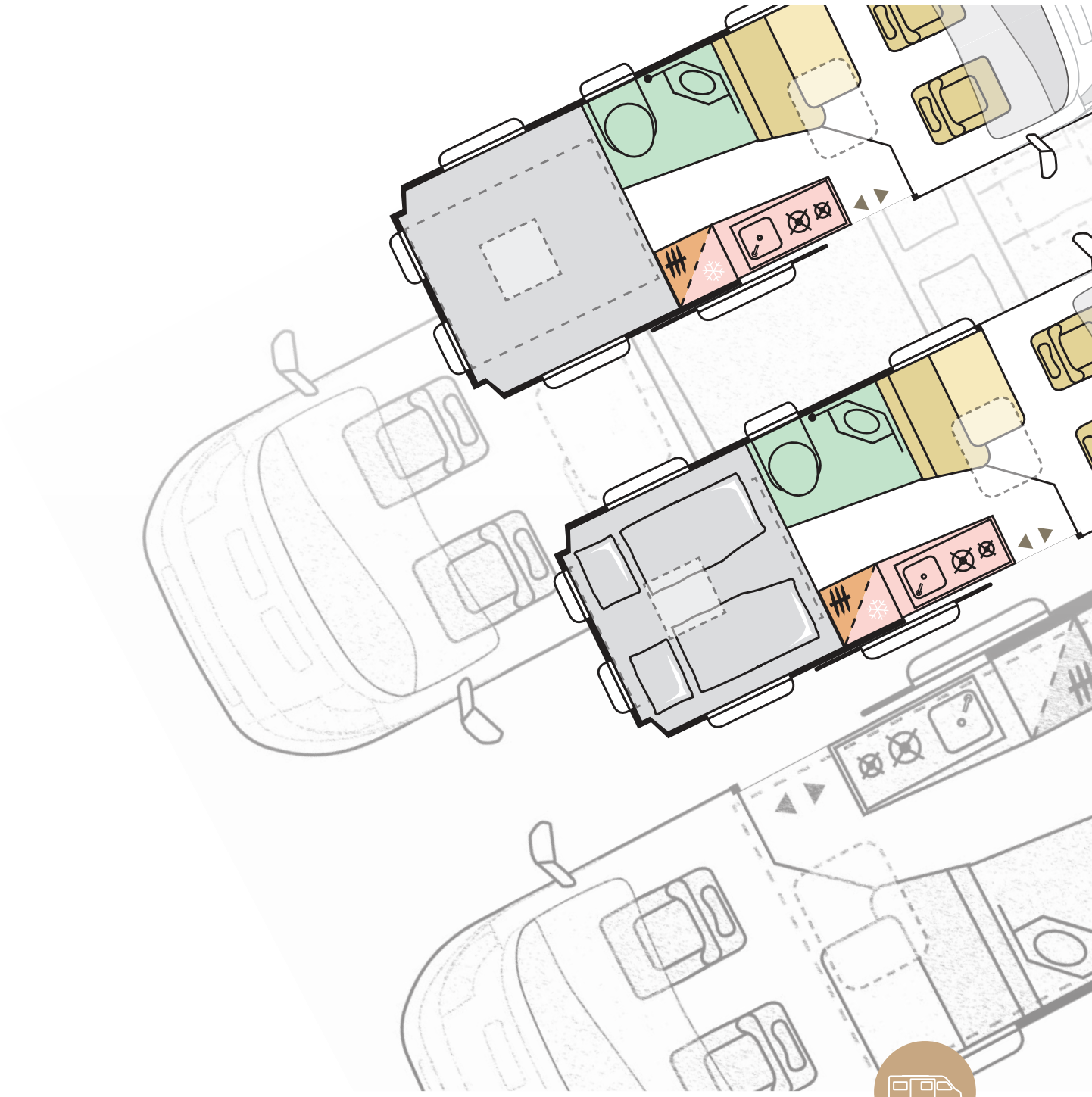
USER MANUAL



Inspiration for *your* adventures.

ADRIA VANS

EN

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1 Introduction

You want to get to know new horizons? Count on us to help you!
Congratulations on your new ***ADRIA VAN***.
We have designed and built your vehicle so that you can enjoy every moment when travelling in your “home away from home”.

1.1 Before the journey

- Take your time and read this operating manual on one of the comfortable seats of your vehicle.
  - This operating manual also contains surprising innovations for experienced users because the ***ADRIA*** 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 operating manuals for optional equipment and appliances as well as accessories.
- If your ***ADRIA*** 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 operating 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 ***ADRIA*** on the basis of the contents of this operating manual. The equipment which was known and included at the time of going to press is described in this manual. This operating 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). This operating manual describes the standard equipment. Furthermore, you will find descriptions of the optional equipment and accessories in this operating manual insofar as explanations are required. Please also pay attention to the enclosed separate operating manuals provided by the manufacturers of the optional equipment or accessory.
- Reproduction, copying and translation, including extracts, are not permitted without the explicit approval of ***ADRIA***.
- ***ADRIA*** will not be held responsible for damage to the vehicle resulting from the non-observance of the operating manual.

Date of issue: 21 August 2023

1.3 Warranty, service and repair

- Please contact your local ***ADRIA*** dealer for all service and repair work as well as special questions.
  - The staff at your authorised specialist workshop will be happy to advise and assist.
  - 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 data will be important when you have questions concerning the proper use of your vehicle and for ordering original parts.
- Check the nameplates for the data of your vehicle.

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

Tab. 1 Vehicle data

We hope you will enjoy your leisure time with your new ***ADRIA VAN*** beyond all borders.

The Management

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 operating 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 inside the vehicle, always keep the forced ventilation and the mushroom vent open. These must never be covered, as this would increase the carbon monoxide content in the air and thus pose a risk of suffocation.

- Always keep the operating manuals for the vehicle and all installed appliances (e.g. cooker, refrigerator, toilet) and additional equipment (e.g. bicycle racks) in the vehicle and observe the instructions given there.
- Never leave children in the vehicle unattended.
- Keep the vehicle height in mind 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, cupboard doors, drawers and flaps as well as all windows and roof hoods. Make sure that the refrigerator door securing device snaps 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 (optional).
- 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 with a total weight of 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 direction of travel.

2.3.1 Driving the van

- 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 differs from that of a passenger car because of the length of the vehicle, its longer rear overhang and the weight of the van.
- 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 Van - 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 its owner, they must be informed in writing of their 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 Emergency equipment to be carried in the vehicle

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.
- It is recommended to carry along a warning vest for every passenger on 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 shut-off valve on the gas cylinder.
- ➔ 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 a remote activation of the gas-powered or fuel-powered appliances (e.g. using the Truma App) is not possible.

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).
- ➔ Repairs and modifications to the gas system may only be carried out by an authorised specialist 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 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 cm^2 and must never 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: The high-pressure hoses of the (optional) Truma MonoControl CS should be tightened with the enclosed plastic wrench.
- ➔ Use a de-icing system for the regulator if the temperature is 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 the exhaust gas routing must be inspected by an authorised ***ADRIA*** workshop every two years!
- ➔ 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 cylinder **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 changes to the electrical system may only be performed by qualified personnel in an authorised ***ADRIA*** workshop.
- ➔ Prior to carrying out work on the electrical system, switch off all appliances and lights, disconnect the battery and disconnect the 230-V power cable 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 operating 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 variations 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 manual.

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.
- ➔ Do not leave children and other vulnerable persons alone.
- ➔ 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!

- ➔ Observe the information on the sticker “Safety instructions for the user”.
- ➔ Provide one dry powder fire extinguisher complying with EN 3-7 of at least 1 kg capacity or on one equivalent fire extinguisher by the main exit door, and a fire blanket next to the cooker. Familiarize yourself with the instructions on your fire extinguisher and the local fire precaution arrangements.
- ➔ The fire extinguisher must be close at hand.
- ➔ Read the operating 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 gas cylinder valve, provided this can be done without risk.
- ➔ Cut the electrical supply, provided this can be one without risk.
- ➔ Trigger an alarm and call the fire brigade.
- ➔ Extinguish the fire, provided this can be done without risk.

2.8 Safety instructions for the roof

Warning!

Risk of injury and of damage to the vehicle roof

- ➔ Do not step on the van roof.
- ➔ 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.
- ➔ Items loaded must not protrude beyond the vehicle's width. Secure all sharp and pointed objects.
- ➔ The load must be stored safely and specially secured against falling down.
- ➔ Using the rear carrier will affect the load distribution as well as the driving and braking behaviour of the vehicle.

Note!

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

2.10 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.

2.11 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 and directives.

3 Description & equipment

3.1 Body (superstructure)

The body (superstructure) of the vehicle consists of:

- Outer skin: Sheet steel
- Insulation: Armaflex / eco fibre wool (depending on the model)
- Inner wall: Plywood

3.2 Gas locker

The lockable gas cylinder compartment is sealed against the vehicle 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 edge protection.

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 seating groups that can be easily converted for sleeping (Chapter 9).

3.4 Kitchen

The kitchen unit consists of a cooktop, a sink and a refrigerator/freezer.

Adequate storage space is provided.

3.5 Bathroom cubicle

The vehicle has a bathroom cubicle (Chapter 16) with shower, sink and toilet. Always close the curtain when taking a shower.

3.6 Heating

The vehicle is equipped with a heater with hot-air blower or with a hot water heater (Chapter 13). Depending on the fitted equipment, there may also be an electric hot water boiler on the vehicle.

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 time

4.1 Registering the vehicle

Before driving the vehicle for the first time, you must register the vehicle according to the national regulations and attach an official number plate. 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 (Chapter 22.1) at regular intervals. 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 22.2).
- 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 22.2).
- 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.
  - Attach and secure the roof and rear loads 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 protrude beyond the vehicle’s dimensions on the side or rear.
  - Do not overload the vehicle. For weight information and tables, see Chapter 22.2 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 store liquids in leak-proof containers and in the low-lying storage compartments.
- The maximum load of the (optional) bike rack is 50 kg.

Note!

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

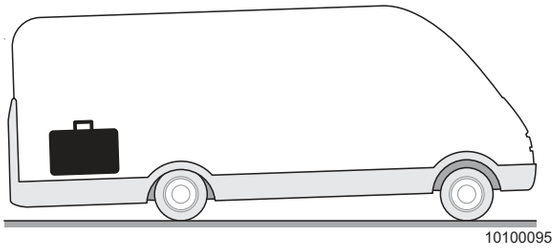


Fig. 1 Vehicle loaded incorrectly

VEHICLE LOADED INCORRECTLY!

- Do not stow heavy objects as shown (Fig. 1).
- Incorrectly spreading the load may lead to instability and the loss of control over the vehicle.

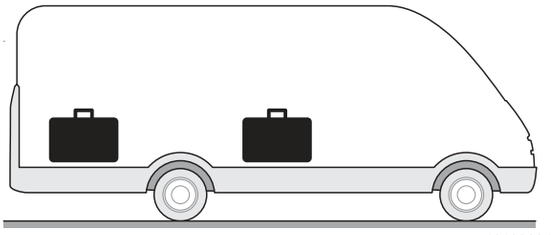


Fig. 2 Vehicle loaded correctly

VEHICLE 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 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	***ADRIA*** Service department

Tab. 2 Spare keys

5.3 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 check-lists (Chapter 23) before starting your journey.

5.4 ISOFIX fastening system for child car seats (optional)

Some models are equipped with the ISOFIX fastening system for child car seats.

Please select the appropriate car seat for your child from the table (Tab. 3).

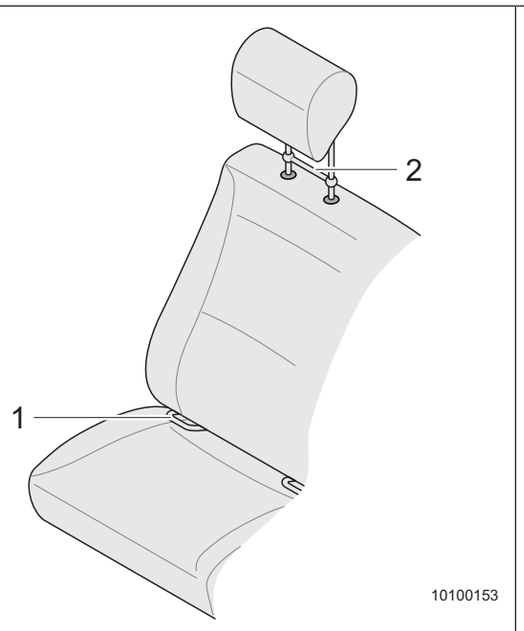


Fig. 3 ISOFIX fastening system

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. 3/1).

➔ Fasten the upper safety belt to the mounting bracket at the headrest (Fig. 3/2).

	For children from ...		
	Weight	Age (approx.)	Height (approx.)
Standard groups			
Group 0	> 0 to 10 kg	New-born 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	New-born to 2 years	to 90 cm
Group 0/I	> 0 to 18 kg	New-born 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. 3 ISOFIX reference table

5.5 Additional air suspension (optional)

Depending on the model, some vehicles have additional air suspension. It requires only minor cleaning and no special maintenance.

SSA air suspension

The SSA air suspension system is used to raise or lower the vehicle's rear axle when the vehicle is heavily loaded and parked on a ground that is not level.

Danger!

Danger to life from getting trapped and crushed when lowering the vehicle

When people or body parts are located underneath the vehicle or between the wheels while the vehicle is lowered, this may lead to life-threatening injuries.

➔ No person must be in the danger zone during the lowering process.

Warning!

Risk of accident and severe damage to the vehicle

Alterations of the air suspension system can change the driving characteristics of the vehicle and lead to accidents.

➔ The air suspension system installed at the factory must not be altered.

All pressure gauges and valves for the SSA air suspension are located on the side of the driver's seat.

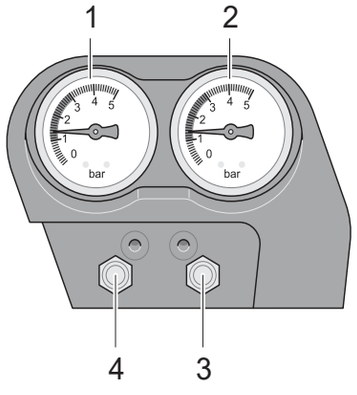


Fig. 4 SSA air suspension

1 Pressure gauge of the left air spring
2 Pressure gauge of the right air spring
3 Valve of the right air spring
4 Valve of the left air spring

Caution!

Risk of accident due to incorrect pressure settings for the air suspension

If the pressure for the air suspension does not match the specified values, the driving characteristics may deteriorate.

➔ Minimum pressure in the air suspension: 0.8 bar

➔ Maximum pressure in the air suspension: 3.0 bar

➔ Maximum pressure difference between the right and left side: 0.5 bar

Checking the pressure of the air suspension system:

➔ Read the pressure for the respective spring at the corresponding pressure gauge (Fig. 4/1 and Fig. 4/2).

➔ Correct the respective pressure if it does not match the values specified above.

Raising or lowering the rear axle:

If the vehicle is heavily loaded, raise the rear axle. Once the load is removed, lower the rear axle again.

➔ Increasing the pressure in the air springs:
Use a compressor (at a filling station or a 12-volt hand-held compressor) to fill air into the valves (Fig. 4/3 and Fig. 4/4) until the vehicle is level.

➔ Lowering the pressure in the air springs:
Release air from the respective valve until the vehicle is level.

Note!

After changing the load, consider adjusting the air suspension.

5.6 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 (see Chapter 22.1) 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 may cause the tyre to burst when driving at high speed.
- Regularly check the tyres for even wear and damage (e.g. penetrated foreign objects, punctures, cuts, cracks and bumps in the 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.
  - It is recommended to change the tyres of the vehicle, including the spare wheel, when they are 6 years old or earlier when the minimum tread depth is reached.

5.7 Electrical 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).

6 During the journey

Danger!

Risk of injury due to moveable rear bench (depending on the vehicle)

➔ Slide the rear bench back into its initial position and lock it.

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, bathroom cubicle) 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.

➔ While the vehicle is driving, it is not permitted to remain in the beds and the bathroom cubicle of 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.

Caution!

Risk of injury and damage to the vehicle

➔ Keep the vehicle's dimensions in mind when driving through passages, across bridges, through tunnels, underneath tree branches hanging over the street as well as when manoeuvring the vehicle.

➔ Please refer to the vehicle documents to find the dimensions of the vehicle.

➔ Equipment and attachments change the weight and the dimensions.

➔ Vehicles with a total weight of 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.

Pay attention to the following during the journey:

➔ When starting to drive, shortly apply the brake to check the function of the brake system and the braking behaviour (tracking stability etc.). Only do this at low speed.

➔ Adjust your driving technique to the vehicle size, drive with consideration and fore-sight.

➔ 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.

➔ Expect crosswinds when crossing bridges. The vehicle can get into a turbulence when overtaking truck-trailer combinations. In either situation, you may have to counter-steer quite heavily.

➔ 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 keep a larger distance to the vehicle in front accordingly.
- ➔ When driving in reverse, have a second person assist you because distances may appear different in the rear view mirrors.
- ➔ At filling stations, inside parking garages, garages or on ferries, switch off all gas-consuming or diesel-powered appliances (e.g. refrigerator, heating).

6.1 Rear-view camera or 360-degree camera (optional)

Your vehicle is equipped with a rear-view camera or a 360-degree camera monitor system. The rear-view camera or the 360-degree camera monitoring system support the driver when reversing and manoeuvring. The rear-view camera is located at the back of the vehicle. There is a camera on each side of the vehicle for the 360-degree camera monitoring system.

Warning!

Risk of accident and damage to the vehicle

Using the rear-view camera or the 360-degree 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 or the 360-degree 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 or the 360-degree camera.
- ➔ It is possible that the rear-view camera or the 360-degree camera does not show all areas clearly.
- ➔ 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 or the 360-degree 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.

Items such as thin rods, fences, posts or trees may not be detected by the rear-view camera and may cause 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!

➔ ***ADRIA*** recommends practising using the rear-view camera or the 360-degree camera in a place with limited traffic or in a car park in order to familiarise yourself with the system and its functions. Make sure that there is a second person there to assist you.

➔ If the rear-view camera or the 360-degree 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.

Switching the 360-degree camera monitoring system on and off:

➔ The 360-degree camera monitoring system is switched on when the engine starts.

➔ The 360-degree camera monitoring system is switched off when the ignition is switched off.

6.2 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!

- ➔ ***ADRIA*** 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.

6.3 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 anti-swaying 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!

- ➔ ***ADRIA*** 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.
- ➔ ***ADRIA*** recommends having the vehicle serviced between the prescribed inspection intervals because the strain on the vehicle is higher when frequently towing a trailer.
- ➔ 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 manual.

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.

6.4 Roof rack with ladder (optional)

Your vehicle is equipped with a roof rack and a ladder. You can use the roof rack to attach objects to the vehicle roof and transport them.

Please also refer to the instructions in Chapter 5.1.

Warning!

Risk of accident

Loading or mounting the roof rack incorrectly can lead to accidents.

- ➔ The objects you want to transport on the roof must not protrude beyond the vehicle's dimensions.
  - – The maximum allowable total width of the load is 2.55 m.
  - – Vehicle and load must not exceed a total height of 4 m.
  - – If the vehicle is 2.5 or less metres high, it is not allowed to have the load on the roof protrude from the front of the vehicle. The maximum overhang to the rear must not exceed 1.5 m.
- ➔ Securely attach the load to the rack.
- ➔ Regularly check that all tension belts and brackets are secure and tighten if necessary.
- ➔ Replace any damaged or worn parts of the roof rack immediately.
- ➔ Do not exceed the maximum load capacity of the roof rack as specified by the roof rack's manufacturer.
- ➔ Always distribute weight evenly.
- ➔ Do not use bungee cords to tie down the load.

Warning!

Danger of slipping and falling

Being incautious when stepping on the vehicle roof may result in falling off.

- ➔ Take particular care when stepping onto the vehicle roof.
- ➔ When the vehicle roof is wet or covered with ice, the vehicle roof should only be accessed with utmost care and if this is absolutely necessary.

Warning!

Damage to the vehicle

Incorrectly loading and unloading the roof rack can damage the vehicle.

- ➔ Proceed with care when lifting and fastening the load to the roof rack.
- ➔ Proceed with care when lifting loaded items down from the roof rack.

Note!

- ➔ The roof rack can affect driving characteristics, especially around bends and when braking.
- ➔ The roof rack can affect the axle load distribution and the total weight.
- ➔ The vehicle's length is extended by the ladder of the roof rack. The height and width of the vehicle may increase when loaded.

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.

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

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

7.3 Electrical connection

If 230-V supply is available at your parking area, the electrical appliances can be connected to this voltage 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 8.7).

7.4 Alarm system (optional)

The vehicle can be equipped with an alarm system.

Activating the alarm system:

➔ Lock the vehicle with the vehicle key.
The alarm system is activated as soon as the vehicle is locked.

Deactivating the alarm system:

➔ Unlock the vehicle with the vehicle key.

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

7.5 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 Sliding door

Note!

In all van models, the lock of the sliding door is connected to the central locking of the vehicle.

Warning!

Risk of injury

- ➔ Always make sure not to injure any persons or animals, or damage any objects when opening and closing the sliding door.
- ➔ Only hold the door by the door handle to open and close the sliding 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 to the windows in the sliding door and the fly-screen door

- ➔ Before using the sliding door, always make sure that the window in the sliding door and the window behind the sliding door (optional) are closed and locked.
- ➔ Fully open the (optional) fly-screen door before closing the sliding door.

8.1.1 Opening/closing the sliding door from the outside

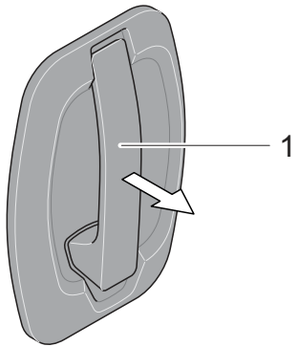


Fig. 5 Opening/closing the sliding door 1

1 Door handle

Opening the sliding door:

- ➔ Unlock the lock with the remote control.
- ➔ Pull the door handle (Fig. 5/1) to open the door.
- ➔ Move the sliding door towards the rear until it reaches its locking position.

Closing the sliding door:

- ➔ Pull the door handle (Fig. 5/1) and push it in the direction it is closed.
- ➔ Move the sliding door towards the front until it is completely closed.

8.1.2 Opening/closing the sliding door from inside

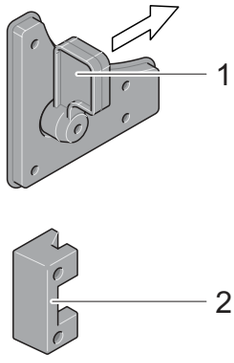


Fig. 6 Opening/closing the sliding door 2

1 Door lever
2 Door handle

Opening the sliding door:

➔ Pull back the door lever (Fig. 6/1) and open the door until it reaches its locking position.

Closing the sliding door:

➔ Use the door handle (Fig. 6/2) to move the sliding door until it engages by itself.

8.1.3 Sliding door stop function (optional)

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

➔ Pull the door handle (Fig. 5/2) or the door lever (Fig. 6/1) again to unlock the stop function.

8.1.4 Electrical sliding door (optional)

Some models have an optional electrically operated sliding door.

Opening the sliding door:

➔ Pull the door handle (Fig. 5/1) or operate the door opener (Fig. 6/1) and keep it in that position for a moment.

➔ The sliding door opens automatically and stops in its end position.

Closing the sliding door:

➔ Pull the door handle (Fig. 5/1) or operate the door opener (Fig. 6/1) and keep it in that position for a moment.

➔ The sliding door closes automatically and stops in its end position.

Note!

If there are any objects located within the range of the sliding door, a safety mechanism stops the door automatically.

8.1.5 Fly-screen door (optional)

Some models have an optional fly-screen door.

Caution

Damage

➔ Fully open the (optional) fly-screen door before closing the sliding door.

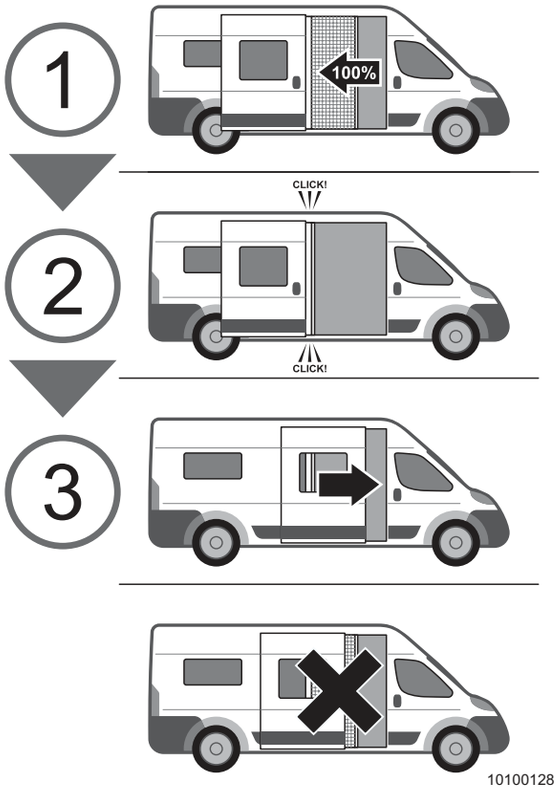


Fig. 7 Open the fly-screen door by 100 %

1 Fully (100 %) open the fly-screen door before closing the sliding door.
2 The fly-screen door must latch with a “click”.
3 Close the sliding door.

Do not close the sliding door unless the fly-screen door is fully open.

Opening the fly-screen door:

➔ Hold the fly-screen door by the middle of the vertical profile.

➔ Proceed with care when opening the fly-screen door to prevent the door from canting in the guide profiles.

Closing the fly-screen door:

➔ Hold the fly-screen door by the middle of the vertical profile.

➔ Proceed with care when closing the fly-screen door to prevent the door from canting in the guide profiles.

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

8.2 Ventilating the vehicle

Danger!

Poisoning by gas and carbon monoxide

➔ Always keep the forced ventilation (in the roof hoods and in the floor panel) and the mushroom ventilators open – do not cover them.

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.
- To avoid stains on the sun protection blinds, only close the sun protection blinds when there is no condensation on the windows.
- With the TWIN SPORTS model, pay particular attention to good ventilation so that the tent fabric of the pop-up roof always remains dry. This prevents mould and odours from forming on the tent fabric.

For further information, please refer to the Chapter 17 on “winter camping”.

8.2.1 Preventing condensation

Condensation is the physical process in which water passes from its gaseous form (water droplets) into its liquid form. Condensation generally occurs in the atmosphere when warm air rises, then cools down and loses its capacity to retain water vapour. As a result, excess water vapour condenses and forms small water droplets.

Condensation normally occurs in winter when the van is cold and skylights, windows and doors are opened less frequently. Moist air can therefore not escape into the surrounding.

To avoid the formation of condensation, you must ventilate the van in regular intervals and make sure that warm and humid air can escape. Use the heater responsibly.

- Open the kitchen window to provide proper ventilation in the kitchen unit when washing, cooking or drying damp clothes.
- If you cannot use the heater, slightly open the skylights or windows. However, try to keep the vehicle doors closed as much as possible.
- After taking a shower, keep the door to the bathroom cubicle closed and the window or the skylight open long enough for the bathroom cubicle to dry.

8.3 Quarter vents

8.3.1 Opening/closing the quarter vents

The quarter vents are fitted with an automatic locking mechanism. When opened, the quarter vents automatically engage in the desired position.

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

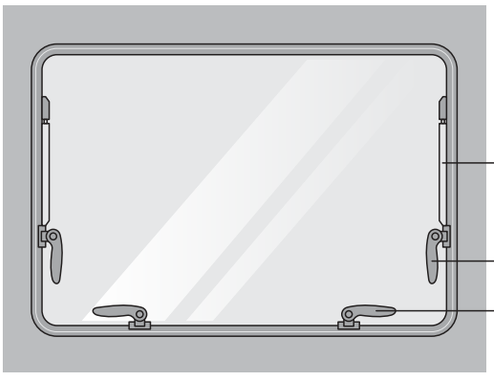


Fig. 8 Quarter vents

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

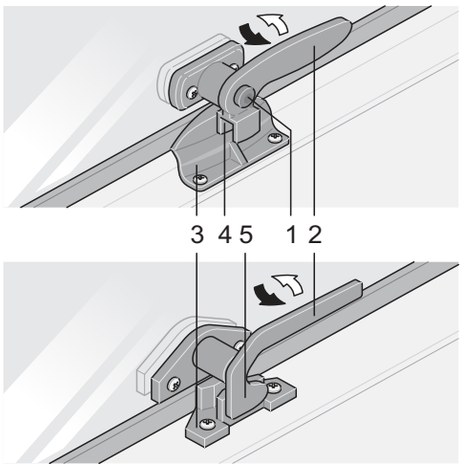


Fig. 9 Opening and closing the quarter vents

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

Caution!

Formation of cracks in the window pane when opening and closing the quarter vents

The window pane may bend due to the locking levers being set to varying positions. This can cause cracks in the acrylic glass pane.

➔ Close all locking levers in the same position.

Opening the window:

➔ First open the locking levers on the hold-open hinges (Fig. 8/1).

➔ If the locking lever has a push-button for locking the lever (Fig. 9/1), press and hold down the push-button.

➔ Turn the locking lever (Fig. 8/1) to the horizontal position.

➔ Then open the locking levers at the bottom edge of the window (Fig. 8/2).
If the locking lever has a push-button for locking the lever, press and hold down the push-button.

➔ Turn the locking lever (Fig. 8/2) to the vertical position.

➔ Push the quarter vent to the outside to the preferred position.
The hold-open hinge (Fig. 8/3) will latch automatically.

Closing the window:

➔ With hold-open hinges with an automatic locking mechanism (Fig. 8/3), open the quarter vent a little further until the lock is released.

➔ Close the quarter vent.

➔ First close the locking levers at the bottom edge of the window (Fig. 8/2).

➔ If the locking lever has a push-button for locking the lever (Fig. 9/1), press and hold down the push-button.

➔ Turn the locking lever (Fig. 8/2) to the horizontal position.
The latch (Fig. 9/4) of the locking lever closes completely on the inside of the latch plate (Fig. 9/3).

➔ Afterwards, close the locking levers on the hold-open hinges (Fig. 8/1).
If the locking lever has a push-button for locking the lever, press and hold down the push-button.

➔ Turn the locking lever (Fig. 8/1) to the vertical position.
The latch of the locking lever closes completely on the inside of the latch plate.

8.3.2 Permanent ventilation

Caution!

Formation of cracks in the window pane when in permanent ventilation position

The window pane may bend due to the locking levers being set to varying positions. This can cause cracks in the acrylic glass pane.

➔ For permanent ventilation, put all locking levers (Fig. 10/1) at the bottom edge of the window to “permanent ventilation” position.

➔ Do not close the locking levers at the side during permanent ventilation.

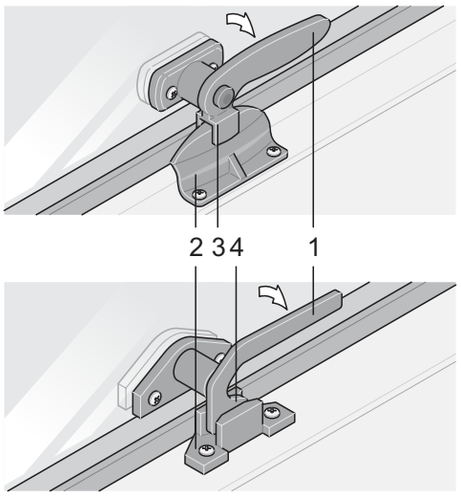


Fig. 10 Quarter vent in permanent ventilation position

1 Locking lever
2 Latch plate
3 Latch
4 Locking catch

Setting the window to the “permanent ventilation” position

➔ Open the locking levers as described in Chapter 8.3.1.

➔ Pull the window back until it is almost closed

➔ When using a locking lever (Fig. 10/1) with locking button, make sure the latch plate (Fig. 10/2) fits properly in the latch (Fig. 10/3) when closing the lever (Fig. 10/1).

➔ When using a locking lever (Fig. 10/1) without locking button, make sure the locking catch (Fig. 10/4) fits properly in the recess of the locking plate (Fig. 10/2) when closing the lever (Fig. 10/1).

8.4 Window blackout blinds and insect screens

8.4.1 Blackout blind and insect screen– version 1

Caution!

Damage to insect screen

➔ When unlocking both blind and screen, hold on to the insect screen (Fig. 11/3), as the tension of the spring will cause it to snap up otherwise. Snapping up could damage the screen spring and the insect screen.

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

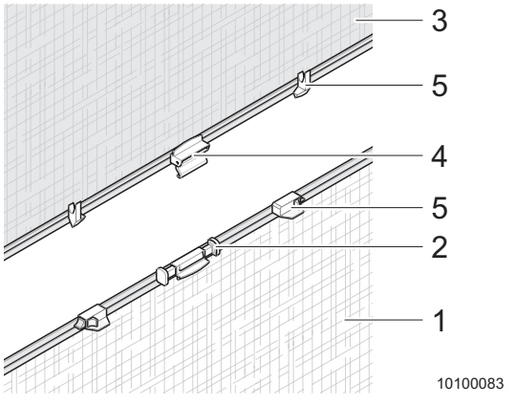


Fig. 11 Opening and closing of the blackout blind and insect screen – version 1

1 Blind
2 Push-buttons
3 Insect screen
4 Catch
5 Side catches (extra for wide blinds)

The blackout blind (Fig. 11/1) is located in the bottom part of the window frame.

The insect screen (Fig. 11/3) is installed in the top part of the window frame.

Opening and closing the blackout blind:

➔ Press the two push-buttons (Fig. 11/2) together.

➔ Slide the blind to the desired position.

Releasing the two pushbuttons automatically clamps the blind in place.

The blind (Fig. 11/1) has a restricting device so that it can be latched into place at different latching positions.

Opening and closing the insect screen:

➔ Pull the insect screen (Fig. 11/3) down until the catch (Fig. 11/4) latches into place in the blackout blind (Fig. 11/1).

The insect screen (Fig. 11/3) can be operated only in combination with the blackout blind (Fig. 11/1).

Separating the insect screen from the blackout blind:

➔ Press on the upper catch (Fig. 11/4) of both blinds.

8.4.2 Blackout blind and insect screen – version 2

Caution!

Damage to insect screen

➔ When unlocking the blind (Fig. 12/1) and the insect screen (Fig. 12/2), hold on to both, as the tension of the spring will cause them to snap up otherwise. Snapping up could damage the screen spring and the blind/insect screen.

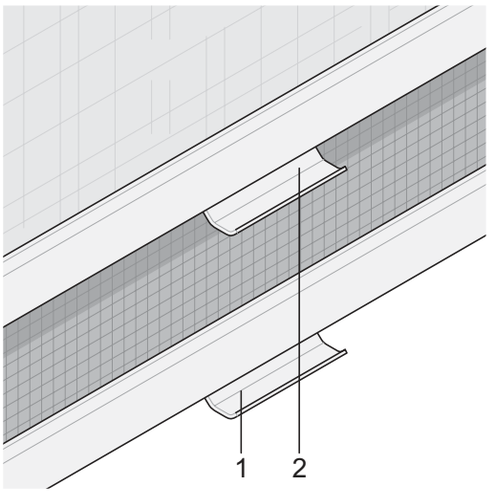


Fig. 12 Opening and closing of the blackout blind and insect screen – version 2

1 Insect screen with handle
2 Blackout blind with handle

The blackout blind (Fig. 12/2) and the insect screen (Fig. 12/1) 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. 12/1) 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. 12/2), the insect screen (Fig. 12/1) must first be closed.

➔ The blackout blind is equipped with a catch which allows you to lock it in different latching positions.

➔ Hold the blackout blind by its handle and pull it down. 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.

8.4.3 Blackout blind and insect screen – version 3

The blackout blind (Fig. 13/3) and the insect screen (Fig. 13/2) are both located in the upper window frame. The insect screen follows the blind.

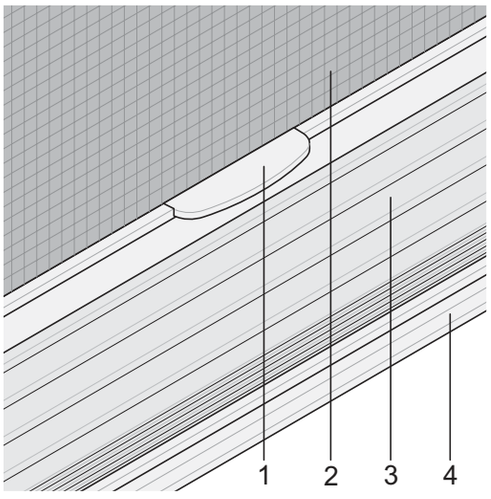


Fig. 13 Opening and closing of the blackout blind and insect screen – version 3

1 Handle
2 Insect screen
3 Blind
4 Handle bar

Opening/closing the blackout blind:

➔ Pull the blackout blind (Fig. 13/3) down or up with the handle bar (Fig. 13/4).

The blind can be moved up or down to any position.

Opening/closing the insect screen:

➔ Pull the insect screen (Fig. 13/2) down or up with the handle (Fig. 13/1).

8.5 View protectors in the vehicle front

To prevent people from looking into the interior of the vehicle, a view protector is fitted to each the windows of the driver's cab: The view protector closes off:

- Windscreen
- Side windows

Caution!

Damage to the view protection

The fabric of the view protector is sensitive to pressure and can thus be easily damaged.

➔ Drops of condensed water can cause stains on the fabric.

8.5.1 Pleated blinds, windscreen

Danger!

Risk of accident

If you do not push the roller blind fully up, your view to the outside is restricted.

➔ Fully push down the blinds before setting off.

Caution!

Damage to the view protection

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

➔ Always use the handle bar when opening and closing the view protector.

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

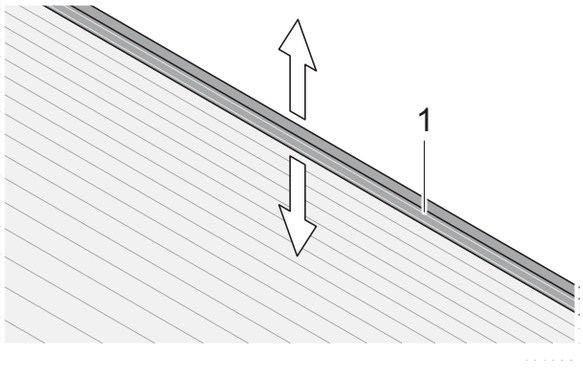


Fig. 14 Pushing the view protector up

1 Handle bar

The view protector (Fig. 14/1) is located at the bottom of the windscreen.

Closing the view protector:

➔ Hold the roller blind by the middle of the handle bar (Fig. 14/1).

➔ Push the roller blind fully up.

Note!

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

Opening the view protector:

➔ Hold the roller blind by the middle of the handle bar (Fig. 14/1).

➔ Push the roller blind fully down.

8.5.2 Side window view protector

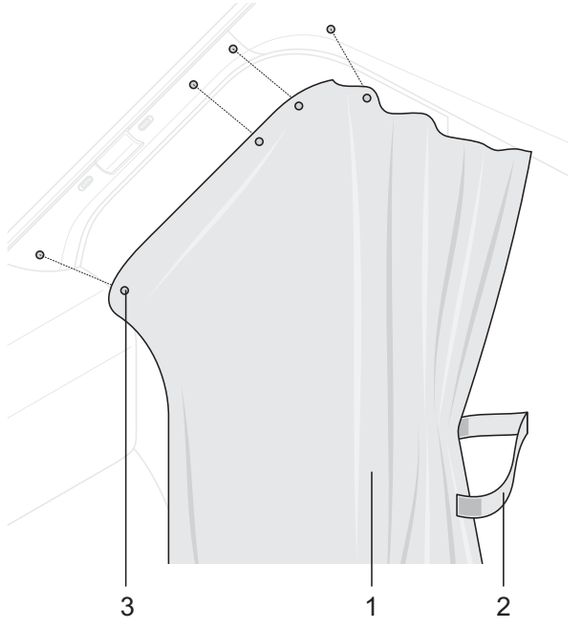


Fig. 15 Side window view protector

1 View protector
2 Retaining strap
3 Snap buttons

The view protectors (Fig. 15/1) are located at the rear edge of the respective side windows.

Closing the view protector:

➔ Loosen the Velcro fastener on the retaining strap (Fig. 15/2).

➔ Pull the view protector (Fig. 15/1) to the front and close the snap buttons (Fig. 15/3).

Close the view protector in reverse sequence.

8.5.3 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 view protector is sensitive to pressure and can easily be damaged when touched.

➔ Always use the handle when opening and closing the view protector.

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

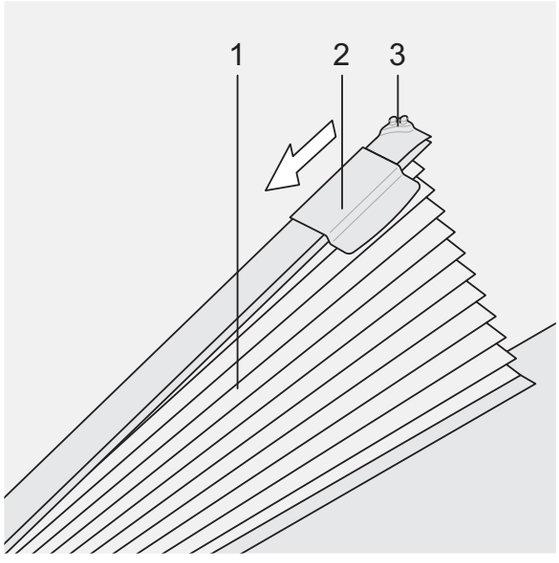


Fig. 16 Pleated blinds, side window – version 1

1 Pleated blinds
2 Handle
3 Magnetic buttons

The pleated view protectors (Fig. 16/1) are integrated in the right and left door frames in the driver's cab.

Closing the pleated view protector:

➔ Slide the handle (Fig. 16/2) in the direction of the arrow. This unlocks the pleated view protector.

➔ Unfold the view protector (Fig. 16/1) and attach it to the window frame using the magnetic buttons (Fig. 16/3).

Close the view protector in reverse sequence.

8.6 Roof window – Heki style

8.6.1 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.
- ➔ ***ADRIA*** 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.

8.6.2 Roof window – Heki style with operating bar (optional)

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

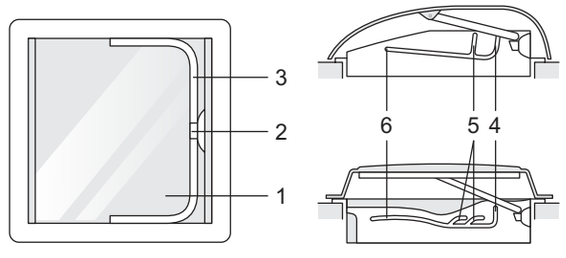


Fig. 17 Opening/closing a roof window – Heki style 1

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

Opening the roof window – Heki style:

- ➔ To open the glass dome (Fig. 17/1), press the locking button (Fig. 17/2) and pull the bar (Fig. 17/3) downwards.
- ➔ Push the bar into the desired position. Possible positions are “Ventilation” (Fig. 17/5) and “Open” (Fig. 17/6).

Closing a roof window – Heki style:

- ➔ Push the bar (Fig. 17/3) in the direction of the locking button (Fig. 17/2) to close the roof window – Heki style.
- ➔ Press the locking button and push the bar into the “Closed” position.

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

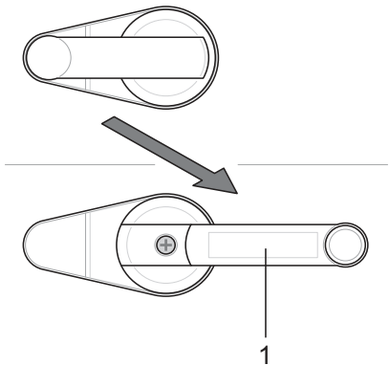


Fig. 18 Opening/closing a roof window – Heki style 2

1 Hand crank

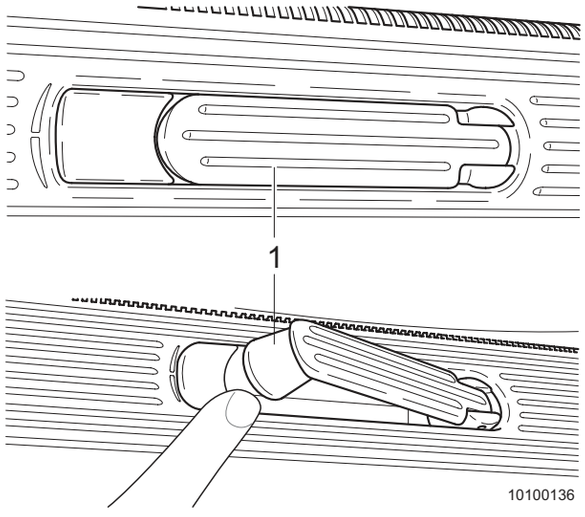


Fig. 19 Opening/closing a roof window – Heki style 3

1 Hand crank

Opening the roof window – Heki style:

Some models are equipped with additional locking levers (Chapter 8.3.1).

➔ Swing out the hand crank (Fig. 18/1) or (Fig. 19/1).

➔ Turn the hand crank only until a resistance can be felt.
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. 18/1) or (Fig. 19/1) until you feel 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.

– If required, loosen the attachment screw, take the crank out of the gearing and reposition the crank. Then place the crank onto the gearing again and screw tight.

➔ Close the locking lever (Chapter 8.3.1), if required.

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

8.6.4.1 Version 1

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.

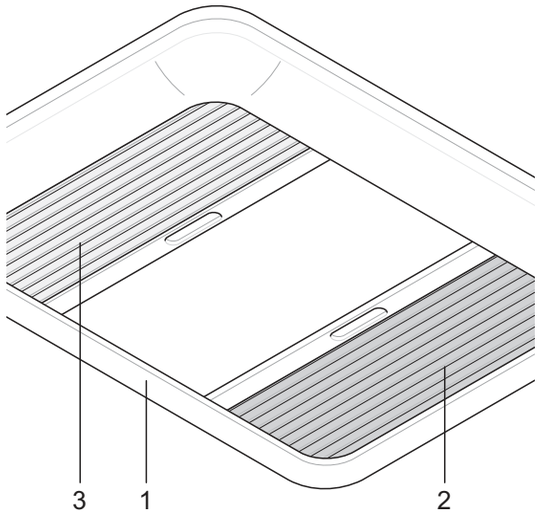
➔ Do not touch the blind's fabric with your fingers.

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.

Drops of condensed water can cause stains on the fabric.



1 Inner frame
2 Blind
3 Insect screen

Fig. 20 Blackout blind and insect screen 1

The blackout blind (Fig. 20/2) and the insect screen (Fig. 20/3) are fitted in the inner frame (Fig. 20/1) of the roof window – Heki style.

Opening/closing the blackout blind or insect screen:

➔ Reach into the recess of the end bar of the blind (Fig. 20/2) or insect screen (Fig. 20/3).

➔ Slide it to the desired position.

8.6.4.2 Version 2

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.

Caution!

Damage to insect screen

➔ Hold the insect screen tight when unlocking otherwise the spring tension will make it snap back. Snapping back can damage the screen spring and the screen.

Note!

The blackout blind is continuously adjustable.

The insect screen can only be closed when the blackout blind is latched in.

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

Drops of condensed water can cause stains on the fabric.

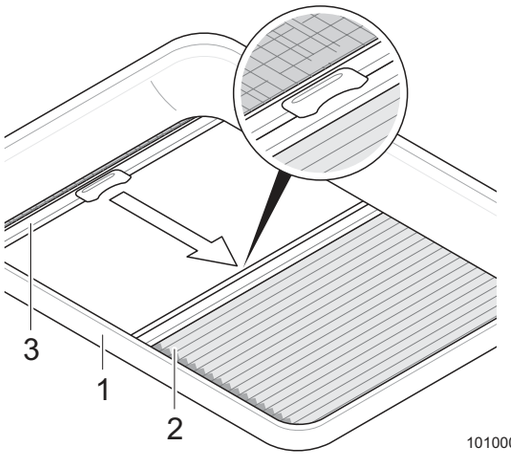


Fig. 21 Blackout blind and insect screen 2

1 Inner frame
2 Blackout blind
3 Insect screen

The blackout blind (Fig. 21/2) and the insect screen (Fig. 21/3) are fitted in the inner frame (Fig. 21/1) of the roof window – Heki style.

Opening/closing the blackout blind or closing insect screen:

➔ Use the handle bar to slide the blackout blind to the desired position.

➔ To close the insect screen, slide the handle bar of the insect screen towards the handle bar of the blackout blind until it engages.

Closing the insect screen:

➔ Hold the insect screen tight.

➔ Press the lock of the insect screen and move the insect screen to the end position.

8.6.5 Roof window – Heki style with blackout blind and insect screen running in the same direction

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.

When releasing the handle, the blind is clamped and held in place inside the inner frame of the roof window – Heki style automatically.

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

Drops of condensed water can cause stains on the fabric.

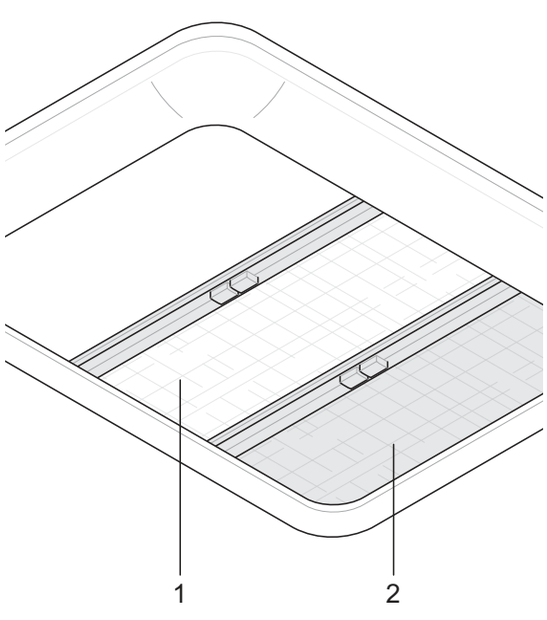


Fig. 22 Roof window – Heki style with blackout blind and insect screen running in the same direction

1 Insect screen
2 Blackout blind

Blackout blind (Fig. 22/2) and insect screen (Fig. 22/1) are fitted in the inner frame of the roof window – Heki style.

Opening/closing the blackout blind or insect screen:

➔ Press the two halves of the handle of the blackout blind (Fig. 22/2) or insect screen (Fig. 22/1) together.

➔ Slide it to the desired position.

8.6.6 Roof window – Heki style with blackout blind and insect screen running together

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

After releasing the operating bar, the folding screen remains in the position reached.

The insect screen is integrated into the second operating bar and allows maximum amount of light or darkening with insect screen function.

Only close the folding blind to a maximum of 75% during direct sunlight.
Air must be able to circulate.

Drops of condensed water can cause stains on the fabric.

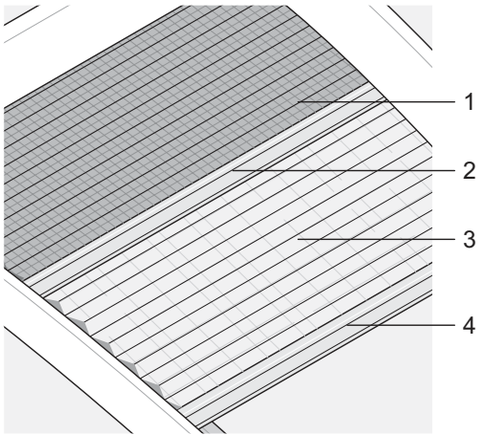


Fig. 23 Roof window – Heki style with blackout blind and insect screen running together

1 Insect screen
2 Operating bar of insect screen
3 Blackout blind
4 Operating bar of blackout blind

Opening/closing the blackout blind or insect screen:

The insect screen (Fig. 23/1) is permanently attached to the blackout blind (Fig. 23/3). When the folding blind is opened, the insect screen may have to be moved as well.

➔ Hold the blackout blind (Fig. 23/3) by the operating bar (Fig. 23/4).

➔ Slide it to the desired position.

8.6.7 Maintaining the roof window – Heki style

Please refer to Chapter 19.1.1 for information on how to clean and service the lift and tilt window.

8.7 Control panel PSI

The control panel can be used to operate and set various electrical appliances and to check the state of charge of the batteries as well as the filling levels in the water tanks.

The control panel is located near the sliding door.

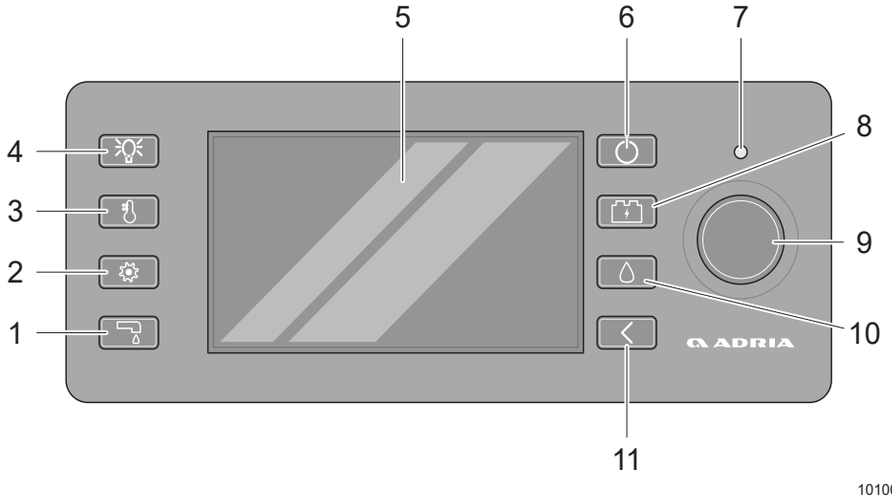


Fig. 24 Control panel PSI

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

Activating the control panel:

➔ Briefly press the On/Off button (Fig. 24/6).

Deactivating the control panel or setting it to standby:

➔ Briefly press the On/Off button (Fig. 24/6). 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. 24/1). 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. 24/2). 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. 24/9) to navigate through the menus.

Opening the temperature menu:

➔ Press the temperature menu button (Fig. 24/3). The temperature menu will open.
This menu displays the temperature inside and outside the vehicle. If the vehicle has an floor heating, this menu will also display the floor heating settings.

Opening the lighting menu:

➔ Press the lighting menu button (Fig. 24/4). The lighting menu will open.
Use the control knob (Fig. 24/9) to change the settings for the interior and exterior lighting.

Opening the battery menu:

➔ Press the battery menu button (Fig. 24/8). 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. 24/9) to access further information.

Opening the water tank menu:

➔ Press the water tank menu button (Fig. 24/10). 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. 24/11) will take you back to the previous screen.

8.8 Light control

Note!

➔ The following features can only be used after switching on the control panel.

8.8.1 LED spots with “touch” function

Some vehicle models are equipped with LED spots with “touch” function.

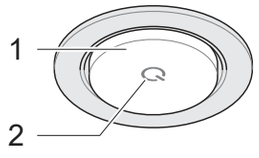


Fig. 25 LED spots with “touch” function

1 LED spot
2 Contact surface

➔ Briefly touch the contact surface of the LED spot (Fig. 25/2) to switch it on or off.

Note!

Not all LED spots are equipped with the “touch” function.

8.8.2 LED spot with On/Off switch

Some vehicle models are fitted with pivotable LED spots.

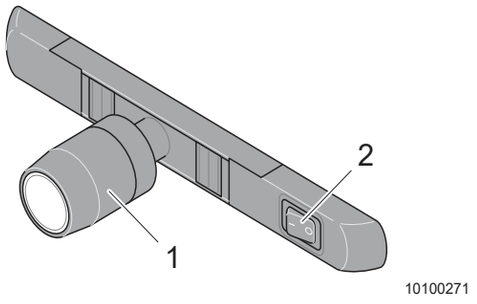


Fig. 26 LED spot with On/Off switch

1 Pivoting LED spot
2 On/Off switch

➔ Use the switch (Fig. 26/2) to turn the LED spot (Fig. 26/1) on or off.
➔ The LED spot can be pivoted.

8.8.3 LED spot with On/Off switch and USB port

Some vehicle models are equipped with LED spots and a USB port.

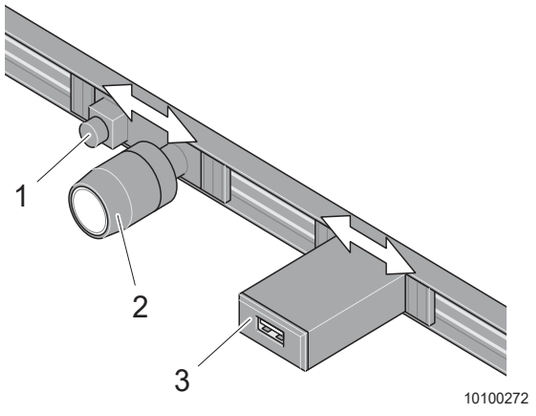


Fig. 27 LED spot with On/Off switch and USB port

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

➔ Use the switch (Fig. 27/1) to turn the LED spot (Fig. 27/2) on or off.
➔ If required, you can pivot and change the position of the LED spot.

8.9 Electrically operated entrance step (optional)

Warning!

Risk of accident

- ➔ Maximum load of entrance step: 200 kg.
- ➔ Before starting the journey, verify that the entrance step is completely retracted.
- ➔ Never move the vehicle while the entrance step is still extended.
- ➔ 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 step out of the vehicle without extending the 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.
- ➔ Verify that 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 proper functioning.

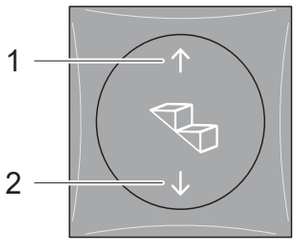


Fig. 28 Switch for the electrically operated entrance step

1 Retracting the entrance step
2 Extending the entrance step

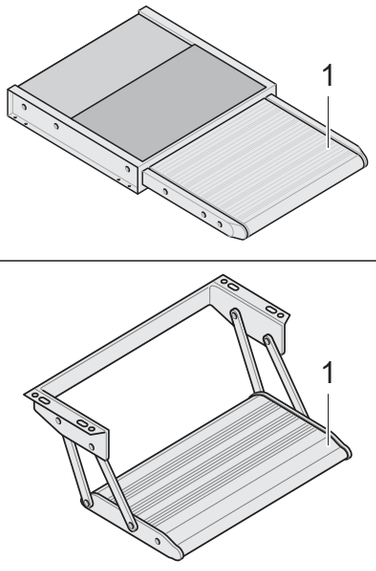


Fig. 29 Electrically operated entrance step

1 Entrance step

Retracting or extending the electrically operated entrance step:

The switch (Fig. 28) for retracting or extending the electrically operated entrance step is located in the entrance area near the entrance door.

➔ Briefly tap the switch in the lower section (Fig. 28/2) until the entrance step (Fig. 29/1) is extended.

➔ Briefly tap the switch in the upper section (Fig. 28/1) until the entrance step is retracted.

8.10 Bluetooth amplifier (optional)

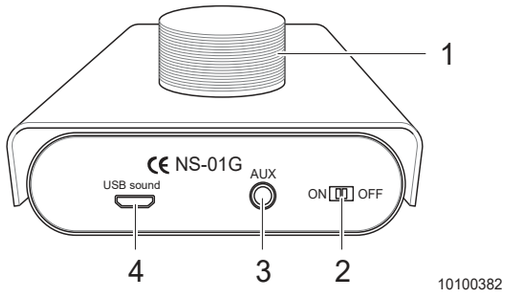


Fig. 30 Bluetooth amplifier

1 Volume control
2 On/Off switch
3 AUX port
4 USB port

Switching the Bluetooth amplifier on or off:

➔ Move the On/Off switch (Fig. 30/2) to ON or OFF.

Connecting the Bluetooth amplifier:

➔ End devices can be connected via Bluetooth, the USB port (Fig. 30/4) or the AUX port (Fig. 30/3).

8.11 ADRIA MACH (optional)

ADRIA MACH is a mobile device application which you can use as a remote control for all essential functions in your vehicle. The app also has a navigation function with a large database of interesting places (***ADRIA*** dealers, camping grounds, parking lots, restaurants, attractions etc.) Furthermore, you can manage your vehicle's settings and set up a mobile office with this app.

You can control the following appliances and functions with the ***ADRIA*** MACH app.

- Lighting
- Heating
- Air conditioning
- Querying the batteries' state of charge
- Querying the filling levels in the water tanks
- Querying the filling level of the gas cylinders
- Refrigerator

Some functions require a SIM card. Which appliances and functions can be controlled with the ***ADRIA*** MACH app, depends on the equipment of the respective vehicle.

Note!

For detailed information on how to install and use the functions of the ***ADRIA*** MACH app, please refer to the ***ADRIA*** website.

8.12 Seating group

The driver's and passenger seats can be rotated to extend the seating group.

8.12.1 Swivelling driver's seat / passenger's seat (optional)

Danger!

Accident hazard when the driver's seat rotates while driving

➔ The driver's seat must be locked before you start to drive.

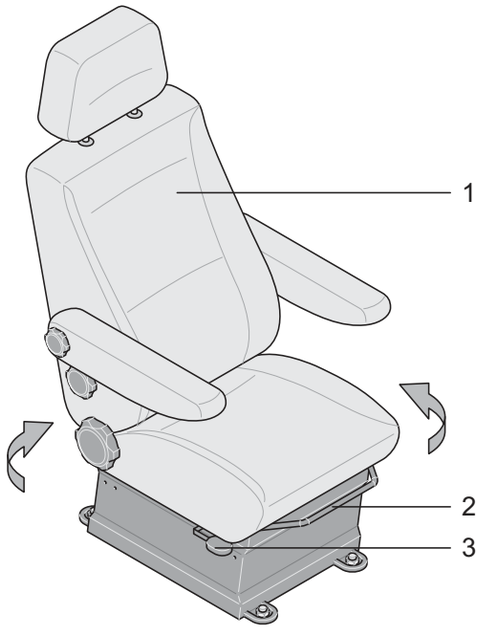


Fig. 31 Swivelling driver's seat/passenger seat

1 Seat
2 Bar (forward / backward)
3 Unlocking device (turn)

Swivelling the driver's seat/passenger seat:

➔ Actuate the unlocking device (Fig. 31/3) on the seat (Fig. 31/1).

➔ Adjust the inclination of the backrest and the seat's lengthwise position so that the seat does not collide with the side wall, the cab door or the steering wheel.

– If necessary, briefly release the parking brake and pull the parking brake again after swivelling the seat if the vehicle is not secured against rolling away by other means.

➔ You can then rotate the seat into any desired position.

➔ Before starting the journey, rotate the seat back to its initial position.

➔ Verify that the catch (Fig. 31/2) is engaged.

8.12.2 Seating group

Danger!

Risk of injury

➔ While travelling, passengers must use the seat belts on the seat benches and face the driving direction.

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.

Some models have passenger seats which can slide to the side (option).

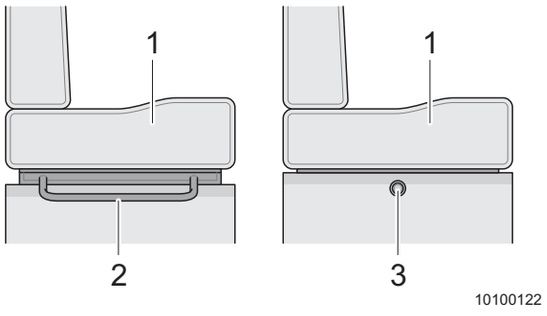


Fig. 32 Sliding seat

1 Seat
2 Lever
3 Push-button

Sliding the individual seat out:

➔ Sit down on the seat.
➔ Pull side lever (Fig. 32/2) upward and push seat (Fig. 32/1) to the side.
➔ Lower the lever and check seat locking by gently trying to move the seat.

Sliding the individual seat into its basic position:

➔ Sit down on the seat.
➔ Pull the side lever (Fig. 32/2) upward and push the seat into its basic position.
➔ Lower the lever and check seat locking by gently trying to move the seat.

Sliding the sliding seat out:

➔ Unlock the base plate with the push button (Fig. 32/3) on the side.
➔ Push seat (Fig. 32/1) with the base plate to the side.

Sliding the sliding seat into its basic position:

➔ Unlock the base plate with the push button (Fig. 32/3) on the side.
➔ Push the seat into its basic position.
➔ Lock the base plate with the push button (Fig. 32/3).

8.13 Tables

Different table variants are used depending on the model. On some models, the table is embedded in the vehicle floor.

Caution!

Risk of burning and scalding

➔ Ensure that the table is standing securely and is hung in correctly before serving food and hot drinks on the table.

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

➔ If the table top moves, cups or glasses could tip over or plates could fall off the table.

Warning!

Risk of injuries in the case of an accident

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

8.13.1 Suspended table

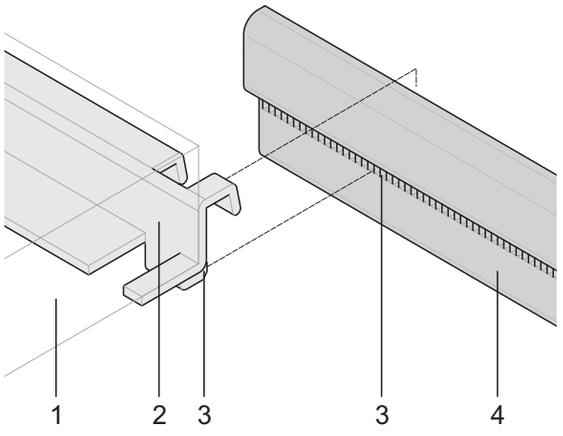


Fig. 33 Lowering the suspended table

1 Table top
2 Table attachment rail
3 Attachment rail catch
4 Attachment rail wall

Lowering the suspended table:

➔ Slightly lift the table top (Fig. 33/1) by the end of the table that is not attached (approx. 30°). This unlocks the catch.

➔ Lift the table top and pull it out of the upper attachment (Fig. 33/4).

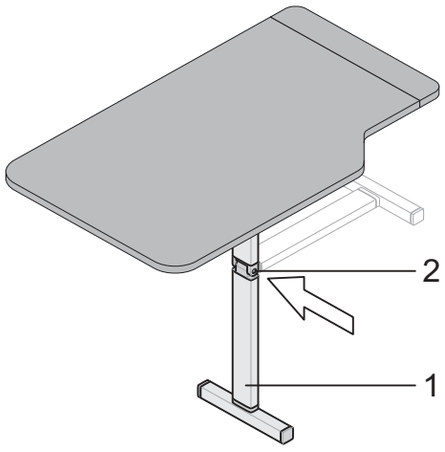


Fig. 34 Lowering the suspended table

1 Table leg
2 Locking button

➔ Press the locking button (Fig. 34/2) to unlock the table foot (Fig. 34/1).
➔ Swing the table foot down by 90°.
➔ Then place the table in the bottom position against the seat.

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

8.13.2 Swivelling hook-in table

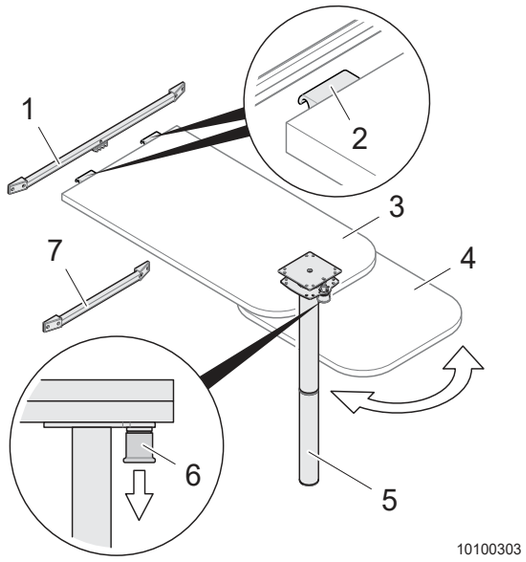


Fig. 35 Swivelling hook-in table

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

Swivelling the table top:

➔ Pull the knob (Fig. 35/6) down.

➔ Swivel the swivelling table top (Fig. 35/4) until the knob snaps into place.

Lowering the suspended table:

➔ Swivel the swivelling table top (Fig. 35/4) back.

➔ Lift the table top (Fig. 35/3) on the right-hand side and unhook it from the upper guide rail (Fig. 35/1).

➔ Remove the lower part of the table's leg (Fig. 35/5).

➔ With the right-hand side of the table top lifted, hook the table top into the lower guide rail (Fig. 35/7).

➔ Lower the table top.

Lifting the suspended table:

➔ Lift the table top (Fig. 35/3) on the right-hand side and unhook it from the lower guide rail (Fig. 35/7).

➔ Insert the lower part of the table's leg (Fig. 35/5) into the upper table's leg.

➔ With the right-hand side of the table top lifted, hook the table top into the upper guide rail (Fig. 35/1).

➔ Lower the table top.

8.14 Furniture locks

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.

8.14.1 Furniture locks – version 1

Caution!

Risk of damage through cupboard or drawer contents flying around!

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

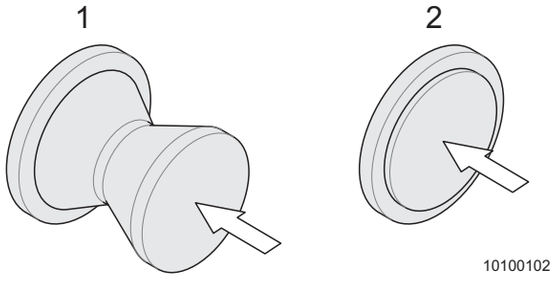


Fig. 36 Furniture lock – version 1

1 Lock
2 Unlock

Unlocking:

- ➔ Press the locking button (Fig. 36/1), the button springs out. The lock is unlocked.
- ➔ Open the cabinet door, flap or drawer.

Locking:

- ➔ Close the cabinet door, cabinet flap or drawer.
- ➔ Push in the locking button until it snaps into place (Fig. 36/2). The locking button remains pressed in. The lock is locked.

8.14.2 Furniture locks – version 4

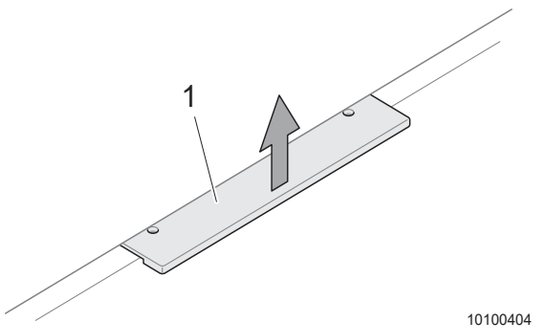


Fig. 37 Furniture lock – version 4

1 Handle

Opening:

➔ Pull up the handle (Fig. 37/1).
The lock is unlocked.

➔ Open the cabinet door, flap or drawer.

Closing:

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

8.14.3 Furniture locks – version 5

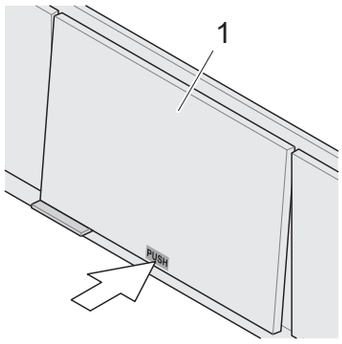


Fig. 38 Furniture lock – version 5

1 Flap with push lock

Opening:

➔ Press against the flap (Fig. 38/1) at the point marked PUSH.
The lock is unlocked.

➔ Open the cabinet door, flap or drawer.

Closing:

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

8.15 Bathroom cubicle

8.15.1 Folding washbasin

Caution!

Damage to mirror and washbasin

➔ Before each journey, fold up the sink and secure it.

➔ Always proceed slowly when lowering the washbasin.

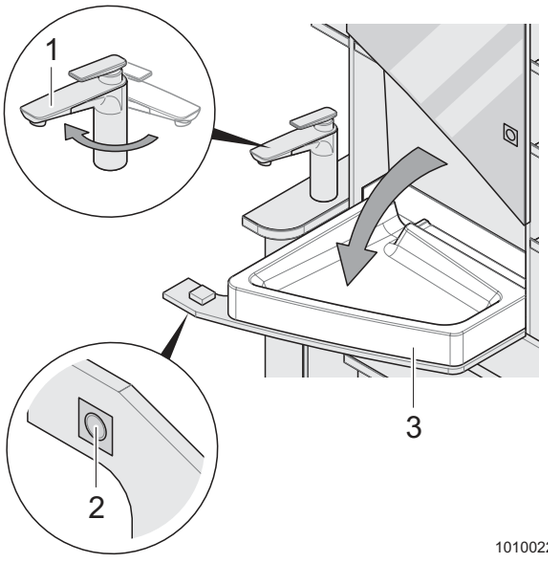


Fig. 39 Washbasin – foldable

1 Water tap
2 Locking button
3 Washbasin

Opening:

➔ Swivel the water tap (Fig. 39/1) out of the range of movement.

➔ Press the locking button (Fig. 39/2).

➔ Proceed slowly when folding down the washbasin (Fig. 39/3).

➔ Swivel the water tap over the washbasin.

Closing:

➔ Swivel the water tap (Fig. 39/1) out of the range of movement.

➔ Proceed slowly when lifting the washbasin (Fig. 39/3) until the locking button engages (Fig. 39/2).

8.16 TV set with satellite system (optional)

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 further information on how to install a TV set with satellite system, please contact your ***ADRIA*** dealer.

8.16.1 TV connection with 12-volt socket

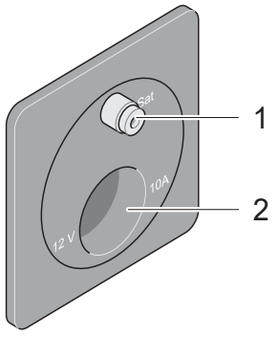


Fig. 40 TV connection with 12-volt socket

1 TV connection
2 12-volt socket

8.16.2 TV bracket

Caution!

Risk of injury, risk of damage to the flat screen television

➔ Before each journey, slide the TV bracket back into its end position and lock it.

➔ Make sure the cables always have enough room to move.

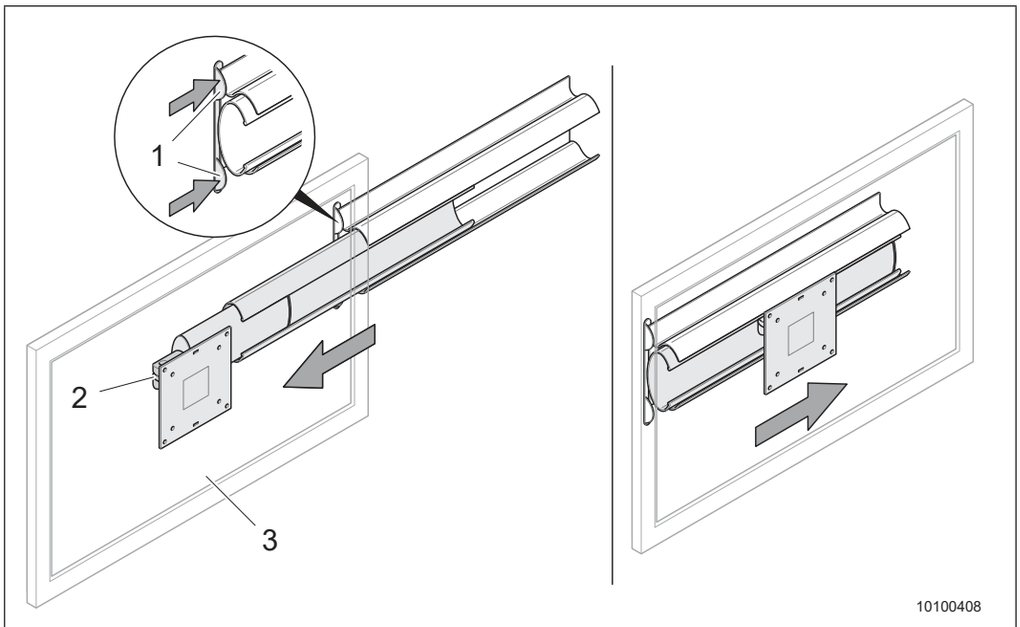


Fig. 41 TV bracket

1 Catch
2 Joint
3 Flat-screen TV

Extending the TV bracket:

➔ Press the lock (Fig. 41/1) and pull out the flat screen television (Fig. 41/3) to its end position.

Pushing the TV bracket back in:

➔ Push the flat-screen TV (Fig. 41/3) back until you can hear that it snaps in place in its end position.

Swivelling the flat-screen TV:

➔ The flat-screen TV (Fig. 41/3) can be swivelled at the joint when extended (Fig. 41/2).

Note!

Please refer to the separate operating manual provided by the manufacturer for information on how to attach the TV set to the mounting plate (Fig. 41/3).

9 Sleeping

9.1 Folding bed in the rear of the vehicle

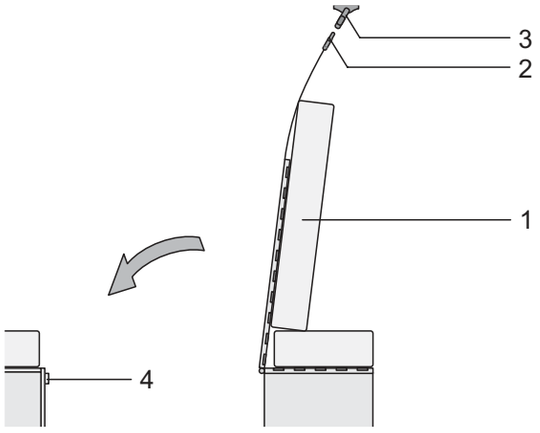


Fig. 42 Folding bed

1 Folding bed
2 Strap
3 Buckle
4 Support rail

Lowering the folding bed:

➔ Unlatch the retaining strap (Fig. 42/2).

➔ Lower the folding bed (Fig. 42/1) onto the support rail (Fig. 42/4).

Securing the folding bed:

➔ Lift the folding bed and secure it with the strap (Fig. 42/2).

9.2 Lifting bed in the rear

Danger!

Risk of accident

➔ Lower the lifting bed and lock it before starting the journey.

➔ Use the lifting bed to store large items of luggage during the journey.

➔ Secure large items of luggage adequately during the journey.

➔ Place only the required bed linen on the lifting bed during the journey.

➔ Never allow small children to remain in the lifting bed without supervision.

➔ Ensure children under 6 years of age cannot fall out of the bed.

➔ Use separate children's beds or travel cots suitable for small children.

➔ Always hook in the fall protection net when using the lifting bed.

➔ See the labels on the lifting bed for the maximum load.

Note!

The area into which the lifting bed is lowered must be free from obstacles.

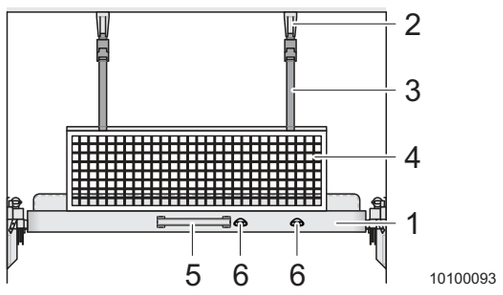


Fig. 43 Lifting bed

1 Lifting bed
2 Ceiling belt holder
3 Strap
4 Fall protection net
5 Handle
6 Hook-in holes for ladder

Lowering the lifting bed:

➔ Detach the strap.

➔ Using both hands, pull the lifting bed (Fig. 43/1) all the way down by the handle (Fig. 43/5).

➔ Hang the ladder into the hook-in holes (Fig. 43/6).

➔ Attach the fall protection net (Fig. 43/4) on the bed using the retaining straps (Fig. 43/3) and the buckle latches (Fig. 43/2) in the vehicle roof.

Lifting the lifting bed:

➔ Unfasten the fall protection net (Fig. 43/4) from the ceiling.

➔ Place the bed linen flat on the bed.

➔ Remove and stow the ladder.

➔ Move the lifting bed upwards by its handle (Fig. 43/5), raise the rear part of the bed and push the lifting bed upwards to the stop.

➔ Secure the lifting bed to the ceiling with the retaining strap (Fig. 43/3).

9.3 Installing the extra bed crosswise to the driving direction (optional)

Danger!

Risk of injury

During the journey, the extra bed must not be installed.

➔ Safely stow away the supporting board and the extra cushion before starting the journey.

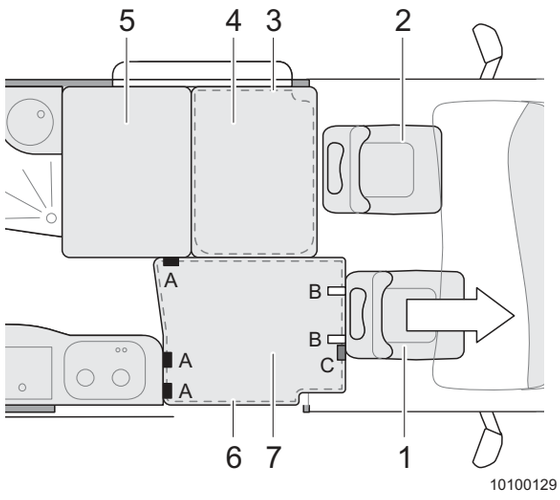


Fig. 44 Conversion of extra bed crosswise to the driving direction

1 Passenger seat
2 Driver's seat
3 Table
4 Seat cushion
5 Backrest cushion
6 Supporting board
7 Extra cushion

A Furniture support points
B Seat rail support points
C Supporting board fixing

Moving the passenger seat forward:

➔ Push the passenger seat (Fig. 44/1) fully forward.

Lowering the table:

➔ Unhinge the table (Fig. 44/3) (Chapter 8.13.1).

➔ Fold in the lower part of the table base.

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

Making the mattress:

➔ Place the seat cushions (Fig. 44/4) on the table (Fig. 44/3).

➔ Place the backrest cushion (Fig. 44/5) on the seat bench.

➔ Push the driver's seat (Fig. 44/2) towards the rear against the cushions to prevent the cushions from shifting.

➔ Place the supporting board (Fig. 44/6) exactly behind the passenger seat on the furniture support points (Fig. 44/A) and on the seat rails (Fig. 44/B).

➔ Make sure that the fixing on the supporting board (Fig. 44/C) correctly rests against the seat rail to prevent the supporting board from slipping.

➔ Place the extra cushion (Fig. 44/7) on the supporting board.

Reconverting the mattress:

➔ Reconvert the seating group in reverse sequence.

9.4 Pop-up roof (Twin Sports only)

The Twin Sports vehicle models are equipped with a pop-up roof.

Warning!

Risk of accident and injury, severe damage to the vehicle

- ➔ Before each journey, fully close and lock the pop-up roof on both sides. Never move the vehicle while the pop-up roof is open.
- ➔ Never open the ratchet closure, the magnetic catch or pop-up roof while driving.
- ➔ Neither step on the armrests of the driver's or the passenger's seat nor on the table when climbing up onto the bed.
- ➔ Limbs (e.g. fingers) may get crushed and hurt if the pop-up roof is opened or closed without exercising the required caution.
- ➔ Do not stay inside the pop-up roof during thunderstorms.
- ➔ Before starting your journey, remove the ladder and stow it away safely.
- ➔ Children under the age of 6 must not be left unattended inside the pop-up roof.

Caution!

Damage to the pop-up roof and the vehicle

- ➔ Before opening the pop-up roof, verify that the clearance above the vehicle is sufficient to extend the roof. There must be no objects within the range of movement.
- ➔ If the pop-up roof is open while there are wind speeds of more than 60 kp/h (32 knots), the pop-up roof or the vehicle may be damaged. Always keep an eye on the wind forecasts for your parking site and close the pop-up roof if the wind speeds exceed 60 kp/h.
- ➔ Insect screens are not waterproof. Therefore, make sure to close the fabric bellows when it rains or when cleaning the vehicle.
- ➔ Close the pop-up roof in case of heavy rain or snow.
- ➔ Before closing the pop-up roof, make sure that there is no snow and ice inside the frame into which the pop-up roof is lowered. Otherwise, the pop-up mechanism will be damaged and the pop-up roof will be levered out of the frame.
- ➔ Keep the pop-up roof free from snow.
- ➔ Before starting your journey, remove any snow and ice from the vehicle roof.
- ➔ Do not install any attachments or structural extensions on the pop-up roof.
- ➔ Before cleaning the vehicle, fully close the pop-up roof.
- ➔ Do not spray the gasket with a pressure washer.

9.4.1 Opening the pop-up roof

The ratchet closure holds down the pop-up roof when it is closed. This prevents the pop-up roof from opening while driving. The magnetic catch is used for additional safety.

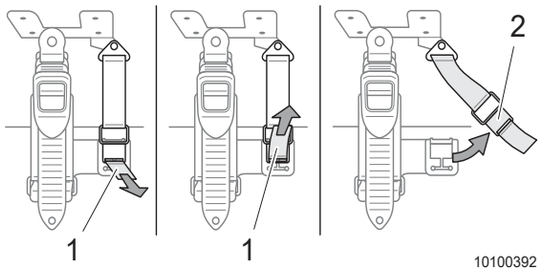


Fig. 45 Opening the pop-up roof – magnetic catch

1 Fabric strips
2 Magnetic catch

Opening the pop-up roof:

➔ In order to balance the pressure inside the vehicle, either open a door or a window.

➔ Pull the red fabric strip (Fig. 45/1) on the magnetic catch (Fig. 45/2) towards yourself and then upwards.
The magnetic catch is released.

➔ When putting the magnetic catch aside, make sure that it will not lock again.

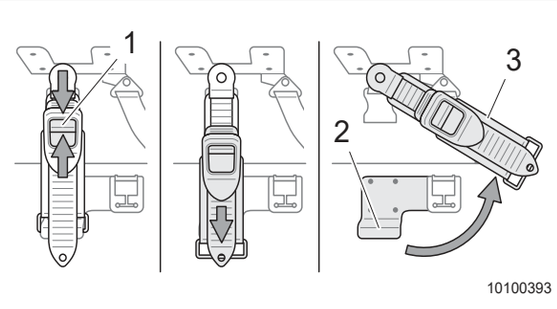


Fig. 46 Opening the pop-up roof – ratchet closure

1 Unlocking button
2 Hook
3 Ratchet closure

➔ To release the ratchet closure, use your thumb and index finger to press the red unlocking button together (Fig. 46/1). Then slide it upwards.

➔ While keeping the red unlocking button pressed together, slide the ratchet closure (Fig. 46/3) down to take it off the hook (Fig. 46/2).

➔ Swing the ratchet closure to the side and upwards.

➔ Repeat these steps for the opposite side.

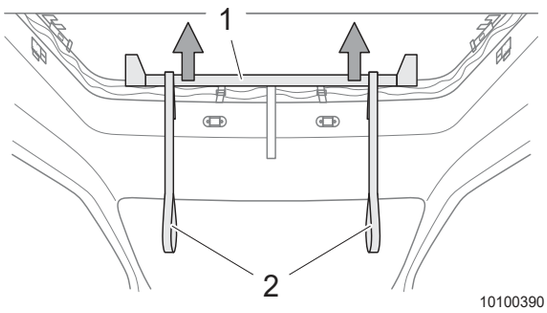


Fig. 47 Opening the pop-up roof – handle

1 Handle
2 Straps of the closing aid

➔ Hold the handle (Fig. 47/1) with both hands and make sure to move both sides evenly when pushing up the pop-up roof. The pop-up roof must not cant.
At a certain point, the pop-up roof opens automatically by means of the gas springs and is retained in the end position.

➔ If desired, remove the straps of the closing aid (Fig. 47/2).

Note!

➔ Always open the pop-up roof completely until it hits the stop.

➔ At temperatures below 0 °C, the pop-up roof does not open automatically.

9.4.2 Using the pop-up roof

Note!

➔ The maximum load allowed on the bed in the pop-up roof is 200 kg.

➔ Before leaving the van, always close the pop-up roof to protect yourself against burglars.

➔ Make sure that the roof is always ventilated properly. Insufficient ventilation will lead to a constant formation of moisture which in turn promotes the formation of mould.

9.4.2.1 Ladder

Warning!

Risk of injury due to falling

If the ladder is not fully hooked in and locked, the user may fall.

➔ Before using the ladder, check that
– both retaining brackets are fully fitted in the holders on the frame,
– the ladder fully touches the vehicle floor.

➔ Stow away the ladder safely before starting your journey.

➔ Do not stow away the ladder inside the pop-up roof to avoid damaging the pop-up roof.

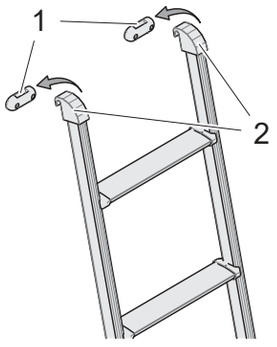


Fig. 48 Ladder

1 Holders on the frame
2 Retaining brackets

Using the pop-up roof:

➔ Hook the ladder's retaining brackets (Fig. 48/2) into the holders (Fig. 48/1).

➔ Always use the ladder to climb onto the bed in the pop-up roof.

9.4.2.2 Fall protection net of the roof bed

The pop-up roof is equipped with a fall protection net that prevents people and objects from falling down when using the roof bed. The fall protection net is attached to the bed frame and stored underneath the mattress.

Warning!

Risk of injury due to falling out of bed

If the bed is not secured properly, people can fall from the bed.

➔ As soon as there are people on the bed, install the anti-fall guard correctly.

➔ It is necessary to keep the fall protection net's straps taut at all times to ensure the bed's safety.

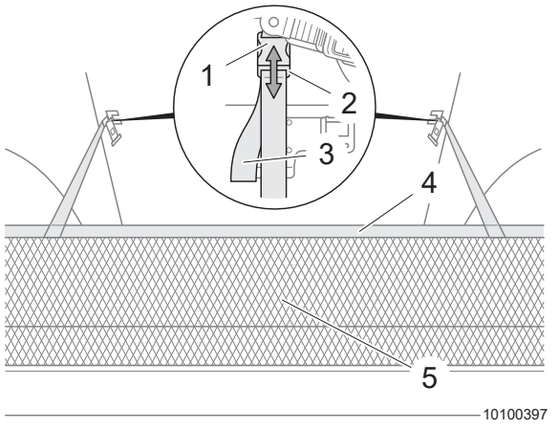


Fig. 49 Fall protection net

1 Coupling
2 Buckle
3 Strap end
4 Net bar
5 Fall protection net

Attaching the fall protection net

➔ Remove the fall protection net (Fig. 49/5) from under the mattress.

➔ Lift the net bar (Fig. 49/4) and plug couplings (Fig. 49/1) on the popped-up roof into the corresponding buckles on the straps (Fig. 49/2).

➔ Tauten the strap by pulling the free end of the strap (Fig. 49/3) downwards.

Proceed in reverse order to remove the fall protection net.

9.4.2.3 Ventilation and insect screen

The insect screens on the pop-up roof are covered by a fabric bellows. There is a zip fastener to open and close the fabric bellows. The insect screens on the sides cannot be opened. The insect screen at the front can be opened.

Warning!

Risk of injury due to falling

If the insect screen at the front is opened, there is an increased risk of falling from the roof of the vehicle.

➔ Only open the insect screen to remove bulky objects (e.g. the mattress) from the bed under the pop-up roof.

➔ The insect screen must not be opened when there are children on the bed.

Caution!

Damage to the vehicle

Insect screens are not waterproof.

➔ To avoid water damage inside the vehicle, close the fabric bellows if it rains or before cleaning the vehicle.

➔ Always close the fabric bellows before leaving the vehicle.

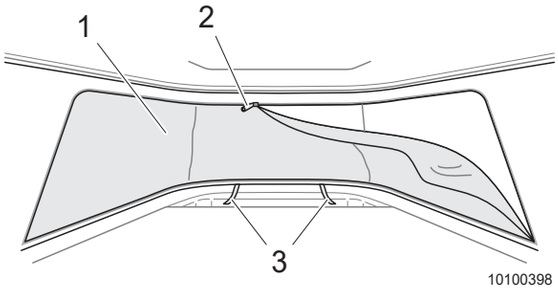


Fig. 50 Ventilation / insect screen

1 Fabric bellows
2 Zip fastener
3 Velcro straps

Opening the fabric bellows:

➔ Open the zip fastener (Fig. 50/2).

➔ Roll the fabric bellows (Fig. 50/1) downwards to furl them up and use the Velcro straps (Fig. 50/3) to fasten it.

Closing the fabric bellows:

➔ Loosen the Velcro straps and roll out the fabric bellows.

➔ Close the zip fastener.
When closing the zip fastener, make sure that there is no tension on the fastener. To do so, pull the fabric bellows towards the zip fastener.

9.4.3 Closing the pop-up roof

Caution!

Risk of damage

➔ Before closing the pop-up roof
- remove any objects lying on the bed which would prevent the proper closing and locking of the roof,
- close the insect screen,
- fully close the zip fastener of the fabric bellows,
- detach the fall protection net and stow it away underneath the mattress.

➔ Make sure not to jam the fabric bellows between the vehicle body and the pop-up roof. To do this, pull the loop on the fabric bellows inwards when closing the roof.

➔ Only close the pop-up roof when the fabric bellows and the insect screens are dry. Whenever this is not possible, make sure that the pop-up roof is reopened no later than 24 hours after closing it to ensure that these parts can dry. Otherwise, stains and mould could form on the fabric bellows and the insect screens.

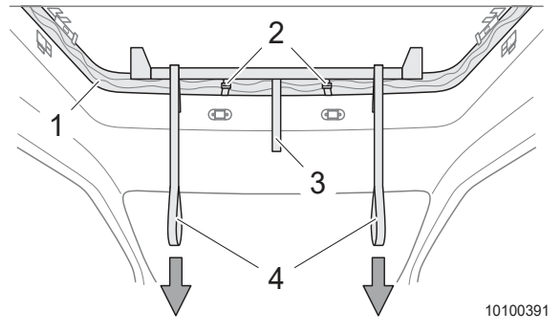


Fig. 51 Closing the pop-up roof – straps

1 Fabric bellows
2 Straps for fastening the fabric bellows
3 Loop
4 Straps

Closing the pop-up roof:

➔ In order to balance the pressure inside the vehicle, either open a door or a window.

➔ Hold the two straps suspended from the handle (Fig. 51/4) and slowly pull the pop-up roof downwards.

➔ When closing the pop-up roof, you or a second person should pull inwards the fabric bellows. Use the loop located at the front of the fabric bellows (Fig. 51/3) to pull the fabric bellows inwards.

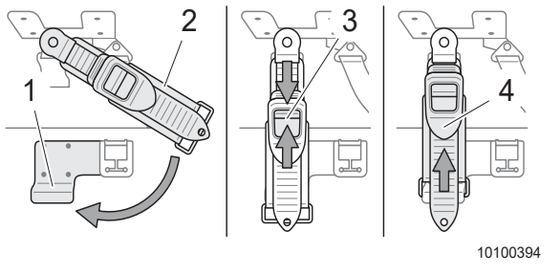


Fig. 52 Closing the pop-up roof – ratchet closure

1 Hook
2 Ratchet closure
3 Unlocking button
4 Lever

➔ Once the roof is completely closed, swing the ratchet closure (Fig. 52/2) downwards.

➔ Use your thumb and index finger to press the red unlocking button (Fig. 52/3) together and hook in the ratchet closure (Fig. 52/1).

➔ Move the lever (Fig. 52/4) up and down. The pop-up roof is pulled down with each upward movement. Repeat this step until the ratchet closure cannot be tightened any further.

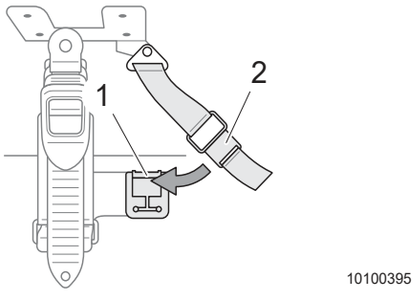


Fig. 53 Closing the pop-up roof – magnetic catch

1 Hook
2 Magnetic catch

➔ Hook in (Fig. 53/1) the magnetic catch (Fig. 53/2). If you can hear a clicking sound, the magnetic catch is inserted correctly.

➔ Roll up the fabric bellows (Fig. 51/1) and secure it using the straps (Fig. 51/2).

9.4.4 Cleaning and maintaining the pop-up roof

Please refer to Chapter 19.3 for information on how to clean and service the pop-up roof.

10 Power supply

10.1 General information

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 V will only work when the vehicle is connected to an external 230-V power supply.

Danger!

Danger from electric shock

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

- ➔ Only skilled and trained (specialised) personnel is allowed to perform work on the electrical system. All locally applicable standards, regulations and fire prevention measures must be adhered to.
- ➔ Have the electrical system checked for short circuit, corrosion and cable-break by an authorised workshop at least once a year.
- ➔ 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 could 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 operating 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 cable on the cable reel

➔ Always unroll the cable completely from the cable reel. This prevents overheating of the cable.

➔ Use a cable reel with integrated overheat protection.

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. 54/1) is located behind a hatch (Fig. 55/1) on the vehicle's left or right outer wall.

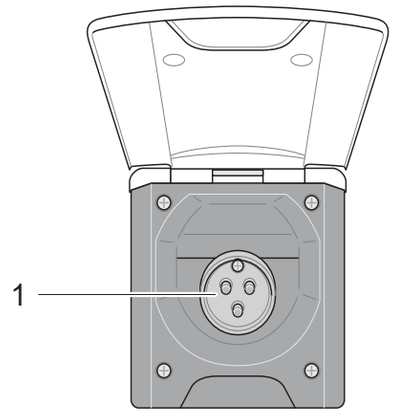


Fig. 54 CEE input socket

1 CEE input socket

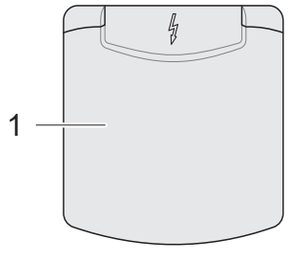


Fig. 55 CEE input socket hatch

1 CEE input socket hatch

The connection of the vehicle to the external 230-V power supply must be established with a rubber sheathed cable “H0 RN-F 3G 2.5 mm^2” or an equivalent cable with connectors according to “IEC 309”. The overall length of the electric cable should not exceed 25 m!

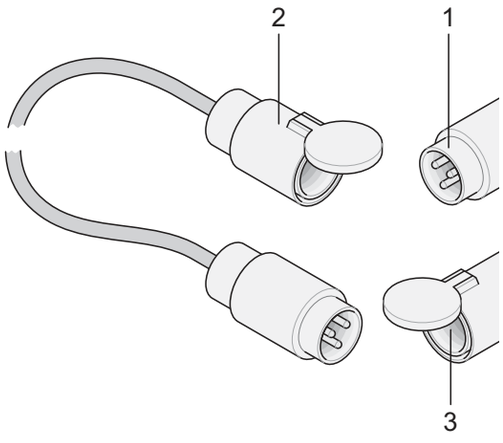


Fig. 56 230-V mains connection

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

Connecting:

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

Disconnect in reverse sequence.

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. Some vehicles may be equipped with an additional (optional) ground-fault circuit breaker.

A ground-fault circuit breaker protects persons against electric shock in case the insulation of electrical appliances is defective.

Note!

➔ Check the ground-fault circuit breaker for fault-free operation monthly and before starting each journey.

The circuit breaker and the ground-fault circuit breaker are usually installed inside the seat bench.

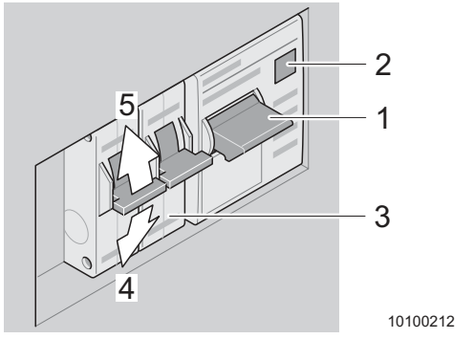


Fig. 57 230-V circuit breaker

1 Ground-fault circuit breaker
2 “Test” button of the ground-fault circuit breaker
3 Automatic circuit breaker
4 Switch in “Off” position
5 Switch in “On” position

Checking the ground-fault circuit breaker:

➔ Press the “Test” button (Fig. 57/2) of the ground-fault circuit breaker with the 230-V power supply connected.
The ground-fault circuit breaker (Fig. 57/1) triggers, the switch snaps into the “Off” position.

➔ Put the switch of the ground-fault circuit breaker back into the “On” position after completing the test successfully.

Switching on the circuit breaker:

➔ To switch on the circuit breaker (Fig. 57/3) push the switch (Fig. 57/5) upwards.

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 lever.

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

10.3 Power supply 12 V

10.3.1 Power Supply Unit (PSU)

The PSU is the central power distribution unit of your vehicle. The PSU 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 PSU automatically charges the starter battery of the base vehicle.

Danger!

Danger from electric shock

Improper use of the PSU can cause serious injury or death.

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

Warning!

Risk of burns

Parts of the PSU can get hot during operation.

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

Caution!

Damage to PSU or connected devices

- ➔ Replace defective fuses only when the PSU 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 PSU.
- ➔ Do not lay any cables underneath the PSU due to the heat emission.

PSU EBL 227

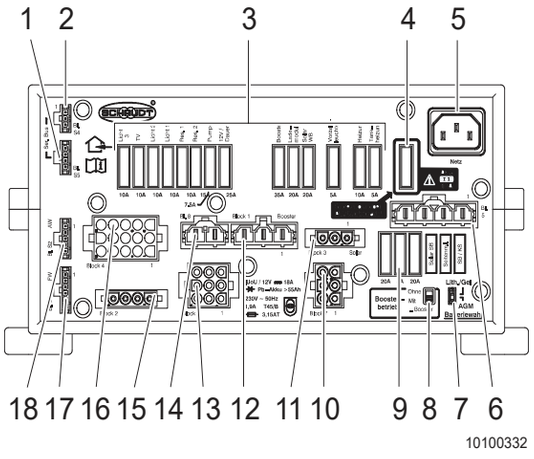


Fig. 58 PSU EBL 227 – front view

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

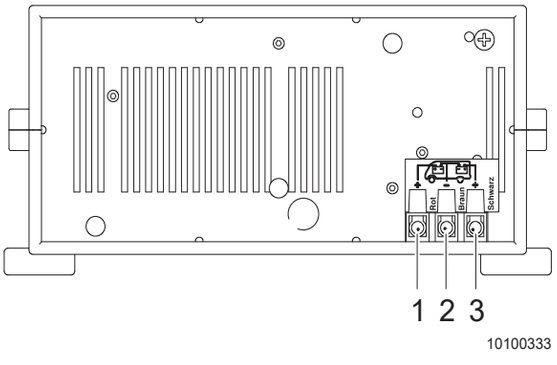


Fig. 59 PSU EBL 227 – rear view

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

Before switching on the PSU:

➔ Verify that the battery selector switch (Fig. 58/7) is in the correct position.

➔ Make sure the starter battery (Fig. 59/1) and the living area battery (Fig. 59/3) are connected.

➔ If necessary, deactivate the battery isolator (see Chapter 10.4).

Switching the PSU on and off:

➔ The PSU can be activated and deactivated using the On/Off switch on the control panel (see Chapter 8.7).

Vehicle blade fuses:

- Insert the fuse for the AES refrigerator only when an AES refrigerator (optional) is connected. Otherwise, the living area battery can be deeply discharged. Damage to the battery cannot be excluded.
- The flat blade fuses (Fig. 58/3) and (Fig. 58/9) protect the different electric circuits.

Battery selector switch

Caution!

Damage to the living area battery

➔ If the battery selector switch (Fig. 58/7) is set to the wrong position, the living area battery could become damaged.

➔ If you want to install a different type of battery, please contact your local ***ADRIA*** dealer.

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

10.3.2 Living area battery

Warning!

Risk of deflagration!

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

➔ The use of acid batteries as living area batteries in the vehicle is not allowed. The installation area is not equipped for accommodation of a lead-acid battery.

➔ Only gel or AGM 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 living area 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 major appliances must be switched off.

Regularly check the battery voltage on the control panel (Chapter 8.7):

- 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 within the red range, 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 a minimum of 48 hours.

Note!

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

➔ On extended journeys, 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 plus pole directly on 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.

10.4 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.

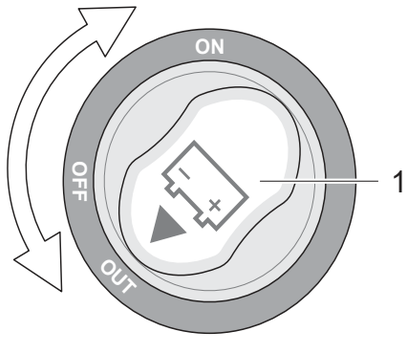


Fig. 60 Battery disconnect switch

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 main button on 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. 60) to “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. 60) and turn it to the “ON” position.

10.5 Fuses

Warning!

Risk of burns

➔ Replace defective fuses only after the PSU has been de-energised.

Caution!

Damage to the electrical system

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

➔ Never bridge or repair fuses.

➔ Use only original fuses with the same rating.

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 PSU
50 A	Red	Fuse of 12-V power supply unit	Next to the living area battery

Tab. 4 Fuses

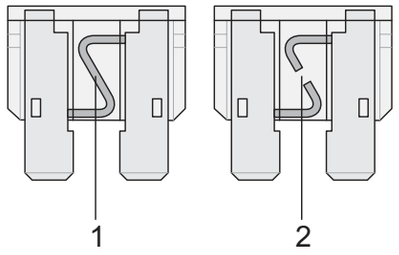


Fig. 61 12-V fuse

1 Intact fuse element
2 Interrupted fuse element

Changing the fuses:

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

10.6 AUX/USB socket

Some vehicles are equipped with a AUX/USB socket in the living area.

Caution!

Damage to the device

➔ 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 V.

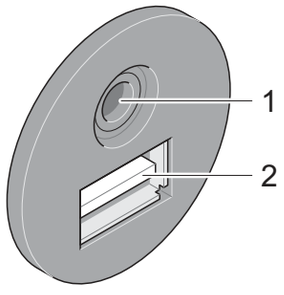


Fig. 62 AUX/USB socket

1 AUX port (3.5 mm)
2 USB port

AUX port (3.5 mm)

- The AUX port (Fig. 62/1) is connected to (optional) loudspeakers in the living area.
- You can connect a suitable device with an AUX cable.
- If your device supports “Video out/in” you can also transmit video signals. For this purpose you need a 4-pin cable.

USB port:

- You can connect suitable devices to the USB port (Fig. 62/2) for charging.

10.7 Power supply – external generator (optional)

Caution!

Damage to vehicle electronics

- ➔ 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 manual.

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 8.7).

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

11 Gas supply

11.1 General information about the gas system

Familiarise yourself with the safety instructions for handling gas.

Please refer to the Chapter 2.5 for general safety instructions on the topic “gas”.

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. Upon delivery of the vehicle, the operator must be informed in writing of his/her 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

Caution!

Gas locker

➔ Always keep the forced ventilation in the floor free from obstructions!

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

➔ Keep the high-pressure hose free from kinks or tension when connecting it to the gas cylinder.

➔ Do not use the gas locker as a storage space. Danger of fire!

The gas locker is accessible from the outside only.

The gas locker is intended for storing the gas cylinders. Do not cover the forced ventilation.

Secure the gas locker against unauthorized access.

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
Cooker	100 - 400	g/h
Refrigerator	10 - 25	g/h
Oven	50 - 200	g/h

Tab. 5 Reference values for gas consumption

11.5 Handling gas cylinders

Caution!

Danger when handling gas cylinders

- ➔ 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.

Grey gas cylinders with red marking (protective cap and bottom ring) are purchased cylinders and can be replaced or filled.

11.6 Truma MonoControl CS (optional)

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

Danger!

Risk of explosion

Rapid burning of gas.

➔ When changing gas cylinders, there is always some gas left in an “empty” gas cylinder.

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

Caution!

Pressure regulators and flexible lines

Pressure regulators and flexible lines must be replaced 10 years after manufacturing at the latest.

➔ The operator is responsible for the replacement.

Caution!

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

➔ 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!

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. 63/3) when connecting it to the cylinder.

11.6.1 Truma MonoControl CS – Putting the device into service

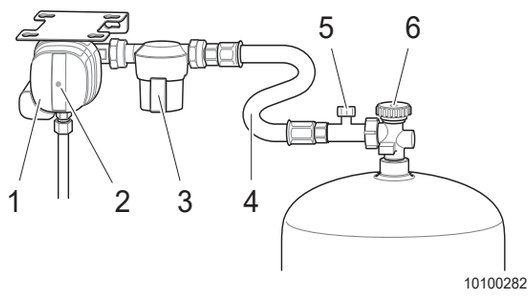


Fig. 63 Truma MonoControl CS

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. 63/6).
➔ Firmly push in the hose rupture protection push button (Fig. 63/5) for approx. 5 seconds.
➔ If required, repeat the process.
➔ If the yellow reset button (Fig. 63/2) is not pushed in, reset the crash sensor (Chapter 11.6.6).

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. 67/1).

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

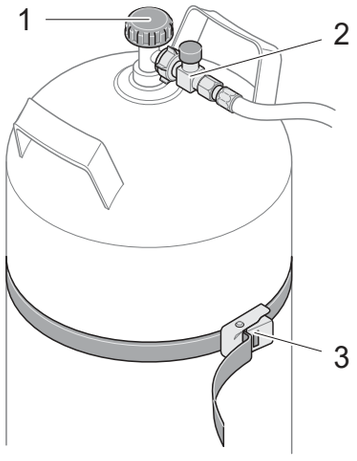


Fig. 64 Replacing a gas cylinder

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. 64/1) of the empty gas cylinder.

➔ Unscrew the high-pressure hose with adapter piece (Fig. 64/2) from the gas cylinder or remove the plug-on adapter, if required.

➔ Release the fastening strap (Fig. 64/3).

➔ 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 (Chapter 11.6.1).

➔ After gas cylinder replacement, always check the connection to the gas cylinder for leaks using a gas leakage detector spray or a soapy solution.

11.6.3 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.

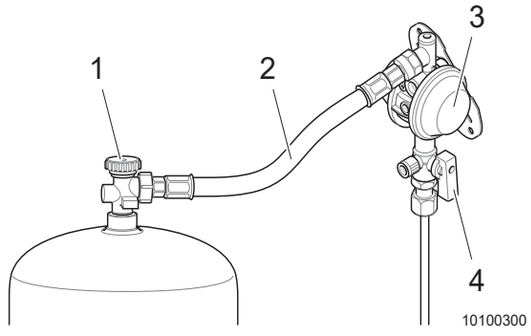


Fig. 65 Gas pressure regulator

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. 65/1).

➔ Open the stop valve (Fig. 65/4).

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. 65/1) of the empty gas cylinder.
- ➔ Unscrew the high-pressure hose with adapter piece (Fig. 65/2) from the gas cylinder or remove the plug-on adapter, if required.
- ➔ Release the fastening strap (Fig. 64/3).
- ➔ 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.
- ➔ After gas cylinder replacement, always check the connection to the gas cylinder for leaks using a gas leakage detector spray or a soapy solution.

11.6.4 Gas filter (optional)

The gas filter (Fig. 63/3) 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. 63/6).
- ➔ Unscrew the high-pressure hose (Fig. 63/5) 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 manual.

11.6.5 Truma MonoControl CS – Changing the high-pressure hose

Caution!

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

➔ Perform a leak test on the connections of the high-pressure hose after replacing 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 every time you replace 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. 67/1).

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. 63/6).

➔ Unscrew the high-pressure hose (Fig. 63/4) from the gas cylinder and from the Mono-Control CS (Fig. 63/1) 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. 63/5) (Chapter 11.6.1).

➔ If the yellow reset button (Fig. 63/2) is not pushed in, reset the crash sensor (Chapter 11.6.6).

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

11.6.6 Resetting the crash sensor

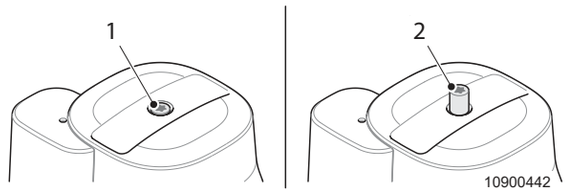


Fig. 66 Crash sensor

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

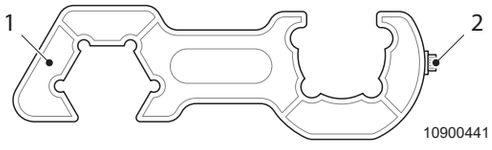


Fig. 67 Screwing tool

1 Screwing tool
2 Torx head

Resetting the crash sensor:

➔ Firmly push in the yellow reset button (Fig. 66/2), slightly turn in clockwise direction and hold it for approx. 10 seconds.

➔ Make sure that the reset button remains (Fig. 66/1) in the “Ready for operation” position.

➔ If resetting is unsuccessful, use the Torx head (Fig. 67/2) of the screwing tool (Fig. 67/1) to support the rotation in a clockwise direction.

11.7 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.

11.7.1 Quick-action stop valves of the heater, refrigerator, cooker and oven

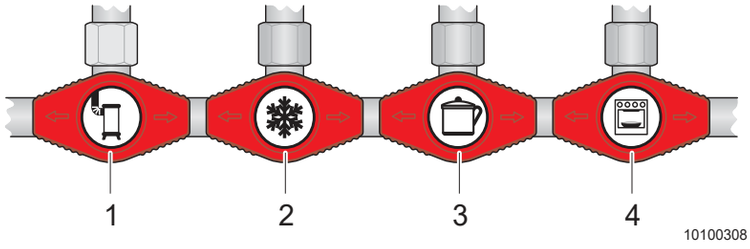


Fig. 68 Quick-action stop valves of the heater, refrigerator, cooker and oven

1 Heating
2 Refrigerator
3 Cooker
4 Oven

Each gas appliance has its own quick-action stop valve.
These are marked with suitable symbols to prevent mistakes:

- Heater (Fig. 68/1)
- Refrigerator (Fig. 68/2)
- Cooker (Fig. 68/3)
- Oven (Fig. 68/4)

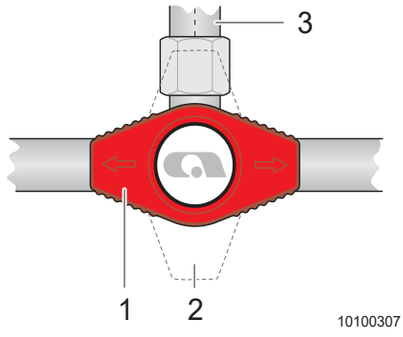


Fig. 69 Quick-action stop valves – positions

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. 69/1): The arrows on the quick-action stop valve are perpendicular to the gas pipe leading to the gas appliance (Fig. 69/3).

– Quick-action stop valve open (Fig. 69/2): The arrows on the quick-action stop valve are positioned in the direction of the gas pipe to the gas appliance (Fig. 69/3).

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, thoroughly cleaned 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, drain, clean and dry the water system (Chapter 12.2.5 and 12.3.2). Leave all water taps, all drain cocks as well as all drain valves open.

A fresh water tank is part of the standard equipment of the vehicle. When a water tap is opened, the installed water pump is switched on automatically, 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

On most models, the fresh water tank is located in the rear of the vehicle in the compartment under the rear bed.

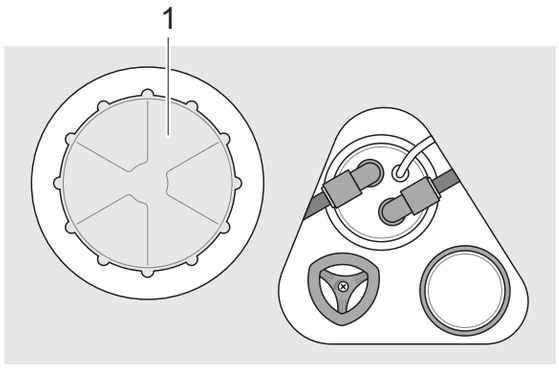


Fig. 70 Fresh water tank service opening

1 Service opening

Servicing the water tank:

➔ Fold up the seat cushions to reach the service opening (Fig. 70/1) of the water tank.

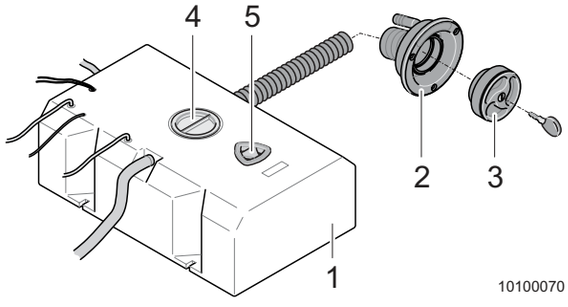


Fig. 71 Filling the fresh water tank – external

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)

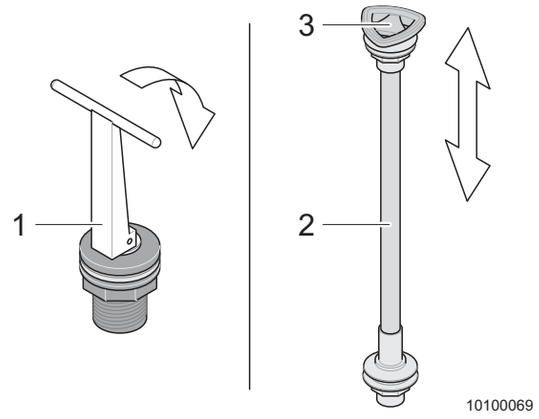
Using the fresh water tank:

➔ 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.



1 Quick release fastener
2 Water regulation system
3 Hand wheel

Fig. 72 Emptying the fresh water tank – Systems

Some models are equipped with an (optional) water regulation system (Fig. 72/2). You can use the hand wheel (Fig. 72/3 and Fig. 71/5) at the top of the fresh water tank 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 will be drained).

12.2.2 Filling the fresh water tank

Filling the fresh water tank (external):

➔ Deactivate the water pump on the control panel (Chapter 8.7).

➔ Close the Truma FrostControl (Chapter 13.3).

➔ 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. 71/4). Then, push the quick release fastener (Fig. 72/1) into the drain valve and fold the handle.

– Or turn the hand wheel of the regulation system (Fig. 72/3 or Fig. 71/5) clockwise until you hit the stop.

➔ Close the service cover (Fig. 71/4).

➔ Unlock and open the lockable cap (Fig. 71/3) on the filler neck (Fig. 71/2).

➔ 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

Hot and cold water is supplied using a single-lever tap with pull-out spraying nozzle.

The water flow and temperature are controlled by raising or turning the lever on the tap.

The switch on the spraying nozzle will only be enabled after you have switched on the water supply on the control panel.

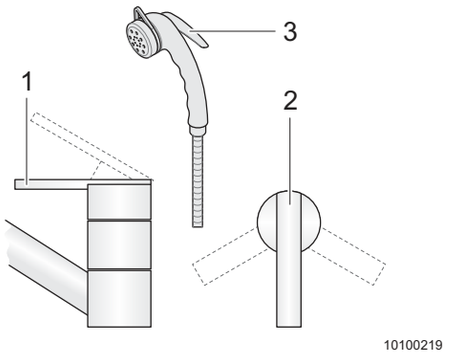


Fig. 73 Tap

1 Lever (raising/lowering)
2 Lever (swivelling)
3 On/Off

Operating the tap:

➔ Move the lever (Fig. 73/3) at the shower head down to turn on the water pump.
➔ Control the water flow by raising/lowering the lever (Fig. 73/1).
➔ Choose the desired temperature by turning the lever (Fig. 73/2).
➔ Moving the lever into the direction of the red marking: the water gets warmer.
➔ Moving the lever into the direction of the blue marking: the water gets colder (minimum temperature is the ambient temperature of the water tank).
➔ Release the lever (Fig. 73/3) to shut the water off again.
➔ Turn the lever (Fig. 73/2) 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 8.7).

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 Draining 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.

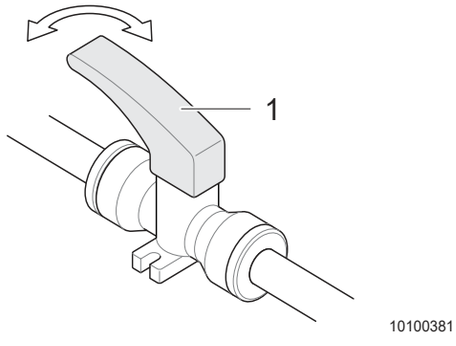


Fig. 74 Drain valve

1 Rocker arm

Emptying the fresh water system:

➔ Deactivate the water pump on the control panel (Chapter 8.7).

➔ Open all taps and shower heads to the centre position.

➔ Open the drain valve at the bottom of the tank (Fig. 71/5). Depending on the installed system, proceed as follows to do this:

– Either open the service cover (Fig. 71/4), fold the handle on the plug in the tank (Fig. 72/1) down and pull the plug out.

– Or turn the hand wheel of the regulation system (Fig. 72/3 or Fig. 71/5) anticlockwise to the stop.

➔ Open the Truma FrostControl of the hot water boiler (Chapter 13.3).

➔ Open the drain valves (Fig. 74/1).

➔ Completely drain the 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).
➔ Open the service cover (Fig. 71/4).
➔ Clean the inside of the fresh water 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.

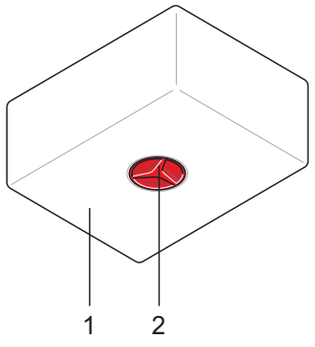


Fig. 75 Waste water tank, fixed

1 Waste water tank
2 Screw opening

The waste water tank (Fig. 75/1) is located on the underbody of the vehicle. On most models, the waste water tank has a screw opening (Fig. 75/2) that is accessible from below to allow the user to thoroughly clean the tank. Stubborn soiling can thus be eliminated.

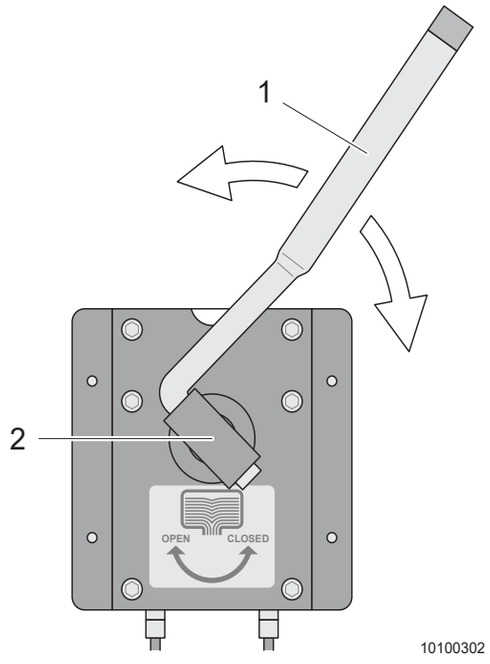
12.3.2 Emptying the waste water system

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 of the 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 service hatch for the faeces tank.



1 Drain valve operating lever
2 Fitting for inserting the operating lever

Fig. 76 Emptying the waste water tank – version 2

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. 76/1) into the fitting (Fig. 76/2).

➔ 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.

12.3.3 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.

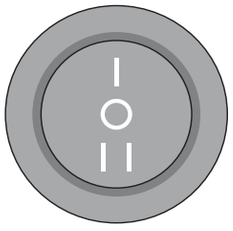


Fig. 77 Switch Drain valve

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. 77) 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.

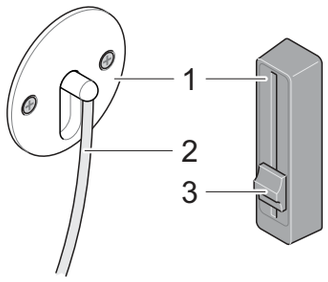
Keeping the switch in position I or II longer than the opening or closing process will not damage the drain valve.

12.3.4 Waste water tank heater (optional)

Some models are fitted with an optional waste water tank heater. Depending on the model, an electrical heater module can be used or hot air circulated from the living area heater.

12.3.4.1 Circulating air waste water tank heater

On some models, the waste water tank is insulated and heated with hot air.



1 Control
2 Pull switch
3 Slide control

Fig. 78 Waste water tank heater controls

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.

12.3.4.2 Electrical waste water tank heater

On some models, the waste water tank has an electrical heater.

Caution!

Damage to the tank heater

Operating the tank when it is empty can damage the heater.

➔ Deactivate the tank heater on the control panel when the tank has been drained.

Switching the waste water tank heater on and off:

➔ Switch on the 12-V supply.
➔ Use the control panel to switch the waste water tank heater on or off.
If the tank heater is activated, it is automatically switched on when the temperature falls below +5 °C.

13 Heating, hot water & air conditioning

13.1 Notes on the heaters

13.1.1 All heater types

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 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.

Note!

➔ The person using the heating must have the heat exchanger of the Truma heating replaced at the latest after 30 years. Only the heating manufacturer or an authorized workshop can exchange the heat exchanger.

➔ Heating spare parts must always be approved as spare parts by the manufacturer.

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 refer to the safety notices on the gas system (in Chapter 2.5 and 11) and on the power supply (in Chapter 10).

13.1.2 Gas and diesel operated heaters

Observe the instructions if your vehicle is equipped with one of the following gas-operated heaters:

- Truma Combi
- Webasto heating
- Whale water heater

Note!

➔ Please refer to the safety notices on the gas system (in Chapter 2.5 and 11) and on the power supply (in 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 stop 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 while refuelling the vehicle, in multi-storey car parks, in garages or 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).

Using a heater that was 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.

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.

13.1.3 Devices for hot water generation

Observe the instructions if your vehicle is equipped with one of the following devices for hot water generation:

- Truma Combi
- Whale water heater

Note!

➔ Please refer to the safety notices on the gas system (in Chapter 2.5 and 11) and on the power supply (in Chapter 11.5).

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 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, Truma Combi E and Truma Combi D

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-powered or 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.
- The Truma Combi E and the Truma Combi D E have three different energy supply options:
  - 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 power at the same time (only possible in winter mode)

Note!

Also observe the warnings for the heaters in Chapter 13.1.

13.2.1 Using the heater

Note!

Truma Combi, Truma Combi E, Truma Combi D and Truma Combi D E have an almost identical operating principle.

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 doors of the vehicle to ensure proper ventilation of the vehicle during this process.

When operating the diesel-powered Truma Combi heating systems for the first time or if the tank ran empty, multiple start-ups of the heater are generally required to fill the fuel lines.

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

Note!

Heating is always possible in all operating modes (gas, diesel, electric and mixed operation) with a filled or an empty hot water boiler.

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 230-V power supply at the camping site adequate sufficiently protected by a circuit breaker or fuse? (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.

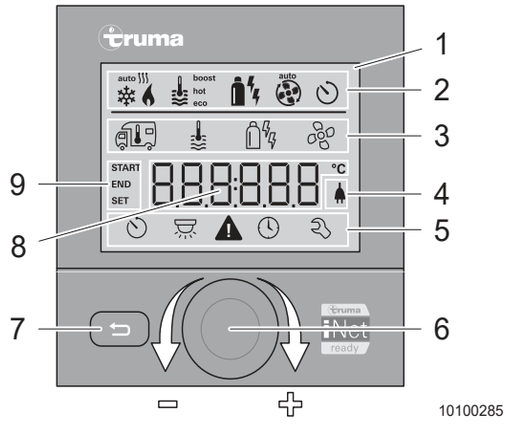


Fig. 79 Truma CP plus control

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 the heating on or off:

➔ Press the rotary push button (Fig. 79/6) for more than 4 seconds.
The switch-off process may be delayed by a few minutes due to the heating overrunning internally.

Selecting menus and setting values:

➔ Turn the rotary push button (Fig. 79/6) 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. 79/7) to return to the previous menu or the previous display.

For further information, please refer to the manufacturer’s separate operating manual.

13.2.3 Operating modes

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 selected temperature, the heating element is switched 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

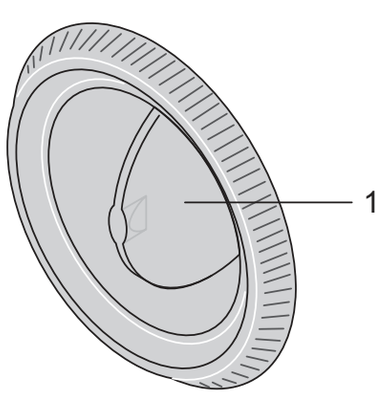


Fig. 80 Air outlet nozzle

1 Air outlet nozzle

Several air outlet nozzles (Fig. 80/1) 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. 80/1) so that the warm air escapes at the desired positions only.

Adjusting the air outlet nozzles:

➔ Fully open the air outlet nozzle (Fig. 80/1) to conduct the full warm air flow to the desired position.

The more you close the air outlet nozzle (Fig. 80/1), 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. 79/6) for more than 4 seconds.

The switch-off process may be delayed by a few minutes due to the heating over-running internally.

➔ Fit the cowl cover.

➔ Close the “heater” quick-action stop valve when the heater is not used for an extended period of time (see Chapter 11.7).

➔ Close the gas cylinder valve if no more gas consumers are being used (see Chapter 11.5).

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 operating 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 normal operation by itself.

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 hot water boiler.

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 filled automatically, too (see Chapter 12.2.4).

13.2.8 Emptying the hot water boiler

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 winter, drain the hot water boiler completely via the Truma FrostControl.

➔ Drain the entire water system completely 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.

➔ The hot water boiler of the Truma Combi can be drained via Truma FrostControl (see Chapter 13.3).

13.3 Truma FrostControl

The Truma FrostControl (Fig. 81/1) 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. 81/4). In case of excessive pressure inside the heating system, the device automatically equalises the pressure.

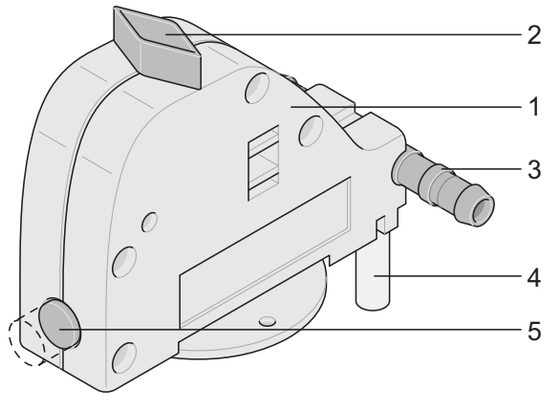


Fig. 81 Truma FrostControl

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. 81/2) is set to “Operation” (parallel to the water connection) (Fig. 81/3) and is engaged.
It can only be closed by hand (pressed shut) with the push button (Fig. 81/5) 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. 81/1) 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. 81/5) springs out and the water stored in the vehicle drains out through the drainage pipe (Fig. 81/4).

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. 81/2) by 180° until it engages.
The push-button (Fig. 81/5) springs out and the water stored in the vehicle drains out through the drainage pipe (Fig. 81/4).

13.4 Webasto heating

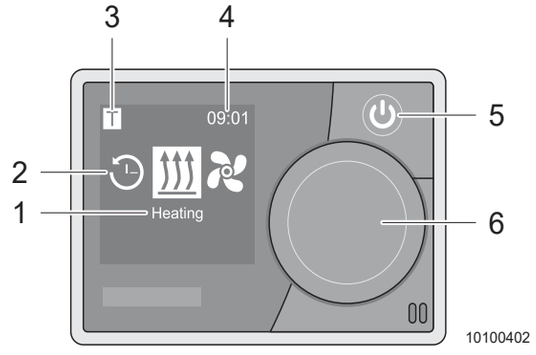


Fig. 82 Webasto control unit

1 Name of the menu
2 Symbol for the menu
3 Preselected time is activated
4 Time
5 Instant start button with status display
6 Control knob

The control knob (Fig. 82/6) is used to select menus or to alter the values to be set.

➔ Turn the control knob to the left or right to select a menu item or to change the values.

➔ Press the control knob to activate the menu item or to save the selected value.

Switching the heating on:

➔ Press the instant start button (Fig. 82/5).
The heater is activated.
The display shows the heating symbol and the pre-set temperature.
The instant start button is illuminated in green.

Switching the heating off:

➔ Press the instant start button (Fig. 82/5).
The heater is switched off.
The display shows the main menu.
The instant start button is illuminated in white.

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

13.5 WHALE water heater

Depending on the model and optional equipment, your vehicle may be equipped with a water heater.

Caution!

Damage to the water heater

- ➔ Never run the water heater without water.
- ➔ Do not connect the water heater directly to the water mains.
- ➔ Verify that the cowl is not obstructed.
- ➔ Open and close the drain valve lever at least twice a year. This will help to prevent the build-up of scale inside the pressure relief valve.

Producing hot water:

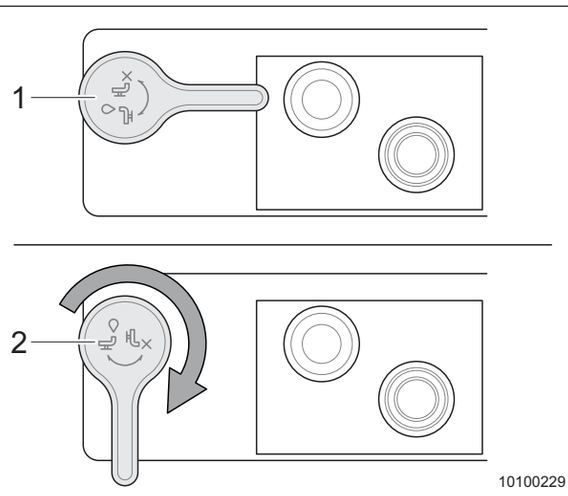


Fig. 83 Water heater drain valve

1 “Closed” position
2 “Open” position

- ➔ Close the drain valve (Fig. 83/1).
- ➔ Switch on the water pump on the control panel (Chapter 8.7).
- ➔ Open a water tap and set it to “hot”.
- ➔ Wait until there are no more bubbles in the water jet that flows from the tap.
- ➔ Repeat this process on all other water taps.

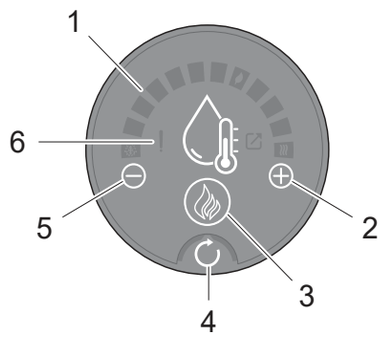


Fig. 84 Water heater control elements

1 Temperature display
2 “Increase temperature” button
3 “Gas heater” button
4 “Reset” button
5 “Decrease temperature” button
6 Lock position indicator

Switching on the water heater:

➔ Set the desired water temperature (frost control mode, eco mode, maximum temperature mode) by pressing the “increase temperature” button (Fig. 84/2).

➔ Press the “Gas heater” button (Fig. 84/3) to switch on the water heater.
The icon on the “Gas heater” button will then be illuminated in orange.

Switching the water heater off:

➔ Press the “Gas heater” button (Fig. 84/3) to switch off the water heater.
The icon on the “Gas heater” button will go out.

➔ Switch off the gas supply.

➔ If the water heater is not used for more than 3 days or while there is a risk of frost, open the drain valve and drain the system completely.

Caution!

Risk of damage

➔ Do not operate the water heater more than 3 days in a row in frost control mode.

➔ When the switch is in “Frost control” position (Fig. 84/1), make sure that the device constantly remains in frost control mode the whole time.

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

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.

Emptying the hot water tank:

➔ Switch off the water pump on the control panel (Chapter 8.7).

➔ Open a water tap and set it to “hot”.

➔ Open the drain valve (Fig. 83/2) and drain the device until there is no more water in the tank.

➔ Leave the drain valve and the taps open in central position until you intend to refill the system the next time.

13.6 Floor heating (optional)

The floor heating consists of a heating foil and a transformer with a switch.

Danger!

Risk of electric shock or short-circuit

➔ When the vehicle is fitted with electric floor heating, do not bore any holes or screw in any screws in the floor.

Danger!

Risk of overheating

➔ Do not cover the transformer.

You can only use the floor heating when the vehicle is connected to a 230-V supply. For your safety, a transformer reduces the mains voltage to a low voltage which is then fed to the heating foils.

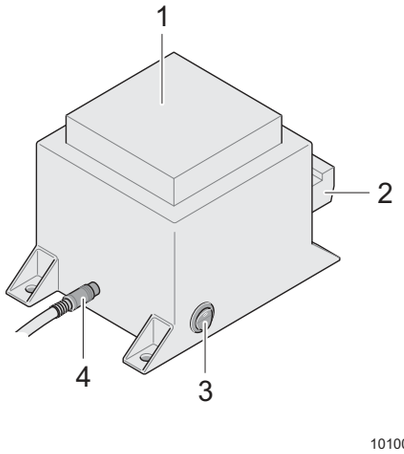


Fig. 85 Transformer for the floor heating

1 Transformer
2 Connection to floor temperature control system
3 “ON/OFF” button
4 Mains connection

The transformer (Fig. 85/1) for the electric floor heating is installed inside the storage compartment underneath the bed.

Using the electrical floor heating:

- ➔ Verify that the 230-V power supply at the camping site is sufficiently protected by a circuit breaker or fuse. (350 W – 1.5 A)
- ➔ Verify that the connection cable is wound off completely from the cable reel.
- ➔ Verify that the 230-V circuit breaker in the vehicle is switched on.
- ➔ Check if the mains plug of the transformer is connected to a 230-V socket.
- ➔ To switch the floor temperature control system on or off, press the “ON/OFF” button (Fig. 85/3).

13.7 Air conditioning

13.7.1 Webasto air conditioning system (optional)

Note!

If your vehicle is equipped with a Webasto heater, it can be optionally equipped with a Webasto air conditioning system.

13.7.2 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 skylights 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.

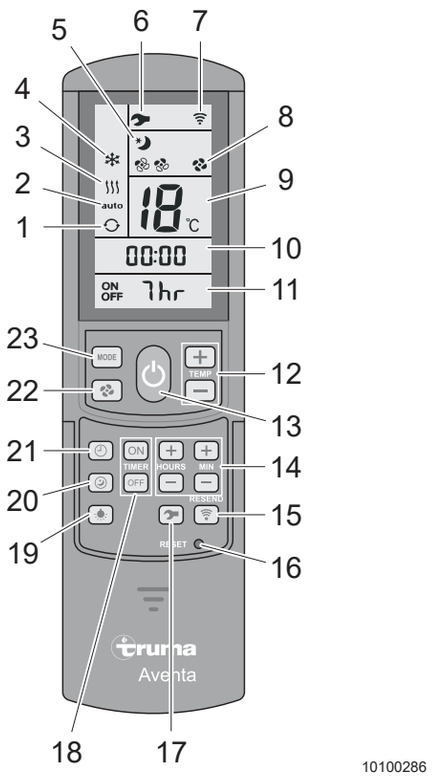


Fig. 86 Remote control of the air conditioner

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 at the infra-red receiver (Fig. 87) to execute the individual switching operations.

Switching on:

➔ Use the “On/Off” button (Fig. 86/13) to activate the air conditioner.
The settings that were last selected are stored/applied.

Setting the temperature:

➔ Use the “Temperature” selection keys (Fig. 86/12) to set the desired temperature.

Selecting the operating mode:

➔ Select the desired operating mode by pressing the “Operating mode” button (Fig. 86/23) 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. 86/22) once or several times.

– low
– medium (not for heating operation)
– high

Switching off:

➔ Use the “On/Off” button (Fig. 86/13) 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 manual provided by the manufacturer.

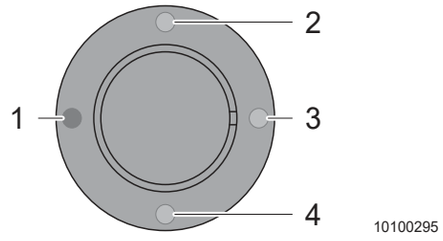


Fig. 87 IR receiver

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. 87/1) 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. 87/2) steady (heating operation)
– Yellow LED (Fig. 87/2) flashing (compressor start-up heating operation)
– Red LED (Fig. 87/3) flashing (data are transmitted)
– Red LED (Fig. 87/3) steady (fault)
– Blue LED (Fig. 87/4) steady (cooling operation)
– Blue LED (Fig. 87/4) flashing (compressor start-up cooling operation)

Red LED (Fig. 87/3) 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.

14 Cooking

Danger!

Risk of explosion or fire

There is a risk of explosion when using the gas cooker or the gas oven while refuelling the vehicle, in multi-storey car parks, in garages and on ferries.

➔ Switch off the gas cooker and the gas oven.

Danger!

Risk of poisoning due to carbon monoxide (CO) and lack of oxygen

➔ Before turning on a gas cooker or a gas oven (optional), always open a window, a skylight or a door.

➔ Never cover the forced ventilation in the roof hoods and in the entrance as well as the mushroom ventilators.

Danger!

Risk of explosion

➔ Risk of explosion! Never allow unburned gas to flow out!

➔ If a flame of the gas cooker extinguishes, unburned gas escapes until the flame failure device is activated. Combined with oxygen, this will produce an explosive atmosphere inside the vehicle!

➔ Watch the flames while using the cooker!

➔ When finished, shut the respective quick-action stop valve (Chapter 11.7).

14.1 Gas cooker

The gas cooker is operated with liquefied gas.

Observe the following when operating the gas cooker:

➔ Always open a window or a skylight.
This supplies the vehicle with sufficient oxygen and leads away cooking vapours.

➔ Do not keep combustible objects, e.g. tablecloths, napkins, etc. near the gas stove. Risk of fire!

➔ Carefully observe the ignition process. The view must not be obstructed.

➔ Place the pots on the middle of the cooking positions.

➔ Use only pots with flat bottoms that are not larger than the respective gas burner grate.

➔ Do not allow the flames to extend beyond the pot edge.

➔ Always use cooking gloves or pot holders when handling hot pots, pans and similar items. Injury risk!

➔ Never use the gas cooker for heating.

Observe the following when handling the glass cover:

- ➔ Do not apply pressure on the glass cover when it is closed.
- ➔ Do not close the glass cover when burners are still in operation or still emit heat.
- ➔ Do not place hot cooking pans on the glass cover.
- ➔ In the case of frost, keep the kitchen window closed and provide ventilation in a different way. Otherwise, the temperature difference on the glass cover could cause damage.

14.1.1 Operation

Caution!

Defective cooking area

The burner does not operate properly. The flame goes out again and again despite the control knob being depressed for an extended period of time.

- ➔ The thermal element is bent or defective. Have defective thermal elements replaced by an authorised workshop. We recommend yearly inspection by a specialist.

Note!

- ➔ Always make sure the respective control knob is set to “Off” position when you have finished using the cooktop or the oven.
- ➔ On models with electric ignition, proceed in the same manner as described. The flame, however, is ignited by pressing the button for electric ignition on the control panel.

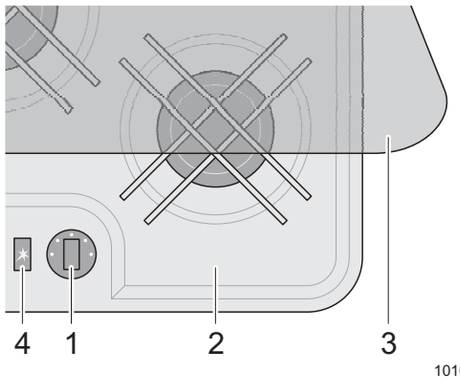


Fig. 88 Gas cooker

1 Control knob
2 Cooking area
3 Glass cover
4 Gas igniter (optional)

Using the gas cooker correctly:

➔ Clean the gas cooker before putting it into service (Chapter 19.2.5).

➔ Fold up the glass cover (Fig. 88/3) of the hob (Fig. 88/2).

➔ Open the gas cylinder valve and the quick-action stop valve (Chapter 11.7) on the distributor block.

➔ Turn the control knob (Fig. 88/1) of the desired cooking position to “large flame”, then press and hold the knob.
Gas flows out.

➔ Use a suitable device to ignite the gas that is flowing out and keep the control knob pressed in for approx. 10 seconds until the flame safety device keeps the gas supply open.

– Piezo gas igniter: Each time the button (Fig. 88/4) is pressed, a spark is created to ignite the gas.

– Electric gas igniter: Pressing the button will generate ignition sparks until you release the gas igniter.

➔ If the flame goes out, repeat the process.

➔ Set the desired burner performance with the control knob.

Switching the gas cooker off:

➔ Turn the control knob to 0.
The flame goes out and the flame safety device automatically shuts off the gas supply.

➔ Close the quick-action stop valve (Chapter 11.7).

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

14.2 Gas oven (optional)

Warning!

Risk of burns by hot surfaces

➔ Always wear protective gloves when handling hot items.

➔ Protect yourself and your children from contact with hot parts.

➔ After use, allow the grill and the oven to sufficiently cool down inside and outside.

Caution!

Damage to oven

➔ Do not use the oven to heat the vehicle.

The oven is operated with liquid gas.

➔ Clean the gas oven before placing it into service (Chapter 19.2.5.3).

➔ Thoroughly air the living area.
Heat and condensation can be formed inside the vehicle when the oven is used.

➔ Before using the oven for the first time, heat it for 30 minutes to maximum temperature without any contents.
A light generation of smoke is normal.

14.2.1 Operation

Note!

➔ Always make sure the respective control knob is set to “Off” position when you have finished using the cooktop or the oven.

➔ On models with electric ignition, proceed in the same manner as described, however, the flame is ignited by pressing the button for electric ignition on the control panel. The ignition of the oven and of the grill must be performed with the oven door open.

Depending on the model, the handle of the oven is either on the top or on the right on the oven door.

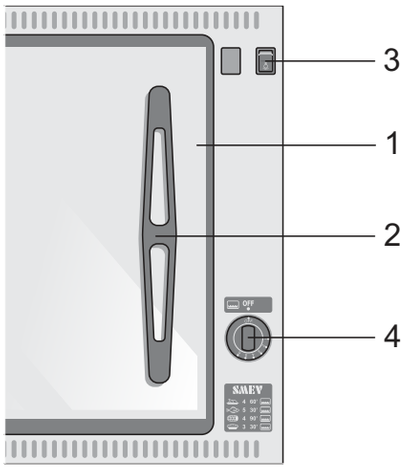


Fig. 89 Oven – version 1

1 Oven door
2 Handle
3 “Lighting” switch
4 Rotary knob

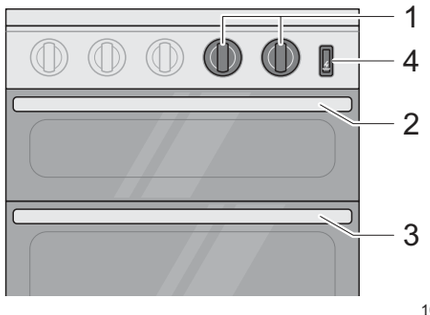


Fig. 90 Oven – version 2

1 Rotary knob
2 Grill door handle (optional)
3 Oven door handle
4 Gas igniter (optional)

Some vehicles also have a grill fitted.

Note!

➔ Keep the door open when using the grill.

Preparing to use:

➔ Open the gas cylinder valve (Chapter 11.6.1).

➔ Open the quick-action stop valve on the distributor block (Chapter 11.7).

Igniting the oven or grill:

➔ Completely open the oven or grill door.

➔ Hold the rotary knob pressed and turn to the corresponding ignition position (Grill: large flame/oven highest setting).

➔ For models without ignition feature: Ignite the burner with a suitable gas lighter and keep the rotary knob pressed for approx. 5-10 seconds.

➔ For models with ignition feature: Ignite the gas that is flowing out with the gas igniter (Fig. 90/4) and hold down the control knob (Fig. 90/1) for approx. 10 seconds until the flame safety device keeps the gas supply open.

– Piezo gas igniter (Fig. 90/4): Each time it is pressed, a spark is created to ignite the gas.

– Electric gas igniter (Fig. 90/4): When the button is pressed, several ignition sparks are created until you release the gas igniter.

➔ On models with automatic ignition:

– Version 1: Press the rotary knob in the ignition position and keep it pressed for approx. 5-10 seconds.

– Version 2: Press the rotary knob in the ignition position, press the ignition knob and keep the rotary knob pressed for approx. 5-10 seconds.

➔ Now release the rotary knob and turn it to the desired thermostat setting.

Switching the oven off:

➔ Turn the rotary knob to the “Off” position.

Baking:

The following Table shows the average temperature in the middle of the oven for different thermostat settings. The actual temperature in the oven can vary depending on the ambient temperatures.

Thermostat position	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**
Version 1 [°C] approx.	130	160	180	200	220	240	-	-	-
Version 2 [°C] approx.	140	150	165	180	195	210	220	230	240

Tab. 6 Thermostat settings

15 Refrigerator & freezer compartment

The refrigerator that is installed in your vehicle is either produced by the company Thetford or the company Webasto.

Note!

Some illustrations show optional equipment which may not be installed in your vehicle.

15.1 Using the refrigerator

Clean the refrigerator before putting it into service (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.
- If the outside temperature is higher, installing an additional fan on the ventilation grille can significantly improve the cooling performance of the refrigerator (optional retrofit item).

15.1.1 12-V mode

The refrigerator is operated with 12 V. If the vehicle is not connected to the 230-V power supply, the refrigerator is supplied with power by the battery or while driving by the alternator. If the vehicle is connected to the 230-V power supply, the battery is charged, which in turn supplies the refrigerator with 12 V.

15.1.2 Winter operation

Caution!

Damage to the refrigerator

Not attaching the winter covers to the ventilation grilles may lead to malfunction or cause damage to the refrigerator if the temperatures outside fall below 8 °C.

➔ If outside temperatures are expected to fall below 8 °C, mount the winter covers on the refrigerator's ventilation grilles.

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.

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

15.2 Control elements

15.2.1 Thetford T 2000 Series

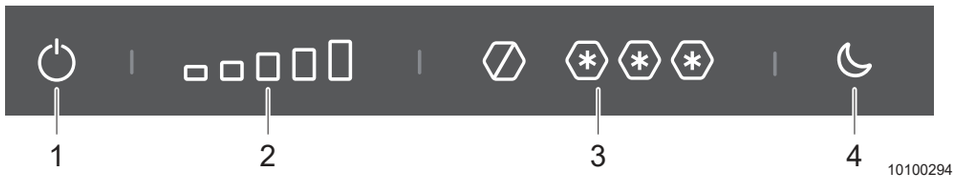


Fig. 91 Refrigerator control elements (Thetford T 2000)

1 "ON/OFF" button
2 Temperature settings refrigerator
3 Temperature settings freezer compartment
4 Night operation button

Switching the refrigerator on or off:

➔ Press and hold the "ON/OFF" key (Fig. 91/1) for several seconds.

Setting the cooling level:

➔ Unlock the control panel. Press and hold the refrigerator (Fig. 91/2), freezer compartment (Fig. 91/3) or night mode (Fig. 91/4) areas for several seconds until the corresponding icon starts flashing.

➔ Swipe or press the temperature icons to select the desired cooling level.
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 manual.

15.2.2 Thetford T 1000 Series

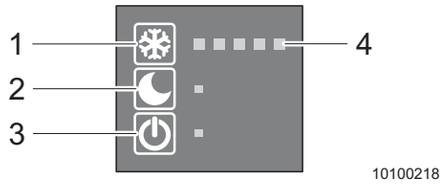


Fig. 92 Refrigerator Thetford series 1000

1 “Cooling temperature” button
2 “Night mode” button
3 “ON/OFF” button
4 Cooling level (1-5)

Switching the refrigerator on or off:

➔ Press and hold the “ON/OFF” key (Fig. 92/3) for approx. 2 seconds.

Setting the cooling level:

➔ Press and hold the “cooling temperature” button (Fig. 92/1) for approx. 1 second. Select the cooling level by pressing the button (Fig. 92/4) again.

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

15.2.3 Webasto CR65

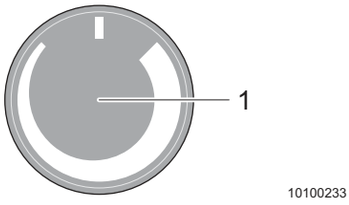


Fig. 93 Webasto CR65 control

1 Rotary switch

Switching on the refrigerator and setting the cooling level:

➔ Turn the rotary switch (Fig. 93/1) clockwise and set the desired cooling level.

Switching off the refrigerator:

➔ Turn the rotary switch (Fig. 93/1) anti-clockwise until it hits the stop. To do this, you must force it a little to get past a slight resistance.

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

15.2.4 Webasto Freeline 115

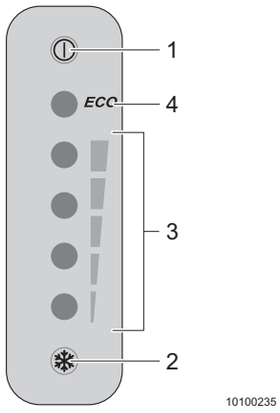


Fig. 94 Webasto Freeline 115 controls

1 “ON/OFF” button
2 “Temperature selection” button
3 “Temperature level” indicator LEDs
4 “Eco mode” indicator LED

Switching the refrigerator on or off:

➔ Press and hold the “ON/OFF” key (Fig. 94/1) for 1 second.

Setting the cooling level:

➔ Use the “Temperature selection” button (Fig. 94/2) to set the desired cooling level. The selected cooling level will be saved automatically after 3 seconds.

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

15.3 Opening and locking the refrigerator door

Caution!

Damage to the refrigerator or the contents of the refrigerator

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).

Caution!

Damage to the refrigerator door

➔ Lock the refrigerator door before starting your journey.

15.3.1 THETFORD T2000 and T1000 Series

The refrigerator doors of all Thetford refrigerator models are equipped with an automatic locking device.

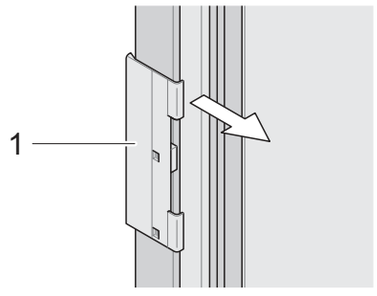


Fig. 95 Locking device on the Thetford refrigerator door

1 Handle

Opening the Thetford T1000 and T2000 Series refrigerators:

➔ Pull the handle (Fig. 95/1) and open the refrigerator door.

Locking the Thetford T1000 and T2000 Series refrigerators:

The refrigerator door is equipped with an automatic lock.

➔ Shut the refrigerator door and press firmly.
The refrigerator door locks automatically.

15.3.2 Webasto

Opening the Webasto refrigerator:

➔ Pull the handle and open the refrigerator door.

Closing/locking the Webasto refrigerator:

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 when it is parked or driving in direct sunlight. This can 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 manual.

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 anti-freeze.

➔ 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

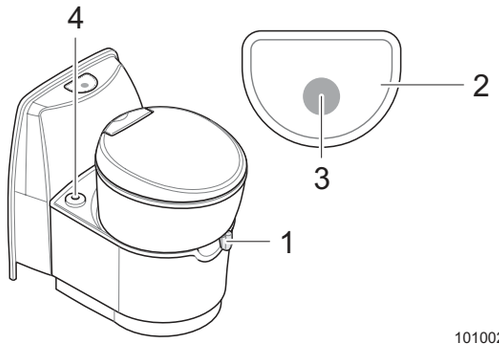


Fig. 96 Thetford C-2 S

1 Slider handle
2 Operator panel
3 Flush button
4 Waste level indicator

Before using the toilet:

➔ Read the manufacturer's operating manual and carry out all preparatory measures.

➔ Pour the toilet additives recommended by the manufacturer through the drainage pipe (Fig. 97/4) 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.

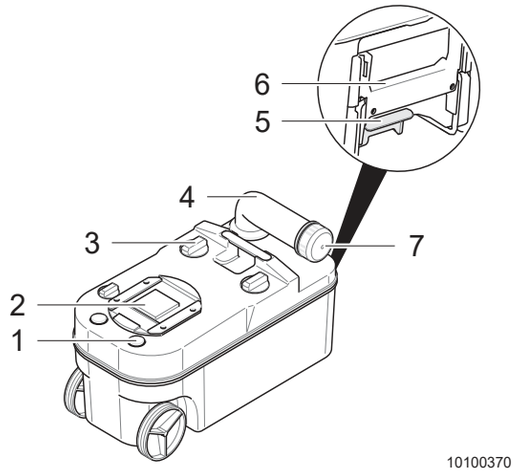
➔ Before flushing, open the slider. Slide the slider handle (Fig. 96/1) to the side.

➔ Press the flush button (Fig. 96/3) 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 manual.

16.1.1 Faeces tank for Thetford cassette toilet C-223 S



1 Vent plunger button
2 Sliding cover
3 Float
4 Swivelling emptying spout
5 Catch
6 Handle
7 Lid

Fig. 97 Waste tank for C-22x

The cassette (Fig. 97) holds approx. 17 l.

Empty the cassette when the filling level indicator light (Fig. 96/4) lights up. Do not wait until the cassette is too full.

Removing the cassette:

➔ Use the slider handle (Fig. 96/1) to close the slider.
➔ Open the service hatch on the vehicle's outer wall.
➔ Unlock the cassette (Fig. 97/5) and hold it by the handle (Fig. 97/6) to remove it.

Emptying the cassette at disposal stations:

➔ Take the cassette to a disposal site.
➔ Place the cassette upright.
➔ Swing the drainage pipe (Fig. 97/4) upwards.
➔ Unscrew the drainage pipe's cover (Fig. 97/7).
➔ Turn the cassette so that it drains completely.
➔ Press the vent plunger (Fig. 97/1) with the thumb of the other hand.
Only press the vent plunger button when the drainage pipe is facing towards the ground. When you press the vent plunger button, the cassette will be drained without spraying.
➔ 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. 97/3) 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 manual.

16.2 Thetford cassette toilet C-403 L

Caution!

- ➔ Do not leave water in the bowl when the toilet is not used. This can cause clogging.
- ➔ Do not fill the flushing water tank more than half full when travelling. Otherwise water damage could occur on your vehicle.

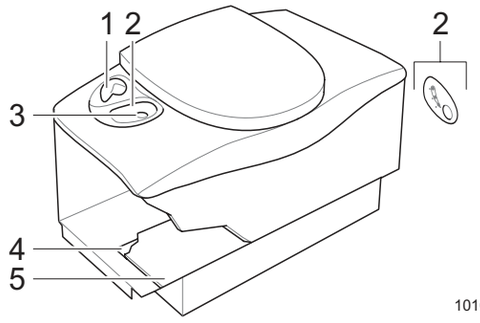


Fig. 98 Thetford C-403 L

1 Slider handle
2 Control panel and waste level indicator
3 Flush button
4 Compartment for toilet fluid (only on tall model, only accessible from the outside)
5 Sliding cover (only accessible from the outside)

Before using the toilet:

- ➔ Read the manufacturer's operating manual and carry out all preparatory measures.
- ➔ Pour the toilet additives recommended by the manufacturer through the drainage pipe (Fig. 99/3) into the cassette.
  Follow the instructions on the proper dosage as specified on the toilet additive packaging.
- ➔ Verify that the fresh water tank is filled.
- ➔ Only use the toilet paper that is recommended by the manufacturer.

Using the toilet:

- ➔ Use the slider handle (Fig. 98/1) to open the slider or allow some water to run into the bowl. To do this, briefly press the flush button (Fig. 98/3).
  You can use the toilet while the slider is open or closed.
- ➔ If the valve blade is still closed, use the valve blade handle (Fig. 98/1) to open the valve blade anticlockwise.
- ➔ Press the flush button for several seconds to flush the toilet.
- ➔ After flushing, use the valve blade handle to close the valve blade.

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

16.2.1 Faeces tank for Thetford cassette toilet C-403 L

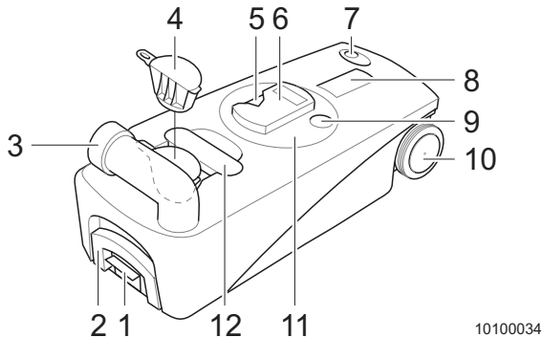


Fig. 99 Waste tank for C40x

1 Locking handle
2 Pull-out handle
3 Pivoting drainage pipe with cover
4 Water tank extension
5 Slider
6 Sliding cover
7 Vent plunger button
8 Automatic holding tank vent valve
9 Valve blade opener
10 Wheels
11 Removable mechanism
12 Upper carrying handle

The faeces tank (cassette) (Fig. 99) holds approx. 19 l.

Empty the cassette when the filling level indicator light (Fig. 98/2) lights up. Do not wait until the cassette is too full.

Removing the cassette:

➔ Use the slider handle (Fig. 98/1) to close the slider.
➔ Open the service hatch on the vehicle's outer wall.
➔ Pull the locking handle (Fig. 99/1) upwards and remove the cassette.
➔ Remove the water tank extension (Fig. 99/4), if fitted.

Emptying the cassette at disposal stations:

➔ Place the cassette upright and pull out the pull-out handle (Fig. 99/2).
➔ Take the cassette to a disposal site.
➔ Push back the pull-out handle.
➔ Place the cassette upright and swing the drainage pipe (Fig. 99/3) upwards.
➔ Unscrew the drainage pipe's cover.
➔ Turn the cassette so that it is emptied.
➔ Use the thumb of the other hand to press the vent plunger button (Fig. 99/7).
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.
➔ Thoroughly clean the cassette and the slider with water.
➔ Fasten the water tank extension.
➔ Push the cassette into the toilet.
➔ Close the service hatch.

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

16.3 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 empty the fresh water tank completely. Then allow the fresh water tank to dry.

➔ Empty the cassette (Chapter 16.1.1 or 16.2.1).

➔ Leave the drainage pipe open to allow the cassette to dry.

➔ Clean the toilet (Chapter 19.2.6).

➔ Clean all seals and treat with care products for seals.

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

16.4 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.

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 ***ADRIA*** 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.
- ➔ Thoroughly check the tyres, tread depth and tyre pressure (Chapter 22.1).
- ➔ 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 system completely when there is a risk of frost.

➔ 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. Drain the taps that have a "warm" and a "cold" position in both positions and leave them open in one of the positions (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.

17 Winter camping

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 and awning at regular intervals (Chapter 2.8).
- ➔ Always keep the heater exhaust clear. 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.

17.3 Checklist for winter camping

Checklist for winter camping	✓
Winter tyres (tread depth at least 4mm)	
Snow chains (prohibited for aluminium rims!)	
New wipers (also as reserve)	
Antifreeze in wiper fluid (also as reserve)	
Thermal mat (to lay on), work gloves	
Drive-off assistants (traction aids), sand sack, small shovel	
Snow shovel, grit	
Brush	
Hand brush	
Talc, Vaseline for rubber seal	
Door lock and window de-icer	
Jump leads	
Plastic ice scraper	
Anti-mist cloth for windscreen	
Wheel chocks	
Antifreeze for the waste water tank (e.g. table salt)	
Torch / flashing hazard warning light (use new batteries)	
Winter cover for refrigerator ventilation grille (if available)	
Safety vest	
Umbrella	
Folding spade	
Spare bulbs	
Thermo-mats/hood for driver's cab	
Awning	
Winter bedding	
Watering can	
Heating tape (to thaw frozen pipes)	
Bucket or tank on wheels for waste water	

Tab. 7 Checklist for winter camping

18 Putting 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 (super-structure)	Keep the forced ventilation and all mushroom ventilators open.	
	Carefully wash the vehicle and apply a paint protection product (wax).	
	Repair paintwork damage. Your ***ADRIA*** dealer will be pleased to advise you with respect to suitable products.	
	Move the vehicle every four weeks in order to avoid “flat spots” 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 4 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 damage caused by condensation.	
Electrical system	Charge the starter and living area batteries for at least 24 h.	
	Recharge the batteries at regular intervals.	
	Disconnect terminals from living area battery poles	

	Activity	✓
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.	
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 water tank, therefore, after the end of the journey, the water tank must always be drained, thoroughly cleaned (Chapter 12.2.5) and allowed to dry. We recommend using a disinfectant for the fresh water tank. Ask your ***ADRIA*** 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 manual 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. 8 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 for putting the vehicle out of service during winter in addition to those already mentioned for temporarily putting the vehicle out of service.

	Activity	✓
Body (super-structure)	Clear snow from the roof when it snows.	
	Thoroughly heat and ventilate the vehicle every four weeks.	
	Lubricate all hinges and locks.	
	Lubricate all rubber seals and rubber parts with a rubber protection agent (e.g. Getren).	
	Use graphite dust to treat locking cylinders.	
	Install the winter cover for the refrigerator grille (if available).	
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 battery and removed living area battery every month.	
Built-in appliances	For information on putting the appliances out of service over winter, please refer to the separate operating manual of the respective 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. 9 Checklist for putting the vehicle out of service during 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 (super-structure)	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 work-shop.	
	Check the tyre pressure including that of the spare wheel (optional).	
	Remove cover from the exhaust cowl, if present.	
	Remove the winter cover for the refrigerator grille (if available).	
	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 Charge the starter and living area batteries for at least 24 h.	
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 work-shop.	
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 all taps open while doing this.	
	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 manuals for the appliances.	
	Check the function of all appliances (e.g. refrigerator, cooker, heater, etc.).	
Living area	Replace all cushions.	
	Remove dehumidifiers.	

Tab. 10 Checklist for returning to service

19 Cleaning & care

19.1 Cleaning and care – exterior

We recommend the following steps for the care of the vehicle:

Warning!

Risk of injury and of damage to the vehicle roof

➔ Do not step on the van roof.

➔ 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.

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 ***ADRIA*** 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 underseal is defective, contact your ***ADRIA*** 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. Follow the instructions in the operating manuals provided by the respective manufacturer.

➔ Treat polyester parts every year with a two-component wax. Follow the instructions in the operating manuals provided by the respective manufacturer.

➔ Observe the environmental protection measures in cleaning and care of the vehicle.

19.1.1 Cleaning 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 soiling, we recommend a special cleaning agent for acrylic glass which is available from your ***ADRIA*** 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 be subjected to contact with the solvents referred to above only for a short period (2 minutes max.) 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 ***ADRIA*** dealer for advice.
- Do not use caustic or abrasive cleaning agent.
- Avoid everything that could cause scratching or scoring.

19.2.1 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 be subjected to contact with the solvents referred to above only for a short period (2 minutes max.) 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).

19.2.2 Care of 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.

19.2.3 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.

19.2.4 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 Cleaning 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.

➔ Use a glass cleaning agent for cleaning the glass cover (optional) of the cooker.

19.2.5.3 Cleaning the oven

Caution!

Damage to seals and surfaces

➔ 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. Once the appliance is in use, clean it 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. Once the appliance is in use, clean it 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 the toilet with solvents or cleaning agent containing alcohol. Do not use scouring agents.

– These could cause cracks or embrittlement of the plastic material.

➔ Do not pour caustic substances or boiling water into the drains.

– These damage both the drain pipes and the siphon traps.

➔ 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 ***ADRIA*** dealer for advice.

➔ Clean the bathroom and the toilet only with warm water, a soft cloth or sponge and mild, standard cleaning agent.

➔ Clean the toilet compartment only with a moist cloth and mild cleaning agent.

➔ The seals of the cassette, the vents and the lid as well as the valve blades of the toilet must be cleaned regularly with a mild cleaning agent for plastic materials.

19.2.7 Cleaning the water tank, waste water tank and toilet tank

➔ Always clean the water tanks and water pipes every time before filling them with commercially available cleaning agent and rinse them with plenty of water.

➔ Before you put the vehicle out of service, the water tanks must be carefully cleaned, thoroughly rinsed, completely emptied and thoroughly dried (Chapter 12.2).

19.3 Cleaning and care – pop-up roof

19.3.1 Cleaning and maintaining the fabric bellows and the insect screen of the pop-up roof

Caution!

Damage to the fabric bellows

- ➔ Do not use a pressure washer to clean the pop-up roof, the fabric bellows and the insect screen.
- ➔ Never fold the pop-up roof, the fabric bellows and the insect screen when they are still wet.

- ➔ Use a soft brush to remove soiling and deposits from the fabric bellows and the insect screen. Only do this when these parts are dry.
- ➔ If you need to remove small stains, either use an eraser or rinse and dab the stain with warm water (max. 35 °C).
- ➔ For larger stains, use a soft cloth or a sponge with mild soap solution with a temperature not exceeding 35 °C to dab the stains. Thoroughly rinse the surface to avoid stains from residues of the soap.
- ➔ When cleaning, only apply little pressure and do not rub the material too hard, as this could cause rub marks or rub dirt into the interstices in the fibres of the fabric bellows.
- ➔ Wash off salt water or salt deposits immediately with clear water.
- ➔ Make sure that dirt that could damage the material, such as bird droppings, is removed immediately from the fabric bellows.
- ➔ After rain or after cleaning, allow the fabric bellows to dry completely, preferably in direct sun light. Do not leave the pop-up roof closed with wet fabric bellows for extended periods.
- ➔ Clean the pop-up roof before putting the vehicle out of service and allow the pop-up roof and the fabric bellows to dry completely.

19.3.2 Cleaning and maintaining the outer surfaces of the pop-up roof

Caution!

Damage to the outer surface of the pop-up roof

- ➔ Do not use aggressive (alkaline) cleaning agents for cleaning as these can affect the colour of the outer surface (gel coat).
- ➔ Do not use pressure washers, especially not at short distances and at concentrated pressure.
- ➔ Coat the pop-up roof with a wax not containing any silicone.

- ➔ Clean the fibreglass exterior of your pop-up roof several times per season with a mild cleaning agent and plenty of water to remove soiling and salt accumulated during use.
- ➔ Apply a high-quality wax on the fully dried pop-up roof (if possible with protection against UV radiation) to protect the roof. Use a wax without silicone.

Removing stains and scratches on the outer surface of the pop-up roof:

The outer layer is made of gel coat. This type of coating is very hard and resistant to bumps and scratches. Nevertheless, scratches cannot be avoided over time. It may not be possible to fully remove minor scratches and stains by grinding and polishing the surface, but they will be less visible afterwards.

➔ Use alcohol with a content of 95 °% to remove stains that cannot be removed with a cleaning agent and plain water.

Attention: Do not use any other organic solvents as they can permanently damage and discolour the gel coating.

➔ You can use a cleaning agent with fine abrasive particles to remove stains and minor scratches.

Attention: Rubbing with a scrubbing agent or sandpaper will deplete the gel coating. Therefore, do not treat the surface with abrasives too often.

➔ If the surfaces are not cleaned in regular intervals, the upper gel coat layer may change its colour. It may be possible to remove such stains using an abrasive polish.

If using an abrasive polish does not solve the problem, try treating the area with wet sandpaper with a grain size of 800 or 1200 until the stains disappear. Apply wax polish after cleaning.

Caution!

Damage to the vehicle

➔ Scratches extending into the fibreglass layer (or even deeper) must be repaired by applying an extra gel coat or another type of putty. ***ADRIA*** recommends having such scratches repaired by a specialist workshop.

➔ If there is a crack in the laminate (fibreglass layer under the gel coat), contact an expert for composite materials immediately.

On coloured roofs, dark gel coatings contain special colouring pigments. Over time, white dots or colouring distortions may appear on the surface. This cannot be avoided and does not constitute a defect.

20 Inspections & maintenance

20.1 Inspection work

Note!

As with any vehicle, the caravan 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 20.4 and 20.5) must be carried out 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 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 warm water heating (optional)

Please see the manufacturer's original operating manual for checking operating fluids.

20.3 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 reduction in braking pressure).
- ➔ Drive with consideration and foresight.
- ➔ Avoid braking abruptly.
- ➔ Have the brake system inspected regularly.

20.4 Chassis

In addition to the maintenance work specified by the basic vehicle manufacturer, the following maintenance work has to be carried out:

Maintenance activity	Interval
Van 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. 11 Chassis maintenance and inspection plan

For the frequency of the individual maintenance tasks, please refer to the separate manufacturer's operating 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.

20.5 Body (superstructure)

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. 12 Bodywork maintenance and inspection plan

20.6 Pop-up roof – removing and installing the fabric bellows

The design of the pop-up roof allows easy removal and installation of the fabric bellows.

Only remove the fabric bellows for thorough cleaning, re-impregnation, repairs or replacement.

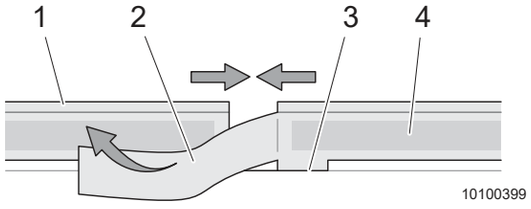


Fig. 100 Inserting the narrow side pieces

1 Zip fastener
2 Velcro strap
3 Casing
4 Side piece

Inserting the fabric bellows:

The base frame of the pop-up roof contains a casing with an opening.

➔ Insert the lower narrow side piece (Fig. 100/4) into the casing (Fig. 100/3) with the teeth of the zip fastener (Fig. 100/1) facing upwards and push the side piece through the entire rail. Verify that the Velcro strap (Fig. 100/2) is on the frame's outside.
When the side piece of the zip fastener has been fully inserted, the two ends should face each other.

➔ Use the Velcro extension (Fig. 100/2) to join both ends of the side piece.

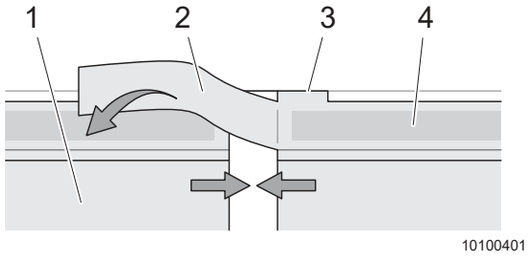


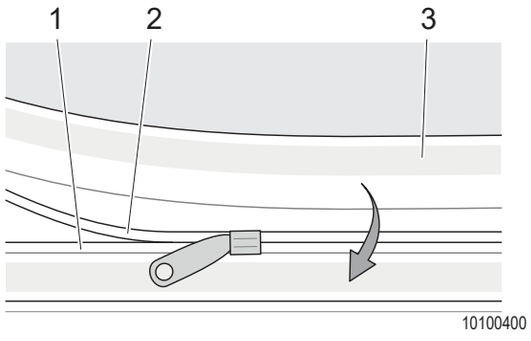
Fig. 101 Inserting the fabric bellows

1 Fabric bellows
2 Velcro strap
3 Casing
4 Edge of the fabric bellows

The pop-up roof itself also has a casing with an opening.

➔ Insert the upper edge of the fabric bellows (Fig. 101/4) into the casing's opening (Fig. 101/3) and push the fabric bellows (Fig. 101/1) through the entire casing. Verify that the Velcro strap (Fig. 101/2) is on the frame's outside.
When the fabric bellows has been fully inserted, the two ends should face each other.

➔ Use the Velcro strap to join both ends of the fabric bellows.



1 Zip fastener lower casing
2 Zip fastener fabric bellows
3 Cover

Fig. 102 Closing the zip fastener

➔ Join the zip fastener of the fabric bellows (Fig. 102/2) with the zip fastener in the lower casing (Fig. 102/1) along their entire length.
To facilitate installation, slightly pull down the pop-up roof by the handles. This reduces the tension on the zip fastener.

➔ Use the suspended cover on the lower edge of the fabric bellows (Fig. 102/3) (Velcro strap) to cover the zip fastener and the casing on the base frame.

Proceed in reverse order to remove the fabric bellows.

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 local ***ADRIA*** dealer or the respective appliance manufacturer (heater = 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 Changing a wheel

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 Vehicles with tyre repair kit (optional)

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!

- The tyre repair kit allows repairing tyres whose treads were pierced by foreign objects with a diameter of **not more than 4 mm**.
- The tyre repair kit is approved only for filling the tyres of a vehicle that was equipped with this tyre repair kit at the factory.
- Repaired tyres may be used only for a short period!
- Repair with the tyre repair kit is only a temporary measure!

The tyre repair kit 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 repair kit 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 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 person repairing the tyre that the tyre has been temporarily repaired with the tyre repair kit.

➔ Give the instruction sheet to the person who has to repair the tyre that was treated with the tyre repair kit.

Please refer to the manufacturer's separate operating manual for further information on the tyre repair kit.

21.1.3 Vehicles with spare wheel (optional)

21.1.3.1 Vehicle jack (optional)

Danger!

Severe injuries by crushing

➔ Use only a vehicle jack with adequate lifting capacity. Determine the lifting capacity necessary in the technical data of your vehicle based on the gross weight rating.

➔ Never position the vehicle jack on the body. Position the vehicle jack only at the positions intended for this purpose.

➔ 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.

For changing the wheels, we recommend using the included vehicle jack or a hydraulic trolley jack which is available as an accessory.

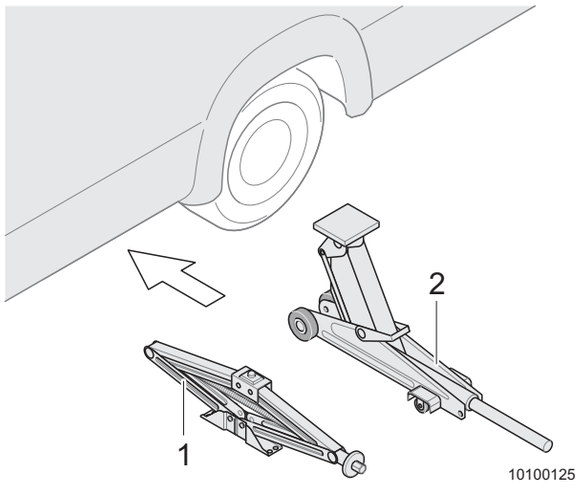


Fig. 103 Jacking up with the vehicle jack

1 Vehicle jack
2 Hydraulic trolley jack (optional)

The vehicle jack and the onboard tool set are under a seat in the driver's cab or in the garage.

➔ Position the vehicle jack (Fig. 103/1) or the hydraulic trolley jack (optional) (Fig. 103/2) only at the lifting points provided underneath the car body.

For more information concerning the vehicle jack, please refer to the manufacturer's separate operating manual.

21.1.3.2 Spare wheel storage location

The spare wheel is underneath the vehicle floor in the rear area.

➔ Secure the vehicle (Chapter 21.1.1).

➔ Observe all additional information in the separate operating manual provided by the basic vehicle manufacturer.

➔ Take the spare wheel out of the support.

➔ Change the defective wheel.

➔ Stow the damaged wheel properly after a wheel change.

21.1.3.3 Changing a wheel

Warning!

Risk of injury when the vehicle rolls away

➔ Perform the wheel change only when the vehicle has been secured.

Caution!

Unsafe wheel attachment

➔ Always use the correct wheel bolts.

➔ For light-metal rims, different wheel bolts (diameter, length) can be used than for steel rims.

➔ Make sure not to mix up the wheel bolts.

➔ Secure the vehicle (Chapter 21.1.1).

➔ Shut off the engine and apply the parking brake.

➔ Engage the first gear or reverse gear.

➔ Place the wheel chocks before and behind the opposite wheel. This secures the vehicle from rolling away.

➔ Put the spare wheel and the required tools in place so they are ready at hand.

➔ Remove the protective caps from the wheel nuts or the wheel cover.

➔ Unscrew the wheel nuts or wheel bolts by half a revolution with the wheel spanner.

➔ Position the vehicle jack and jack up the vehicle until the defective wheel is off the ground (Chapter 21.1.3.1).

➔ Screw out the wheel nuts or wheel bolts and place them onto a clean surface. Make sure the threads are clean.

➔ Change the wheel.

➔ Clean the threads, turn in the wheel nuts or bolts and tighten by hand.

➔ Stow the defective wheel in the spare wheel support.

➔ Lower the vehicle and remove the vehicle jack.

➔ Tighten the wheel nuts crosswise (Chapter 21.1.4).

➔ Stow the tools and the safety equipment.

➔ Check the tyre pressure at the next opportunity.

➔ After driving approx. 50 km, check the seating of the wheel nuts or bolts and tighten.

21.1.4 Tightening the wheel nuts

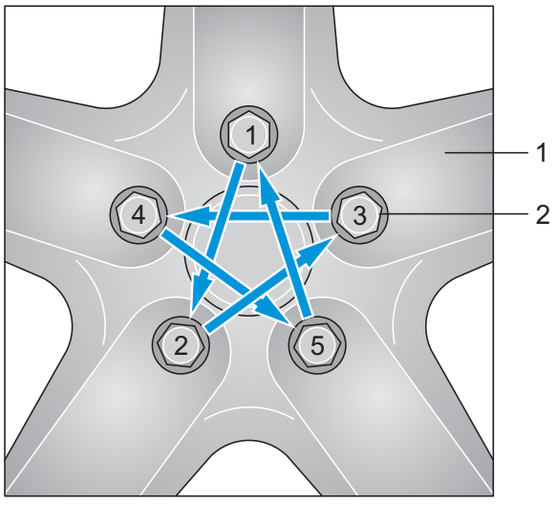


Fig. 104 Tightening the wheel nuts

1 Rim
2 Wheel nuts or wheel bolts

➔ Tighten the wheel nuts or wheel bolts (Fig. 104/2) in the sequence 1 - 2 - 3 - 4 - 5.

➔ Check the firm seating of all wheel nuts or wheel bolts again.

➔ Use a torque wrench for light-metal rims without steel bushings.
Please refer to the separate operating manual of the chassis manufacturer for the tightening torques of the rims.

➔ After driving approx. 50 km, check the seating of the wheel nuts or wheel bolts.

21.2 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.

21.2.1 Exterior lighting

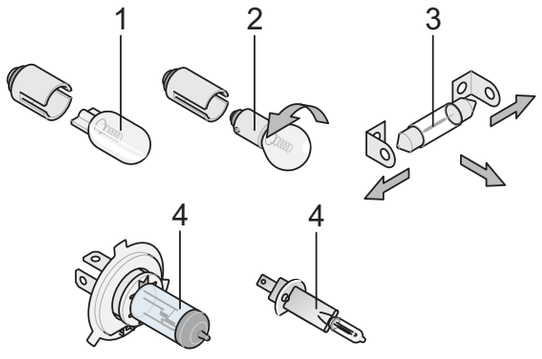


Fig. 105 Exterior lighting elements

1 Lighting element with plug cap
2 Lighting element with bayonet cap
3 Cylindrical lighting element
4 Halogen bulbs

Replace the various lighting elements as follows:

	Bulb type	Replacing
1	Lighting element with plug cap	• Removing: pull the lighting element out. • Fitting: push the lighting element into the socket with light pressure.
2	Lighting element with bayonet cap	• Removing: push the lighting element down and turn it anticlockwise. • Fitting: insert the lighting element into the socket and turn it clockwise.
3	Cylindrical lighting element	• Removing/Fitting: bend the contacts of the lighting element holder carefully outwards.
4	Halogen bulbs	• Removing: release the retaining spring. • Fitting: remount the retaining spring.

Tab. 13 Replacing lighting elements – exterior

21.2.1.1 Replacing lighting elements – front

Vehicle with basic vehicle driver's cab:

Front lighting – fully integrated vehicles	Lighting elements
Dipped headlights	H7 - 55 W
Headlights	H1 - 55 W
Sidelights, front	W5W
Direction indicators, front	P21W

Tab. 14 Lighting elements, front

21.2.1.2 Replacing lighting elements – sides

Lighting – sides	Lighting elements
Direction indicators, side	W16WF or LED
Awning light	G4 10W or LED

Tab. 15 Side lighting elements

21.2.1.3 Replacing lighting elements – rear

Lighting – rear	Lighting elements
Direction indicators, rear	P21W
Brake light	P21W
Additional brake light (3rd brake light)	LED
Reversing light	P21W
License-plate light	C5W

Tab. 16 Rear lighting elements

Replacing lighting elements:

➔ Please refer to the operating manual of the basic vehicle for further information on replacing the lighting elements at the rear.

➔ Remove the shelving for the relevant light on the inside of the D column (rear).

➔

➔ Loosen both fixing nuts of the lighting with a wrench (opening 17).

➔ First unscrew and remove the bottom nut by hand and then the top nut.

➔ Replace the defective lighting element as described in the operating manual provided by the basic vehicle manufacturer.

Refit the light in reverse order.

21.2.2 Interior lighting

Have the entire LED lamps replaced in a workshop.

The LED lamps can only be replaced as a whole.

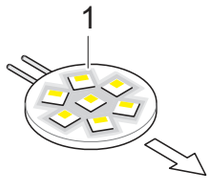


Fig. 106 LED insert for interior lighting

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. 17 Replacing the LED insert for interior lighting

Interior lighting	Lighting elements
Ceiling light, living area	LED, 12 V, G4, 1.0 W
Ceiling light, sleeping area	LED, 12 V, G4, 1.0 W
Lighting, roof hood	Halogen, 12 V, G4, 10 W
Reading lamp, living area	LED, 12 V, G4, 0.5 W
Reading lamp, sleeping area	LED, 12 V, G4, 1.0 W
Kitchen light	LED, 12 V, G4, 0.5 W
Lighting, bathroom cubicle	LED, 12 V, G4, 0.5 W
Lighting, wardrobe	C10W, 12 V, 10 W
Lighting, storage space	Halogen, 12 V, G4, 10 W

Tab. 18 Interior lighting elements

21.3 Gas cooker faults

Fault	Possible cause	Remedy
No gas	See Chapter 21.4.	
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

21.4 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 gas cylinder valves. • Avoid any type of ignition spark and open light. • Ventilate the vehicle well (Chapter 2.5). • Repair by authorised workshop.
No gas	Gas cylinder is empty.	• Exchange gas cylinder (Chapter 11.5).
	Gas cylinder valve is closed.	• Open the gas cylinder valve.
	The MonoControl CS gas pressure regulator (optional) switched off after the gas system has not been used for a longer period of time and the gas cylinders have been shut off.	• Put the MonoControl CS (optional) into operation (Chapter 11.6).
	Gas pressure regulator frozen.	• Use regulator de-icing equipment (EisEx).
	Quick-action stop valve closed.	• Open quick-action stop valve (Chapter 11.7).
	Faulty appliance.	• Repair by authorised workshop.
	Outside temperature too low.	• Use propane gas for winter camping (Chapter 11.3).
Flame appearance on appliance not normal	Gas pressure regulator defective.	• Consult an authorised workshop.

Tab. 20 Gas system faults

21.5 Refrigerator/freezer compartment faults

Fault	Possible cause	Remedy
No gas operation	See Chapter 21.4.	
	Energy selector switch on the refrigerator in false position.	• Bring the power selector switch on the refrigerator to “Gas mode” or “Automatic mode” position.
	Air in gas pipe.	• Switch the appliance off and start again. Repeat 3 to 4 times.
No 230-V operation	Energy selector switch on the refrigerator in false position.	• Turn power selector switch on the refrigerator to “230-V mode”.
	Vehicle not connected to mains supply.	• Connect vehicle to the mains.
	On-board fuse defective.	• Insert a new fuse.
No 12-V operation	Energy selector switch on the refrigerator in false position.	• Turn power selector switch on refrigerator to “12-V mode”.
	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 thermostat 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.

Tab. 21 Refrigerator/freezer compartment faults

21.6 Truma Combi heater faults

Note!

Consult an authorised workshop if the listed measures are not successful.

Fault	Possible cause	Remedy
The LEDs do not light up.	No power supply.	• Check battery voltage (12V). • Check all electric connectors and fuses.
Green LED on but heater does not operate.	The temperature setting on the control panel is lower than the room temperature.	• Increase the temperature using the control panel.
Green LED on and red LED flashing.	Battery voltage is too low.	• Charge the battery.
The red LED goes on approx. 30 seconds after the heater is switched on.	See Chapter 21.4.	
Heating switches to fault after a longer period in operation.	Warm air outlet openings blocked.	• Check and free individual single warm air outlet openings.
	Gas pressure regulator frozen.	• Use a regulator de-icing system (such as the accessory EisEx).
Green and red LEDs blink after switching off the heating.	Appliance was switched off due to fault. After-running is active in order to reduce the temperature.	• After-running will switch off after a few minutes. The system can only be reset after this time elapses by switching the system off and on again.
The drain valve (FrostControl) does not close.	Temperature on drain valve is below +3 °C.	• Switch on heating. If the heater is not in operation, the drain valve can only be closed when the ambient temperature is above +3 °C.
	Drain valve rotary switch not set to “Operation”.	• Turn the drain valve rotary switch to “Operation” position. Now press the push button on the drain valve until it engages Chapter (see Chapter 13.3).

Tab. 22 Truma Combi heater faults

21.7 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.
	PSU defective.	• Contact customer service.
Living area battery is overcharged in 230-V operation	PSU 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.
Starter battery is not charged in 230V mode	No mains voltage.	• Switch on the circuit breaker in the vehicle. • Switch on the ground-fault circuit breaker of the 230V supply. • Have the mains voltage checked.
	PSU defective.	• Contact customer service.

Fault	Possible cause	Remedy
Refrigerator does not operate in drive operation	No voltage applied to refrigerator.	• Have the fuse and cables checked.
	PSU 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 12-V main switch for living area battery on (Chapter 8.7).
	Fuse or cables defective.	• Have the fuse and cables checked.
	PSU defective.	• Contact customer service.
	System put out of service.	• Put the system into service.

Tab. 23 Power supply faults

21.8 Control panel faults

Fault	Possible cause	Remedy
12-V supply does not function	The control panel is switched off.	• Switch on the control panel.
	Fuse defective.	• Replace the defective fuse on the PSU.
Control panel cannot be turned on	Living area battery is not charged or insufficiently charged.	• Charge the living area battery.
	Fuse defective.	• Contact customer service.
	Battery disconnect switch is switched off.	• Switch on the battery disconnect switch.
No voltage is supplied by the living area battery	The living area battery is discharged.	• Charge living area battery immediately! **Attention:** Complete discharging damages the living area battery.
	The battery is discharged by hidden electric loads of appliances on the vehicle, such as chargers or the TV set in stand-by mode.	• If you do not intend to use the vehicle for a longer period of time, fully charge the living area battery and switch off the battery disconnect switch.
The “mains control” icon is not displayed although the 230-V mains supply is connected	The mains connection has no voltage.	• Check the mains connection (e.g. camping site).
	Ground-fault circuit breaker has triggered or is switched off.	• Switch on the ground-fault circuit breaker.
	Fuse in the circuit breaker has triggered.	• Reset automatic circuit breaker.

Tab. 24 Control panel faults

21.9 Water supply faults

Fault	Possible cause	Remedy
No water	Water tank is empty.	• Top up the water tank (Chapter 12.2.4).
	Fuse of water pump defective.	• Replace the defective fuse.
	“Water pump” switch is switched off on the control panel.	• Switch on.
	Water pump defective.	• Have the water pump replaced in an authorised workshop.
Water leak in vehicle	Leak in water system.	• Identify and repair the leak.

Tab. 25 Water supply faults

21.10 Toilet faults

Fault	Possible cause	Remedy
Toilet does not have flushing water	Water tank is empty.	• Top up the water.
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	Clogging in toilet bowl.	• Fill the toilet bowl with water. Allow clogging to soak for approx. 2 minutes and then flush several times in quick succession.
Toilet does not function	Fuse defective.	• Replace the fuse.

Tab. 26 Toilet faults

21.11 Malfunctions of the Webasto heater

Fault	Possible cause	Remedy
Heater switches off by itself	No combustion after start-up.	• Switch the device off (for at least 2 seconds) and then on again.
	Flame extinguishes during operation.	• Switch the device off (for at least 2 seconds) and then on again.
	Heater overheated. “ON/ Malfunction” indicator flashes.	• Check the heater air flow for obstructions. Let the heater cool down. • Switch the device off (for at least 2 seconds) and then on again.
	On-board grid voltage too low.	• Charge battery. Switch the device off (for at least 2 seconds) and then on again.
Heater emits black smoke	Air flow obstructed/ blocked.	• Check the air flow for obstructions.

Tab. 27 Webasto heater 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 ***ADRIA*** for installation, attachment or conversion can cause damage to the vehicle and affect driving behaviour.
- ***ADRIA*** assumes no liability for damage caused by accessories that were not approved by ***ADRIA*** or by unauthorised modifications on the vehicle.
- The dimension and weight information is within possible tolerances ± 5 %.

22.1 Tyres / tyre pressure

Warning!

Risk of injury and severe damage to the vehicle

➔ Different tyre pressures may be necessary when using winter tyres. Please refer to the operating manual of the base vehicle for more detailed information.

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 manual of the base vehicle for exact specifications.

Base vehicle	Tyre size	Tyre pressure, front [bar]	Tyre pressure, rear [bar]
Fiat Ducato, Citroen	215/70 R 15	4.1	4.5
	215/70 R 15 C	5.0	5.5
	225/75 R 16	4.5	5.0
	225/75 R 16 C	5.5	5.5

Tab. 28 Tyres / tyre pressure

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 manual of the base vehicle for exact specifications.

22.2 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).

22.2.1 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.

22.2.1.1 Maximum gross vehicle weight

See the registration certificate, part I or part II, for the gross weight rating.

22.2.1.2 Mass of the vehicle in running order

– The mass of the empty vehicle, including tyre repair kit 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 van (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 vans' assembly, all specified weights are subject to the tolerances allowed in EU regulation No.1230/2012 (+/- 5%).

22.2.1.3 Payload

The payload consists of:

Additional equipment

All objects offered in addition to the standard equipment.

The weights of the additional equipment can be found in Chapter 22.2.2, e.g.:

- Optional equipment offered by ***ADRIA***
- Special equipment from the manufacturer of the basic vehicle
- 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
- etc.

22.2.2 Weight of additional equipment and accessories

The additional equipment packages and accessories of the vehicle are listed with their weights here. The values apply if not already included in the standard equipment of the vehicle. All weight information is “approximate information”.

	Additional equipment / accessories	Weight (approx.)	✓
Base vehicle	Fiat 130/150 Multijet instead of 115 Multijet	25 kg	
	Fiat 180 Multijet instead of 115 Multijet	75 kg	
	Fiat Maxi Chassis	40 kg	
Packages	COMFORT	25 kg	
	COMFORT PLUS	29 kg	
	SOUND	20 kg	
	SOUND AND VIDEO	40 kg	
	SOUND AND VIDEO PLUS	55 kg	
	KIT DE LUXE	15 kg	
Equipment	Waste water tank heated	1 kg	
	Passenger airbag	3 kg	
	Alarm system	2 kg	
	Trailer system with electric connection	25-40 kg	
	Instrument panel refinement	1 kg	
	ASR / ESP	4 kg	

	Additional equipment / accessories	Weight (approx.)	✓
	Automatic transmission	28 kg	
	Rear view mirrors, electrically adjustable and heatable	2 kg	
	CD radio	1-5 kg	
	Roof railing	8 kg	
	Auxiliary diesel heating	6-10 kg	
	Bike holder	10-20 kg	
	Fire extinguisher	2 kg	
	Folding blinds on driver's cab side windows	1 kg	
	Combi 4E heater (instead of Combi 4)	1 kg	
	Air-conditioning system, driver's cab	18-20 kg	
	Light-metal rims (20”)	10 kg	
	Reinforced generator	1 kg	
	Awning	20-30 kg	
	Metallic paint finish	2 kg	
	Metallic paint finish on front bumpers	2 kg	
	Navigation system	2-5 kg	
	MP3-CD radio with MFL and Bluetooth	5 kg	
	Fog lamp	4 kg	
	Upholstery partly in leather	4 kg	
	Radio pre-installation, driver's cab	2 kg	
	Rear-view Camera	2 kg	
	Seat base cover, driver's cab	1 kg	
	Stop & Start automatic	1 kg	
	Daytime lights	2 kg	
	Cruise control	1 kg	
	Carpet in driver's cab + dinette	5 kg	
	TFT TV-holder	3-5 kg	
	TV + SAT equipment	15-40 kg	
	120 litre diesel tank (instead of 90 litre)	30 kg	
Total weight of built-in additional equipment			

Tab. 29 Weight of additional equipment and accessories

22.2.3 Weights of personal equipment and accessories

Personal equipment / accessories	Weight (approx.)	✓
Overall weight of personal equipment		

Tab. 30 Weights of personal equipment

23 Checklists

Note!

These lists also include optional equipment and personal equipment not included in the standard vehicle equipment.

23.1 Checklist, general

Van checklist	✓
Van general inspection and exhaust gas test carried out (Chapter 2.4.1)	
Gas inspection 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 22.1), tread depth checked	
Spare wheel tyre pressure or use-by date of tyre repair kit 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 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	
Freshwater tank filled	
Water hose, canister, watering can	
Water disinfectant, toilet cassette, etc.	

Van checklist	✓
Waste water tank emptied and drain valve closed	
Cassette emptied and with fresh disinfectant	
Additive for cassette available	
Gas cylinders, filled	
Gas cylinders secured safely in gas cylinder compartment (Chapter 11.2), screw caps and protective covers available for all cylinders	
Quick-action stop valves for gas appliances closed (Chapter 11.7)	
Gas adapters (filler set, cylinder set), 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	
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	
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	

Van checklist	✓
Additional loads stored securely and prevented from shifting	
Vehicle loaded properly (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. 31 General van 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	
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. 32 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, inter-national 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. 33 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. 34 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. 35 Bathroom / sanitary equipment checklist

23.6 Personal checklist

Please copy and complete.

Route:	Date:

Personal checklist	✓

Tab. 36 Personal checklist

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