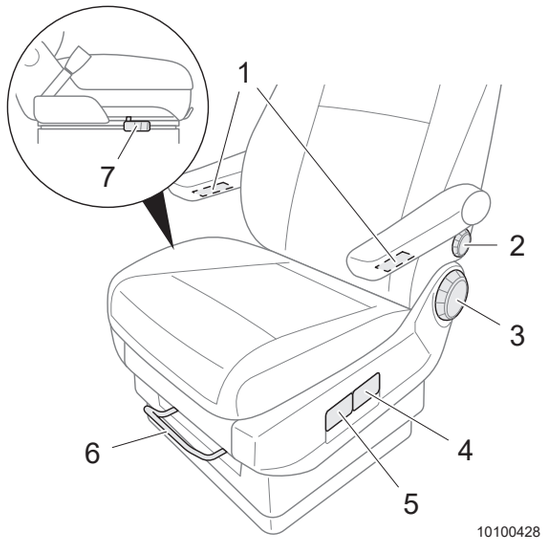


Fig. 3 Swivelling driver/passenger seat – Fiat

1 Handwheel for adjusting the angle of the armrest
2 Handwheel for adjusting the lumbar support
3 Handwheel for adjusting the seat backrest
4 Lever for raising the rear part of the seat
5 Lever for raising the front part of the seat
6 Lever for adjusting the seat lengthwise
7 Lever for rotating the seat

Adjusting the seat lengthwise:

➔ Lift the lever (Fig. 3/6) and move the seat to the desired position.

➔ Release the lever and make sure that the seat has locked in place.

Raising the seat height:

➔ Raise the front part of the seat: While sitting, lift the lever (Fig. 3/5) and shift your body weight backwards.

➔ Raise the rear part of the seat: While sitting, lift the lever (Fig. 3/4) and shift your body weight forwards.

Lowering the seat height:

➔ Lower the front part of the seat: While sitting, lift the lever (Fig. 3/5) and shift your body weight forwards.

➔ Lower the rear part of the seat: While sitting, lift the lever (Fig. 3/4) and shift your body weight backwards.

Adjusting the seat backrest:

➔ Turn the handwheel (Fig. 3/3) forward and backward until the desired position is reached.

Adjusting the inclination of the armrests:

➔ Turn the handwheel (Fig. 3/1) forward and backward until the seat has the desired inclination.

Folding the armrest up and down:

➔ Fold the armrest (Fig. 3/1) up or down with light pressure.

Rotating the seat:

➔ Put the seat back in a vertical position.

➔ Adjust the seat lengthways so that there is enough space to rotate the seat. If necessary, push the steering wheel as far forward as it will go.

➔ Press the lever (Fig. 3/7) and rotate the seat to the desired position.
If there is a handbrake lever, the seat must not collide with the handbrake lever.

➔ Release the lever and make sure that the seat has locked in place.

Adjusting the inclination of the seat:

➔ Turn the handwheel (Fig. 3/4) forward and backward until the seat has the desired inclination.

Adjusting the lumbar support:

➔ Turn the handwheel (Fig. 3/2) forward and backward until the desired position is reached.

5.3.2 Driver's seat and passenger seat – Ford

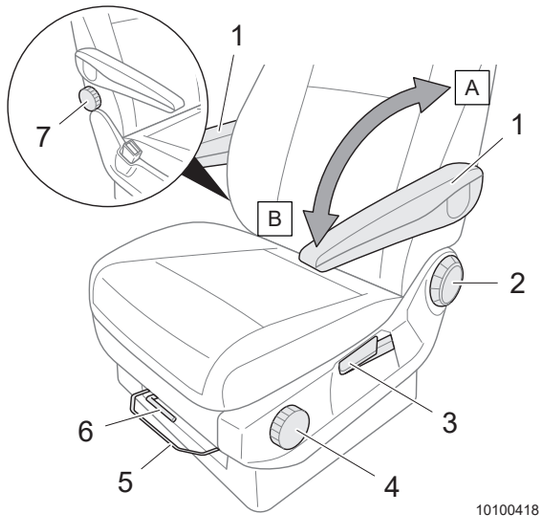


Fig. 4 Swivelling driver/passenger seat – Ford

1 Armrest
2 Handwheel for adjusting the seat backrest
3 Lever for adjusting the seat height
4 Handwheel for adjusting the inclination of the seat
5 Lever for adjusting the seat lengthwise
6 Lever for rotating the seat
7 Handwheel for adjusting the lumbar support

Adjusting the seat lengthwise:

➔ Lift the lever (Fig. 4/5) and move the seat to the desired position.

➔ Release the lever and make sure that the seat has locked in place.

Adjusting the seat height:

➔ Push or pull the lever (Fig. 4/3) until the desired seat height is reached.

Adjusting the seat backrest:

➔ Turn the handwheel (Fig. 4/2) forward and backward until the desired position is reached.

Folding the armrest up and down:

➔ Fold the armrest (Fig. 4/1) up or down with light pressure.

Adjusting the inclination of the armrests:

➔ Fold up the armrest (Fig. 4/1) to position (A).
The armrest is unlocked.

➔ Fold the armrest down and move it slightly upwards to the desired position (B).
The locking mechanism for the armrest engages.

Rotating the seat:

➔ Fold the armrests up to position (A).

➔ Put the seat back in a vertical position.

➔ Adjust the seat lengthways so that there is enough space to rotate the seat. If necessary, push the steering wheel as far forward as it will go.

➔ Pull the lever (Fig. 4/6) forwards and rotate the seat to the desired position.
If there is a handbrake lever, the seat must not collide with the handbrake lever.

➔ Release the lever and make sure that the seat has locked in place.

Adjusting the inclination of the seat:

➔ Turn the handwheel (Fig. 4/4) forward and backward until the seat has the desired inclination.

Adjusting the lumbar support:

➔ Turn the handwheel (Fig. 4/7) forward and backward until the desired position is reached.

5.3.3 Additional seat with seat belt (depending on model)

On some models, the bench seats can be converted into additional belt-secured seats for travelling.

Danger!

Risk of injury due to incorrectly fastened seat belt

An incorrectly fastened seat belt can lead to serious injury even with minor accidents.

➔ Fasten the seat belt correctly before setting off.

➔ Always leave the seat belt fastened while driving.

➔ Ensure that the seat belt is not twisted and does not rub against sharp edges.

➔ Before you fasten the seat belt, make sure that it can be rolled up and down freely.

5.3.3.1 Converting the right-hand bench seat into a seat

Danger!

Risk of injury due to incorrectly installed additional seat

There is an increased risk of injury if the additional seat is installed incorrectly.

➔ Install and secure the additional seat correctly.

Note!

Child seats are not permitted on the additional seat.

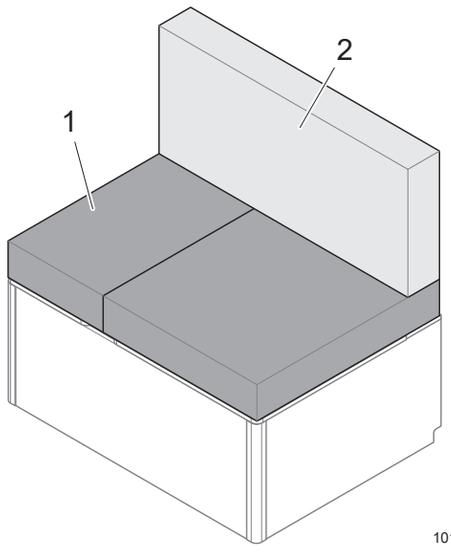


Fig. 5 Additional seat – right 1

1 Seat cushion
2 Back cushion

Converting the right-hand bench seat into a seat:

➔ Remove the back cushion (Fig. 5/2) and the seat cushion (Fig. 5/1).

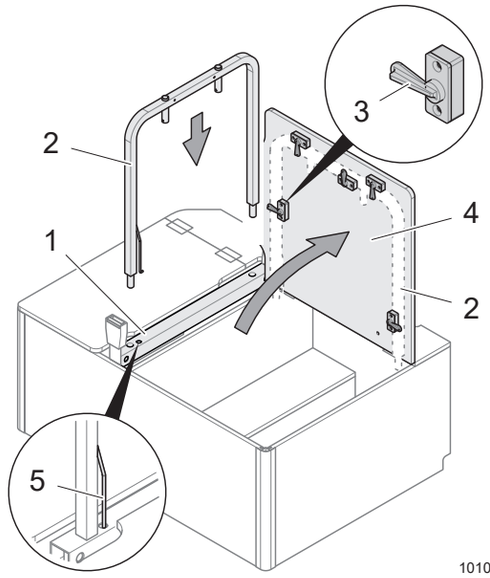


Fig. 6 Additional seat – right 2

1 Backrest bracket
2 Backrest support
3 Fastener
4 Seat box cover
5 Safety hook

➔ Fold up the seat box cover (Fig. 6/4).
➔ Open the fasteners (Fig. 6/3).
➔ Detach the backrest support (Fig. 6/2) from the seat box cover.
➔ Fold down the seat box cover.
➔ Place the seat cushion (Fig. 7/1) on the seat box.

➔ Insert the backrest support into the backrest bracket (Fig. 6/1) at the seat cushion gap.

➔ Check that the safety hook (Fig. 6/5) is engaged and that the backrest support cannot be pulled out.

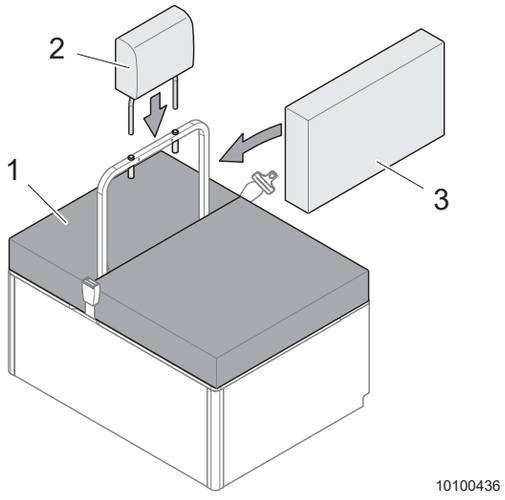


Fig. 7 Additional seat – right 3

1 Seat cushion
2 Headrest
3 Back cushion

➔ Insert the headrest (Fig. 7/2) into the backrest bracket.

➔ Remove the seat belt from under the seat cushion.

➔ Attach the backrest cushion (Fig. 7/3) to the backrest support.

Converting the right-hand additional seat into a bench seat:

➔ Remove the back cushion (Fig. 7/3).

➔ Remove the headrest (Fig. 7/2).

➔ Release the securing hook (Fig. 6/5) and pull out the backrest support (Fig. 6/2).

➔ Remove the seat cushion (Fig. 7/1).

➔ Fold up the seat box cover (Fig. 6/4).

➔ Attach the backrest support (Fig. 6/2) to the seat box cover using the fasteners (Fig. 6/3).

➔ Attach the backrest support (Fig. 6/2) to the seat box cover using the fasteners (Fig. 6/3).

➔ Fold down the seat box cover.

➔ Place the seat cushion on the seat bench.

➔ Attach the backrest cushion (Fig. 5/2).

5.3.3.2 Converting the left-hand bench seat into a seat

Danger!

Risk of injury due to incorrectly installed additional seat

There is an increased risk of injury if the additional seat is installed incorrectly.

➔ Fold up the backrest until it locks.

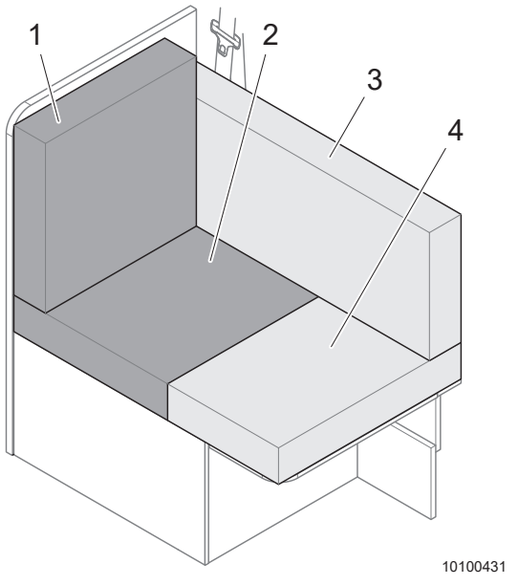


Fig. 8 Additional seat – left 1

1 Back cushion
2 Seat cushion
3 Back cushion
4 Seat cushion

Converting the left-hand bench seat into a seat:

➔ Remove the two back cushions (Fig. 8/1 und Fig. 8/3).

➔ Remove the two seat cushions (Fig. 8/2 und Fig. 8/4).

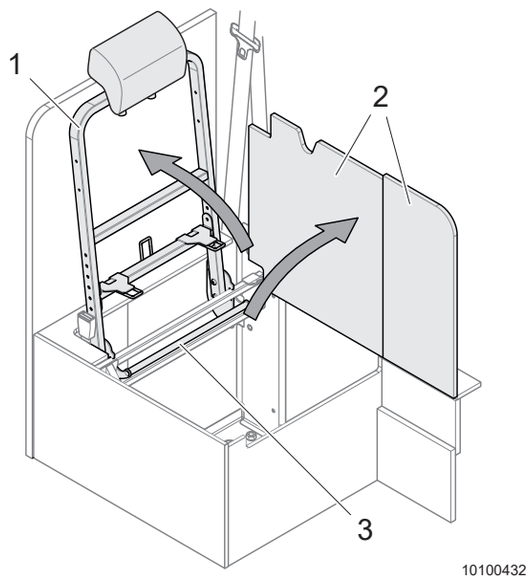


Fig. 9 Additional seat – left 2

1 Backrest
2 Seat box cover
3 Backrest lock

➔ Fold up the seat box cover (Fig. 9/2).

➔ Fold up the backrest (Fig. 9/1) until it locks.

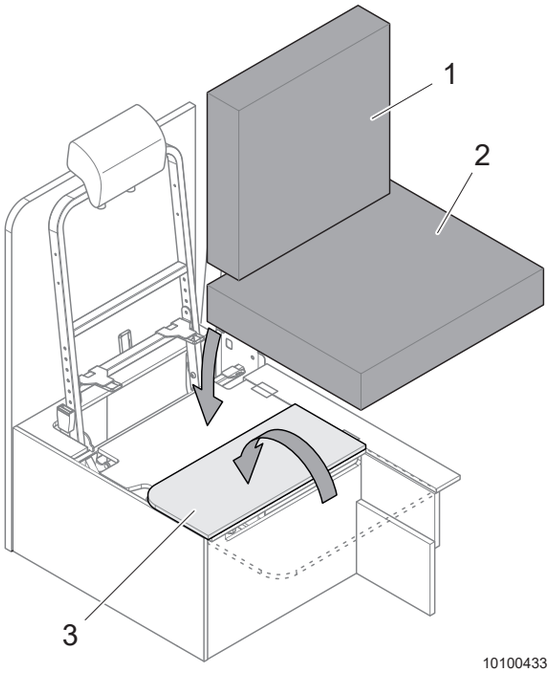


Fig. 10 Additional seat – left 3

1 Back cushion
2 Seat cushion
3 Folding part of the seat box cover

➔ Fold down the seat box cover (Fig. 9/2).
➔ Fold down the folding part of the seat box cover (Fig. 10/3).
➔ Place the seat cushion (Fig. 10/2) on the seat box cover.
➔ Attach the backrest cushion (Fig. 10/1) to the backrest.

Converting the left-hand additional seat into a bench seat:

➔ Remove the backrest cushion (Fig. 10/1) and the seat cushion (Fig. 10/2).
➔ Fold down the folding part of the seat box cover (Fig. 10/3).
➔ Fold up the seat box cover (Fig. 9/2).
➔ Release the backrest lock (Fig. 9/3) and fold down the backrest.
➔ Fold down the seat box cover.
➔ Place the two seat cushions (Fig. 8/2 und Fig. 8/4) on the seat bench.
➔ Attach the two back cushions (Fig. 8/1 und Fig. 8/3).

5.4 ISOFIX fastening system for child car seats

Your vehicle is equipped with the ISOFIX child seat fastening system.

Please select the appropriate car seat for your child from the table (Tab. 2).

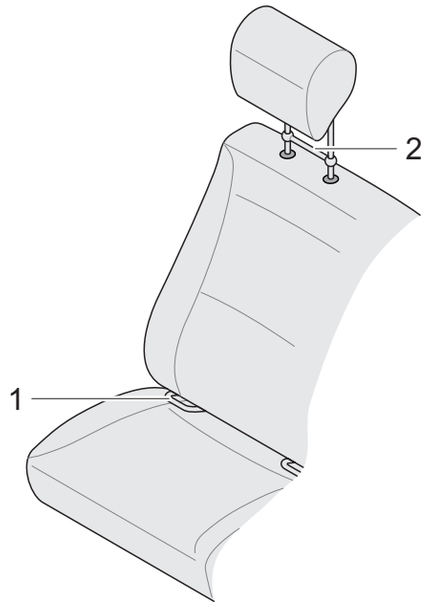


Fig. 11 ISOFIX fastening system

1 Lower mounting bracket
2 Mounting bracket for upper safety belt

Fasten child car seat:

➔ Snap the child car seat connector arms into the mounting brackets (Fig. 11/1).
➔ Fasten the upper safety belt to the mounting bracket at the headrest (Fig. 11/2).

	For children from ...		
	Weight	Age (approx.)	Height (approx.)
Standard groups			
Group 0	> 0 to 10 kg	Newborn to 1 year	to 75 cm
Group I	> 9 to 18 kg	1 to 4.5 years	75 to 100 cm
Group II	15 to 25 kg	3.5 to 7 years	to 125 cm
Group III	25 to 36 kg	7 to 12 years	to 150 cm
Seats flexible in size			
Group 0+	> 0 to 13 kg	Newborn to 2 years	to 90 cm
Group 0/I	> 0 to 18 kg	Newborn to 5 years	to 100 cm
Group I/II	> 9 to 25 kg	1 to 7 years	72 to 125 cm
Group I/II/III	> 9 to 36 kg	1 to 12 years	75 to 150 cm
Group II/III	> 15 to 36 kg	3.5 to 12 years	95 to 150 cm
Height, age and weight: The standard group only determines the weight. Age and height are reference values. Children grow with different speed and their weight also varies at the same age. The important thing is that the child car seat fits your child.			

Tab. 2 ISOFIX reference table

5.5 Electric lighting

Before starting to drive, check the function of all interior and exterior lighting equipment on the vehicle and replace defective lighting elements.

Make yourself familiar with the replacement of lighting elements before starting to drive (chapter 21.3).

5.6 Spare keys

The following information is required for ordering a spare key:

Key for	Required information	To be obtained from
Base vehicle	• Vehicle identification number • Registration certificate part II • Code card, if applicable	Service department of basic vehicle manufacturer
Bodywork (doors and flaps)	• Registration certificate part II • Key number	***SUN LIVING*** Service Centre

Tab. 3 Spare keys

5.7 General check before starting to drive

Warning!

Hazards and damage due to unsecured load

➔ After having driven for a few kilometres, check the additional load is stowed in slip-free manner in the vehicle.

Caution!

Damage from objects not safely stowed

➔ Safely stow loose items like chopping or draining boards during the journey.

Go through the checklists (chapter 23) before starting to drive.

6 During the journey

6.1 Brake system

Danger!

Risk of accident due to defective brake system

A defective brake system can lead to accidents.

- ➔ A defect in the brake system is indicated by warning and indicator lights on the vehicle's dashboard. Pay attention to the indications. Read and observe the relevant sections in the instruction manual of the base vehicle.
- ➔ Have a defect in the brake system repaired immediately by an authorised specialist workshop.

Before each journey, check that the vehicle's braking system is in safe operating condition.

Perform test braking at low speed and make sure that...

- the vehicle's brake system is working,
- the wheels brake evenly,
- the vehicle does not pull to one side.

6.2 Driving your vehicle

Danger!

Danger to life due to being in non-permitted places or not wearing seat belts

If persons do not fasten their seat belts in the permitted seating positions or are in non-permitted places (e.g. beds, shower stall) during the journey, serious and fatal injuries can occur.

- ➔ Persons as well as pets must be seated on seats equipped with suitable restraining devices while travelling in the vehicle.
- ➔ All persons sitting in the living area of the vehicle, the driver and the person sitting in the passenger seat in front must wear their seat belts during the journey.
- ➔ Do not stand in the alcove, in the beds, in the bathroom unit or in the rear garage when the vehicle is in motion.

Caution!

Risk of injury and damage to the vehicle

During positioning manoeuvres, when driving through passageways, bridges, tunnels and with overhanging branches, observe the dimensions of the vehicle.

- ➔ Dimensions of the vehicle, see vehicle documents.
- ➔ Equipment and attachments change the weight and the dimensions.
- ➔ The maximum speed specified by the manufacturer or prescribed by local regulations must not be exceeded. Always enquire about the local speed limits when travelling abroad.

Pay attention to the following during the journey:

- ➔ Adjust your driving technique to the vehicle size, drive with consideration and foresight.
- ➔ Drive slowly on poor roads.
- ➔ Drive downhill at the same speed as uphill.
- ➔ Remember to change gear in good time.
- ➔ Avoid braking abruptly.
- ➔ Prevent jerky steering as this could cause the vehicle to swerve.
- ➔ When driving over bridges, you have to anticipate crosswind. Because of the vehicle size and height, the vehicle is more sensitive to crosswind than a passenger car.
- ➔ The vehicle can get into a turbulence when overtaking truck-trailer combinations. Light counter-steering compensates this effect.
- ➔ Do not underestimate the length of the vehicle.
- ➔ When turning into a road and when driving around bends, take the larger curve radius of the vehicle into consideration.
- ➔ The braking distance of the vehicle is considerably longer than that of a passenger car. Please increase the safety distance accordingly.
- ➔ When driving in reverse, always have a second person assist you because the rear view mirrors can distort the distances differently.
- ➔ Switch off all gas- or fuel-powered ‘open flames’ (gas cooker, heater) at petrol stations and in garages.

6.3 Rear-view camera (optional)

Your vehicle is equipped with a rear-view camera. The rear-view camera helps the driver when reversing and manoeuvring. The rear-view camera is located at the back of the vehicle.

Warning!

Risk of accident and damage to the vehicle

Using the rear-view camera to estimate the distance to obstacles (people, vehicles, etc.) is inaccurate and can cause accidents and serious injuries.

- ➔ The camera lens enlarges and distorts the field of view and makes objects appear altered and inaccurate on the screen.
- ➔ Certain objects, such as narrow posts or fencing, may not be displayed, due to the resolution of the screen and in insufficient lighting.
- ➔ The rear-view camera has blind spots in which people and objects cannot be detected.
- ➔ Keep the camera lens clean, free of snow and ice and do not cover it.

Warning!

Risk of accident and damage to the vehicle

Inattentive or unintentional use of the rear-view camera can cause accidents and serious injuries. The system cannot replace the driver's attention.

- ➔ Always adapt your speed and driving style to visibility, weather, road and traffic conditions.
- ➔ Always keep an eye on the parking direction and the surroundings of the vehicle.
- ➔ Do not get distracted by the images displayed on the screen.
- ➔ Always observe the surroundings of the vehicle, as infants, animals and objects are not always captured by the rear-view camera.
- ➔ The rear-view camera may not clearly display all areas.
- ➔ Components retrofitted on the rear wall of the vehicle, such as bicycle racks or rear-mounted racks, may impair the function of the rear-view camera.

Caution!

Distorted view through the rear-view camera

The rear-view camera shows only two-dimensional images on the screen. Due to the lack of spatial depth, it may, for example, be difficult or even impossible to recognise protruding objects or recesses in the road surface.

Objects such as thin poles, fences, posts or trees may not be detected by the reversing camera and could result in damage to the vehicle.

The system displays reference lines regardless of the vehicle environment. There is no automatic obstacle detection. The driver has to assess for herself or himself whether the vehicle fits into the parking box or parking space.

Note!

- ➔ ***SUN LIVING*** recommends practising using the rear-view camera in a place with limited traffic or in a car park in order to become familiar with the system and its functions. Make sure that there is a second person there to assist you.
- ➔ If the rear-view camera fails, have the fault repaired by a specialist workshop.

Activating the rear-view camera:

- ➔ When you shift into reverse gear, the rear-view camera is automatically activated, and you can see the area behind the vehicle either in the rear-view mirror, an additional display or in the radio’s touch screen display.

6.4 Parking sensor system (optional)

Your vehicle is equipped with parking sensors. The parking sensors support the driver when parking and manoeuvring. The parking sensors are integrated into the rear bumpers of the vehicle. The parking sensors send and receive ultrasonic waves. During the transit time of the ultrasonic waves (sending, reflecting on obstacles and receiving), the system continuously calculates the distance between the bumper and the obstacle.

Warning!

Risk of accident and damage to the vehicle

Inattentive manoeuvring of the vehicle can cause accidents and serious injuries. The parking sensors cannot replace the driver’s attention.

Unintentional vehicle movements can cause serious injuries.

- ➔ Always adjust your speed and driving style to road, traffic, weather, and visibility conditions.
- ➔ The parking sensors have blind spots in which people and objects cannot be detected.
- ➔ Always be careful and look around when you are manoeuvring the vehicle, as small children, animals and objects are not always recognized by the parking sensors.
- ➔ Certain surfaces of objects and clothing do not reflect the parking sensors' signals. The parking sensors will not recognise these objects and people who wear such clothing, or at least not correctly.
- ➔ External sound sources can influence the signals emitted by the parking sensors. Under certain circumstances, people and objects cannot be recognised.

Caution!

Risk of accident and damage to the vehicle due to impaired parking sensors

Various factors can impair the proper functioning of the parking sensors or cause damage to the vehicle and the vehicle surroundings.

- ➔ Objects, e.g. trailer drawbars, thin rods, fences, posts, trees and open or opening luggage compartment flaps may not be detected by the parking sensors and can damage the vehicle.
- ➔ If the parking sensors have already recognised and reported an obstacle and emitted a corresponding warning, it is possible that particularly low or high obstacles can disappear from the measuring range of the parking sensors when the vehicle approaches and are no longer recognised. These objects are therefore no longer reported.
- ➔ Ignoring the parking sensors' warning may lead to significant damage to the vehicle.
- ➔ Shocks, e.g. while entering a parking lot, can cause damages to the parking sensors and change the direction in which they are pointing.
- ➔ Keep the parking sensors clean, free of snow and ice, and do not cover them with stickers or other objects.
- ➔ Repainting the parking sensors may impair their function.
- ➔ When cleaning the parking sensors with a high-pressure cleaner or steam cleaner, only point the nozzle directly at the parking sensors for a very brief period and always keep a distance of more than 10 cm.
- ➔ External sources of noise may trigger the parking sensors by mistake, e.g. caused by rough asphalt, cobblestones, induction loops, construction machinery and background noise from other vehicles.
- ➔ In some cases, water or ice on the parking sensors may be taken for an obstacle.
- ➔ Subsequently mounted components on the rear wall of the vehicle, such as bicycle racks or rear-mounted racks, may impair the function of the parking sensors.

Note!

- ➔ ***SUN LIVING*** recommends practising using the parking sensors in a place with limited traffic or in a car park in order to become familiar with the system and its functions. Make sure that there is a second person there to assist you.
- ➔ If a parking sensor fails, have this defect repaired by a specialist workshop.

Activating the parking sensors:

- ➔ When you shift into the reverse gear, the parking sensors are automatically activated. The closer you get to an obstacle, the faster the acoustic signal will beep. The acoustic signal sounds continuously when the distance between the vehicle and the obstacle is less than 0.3 m.

6.5 Using a trailer (optional)

Danger!

Danger to life

Carrying persons in a trailer is life-threatening and can be illegal.

➔ Never carry people in a trailer.

Warning!

Danger of accident and injury

Using a trailer inappropriately can lead to accidents and injuries.

➔ Always adapt your speed to the weather, road and traffic conditions.

➔ When driving with your headlights on, adjust the position of the headlights so that oncoming vehicles are not dazzled.

➔ When pulling a trailer with the vehicle, be particularly careful when overtaking other vehicles. Immediately reduce your speed as soon as you feel the trailer starts swinging side-to-side. Never accelerate when the trailer is swinging side-to-side.

➔ When transporting heavy objects, the driving characteristics change because the centre of gravity is shifted. Always adapt your driving style and speed to the circumstances.

➔ Never exceed the maximum permissible axle loads, the permissible drawbar load and the maximum permissible total weight. If these limits are exceeded, the driving characteristics of the vehicle can change. You find these values in the vehicle papers and in the papers for the trailer coupling.

An incorrectly installed or unsuitable trailer coupling may cause the trailer to detach from the vehicle. This can cause injuries or accidents.

➔ Trailer couplings should only be retrofitted by a specialist workshop.

Unsecured or insufficiently secured load can shift or fall from the trailer while driving. This can impair driving stability and lead to accidents.

➔ Secure the load properly.

Incautious coupling or uncoupling of the trailer can lead to accidents or injuries.

➔ While manoeuvring to couple or uncouple a trailer, no other person should be standing between the vehicle and the trailer.

➔ Carry out the coupling or the uncoupling of the trailer with care.

➔ If possible, couple or uncouple the trailer on level ground. When parking on sloping roads, secure the trailer and potentially the vehicle, too, against rolling away (e.g. with wheel chocks).

Warning!

Damage to the vehicle

Incorrect connection of the electrical connection between the vehicle and the trailer can damage the electrical system of the vehicle.

- ➔ Do not exceed the maximum power consumption of the trailer.
- ➔ Never connect the trailer's electrical system directly to the electrical connections of the rear lights or any other unsuitable power sources. Only use the trailer socket to power the trailer.
- ➔ Use only plugs and sockets with the standardized pin assignment.

When lowering or raising the vehicle (e.g. due to a change in the payload or a defective tyre), strong forces act on the trailer coupling and the trailer. A coupled trailer supported by the drawbar support wheel can damage the vehicle or the trailer.

- ➔ Uncouple a trailer supported by the drawbar support wheel from the vehicle.

Incautious coupling or uncoupling of a trailer can damage the vehicle.

- ➔ Trailer with overrun brake: Do not couple or uncouple a trailer with an actuated overrun brake.

Do not grease friction pads on trailers with anti-sway damping. Greased friction pads will no longer have an anti-swaying effect. This weaving stabilizing effect is only ensured when the tow ball on the vehicle is kept clean and free from grease.

- ➔ Do not lubricate the cup of the AKS safety coupling.
- ➔ Do not lubricate the ball on the tow bar.
- ➔ Make sure the friction pads remain free from oil and grease when lubricating moving parts of the safety coupling.

Note!

- ➔ ***SUN LIVING*** recommends practising manoeuvring with a coupled trailer in a place with limited traffic or in a car park. Make sure that there is a second person there to assist you.
- ➔ ***SUN LIVING*** recommends having the vehicle serviced between the prescribed inspection intervals due to the higher vehicle strain when towing a trailer frequently.
- ➔ In some countries, an additional fire extinguisher must be carried along on the vehicle if the total weight of the trailer exceeds 2500 kg.
- ➔ Inquire about any special regulations for driving with a trailer in the country in which the vehicle is registered or in the country of travel.

For further information, please refer to the manufacturer's separate operating instructions.

Coupling a trailer:

➔ Position the vehicle as closely and as straight as possible to the trailer. Apply the handbrake and stop the engine.
Try to couple the trailer while the vehicle and the trailer are on level ground.

➔ Release the parking brake of the trailer.
Be careful with trailers parked on a slope. In this case, make sure that the trailer is protected from rolling away by wheel chocks.

➔ Carefully manoeuvre the trailer towards the vehicle, especially on slopes, make sure that the ball mount of the trailer is above the coupling head of the vehicle and couple the trailer.
For trailers with a drawbar support wheel, reduce the drawbar height with the drawbar support wheel so that the ball mount engages on the coupling head.
Make sure that the safety indicator on the coupling shows that the coupling has engaged properly, provided the coupling has such an indicator.

➔ For trailers with an overrun brake, attach the breakaway cable to the trailer coupling.

➔ Insert the plug for the power supply of the trailer into the socket of the vehicle.
If the plug is not compatible with the trailer socket on the vehicle, use a suitable adapter.
The cable for the power supply must run in a loose loop over the drawbar. Make sure that the cable does not drag on the floor and is not strained.

➔ Crank up the drawbar support wheel and clamp it as high as possible in the holder. The support wheel should be aligned parallel to the direction of travel and in the direction of the vehicle body.

➔ Before driving off, check the lighting of the trailer.

Uncoupling a trailer:

➔ Uncouple the trailer on level ground. If this is not possible, use wheel chocks to secure the trailer against rolling away.

➔ Apply the vehicle's handbrake and turn off the engine.

➔ Apply the parking brake of the trailer.

➔ Unplug the trailer's power supply plug.

➔ If applicable, take the breakaway cable off the vehicle's trailer coupling.

➔ Crank down the drawbar support wheel until the wheel touches the ground.

➔ Release the coupling using the handle. With the support of the drawbar support wheel, lift the ball mount off the coupling head until the coupling head is completely free.

➔ Drive the vehicle away.

7 After the journey

7.1 Requirements for the parking area

The parking area should be firm and level.

7.2 Pitching the vehicle

A second person is helpful for the following tasks.

Aligning the vehicle:

➔ Align the vehicle horizontally in the driving direction by manoeuvring.

➔ Align the vehicle horizontally crosswise to the driving direction.

– If sufficient room is available, move the vehicle until you have found a horizontal position.

– If this is not possible, use drive-on chocks (optional) underneath the respective wheels.

➔ To prevent the vehicle from swaying, lower the two corner steadies (optional) at the vehicle rear. The crank can be found in the storage space that is accessible from the outside.

➔ Tighten the parking brake to the stop and engage the first gear.

➔ Use the wheel chocks (optional) to secure the vehicle against rolling away.

7.2.1 Corner steadies (optional)

Warning!

Damage to the vehicle

When starting to drive, the chassis or the vehicle bottom could be damaged by extended corner steadies.

Torn off corner steadies could jeopardise other road users.

➔ Crank up the corner steadies completely before starting to drive.

Caution!

Damage to vehicle frame

➔ Do not use the corner steadies for lifting the vehicle. This could result in distortion of chassis and bodywork.

To prevent the vehicle from unnecessary swaying at its parking location, we recommend extending the corner steadies on the vehicle.

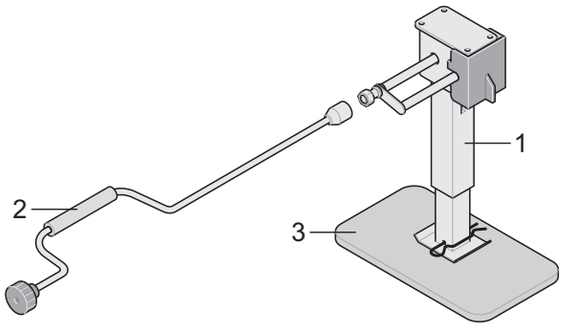


Fig. 12 Corner steady

1 Corner steady
2 Crank
3 Base

Extending the corner steady:

➔ Place the crank (Fig. 12/2) on the corner steady (Fig. 12/1).

➔ Turn the crank anticlockwise to extend the corner steady.

Note!

➔ Place a firm substructure (Fig. 12/3) underneath the base of the corner steadies (Fig. 12/1) when your vehicle is standing on soft ground such as grass or sand. This prevents sinking into the ground and facilitates the retraction of the corner steadies before starting to drive again.

7.2.2 Electrical connection

If there is a 230V power supply at your pitch, the electrical appliances can be connected to this power supply (chapter 10.2.1).

Observe the fuse protection of the voltage supply.

All vehicles are equipped with an additional living area battery for the 12-V electric appliances (e.g. lighting, TV, water pump, etc.). The 12-V supply can be switched on and off via the control panel (chapter 8.11).

7.3 Awning (optional)

Caution!

Damage to the awning

Snow, accumulated water or stormy winds can damage the awning.

- ➔ Keep the awning free from snow.
- ➔ Avoid the accumulation of water on the awnings.
- ➔ Retract the awning in case of rain and strong winds.

Caution!

Damage to the vehicle

- ➔ Never move the vehicle with the awning extended.

Note!

Observe the following when using the awning:

- ➔ Do not place the canvas blind on the weather side.
- ➔ Do not pull the canvas of the blind too tightly, but only just straighten it.
- ➔ Keep oil, grease and resin away from the awning fabric.
- ➔ Prevent water from accumulating.
- ➔ Thoroughly clean the canvas blind and allow it to dry when intending not to use it for a prolonged period of time. Also lightly grease its mechanical parts.
- ➔ Always allow the awning to dry completely before packing it to avoid moulding and staining.

Extending and retracting the awning:

The awning crank is located in the rear garage.

- ➔ Insert the awning crank into the awning mechanism and turn the crank to extend or retract the awning.

8 Living

8.1 Entrance door

8.1.1 Opening/closing the entrance door from the outside

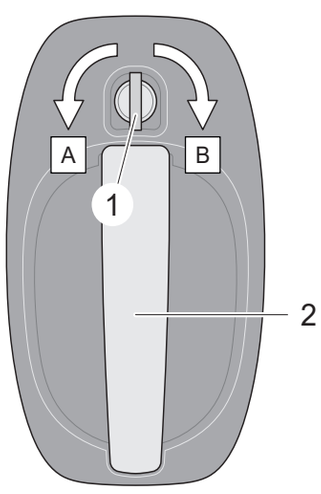


Fig. 13 Opening/closing the entrance door from the outside

1 Key / Door lock
2 Door handle

Opening the entrance door:

➔ Insert the key into the door lock (Fig. 13/1) and turn it to position (A).

➔ Turn the key back into its initial position and pull it off.
The key can only be removed in the initial position.

➔ Pull the door handle (Fig. 13/2) and open the door.

Closing the entrance door:

➔ Close the door until the door lock latches.

➔ Insert the key into the door lock (Fig. 13/1).

➔ Slightly press against the door and turn the key to position (B).

➔ Turn the key back into its initial position and pull it off.
The key can only be removed in the initial position.

8.1.2 Opening/closing the entrance door from the inside

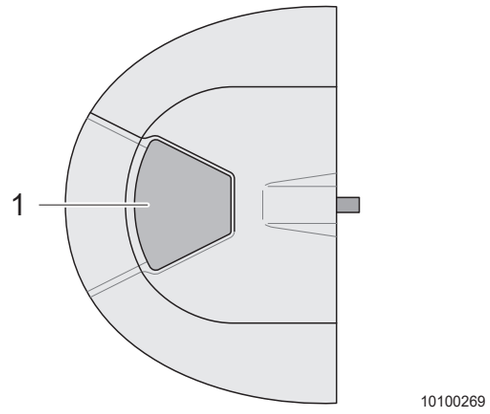


Fig. 14 Opening/closing the entrance door from the inside

1 Door handle

Opening the entrance door:

➔ Pull the door handle (Fig. 14/1) and open the door.

Closing the entrance door:

➔ Close the door.

Locking the entrance door:

➔ Close the door.

➔ Press the door handle (Fig. 14/1).

Unlocking the entrance door:

➔ Pull the door handle (Fig. 14/1).

8.2 Rear doors (only V series)

Note!

The rear doors of the van models can be opened and closed from the inside and outside.

8.3 Sliding door

Warning!

Risk of injury

- ➔ Always make sure not to injure any persons or animals, or damage any objects when opening and closing the door.
- ➔ Always use just the grip to open and close the door.
- ➔ Always open and latch the sliding door completely, especially when the vehicle is parked on a slope.
- ➔ Always keep the sliding door closed and locked during the journey or when moving the vehicle.

Caution!

Damage

- ➔ Before using the sliding door, always make sure the window in the sliding door and the window behind the sliding door (optional) are closed and locked.
- ➔ Open the flyscreen door (optional) fully before closing the sliding door.

Note!

The door lock of the sliding door is only connected to the central locking of the van.

The lock of the sliding door is opened or closed using the remote control.

8.3.1 Opening/closing the sliding door from the outside

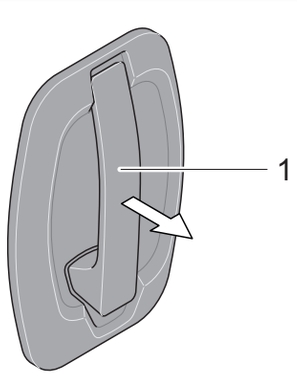


Fig. 15 Opening/closing the sliding door from the outside

1 Door handle

Opening the sliding door:

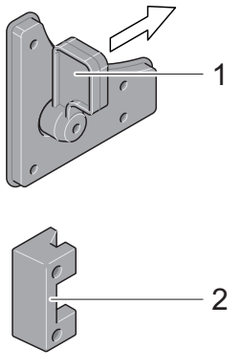
- ➔ Unlock the lock with the remote control.
- ➔ Pull the door handle (Fig. 15/1) to open the door.
- ➔ Slide the door to the rear to the locking position.

Closing the sliding door:

➔ Pull the door handle (Fig. 15/1) and push it in the closing direction.

➔ Slide the door to the front until it is completely closed.

8.3.2 Opening/closing the sliding door from inside



1 Door lever
2 Door handle

Fig. 16 Opening/closing the sliding door from inside

Opening the sliding door:

➔ Pull the door lever (Fig. 16/1) to the rear and open the door up to the locking position.

Closing the sliding door:

➔ Use the door handle (Fig. 16/2) to slide the door until it latches in on its own.

8.3.3 Sliding door stop function (optional)

Some models have an optional sliding door with a stop function. The door locks into place in half-open position.

➔ Pull the door handle (Fig. 16/2) or the door lever (Fig. 16/1) again to unlock the stop function.

Note!

If the sliding door is equipped with central locking (optional) it can also be locked using the “Lock” switch on the dashboard.

8.4 Flyscreen door (optional)

Some models have an optional flyscreen door.

Caution!

Damage to the flyscreen door

If the flyscreen door is closed when the sliding door is closed, the flyscreen door will be damaged.

➔ Open the flyscreen door fully before closing the sliding door.

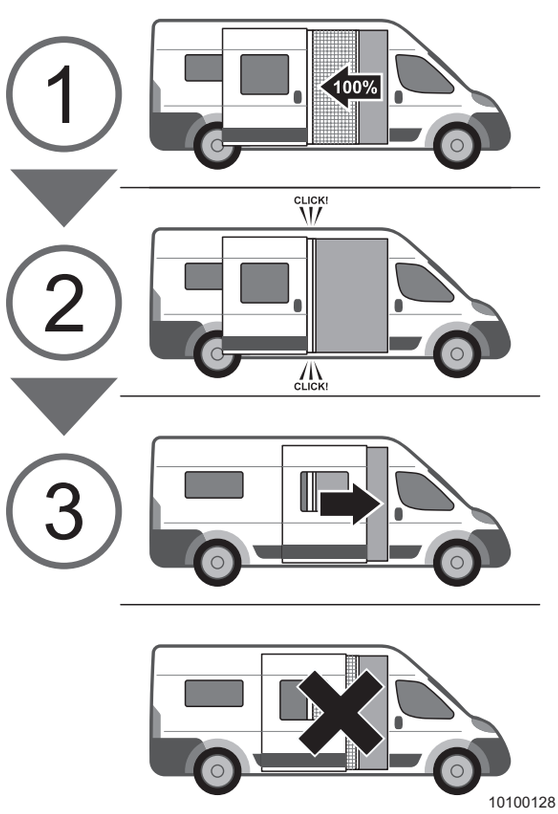


Fig. 17 Open the flyscreen door 100 %

1 Open the flyscreen door fully before closing the sliding door.
2 The flyscreen door must engage audibly (with a “click”).
3 Close the sliding door.

Opening the flyscreen door:

➔ Grip the flyscreen door in the middle of the vertical profile.

➔ Carefully slide the door open to prevent the door canting in the guide profiles.

Closing the flyscreen door:

➔ Grip the flyscreen door in the middle of the vertical profile.

➔ Carefully slide the door closed to prevent the door canting in the guide profiles.

➔ Push the door shut until the brush seal is flush with the vehicle frame.

8.5 Ventilating the vehicle

Danger!

Poisoning by gas and carbon monoxide

➔ Never, even partially, cover or close the forced ventilation openings in the roof hoods, in the floor plate and in the mushroom vents.

Caution!

Possibility of mould formation

➔ Condensation can form under the upholstery during the night. To dry the cushions (foamed material), place the cushions in an upright position and ventilate the vehicle thoroughly.

- Providing adequate and correct ventilation for your vehicle is the best way of ensuring optimum conditions of living comfort.
- Every person releases up to 35 grams of water into the atmosphere each hour just by breathing. Therefore, the living area must be ventilated using the windows and roof hoods depending on the relative humidity.
- Additional water evaporates as a result of cooking or wet clothes.
- Condensation may also form inside the acrylic glass double-glazing in extreme weather conditions. As the temperature rises again, the condensation evaporates and the glass demists.

For more information see chapter “17 Winter camping”.

8.5.1 Preventing condensation

Condensation is the change of water from its gaseous form (water droplets) into its liquid form. Condensation generally occurs in the atmosphere when warm air rises, cools and loses its capacity to hold water vapour. As a result, excess water vapour condenses to form droplets.

Condensation normally occurs in the winter when the motorhome is cold and skylights, windows and doors are opened less often; this means that moist air cannot escape.

It is important to try and provide ventilation so that moist air can escape and to use the heating responsibly. Provide ventilation, so that warm air can escape.

- Opening a window to provide good ventilation of kitchen when washing, cooking or drying damp cloths is essential.
- If it is not possible to use the space heater, open the roof hoods or windows slightly, but keep the main door closed as much as possible.
- After showering, keep the bathroom door closed and the window or the roof hood open long enough for the room to dry.

8.6 Quarter vents

8.6.1 General

The quarter vents of the vehicle have either automatic locking (the quarter vent automatically locks into place in the desired position after opening) or can be continuously adjusted with a knurled screw.

The number of catch bars at the bottom edge of the window varies depending on the window width.

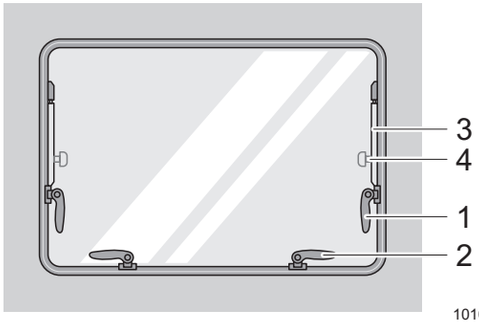


Fig. 18 Quarter vents

1 Locking lever on hold-open hinge
2 Locking lever at bottom edge of window
3 Hold-open hinge
4 Knurled screw

Opening the window:

➔ Open both locking levers (Fig. 18/1) on the hold-open hinges (Fig. 18/3).

➔ Open the locking levers (Fig. 18/2) at the bottom edge of the window.

➔ Push the window to the outside until it has the desired opening width.

➔ Window with knurled screw: Tighten the knurled screw(s) (Fig. 18/4) clockwise when the hold-open hinge has reached the desired opening position.

Closing the window:

➔ Window with knurled screw: Hold the window with one hand and loosen the knurled screw(s) (Fig. 18/4) anticlockwise until the window can be moved without force.

➔ Window with automatic hold-open hinges: Open the window until the lock is released.

➔ Close the locking levers on the bottom edge of the window.

➔ Close the locking levers on the hold-open hinges.

8.6.2 Opening/closing the windows

To open and close the quarter vents, open or close all locking levers on the respective quarter vent.

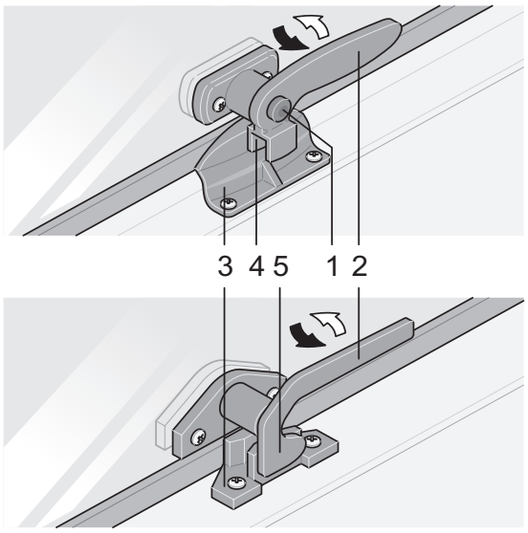


Fig. 19 Opening and closing the quarter vents

1 Push-button for locking
2 Locking lever
3 Latch plate
4 Latch
5 Locking catch

Opening the window:

➔ If the locking lever has a push-button for locking the lever (Fig. 19/1), press and hold down the push-button.

➔ Turn the locking lever (Fig. 19/2) to the middle of the window.

➔ Open all window locks.

➔ Open the window.

Closing the window:

➔ Close the window.

➔ If the locking lever has a push-button for locking the lever (Fig. 19/1), press and hold down the push-button.

➔ Turn the locking lever (Fig. 19/2) towards the window frame.

➔ The latch (Fig. 19/4) of the locking lever closes completely on the inside of the latch plate (Fig. 19/3).

8.6.3 Permanent ventilation

Caution!

Cracks in the window

If the locking levers are set to an incorrect position or to varying positions, this may put strain on the window pane. Such strain may cause the window pane to crack.

➔ Only put the locking levers (Fig. 20/1) at the lower edge of the window to “permanent ventilation” position.

➔ Make sure that all the lower locking levers are always closed in the same position.

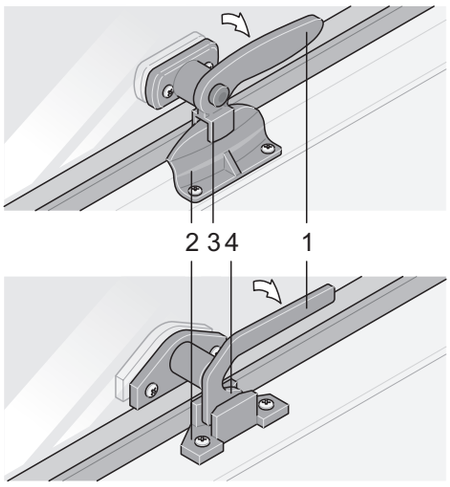


Fig. 20 Quarter vent in permanent ventilation position

1 Locking lever
2 Latch plate
3 Latch
4 Locking catch

Setting the window to the “permanent ventilation” position

Locking lever (Fig. 20/upper half) with push-button:

➔ Press and hold the push-button.

➔ Put the locking lever (Fig. 20/1) into vertical position.

➔ Push the window outwards slightly.

➔ Turn the locking lever back to its initial position.

➔ When closing the locking levers, make sure that the latch (Fig. 20/3) engages around the latch plate (Fig. 20/2).

Locking lever (Fig. 20/lower half) without push-button:

➔ Put the locking lever (Fig. 20/1) into vertical position.

➔ Push the window outwards slightly.

➔ Turn the locking lever back to its initial position.

➔ When closing the locking levers, make sure that the latch (Fig. 20/4) engages inside the latch plate (Fig. 20/2).

8.7 Window blackout blind and insect screen

8.7.1 Blackout blind and insect screen – version 1

Caution!

Damage to the insect screen and the blackout blind

If you do not hold on to the insect screen while unlocking it, the spring will force it to snap upwards which may cause damage to the insect screen.

➔ When unlocking the screen and the blind, hold the insect screen (Fig. 21/3) by the locking handle (Fig. 21/4) and carefully move the screen upwards.

The fabric of the insect screen and the blackout blind is sensitive to pressure and can easily be damaged when touched.

➔ Always hold the insect screen and the blackout blind by their handles when opening and closing them.

➔ Do not touch the fabric of the insect screen and the blackout blind with your fingers.

Note!

➔ Only close the blackout blind to a maximum of 75% during direct sunlight. Air must be able to circulate between the window and the blind.

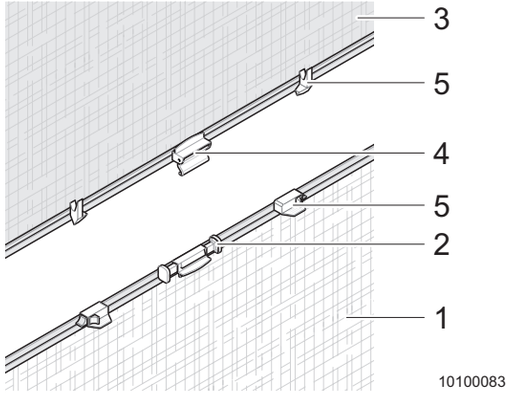


Fig. 21 Opening/closing the blackout blind and insect screen version 1

1 Blackout blind
2 Push-buttons
3 Insect screen
4 Locking handle
5 Side catches (extra for wide blinds)

The blackout blind (Fig. 21/1) is located in the bottom part of the window frame.

The insect screen (Fig. 21/3) is installed in the top part of the window frame.

Opening and closing the blackout blind:

➔ Press the two push-buttons (Fig. 21/2) together.

➔ Move the blackout blind (Fig. 21/1) to the desired position.
When releasing the two push-buttons, the blackout blind is clamped and held in place automatically.
The blackout blind is equipped with a catch which allows you to lock it in different latching positions.

Opening and closing the insect screen:

➔ Pull the insect screen (Fig. 21/3) down until the locking handle (Fig. 21/4) engages in the blackout blind (Fig. 21/1).
The insect screen can only be used together with the blackout blind.

Separating the insect screen from the blackout blind:

➔ Press the upper locking handle (Fig. 21/4) on screen and blind.

8.7.2 Blackout blind and insect screen – version 2

Caution!

Damage to the insect screen and the blackout blind

If you do not hold on to the insect screen and the blackout blind while unlocking them, the spring will force them to snap upwards which may cause damage to the insect screen and the blackout blind.

➔ When unlocking the screen and the blind, hold them by the handle (Fig. 22/1 or Fig. 22/2) and carefully move them upwards.

The fabric of the insect screen and the blackout blind is sensitive to pressure and can easily be damaged when touched.

➔ Always hold the insect screen and the blackout blind by their handles when opening and closing them.

➔ Do not touch the fabric of the insect screen and the blackout blind with your fingers.

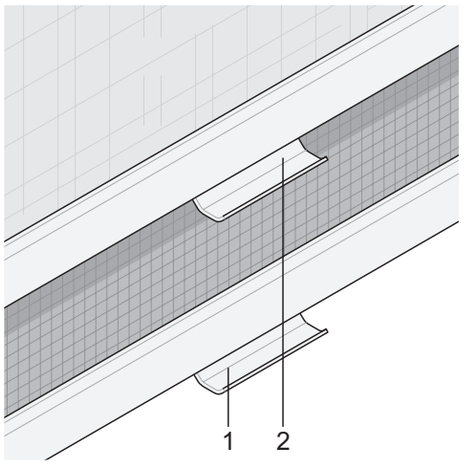


Fig. 22 Opening/closing the blackout blind and insect screen version 2

1 Insect screen with handle
2 Blackout blind with handle

The blackout blind (Fig. 22/2) and the insect screen (Fig. 22/1) are located in the upper part of the window frame and can be operated independently from each other.

Opening/closing the insect screen:

➔ Pull down the insect screen (Fig. 22/1) by the handle and hook it on both sides of the window frame into the latches.

➔ To unhook the insect screen from the latches, push the handle down and slightly pull it to the inside.

Opening/closing the blackout blind:

➔ To close the blackout blind (Fig. 22/2), first close the insect screen (Fig. 22/1). The blackout blind is equipped with a catch which allows you to lock it in different latching positions.

➔ Pull down the blackout blind by the handle. When the blackout blind is closed completely, hook the blind into the latches on both sides of the window frame.

➔ To unhook the blackout blind from the latches, push the handle down and slightly pull it to the inside.

8.7.3 Blackout blind and insect screen – version 3

Caution!

Damage to the insect screen and the blackout blind

The fabric of the insect screen and the blackout blind is sensitive to pressure and can easily be damaged when touched.

➔ Always hold the insect screen and the blackout blind by their handles when opening and closing them.

➔ Do not touch the fabric of the insect screen and the blackout blind with your fingers.

Both blackout blind (Fig. 23/3) and insect screen (Fig. 23/2) are located in the upper part of the window frame. The insect screen follows the blackout blind.

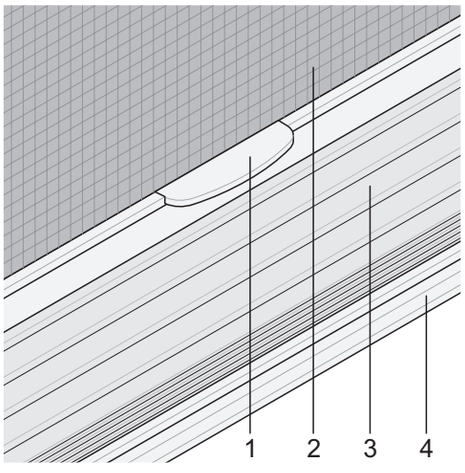


Fig. 23 Opening/closing the blackout blind and insect screen version 3

1 Handle
2 Insect screen
3 Blackout blind
4 Grip bar

Opening/closing the blackout blind:

➔ Use the grip bar (Fig. 23/4) to move the blackout blind (Fig. 23/3) up or down. The blind can be moved up or down to any position.

Opening/closing the insect screen:

➔ Use the handle (Fig. 23/1) to move the insect screen (Fig. 23/2) up or down.

8.8 Privacy screens in the vehicle front (optional)

To prevent people from looking into the interior of the vehicle, a privacy screen is fitted to each of the windows of the driver's cab: The privacy screens are used to shut off the windscreen and the side windows.

8.8.1 Privacy screen on the windscreen

Danger!

Risk of accident

If the privacy screen is not pushed all the way down, visibility while driving is restricted. This leads to an increased risk of accidents.

➔ Fully push down the privacy screen before setting off.

Caution!

Damage to the view protection

The fabric of the privacy screen is sensitive to pressure and can easily be damaged when touched.

➔ Always use the handle bar when opening and closing the privacy screen.

➔ Do not touch the privacy screen's fabric with your fingers.

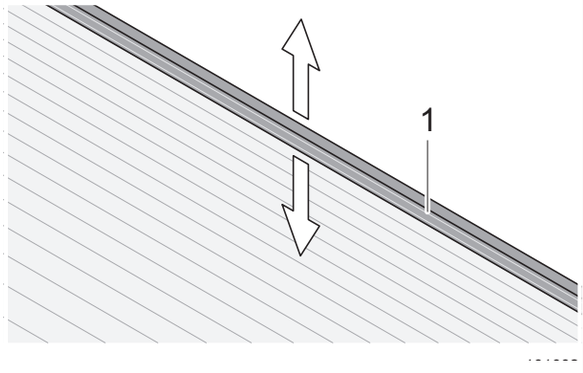


Fig. 24 Privacy screen on the windscreen

1 Grip bar

The privacy screen (Fig. 24/1) is located at the bottom of the windscreen.

Closing the privacy screen:

➔ Hold the blind in the centre of the grip bar (Fig. 24/1).

➔ Push the roller blind fully up.

Note!

The blind is only held in position when pushed to the topmost position.

Opening the privacy screen:

➔ Hold the blind in the centre of the grip bar (Fig. 24/1).

➔ Push the roller blind fully down.

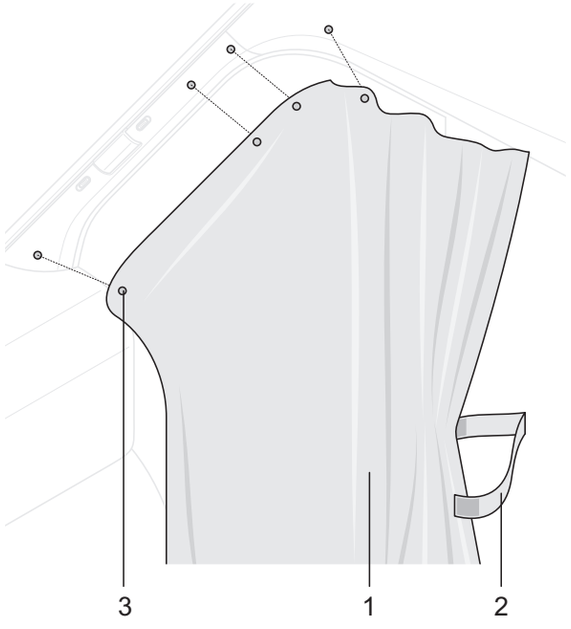
8.8.2 Side window privacy screen

Danger!

Risk of accident

The view from the side windows is restricted if the view protection is closed. This leads to an increased risk of accidents.

➔ Keep the view protection completely open and secured in place when driving the vehicle.



1 Privacy screen
2 Retaining strap
3 Snap buttons

Fig. 25 Side window privacy screen

The privacy screen (Fig. 25/1) are located at the rear edge of the respective side windows.

Closing the privacy screen:

➔ Loosen the Velcro fastener on the retaining strap (Fig. 25/2).

➔ Pull the privacy screen (Fig. 25/1) forward and close the snap buttons (Fig. 25/3).

Open the privacy screen in reverse sequence.

8.8.3 Pleated blinds, side windows:

Danger!

Risk of accident

The view from the side windows is restricted if the view protection is closed. This leads to an increased risk of accidents.

➔ Keep the view protection completely open and secured in place when driving the vehicle.

Caution!

Damage to the view protection

The fabric of the privacy screen is sensitive to pressure and can easily be damaged when touched.

➔ Always use the handle when opening and closing the privacy screen.

➔ Do not touch the privacy screen's fabric with your fingers.

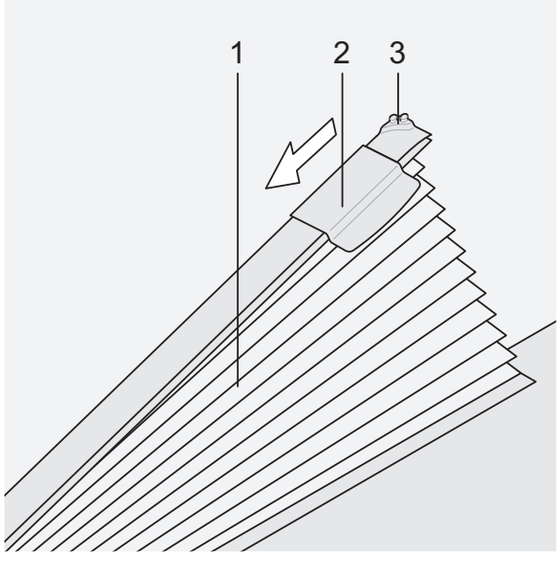


Fig. 26 Pleated blinds

1 Pleated blinds
2 Handle
3 Magnetic buttons

The pleated blind (Fig. 26/1) is integrated in the right and left door frames in the driver's cab.

Opening and closing the pleated blind:

➔ Push the handle (Fig. 26/2) into the direction of the arrow. The pleated blind is unlocked.

➔ Unfold the pleated blind (Fig. 26/1) and use the magnetic buttons (Fig. 26/3) to attach it to the window frame.

Open the pleated blind in reverse sequence.

8.9 Roof window – Heki style

8.9.1 General

Note!

- ➔ Before starting the journey, check the roof openings for damage to the glass dome.
- ➔ Open the blackout blind and insect screen before starting to drive.
- ➔ Close the roof openings before starting the journey.
- ➔ ***SUN LIVING*** recommends a maximum speed of **130 kph**.
- ➔ Do not open the roof openings in case of strong wind/storm, rain, hail, snowfall or outdoor temperatures under -10 °C.
- ➔ Verify that there are no obstacles in the opening area above the roof window – Heki style.
- ➔ Before opening the roof openings, remove snow, ice and other foreign material.
- ➔ Close the roof openings when leaving the vehicle. Danger of burglary or from rain water and wind.
- ➔ Consult an authorised workshop when faults or malfunctions occur.
- ➔ Roof windows, located only in the rear part of the vehicle, must ensure a certain level of ventilation even when they are closed. That is why the gasket is not installed on the entire perimeter of the roof window.
- ➔ Please note that during heavy weather conditions, small amounts of rain or snow may enter the vehicle through these ventilation openings in the roof window.

8.9.2 Roof window – Heki style with operating bar

The roof window – Heki style with operating bar can be raised on one side.

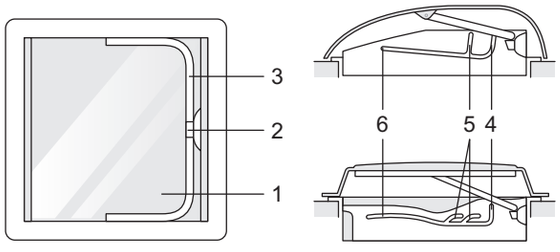


Fig. 27 Opening/closing the roof window – Heki style, with operating bar

1 Glass dome
2 Locking button
3 Bar
4 “Closed” position
5 “Ventilation” position
6 “Open” position

Opening a roof window – Heki style

- ➔ Press the locking button (Fig. 27/2) and pull down the bar (Fig. 27/3).
- ➔ Push the bar to the desired position “Venting” (Fig. 27/5) or “Open” (Fig. 27/6).

Closing a roof window – Heki style:

- ➔ Push the bar (Fig. 27/3) towards the locking button (Fig. 27/2).
- ➔ Press the locking button and push the bar back to “Closed” position (Fig. 27/4).

8.9.3 Roof window – Heki style with crank operation (optional)

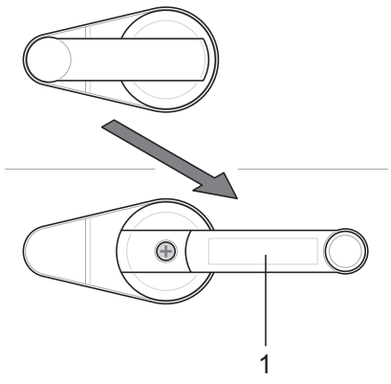


Fig. 28 Opening/closing a roof window – Heki style, with crank operation - version 1

1 Hand crank

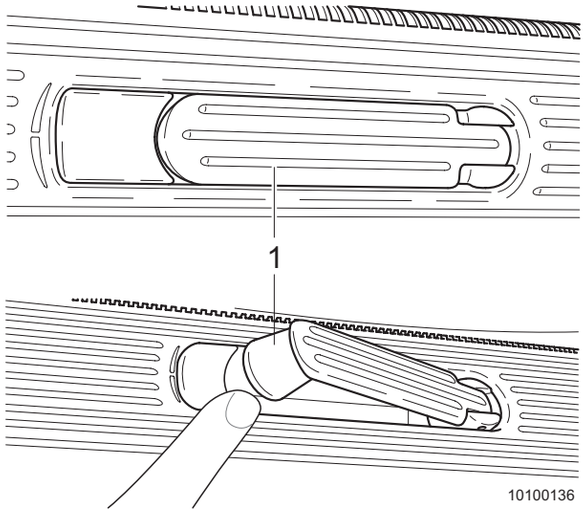


Fig. 29 Opening/closing a roof window – Heki style, with crank operation - version 2

1 Hand crank

Opening a roof window – Heki style

Some models are equipped with additional locking levers (Fig. 19).

➔ Fold out the hand crank (Fig. 28/1 or Fig. 29/1).

➔ Turn the hand crank until you can feel a resistance.
The roof window – Heki style is now opened as far as it will go.
Any intermediate position is possible.

Closing a roof window – Heki style:

➔ Turn the hand crank (Fig. 28/1 or Fig. 29/1) until you can feel a resistance.

➔ Check the locking by attempting to lift the glass dome.
Before you fold in the hand crank again, a light initial tension must be present on the crank.

8.9.4 Roof window – Heki style blackout blind and insect screen running in opposite directions

Caution!

Damage to the blind

The fabric of the blind is sensitive to pressure and can easily be damaged when touched.

➔ Always use the handles when opening and closing the blind.

➔ Do not touch the blind's fabric with your fingers.

Note!

Both are continuously adjustable and can be operated together or separate from each other.

Only close the blackout blind to a maximum of 75% during direct sunlight. Air must be able to circulate between the roof dome and the blind.

Drops of condensed water can cause stains on the fabric.

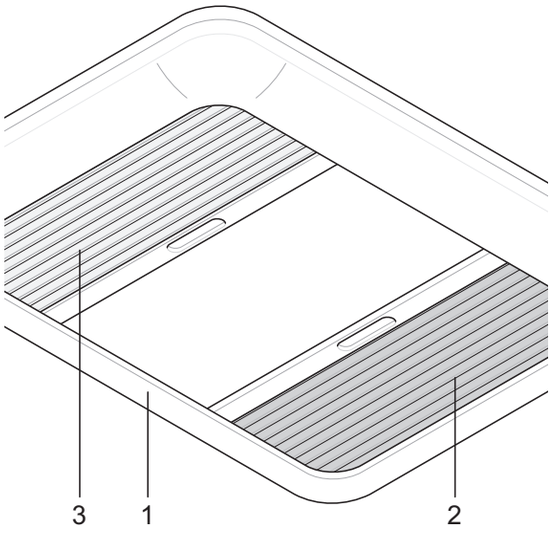


Fig. 30 Roof window – Heki style, blackout blind and insect screen running in opposite directions

1 Inner frame
2 Blackout blind
3 Insect screen

The blackout blind (Fig. 30/2) and the insect screen (Fig. 30/3) are fitted in the inner frame (Fig. 30/1) of the roof window – Heki style.

Opening/closing the blackout blind or insect screen:

➔ Hold the blackout blind or the insect screen by the handle bar and move it to the desired position.

8.9.5 Maintaining the roof window – Heki style

Please refer to chapter 19.1.1 for information on how to service the roof windows – Heki style.

8.10 Panoramic window

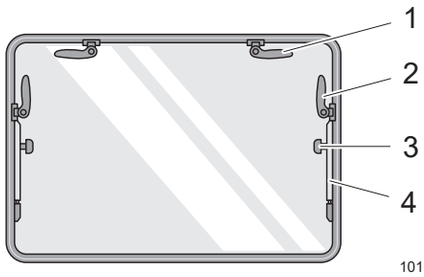


Fig. 31 Panoramic window

1 Locking lever at top edge of window
2 Locking lever on hold-open hinge
3 Knurled screw
4 Hold-open hinge

Opening the panoramic window:

➔ Open the locking levers (Fig. 31/1 and Fig. 31/2).
➔ Push the panoramic window to the outside until it has the desired position.
➔ Tighten the knurled screws (Fig. 31/3) at the desired position.

Closing the panoramic window:

➔ Loosen the knurled screws (Fig. 31/3) until the window moves easily.
➔ Close the panoramic window.
➔ Close the locking levers (Fig. 31/1 and Fig. 31/2) at the bottom edge of the window.

8.10.1 Blackout blind and insect screen – panoramic window

Caution!

Damage to the insect screen and the blackout blind

The fabric of the insect screen and the blackout blind is sensitive to pressure and can easily be damaged when touched.

➔ Always hold the insect screen and the blackout blind by their handles when opening and closing them.
➔ Do not touch the fabric of the insect screen and the blackout blind with your fingers.

Note!

➔ Only close the blackout blind to a maximum of 75% during direct sunlight. Air must be able to circulate between the window and the blind.

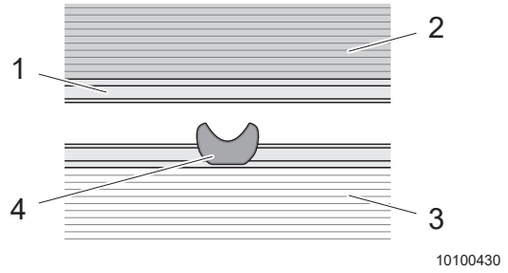


Fig. 32 Blackout blind and insect screen – panoramic window

1 Grip bar
2 Insect screen
3 Blackout blind
4 Grip bar with locking mechanism

The blackout blind (Fig. 32/3) is located in the bottom part of the window frame and the insect screen (Fig. 32/2) is located in the top part of the window frame.

Both are continuously adjustable and can be operated together or separate from each other.

Opening/closing the blackout blind or insect screen:

➔ Hold the blackout blind (Fig. 32/3) or the insect screen (Fig. 32/2) by the respective grip bar (Fig. 32/1 or Fig. 32/4) and move it to the desired position.

Attaching blackout blind or insect screen to one another:

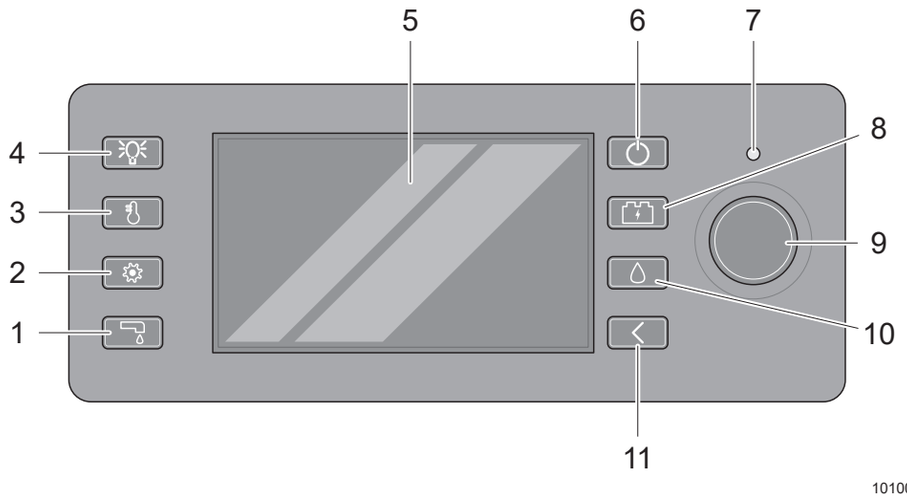
➔ Bring the blind and screen together at the grip bars and connect them with the locking handle (Fig. 32/4).

The connected blind and screen can be moved to the desired position using the handles.

Disconnecting blackout blind and insect screen:

➔ Press the locking handle (Fig. 32/4) and pull the blind and screen apart using the respective grip bars (Fig. 32/1 or Fig. 32/4).

8.11 Control panel



1 Water pump button
2 Settings menu button
3 Temperature menu button
4 Lighting menu button
5 Display
6 On/Off button
7 Ambient light sensor
8 Battery menu button
9 Control knob
10 Water tank menu button
11 Back button

Fig. 33 Control panel

Activating the control panel:

➔ Briefly press the On/Off button (Fig. 33/6).

Deactivating the control panel or setting it to standby:

➔ Briefly press the On/Off button (Fig. 33/6). The standby mode is activated.

➔ Press and hold the On/Off button. The control panel is switched off.

Switching the water pump on/off:

➔ Press the water pump button (Fig. 33/1). The water pump is either switched on or off. The operating state of the water pump is indicated on the display.

➔ Pressing the water pump button again will change the pump's operating state.

Settings menu:

➔ Press the settings menu button (Fig. 33/2). The settings menu will open.
You can use this menu to change various settings (such as the background lighting, time settings etc.). Use the control knob (Fig. 33/9) to navigate through the menus.

Opening the temperature menu:

➔ Press the temperature menu button (Fig. 33/3). The temperature menu will open.
This menu displays the temperature inside and outside the vehicle. If the vehicle has a floor heating, this menu will also display the floor heating settings.

Opening the lighting menu:

➔ Press the lighting menu button (Fig. 33/4). The lighting menu will open.
Use the control knob (Fig. 33/9) to change the settings for the interior and exterior lighting.

Opening the battery menu:

➔ Press the battery menu button (Fig. 33/8). The battery menu will open.
This menu displays the current state of charge for the living area battery and the vehicle battery. Use the control knob (Fig. 33/9) to access further information.

Opening the water tank menu:

➔ Press the water tank menu button (Fig. 33/10). The water tank menu will open.
This menu displays the current filling levels of the fresh water tank and the waste water tank.

Back button:

➔ Pressing the back button (Fig. 33/11) will take you back to the previous screen.

8.12 Light control

Note!

The following functions can only be performed when the control panel is switched on.

8.12.1 LED spot with On/Off switch

Depending on the model, the vehicle is equipped with pivotable LED spotlights.

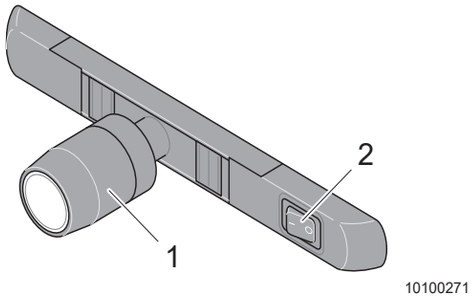


Fig. 34 LED spot with On/Off switch

1 Pivoting LED spot
2 On/Off switch

Switching the LED spotlight on and off:

➔ Use the switch (Fig. 34/2) to turn the LED spot (Fig. 34/1) on or off.

➔ The LED spot can be pivoted.

8.12.2 LED spot with On/Off switch and USB port

Depending on the model, the vehicle is equipped with LED spotlights and a USB port.

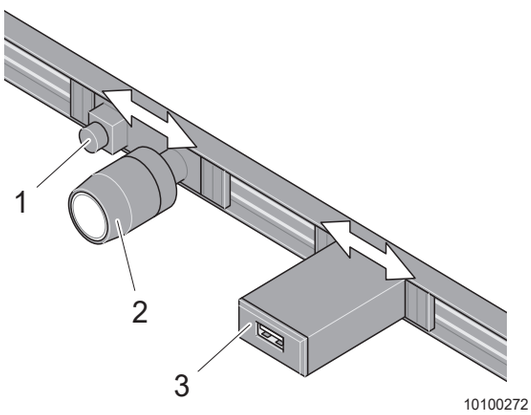


Fig. 35 LED spot with On/Off switch and USB port

1 On/Off switch
2 Pivoting LED spot
3 USB port

Switching the LED spotlight on and off:

➔ Use the switch (Fig. 35/1) to turn the LED spot (Fig. 35/2) on or off.

➔ If required, you can pivot and change the position of the LED spot.

8.12.3 Kitchen cupboard lighting

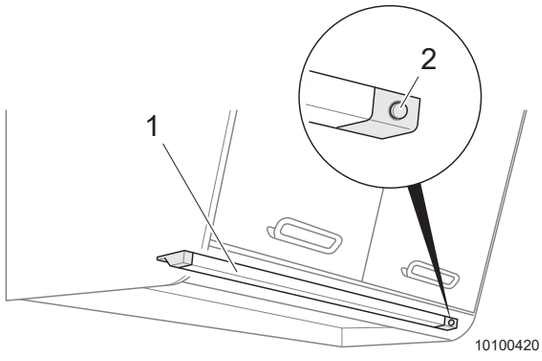


Fig. 36 LED light on kitchen cupboard

1 LED light
2 Switch

Switching the LED light on and off:

➔ Use the switch (Fig. 36/2) to turn the LED light (Fig. 36/1) on or off.

8.13 Electrically operated entrance step (depending on model)

Some models are equipped with an electrically operated entrance step.

Warning!

Risk of accident

- ➔ Maximum load of entrance step: 200 kg.
- ➔ Before starting the journey, ensure the entrance step is completely retracted.
- ➔ Extend and retract the entrance step only in an unloaded condition.
- ➔ Keep persons and pets away from the entrance step during extension or retraction.
- ➔ Only adults may operate the entrance step.
- ➔ Never leave the vehicle without extended entrance step.
- ➔ Never jump on the step.
- ➔ Only use the step when it is fully extended.
- ➔ Only one person may be on the step at a time.
- ➔ Before extending or retracting the entrance step, check the available space.
- ➔ Ensure the extended step does not represent an obstacle or hazard for third persons.
- ➔ In adverse weather conditions, clean the step from snow or ice.
- ➔ Clean the entrance step thoroughly at regular intervals to ensure its perfect function.

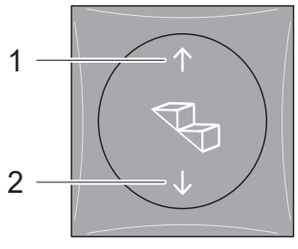
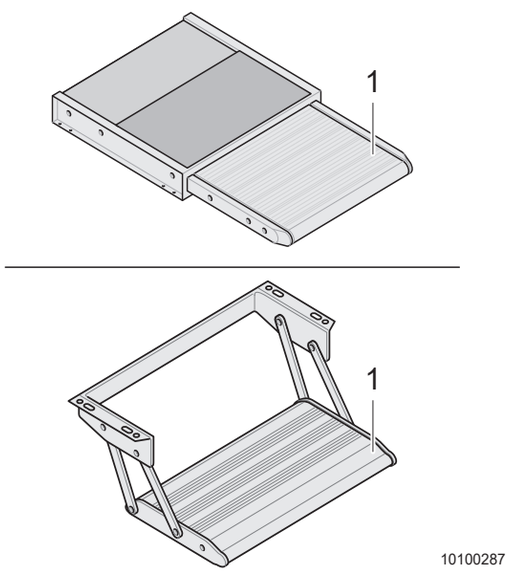


Fig. 37 Switch for the electrically operated entrance step

1 Retracting the entrance step
2 Extending the entrance step



1 Entrance step

Fig. 38 Electrically operated entrance step

Retracting or extending the electrically operated entrance step:

The switch (Fig. 37) for retracting or extending the electrically operated entrance step is located in the area around the entrance.

➔ Press the switch in the upper area (Fig. 37/1). The entrance step (Fig. 38/1) is retracted.

➔ Press the switch in the lower area (Fig. 37/2). The entrance step (Fig. 38/1) is extended.

8.14 Bench seat

The bench seat can be extended in some models by the rotating driver and passenger seats (chapter 5.3).

Note!

➔ The cushions must always be secured (also when parked) with all attachment devices.

The substructures of the seat benches are made from massive steel pipes and contain the attachment points of the seat belts.

The cushions of the seat benches are attached to the substructure with snap buttons, snap-on fasteners and/or Velcro fasteners.

On some models the fresh water tank is located underneath the seat bench (chapter 12.2.1).

Note!

Some models are equipped with an additional seat with safety belt.

8.15 Tables

Caution!

Risk of burning and scalding

Because the table top is not permanently fixed, cups or glasses could tip over and plates could fall off the table when the table top moves. This could cause injuries and scalding.

➔ Remove all food and drinks from the table before you start converting.

Warning!

Risk of injuries in the case of an accident

➔ Before starting a journey with the table hung in position, first fold the table leg up and stow the table away safely (e.g. in the rear garage).

8.15.1 Extending the table with a swivelling board

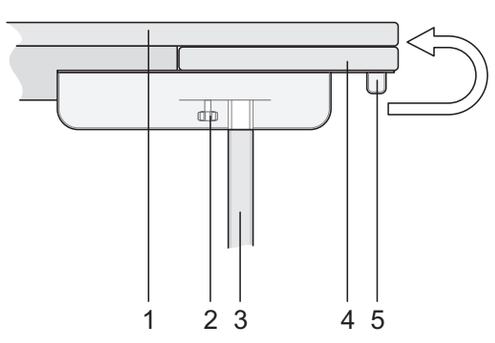


Fig. 39 Extending the table with a swivelling board

1 Table top
2 Locking screw
3 Table leg
4 Extension plate
5 Handle

➔ Loosen the locking screw (Fig. 39/2) on the bottom of the table by turning it to the left.

➔ Using the grip (Fig. 39/5), pull out the extension plate (Fig. 39/4) from underneath the table.

➔ Swivel the extension plate (Fig. 39/4) upwards.

To return the equipment to its original position, proceed in the reverse sequence.

8.15.2 Foldable table

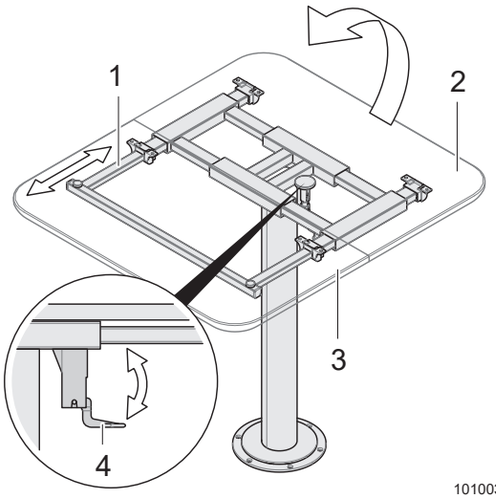


Fig. 40 Foldable table

1 Support frame
2 Fixed table top
3 Foldable table top
4 Locking lever

Folding out the table top:

➔ Pull out the support frame (Fig. 40/1).

➔ Fold down the foldable part of the table top (Fig. 40/3).

Folding in the table top:

➔ Fold down the foldable part of the table top (Fig. 40/3).

➔ Push the support frame (Fig. 40/1) back in.

Moving the table top:

➔ Fold down the locking lever (Fig. 40/4).

➔ Move the table to the desired position.

➔ Fold up the locking lever.

8.15.3 Suspended table

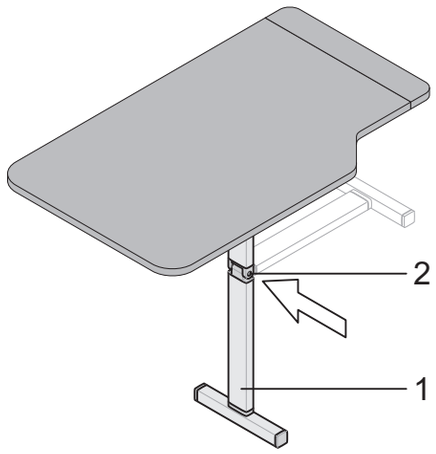


Fig. 41 Lowering the suspended table

1 Table leg
2 Locking button

Lowering the suspended table:

➔ Lift the tabletop on the right and unhook it from the upper guide rail.
➔ Press the locking button (Fig. 41/2) to unlock the table leg (Fig. 41/1).
➔ Fold the table leg down by 90°.
➔ Hang the tabletop in the lower guide rail in the raised position on the right.
➔ Lower the tabletop.

Raising the suspended table:

➔ Lift the tabletop on the right and unhook it from the lower guide rail.
➔ Press the locking button (Fig. 41/2) to unlock the table leg (Fig. 41/1).
➔ Straighten the table leg.
➔ Hang the tabletop in the upper guide rail in the raised position on the right.
➔ Lower the tabletop.

8.15.4 Suspended table with swivelling tabletop

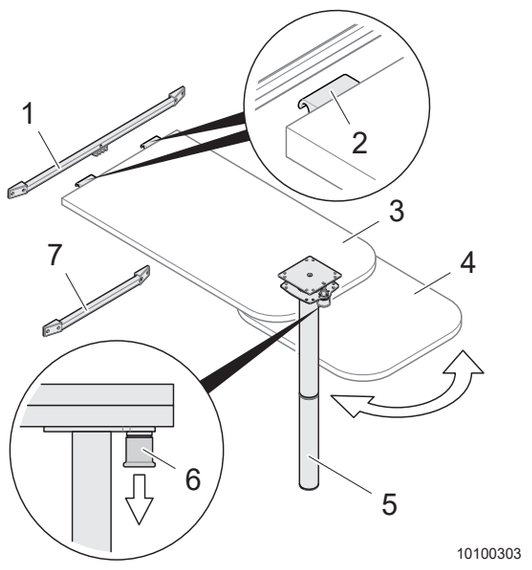


Fig. 42 Swivelling hook-in table

1 Upper guide rail
2 Bracket
3 Table top
4 Swivelling table top
5 Lower part of the table leg
6 Knob
7 Lower guide rail

Swivelling the table top

➔ Pull down the knob (Fig. 42/6).

➔ Swivel the swivelling table top (Fig. 42/4) until the knob latches in place.

Lowering the suspended table:

➔ Swing back the swivelling tabletop (Fig. 42/4).

➔ Lift the tabletop (Fig. 42/3) on the right and unhook it from the upper guide rail (Fig. 42/1).

➔ Remove the lower part of the table leg (Fig. 42/5).

➔ Hang the tabletop in the lower guide rail (Fig. 42/7) in the raised position on the right.

➔ Set down the tabletop.

Raising the suspended table:

➔ Lift the tabletop (Fig. 42/3) on the right and unhook it from the lower guide rail (Fig. 42/7).

➔ Insert the lower part of the table leg (Fig. 42/5) into the upper table leg.

➔ Hang the tabletop in the upper guide rail (Fig. 42/1) in the raised position on the right.

➔ Set down the tabletop.

8.16 Furniture latches

Caution!

Damage to the handles

- ➔ Do not pull too hard on a handle when the respective door, flap or drawer cannot be opened.
- ➔ First unlock the drawers before opening them.
- ➔ To close the bathroom door, always hold the door handle pressed fully down.

Depending on the production series, there can be different locking systems. The drawings serve only to show the operating principle. Differences in form are possible.

8.16.1 Push-lock

Caution!

Risk of damage through cupboard or drawer contents flying around!

- ➔ Carefully lock the cabinets and drawers before starting each journey.

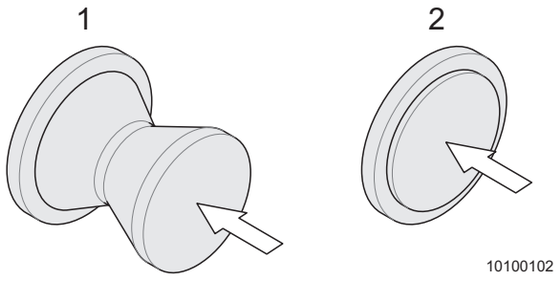


Fig. 43 Furniture lock - Push lock

1 Locking
2 Unlocking

Unlocking:

- ➔ Press the locking button (Fig. 43/1), the button springs out. The lock is unlocked.
- ➔ Open the cabinet door, flap or drawer.

Locking:

- ➔ Close the cabinet door, cabinet flap or drawer.
- ➔ Press the locking button until it engages for the first time (Fig. 43/2). The locking button remains depressed (Fig. 43/2). The lock is locked.

8.16.2 Handle lock

Caution!

Risk of damage through cupboard or drawer contents flying around!

➔ Carefully lock the cabinets and drawers before starting each journey.

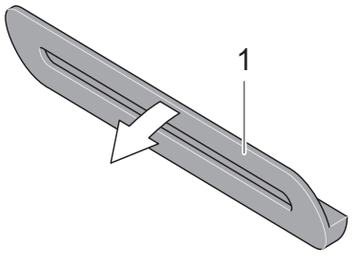


Fig. 44 Furniture lock - handle

1 Handle lock

Opening:

➔ Press the handle (Fig. 44/1) down. The lock is unlocked.

➔ Open the cabinet door, cabinet flap or drawer.

Closing:

➔ Close the cabinet door, cabinet flap or drawer until the lock latches.

8.17 Bathroom unit

Caution!

Damage to the shower door or bathroom unit

An unsecured shower door can open or close in an uncontrolled manner while driving.

➔ Before setting off, secure the shower door with the retaining strap or the sash lock.

Note!

If your vehicle is equipped with a Thetford Porta Potti toilet:

➔ Before showering, push the Porta Potti back into the cabinet and close the flap and shower cover.

8.17.1 Shower door with retaining strap

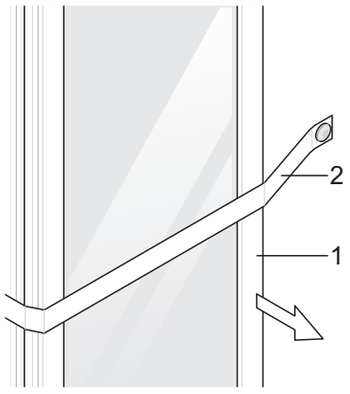


Fig. 45 Folding shower door

1 Folding door
2 Retaining strap

Closing:

➔ Before closing the shower door (Fig. 45/1), release the retaining strap (Fig. 45/2).

Opening:

➔ Open the shower door (Fig. 45/1).

➔ Secure the shower door with the retaining strap (Fig. 45/2).

8.17.2 Shower door with bolt

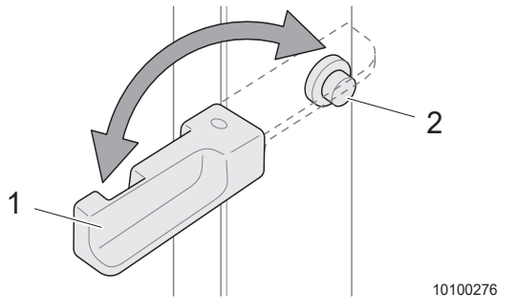


Fig. 46 Sash lock on the shower

1 Sash lock
2 Stop

Closing:

➔ Close the shower door.

➔ Turn the sash lock (Fig. 46/1) clockwise until it rests on the stop.

Opening:

➔ Turn the sash lock (Fig. 46/1) anticlockwise.

➔ Open the shower door .

8.17.3 Toilet door

Caution!

Damage to the toilet door

When the door is not closed during the journey, it can swing open in an uncontrolled manner or shut with a bang.

➔ Always close the toilet door before setting off. The door lock will click into place.

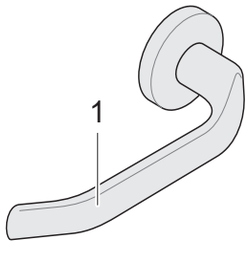


Fig. 47 Toilet door handle

1 Door handle

Closing the toilet door:

➔ Pull the door by the handle (Fig. 47/1).
The door lock is held in position by a magnet.

Opening the toilet door:

➔ Push the door handle (Fig. 47/1) down and open the door.

8.18 Room divider - sliding door

Caution!

Damage to the sliding door

Unless the door is secured it can open or close unrestricted during the journey and get damaged.

➔ Always secure the sliding door (Fig. 48/1) with the holding strap (Fig. 48/2) before starting to drive.

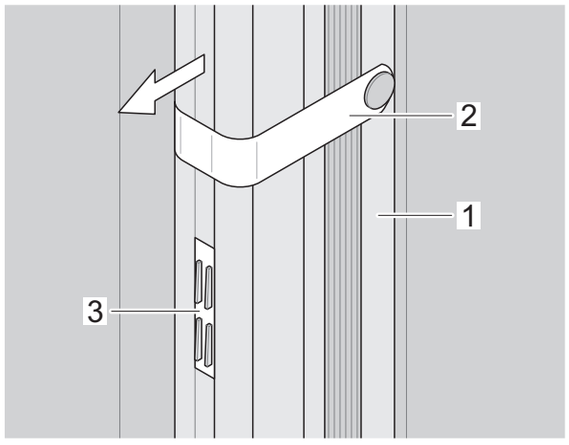


Fig. 48 Room divider - sliding door in open state

1 Sliding door
2 Retaining strap
3 Magnetic catch

Closing the sliding door:

➔ Release the holding strap (Fig. 48/2).

➔ Carefully close the sliding door (Fig. 48/1) until the magnetic catch (Fig. 48/3) catches.

Opening the sliding door:

➔ Carefully open the sliding door (Fig. 48/1) all the way.

➔ Use the retaining strap (Fig. 48/2) to secure the door.

8.19 TV equipment

The vehicle has been prepared for the installation of a TV system:

- A location on the roof is intended for the installation of a satellite dish.
- Antenna cables and sockets have already been installed.

Caution!

Risk of accident and damage to the vehicle

Failure to fully retract and secure the satellite dish may result in the satellite dish detaching when driving. This may lead to accidents or cause damage to the satellite dish and the vehicle.

➔ Before setting off, always verify that the satellite dish is completely retracted and secured.

Note!

For more information concerning the installation of TV equipment, contact your ***SUN LIVING*** dealer.

8.19.1 TV connection with 12-volt socket

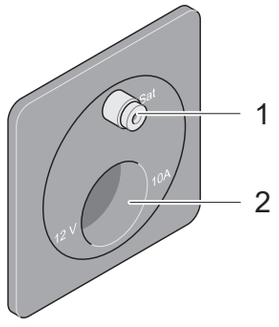


Fig. 49 TV connection with 12-volt socket

1 TV connection
2 12-volt socket

8.19.2 TV mount (optional)

Caution!

Damage to the TV set

If the TV mount is not in the initial position or not locked in this position while driving, the TV set may be damaged.

➔ Before starting your journey, slide the TV mount back to its starting position and lock it in place.

If the cables do not have enough room to move when you pull out the TV mount, the connections or cables may be damaged.

➔ When pulling out the TV mount, make sure that the cables have sufficient room to move.

Note!

Please refer to the separate operating instructions provided by the manufacturer for information on how to mount the TV set on the mounting plate.

8.19.2.1 Version 1

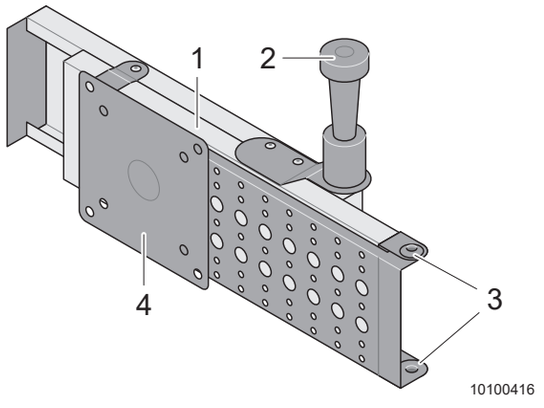


Fig. 50 TV mount – version 1

1 TV mount
2 Locking lever
3 Joint
4 Mounting plate for TV set

Release the TV mount and swivel the TV set:

➔ Pull the locking lever (Fig. 50/2) up and pull the TV set out completely.

➔ The TV set can be swivelled at the joint (Fig. 50/3) when it is fully extended.

Swing the TV set back and secure it:

➔ Swing the TV set back to its original position.

➔ Slide the TV set back until you hear the locking lever (Fig. 50/2) engage with a click.

8.19.2.2 Version 2

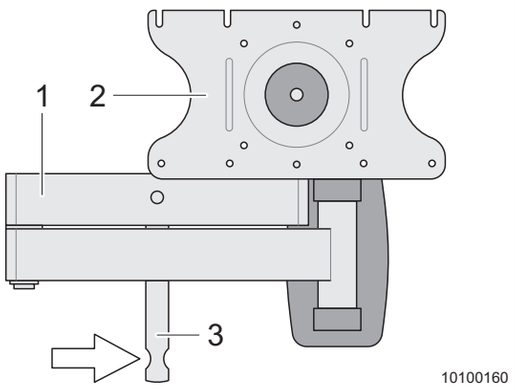


Fig. 51 TV mount – version 2

1 TV mount
2 Mounting plate for TV set
3 Locking lever

Release the TV mount and swivel the TV set:

➔ Press the locking lever (Fig. 51/3) upwards to release the TV mount and simultaneously swivel the TV set to the desired position.

Swing the TV set back and secure it:

➔ Swing the TV set back to its original position until you hear the locking lever (Fig. 51/3) engage with a click.

9 Sleeping

9.1 Beds

9.1.1 Alcove bed

Depending on the model and layout, the vehicle is equipped with an alcove bed.

Danger!

Risk of injury when falling out of the alcove bed

If the safety net is not attached or is not attached correctly, a person in the alcove bed could fall out and hurt themselves.

- ➔ Before using the alcove bed, correctly attach the safety net.
- ➔ Children are not allowed to use the alcove bed unattended.
- ➔ Make sure that children under 6 years of age cannot fall out of the bed.
- ➔ Infants must be bedded in suitable separate cots or travel cots.

Warning!

Risk of injury from unstowed ladder

While driving, the ladder can come loose and fly around. This may cause injuries.

- ➔ Stow the ladder in a safe place before starting your journey.

Warning!

Risk of injury from objects falling out

Items stored on the alcove bed may fall down during the journey and cause injuries.

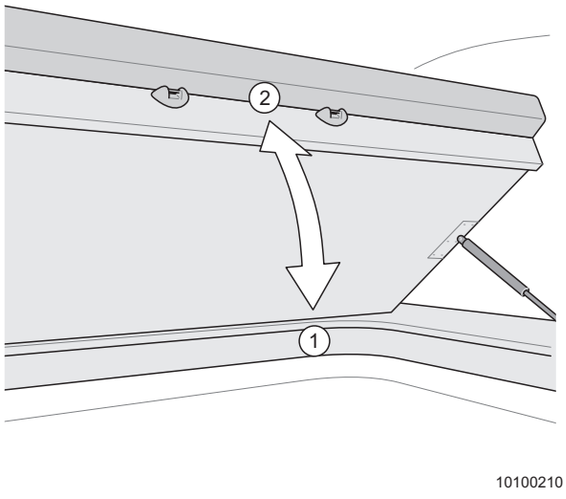
- ➔ Do not leave any items on the alcove bed while the vehicle is driving.
- ➔ The only objects that may be stored on the alcove bed while the vehicle is driving are bedding items.

Caution!

Damage to the alcove bed when folding the bed up

Items lying on the bed can damage the alcove bed when the bed is folded up.

- ➔ Remove all objects from the top of the alcove bed before folding it up.



1 Alcove bed “position down”
2 Alcove bed “position up”

Fig. 52 Foldable alcove bed

Folding up the alcove bed:

➔ Unhook the ladder.

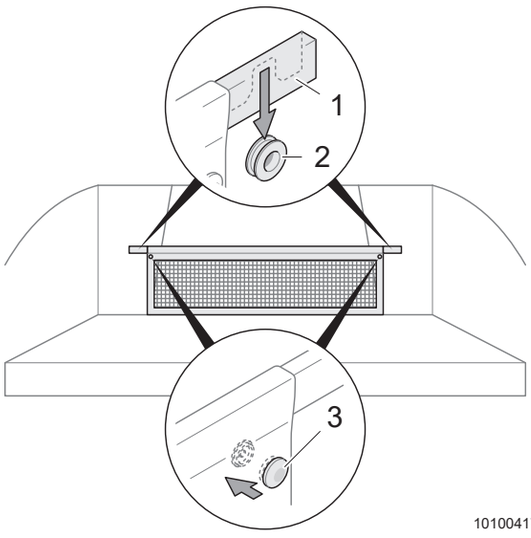
➔ Take hold of the alcove bed by the bed box and fold it up as far as it will go.
The alcove bed remains fixed in the upper position.

➔ Stow away the ladder in a safe place.

Folding down the alcove bed:

➔ Take hold of the alcove bed by the bed box and fold it down as far as it will go.
The alcove bed remains fixed in the lower position.

➔ Fasten the ladder to the alcove bed.



1 Crossbar
2 Bracket
3 Push-button

Fig. 53 Alcove bed - safety net

Attaching the safety net:

➔ Retrieve the safety net from under the mattress.

➔ Hang the crossbar (Fig. 53/1) of the safety net in the holder (Fig. 53/2) and secure it with the push button (Fig. 53/3).

The safety net is removed by following the instructions in reverse order.

9.1.2 Bunk bed

Depending on the model and layout, the vehicle is equipped with a bunk bed.

Danger!

Risk of injury due to falling out of the bunk bed

If the safety net is not attached or is not attached correctly, a person in the bunk bed could fall out and hurt themselves.

➔ Before using the upper bunk bed, correctly attach the safety net.

➔ Children are not allowed to use the bunk bed unattended.

➔ Make sure that children under 6 years of age cannot fall out of the bed.

➔ Infants must be bedded in suitable separate cots or travel cots.

➔ The maximum load of the bunk bed is 70 kg.

Warning!

Risk of injury from unstowed ladder

While driving, the ladder can come loose and fly around. This may cause injuries.

➔ Stow the ladder in a safe place before starting your journey.

Warning!

Risk of injury from objects falling out

Items stored on the bunk bed may fall down during the journey and cause injuries.

➔ Do not leave any items on the bunk bed while the vehicle is driving.

➔ The only objects that may be stored on the bunk bed while the vehicle is driving are bedding items.

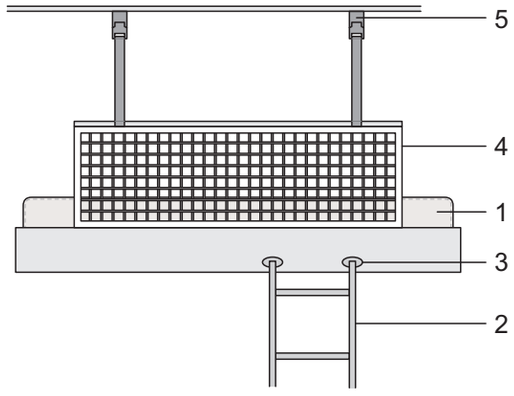


Fig. 54 Bunk bed - safety net

1 Bunk bed (upper)
2 Ladder (optional)
3 Hook-in holes on the bunk bed (optional)
4 Safety net
5 Buckle latch safety net

Using the bunk bed:

➔ Hang the ladder (Fig. 54/2) on the hook-in holes (Fig. 54/3).

➔ Use the ladder to access the upper bunk bed (Fig. 54/1).

➔ Attach the safety net (Fig. 54/4) using the buckle latches (Fig. 54/5) in the vehicle roof once you are in the top bunk bed.

9.2 Lifting bed

Danger!

Risk of injury when falling out of the lifting bed

There is a risk of injury when the lifting bed is not properly secured.

- ➔ Properly attach the safety net before using the lifting bed.
- ➔ Children are not allowed to use the lifting bed unattended.
- ➔ Make sure that children under 6 years of age cannot fall out of the bed.
- ➔ Infants must be bedded in suitable separate cots or travel cots.

Danger!

Danger of accident and injury

Improper use of the lifting bed can lead to accidents and injuries.

- ➔ Before lowering the lifting bed, check if there are persons in the danger zone.
- ➔ Before commencing travel, raise the lifting bed all the way to the top and secure.
- ➔ Do not use the lifting bed for storage of luggage during the journey.
- ➔ Place only the required bed linen on the lifting bed during the journey.
- ➔ Before using it, lower the lifting bed to its lower end position.
- ➔ Only the required bedding must be on the bed during lowering and lifting of the lifting bed.
- ➔ Do not exceed the total load of 200 kg. The maximum load indicated on the labels on the lifting bed must be observed. The maximum load specification only applies to the completely lowered lifting bed (end position).
- ➔ If not in use, store the ladder in a safe place.

Caution!

Damage to the lifting bed or the furniture

- ➔ On models with L-shaped seating area place the table in the middle to ensure that the storage compartments under the lifting bed do not collide with the table. This would damage both the table and the storage compartments.
- ➔ Distribute the weight evenly when loading the storage compartments under the lifting bed. Major differences in weight distribution (right and left) could make the lifting bed tilt to one side. This might damage the mechanism for lowering and lifting the bed.
- ➔ Before you lift the bed distribute the bedding evenly and flatly on the lifting bed. If the bedding is distributed unevenly or left in one spot the lifting bed might topple over during lifting when the heaped bedding touches the ceiling. In this case stop lifting the bed immediately. If the evenly distributed bedding is still too high, remove excess bedding and restart the lifting process.

Note!

The lowering area of the lifting bed must be free from obstacles.

Depending on the model:

➔ Fold the cab seats

➔ Remove the backseat bench headrests (see section 9.3).

➔ Remove upholstery and cushions from seating area

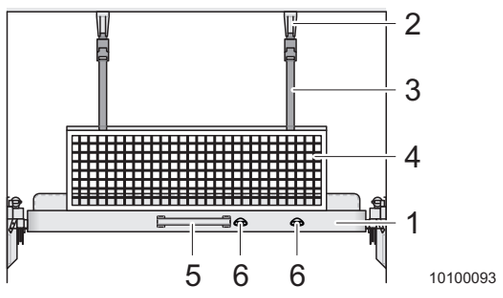


Fig. 55 Lifting bed

1 Lifting bed
2 Ceiling belt holder
3 Retaining belt
4 Anti-fall guard
5 Manoeuvring handle
6 Hook-in holes for ladder

Lowering the lifting bed:

➔ Shade the windows with privacy screens.

➔ Using both hands, push the lifting bed (Fig. 55/1) all the way down by the handle (Fig. 55/5).

– At the left and right of the bed, a curtain is automatically unfolded as view protection.

➔ Hook the ladder into the hook-in holes (Fig. 55/6) on the lifting bed.

➔ Fasten the antifall guard (Fig. 55/4) on the bed using the retaining belts (Fig. 55/3) and the ceiling belt holder (Fig. 55/2) on the ceiling.

Raising the lifting bed:

Correspondingly, the lifting bed is raised in reverse sequence.

➔ Unfasten the antifall guard (Fig. 55/4) from the ceiling.

➔ Place the bed linen flat on the bed.

➔ Remove and stow the ladder.

➔ Turn the handle (Fig. 55/5) up and push the lifting bed all the way up.

– Ensure the curtain protection is not caught in the mechanical system of the lifting bed.

9.3 Adjusting or removing the headrest

The seating area of some vehicle models is fitted with adjustable headrests.

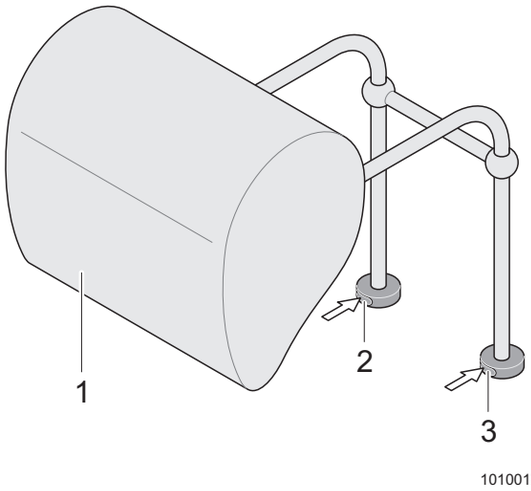


Fig. 56 Adjusting or removing the headrest

1 Head restraint
2 Catch right
3 Catch left

Adjusting height of headrest

➔ Press and hold catch on the left side (Fig. 56/3).
➔ With the other hand move the headrest (Fig. 56/1) into the desired position.
➔ To lock the headrest (Fig. 56/1), release the catch (Fig. 56/3).

Removing headrest:

➔ Press and hold catch on the right side (Fig. 56/2).
➔ With the other hand pull the headrest (Fig. 56/1) up out of the mounting.

Correspondingly, the headrest is fitted in reverse sequence.

9.4 Converting the bench seat into an extra bed

9.4.1 Converting the bench seat into an extra bed – version 1

Caution!

Damage to the table

On models with a supplementary rotating tabletop, the tabletop may be damaged when the bench seat is converted into a bed.

➔ Turn back the supplementary rotating tabletop before starting to convert the bench seat into a bed.

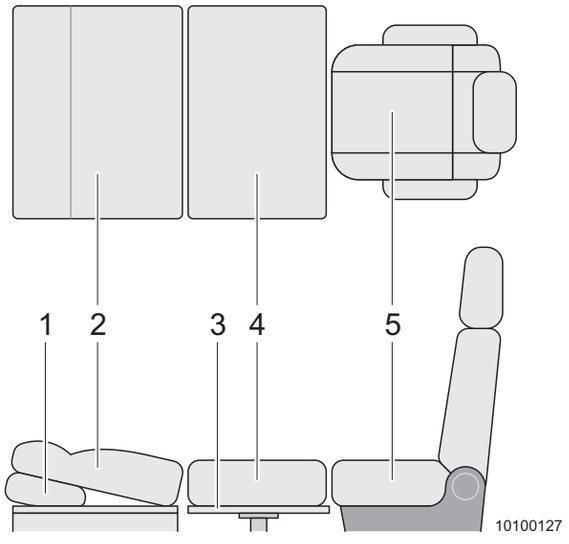


Fig. 57 Conversion into a bed – version 1

1 Headrest cushion
2 Back cushion
3 Table
4 Seat cushion
5 Driver’s seat

Rotating the driver's seat:

➔ Rotate the driver's seat (Fig. 57/5) 180° against the driving direction.

➔ Tip the driver's seat to the front so that a horizontal seat is created.

Lowering the table:

➔ Unhook the table (Fig. 57/3) (chapter 8.15.3 or 8.15.4).

➔ Pull the bottom part of the table foot off downward and stow away.

➔ Hook the table (Fig. 57/3) into the bottom attachment rail and let it rest on the rail.

Making the mattress:

➔ Place the seat cushions (Fig. 57/4) on the table.

➔ On the backrest cushion (Fig. 57/2), fold the headrest cushion (Fig. 57/1) backwards.

➔ Place the backrest cushion (Fig. 57/2) with the thicker side on the seat bench in the direction of the driver's seat.

➔ Push the driver's seat (Fig. 57/5) to the rear against the cushions.

Reconverting into a bench seat:

➔ Reconvert the bench seat in reverse sequence.

9.4.2 Converting the bench seat into an extra bed – version 2

Caution!

Damage to the table

On models with a supplementary rotating tabletop, the tabletop may be damaged when the bench seat is converted into a bed.

➔ Turn back the supplementary rotating tabletop before starting to convert the bench seat into a bed.

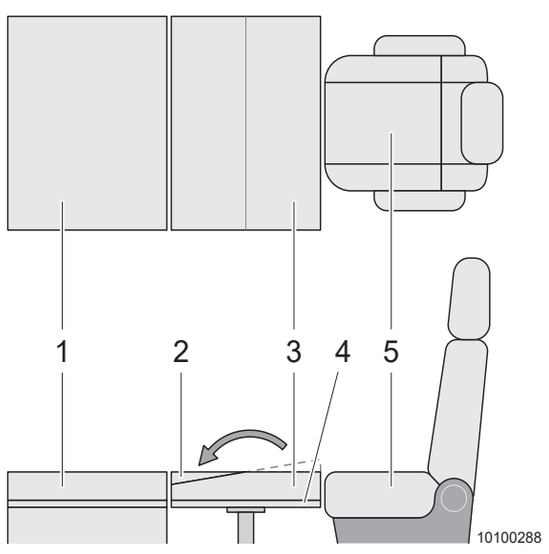


Fig. 58 Conversion into a bed – version 2

1 Seat cushion
2 Foldable part of the backrest cushion
3 Back cushion
4 Table
5 Driver's seat

Rotating the driver's seat:

➔ Rotate the driver's seat (Fig. 58/5) 180° against the driving direction.

➔ Tip the driver's seat to the front so that a horizontal seat is created.

Lowering the table:

➔ Unhook the table (Fig. 58/4) (chapter 8.15.3 or 8.15.4).

➔ Depending on the type of table base, there are two different ways to lower the table

– Pull the bottom part of the table foot off downward and stow away.

– Fold the lower part of the table base at an angle of 90°.

➔ Hinge the table into the bottom attachment rail and let it rest on the rail.

Making the mattress:

➔ Remove the back cushion (Fig. 58/3) of the bench seat and place it on the table (Fig. 58/4).

➔ Fold down the fold-down section of the backrest cushion (Fig. 58/2) to create a horizontal surface.

➔ Push the driver's seat (Fig. 58/5) to the rear against the cushions.

Reconverting into a bench seat:

➔ Reconvert the bench seat in reverse sequence.

9.5 Hammock

Danger!

Risk of injury

➔ Before starting your journey, remove and safely stow the hammock!

➔ Do not exceed the hammock's max. load capacity of 70 kg.

Depending on the model and layout the vehicles have been fitted with a hammock.

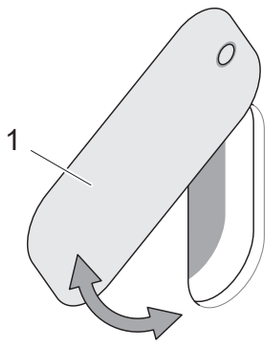


Fig. 59 Cover

1 Cover

Installing the hammock:

➔ Swing the side covers (Fig. 59/1) on the mounting openings to the side.

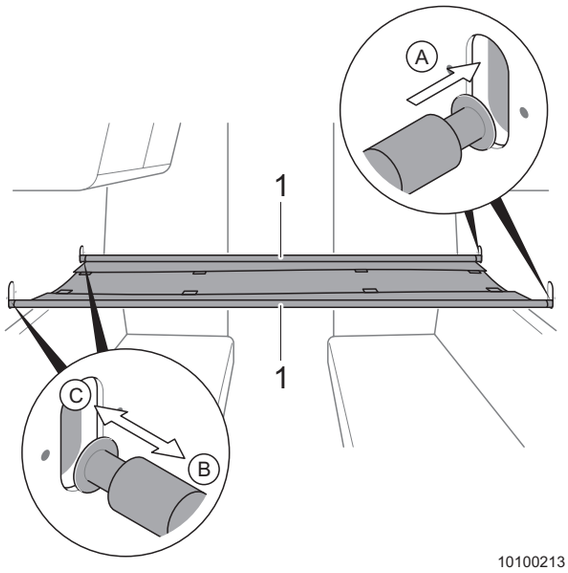


Fig. 60 Installing the hammock:

1 Support bars

Danger!

Risk of injury

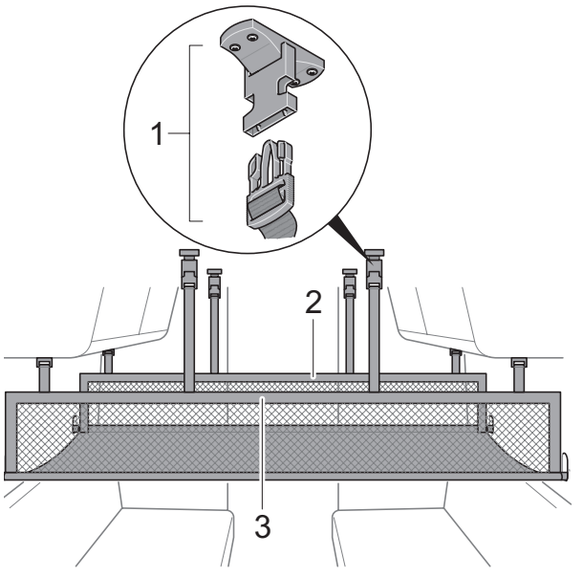
➔ The support rails must be engaged in the assembly openings on both sides.

➔ Insert both support rails (Fig. 60/1) on one side of the vehicle into the assembly openings (Fig. 60/A) and push them through.

➔ Insert both support rails on the opposite side (Fig. 60/C).

➔ Push both support rails into position (Fig. 60/B) until the locking bolts of the support rails are engaged in the assembly holes

➔ Push the support rails on both vehicle sides all the way down.



1 Lock
2 Front safety net
3 Rear safety net

Fig. 61 Attaching the safety nets

➔ Fix the front and rear safety net (Fig. 61/3) and (Fig. 61/2) with all 8 fasteners (Fig. 61/1).

To return the equipment to its original position, proceed in the reverse sequence.

9.6 Rear bed (only V 65XL)

Caution!

Damage to the left-hand seat bench

If the angle brackets (Fig. 62/4) are not folded out, the left foldable board (Fig. 63/1) will break off.

➔ Unfold the angle supports before folding down the left-hand board.

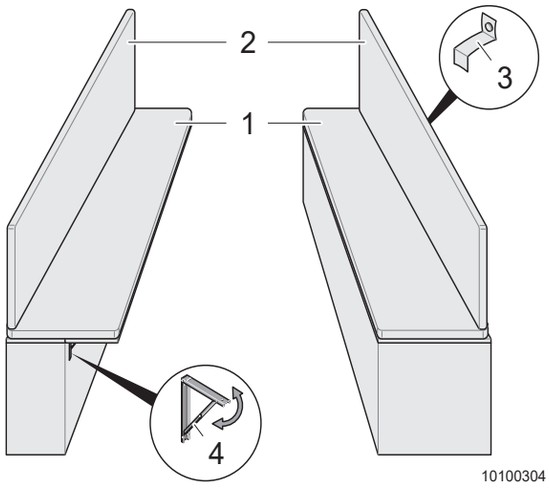


Fig. 62 Assemble rear bed 1

1 Seat cushion
2 Back cushion
3 Strap for square tubes
4 Folding angle support

Remove the cushion:

➔ Remove the seat cushions (Fig. 62/1) and back cushions (Fig. 62/2) from the seat boxes.

➔ Loosen the strap of the square tubes (Fig. 62/3) and remove the square tubes.

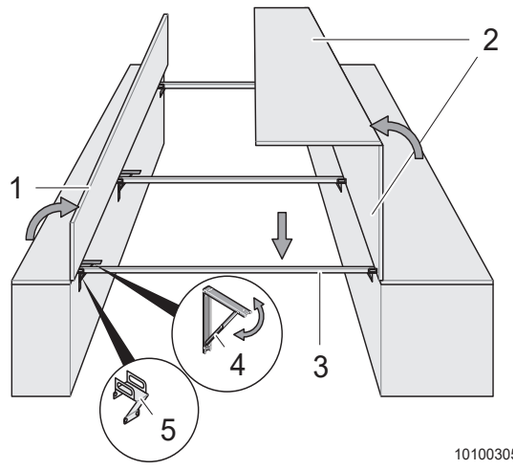


Fig. 63 Assemble rear bed 2

1 Left-hand folding board
2 Right-hand folding board
3 Square tubes
4 Folding angle support
5 Brackets for square tube

Assemble rear bed:

➔ Place the square tubes (Fig. 63/3) in the brackets (Fig. 63/5).

➔ Fold up the angle supports (Fig. 63/4).

➔ Fold down the left (Fig. 63/1) and right (Fig. 63/2) boards.

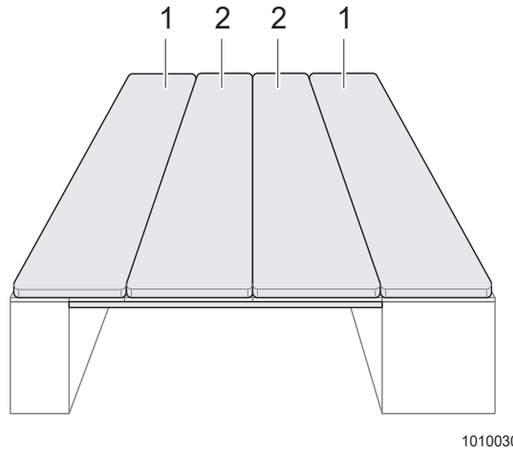


Fig. 64 Assemble rear bed 3

1 Seat cushion
2 Back cushion
3 Fastening strap

Making the mattress:

➔ Lay the seat cushions (Fig. 64/1) and back cushions (Fig. 64/2) on the boards.

Reconverting into a seat bench:

➔ Reconvert the seat bench in reverse sequence.

9.7 Height-adjustable bed in the rear (only S75 SC)

Depending on the model, it is possible to raise and lower the bed in the rear electrically. Raising and lowering the bed allows enlarging or reducing the space inside the rear garage.

Danger!

Risk of injury

Limbs can get crushed or caught when raising or lowering the bed.

- ➔ Never allow small children to remain in the bed without supervision.
- ➔ There must be no persons within the range of movement while the bed is raised or lowered.
- ➔ Never reach into the mechanism of the bed with your hands.

Caution!

Damage to the rear garage or the stowage in the rear

When lowering the height-adjustable bed, objects that are too high (such as bicycles) or objects stowed inside the rear garage can damage the rear garage.

- ➔ Remove all objects potentially obstructing the lowering process from the rear garage before lowering the bed.

Caution!

Damage to the bed or to objects lying on the bed

The height-adjustable bed or any objects lying on the bed (such as blankets or pillows) can get damaged when raising or lowering bed.

- ➔ Clear the bed's sleeping surface before raising or lowering the bed.

The button for activating the raising and lowering mechanism of the height-adjustable bed is located in the rear garage.

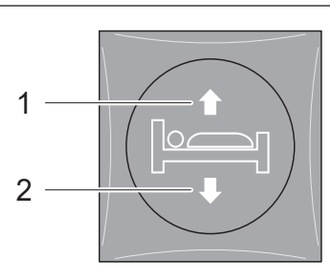


Fig. 65 Button for height-adjustable bed

1 Raise bed
2 Lower bed

Raising the bed:

- ➔ Press and hold the button (Fig. 65/1) in the upper area until the bed has reached the required position.

Lowering the bed:

- ➔ Press and hold the button (Fig. 65/2) in the lower area until the bed has reached the required position.

10 Power supply

10.1 Instructions for safe handling of electric power

Your vehicle is equipped with a 230 V circuit and a 12-V circuit (direct current).

The appliances operated on the vehicle's 12 V supply system can be operated independently of an external 230 V power supply. Appliances which can only be operated with 230 volts will only work when the vehicle is connected to an external 230-volt power supply.

Danger!

Danger from electric shock

Improper use of electrical appliances can cause serious injury or death.

- ➔ Only qualified and trained (specialised) personnel may work on the electrical system in compliance with the locally applicable standards, regulations and fire protection measures.
- ➔ Have the electrical system checked at least once a year by a specialist workshop for short circuits, corrosion and cable breaks.
- ➔ Never touch an electrical appliance when your hands or feet are wet or when you are barefooted.
- ➔ Never use an electrical appliance outdoors.
- ➔ The electrical safety of appliances is only guaranteed if the devices are plugged into a properly grounded electrical system and if they comply with the electrical safety standards.
- ➔ Damaged power supply cables must be replaced immediately. If cables or connectors are damaged, you are not allowed to use the appliance any longer.
- ➔ Never use a pressure washer or steam cleaner for cleaning work. Moisture may penetrate electrical components.
- ➔ Only start electrical appliances when they are dry.
- ➔ You are not allowed to perform any other interventions on the appliance than the cleaning and maintenance tasks described in the instruction manual of the appliance manufacturer.
- ➔ Improper maintenance and repair work voids your warranty claims.

Caution!

Risk of accident

Installed appliances which were not included in the original equipment of the vehicle and appliances used while driving (such as mobile telephones, radio sets, entertainment appliances) may impair the functional reliability of the vehicle during the journey. These appliances may trigger the airbag or interfere with the on-board electronic system.

- ➔ All electrical appliances installed after delivery of the vehicle or operated during the journey must comply with the following requirements: CE marking, EMC test (electromagnetic compatibility), ECE certification.

10.2 Power supply 230 V

10.2.1 Establishing the electrical connection between the vehicle and the power source

Caution!

Danger of overheating of the electric cable on the cable reel

If cable drums without overheating protection are not completely unwound, the electric cable may overheat and catch fire.

- ➔ Always unwind the electric cable completely from the cable drum. This prevents the electric cable from overheating and ensures maximum performance.
- ➔ Use a cable reel with integrated overheat protection.
- ➔ Use a rubber-insulated HO7 RN-F 3G 2.5 mm^2 type flexible cable or equivalent with IEC 60309 compliant connectors to connect the vehicle (electrical cable and adapter) to the 230-volt mains.
- ➔ The total length of the electric cable must not exceed max. 25 m.

Note!

Connectors and sockets do not fit in every country.

- ➔ It is possible that an adapter set is required for the country being visited.

The CEE input socket (Fig. 66/1) is located behind a hatch (Fig. 67/1) on the vehicle's left or right outer wall.

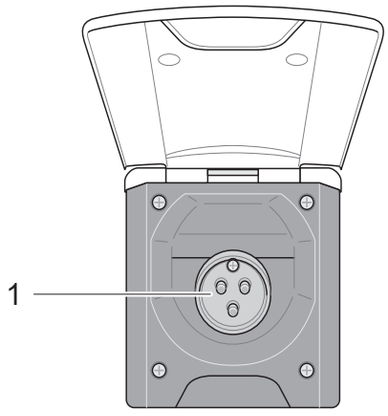


Fig. 66 CEE input socket

1 CEE input socket

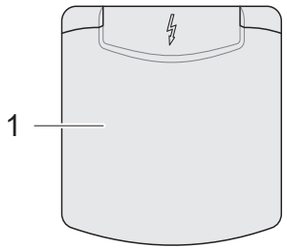


Fig. 67 CEE input socket hatch

1 CEE input socket hatch

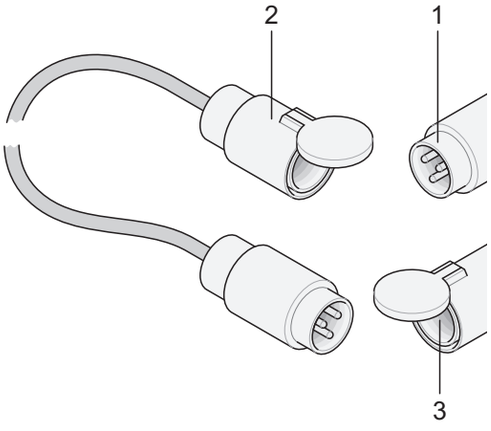


Fig. 68 230-V mains connection

1 CEE motorcar input socket
2 CEE extension cable (optional) with a minimum cross-section: 2.5 mm²
3 Power source

Connecting:

➔ When making the electrical connection, always begin on the vehicle and make the connection to the power source last.

Disconnect:

➔ When disconnecting the electrical connection, always start at the power take-off point first and disconnect the connection to the vehicle last.

10.2.2 Fuse protection of the 230-V electric circuit in the vehicle

The external 230-V power supply of the vehicle is protected with a 13-A circuit breaker. In addition to the circuit breakers, a ground-fault circuit breaker (optional) is installed in some vehicles.

The ground-fault circuit breaker protects persons against electric shock if the insulation of electrical appliances is defective.

Note!

Check the ground-fault circuit breaker for fault-free operation every month or if the vehicle is stationary for an extended period of time.

The fuse box with circuit breakers and ground-fault circuit breaker is normally installed in the wardrobe or a seat chest.

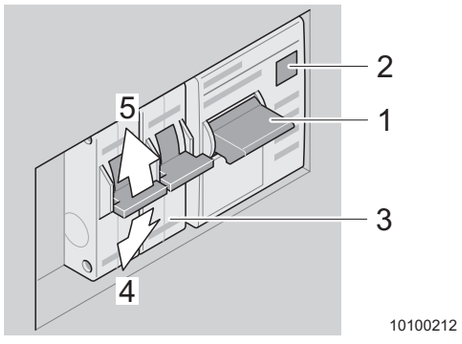


Fig. 69 230-V circuit breaker

1 Ground-fault circuit breaker
2 “Test” button of ground-fault circuit breaker
3 Circuit breakers
4 “Off” position
5 “On” position

Checking the ground-fault circuit breaker:

➔ Press the “Test” button (Fig. 69/2) of the ground-fault circuit breaker with the 230-V power supply connected.
The ground-fault circuit breaker(Fig. 69/1) triggers, the switch handle springs to the “Off” position.

➔ Switch the handle of the ground-fault circuit breaker back to the “On” position after the successful test.

Switching on the circuit breaker:

➔ To switch on the circuit breaker (Fig. 69/3) push the switch handle upward.

When the circuit breaker has triggered, wait for a short time before switching on again.

- If the circuit breaker remains on, only an overload occurred.
- If the circuit breaker immediately triggers again, this is due to a short-circuit or earth fault. Consult an authorised workshop and have the fault repaired.

Note!

➔ It makes no sense to switch the breaker on several times. The circuit breaker triggers even when you hold the switch handle.

10.3 Power supply - external generator (optional)

Caution!

Damage to vehicle electronics

Voltage fluctuations occurring during the operation of the emergency power generator may cause damage to the electrical system of the vehicle.

- ➔ Voltage fluctuations or voltage peaks must not occur.
- ➔ Only establish a connection between the generator and the vehicle when the generator is in operation and the output voltage is constant.
- ➔ Switch the generator off only after the connection between the vehicle and the generator has been disconnected.

For further information, please refer to the manufacturer's separate operating instructions.

10.4 Power supply 12 V

10.4.1 Transformer/rectifier (230-V/12-V power supply unit)

The transformer/rectifier is the central power distribution unit of your vehicle. The transformer/rectifier is used for charging the living area battery and for the power supply of the 12-V appliances. When the living area battery is fully charged, the transformer/rectifier automatically charges the starter battery of the base vehicle.

Danger!

Danger from electric shock

Improper use of the transformer/rectifier can cause serious injury or death.

- ➔ Do not carry out any maintenance or repair work on the transformer/rectifier.
- ➔ If cables or the housing of the transformer/rectifier are damaged, do not use the transformer/rectifier and disconnect it from the 230-V power supply.
- ➔ Do not allow any liquids to penetrate the device.
- ➔ The power cord must only be replaced by an approved customer service technician or a qualified person.
- ➔ Do not lay any cables underneath the transformer/rectifier due to the heat emission.

Warning!

Risk of burns

Parts of the transformer/rectifier can get hot during operation.

- ➔ Do not touch the transformer/rectifier during operation.
- ➔ Do not cover the area surrounding the transformer/rectifier.
- ➔ Do not store any objects that are sensitive to heat in the vicinity of the device (e.g. clothing that is sensitive to temperature).

Warning!

Fire hazard due to incorrect handling of the fuses

Bridged fuses or fuses with the wrong amperage can cause electrical lines to heat up or can damage the electrical system. This can cause a fire.

- ➔ Replace defective fuses only when the transformer/rectifier has been de-energised.
- ➔ Replace defective fuses only when the cause of the defect is known and has been remedied.
- ➔ Do not bridge or repair fuses.
- ➔ Use only original fuses with the values specified on the transformer/rectifier.

Caution!

Damage to the electrical system

If a newly inserted fuse blows after a short time, the electrical system may be damaged.

- ➔ Have the electrical system checked by an authorised specialist workshop as soon as possible.

Transformer/rectifier EBL 227

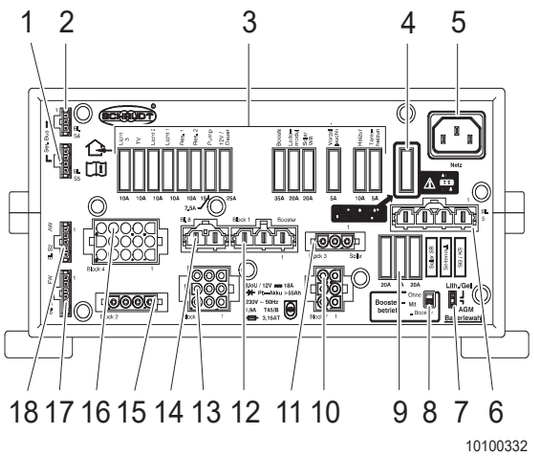


Fig. 70 Transformer/rectifier EBL 227 – front view

1 LIN bus (serial) and “Load” signal
2 LIN bus (serial)
3 Blade fuses
4 Fuse, AES refrigerator
5 Mains supply 230 V AC
6 Refrigerator and entrance step
7 Battery selector switch
8 Selector switch, connected via booster
9 Motor vehicle blade fuses for solar controller / starter battery, side marker lights or refrigerators / starter battery
10 Supply for refrigerator, pump, refrigerator control
11 Solar controller
12 Booster port
13 Supply for appliances, output side marker lights
14 12 V continuous - 25 A
15 Living area battery sensor
16 Supply for appliances
17 Waste water probe/sensor
18 Fresh water probe

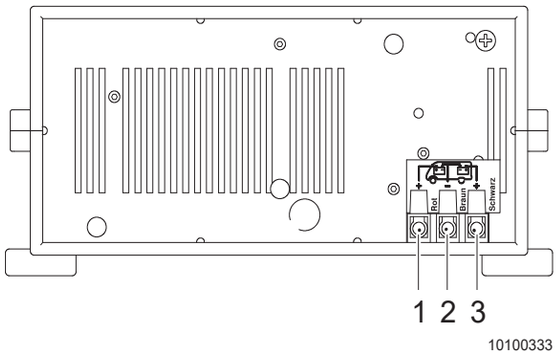


Fig. 71 Transformer/rectifier EBL 227 – rear view

1 Starter battery connection
2 Common chassis ground connection
3 Living area battery connection

Before switching on the transformer/rectifier:

Caution!

Damage to the living area battery

➔ If the battery selector switch (Fig. 70/7) is set to the wrong position, the living area battery could become damaged.

➔ If you wish to change the battery type, contact your ***SUN LIVING*** dealer.

➔ Verify that the battery selector switch (Fig. 70/7) is in the correct position.

➔ Make sure the starter battery (Fig. 71/1) and the living area battery (Fig. 71/3) are connected.

➔ If necessary, switch on the 12-volt power supply to the living area at the battery isolator switch (see 10.5).

Switching the transformer/rectifier on and off:

➔ The transformer/rectifier can be activated and deactivated using the On/Off button on the control panel (see chapter 8.11).

Vehicle blade fuses

➔ The flat blade fuses (Fig. 70/3) and (Fig. 70/9) protect the different electric circuits.

Note!

If the vehicle is connected to the external 230-volt power supply, the transformer/rectifier automatically takes over the 12-volt power supply. The voltage is converted from 230 V to 12 V.

For further information, please refer to the manufacturer's separate operating instructions.

10.4.2 Starter battery

When the vehicle is connected to the 230-V mains supply, the starter battery is charged with approx. 5 amps.

As soon as the starter battery's voltage drops below a certain level, the system will initiate a trickle charge. Once the starter battery is fully charged, the trickle charge is deactivated.

10.4.3 Living area battery

Warning!

Risk of deflagration!

Lead-acid batteries can produce electrolytic gas which may result in deflagration.

➔ It is not permitted to use lead-acid batteries as living area batteries. The installation area is not equipped for accommodation of a lead-acid battery.

➔ Only gel or AGM, or lithium batteries may be used as living area battery.

The electronic energy centre is equipped with a 70 A disconnect relay. This integrated protection disconnects the living area battery from the starter battery when the engine is switched off so that the function of the starter battery is maintained.

There are two different ways to charge the living area battery.

- Using the vehicle generator, i.e. while the engine is running.

  All major appliances such as the refrigerator, heater, water pump, etc. must be switched off. The battery should then be “fully” charged at the 230 V mains.

- By means of connecting the system to the 230-V mains.

  This charges the battery automatically. All large consumers should be switched off.

Regularly check the battery voltage on the control panel (chapter 8.11):

- If the voltage is 12 V or higher or within the green range, everything is okay.
- If the voltage is less than 12 V or in the red area, switch off all appliances immediately and charge the battery. The minimum charging time should be 24 hours or better 48 hours. Overcharging is automatically prevented by the battery charger.
- If the “Battery alarm” warning light flashes, the battery must be charged immediately for a minimum of 48 hours with the built-in automatic battery charger or a separate charger. For this purpose, the vehicle must be connected to the 230-V power supply.

  If the battery voltage has dropped below 11 V, the engine must be started for approx. 10 seconds so that the battery charger is switched on. Then charge the battery for at least 48 hours.

Note!

➔ Before and after each use of the vehicle, the battery should be charged with the charger, if possible for more than 24 hours.

➔ If you are on the way for a longer journey, the battery should be “fully” charged at least once a month via the 230 V mains.

➔ If the vehicle is not used for a longer period of time, all appliances must be switched off (pay attention to hidden appliances, for example satellite system, tank heating, boiler safety valve, etc.). The easiest way to do this is to disconnect the positive terminal directly at the battery. Charge the battery once a month with the built-in battery charger for a minimum of 24 hours.

➔ The warranty for the auxiliary battery is valid only when it is serviced properly.

For further information on charging and maintaining the batteries, please refer to the manufacturer's separate operating instructions.

10.4.4 Control panel

For further information on the control panel, please refer to chapter 8.11.

10.5 Battery disconnect switch

You can disconnect the living area battery from the electrical circuits using the battery disconnect switch. The battery disconnect switch can be used in an emergency (e.g. accident) to disconnect the living area battery from the electrical circuits.

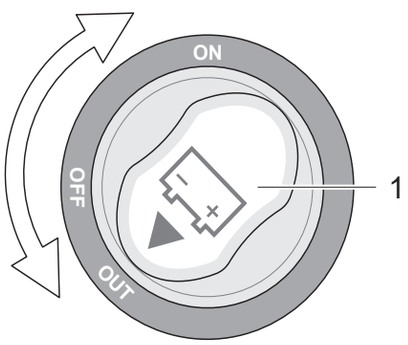


Fig. 72 Battery disconnect switch

1 Key of the battery disconnect switch

Caution!

Damage to the electrical system

Only using the battery disconnect switch to isolate the circuits may cause damage to the electrical devices.

➔ Only use the battery disconnect switch in case of emergency (e.g. accident) to disconnect the living area battery from the electrical circuits.

➔ If you want to disconnect the living area battery from the electrical circuits while the vehicle is out of service, first turn off the control panel and then use the battery disconnect switch.

Disconnecting the 12-V power supply to the living area:

➔ Turn the key of the battery disconnect switch (Fig. 72/1) to the “OFF” position.

➔ Turn the key of the battery disconnect switch to the “OUT” position to remove it.

Connecting the 12-V power supply to the living area:

➔ Insert the key of the battery disconnect switch (Fig. 72/1) and turn it to the “ON” position.

10.6 Fuses

Warning!

Risk of burns

Parts of the transformer/rectifier can get hot during operation.

➔ Replace defective fuses only when the transformer/rectifier has been de-energised and has cooled down.

Warning!

Fire hazard due to incorrect handling of the fuses

Bridged fuses or fuses with the wrong amperage can cause electrical lines to heat up or can damage the electrical system. This can cause a fire.

➔ Replace defective fuses only when the transformer/rectifier has been de-energised.

➔ Replace defective fuses only when the cause of the defect is known and has been remedied.

➔ Do not bridge or repair fuses.

➔ Use only original fuses with the values specified on the transformer/rectifier.

Caution!

Damage to the electrical system

If a newly inserted fuse blows after a short time, the electrical system may be damaged.

➔ Have the electrical system checked by an authorised specialist workshop as soon as possible.

Fuses protect the electrical system and the electrical appliances from damage by overloading and short circuits. If the amperage is too high, a fuse automatically interrupts the electric circuit.

The electric fuses are accessible at different installation locations in the vehicle.

The appliances that are connected to the 12-V supply in the living area are protected by their own fuses.

Before changing fuses, see the following table for function, value and colour of the respective fuses:

Amperage	Colour	Function	Installation location
2 A	Grey	Fuse of the living area battery	Next to the living area battery
3 A	Violet	Fuses of Thetford toilet	In the housing frame of the Thetford cassette
5 A	orange/ light brown	-	-
7.5 A	Brown	-	-
10 A	Red	-	-
15 A	Blue	-	-
20 A	Yellow	Fuse of refrigerator	Next to or in the transformer/ rectifier
50 A	Red	Fuse of 12-V power supply unit	Next to the living area battery

Tab. 4 Fuses

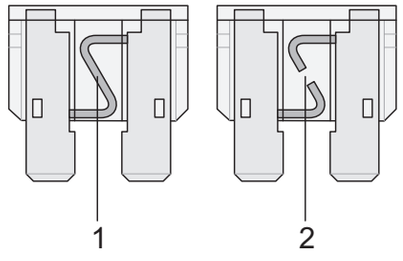


Fig. 73 12-V fuse

1 Intact fuse element
2 Interrupted fuse element

Changing the fuses:

➔ A fuse must be changed when the fuse element is interrupted.

10.7 USB charging port

Some vehicles have a USB port in the living area.

Caution!

Damage to connected USB devices

Unsuitable USB devices can be damaged when connected to the USB charging port.

➔ Only devices that are suitable for that purpose may be connected to the USB charging ports.

➔ These devices must be designed for a voltage of 5 volts.

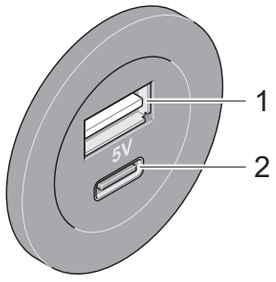


Fig. 74 USB charging port

1 USB type A
2 USB type C

USB port:

➔ Suitable devices can be connected to the USB port (Fig. 74/1 or Fig. 74/2) to charge them.

10.8 Solar system (optional)

Caution!

Damage to the solar system

- ➔ Maintenance and repair work must only be carried out by an authorised workshop.
- ➔ Clean the solar modules with a soft brush, large amounts of lukewarm water and a neutral household cleaner.
- ➔ Do not use alcohol-based cleaners (common glass cleaners). These can damage the surface of the solar modules.
- ➔ Regularly check the screwed connections and bonded joints of the solar system on the roof for tight fit and tightness.
- ➔ Regularly check cables and controls for damage. Regularly check the safe electrical connection of the plugs and contact.

The solar system allows charging the batteries of the vehicle without using a 230-V power supply. The solar system charges the batteries on sunny days and on days with less intensive solar radiation.

The solar system makes you less dependent on connecting your vehicle to a 230-V supply during your trip.

The time it takes to charge the batteries depends on the installed capacity of the solar system and the intensity of the solar radiation.

The control panel indicates the state of the charging process of the batteries (chapter 8.11).

11 Gas supply

11.1 General information about the gas system

Familiarise yourself with the safety instructions for handling gas.

For general safety instructions concerning the topic of “gas”, see chapter “2.5 Safety instructions for the gas system”.

Danger!

Poisoning by gas

If you smell gas or suspect that gas is escaping, proceed as follows:

- ➔ Clear the danger area!
- ➔ Close the shut-off valve on the gas cylinder!
- ➔ Avoid ignition sources and open flames and do not smoke!
- ➔ Provide ventilation through the rooms!
- ➔ Inform the camping site manager, and the fire brigade when necessary!

Danger!

Risk of explosion

Gas appliances are not to be operated during refuelling, in multi-storey car parks, in a garage or on a ferry.

- ➔ Close the quick-action stop valves.
- ➔ Close the gas cylinder valves.

Danger!

Risk of explosion

There is a risk of explosion with any defect in the gas system (leaks, smell of gas, excessive gas consumption).

- ➔ No smoking, no naked flames and no actuation of electrical switches (ignition, light switch, etc.).
- ➔ Close the gas shut-off valve of the gas cylinder immediately.
- ➔ Open the windows and doors.
- ➔ Have the gas system repaired by an authorised specialist workshop.
  Do not open the gas shut-off valves in the meantime.

Warning!

Danger to life

- ➔ Have repairs or modifications of the gas system performed by an authorised workshop only!
- ➔ Never modify the gas system or appliances yourself!
- ➔ Never use a lighter or other open source of light at the junctions of the gas pipes to look for leaks!
- ➔ The user may make only the connection between the pressure regulator and the gas cylinder! Any other work has to be performed by an authorised workshop!
- ➔ Gas-operated appliances may only be used for the purpose for which they are intended.

Note!

- ➔ The complete gas system in the vehicle is designed for an operating pressure of 30 mbar which is kept constant by the built-in pressure regulator.
- ➔ The gas system must be inspected again every two years and after making any modifications and repairs. Always have a gas leak test performed on this occasion. The vehicle owner is responsible for initiating the inspection. When the vehicle is handed over to the operator, she/he must be informed in writing of her/his duty to have the gas system inspected. The correct condition of the gas system is confirmed with a gas inspection certificate. The associated gas inspection sticker must be attached to the rear of the vehicle near the license plate.
- ➔ The gas regulator and the gas hose must be replaced every ten years.

- The complete gas system has been designed according to the valid technical regulations for liquefied gas equipment and burners in camping vehicles. This was examined and certified by an expert.
- All installed gas-operated appliances have safety devices. When the flame goes out, the automatic flame failure device interrupts the gas supply. In spite of this safety device, the respective quick-action stop valve must be closed if the appliance is not in operation.
- In order to ensure continuous exchange of air in the vehicle, do not cover the forced ventilation in the roof hoods and in the entrance nor the mushroom ventilators.
- In case of snowfall in winter, keep the forced ventilation free from ice and snow! (chapter 17.2)

11.2 Gas locker

Danger!

Risk of explosion or fire

If current-carrying devices or devices which can create a source of ignition are stored in the gas locker, there is a risk of explosion.

➔ Do not store current-carrying electrical devices (e.g. batteries) and/or devices which can create a source of ignition in the gas locker.

➔ Lead electrical leads of any type only through the gas locker when properly insulated, and do not fasten with clips.

Danger!

Risk of explosion or fire

If the ventilation opening at the bottom of the gas locker is covered, leaking gas cannot escape to the outside and an explosive gas-air mixture can form.

➔ Do not cover or block the ventilation opening of the gas locker.

➔ Keep the area below the ventilation opening clear (e.g. remove snow).

➔ Do not use the gas locker as a storage space.

Danger!

Risk of explosion or fire

Unauthorised persons can damage the gas connections in the gas locker. This may cause gas to escape.

➔ Always lock the gas locker.

Danger!

Risk of injury from unsecured gas cylinders

If gas cylinders are stored in the rear garage, inside the vehicle, in storage boxes or unsecured in the gas locker while driving, the gas cylinders can fly around in the vehicle. This may lead to injuries and accidents or cause damage to the vehicle and/or gas cylinders.

➔ The gas cylinders may only be kept in the gas locker.

➔ Store the gas cylinders in the gas locker in an upright position and secured firmly with the straps provided.

The gas locker is accessible from the outside. In some models, it can also be accessed from the inside.

11.3 Gas types

The gas-powered appliances can be operated with propane or butane or a mixture of these two LPG types.

The dealers offer mainly 5 kg or 11 kg gas cylinders for purchase or hiring.

Handling gas cylinders

➔ Store gas cylinders exclusively in the gas locker.

➔ Lock the gas locker securely against unauthorized access!

11.3.1 Propane gas

Propane is a colourless and odourless gas. Propane is capable of gasification down to -42 °C.

Propane is suitable for winter camping.

Propane is highly flammable, heavier than air and, in high concentrations, has a narcotising to suffocating effect.

11.3.2 Butane gas

Butane occurs in two different versions (isomers): Isobutane and n-butane.

Isobutane and n-butane are liquefied gases that are generated when crude oil is distilled.

Isobutane gasifies at -12 °C, n-butane at -0.5 °C. This means, butane is unsuitable for use in winter. Between the seasons, a mixture of butane and propane gas can also be used.

11.3.3 Information on liquefied gas

Liquid gas characteristics:

- Liquid gas has no colour.
- It smells of garlic.
- It is heavier than air and collects on the ground after escaping.
- It is combustible and can burn rapidly when it escapes uncontrolled or explode when sparks occur.
- In enclosed areas, it displaces the breathing air; risk of suffocation!

11.4 Reference values for gas consumption

The gas consumption depends on how intensively the connected appliances are used.

Appliance	Reference value	Unit
Gas heating	170 - 490	g/h
Gas cooker	100 - 400	g/h
Oven	50 - 200	g/h

Tab. 5 Reference values for gas consumption

11.5 Handling gas cylinders

Danger!

Explosion hazard due to improper handling of gas cylinders

Improper handling of gas cylinders can lead to explosions.

- ➔ Read the safety instructions on the gas cylinder!
- ➔ Operate gas cylinders only with the pressure regulator connected!
- ➔ Do not smoke in the vicinity of the gas cylinders! Any kind of open flame must be avoided! This is valid in particular when replacing gas cylinders.
- ➔ Never lubricate threads and seals on the pressure regulator with grease. Risk of explosion by chemical reactions!
- ➔ The vents in the floor of the gas locker always have to be kept uncovered.
- ➔ Use only gas cylinders provided for the camping sector!
- ➔ Never use special cylinders from other areas of application!
- ➔ Gas cylinders that are not connected must always be secured with a protective cap.
- ➔ The protective cap for the connected gas cylinder must be on board.
- ➔ Pay attention to the inspection date on the gas cylinder!
- ➔ Fill gas cylinders only by weight. This applies also for foreign countries!
- ➔ Never use city gas or natural gas!
- ➔ Never fill gas cylinders at propellant gas stations. Explosion hazard!
- ➔ If the vehicle is parked for a longer period of time, the gas cylinders may remain in the vehicle only when it is parked outdoors!
- ➔ The gas locker is designed for a maximum of two 11 kg gas cylinders.
- ➔ Keep the gas hose free from kinks or tension when connecting it to the gas cylinder.

The screw connections on the gas cylinders have left-hand threads.

The gas cylinders are not part of the delivery items of the vehicle and have to be bought and connected by the operator.

Take utmost care when handling gas cylinders.

11.6 Truma MonoControl CS

The Truma MonoControl CS is a safety gas pressure regulator with integrated CrashSensor for operation with one gas cylinder.

Danger!

Explosion hazard due to improper handling of gas cylinders

Improper handling of gas cylinders can lead to explosions.

➔ When changing gas cylinders, there is always some gas left in an “empty” gas cylinder. Therefore, the gas cylinder must be changed using utmost care.

➔ Smoking and open light or fire are forbidden when handling gas cylinders!

Danger!

Risk of explosion caused by a gas leak after changing the gas cylinders

If the gas cylinders are not connected properly, gas may leak and form an explosive gas-air mixture.

➔ Check the connections of the high-pressure hose for leaks after changing the gas cylinders.

➔ To do this, use a leak detector spray compliant with DIN EN 14291:2005-02.

Note!

Pressure regulators and hoses must be replaced within 10 years of manufacture at the very latest. The user is responsible for replacement.

Note!

With the Truma MonoControl CS gas pressure regulator, operation of a type-tested liquefied gas heater is allowed during the journey throughout Europe (EU Directive 2001/56/EC).

Use commercially available gas cylinders with 3 kg, 5 kg or 11 kg.

Store the gas cylinders in the gas locker in an upright position and firmly secure them with the straps.

Avoid kinks and tension on the high-pressure hose (Fig. 75/4) when connecting it to the cylinder.

11.6.1 Truma MonoControl CS - Putting the device into service

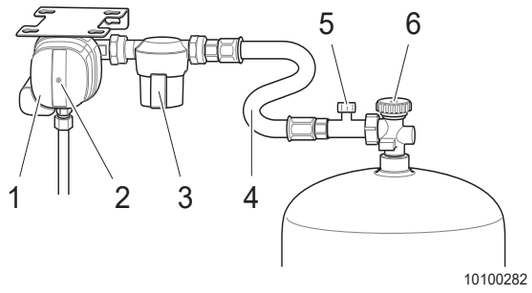


Fig. 75 Truma MonoControl CS

1 Truma MonoControl CS
2 Yellow reset button of the crash sensor
3 Gas filter (optional)
4 High-pressure hose
5 Connecting piece with hose rupture protection push button
6 Gas cylinder valve

Putting the Truma MonoControl CS into service:

➔ Connect the gas cylinder and check that the hose connection is free from any defects.

➔ Open the gas cylinder valve (Fig. 75/6).

➔ Firmly push in the hose rupture protection push button (Fig. 75/5) for approx. 5 seconds.

➔ If required, repeat the process.

➔ If the yellow reset button (Fig. 75/2) is not pushed in, reset the crash sensor (chapter 11.6.5).

The gas appliances can now be placed into service.

11.6.2 Truma MonoControl CS - Changing gas cylinders

Use the screwing tool provided for screwing the high-pressure hose on and off (Fig. 78/1).

The screwing tool ensures the required tightening torque and prevents damage to the screw connection caused by wrong tools.

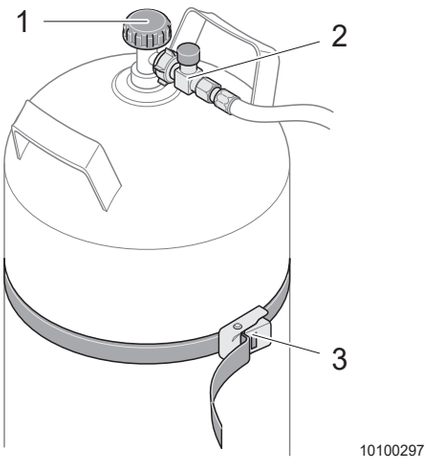


Fig. 76 Replacing a gas cylinder

1 Gas cylinder valve
2 Connecting piece with hose rupture protection push button
3 Fastening strap

Changing gas cylinders

➔ Close the gas cylinder valve (Fig. 76/1) of the empty gas cylinder.

➔ Unscrew the high-pressure hose with adapter piece (Fig. 76/2) from the gas cylinder or remove the plug-on adapter, if required.

➔ Release the fastening strap (Fig. 76/3).

➔ Replace the empty gas cylinder with a full gas cylinder.

➔ Secure the full gas cylinder with the fastening strap.

➔ Screw the high-pressure hose with adapter piece to the fully filled gas cylinder or remove the plug-on adapter, if required.

➔ Open the gas cylinder valve of the full gas cylinder.

➔ Firmly push in the hose rupture protection push-button for approx. 5 seconds (Fig. 76/2).

➔ Always check the connection to the gas cylinder for leaks after replacing gas cylinders. Use a gas leakage detector spray or a soapy solution to do this.

11.6.3 Gas filter (optional)

The gas filter (Fig. 75/3) removes aerosols (liquid droplets) from the gas flow. These aerosols are deposited in the gas pressure regulators, pipelines or valves and can damage the system.

Danger!

Risk of explosion

➔ The gas filter may only be opened when it is depressurized.

Note!

➔ Replace the filter pad of the gas filter every time the gas cylinder is changed.

Replacing the filter pad:

➔ Close the gas cylinder valve (Fig. 75/6).

➔ Unscrew the high-pressure hose (Fig. 75/5) from the gas cylinder.
The high pressure hose and the gas filter are now unpressurised.

➔ Open the gas filter and replace the filter pad.

➔ Close the gas filter.

➔ Screw the high-pressure hose to the gas cylinder.

➔ Carefully open the gas cylinder valve.

Replace the filter pad of the gas filter every time the gas cylinder is changed.

For further information, please refer to the manufacturer's separate operating instructions.

11.6.4 Truma MonoControl CS - Changing the high-pressure hose

Caution!

Risk of explosion caused by a leak after changing the high-pressure hose

➔ Check the connections of the high-pressure hose for leaks after changing the high-pressure hose.

➔ To do this, use a leak detector spray compliant with DIN EN 14291:2005-02.

Note!

➔ Also replace the rubber gasket each time you change the high-pressure hose.

If damage is visible on the high-pressure hose, it must be replaced.

Use the screwing tool provided for screwing the high-pressure hose on and off (Fig. 78/1).

The screwing tool ensures the required tightening torque and prevents damage to the screw connection caused by wrong tools.

Changing the high-pressure hose with hose rupture protection:

➔ Close the gas cylinder valve (Fig. 75/6).

➔ Unscrew the high-pressure hose (Fig. 75/4) from the gas cylinder and from the MonoControl CS (Fig. 75/1) inlet.

➔ Screw the country-specific high-pressure hose to the MonoControl CS and to the gas cylinder inlet.

➔ Open the gas cylinder valve.

➔ Press the push-button on the connecting piece with hose rupture protection (Fig. 75/5) (chapter 11.6.1).

➔ If the yellow reset button (Fig. 75/2) is not pushed in, reset the crash sensor (chapter 11.6.5).

➔ Check the hose connection at the gas cylinder valve for leaks after every intervention.

11.6.5 Resetting the crash sensor

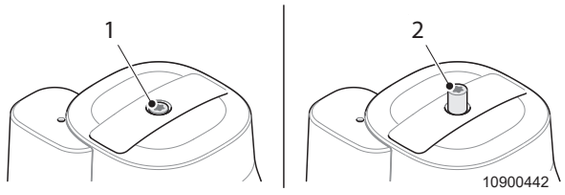


Fig. 77 Crash sensor

1 Yellow reset button - Ready for operation
2 Yellow reset button - Not ready for operation

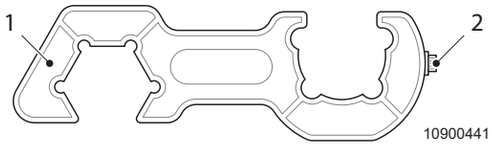


Fig. 78 Screwing tool

1 Screwing tool
2 Torx head

Resetting the crash sensor:

➔ Firmly push in the yellow reset button (Fig. 77/2), slightly turn in clockwise direction and hold it for approx. 10 seconds.

➔ Make sure that the reset button remains (Fig. 77/1) in the “Ready for operation” position.

➔ If resetting is unsuccessful, use the Torx head (Fig. 78/2) of the screwing tool (Fig. 78/1) to support the rotation in a clockwise direction.

11.7 Gas pressure regulator

The gas pressure regulator reduces the gas pressure to the nominal pressure of the connected gas devices. The gas pressure regulator consists of a low pressure regulator with an integrated safety device against overpressure and a wall bracket.

Danger!

Explosion hazard due to improper handling of gas cylinders

Improper handling of gas cylinders can lead to explosions.

➔ When changing gas cylinders, there is always some gas left in an “empty” gas cylinder. Therefore, the gas cylinder must be changed using utmost care.

➔ Smoking and open light or fire are forbidden when handling gas cylinders!

Danger!

Risk of explosion caused by a gas leak after changing the gas cylinders

If the gas cylinders are not connected properly, gas may leak and form an explosive gas-air mixture.

➔ Check the connections of the high-pressure hose for leaks after changing the gas cylinders.

➔ To do this, use a leak detector spray compliant with DIN EN 14291:2005-02.

Note!

Pressure regulators and hoses must be replaced within 10 years of manufacture at the very latest. The user is responsible for replacement.

Use commercially available gas cylinders with 3 kg, 5 kg or 11 kg.

Store the gas cylinders in the gas locker in an upright position and firmly secure them with the straps.

Avoid kinks and tension on the high-pressure hose (Fig. 79/2) when connecting it to the cylinder.

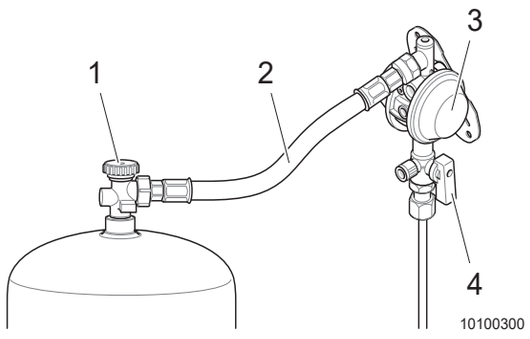


Fig. 79 Gas pressure regulator

1 Gas cylinder valve
2 High-pressure hose
3 Gas pressure regulator
4 Stop valve

Putting the gas pressure regulator into service:

➔ Open the gas cylinder valve (Fig. 79/1).

➔ Open the stop valve (Fig. 79/4).

The gas appliances can now be placed into service.

Changing gas cylinders:

The high-pressure hose must be screwed on and off the gas cylinder by hand. Do not use any tools.

➔ Close the gas cylinder valve (Fig. 79/1) of the empty gas cylinder.

➔ Unscrew the high-pressure hose with adapter piece (Fig. 79/2) from the gas cylinder or remove the plug-on adapter, if required.

➔ Release the fastening strap (Fig. 76/3).

➔ Replace the empty gas cylinder with a full gas cylinder.

➔ Secure the full gas cylinder with the fastening strap.

➔ Screw the high-pressure hose to the fully filled gas cylinder or put on the plug-on adapter, if required.

➔ Open the gas cylinder valve of the full gas cylinder.

➔ Always check the connection to the gas cylinder for leaks after replacing gas cylinders. Use a gas leakage detector spray or a soapy solution to do this.

11.8 Quick-action stop valves

Note!

➔ If the gas appliance is not used, the respective quick-action stop valve must be closed.

The gas distribution to the individual gas appliances is performed via the gas quick-action stop valves.

11.8.1 Quick-action stop valves for heater, gas cooker and oven

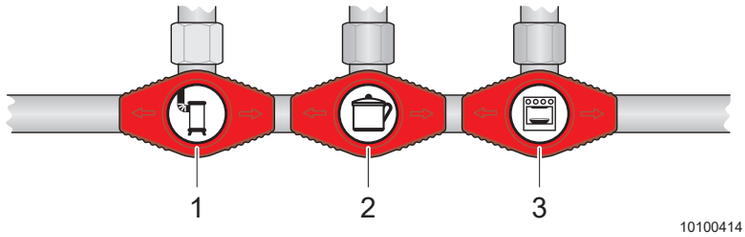


Fig. 80 Quick-action stop valves for heater, gas cooker and oven

1 Heating
2 Gas cooker
3 Oven

Each gas appliance has its own quick-action stop valve.
These are marked with suitable symbols to prevent mistakes:

- Heater (Fig. 80/1)
- Gas cooker (Fig. 80/2)
- Oven (Fig. 80/3)

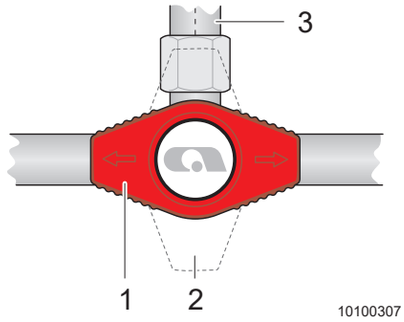


Fig. 81 Quick-action stop valves - positions

1 Closed
2 Open
3 Gas pipe to the gas appliance

Using the gas appliances:

➔ Open the respective quick-action stop valve to put the desired gas appliance into service.

– Quick-action stop valve closed (Fig. 81/1): The arrows on the quick-action stop valve are perpendicular to the gas pipe leading to the gas appliance (Fig. 81/3).

– Quick-action stop valve open (Fig. 81/2): The arrows on the quick-action stop valve are positioned in the direction of the gas pipe to the gas appliance (Fig. 81/3).

12 Water supply and waste water

12.1 Water system

The water system in your vehicle is made up of a fresh water system and a waste water system.

The water supply corresponds at least with the state of the art of 03/2009 (Directive 2002/72/EC).

Warning!

Health hazard

Formation of bacteria and algae in the fresh water tank.

- ➔ Regularly change the water including the boiler contents (e.g. twice a week).
- ➔ After the end of every journey or after 4 weeks at the latest, the fresh water tank must be drained, cleaned thoroughly and left open (for venting).
- ➔ Thoroughly clean the hoses after the end of each journey.
- ➔ Use a sterilisation agent for the fresh water tank.
- ➔ Only user water with drinking quality to fill the fresh water tank.

Caution!

Damage to the water pump

The water pump can overheat when running without water and can be damaged.

- ➔ Never operate the water pump when the fresh water tank is empty!

Caution!

Damage to the environment

- ➔ Never drain tanks (fresh water and waste water) into the open countryside!
- ➔ Empty the tanks only at petrol stations, rest and service areas, disposal sites or camping sites which provide appropriate facilities to dispose of the water.

Caution!

Damage due to frost

The water system can be damaged by freezing water.

- ➔ The entire water system should be completely drained if you intend not to use it for a longer time, especially before the vehicle is laid up for the winter.
- ➔ If there is a risk of frost, drain the entire water system completely or heat the vehicle.
- ➔ When the vehicle is not used for an extended period of time or is not heated when there is a risk of frost, fully drain, clean and dry the water system (see 12.2.5 and 12.3.2). Leave all water taps, all drain cocks as well as all drain valves open.

By default, the vehicle is equipped with a fresh water tank. When a water tap is opened, the installed water pump is switched on provided that the water pump is activated on the control panel.

We recommend checking the water system's piping for leaks every 6 months and tightening the clamps as well as the connectors.

12.2 Fresh water system

12.2.1 Fresh water tank

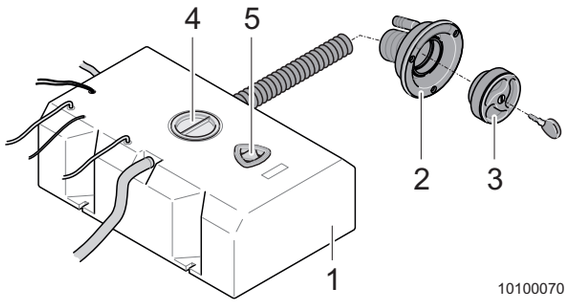


Fig. 82 Filling the fresh water tank - external

1 Fresh water tank
2 Filler neck
3 Lockable cap
4 Service cover
5 Water regulation hand wheel (optional, location depends on the model and fittings)

Using the fresh water tank:

➔ Thoroughly clean the fresh water tank before each journey.

➔ If possible, fill the fresh water tank only just before staying overnight or at the destination of the journey.

➔ Avoid additional weight.

➔ Only fill the fresh water tank with drinking water.

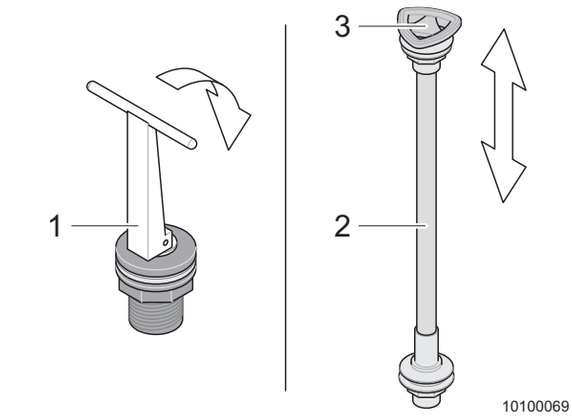


Fig. 83 Emptying the fresh water tank - Systems

1 Quick release fastener
2 Water regulation system
3 Hand wheel

Some models are fitted with a water regulation system (optional) (Fig. 83/2). A hand wheel (Fig. 83/3 and Fig. 82/5) at the top of the fresh water tank can be used to adjust and drain the water.

➔ Turning the hand wheel clockwise will close the system. The entire filling capacity of the tank is available.

➔ Turn the hand wheel anticlockwise until you feel a slight resistance to reduce the water level to about 20 l (excess water is drained).

12.2.2 Filling the fresh water tank

Filling the fresh water tank (external):

➔ Deactivate the water pump on the control panel (chapter 8.11).

➔ Close the Truma FrostControl (chapter 13.4).

➔ Close the drain valve on the fresh water tank. Depending on the installed system, proceed as follows to do this:

– Either open the service cover (Fig. 82/4). Then, push the quick release fastener (Fig. 83/1) into the drain valve and fold the handle.

– Or turn the hand wheel of the regulation system (Fig. 83/3 and Fig. 82/5) clockwise until you hit the stop.

➔ Close the service cover (Fig. 82/4).

➔ Unlock and open the lockable cap (Fig. 82/3) on the filler neck (Fig. 82/2).

➔ Use a jerrycan, watering can or hose to fill drinking water into the fresh water tank.

➔ Replace the lockable cap, let it latch and lock it.

12.2.3 Taps

The amount of water is adjusted by raising and lowering the lever. The water temperature is adjusted by swivelling the lever to the left or right.

The switch on the shower head is disabled until the water pump is switched on on the control panel.

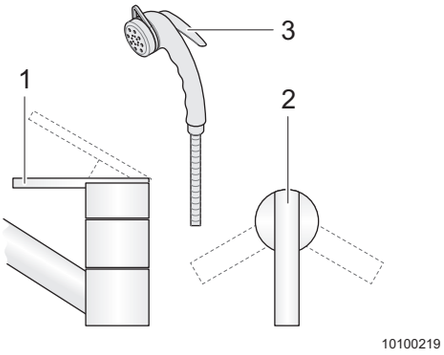


Fig. 84 Tap

1 Lever (raising/lowering)
2 Lever (swivelling)
3 On/Off

Operating the tap:

➔ Press the lever (Fig. 84/3) at the shower head down to turn on the water pump.
The water starts running.

➔ Set the desired amount of water by raising or lowering the lever (Fig. 84/1) on the tap.

➔ Swing the lever (Fig. 84/2) to set the required temperature.

– Moving the lever towards the red marking: the water gets warmer.

– Moving the lever towards “blue”: the water gets colder (minimum ambient temperature of the water tank).

➔ Release the lever (Fig. 84/3) on the shower head to stop the water.

➔ Press the lever (Fig. 84/2) on the tap all the way down.

12.2.4 Filling the fresh water system

Filling the fresh water system:

➔ Fill the fresh water tank (chapter 12.2.2).

➔ Activate the water pump on the control panel (chapter 8.11).

Filling the hot water pipes with water:

➔ Open all taps and shower heads in the “hot” position.

➔ Open all taps and shower heads until there are no more bubbles in the water flowing from the fittings.

Filling the cold water pipes with water:

➔ Open all taps and shower heads in the “cold” position.

➔ Open all taps and shower heads until there are no more bubbles in the water flowing from the fittings.

➔ Close all taps.

12.2.5 Emptying the fresh water system

Caution!

Damage due to frost

If the vehicle is not heated when there is a risk of frost or when it is not used for a longer period of time, the formation of ice can cause damage to the components of the water system and waste water system.

➔ Fully drain the entire water system, clean it and allow it to dry. Leave the water taps and drain cocks as well as all drain valves open.

Note!

➔ We recommend that you change the water in the fresh water tank regularly (e.g. weekly) even if the tank is completely filled, as bacteria will form inside the fresh water within only a few days and render the water undrinkable.

Emptying the fresh water system:

➔ Deactivate the water pump on the control panel (chapter 8.11).

➔ Open all taps and shower heads to the centre position.

➔ Open the drain valve at the bottom of the tank. Depending on the installed system, proceed as follows to do this:

– Either open the service cover (Fig. 82/4), fold down the handle on the plug in the tank (Fig. 83/1) and pull out the plug.

– Or turn the hand wheel of the regulation system (Fig. 83/3 or Fig. 82/5) anticlockwise until you hit the stop.

➔ Open the Truma Frost Control of the hot water boiler (chapter 13.4).

➔ Completely empty the entire water system.

➔ Rinse and clean the fresh water tank and allow it to dry.

➔ For vehicles with a pressure pump: Briefly switch off the water pump to remove the remaining water.

➔ Leave all water taps open in the centre position until the vehicle is put into service again. Only switch on the water pump after refilling the tank with water.

12.2.6 Cleaning the fresh water tank

Cleaning the fresh water tank:

➔ Drain the fresh water system (chapter 12.2.5).

➔ Clean the inside of the tank.

➔ Close the plug in the tank bottom, and the service cover when necessary.

12.3 Waste water system

Caution!

Damage due to frost

If the vehicle is not heated when there is a risk of frost or when it is not used for a longer period of time, the formation of ice can cause damage to the components of the water system and waste water system.

➔ Fully drain the entire water system, clean it and allow it to dry. Leave the water taps and drain cocks as well as all drain valves open.

Note!

➔ Before moving off close the drain of the shower tray to prevent waste water from running back into the shower tray through the drain.

12.3.1 Waste water tank

The waste water that is collected from the kitchen sink, the shower and the washbasin in the bathroom is collected centrally in the waste water tank.

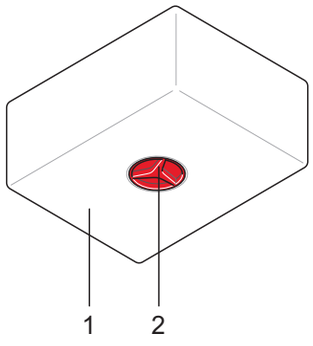


Fig. 85 Waste water tank, fixed

1 Waste water tank
2 Screw opening

The waste water tank is located on the underside of the vehicle. For thorough cleaning, the waste water tank of most models has a screw opening that is accessible from below. Stubborn soiling can thus be eliminated.

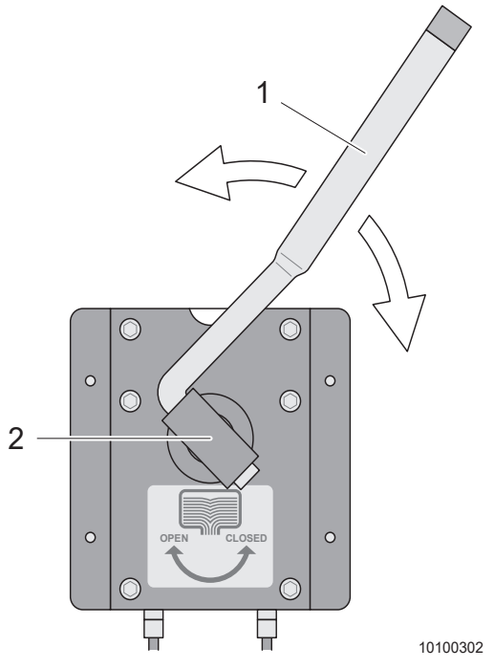
12.3.2 Emptying the waste water system

Note!

Only empty the waste water tank at specially designated disposal facilities. Observe town and district regulations and ask about disposal facilities.

12.3.2.1 Drain valve, waste water tank

The drain pipe is located on the underside of the vehicle. The operating lever and the drain valve are located behind the outer access door for the waste-holding tank.



1 Drain valve operating lever
2 Fitting for inserting the operating lever

Fig. 86 Emptying the waste water tank

Draining the waste water tank:

➔ Position the vehicle over the drainage point so that the waste water from the waste water pipe can flow into a gully.
➔ Open the service hatch.
➔ Insert the operating lever (Fig. 86/1) into the fitting (Fig. 86/2).
➔ Turn the lever to the OPEN position.
➔ When the waste water tank is empty, turn the operating lever to the CLOSED position.
➔ Remove the operating lever from the fitting and attach it to the bracket.
➔ Drain the waste-holding tank.

12.3.2.2 Electrically operated drain valve for the waste water tank (optional)

The drain pipe is located on the underside of the vehicle. The switch for the electrically operated drain valve of the waste water tank is located inside the rear garage.

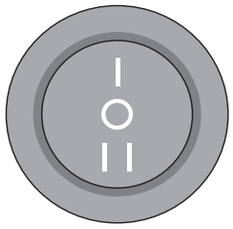


Fig. 87 Switch Drain valve

I	Closing the drain valve
O	Neutral position - no strain on the drain valve
II	Opening the drain valve

Draining the waste water tank:

- ➔ Position the vehicle over the drainage point so that the waste water from the waste water pipe can flow into a gully.
- ➔ Turn the switch (Fig. 87) of the drain valve to position II.
- ➔ After a few seconds, the drain valve will open.
- ➔ Once the tank is empty, turn the drain valve switch to position I.
- ➔ The drain valve will close after a few seconds.
- ➔ Turn the drain valve switch to position O.

Note!

The drain valve stops automatically upon reaching the open or closed end position.

Keeping the switch in position I or II longer than the opening or closing process will not damage the drain valve.

12.3.3 Waste water tank heater (optional)

Some models have an optional waste water tank heater. In this case, the waste water tank is insulated and heated with warm air.

12.3.3.1 Circulating air waste water tank heater

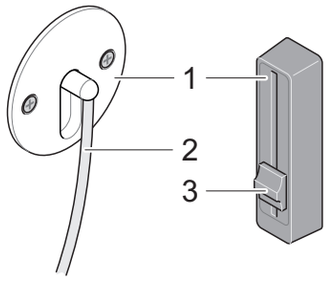


Fig. 88 Waste water tank heater controls

1 Control
2 Pull switch
3 Slide control

Operating the waste water tank heater:

Waste water tank heater with pull switch

➔ Switching on: Pull the pull switch cord downwards.
➔ Switching off: Pull the pull switch cord downwards again.

Waste water tank heater with slide control

➔ Switching on: Push the slider up.
➔ Switching off: Push the slider down.

The installation position of the circulating air waste water tank heater depends on the model.

12.3.3.2 Circulating air waste water tank heater (Alde)

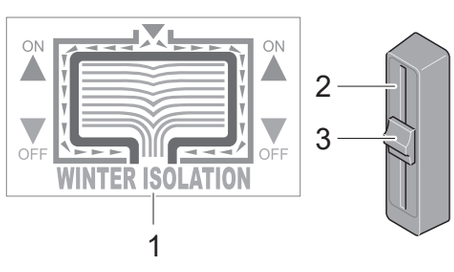


Fig. 89 Circulating air waste water tank heater

1 Label
2 Controller housing
3 Slide control

Operating the waste water tank heater:

➔ Switching on: Move the slide control (Fig. 89/2) upwards (red arrow).
➔ Switching off: Move the slide control downwards (blue arrow).

The installation position of the circulating air waste water tank heater depends on the model.

13 Heating, hot water & air conditioning

13.1 Notes on the heaters

Danger!

Risk of explosion

There is a risk of explosion when using gas-powered or fuel-powered appliances when refuelling the vehicle, in multi-storey car parks, in garages and on ferries.

- ➔ Switch off all gas-powered and fuel-powered appliances using the control panel before refuelling the vehicle and when entering multi-storey car parks, garages or ferries.
- ➔ Make sure that the gas- or fuel-powered appliances cannot be switched on by a remote control (e.g. Truma App).
- ➔ Never allow gas to escape unburned.

Danger!

Risk of poisoning from exhaust gases

The heater's exhaust gases can cause poising.

- ➔ Before starting the heater, verify that the cowl is not obstructed. Remove ice, snow, leaves or any other objects clogging the cowl.
- ➔ Check the exhaust gas pipe for damage before switching the heating on. Do not use the heater when the exhaust gas pipe is damaged.
- ➔ Do not close off or cover the exhaust cowl.
- ➔ When camping during winter, use a cowl extension. The exhaust cowl must not be covered with snow.
- ➔ When the vehicle is parked in enclosed spaces:
  - Shut off the fuel supply of the heater.
  - Disable the timer.
  - Switch off the heater on the control unit or the control panel.
  - Make sure that the heater cannot be reactivated remotely (e.g. using the Truma app).
- ➔ Do not use the space behind the heating for storage.

Danger!

Risk of poisoning when the exhaust cowl is on the right side of the vehicle

When the awning is mounted and the heater runs on liquefied gas or petrol, exhaust gases of the heater can accumulate under the awning. There is a risk of poisoning due to a lack of oxygen and the odourless and toxic carbon monoxide (CO) which may be produced in the combustion process.

- ➔ Ensure adequate ventilation!

Danger!

Risk of fire due to objects sensitive to heat

Objects sensitive to heat (e.g. spray cans, candles), flammable materials, liquids, gaseous substances or vapours can be ignited by the heat of the heater.

- ➔ Do not store or use any objects sensitive to heat or flammable materials, liquids, gaseous substances or vapours near the heater, in the installation space of the heater, or in the heater itself.
- ➔ Do not store or use objects sensitive to heat or flammable materials, liquids, gaseous substances or vapours near the hot air distribution system.

Danger!

Risk of fire due to flammable liquids

Contact of flammable liquids with hot parts of the heater (heating elements, heat exchanger) can cause a fire.

- ➔ Do not place flammable liquids (bottles, glasses) on or above the heater.
- ➔ Do not store flammable liquids in or above the installation space of the heater.

Danger!

Risk of fire due to flammable liquids

Contact of flammable liquids with hot parts of the heater (heating elements, heat exchanger) can cause a fire.

- ➔ Do not place flammable liquids (bottles, glasses) on or above the heater.
- ➔ Do not store flammable liquids in or above the installation space of the heater.

Danger!

Risk of fire due to overheating

If the hot air outlets or the recirculating air intake of the heater are blocked, the heater may overheat and cause a fire.

- ➔ Keep the hot air outlets of the heater free.
- ➔ Keep the recirculating air intake of the heater free.
- ➔ Do not hang textiles or similar to dry in front of or on the heater.

Danger!

Electric shock due to liquids

If liquids penetrate the control system of the heater, short circuits may occur.

- ➔ Do not place liquids (bottles, glasses) on or above the heater.

Danger!

Electric shock due to damaged power cables

Damaged power cables can cause electric shock.

➔ Switch off the 230-volt power supply, e.g., by switching off the fuse, the residual-current circuit breaker or by disconnecting the vehicle from the 230-volt power supply.

➔ Have the damaged power cable replaced by competent and trained personnel (specialised personnel).

Danger!

Risk of burns by hot surfaces

The surfaces of the heater, the hot air outlet and the chimney become very hot, which can cause burns.

➔ Do not touch the heater while it is running.

➔ Do not touch the area around the cowl.

➔ Only operate the heater with the panelling in place.

➔ Do not touch the panelling of the heater during heating.

➔ Do not allow small children to remain in the vehicle without supervision.

➔ Do not lean any objects against the exhaust air duct in the wall or against the vehicle.

Caution!

Damage to heating

Improper handling can damage the heating system.

➔ Only specialised personnel may install or repair heaters or carry out functional tests.

➔ Do not cover hot air outlets that cannot be closed.

If the recirculating air intake is blocked, the heater may overheat.

➔ Do not block the openings of the recirculating air intake and the installation space of the heater.

➔ Do not store any objects in the installation space of the heater.

Products containing chlorine can damage the device.

➔ Do not use products containing chlorine on or in the unit.

13.1.1 Gas and diesel operated heaters

Observe the instructions if your vehicle is equipped with one of the following gas or diesel-powered heaters:

- Truma Combi
- Alde Compact

Note!

➔ Please pay attention to the safety notices on the gas system (see chapter 2.5 and 11) and on the power supply (see chapter 10).

Danger!

Risk of poisoning from exhaust gases

Ventilation devices or exhaust openings become blocked or damaged can lead to a lethal concentration of gas in the vehicle.

- ➔ Do not block the ventilation devices or exhaust openings.
- ➔ Clean the ventilation devices and exhaust openings regularly.
- ➔ Check the integrity and firm connection of the chimney regularly.
- ➔ If there is a roof window or a roof hood near the chimney, exhaust gases can enter the interior of the vehicle through it and may lead to a lethal concentration of gas in the vehicle.
- ➔ Only operate the heater with the roof window or roof hood closed.
- ➔ When parking in enclosed spaces (e.g. garages, workshops, awnings), exhaust gases can enter the interior of the vehicle when the heater is running. This can lead to a fatal concentration of gas in the vehicle.
- ➔ Switch off the heater when parking in enclosed spaces.
- ➔ A misfire can cause a deflagration. This can damage the heater and cause it to leak, and exhaust gases can enter the interior of the vehicle. This can lead to a fatal concentration of gas in the vehicle.
- ➔ Do not restart the heater after a deflagration.
- ➔ Have the heating and exhaust gas routing checked by specialised personnel.
- ➔ An explosive gas-air mixture can result from unburnt gas escaping.
- ➔ Do not allow gas to escape unburned.
- ➔ If a gas-operated heater is not used for an extended period of time, close the quick shut-off valve of the heater and the valve on the gas cylinder.

Danger!

Risk of explosion or fire

There is a risk of explosion when using gas-powered or fuel-powered heaters when refuelling the vehicle, in multi-storey car parks, in garages and on ferries.

- ➔ Switch off the heater on the control unit or the control panel.
- ➔ Make sure that the heater cannot be reactivated remotely (e.g. using the Truma app).
- ➔ Use of a heater damaged by liquid ingress (e.g. by drinks, floods, leaks) or by an accident may result in a fire or explosion.
- ➔ Do not switch a damaged heater on.
- ➔ Have a damaged heater repaired or replaced by specialised personnel.
- ➔ Heaters that draw in air for combustion underneath the vehicle can draw in flammable substances (e.g. hay, leaves, textiles), which can then ignite.
- ➔ Keep the combustion air intake area free of flammable substances.

Danger!

Risk of accident and injury due to defective flue cover

A flue cover that is not tight, not engaged or defective can come loose while driving, causing accidents and serious injuries.

- ➔ Before setting off, make sure that the flue cover is firmly seated and engaged.
- ➔ Do not use an defective chimney cap.

Danger!

Health impairment due to heated drinking water

Heated drinking water can affect health.

- ➔ Do not drink heated water or use it for cooking.

Caution!

Damage to heating

A chimney or combustion air inlet blocked by water, slush, ice, dirt or insects can disrupt the function of the heater.

- ➔ Keep the chimney and the combustion air inlet free from blockages.
- ➔ Before starting the heater, clear the chimney and the combustion air intake under the vehicle of snow.

Caution!

Damage to the heater due to excessive water pressure

A water pressure of more than 2.8 bar can damage the water tank of the heater.

- ➔ If the vehicle is connected to a city water connection or a Truma Ultraflow, make sure that a pressure reducer is fitted that limits the water pressure to 2.8 bar.

Caution!

Damage to the hot water boiler due to freezing water

The hot water boiler can be damaged by freezing water.

- ➔ If you intend not to use the hot water boiler for a longer period of time, especially before the vehicle is laid up for the winter, drain the hot water boiler completely via the drain valve.
- ➔ The entire water system should be completely drained if you intend not to use it for a longer time, especially before the vehicle is laid up for the winter.
- ➔ If there is a risk of frost, drain the entire water system completely or heat the vehicle.

13.2 Truma Combi

Depending on the model, the Truma Combi heater in your vehicle is either run on liquefied gas or on diesel fuel. Aside from using a gas- and diesel-powered heater, there is also the option to operate the heating electrically via a 230-V supply. The heaters can heat both the living area and the drinking water.

All Truma Combi heaters are hot-air heaters with integrated hot water boiler. They can also be operated while driving.

- The Truma Combi is powered by liquefied gas.
- The Truma Combi D is powered by diesel fuel.
- For models with the additional Truma Combi electric mode, there are three options for selecting the type of energy:
  - Only liquefied gas or diesel fuel for independent operation
  - Electricity only (230 V) for stationary operation at a camping site
  - Liquefied gas or diesel fuel and electrical supply at the same time (only possible in winter mode)

13.2.1 Using the heater

Note!

The mode of operation of the Truma Combi and the Truma Combi E or Truma Combi D is almost identical.

When new heaters are used for the first time, there is a slight build-up of smoke. This is normal.

➔ In this case, allow the heater to run at maximum capacity, switch on the circulation fan and open the air vents. Open the windows and the doors of the vehicle to ensure proper ventilation of the motorhome during this process.

When operating the diesel-powered Truma Combi heating systems for the first time or if the tank ran empty, multiple startups of the heater are generally required to fill the fuel lines.

For further information, please refer to the manufacturer's separate operating instructions.

Note!

Heating is always possible in all operating modes (gas, diesel, electric and mixed operation) with a filled or an empty hot water boiler.

Note!

➔ The heater can be run with liquefied gas while travelling if the gas supply is fitted with a Truma Mono-Control CS. Before starting the journey, obtain information concerning any special provisions applicable in the country to be visited.

➔ Please pay attention to the safety notices on the gas system (see chapter 2.5 and 11) and on the power supply (see chapter 10).

Note!

- ➔ After 30 years at the latest, the operator of the heater must have the heat exchanger of the Truma heater replaced. The heat exchanger may only be replaced by the heater manufacturer or an authorised specialist workshop.
- ➔ Spare parts for heaters must always be approved by the manufacturer as spare parts.

Check the following each time before using the heater:

For gas operation (Truma Combi):

- ➔ Is the exhaust cowl unobstructed?
  Otherwise remove the cover from the exhaust cowl.
- ➔ Is the valve on the gas cylinder open?
- ➔ Is the “Heater” quick-action stop valve on the distributor block open?

For electrical operation (Truma Combi E):

- ➔ Is the circuit protection for the 230 V power supply at the camping site adequate? (900 W - 3.9 A/1800 W - 7.8 A)?
- ➔ Has the connecting cable been fully unwound from the cable reel?
- ➔ Is the 230-V circuit breaker in the vehicle switched on?

For diesel operation (Truma Combi D):

- ➔ Is the exhaust cowl unobstructed?
  Otherwise remove the cover from the exhaust cowl.
- ➔ Is the tank filled with at least 10 litres of diesel fuel?

13.2.2 Truma CP plus control

You can use the digital control panel Truma CP plus to control your iNet-enabled heater and air conditioning system.

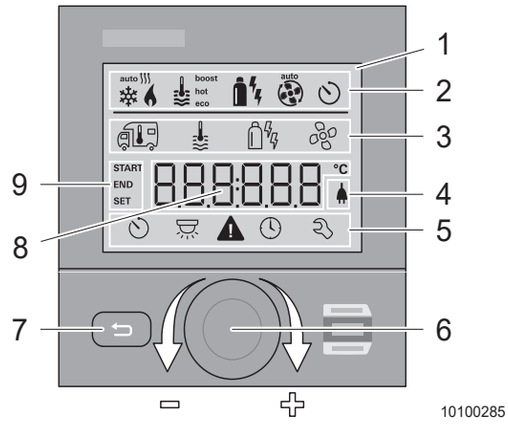


Fig. 90 Truma CP plus control (optional accessory)

1 Display
2 Status bar
3 Menu bar (top)
4 Display mains voltage 230 V (power grid)
5 Menu bar (bottom)
6 Rotary push button
7 Back button
8 Settings/values
9 Display time switch

Switching off the heater on the control unit:

➔ Press the rotary push button for more than 4 seconds.

Selecting menus and setting values:

➔ Turn the rotary push button (Fig. 90/6) to the required menu to the right or left.

➔ To activate the selected menu, press the rotary push button.

- To activate a menu item, press the rotary push button.
- To set values, turn the rotary push button.
- To apply the selected value, press the rotary push button.

➔ Use the Back button (Fig. 90/7) to return to the previous menu or the previous display.

For further information, please refer to the manufacturer's separate operating instructions.

13.2.3 Truma CP plus control types

The operating modes can be set in the menus.

13.2.3.1 Hot water mode

Hot water can be produced in gas, diesel or electric operation (230 V).

Note!

Mixed operation is not possible in hot water mode. With this setting, both the Truma Combi E and the Truma Combi D E automatically select electric mode.

If the vehicle is disconnected from the 230 V power supply or the 230 V power supply fails, the Truma Combi E automatically switches to gas operation, while the Truma Combi D E does not automatically switch to diesel operation.

Producing hot water:

➔ Fill the hot water boiler with water (chapter 13.2.7).

➔ Select the required type of energy.

- In gas mode, the water is heated at the smallest burner stage.
- In electric mode, a power of 900 W (3.9 A) or 1800 W (7.8 A) can be set manually, according to the fuse protection at the campsite.
- In diesel mode, the water is heated at the smallest burner stage.

➔ Set the required water temperature of 40 °C or 60 °C.
After attaining the water temperature selected, the heating switches off.

13.2.3.2 Heating and hot water mode

In heating and hot water mode, the heating automatically selects the required power level according to the temperature difference between the temperature set on the control panel and the current room temperature.

If the water container is filled, the water is automatically heated. The water temperature depends on the operating mode selected and the heating power output.

Note!

If more power is required (e.g. when heating up the vehicle or when outside temperatures are low), set the unit to gas or diesel or mixed operation. This means that there is always sufficient heat output available.

In mixed operation, 230 V electric operation is preferred if only a small amount of power is required (e.g. for maintaining the room temperature). The gas or diesel burner only switches on when more power is required. If the amount of power required falls, then the gas or diesel burner switches off again.

Heating with controlled water temperature:

➔ Fill the hot water boiler with water (chapter 13.2.7).

➔ Select the required type of energy.

- The required power level is automatically selected in gas mode.
- In electric mode, a power of 900 W (3.9 A) or 1800 W (7.8 A) can be set manually, according to the fuse protection at the campsite.
- The required power level is automatically selected in diesel mode.

➔ Set the required room and water temperature.
After attaining the room or water temperature selected, the heating switches off.

Heating without controlled water temperature:

➔ Fill the hot water boiler with water (chapter 13.2.7).

➔ Select the required type of energy.

- The required power level is automatically selected in gas mode.
- In electric mode, a power of 900 W (3.9 A) or 1800 W (7.8 A) can be set manually, according to the fuse protection at the campsite.
- The required power level is automatically selected in diesel mode.

➔ Set the desired room temperature.
After attaining the room temperature selected, the heating switches off.

Heating with drained water system:

➔ Select the required type of energy.

- The required power level is automatically selected in gas mode.
- In electric mode, a power of 900 W (3.9 A) or 1800 W (7.8 A) can be set manually, according to the fuse protection at the campsite.
- The required power level is automatically selected in diesel mode.

➔ Set the desired room temperature.
After attaining the room temperature selected, the heating switches off.

13.2.4 How to heat the vehicle correctly

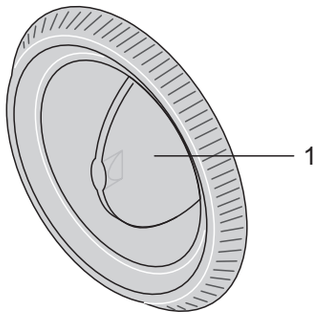


Fig. 91 Air outlet nozzle

1 Air outlet nozzle

Several air outlet nozzles (Fig. 91/1) are built into the vehicle. Pipes and flexible hoses conduct the warm air to the air outlet nozzles.

Distributing the warm air:

➔ Close the air outlet nozzles on the instrument panel of the basic vehicle to prevent draughts.

➔ Set the air distribution of the basic vehicle to air circulation.

➔ Adjust the air outlet nozzles (Fig. 91/1) so that the warm air escapes at the desired positions only.

Adjusting the air outlet nozzles:

➔ Fully open the air outlet nozzle (Fig. 91/1) to conduct the full warm air flow to the desired position.
The more you close the air outlet nozzle, the lower the amount of warm air that flows out.
With every air outlet nozzle that is opened in addition, the amount of warm air that flows from the individual nozzles reduces.

➔ To ensure a uniform distribution of the heat inside the vehicle, open the air outlet nozzles in cold sections of the vehicle a bit further than those in warmer sections of the vehicle.

13.2.5 Switching the heating off

➔ Press the rotary push button (Fig. 90/6) for more than 4 seconds.
The switch-off process may be delayed by a few minutes due to the heating overrunning internally.

➔ Fit the cowl cover.

➔ If the Truma Combi is gas-powered, close the “Heater” quick-action stop valve (chapter 11.8) if the heater is not used for an extended period of time.

➔ If you are not using another gas-powered appliance, close the gas cylinder valve (chapter 11.5) on a gas-powered Truma Combi.

13.2.6 Malfunctions

Note!

If the device shuts off because of a fault during mixed operation when using Truma Combi E (e.g. because of an empty gas cylinder), the heater continues to run in electrical operation.

The control unit Truma CP plus indicates faults and warnings using error codes. Further information regarding what the individual error codes mean can be found in the separate instruction manual supplied by the device manufacturer. Information on how to eliminate any faults is also found in these separate instructions.

Note!

If the 230-V power supply is interrupted for a brief period during operation (approx. 1 second), the heater will resume by itself as normal.

13.2.7 Filling the hot water boiler

Caution!

Damage to heating

➔ A pressure reduction valve must be used when connecting to a central public water supply. This prevents pressures above 2.8 bar in the water heater.

Note!

➔ If the temperature at the Truma FrostControl drops below approx. 7 °C, you first have to switch on the heater to heat up the installation space and the FrostControl device. After a few minutes and when the temperature is above 7 °C, the Truma FrostControl can be closed.

➔ If just the cold water system is being operated without using the hot water boiler, the hot water boiler will still fill with water. To avoid damage caused by frost, you must activate the Truma FrostControl to drain the water - even if the hot water boiler has not been used.

➔ When filling the fresh water system, the hot water boiler of the Truma Combi is also filled (chapter 13.3.1.1).

13.2.8 Emptying the hot water boiler

➔ The hot water boiler of the Truma Combi is drained via the Truma FrostControl (chapter 13.4).

13.3 Alde Compact 3030

The Alde Compact is a hot water heater with an integrated hot water boiler.
Heating operation is possible with gas, electricity (230 V) as well as with gas and electricity simultaneously. You can set the energy source for heat generation on the control panel.

When the water system is full, the Alde Compact heats the vehicle and produces hot water. The Alde Compact can also be operated with an empty water system.

Note!

Also observe the warnings for the heaters in section 13.1.

13.3.1 Using the heater

The Alde Compact is adjusted using the control panel. The control panel has a touch-sensitive display.

13.3.1.1 Control panel - main menu

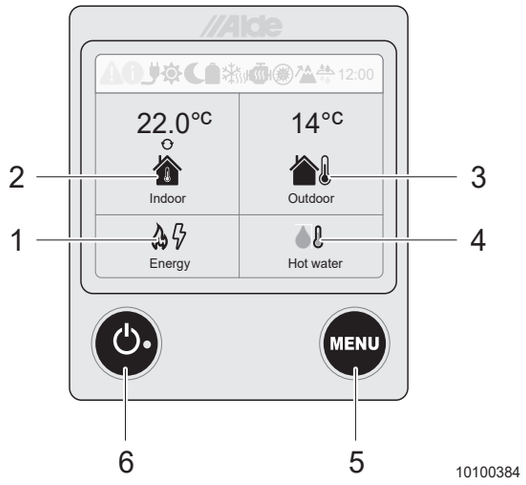


Fig. 92 Control panel - main menu

1 Energy
Shows which energy source is being used. If gas is being used, the flame is red. If electricity is being used, the flash is yellow.

2 Inside temperature
Shows the current inside temperature.

3 Outside temperature
Shows the current outside temperature if an external sensor is installed.

4 Hot water
Shows whether hot water generation is switched on.

5 MENU button
Button to activate the settings menu or to return to the status screen.

6 On/Off button
The green LED lights up when the heating and the control panel are switched on.

13.3.1.2 Switching the heating on, off and making adjustments

Danger!

Risk of poisoning from exhaust gases

If there is a roof window or a roof hood near the flue, exhaust gases can enter the interior of the vehicle through these openings. This can lead to a fatal concentration of gas in the vehicle.

➔ Only operate the heater with the roof window or roof hood closed.

Danger!

Health impairment due to heated drinking water

Heated drinking water can affect health.

➔ Do not use the hot water for drinking or cooking.

Note!

When the heater is switched on for the first time, the configuration menu appears in the control panel display. Carefully read the manufacturer's operating instructions to configure the heating!

Note!

If the heater has not been in operation for a long time or the gas cylinder is new, it may take longer to ignite the heater than normal. Try to restart the heating.

Check the following each time before using the heater:

For gas operation:

➔ Is the exhaust cowl unobstructed?
Otherwise remove the cover from the exhaust cowl.

➔ Is the valve on the gas cylinder open?

➔ Is the “Heater” quick-action stop valve on the distributor block open?

➔ Check the heater liquid level (see chapter 20.5.2).

with electric operation:

➔ Is the circuit protection for the 230 V power supply at the camping site adequate?
(1 kW ~ 6 A/2 kW ~ 10 A/3 kW ~ 16 A)?

➔ Has the connecting cable been fully unwound from the cable reel?

➔ Is the 230-V circuit breaker in the vehicle switched on?

➔ Check the heater liquid level (see chapter 20.5.2).

Switching the heating on:

➔ Press the On/Off button (Fig. 92/6).
The green diode on the On/Off button lights up, the main menu appears and the heater starts with the last selected settings.

Switching the heating off:

➔ Press the On/Off button (Fig. 92/6).
The green diode on the On/Off button and the control panel go out.

Setting the temperature:

➔ Press on the inside temperature symbol (Fig. 92/2).
The menu for setting the temperature appears.

➔ Set the desired temperature by tapping the plus or minus symbol.

➔ Pressing the arrow symbol or the MENU button (Fig. 92/5) will make the display go back to the main menu.

Setting hot water operation:

➔ Press on the hot water symbol (Fig. 92/4).
The menu for setting hot water operation appears.

➔ Set the desired hot water mode (no hot water, normal mode, boost) by tapping the corresponding symbol.

➔ Pressing the arrow symbol or the MENU button (Fig. 92/5) will make the display go back to the main menu.

Setting the energy sources:

➔ Press on the energy symbol (Fig. 92/1).
The menu for setting the energy sources appears.

➔ Set the desired energy source (gas, electricity or both at the same time).

– Set the maximum available electrical power for the heating with electricity setting.

– In the heating with gas setting, activate the altitude mode at altitudes above 1000 m.

➔ Pressing the arrow symbol or the MENU button (Fig. 92/5) will make the display go back to the main menu.

Switching on the heater after changing the gas cylinder:

If a gas status error message is displayed on the control panel after changing the gas cylinder, restart the heater.

➔ Switch off all consumers at the control panel and then switch them back on.

➔ Switch on the heater on the control panel and check that everything is working properly.

➔ If the gas status error message is still displayed, repeat the process.

13.3.1.3 Control panel - status display

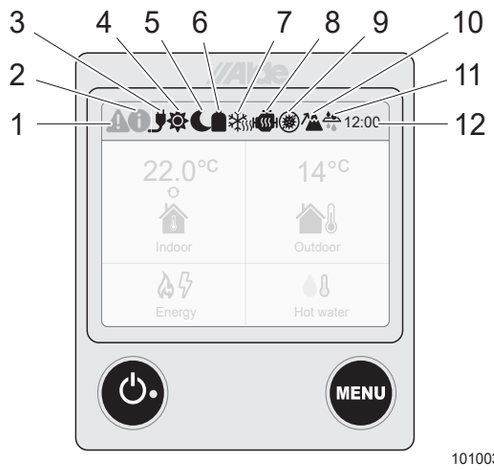


Fig. 93 Top line of status display

1 Operating messages
Is displayed if a temporary operating fault occurs.

2 Information
Flashes if there is an information message.

3 230 V
Is displayed if the heating is connected to the 230 V power supply.

4 Day mode
Is displayed of the function is switched on and turns green if it is active.

5 Night mode
Is displayed of the function is switched on and turns green if it is active.

6 Gas cylinder full/empty (optional accessories required)
Is displayed if a Truma DuoControl is connected.
Black symbol: First gas cylinder is full.
Black symbol: First gas cylinder is empty. The Truma DuoControl has switched to the second cylinder.

7 EisEx (optional accessories required)
Is displayed of the function is switched on and turns green if it is active.

8 Motor heating (optional accessories required)
Is displayed of the function is switched on and turns green if it is active.

9 Remove bacteria
Is displayed when the automatic heater programme to eliminate bacteria is running.

10 Altitude mode
Flashes when altitude mode is active.

11 Alde AquaClear UV-C (optional accessories required)
Appears when the water pump is running and the water filter is working.

12 Time

Opening status display submenus

The symbols in the status display indicate which functions are activated and whether information on the heating is available.

➔ Press on the respective symbol to open its submenu.

Opening the “Settings” menu:

Additional setting for the heating can be made in the “Settings” menu.

➔ Press the MENU button (Fig. 92/5).

For further information, please refer to the manufacturer's separate operating instructions.

13.3.2 How to heat the vehicle correctly

To get the most out of the Alde Compact, it is important that the air can circulate freely through the air gaps under the bed drawers, behind the backrests and the wall units. Make sure that e.g. carpets do not cover the air supply to the convectors. Make sure that curtains, cushions or blankets do not block the air circulation behind the seat backs and the wall units.

13.3.3 Draining the Alde heating

The hot water boiler of the Alde Compact is drained via the Truma FrostControl (see 13.4).

13.3.4 Heat exchanger (optional)

Depending on the vehicle equipment, the Alde Compact can be connected to the engine cooling circuit of the base vehicle using a heat exchanger.

Heating the living area during the journey:

➔ Set the heat exchanger in the “Engine heater” submenu (chapter 13.3.1.3).

13.4 Truma FrostControl

The Truma FrostControl (Fig. 94/1) is located near the heating system.

Truma FrostControl is an overpressure relief valve and drain valve with frost protection function which is operated without using electrical power. When there is a risk of frost, it automatically drains the contents of the hot water boiler through a drainage pipe (Fig. 94/4). In case of excessive pressure inside the heating system, the device automatically equalises the pressure.

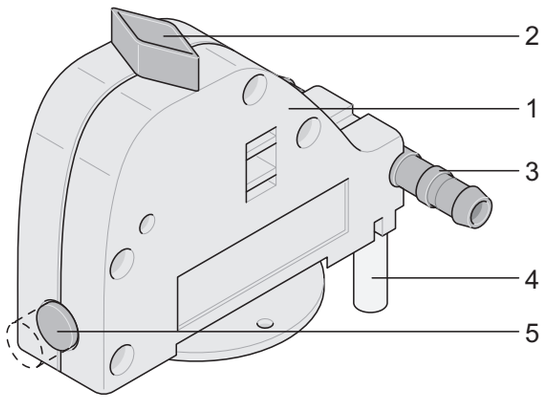


Fig. 94 Truma FrostControl

1 Truma FrostControl
2 Rotary switch
3 Water connection
4 Drainage pipe
5 Push-button

Closing the Truma FrostControl:

➔ Check if the rotary switch (Fig. 94/2) is set to “Operation” (parallel to the water connection (Fig. 94/3) and is engaged.
It can only be closed by hand (pressed shut) with the push button (Fig. 94/5) and the hot water boiler can only be filled if the temperature on the Truma FrostControl is above approx. 7 °C.

➔ Switch the heating on and set the rotary switch of the Truma FrostControl (Fig. 94/1) to “Operation”. The rotary switch must engage.

➔ Press the push button until it engages (“closed” position).

Automatic opening of the Truma FrostControl:

➔ When temperatures drop to below approx. 3 °C at the Truma FrostControl, it will open automatically.
The push-button (Fig. 94/5) springs out and the water stored in the vehicle drains out through the drainage pipe (Fig. 94/4).

Caution!

Damage to the water system

If the Truma FrostControl cannot empty the hot water boiler at temperatures below approx. 3 °C, this may lead to frost damage on the water system.

➔ The drainage pipe on the Truma FrostControl must be kept free from debris (slush, ice, leaves, etc.).

➔ If you expect frost, empty the water system completely when the heating system is switched off.

Opening the Truma FrostControl by hand:

➔ Turn the rotary switch (Fig. 94/2) by 180° until it engages.
The push-button (Fig. 94/5) springs out and the water stored in the vehicle drains out through the drainage pipe (Fig. 94/4).

13.5 Floor heating (optional)

As an option, your vehicle can be fitted with additional floor heating as well as the Truma or Alde heating.

There are two types of floor heating which provide additional heat in your vehicle:

- Electric floor heating
- Hot water floor heating

13.5.1 Electric floor heating

Danger!

Risk of injury due to electric shock or short circuit

Drilling holes or screwing screws into the floor can cause an electric shock or damage the electric floor heating.

➔ Do not drill any holes in the floor or screw in any screws.

Caution!

Damage to the floor heating

The transformer can be damaged by overheating.

➔ Do not cover the transformer.

Caution!

Damage to the floor caused by unsuitable rugs

Unsuitable rugs can damage the floor.

➔ Only cover the floor with rugs which are suitable for floor heating systems.

➔ Avoid permanent build-up of heat underneath rubber mats or pet beds.

You can only use the electric floor heating while the vehicle is connected to the 230 V supply. For your safety, a transformer reduces the mains voltage to a low voltage which is then fed to the heating foils.

Using the electric floor heating:

➔ Check that the circuit protection for the 230 V power supply at the camping site is adequate (350 W - 1.5 A).

➔ Check that the connection cable was fully unwound from the cable reel.

➔ Verify that the 230-V circuit breaker in the vehicle is switched on.

➔ The floor heating is switched on and off in the temperature menu of the control panel using the floor heating symbol.

13.5.2 Truma hot water floor heating

The floor heating runs automatically together with the hot water of the Truma Combi.

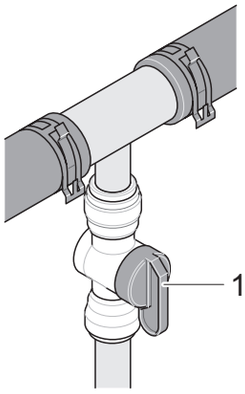


Fig. 95 Truma floor heating setting valve

1 Setting valve

Switching the floor heating on and off

➔ Open or close the control valve in the bed box.

13.6 Air conditioning system (optional)

Your vehicle can optionally be equipped with a Truma or Dometic air conditioning system.

13.6.1 Aventa comfort air conditioning system (optional)

Note!

Using the air conditioner

- ➔ The air conditioning system is designed for a power consumption of up to 4.2 A. Before starting the device, first verify that the electrical installation of the camping ground is equipped with sufficiently rated fuses or circuit breakers (at least 6 A).
- ➔ Whenever possible, park your vehicle on a shadowy spot.
- ➔ Darkening windows and roof hoods reduces heat radiation.
- ➔ Regularly clean the vehicle roof (soiled vehicle roofs heat up more heavily).
- ➔ Thoroughly air your vehicle before switching on the air conditioner to remove the hot air that has built up inside the vehicle.
- ➔ Keep doors and windows closed during operation to avoid the formation of condensation on the air distributor.
- ➔ In order to speed up the cooling or heating process inside the vehicle:
  - Set the fan speed to “High”.
  - Set the front/rear air distribution to centre position.
  - Set the floor/ceiling air distribution to ceiling position.

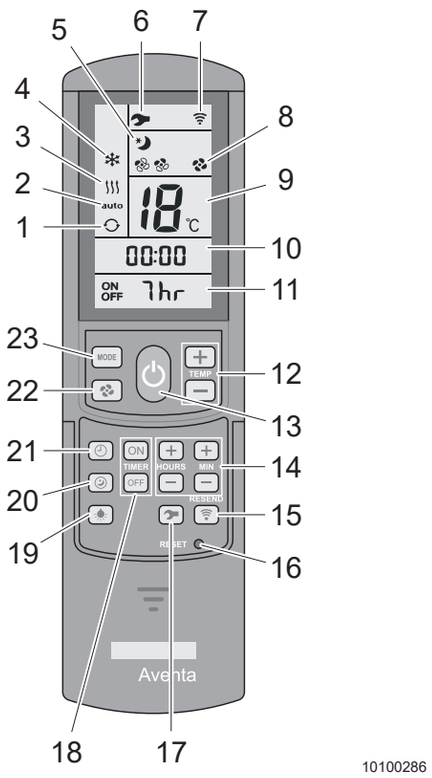


Fig. 96 Remote control air conditioning system Aventa comfort

1	Air circulation indicator
2	Automatic mode indicator
3	Heating mode indicator
4	Cooling mode indicator
5	Sleep function indicator
6	Setup indicator
7	Data transmission indicator
8	Fan speed indicator
9	Temperature indicator
10	Time indicator
11	Timer activation/switch off time indicator
12	Temperature setting buttons
13	On/Off button
14	Time setting button
15	Resend button
16	Reset button
17	Setup button
18	Timer setting button
19	Ambient lighting button
20	Sleep function button
21	Time button
22	Fan speed button
23	Operating mode button

Putting into service:

➔ Connect the vehicle to the 230 V supply.

➔ Point the remote control (Fig. 96) at the IR receiver on the underside of the air conditioning system (Fig. 97).

Switching on:

➔ Use the “On/Off” button (Fig. 96/13) to activate the air conditioner.
The settings that were last selected are stored/applied.

Setting the temperature:

➔ Use the “Temperature” selection keys (Fig. 96/12) to set the desired temperature.

Selecting the operating mode:

➔ Select the desired operating mode by pressing the “Operating mode” button (Fig. 96/23) once or several times.

– Cooling
– Heating
– Automatic mode (cooling or heating operation depending on the set room temperature)
– Air circulation

Setting the fan speed:

➔ Select the desired fan speed by pressing the “Fan speed” button (Fig. 96/22) once or several times.

- low
- medium (not for heating operation)
- high

Switching off:

➔ Use the “On/Off” button (Fig. 96/13) to deactivate the air conditioner.

Note!

It is also possible to control the air conditioner via the control panel of the Truma CP plus.

For further information on the device and its functions, please refer to the separate operating instructions provided by the manufacturer.

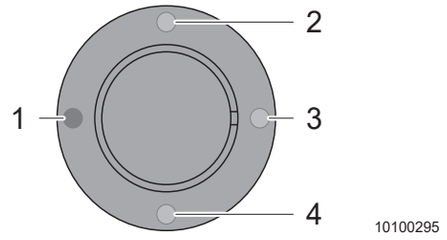


Fig. 97 IR receiver

1 On/Off button without remote control
2 Heating mode LED
3 Data transmission/fault LED
4 Cooling mode LED

The IR receiver is located on the bottom side of the air conditioner.

Manually activating and deactivating the unit on the IR receiver:

➔ There is an additional push-button on the IR receiver (Fig. 97/1) which allows the unit to be switched on and off without using the remote control (e.g. with a ballpoint pen).

➔ When the unit is switched on using this push-button, it is automatically reset to its default factory settings (automatic mode, 22 °C).

Indication of functions on the IR receiver:

- Yellow LED (Fig. 97/2) steady (heating operation)
- Yellow LED (Fig. 97/2) flashing (compressor start-up heating operation)
- Red LED (Fig. 97/3) flashing (data are transmitted)
- Red LED (Fig. 97/3) steady (fault)
- Blue LED (Fig. 97/4) steady (cooling operation)
- Blue LED (Fig. 97/4) flashing (compressor start-up cooling operation)

Red LED (Fig. 97/3) is on:

➔ The air conditioning system indicates a fault. Switch off the air conditioner, wait for a moment and switch it back on. If the red LED is still on, please contact the Truma service centre.

13.6.2 Freshjet air conditioning system (optional)

Note!

Using the air conditioner

- ➔ Before starting the device, first verify that the electrical installation of the camping ground is equipped with sufficiently rated fuses or circuit breakers (at least 4 A).
- ➔ Whenever possible, park your vehicle on a shadowy spot.
- ➔ Darkening windows and roof hoods reduces heat radiation.
- ➔ Regularly clean the vehicle roof (soiled vehicle roofs heat up more heavily).
- ➔ Thoroughly air your vehicle before switching on the air conditioner to remove the hot air that has built up inside the vehicle.
- ➔ Keep doors and windows closed during operation to avoid the formation of condensation on the air distributor.
- ➔ In order to speed up the cooling or heating process inside the vehicle:
  - – Set the fan speed to “High”.
  - – Set the front/rear air distribution to centre position.
  - – Set the floor/ceiling air distribution to ceiling position.

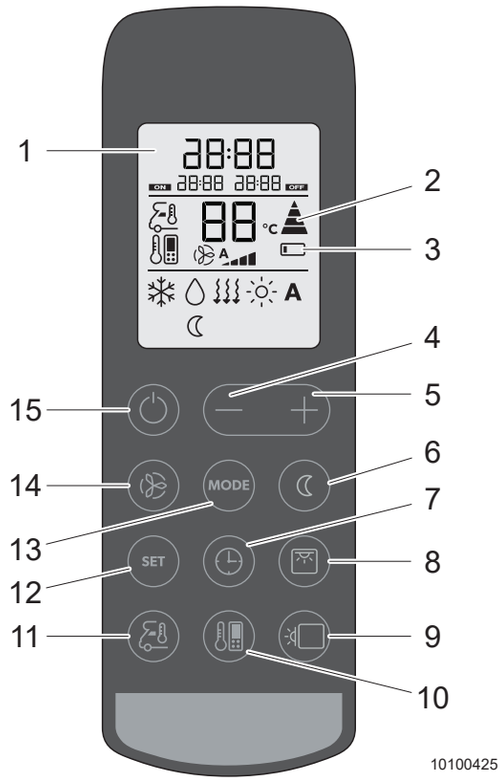


Fig. 98 Remote control for Freshjet air conditioning system

1 Display with the following elements:
- Time
- Set room temperature in °C or °F
- Actual room temperature
- Selected climate mode
- Selected fan speed
- Symbols for active additional functions
- Battery status

2 Display: Data transmission from the remote control to the air conditioning system

3 Display: Low battery

4 Decrease value

5 Increase value

6 Activate the Sleep function

7 Programme the timer or set the time

8 Switch the light at the air conditioning on or off

9 Switch the light in the air conditioning on or off

10 When activated, the temperature setpoint is adjusted every 10 minutes according to the temperature measured at the remote sensor.

11 Display temperature
- Press once: Displays the current interior temperature.
- Press again: Displays the set temperature

12 Confirm and store settings

13 Selecting the climate mode

14 Select fan level

15 Switch on air conditioning system or activate standby mode

Putting into service:

➔ Connect the vehicle to the 230 V supply.

➔ Make sure that both the intake openings and the air nozzles are not obstructed. Always keep all ventilation grilles free to ensure maximum air conditioning performance.

➔ Point the remote control (Fig. 98) at the control unit on the underside of the air conditioning system (Fig. 99).
A beep confirms that data has been transmitted from the remote control to the air conditioning system.

Switching on:

➔ Use the “On/Off” button (Fig. 98/15) to activate the air conditioning system.
The settings that were last selected are stored/applied.

Setting the temperature:

➔ Set the desired temperature with the buttons (Fig. 98/4 and Fig. 98/5).

Selecting the climate mode:

➔ Select the desired climate mode by pressing the “Mode” button (Fig. 98/13) once or several times.

- Automatic
- Cooling
- Heating
- Ventilation
- Dehumidification

Setting the fan speed:

➔ Select the desired fan speed by pressing the “Fan speed” button (Fig. 98/14) once or several times.

- low
- medium (not for heating operation)
- high
- Turbo
- Automatic operation

Switch off or switch to standby mode:

➔ Press the “On/Off” button (Fig. 98/15) to switch off the air conditioning system or put it in standby mode.

Note!

The air conditioning system can also be controlled using the Dometic Climate App.

For further information on the device and its functions, please refer to the separate operating instructions provided by the manufacturer.

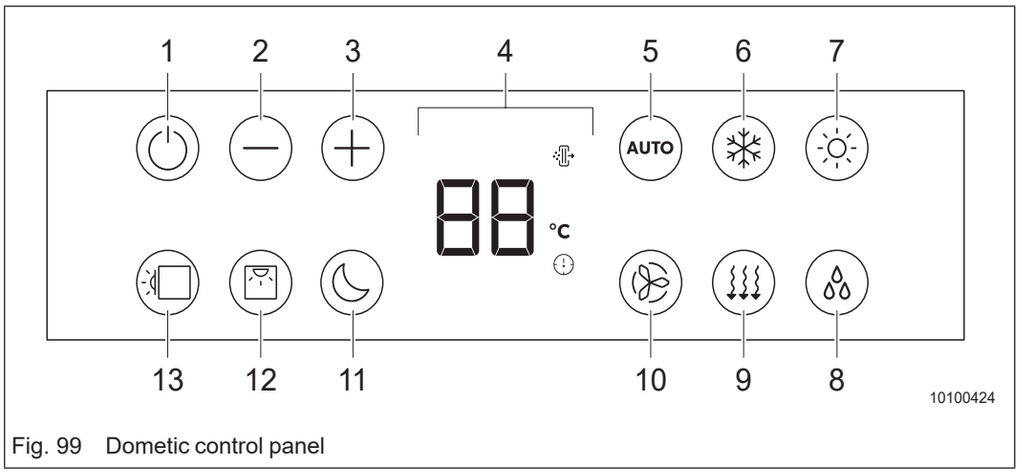


Fig. 99 Dometic control panel

1 Switch on air conditioning system or activate standby mode
2 Decrease value
3 Increase value
4 Display for temperature, timer and air purification mode
5 Switch automatic mode on or off (only for models with an automatic mode)
6 Switch cooling on or off
7 Switch heating mode on or off (only for models with a heating mode)
8 Switch dehumidification mode on or off (only for models with a dehumidification mode)
9 Switch ventilation mode on or off (only for models with a ventilation mode)
10 Select fan level
11 Switch on sleep function (only for models with sleep function)
12 Switch the light at the air conditioning on or off
13 Switch the light in the air conditioning on or off

The air conditioning system can also be operated using the control panel on the underside of the air conditioning system.

Switching on:

➔ Use the “On/Off” button (Fig. 99/1) to activate the air conditioning system.
The settings that were last selected are stored/applied.

Setting the temperature:

➔ Set the desired temperature with the buttons (Fig. 99/2 and Fig. 99/3).

Setting the fan speed:

➔ Select the desired fan speed by pressing the “Fan speed” button (Fig. 99/10) once or several times.

Switch off or switch to standby mode:

➔ Press the “On/Off” button (Fig. 99/1) to switch off the air conditioning system or put it in standby mode.

14 Cooking

14.1 Gas cooker

14.1.1 Instructions for safe use of the gas cooker

Danger!

Explosion hazard due to improper handling of the gas cooker

Improper handling of the gas cooker can lead to explosions.

➔ Repairs to the gas cooker must be carried out by qualified specialists only.

➔ Do not use a leaking, damaged or improperly functioning gas cooker.

Danger!

Explosion hazard due to escaping gas

Unburned gas escaping from the cooker can lead to the formation of an explosive gas-air mixture.

➔ Never allow gas to escape unburned.

➔ The user must always have a clear view on the ignition process and must make sure that cookware (such as pots, pans or woks) and other objects do not block their view.

There is a risk of explosion when using gas cookers while refuelling the vehicle, in multi-storey car parks, in garages and on ferries.

➔ Switch off the gas cooker.

➔ Close the valve on the gas cylinder.

Danger!

Danger of suffocation when using the gas cooker

When the ventilation devices are blocked, a fatal concentration of gas may build up within the vehicle.

➔ To ensure a continuous flow of air inside the vehicle, do not cover the forced air vents in the roof hoods, the mushroom vents, in the entrance area, in the rear and front areas, even partially, under any circumstances!

➔ Clean the ventilation equipment at regular intervals.

A lethal gas concentration can build up within the vehicle when windows and vehicle doors are closed while the gas cooker is used.

➔ When using the gas cooker, at least one vehicle door, window or roof hood must be opened to ensure that enough oxygen can enter the interior of the vehicle.

Danger!

Fire hazard when using the gas cooker

Unsupervised use of the gas cooker can cause a fire.

➔ Always oversee the gas cooker when it is switched on or hot.

➔ Supervise children so that they do not play with the gas cooker.

Hot fat or oil can ignite.

➔ Never leave hot oil and fat unattended.

➔ Never try to extinguish a fire using water. Turn the hotplate off. Carefully cover the flames with a lid, a fire blanket or similar to cut off the oxygen supply of the fire.

Objects lying on or near the gas cooker may ignite.

➔ Do not place any combustible objects (e.g. tea towels, napkins) on or near the gas cooker.

The heat that builds up during the cooking process may cause objects and spray cans stored in the drawers directly underneath the gas cooker to ignite.

➔ Do not store flammable items or spray cans in the drawers under the gas cooker.

Danger!

Fire hazard due to plastic parts

The surfaces of the gas cooker become very hot during use. Plastic parts that are near the gas cooker or in the sink can melt or catch fire.

➔ Before cooking, remove all plastic parts from the immediate vicinity of the gas cooker and the sink.

Danger!

Risk of burns by hot surfaces

The surfaces of the gas cooker become very hot during use.

➔ Keep hands, face and hair away from the burner.

➔ Tie up long hair and do not wear loose clothing when lighting and using the gas cooker.

➔ Keep children and pets away from the gas cooker.

➔ Only touch hot objects (e.g. pots, pans) with oven gloves or pot holders.

➔ Be careful during all activities near the gas cooker to avoid burns or other injuries.

Danger!

Risk of injury if the glass cover breaks

If the glass cover breaks, there is a risk of injury from glass shards.

➔ Immediately switch off all burners.

➔ Do not touch the hot surface of the gas cooker.

➔ After the gas cooker has cooled down, carefully remove the glass shards and dispose of them.

➔ Do not operate the gas cooker until the glass cover has been repaired.

Caution!

Damage to the kitchen area adjacent to the gas cooker

Flames glinting beyond the gas cooker may damage adjacent walls, the panelling of the furniture, faceplates, curtains, blinds or other items.

➔ When placing the cookware (pots, pans, woks, etc.), make sure that they are placed in the centre of the burner grate and that the flames do not flare beyond the cookware.

Cookware (such as pots, pans, woks etc.) protruding beyond the gas cooker can damage adjacent walls, panelling on furniture, faceplates, curtains, blinds or other objects.

➔ The cookware used must not be larger than the grate on the burner.

Caution!

Damage to the glass cover

Improper handling can cause damage to the glass cover.

➔ Do not apply pressure to the glass cover when closed.

➔ Do not close the glass cover while burners are on or are still emitting heat.

➔ Do not place hot pans on the glass cover.

➔ In the case of frost, keep the kitchen window closed and provide ventilation in a different way. The temperature difference at the glass cover can cause damage to it.

➔ Close the glass cover before setting off.

Note!

Do not use the gas cooker for heating the vehicle.

Note!

➔ Have defective nozzles replaced by qualified personnel.

➔ For safety reasons, have the gas cooker inspected annually by qualified personnel to ensure that it is in good working order. Have any defects fixed.

Note!

Before using the gas cooker for the first time, carefully read the instruction manual for the device provided by the manufacturer.

14.1.2 Using the gas cooker

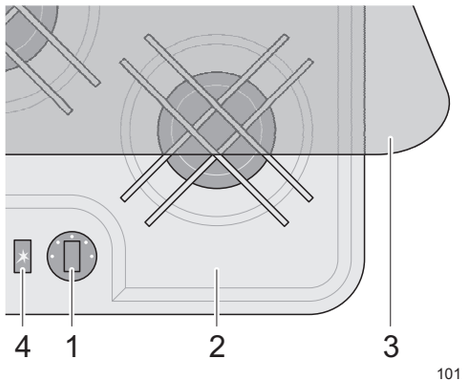


Fig. 100 Gas cooker

1 Control knob
2 Cooking area
3 Glass cover (optional)
4 Gas igniter (optional)

Preparing to use:

➔ Clean the gas cooker before use (chapter 19.2.5.2).

➔ Fold up the glass cover (Fig. 100/3) of the cooking area (Fig. 100/2).

➔ Open the gas cylinder shut-off valve and the quick-action stop valve (chapter 11.8) on the distributor block.

➔ Open a window, a door or a roof hood.

Switching the gas cooker on:

➔ Turn the rotary knob (Fig. 100/1) for the desired hob (Fig. 100/2) to “high flame”, press and keep pressed.
Gas flows out.

➔ Ignite the gas flowing out with a suitable ignition device and keep the control knob (Fig. 100/1) depressed for approx. 10 seconds until the flame safety device keeps the gas supply open.

– Piezo gas igniter: Each time the button (Fig. 100/4) is pressed, a spark is created to ignite the gas.

– Electric gas igniter: When the button (Fig. 100/4) is pressed, several ignition sparks are created until you release the gas igniter.

➔ If the flame goes out, repeat the process.

➔ Use the rotary knob to set the desired burner level between large flame and small flame.

Switching the gas cooker off:

➔ Turn the rotary knob of the desired cooker to the ‘0’ position.
The flame goes out and the flame safety device automatically shuts off the gas supply.

➔ Close the quick-action stop valve (chapter 11.8).

For further information, please refer to the manufacturer's separate operating instructions.

14.2 Gas oven (optional)

14.2.1 Instructions for safe use of the gas oven

Danger!

Fire hazard due to flammable objects in the cooking chamber

Combustible objects stowed away inside the cooking chamber of the oven may ignite.

- ➔ Do not use the cooking chamber to store combustible items.
- ➔ Do not open the oven door when you see smoke or fumes escaping from the device. Turn the appliance off, close the appliance's shut-off valve or the valve on the gas cylinder.

Opening the door of the appliance will create an air draught which can draw sheets of greaseproof paper against the heating elements and cause them to ignite.

- ➔ Do not place the greaseproof paper onto the accessories without fixing it when preheating the oven.
- ➔ Always use dishes or a baking pan to hold down the greaseproof paper.
- ➔ Only cover the area that you need with greaseproof paper.
- ➔ Do not let the greaseproof paper protrude beyond the baking tray or accessory.

Danger!

Explosion hazard due to escaping gas

Unburned gas escaping from the cooker can lead to the formation of an explosive gas-air mixture.

- ➔ Never allow gas to escape unburned.

There is a risk of explosion when using the gas oven while refuelling the vehicle, in multi-storey car parks, in garages and on ferries.

- ➔ Turn the gas oven off.
- ➔ Close the gas cylinder valves.

Danger!

Danger of burns from hot objects or alcohol vapours

The gas oven, the dishes and accessories become very hot when operating the oven. Touching them can cause burns.

- ➔ Do not touch the hot inner surfaces of the cooking chamber or the heating elements.
- ➔ Always let the appliance cool down.
- ➔ Keep children away from the hot appliance.
- ➔ Always use oven mitts when handling hot dishes, the hot heat protection or hot accessories.
- ➔ After use, allow the grill and the oven to sufficiently cool down inside and outside.

Alcohol vapours may ignite inside the heated cooking chamber.

- ➔ Do not prepare food containing a large amount of high-proof alcoholic beverages.
- ➔ Proceed with caution when opening the oven door.

Danger!

Risk of injury due to faulty appliance door

Scratched glass in the oven door may burst.

➔ Do not use a glass scraper, sharp or abrasive cleaning materials.

Danger!

Danger of scalding due to escaping steam

Hot steam can escape from the cooking chamber when opening the oven door and cause scalding.

➔ Proceed with caution when opening the oven door.

➔ Keep children away from the hot appliance.

➔ Do not pour water into the hot cooking chamber.

Danger!

Risk of electric shock

Hot parts of the device may cause the insulation of the cables of electrical appliances to melt.

➔ Prevent the power cords of electrical appliances from touching hot device parts.

Ingress of moisture can lead to an electric shock.

➔ Do not use a pressure washer or steam cleaner to clean the device.

Caution!

Damage to the gas oven

Accessories, foil, greaseproof paper and dishes can damage the bottom surface of the cooking chamber.

➔ Do not place accessories directly on the bottom surface of the cooking chamber.

➔ Do not line the bottom surface of the cooking chamber with foils of all kind or grease-proof paper.

Rapid changes in temperature can damage the internal surfaces of the cooking chamber and the heating elements.

➔ Do not pour water into the hot cooking chamber.

The internal surfaces of the cooking chamber and the heating elements can get damaged by objects stored inside the cooking chamber.

➔ Do not store moist food inside the cooking chamber for a longer period of time.

Fruit juice dripping from the baking tray will leave stains on the internal surfaces of the cooking chamber which cannot be removed.

➔ Do not add too much fruit to very juicy fruit pies on the baking tray.

Excessive strain on the device door can damage the door.

➔ Do not stand on, sit on or cling to the appliance door.

➔ Do not place heavy objects (such as accessories or dishes) on the appliance door.

The front panel of the gas oven can be damaged when using the grill function.

➔ Pull out the heat protection before using the grill function.

Caution!

Damage to panelling on adjacent furniture

Opening the door of the appliance to let it cool down may damage the panelling on the adjacent furniture.

➔ Always keep the cooking chamber closed to let it cool down.

Heavily soiled seals on the door will prevent the appliance door from closing properly. This can cause damage to the panelling of adjacent furniture.

➔ Keep the door seals clean.

Note!

Before using the oven for the first time, heat it for 30 minutes to maximum temperature without placing any food items inside. A light generation of smoke is normal.

14.2.2 Using the gas oven with or without a grill

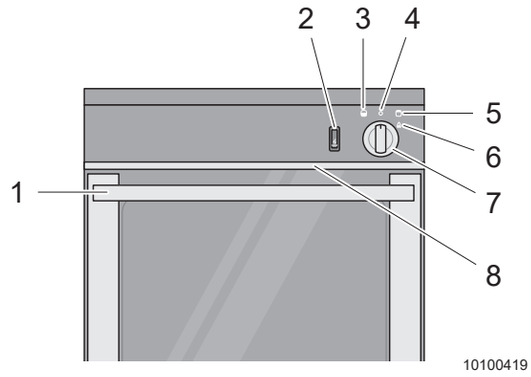


Fig. 101 Gas oven with grill

1 Oven door handle
2 Ignition button
3 Baking function
4 Off position
5 Grill function
6 High flame
7 Rotary knob
8 Heat shield

The gas oven can optionally be equipped with a grill.

Preparing to use:

➔ Clean the gas oven before use (chapter 19.2.5.3).
➔ Open the gas cylinder valve (chapter 11.6.1).
➔ Open the quick-action stop valve on the distributor block (chapter 11.8).
➔ Open a window, a door or a roof hood.

Using the oven:

➔ Open the oven door (Fig. 101/1) fully.
➔ Pull out the heat shield (Fig. 101/8).
➔ Press the rotary knob (Fig. 101/7) in slightly, hold it down and turn counterclockwise to the “large flame” position (Fig. 101/6).
➔ Press the ignition button (Fig. 101/2).
➔ Press and hold the rotary knob for approx. 10 – 15 seconds then release.
➔ Turn the rotary knob to the desired temperature.
➔ Slide the grill tray into the desired position.
➔ Close the oven door.

Switching off the oven:

➔ Turn the rotary knob clockwise to “O” (Fig. 101/4).
➔ Close the quick-action stop valve on the distributor block (chapter 11.8).

Using the grill:

- ➔ Open the oven door (Fig. 101/1) fully.
- ➔ Pull out the heat shield (Fig. 101/8).
- ➔ Press the rotary knob (Fig. 101/7) in slightly, hold it down and turn clockwise to the “large flame” position (Fig. 101/6).
- ➔ Press the ignition button (Fig. 101/2).
- ➔ Press and hold the rotary knob for approx. 10 – 15 seconds then release.
- ➔ Slide the grill tray into the desired position.
- ➔ Close the oven door, leaving a small gap.

Switching off the oven:

- ➔ Turn the rotary knob counterclockwise to “O” (Fig. 101/4).
- ➔ Close the quick-action stop valve on the distributor block (chapter 11.8).

15 Refrigerator & freezer compartment

The refrigerator that is installed in your vehicle is either produced by the company Dometic or the company Thetford.

The refrigerator operates at 12 volts.

Danger!

Risk of injury due to electric shock

Improper use of the refrigerator can cause serious injury or death.

➔ The refrigerator may only be installed, removed and repaired by skilled and trained (specialised) personnel.

➔ Do not operate the refrigerator if it is visibly damaged.

➔ You are not allowed to perform any other interventions on the refrigerator than the cleaning and maintenance tasks described in the instruction manual of the appliance manufacturer.

Warning!

Risk of injury from objects falling out

The contents of the refrigerator can fall out if the refrigerator door is not locked and fly about in the vehicle. This may lead to injuries or cause damage to the vehicle.

➔ Close and lock the refrigerator before setting off with the vehicle.

15.1 Using the refrigerator

Clean your refrigerator before starting it for the first time (chapter 19.2.5).

When the appliance is first put into service, there may be a mild odour which will disappear after a few hours. Thoroughly air the living area during this period.

If possible, make sure that the vehicle is parked on a level ground before starting your journey when putting the refrigerator into service and when filling it. This ensures the optimal functioning of the refrigerator.

The cooling performance is affected by:

- The ambient temperature (e.g. when the vehicle is exposed to direct sunlight).
- The amount of food to be cooled.
- The frequency of opening the door.

Note!

The higher the surrounding temperature and the lower the set cooling temperature, the more heat the refrigerator will dissipate. The heat is expelled through a ventilation grille in the vehicle's outer wall on the rear of the refrigerator.

– Depending on the refrigerator model, open windows and doors may have an adverse effect on the air circulation.

– When operated at higher ambient temperatures, installing an extractor fan (optional) can improve the performance of the refrigerator.

15.1.1 Winter operation

Caution!

Damage to the refrigerator

Not mounting the winter covers (accessory) may damage the refrigerator when the outside temperatures are low.

➔ In DC operating mode, mount both winter covers.

Note!

➔ Attach the winter covers also when the vehicle is taken out of service for an extended period of time or cleaned on the outside.

Check in winter operation:

➔ Regularly check that the ventilation grilles are not obstructed by snow, ice, leaves or similar.

Attach the winter covers (optional) to the ventilation grilles when outside temperatures drop below +8 °C.

For further information, please refer to the manufacturer's separate operating instructions.

15.2 Control elements

15.2.1 Dometic

The figure below shows an example of the TFT control panel. Some functions may not be included in your refrigerator.

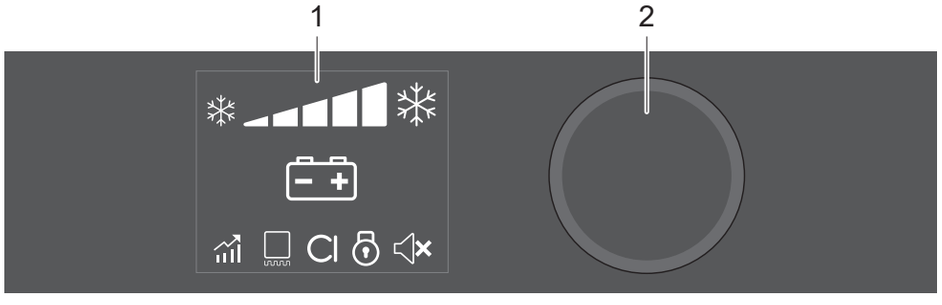


Fig. 102 Control elements of the refrigerator

Main menu	Detail menu
	Display for temperature setting
	Operation with direct current
	Settings menu (User mode / Settings)

User mode / Settings	Description
	**Performance** • All thermostat settings can be selected. • Compressor operates at high speed. • External ventilation fan operates at high speed.
	**Quiet** • Thermostat settings 1, 2 and 3 can be selected. • Compressor operates at low speed. • External ventilation fan operates at low speed.
	**Boost** • Thermostat settings set to maximum. • Compressor operates at high speed. • External ventilation fan operates at high speed.
	**Frame heater** • The symbol lights up when the frame heater is in operation. • The freezer compartment's frame heater reduces condensation.
	**CI Bus** • The symbol lights up when the refrigerator is connected to the CI bus.
	**Child lock** • The symbol lights up when the child lock is activated. • Deactivating the child lock: Press the rotary button three times within 1.5 seconds. • After 10 seconds of inactivity, the controls are automatically locked again.
	**Beep tone off** • No audible signal for error messages and warnings. • If the door is open for a long time, this is signalled acoustically.
	**Beep tone on** • Audible signal for error messages, warnings and a door that has been open for a long time.
	**Back button** • Confirm the selection and return to the main menu.

Switching on the refrigerator:

➔ Press and hold the control knob (Fig. 102/2) for two seconds.
The refrigerator is switched on with the current settings.

Switching off the refrigerator:

➔ Press and hold the control knob (Fig. 102/2) for four seconds.
The refrigerator emits a beep and switches off.

Navigation in the menu:

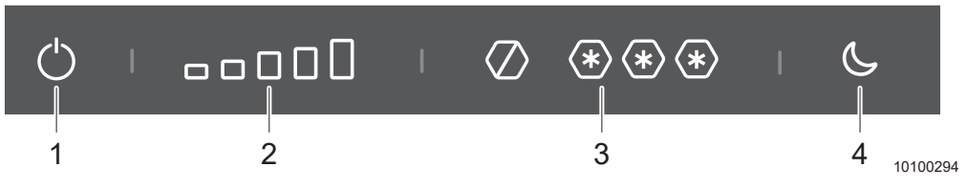
➔ Press the control knob (Fig. 102/2) to activate the display (Fig. 102/1).
➔ Turn the control knob to select the desired detail menu (“User mode” or “Settings”).
➔ Press the control knob to open the selected detail menu.
➔ Turn the control knob to navigate through the detail menu.
The settings that were selected are displayed in blue.
➔ Press the control knob to choose the selected setting.
➔ Confirm your selection with ⏎.

For further information, please refer to the manufacturer's separate operating instructions.

15.2.2 Thetford

The control panels differ depending on whether the refrigerator is equipped with or without a freezer compartment.

Control panel with freezer compartment



1 “ON/OFF” button
2 Temperature settings refrigerator
3 Temperature settings freezer compartment
4 Night operation button

Fig. 103 Control panel with freezer compartment

Switching the refrigerator on or off:

➔ Press and hold the “ON/OFF” key (Fig. 103/1) for a few seconds.

Setting the cooling level:

➔ Unlock the control panel: Press any button.
➔ Setting the refrigerator temperature: Press the temperature symbol (Fig. 103/2) until it flashes.
➔ Setting the freezer compartment temperature: Press the temperature symbol (Fig. 103/3) until it flashes.
After a few seconds, the control panel will save the settings and switch to standby mode.

Setting night mode:

➔ Unlock the control panel: Press any button.

➔ Press and hold the night mode button (Fig. 103/4) until the display lights up.
After a few seconds, the control panel will save the settings and switch to standby mode.

For further information, please refer to the manufacturer's separate operating instructions.

Control panel without freezer compartment

1 “ON/OFF” button
2 Temperature settings refrigerator
3 Night operation button

Fig. 104 Control panel without freezer compartment

Switching the refrigerator on or off:

➔ Press and hold the “ON/OFF” button (Fig. 104/1) until the display lights up.

Setting the cooling level:

➔ Unlock the control panel: Press any button.

➔ Press the temperature symbols (Fig. 104/2) until they flash.

➔ Press or slide the temperature symbols to select the desired level.
After a few seconds, the control panel will save the settings and switch to standby mode.

Setting night mode:

➔ Unlock the control panel: Press any button.

➔ Press and hold the night mode button (Fig. 104/3) until the display lights up.
After a few seconds, the control panel will save the settings and switch to standby mode.

For further information, please refer to the manufacturer's separate operating instructions.

15.3 Opening and locking the refrigerator door

Caution!

Damage to the refrigerator door

➔ Lock the refrigerator door before starting your journey.

Caution!

Damage to the refrigerator or its contents

While driving, items stored inside the refrigerator can damage the refrigerator or may get damaged themselves.

➔ Make sure that the products inside the refrigerator cannot move while the vehicle is driving.

➔ Lock the bottles in the refrigerator door in place with the bottle holder (if available).

➔ Lock the bottles in the drawers in place with the drawer dividers (if available).

➔ Fix the food on the trays. The drop-out protection keeps food items inside the trays while the vehicle is driving (if available).

15.3.1 Dometic

Opening the refrigerator door:

➔ Pull the handle and open the refrigerator door.

Closing the refrigerator door:

The refrigerator door is equipped with an automatic lock.

➔ Push the refrigerator door until you hear a distinct clicking sound at the top and the bottom.

15.3.2 Thetford

The refrigerator doors of all Thetford refrigerator models are equipped with an automatic locking device.

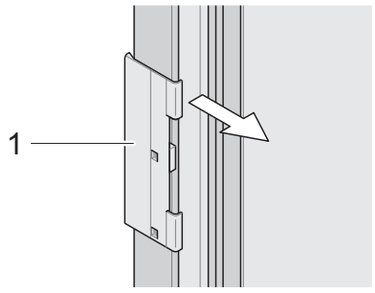


Fig. 105 Locking device on the Thetford refrigerator door

1 Handle

Closing the refrigerator door:

➔ Pull the handle (Fig. 105/1) and open the refrigerator door.

Closing the refrigerator door:

The refrigerator door is equipped with an automatic lock.

➔ Shut the refrigerator door and press firmly.
The refrigerator door locks automatically.

15.4 Storing food

15.4.1 General information

- Switch the refrigerator on approx. 12 hours before storing food.
- Always store pre-cooled food only. When buying and transporting food, make sure the food is well pre-cooled. Use insulated bags for transport.
- Always open the refrigerator door just briefly.
- Always store the food separately and well packed (closed containers, aluminium foil, etc.).
- Never put hot food into the refrigerator. Always let it cool first.
- Store sensitive food directly near the fins.
- Bear in mind that the temperature inside a closed vehicle can rise significantly as a result of sun irradiation. This may affect the performance of the refrigerator.
- Make sure that air circulation of the refrigerator unit is not obstructed.

15.4.2 Freezer compartment

- Do not store carbonated drinks in the freezer compartment.
- The freezer compartment is suitable for making ice cubes and for short-term storage of frozen food.
- The freezer compartment is not suitable for freezing food!

15.5 Putting the refrigerator out of service

Note!

➔ Leave the refrigerator door ajar when the refrigerator is not used for a longer period of time. The refrigerator door has a special latching position for this purpose.

If you intend not to use the refrigerator for an extended period of time:

- Remove all food items from the refrigerator.
- Defrost the freezer compartment.
- Thoroughly clean the entire refrigerator.
- Attach the winter cover to the ventilation openings to protect your refrigerator while it is not in use.
- Leave the door of the refrigerator and the freezer compartment open while the appliance is not in use.

For further information, please refer to the manufacturer's separate operating instructions.

16 Toilet

Caution!

Damage to the environment

➔ Use an environmentally friendly and biodegradable chemical toilet additive.

➔ The cassette may be emptied only at camping grounds with suitable waste water treatment plants or special waste water disposal stations (e.g. at parking sites for camping vehicles).

Caution!

Material breakage

The toilet lid is not designed to bear the weight of a person and could break.

➔ Do not stand or sit on the toilet lid.

Caution!

Damage to the water pump during winter operation

➔ In winter operation, the toilet may be flushed only after the toilet compartment has been well heated, otherwise the water pump of the flush system could be damaged.

➔ Do not use antifreeze.

Caution!

Damage to the toilet and the cassette's gasket

➔ Always use the filler neck to pour toilet additives into the cassette. Do not use antifreeze.

➔ Cleaning agents used for the toilet must not contain any chlorine or alcohol.

➔ Do not use excessive force to install the cassette. In case of a deadlock, check if the slider handle is in closed position.

Note!

➔ Do not leave water in the bowl when the toilet is not used. This does not prevent unpleasant odours but could cause flooding.

➔ Use quick dissolving toilet tissue in order not to affect the mechanical components of the cassette.

➔ When the vehicle is not heated while there is a risk of frost, the fresh water tank, the waste water tank and the waste holding tank must be drained completely.

16.1 Thetford cassette toilet C-223 S

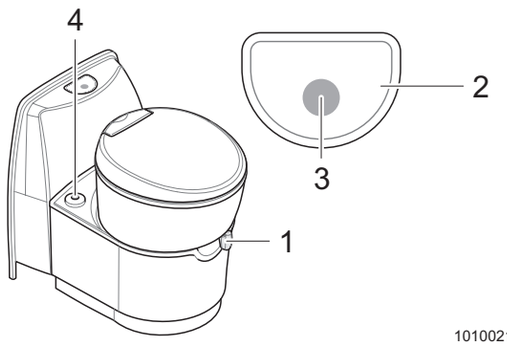


Fig. 106 Thetford C-223 S

1 Slider handle
2 Operator panel
3 Flush button
4 Waste level indicator

Before using the toilet:

➔ Read the manufacturer's operating instructions and carry out all preparatory measures.

➔ Pour the toilet additives recommended by the manufacturer through the drainage pipe (Fig. 107/4) into the cassette.

➔ Follow the instructions on the proper dosage as specified on the toilet additive packaging.

➔ Pour about 3 litres of water into the cassette.

➔ Fill the fresh water tank of the vehicle (chapter 12.2.2).

➔ Only use the toilet paper that is recommended by the manufacturer.

Using the toilet:

➔ Close the toilet lid and use both hands to turn the toilet bowl to the desired position.

➔ You can use the toilet while the slider is open or closed.

➔ Before flushing, open the slider. Slide the slider handle (Fig. 106/1) to the side.

➔ Press the flush button (Fig. 106/3) for several seconds to flush the toilet.

➔ Push back the slider handle.

➔ Make sure that the slider is fully closed.

For further information, please refer to the manufacturer's separate operating instructions.

16.1.1 Cassette for Thetford cassette toilet C-223 S

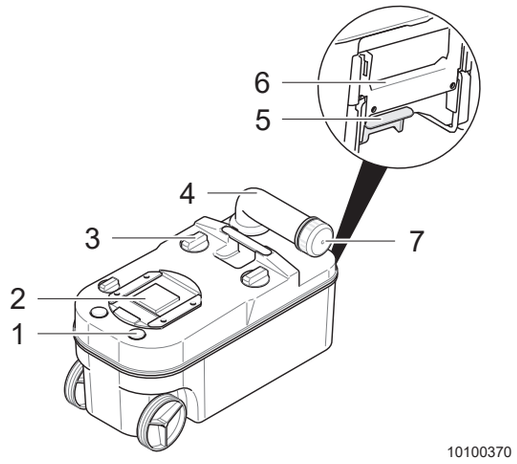


Fig. 107 Waste tank for C-22x

1 Vent plunger button
2 Sliding cover
3 Float
4 Swivelling drainage pipe
5 Catch
6 Hand grip
7 Cover drainage pipe

The cassette (Fig. 107) holds approx. 17 l.

Drain the cassette when the level indicator (Fig. 106/4) lights up. Do not allow the cassette to become overfilled.

Removing the cassette:

➔ Use the slider handle (Fig. 106/1) to close the slider.
➔ Open the service hatch on the vehicle's outer wall.
➔ Unlock the cassette (Fig. 107/5) and remove it by the handle (Fig. 107/6).

Emptying the cassette at disposal stations:

➔ Take the cassette to a disposal site.
➔ Keep the cassette upright.
➔ Swing the drainage pipe (Fig. 107/4) upwards.
➔ Unscrew the drainage pipe's cover (Fig. 107/7).
➔ Turn the cassette so that it drains completely.
➔ Press the vent plunger button (Fig. 107/1) with the thumb of the other hand.
➔ Do not press the vent plunger button before the drainage pipe points towards the ground. When pressing the vent plunger button, the cassette is drained without splashing.
➔ Clean the cassette:
  – Fill approx. 5 l of water into the cassette and fasten the cover of the drainage pipe.
  – Carefully shake the cassette.
  – Empty the cassette.
➔ Unscrew the float (Fig. 107/3) out of the cassette clockwise and clean it thoroughly with water. Then screw the float back into the cassette.
➔ Push the cassette into the toilet.
➔ Close the service hatch.

For further information, please refer to the manufacturer's separate operating instructions.

16.1.2 Preparing the toilet for winter mode

Caution!

Damage to the water pump during winter operation

➔ In winter operation, the toilet may be flushed only after the toilet compartment has been well heated, otherwise the water pump of the flush system could be damaged.

➔ Do not use antifreeze.

Note!

➔ Empty the cassette and water tank when the vehicle is not heated and there is a risk of frost.

16.1.3 Placing the toilet out of service

Note!

When the vehicle is not heated while there is a risk of frost, the fresh water tank, the waste water tank and the waste-holding tank must be drained completely.

Putting the toilet out of service:

➔ Place a sufficiently large container underneath the drain plug of the fresh water tank.

➔ Open the drain plug and completely empty the fresh water tank. Then allow the fresh water tank to dry.

➔ Empty the cassette (chapter 16.1.1).

➔ Leave the drainage pipe open to allow the cassette to dry.

➔ Clean the toilet (chapter 19.2.7).

➔ Clean all seals and treat with care products for seals.

For further information, please refer to the manufacturer’s separate operating manual.

16.2 Thetford toilet Porta Potti

Warning!

Risk of injury from unsecured Porta Potti

If the Porta Potti is not secured while travelling, it can fly around the vehicle. This may lead to injuries and accidents or cause damage to the vehicle or the Porta Potti.

➔ Regularly change the water including the boiler contents (e.g. twice a week).

Caution!

Damage to the environment

➔ The waste holding tank and the flushing water tank may be emptied only at camping grounds with suitable waste water treatment plants or special waste water disposal stations (e.g. at parking sites for camping vehicles).

➔ Use an environmentally friendly and biodegradable chemical toilet additive.

➔ For environmental reasons, the Porta Potti can also be used without chemical additives, but then the waste holding tank must be emptied more frequently.

Caution!

Material breakage

The Porta Potti lid is not designed to bear the weight of a person and could break.

➔ Do not stand or sit on the Porta Potti lid.

Caution!

Damage to the Porta Potti during winter operation

Frost can cause the Porta Potti to freeze and damage it.

➔ In winter operation, the Porta Potti may only be used in a heated environment.

➔ Do not use antifreeze.

➔ If there is a risk of frost, completely drain the flush water tank and the waste holding tank.

Caution!

Damage to the Porta Potti and the waste holding tank seal

The Porta Potti can be damaged if the toilet additives are filled incorrectly or if the wrong cleaning agents are used.

➔ Only fill the toilet additives into the waste holding tank through the drainage pipe or into the flush water tank through the water fill.

➔ Cleaning agents used for the Porta Potti must not contain any chlorine or alcohol.

Note!

- ➔ Do not leave water in the bowl when the Porta Potti is not used. This does not prevent unpleasant odours but could cause flooding.
- ➔ Use quick dissolving toilet tissue in order not to affect the mechanical components of the cassette.

Note!

Different hand pumps are installed depending on the model.

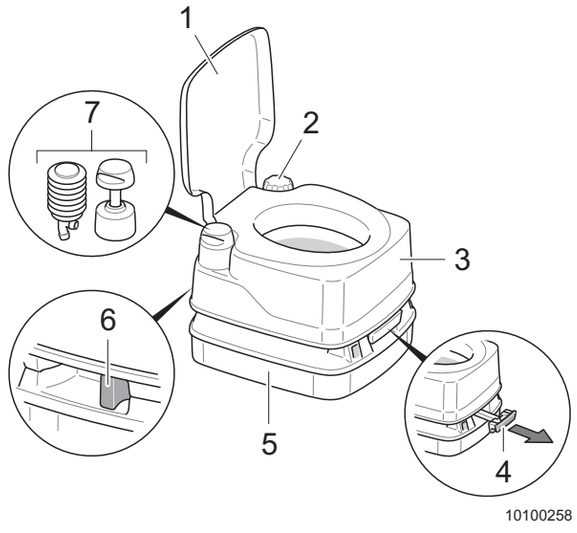


Fig. 108 Thetford toilet Porta Potti

1 Cover
2 Water fill cover
3 Flush water tank
4 Slider handle
5 Waste holding tank
6 Latch
7 Hand pump

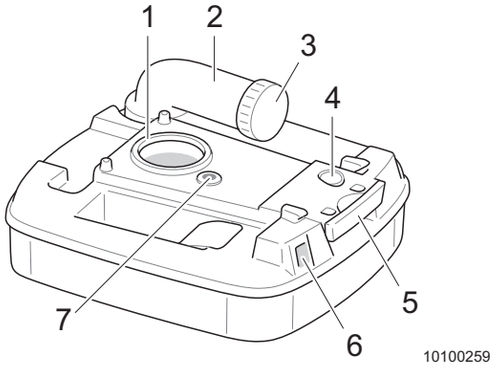


Fig. 109 Thetford waste holding tank Porta Potti

1 Lip seal
2 Pivoting drainage pipe
3 Cover drainage pipe
4 Vent plunger button
5 Slider handle
6 Level indicator
7 Vent seal

The Porta Potti is located behind a flap and the shower cover in the shower cubicle.

- ➔ Before showering, push the Porta Potti back into the cabinet and close the flap and shower cover.

Before using the Porta Potti:

➔ Read the manufacturer's operating instructions and carry out all preparatory measures.

Prepare the waste holding tank:

➔ Open the latch (Fig. 108/6).

➔ Disconnect the waste holding tank (Fig. 108/5) from the flush water tank (Fig. 108/3).

➔ Place the waste holding tank upright.

➔ Swing the drainage pipe (Fig. 109/2) upwards.

➔ Unscrew the drainage pipe's cover (Fig. 109/3).

➔ Pour the toilet additive recommended by the manufacturer through the drainage pipe into the waste holding tank.
Follow the instructions on the proper dosage as specified on the toilet additive packaging.

➔ Fill the waste holding tank with clean water through the drainage pipe until the bottom of the waste holding tank is covered.

➔ Screw the cover onto the drainage pipe.

Prepare the flush water tank:

➔ Assemble the waste holding tank (Fig. 108/5) and the flush water tank (Fig. 108/3).

➔ Unscrew the cover of the water fill (Fig. 108/2).

➔ Pour the toilet additive recommended by the manufacturer through the water fill into the flush water tank.
Follow the instructions on the proper dosage as specified on the toilet additive packaging.

➔ Fill the flush water tank with clean water through the water fill.

➔ Screw the cover onto the water fill.

Using the Porta Potti:

➔ Only use the toilet paper that is recommended by the manufacturer.

➔ Pull forward the slider handle (Fig. 108/4).
You can use the Porta Potti while the slider is open or closed.

➔ Before flushing, open the slider.

➔ Carry out three or four short flushing processes with the hand pump (Fig. 108/7).

➔ Push back the slider handle.
Make sure that the slider is fully closed.

Emptying the waste holding tank at a disposal site:

Drain the waste holding tank (Fig. 108/5) when the level indicator (Fig. 109/6) turns red.
Do not allow the waste holding tank to become overfilled.

➔ Open the latch (Fig. 108/6).

➔ Disconnect the waste holding tank (Fig. 108/5) from the flush water tank (Fig. 108/3).

➔ Take the waste holding tank to a disposal site.

➔ Place the waste holding tank upright.

➔ Swing the drainage pipe (Fig. 109/2) upwards.
➔ Unscrew the drainage pipe's cover (Fig. 109/3).
➔ Turn the waste holding tank so that it drains completely.
➔ Use the thumb to press the vent plunger button (Fig. 109/4).
Do not press the vent plunger button before the drainage pipe points towards the ground.
When pressing the vent plunger button, the waste holding tank is drained without splashing.
➔ Thoroughly clean the waste holding tank with water.
➔ Assemble the waste holding tank (Fig. 108/5) and the flush water tank (Fig. 108/3).

Emptying the flush water tank at a disposal site:

Only empty the flush water tank completely if you do not expect to use the Porta Potti for a long time.

➔ Open the latch (Fig. 108/6).
➔ Disconnect the waste holding tank (Fig. 108/5) from the flush water tank (Fig. 108/3).
➔ Take the flush water tank to a disposal site.
➔ Unscrew the cover of the water fill (Fig. 108/2).
➔ Empty the flush water tank through the water fill. To do this, turn the flush water tank so that the water fill is facing downwards.
➔ Flush with the hand pump (Fig. 108/7) until no more water is being pumped.
➔ Assemble the waste holding tank (Fig. 108/5) and the flush water tank (Fig. 108/3).

For further information, please refer to the manufacturer's separate operating manual.

16.2.1 Preparing the Porta Potti for winter mode

Caution!

Damage to the Porta Potti during winter operation

Frost can cause the Porta Potti to freeze and damage it.

➔ In winter operation, the Porta Potti may only be used in a heated environment.
➔ Do not use antifreeze.
➔ If there is a risk of frost, completely drain the flush water tank and the waste holding tank.

Note!

When the vehicle is not heated while there is a risk of frost, the flush water tank and the waste holding tank must be drained completely.

For further information, please refer to the manufacturer's separate operating manual.

16.2.2 Placing the Porta Potti out of service

Note!

When the vehicle is not heated while there is a risk of frost, the flush water tank and the waste holding tank must be drained completely.

Putting the Porta Potti out of service:

- ➔ Empty the flush water tank completely (see above).
- ➔ Empty the waste holding tank completely (see above).
- ➔ Clean and dry the Porta Potti thoroughly.
- ➔ Open the slider and remove the cover of drainage pipe's cover to ventilate the waste holding tank.
- ➔ Remove the cover of the water fill to ventilate the flush water tank.

For further information, please refer to the manufacturer's separate operating manual.

17 Winter camping

17.1 Travelling in winter

Winter camping is becoming more and more popular. Your ***SUN LIVING*** vehicle is suitable, to the greatest possible extent, for use in winter and if you pay attention to the following information, your winter holiday in your own vehicle will become proper winter fun.

Note!

Before starting the journey, mount suitable winter tyres and have snow chains on board. Snow chains are prohibited on aluminium rims.

When camping in winter:

- ➔ Obtain exact information about road conditions and weather.
- ➔ Avoid roads with strong uphill/downhill gradients.
- ➔ Select the camping site carefully and in time, plan your arrival during the day.
- ➔ Carefully check the tyres, tread depth and tyre pressure (chapter 22.2).
- ➔ Fill the windscreen washer unit with frost-proof cleaner, take reserve frost-proof cleaner for the journey with you.
- ➔ Before starting the journey, clear snow and ice from the roof, all windows, mirrors and lights as well as the wheel wells.
- ➔ Do not warm up the engine while parked, smoothly drive off immediately after you start the engine.
- ➔ Use only propane gas for winter camping.
- ➔ Allow for sufficient gas supplies.

Pitching the vehicle:

- ➔ Clear the snow from the parking area before pitching the vehicle.
- ➔ Do not park the vehicle underneath trees. Falling branches or pieces of ice can damage the roof and roof hoods.
- ➔ Check the underground regularly to prevent sinking in when thawing sets in.
- ➔ After pitching, secure the vehicle with wheel chocks against rolling away. Release the parking brake to prevent freezing.
- ➔ After travelling on salt-covered roads, the complete vehicle including the chassis has to be thoroughly washed with water.
- ➔ To prevent white rust formation of the galvanised parts, ensure adequate air circulation underneath the vehicle. Water must be capable of flowing off.
- ➔ Lay the 230 V power cable so as to prevent it freezing to the ground or being damaged when snow is cleared.

17.2 Winter operation

Danger!

Risk of suffocation

➔ Do not use any catalytic stoves or infra-red radiators in the vehicle. The oxygen in the living area is then used.

Caution!

Risk of damage through freezing

➔ Do not store any fluids in the unheated vehicle when there is a risk of frost.

➔ If the vehicle is left with the heating switched off for a longer period of time at low temperatures, the water pipes and tanks could freeze and thus be damaged.

➔ Empty the waste water tank when there is a risk of frost and the heating is switched off.

➔ When there is a risk of frost and the vehicle is not heated, the water system must be carefully cleaned, thoroughly rinsed, completely emptied and thoroughly dried.

➔ When there is a risk of frost, water taps have to be left open in the unheated vehicle even when the water supply is drained. For taps that have a "hot" and a "cold" position, drain both positions and then leave the middle position open (chapter 12.2.5).

The vehicle is insulated and suitable for use in winter when operated properly. The water supply is located inside the vehicle.

The snow and ice load can amount to several hundred kilograms and so reduce the additional load of your vehicle.

In winter, temperature differences and wet objects (e.g. ski clothes) in the vehicle increase condensation.

Warm air absorbs much more humidity than cold air. When the warm air in the vehicle cools down, water condenses in cold places (windows, window frames and storage compartments). This can be remedied by adequate heating with the air circulation switched on.

We recommend thermo-mats for the outside of the driver's cab. These keep the windows free from snow, ice and steam.

When camping in winter:

- ➔ Vent openings may not be covered by snow or snow drifts. Clear the snow also from underneath the vehicle so that the heater receives enough fresh air.
- ➔ Clear snow and ice off the roof, the canopy or the awning at regular intervals (chapter 2.8).
- ➔ Always keep the heater exhaust free of any obstructions. Attach the cowl extension (optional).
- ➔ Provide for good ventilation (air circulation) and heating. Always keep the forced ventilation open.
- ➔ Use the awning as a wind guard and storage area for wet objects, e.g. skiing equipment.
- ➔ Always open all cabinet doors, flaps and storage compartments when heating the vehicle to prevent condensation.
- ➔ Wipe off any condensation.
- ➔ Air and dry the cushions daily.
- ➔ Open windows and roof hoods when cooking.
- ➔ Avoid the use of electrical appliances that consume a lot of power. Camp sites do not have unlimited amounts of electricity.
- ➔ Make sure the waste water drain pipe does not freeze up.

18 Putting the vehicle out of service

Note!

The vehicle can be parked outdoors all year round, provided that the instructions for maintenance and care and the checklist for putting out of service are observed.

18.1 Checklist for temporarily putting the vehicle out of service

	Activity	✓
Body	Keep the forced ventilation and all mushroom ventilators open.	
	Carefully wash the vehicle and apply a paint protection product (wax).	
	Repair paintwork damage. Your ***SUN LIVING*** dealer will be pleased to advise you with respect to suitable products.	
	Move the vehicle every four weeks in order to avoid flat spots on the tyres and damage to the wheel bearings. Secure the vehicle with wheel chocks from rolling away.	
	Regularly check the tyre pressure.	
	Disengage the parking brake.	
	Protect the tyres from direct exposure to the sun.	
	Thoroughly air the vehicle every four weeks. If the vehicle is to be parked in an enclosed area, at least two windows must remain open.	
	Provide for good ventilation in the underbody area.	
	Cover the exhaust cowl, if possible	
	If the vehicle is covered with a tarpaulin, make sure air can still circulate above the roof. The tarpaulin must not rest directly on the roof to prevent it from sticking to the roof. Light wooden slats allow for air circulation on the roof.	
	Open all blinds and curtains to avoid condensation damage.	
Electrical system	Recharge the starter and living area batteries for at least 24 h.	
	Disconnect terminals from living area battery poles	
Gas system	Close the gas cylinder valve on the gas cylinder.	
	Close all quick-action stop valves for all appliances.	
	Always remove all gas cylinders from the gas locker and store them safely.	
	Close the open end of the gas hose so that no dirt or insects can enter.	

	Activity	✓
Water system	Empty the entire water system completely, clean carefully and allow to dry.	
	Leave all water taps, all drain cocks as well as all drain valves open. Drain the taps that have a “warm” and a “cold” position in both positions and leave them open in one of the positions.	
	Bacteria and algae can form in the fresh water tank, so always empty the fresh water tank at the end of the trip, clean it thoroughly (chapter 12.2.5) and allow it to dry well. We recommend using a disinfectant for the fresh water tank. Ask your ***SUN LIVING*** dealer for advice.	
Built-in appliances	Empty and clean the refrigerator; leave the refrigerator door and the freezer compartment, if applicable, open.	
	For information on temporarily putting the appliances out of service, please refer to the separate operating instructions of the respective appliance.	
Living area	Leave all cabinet doors, access doors, storage compartments, seat chests and bed boxes open.	
	Clean the living area and storage compartments.	
	Stand all the cushions up for ventilation or store them in the house.	
	Make sure the forced ventilation is open and not covered.	

Tab. 6 Checklist for temporarily putting the vehicle out of service

18.2 Checklist for putting the vehicle out of service during winter

The following measures are required in addition to those already mentioned for the temporary putting out of service over the winter.

	Activity	✓
Body	Clear snow from the roof when it snows.	
	Thoroughly heat and ventilate the vehicle every four weeks.	
	Lubricate all hinges and locks.	
	Coat all rubber seals with talcum or Vaseline.	
	Use graphite dust to treat locking cylinders.	
	Install the winter cover for the refrigerator grille (optional).	
Electrical system	Recharge the starter and living area batteries for at least 24 h. Remove the living area battery and store it protected against frost. Charge the starter and extended living area battery monthly.	
Built-in appliances	For information on putting the appliances out of service over winter, please refer to the separate operating instructions of the appliances.	
Living area	Make sure the forced ventilation is open and not covered.	
	Keep all cushions dry in the house.	
	Position dehumidifiers and check them regularly.	

Tab. 7 Checklist for putting out of service over the winter

18.3 Checklist for putting the vehicle into service again after laying up

Perform the following activities for putting the vehicle into service again after it has been laid up.

	Activity	✓
Body	Remove tarpaulin and any wooden slats, if applicable.	
	If the vehicle has been stationary for a long period (approx. 10 months), have the brake system checked by an authorised workshop.	
	Check the tyre pressure, including that of the spare wheel (optional).	
	Remove cover from the exhaust cowl, if present.	
	Remove the winter cover from the refrigerator grille (optional).	
	Check the function of all doors, windows, flaps and hatches.	
	Check the function of all external locks (e.g. entrance door, filler neck, flaps, etc.).	
Electrical system	Connect starter and living area battery Recharge the starter and living area batteries for at least 24 h.	

	Activity	✓
Gas system	Lash the gas cylinders in the gas locker and connect gas cylinders.	
	If the vehicle has been stationary for a long period (approx. 10 months), have the gas system checked by an authorised workshop.	
Electrical system	Check the function of the electrical system (e.g. lighting, sockets) and of all appliances (e.g. refrigerator).	
	Checking the function of the ground-fault circuit breaker:	
Water system	Thoroughly rinse the complete water system with plenty of fresh water; leave the taps open.	
	Close all water taps and drain valves.	
	Check for leakage and function of all water taps and drain valves.	
Built-in appliances	For information on putting the appliances into service, please refer to the separate operating instructions of the appliances.	
	Check the function of all appliances (e.g. refrigerator, gas cooker, heater, etc.).	
Living area	Replace all cushions.	
	Remove dehumidifiers.	

Tab. 8 Checklist for putting the vehicle into service after laying up

19 Cleaning & care

19.1 Cleaning and care - exterior

The polyester outer skin (glass-fibre reinforced plastic) of the vehicle was dyed at the factory, i.e. not painted. We recommend the following steps for the care of the vehicle:

Warning!

Risk of injury and of damage to the vehicle roof

- ➔ The front area of the roof of the vehicle is not designed for the weight of standing persons.
- ➔ Standing or walking on the elevation of the alcove or the front opening hood of partially integrated vehicles is not allowed!
- ➔ Do not walk on roof structures or roof fittings, e.g.. roof hoods, roof railings etc.
- ➔ Walking on the roof of the vehicle is permissible only in the rear area.

Note!

- ➔ Never drive the vehicle through a wash facility. The acrylic glass windows will be scratched by the rotating cleaning brushes.
- ➔ When cleaning the vehicle with a high-pressure cleaner, maintain a distance of approx. 70 cm from the nozzle to the vehicle surface.
- ➔ Never point the water jet directly towards doors, windows, flaps and vent openings. Splashing water can penetrate the vehicle through the circumferential air gap between the glass dome and the frame (forced ventilation).
- ➔ Do not spray directly on deco foils as they could become detached.
- ➔ Never point the water jet directly towards electric accessories and plug connections.
- ➔ Do not use glass cleaners, abrasives, solvents, cleaning agent containing methylated spirit or alcohol. This would result in cracks or embrittlement of the acrylic material.
- ➔ Avoid everything that could cause scratching or scoring.
- ➔ Avoid torsional forces when opening and closing the windows.

- ➔ Wash the vehicle with plenty of cold to lukewarm water and cleaning agent. Then dry thoroughly.
- ➔ You can purchase suitable cleaning agents and additives from your ***SUN LIVING*** dealer.
- ➔ Bird droppings, tree gum, berries, road salt, sea salt, etc. must always be removed immediately.
- ➔ Clean windows only with plenty of lukewarm water and mild soap solution.
- ➔ Treat rubber seals on doors, windows and flaps with talc or Vaseline.
- ➔ Check the condition of the underseal once a year. If the undersealant is defective, contact your ***SUN LIVING*** dealer.
- ➔ The chassis is galvanised. Apply a zinc coating on areas where rust is beginning to form (e.g. caused by stone-chipping or other effects) to seal these areas.
- ➔ After driving in winter on salt-covered roads, thoroughly clean the galvanised surfaces and aluminium components and rinse with clear water.

- ➔ To prevent the formation of white rust (only a visual defect) on the galvanised parts, ensure adequate air circulation underneath the vehicle. Water must be capable of flowing off.
- ➔ When staying near the sea, regularly wash the vehicle with clear fresh water.
- ➔ The painted outer surface of the vehicle can be preserved with a commercially available wax. Observe the manufacturer's operating instructions.
- ➔ Treat polyester parts every year with a two-component wax. Observe the manufacturer's operating instructions.
- ➔ Observe the environmental protection measures in cleaning and care of the vehicle.

19.1.1 Clean the acrylic windows (side windows, roof hoods)

Note!

- ➔ Never drive the vehicle through a wash facility. The acrylic glass windows will be scratched by the rotating cleaning brushes.
- ➔ When cleaning the vehicle with a high-pressure cleaner, maintain a distance of approx. 70 cm from the nozzle to the vehicle surface.
- ➔ Never point the water jet directly towards doors, windows, flaps and vent openings. Splashing water can penetrate the vehicle through the circumferential air gap between the glass dome and the frame (forced ventilation).
- ➔ **Do not use glass cleaners, abrasives, solvents, cleaning agent containing methylated spirit or alcohol. This would result in cracks or embrittlement of the acrylic material.**
- ➔ Avoid everything that could cause scratching or scoring.
- ➔ Avoid torsional forces when opening and closing the windows.

Note!

Condensation water can form between the double windows of the acrylic glass window. The condensation water disappears by itself, however, this takes some time.

Acrylic glass windows are very delicate and require very careful handling. Non-compliance with the cleaning instructions voids the manufacturer's warranty.

- ➔ Clean the windows with only warm water and a soft, clean sponge or cloth.
- ➔ If the windows are very dirty, use a solution with water and mild soap solution to keep the windows clear and free from electrostatic charging.
- ➔ For stubborn stains, we recommend a special acrylic glass cleaner, which is available from your ***SUN LIVING*** dealer.
- ➔ Do not use scouring agents. They would scratch the plastic surfaces.
- ➔ After cleaning the vehicle, rinse all acrylic glass windows with clean water.
- ➔ Treat rubber seals with talc.
- ➔ Regularly lubricate all moving parts, hinges and flaps with acid-free grease (e.g. Ballistol).
- ➔ Do not allow water to penetrate the mechanical parts.
- ➔ The insect screens and blackout blinds can be cleaned with a soft brush. If the insect screens and blinds are very dirty, use water and mild soap solution to wash them. Then allow the screens and the blinds to dry well.

19.1.2 Cleaning plastic components

- ➔ Clean plastic parts only with warm water, mild household cleanser and a soft, clean sponge or cloth. The aqueous solution should contain 2 % cleaning agent at the most.
- ➔ Do not use scouring agents. They would scratch the plastic surfaces.
- ➔ Very greasy or oily spots can be washed with ethyl, isopropyl or isobutyl alcohol. Organic solvents (e.g. acetone, methanol or ethanol) could damage the material.
- ➔ An example of possible damage to moulded plastic parts are stress cracks caused by different media. Other chemicals can have a swelling and softening effect on the plastic material. Therefore, plastic parts should only be subjected to contact with the solvents referred to above briefly (not more than 2 minutes) at room temperature.
- ➔ Avoid mechanical loads (e.g. clamping, twisting) of the plastic parts during cleaning in order to prevent distortion.

19.2 Cleaning and care - interior

Note!

Exposure to sunlight can cause the plastic parts to yellow. This is not a quality defect.

Note!

- ➔ Use only commercially available, mild cleaning agent to clean the vehicle. Ask your ***SUN LIVING*** dealer for advice.
- ➔ Do not use caustic or abrasive cleaning agent.
- ➔ Avoid everything that could cause scratching or scoring.

19.2.1 Maintaining the furniture

- ➔ Clean the furniture with a soft cloth and a commercially available furniture polish, do not use intensive cleansers.
- ➔ Wash the work surfaces with water by adding a mild detergent or household cleanser.
- ➔ Clean textile storage spaces and textile cabinets with cleansing foam.

19.2.2 Maintaining the cushions, curtains and net curtains

- ➔ Small spots in the cushions can be removed with commercially available cleaning foam for use on cushions or the foam of mild detergent.
- ➔ Do not wash cushions.
- ➔ Protect upholstery from direct sunlight so that it does not fade.
- ➔ Have large spots or soiling removed by the dry cleaners.
- ➔ Have curtains and net curtains cleaned by the dry cleaners only.
- ➔ Brush insect screens and Roman shades with a soft brush or vacuum with the brush attachment of the vacuum cleaner.
- ➔ Grease spots on Roman shades can be removed with mild, warm laundry soap.

19.2.3 Cleaning plastic components

Warning!

Risk of injuries through caustic substances

- ➔ Do not get acids into the eyes or on mucous membranes! Avoid skin contact!
- ➔ To remove limescale deposits, use only highly diluted, commercially available acids (e.g. acetic acid).

- ➔ Clean plastic parts only with warm water, mild household cleanser and a soft, clean sponge or cloth. The aqueous solution should contain 2 % cleaning agent at the most.
- ➔ Do not use scouring agents. They would scratch the plastic surfaces.
- ➔ Very greasy or oily spots can be washed with ethyl, isopropyl or isobutyl alcohol. Organic solvents (e.g. acetone, methanol or ethanol) could damage the material.
- ➔ An example of possible damage to moulded plastic parts are stress cracks caused by different media. Other chemicals can have a swelling and softening effect on the plastic material. Therefore, plastic parts should only be subjected to contact with the solvents referred to above briefly (not more than 2 minutes) at room temperature.
- ➔ Avoid mechanical loads (e.g. clamping, twisting) of the plastic parts during cleaning in order to prevent distortion.
- ➔ To prevent limescale deposits, the water used must be softened. When limescale deposits occur on surfaces, they can be removed with a diluted acid solution (e.g. acetic acid).

19.2.4 Maintaining the PVC floor coverings and carpets (optional)

Caution!

Risk of damage

- ➔ Do not place the carpet on the wet PVC floor covering, the carpet and PVC floor covering may stick together and could tear the PVC floor covering off when the carpet is removed again.
- ➔ It is also possible that mould will form between the PVC floor covering and the carpet.

- ➔ Wash the PVC floor covering with a commercially available cleanser and allow to dry well. Do not use wax.
- ➔ Never use abrasives or aggressive cleaners.
- ➔ Vacuum clean the carpet.
- ➔ Clean spots with carpet foam.

19.2.5 Cleaning the kitchen

19.2.5.1 Clean the work surfaces and the sink

➔ Wash the work surfaces with water to which a mild detergent or household cleanser has been added and dry the surfaces.

➔ Clean the stainless steel sink with a commercially available cleanser.

19.2.5.2 Cleaning the gas cooker

Caution!

Damage to the gas cooker

➔ Prevent water or cleaning agent from penetrating the gas outlet openings. Water may damage the gas cooker.

➔ Do not use scouring agents. These scratch the surfaces.

➔ Allow the gas cooker to cool before cleaning.

➔ Clean the gas stove only with a moist cloth.

➔ Clean the gas cooker cover plate (optional) with a glass cleaner.

19.2.5.3 Cleaning the oven

Caution!

Damage to seals and surfaces

➔ Do not use cleaning agents that contain sodium carbonate.

➔ Do not allow the door seal to come into contact with oil or grease.

➔ Do not use scouring agents. These scratch the surfaces.

➔ Clean the inside and outside of the appliance before you place it into service.

➔ Then clean at regular intervals.

➔ Use only soft cloths. Clean the appliance only with mild household cleaners.

➔ Then rinse the appliance with fresh water and dry thoroughly.

19.2.5.4 Cleaning the refrigerator

Caution!

Damage to seals and surfaces

➔ Do not use soap, abrasive or soda-based cleaning agent.

➔ Do not allow the door seal to come into contact with oil or grease.

➔ Do not use scouring agents. These scratch the surfaces.

➔ Clean the inside and outside of the appliance before you place it into service.

➔ Then clean at regular intervals.

➔ Use only soft cloths. Clean the appliance only with mild household cleaners.

➔ Then rinse the appliance with fresh water and dry thoroughly.

➔ Remove dust from the refrigerator unit at yearly intervals using a brush or soft cloth. The refrigerator unit is accessible through the upper refrigerator grille.

19.2.6 Cleaning the bathroom

Caution!

Damage to surfaces

- ➔ Do not clean the bathroom and toilet with solvents or alcohol-based cleaning agents. Do not use scouring agents. These could cause cracks or embrittlement of the plastic material.
- ➔ Do not pour corrosive agents or boiling water into the drain holes. This will damage the drainpipes and siphons.
- ➔ Do not allow the door seal to come into contact with oil or grease.
- ➔ Do not use scouring agents. These scratch the surfaces.
- ➔ Do not use vinegar essence for decalcifying the toilet and the water system. Use only commercially available mild decalcifying products that do not affect the plastic material.

Ask your ***SUN LIVING*** dealer for advice.

- ➔ Clean the bathroom regularly.
- ➔ Clean the bathroom and the toilet only with warm water, a soft cloth or sponge and mild, standard cleaning agent.

19.2.7 Cleaning the toilet

Caution!

Damage to surfaces

- ➔ Do not clean the toilet with household cleaners, solvents or alcohol-based cleaners.
  - – These could cause cracks or embrittlement of the plastic material.
  - – They can permanently damage the seals and other toilet components.
- ➔ Do not pour caustic substances or boiling water into the toilet.
- ➔ Do not use Vaseline or vegetable oil to lubricate the seals.
  - – They can cause leaks in the waste water tank and cassette.
- ➔ Do not use scouring agents. These scratch the surfaces.
- ➔ Do not use vinegar essence for decalcifying the toilet and the water system. Use only commercially available mild decalcifying products that do not affect the plastic material.
- ➔ Use the cleaning and care products recommended by the manufacturer.

Ask your ***SUN LIVING*** dealer for advice.

Cleaning the toilet, the water tank and waste water tank:

- ➔ Clean the toilet regularly.
- ➔ Clean the fresh water tank, the waste water tank and the water pipes thoroughly with a standard cleaning agent and rinse with plenty of water before each filling.
- ➔ Before laying up the vehicle, carefully clean, thoroughly rinse, completely empty and allow to dry the fresh water tank and the waste water tank.

20 Inspections & maintenance

20.1 Inspection work

Note!

As with any vehicle, the motorhome must be officially inspected at regular intervals (chapter 2.4).

Note!

Use only original spare parts from the respective manufacturer.

- ➔ Inspection and maintenance work (chapters 20.3 and 20.4) must be performed at regular intervals.
- ➔ Since special technical knowledge is required for the performance of the maintenance and inspection work, it has to be performed by authorised workshops.
- ➔ Regular maintenance guarantees value retention of the vehicle.

20.2 Brakes

Warning!

Risk of injury and severe damage to the vehicle

- ➔ Check brake system at regular intervals.
- ➔ All repairs and adjustments of the brake system have to be performed in an authorised workshop only!

The wear of the brake lining depends on the driving technique.

- ➔ Consult an authorised workshop immediately if the braking behaviour is not normal (pulling to one side or reduced braking pressure).
- ➔ Drive with consideration and foresight.
- ➔ Avoid braking abruptly.
- ➔ Have the brake system inspected regularly.

20.3 Chassis

In addition to the maintenance work specified by the basic vehicle manufacturer, the following maintenance work has to be performed:

Maintenance activity	Interval
Motorhome general inspection	According to regulations in the country of registration
Have the brake system checked in an authorised workshop	Every year
Have the underseal checked	Every year
Check the tightening torque of wheel nuts	Monthly
Check tread depth and tyre pressure	Before starting to drive
Check the exterior lighting	Before starting to drive

Tab. 9 Chassis maintenance and inspection plan

For the frequency of the individual maintenance tasks, please refer to the separate manufacturer's instruction manual.

On vehicles that are not driven much, the maintenance work must be performed every year and in time before the start of the journey.

20.4 Body

Maintenance activity	Interval
Delivery check	Before delivery
Replace the gas regulator and gas hose	Every 10 years
Official gas inspection	Every 2 years
Leakage test	According to warranty conditions
Bodywork inspection	Every year
Have the electrical system checked	Every year
Have the gas system checked	Every year
Check screw connections of fixing clamps of roof hoods	Every year
Rub talc on seals on doors, windows and roof hoods	Every year
Clean the moving parts of the entrance step (optional) and the corner steadies (optional) and lubricate them with grease	Half-yearly
Check water pipes and fittings for leaks and correct attachment	Half-yearly
Check charged condition of living area battery	Monthly

Tab. 10 Bodywork maintenance and inspection plan

20.5 Checking and replenishing operating fluids

Operating fluids include:

- Engine oil
- Brake fluid
- Coolant
- Wiper water
- Power steering oil
- Cooling medium for the air-conditioning system (optional)
- Heater liquid for hot water heating (optional)

Please see the manufacturer's original operating instructions for checking operating fluids.

20.5.1 Servicing the fresh water tank

On some models the fresh water tank (chapter 12.2.1) is located inside the seat box.

➔ Remove the cushions.

➔ Fold up the seat cushions to access the service opening of the fresh water tank.

20.5.2 Check/top up the fluid level of the Alde Compact

Note!

➔ Avoid bubbles.

➔ Always position the vehicle horizontal and level.

The expansion tank of the Alde Compact is normally fitted in the wardrobe.

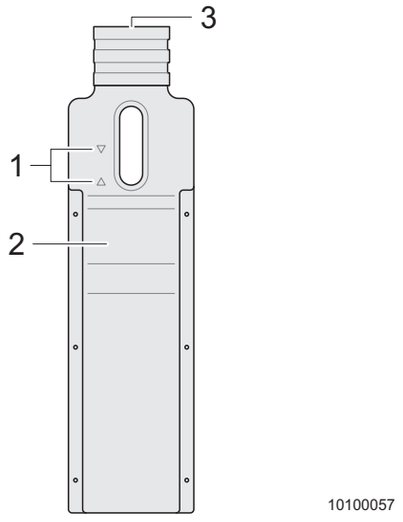


Fig. 110 Checking the Alde water level

1 Water level markings
2 Protective cover
3 Lid with pump (behind cover)

Checking the water level:

➔ Switch the Alde Compact off using the control panel.

➔ Let the water cool down.

➔ Check the water level is between the two markings (Fig. 110/1).

Topping up water:

➔ Remove the protective cover (Fig. 110/2).

➔ Unscrew the lid (Fig. 110/3) and remove the lid with circulation pump slowly upwards.

➔ Check the antifreeze content. Antifreeze must be 40% or -25°C.

➔ Fill water with antifreeze without bubbles to about 1 cm above the minimum marking.

21 Troubleshooting

Please pay attention to the following information for finding and correcting faults.

If you cannot remedy the faults yourself, contact the customer service of your competent ***SUN LIVING*** dealer or the respective appliance manufacturer (heating = Truma, toilet = Thetford, etc.).

Warning!

Risk of injury and severe damage to the vehicle

➔ All repairs on the vehicle and on the brake system have to be performed in an authorised workshop only!

21.1 Flat tyre

21.1.1 Securing the vehicle

➔ Wear a warning vest (different regulations from country to country).
➔ If possible, remove the vehicle from the flowing traffic.
➔ Secure the vehicle with a warning triangle and possibly a warning light.
➔ Apply the parking brake and engage the first gear or reverse gear.
➔ Secure the vehicle with wheel chocks from rolling away.

21.1.2 Tyre mobility system

The vehicle is equipped with a tyre mobility system.

Warning!

Health hazard

The spray contains ethylene glycol and **must not be used by asthmatics**.

➔ Do not breathe in the vapours during repair.

Avoid contact with your eyes, skin and clothes.

➔ Immediately rinse off with plenty of water.
➔ Immediately consult a doctor if an allergic reaction occurs.

Note!

➔ With the tyre mobility system, tyres can be repaired whose treads were pierced by foreign objects with a diameter of **4 mm max**.
➔ The tyre mobility system is approved only for filling the tyres of a vehicle that was equipped by the factory with this tyre mobility system.
➔ Repaired tyres may be used only for a short period!
➔ Repair with the tyre mobility system is only a temporary measure!

The tyre mobility system can be found in the front part of the vehicle.
The scope of delivery includes:

- Spray can with sealing fluid
- Folded sheet with instructions
- Compressor with manometer and connecting pieces
- Adapter for pumping up various elements

Before repair:

Do not pull out any foreign objects (screws or nails) that have penetrated the tyre.

➔ Before repair, carefully check the tyre side wall.
Do not use the tyre mobility system when the tyre has already been damaged by driving with the flat tyre.

➔ Also check the rim.
When the rim is damaged (deformation of the bead of the rim that causes the loss of air), repair is not possible.

After repair:

➔ Stop after driving for approx. 10 minutes and check the tyre pressure.

➔ Consult a tyre repairman as soon as possible.

➔ Inform the tyre repairman that the tyre has been repaired with the tyre mobility system.

➔ Give the instruction sheet to the persons who have to repair the tyre that was treated with the tyre mobility system.

For more information concerning the tyre mobility system, please refer to the separate manufacturer's operating instructions.

21.2 Changing a wheel

Danger!

Risk of injury and accidents

Improperly fitted wheels or incorrect behaviour when changing wheels can lead to accidents or injuries.

- ➔ Use only a vehicle jack with adequate lifting capacity. Determine the required lifting capacity in the technical data of your vehicle based on the gross weight rating.
- ➔ Never position the vehicle jack on the bodywork. Position the vehicle jack only at the intended positions.
- ➔ The vehicle jack is only provided for changing wheels on the vehicle. Never use it for working underneath the vehicle.
- ➔ Jack up the vehicle only on level and firm ground.
- ➔ Do not lie underneath the jacked up vehicle.
- ➔ Do not use the corner steadies for lifting the vehicle.
- ➔ If there is a lack of practice and unsuitable tools, call for professional help from a breakdown service.

Note!

Changing tyres is described in the operating instructions of the base vehicle manufacturer.

Tyres should not be older than 6 years because the material becomes brittle over time. The four-digit DOT number on the tyre sidewall indicates the date of manufacture of the tyre. The first two digits indicate the week, the last two digits the year of manufacture.

Example: 1224 = week 12, year of manufacture 2024.

- Observe the minimum tread depth prescribed by law.
- Always use tyres of the same type, make and design (summer or winter tyres).
- Only use tyres approved for the rim type.

The approved rim sizes and tyre sizes are listed in the vehicle documents. Please contact your Sun Living dealer to find out whether other tyre and rim sizes are approved.

To prevent punctures, check the tyre pressure regularly in accordance with the specifications of the base vehicle manufacturer.

21.3 Replacing lighting elements

Caution!

Damage to bulbs

➔ Never touch the new bulbs with your bare fingers. Always use a clean and lint-free cloth.

➔ Before starting to drive, check the function of all interior and exterior lighting equipment on the vehicle and replace defective lighting elements.

➔ Have a clean mat available for changing the lighting elements. This ensures that you will not lose any small parts.

21.3.1 Exterior lighting

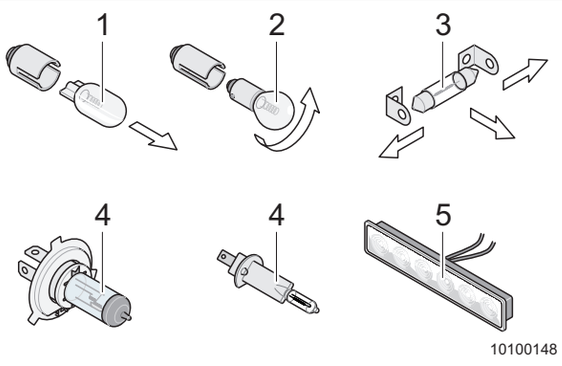


Fig. 111 Exterior lighting elements

1 Bulb with plug cap
2 Bulb with bayonet cap
3 Cylindrical bulbs
4 Halogen bulb
5 LED daytime running light

Replace the various lighting elements as follows:

	Bulb type	Replacing
1	Bulb with plug cap	• Removing: pull the bulb out. • Fitting: push the bulb in the socket with light pressure.
2	Bulb with bayonet cap	• Removing: push the bulb down and turn it anticlockwise. • Fitting: insert the bulb in the socket and turn it clockwise.
3	Cylindrical bulbs	• Removing/Fitting: bend the contacts of the lamp holder carefully outwards.
4	Halogen bulb	• Removing: release the retaining spring. • Fitting: remount the retaining spring.
5	LED daytime running light	• Removing: release the lighting element carefully from its holder using a screwdriver. • Fitting: carefully clip the lighting element in place.

Tab. 11 Replacing bulb types - exterior

21.3.1.1 Replacing lighting elements - front

➔ The required information can be found in the operating instructions of the base vehicle.

21.3.1.2 Replacing lighting elements - sides

➔ The side marker lights are LED lights. Lamps should only be replaced in a workshop. Contact your ***SUN LIVING*** dealer in the case of defects.

21.3.1.3 Replacing lighting elements - rear

VAN models:

➔ The required information can be found in the operating instructions of the base vehicle.

Partially integrated and alcove models:

➔ Lamps should only be replaced in a workshop. Contact your ***SUN LIVING*** dealer in the case of defects.

21.3.2 Interior lighting

Have the entire LED lamps replaced in a workshop.

LED lamps doesn't contain separate filaments for replacement.

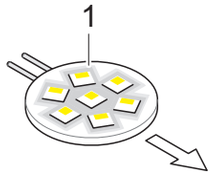


Fig. 112 LED insert for interior lighting

1 LED insert G4

	Bulb type	Replacing
1	LED insert with G4 plug connection	• Removing: Pull the LED insert out of the plug connection. • Fitting: Push the LED insert into the plug connection with light pressure.

Tab. 12 Replacing the LED insert for interior lighting

21.4 Water supply faults

Fault	Possible cause	Remedy
No water	Fresh water tank empty.	• Fill the fresh water tank.
	Fuse of water pump defective.	• Replace the defective fuse.
	Water pump is switched off at the control panel.	• Switch on water pump.
	Water pump defective.	• Have the water pump replaced in an authorised workshop.
Water leak in vehicle	Leak in water system.	• Identify and repair leak.

Tab. 13 Water supply faults

21.5 Toilet faults

Fault	Possible cause	Remedy
Toilet does not have flushing water	Fresh water tank empty.	• Fill the fresh water tank.
Cassette leaking	Gasket damaged or foreign objects (toilet paper) in slider.	• Replace slider gasket. • Remove foreign objects (toilet paper).
No level indication	Float in the cassette jammed or blocked by toilet paper.	• Clean cassette float. • Do not use high-pressure cleaner!
The pump runs, the toilet bowl is not emptied	Lumps forming in the toilet bowl.	• Fill the toilet bowl with water. Allow the lump to swell for about 2 minutes and then flush briefly several times in succession.
Toilet does not function	Fuse defective.	• Replace the fuse.

Tab. 14 Toilet faults

21.6 Alde Compact 3030 heater faults

Note!

If the measures listed do not lead to success, consult a specialist workshop.

Fault	Possible cause	Remedy
The boiler will not start with gas (gas failure).	Gas cylinder is empty.	• Replace the gas cylinder.
	Gas cylinder valve is closed.	• Open the gas cylinder valve.
	Quick-action stop valve on heater is closed.	• Open quick-action stop valve on heater.
	Outside temperature too low.	• Use propane gas for winter camping.
	Fuse of heater is defective.	• Insert a new fuse.
	12 V supply switched off	• Switch on the 12-V supply.
	12V battery voltage is too low (< 11 V).	• Charge the living area battery.
	Flue gas hose between boiler and chimney is blocked.	• Flue gas hose between boiler and chimney needs unblocking. The flue gas hose is made up of an inner and an outer hose.
	Flue blocked.	• Unblock flue.
	Crash sensor on the Truma MonoControl has triggered.	• Reset the crash sensor.
Electric operation (230 V) not working satisfactorily.	No mains voltage.	• Check the circuit breaker is switched on. • Check that the power output selected on the control unit is high enough.
	12 V supply switched off	• Switch on the 12-V supply.
	12V battery voltage is too low (< 11 V).	• Charge the living area battery.

Tab. 15 Alde Compact 3030 heating fault – part 1

Fault	Possible cause	Remedy
Poor or no heat output	Air in the heating system.	• Bleed the heating system.
	Circulation pump is not working.	• Consult an authorised workshop.
Error messages are shown on the control panel. The LED on the On/Off button turns red.	Various	• Read the instruction manual to find out how to rectify faults.

Tab. 16 Alde Compact 3030 heating fault – part 2

21.7 Truma Combi heater faults

Note!

The Truma CP plus control panel indicates faults using error codes. Further information regarding what the individual error codes mean can be found in the separate instruction manual supplied by the device manufacturer. Information on how to eliminate any faults is also found in these separate instructions.

The instruction manuals supplied with the Truma CP plus can also be found on the Truma company website.

If the measures listed do not lead to success, consult a specialist workshop.

21.8 Truma FrostControl faults

Fault	Possible cause	Remedy
The drain valve (FrostControl) opens after switching off the heater.	The temperature at the drain valve is below 3 °C.	• Switch the heater on. The drain valve opens automatically at temperatures below about 3 °C. • When the heater is off, the drain valve can only be closed again at temperatures above about 7 °C.
The drain valve (FrostControl) can no longer be closed.	The temperature at the drain valve is below 7 °C.	• Switch the heater on. When the heater is off, the drain valve can only be closed again at temperatures above about 7 °C.
	The rotary switch not in “Operation” position.	• Turn rotary switch of the drain valve to “Operation” position, then press the push-button until it snaps in.
Water spurts from the drain tap of the FrostControl.	The water pressure is too high.	• Check pump pressure (max. 2.8 bar). When connecting to a central water supply (land or city connection), a pressure reducer must be used which prevents higher pressures than 2.8 bar in the boiler.

Tab. 17 Truma FrostControl faults

21.9 Gas system faults

Fault	Possible cause	Measure
Gas smell, high gas consumption	Leak in gas system.	• Immediately put the gas system out of service. • Close the valve on the gas cylinder! • Avoid any type of ignition spark and open light. • Ventilate the vehicle well. • Repair by authorised workshop.
No gas	Gas cylinder is empty.	• Replace the gas cylinder.
	Gas cylinder valve is closed.	• Open the gas cylinder valve.
	The Truma MonoControl CS has switched off after the gas system has not been used for a longer period of time while the gas cylinders were shut off.	• Put the Truma MonoControl CS into service.
	Gas pressure regulator frozen.	• Use regulator de-icing equipment (EisEx).
	Quick-action stop valve closed.	• Open quick-action stop valve.
	Faulty appliance.	• Repair by authorised workshop.
	Outside temperature too low.	• Use propane gas for winter camping.
Flame appearance on appliance not normal	Gas pressure regulator defective.	• Consult an authorised work-shop.

Tab. 18 Gas system faults

21.10 Gas cooker faults

Fault	Possible cause	Remedy
No gas	See chapter 21.9.	
The flame extinguishes when the control knob is released.	The ignition safety is defective.	• Consult an authorised workshop.
Flame extinguishes in the “small flame” position	Flame failure device is not adjusted correctly.	• Adjustment exclusively by authorised workshop.
Flame failure device does not react	Ignition detector defective.	• Consult an authorised workshop.
Flame appearance on appliance not normal	Gas pressure regulator defective.	• Consult an authorised workshop.

Tab. 19 Gas cooker faults

21.11 Control panel faults

Fault	Possible cause	Remedy
12-V supply does not function	12-V main switch switched off.	• Switch on 12-V main switch
	Fuse defective.	• Contact customer service.
12-V control indicator (green) is not on	12 V supply switched off	• Switch on the 12-V supply.
System cannot be switched on	Living area battery is not charged or insufficiently charged.	• Charge living area battery.
	Fuse defective.	• Contact customer service.
No voltage is supplied by the living area battery	The living area battery is discharged.	• Charge living area battery immediately.
	Discharge by appliances on the vehicle.	• Charge living area battery for longer stationary periods.
The “mains control” symbol is not shown although the 230-V mains supply is connected	The mains connection has no voltage.	• Check the mains connection (e.g. camping site).
	Circuit breaker for 12-V power supply unit has triggered or is switched off.	• Reset or switch on the circuit breaker.

Tab. 20 Control panel faults

21.12 Measured values for living area battery voltage

Note!

The values apply for running operation and not for measuring the open-circuit voltage.

Battery voltage	Battery operation	Vehicle operation	Mains operation
Complete discharging to less than 11.5 V is imminent	Appliances switched off: Battery empty.	No charge from generator.	No charge from power supply (EBL .../ C(S)V ....).
	Many appliances switched on: Battery overload.	12-V on-board electrical system overload.	12-V on-board electrical system overload.
12.2 V to 12.7 V	Normal range.	No charge from generator (if voltage does not exceed this range for several hours).	No charge from power supply (EBL .../ C(S)V ....) (if voltage does not exceed this range for several hours).
		12-V on-board grid overload (if voltage does not exceed this range for several hours).	12-V on-board grid overload (if voltage does not exceed this range for several hours).
13.5 V	Only occurs during charging (if solar controller available) or briefly after charging.	Battery is charging.	Battery is charging.

Tab. 21 Measured values for living area battery voltage

21.13 Power supply faults

Fault	Possible cause	Remedy
Ground-fault circuit breaker triggered	Fault in 230-V cables of vehicle.	• Contact customer service.
	Fault in an electrical appliance.	• Disconnect all electrical consumers until the ground-fault circuit breaker no longer triggers. • Have defective appliances repaired by a qualified electrician.
Living area battery is not charged in 230-V mode	No mains voltage.	• Switch on the circuit breaker in the vehicle. • Have the mains voltage checked.
	Transformer/rectifier defective.	• Contact customer service.
Living area battery is overcharged in 230-V operation	Transformer/rectifier defective.	• Contact customer service.
Living area battery is not charged in drive operation	Too many connected appliances.	• Switch off the appliances, if possible.
Living area battery is overcharged in drive operation	Generator is defective.	• Have the generator checked.
	Regulator defective.	• Have the regulator checked.
Refrigerator does not operate in drive operation	No voltage applied to refrigerator.	• Have the fuse and cables checked.
	Transformer/rectifier defective.	• Contact customer service.
	Refrigerator defective.	• Have the refrigerator checked.
12-V supply in the living area does not function	The 12-V main switch for the living area battery is switched off.	• Switch the 12 V main switch for the living area battery on.
	Fuse or cables defective.	• Have the fuse and cables checked.
	Transformer/rectifier defective.	• Contact customer service.
	System put out of service.	• Put the system into service.

Tab. 22 Power supply faults

21.14 Refrigerator/freezer compartment faults

Fault	Possible cause	Remedy
No 12-V operation	On-board fuse defective.	• Insert a new fuse.
	Battery is discharged.	• Check and charge the battery.
	Ignition is not switched on.	• Start the engine.
Cooling function is not sufficient	Door not closed properly.	• Close the door. • Have the door adjusted.
	Ventilation of the cooling unit is not sufficient	• Check the refrigerator grilles are not covered.
	Thermostat setting too low.	• Increase the setting.
	Too much ice on vaporiser.	• Check the refrigerator door closes properly.
	Too much warm food placed in the refrigerator at the same time.	• Allow food to cool first
	Appliance not yet long enough in operation.	• Check the cooling effect after some hours.
“Batteries empty” icon flashing despite new batteries	Use rechargeable batteries.	• Use new batteries (type 1.5 V AA/LR6).

Tab. 23 Refrigerator/freezer compartment faults

22 Technical data

Note!

- ➔ For the technical data, the statements in the registration certificate part I are binding.
- ➔ Modifications of the original equipment of the vehicle ex factory can affect road safety and driving behaviour.
- ➔ Accessories not approved by ***SUN LIVING*** for installation, attachment or conversion can cause damage to the vehicle and affect driving behaviour.
- ➔ ***SUN LIVING*** assumes no liability for damage caused by unapproved accessories or by unallowed modifications on the vehicle.
- ➔ The dimension and weight information is within possible tolerances ± 5%.

22.1 Models

SUN LIVING vehicles are grouped into the following models:

- Alcove models (driver's cab of basic vehicle can be seen, bodywork has a bed in an alcove above the driver's cab)
- Partially integrated models (driver's cab of basic vehicle can be seen, bodywork does not have a bed above the driver's cab)

Model identification:

- A - Alcove models
- S - Semi-integrated models
- V - VAN models:

22.2 Tyres / tyre pressure

Warning!

Risk of injury and severe damage to the vehicle

- ➔ Different tyre pressures may be necessary when using winter tyres. For more detailed information, please refer to the operating instructions of the base vehicle.

For the tyre size, please see the vehicle documents or look at the tyres of your vehicle.

The specifications are applicable for cold tyres under load. The pressure should be approx. 0.3 bar higher for warm tyres.

The tyre pressures specified are approximate values. Refer to the separate operating instructions of the base vehicle for exact specifications.

22.3 Payload/weight

Caution!

Danger of overloading

The driving behaviour of an overloaded vehicle changes drastically. It can get out of control during the journey.

When the vehicle is overloaded, the insurance coverage and the warranty claim to the manufacturer become void.

➔ Do not exceed the maximum gross vehicle weight (see vehicle documents).

Note!

➔ Load the vehicle properly (chapter 5.1).

➔ Weigh the vehicle before starting the journey (e.g. on public vehicle scales).

22.3.1 Determining the payload

The payload is calculated according to the following formula:

- Maximum gross vehicle weight - (minus) unladen weight / basic equipment = weight of payload

In the EU, the EU Directive 97/27/EC is valid for vehicle payloads; these rules are essentially equivalent to standard DIN EN1645-2.

22.3.1.1 Maximum gross vehicle weight

See the registration certificate, part I or part II, for the gross weight rating.

22.3.1.2 Mass of the vehicle in running order (MRO)

– The mass of the empty vehicle, including tyre mobility system and tools.
– Driver weight (75 kg).
– Fuel tank (90% capacity)
– One full LPG cylinder (11 kg gas + 6 kg container = 17 kg)
– Fresh water tank (20 l = 20 kg)

Note!

➔ Weights quoted are for standard vehicles only. Please verify that you have considered the masses of all items you intend to carry in the motorhome (passengers, optional equipment, indispensable equipment and personal effects such as clothing, food, pets, bicycles, etc.).

➔ The MRO figure quoted is representative of a number of similar specification models weighed on our fully calibrated axle weighbridge. Because of materials and construction techniques used in the motorhomes assembly, all weights quoted by us are subject to the tolerances allowed in EU regulation No.1230/2012 (+/- 5%).

22.3.1.3 Payload

Note!

The permitted total weight must not be exceeded by the payload.

The payload consists of:

Additional equipment

All objects offered in addition to the standard equipment:

- Optional equipment from ***Sun Living***
- Optional equipment from the base vehicle manufacturer
- Special accessories from the dealer

Personal equipment

- Pets on board
- Shoes and clothes
- Toiletry and sanitary articles
- Kitchen accessories and foodstuff
- Leisure time and sports articles, toys
- Audio, TV and video equipment and accessories

23 Checklists

Note!

These lists also include optional equipment and personal equipment not included in the standard vehicle equipment.

23.1 Checklist, general

Motorhome checklist	✓
Motorhome general inspection and gas inspection carried out (chapter 2.4.1)	
Gas test carried out (chapter 2.4.2)	
Maintenance and inspection work carried out (chapter 20)	
Use-by date for gas regulator and gas hose checked	
Batteries charged	
Oil level, coolant level and windscreen wiper water level checked	
Wheel bolts, wheel nuts tightened correctly	
Tyre pressure checked (chapter 22.2), tread depth checked	
Spare wheel tyre pressure or use-by date of tyre mobility system checked	
Lighting checked	
Nationality plate attached (when required in destination country)	
Emergency equipment available (warning triangle and first-aid kit, possibly flashing hazard warning light and warning vests in the towing vehicle)	
Fire extinguisher present and tested	
Tools: Gloves, reserve fuel canister (if allowed in the country being visited), jumper cable, tow rope, tow bar, vehicle jack, wheel chocks, wheel nut spanner, screwdriver, open-ended spanner, hammer, pliers, circuit tester, terminal clamps, fabric tape, folding spade, engine oil, tension belts	
Spare parts: Fuses, spare lights, hose clamps, hose, spare immersion pump, wire	
Snow shovel, snow broom, de-icing spray, ice-scraper, squeegee	
Snow chains, traction aids	
Bubble level, drive-on chocks	
CEE cable reel, extension cable, adapter cable	
Earth contact-multiple socket available	
Freshwater tank cleaned, disinfected and drain valve closed	

Motorhome checklist	✓
Freshwater tank filled	
Water hose, canister, watering can	
Water disinfectant, toilet cassette, etc.	
Waste water tank emptied and drain valve closed	
Cassette emptied and with fresh disinfectant	
Additive for cassette available	
Gas cylinders, filled	
Gas cylinders securely fastened in the gas locker (chapter 11.2), screw cap and protective cover available for all bottles	
Quick-acting stop valves for gas cooker, oven closed (chapter 11.8)	
Gas adapter (filling set, cylinder set), Truma MonoControl CS high-pressure hoses available	
Cranks and support plates for corner steadies	
Crank for awning	
Additional cushion for making the bed	
All ladders safely stowed	
Antenna retracted and secured	
All liquids stored in leak-proof containers	
All objects in open storage areas stowed securely	
Refrigerator, freezer compartment and oven doors latched securely	
Sink board safely stowed	
Cabinets and drawers latched securely	
Bathroom door latched securely	
Is the Porta Potty (if available) stowed in the cabinet and is the cabinet door locked?	
All beds and bed extensions latched securely	
All tables safely stowed	
All windows and roof hoods closed securely	
Awning light switched off	
Awning retracted and latched securely	
230 V connecting cable removed from external socket	

Motorhome checklist	✓
Corner steadies retracted	
Drive-on chocks, wheel chocks removed	
Snow and ice cleared from roof	
Roof loads attached securely, roof boxes locked securely	
Rear carrier loaded securely, warning sign attached securely	
Additional loads stored securely and prevented from shifting	
Loading carried out correctly (chapter 5.1)	
Permissible gross weight and gross axle weight rating of the vehicle not exceeded (see registration documents)	
Entrance step retracted	
All outer doors and flaps securely latched and locked	
Child car seats attached securely	
Headlights height setting adjusted	
Rear view mirrors correctly adjusted	
Cab seats set to the right position and locked into position	
Blackout blind in the driver's cab fully open and locked	

Tab. 24 General motorhome checklist

23.2 Driver and passengers checklist

Driver and passengers checklist	✓
Identity cards, passport, visa (check validity!)	
Health insurance card, EU health insurance card, health insurance documents for abroad	
Travel health insurance documents	
Vaccination cards (vaccinations up to date?), allergy passes, emergency passes	
Required travel documents for all animals	
Driving licence, international driving licence	
Vehicle documents, green insurance card	
General inspection certificate, emissions test certificate, official gas inspection certificate	
Parking disc	

Driver and passengers checklist	✓
Operating manuals	
Directory of authorised workshops for basic vehicle	
Spare vehicle key	
Spare glasses, sunglasses	
Window cloth	
Automobile club card, breakdown insurance package for coverage abroad	
Accident set with European accident report	
Apartment or house key	
Cash, foreign currencies	
Travel cheques	
EC card, credit card	
Toll stickers, toll tickets, ferry tickets, petrol coupons	
Road atlas, road maps	
Navigation equipment, navigation CD or DVD	
Travel guides, camping and parking guide	
Camping site booking confirmation	
Phrase books, dictionaries	
Travel provisions	
Address book	
Mobile phone with charger (12 V/230 V)	

Tab. 25 Driver and passengers checklist

23.3 Living and sleeping area checklist

Equipment	✓	Equipment	✓
Copies of: Identity cards, passports, visa		Copies of: Vaccination cards, allergy passes, emergency passes	
Copies of: Driving licence, international driving licence		Copies of: Vehicle documents, green insurance card	
Telephone number of local bank (if the EC card gets stolen)		Telephone number of credit card company (if the credit card gets stolen)	
Clothes, shoes		Pyjamas	
Rain wear, winter clothes (hat, scarf, gloves, boots...)		Swimwear, bathrobe and slippers, diving goggles, flippers	
Sports clothes, jogging gear		Ski clothes	
Umbrella		Shoe polish	
Pillows, blankets		(Fitted) sheets, bed linens	
Coat hangers		Clothes brush, lint roller	
Camping table, camping chairs		Tent, awning	
Table cloths, place mats, napkins, bibs		Insect repellent candles / insect repellent lights, fly swatter	
Iron, sewing kit, scissors		Pocket knife, multitool	
Pocket light, candles		Rope, cord	
Barbecue, charcoal, charcoal lighters		Batteries	
Pencils and paper		Alarm clock	
Alarm clock Books, CDs, DVDs		Radio	
Sunglasses, sun hat, sun cap		Audio equipment, photo equipment, video equipment	
Rucksack		Games, painting accessories, cuddly toys	
Binoculars		Dog collar, dog lead	
Bicycles, tricycles, scooters		Bicycle locks with keys, repair kit	
Air mattress, pump or compressor		Leisure equipment	
Impregnating agent			

Tab. 26 Living area checklist

23.4 Kitchen checklist

Equipment	✓	Equipment	✓
Food		Bottle stopper	
Baby food		Glasses, mugs, cups	
Carving knife, kitchen knife, bread knife		Plates (large/small), soup plates, soup bowls	
Chopping board		Bowls (large/small)	
Gas lighters, matches		Bread basket	
Scissors, can opener		Cutlery, ladles, salad servers	
Pots, pans		Airtight storage boxes	
Pot coasters		Aluminium foil, cling film, freezer bags	
Pot holders		Coolbag	
Measuring cup		Kitchen towels	
Baking paper		Basin/box for dirty crockery	
Cooking spoons, spatula, egg whisk		Coffee machine, filter paper, kettle	
Spices		Dishwashing brush, sponge, cloth	
Pasta strainer, salad strainer		Tea towels	
Dishwashing detergent		Cleaner	
Tea pot, coffee pot, Thermos flask		Tin opener, bottle opener, corkscrew	
Bottle warmer		Broom, shovel	
Egg boiler, egg cups		Dust bin, rubbish bag	
Toaster		Grill utensils	
Floor cloth, bucket		Dog bowl	

Tab. 27 Kitchen equipment checklist

23.5 Bathroom/sanitary equipment checklist

Equipment	✓	Equipment	✓
Toilet bag		Glasses, glasses cleaners	
Toothbrush, toothpaste, beakers		Contact lenses, cleaner, clear water	
Shaver, razor blades / shaving brush / shaving foam		Body lotion, face cream, hand cream	
Soap		Toilet brush	
Shower gel, shampoo		Wet wipes	
Flannels		Nappies, changing mat	
Towels, bathing towels, shower towels		Tampons, sanitary towels	
Toilet paper (rapid dissolving)		Contraceptives	
Comb, brush, hair bands, hair slides		Detergent, clotheslines, clothes pegs	
Hair dryer, curling tongs		Tissues	
Mousse, hair spray		Disinfectant	
Deodorant, fragrance		Sun protection products, after sun	
Cosmetic products, lip balm		Insect repellent lotion, insect repellent spray	
Cotton swabs, cotton pads		First-aid kit and medicines with instruction leaflets	
Nail scissors, nail file		Laundry bag	
Tweezers		Earplugs	

Tab. 28 Bathroom / sanitary equipment checklist

23.6 Personal checklist

Please copy and complete.

Route:	Date:

Personal checklist	✓

Tab. 29 Personal checklist

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